CITY OF AUSTIN
Austin Water

PROJECT MANUAL
Contract Documents and Technical Specifications

VOL. 1 of 6
Division 00 - 01

CONFORMED

Wild Horse Ranch Wastewater Treatment Plant Expansion

C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

CITY OF AUSTIN
Public Works Department
505 Barton Springs Rd. Ste. 800
Austin, TX 78704

November 2022

CONFORMED DOCUMENTS
These Conformed Documents unify addenda issued during the bid period. If discrepancies between the Conformed Documents and the Bid Documents are found, the Bid Documents with the original addenda shall govern. Original sealed by Danny M. Hurtado, July 22, 2022, State of Texas PE No. 104266.

carollo®
TBPELS No. F-882

The City of Austin is committed to compliance with the Americans with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request.

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion
C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by
Danny M. Hurtado,
June 17, 2022,
TX PE No. 104266.

CIVIL/MECHANICAL

SECTION NUMBERS:

DIVISION 00	11366B	15117
DIVISION 01	11375	15118
SERIES 100	11377A	15119
SERIES 200	11378A	15120
SERIES 300	11395A	15121
SERIES 500	11635	15244
SERIES 600	13120	15259
SERIES 700	13446	15278
802S	13447	15286
SP130S	14650	15293
06608	15050	15956
08332	15052	15958
09960	15061	17101
11289	15075	17302
11294C	15076	17305
11305	15110	17404
11312D	15111	17502
11312J	15112	17506
11312X	15115	17522
11317	15116	

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion
C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by
Kwasi Duose,
June 17, 2022,
TX PE No. 100650.

STRUCTURAL

SECTION NUMBERS:

SERIES 400	03055
SP401S	03072
SP403S	03600
SP405S	04055
SP406S	05140
SP408S	05190
SP410S	05310
SP411S	05500
SP416S	13122
SP510	
SP511	
SP720S	
SP721S	

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion
C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by
Chad Green,
February 28, 2022,
TX PE No. 119980.

HVAC

SECTION NUMBERS:

10910	15812
15082	15814
15084	15815
15282	15820
15294	15830
15400	15936
15430	15954
15735	
15740	
15762	

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion
C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by
Jonathan P. Herrboldt,
February 28, 2022,
TX PE No. 135057.

MECHANICAL

SECTION NUMBERS:

11312R
11355A
11376A

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion

C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by
Casey G. Wauters,
February 28, 2022,
TX PE No. 93889.

CIVIL/MECHANICAL

RESPONSIBLE SPECIFICATION SECTIONS:

03160	11313	11333
09800	11323	11353
11312C	11324	14555
11312F	11327	

AECOM Technical Services, Inc.
13640 Briarwick Drive, Suite 200
Austin, Texas, 78729
TBPE REG. No. F-3580

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion

C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by
Stephanie D. Blew,
February 28, 2022,
TX PE No. 92682.

CIVIL

RESPONSIBLE SPECIFICATION SECTIONS:

15114 CHECK VALES (DUCK BILL)
SP436S P.C. CONCRETE VALLEY GUTTERS

CAS CONSULTING AND SERVICES, INC.
Civil Engineering | Program Management | Construction Management
TBPE REG. NO. F-003572
7908 CAMERON ROAD, AUSTIN, TX 78754; (512) 836-2388

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion

C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by K.A. Harutunian, February 28, 2022, TX PE No. 59181.	Original sealed by Anne H. Harutunian, February 28, 2022, TX PE No. 11571.	Original sealed by Shant Harutunian, February 28, 2022, TX PE No. 87735.

ELECTRICAL, INSTRUMENTATION AND CONTROL

RESPONSIBLE SPECIFICATION SECTIONS:

13390	16450
13851	16483
16120	16500
16121	16524
16130	16540
16140	16550
16150	16600
16200	16800
16205	17100
16222	17200
16264	17380
16300	17600
16350	SP16150
16444	SP16200

HARUTUNIAN ENGINEERING INCORPORATED (HEI)
Engineering and Environmental Consultants
8100 Cross Park Drive
Austin, Texas 78754
(512) 454-2788 FAX (512) 454-6434
TBPE Firm Registration No. F-2408

10976A10

November 2022 - CONFORMED

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion

C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by
Linda L. Barlow,
February 24, 2022,
TX PE No. 63878.

TRAFFIC CONTROL PLAN DESIGN

RESPONSIBLE SPECIFICATION SECTIONS:

803S BARRICADES, SIGNS AND TRAFFIC HANDLING

HVJ ASSOCIATES
TBPELS # f-646
1701 DIRECTORS BLVD, SUITE 900
AUSTIN, TEXAS 78744

10976A10

November 2022 - CONFORMED

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN
Austin Water
Wild Horse Ranch Wastewater Treatment Plant Expansion

C.I.P. PROJECT NUMBER: 7265.004 / IFB NUMBER: 6100 CLMC924

Original sealed by
David Negrete,
February 28, 2022,
TX PE No. 11640.

Architect

RESPONSIBLE SPECIFICATION SECTIONS:

02360	07212	08210	09902
02870	07213	08330	10100
03350	07214	08410	10400
03550	07301	08710	10500
04220	07415	08800	10520
06100	07468	09260	10615
06410	07600	09310	10810
07110	07714	09511	11400
07160	07900	09650	12486
07210	08110	09670	12494

NEGRETE & KOLAR
ARCHITECTS, LLP

www.nekoarch.com

11720 North IH 35, Austin, TX 78753

10976A10

November 2022 - CONFORMED

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

Document Number	Date	Title
VOLUME 1		
	06/27/2022	Table of Contents
BIDDING REQUIREMENTS, CONTRACT FORMS, & CONDITIONS OF THE CONTRACT		
00020	09/21/2021	Invitation for Bids AD3, AD4
00100	05/06/2022	Instructions to Bidders
00220	03/30/2018	Geotechnical Data
00300L	09/01/2021	Bid Form-Lump Sum AD3
	04/03/2020	Total Bid Form
00400	04/30/2019	Statement of Bidder's Experience
00405	03/30/2018	Certificate of Non-Suspension or Debarment
00410	09/17/2018	Statement of Bidder's Safety Experience
00425A	08/12/2019	Insurance Cost Form
00425B	08/12/2019	Rolling Owner controlled Insurance Program Information
00440	09/02/2021	Prohibited Activities
00500	02/04/2020	Agreement (SAMPLE)
00610	02/04/2020	Performance Bond
00620	02/04/2020	Payment Bond
00630	10/22/2019	Non-Discrimination and Non-Retaliation Certificate
00631	03/30/2018	Title VI Assurances Appendix A
00632	03/30/2018	Title VI Assurances Appendix E
00650	06/08/2018	Certificate of Insurance
00670	01/11/2019	Texas Sales and Use Tax Exemption Certificate
00680	03/30/2018	Non-Use of Asbestos Affidavit (Contractor Prior to Construction)
00681	03/30/2018	Non-Use of Asbestos Affidavit (Contractor After Construction)
00700	12/04/2020	General Conditions of the Contract
00810	05/06/2022	Supplemental General Conditions
00819	06/10/2005	Security Requirements
00820	05/06/2022	Modifications to Bidding Requirements and Contract Forms
00830	09/05/2022	Wage Rates and Payroll Reporting AD5
00830BC	09/05/2022	Wage Rates and Payroll Reporting (Building Construction Type) AD5
00830HH	09/05/2022	Wage Rates and Payroll Reporting (Heavy Highway) AD5
00840	09/01/2021	Construction Training Program Requirements
00900	05/10/2021	Addendum (SAMPLE)

Table of Contents

SPECIFICATIONS

Division 1 – General Requirements

01010	08/28/2020	Summary of Work
01020	03/30/2018	Allowances AD3
01025	09/17/2018	Measurement and Payment Lump Sum Contracts
01030	03/30/2018	Alternates
01045	02/28/2022	Cutting and Patching
01050	10/19/2015	Grades Lines and Levels
SP-1070	05/12/2021	Facility Security Procedures for Contractors
01095	07/21/2003	Reference Standards and Definitions
01096	05/06/2011	Stormwater Pollution Prevention Plan (SWPPP)
01140	02/28/2022	Work Restrictions AD5
01200	05/06/2022	Project Meetings
01300	05/06/2022	Submittals
01310	02/28/2022	Schedules and Reports
01322	02/28/2022	Web Based Construction Document Management
01352	06/29/2018	Sustainable Construction Requirements
01353	04/29/2020	Construction Equipment Emissions Reduction Plan
01380	08/09/2012	Construction Photography & Videos
01400	02/28/2022	Quality Control Services
01410	02/28/2022	Regulatory Requirements
01455	02/28/2022	Regulatory Quality Assurance
01500	08/28/2020	Temporary Facilities
01505	08/12/2019	Construction and Demolition Waste Management
01550	08/09/2012	Public Safety and Convenience
01600	02/28/2022	Product Requirements
01610	02/28/2022	Project Design Criteria
01612	02/28/2022	Seismic Design Criteria
01614	02/28/2022	Wind Design Criteria
01700	02/28/2022	Contract Closeout
01730	02/28/2022	Operation and Maintenance Manuals
01738	02/28/2022	Selective Alterations and Demolition
01756	02/28/2022	Commissioning AD2, AD3
01757	02/28/2022	Disinfection
01759	02/28/2022	Water Leakage Test for Concrete Structures
01783	02/28/2022	Warranties and Bonds
01900	03/12/2012	Prohibition of Asbestos Containing Materials
01900a	06/05/2006	Statement of Non-Inclusion of Asbestos Containing Material (E/A Prior to Design)
01900b	06/05/2006	Statement of Non-Inclusion of Asbestos Containing Material (E/A After Design)

VOLUME 2

City Standard Technical Specifications

Series 100 – Earthwork

101s	03/25/2021	Preparing Right of Way
102s	03/25/2021	Clearing and Grubbing
104s	09/26/2012	Removing Portland Cement Concrete
111s	09/26/2012	Excavation
130s	09/26/2012	Borrow
132s	08/20/2007	Embankment

Table of Contents

Series 200 – Subgrade and Base Construction

201S	06/17/2021	Subgrade Preparation
202S	06/17/2021	Hydrated Lime and Lime Slurry
203S	09/14/2021	Lime Treatment for Materials in Place
204S	09/26/2012	Portland Cement Treatment for Materials in Place
210S	02/24/2010	Flexible Base
220S	02/24/2010	Sprinkling for Dust Control
230S	08/20/2007	Rolling (Flat Wheel)
232S	08/20/2007	Rolling (Pneumatic Tire)
234S	08/20/2007	Rolling (Tamping)
236S	08/20/2007	Proof Rolling

Series 300 – Street Surface Courses

301S	08/20/2007	Asphalts, Oils and Emulsions
306S	02/24/2010	Prime Coat
307S	02/24/2010	Tack Coat
312S	09/26/2012	Seal Coat
313S	02/24/2010	Cleaning and/or Sealing Joints and Cracks (Asphaltic Concrete)
340S	09/26/2012	Hot Mix Asphaltic Concrete Pavement
360S	09/26/2012	Concrete Pavement

Series 400 – Concrete Structures and Miscellaneous Concrete

401S	09/26/2012	Structural Excavation and Backfill
402S	11/13/2007	Controlled Low Strength Material
403S	09/26/2012	Concrete for Structures
405S	11/13/2007	Concrete Admixtures
406S	09/26/2012	Reinforcing Steel
408S	11/13/2007	Concrete Joint Materials
409S	11/13/2007	Membrane Curing
410S	09/14/2021	Concrete Structures
411S	11/13/2007	Surface Finishes for Concrete
414S	11/13/2007	Concrete Retaining Walls
416S	11/13/2007	Waterstops
430S	11/15/2011	P.C. Concrete Curb and Gutter
432S	01/04/2010	Portland Cement Concrete Sidewalks
433S	12/09/2008	P. C. Concrete Driveways
436S	11/13/2007	P.C. Concrete Valley Gutters
439S	11/13/2007	Parking Lot Bumper Curbs

Series 500 – Pipe and Appurtenances

501S	09/26/2012	Jacking or Boring Pipe
503S	02/17/2000	Frames, Grates, Rings, and Covers
504S	02/24/2010	Adjusting Structures
505S	02/24/2010	Concrete Encasement and Encasement Pipe
506	02/22/2021	Manholes
508S	02/24/2010	Miscellaneous Structures and Appurtenances
509S	09/26/2012	Excavation Safety Systems
510	12/08/2018	Pipe
511	02/14/2022	Water Valves
551	12/15/2021	Pipe Underdrains

591S 01/04/2016 Riprap for Slope Protection
594S 09/26/2012 Gabions and Revet Mattresses

Series 600 – Environmental Enhancements

601S 11/14/2016 Salvaging and Placing Topsoil
604S 06/17/2021 Seeding for Erosion Control
605S 06/21/2007 Soil Retention Blanket
606S 06/21/2007 Fertilizer
609S 01/04/2016 Native Grassland Seeding and Planting for Erosion Control
610S 12/07/2018 Preservation of Trees and Other Vegetation
620S 01/04/2016 Filter Fabric
627S 09/26/2012 Grass-Lined Swale
639S 08/18/2010 Rock Berm
641S 06/21/2007 Stabilized Construction Entrance
642S 09/01/2011 Silt Fence
648S 08/18/2010 Mulch Sock

Series 700 – Incidental Construction

700S 09/26/2012 Mobilization
701S 09/26/2012 Fencing
702S 05/20/2002 Removal and Relocation of Existing Fences
720S 09/26/2012 Metal for Structures
721S 09/26/2012 Steel Structures

Series 800 – Urban Transportation

802s 09/14/2021 Project Signs
803s 11/15/2011 Barricades, Signs and Traffic Handling

Special Provisions to City Standard Technical Specifications

SP130s 02/28/2022 Special Provision – Borrow
SP401S 02/28/2022 Special Provision – Structural Excavation and Backfill
SP403S 02/28/2022 Special Provision – Concrete for Structures
SP405S 02/28/2022 Special Provision – Concrete Admixtures
SP406S 02/28/2022 Special Provision – Reinforcing Steel
SP408S 02/28/2022 Special Provision – Concrete Joint Materials
SP410S 06/15/2022 Special Provision – Concrete Structures
SP411S 02/28/2022 Special Provision – Surface Finishes for Concrete
SP416S 02/28/2022 Special Provision – Waterstops
SP436S 02/28/2022 Special Provision – P.C. Concrete Valley Gutters
SP510 06/15/2022 Special Provision – Pipe
SP511 02/28/2022 Special Provision – Water Valves
SP720S 02/28/2022 Special Provision – Metal for Structures
SP721S 02/28/2022 Special Provision – Steel Structures

VOLUME 3

DIVISION 02 – SITE CONSTRUCTION

02360 02/28/2022 Termite Control
02870 02/28/2022 Site Furnishings

Table of Contents

DIVISION 03 – CONCRETE

03055	02/28/2022	Adhesive-Bonded Reinforcing Bars and All Thread Rods in Concrete
03072	02/28/2022	Epoxy Resin/Portland Cement Bonding Agent
03160	07/07/2021	Steel Sheet Piling AD5
03350	02/28/2022	Concrete Finishing
03550	02/28/2022	Polished Concrete Finishing
03600	02/28/2022	Grouting

DIVISION 04 – MASONRY

04055	02/28/2022	Adhesive Bonding Reinforcing Bars and All Thread Rods in Masonry
04220	02/28/2022	Concrete Masonry Units

DIVISION 05 – METALS

05140	02/28/2022	Structural Aluminum
05190	02/28/2022	Mechanical Anchoring and Fastening To Concrete And Masonry
05219	02/28/2022	Steel Truss
05310	02/28/2022	Steel Decking
05500	02/28/2022	Metal Fabrications

DIVISION 06 -WOOD AND PLASTICS

06100	02/28/2022	Rough Carpentry
06410	02/28/2022	Custom Casework
06608	02/28/2022	Fiberglass Reinforced Plastic

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

07110	02/28/2022	Dampproofing
07131	02/28/2022	Sheet Moisture Barrier
07160	02/28/2022	Sheet Vapor Retarders
07210	02/28/2022	Pre-Engineered Building Insulation
07212	02/28/2022	Board Insulation
07213	02/28/2022	Batt Insulation
07214	02/28/2022	Foamed-in-Place Insulation
07301	02/28/2022	Roof Underlayment
07415	02/28/2022	Metal Roofing
07468	02/28/2022	Metal Siding
07600	02/28/2022	Flashing and Sheet Metal
07714	02/28/2022	Gutters and Downspouts
07900	02/28/2022	Joint Sealers

DIVISION 08 – DOORS AND WINDOWS

08110	02/28/2022	Steel Doors and Frames
08210	02/28/2022	Wood Doors
08330	02/28/2022	Architectural Overhead Coiling Door
08332	02/28/2022	Motorized Overhead Coiling Door
08410	02/28/2022	Metal Framed Storefront
08710	02/28/2022	Door Hardware
08800	02/28/2022	Glazing

DIVISION 09 – FINISHES

09260	02/28/2022	Gypsum Board Assemblies
09310	02/28/2022	Ceramic Tile
09511	02/28/2022	Acoustical Ceiling Panels
09650	02/28/2022	Resilient Flooring
09670	02/28/2022	Fluid-Applied Flooring
09800	07/07/2021	Sheet Piling Coating
09902	02/28/2022	Painting
09960	06/15/2022	High-Performance Coatings

DIVISION 10 – SPECIALTIES

10100	02/28/2022	Visual Display Boards
10400	02/28/2022	Signage
10500	02/28/2022	Lockers
10520	02/28/2022	Fire Protection Specialties
10615	02/28/2022	Demountable Partitions
10810	02/28/2022	Toilet Accessories
10910	02/28/2022	Louvers

VOLUME 4

DIVISION 11 – EQUIPMENT

11289	02/28/2022	Ultraviolet Disinfection System AD3
11294C	02/28/2022	Fabricated Stainless Steel Slide Gates AD2
11305	09/02/2016	Submersible Non-Clog Sewage Pumps [this is a City Master but modified by Carollo] AD2
11312C	07/07/2021	Prerotation Submersible Pumps
11312D	02/28/2022	Vertical Turbine Short Setting Centrifugal Pumps AD2
11312F	07/07/2021	Sewage Pumps, Self-Priming, Volute-Mounted
11312J	02/28/2022	Submersible Process Liquid Sump Pumps
11312R	02/28/2022	Single-Lobe Rotary Pumps
11312X	02/28/2022	Horizontal Propeller Pump AD5
11313	07/07/2021	Magnetic Coupling Variable Speed Control System for Return Activated Sludge Pumps
11317	02/28/2022	Submersible Mixers: High-Speed AD5
11323	07/07/2021	Vortex Grit Chamber Equipment AD5
11324	07/07/2021	Grit Washer
11327	07/07/2021	Multi-Rake Screens
11333	07/07/2021	Screenings Washer Compactor
11353	11/23/2021	Circular Secondary Clarifier Equipment Column Supported, Spiral Blade Type
11355A	02/28/2022	Volute Thickener AD3
11366B	02/28/2022	Cloth Media Filters AD3
11375	02/28/2022	Single Stage Centrifugal Air Blowers AD5
11376A	02/28/2022	Rotary-Lobe Blowers AD2
11377A	02/28/2022	Coarse Bubble Diffusers
11378A	02/28/2022	Fine Bubble Diffused Aeration System – Disk AD2
11395A	02/28/2022	Pre-Engineered Single-Stage Biotrickling Filter Odor Control Systems
11400	02/28/2022	Kitchen Appliances
11635	02/28/2022	Automatic Samplers

DIVISION 12 – FURNISHINGS

12486	02/28/2022	Floor Mats
12494	02/28/2022	Roller Shades

DIVISION 13 – SPECIAL CONSTRUCTION

13120	02/28/2022	Fiberglass Effluent Troughs
13122	02/28/2022	Metal Building System
13390	02/28/2022	Packaged Control Systems
13446	02/28/2022	Manual Actuators
13447	02/28/2022	Electric Actuators
13851	02/28/2022	Fire Alarm Systems

DIVISION 14 – CONVEYING SYSTEMS

14555	07/07/2021	Shaftless Screw Conveyor and Appurtenances
14650	02/28/2022	Jib Cranes

DIVISION 15 – MECHANICAL

15050	02/28/2022	Common Work Results For Mechanical Equipment
15052	02/28/2022	Common Work Results For General Piping
15061	02/28/2022	Pipe Supports
15075	02/28/2022	Equipment Identification
15076	02/28/2022	Pipe Identification
15082	02/28/2022	Piping Insulation
15084	02/28/2022	Ductwork Insulation
15110	02/28/2022	Common Work Results For Valves AD3
15111	02/28/2022	Ball Valves
15112	06/15/2022	Butterfly Valves AD3
15114	02/28/2022	Check Valves AD3
15115	02/28/2022	Gate, Globe, and Angle Valves
15116	06/15/2022	Plug Valves
15117	02/28/2022	Specialty Valves
15118	02/28/2022	Pressure Reducing and Pressure Relief Valves
15119	02/28/2022	Air and Vacuum Relief Valves
15120	02/28/2022	Piping Specialties
15121	02/28/2022	Pipe Couplings
15244	02/28/2022	Polyvinyl Chloride (PVC) Pipe: AWWA C900
15259	02/28/2022	Chlorinated Polyvinyl Chloride (CPVC) Pipe: ASTM F441
15278	02/28/2022	Steel Pipe: Exposed
15282	02/28/2022	Copper Tube: Seamless, ASTM B280
15286	02/28/2022	Stainless Steel Pipe and Tubing
15293	02/28/2022	Double Containment Piping
15294	02/28/2022	Rubber Hose
15400	02/28/2022	Plumbing Systems
15430	02/28/2022	Emergency Eye/Face Wash and Shower Equipment
15735	02/28/2022	Positive Pressurization Equipment
15740	02/28/2022	Heat Pumps
15762	02/28/2022	Heating Units
15812	02/28/2022	Metal Ducts
15814	02/28/2022	Fiberglass Reinforced Plastic Ducts
15815	02/28/2022	Flexible Ducts
15820	02/28/2022	Ductwork Accessories
15830	02/28/2022	Fans AD6
15936	02/28/2022	Instrumentation and Control Devices for HVAC

15954	02/28/2022	Testing, Adjusting, and Balancing for HVAC
15956	02/28/2022	Piping Systems Testing
15958	02/28/2022	Mechanical Equipment Testing

DIVISION 16 – ELECTRICAL

16120	02/28/2022	480 Volt Motor Control Centers
16121	02/28/2022	Modifications to Existing 480 Volt Motor Control Centers
16130	09/30/2015	Boxes and Cabinets
16140	02/28/2022	Switchboards
16150	09/24/2019	Raceways, Fittings and Supports
SP16150	02/28/2022	Special Provision – Raceways, Fittings and Supports
16200	09/30/2015	Wiring, Conductors and Cables (600 Volts and Below)
SP16200	02/28/2022	Special Provision – Wiring, Conductors and Cables (600 Volts and Below)
16205	09/30/2015	Wire and Cable Tagging
16222	02/28/2022	Electric Motors, Induction, 600V and Below
16264	02/28/2022	208/120 Volt Uninterruptible Power Supply
16300	02/28/2022	Wiring Devices
16350	02/28/2022	Lighting
16444	02/28/2022	Combination Motor Starter
16450	02/28/2022	600 Volts and Below Dry Type Transformers
16483	02/28/2022	480 Volt Variable Frequency Drive
16500	02/28/2022	Panelboards
16524	02/28/2022	480 Volt Automatic Transfer Switches
16540	02/28/2022	Field Control Stations
16550	02/28/2022	Grounding
16600	02/28/2022	Disconnect Switches and Enclosed Circuit Breakers
16800	02/28/2022	Calibration, Testing and Settings

DIVISION 17 – INSTRUMENTATION AND CONTROL

17100	02/28/2022	Process Instrumentation and Control System PICS
17101	02/28/2022	Specific Control Strategies
17200	02/28/2022	Instrument and Control Cabinets and Associated Equipment
17302	02/28/2022	Flow Measurement: Magnetic Flowmeters
17305	02/28/2022	Flow Measurement: Thermal Mass
17380	02/28/2022	Field Instrumentation and Sensing Devices
17404	02/28/2022	Pressure/Vacuum Measurement: Gauges
17502	02/28/2022	Analyzers: ORP
17506	02/28/2022	Analyzers: Dissolved Oxygen (DO) AD5
17522	02/28/2022	Analyzers: Total Suspended Solids (TSS)
17600	02/28/2022	Distributed Control System

VOL. 5

12/01/2016 MBE/WBE Procurement Program Packet

VOL. 6

12/2020 ROCIP Project Safety Manual

DRAWINGS VOL. 1 & 2

END

INVITATION FOR BIDS

Section 00020

1. OVERVIEW AND PROJECT INFORMATION

Following is a summary of information for this Project. Bidder is cautioned to refer to other sections of the Project Manual, Drawings and Addenda (Bid Documents) for further details.

The City of Austin, hereafter called OWNER, is requesting Bids for furnishing all labor, materials, equipment, supervision, and incidentals, and for performing all Work required for the following:

Project:	Wild Horse Ranch WWTP Expansion
Located at:	10621 Blue Bluff Rd
CIP ID No.:	7265.004
Solicitation No.:	CLMC924

The Work shall include furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of expansion of the Wild Horse WWTP from 0.75 mgd (average daily flow) capacity to 2.25 mgd. The expansion will incorporate biological nutrient removal. Facilities to be constructed or improved include the influent lift station, headworks, aeration basins, secondary clarifiers, disk filters, UV disinfection system, sludge holding tanks and a sludge thickening facility. Included in the project are electrical and instrumentation and controls infrastructure to provide a fully-functioning system. A new electrical building and administration building will also be constructed as part of the project.

2. BID DOCUMENTS

Bid Documents are obtained through the City's Vendor Connection website, log on www.austintexas.gov/financeonline/vendor_connection/index.cfm. A complete set of Bid Documents, including all sections of the Project Manual and Drawings, are included in the attachments section of each solicitation.

All addenda and answers to Bidders' questions will also be posted in the attachments section for each solicitation on the City's Vendor Connection website.

3. SUBMISSION OF BIDS

Sealed Bids may be submitted to the Capital Contracting Office Bid Opening Desk located at One Texas Center, 505 Barton Springs Rd., Suite 365, Austin, Texas 78704, or may be submitted electronically (see eResponse Instructions).

Sealed Bid may be mailed using address below:

Address for US Mail (If mailed to the physical address, the proposal will be returned unopened)	
City of Austin	
Capital Contracting Office	
P. O. Box 1088	
Austin, Texas 78767-8845	

NOTE: Bids must either be received and time stamped in the Capital Contracting Office prior to the Due Date and Time or submitted electronically via Austin

Finance Online. The time of record for those electronically submitted is the time received in Austin Finance OnLine. It is the responsibility of the Offeror to ensure that their Bid arrives at the reception desk in the Capital Contracting Office or electronically prior to the time and date indicated. Arrival at the City's mailroom, mail terminal, or post office box will not constitute the Proposal arriving on time.

Public Bid Opening Update

Due to the unprecedented event of COVID-19 and to help prevent the further spread, Capital Contracting Office will NOT be conducting an in person bid opening. Bidders must either submit their bids and compliance plans no earlier than 10:00 AM and prior to 2:00 PM on the date bids are due to One Texas Center, 505 Barton Springs Rd., Suite 365, Austin, Texas 78704; or must submit Bids and Compliance Plans electronically via Austin Finance Online prior to 2:00 PM on the day proposals are due. Bids and compliance plans submitted after 2:00 PM on the date bids are due will not be accepted. The Capital Contracting Office will open both the sealed bids and bids received electronically via Austin Finance Online at 3:00 PM on the date bids are due.

"Bidders may watch the bid opening online using the following Web link: Bid Opening Link Click Here

Disclaimer: The result of the bid opening does not become final until all bids are verified, and the bid tab is certified. The pencil bid tab and certified bid tab will be posted in Austin Finance Online at the following link:
https://www.austintexas.gov/financeonline/account_services/solicitation/solicitations.cfm

ALL BIDS AND COMPLIANCE PLANS ARE DUE PRIOR TO (Austin time) 2:00 PM on 9/22/2022. BIDS WILL BE OPENED AT (Austin time) 3:00 PM on 9/22/2022.

ALL BIDS AND COMPLIANCE PLANS NOT RECEIVED PRIOR TO THE DATE AND TIME SET FORTH ABOVE WILL NOT BE ACCEPTED FOR CONSIDERATION. The time stamp clock in SUITE 365 is the time of record and is verified with www.time.gov, the official U.S. time. For Bids submitted electronically via Austin Finance Online, the time of record is the time received in Austin Finance Online. ~~Bidders may watch the bid opening online using the following Web link: CCO Web Bid Opening Click Here~~

~~Disclaimer: The result of the bid opening does not become final until all bids are verified, and the bid tab is certified. The pencil bid tab and certified bid tab will be posted in Austin Finance Online at the following link:~~

~~https://financeonline.austintexas.gov/afo/account_services/solicitation/solicitations.cfm~~

~~**ALL BIDS AND COMPLIANCE PLANS ARE DUE PRIOR TO (Austin time) 2:00 PM on September 15, 2022.**~~
~~**BIDS WILL BE OPENED AT (Austin time) 3:00 PM on September 15, 2022.**~~

~~**ALL BIDS AND COMPLIANCE PLANS NOT RECEIVED PRIOR TO THE DATE AND TIME SET FORTH ABOVE WILL NOT BE ACCEPTED FOR CONSIDERATION.** The time stamp clock in SUITE 365 is the time of record and is verified with www.time.gov, the official U.S. time. For Bids submitted electronically via Austin Finance Online, the time of record is the time received in Austin Finance Online.~~ AD4

4. VENDOR REGISTRATION AND NON-DISCRIMINATION

To create, edit, or submit an eResponse Bid, you must be logged in to your vendor account as the primary contact. You are eligible to submit an eResponse Bid after creating a user account and providing the business information of your organization. All CONTRACTORS must be registered to do business with OWNER prior to the Contract Award. All Subcontractors must be registered with the OWNER prior to execution of a contract. Prime Contractors are responsible for ensuring that their Subcontractors are registered as vendors with the City of Austin. Registration can be done through the OWNER's on-line Vendor Registration system. Log onto and follow directions:

https://financeonline.austintexas.gov/afo/afo_content.cfm?s=17.

The City of Austin, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

5. MBE/WBE PROCUREMENT PROGRAM

All City procurements are subject to the City's Minority-Owned and Women-Owned Business Enterprise Procurement Program found at Chapter 2-9-A of the City Code, as amended. The Program provides Minority-Owned and Women-Owned Business Enterprises (MBEs/WBEs) or Disadvantaged Business Enterprises (DBEs) full opportunity to participate in all City contracts. Goals for MBE/WBE or DBE participation are stated for each solicitation. Information on achieving the goals or documenting good faith efforts to achieve the goals are contained in the MBE/WBE Procurement Program Package or DBE Procurement Program Package attached to the solicitation. When goals are established, Bidders are required to complete and return the MBE/WBE or DBE Compliance Plan with their Bid. If a Compliance Plan is not submitted prior to the date and time set forth in the solicitation, the Bid will not be accepted for consideration. (See Section 00820 for MBE/WBE requirements on "no goal" solicitations.)

6. BID GUARANTY

All Bids shall be accompanied by an acceptable Bid guaranty in an amount of not less than five percent (5%) of the total Bid, as specified in Section 00100, Instructions to Bidders.

7. BONDS AND INSURANCE

Performance and payment bonds when required shall be executed on forms furnished by OWNER. Each bond shall be issued in an amount of one hundred percent (100%) of the Contract Amount by a solvent corporate surety company authorized to do business in the State of Texas, and shall meet any other requirements established by law or by OWNER pursuant to applicable law.

Minimum insurance requirements are specified in Section 00810, Supplemental General Conditions.

8. WAGE COMPLIANCE

Minimum wage rates have been established and are specified in Section 00830, Wage Rates and Payroll Reporting.

9. CONTRACT TIME

Contract Time is of the essence and all Work shall be substantially completed within one thousand and five (1,005)~~seven hundred thirty (730)~~ Calendar Days after date specified in the Notice to Proceed, in accordance with the Bid Form – Lump Sum, Section 00300L. AD3

Final completion shall be achieved within ninety (90) Calendar Days after substantial completion.

Liquidated damages are three thousand five hundred twenty ($3,520) per Calendar Day for failure to substantially complete the work and one thousand six hundred seventy ($1,670) per Calendar Day for failure to achieve final completion within ninety (90) Calendar Days after substantial completion, in accordance with the Bid Form – Lump Sum, Section 00300L.

10. OWNER'S RIGHTS

OWNER reserves the right to reject any or all Bids and to waive any minor informality in any Bid or solicitation procedure (a minor informality is one that does not affect the competitiveness of the Bid).

11. PRE-BID CONFERENCE

A ***mandatory*** Pre-Bid Conference will be held on August 10, 2022 9:00 A.M. (Austin time), at the Walnut Creek Wastewater Treatment Plant Administration Building Civic Meeting Room, 7113 FM 969, Austin, Texas, 78724. Parking is available along the driveway and in parking spots in front of the Administration Building. Attendees do not need to go through the guard gate.

Attendance is mandatory unless otherwise stated. Bidders must attend any mandatory Pre-Bid Conference and are encouraged to attend any non-mandatory Pre-Bid Conference to ensure their understanding of OWNER's bidding and contracting requirements, particularly MBE/WBE or DBE Procurement Program requirements. If the Pre-Bid Conference is mandatory the Bidder must arrive and sign-in within fifteen (15) minutes of the scheduled start time of the meeting, otherwise the Bidder will not be allowed to submit a Bid for the project.

A ***mandatory*** Site-Visit will be held on August 10, 2022 11:00 A.M. (Austin time), at the Wild Horse Ranch WWTP 10621 Blue Bluff Road, Manor, Texas.

Attendance is mandatory unless otherwise stated. Bidders must attend any mandatory Site-Visit and are encouraged to attend any non-mandatory Site-Visit. If the Site-Visit is mandatory the Bidder must arrive and sign-in within fifteen (15) minutes of the scheduled start time of the Site-Visit, otherwise the Bidder will not be allowed to submit a Bid for the project.

While the Pre-Bid Conference and Site Visit are deemed essential, due to the unprecedented event of COVID-19 and to help prevent further spread, the following protocols will be observed before, during, and after the Conference and Site Visit:

- Representatives that are visibly sick will not be allowed
- Hand sanitizer will be available
- Physical spacing (minimum of six (6) feet between people) will be maintained

- Face coverings are encouraged inside the building.
- Each interested Bidder should limit themselves to one (1) Representative to be present

12. ANTI-LOBBYING AND PROCUREMENT

On June 14, 2018, the Austin City Council adopted Ordinance No. 20180614-056 replacing Chapter 2.7, Article 6 of the City Code relating to Anti-Lobbying and Procurement. The policy defined in this Code applies to Solicitations for goods and/or services requiring City Council approval under City Charter Article VII, Section 15 (Purchase Procedures). The City requires Offerors submitting Offers on this Solicitation to certify that the Offeror has not in any way directly or indirectly had communication restricted in the ordinance section 2-7-104 during the No-Lobbying Period as defined in the Ordinance. The text of the City Ordinance is posted on the Internet at:

https://assets.austintexas.gov/purchase/downloads/New_ALO_Ordinance_No_20180614-056.pdf

13. AUTHORIZED CONTACT PERSONS

The persons listed below may be contacted for information regarding the Invitation for Bid.

PROJECT MANAGER: John Wepryk, phone 512-974-7010 email John.Wepryk@austintexas.gov

CAPITAL CONTRACTING OFFICE CONTACT: Sofie Johnson, phone 512-974-9143, email sofie.johnson@austintexas.gov

SMALL & MINORITY BUSINESS RESOURCES DEPARTMENT CONTACT: Amy Amaya, phone 512-974-7605, email Amy.Amaya@austintexas.gov

END

[AD4] Addendum No. 4
[AD3] Addendum No. 3

THIS PAGE INTENTIONALLY LEFT BLANK

INSTRUCTIONS TO BIDDERS
Section 00100

1. PREPARATION OF BID

1.1 Bid Documents. Each Bidder must prepare its Bid on forms furnished by OWNER or as otherwise specified or permitted. Blank spaces for each item in Bid form must be filled. Bidder must submit a price for each item in Bid. In case of conflict between unit prices and extensions, unit prices shall govern. The Bid must be executed in the complete and correct legal name of individual, partnership, firm, corporation or other legal entity constituting the Bidder.

1.2 Vendor Registration. To create, edit, or submit an eResponse Bid, you must be logged in to your vendor account as the primary contact. You are eligible to submit an eResponse Bid after creating a user account and providing the business information of your organization. All CONTRACTORS must be registered to do business with OWNER prior to Contract Award. All Subcontractors must be registered with the OWNER prior to execution of a contract. Prime Contractors are responsible for ensuring that their Subcontractors are registered as vendors with the City of Austin. Registration can be done through the OWNER's on-line Vendor Registration system. Log onto https://financeonline.austintexas.gov/afo/afo_content.cfm?s=17 and follow the directions.

1.3 Pre-Bid Conference. Unless otherwise notified, Bidders must attend the Pre-Bid Conference to ensure their understanding of OWNER's bidding and contracting requirements, particularly MBE/WBE Procurement Program requirements.

1.4 Sales Tax Exemption. The Owner is a tax-exempt organization as defined by Chapter 11 of the Property Tax Code of Texas. Bid prices shall not include sales tax on materials, supplies, or equipment that are incorporated into the real property interest of the OWNER or are otherwise completely used and consumed in the performance of the Contract. OWNER will furnish CONTRACTOR with a Sales Tax Exemption Certificate to be issued to Suppliers in lieu of the tax.

1.5 Minimum Wages. Workers on Project shall be paid not less than wage rates, including fringe benefits, as published by the Department of Labor (DOL) for Building Construction and Heavy and Highway Trades "AS APPLICABLE" and/or the minimum wage required by City of Austin Ordinance No. 20160324-015, whichever is higher. The Total Minimum Wage required can be met using any combination of cash and non-cash qualified fringe benefits provided the cash component meets or exceeds the minimum wage required.

1.6 Addenda. Bidder shall be knowledgeable of all Addenda issued and shall acknowledge all Addenda in spaces provided on Bid form. Further information regarding the Bid documents and the Project may be obtained from the Project Manager listed at the end of Section 00020, Invitation for Bids.

1.7 Required Items. Bids must include all specified items in this section and be submitted in accordance with paragraph No. 7 below. Any additional requirement to the bid submittal is specified in Section 00820. Any corrections to a Bid shall be initialed by the person signing the Bid.

1.8 Professional Services. Bidders must secure any required professional services that are defined as professional services under the Professional Services Procurement Act, Chapter 2254 of the Texas Government Code (for example: registered professional land

surveyors and professional engineers) using the qualifications based selection process prescribed by that chapter. (Note: It is a violation of State Law to solicit Bids for professional services.)

1.9 Further Information. Prospective Bidders desiring further information or interpretation of Project Manual or Drawings must make a written request for such information to OWNER addressed to the Authorized Contact Person listed in Section 00020 no later than seven (7) Working Days before Bid opening. Interpretation of Project Manual or Drawings will be made by Addendum only and obtained through the City's Vendor Connection website. Log on to:
https://financeonline.austintexas.gov/afo/account_services/solicitation/solicitations.cfm.
Any verbal communications will not be binding on the OWNER.

1.10 Anti-Lobbying and Procurement. Article 6, Chapter 2-7, City Code, repealed and replaced effective on June 25, 2018, prohibits lobbying activities or representations by Offerors during the No Lobbying Period as defined in the Ordinance.

1.10.1. FINDINGS; PURPOSE.

(A) The council finds that persons who enter a competitive process for a city contract voluntarily agree to abide by the terms of the competitive process, including the provisions of this article.

(B) The council finds that it is in the City's interest:

(i) to provide the most fair, equitable, and competitive process possible for selection among potential vendors in order to acquire the best and most competitive goods and services; and

(ii) to further compliance with State law procurement requirements.

(C) The council intends that:

(i) each response is considered on the same basis as all others; and

(ii) respondents have equal access to information regarding a solicitation, and the same opportunity to present information regarding the solicitation for consideration by the City.

1.10.2. APPLICABILITY.

(A) This article applies to all solicitations except:

(i) City social service funding;

(ii) City cultural arts funding;

(iii) federal, state or City block grant funding;

(iv) the sale or rental of real property;

(v) interlocal contracts or agreements; and

(vi) solicitations specifically exempted from this article by council.

(B) Absent an affirmative determination by the council, the purchasing officer has the discretion to apply this article to any other competitive process.

(C) City Code Section 1-1-99 (*Offenses; General Penalty*) does not apply to this article.

1.10.3. DEFINITIONS.

In this article:

(A) AGENT means a person authorized by a respondent to act for or in place of the respondent in order to communicate on behalf of that respondent. Each of the following is presumed to be an agent:

(i) a current full-time or part-time employee, owner, director, officer, member, or manager of a respondent;
(ii) a person related within the first degree of consanguinity or affinity to a current fulltime or part-time employee, owner, director, officer, member, or manager of a respondent;
(iii) a person related within the first degree of consanguinity or affinity to the respondent, if a respondent is an individual person; and Section 0200 V2, Solicitation Instructions 4 Rev. 06-26-2018
(iv) a lobbyist, attorney, or other legal representative of the respondent that has been retained by the respondent with respect to the subject matter of either the solicitation or the respondent's response to the solicitation.

(B) AUTHORIZED CONTACT PERSON means a City employee designated in a City solicitation as the point of contact for all purposes for that solicitation.
(C) CITY EMPLOYEE is defined in Section 2-7-2 (*Definitions*), and further includes an independent contractor hired by the City with respect to the solicitation.
(D) CITY OFFICIAL is defined in Section 2-7-2 (*Definitions*).
(E) NO-LOBBYING PERIOD means the period of time beginning at the date and time a solicitation is published and continuing through the earliest of the following:
(i) the date the last contract resulting from the solicitation is signed;
(ii) 60 days following council authorization of the last contract resulting from the solicitation; or
(iii) cancellation of the solicitation by the City
(F) PURCHASING OFFICER means the City employee authorized to carry out the purchasing and procurement functions and authority of the City.
(G) RESPONSE means a written offer or submission in reply to a solicitation.
(H) RESPONDENT means a person or entity that has timely submitted or subsequently timely submits a response to a City solicitation, even if that person subsequently withdraws its response or has been disqualified by the City for any reason. Respondent includes:
(i) a subsidiary or parent of a respondent;
(ii) a joint enterprise, joint venture, or partnership with an interest in a response and in which a respondent is a member or is otherwise involved, including any partner in such joint enterprise, joint venture, or partnership; and
(iii) a subcontractor to a respondent in connection with that respondent's response.
(I) SOLICITATION means an opportunity to compete to conduct business with the City that requires council approval under City Charter Article VII Section 15 (*Purchase Procedure*), and includes, without limitation:
(i) an invitation for bids;
(ii) a request for proposals;
(iii) a request for qualifications;
(iv) a notice of funding availability; and
(v) any other competitive solicitation process for which the purchasing officer, in the purchasing officer's sole discretion, affirmatively determines this article should apply in accordance with Section 2-B.

1.10.4. RESTRICTION ON LOBBYING.

Subject to the exclusions in Section 5 (*Permitted Communications*), during a no-lobbying period,
(A) a respondent or an agent shall not communicate directly with a City official or a City employee, or both in order to:
(i) provide substantive information about any respondent or response with respect to the solicitation to which the communication relates;
(ii) encourage the City to reject one or more of the responses to the solicitation to which the communication relates;
(iii) convey a complaint about the solicitation to which the communication relates; or
(iv) ask any City official or City employee to favor or oppose, recommend or not recommend, vote for or against, consider or not consider, or take action or refrain from taking action on any vote, decision, or agenda item regarding the solicitation to which the communication relates.
(B) a City official shall not contact or communicate with a respondent regarding a response or the solicitation to which the no-lobbying period applies;
(C) a City employee, other than the authorized contact person, shall not contact or communicate with a respondent regarding a response or the solicitation to which the no-lobbying period applies.

1.10.5. PERMITTED COMMUNICATIONS.

The following communications are permitted under this article at any time:
(A) any communication between a respondent or agent and any authorized contact person, including, without limitation and in accordance with regulation, any complaint concerning the solicitation;
(B) any communication between a respondent or agent and any person to the extent the communication relates solely to an existing contract between a respondent and the City, even when the scope, products, or services of the current contract are the same or similar to those contained in an active solicitation;
(C) any communication between a respondent or an agent and a City employee to the extent the communication relates solely to a non-substantive, procedural matter related to a response or solicitation;
(D) any communication required by or made during the course of a formal protest hearing related to a solicitation;
(E) any communication between a respondent or an agent and the City's Small & Minority Business Resources Department, that solely relates to compliance with Chapters 2-9A through 2-9D (*Minority-Owned and Women-Owned Business Enterprise Procurement Program*) of the City Code;
(F) any communication between an attorney representing a respondent and an attorney authorized to represent the City, to the extent the communication is permitted by the Texas Disciplinary Rules of Professional Conduct;
(G) any communication made by a respondent or an agent to the applicable governing body during the course of a meeting properly noticed and held under Texas Government Code Chapter 551 (*Open Meetings Act*);
(H) any communication between a respondent or an agent and a City employee whose official responsibility encompasses the setting of minimum insurance requirements for the solicitation to which the communication relates, to the extent the communication relates solely to the insurance requirements established by the City in the solicitation; and

(I) any contribution or expenditure as defined in Chapter 2-2 (*Campaign Finance*).

1.10.6. MODIFICATION OF RESTRICTION.

The purchasing officer may waive, modify, or reduce the requirements in Section 4 (*Restrictions on Lobbying*) in order to allow respondents to communicate with a City employee or a City official other than the authorized contact person when the purchasing officer determines, in writing, that the solicitation must be conducted in an expedited manner, including but not limited to a solicitation conducted for reasons of health or safety under the shortest schedule possible with no extensions. Any such modification authorized by the purchasing officer shall be stated in the solicitation.

1.10.7. NOTICE.

(A) Each solicitation shall include a notice advising respondents and prospective respondents:

(i) of the requirements of this article;

(ii) that any communication initiated by a City employee or City official, other than the authorized contact person, during the no-lobbying period regarding a response or the solicitation may result in a violation of Section 4(A) if the respondent subsequently lobbies that City employee or City official.

(B) The purchasing officer, or a City employee designated by the purchasing officer, shall provide weekly written notice, accessible to all City employees and City officials, of each solicitation for which the no-lobbying period is in effect.

1.10.8. DISCLOSURE OF VIOLATION.

A City official or a City employee other than the authorized contact person that becomes aware of a violation of Section 4 (*Restrictions on Lobbying*) shall notify the authorized contact person in writing as soon as practicable.

1.10.9. ENFORCEMENT.

(A) A respondent that has been disqualified pursuant to Section 10(A) (*Disqualification; Contract Voidable*) may appeal such disqualification to a subcommittee that is less than a quorum of the Ethics Review Commission established in Chapter 2-7, Article 2 (*Ethics Review Commission*), whose decision on appeal shall be final and binding. Any appeal must be filed in the manner prescribed by the Ethics Review Commission within 5 calendar days of the notice given by the purchasing officer pursuant to Section 10(B).

(B) The purchasing officer shall waive a violation of Section 4(A) if the violation was solely the result of communications initiated by a City official or a City employee other than the authorized contact person.

(C) The purchasing officer has the authority to enforce this article through rules promulgated in accordance with Chapter 1-2 (*Adoption of Rules*), which at a minimum shall include a notice and protest process for respondents disqualified pursuant to Section 10 (*Disqualification;Contract Voidable*), including:

(1) written notice of the disqualification imposed pursuant to Section 10 (*Disqualification;Contract Voidable*);

(2) written notice of the right to protest the disqualification imposed; and

(3) written notice of the right to request an impartial hearing process.

1.10.10. DISQUALIFICATION; CONTRACT VOIDABLE.

(A) If the purchasing officer finds that a respondent has violated Section 2-7-104(1), the respondent is disqualified from participating in the solicitation to which the violation related.

(B) The purchasing officer shall promptly provide written notice of disqualification to a disqualified respondent.

(C) If a respondent is disqualified from participating in a solicitation as a result of violating Section 2-7-104(1) and the solicitation is cancelled for any reason, that respondent is also disqualified from submitting a response to any reissue of the same or similar solicitation for the same or similar project. For the purposes of this section, the purchasing officer may determine whether any particular solicitation constitutes a "same or similar solicitation for the same or similar project".

(D) If a respondent violates Section 104(1) and is awarded a contract resulting from the solicitation to which the violation relates, the City may void that contract.

(E) Respondents that violate Section 2-7-104(1) three or more times during a five year period may be subject to debarment from participating in any new contracts with the City for a period of up to three years.

1.11 City's Minority-Owned and Women-Owned Business Enterprise / Disadvantaged Business Enterprise (MBE/WBE or DBE) Program Requirements. Good Faith Efforts. When a bidder cannot achieve the MBE/WBE or DBE goals or subgoals established for the project, the bidder must document its Good Faith Efforts to meet the goals or subgoals. Good Faith Effort evaluations will consider, at a minimum, the bidder's efforts to do the following:

1.11.1 Soliciting through at least two reasonable, available and verifiable means MBEs/WBEs within the Significant Local Business Presence boundaries at least seven (7) business days prior to the bid opening date to allow the MBEs/WBEs or DBEs to respond to the bid.

1.11.2 Providing interested MBEs/WBEs or DBEs adequate information about the bid documents and requirements, including addenda, in a timely manner to assist them in responding to the bid.

1.11.3 Negotiating in good faith with interested MBEs/WBEs DBEs that have submitted bids to the bidder.

1.11.4 Publishing notice in a local publication such as a newspaper, trade association publication or via electronic/social media.

1.11.5 Not rejecting MBEs/WBEs or DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities.

1.11.6 Making economically feasible portions of the work available to MBE/WBE or DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/WBE or DBE subcontractors and suppliers, so as to facilitate meeting the goals or subgoals.

1.11.7 The ability or desire of the bidder to perform the project work with its own organization does not relieve the bidder of the responsibility to make Good Faith Efforts.

1.11.8 Bidders are not required to accept higher quotes in order to meet the goals or subgoals.

1.11.9 Effectively using the services of Minority Person/Women community organizations; Minority Person/Women Contractors groups; local, state and federal Minority Person/Women business assistance offices; and other organizations to provide assistance in solicitation and utilization of MBEs, WBEs and/or DBEs.

1.11.10 In assessing minimum Good Faith Efforts, the OWNER may consider (1) whether the bidder sought guidance from the City of Austin Small and Minority Business Resources Department (SMBR) on any question regarding compliance with these requirements; and (2) the performance of other bidders in meeting the goals.

For additional information, refer to the MBE/WBE or DBE Compliance Program Requirements Volume of the Project Manual.

Bid shopping is not allowed in conjunction with this solicitation and may result in the disqualification of prospective bidders and subcontractors.

2. ESTIMATES OF QUANTITIES (UNIT PRICE CONTRACTS ONLY)

Quantities listed in unit price Bid form are to be considered approximate quantities and will be used only for comparison of Bids. Payment to CONTRACTOR will be made only for actual quantities of Work performed or materials furnished in accordance with Contract and it is understood that quantities may be increased or decreased as provided in Section 00700, General Conditions, and as may be modified by Section 00810, Supplemental General Conditions.

3. DRAWINGS, PROJECT MANUAL AND SITE (S) OF WORK

Before submitting a Bid, the Bidder shall carefully examine the Bid Documents, site(s) of the proposed Work, soils, and other conditions that may affect the performance of the Work to satisfy the Bidder as to character, quality and quantities of Work to be performed and materials to be furnished. By submitting a Bid, the Bidder will be deemed to have certified that the Bidder has complied with these requirements. If, during preparation of the Bid, the Bidder discovers any suspected discrepancies or errors, the Bidder must immediately notify the Authorized Contact Person in writing of the suspected discrepancy or error. Failure to provide written notice of any suspected discrepancies or errors may be cause for rejection of the Bid.

4. BID GUARANTY

All Bids shall be accompanied by a Bid guaranty in an amount of not less than five percent (5%) of the total Bid. Bid guaranty will be a Bid bond with Power of Attorney attached, issued by a solvent surety authorized under laws of the State of Texas and acceptable to OWNER. For Bidders electing to submit Bids and Bid Guaranties electronically via Austin Finance Online, Bid Guaranties will be verified by the Owner prior to bid certification and electronic copies of Bid Guaranties will not be returned to Bidders.

The Bid guaranty accompanying the Bid of the three (3) apparent low Bidders will be retained until Contract is awarded and successful Bidder executes Contract and furnishes required bonds and insurance, after which Bid guaranties will be returned to the Bidders. All other

Bid guaranties will be returned after Bid certification. In the event that the Bidder to whom the Contract is awarded fails to execute the Contract within five (5) working days of receipt of a complete set of Contract Documents whether in electronic or hard copy form, the Bidder agrees that the OWNER in its discretion may rescind the initial award and award the Contract to the next lowest responsible Bidder.

5. PERFORMANCE AND PAYMENT BONDS

When performance and/or payment bonds are required, each shall be issued in an amount equal to the Contract Amount as security for the faithful performance and/or payment of all Contractor's obligations under the Contract Documents. Performance and payment bonds shall be issued by a solvent corporate surety authorized to do business in the State of Texas, and shall meet any other requirements established by law or by OWNER pursuant to applicable law.

6. CONSIDERATION OF BID AMOUNT

For purpose of award, after Bids are opened, reviewed, and certified, the total amount of the Bid, including accepted Bid alternates, will be considered the amount of the Bid. Certified Bid tabulations will be made available to the public through the City's Vendor Connection website, log on https://financeonline.austintexas.gov/afo/account_services/solicitation/solicitations.cfm. OWNER reserves the right to reject any or all Bids and to waive any minor informality in any Bid or solicitation procedure (a minor informality is one that does not affect the competitiveness of the Bids).

7. SUBMISSION OF BID

Each Bid must be completed and signed by person(s) authorized to bind individual, partnership, firm, corporation, or any other legal entity submitting the Bid, and, shall include the following in one envelope or electronically via Austin Finance Online eResponse:

7.1 One copy of Bid form (Section 00300L or 00300U) completed and signed.

7.2 Acknowledgment of receipt of Addenda issued in spaces provided in Bid form.

7.3 Required Bid guaranty (copy of Bid guaranty if submitted electronically via Austin Finance Online).

7.4 Required Information indicated in Drawings or Project Manual as specified in Section 00820.

7.5 One copy of Total Bid Form if bid is submitted electronically via Austin Finance Online.

Bid must be accompanied by an MBE/WBE or DBE Compliance Plan. Compliance Plans will either be submitted separately, in a second envelope or electronically via Austin Finance Online, prior to the date and time set forth in Section 00020, Invitation for Bids. The Compliance Plan forms are included in the MBE/WBE Procurement Program Package or DBE Procurement Program Package (a separately bound volume).

Bid shall include all specified items in this section submitted electronically via Austin Finance Online, or may be submitted to the Capital Contracting Office in a sealed envelope, clearly identified on outside as a Bid to OWNER, with Bidder's company name and address, project

name, bid due date/time, signed acknowledgement of the number of Addenda received and authorized signature. Failure to submit Bid appropriately may subject Bidder to disqualification.

Sealed Bids may be mailed using the address below:

Address for US Mail (If mailed to the physical address, the proposal will be returned unopened)
City of Austin
Capital Contracting Office
P. O. Box 1088
Austin, Texas 78767-1088

NOTE: Bids must either be received and time stamped in the Capital Contracting Office prior to the Due Date and Time or submitted electronically via Austin Finance Online. The time of record for those electronically submitted is the time received in Austin Finance OnLine. It is the responsibility of the Offeror to ensure that their Bid arrives at the reception desk in the Capital Contracting Office or electronically prior to the time and date indicated. Arrival at the City's mailroom, mail terminal, or post office box will not constitute the Proposal arriving on time.

It is the sole responsibility of the Bidder to ensure timely delivery of Bid. OWNER will not be responsible for failure of service on the part of the U.S. Post Office, courier services, or any other form of delivery service chosen by the Bidder. (See Section 00820, Modifications to Bidding Requirements and Contract Forms, for modifications to solicitations without MBE/WBE or DBE goals.)

In submitting its Bid, Bidder certifies that it has not lobbied the City or its officials, managers, employees, consultants, or contractors in such a manner as to influence or to attempt to influence the bidding process. In the event it reasonably appears that the Bidder influenced or attempted to influence the bidding process, the City may, in its discretion, reject the Bid.

8. WITHDRAWAL OF BID

A Sealed Bid may be withdrawn by a Bidder, provided an authorized individual of the Bidder submits a written request to withdraw the Bid prior to the time set for opening the Bids. For withdrawal of electronic bids see eResponse Instructions.

9. REJECTION OF BIDS

9.1 The following **will** be cause to reject a Bid:

9.1.1 Failure to submit Section 00300 (Bid Form) and signed by an individual empowered to bind the Bidder.

9.1.2 Bids which are not accompanied by acceptable Bid guaranty, with Power of Attorney attached, or a letter certifying the Bidder's ability to be bonded, from a surety company, in accordance with Paragraph 4 above.

9.1.3 More than one Bid for same Work from an individual, firm, partnership or corporation.

9.1.4 Evidence of collusion among Bidders.

9.1.5 Sworn testimony or discovery in pending litigation with OWNER which discloses misconduct or willful refusal by contractor to comply with subject contract or instructions of OWNER.

9.1.6 Failure to submit MBE/WBE or DBE Compliance Plan in accordance with the separately bound volume titled MBE/WBE Procurement Program Package or DBE Procurement Program Package.

9.1.7 Failure to have an authorized agent of the Bidder attend the mandatory Pre-Bid Conference, if applicable.

9.1.8 Bids received from a Bidder who has been debarred or suspended by OWNER's Purchasing Officer.

9.1.9 Bids received from a Bidder when Bidder or principals are currently debarred or suspended by Federal, State or City governmental agencies. (Applicable for Bid amounts equal to or in excess of $25,000.00).

9.1.10 Bids received from a Bidder, who is identified on a list maintained by the Texas Comptroller of Public Accounts as a company known to have contracts with or provide supplies or services to a foreign terrorist organization, unless otherwise exempted from sanctions by the United States government.

9.2 The following **may** be cause to reject a Bid:

9.2.1 Poor performance in execution of work under a previous City of Austin contract.

9.2.2 Failure to achieve reasonable progress on an existing City of Austin contract.

9.2.3 Default on previous contracts or failure to execute Contract after award.

9.2.4 Evidence of failure to pay Subcontractors, Suppliers or employees in accordance with Contract requirements.

9.2.5 Bids containing omissions, alterations of form, additions, qualifications or conditions not called for by OWNER, or incomplete Bids may be rejected. In any case of ambiguity or lack of clarity in the Bid, OWNER reserves right to determine most advantageous Bid or to reject the Bid.

9.2.6 Failure to acknowledge receipt of Addenda.

9.2.7 Failure to submit any of the items specified below in paragraph 11, "Submission of Post Bid Information".

9.2.8 Failure to identify a dollar amount (price) of a unit price(s) in the 00300U including all Bid Alternates in the Bid Form 00300U or 00300L.

9.2.9 Failure to submit post-Bid information within the allotted time(s) (see paragraph 11 for post-Bid requirements).

9.2.10 Failure to timely execute Contract after award.

9.2.11 Previous environmental violations resulting in fines or citations by a governmental entity (i.e. U.S. Environmental Protection Agency, Texas Commission on Environmental Quality, etc.).

9.2.12 Safety record as set forth in Section 00410, Statement of Bidder's Safety Experience.

9.2.13 Failure of Bidder to demonstrate the minimum experience required as specified in Section 00400 if that Section is included in the bidding documents.

9.2.14 Evidence of Bidder's lack of sufficient resources, workforce, equipment or supervision, if required by inclusion of appropriate attachments in Section 00400.

9.2.15 Evidence of poor performance on previous Projects as documented in Owner's project performance evaluations.

9.2.16 Unbalanced Unit Price Bid: "Unbalanced Bid" means a Bid, which includes a Bid that is based on unit prices which are significantly less than cost for some Bid items and significantly more than cost for others. This may be evidenced by submission of unit price Bid items where the cost are significantly higher/lower than the cost of the same Bid items submitted by other Bidders on the project.

10. PROTEST PROCEDURES

The OWNER's Chief Procurement Officer or designee has the authority to settle or resolve any claim of an alleged deficiency or protest. The procedures for notifying the City of an alleged deficiency or filing a protest are listed below. If you fail to comply with any of these requirements, the Chief Procurement Officer or designee may dismiss your complaint or protest.

10.1 Protest regarding the Solicitation (Pre-Submittal of Bid Protest). Any protest regarding the Solicitation by the City shall be filed no later than five (5) days prior to the due date and time for Bids. Any protest filed after that date which raises issues regarding the Solicitation will not be considered.

10.2 Protests regarding the evaluation of Bids. Any protest regarding the evaluation of Bids by the City shall be filed with the City no later than five (5) days after the notification of award recommendation is posted on Austin Finance Online, or notification that the protestor's status as a Bidder has changed, such as notification that a Bid has been found to be non-responsive or a Bidder has been found to be non-responsible. Any protest filed after such date which raises issues regarding the evaluation will not be considered. Bidders may only protest the evaluation of their Bid.

10.3 Protest Regarding Award of Contract (Post-Award Protest). Any protest regarding the award of the contract shall be filed no later than ten (10) days after the date of award. Any protest regarding the award of the contract filed after such date will not be considered.

10.4 You shall submit your protest in writing and it shall include the following information: (i) your name, address, telephone, and email address; (ii) the Solicitation number; (iii) the specific facts and/or law upon which the protest of the Solicitation or the award is based, including all pertinent documents and evidence thereto; and (iv) the form of relief requested.

10.5 Your protest shall be concise and presented logically and factually to help with the

City's review.

10.6 When the City receives a timely written protest, the Chief Procurement Officer or designee will determine whether the grounds for your protest are sufficient. If the Chief Procurement Officer or designee decides that the grounds are sufficient, the Chief Procurement Officer or designee will schedule a protest hearing, usually within five (5) working days. If the Chief Procurement Officer or designee determines that your grounds are insufficient, the City will notify you of that decision in writing.

10.7 The protest hearing is informal and is not subject to the Open Meetings Act. The purpose of the hearing is to give you a chance to present your case, it is not an adversarial proceeding. Those who may attend from the City are: representatives from the department that requested the purchase, the Department of Law, the Financial Services Department, and other appropriate City staff. You may bring a representative or anyone else that will present information to support the factual grounds for your protest with you to the hearing.

10.8 A decision will usually be made within fifteen (15) calendar days after the hearing.

10.9 The City will send you a copy of the hearing decision after the appropriate City staff has reviewed the decision.

10.10 When a protest is filed, the City usually will not make an award until a decision on the protest is made. However, the City will not delay an award if the City Manager or the Chief Procurement Officer or designee determines that the City urgently requires the supplies or Services to be purchased, or failure to make an award promptly will unduly delay delivery or performance. In those instances, the City will notify you and make every effort to resolve your protest before the award.

10.11 The protest shall be submitted in writing to the Authorized Contact Person – Capital Contracting Contact identified in the Invitation for Bids, Section 00020.

11. SUBMISSION OF POST BID INFORMATION

11.1 Prior to determination of the certified low Bidder, the three (3) apparent low Bidders must submit to OWNER the following information within three (3) business days of receipt of notice of apparent low Bidder status by the OWNER:

11.1.1 One copy of Attachments A-I and any other specifically designated Attachments of the Statement of Bidder's Experience (Section 00400), completed and signed. (Unless provided to the contrary in Section 00820 Modifications to Bidding Requirements and Contract Forms). (Note: OWNER reserves the right to solely determine whether the comparable experience documentation provided by the Bidder is sufficient and relevant to the Work described in the Contract Documents for the Bidder to be considered a responsible Bidder.)

11.1.2 One Copy of the Certificate of Non-Suspension or Debarment (Section 00405), completed and signed. (Applicable for Bid amounts equal to or in excess of $25,000.00.)

11.1.3 One copy of Section 00410, Statement of Bidder's Safety Experience, including required attachments, completed and signed.

11.1.4 One copy of the Title VI Assurances Appendix A (Section 00631), completed and signed.

11.1.5 One copy of the Title VI Assurance Appendix E (Section 00632), completed and signed.

11.1.6 One copy of Exhibit A Federal Provisions (Section 00810A) completed and signed. (Federal projects only)

11.1.7 Such other information as is required to evaluate Bid or Bidder.

11.2 Upon notification of status as certified low Bidder, Bidder shall submit the following information to OWNER within three (3) business days:

11.2.1 Confirmation Letters between Bidder and all subcontractor(s) and all supplier(s) identified in the MBE/WBE Compliance Plan.

11.2.2 Section 00425A, Insurance Cost Form. For ROCIP projects.

11.2.3 Section 00425B, Contractor Affidavit of Receipt and Provision of ROCIP Information, and Subcontractor Affidavit of Receipt and Provision of ROCIP Information (for Subcontractor(s) of all tiers identified in the MBE/WBE Compliance Plan). For ROCIP projects.

11.2.4 Such other information as required. In addition, the Bidder acknowledges and agrees that the failure to timely provide the additional information required by this section will result in a determination that, for the purposes of this solicitation, the Bidder has not provided sufficient information for the OWNER to be able to determine that the Bidder is a responsible Bidder.

12. AWARD AND EXECUTION OF CONTRACT

OWNER will process Bids expeditiously. Award of Contract will be to the lowest, responsible Bidder meeting all requirements of the Bid Documents. OWNER may not award Contract to a nonresident Bidder unless the nonresident underbids the lowest Bid submitted by a responsible resident Bidder by an amount that is not less than the amount by which a resident Bidder would be required to underbid the nonresident Bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located.

Award of Contract will occur within the period identified on the Bid form, unless mutually agreed between the parties. Capital Contracting Officer shall submit recommendation for award to the City Council for those project awards requiring City Council action. Contract will be signed by City Manager or his/her designee after award and submission of required documentation by Bidder. Contract will not be binding upon OWNER until it has been executed by both parties. OWNER will process the Contract expeditiously. However, OWNER will not be liable for any delays prior to the award or execution of Contract.

Upon contract award, the selected Bidder must submit either their existing or an updated personnel policy (on letterhead) documenting conformity with City Code, Chapter 5-4, § 5-4-2. If the company does not submit a copy of their personnel policy incorporating the non-discrimination policy, the City of Austin Nondiscrimination Policy (Section 00630) will be considered the Bidder's nondiscrimination policy.

In any case of ambiguity or lack of clarity in the Bid, OWNER reserves the right to determine the most advantageous Bid or to reject the Bid.

Notwithstanding anything in this Section 00100 to the contrary, the OWNER may award a contract for construction services in an amount of less than $100,000 to a bidder whose

principal place of business is in the City of Austin and whose bid is within 5% of the lowest bid price received from a bidder whose principal place of business is not within the City of Austin, if the City finds that the local bidder offers the City the best combination of contract price and additional economic development opportunities for the City created by the contract award including the employment of resident of the City and increased tax revenues to the City.

13. PARTNERING

In order to complete the Work in a manner that is most beneficial to the OWNER and CONTRACTOR, OWNER and CONTRACTOR may form a "Partnering Team", which will include the E/A, and any major Subcontractors. This partnering relationship will draw on the strength of all parties to identify and achieve mutual goals. The objectives of this partnering relationship are effective and efficient communication and Contract performance, which is intended to ensure that the Project is completed within budget, on schedule, and in accordance with the Drawings and Specifications and other Contract requirements. While the partnering relationship will be multilateral in makeup and participation will be totally voluntary, the OWNER and CONTRACTOR agree to cooperate and use reasonable good faith efforts to discuss and resolve any and all Project issues and disputes. Section 01100, Special Project Procedures and/or Section 01200, Project Meetings contain additional information regarding the intent of the partnering relationship and responsibilities of the entities entering into the partnering charter.

14. ROCIP REQUIREMENTS

If the insurance on this Project will be under the Rolling Owner Controlled Insurance Program (ROCIP), the Bidder is directed to Section 00810, Supplemental General Conditions, Section 00820, Modifications to Bidding Requirements and Contract Forms, and the Project Safety Manual included with these contract documents for information and bidding requirements.

The Insurance Cost Form, Section 00425A must be accurately completed and submitted with the Bid to indicate insurance removed from Base Bid and Alternates. CONTRACTOR shall remove from the Bid the cost of insurance for the CONTRACTOR and Subcontractors of all tiers working on site.

The Rolling Owner Controlled Insurance Program Information, Section 00425 B, Contractor Affidavit of Receipt and Provision of ROCIP Information and Subcontractor Affidavit of Receipt and Provision of ROCIP Information for subcontractor(s) of all tiers identified in the MBE/WBE Compliance Plan must be accurately completed and submitted by the certified low bidder as a post bid submittal. Subcontractor Affidavits must be submitted throughout the duration of the Contract as Subcontractor(s) are added.

15. SIGNATURE REQUIREMENTS

The Bid and any subsequent supporting Bid documents and Contract must be executed in the Bidder's full name and legal entity status by an authorized representative of the Bidder. Accordingly, a partnership/joint venture must file its partnership/joint venture agreement, a corporation must file its articles and bylaws, a limited liability company must file its certificate of organization and article of organization and regulations, and a limited partnership must file not only limited partnership agreement and the certificate of limited partnership, but also the documentation for its general partner, and any Bidder must file a copy of any assumed name certificate, or such limited portion of such documents reasonably

establishing signature authority.

16. CONTRACTOR EVALUATION

The Owner will review and evaluate the Contractor's Work and performance on the Project and provide the Contractor with a written Contractor Evaluation Report in accordance with City of Austin Administrative Rule R161-13.37. Rule R161-13.37 provides an appeal process. http://www.austintexas.gov/department/contract-management

17. TEXAS ETHICS COMMISSION CERTIFICATE OF INTERESTED PARTIES DISCLOSURE FORM

17.1 Definitions:

17.1.1 "Interested Party" – means a person who has a controlling interest in a Business Entity with whom the Owner contacts or who actively participates in facilitating the Contract or negotiating the terms of the Contract, including a broker, intermediary, adviser, or attorney for the Business Entity.

17.1.2 "Business entity" - includes an entity through which business is conducted with a governmental entity or state agency, regardless of whether the entity is a for-profit or nonprofit entity. The term does not include a governmental entity or state agency.

17.2 As a condition to entering the Contract, the Business Entity constituting the successful Bidder must provide a Texas Ethics Commission Certificate of Interested Parties Form to the Owner at the time the Business Entity/Bidder submits the signed Contract to the Owner in full compliance with the following requirements under which the successful Bidder shall:

17.2.1 Go to the Ethics Commission's website (www.ethics.state.tx.us),

17.2.2 Complete the "Interested Parties" information, in accordance with the requirements of the Texas Ethics Commission Rules published at Title 1, Part 2, Chapter 46, of the Texas Administrative Code and available on the referenced website,

17.2.3 Include the City's contract identification number,

17.2.4 Include a short description of the goods or services to be used by the City, and

17.2.5 Indicate whether each interested party has a controlling interest in the business entity, is an intermediary in the contract for which the disclosure is being filed, or both.

17.3 In accordance with the Commission Rules, the Certificate of Filing and completed Certificate of Interested Parties must be (i) printed, (ii) signed by an authorized agent of the business entity, and (iii) submitted to the City at the time of the submission of the signed contract to the City. The City then must notify the Ethics Commission in electronic format of receipt of the document within 30 days of contracting and the Commission will make the disclosure of interested parties available to the public on its website.

END

THIS PAGE INTENTIONALLY LEFT BLANK

GEOTECHNICAL DATA
Section 00220

1. OVERVIEW

Depending on Project requirements, OWNER may have obtained geotechnical information, which may include laboratory test results and logs of borings from geotechnical consultants. That information will be included in this section and/or on the Drawings. The CONTRACTOR shall be familiar with the subsurface materials and conditions on the Project and shall be knowledgeable of how they will affect the Work. The following is a partial listing of sources of information available to the CONTRACTOR about subsurface materials and conditions: the geotechnical information provided by the OWNER; geologic maps, publications and reports available from the University of Texas Bureau of Economic Geology at the J.J. Pickle Research Center in Austin, Texas; subcontractors familiar with local ground conditions; and, local consulting geologists and geotechnical engineers. The CONTRACTOR may make their own subsurface investigations.

Geotechnical Investigation – City of Austin Wild Horse Ranch Wastewater Treatment Plant Expansion, 2020, prepared by Carollo Engineers, Inc. and Balcones Geotechnical is attached. The requirements in the Drawings and Specifications shall be used in the event of a conflict between this report and the Drawings and Specifications.

END

THIS PAGE INTENTIONALLY LEFT BLANK

GEOTECHNICAL INVESTIGATION

CITY OF AUSTIN WILD HORSE RANCH WASTEWATER TREATMENT PLANT EXPANSION

AUSTIN, TEXAS

Carollo Engineers, Inc.
Austin, Texas

Balcones Geotechnical

Balcones Geotechnical
5926 Balcones Drive, Suite 230 Austin, Texas 78731 Phone: 512-380-9969
TBPE Firm Registration F-15624

Mr. Hani Michel, MBA, PE
Carollo Engineers
8911 Capital of Texas HWY North, Building 2, Suite 2200
Austin, Texas 78759

Report No. 0119-004
April 2, 2021

Report of Geotechnical Investigation
Wild Horse Ranch Wastewater Treatment Plant Expansion
Austin, Texas

Submitted herewith is our Report of Geotechnical Investigation for the above referenced project. In brief, the report includes a plan of borings, boring logs, laboratory test results and descriptions of subsurface conditions. Based on the findings, recommendations are set forth for the design and construction of foundations, below grade walls, and sheet pile walls.

Balcones Geotechnical, LLC (Balcones) appreciates the opportunity to provide these geotechnical engineering services to Carollo Engineers and looks forward to our continued association throughout final design and construction phases.

Sincerely,

BALCONES GEOTECHNICAL, LLC
TBPE Firm Registration No. F-15624

Rebecca A. Russo, PE
Senior Geotechnical Engineer

John A. Wooley, PE
Principal

Attachments
Distribution:
Hani Michel (Carollo)
Danny Hurtado (Carollo)

CONTENTS

PAGE

INTRODUCTION 1

AUTHORIZATION AND SCOPE 1

FIELD INVESTIGATION 2

LABORATORY INVESTIGATION 3

SITE AND SUBSURFACE CONDITIONS 5
- Physiography 5
- Geology 5
- Stratigraphy and Engineering Properties 6
- Groundwater 7

STRUCTURE DESCRIPTIONS 7
- Existing Structures 7
- Proposed Structures 8

FOUNDATION RECOMMENDATIONS 9
- Slab on Grade Foundations 10
- Mat Foundations 12
- Deep Foundations 15
- Seismic Design 18
- Additional Considerations 19

BELOW GRADE WALLS 20

FLOOD CONTROL SHEET PILING 21

CONSTRUCTION CONSIDERATIONS 22
- Site Drainage 22
- Temporary Excavations 22
- Jointed or Fissured Clay or Clayshale Strata 22
- Pipe Bedding and Backfill 23
- Construction Monitoring 24

CONDITIONS 24

PLATES

PLATE

VICINITY MAP 1

BORING LOCATION PLAN 2

LOGS OF BORINGS ..... 3 - 10

GENERALIZED SUBSURFACE PROFILES ..... 11 - 14

KEYS TO TERMS AND SYMBOLS USED ON THE BORING LOGS ..... 15 & 16

SWELL PRESSURE CURVES 17

USGS TOPOGRAPHIC MAP 18

GEOLOGIC MAP 19

APPENDICES

Previously Drilled Fugro Boring Logs (2003) ..... Appendix A

Client Provided Site Plan and Hydraulic Profile ..... Appendix B

INTRODUCTION

The project will include expansion of the existing City of Austin Wild Horse Wastewater Treatment Plant (WWTP) located in the southeast quadrant of the intersection of US290 and SH130, as shown on the Vicinity Map, Plate 1. Proposed construction will include new structures to increase treatment capacity from existing 750,000 GPD to 1.5 MGD, and ultimately 2.25 MGD. The additions will include:

- Headworks and Odor Control;
- Electrical Building;
- Aeration Basin, RAS Pump Station and Splitter Boxes;
- Clarifiers;
- Filter and UV Facility;
- Sludge Holding Tank No. 1;
- Thickening Building;
- Administration Building; and
- New entry drive.

Balcones Geotechnical, LLC (Balcones) was retained by Carollo Engineers, Inc. (Carollo) to obtain geotechnical data and prepare this report of recommendations for the WWTP improvements. We have been provided with boring logs obtained by Fugro South in 2003 for the previous geotechnical investigation. The provided boring logs are included in Appendix A of this report, and were relied upon for this report.

AUTHORIZATION AND SCOPE

The geotechnical investigation was authorized with issuance of the Agreement for Professional Services, dated December 13, 2019 (Carollo project No. 10976A.10) and Task Order No. 1 which outlines the authorized and agreed upon scope of services. This report contains all the data collected and used to develop foundation design and construction recommendations for the proposed additions to the existing Wild Horse Ranch Wastewater Treatment Plant.

The scope of the investigation included 1) drilling 6 structure borings and 2 pavement borings to determine subsurface conditions in proposed addition areas and for obtaining representative samples for laboratory testing; 2) laboratory testing to determine classification, strength, and index properties of site soils; and 3) preparation of this report to provide foundation design and construction, and pavement recommendations.

Previous borings drilled for the original geotechnical investigation (conducted by Fugro in 2003 and included in Appendix A of this report) were used to supplement the boring data obtained for this investigation. Field sampling and laboratory testing were performed in general accordance with methods, procedures, and practices set forth by the American Society for Testing and Materials, latest version of Annual Book of ASTM Standards, where applicable.

FIELD INVESTIGATION

The field investigation consisted of drilling eight (8) borings, designated B-24 through B-30 with two borings at B-27 denoted as B-27A and B-27B. The 6 structure borings were drilled to depths of 25 to 35 ft below existing grade, and the 2 pavement borings were drilled to the 10 ft depth.

Boring locations are shown on the Boring Location Plan, Plate 2, and should be considered approximate. Previously drilled Fugro borings (2003) are also shown on the attached Plate 2. These locations were estimated from the provided boring plan, and should be considered approximate. A summary of boring information of borings drilled for this current study is given in the following table.

Boring Summary Table

Boring	Drill Date	Drilled Depth	GPS Coordinates		Location
B-24	1/9/2020	30	30.318259592	-97.5683809744	Headworks
B-25	1/9/2020	35	30.318261349	-97.5680380045	Aeration Basins
B-26	1/13/2020	35	30.317894817	-97.5678349971	Clarifiers
B-27A	1/13/2020	10	30.319626913	-97.5674810169	Pavement
B-27B	1/13/2020	10	30.323608616	-97.5727628080	Pavement
B-28	1/13/2020	30	30.317826654	-97.5675781688	Admin Building
B-29	1/9/2020	30	30.317698611	-97.5682797098	Sludge Holding Tank
B-30	1/9/2020	25	30.318404975	-97.5681967718	Headworks

Detailed descriptions of subsurface materials encountered at the boring locations are presented on the Logs of Borings, presented on Plates 3 through 10. Generalized Subsurface Profiles are presented on Plates 11 through 14. Keys to Terms and Symbols used on the logs are set forth on Plates 15 and 16.

Pocket penetrometer values in tons per square foot, and Standard Penetration Test N-values in blows per foot are also shown on the logs of borings at the respective test depth. Groundwater observations made during drilling are presented on the boring logs. Boring elevations shown on the boring logs were estimated from the 1-ft contour map provided by Carollo, and should be considered approximate. Latitude and longitude GPS coordinates were obtained at boring locations using a hand-held GPS device accurate to about 3 horizontal meters, and are shown at the top of the boring logs and should be considered approximate.

The borings were drilled with a truck-mounted drill rig equipped with 1) continuous flight augers for advancing the holes dry and recovering disturbed samples (ASTM D 1452), 2) seamless push tubes for obtaining relatively undisturbed soil samples of cohesive strata (ASTM D 1587), 3) split-barrel samplers and drive weight assembly for obtaining representative samples and measuring the penetration resistance (N values) of non-cohesive soil strata (ASTM D1586), and 4) double-tube wireline core barrels equipped with diamond bits for obtaining 2-inch diameter rock cores (ASTM D 2113). Boreholes were backfilled with a mixture of soil cuttings and bentonite.

LABORATORY INVESTIGATION

The laboratory testing program included identification and classification testing of strata encountered in the subsurface. Soil classification tests, including Atterberg limit determinations (ASTM D4318) and partial grain-size analyses (ASTM D422), were conducted on representative samples of the soil strata. Unconfined compression tests of soil specimens (ASTM D2166) were conducted on selected soil samples. The classification and compressive strength tests included natural water content determinations (ASTM D2216). The compressive strength tests also included unit dry weight determinations. The results of the tests are tabulated on the boring logs at the sample recovery depths.

Swell Tests. In addition to classification and compressive strength testing, six (6) pressure swell tests were conducted on representative clay samples obtained from the borings. In this test, the soil specimen is laterally restrained and axially drained while subject to an applied vertical seating load. The sample is inundated, and a vertical load is applied to maintain zero change in height, referred to as the “swell pressure”. Once the swell pressure is

determined, the weights are removed and the percent swell (change in vertical height) is recorded. The results are summarized in the following table, and presented graphically on Plate 17.

Summary of Pressure Swell Test Results					
Boring Number	**Sample Depth**	**Initial Water Content, %**	**Final Water Content, %**	**Percent Swell**	**Swell Pressure, psf**
B-25	9-10 ft	25	29	3.7	987
B-26	9-10 ft	21	23	0.9	524
B-28	4-5 ft	26	36	5.7	4,771
B-28	14-15 ft	30	34	4.0	2,030
B-29	6-8 ft	15	22	5.2	1,188
B-29	15-16 ft	28	30	1.9	1,541

The on-site clay soils have measured and recognized swell potential, and provisions should be made in foundation design to account for potential shrink/swell movements associated with moisture change. Recommendations for such provisions are provided in the Foundation Recommendations section of this report.

Analytical Testing. Analytical testing was conducted on two representative pavement boring samples, and two combined structure boring samples. The testing included: soluble sulfate content tests (ASTM C1580), soluble chloride (ASTM D 512), pH (ASTM G 51) determination using two methods (H_2O and $CaCl_2$ solution), and box resistivity (ASTM G57). The results are summarized in the following table.

Summary of Analytical Test Results					
Boring	**Sample Depth (ft)**	**Sulfate Content (ppm)**	**Chloride Content (ppm)**	**pH**	**Resistivity (ohm-cm)**
B-27A	0 – 1.5 ft	400			
B-27B	2 - 3.5 ft	600			
B-24	6 – 7.5 ft 8.5 – 10 ft	300	180	8.3 / 8.0	770
B-30	4 – 5.5 ft 6 – 7.5 ft	1,000	180	8.1 / 7.8	820
ppm – parts per million pH determined using H_2O / $CaCl_2$ method					

The laboratory tests were performed to assess the potential of the on-site soils to corrode buried steel and degrade buried concrete. A Corrosion Engineer should review the test results discussed herein when designing appropriate methods of protecting buried steel.

Strata Descriptions. Descriptions of strata made in the field at the time the borings were drilled were modified in accordance with results of laboratory tests and visual examination. All recovered soil samples were classified in general accordance with ASTM D2487 and described as recommended in ASTM D2488. Classifications of the soils and finalized descriptions of soil strata are shown on the boring logs.

SITE AND SUBSURFACE CONDITIONS

Physiography

The project site is currently an existing WWTP. Proposed structures will be located in currently unoccupied, mostly grassed areas. The site has been previously graded and is relatively level with existing ground surface elevations ranging from El. 486 ft at the north end to about El. 480 ft along the south end. Foundations for existing structures (including the aeration basin, clarifier and sludge holding tank) extend approximately 10 ft below surrounding grade. Proposed structures will be constructed at existing grade, and 5 to 15 ft below existing grade.

The USGS Topographic Map is presented on Plate 18. The site relief generally drains down to the southwest to an unnamed tributary to Gillieland Creek, and to the southeast to Gillieland Creek. Offsite ground surface elevations along the proposed access drive generally increase to the north and northwest towards access from Blue Bluff Road.

Geology

A Geologic Map is presented on Plate 19. According to the Geologic Map of the Austin Area[1] the project site is underlain by clay and clayshale of the Taylor Group. The Taylor clay is a Cretaceous age formation, and when unweathered, is lithologically described as dark gray, calcareous, illitic shale. With weathering, dissolved oxygen in water seeping through joints and fissures causes oxidation of the gray iron sulfides present and the formation of yellow-brown hydrated iron oxides. Additionally, a base exchange of cations occurs and the illite clay

[1] Garner, L.E. and Young, K.P. (1976), "Environmental Geology of the Austin Area: An Aid to Urban Planning," Report of Investigation No. 86, Bureau of Economic Geology, The University of Texas at Austin, Plate VII (reprinted 1992).

minerals convert to more expansive montmorillonites.[2] The clays and clayshales are highly plastic with a very high shrink/swell potential if subjected to moisture changes.

Although not specifically mapped at the site, alluvial soils associated with previous passage of surface water (from nearby Gillieland Creek and tributary) may be present on the site. Alluvium was called out on the previous boring logs drilled by Fugro in 2003. However, due to the previous grading activity at the site, it was difficult to discern fill material from alluvium, and therefore, was not called out separately on the boring logs drilled for this current study. Denotations of existing fill material, however, were made when obvious.

Stratigraphy and Engineering Properties

Subsurface conditions can best be understood by a thorough review of the Boring Logs and the Generalized Subsurface Profiles presented on Plates 3 through 14. In general, the borings encountered fill material, and highly plastic potentially expansive clay. A generalized description of site stratigraphy and engineering properties encountered in the borings drilled for this current study are provided below for structure and pavement borings.

Structure Borings. Borings B-24 through B-26 and B-28 through B-30 were drilled for the proposed structures and encountered 4 to 6 ft of existing fill material underlain by fat clay and weathered clayshale with depth. The fill material is typically described as tan to brown fat clay with varying amounts of sand and gravel. Standard Penetration Test N-values in the fill material ranged from 7 to 33 blows per foot (bpf) with an average of 15 bpf.

Underlying the fill, tan and gray fat clay was encountered above the gray clayshale. Blowcount N-values in the natural clay ranged from 15 to 42 bpf, and unconfined compressive strengths ranged from 2.4 to 8.0 tsf (average 5.0 tsf). The surficial fill and underlying natural clay soils were similar with measured plasticity indices of ranging from 40 to 68 with an average of 54, and percent fines (material passing the No. 200 sieve) ranging from 69 to 98 (average 88).

Relatively less weathered gray clayshale was encountered, underlying the natural fat clay, in 5 of the 6 borings at depths of 22 to 34 ft below existing grade, with corresponding elevations of 456 to 450 feet. Standard Penetration Test N-values in the clayshale stratum ranged from 34 to 77 with an average of 50 bpf.

[2] Tipple, G.I. (1975), “Clay Mineralogy and Atterberg Limits of The Taylor Group in the Vicinity of Austin, Texas,” Masters Thesis, The University of Texas at Austin, unpublished, 172 pp.

Pavement Borings. Borings B-27A and B-27B were drilled along the proposed access drive. The borings encountered dark brown fat clay, transitioning to tan and gray fat clay to the boring termination depth of 10 feet. Measured plasticity indices were 53 and 54, and percent fines were 86 and 92. Standard Penetration Test N-values were 6 to 49 with an average of 26 bpf. As presented on page 4, soluble sulfate content of representative clay samples were measured as 400 and 600 ppm.

Groundwater

Groundwater was not encountered in any of the borings at the time of drilling. Previously drilled Fugro borings encountered groundwater in one boring (B-1) at the time of drilling at the 45-ft depth. Piezometers were installed in several of the previous Fugro borings and reported “dry” conditions on the boring logs (see Appendix A).

Groundwater, if present, oftentimes occurs in the upper alluvial soils, perched atop the underlying less pervious Taylor clay soils. Groundwater conditions are based on antecedent rainfall conditions and proximity to nearby surface creeks, and may be different at the time of construction.

STRUCTURE DESCRIPTIONS

Existing Structures

During our initial site visit on December 12, 2019, a few areas of structural distress were noted by site personnel associated with the existing aeration basin. Namely, the stairwell is reported to be settling differentially, and the soil support beneath the south end of the basin appears to have moved away from the bottom of the concrete wall. Site photographs taken by Balcones are below.

Photo 1 (12/11/2019) – Aeration basin stairway, facing NW

Photo 2 (12/11/2019) – Aeration basin south add-on structure foundation

In general, we understand that the aeration basin is performing well, and that the stairs are likely moving differentially due to lack of compaction behind the below grade walls of the basin. Further, we understand that the south end of the basin is structurally cantilevered from an interior basin wall, as this was an add-on structure, and it appears that the lack of subgrade support is not adversely affecting the basin performance.

Proposed Structures

Proposed structures will include Headworks Structures, Splitter Boxes, Aeration Basin, RAS Pump Station, Clarifier, Filter Building, Sludge Holding Tank, Temporary Admin Building, and Electrical Power Station.

A plan showing the existing and proposed site layout, and the hydraulic profile where provided to us and are included in Appendix B. Proposed structure information is summarized in the following table. Proposed FFE (finished floor elevations) and estimated slab load information were estimated from the hydraulic profile included in Appendix B, and email information provided on March 16, 2021.

Summary of Proposed Structure Loading					
Proposed Structure	**Existing Site Grades**	**Proposed FFE**	**Cut/Fill**	**Estimated Slab Load**	**Estimated Wall Load**
Headworks	487 – 488 ft	484.0 ft	3 – 4 ft (C)	1,500 psf	3.5 k/LF
Aeration Basins	486 - 488 ft	473.75 ft	12 – 14 ft (C)	2,000 psf	3 k/LF
Clarifiers	484 – 486 ft	470.3 - 467.83 ft	14 - 19 ft (C)	1,500 psf	3 k/LF
Filter and UV Facility	483 – 484 ft	474.17 ft	9 – 10 ft (C)	1,500 psf	2.5 k/LF
Sludge Holding Tank	482 ft	Slab on grade	---	1,500 psf	2.5 k/LF
Thickening Building	482 ft	Slab on grade	---	1,500 psf	3 k/LF
Admin Building	484 - 485 ft	Slab on grade	---	1,500 psf	3 k/LF
Electrical Building	485 – 486 ft	Slab on grade	---	1,500 psf	3 k/LF
Ancillary Slabs (Odor control, splitter boxes)	---	Slab on grade	---	1,000 psf	2 k/LF

FOUNDATION RECOMMENDATIONS

Proposed structure foundations will vary from relatively shallow slabs on grade to deeper mat foundations. Due to the recognized shrink swell potential of the onsite clay soils, both foundation conditions should include a select fill pad to mitigate potential vertical movements associated with soil moisture variation. Our understanding of proposed foundation bearing elevations and anticipated foundation type for each structure is summarized in the following table.

Summary of Anticipated Foundation Type			
Proposed Structure	**Foundation Bearing Elevation**	**Shallow Foundation Option**	**Deep Foundation Option**
Headworks	3 – 4 ft below existing grade	Slab on grade atop a select fill pad	Drilled shafts at concentrated loads
Aeration Basins	12.25 – 14.25 ft below existing grade	Mat foundation atop a select fill pad	---
Clarifiers	14 – 19 ft below existing grade	Mat foundation atop a select fill pad	---
Filter and UV Facility	9 – 10 ft below existing grade	Mat foundation atop a select fill pad	---
Sludge Holding Tank	At or near existing grade	Mat foundation atop a select fill pad	---
Thickening Building	At or near existing grade	Slab on grade atop a select fill pad	Drilled shafts with structurally suspended ground floor slab
Admin Building	At or near existing grade	Slab on grade atop a select fill pad	Drilled shafts with structurally suspended ground floor slab
Electrical Building	At or near existing grade	Slab on grade atop a select fill pad	Drilled shafts with structurally suspended ground floor slab
Ancillary Slabs (Odor control)	At or near existing grade	Slab on grade atop a select fill pad	Drilled shafts with structurally suspended ground floor slab

The following sections provide foundation recommendations for Slabs on Grade, Mat Foundations, and a Deep Foundation option for Slabs on Grade and concentrated loads.

Slab on Grade Foundations

Structures to be supported by slab foundations at or near existing grade (within 5 ft of existing grade) may be designed as a reinforced concrete slab bearing atop a select fill pad. The select fill pad thickness, composition and placement should be in accordance with the following.

Potential Vertical Rise. Potential vertical slab on grade movements were estimated using the results of swell tests and the McDowell[3] procedure commonly known as Potential Vertical Rise (PVR), also known as TxDOT Test Method TEX-124-E. These methods, while estimates only, allow the calculation of potential soil heave magnitudes using different contributory thicknesses of swelling soil. Using these methods, we estimate the following potential slab movement for corresponding select fill replacement thicknesses. Significantly greater movements will occur if ponding water and/or leaking utility lines are allowed to occur during or after construction.

Estimated Potential Vertical Movements – Slab on Grade Foundation		
Select Fill Pad Thickness (feet)	**PVR (inches)**	**Minimum Excavation Depth* (feet)**
6 ft	1½" to 2½"	4 ft
8 ft	1 to 2"	6 ft
10 ft	1"	8 ft
* Below existing grade		

Select Fill Pad Preparation. The select fill pad should be prepared in accordance with the following.

1. Within the structure footprint and at least 5 ft outside the footprint, remove and dispose of all surficial vegetation, pavements, deleterious materials, and any additional depth required to provide a select fill pad to achieve the desired PVR.
2. Scarify the excavated, pre-fill subgrade at least 8 inches and recompact to at least of 95% of the maximum dry density as determined using the Texas Department of Transportation (TxDOT) Test Method TEX-114-E. Hold water contents within optimum to +3 percent of optimum.

[3] McDowell, C. (1956), "Interrelationships of Loads, Volume Change, and Layer Thickness of Soils to the Behavior of Engineering Structures," Highway Research Board, Proc., 35th Annual Meetings, Publ. No. 426, Transportation Research Board, Washington, D.C., 754-772.

3. Bring the pad to grade with crushed limestone derivative base material (select fill) conforming to the following:

Retained on 2-1/2" screen	0%
Retained on 7/8" screen	5% - 50%
Retained on 3/8" screen	25% - 65%
Retained on No. 4 mesh	35% - 75%
Retained on No. 40 mesh sieve	60% - 90%

Material passing the No. 40 sieve shall meet the following plasticity requirements:

Passing No. 40 Sieve	Maximum Plasticity Index	Minimum Plasticity Index
25% - 40%	15	3
10% - 25%	20	4

4. Place the select fill in maximum 8 inch loose lifts and compact to 98% of the maximum dry density as determined by TxDOT Test Method TEX 113-E. Maintain the moisture content within 2% of optimum.
5. Outside of the structure, the select fill pad should be capped, or covered, with a site-generated clay cap or with impermeable concrete flatwork.
6. If moisture migration through the slab is a concern, place a vapor barrier of sufficient strength and durability to resist puncture during reinforcing steel and concrete placement. Typical thickness should be greater than 10 mils. Placement of the vapor barrier should be in accordance with manufacturer's recommendations.
7. With placement of a slab on grade atop a select fill pad, provisions should be made for selection of appropriate floor coverings that can tolerate moisture emission through the slab. For interiors sensitive to moisture migration through the slab, additional impermeable membranes and/or waterproofing is recommended.

Stiffened Slabs. The following are recommended for slab on ground, shallow foundation support atop a select fill pad.

1. Beams generally should be placed along the exterior building perimeter and beneath load bearing walls. The beam spacing should be as regular as wall and any concentrated load locations permit.
2. Beams founded in the compacted select fill at least 4 ft thick may be sized using an allowable bearing pressure of 3,000 psf for a beam width of at least 12 inches and beam depth of 30 inches below final grade.

3. Beams founded in the compacted select fill at least 3 ft thick may be sized using an allowable bearing pressure of 2,500 psf for a beam width of at least 12 inches and beam depth of 24 inches below final grade.
4. If the design requires a modulus of subgrade reaction, use 150 pci.
5. Settlement of foundations designed and placed in accordance with the recommendations included herein could be on the order of 1 inch, with differential settlement between two points approaching half that amount.

Additional Considerations. Movements due to shrink swell behavior of the subgrade are often not uniform and are more severe near the edges of the structure where soil moisture is more readily affected with climatic changes. The following suggestions will help mitigate foundation movements and related potential structure distress.

1. Incorporation of flexible structural and utility connections, flexible partitions and wall treatments, and/or provisions in the foundation to reduce the effects of potential differential movement;
2. Positive drainage away from the structure, such as 1.5 to 2.0% for areas with impervious cover, and 10% for areas with pervious cover; and
3. Clay cap and/or possibly concrete flat work around the perimeter of the building to help protect the required select fill and subgrade from future moisture intrusion. If a clay cap is used, we recommend a minimum thickness of 18 inches to provide an increased barrier to moisture migration into the select fill zone.

   The clay material used for the cap should have a maximum particle size of ½ inch, no more than 80% passing the No. 200 sieve, and a minimum plasticity index of 30. The clay cap material should be compacted to at least 95% of the maximum dry density as determined using TxDOT Test Method TEX-114-E at a moisture content between optimum and +3% above optimum water content.

Mat Foundations

Basin structures founded at least 5 ft below existing grade may be supported by reinforced concrete mat foundation atop a select fill pad. It is assumed that the mat thickness will be about 24 inches. The select fill pad thickness, composition and placement should be in accordance with the following.

Potential Vertical Rise. Potential vertical slab on grade movements were estimated using the results of swell tests and the McDowell[4] procedure commonly known as Potential Vertical Rise (PVR), also known as TxDOT Test Method TEX-124-E. These methods, while estimates only, allow the calculation of potential soil heave magnitudes using different contributory thicknesses of swelling soil. Using these methods, we estimate the following potential slab movement for corresponding select fill replacement thicknesses. Significantly greater movements will occur if ponding water and/or leaking utility lines are allowed to occur during or after construction.

Select Fill Pad Thicknesses - Mat Foundations		
Mat Foundation Bearing Below Grade (ft)	**Select Fill Pad Thickness* (ft)**	**PVR (inches)**
12 ft	3 ft	1”
10 ft	4 ft	1”
8 ft	5 ft	1”
6 ft	6 ft	1”
* Below the bottom of the concrete foundation		

Select Fill Pad Preparation. The select fill pad should be prepared in accordance with the following.

1. Within the structure footprint and at least 3 ft outside the footprint, remove and dispose of any existing fill material, vegetation, deleterious materials, and any additional depth required to provide a select fill pad to for the planned foundation bearing depth.
2. Scarify the excavated, pre-fill subgrade at least 8 inches and recompact to at least of 95% of the maximum dry density as determined using the Texas Department of Transportation (TxDOT) Test Method TEX-114-E. Hold water contents within optimum to +3 percent of optimum.

[4] McDowell, C. (1956), “Interrelationships of Loads, Volume Change, and Layer Thickness of Soils to the Behavior of Engineering Structures,” Highway Research Board, Proc., 35th Annual Meetings, Publ. No. 426, Transportation Research Board, Washington, D.C., 754-772.

3. Bring the pad to grade with crushed limestone derivative base material (select fill) conforming to the following:

Retained on 2-1/2" screen	0%
Retained on 7/8" screen	5% - 50%
Retained on 3/8" screen	25% - 65%
Retained on No. 4 mesh	35% - 75%
Retained on No. 40 mesh sieve	60% - 90%

Material passing the No. 40 sieve shall meet the following plasticity requirements:

Passing No. 40 Sieve	Maximum Plasticity Index	Minimum Plasticity Index
25% - 40%	15	3
10% - 25%	20	4

4. Place the select fill in maximum 8 inch loose lifts and compact to 98% of the maximum dry density as determined by TxDOT Test Method TEX 113-E. Maintain the moisture content within 2% of optimum.
5. Outside of the structure, the select fill pad should be capped, or covered, with a site-generated clay cap or with impermeable concrete flatwork.
6. If moisture migration through the slab is a concern, place a vapor barrier of sufficient strength and durability to resist puncture during reinforcing steel and concrete placement. Typical thickness should be greater than 10 mils. Placement of the vapor barrier should be in accordance with manufacturer's recommendations.
7. With placement of a slab on grade atop a select fill pad, provisions should be made for selection of appropriate floor coverings that can tolerate moisture emission through the slab. For interiors sensitive to moisture migration through the slab, additional impermeable membranes and/or waterproofing is recommended.

Foundations. The following are recommended for mat foundations supported atop a select fill pad.

1. Mat foundations bearing at least 5 ft below existing grade may be sized using a net allowable bearing pressure of 3,000 psf. Higher bearing is available with deeper embedment.
2. If the design requires a modulus of subgrade reaction, use 150 pci.

3. Settlement and PVR of foundations designed and placed in accordance with the recommendations included herein could be on the order of 1 inch, with differential settlement between two points approaching half that amount.
4. As stated previously, it is anticipated that mat foundations will be at least 24 inches thick.

Additional Considerations. Movements due to shrink swell behavior of the subgrade are often not uniform and are more severe near the edges of the structure where soil moisture is more readily affected with climatic changes. The following suggestions will help mitigate foundation movements and related potential structure distress.

1. Positive drainage away from the structure, such as 1.5 to 2.0% for areas with impervious cover, and 10% for areas with pervious cover.
2. Foundation support of any proposed stairway and/or periphery structures along the basins sidewalls should be planned for. This may include extension of the select fill pad beneath the mat foundation and up to subgrade elevation, or deep foundation support. Balcones should be consulted for additional recommendations for lightly loaded periphery structures along basin sidewalls.
3. Clay cap and/or possibly concrete flat work around the perimeter of the building to help protect the required select fill and subgrade from future moisture intrusion. If a clay cap is used, we recommend a minimum thickness of 18 inches to provide an increased barrier to moisture migration into the select fill zone.

   The clay material used for the cap should have a maximum particle size of ½ inch, no more than 80% passing the No. 200 sieve, and a minimum plasticity index of 30. The clay cap material should be compacted to at least 95% of the maximum dry density as determined using TxDOT Test Method TEX-114-E at a moisture content between optimum and +3% above optimum water content.

Deep Foundations

Structurally Suspended Slab. If a structurally suspended ground floor option is selected, a permanent void space of at least 12 inches should be maintained beneath all interior and perimeter beams, floor slabs, and pier caps. A preferred void space of 30 inches with a well-ventilated (forced draft and/or air conditioned if necessary) crawl space is suggested for buildings sensitive to soil moisture emission through the ground floor slab.

If a crawl space is used, the ground surface beneath the structure should be sloped to drain to a collection point and a sump and pump underslab drainage system or daylighted. This might be achieved with placement of a mud mat or asphaltic concrete surfacing of the crawl space floor and sloping to drainage collection points and piping to sumps. The sump should be equipped with a submersible pump which will cycle “on” and “off” to discharge water which accumulates in the sump.

Soil retainers should be used to prevent soil from entering the void beneath the perimeter grade beam. Flexible connections may need to be incorporated into plumbing entering the crawl or void space from potentially swelling subgrade. Further, utility pipe penetrations beneath the slab should be backfilled with flowable fill for a distance of 2 feet beneath the slab, and 4 feet outside the slab to limit groundwater that may enter beneath the slab through pervious pipe bedding stone.

Drilled Shaft Design. Drilled shafts used in support of concentrated loads (Headworks Structure) and/or structurally suspended ground floor slabs should be designed in accordance with the following recommendations:

1. Straight drilled shafts should penetrate to a depth of at least 30 ft below existing or final grade to embed the shaft deep enough to resist potential uplift forces due to soil heave in the zone of seasonal moisture change.
2. Shafts tipped at least 30 feet below existing or final grade may be designed using an allowable end bearing of 15 ksf (including a factor of safety of 3).
3. An allowable skin friction of 1.5 ksf may be used for that portion of the shaft below the upper 15 ft of embedment.
4. The diameter of straight drilled shafts carrying structural column loads should not be less than 30 inches. Relatively lightly-loaded shafts, such as periphery structure supports, may be smaller than 30 inches diameter, sized using skin friction only, and should penetrate at least 25 ft below existing or final grade.
5. Shaft reinforcement extending from top to bottom of the shaft should not be less than 1.5% of the gross area of the shaft. Actual tensile stress in the shaft may be calculated as 75D kips, where D is the shaft diameter, in feet.
6. Maintain a minimum clear spacing between drilled shafts of at least three shaft diameters. If the minimum spacing cannot be maintained, the geotechnical engineer should be retained to consider the group effect of the closely spaced shafts.

7. Settlement of individual drilled shafts should be less than 1 inch. Differential settlement between adjacent drilled shafts designed as recommended herein should not be greater than ½ inch.

8. Drilled shafts used in conjunction with slab on grade options atop a select fill pad should be isolated from the slab by expansion joints.

Drilled Shaft Construction. Drilled shafts should be installed in accordance with the following:

1. Contract documents should provide for the possible use of temporary casing for proper installation of drilled shafts should detrimental groundwater conditions and/or collapsing soils be encountered. A separate unit price for the use of casing should be identified on the bid tabulation form in the contract documents such that the contractor will be paid for casing only if it is actually used. No more than 2 inches of water should be in the bottom of the shaft excavation prior to the placement of concrete.

2. If casing is used, when it is extracted, the head of the concrete must be maintained at a level well above the bottom of the casing. To facilitate casing extraction, the slump of the concrete and the cleanness of the inside of the casing are critical items that the contractor must control. The top 10 feet of the shaft concrete should be vibrated following placement.

3. In order to promote shaft-to-soil bonding, drilled-shaft concrete should be specified as a high slump concrete (7- to 8-inch slump, preferably superplasticized), which still has the proper characteristics of normal concrete such as workability, durability, cohesiveness, and strength.

4. To prevent deterioration of the sides and bottoms of shaft excavations, reinforcement and concrete should be placed the same day drilling operations are completed. Before placement, shafts should be inspected to assure bottoms and sidewalls are free of deleterious spall and free water.

5. Centralizing chutes, tremies, and/or concrete pumps may be necessary to prevent the concrete from striking the sides of reinforcement and thus segregating. The desired maximum free fall of concrete should be about 10 ft, but greater heights are allowable if segregation can be eliminated and if the shaft excavation is dry.

6. The drilled shaft operations should be inspected, on a full-time basis, by a qualified representative of the geotechnical engineer to a) verify desired penetration into the bearing stratum, b) verify shaft dimensions and proper reinforcement, c) monitor cleanness of the shaft sidewalls and bottom and amount of water in shaft

excavations, d) monitor placement of concrete and use of tremie or pumps, e) monitor the extraction of casing, if used, and f) maintain accurate records.

7. As the design of any foundation relies heavily on generalizations drawn from subsurface conditions determined at a limited number of boring locations, verification of these generalizations at any given location should not be dictated by criteria based on depth or drilling resistance. Instead, the sides and bottoms of shafts should be examined by the geotechnical engineer of record to assure that shaft bottoms bear in the desired stratum.
8. In addition to construction recommendations contained herein, the shafts should be constructed in general accordance with ACI 336.3R, Chapters 4 and 5.

Seismic Design

Referring to Section 1613 of the International Building Code (2015), we assign a site classification based on the soil profile encountered in the borings and extrapolated to 100-foot depth as Site Class D.

Seismic design coefficients were determined using the on-line software, Seismic Hazard Curves and Uniform Response Spectra, version 5.1.0, dated February 10, 2011 accessed at (http://earthquake.usgs.gov/ws/designmaps/),. Analyses were performed considering the 2015 International Building Code. Input included coordinates (30.318274°N, 97.568420°W) and Site Classification D. Seismic design parameters for the site are summarized in the following table.

IBC Site Classification and Seismic Design Parameters				
Site Classification	**Fa**	**Fv**	**Ss**	**S1**
D	1.6	2.4	0.065 g	0.034 g

Where: Fa = Site coefficient
Fv = Site coefficient
Ss = Mapped spectral response acceleration for short periods
S1 = Mapped spectral response acceleration for a 1-second period

Additional Considerations

Site Drainage. Grading around the structures should be such that future ponding or standing water around the structure does not occur. All surface drainage measures should be designed to direct water well away from building and pedestrian areas.

Flatwork. Potential differential movements between the planned structure and abutting flatwork should be expected for flatwork supported on unimproved subgrade soil conditions. Thus, we recommend that undercut (or partial undercut) and select fill replacement be extended to include adjacent movement-sensitive flatwork such as entry sidewalks. Movement-sensitive exterior flatwork should be undercut a minimum of 4 feet and backfilled with select fill meeting the plasticity, gradation and compaction requirements set forth herein. This undercut depth should extend some distance from the building and may be transitioned to depths of 2 and 1 foot. This suggested transition should be in areas where flatwork (sidewalks, pavements, etc.) abut the building and serves as the impervious “cap” over the select fill pad beneath the building.

The flatwork and abutting sidewalks should be designed and constructed to allow for positive drainage to be maintained away from the building foundation. The planned site grading should allow for potential future differential movements, and should never be allowed to reach a level condition or negative slope that promotes drainage toward the foundation. This reversal in drainage can direct moisture into the building envelope and can become a constant nuisance and maintenance issue.

Measures to Reduce Soil Moisture Variation. The following measures are suggested to reduce potential soil moisture fluctuations beneath flatwork and pavements in close proximity to the building footprint. These measures will also serve to reduce potential water migration into the select fill pad beneath the building (in addition to the clay cap recommended in the Potential Vertical Rise section of this report). These concepts should be taken into account for design and construction of a grade-supported slab outside the building footprint:

- Roof drainage should be controlled by gutters and carried well away from the structure.
- Utility bedding should not include gravel within 4 feet of the perimeter of the foundation. Compacted clay or flowable fill trench backfill should be used in lieu of permeable bedding materials between 2 feet inside the building to a distance of 4 feet beyond the exterior of the building edge to reduce the potential for water to infiltrate within utility bedding and backfill material.

- Paved areas around the structure are helpful in maintaining equilibrium within the soil water content. If possible, pavement and sidewalks should be located immediately adjacent to the building.

- Site work excavations should be protected and backfilled without delay to reduce changes in soil moisture.

- Utilities which penetrate building and basin structures should be designed with some flexibility to allow free movement in the lines as a result of potential soil shrinkage or swelling.

- Flatwork supported on unimproved, natural soil conditions could result in differential movement. We recommend that flatwork include details that limit these potential differential movements without resulting in vertical separations. Control joints should include reinforcing steel to prevent joint displacement.

BELOW GRADE WALLS

Below grade walls are integral parts of the Aeration Bain, Clarifier, Sludge Holding Tank and Disinfection Building. The deformation condition imposed by a wall on the soil it retains has a significant influence on the coefficient of horizontal earth pressure. The two general deformation conditions are “yielding” and “nonyielding”. For this project, it is anticipated that below grade walls will be designed for the nonyielding, at-rest condition.

The type of backfill also has an important influence on the coefficient of horizontal earth pressure. A clean, granular, free-draining material is the preferred backfill. Additionally, the accumulation of water in the backfilled cuts adjacent to the structure walls will influence the horizontal earth pressure.

We recommend using the following equivalent fluid unit weights for a “nonyielding”, at-rest, and drainage condition noted for the backfill conditions proposed.

1. With the use of granular, free-draining material, selected in accordance with Item 3 below, use an at-rest equivalent fluid unit weight of 70 pcf if drained, and 100 pcf if undrained.
2. With the use of compacted select fill as backfill, use an at-rest equivalent fluid unit weight of 65 pcf, assuming drained, and 95 pcf if undrained.
3. The free-draining backfill should be a washed, crushed, coarse-grained material with sizes ranging mostly between ½ and ¾ inch, and no more than 5% passing the

No. 200 sieve. An acceptable gradation would be similar to that of the ASTM C33 Size No. 67 gradation.

4. If used, the free-draining material should be placed in maximum 6 inch lifts and compacted with a minimum of four complete overlapping passes over the entire surface with a vibratory plate compactor until further passes will not result in greater densification. This process should be observed by a representative of the geotechnical engineer.
5. If select fill is used as backfill, compact to at least 95% of the maximum dry density as determined using TxDOT Test Method TEX-113-E. Hold water contents within ±2% of optimum, and maintain compacted lift thicknesses to 6 inches or less.
6. If the design involves any uniform vertical surcharge adjacent to the wall, use a coefficient of horizontal earth pressure of 0.50. A surcharge of 250 psf is suggested for vehicular traffic.
7. For concrete foundations poured in good contact with the subgrade an allowable coefficient of friction of 0.37 may be used for sliding resistance for footings bearing on select fill.

FLOOD CONTROL SHEET PILING

About 800 linear ft of flood control sheet piling is planned along the southern and eastern perimeter of the site, generally along the boundary with the offsite tributary of Gillieland Creek, and Gillieland Creek. Borings were not specifically drilled along the proposed sheet piling; however, we expect soils to consist of firm to very stiff fat clay, with unconfined compressive strengths ranging from 1.0 to 4.0 tsf.

We anticipate that the sheet piling will be cantilevered with 4 to 6 ft of stick up, and 8 to 12 ft of penetration below grade. Passive resistance on the inward portion of the sheet pile may be calculated using an equivalent fluid pressure of 375 pcf, or a lateral bearing pressure of 1500 psf uniform pressure over the sheet pile penetration deeper than 6 feet. If more elaborate input parameters are required by the structural engineer, Balcones can provide additional input if requirements are known.

CONSTRUCTION CONSIDERATIONS

Site Drainage

Grading around the structures should be such that future ponding or standing water around the structure does not occur. All surface drainage measures should be designed to direct water well away from building and pedestrian areas.

Temporary Excavations

Temporary excavations and slopes may be required for site grading and construction of proposed structure foundations. It is anticipated that open cuts are planned with sloping of the excavation; however, some sloped excavations may not be possible for new structures planned in proximity to existing structures. Appropriate measures will be needed to maintain the stability of existing structures and excavation sidewalls, and will be dependent on the depth and dimensions of the planned excavation, and the duration.

In accordance with OSHA[5] for classifying soil and rock encountered in our investigation, the site soils should be considered to be "Type B" soils per OSHA Excavation Standards. Temporary site slopes in soil should be maintained with slopes no steeper than 1 horizontal to 1 vertical. This classification is offered for preliminary planning purposes, as it is the responsibility of the contractor to maintain site excavation safety. If groundwater and/or loose, raveling fill material are encountered, flatter slope configurations of 1.5H:1V or 2H:1V would be required to maintain trench safety.

Alternatives for benching, bench widths, and stockpiling of materials adjacent to excavated trenches should be in accordance with current OSHA regulations. Temporary slopes greater than 20-ft deep should be designed by a professional engineer licensed in the State of Texas.

Jointed or Fissured Clay or Clayshale Strata

Overconsolidated clay and clayshale strata with plasticity indices of above 40 or more almost always contain joints and slickensides. Such strata are often described as blocky or fissured. The presence of these defects may control the overall strength of the entire deposit. Excavation often cause strains sufficient to induce swelling and open the joints, thereby inducing degradation or unraveling.[6] Since most of the fat clay and clayshale strata at the plant

---

5 Code of Federal Regulations Title 29 Part 1926 (2003), "Labor", Occupational Safety and Health Administration, Department of Labor, Subpart P - Excavations, pgs 373 – 410.

6 Peck, R.B., Hanson, W.E., and Thornburn, T.H. (1974), Foundation Engineering, Second Edition, New York, Wiley, p.98.

site contain joints, slickensides, or fissures, it should be recognized and the contractor be made aware that degradation or unraveling of excavated, unprotected slopes at the site is very possible, even probable.

For temporary slopes allowed to remain open for more than several weeks, exposed cut slopes should be protected with temporary measures such as erosion control matting, geotextile, or gunite. Balcones can provide supplemental recommendations as design advances.

Pipe Bedding and Backfill

Pipe Bedding. Successful installation of the water and wastewater lines will depend on a number of factors including the available support from the surrounding soils and the type of bedding material used. The following is from the City of Austin Standard Specifications, December 2018, Section 510, for pipe bedding stone. The bedding shall consist of "clean gravel, crushed gravel or crushed limestone, free of mud, clay, vegetation, or other debris, conforming to ASTM C33 for stone quality. Size gradation shall conform to ASTM C-33 No. 57 or No. 67 or the following table:

Sieve Size	% Passing
1½ inch	100
1 inch	90 – 100
½ inch	15 – 60
No. 4	0 – 10
No. 8	0 – 5

If needed for design, a "modulus of soil reaction" (E')[7] of 300 psi may be used for analysis and design of pipes bedded in high plasticity clay, if the bedding satisfies the requirements above and is placed by end dumping it into the trench.

Trench Backfill. Trench excavations may be backfilled with the excavated material provided the material is processed and placed in compliance with the following:

1. Excavated trench material should be free of debris, clay lumps, excessive organics, and other deleterious material, and be screened to limit the maximum particle size to 3 inches.

[7] Howard, A.K. (1977). "Modulus of Soil Reaction for Buried Flexible Pipe." ASCE Journal of the Geotechnical Engineering Division, Vol 103, GT.1, January 1977.

2. Compact the backfill to 95% of the maximum dry density determined using TxDOT Test Method TEX-114-E. Compacted lift thicknesses should not be more than 6 inches. Water contents of the compacted backfill should be within -1 to +3% of optimum.
3. Consideration may be given to use of a geotextile filter fabric around the bedding stone to provide soil filtration, if settlement of the trench backfill is a concern.

Construction Monitoring

It is recommend that the Geotechnical Engineer of record, or a qualified representative, be present on-site during construction to observe, monitor construction activities and perform quality control tests. Construction monitoring performed by qualified personnel independent of the Contractor is recommended because the performance of foundations and other structures constructed during this project will be directly related to the Contractor's adherence to the recommendations presented in this report and to the specifications prepared by the Designer. Additionally, unanticipated soil and/or groundwater conditions may be encountered during construction. Qualified geotechnical personnel observing construction on-site can monitor construction activities and may aid in recognizing unanticipated subsurface conditions and assist in reconciling these conditions with design recommendations.

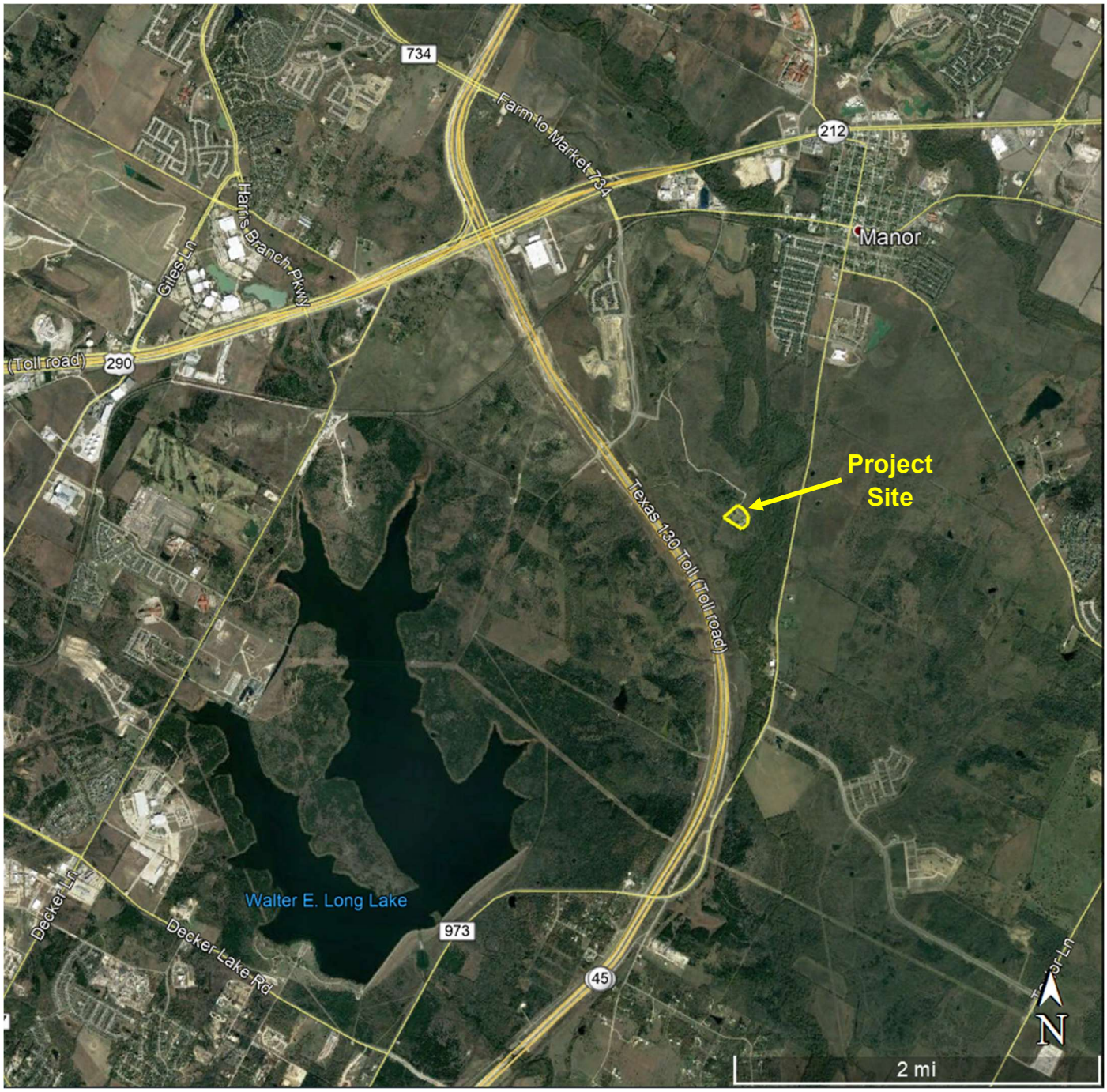
CONDITIONS

Since some variation was found in subsurface conditions at boring locations, all parties involved should take notice that even more variation may be encountered between boring locations. Statements in the report as to subsurface variation over given areas are intended only as estimations from the data obtained at specific boring locations.

The professional services that form the basis for this report have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical engineers practicing in the same locality. No other warranty, expressed or implied, is made as the professional advice set forth. The results contained in this report are directed at, and intended to be utilized within, the scope of work contained in the agreement executed by Balcones Geotechnical, LLC and client. This report is not intended to be used for any other purposes.

PLATES

Project No. 0119-004



Source: Google Earth Professional, aerial Imagery dated 11/22/2019

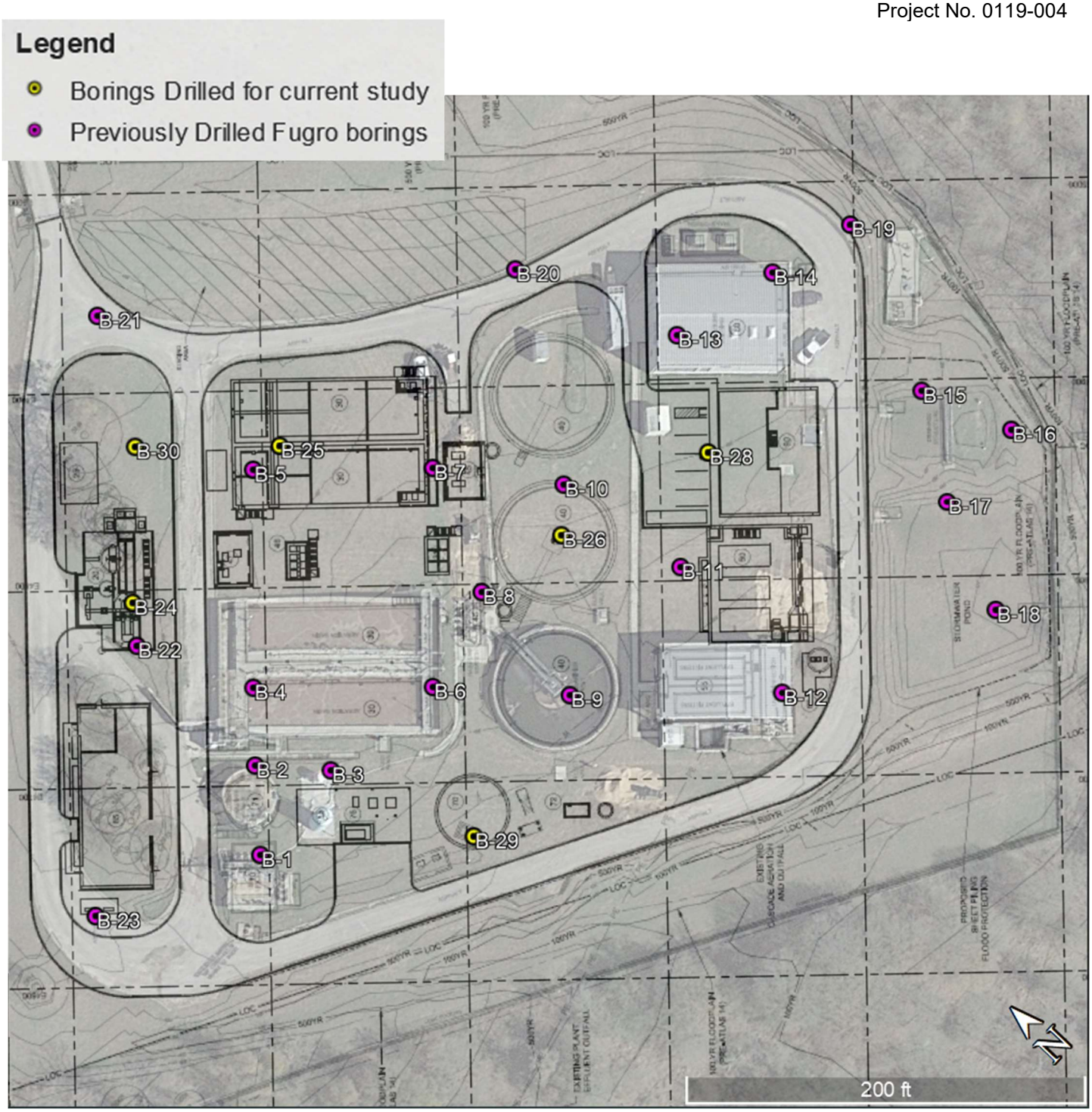
VICINITY MAP

Wild Horse Wastewater Treatment Plant Expansion
Austin, Texas

Balcones Geotechnical
Austin, TX 78731
512.380.9969

Plate 1

Project No. 0119-004



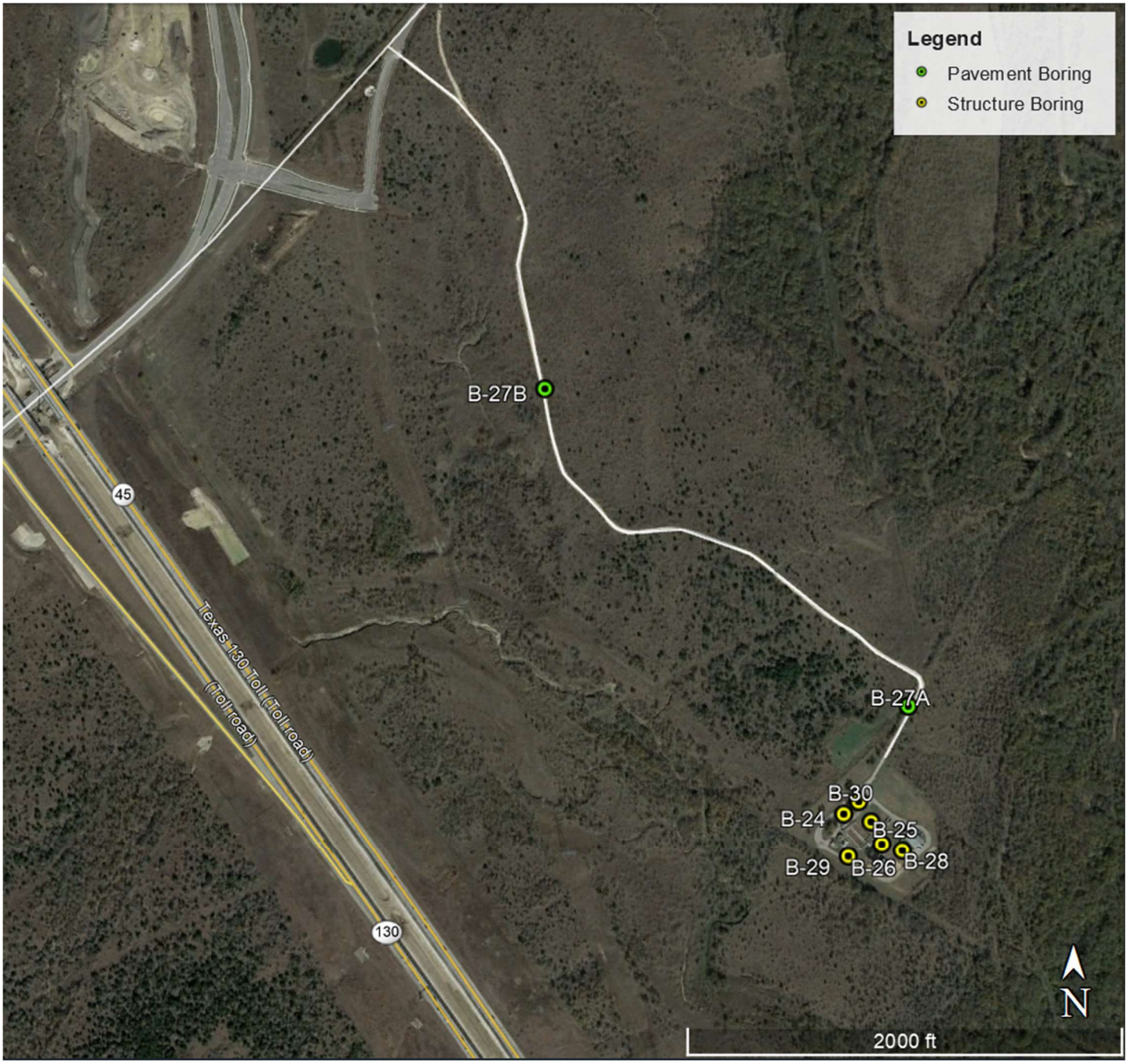
Source: Site Plan prepared by Carollo, dated February 2021 superimposed into Google Earth

BORING LOCATION PLAN

Wild Horse Wastewater Treatment Plant Expansion
Austin, Texas

Balcones Geotechnical
Austin, TX 78731
512.380.9969

Plate 2a



Source: Google Earth Professional, Imagery date 11/22/2019

BORING LOCATION PLAN

Wild Horse Wastewater Treatment Plant Expansion
Austin, Texas

Balcones Geotechnical
Austin, TX 78731
512.380.9969

Plate 2b

LOG OF BORING NO. B-24

Wild Horse Ranch WWTP Expansion
Austin, TX
PROJECT NO. 0119-004

LATTITUDE: 30.318260
LONGITUDE: -97.568381

DEPTH, FT	SYMBOL	SAMPLES	POCKET PEN, tsf Blows/ft. REC./RQD, %	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	PASSING NO. 4 SIEVE, %	PASSING NO. 200 SIEVE, %	UNIT DRY WEIGHT, PCF	UNCONFINED STRENGTH TSF
				SURF. ELEVATION: 487±								
			N=15	Light brown to brown FAT CLAY with sand, very stiff to hard, w/small scattered gravel and calcareous nodules. CH (Fill)								
			N=21									
			N=33		482.0	18	90	65	94	78		
5				Dark brown to tan FAT CLAY, hard, w/calcareous pockets and nodules. CH	5.0							
			N=28									
			N=42		477.0							
10				Tan and gray FAT CLAY, hard, blocky, w/ferrous staining, silt partings and calcite seams. CH (Taylor)	10.0							
			P=4.5+			25					100	8.0(U)
15												
			N=22			25	87	63	100	98		
20												
			N=32									
25												
					459.0							
			N=77	Dark gray CLAYSHALE, low hardness, w/discontinuities. (Taylor)	28.0							
					457.0							
30					30.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) The borehole was backfilled with a mixture of soil cuttings and bentonite.								
35												

Balcones Geotechnical
Austin, TX 78731
512.380.9969

COMPLETION DEPTH: 30.0
DATE DRILLED:
WATER LEVEL / SEEPAGE:
UPON COMPLETION:

KEY:
P = Pocket Penetrometer
N = Standard Penetration Test (bpf)
U = Unconfined Compression (tsf)

Plate 3

BALCONES_STD3 0119-004 BORING LOGS.GPJ 0117-049 PALMETTO BORING LOGS.GPJ 04/03/21 12:19

LOG OF BORING NO. B-25

Wild Horse Ranch WWTP Expansion
Austin, TX
PROJECT NO. 0119-004

LATTITUDE: 30.318261
LONGITUDE: -97.568038

DEPTH, FT	SYMBOL	SAMPLES	POCKET PEN, tsf Blows/ft. REC./RQD, %	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	PASSING NO. 4 SIEVE, %	PASSING NO. 200 SIEVE, %	UNIT DRY WEIGHT, PCF	UNCONFINED STRENGTH TSF
				SURF. ELEVATION: 487±								
			N=8	Tan and dark brown Sandy FAT CLAY, firm, w/scattered gravel. CH (Fill)								
			N=9		482.5							
5			P=3.0	Dark brown sandy FAT CLAY, very stiff, w/trace gravel and calcareous nodules. CH	4.0	28	83	55	91	69		
			P=3.5			27					97	2.8(U)
					478.5							
			P=3.75	Tan and gray FAT CLAY, very stiff to hard, blocky, w/ferrous staining, silt partings and calcite seams. CH (Taylor)	8.0							
10												
			P=2.75			31	84	53	100	92		
15												
			P=3.5									
20												
			P=4.5+									
25												
			P=4.5+									
					456.5							
30				Dark gray CLAYSHALE, low hardness, w/silt partings and discontinuities. (Taylor)	30.0							
			N=34		451.5							
35					35.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) The borehole was backfilled with a mixture of soil cuttings and bentonite.								

Balcones Geotechnical
Austin, TX 78731
512.380.9969

COMPLETION DEPTH: 35.0
DATE DRILLED:
WATER LEVEL / SEEPAGE:
UPON COMPLETION:

KEY:
P = Pocket Penetrometer
N = Standard Penetration Test (bpf)
U = Unconfined Compression (tsf)

Plate 4

BALCONES_STD3 0119-004 BORING LOGS.GPJ 0117-049 PALMETTO BORING LOGS.GPJ 04/03/21 12:07

LOG OF BORING NO. B-26

Wild Horse Ranch WWTP Expansion
Austin, TX
PROJECT NO. 0119-004

LATTITUDE: 30.317895
LONGITUDE: -97.567835

DEPTH, FT	SYMBOL	SAMPLES	POCKET PEN, tsf Blows/ft. REC./RQD, %	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	PASSING NO. 4 SIEVE, %	PASSING NO. 200 SIEVE, %	UNIT DRY WEIGHT, PCF	UNCONFINED STRENGTH TSF
				SURF. ELEVATION: 485±								
			N=8	Tan and dark brown Sandy FAT CLAY, firm, w/scattered gravel. CH (Fill)								
			N=14									
				- Tan SILTY SAND layer at 3.5 ft								
5			N=11		479.0							
			N=21	Dark brown FAT CLAY with sand, very stiff, w/trace gravel and calcareous nodules. CH	6.0	23	67	45	98	88		
					477.0							
			P=4.25	Tan and gray FAT CLAY, very stiff to hard, blocky, w/ferrous staining, silt partings and calcite seams. CH (Taylor)	8.0							
10												
			P=3.75									
15												
			P=4.0			28					95	3.3(U)
20												
			P=4.25			25	69	41	100	90		
25												
			P=4.5+									
30												
					451.0							
			N=35	Dark gray CLAYSHALE, low hardness, w/silt partings and discontinuities. (Taylor)	34.0							
35					450.0							
					35.0							

NOTES:
1) Boring was advanced dry and groundwater was not encountered.
2) The borehole was backfilled with a mixture of soil cuttings and bentonite.

Balcones Geotechnical
Austin, TX 78731
512.380.9969

COMPLETION DEPTH: 35.0
DATE DRILLED:
WATER LEVEL / SEEPAGE:
UPON COMPLETION:

KEY:
P = Pocket Penetrometer
N = Standard Penetration Test (bpf)
U = Unconfined Compression (tsf)

Plate 5

BALCONES_STD3 0119-004 BORING LOGS.GPJ 0117-049 PALMETTO BORING LOGS.GPJ 04/03/21 12:07

LOG OF BORING NO. B-28

Wild Horse Ranch WWTP Expansion
Austin, TX
PROJECT NO. 0119-004

LATTITUDE: 30.317827
LONGITUDE: -97.567578

DEPTH, FT	SYMBOL	SAMPLES	POCKET PEN, tsf Blows/ft. REC./RQD, %	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	PASSING NO. 4 SIEVE, %	PASSING NO. 200 SIEVE, %	UNIT DRY WEIGHT, PCF	UNCONFINED STRENGTH TSF
				SURF. ELEVATION: 485±								
			N=13	Light brown to brown sandy FAT CLAY, stiff to very stiff, w/small scattered gravel and calcareous nodules. CH (Fill)								
			N=24		481.0							
5			P=3.0	Dark brown FAT CLAY with sand, very stiff, w/trace calcareous nodules. CH	4.0							
			P=3.25			32					93	2.6(U)
			P=2.75									
10					475.0	28	73	40	100	86		
				Tan and gray FAT CLAY, hard, blocky, w/ferrous staining, silt partings and calcite seams. CH (Taylor)	10.0							
			P=4.5+									
15												
			N=21									
20												
			P=4.5+									
25						25					100	6.7(U)
					457.0							
			N=39	Dark gray CLAYSHALE, low hardness, w/silt partings and discontinuities. (Taylor)	28.0							
30					455.0							
					30.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) The borehole was backfilled with a mixture of soil cuttings and bentonite.								
35												

Balcones Geotechnical
Austin, TX 78731
512.380.9969

COMPLETION DEPTH: 30.0
DATE DRILLED:
WATER LEVEL / SEEPAGE:
UPON COMPLETION:

KEY:
P = Pocket Penetrometer
N = Standard Penetration Test (bpf)
U = Unconfined Compression (tsf)

Plate 6

BALCONES_STD3 0119-004 BORING LOGS.GPJ 0117-049 PALMETTO BORING LOGS.GPJ 04/03/21 12:07

LOG OF BORING NO. B-29

Wild Horse Ranch WWTP Expansion
Austin, TX
PROJECT NO. 0119-004

LATTITUDE: 30.317699
LONGITUDE: -97.568280

DEPTH, FT	SYMBOL	SAMPLES	POCKET PEN, tsf Blows/ft. REC./RQD, %	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	PASSING NO. 4 SIEVE, %	PASSING NO. 200 SIEVE, %	UNIT DRY WEIGHT, PCF	UNCONFINED STRENGTH TSF
				SURF. ELEVATION: 481±								
			N=7	Dark brown FAT CLAY, firm, w/sand and scattered gravel. CH (Fill)								
			N=11		477.0							
5			P=4.0	Dark brown FAT CLAY, very stiff, w/trace sand and calcareous nodules. CH	4.0	23	74	54	100	87		
					475.0							
			P=4.5+	Tan and gray FAT CLAY, hard, blocky, w/ferrous staining, silt partings and calcite seams. CH (Taylor)	6.0							
			N=15	*- sample stiff, moist at 8.5-10 ft*								
10												
			P=4.5+			26	70	44	100	92		
15												
						25					100	4.5(U)
			P=4.5+									
20												
					459.0							
			P=4.5+	Dark gray CLAYSHALE, low hardness, w/silt partings and discontinuities. (Taylor)	22.0							
25												
			N=54		451.0							
30					30.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) The borehole was backfilled with a mixture of soil cuttings and bentonite.								
35												

Balcones Geotechnical
Austin, TX 78731
512.380.9969

COMPLETION DEPTH: 30.0
DATE DRILLED:
WATER LEVEL / SEEPAGE:
UPON COMPLETION:

KEY:
P = Pocket Penetrometer
N = Standard Penetration Test (bpf)
U = Unconfined Compression (tsf)

Plate 7

BALCONES_STD3 0119-004 BORING LOGS.GPJ 0117-049 PALMETTO BORING LOGS.GPJ 04/03/21 12:07

LOG OF BORING NO. B-30

Wild Horse Ranch WWTP Expansion
Austin, TX
PROJECT NO. 0119-004

LATTITUDE: 30.318405
LONGITUDE: -97.568197

SURF. ELEVATION: 486±

DEPTH, FT	SYMBOL	SAMPLES	POCKET PEN, tsf Blows/ft. REC./RQD, %	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	PASSING NO. 4 SIEVE, %	PASSING NO. 200 SIEVE, %	UNIT DRY WEIGHT, PCF	UNCONFINED STRENGTH TSF
0			N=13	Dark brown and tan Gravelly FAT CLAY with sand, firm to stiff, w/calcareous nodules. CH (Fill)								
			N=19			14	93	68	79	63		
			N=18									
5					480.0							
			N=43	Dark brown FAT CLAY, hard, w/scattered gravel and calcareous nodules. CH	6.0							
					478.0							
			N=28	Tan and gray FAT CLAY, hard, blocky, w/ferrous staining, silt partings and calcite seams. CH (Taylor)	8.0							
10												
15			N=27									
			P=4.5+			24					100	6.6(U)
20												
			N=29									
25					461.0							
					25.0							
30				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) The borehole was backfilled with a mixture of soil cuttings and bentonite.								
35												

Balcones Geotechnical
Austin, TX 78731
512.380.9969

COMPLETION DEPTH: 25.0
DATE DRILLED:
WATER LEVEL / SEEPAGE:
UPON COMPLETION:

KEY:
P = Pocket Penetrometer
N = Standard Penetration Test (bpf)
U = Unconfined Compression (tsf)

Plate 8

BALCONES_STD3 0119-004 BORING LOGS.GPJ 0117-049 PALMETTO BORING LOGS.GPJ 04/03/21 12:07

LOG OF BORING NO. B-27A

Wild Horse Ranch WWTP Expansion
Austin, TX
PROJECT NO. 0119-004

LATTITUDE: 30.319627
LONGITUDE: -97.567481

SURF. ELEVATION: Unknown

DEPTH, FT	SYMBOL	SAMPLES	POCKET PEN, tsf Blows/ft. REC./RQD, %	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	PASSING NO. 4 SIEVE, %	PASSING NO. 200 SIEVE, %	UNIT DRY WEIGHT, PCF	UNCONFINED STRENGTH TSF
			N=23	Dark brown FAT CLAY, hard, w/fine sand and calcareous nodules. CH								
			N=49			20	90	53	94	86		
			N=17	Tan and gray FAT CLAY, very stiff to hard, blocky, moist, w/ferrous staining, silt partings and calcite seams. CH (Taylor)	4.0							
5			N=38									
			N=23									
10					10.0							
15												
20												

NOTES:
1) Boring was advanced dry and groundwater was not encountered.
2) The borehole was backfilled with a mixture of soil cuttings and bentonite.

Balcones Geotechnical
Austin, TX 78731
512.380.9969

COMPLETION DEPTH: 10.0
DATE DRILLED:
WATER LEVEL / SEEPAGE:
UPON COMPLETION:

KEY:
P = Pocket Penetrometer
N = Standard Penetration Test (bpf)
U = Unconfined Compression (tsf)

Plate 9

BALCONES_STD3 0119-004 BORING LOGS.GPJ 0117-049 PALMETTO BORING LOGS.GPJ 03/09/20 19:57

LOG OF BORING NO. B-27B

Wild Horse Ranch WWTP Expansion
Austin, TX
PROJECT NO. 0119-004

LATTITUDE: 30.323609
LONGITUDE: -97.572763

DEPTH, FT	SYMBOL	SAMPLES	POCKET PEN, tsf Blows/ft. REC./RQD, %	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	PASSING NO. 4 SIEVE, %	PASSING NO. 200 SIEVE, %	UNIT DRY WEIGHT, PCF	UNCONFINED STRENGTH TSF
				SURF. ELEVATION: Unknown								
			N=6	Dark brown FAT CLAY, firm, w/sand, small gravel and calcareous nodules. CH								
			N=28	Tan and gray FAT CLAY, hard, blocky, moist, w/ferrous staining, silt partings and calcite seams. CH (Taylor)	2.0							
			N=20			24	82	54	100	92		
5			N=38									
			N=20									
10					10.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) The borehole was backfilled with a mixture of soil cuttings and bentonite.								
15												
20												

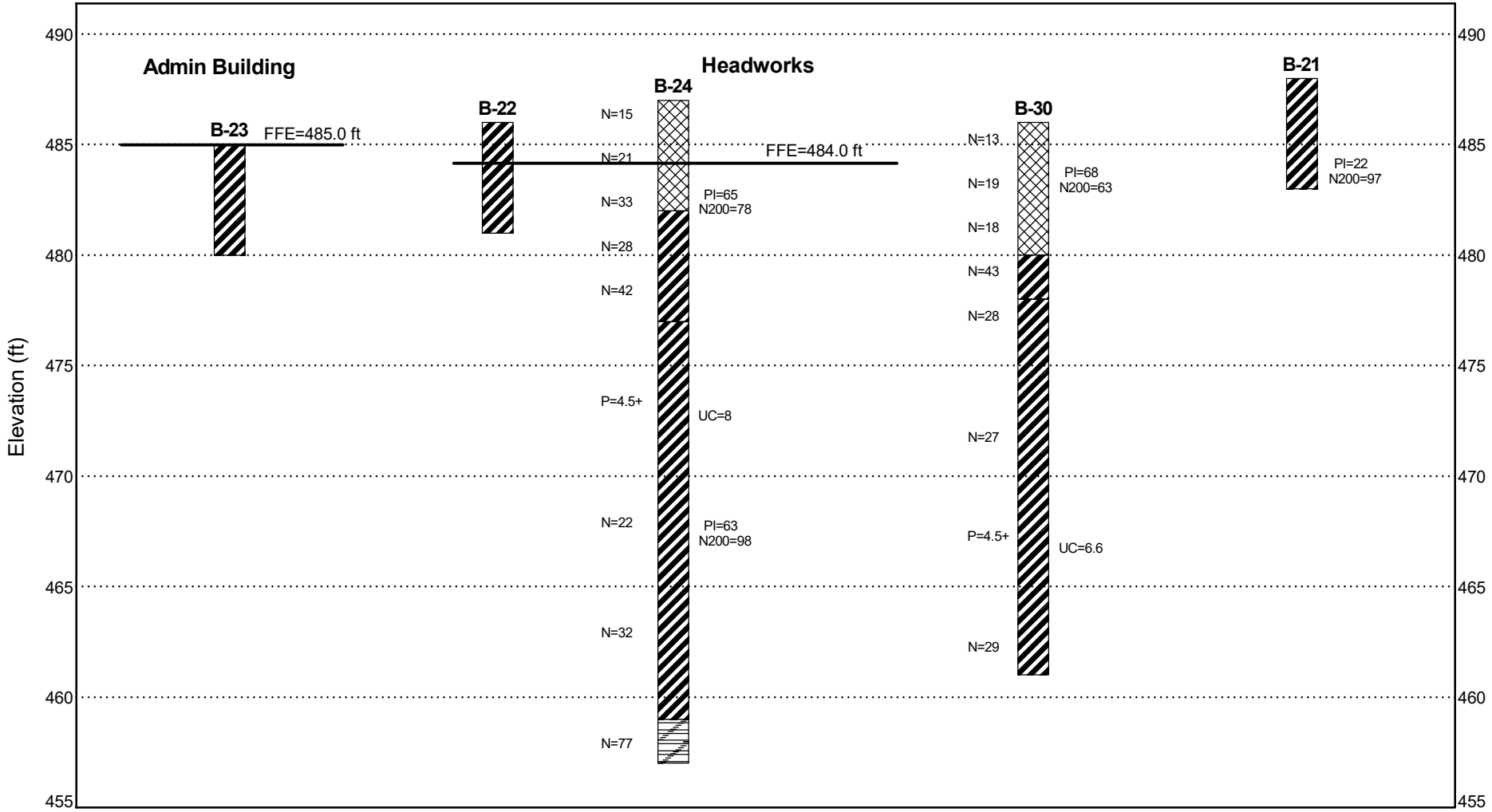
Balcones Geotechnical
Austin, TX 78731
512.380.9969

COMPLETION DEPTH: 10.0
DATE DRILLED:
WATER LEVEL / SEEPAGE:
UPON COMPLETION:

KEY:
P = Pocket Penetrometer
N = Standard Penetration Test (bpf)
U = Unconfined Compression (tsf)

Plate 10

BALCONES_STD3 0119-004 BORING LOGS.GPJ 0117-049 PALMETTO BORING LOGS.GPJ 03/09/20 19:57



Vertical Scale: As Shown
Horizontal Scale: Not to Scale

Balcones Geotechnical

Wild Horse Ranch WWTP Expansion

Austin, TX

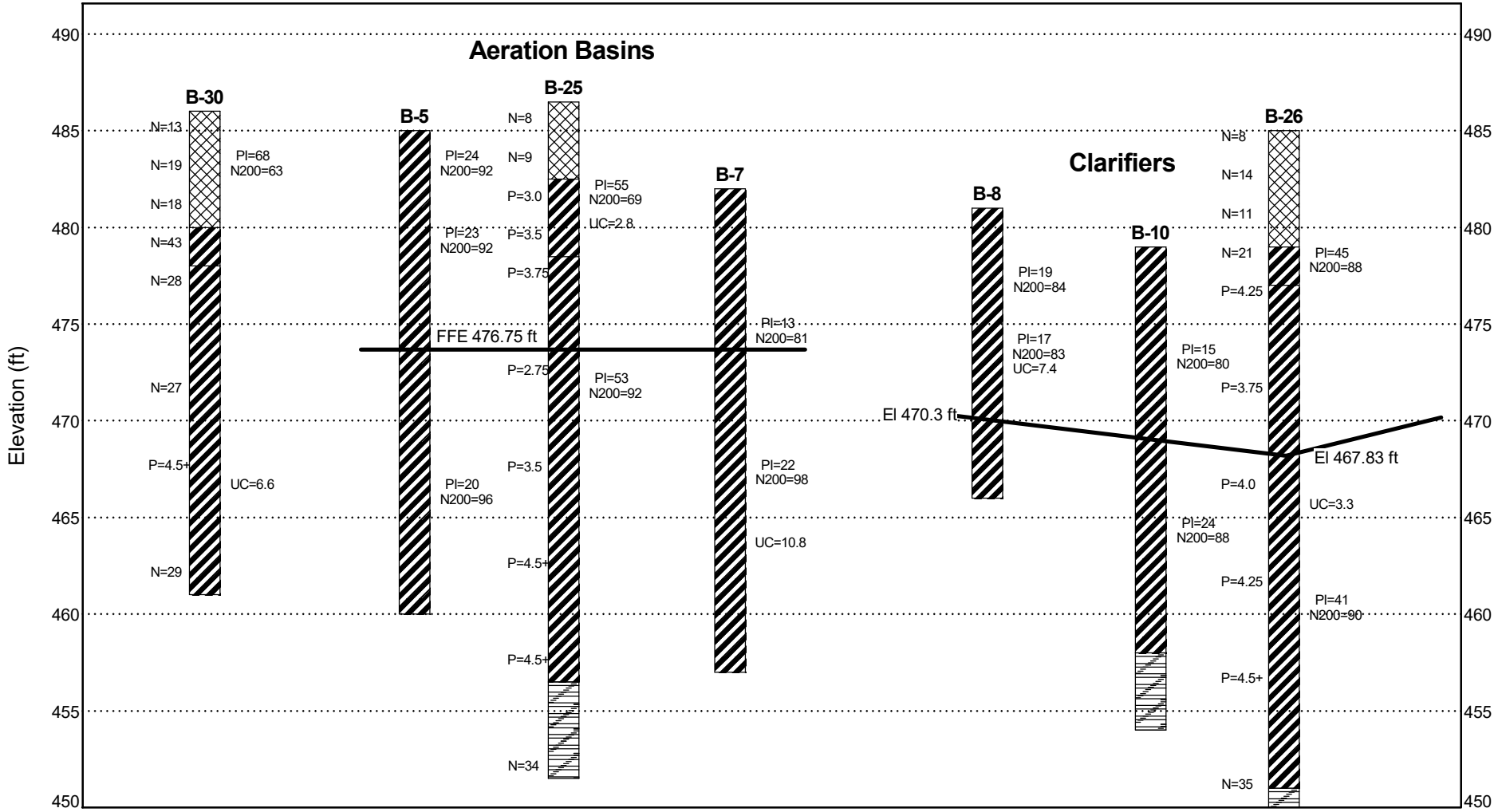
GENERALIZED SUBSURFACE PROFILE

Headworks and Admin Building

Project No. **0119-004**

PLATE 11

SIMPLE FENCE BG2 0119-004 BORING LOGS.GPJ 0116-025 VERAMENDI DAM.GPJ 04/03/21 12:36



Vertical Scale: As Shown
Horizontal Scale: Not to Scale

Distance Along Baseline (NTS)

Balcones Geotechnical

Wild Horse Ranch WWTP Expansion

Austin, TX

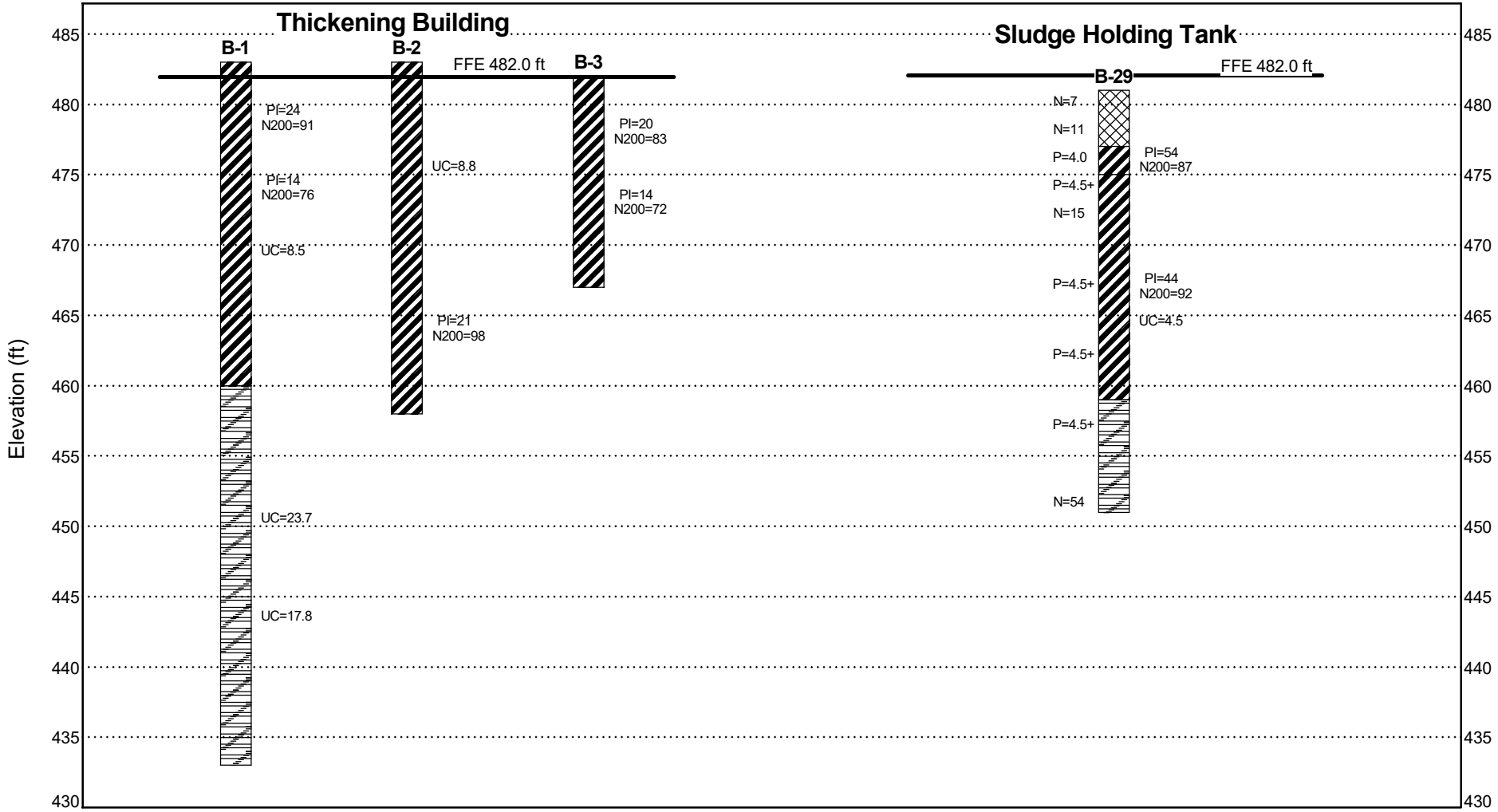
GENERALIZED SUBSURFACE PROFILE

Aeration Basins and Clarifiers

Project No. 0119-004

PLATE 12

SIMPLE FENCE BG2 0119-004 BORING LOGS.GPJ 0116-025 VERAMENDI DAM.GPJ 04/03/21 13:06



Vertical Scale: As Shown
Horizontal Scale: Not to Scale

Balcones Geotechnical

Wild Horse Ranch WWTP Expansion

Austin, TX

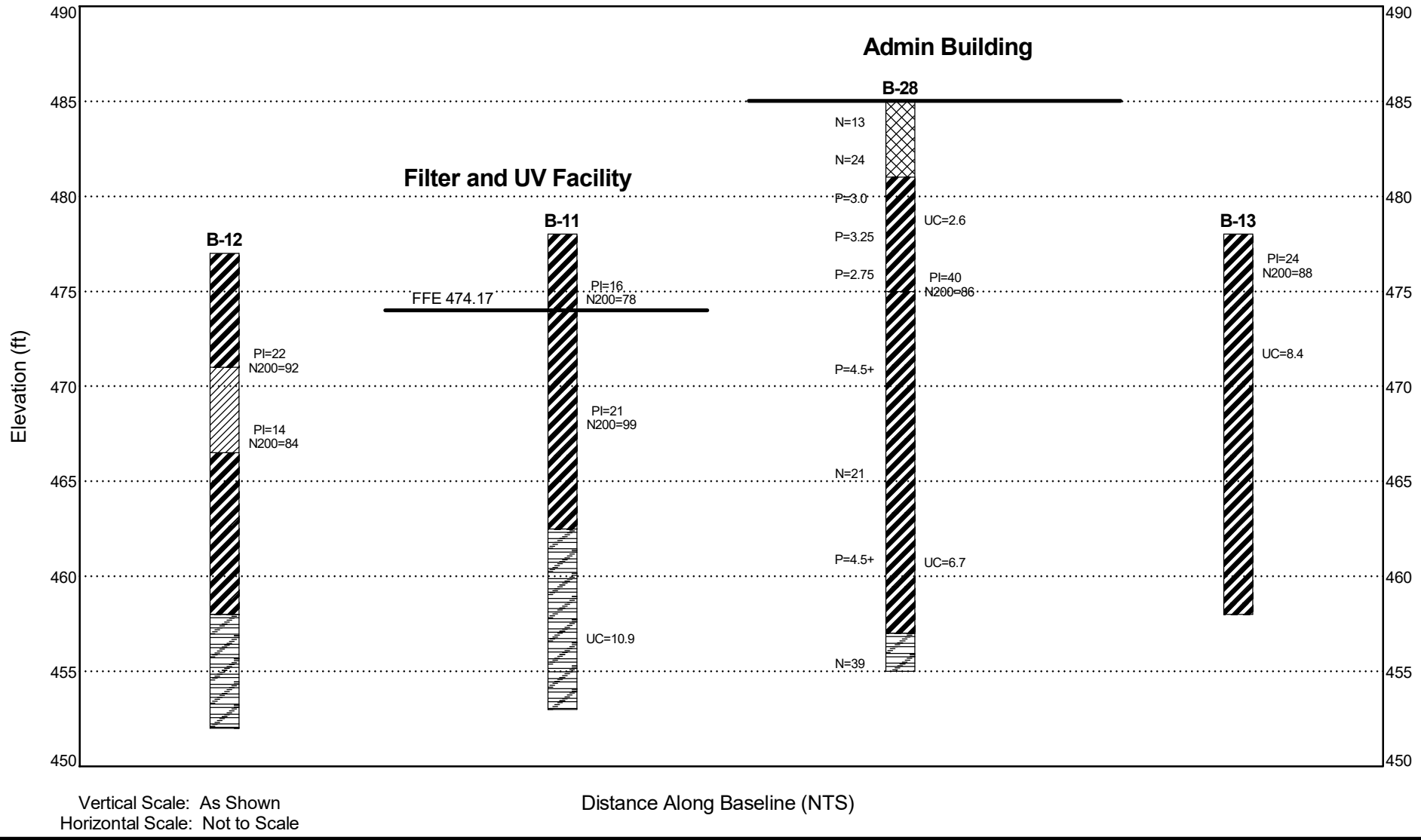
GENERALIZED SUBSURFACE PROFILE

Thickening Building and Sludge Holding Tank

Project No. **0119-004**

PLATE 13

SIMPLE FENCE BG2 0119-004 BORING LOGS.GPJ 0116-025 VERAMENDI DAM.GPJ 04/03/21 13:36



Vertical Scale: As Shown
Horizontal Scale: Not to Scale

Distance Along Baseline (NTS)

Balcones Geotechnical

Wild Horse Ranch WWTP Expansion

Austin, TX

GENERALIZED SUBSURFACE PROFILE

Filter and UV Facility / Admin Building

Project No. **0119-004**

PLATE 14

SIMPLE FENCE BG2 0119-004 BORING LOGS.GPJ 0116-025 VERAMENDI DAM.GPJ 04/03/21 13:54

TERMS AND SYMBOLS USED ON BORING LOGS FOR SOIL

SOIL TYPES

CLAY (CH)

SHALY CLAY (CH)

CLAY (CL)

SANDY CLAY (CL)

Well-Graded **SAND (SW)**

Poorly-Graded **SAND (SP)**

SILTY SAND (SM)

CLAYEY SAND (SC)

Well-Graded **GRAVEL (GW)**

Poorly-Graded **GRAVEL (GP)**

SILTY GRAVEL (GM)

FILL Material

SOIL GRAIN SIZE

U.S.STANDARD SIEVE

12"	3"	3/4"	4	10	40	200

BOULDERS	COBBLES	GRAVEL		SAND			SILT	CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE		

304	76.2	19.1	4.76	2.00	0.420	0.074	0.002

SOIL GRAIN SIZE IN MILIMETERS

STRENGTH OF COHESIVE SOILS (2)

CONSISTENCY	UNDRAINED COMPRESSIVE STRENGTH Tons Per Sq. Ft.
Very Soft	Less Than 0.25
Soft	0.25 to 0.50
Firm	0.5 to 1.00
Stiff	1.00 to 2.00
Very Stiff	2.00 to 4.00
Hard	greater than 4.00

DENSITY OF GRANULAR SOILS (2)

NUMBER OF BLOWS PER FT., N	RELATIVE DENSITY
0-4	Very Loose
4-10	Loose
10-30	Medium
30-50	Dense
Over 50	Very Dense

DESCRIPTIVE TERMS FOR SOIL (1)

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 6 mm thick.
Laminated	Alternating layers of varying material or color with the layers less than 6 mm thick.
Fissured	Breaks along definite planes of fracture with little resistance to fracturing.
Slickensided	Fracture planes appear polished or glossy, sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
Lensed	Inclusions of small pockets of different soils.

MOISTURE

Dry	No water evident in sample; fines less than plastic limit.
Moist	Sample feels damp; fines near the plastic limit
Very Moist	Water visible on sample; fines greater plastic limit and less than liquid limit
Wet	Sample bears free water; fines greater than liquid limit.

INCLUSIONS (1)

Parting	Inclusion <1/8" thick extending through sample
Seam	Inclusion 1/8" to 3" thick extending through sample.
Layer	Inclusion >3" thick extending through sample.
Trace	<5% of sample.
Few	5% to 10% of sample.
Little	15 to 25% of sample.
With	15% to 29% of sample.

Balcones Geotechnical
Austin, TX 78731
512.451.8600

NOTE: Information on each boring log is a compilation of subsurface conditions and soil and rock classifications obtained from the field as well as from laboratory testing of samples. Strata have been interpreted from commonly accepted procedures. The stratum lines on the logs may be transitional and approximate in nature. Water level measurements refer only to those observed at the times and places indicated, and may vary with time, geologic condition or construction activity.

REFERENCES: 1) ASTM D 2488 2) Peck, Hanson and Thornburn, (1974), Foundation Engineering.

PLATE 15

TERMS AND SYMBOLS USED ON BORING LOGS FOR ROCK

ROCK TYPES

LIMESTONE

SHALE

SANDSTONE

WEATHERED LIMESTONE

WEATHERED SHALE

WEATHERED SANDSTONE

HIGHLY WEATHERED LIMESTONE

ARGILLACEOUS LIMESTONE

MARL

SAMPLER TYPES

Thin-walled Tube

Rock Core

Standard Penetration Test

Auger Sample

THD Cone Penetration Test

Bag Sample

SOLUTION & VOID CONDITIONS

Void	Interstice; a general term for pore space or other openings in rock.
Cavities	Small solutional concavities.
Vuggy	Containing small cavities, usually lined with a mineral of different composition from that of the surrounding rock.
Vesicular	Containing numerous small, unlined cavities, formed by expansion of gas bubbles or steam during solidification of the rock.
Porous	Containing pore, interstices, or other openings which may or may not interconnect.
Cavernous	Containing cavities or caverns, sometimes quite large. Most frequent in limestones and dolomites.

WEATHERING GRADES OF ROCKMASS(1)

Slightly	Discoloration indicates weathering of rock material and discontinuity surfaces.
Moderately	Less than half of the rock material is decomposed or disintegrated to a soil.
Highly	More than half of the rock material is decomposed or disintegrated to a soil.
Completely	All rock material is decomposed and/or disintegrated to soil.The original mass structure is still largely intact.
Residual Soil	All rock material is converted to soil.The mass structure and material fabric are destroyed.

HARDNESS

Friable	Crumbles under hand pressure
Low Hardness	Can be carved with a knife
Moderately Hard	Can be scratched easily with a knife
Very Hard	Cannot be scratched with a knife

BEDDING THICKNESS(2)

Very Thick	>4'
Thick	2'-4'
Thin	2"-2'
Very Thin	1/2"-2"
Laminated	0.08"-1/2"
Thinly-Laminated	<0.08"

JOINT DESCRIPTION

SPACING		INCLINATION		SURFACES	
Very Close	<2"	Horizontal	0-5	Slickensided	Polished, grooved
Close	2"-12"	Shallow	5-35	Smooth	Planar
Medium Close	12"-3'	Moderate	35-65	Irregular	Undulating or granular
Wide	>3'	Steep	65-85	Rough	Jagged or pitted
		Vertical	85-90		

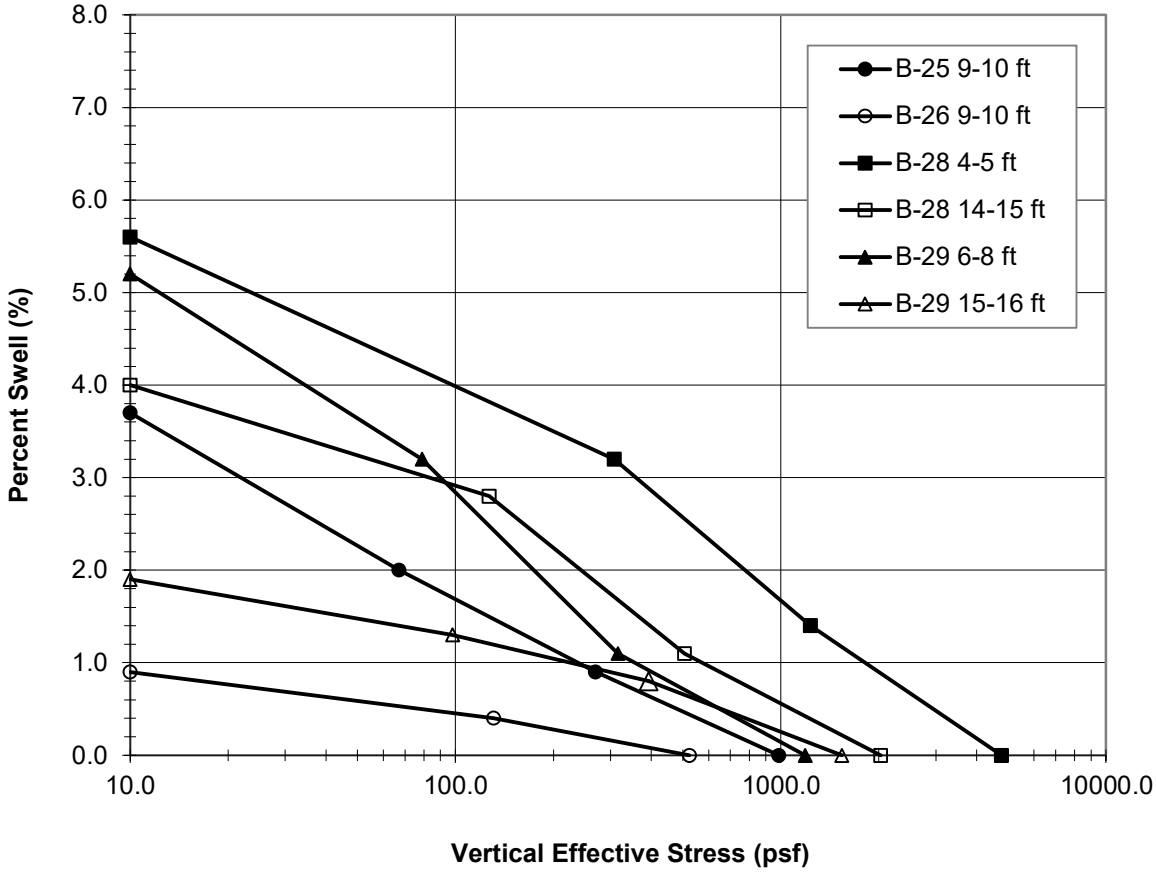
Balcones Geotechnical
Austin, TX 78731
512.451.8600

NOTE: Information on each boring log is a compilation of subsurface conditions and soil and rock classificaitons obtained from the field as well as from laboratory testing of samples. Strata have been interpreted by commonly accepted procedures. The stratum lines on the logs may be transitional and approximate in nature. Water level measurements refer only to those observed at the times and places indicated, and may vary with time, geologic condition or construction activity.

REFERENCES: 1) British Standard(1981) Code of Practice for Site Investigation BS 5930.
2) The Bridge Division, Texas Highway Dept. Foundation Exploration & Design Manual, 2nd Edition,revised June,1974.

PLATE 16

Balcones Geotechnical
Austin, TX 78731
512.380.9969

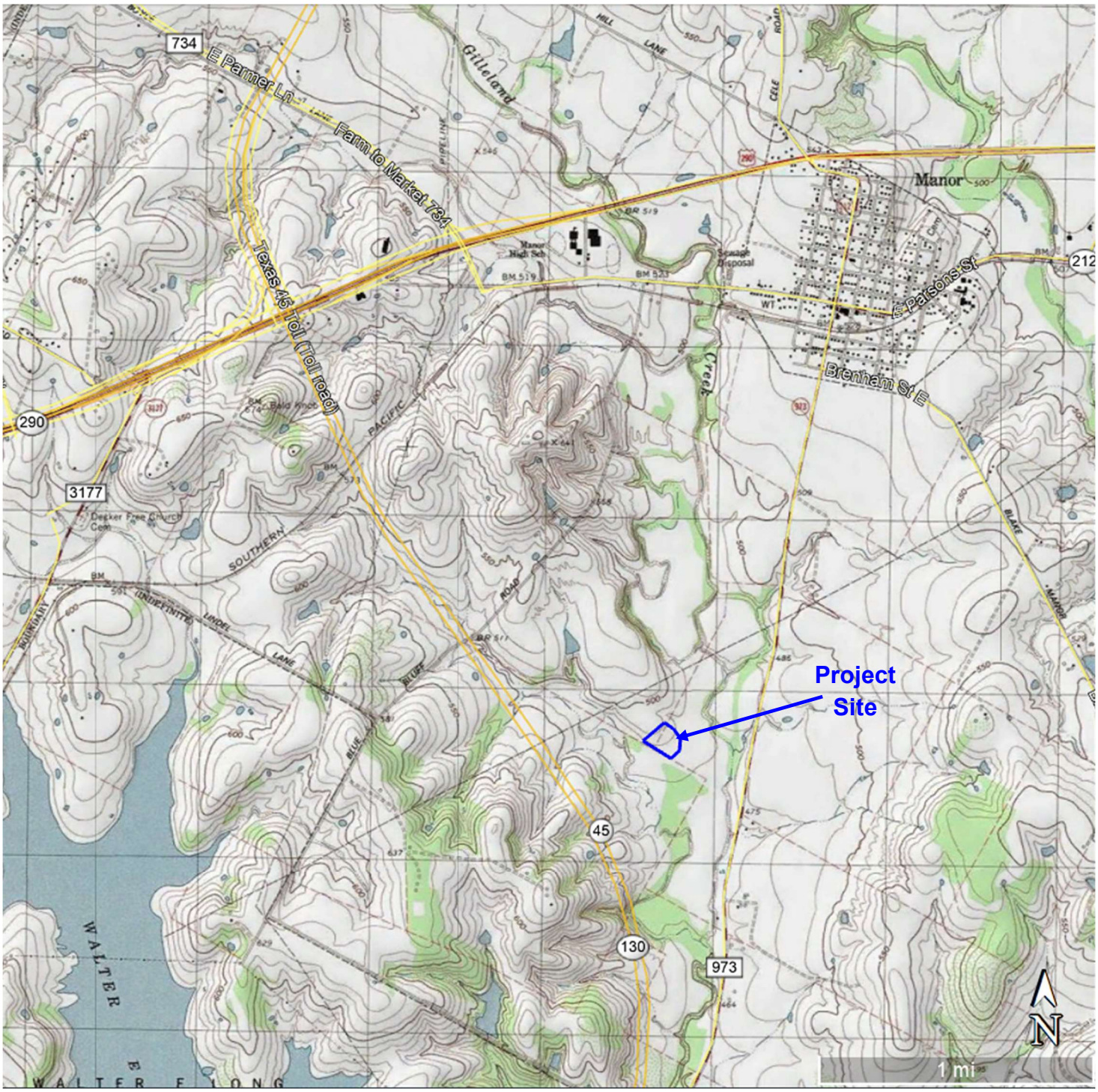


Boring	Sample Depth	Initial Moisture (%)	Final Moisture (%)	Percent Swell (%)	Swell Pressure (psf)	Test Description
B-25	9-10 ft	25	29	3.7	987	Pressure Swell
B-26	9-10 ft	21	23	0.9	524	Pressure Swell
B-28	4-5 ft	26	36	5.7	4771	Pressure Swell
B-28	14-15 ft	30	34	4.0	2030	Pressure Swell
B-29	6-8 ft	15	22	5.2	1188	Pressure Swell
B-29	15-16 ft	28	30	1.9	1541	Pressure Swell

PERCENT SWELL VERSUS LOG PRESSURE CURVE

Northeast WWTP
Austin, Texas

PLATE 17



Source: Earth Point Topo Map, Manor, Tex Quadrangle Sheet (1988) in Google Earth Professional

USGS TOPOGRAPHIC MAP

Wild Horse Wastewater Treatment Plant Expansion
Austin, Texas

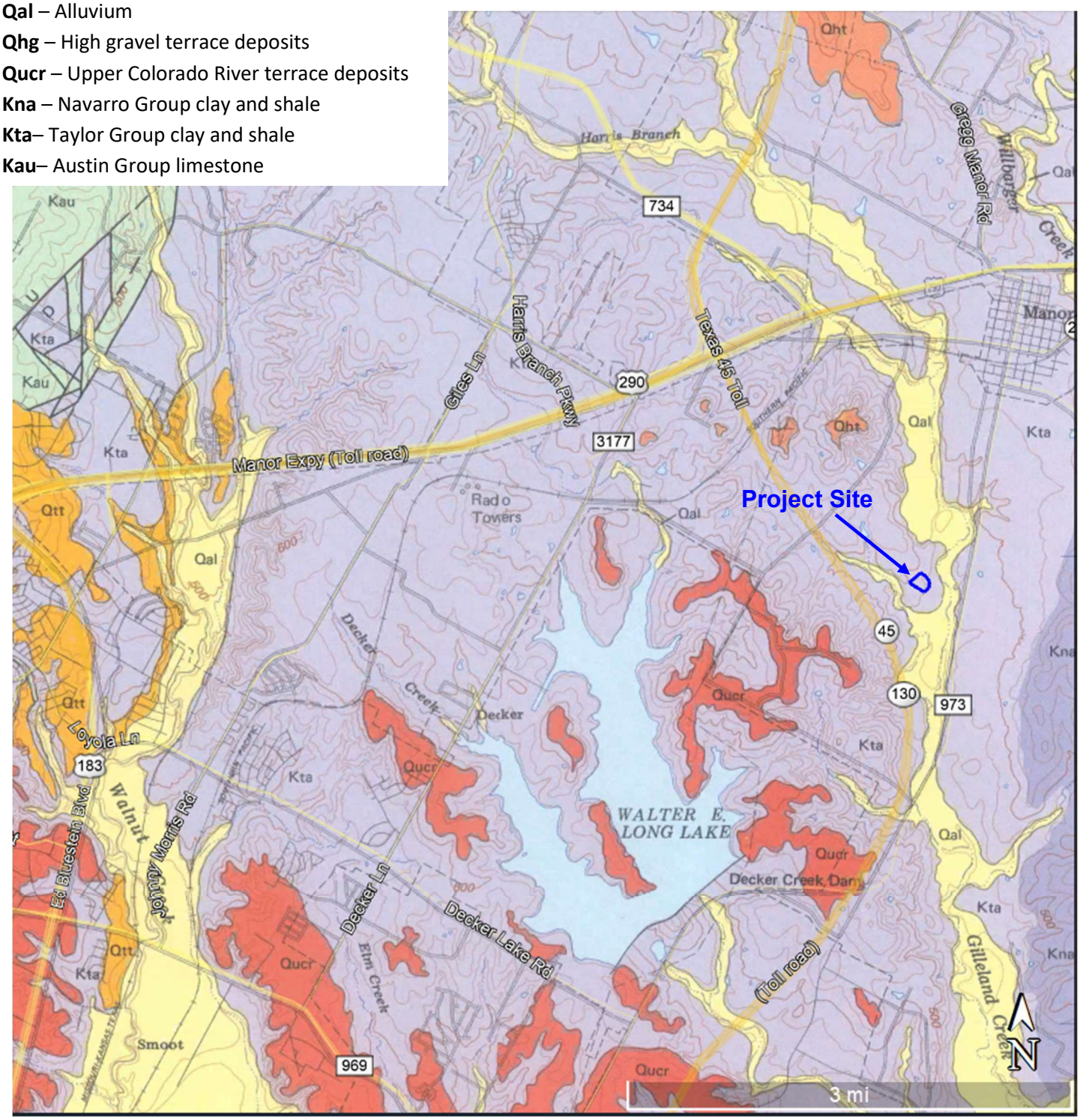
Balcones Geotechnical
Austin, TX 78731
512.380.9969

Plate 18

LEGEND (Youngest to Oldest)

Project No. 0119-004

Qal – Alluvium
Qhg – High gravel terrace deposits
Qucr – Upper Colorado River terrace deposits
Kna – Navarro Group clay and shale
Kta– Taylor Group clay and shale
Kau– Austin Group limestone



Source: Geologic Map of the Austin Area, Texas (Garner and Young, 1992), overlain in Google Earth Professional

GEOLOGIC MAP

Wild Horse Wastewater Treatment Plant Expansion
Austin, Texas

Balcones Geotechnical
Austin, TX 78731
512.380.9969

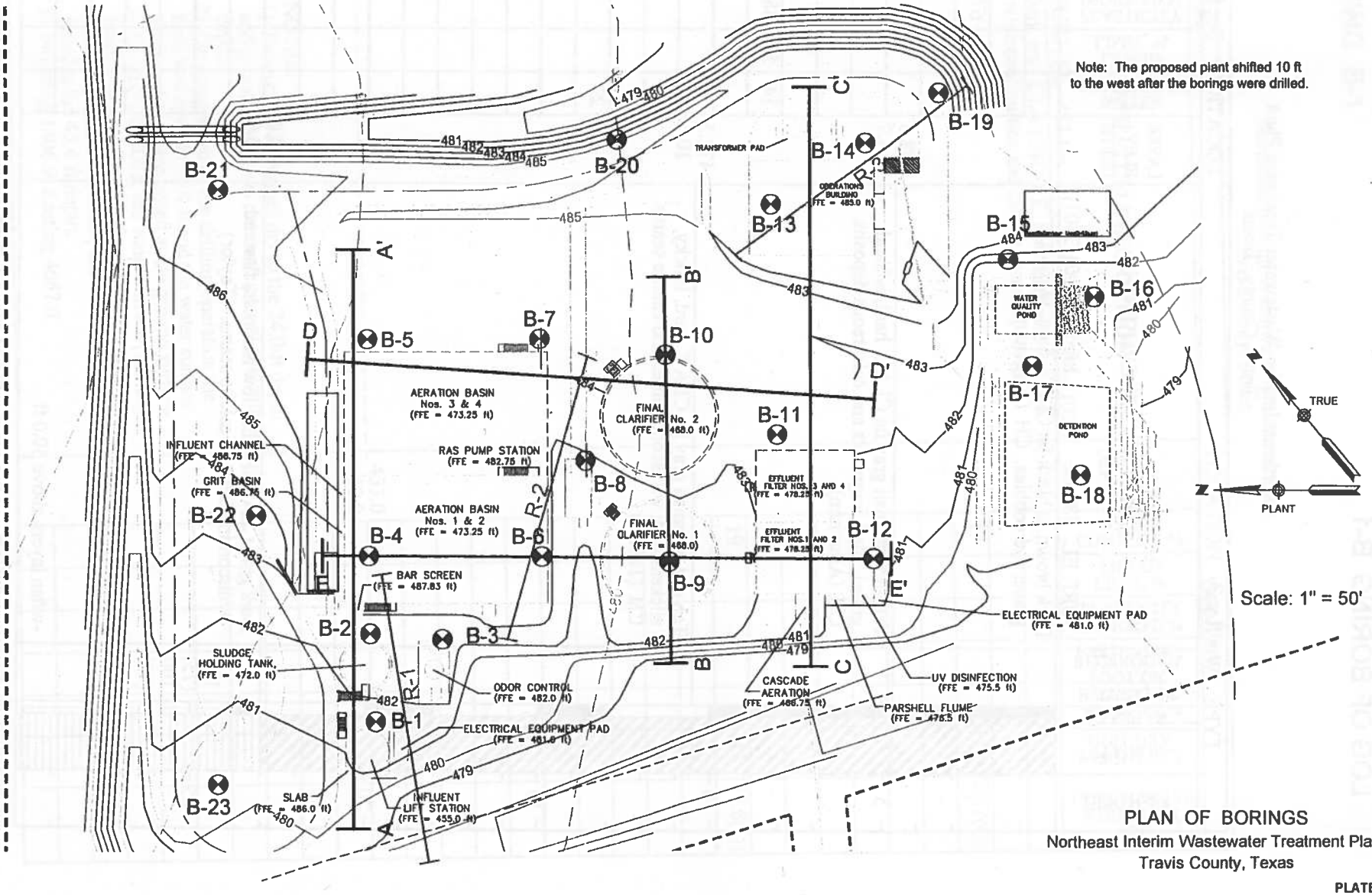
Plate 19

APPENDIX A

Previously Drilled Fugro Logs (2003)

Report No: 1001-3101-1

FUGRO



PLAN OF BORINGS
Northeast Interim Wastewater Treatment Plant
Travis County, Texas

PLATE 2

LOG OF BORING B-1

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Wet Rotary — LOCATION: See Plate 2

SURF. EL. 483 ft± — Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
						22	91	67	99	91		4.5+(P)
					478.3							4.5+(P)
5				Tan and greenish gray fat CLAY, hard, w/sand, gravel, shell fragments and calcareous deposits. CH (Alluvium)	4.7							4.5+(P)
						14	52	38	100	76		4.5+(P)
10					472.5							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	10.5							
						22					103	8.5(Q)
15												
												4.5+(P)
20												
					460.0							
				Dark gray CLAYSHALE, low hardness, fissured, w/discontinuities and calcite seams. (Taylor)	23.0							4.5+(P)
25			100 (75) 100 (83)									
				-w/tan layers above 30.0 ft								

COMPLETION DEPTH: 50.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/7/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 3a

LOG OF BORING B-1

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Wet Rotary — LOCATION: See Plate 2

SURF. EL. 483 ft± — Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
			100 (87)	Dark gray CLAYSHALE, low hardness, fissured, w/discontinuities and calcite seams. (Taylor)								
						17					112	23.7(Q)
35			100 (90)									
						19					111	17.8(Q)
40			100 (92)									
45			100 (88)									
					433.0							
50					50.0							
55												

NOTES:
1) Boring was advanced dry to the 24.0-ft depth and groundwater was not encountered above that depth.
2) On completion of the drilling operation the hole was open to 50.0 ft and the water surface (drilling fluid) was noted at the ground surface.
3) On July 30, 2003, the water surface (drilling fluid) was noted at 31.0 ft and was pumped dry.
4) On September 11, 2003, the water surface was noted at the 45.4 ft depth.
5) Northing 1406.9, Easting 4667.0

COMPLETION DEPTH: 50.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/7/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 3b

LOG OF BORING B-2

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				SURF. EL. 483 ft± Job No. 1001-3101-1								
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
					478.4							4.5+(P)
5				Tan and greenish gray fat CLAY, hard, w/sand, gravel, shell fragments and calcareous deposits. CH (Alluvium)	4.6	16					113	8.8(Q)
												4.5+(P)
10					472.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.0							4.5+(P)
15												
				-w/gray seams below 18.0 ft		23	87	66	100	98		4.5+(P)
20												
												4.5+(P)
25					458.0							
					25.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1409.7, Easting 4712.7								

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/4/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial

P = Pocket Penetrometer
T = Torvane

PLATE 4

LOG OF BORING B-3

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample | LOCATION: See Plate 2

SURF. EL. 482 ft± | Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
						21	78	58	94	83		4.5+(P)
					477.2							4.5+(P)
5				Tan and greenish gray fat CLAY, hard, w/sand, gravel, shell fragments and calcareous deposits. CH (Alluvium)	4.8							
												4.5+(P)
						13	50	36	98	72		4.5+(P)
10				-gravelly layer 10.5 ft to 12.0 ft								
					470.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	12.0							4.5(P)
15					467.0 15.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1372.1, Easting 4709.7								
20												
25												

COMPLETION DEPTH: 15.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/4/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial

P = Pocket Penetrometer
T = Torvane

PLATE 5

LOG OF BORING B-4

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				SURF. EL. 484 ft± Job No. 1001-3101-1								
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5(P)
												4.5(P)
												4.5(P)
5					478.9							
				Tan and greenish gray fat CLAY, hard, w/sand, gravel, shell fragments and calcareous deposits. CH (Alluvium)	5.1							
												4.5+(P)
						25					98	7.0(Q)
10												
				-gravelly layer 11.0 ft to 12.0 ft								
					472.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	12.0							
						26	93	69	100	98		4.5+(P)
15												
				-more gray and blocky below 18.0 ft								4.5+(P)
20												
												4.5(P)
					459.0							
25					25.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1410.7, Easting 4752.8								

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/4/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial

P = Pocket Penetrometer
T = Torvane

PLATE 6

LOG OF BORING B-5

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample | LOCATION: See Plate 2

SURF. EL. 485 ft± | Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)		25	86	62	99	92		4.0(P)
												4.5+(P)
				-brown below 2.8 ft		22	85	62	99	92		4.5+(P)
5				Tan and greenish gray fat CLAY, hard, w/sand, gravel, shell fragments and calcareous deposits. CH (Alluvium)	480.0 5.0							4.5+(P)
					477.0 8.0							4.5+(P)
10				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)								
												4.5+(P)
15												
				-more gray below 18.0 ft		24	80	60	100	96		4.5+(P)
20												
												4.5+(P)
25					460.0 25.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1411.1, Easting 4865.1								

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/11/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 7

LOG OF BORING B-6

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 481 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
					476.2	20	72	51	100	91		4.5+(P)
5				Tan and greenish gray fat CLAY, hard, w/gravel, shell fragments and calcareous deposits. CH (Alluvium)	4.8							4.5+(P)
												4.5+(P)
10					470.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.0							4.5+(P)
15												
				-more gray below 18.0 ft								4.5+(P)
20												
						20					109	8.8(Q)
25					456.0 25.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1319.8, Easting 4752.3								

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/4/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 8

LOG OF BORING B-7

FUGRO

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 482 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
					477.2							4.5+(P)
5				Tan and greenish gray fat CLAY, hard, w/gravel, shell fragments and calcareous deposits. CH (Alluvium)	4.8							
						13	50	37	100	81		4.5+(P)
												4.5+(P)
10				-gravelly layer 11.5 to 12.5 ft								
					470.5							
				Tan and greenish gray fat CLAY, hard, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.5							
						24	80	58	100	98		4.5+(P)
15												
				-more gray and blocky below 18.0 ft		17					111	10.8(Q)
20												
												4.5+(P)
					457.0							
25					25.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) On September 11, 2003, the piezometer was noted to be dry. 3) Northing 1320.6, Easting 4865.1								

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/7/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 9

FUGRO

LOG OF BORING B-8

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 481 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY with sand, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
						21	78	59	96	84		4.5+(P)
					476.8							
5				Tan and greenish gray fat CLAY with sand, hard, w/gravel, shell fragments and calcareous deposits. CH (Alluvium)	4.2							4.5+(P)
						16	59	42	100	83		4.5+(P)
						15					114	7.4(Q)
10					470.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.0							4.5+(P)
15					466.0							
					15.0							
20				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1296.6, Easting 4801.7								
25												

COMPLETION DEPTH: 15.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/7/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 10

LOG OF BORING B-9

FUGRO

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 479 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.0(P)
					474.5							4.5+(P)
5				Tan and greenish gray fat CLAY, hard, w/gravel, shell fragments and calcareous deposits. CH (Alluvium)	4.5							
						16	67	50	95	70		4.5+(P)
												4.5+(P)
10												
					467.5							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.5							
												4.0(P)
15												
				-more gray below 18.0 ft		19					106	10.7(Q)
20												
						23	74	53	100	94		4.5+(P)
					454.0							
25					25.0							

NOTES:
1) Boring was advanced dry and groundwater was not encountered.
2) Northing 1252.5, Easting 4749.5

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/15/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 11

LOG OF BORING B-10

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 479 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
				-brown w/calcareous nodules below 3.0 ft	475.0							4.5+(P)
5				Tan and greenish gray fat CLAY with sand, hard, w/gravel, shell fragments and calcareous deposits. CH (Alluvium)	4.0	14	60	45	99	80		4.5+(P)
				-gravelly layer 5.5 to 6.3 ft								4.5+(P)
10												4.5+(P)
					468.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.0							
						21	72	48	97	88		4.5+(P)
15												
												3.0(P)
20												
					458.0							
				Dark gray CLAYSHALE, low hardness, fissured, w/discontinuities and calcite seams. (Taylor)	21.0							4.5+(P)
25					454.0							
					25.0							

NOTES:
1) Boring was advanced dry and groundwater was not encountered.
2) On September 11, 2003, the piezometer was noted to be dry.
3) Northing 1254.3, Easting 4856.7

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/8/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 12

LOG OF BORING B-11

FUGRO

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Wet Rotary — LOCATION: See Plate 2

SURF. EL. 478 ft± — Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)	476.0							4.5+(P)
				Brown and greenish gray fat CLAY, hard, w/gravel, cobbles, shell fragments and calcareous deposits. CH (Alluvium)	2.0	14	59	43	100	78		4.5+(P)
				-gravelly layer 4.5 to 5.5 ft								4.5+(P)
5												4.5+(P)
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	470.5 7.5	23	78	57	100	99		4.5+(P)
10												
												4.5+(P)
15												
				Dark gray CLAYSHALE, low hardness, fissured, w/discontinuities and calcite seams. (Taylor)	461.5 16.5							4.5+(P)
20			100 (83) 100 (90)			20					108	10.9(Q)
25					453.0 25.0							

NOTES:
1) Boring was advanced dry to 19.5 ft and no groundwater was encountered above that depth.
2) On completion of the drilling operation the hole was open to 25.0 ft and the water surface (drilling fluid) was noted at the 2.0-ft depth.
3) Northing 1195.0, Easting 4815.1

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/8/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 13

FUGRO

LOG OF BORING B-12

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 477 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
						23	78	56	99	92		4.5+(P)
5					471.0							
				Brown and greenish gray lean CLAY with sand, hard, w/gravel, shell fragments and calcareous deposits. CL (Alluvium)	6.0							4.5+(P)
				-tan and greenish gray below 8.0 ft		14	45	31	100	84		4.5+(P)
10					466.5							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	10.5							4.5+(P)
15												
					458.0							4.5+(P)
				Dark gray CLAYSHALE, low hardness, fissured, w/discontinuities and calcite seams. (Taylor)	19.0							
20												
			75									
					452.0							
25					25.0							

NOTES:
1) Boring was advanced dry to 19.5 ft and no groundwater was encountered above that depth.
2) On completion of the drilling operation the hole was open to 25.0 ft and the water surface (drilling fluid) was noted at the 2.0-ft depth.
3) Northing 1144.7, Easting 4750.8

COMPLETION DEPTH: 25.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/8/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

LOG OF BORING B-13

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample | LOCATION: See Plate 2

SURF. EL. 478 ft± | Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)		19	71	47	100	88		4.5+(P)
												4.5+(P)
				-brown below 4.0 ft								4.5+(P)
5					472.0							
				Tan and greenish gray fat CLAY, hard, w/gravel, shell fragments and calcareous deposits. CH (Alluvium)	6.0	17					104	8.4(Q)
												4.5+(P)
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	469.0 9.0							
10												
												4.5+(P)
15												
												4.5+(P)
20					458.0 20.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1197.8, Easting 4934.6								
25												

COMPLETION DEPTH: 20.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/10/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 15

LOG OF BORING B-14

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				SURF. EL. 477 ft± Job No. 1001-3101-1								
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
						26	92	67	99	94		4.5+(P)
5				-brown below 6.0 ft								4.5+(P)
					469.0 8.0	12	70	47	74	61		
			39	Tan and greenish gray gravelly fat CLAY with sand, hard, w/shell fragments and calcareous deposits. CH (Alluvium)								
10					466.0 11.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)								
						22	76	56	100	93		4.0(P)
15												
					459.0 18.0							4.5+(P)
				Dark gray CLAYSHALE, low hardness, fissured, w/discontinuities and calcite seams. (Taylor)	457.0 20.0							
20												
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1147.9, Easting 4966.7								
25												

COMPLETION DEPTH: 20.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/10/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 16

LOG OF BORING B-15

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample | LOCATION: See Plate 2

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				SURF. EL. 476 ft± Job No. 1001-3101-1								
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
						22	79	61	100	93		4.5+(P)
				-brown below 4.0 ft								4.5+(P)
5						17					109	5.0(Q)
					468.0							
				Tan and greenish gray fat CLAY, hard, w/sand, shell fragments and calcareous deposits. CH (Alluvium)	8.0							4.0(P)
10				-gravelly layer 10.0 to 11.0 ft	465.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.0							
					463.0							
				Dark gray CLAYSHALE, low hardness, fissured, w/tan layers, discontinuities and calcite seams. (Taylor)	13.0							4.5+(P)
15					461.0							
					15.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1073.3, Easting 4906.0								
20												
25												

COMPLETION DEPTH: 15.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/10/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 17

LOG OF BORING B-16

FUGRO

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 475 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
5						19					110	8.2(U)
					468.0							4.5+(P)
			51	Tan clayey SAND with gravel, w/cobbles. SC (Alluvium)	7.0	3	44	30	70	28		
10					464.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.0							
				Dark gray CLAYSHALE, low hardness, fissured, w/tan layers, discontinuities. (Taylor) -vertical calcite seam 13.0 ft to 15.0 ft	462.0 13.0							4.5+(P)
15					460.0 15.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1027.6, Easting 4886.4								
20												
25												

COMPLETION DEPTH: 15.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/10/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 18

LOG OF BORING B-17

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 475 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
						21					102	6.3(U)
												4.5+(P)
5				-brown below 4.3 ft								
					468.1							4.5+(P)
				Tan and greenish gray sandy lean CLAY, hard, w/shell fragments and calcareous deposits. CL (Alluvium)	6.9	9	39	26	100	52		4.5+(P)
10					464.0							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	11.0							
				-greenish gray below 13.0 ft								4.5+(P)
15					460.0							
					15.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1060.8, Easting 4850.5								
20												
25												

COMPLETION DEPTH: 15.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/10/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 19

LOG OF BORING B-18

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 475 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
					471.0							
				Tan and greenish gray lean CLAY, hard, w/sand, shell fragments and calcareous deposits. CL (Alluvium)	4.0							4.5+(P)
5						11	42	28	100	54		4.5(P)
												4.5(P)
				-gravelly layer 9.0 to 10.5 ft								
10					464.5							
				Tan and greenish gray fat CLAY, hard, blocky, slickensided, w/discontinuities and calcite seams. CH (Taylor)	10.5							
					461.5							4.5+(P)
				Dark gray CLAYSHALE, low hardness, fissured, w/tan layers, discontinuities and calcite seams. (Taylor)	13.5							
15					460.0 15.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1035.2, Easting 4794.1								
20												
25												

COMPLETION DEPTH: 15.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/8/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 20

LOG OF BORING B-19

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				SURF. EL. 476 ft± Job No. 1001-3101-1								
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)		21	85	63	100	92		4.5+(P)
												4.5+(P)
				-brown below 4.0 ft	471.0							4.5+(P)
5					5.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1109.2, Easting 4992.4								
10												
15												
20												
25												

COMPLETION DEPTH: 5.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/10/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 21

LOG OF BORING B-20

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample

LOCATION: See Plate 2

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				SURF. EL. 480 ft± Job No. 1001-3101-1								
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
				-brown below 4.5 ft								4.5+(P)
5					475.0 5.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1279.2, Easting 4968.5								
10												
15												
20												
25												

COMPLETION DEPTH: 5.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/11/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial

P = Pocket Penetrometer
T = Torvane

PLATE 22

LOG OF BORING B-21

FUGRO

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

SURF. EL. 488 ft± Job No. 1001-3101-1

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
				-brown below 3.5 ft		22	87	65	100	97		4.5+(P)
5					483.0 5.0							

NOTES:
1) Boring was advanced dry and groundwater was not encountered.
2) Northing 1489.5, Easting 4942.6

10
15
20
25

COMPLETION DEPTH: 5.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/11/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

PLATE 23

LOG OF BORING B-22

FUGRO

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				SURF. EL. 486 ft± Job No. 1001-3101-1								
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
				-brown below 3.8 ft								4.5+(P)
5					481.0 5.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1470.0, Easting 4773.8								
10												
15												
20												
25												

COMPLETION DEPTH: 5.0 ft DEPTH TO WATER: See Note

DRILL DATE: 7/11/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

LOG OF BORING B-23

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

TYPE: Sample LOCATION: See Plate 2

DEPTH, FT	SYMBOL	SAMPLES	BLOWS PER FOOT OR REC/(RQD),%	STRATUM DESCRIPTION	LAYER ELEV./ DEPTH	WATER CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX(PI),%	PASSING NO. 4 SIEVE,%	PASSING NO. 200 SIEVE,%	UNIT DRY WEIGHT, PCF	COMPRESSIVE STRENGTH, TSF
				SURF. EL. 485 ft± Job No. 1001-3101-1								
				Dark brown to black fat CLAY, hard, w/roots, gravel and cobbles. CH (Alluvium)								4.5+(P)
												4.5+(P)
				-brown below 4.0 ft								4.5+(P)
5					480.0 5.0							
				NOTES: 1) Boring was advanced dry and groundwater was not encountered. 2) Northing 1490.0, Easting 4635.2								
10												
15												
20												
25												

COMPLETION DEPTH: 5.0 ft DEPTH TO WATER: See Note

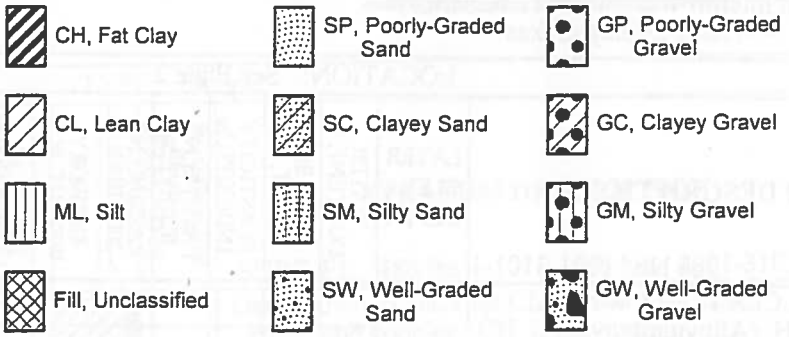
DRILL DATE: 7/11/03

U = Unconfined
Q = Unconsolidated Undrained Triaxial
P = Pocket Penetrometer
T = Torvane

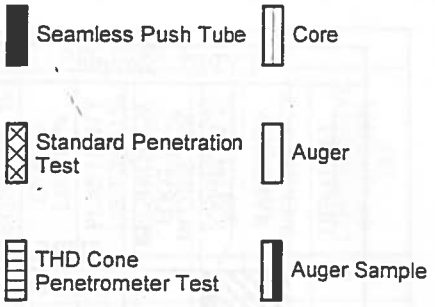
PLATE 25

TERMS & SYMBOLS USED ON BORING LOGS FOR SOIL

SOIL TYPES

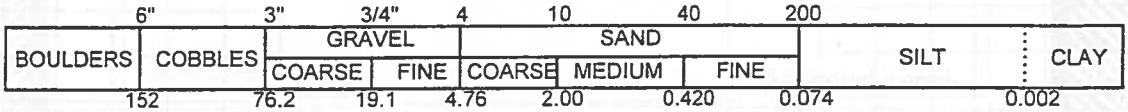


SAMPLER TYPES



SOIL GRAIN SIZE

U.S.STANDARD SIEVE



SOIL GRAIN SIZE IN MILLIMETERS

STRENGTH OF COHESIVE SOILS (1)

CONSISTENCY	COMPRESSIVE STRENGTH Tons Per Sq. Ft.
Very Soft	Less Than 0.25
Soft	0.25 to 0.50
Firm	0.50 to 1.00
Stiff	1.00 to 2.00
Very Stiff	2.00 to 4.00
Hard	Greater Than 4.00

DENSITY OF GRANULAR SOILS (1)

NUMBER OF BLOWS PER FT., N	RELATIVE DENSITY
0-4	Very Loose
4-10	Loose
10-30	Medium
30-50	Dense
Over 50	Very Dense

1) Peck, Hanson, and Thornburn, (1974), Foundation Engineering

ASTM D 2488 TABLE 7 Criteria for Describing Structure

Description	Criteria
Stratified	Alternating layers of varying material or color with layers at least 6 mm thick; note thickness
Laminated	Alternating layers of varying material or color with the layers less than 6mm thick; note thickness
Fissured	Breaks along definite planes of fracture with little resistance to fracturing
Slickensided	Fracture planes appear polished or glossy, sometimes striated
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness
Homogeneous	Same color and appearance throughout

ASTM D 2488 TABLE 3 Criteria for Describing Moisture Condition

Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

ASTM D 2488 Note 15 Criteria for Describing Percentages of Gravel, Sand and Fines

Description	Criteria
Trace	Particles are present but estimated to be less than 5 %
Few	5 to 10 %
Little	15 to 25 %
Some	30 to 45 %
Mostly	50 to 100 %

Criteria for Describing Inclusions

Description	Criteria
Parting	Inclusion <1/8" thick extending through sample
Seam	Inclusion 1/8" to 3" thick extending through sample
Layer	Inclusion >3" thick extending through sample

TERMS & SYMBOLS USED ON BORING LOGS FOR ROCK

FUGRO

ROCK TYPES

LIMESTONE

DOLOMITE

SANDSTONE

HIGHLY WEATHERED LIMESTONE

HIGHLY WEATHERED DOLOMITE

SHALE

DOLOMITIC LIMESTONE

GRANITE

CLAYSHALE

SAMPLER TYPES

Seamless Push Tube

Core

Standard Penetration Test

Auger

TxDOT Cone Penetration Test

Auger Sample

HARDNESS

Friable	- Crumbles under hand pressure
Low Hardness	- Can be carved with a knife
Moderately Hard	- Can be scratched easily with a knife
Hard	- Can be scratched with a knife with difficulty

SOLUTION & VOID CONDITIONS

Void	Interstice; a general term for pore space or other opening in rock.
Cavities	Small solutional concavities.
Vuggy	Containing small cavities, usually lined with a mineral of different composition from that of the surrounding rock.
Vesicular	Containing numerous small, unlined cavities, formed by expansion of gas bubbles or steam during solidification of the rock.
Porous	Containing pore, interstices, or other openings which may or may not interconnect.
Cavernous	Containing cavities or caverns, sometimes quite large. Most frequent in limestones and dolomites.

WEATHERING GRADES OF ROCKMASS (1)

TERM	DESCRIPTION
Slightly	Discoloration indicates weathering of rock material and discontinuity surfaces.
Moderately	Less than half of the rock material is decomposed or disintegrated to a soil
Highly	More than half of the rock material is decomposed or disintegrated to a soil.
Completely	All rock material is decomposed and/or disintegrated to soil. The original mass structure is still largely intact.
Residual Soil	All rock material is converted to soil. The mass structure and material fabric are destroyed.

BEDDING THICKNESS (2)

Very Thick	>4'
Thick	2' - 4'
Thin	2" - 2'
Very Thin	1/2" - 2"
Laminated	0.08" - 1/2"
Thinly-Laminated	<0.08"

JOINT DESCRIPTION

SPACING	INCLINATION	SURFACES
Very Close <2"	Horizontal 0 - 5	Slickensided - Polished, grooved
Close 2" - 12"	Shallow 5 - 35	Smooth - Planar
Medium Close 12" - 3'	Moderate 35 - 65	Irregular - Undulating or granular
Wide >3'	Steeply 65 - 85	Rough - Jagged or pitted
	Vertical 85 - 90	

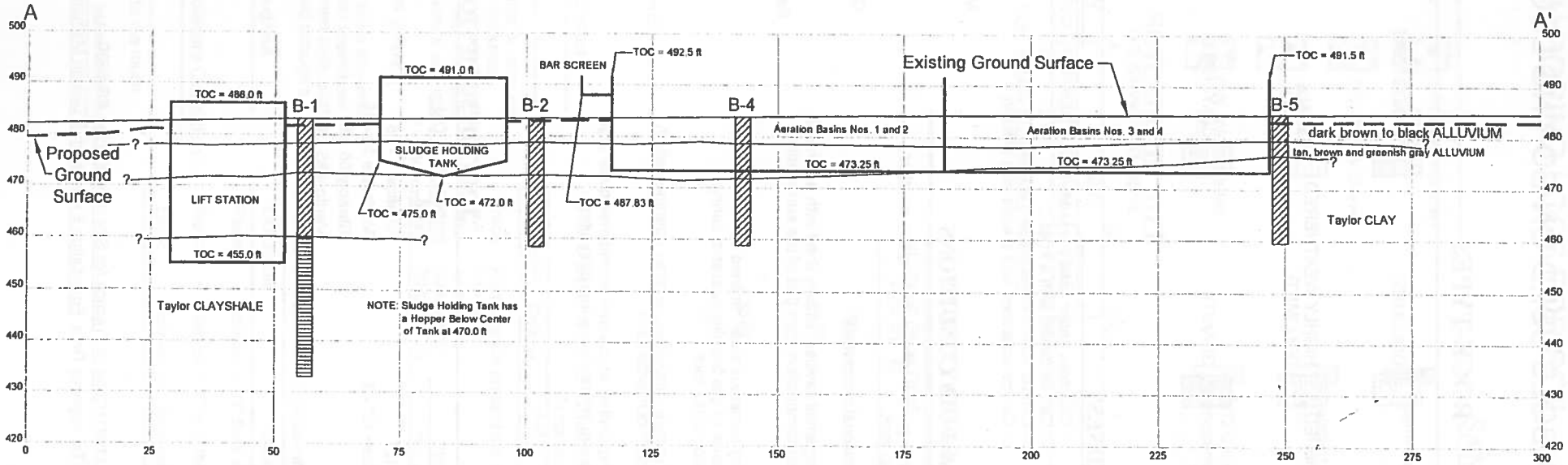
REFERENCES:

1) British Standard (1981) Code of Practice for Site Investigation BS 5930

2) The Bridge Div., Tx. Highway Dept. Foundation Exploration & Design Manual 2nd Edition, revised June, 1974.

Report No: 1001-3101-1

FUGRO



NOTE: Subsurface conditions were determined at boring locations only. Actual conditions between boring locations may vary from the generalized subsurface profile shown here.

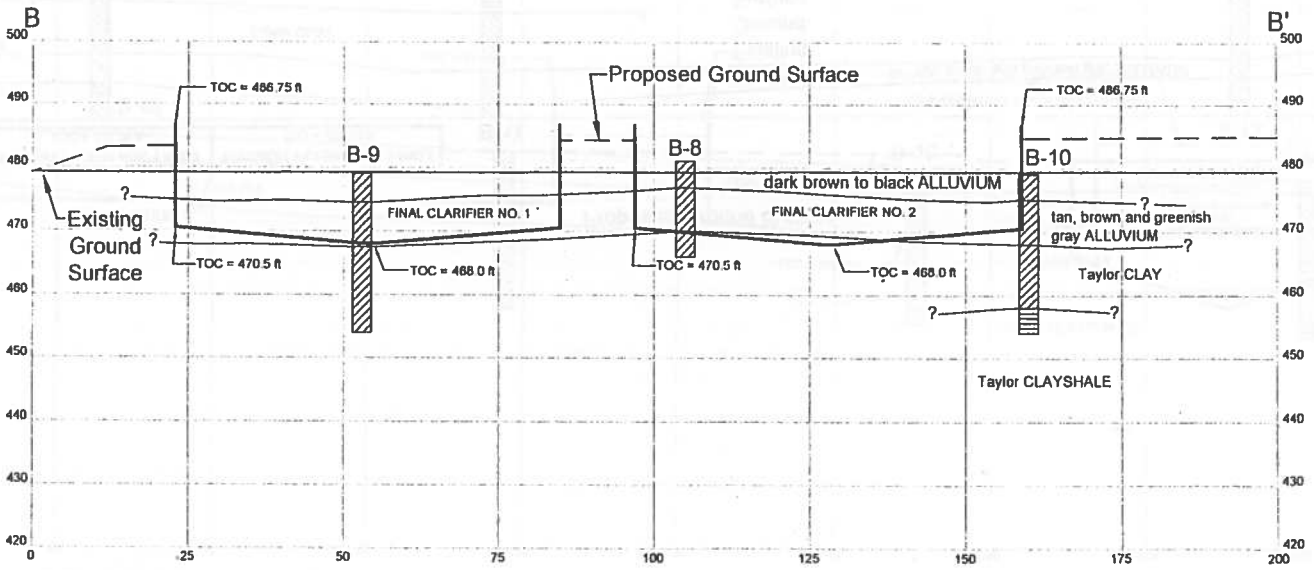
Scale: 1" = 20'

GENERALIZED SUBSURFACE PROFILE A - A'

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

PLATE 28

FUGRO



NOTE: Subsurface conditions were determined at boring locations only. Actual conditions between boring locations may vary from the generalized subsurface profile shown here.

Scale: 1" = 20'

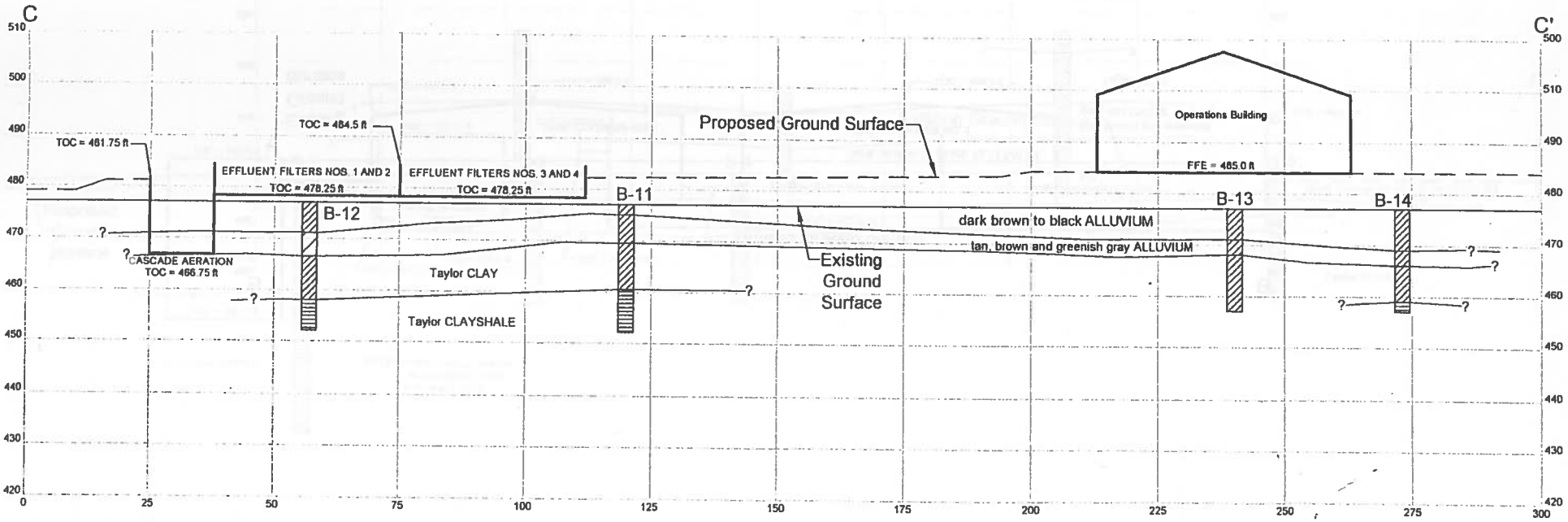
GENERALIZED SUBSURFACE PROFILE B - B'

Northeast Interim Wastewater Treatment Plant

Travis County, Texas

PLATE 29

FUGRO



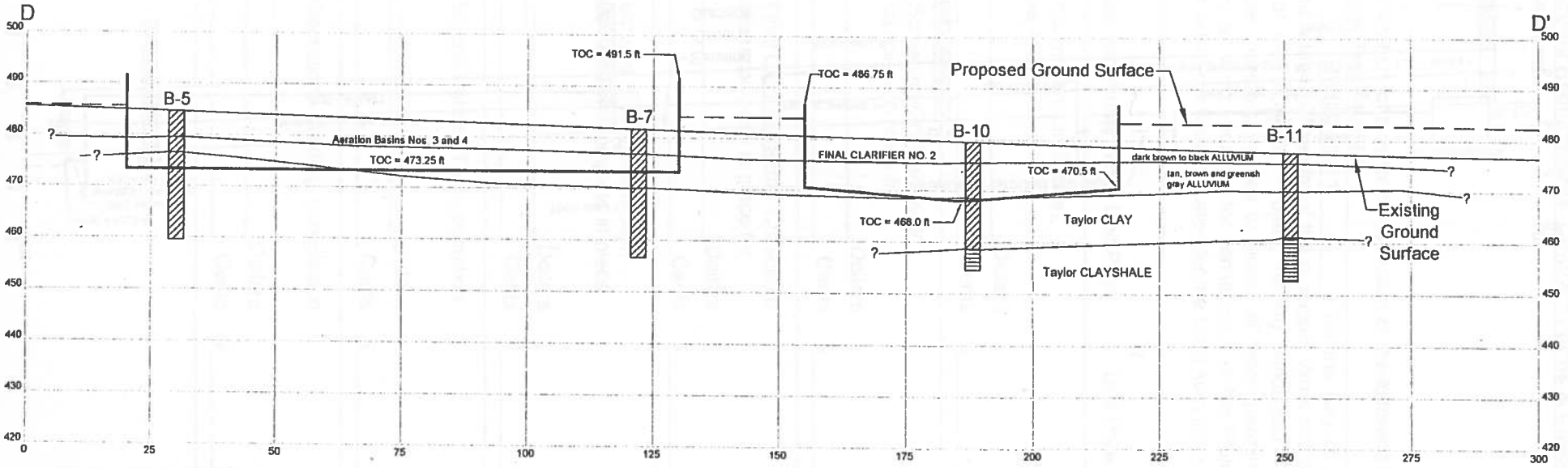
NOTE: Subsurface conditions were determined at boring locations only. Actual conditions between boring locations may vary from the generalized subsurface profile shown here.

Scale: 1" = 20'

GENERALIZED SUBSURFACE PROFILE C - C'

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

PLATE 30



NOTE: Subsurface conditions were determined at boring locations only. Actual conditions between boring locations may vary from the generalized subsurface profile shown here.

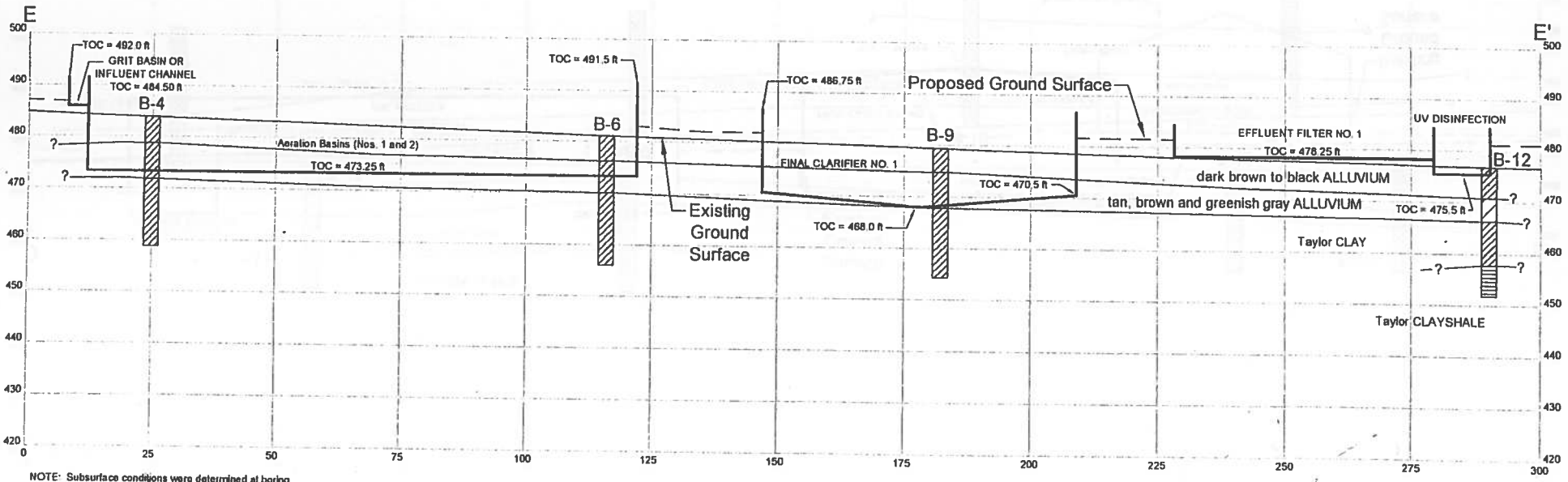
Scale: 1" = 20'

GENERALIZED SUBSURFACE PROFILE D - D'

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

PLATE 31

FUGRO



NOTE: Subsurface conditions were determined at boring locations only. Actual conditions between boring locations may very from the generalized subsurface profile shown here.

Scale: 1" = 20'

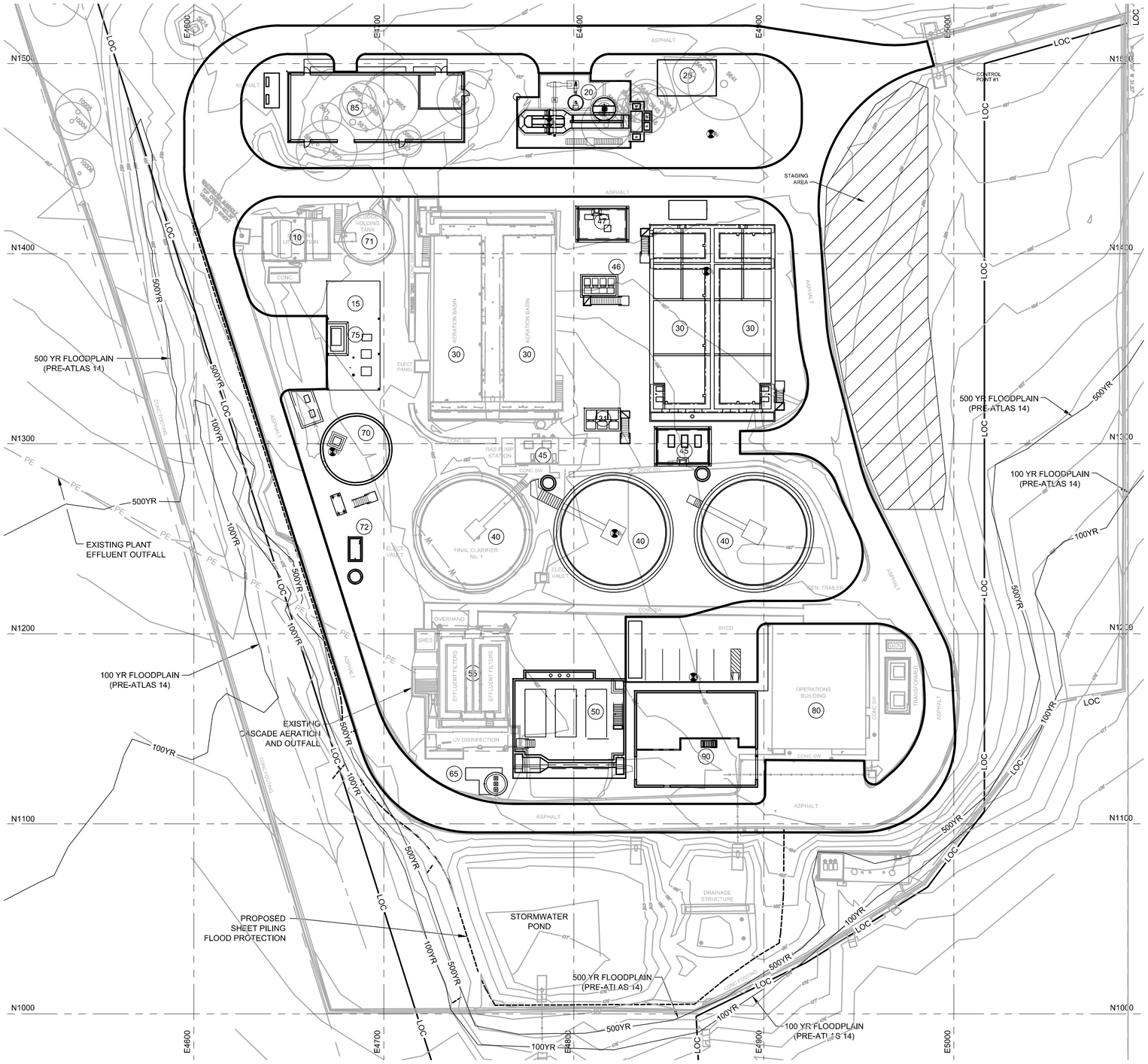
GENERALIZED SUBSURFACE PROFILE E - E'

Northeast Interim Wastewater Treatment Plant
Travis County, Texas

PLATE 32

APPENDIX B

Client Provided Site Plan and Hydraulic Profile



45°00'05"
NORTH
NORTH
TRUE
PLANT

SCALE: 1" = 30'

LEGEND

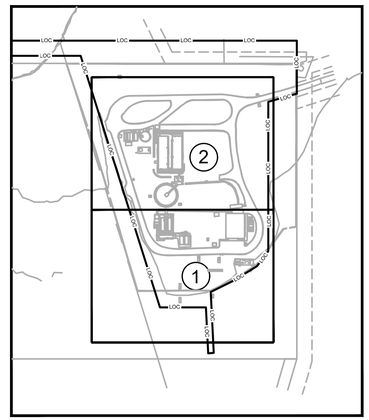
- EXISTING
- PROPOSED
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- LOC — LOC — LIMITS OF CONSTRUCTION
- PROPOSED FLOOD PROTECTION

NOTES:

1. AREA DESIGNATION COVERS 5 FEET AROUND EACH STRUCTURE.

AREA NUMBERS:

10	INFLUENT LIFT STATION
15	INFLUENT LIFT STATION ODOR CONTROL
20	HEADWORKS
25	HEADWORKS ODOR CONTROL
30	AERATION BASINS
31	MIXED LIQUOR SPLITTER BOX
40	SECONDARY CLARIFIERS
45	RAS PUMP STATION
46	RAS SPLITTER BOX
47	WAS PUMP STATION
50	FILTERS AND UV FACILITY
55	EXISTING FILTER STRUCTURE
65	PLANT WATER PUMP STATION
70	SLUDGE HOLDING TANK NO. 1
71	SLUDGE HOLDING TANK NO. 2
72	PLANT DRAIN PUMP STATION
75	THICKENING BUILDING
80	OPERATIONS BUILDING
85	ELECTRICAL BUILDING
90	ADMINISTRATION BUILDING



KEYMAP
NTS

AECOM TECHNICAL SERVICES INC.
9400 AMBERGLEN BLVD.
AUSTIN, TEXAS 78729
WWW.AECOM.COM

REV	DATE	BY	DESCRIPTION

INTERMEDIATE DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

DESIGNED CW
DRAWN AW
CHECKED
DATE FEBRUARY 2021

This document is released for the purpose of information exchange review and planning only under the authority of Casey Wauters, P.E. (Texas License No. 93889) on February 2021. It is not to be used for bidding, permit or construction purposes.

carollo
TBPE No. F-882

CITY OF AUSTIN

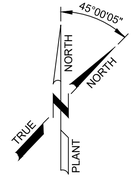
CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
GENERAL
OVERALL WWTP SITE PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10976A.10
DRAWING NO. 00G06
SHEET NO. - OF

LAST SAVED BY:

PROJECT NO. 9585A10 FILE NAME: 00G06



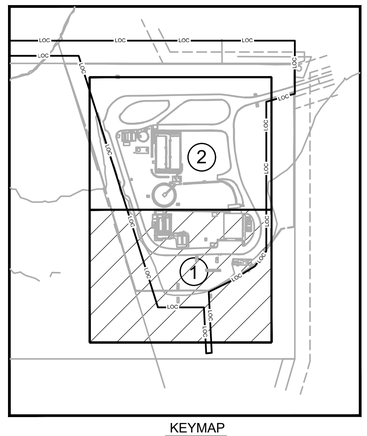
SCALE: 1" = 20'

LEGEND

- EXISTING
- PROPOSED
- XXX — FINISHED GRADE CONTOUR
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- LOC — LOC — LIMITS OF CONSTRUCTION

NOTES:

1. REFERENCE DRAWING 00G06 FOR OVERALL WWTP SITE PLAN.
2. REFERENCE DRAWING 00G14 FOR ALL SURVEY CONTROL POINTS AND COORDINATES.
3. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THOSE SHOWN IN THIS DRAWING. CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY HIS WORK PRIOR TO INITIATING WORK.
4. ALL ACCESS WAYS AND DRIVEWAYS TO BE KEPT CLEAR TO ALLOW OPERATORS ACCESS TO ALL AREAS FOR MAINTENANCE AND EMERGENCIES. CONTRACTOR TO COORDINATE THE DELIVERY AND LOADING / UNLOADING OF EQUIPMENT WITH OWNER AT A MINIMUM OF 48 HOURS PRIOR TO DELIVERY.
5. CONTRACTOR TO NOT OBSTRUCT DELIVERIES ON THE PLANT ACCESS ROAD. WORK WITHIN THE ACCESS ROAD MUST BE DONE IN A WAY THAT CAN BE COVERED TO PROVIDE DELIVERY ACCESS. ACCESS ROAD CLOSURES MUST BE AGREED UPON WITH THE CITY OF AUSTIN IN ADVANCE.
6. CONTRACTOR SHALL NOT BLOCK DRAINAGE SWALES, DITCHES, CULVERTS, OR ANY OTHER STORM WATER DRAINAGE WAY AT ANY TIME DURING EXECUTION OF THE PROJECT. DAMAGE RESULTING FROM FLOODING DUE TO BLOCKED DRAINAGE WAYS WILL BE THE RESPONSIBILTY OF THE CONTRACTOR AT NO ADDITIONAL PAY.
7. SIDEWALKS TO BE CONSTRUCTED AT GRADE.



KEYMAP
NTS

AECOM TECHNICAL SERVICES INC.
9400 AMBERGLEN BLVD.
AUSTIN, TEXAS 78729
WWW.AECOM.COM

REV	DATE	BY	DESCRIPTION

INTERMEDIATE DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

DESIGNED CW
DRAWN AW
CHECKED
DATE FEBRUARY 2021

This document is released for the purpose of information exchange review and planning only under the authority of Casey Wauters, P.E. (Texas License No. 93889) on February 2021. It is not to be used for bidding, permit or construction purposes.

carollo
TBPE No. F-882

CITY OF AUSTIN

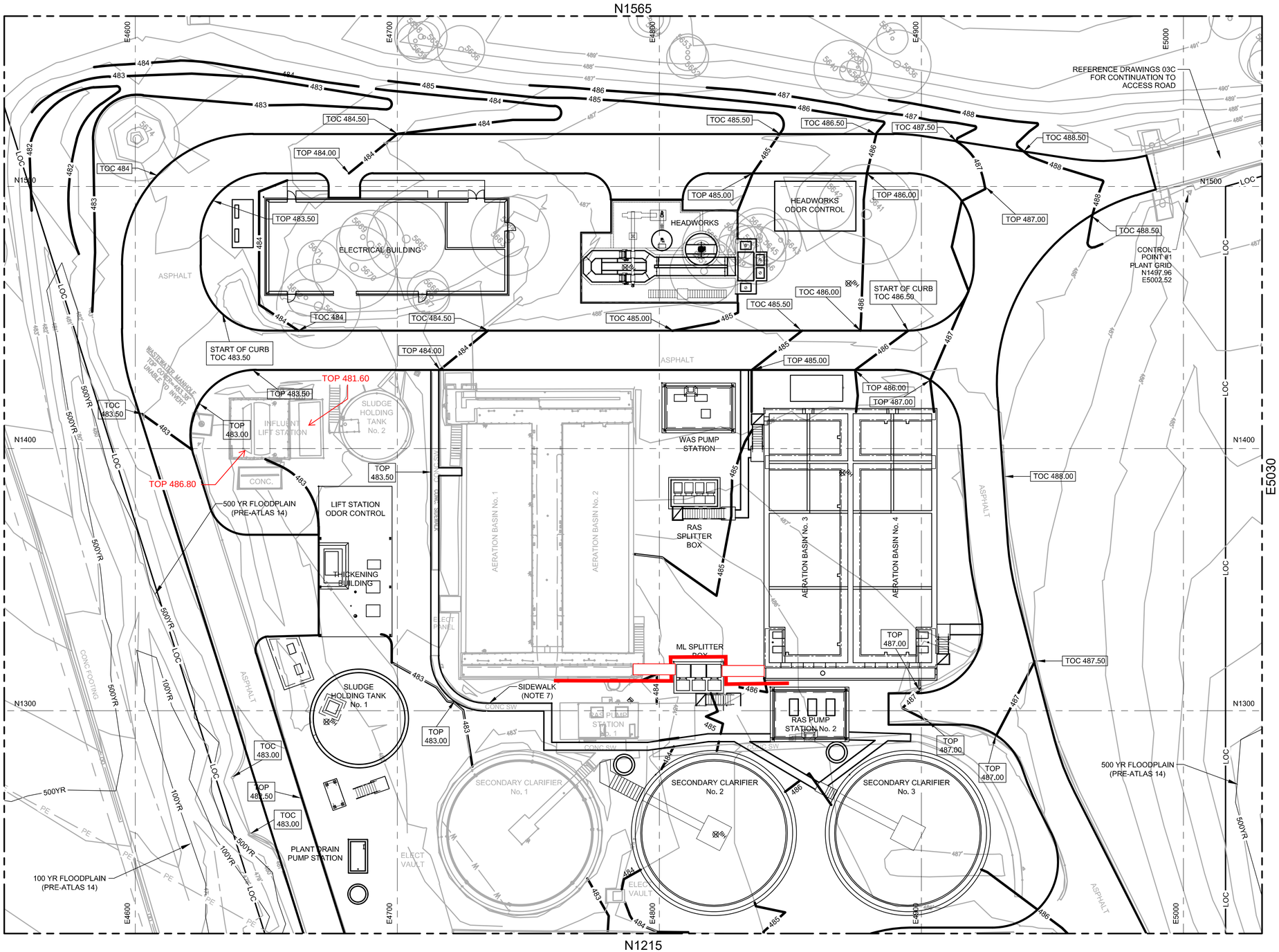
CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
PAVING AND GRADING SITE PLAN
SHEET 1 OF 2

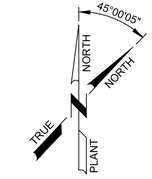
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10976A.10
DRAWING NO. 01C01
SHEET NO. - OF

LAST SAVED BY:

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn





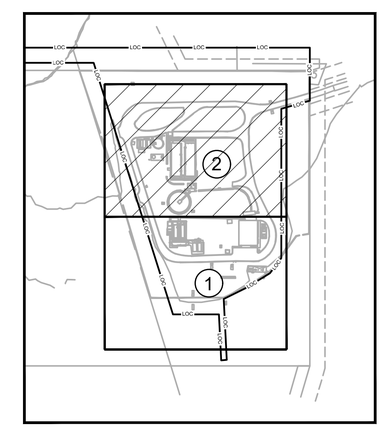
SCALE: 1" = 20'

LEGEND

	EXISTING
	PROPOSED
XXX	FINISHED GRADE CONTOUR
100YR	100 YEAR FLOODPLAIN
500YR	500 YEAR FLOODPLAIN
LOC — LOC	LIMITS OF CONSTRUCTION

NOTES:

1. REFERENCE DRAWING 00G06 FOR OVERALL WWTP SITE PLAN.
2. REFERENCE DRAWING 00G14 FOR ALL SURVEY CONTROL POINTS AND COORDINATES.
3. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THOSE SHOWN IN THIS DRAWING. CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY HIS WORK PRIOR TO INITIATING WORK.
4. ALL ACCESS WAYS AND DRIVEWAYS TO BE KEPT CLEAR TO ALLOW OPERATORS ACCESS TO ALL AREAS FOR MAINTENANCE AND EMERGENCIES. CONTRACTOR TO COORDINATE THE DELIVERY AND LOADING / UNLOADING OF EQUIPMENT WITH OWNER AT A MINIMUM OF 48 HOURS PRIOR TO DELIVERY.
5. CONTRACTOR TO NOT OBSTRUCT DELIVERIES ON THE PLANT ACCESS ROAD. WORK WITHIN THE ACCESS ROAD MUST BE DONE IN A WAY THAT CAN BE COVERED TO PROVIDE DELIVERY ACCESS. ACCESS ROAD CLOSURES MUST BE AGREED UPON WITH THE CITY OF AUSTIN IN ADVANCE.
6. CONTRACTOR SHALL NOT BLOCK DRAINAGE SWALES, DITCHES, CULVERTS, OR ANY OTHER STORM WATER DRAINAGE WAY AT ANY TIME DURING EXECUTION OF THE PROJECT. DAMAGE RESULTING FROM FLOODING DUE TO BLOCKED DRAINAGE WAYS WILL BE THE RESPONSIBILTY OF THE CONTRACTOR AT NO ADDITIONAL PAY.
7. SIDEWALKS TO BE CONSTRUCTED AT GRADE.



KEYMAP
NTS

AECOM TECHNICAL SERVICES INC.
9400 AMBERGLEN BLVD.
AUSTIN, TEXAS 78729
WWW.AECOM.COM

REV	DATE	BY	DESCRIPTION

INTERMEDIATE DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

DESIGNED CW
DRAWN AW
CHECKED
DATE FEBRUARY 2021

This document is released for the purpose of information exchange review and planning only under the authority of Casey Wauters, P.E. (Texas License No. 93889) on February 2021. It is not to be used for bidding, permit or construction purposes.

carollo
TBPE No. F-882

CITY OF AUSTIN

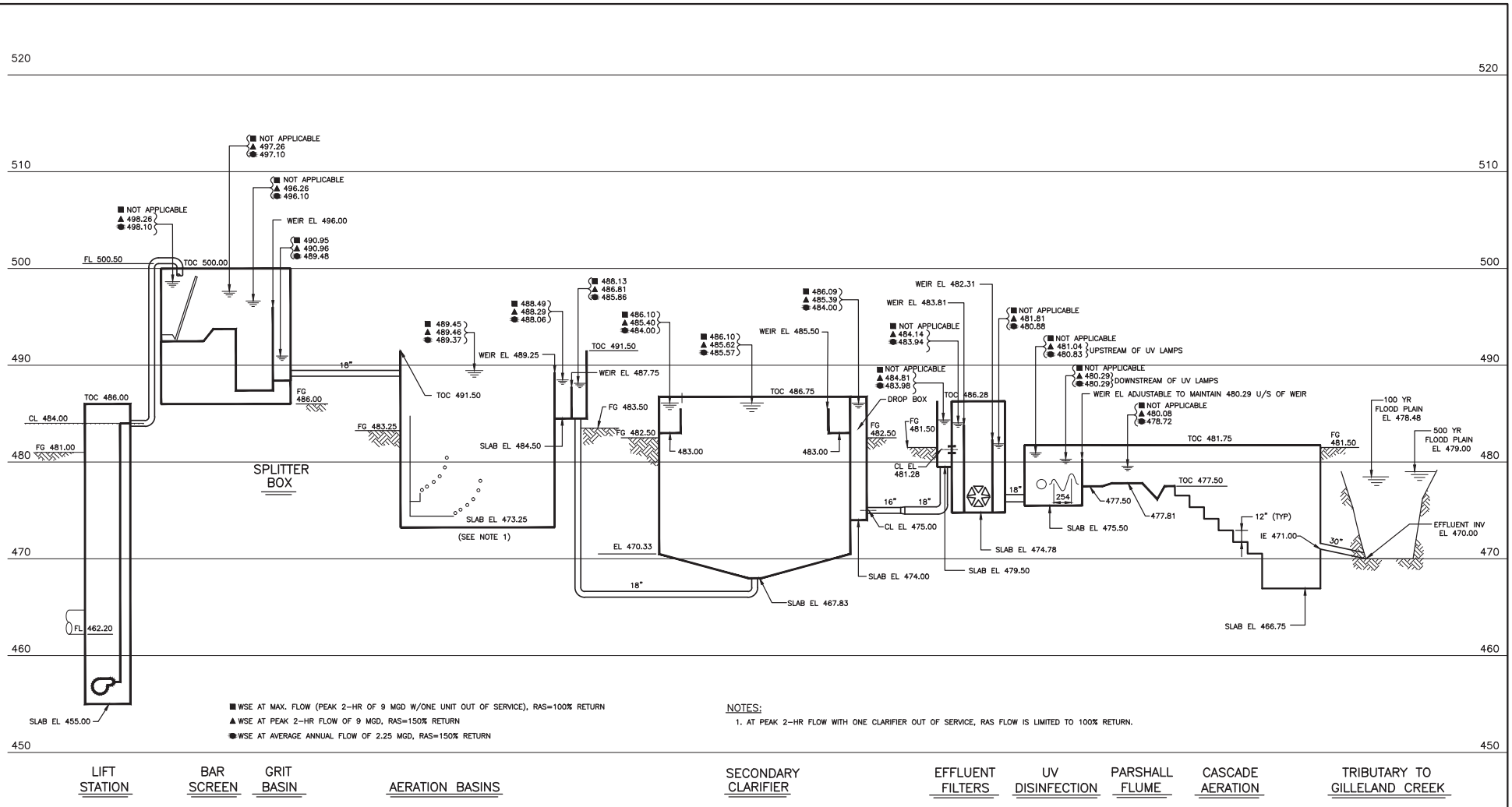
CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
PAVING AND GRADING SITE PLAN
SHEET 2 OF 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10976A.10
DRAWING NO. 01C02
SHEET NO. - OF

LAST SAVED BY:

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn



■ WSE AT MAX. FLOW (PEAK 2-HR OF 9 MGD W/ONE UNIT OUT OF SERVICE), RAS=100% RETURN
▲ WSE AT PEAK 2-HR FLOW OF 9 MGD, RAS=150% RETURN
● WSE AT AVERAGE ANNUAL FLOW OF 2.25 MGD, RAS=150% RETURN

NOTES:
1. AT PEAK 2-HR FLOW WITH ONE CLARIFIER OUT OF SERVICE, RAS FLOW IS LIMITED TO 100% RETURN.

HYDRAULIC PROFILE (2.25 MGD)

SCALE: 1"=10' VERTICAL
NTS ~ HORIZONTAL

FIGURE No. 4.4
HYDRAULIC PROFILE
(2.25 MGD)

WILD HORSE RANCH
WASTEWATER TREATMENT PLANT
EXPANSION TO 1.5 MGD

AECOM TECHNICAL SERVICES INC.
9400 AMBERGLEN BOULEVARD
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. No. F-3580

AP-2

OCTOBER 2018

E:\60567342 Wildhorse WWTP\900-WorkingDocs-CAD\910 CADD\20-Sheets\AP-2.dwg ; October 03, 2018 ; 1:56pm

THIS PAGE INTENTIONALLY LEFT BLANK

City Manager
Austin, Texas

The undersigned, in compliance with the Invitation for Bids for construction of the following Project for the city of Austin, Texas:

Solicitation No.:	CLMC924
Project:	Wild Horse Ranch WWTP Expansion
CIP ID No.:	7265.004

Having examined the Project Manual, Drawings and Addenda, the site of the proposed Work and being familiar with all of the conditions surrounding construction of the proposed Project, having conducted all inquiries, tests and investigations deemed necessary and proper; hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment, and incidentals, and to perform all Work required for construction of the Project in accordance with the Project Manual, Drawings and Addenda within the time indicated.

BASE BID	.....	**$**
Base Bid includes Trench Excavation Safety Systems & Special Shoring		

- The "Base Bid" amount must be used in the MBE/WBE Compliance Plan Summary Page to determine subcontractor participation levels for the established MBE/WBE procurement goals.

- The "Base Bid" amount becomes the Bidder's "TOTAL BID" if allowances and/or alternates are not included.

TRENCH EXCAVATION SAFETY SYSTEMS UNIT PRICES: The undersigned Bidder agrees that the Base Bid Price for the Work, listed above, includes the following amounts in the Bid for excavation safety systems as specified in Item Number 509S of the Specifications and in case of an authorized adjustment to the scope of Work, the following unit price(s) will be used in adjusting the Contract Amount:

Item	Quantity	Unit	Item Description	Unit Price	Amount
509S-1	4,000	LF	Trench Excavation Safety Protection Systems (all depth)	$	$

ALLOWANCES:

Allowance No. 1:	Equipment for SCADA Top End and Control Room	$555,500.00
Allowance No. 2:	Security equipment (cameras and card readers)	$120,000.00
Allowance No. 3:	Forklift for operations and maintenance	$40,000.00
Allowance No. 4:	UV lamp cleaning table and filter drains	$15,000.00
Allowance No. 5:	Predictive Maintenance System Install	$275,000.00
Allowance No. 6:	**Filter and Thickener Manufacturer Services**	**$50,000.00**
SUBTOTAL ALLOWANCES		**$1,055,500.00**

BASE BID PLUS ALLOWANCES:		$

ALTERNATES:

ALTERNATE NO. 1:	Additive alternate for procurement and installation of third disk filter.	$

TOTAL BID	.....	$
Includes Base Bid plus Subtotal Allowances and Alternate 1, (if accepted at Contract Execution)		

In the event of a mathematical error, the correct product, determined by using the "Unit Price" and "Quantity", and the correct sum, determined by totaling the correct line item Amounts, will prevail over the amount entered by the Bidder. The unit prices shown above will be the unit prices used to tabulate the Bid and used in the Contract, if awarded by the City.

Notes:
1. For information pertaining to Rolling Owner Controlled Insurance Program (ROCIP), see Section 00810.
2. For information pertaining to Bid alternate prioritization, see Section 00820.
3. For a more detailed explanation of Bid alternates, see Section 01030.
4. For a more detailed explanation of Bid allowances, see Section 01020.
5. MINIMUM WAGES: Workers on Project shall be paid not less than wage rates, including fringe benefits, as published by the Department of Labor (DOL) for Building Construction and Heavy and Highway Trades "AS APPLICABLE" and/or the minimum wage required by City of Austin Ordinance No. 20160324-015, whichever is higher. The Total Minimum Wage required can be met using any combination of cash and non-cash qualified fringe benefits provided the cash component meets or exceeds the minimum wage required.

BID GUARANTY: A Bid guaranty must be enclosed with this Bid, as required in Section 00020, in the amount of not less than five percent (5%) of the total Bid. Following the Bid opening, submitted Bids may not be withdrawn for a period of ninety (90) Calendar Days. Award of Contract will occur within this period, unless mutually agreed between the parties. The Bid guaranty may become the property of the OWNER, or the OWNER may pursue any other action allowed by law, if:

- Bidder withdraws a submitted Bid within the period stated above;
- Bidder fails to submit the required post Bid information within the period specified in Section 00020 or 00100, or any mutually agreed extension of that period; or
- Bidder fails to execute the Contract and furnish the prescribed documentation (bonds, insurance, etc.) needed to complete execution of the Contract within five (5) Working Days after notice of award, or any mutually agreed extension of that period.

ROCIP: The Bid includes all Automobile Liability and Builder's Risk Insurance premiums required to meet the insurance limits in the Supplemental General Conditions and includes all premiums for a Performance Bond and a Payment Bond in the sum of one hundred percent of the Contract Amount. The Bid excludes all costs for the insurance coverages and limits, up to the limits set forth in the Supplemental General Conditions, duplicated by those in the ROCIP, including the costs for all proposed Subcontractors for such coverages and limits as described in the Supplemental General Conditions.

The Bid also includes the cost to provide and maintain through completion of Work all necessary safety rails, barricades, platforms, fences, covers, and signs necessary to adequately protect and safeguard all vehicular and pedestrian traffic within proximity of the Work. The safety information identified in the Project Safety Manual, and in the Supplemental General Conditions, outlines the minimum safety requirements for the Project. CONTRACTOR shall not limit the amount of effort directed toward the CONTRACTOR's safety program based on the requirements identified in the Project Safety Manual. This program is in addition to CONTRACTOR's existing safety program, not in lieu of that program.

TIME OF COMPLETION: The undersigned Bidder agrees to commence work on the date specified in the written "Notice to Proceed" to be issued by the OWNER and to substantially complete construction of the improvements, as required by the Project Manual, Drawings and Addenda for the Work within **one thousand and five (1,005)** Calendar Days.

If a Substantial Completion date has been specified, the Bidder further agrees to reach Final Completion within ninety (90) Calendar Days after Substantial Completion as required by the Project Manual, Drawings and Addenda for the work.

The Bidder further agrees that should the Bidder fail to substantially or finally complete the Work within the number of days indicated in the Bid or as subsequently adjusted, Bidder shall pay the liquidated damages for each consecutive day thereafter as provided below; unless the OWNER elects to pursue any other action allowed by law.

WAIVER OF ATTORNEY FEES: In submitting the Bid, in consideration for the waiver of the Bidder's right to attorney's fees by the OWNER, the Bidder knowingly and intentionally agrees to and shall waive the right to attorney's fees under Section 271.153 of the Texas Local Government Code in any administrative proceeding, alternative dispute resolution proceeding, or litigation arising out of or connected to any Contract awarded pursuant to this solicitation process.

LIQUIDATED DAMAGES: The Bidder understands and agrees that the timely completion of the described Work is of the essence. The Bidder and OWNER further agree that the OWNER's actual damages for delay caused by failure to timely complete the Project are difficult, if not impossible to measure. However, with respect to the additional administrative and consultant costs to be incurred by OWNER, the reasonable estimate of such damages has been calculated and agreed to by OWNER and Bidder.

Therefore, the Bidder and the OWNER agree that for each and every Calendar Day the Work or any portion thereof, remains incomplete after the Substantial Completion date as established by the above paragraph, "Time of Completion", payment will be due to the Owner in the amount of three thousand five hundred twenty dollars ($3,520) per Calendar Day as liquidated damages, not as a penalty, but for delay damages to the OWNER.

If both Substantial and Final Completion dates have been specified, the Bidder and the OWNER further agree that for each and every Calendar Day the Work or any portion thereof, remains incomplete after the Final Completion date as established by the above paragraph, "Time of Completion", payment will be due to the OWNER in the amount of one thousand six hundred seventy dollars ($1,670) per Calendar Day as liquidated damages, not as a penalty, but for delay damages to the OWNER. Such amount shall be deducted by the OWNER from any Contract payment due.

In the event of a default or breach by the CONTRACTOR and demand is made upon the surety to complete the project, in accordance with the Contract Documents, the surety shall

be liable for liquidated damages pursuant to the Contract Documents in the same manner as the CONTRACTOR would have been.

MINOR INFORMALITY: OWNER reserves the right to reject any or all Bids and to waive any minor informality in any Bid or solicitation procedure (a minor informality is one that does not affect the competitiveness of the Bidders).

ADDENDUM: The undersigned acknowledges receipt of the following addenda:

Addendum No. 1 dated		Received	
Addendum No. 2 dated		Received	
Addendum No. 3 dated		Received	
Addendum No. 4 dated		Received	

BID DOCUMENT EXECUTION AND ACKNOWLEDGEMENT: The undersigned Bidder certifies that the Bidder has read and understands Section 00020 Invitation for Bids, Section 00100 Instructions to Bidders, and all other requirements applicable to the Bidding process provided in the Bid and Contract Documents.

BIDDER's CERTIFICATION OF NON-COLLUSION, NON-CONFLICT OF INTEREST, AND ANTI-LOBBYING (Section 00440): The undersigned Bidder, by its signature, represents and certifies that it has read and can affirmatively swear and subscribe to the statements in Section 00440 Non-Collusion, Non-Conflict of Interest, and Anti-Lobbying Certification. If the Bidder cannot affirmatively swear and subscribe to any of the statements in Section 00440, Bidder represents and certifies that it has provided a detailed written explanation with its Bid on separate pages annexed hereto. The undersigned Bidder further certifies that it has not in any way directly or indirectly had communication restricted in the City Code Chapter 2-7, Article 6 (Anti-Lobbying and Procurement) during the No-Lobbying Period as defined in Chapter 2-7.

BIDDER's CERTIFICATION AS TO NONRESIDENT PROVISIONS: Bidder must provide the following information in accordance with Vernon's Texas Statutes and Codes Annotated Government Code § 2252.002, as amended. A Texas Resident Bidder is a bidder whose principal place of business is in Texas and includes a Contractor whose ultimate parent company or majority owner has its principal place of business in Texas. The undersigned **Bidder certifies that Bidder is a resident of _____** (*Bidder must write in the blank the state of which Bidder is a resident*).

Bidder will initial the blank set forth below to represent and certify that the Bidder has completed, executed, and enclosed the corresponding Bid Documents with the Bid.

_____ MBE/WBE Compliance Document

_____ One copy of Total Bid Form if Bid is submitted electronically via Austin Finance Online

_____ Bid Guaranty

The undersigned, by their signature, represents that they are submitting a binding offer and are authorized to bind the respondent to fully comply with the solicitation documents contained herein. The Respondent, by submitting and signing below, certifies that they have received and read all sections of the entire solicitation document including all revisions, addenda and documents incorporated by reference, and agree to be bound by the terms therein.

_____ _____

Corporate Secretary, *if Bidder is a Corporation Bidder

_____ _____

Email for Secretary Authorized Signature/Print Name

_____

(Seal) Title

_____

Date

_____

_____

Address

_____

Telephone Number / FAX Number

_____

Email for Person Signing Bid

_____

Email for Bidder's Primary Contact Person

END

THIS PAGE INTENTIONALLY LEFT BLANK

TOTAL BID FORM

Solicitation No.:	
Project:	
Bidder:	
Total Bid Amount: (includes Base Bid plus any Allowances or Alternates shown in Section 00300)	

Notes:

1. This form will be displayed publicly in Austin Finance Online approximately one hour after the solicitation closes.
2. In the case of discrepancies between this form and Section 00300, Section 00300 takes precedence.

THIS PAGE INTENTIONALLY LEFT BLANK

STATEMENT OF BIDDERS EXPERIENCE

Section 00400

Project Name:	Wild Horse Ranch WWTP Expansion
Name of Bidder:	
Solicitation Number:	CLMC924
CIP ID Number:	7265.004

Bidder must complete all Attachments to Section 00400 clearly and comprehensively. If necessary, responses may be continued on separately attached sheets.

To be considered a responsive and responsible bidder, the apparent three (3) low Bidders must complete and submit within three (3) working days of notification of low bidder status Attachments A through I in accordance with Article 11, Section 00100. Contractor Performance Evaluations for previous work with the City will be included in the assessment of the Bidder's experience. Any information in Attachments A through I and in the Contractor's Performance Evaluations that indicates the Bidder or a "Subcontractor" is not responsible or that might negatively impact a Bidder's ability to complete the Work within the Contract Time and for the Contract Price may result in the Bid being rejected.

The Bidder is responsible for the accuracy and completeness of all of the information provided by the Bidder or a proposed Subcontractor in response to this Invitation for Bids.

POST-BID SUBMITTALS

ATTACHMENT A – BIDDER'S INFORMATION

ATTACHMENT B – EXPERIENCE REQUIREMENTS (GENERAL CONTRACTOR)

ATTACHMENT C – PROJECT MANAGER AND SUPERINTENDENT EXPERIENCE

ATTACHMENT D – EXPERIENCE REQUIREMENTS (SPECIFIC CONSTRUCTION OR TECHNICAL EXPERIENCE)

ATTACHMENT E – AVAILABLE EQUIPMENT

ATTACHMENT F – AVAILABLE WORKFORCE

ATTACHMENT G – CURRENT PROJECTS

ATTACHMENT H – COMPLETED PROJECTS

ATTACHMENT I – BIDDER'S AUTHENTICATION

ATTACHMENT A
BIDDER'S INFORMATION

Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status.

Solicitation Number:	CLMC924
CIP ID Number:	7265.004

A.	**Name of Bidder:**	
B.	**Bidder's Permanent Address:**	
C.	**Bidder's Phone Number:**	
D.	**Number of years in business under current company name:**	

(Note: Bidder must have been in existence for a minimum of one (1) year under its current company name. Changes in company name during the experience period are acceptable, if the continuity of the company can be demonstrated. Attach separate documentation, if applicable.)

If Bidder answers "Yes" for <u>any</u> of questions E through H, Bidder must attach separate sheets with a brief description or explanation of the answer and provide pertinent contact information (parties' names, addresses and telephone numbers).

E.	**Has the Bidder ever defaulted on a contract?**	**❒ Yes**	**❒ No**
F.	**Are there currently any pending judgements, claims, or lawsuits against the Bidder?**	**❒ Yes**	**❒ No**
G.	**Does Bidder currently have any pending claims, judgements or lawsuits against any prior client?**	**❒ Yes**	**❒ No**
H.	**Is the Bidder or its principals involved in any bankruptcy or reorganization proceedings?**	**❒ Yes**	**❒ No**

ATTACHMENT B
EXPERIENCE REQUIREMENTS (GENERAL CONTRACTOR)

Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status.

Solicitation Number:	CLMC924
CIP ID Number:	

GENERAL CONTRACTOR EXPERIENCE:

Bidder must list and describe Bidder's (not proposed subcontractors') construction experience as a general contractor for a minimum of three (3) successfully completed projects of comparable size, scope and complexity to the Work described in the Contract Documents. Bidder should refer to the Section 01010 Summary of Work, subsection 1.2 Description of Work, to determine what is reasonably comparable. Decisions on "comparability" are at the complete discretion of the OWNER.
Bidder must have completed the projects within the past five (5) years.

Attention Bidder: Duplicate this form for each of the three (3) projects.

PROJECT NO. _____		
Name of Project:		
Location:		
OWNER's Name and Address:		
OWNER's Contact Person (Print):		
Phone/Fax No.		
Initial Contract Price:		
Final Contract Price:		
Contract Start Date: *(Date of Notice to Proceed)*		
Contract Time:	Calendar Days:	Working Days:
Contract Substantial Completion Date:		
Actual Substantial Completion Date:		
If contract time extensions were added to the contract as a result of Bidder's responsibilities, provide a short explanation of each:		
Project Description and why it is comparable to this Contract:		

ATTACHMENT C
PROJECT MANAGER & SUPERINTENDENT EXPERIENCE

Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status.

Name of Bidder:	
Solicitation Number:	CLMC924
CIP ID Number:	7265.004

Bidder must attach resumes for the Project Manager and Superintendent who will be assigned to this project. The resumes must demonstrate that these individuals have worked on at least three (3) similar, successfully completed projects in the capacity of Project Manager or Superintendent, or other responsible supervisory capacity, as applicable, during the last 10 years.

Project Manager (name): _____

Superintendent (name): _____

Note: Attach Resumes & Experience

Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status.

SPECIFIC CONSTRUCTION EXPERIENCE (GENERAL CONTRACTOR OR SUBCONTRACTOR PERFORMING THE WORK)

Bidder must provide the following project history information for each Construction Experience requirement listed below. OWNER may in its reasonable discretion deem the provided experience information insufficient and reject the Bid.

For each Construction Experience item listed below, list and describe the applicable Construction Experience for a minimum of three (3) successfully completed projects of comparable size, scope, and complexity to the Work described for this project. Comparability requirements may be spread among the three (3) projects per item submitted, e.g. One Project may demonstrate comparable size, another Project may demonstrate comparable scope and another may demonstrate comparable complexity. Decisions on "comparability" are at the complete discretion of the OWNER.

The Work must have been performed within the past five (5) years.

Bidder must provide all requested information in a complete, clear, and accurate manner. If necessary, additional information may be provided on separate attached sheets. Failure to provide any requested information may cause the Bid to be rejected by OWNER as non-responsive.

If the Bidder proposes to fulfill any specific construction experience requirement with subcontracted resources, the applicable Subcontractor must be included in the Bidder's Original MBE/WBE Compliance Plan. Failure to include subcontractors on the MBE/WBE Compliance Plan may render your bid non-responsive.

SPECIFIC CONSTRUCTION EXPERIENCE ITEMS REQUIRED:

ITEM 1. Construction of wastewater treatment plants of similar size and complexity.

ITEM 2. Construction of wastewater treatment plant improvements at an existing plant of similar size and complexity while maintaining plant operations.

ITEM 3. Furnish and/or installation of electrical instrumentation and control systems. Refer to specification section 17100 for additional requirements of acceptable process and instrument and control system suppliers and installers (PICS) and submit the ICS qualifications package, as identified in specification section 17100, at the time of and along with the submittal of the forms of this attachment D.

The Bidder shall complete and duplicate the following specific Construction Experience Form as required to provide the requested documentation for a minimum of three (3) successfully completed projects for each of the above specific Construction Experience requirements.

CONSTRUCTION EXPERIENCE DOCUMENTATION FORM		
EXPERIENCE ITEM NUMBER:		
Project Number:		
Does Bidder plan to self-perform this work?	☐ **Yes** ☐ **No**	
If "NO", provide the following Subcontractor's information:		
Company's Address:		
Permanent Address:		
Phone No.		
# of years Subcontractor has been in business under current company name:		
Name of Project:		
Location:		
OWNER's Name:		
OWNER's Address:		
OWNER's Contact Person (Print):		
Phone/Fax No.:		
Initial Contract Price:		
Final Contract Price:		
Contract Start Date: *(Date of Notice to Proceed)*		
Contract Time:	Calendar Days:	Working Days:
Contract Substantial Completion Date:		
Actual Substantial Completion Date:		
If contract time extensions were added to the contract as a result of Bidder's responsibilities, provide a short explanation of each:		
Project Description and why it is comparable to this Contract:		

ATTACHMENT E
AVAILABLE EQUIPMENT LIST

Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status.

Name of Bidder:	
Solicitation Number:	CLMC924
CIP ID Number:	7265.004

Provide a list of equipment that is available to the CONTRACTOR or its Subcontractor(s) and is specifically intended to be used on the Work under this Contract. Also indicate whether the equipment is owned or will be leased by the CONTRACTOR and/or Subcontractor(s).

EQUIPMENT	**OWNED OR LEASED**	**COMMITTED TO ANOTHER PROJECT?** (Yes / No)	**AVAILABLE / RELEASE DATE**

Use additional pages, as necessary

ATTACHMENT F
AVAILABLE WORKFORCE

Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status.

Name of Bidder:	
Solicitation Number:	CLMC924
CIP ID Number:	7265.004

Provide a list of the available workforce for the various disciplines and crafts required for the Work on this Project, including the number of work crews, and number and worker classification for each equipment operator, mechanic, and laborer for that portion of the Work that Bidder will actually perform.

Number of Anticipated Work Crews: _____

DISCIPLINE OR CRAFT	**NO. OF EMPLOYEES**	**COMMITTED TO ANOTHER PROJECT?** (Yes / No)	**AVAILABLE / RELEASE DATE**
Professional (specify)			
Superintendent			
Technical (specify)			
Skilled Workers (specify)			
Semiskilled Workers (specify)			
Equipment Operators (list)			
Other			

Use additional pages, as necessary

ATTACHMENT G
CURRENT PROJECT LISTING (INCLUDING ALL CITY OF AUSTIN PROJECTS)

Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status.

Name of Bidder:	
Solicitation Number:	CLMC924
CIP ID Number:	7265.004

Provide a list of <u>all current projects</u>, including *<u>all City of Austin projects</u>*. Include the following for all jobs that Bidder is currently committed to or has currently underway: brief statement regarding the job type; estimated project duration; project contact; and project description**.

Name of Project:		
Location:		
Type of Job:		
City of Austin Job?	**☐ Yes**	**☐ No**
Project Start Date		
Estimated Completion Date:		
Project Contact:		
Brief Description:		

Name of Project:		
Location:		
Type of Job:		
City of Austin Job?	**☐ Yes**	**☐ No**
Project Start Date		
Estimated Completion Date:		
Project Contact:		
Brief Description:		

ATTACHMENT H
COMPLETED PROJECTS (INCLUDING ALL CITY OF AUSTIN PROJECTS)

Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status.

Name of Bidder:	
Solicitation Number:	CLMC924
CIP ID Number:	7265.004

Provide a list of <u>all completed projects</u>, including <u>all City of Austin projects</u> that Bidder has completed in the past five (5) years by calendar year (or life of company if less than five (5) years). Include the following: a brief statement regarding the job type, the estimated project duration, project contact, and project description.

Calendar Year of _____

Name of Project:		
Location:		
Type of Job:		
City of Austin Job?	☐ **Yes**	☐ **No**
Project Duration:		
Project Contact:		
Brief Description:		

Name of Project:		
Location:		
Type of Job:		
City of Austin Job?	☐ **Yes**	☐ **No**
Project Duration:		
Project Contact:		
Brief Description:		

Use additional pages as necessary to achieve a representative listing covering 5 years

ATTACHMENT I
BIDDERS AUTHENTICATION

(Attention Bidder: Complete and return within three (3) days of notification of the three (3) low bidders' status)

Solicitation Number:	CLMC924
CIP ID Number:	7265.004

THE STATE OF TEXAS
COUNTY OF TRAVIS

I certify that my responses and the information provided in Attachments A-H are true and correct to the best of my personal knowledge and belief and that I have made no willful misrepresentations in this Section, nor have I withheld any relevant information in my statements and answers to questions. I am aware that any information given by me in this Section may be investigated and I hereby give my full permission for any such investigation and I fully acknowledge that any misrepresentations or omissions in my responses and information may cause my bid to be rejected.

Bidder's full name and entity status:

_____
Company's Name

_____
Signature, Authorized Representative of Bidder

_____
Title

_____
Date

END

CERTIFICATE OF NON-SUSPENSION OR DEBARMENT

Section 00405

Solicitation Number: _____ (to be filled in by Contractor)

The City of Austin is prohibited from contracting with or making prime or sub-awards to parties that are suspended or debarred or whose principals are suspended or debarred from Federal, State, or City of Austin Contracts. Covered transactions include procurement contracts for goods or services equal to or in excess of $25,000.00 and all non-procurement transactions. This certification is required for all bidders on all City of Austin Contracts to be awarded with values equal to or in excess of $25,000.00 and all non-procurement transactions.

The CONTRACTOR hereby certifies that its firm and its principals are not currently suspended or debarred from bidding on any Federal, State, or City of Austin Contracts.

Contractor's full name and entity status:

_____

_____

(Name/Signature of Authorized Official)

_____

Title

_____

Date

END

THIS PAGE INTENTIONALLY LEFT BLANK

BIDDER'S SAFETY EXPERIENCE
(To Be Submitted Post-Bid)

Solicitation Number: _____ (to be filled in by Contractor)

NAME OF BIDDER: _____

Pursuant to Section 252.0435 of the Local Government Code, the OWNER will consider the safety records of bidders prior to awarding a City contract. Upon request, a bidder is required to provide information to demonstrate the safety and health performance of their company. The information obtained from a bidder or from other sources will be used to determine the bidder's safety record, and will not automatically be used to exclude the bidder from selection for this or any future procurement. The OWNER will consider the responses to this Section 00410 document separately when making a discretionary determination of whether to disqualify a bidder, and may also consider the cumulative impact of the information generated by the bidder's responses in making the determination. Bidders are responsible for reviewing the safety records of proposed subcontractors.

Upon notification from the OWNER, the three (3) apparent low bidders are required to provide the following information:

WORKERS' COMPENSATION EXPERIENCE MODIFICATION RATE DATA			
Provide bidder's Workers' Compensation **Experience Modification Rate (EMR)** Data using the loss experience that occurred within the past five years. Attach bidder's NCCI workers compensation experience rating sheets for the past five (5) years.		**Policy Year**	**EMR**
	Current EMR:		
	1 Year Ago:		
	2 Years Ago:		
	3 Years Ago:		
	4 Years Ago:		
Bidder's initialing here certifies that bidder does not have an EMR: _____ *(Submit a copy of bidder's Insurance Loss Run Reports for the last five years if bidder does not have an EMR.)*			
Bidder may include additional information explaining any circumstances that may have affected the company's EMR rate.			
Evaluation: Bidders with a 5-year EMR average that exceeds the 5-year industry average EMR by more than 25% may be deemed non-responsive.			

REGULATORY NOTICE AND CITATION HISTORY DATA	
Provide bidder's information regarding regulatory **OSHA and/or Environmental Protection Agency Notices and Citations** as follows: Describe federal, state, city/municipal or county OSHA notices of noncompliance or citations issued to or received by the bidder within the past three years or any notices from any environmental protection agency, including any notices or citations from any state agency or local government responsible for enforcing environmental protection or other health and safety laws or regulations of any state of the United States, received within the past three years.	**Provide a description of each on the OSHA/EPA form on the following page to include:** • Date of Citation/Notices • Issuing agency • Standard cited • Level of violation (i.e. serious, willful) • Dates and brief description(s) of the event(s) • Brief description(s) of actions taken to correct the violation(s) • Current status (Open, Closed, Contested) • If Closed, date of Closure • If Open, estimated date of Closure
Bidder may include additional information explaining any related circumstances.	
Evaluation: Information may be verified by referring to respective agency. More than two serious or more than one willful or repeated violation (investigation completed) within the past three years may deem the Bidder non-responsive.	

OSHA and/or Environmental Protection Agency Notices Within Past Three Years						
Date of Citation or Notice	Issuing Agency	Violation Level (i.e. serious, willful)	Brief description of event	Brief description of actions taken to correct violation(s)	Current Status (Open, Closed, Contested)	Closed Date, or if Open, estimated Close Date

INJURY AND ILLNESS INCIDENCE RATE DATA	
Provide bidder's ***Total Case Incidence Rate(s) (TCIR)** for the 3 most recent calendar years. Attach bidder's OSHA 300 and 300A logs for the past 3 years.	**TCIR Rates:** Current Rate: _____ 1 Year Ago: _____ 2 Years Ago: _____
DAYS AWAY, RESTRICTED, AND TRANSFER RATE DATA	
Provide bidder's ****Days Away, Restricted, and Transfer Rate(s) (DART)** for the three most recent calendar years.	**DART Rates:** Current Rate: _____ 1 Year Ago: _____ 2 Years Ago: _____
Bidder may include additional information explaining any circumstances that may have affected the submitted rates and/or their associated three year trends.	
Evaluation: Rates will be compared to the most recently published Bureau of Labor Statistics (BLS) national average for the Standard Industrial Classification code (SIC) or North American Industrial Classification Systems (NAICS) code for the construction industry. For consideration of another code within the construction industry, the Bidder must provide the code and justification. Bidders with a 3-year TCIR or DART average that exceeds the 3-year TCIR or DART industry average may be deemed non-responsive.	

**TCIR – To calculate the calendar year TCIR, determine the total number of all recordable injuries and illnesses that occurred during the year in question, divide that total by the total number of hours worked by all employees during that year, and multiply the result by 200,000.*

*** DART – To calculate the calendar year DART, determine the total number of recordable injuries and illnesses resulting in days away from work, restricted work activity, and/or job transfer that occurred during the year in question, divide that total by the total number of hours worked by all employees during that year, and multiply the result by 200,000.*

ACKNOWLEDGEMENT

THE STATE OF TEXAS

COUNTY OF TRAVIS

I certify that my responses and the information I have provided are true and correct to the best of my personal knowledge and belief and I have made no willful misrepresentations in this, or withheld any relevant information in my statements. I am aware that any information given by me in response to this Section 00410 may be investigated and I hereby give my full permission for any such investigations, and I fully acknowledge that any misrepresentations or omissions in my responses and information may cause my bid to be rejected or cause any contract based on misrepresentations to be cancelled.

Contractor's full name and entity status:

_____

_____
(Name/Signature of Authorized Official)

_____
Title

_____
Date

END

THIS PAGE INTENTIONALLY LEFT BLANK

INSURANCE COST FORM
Section 00425A

Solicitation Number: _____ (to be filled in by Contractor)

In the event the bidder is awarded the Contract, it is agreed that the bidder will permit the OWNER to inspect the insurance policies and audit the methods and rates used in determining the premium cost stated below. Requests for inspection of any policies or payroll records will be made in writing ten (10) days in advance of any review which will be conducted at the project site or an OWNER near the site.

The "**Total Insurance Cost Excluded from Base Bid**" (and the "Total **Insurance Cost Excluded from Alternate No.(s)**", as appropriate for this project) amount(s) as stated within this form represents the amount of cost the bidder has excluded from the Bid for insurance coverages for the prospective CONTRACTOR and all Subcontractor(s) and Sub-Subcontractor(s) which the OWNER anticipates furnishing through ROCIP. This cost includes but is not limited to insurance premiums, expected losses within any retention or deductible program, overhead and profit. Instructions to assist with calculation of these costs are included on the following page.

The bidder as insured hereby assigns and transfers to the OWNER, its rights, title and interest in any and all returns of premium, dividends, discounts, merit bonus or other adjustments applicable to the OWNER's Rolling Owner Controlled Insurance Program. This assignment shall pertain to the policies as now written and as subsequently modified, rewritten, or replaced in the policies of the OWNER's, including any additional amounts of coverage as a result thereof. This assignment is valid only for insurance policies whose premiums have been paid by the OWNER on behalf of the prospective CONTRACTOR/Subcontractor(s)/Sub-Subcontractor(s).

Total Insurance Cost Excluded from Base Bid…….…….. = $_____
Total Insurance Cost Excluded from Alternate No. 1…….. = $_____

CITY OF AUSTIN INSTRUCTIONS FOR IDENTIFYING INSURANCE COSTS

The ROCIP contract documents require that the Bidding Contractor exclude from the bid the cost of insurance provided by ROCIP. This includes the cost of said insurance for all contractors/ subcontractors of any tier who are performing work on site. These instructions are intended to be a tool to assist you in calculating your insurance costs.

Workers' Compensation Premium Calculation:

(A) Payroll/$100 X (B) Rate X (C) Experience Mod Factor X (D) Other factors as included on the policy = (E) Workers' Compensation Premium

(A) Payroll (remuneration) is the estimated amount of labor dollars including benefit costs that you anticipate for the project term. Payrolls should be broken down by Workers' Compensation Class Code. The calculation is payroll divided by $100 and then multiplied by the rate for each Class Code.

(B) Rates are based on Workers' Compensation Class Codes which identify the kind(s) of work the employees in that trade are performing. They are set by the Insurance Carrier and can be found in your "regular" Workers' Compensation Policy.

(C) Experience Modification Factors are based upon your past claim and premium experience that is filed by your previous Insurance Carriers. If you do not have an Experience Modifier Factor, use a 1.00 factor in the calculation.

(D) Other factors include Increased Limits, Scheduled Credits, Premium Discounts, etc.

(E) Workers' Compensation Premium is the insurance cost for Workers' Compensation that must be excluded in your bid price and recorded for the Contractor and all Subcontractors at every tier on the bidder's Insurance Cost Identification Worksheet.

General Liability Premium Calculation:

(A) Rate Base (Payroll/Sales) X (B) Rate X (C) Other factors as included on the policy = (D) General Liability Premium

(A) Rating base for General Liability may be Payroll (remuneration) or Sales/Receipts. Please refer to your "regular" General Liability Policy for rate base and rates used to calculate your current premium.

(B) Rates – again, refer to your regular policy and keep in mind that Payroll is per $1,000 and Sales/Receipts usually per $1,000

(C) Other factors include experience modifier, premium discounts, debits, credits, etc.

(D) The General Liability Premium is the insurance cost for General Liability that must be excluded in your bid price and recorded for the prime/general and all subcontractors at every tier on the bidder's Insurance Cost Identification Worksheet.

Expected Losses or Allocated Self-Insured Retention (if applicable):

In the event the Contractor or any Subcontractor retains a coverage or portion of coverage by a self-insured retention, deductible or other means, the contractor should estimate the portion of losses or retention which is estimated for or allocated to this project.

END

ROLLING OWNER CONTROLLED INSURANCE PROGRAM INFORMATION

Section 00425B

I. In compliance with Sections 151.003 – 153.009 of the Texas Insurance Code, the Owner hereby provides the following information to the Bidder/Contractor (the "ROCIP Information") in electronic format on the following website addresses:

A. City of Austin Rolling Owner Controlled Insurance Program VII – ROCIP VII Insurance Manual, May 31, 2017 ("ROCIP VII Insurance Manual")
http://www.austintexas.gov/page/biddocs

B. City of Austin Rolling Owner Controlled Insurance Program VII - ROCIP VII Claims Kit. ("ROCIP VII Claims Kit.") http://www.austintexas.gov/page/bid-docs

C. City of Austin Capital Improvement Program ROCIP – Safety Manual - ROCIP Safety Policy and Procedures April 14, 2014 ("ROCIP Safety Manual")
http://www.austintexas.gov/page/bid-docs

D. ROCIP VII Program Master Insurance Policies & Endorsements ("ROCIP VII Master Policies") http://www.austintexas.gov/page/bid-docs

E. ROCIP VII Excess Coverage Policies & Endorsements (ROCIP VII Excess Coverage Policies) http://www.austintexas.gov/page/bid-docs

F. City of Austin Project Manual Contract Documents ("Contract Documents")
http://www.austintexas.gov/page/bid-docs

1. Section 00410 Statement of Bidder's Safety Experience
2. Section 00425A Insurance Cost Form
3. Section 00700 General Conditions
4. Section 00810 Supplemental General Conditions

II. ROCIP Program Compliance Information

A. Contact information, including phone number and email address, for:

1. The Program Administrator -

Marsh USA, Inc.
Attention: Cindy Gibbens, Program Manager
1717 Main Street, Suite 4400
Dallas, Texas 75201
303-308-4519
austinwrapup.faxes@marsh.com

2. The Owner's Risk Manager -

Leslie Milvo, City of Austin Risk Manager

P.O. Box 1088
Austin, Texas 78767-8845
512-972-3245
leslie.milvo@austintexas.gov

3. Insurer's contact person for filing a claim for each type of insurance coverage provided in the program;

   Liberty Mutual
   1-800-362-0000
   Account Number for ROCIP VII: 42404

   ROCIP VII Claims
   Advocate: Kevin McClelland
   Marsh USA, Inc.
   1717 Main St., Ste. 4400
   Dallas, TX 75201
   Phone: 214-303-8330
   Fax: 214-303-8014
   kevin.mcclelland@marsh.com

   See ROCIP VII Claims Kit

B. The criteria for eligibility of enrollment into the Program:

   See Section 00410 Statement of Bidder's Safety Experience
   See Section 00425A Insurance Cost Form
   See Section 00810 Supplemental General Conditions
   See ROCIP VII Insurance Manual
   See ROCIP VII Master Policies

C. A description of the Project site covered by the program coverages:

   See ROCIP VII Insurance Manual Definitions Section – the Project site includes the (referenced Project Name) and adjacent or nearby areas where incidental operations are performed excluding permanent locations of any insured party, except the Owner.

   See "Contract Documents" - The Project site is more particularly described in the Contract Documents, specifically including but not limited to the Project's Site Plan, which is available along with the Bid Documents in the City's Plan Room and on its Website.

D. A summary of insurance coverages to be provided to the contractor under the program, including:

   1. the policy form number and issuing organization, if the policy is a standardized insurance policy or, if the policy is not standardized, a sample policy form;

   2. per occurrence and aggregate limits of insurance coverages and any sub-limits that may apply;

   3. term of coverages for each limit and sublimit, if any; and

   4. any material endorsements to the insurance policy described above;

      See Section 00810 Supplemental General Conditions
      See ROCIP VII Insurance Manual
      See ROCIP VII Master Policies
      See ROCIP VII Excess Coverage Policies

E. A summary of insurance coverages to be provided by the contractor;

See ROCIP VII Insurance Manual
See Section 00810 Supplemental General Conditions

F. Instructions on how to include or exclude costs of insurance provided by the program in the person's proposal for work on the construction project;

See Section 00425A Insurance Cost Form
See Section 00810 Supplemental General Conditions

G. A description of the audit or claims procedures related to the program that may result in additional cost to a contractor, including the method of calculation for any assessment charged to a contractor related to the Owner's payment of a policy deductible and any other specific cost amounts; and

See Section 00425A Insurance Cost Form
See ROCIP VII Claims Kit
See ROCIP Safety Manual
See ROCIP VII Insurance Manual
See ROCIP VII Master Policies
See Section 00810 Supplemental General Conditions

H. A description of a contractor's duties related to reporting:

1. payroll and retention of documentation; and

2. claims and participation in safety inspections and incident reporting.

See ROCIP VII Claims Kit
See ROCIP Safety Manual
See ROCIP VII Insurance Manual
See Section 00700 General Conditions
See Section 00810 Supplemental General Conditions

III. CONTRACTOR MAY REQUEST COPY OF ROCIP INSURANCE POLICIES - A complete copy of the insurance policies that provides coverage for the contractor under the consolidated insurance program is posted online at the web address set forth above.

IV. The information required from the Owner may be requested in hard written copies or the Bidder/Contractor may use the Owner’s internet website.

V. This Section 00425B will apply to an original construction contract with the Owner that is entered into on or after January 1, 2016. If a construction contract is entered into on or after January 1, 2016, the requirements in this Section 00425B apply to a related subcontract, purchase order contract, personal property lease agreement, consolidated insurance program, and insurance policy.

(Contractor and Subcontractor Affidavit, Signature Page, and Acknowledgment forms follow)

VI. CONTRACTOR ROCIP INFORMATION TO BE PROVIDED BEFORE ENTERING CONSTRUCTION CONTRACT

Prior to the Bidder/Contractor entering into a contract with the Owner, the Bidder/Contractor must acknowledge that it received the ROCIP Information. If the ROCIP Information is not provided, the Bidder/Contractor may elect not to enroll in ROCIP. If the Bidder/Contractor does not enroll in ROCIP, the Bidder/Contractor must provide the "Contractor Provided Insurance" required under Article 5 of the 00700 General Conditions and Paragraph 5.3.1 of the Section 00810 Supplemental General Conditions as a condition to continuing service under the Contract. If for any reason a Bidder/Contractor is not provided the ROCIP Information on a timely basis and the Owner subsequently provides the ROCIP Information to the Contractor, the Contractor may acknowledge its receipt and provide the Affidavit included in Section 00425B to the Owner prior to commencing Work on the Project. In submitting its bid, the Bidder/Contractor acknowledges receipt of the required ROCIP Information and represents that it has read and understands the ROCIP Information. In addition, the Bidder/Contractor is making its acknowledgment and representation specifically to comply with the requirements of Section 151.004 of the Texas Insurance Code.

Note: This affidavit is a post-bid submittal and must be submitted by the Bidder before entering construction contract.

CONTRACTOR AFFIDAVIT OF RECEIPT AND PROVISION OF ROCIP INFORMATION

As an authorized representative of the Bidder/Contractor, I acknowledge and agree that the Bidder/Contractor has received the required ROCIP Information referenced in Section 00425B of the Contract Documents for the referenced Project and has provided the ROCIP Information to the Owner. I certify that the representations and information in this Affidavit are true and correct to the best of my personal knowledge and belief and that I have made no willful misrepresentations in this Affidavit, nor have I withheld any relevant information. I am aware that the information given will be relied upon in entering into a subsequent Contract.

Solicitation Number: _____ *(to be filled in by Contractor)*

Bidder's full name and entity status:

_____

_____

(Name/Signature of Authorized Official)

_____

Title

_____

Date

VII. ROCIP INFORMATION TO BE PROVIDED BY CONTRACTOR TO SUBCONTRACTORS AND SUB-SUBCONTRACTORS BEFORE ENTERING CONSTRUCTION SUBCONTRACT

At least 10 days prior to the Subcontractor or Sub-subcontractor (being collectively and respectively referred to as the "Subcontractor") entering into a contract with the Contractor or Subcontractor (being collectively and respectively referred to as the "Principal") for the referenced Project, the Principal must provide the ROCIP Information to the Subcontractor and the Subcontractor must acknowledge that it received the ROCIP Information. If the ROCIP Information is not provided, the Subcontractor may elect not to enroll in ROCIP.

If the Principal does not provide the ROCIP Information to its Subcontractor and obtain the Affidavit of Receipt and Provision of the ROCIP Information from its Subcontractor prior to entering into the applicable subcontract or sub-subcontract, the Principal is responsible to the Subcontractor under Section 151.006 of the Texas Insurance Code for the actual cost of providing the insurance required under Article 5 of the 00700 General Conditions and Paragraph 5.3.1 of the Section 00810 Supplemental General Conditions.

If for any reason a Subcontractor is not provided the ROCIP Information on a timely basis and the Principal subsequently provides the ROCIP Information to the Subcontractor, the Subcontractor may acknowledge its receipt and provide the Affidavit included in Section 00425B to the Principal prior to commencing Work on the Project.

In submitting its bid for its subcontract or sub-subcontract, the Subcontractor acknowledges receipt of the required ROCIP Information and represents that it has read and understands the ROCIP Information. In addition, the Subcontractor is making its acknowledgment and representation specifically to comply with the requirements of Section 151.004 of the Texas Insurance Code.

(Affidavit Signature Page and Acknowledgment follows)

SUBCONTRACTOR AFFIDAVIT OF RECEIPT AND PROVISION OF ROCIP INFORMATION

As an authorized representative of the Subcontractor, I acknowledge and agree that the Subcontractor has received the required ROCIP Information referenced in Section 00425B of the Contract Documents and has provided the ROCIP Information to the Principal. I certify that the representations and information in this Affidavit are true and correct to the best of my personal knowledge and belief and that I have made no willful misrepresentations in this Affidavit, nor have I withheld any relevant information. I am aware that the information given will be relied upon in entering into any subsequent subcontract.

Subcontractor: _____

Solicitation Number: _____

Sub-Contractor's full name and entity status:

_____

_____
(Name/Signature of Authorized Official)

_____
Title

_____
Date

Note: This affidavit is a post-bid submittal and contract compliance requirement for each subcontract and sub-subcontracts of any tier entered into on this Project. A copy of each subcontractor affidavit must be provided to the Owner in accordance with the Owner's instructions.

NON-COLLUSION, NON-CONFLICT OF INTEREST AND ANTI-LOBBYING

State of Texas

County of Travis

The term **"Bidder"**, as used herein, includes the individual or business entity submitting the bid includes the directors, officers, partners, managers, members, principals, owners, agents, representatives, employees, other parties in interest of the Bidder, and anyone or any entity acting for or on behalf of the Bidder, including a subcontractor in connection with this bid.

The terms **"City"** and **"Owner"** are synonymous.

1. **Anti-Collusion Statement.** The Bidder has not and will not in any way directly or indirectly:

   a. colluded, conspired, or agreed with any other person, firm, corporation, bidder or potential bidder to the amount of this bid or the terms or conditions of this bid.
   b. paid or agreed to pay any other person, firm, corporation bidder or potential bidder any money or anything of value in return for assistance in procuring or attempting to procure a contract or in return for establishing the prices in the attached bid or the bid of any other bidder.

2. **Preparation of Invitation for Bid and Contract Documents**. The Bidder has not received any compensation or a promise of compensation for participating in the preparation or development of the underlying bid or contract documents., In addition, the Bidder has not otherwise participated in the preparation or development of the underlying bid or contract documents, except to the extent of any comments or questions and responses in the bidding process, which are available to all bidders, so as to have an unfair advantage over other bidders, provided that the Bidder may have provided relevant product or process information to a consultant in the normal course of its business.

3. **Participation in Decision Making Process.** The Bidder has not participated in the evaluation of bids or proposals or other decision making process for this solicitation, and, if Bidder is awarded a contract hereunder, no individual, agent, representative, consultant or sub contractor or consultant associated with Bidder, who may have been involved in the evaluation or other decision making process for this solicitation, will have any direct or indirect financial interest in the Contract, provided that the Bidder may have provided relevant product or process information to a consultant in the normal course of its business.

4. **Present Knowledge.** Bidder is not presently aware of any potential or actual conflicts of interest regarding this solicitation, which either enabled Bidder to obtain an advantage over other bidders or would prevent Bidder from advancing the best interests of OWNER in the course of the performance of the Contract.

5. **City Code.** As provided in Sections 2-7-61 through 2-7-65 of the City Code, no individual with a substantial interest in Bidder is a City official or employee or is related to any City official or employee within the first or second degree of consanguinity or affinity.

6. **Chapter 176 Conflict of Interest Disclosure.** In accordance with Chapter 176 of the Texas Local Government Code, the Bidder:

   a. does not have an employment or other business relationship with any local government officer of OWNER or a family member of that officer that results in the officer of family member receiving taxable income;
   b. has not given a local government officer of OWNER one or more gifts, other than gifts of food lodging transportation or entertainment accepted as a guest, that have an aggregate value of more than $100 in the twelve-month period preceding the date the officer becomes aware of the execution of the Contract or that OWNER is considering doing business with the Bidder; and
   c. does not have a family relationship with a local government officer of OWNER in the third degree of consanguinity or the second degree of affinity.

   As required by Chapter 176, Bidder must file the Conflicts of Interest Questionnaire with the Purchasing Department no later than the seventh business day after the commencement of contract discussions or negotiations with the City or the submission of a Bid, response to a request for proposals, or other writing related to a potential contract with OWNER. The questionnaire must be updated not later than the seventh day after the date of an event that would make a statement in the questionnaire inaccurate or incomplete. There are statutory penalties for failure to comply with Chapter 176.

7. **Anti-Lobbying Ordinance.** On June 14, 2018, the Austin City Council adopted Ordinance No. 20180614-056 replacing Chapter 2.7, Article 6 of the City Code relating to Anti-Lobbying and Procurement. The policy defined in this Code applies to Solicitations for goods and/or services requiring City Council approval under City Charter Article VII, Section 15 (Purchase Procedures). The City requires Offerors submitting Offers on this Solicitation to certify that the Offeror has not in any way directly or indirectly had communication restricted in the ordinance section 2-7-104 during the No-Lobbying Period as defined in the Ordinance. The text of the City Ordinance is included in Section 00100 of this solicitation and is also posted on the Internet at:

   https://assets.austintexas.gov/purchase/downloads/New_ALO_Ordinance_No_20180614-056.pdf

8. Pursuant to Texas Government Code §2271.002, the City is prohibited from contracting with any "company" for goods or services unless the following verification is included in this Contract.

   A. For the purposes of this Section only, the terms "company" and "boycott Israel" have the meaning assigned by Texas Government Code §2271.001.
   B. If the Bidder qualifies as a "company," then Bidder verifies that it:
      i. does not "boycott Israel"; and
      ii. will not "boycott Israel" during the term of this Contract.
   C. Bidder's obligations under this Section, if any exist, will automatically cease or be reduced to the extent that the requirements of Texas Government Code Chapter 2271 are subsequently repealed, reduced, or declared unenforceable

or invalid in whole or in part by any court or tribunal of competent jurisdiction or by the Texas Attorney General, without any further impact on the validity or continuity of this Contract.

9. Bidder certifies that it is aware of City Council Resolution No. 20191114-056, which prohibits the City from contracting with entities that engage in certain practices related to conversion therapy. By bidding and accepting this Contract, the Bidder agrees that: (1) its firm and its principals are not currently and will not during the term of the Contract engage in practicing LGBTQ+ conversion therapy; referring persons to a healthcare provider or other person or organization for LGBTQ+ conversion therapy; or contracting with another entity to conduct LGBTQ+ conversion therapy; and that (2) if the City determines in its sole discretion that Bidder has during the term of this Contract engaged in any such practices, the City may terminate this Contract without penalty to the City.

10. Pursuant to Texas Government Code Chapter 2274, Bidder certifies that if it has or will have remote or direct access to communication infrastructure systems, cybersecurity systems, the electric grid, hazardous waste treatment systems, or water treatment facilities as a result of any City contract, that Bidder is not:

A. owned by or the majority of stock or other ownership interest of its firm is not held or controlled by:

i. individuals who are citizens of China, Iran, North Korea, Russia, or a Governor-designated country; or
ii. a company or other entity, including a governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of China, Iran, North Korea, Russia, or a Governor-designated country; or
iii. headquartered in China, Iran, North Korea, Russia, or a Governor-designated country.

11. Pursuant to Texas Government Code Chapter 2274, Bidder certifies that, if it has 10 or more full-time employees, Bidder: (1) it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (2) will not discriminate during the term of the resulting contract against a firearm entity or firearm trade association.

12. Pursuant to Texas Government Code Chapter 2274, Bidder certifies that, if Bidder has 10 or more full-time employees, Bidder: (1) does not boycott energy companies; and (2) will not boycott energy companies during the term of the contract.

END

THIS PAGE INTENTIONALLY LEFT BLANK

STATE OF TEXAS
COUNTY OF TRAVIS

THIS AGREEMENT is made and entered into by and between the City of Austin, Texas, a municipal corporation, organized and existing under laws of State of Texas, acting through its City Manager or other duly authorized designee, hereinafter referred to as the "OWNER," and _____, of the City of _____, County of _____, and State of_____, hereinafter referred to as the "CONTRACTOR."

In consideration of the promises, performances, payments and agreements set forth herein CONTRACTOR hereby agrees to commence and complete the following Project:
_____
_____
and all Work in accordance with the Project Manual, Drawings and Addenda, which are incorporated herein by reference and made a part hereof and which have been prepared by _____ and approved by OWNER, and OWNER agrees to pay the CONTRACTOR the total amount of:

$	
(Figures)	**(Words)**

The CONTRACTOR hereby agrees to commence work on the date specified in the written "Notice to Proceed" to be issued by the OWNER and to <substantially> <finally> complete construction of the improvements, as required by the Project Manual, Drawings and Addenda for the Work within _____ (___) <Working> <Calendar> Days. <If a Substantial Completion date has been specified, the CONTRACTOR further agrees to reach Final Completion within <_____> (<___>) <Working> <Calendar> Days after Substantial Completion as required by the Project Manual, Drawings and Addenda for the work.> Waiver of any breach of this Contract shall not constitute waiver of any subsequent breach.

In consideration of the award and execution of this Contract, and in consideration of the waiver of its right to attorney's fees by the OWNER, the CONTRACTOR knowingly and intentionally waives its right to attorney's fees under Section 271.153 of the Texas Local Government Code in any administrative proceeding, alternative dispute resolution proceeding, or litigation arising out of or connected to this Contract.

OWNER agrees to pay CONTRACTOR from available funds for performance of the Contract in accordance with the Bid and the provisions of the Contract Documents, subject to additions and deductions, as provided therein.

The OWNER's payment obligations are payable only and solely from funds available for the purposes of this Agreement.

Although drafted by OWNER, this Agreement, in event of any disputes over its meaning or application, shall be interpreted fairly and reasonably, and neither more strongly for nor against either party.

This Agreement is executed to be effective upon the date of the last party to sign.

SAMPLE

The undersigned, by their signature, represents that they are authorized to bind the Contractor to fully comply with the Contract. The Contractor, by signing below, acknowledge that they have read the entire contract and agree to be bound by the terms contained herein.

OWNER

By:_____
(Signature)

_____
Date

_____
Title of Signatory

CONTRACTOR

By:_____
(Signature)

_____
Date

_____
Printed Name of Signatory

_____
Title of Signatory, Authorized Rep

ATTEST (as applicable)

_____

***Corporate Secretary of Corporate Bidder or Corporate General Partner**

END

SAMPLE

PERFORMANCE BOND
Section 00610

STATE OF TEXAS
COUNTY OF _____

Bond No. _____
C.I.P. ID No. _____

Project Name_____

Know All Men By These Presents: That _____ of the City of _____, County of _____, and State of _____, as Principal, and _____, a solvent company authorized under laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto _____ (OWNER), in the penal sum of _____U.S. Dollars ($ _____U.S.) for payment whereof, well and truly to be made, said Principal and Surety bind themselves and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

Conditions of this Bond are such that, whereas, Principal has entered into a certain written contract with OWNER, dated the _____ day of _____, _____, which Agreement is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

Now, therefore, the condition of this obligation is such, that if said Principal shall faithfully perform said Agreement and shall in all respects duly and faithfully observe and perform all and singular covenants, conditions and agreements in and by said contract agreed and covenanted by Principal to be observed and performed, and according to true intent and meaning of said Agreement hereto annexed, then this obligation shall be void; otherwise to remain in full force and effect. If OWNER notifies Principal and Surety the OWNER is considering declaring Principal in default, Surety agrees to meet with OWNER and Principal no later than fifteen days after receipt of such notice to discuss methods of performing the Work of the Contract.

Provided, however, that this bond is executed pursuant to provisions of Chapter 2253, Texas Government Code as amended and all liabilities on this bond shall be determined in accordance with provisions of said Article to same extent as if it were copied at length herein.

Surety, for value received, stipulates and agrees that no change in Contract Time or Contract Amount shall in anywise affect its obligation on this bond, and it does hereby waive notice of any such change in Contract Time or Contract Amount.

In witness whereof, said Principal and Surety have signed and sealed this instrument this _____day of _____, _____.

_____	_____
Principal	Surety
By_____	By_____
(Signature)	(Signature)
Title_____	Title_____
Address_____	Address_____
_____	_____

SAMPLE

_____ _____

Telephone _____ Fax_____
E-Mail Address _____

Name and address of Resident Agent of Surety:
_____
_____

Note: Bond shall be issued by a solvent Surety company authorized to do business in Texas, and shall meet any other requirements established by law or by OWNER pursuant to applicable law. A copy of surety agent's "Power of Attorney" must be attached hereto.

END

SAMPLE

PAYMENT BOND

Section 00620

STATE OF TEXAS
COUNTY OF _____

Bond No. _____
C.I.P. ID No. _____

Project Name: _____

Know All Men By These Presents: That _____ of the City of _____, County of _____, and State of _____ as Principal, and _____, a solvent company authorized under laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto _____ (OWNER), and all Subcontractors, workers, laborers, mechanics and suppliers as their interests may appear, all of whom shall have right to sue upon this bond in the penal sum of _____ U.S. Dollars ($_____ U.S.) for payment whereof, well and truly to be made, said Principal and Surety bind themselves and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

Conditions of this Bond are such that, whereas, Principal has entered into a certain written contract with OWNER, dated the _____ day of _____, _____, which Agreement is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

Now, therefore, condition of this obligation is such, that if the said Principal shall well and truly pay all Subcontractors, workers, laborers, mechanics, and suppliers, all monies to them owing by said Principals for subcontracts, work, labor, equipment, supplies and materials done and furnished for the construction of improvement of said Agreement, then this obligation shall be and become null and void; otherwise to remain in full force and effect.

Provided, however, that this bond is executed pursuant to provisions of Chapter 2253, Texas Government Code as amended and all liabilities on this bond shall be determined in accordance with provisions of said Article to same extent as if it were copied at length herein.

Surety, for value received, stipulates and agrees that no change in Contract Time or Contract Amount shall in anywise affect its obligation on this bond, and it does hereby waive notice of any such change in Contract Time or Contract Amount.

In witness whereof, said Principal and Surety have signed and sealed this instrument this _____day of _____, _____.

_____	_____
Principal	Surety
By_____	By_____
(Signature)	(Signature)
Title_____	Title_____

Address_____ Address_____
_____ _____
_____ _____

Telephone_____Fax_____

E-Mail Address _____

Name and address of Resident Agent of Surety:
_____
_____

Note: Bond shall be issued by a solvent Surety company authorized to do business in Texas and shall meet any other requirements established by law or by OWNER pursuant to applicable law. A copy of surety agent's "Power of Attorney" must be attached hereto.

END

NON-DISCRIMINATION AND NON-RETALIATION CERTIFICATE

Section 00630

City of Austin, Texas
Equal Employment/Fair Housing Office

To: City of Austin, Texas, ("OWNER")

Our firm conforms to the Code of the City of Austin Section 5-4-2 as reiterated below:

Chapter 5-4. Discrimination in Employment by City Contractors.

Sec. 4-2 Discriminatory Employment Practices Prohibited. (B) As an Equal Employment Opportunity (EEO) employer, the Contractor will conduct its personnel activities in accordance with established federal, state and local EEO laws and regulations and agrees:

(1) Not to engage in any discriminatory employment practice defined in this chapter.
(2) To take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without discrimination being practiced against them as defined in this chapter. Such affirmative action shall include, but not be limited to: all aspects of employment, including hiring, placement, upgrading, transfer, demotion, recruitment, recruitment advertising; selection for training and apprenticeship, rates of pay or other forms of compensation, and layoff or termination.
(3) To post in conspicuous places, available to employees and applicants for employment, notices to be provided by OWNER setting forth the provisions of this chapter.
(4) To state in all solicitations or advertisements for employees placed by or on behalf of Contractor, that all qualified applicants will receive consideration for employment without regard to race, creed, color, religion, national origin, sexual orientation, gender identity, disability, veteran status, sex or age.
(5) To obtain a written statement from any labor union or labor organization furnishing labor or service to Contractors in which said union or organization has agreed not to engage in any discriminatory employment practices as defined in this chapter and to take affirmative action to implement policies and provisions of this chapter.
(6) To cooperate fully with OWNER's Equal Employment/Fair Housing Office in connection with any investigation or conciliation effort of said Equal Employment/Fair Housing Office to ensure that the purpose of the provisions against discriminatory employment practices are being carried out.
(7) To require compliance with provisions of this chapter by all subcontractors having fifteen or more employees who hold any subcontract providing for expenditure of $2,000.00 or more in connection with any contract with OWNER subject to the terms of this chapter.

For the purposes of this Bid and any resulting Contract, Contractor adopts the provisions of the City's Minimum Standard Nondiscrimination and Non-Retaliation Policy as set forth below.

City of Austin
Minimum Standard Non-Discrimination and Non-Retaliation in Employment Policy

As an Equal Employment Opportunity (EEO) employer, the Contractor will conduct its personnel activities in accordance with established federal, state and local EEO laws and regulations.

The Contractor will not discriminate against any applicant or employee based on race, creed, color, national origin, sex, age, religion, veteran status, gender identity, disability, or sexual orientation. This policy covers all aspects of employment, including hiring, placement, upgrading, transfer, demotion, recruitment, recruitment advertising, selection for training and apprenticeship, rates of pay or other forms of compensation, and layoff or termination.

The Contractor agrees to prohibit retaliation, discharge or otherwise discrimination against any employee or applicant for employment who has inquired about, discussed or disclosed their compensation.

Further, employees who experience discrimination, sexual harassment, or another form of harassment should immediately report it to their supervisor. If this is not a suitable avenue for addressing their complaint, employees are advised to contact another member of management or their human resources representative. No employee shall be discriminated against, harassed, intimidated, nor suffer any reprisal as a result of reporting a violation of this policy. Furthermore, any employee, supervisor, or manager who becomes aware of any such discrimination or harassment should immediately report it to executive management or the human resources office to ensure that such conduct does not continue.

Contractor agrees that to the extent of any inconsistency, omission, or conflict with its current non-discrimination and non- retaliation employment policy, the Contractor has expressly adopted the provisions of the City's Minimum Non-Discrimination Policy contained in Section 5-4-2 of the City Code as set forth above and the City's Non-Retaliation Policy, as the Contractor's Non-Discrimination and Non-Retaliation Policy or as an amendment to such Policy and such provisions are intended to not only supplement the Contractor's policy, but will also supersede the Contractor's policy to the extent of any conflict.

UPON CONTRACT AWARD, THE CONTRACTOR SHALL PROVIDE A COPY TO THE CITY OF THE CONTRACTOR'S NON-DISCRIMINATION AND NON-RETALIAITON POLICY ON COMPANY LETTERHEAD, WHICH CONFORMS IN FORM, SCOPE, AND CONTENT TO THE CITY'S MINIMUM NON-DISCRIMINATION AND NON-RETALIATION POLICY, AS SET FORTH HEREIN, ***OR*** *THIS NON-DISCRIMINATION AND NON-RETALIATION POLICY, WHICH HAS BEEN ADOPTED BY THE CONTRACTOR FOR ALL PURPOSES (THE FORM OF WHICH HAS BEEN APPROVED BY THE CITY'S EQUAL EMPLOYMENT/FAIR HOUSING OFFICE), WILL BE CONSIDERED THE CONTRACTOR'S NON-DISCRIMINATION AND NON-RETALIATION POLICY WITHOUT THE REQUIREMENT OF A SEPARATE SUBMITTAL.*
(http://austintexas.gov/page/bid-docs).

Sanctions:
Our firm understands that non-compliance with Chapter 5-4 may result in sanctions, including termination of the contract and suspension or debarment from participation in future City contracts until deemed compliant with the requirements of Chapter 5-4.

Term:
The Contractor agrees that this Section 00630 Non-Discrimination and Non-Retaliation Certificate or the Contractor's separate conforming policy, which the Contractor has executed and filed with the Owner, will remain in force and effect for one year from the date of filing. The Contractor further agrees that, in consideration of the receipt of continued Contract payments, the Contractor's Non-Discrimination Policy will automatically renew from year-to-year for the term of the underlying Contract.

END

THIS PAGE INTENTIONALLY LEFT BLANK

TITLE VI ASSURANCES APPENDIX A

Section 00631

Solicitation Number: _____ (to be filled in by Contractor)

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, the Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate either directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 C.F.R. part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding or negotiation made by the contract for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

4. Information and Reports: The contractor shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its book, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor will so certify to the Recipient, or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the Nondiscrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

    (a) withholding of payments to the contractor under the contract until the contractor complies, and or
    (b) cancelling, terminating or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, that if a

contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

(Source: DOT 1050.2A, Updated DOT Standard Title VI Assurances and Non-Discrimination Provisions 10/22/2013. Must be inserted into every contract/agreement regardless of funding sources.)

Contractor's full name and entity status:

_____

_____
(Name/Signature of Authorized Official)

_____
Title

_____
Date

END

TITLE VI ASSURANCES APPENDIX E
Section 00632

Solicitation Number: _____ (to be filled in by Contractor)

During the performance of this contract, the contractor (hereinafter includes consultants), for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

Pertinent Nondiscrimination Authorities:

1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 C.F.R. Part 21.

2. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C.§ 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

3. Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);

4. Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 C.F.R. Part 27;

5. The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);

6. Airport and Airway Improvement Act of 1982, (49 U.S.C. § 4 71, Section 4 7123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

7. The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, subrecipients and contractors, whether such programs or activities are Federally funded or not);

8. Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

9. The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

10. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

11. Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP).

12. To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

13. Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

(Source: DOT 1050.2A, Updated DOT Standard Title VI Assurances and Non-Discrimination Provisions 10/22/2013. Must be inserted into every contract/agreement regardless of funding sources.)

Contractor's full name and entity status:

_____

_____
(Name/Signature of Authorized Official)

_____
Title

_____
Date

END

CERTIFICATE OF INSURANCE

Section 00650

This Certificate shall be completed by a licensed insurance agent:

Name and Address of Agency:

_____
_____
_____
Phone: _____ / _____

Name and Address of Insured:

_____
_____
_____
Phone: _____/ _____

Prime or Sub-Contractor?: _____

Name of Prime Contractor, if different from Insured: _____

City of Austin Reference:
Project Name:
C.I.P. No.:
Project Location:

Managing Dept.:

Contract No.:
Project Mgr.:

Insurers Affording Coverages:

Insurer A: _____

Insurer B: _____

Insurer C: _____

Insurer D: _____

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFE-CTIVE DATE (MM/DD/YYYY)	POLICY EXPIR-ATION DATE (MM/DD/YYYY)	LIMITS OF LIABILITY	
	Commercial General Liability Policy As defined in the Policy, does the Policy provide:				Each Occurrence	$
					General Aggregate	$
	☐ Yes ☐ No -- Completed Operations/Products				Completed Operations /Products Aggregate	$
	☐ Yes ☐ No -- Contractual Liability				Personal & Advertising Injury	$
	☐ Yes ☐ No -- Explosion				Deductible or Self Insured Retention	$
	☐ Yes ☐ No -- Collapse					
	☐ Yes ☐ No -- Underground					
	☐ Yes ☐ No -- Contractors/ Subcontractors Work					
	☐ Yes ☐ No -- Aggregate Limits per Project Form CG 2503					
	☐ Yes ☐ No -- Additional Insured Form – CG 2010 and CG2037					
	☐ Yes ☐ No -- 30 Day Notice of Cancellation Form – CG 0205					
	☐ Yes ☐ No -- Waiver of Subrogation Form – CG 2404					
	Pollution/ Environmental Impairment Policy				Occurrence	$
					Aggregate	$

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFE-CTIVE DATE (MM/DD/YYYY)	POLICY EXPIR-ATION DATE (MM/DD/YYYY)	LIMITS OF LIABILITY	
	Auto Liability Policy As defined in the Policy, does the Policy provide:				CSL	$
					Bodily Injury (Per Accident)	$
	☐ Yes ☐ No -- Any Auto				Bodily Injury (Per Person)	$
	☐ Yes ☐ No -- All Owned Autos				Property Damage (Per Accident)	$
	☐ Yes ☐ No -- Non-Owned Autos					
	☐ Yes ☐ No -- Hired Autos					
	☐ Yes ☐ No -- Waiver of Subrogation – CA0444					
	☐ Yes ☐ No -- 30 Day Notice of Cancellation – CA0244					
	☐ Yes ☐ No -- Additional Insured – CA2048					
	☐ Yes ☐ No -- MCS 90					
	Excess Liability ☐ Umbrella Form ☐ Excess Liability Follow Form				Occurrence	$
					Aggregate	$
	Workers Compensation and Employers Liability As defined in the Policy, does the Policy provide:				☐ Statutory	
					Each Accident	$
	☐ Yes ☐ No -- Waiver of Subrogation – WC420304				Disease – Policy Limit	$
	☐ Yes ☐ No -- 30 Day Notice of Cancellation – WC420601				Disease – Each Employee	$
	Is a Builders Risk or Installation Insurance Policy provided? ☐ Yes ☐ No					$
	☐ Yes ☐ No -- Is the City shown as loss payee/mortgagee?					
	Professional Liability As defined in the Policy, does the Policy provide:				Each Claim	$
	☐ Yes ☐ No -- 30 Day Notice of Cancellation Retroactive Date: _____				Deductible or Self Insured Retention	$

This form is for informational purposes only and certifies that policies of insurance listed above have been issued to insured named above and are in force at this time. Not withstanding any requirements, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, insurance afforded by policies described herein is subject to all terms, exclusions and conditions of such policies.

CERTIFICATE HOLDER:

City of Austin
Capital Contracting Office
P.O. Box 1088
Austin, Texas 78767

DATE ISSUED: _____

_____
AUTHORIZED REPRESENTATIVE SIGNATURE
Licensed Insurance Agent

END

TEXAS SALES AND USE TAX EXEMPTION CERTIFICATE

Section 00670

City of Austin, Texas

P.O. Box 1088

Austin, Texas 78767

CONTRACTOR/PURCHASER:

Street Address:

City, State, ZIP Code:

Project:

Project Manager:

FDU No.:

CIP ID No.:

Description of items to be purchased or as described on the attached order or invoice:

_____

_____

The Contractor may purchase all labor, materials, supplies, and equipment to be incorporated in the City of Austin realty, including easements, or completely consumed at the Project jobsite and services required by or integral to the performance of the contract for the Project without paying sales or use tax in accordance with State Comptroller Rule 3.291.

Contractor/Purchaser claims this exemption for the following reason: This contract is to be performed for the City of Austin, a tax exempt entity under the Texas Tax Code.

I understand that I will be liable for payment of sales and use taxes which may become due for failure to comply with the provisions of the Tax Code. I also understand that it is a criminal offense to give an exemption certificate to the contractor for taxable items that I know, at the time of purchase, will be used in a manner other than that expressed in this certificate and depending on the amount of tax evaded, the offense may range from a Class B misdemeanor to a felony of the second degree.

City of Austin, Texas	Title
Mark V Dombroski Digitally signed by Mark V Dombroski DN: cn=Mark V Dombroski, o=Austin Energy, ou, email=mark.dombroski@austinenergy.com, c=US Date: 2020.08.17 17:08:14 -05'00'	
Mark Dombroski	Chief Financial Officer

CONTRACTOR/PURCHASER: _____

By: _____

Title: _____

Date: _____

NOTE: This certificate cannot be issued for the purchase, lease, or rental of a motor vehicle.

THIS CERTIFICATE DOES NOT REQUIRE A NUMBER TO BE VALID. Sales and Use Tax "Exemption Numbers" or "Tax Exempt" Numbers do not exist. This certificate should be furnished to the supplier. Do not send the completed certificate to the Comptroller of Public Accounts.

End

THIS PAGE INTENTIONALLY LEFT BLANK

NON-USE OF ASBESTOS AFFIDAVIT (CONTRACTOR PRIOR TO CONSTRUCTION)

Section 00680

STATE OF TEXAS
COUNTY OF TRAVIS

BEFORE ME, the undersigned authority, personally appeared the Affiant who, being by me first duly sworn, upon oath deposed and stated:

"My name is _____, hereinafter known as Affiant. "I am over the age of 18 years and I have never been convicted of a crime. I am the _____of_____ hereinafter known as CONTRACTOR.

"I am fully competent to make this affidavit. I have personal knowledge of the facts set forth below and they are all true and correct.

"WHEREAS CONTRACTOR has submitted a bid to the City of Austin as the Prime CONTRACTOR and anticipates being awarded a contract for the construction of _____located at_____, Austin, Texas, hereinafter known as Project, for the City of Austin, Texas, hereinafter known as OWNER, and "WHEREAS asbestos in a dust form is a recognized health hazard, and "WHEREAS the OWNER desires not to have any asbestos containing materials used or incorporated into the construction of the Project; "THEREFORE the CONTRACTOR affirms and understands the following:

1. The CONTRACTOR, any person, firm or organization representing or represented by the CONTRACTOR, or employed by the CONTRACTOR shall not cause or allow any material to be incorporated into the construction of the project, or allow any building material on the project site that is an asbestos containing material or any other material defined as containing asbestos by any laws, rules or regulations promulgated by the United States Government, the State of Texas or any governmental organization or agency operating under the authority of either of those entities.

2. Realizing that there might be some materials in which a satisfactory non-asbestos containing material could not be obtained, the Consultant has received prior approval from the OWNER before specifying any such asbestos containing material. Those approved materials are the only asbestos containing materials that are exempt from the above prohibition.

3. The CONTRACTOR certifies and affirms their understanding that if any asbestos containing materials not approved by the City of Austin for inclusion into the Project, are determined, as a result of any inspection and sample analysis performed by an individual(s) and/or firm(s) certified and/or licensed to perform such inspection by the United States Government and/or the State of Texas, to have been incorporated into the construction of the Project, or brought onto the site of the Project, the OWNER shall look to the CONTRACTOR for reimbursement of any and all costs incurred in the removal and/or other abatement of said asbestos containing materials.

4. CONTRACTOR further understands that OWNER shall also look to the CONTRACTOR for any and all damages to OWNER which result from the inability of the OWNER to use any portion or all of the Project due to the incorporation of asbestos containing materials that have not been approved by OWNER.

5. CONTRACTOR further understands that OWNER will pursue reimbursement of any said cost and compensation for any said damages from the CONTRACTOR by any and every means within OWNER's right and power.

Signature of Affiant: _____

STATE OF TEXAS
COUNTY OF TRAVIS

ON _____, 20___, personally appeared_____ and been duly sworn by me, subscribed to the foregoing affidavit and has stated that the facts stated therein are true and correct.

_____
Notary Public, State of Texas

_____
Printed Name of Notary

My Commission Expires:_____

END

NON-USE OF ASBESTOS AFFIDAVIT (CONTRACTOR AFTER CONSTRUCTION)

Section 00681

STATE OF TEXAS
COUNTY OF TRAVIS

BEFORE ME, the undersigned authority, personally appeared the Affiant who, being by me first duly sworn, upon oath deposed and stated:

"My name is _____, hereinafter known as Affiant. "I am over the age of 18 years and I have never been convicted of a crime. I am the _____of_____ hereinafter known as CONTRACTOR.

"I am fully competent to make this affidavit. I have personal knowledge of the facts set forth below and they are all true and correct.

"WHEREAS CONTRACTOR was awarded a Contract for, and was the Prime CONTRACTOR for the construction of _____ located at _____, Austin, Texas, hereinafter known as Project, for the City of Austin, Texas, hereinafter known as OWNER, and "WHEREAS asbestos in a dust form is a recognized health hazard, and "WHEREAS the OWNER desires not to have any asbestos containing materials used or incorporated into the construction of the Project; "THEREFORE the CONTRACTOR affirms and understands the following:

1. The CONTRACTOR, any person, firm or organization representing or represented by the CONTRACTOR, or employed by the CONTRACTOR has not caused or allowed any material to be incorporated into the construction of the project, or allowed any building material on the project site that is an asbestos containing material or any other material defined as containing asbestos by any laws, rules or regulation promulgated by the United States Government, the State of Texas or any governmental organization or agency operating under the authority of either of those entities.

2. Realizing that there were some materials in which a satisfactory non-asbestos containing material could not be obtained, the Consultant received prior approval from the OWNER before specifying any such asbestos containing material. Those approved materials were the only asbestos containing materials incorporated into the construction of the Project and are listed below, with their locations:

_____

_____

_____

3. The CONTRACTOR certifies and affirms their understanding that if any asbestos containing materials not approved by the City of Austin for inclusion into the Project, are determined, as a result of any inspection and sample analysis performed by an individual(s) and/or firm(s) certified and/or licensed to perform such inspection by the United States Government and/or the State of Texas, to have been incorporated into the construction of the Project, or brought onto the site of the Project, the OWNER shall look to the CONTRACTOR for reimbursement of any and all costs incurred in the removal and/or other abatement of said asbestos containing materials.

4. CONTRACTOR further understands that OWNER shall also look to the CONTRACTOR for any and all damages to OWNER which result from the inability of the OWNER to use any portion or all of the Project due to the incorporation of asbestos containing materials that have not been approved by OWNER.

5. CONTRACTOR further understands that OWNER will pursue reimbursement of any said cost and compensation for any said damages from the CONTRACTOR by any and every means within OWNER's right and power.

Signature of Affiant:_____

STATE OF TEXAS
COUNTY OF TRAVIS

On _____, 20___, personally appeared_____ and been duly sworn by me, subscribed to the foregoing affidavit and has stated that the facts stated therein are true and correct.

_____
Notary Public, State of Texas

_____
Printed Name of Notary

My Commission Expires: _____

END

Bidding Requirements, Contract Forms and Conditions of the Contract

GENERAL CONDITIONS OF THE CONTRACT

Section 00700

General Conditions Table of Contents

ARTICLE 1 - DEFINITIONS 2
ARTICLE 2 - PRELIMINARY MATTERS 6
ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE 8
ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS 9
ARTICLE 5 - BONDS AND INSURANCE 12
ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES 16
ARTICLE 7 - OTHER WORK 28
ARTICLE 8 - OWNER'S RESPONSIBILITIES 29
ARTICLE 9 - ENGINEER/ARCHITECT'S STATUS DURING CONSTRUCTION 30
ARTICLE 10 - CHANGES IN THE WORK 31
ARTICLE 11 - CHANGE OF CONTRACT AMOUNT 34
ARTICLE 12 - CHANGE OF CONTRACT TIMES 36
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK 39
ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION 42
ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION 48
ARTICLE 16 - DISPUTE RESOLUTION 50
ARTICLE 17 - MISCELLANEOUS 53

ARTICLE 1 – DEFINITIONS

Whenever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1.1 Addendum - Written instruments issued by the Contract Awarding Authority which clarify, correct or change the bidding requirements or the Contract Documents prior to the Due Date. "Addenda" is the plural form of Addendum.

1.2 Agreement - Prescribed form, Section 00500.

1.3 Alternative Dispute Resolution - The process by which a disputed Claim may be settled if the OWNER and the CONTRACTOR cannot reach an agreement between themselves, as an alternative to litigation.

1.4 Bid - A complete, properly signed response to an Invitation for Bid that, if accepted, would bind the Bidder to perform the resultant Contract.

1.5 Bidder - A person, firm, or entity that submits a Bid in response to a Solicitation. Any Bidder may be represented by an agent after submitting evidence demonstrating the agent's authority. The agent cannot certify as to his own agency status.

1.6 Bid Documents - The advertisement or Invitation for Bids, instructions to Bidders, the Bid form, the Contract Documents and Addenda.

1.7 Calendar Day - Any day of the week; no days being excepted. Work on Saturdays, Sundays, and/or Legal Holidays shall be coordinated with OWNER.

1.8 Change Directive - A written directive to CONTRACTOR, signed by OWNER, ordering a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Amount or Contract Time, or both. A Change Directive may be used in the absence of total agreement on the terms of a Change Order. A Change Directive does not change the Contract Amount or Contract Time, but is evidence that the parties expect that the change directed or documented by a Change Directive will be incorporated in a subsequently issued Change Order.

1.9 Change Orders - Written agreements entered into between CONTRACTOR and OWNER authorizing an addition, deletion, or revision to the Contract, issued on or after the Execution Date of the Agreement.

1.10 Claim - A written demand seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract.

1.11 Contract - The binding legal agreement between the OWNER and the CONTRACTOR. The Contract represents the entire and integrated agreement between OWNER and CONTRACTOR for performance of the Work, as evidenced by the Contract Documents.

1.12 Contract Amount - The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents.

1.13 Contract Awarding Authority - A City department authorized to enter into Contracts on behalf of the City.

1.14 Contract Documents - Project Manual, Drawings, Addenda and Change Orders.

1.15 Contract Time - The number of days allowed for completion of the Work as defined by the Contract. When any period is referred to in days, it will be computed to exclude the first and include the last day of such period. A day of twenty-four hours measured from midnight to the next midnight will constitute a day.

1.16 CONTRACTOR - The individual, firm, corporation, or other business entity with whom OWNER has entered into the Contract for performance of the Work.

1.17 Critical Path - The longest series of tasks that runs consecutively from the beginning to the end of the project, as determined by duration and workflow sequence. This longest path sets the managerial standard for how quickly a project can be completed, given appropriate resources.

1.18 Drawings - Those portions of the Contract Documents which are graphic representations of the scope, extent and character of the Work to be furnished and performed by CONTRACTOR and which have been approved by OWNER. Drawings may include plans, elevations, sections, details, schedules and diagrams. Shop Drawings are not Drawings as so defined.

1.19 Due Date - The date and time specified for receipt of Bids.

1.20 Engineer/Architect (E/A) - The OWNER's design professional identified as such in the Contract. The titles of "Architect/Engineer," "Architect" and "Engineer" used in the Contract Documents shall read the same as Engineer/Architect (E/A). Nothing contained in the Contract Documents shall create any contractual or agency relationship between E/A and CONTRACTOR.

1.21 Equal - The terms "equal" or "approved equal" shall have the same meaning.

1.22 Execution Date - Date of last signature of the parties to the Agreement.

1.23 Field Order - A written order issued by Owner's Representative which orders minor changes in the Work and which does not involve a change in the Contract Amount or the Contract Time.

1.24 Final Completion - The point in time when OWNER determines that all Work has been completed and final payment to CONTRACTOR will be made in accordance with the Contract Documents.

1.25 Force Account - a basis of payment for the direct performance of Work with payment based on the actual cost of the labor, equipment and materials furnished and consideration for overhead and profit as set forth in Section 11.5.

1.26 Inspector - The authorized representative of any regulatory agency that has jurisdiction over any portion of the Work.

1.27 Invitation for Bid (IFB) - a Solicitation requesting pricing for a specified Good or Service which has been advertised for Bid in a newspaper and/or the Internet.

1.28 Legal Holidays

1.28.1 The following are recognized by the OWNER:

Holiday	Date Observed
New Year's Day	January 1
Martin Luther King, Jr.'s Birthday	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Juneteenth	June 19
Independence Day	July 4
Labor Day	First Monday in September
Veteran's Day	November 11
Thanksgiving Day	Fourth Thursday in November
Friday after Thanksgiving	Friday after Thanksgiving

Christmas Eve	December 24
Christmas Day	December 25

1.28.2 If a Legal Holiday falls on Saturday, it will be observed on the preceding Friday. If a Legal Holiday falls on Sunday, it will be observed on the following Monday.

1.28.3 Christmas Eve is observed only if it falls on a Monday through Thursday. If Christmas Eve falls on a Friday, that day is observed as the Christmas Day holiday.

1.29 Milestones - A significant event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

1.30 Notice to Proceed - A Written Notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

1.31 OWNER - City of Austin, Texas, a municipal corporation, home rule city and political subdivision organized and existing under the laws of the State of Texas, acting through the City Manager or his/her designee, officers, agents or employees to administer design and construction of the Project.

1.32 Owner's Representative - The designated representative of the OWNER. The Owner's Representative will be identified at the pre-construction conference.

1.33 Partial Occupancy or Use - Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work, provided OWNER and CONTRACTOR have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, utilities, corrective work, insurance and warranties.

1.34 Project - The subject of the Work and its intended result.

1.35 Project Manual - That portion of the Contract Documents which may include the following: introductory information; bidding requirements, Contract forms and General and Supplemental General Conditions; General Requirements; Specifications; Drawings; MBE/WBE or DBE Procurement Program Package; Project Safety Manual; and Addenda.

1.36 Resident Project Representative - The authorized representative of E/A who may be assigned to the site or any part thereof.

1.37 Shop Drawings - All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR as required by the Contract Documents.

1.38 Specifications - Those portions of the Contract Documents consisting of written technical descriptions as applied to the Work, which set forth to CONTRACTOR, in detail, the requirements which must be met by all materials, equipment, construction systems, standards, workmanship, equipment and services in order to render a completed and useful project.

1.39 Solicitation - Solicitation means, as applicable, an Invitation for Bid or a Request for Proposal.

1.40 Substantial Completion - The stage in the progress of the Work when the Work, or designated portion thereof, is sufficiently complete in accordance with the Contract Documents so OWNER can occupy or utilize the Work for its intended use, as evidenced by a Certificate of Substantial Completion approved by OWNER.

1.41 Subcontractor - An individual, firm, corporation, or other business entity having a direct contract with CONTRACTOR for the performance of a portion of the Work under the Contract.

1.42 Sub-Subcontractor - A person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the work.

1.43 Superintendent - The representative of CONTRACTOR authorized in writing to receive and fulfill instructions from the Owner's Representative, and who shall supervise and direct construction of the Work.

1.44 Supplemental General Conditions - The part of the Contract Documents which amends or supplements the General Conditions. All General Conditions which are not so amended or supplemented remain in full force and effect.

1.45 Supplier - An individual or entity having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

1.46 Time Extension Request - An approved request for time extension on a form acceptable to OWNER.

1.47 Work - The entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents.

1.48 Working Day - Any day of the week, not including Saturdays, Sundays, or Legal Holidays in which conditions under the CONTRACTOR's control will permit work for a continuous period of not less than seven (7) hours between 7:00 a.m. and 6:00 p.m. If other contract documents reduce the continuous period available for work to less than seven (7) hours, those reduced hours shall be considered a Working Day. Upon agreement with Owner's Representative, work on Saturdays, Sundays, and/or Legal Holidays may be allowed and will be considered a Working Day.

1.49 Working Hours

1.49.1 Working Day Contract: All Work shall be done between 7:00 a.m. and 6:00 p.m. unless otherwise authorized by Owner's Representative. However, emergency work may be done without prior permission as indicated in paragraph 6.11.5. If night Work is authorized and conditions under CONTRACTOR's control will permit Work for a continuous period of not less than seven (7) hours between 12:00 a.m. and 11:59 p.m. it will be considered a Working Day. Night Work may be revoked at any time by OWNER if CONTRACTOR fails to maintain adequate equipment and supervision for the prosecution and control of the night Work.

1.49.2 Calendar Day Contract: All Work shall be done between 7:00 a.m. and 6:00 p.m. unless authorized by Owner’s Representative. However, emergency work may be done without prior permission as indicated in paragraph 6.11.5. Night Work may be revoked at any time by OWNER if CONTRACTOR fails to maintain adequate equipment and supervision for the prosecution and control of the night Work.

1.50 Written Notice - Written communication between OWNER and CONTRACTOR. Written Notice shall be deemed to have been duly served if delivered in person to Owner's Representative or CONTRACTOR's duly authorized representative, or if delivered at or sent by registered or certified mail to the attention of Owner's Representative or CONTRACTOR's duly authorized representative at the last business address known to the party giving notice.

ARTICLE 2 - PRELIMINARY MATTERS

2.1 Delivery of Agreement, Bonds, Insurance, etc.: Within five (5) Working Days after written notification of award of Contract, CONTRACTOR shall deliver to OWNER signed Agreement, Bond(s), Insurance Certificate(s) and other documentation required for execution of Contract.

2.2 Copies of Documents: OWNER shall furnish to CONTRACTOR (1) copy of the executed Project Manual, one (1) set of Drawings and one (1) copy of the Contract Documents in .pdf format. Additional copies will be furnished, upon request, at the cost specified in the Supplemental General Conditions."

2.3 Commencement of Contract Times; Notice to Proceed: The Contract Time(s) will begin to run on the day indicated in the Notice to Proceed. Notice to Proceed will be given at any time within sixty (60) calendar days after the Execution Date of the Agreement, unless extended by written agreement of the parties.

2.4 Before Starting Construction:

2.4.1 No Work shall be done at the site prior to the preconstruction conference without OWNER's approval. Before undertaking each part of the Work, CONTRACTOR shall carefully study the Contract Documents to check and verify pertinent figures shown thereon compare accurately to all applicable field measurements. CONTRACTOR shall promptly report in writing to Owner's Representative any conflict, error, ambiguity or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from Owner's Representative before proceeding with any Work affected thereby. CONTRACTOR shall be liable to OWNER for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents of which CONTRACTOR knew or reasonably should have known.

2.4.2 It is mutually agreed between CONTRACTOR and OWNER that successful completion of the Work within the Contract completion date is of primary importance. Therefore, the CONTRACTOR hereby agrees to submit to the Owner's Representative for review and approval, or acceptance, as appropriate, all information requested within this section, including a Baseline Schedule, no later than five working days prior to the preconstruction conference. The Owner's Representative will schedule the preconstruction conference upon the timely submittal of the required documents, unless time is extended by written mutual agreement. CONTRACTOR will submit the following:

.1 A proposed Baseline Schedule developed using Microsoft Project software, unless otherwise approved by Owner's Representative ("Baseline Schedule") to confirm that all Work will be completed within the Contract time. The Baseline Schedule must (i) indicate the times (number of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents, (ii) identify the Critical Path for completing the Work, (iii) identify when all Subcontractors will be utilized, and (iv) take into consideration any limitations on Working Hours, including baseline Rain Days on Calendar Day Contracts, and (v) be prepared accordance with Section 01310, Schedules and Reports, if applicable; otherwise in accordance with Section 01300, Submittals. This Baseline Schedule, a copy of which shall be made available at the job site(s), must contain sufficient detail to indicate that the CONTRACTOR has properly identified required Work elements and tasks, has provided for a sufficient and proper workforce and integration of Subcontractors, has provided sufficient

resources and has considered the proper sequencing of the Work required to result in a successful Project that can be completed within the Contract time;

.2 An organizational chart showing the principals and management personnel who will be involved with the Work, including each one's responsibilities for the Work;

.3 To the extent not set forth in the Section 00400 Statement of Contractor's Experience, a complete listing of the CONTRACTOR's employees proposed for the Work. List each one by name and job title, and show length of employment with CONTRACTOR;

.4 To the extent not set forth in the Section 00410 Statement of Bidder's Safety Experience, a discussion and confirmation of the CONTRACTOR's commitment to safety by providing a copy of its employee's safety handbook and the safety records for the past three years of CONTRACTOR's proposed project manager and Superintendent;

.5 A preliminary schedule of Shop Drawing and sample submittals;

.6 A preliminary schedule of values for all of the Work, subdivided into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will be deemed to include an appropriate amount of overhead and profit applicable to each item of Work;

.7 To the extent not set forth in the Section 00400 Statement of Contractor's Experience, a letter designating CONTRACTOR's Superintendent and project manager, and a confirmation of past project experience for the CONTRACTOR's Superintendent and project manager specifically intended for the Work;

.8 A letter from CONTRACTOR and Subcontractor(s) listing salaried specialists. A salaried specialist is anyone except an hourly worker whose wage rate is governed by Section 00830 of this agreement;

.9 A letter designating the project's Safety Representative along with a copy of their Department of Labor-issued OSHA card proving completion of the OSHA 30-hour Construction Safety and Health training class in the OSHA Outreach Training Program;

.10 If applicable, an excavation safety system plan;

.11 If applicable, a plan illustrating proposed locations of temporary facilities;

.12 A completed Non-Use of Asbestos Affidavit (Prior to Construction);

.13 A letter designating the Texas Registered Professional Land Surveyor for layout of the Work, if the Work requires the services of a surveyor; and

.14 Copies of the Department of Labor-issued OSHA cards proving completion of the OSHA 10-hour Construction Safety and Health training class in the OSHA Outreach Training Program for each worker (defined as a person covered by a prevailing wage determination) that will initially be on site. Note that workers must possess other OSHA-required training as the work dictates in accordance with the OSHA Act; and specifically, the contractor must meet the required provisions in 509S Excavation Safety Systems required prior to commencing excavation;

.15 A certificate of worker's compensation insurance coverage for all persons providing services on the Project (refer to 5.2.1.3 in Section 00700 for definition of persons providing services on the Project);

.16 A Construction Equipment Emissions Reduction Plan.

2.4.3 Neither the acceptance nor the approval of any of the submittals required in paragraph 2.4.2, above, will constitute the adoption, affirmation, or direction of the CONTRACTOR'S means and methods.

2.5 Preconstruction Conference: Prior to commencement of Work at the site, CONTRACTOR must attend a preconstruction conference with Owner's Representative and others, as set forth in Division 1. Additionally, prior to commencement of work, the CONTRACTOR shall host a preconstruction conference for the Subcontractors identified on the originally approved compliance plan, Owner's Representative and others, as set forth in Division 1. The CONTRACTOR shall notify all Subcontractors five (5) working days prior to the preconstruction conference. If the CONTRACTOR has included Subcontractors in the initial preconstruction conference, the additional Subcontractor preconstruction conference will not be required.

2.6 Initially Acceptable Schedules: Unless otherwise provided in the Contract Documents, CONTRACTOR shall obtain approval of Owner's Representative on the Baseline Schedule submitted in accordance with paragraph 2.4.2.1 and Division 1 before the first progress payment will be made to CONTRACTOR. The Baseline Schedule must provide for an orderly progression of the designated portion of the Work to completion within any specified Milestones and Contract Times. Acceptance of the schedule by Owner's Representative will neither impose on Owner's Representative responsibility or liability for the sequencing, scheduling or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility for such Work. CONTRACTOR's schedule of Shop Drawings and sample submissions must provide an acceptable basis for reviewing and processing the required submittals. CONTRACTOR's schedule of values must conform to the requirements set forth in Division 1.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 Intent:

3.1.1 The intent of the Contract Documents is to include all information necessary for the proper execution and timely completion of the Work by CONTRACTOR. The CONTRACTOR will execute the Work described in and reasonably inferable from the Contract Documents as necessary to produce the results indicated by the Contract Documents. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. In cases of disagreement, the following order of precedence shall generally govern (top item receiving priority of interpretation):

Signed Agreement
Addendum to the Contract Documents, including approved changes
Supplemental General Conditions
General Conditions
Other Bidding Requirements and Contract Forms
Special Provisions to the Standard Technical Specifications
Special Specifications
Standard Technical Specifications

Drawings (figured dimensions shall govern over scaled dimensions)
Project Safety Manual (if applicable),

with the understanding that a common sense approach will be utilized as necessary so that the Contract Documents produce the intended response.

3.1.2 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

3.2 Reporting and Resolving Discrepancies: If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provisions of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual or code or instructions of any Supplier, CONTRACTOR shall report it to Owner's Representative in writing at once, and CONTRACTOR shall not proceed with the Work affected thereby until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.3.1 or 3.3.2. CONTRACTOR shall be liable to OWNER for failure to report any such conflict, error, ambiguity or discrepancy of which CONTRACTOR knew or reasonably should have known.

3.3 Modifying and Supplementing Contract Documents:

3.3.1 The Contract Documents may be modified to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions by change order or contract amendment.

3.3.2 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

.1 Field Order.

.2 Review of a Shop Drawing or sample.

.3 Written interpretation or clarification.

3.4 Reuse of Documents Prohibited: CONTRACTOR and any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of E/A or E/A's consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents or copies on extensions of the Project or any other project without written consent of OWNER and E/A.

3.5 In the event of the breach by the OWNER or CONTRACTOR of any of its obligations under the Contract, so as to support a claim by the other party, the provisions of this Contract will be equitably construed to allow the resolution of such a claim and all of the other provisions of this Contract shall continue in full force and effect as to the rights, responsibilities, and remedies of the OWNER and CONTRACTOR.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.1 Availability of Lands: The OWNER will provide access to all land and interests in land required for the Work and will notify CONTRACTOR of any restrictions in such access. CONTRACTOR may make a claim if OWNER fails to provide timely access to the Work.

CONTRACTOR must obtain any additional temporary construction facilities, stockpiling or storage sites not otherwise provided.

4.2 Subsurface and Physical Conditions:

4.2.1 CONTRACTOR specifically represents that it has carefully examined the plans, the geotechnical report, if any, and the site of the proposed Work and is thoroughly familiar with all of the conditions surrounding construction of the Project, having had the opportunity to conduct any and all additional inquiry, tests and investigation that he/she deems necessary and proper. CONTRACTOR acknowledges the receipt of the geotechnical report, if any, and agrees that the report, while it is an accurate record of the geotechnical conditions at the boring locations, is not a guarantee of specific site conditions which may vary between boring locations.

4.2.2 CONTRACTOR must notify OWNER in writing as soon as reasonably possible, but no later than three (3) calendar days, if unforeseen conditions are encountered at the site which are (i) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (ii) unknown physical conditions of an unusual nature, that differ materially from those normally encountered in the type of work being performed under this Contract. CONTRACTOR may not disturb the conditions until OWNER conducts an investigation. Owner's Representative and E/A will promptly investigate such conditions with E/A. If it is determined that such conditions differ materially and cause an increase or decrease in the CONTRACTOR's cost of or time required for performance of any part of the Work, Owner's Representative will recommend an equitable adjustment in the Contract Amount or Contract Time, or both. If it is determined that such conditions are not materially different from those indicated in the Contract Documents, Owner's Representative will notify CONTRACTOR in writing of such findings and the Contract will not be adjusted. CONTRACTOR may dispute such a determination in accordance with Article 16.

4.2.3 Notwithstanding any other provision of this Contract, CONTRACTOR is solely responsible for the location and protection of any and all public utility lines and utility customer service lines in the Work area. "Public utility lines" means the utility distribution and supply system, and "utility customer service lines" means the utility lines connecting customers to the utility distribution and collection system. Generally, existing utility customer service line connections are not shown on the Drawings. CONTRACTOR shall notify "One Call" and exercise due care to locate, mark, uncover and otherwise protect all such lines in the construction zone and any of CONTRACTOR's work or storage areas. CONTRACTOR's responsibility for the location and protection of utilities is primary and nondelegable. **CONTRACTOR shall indemnify or reimburse such expenses or costs (including fines that may be levied against OWNER) that may result from unauthorized or accidental damage to all public lines and utility customer service lines in the work area. OWNER reserves the right to repair any damage CONTRACTOR causes to such utilities at CONTRACTOR's expense. If a public line and/or customer service line is damaged by CONTRACTOR, CONTRACTOR shall give verbal notice within one (1) hour and written notice within twenty-four (24) hours to the Owner's Representative.**

4.2.4 CONTRACTOR shall take reasonable precaution to avoid disturbing primitive records and antiquities of archaeological, paleontological or historical significance. No objects of this nature shall be disturbed without written permission of OWNER and Texas Historical Commission. When such objects are uncovered unexpectedly, CONTRACTOR shall stop all Work in close proximity and notify Owner's Representative and Texas Historical Commission of their presence and shall not disturb them until written permission and permit to do so is granted. All primitive rights and antiquities uncovered on OWNER's property shall remain property of State of Texas, Texas Historical Commission conforming to Texas Natural Resources Code. If it is determined by OWNER, in consultation with Texas Historical Commission, that exploration or excavation of primitive records or antiquities on Project site is necessary to avoid loss, CONTRACTOR shall cooperate in salvage work attendant to preservation. If the Work stoppage or salvage work causes an increase in CONTRACTOR's cost of, or time required for, performance of the Work, the Contract Amount and/or Contract Time will be equitably adjusted.

4.3 Reference Points: Unless otherwise specified, all control lines and bench marks suitable for use in layout will be furnished by OWNER. Lay out of the Work shall be performed in accordance with Division 1. Controls, bench marks and property boundary markers shall be carefully preserved by CONTRACTOR by use of flags, staffs or other visible devices and in case of destruction or removal by CONTRACTOR or its employees, such controls and bench marks shall be replaced by a Registered Professional Land Surveyor at CONTRACTOR's expense. City of Austin survey monuments damaged by CONTRACTOR will be reestablished by OWNER at CONTRACTOR's expense.

4.4 Hazardous Materials:

4.4.1 To the extent provided by applicable law, OWNER shall be responsible for any hazardous material uncovered or revealed at the site which was not shown, indicated or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. CONTRACTOR shall immediately notify Owner's Representative of any suspected hazardous materials encountered before or during performance of the Work and shall take all necessary precautions to avoid further disturbance of the materials.

4.4.2 CONTRACTOR shall be responsible for any hazardous materials brought to the site by CONTRACTOR, Subcontractor, Suppliers or anyone else for whom CONTRACTOR is responsible.

4.4.3 No asbestos-containing materials shall be incorporated into the Work or brought on Project site without prior approval of OWNER. The CONTRACTOR shall not knowingly use, specify, request or approve for use any asbestos containing materials or lead-based paint without the OWNER'S written approval. When a specific product is specified, the CONTRACTOR shall endeavor to verify that the product does not include asbestos containing material.

4.4.4 Refer to Division 1 for hazardous material definitions and procedures.

.1 Unless otherwise expressly provided in the Contract Documents to be part of the Work, CONTRACTOR is not responsible for any unexpected Hazardous Materials encountered at the site. Upon encountering any Hazardous Conditions, CONTRACTOR must stop Work immediately in the affected area and duly notify OWNER and, if required by applicable law or regulations, all government or quasi-government entities with jurisdiction over the Project or site.

.2 Upon receiving notice of the presence of suspected Hazardous Materials, OWNER shall take the necessary measures required to ensure that the Hazardous Materials are remediated or rendered harmless. Such necessary measures shall include OWNER retaining qualified independent experts to (i) ascertain whether Hazardous Materials have actually been encountered, and, if they have been encountered, (ii) prescribe the remedial measures that OWNER must take either to remove the Hazardous Materials or render the Hazardous Materials harmless.

.3 CONTRACTOR shall be obligated to resume Work at the affected area of the Project only after OWNER's Representative provides written certification that (i) the Hazardous Materials have been removed or rendered harmless and (ii) all necessary approvals have been obtained from all government and quasi-government entities having jurisdiction over the Project or site. The CONTRACTOR shall be responsible for continuing the Work in the unaffected portion of the Project and site.

.4 CONTRACTOR will be entitled, in accordance with these General Conditions, to an adjustment in its Contract Amount and/or Contract Time(s) to the extent CONTRACTOR's cost and/or time of performance have been adversely impacted by the presence of Hazardous Materials.

.5 Notwithstanding the preceding provisions of this Section 4.1, OWNER is not responsible for Hazardous Materials introduced to the Site by CONTRACTOR, Subcontractors or anyone for whose acts they may be liable. **CONTRACTOR shall indemnify, defend and hold harmless OWNER and OWNER's officers, directors, employees and agents from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from those hazardous materials introduced to the site by CONTRACTOR, Subcontractors or anyone for whose acts they may be liable.**

4.4.5 CONTRACTOR shall be responsible for use, storage and remediation of any hazardous materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers or anyone else for whom CONTRACTOR is responsible.

ARTICLE 5 - BONDS AND INSURANCE

5.1 Surety and Insurance Companies: All bonds and insurance required by the Contract Documents shall be obtained from solvent surety or insurance companies that are duly licensed by the State of Texas and authorized to issue bonds or insurance policies for the limits and coverages required by the Contract Documents. The bonds shall be in a form acceptable to OWNER and shall be issued by a surety which complies with the requirements of Texas Insurance Code, Title 12, Chapter 3503. The surety must obtain reinsurance for any portion of the risk that exceeds 10% of the surety's capital and surplus. For bonds exceeding $100,000, the surety must also hold a certificate of authority from the U.S. Secretary of the Treasury or have obtained reinsurance for any liability in excess of $1,000,000 from a reinsurer that is authorized as a reinsurer in Texas or holds a certificate of authority from the U.S. Secretary of the Treasury. In the event that the proposed surety for a contract award in excess of $100,000 does not hold a certificate of authority from the

U.S. Secretary of the Treasury and/or its proposed reinsurer does not hold a certificate of authority from the U.S. Secretary of the Treasury, the OWNER may require additional financial solvency information from the Bidder/Contractor and the proposed surety company and/or reinsurer as part of the 00400 Statement of Bidders Experience and determination of bidder responsibility in the award of the Contract.

5.2 Workers' Compensation Insurance Coverage:

5.2.1 Definitions:

.1 Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (DWC-81, DCW-82, DCW-83, or DCW84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on the Project, for the duration of the Project.

.2 Duration of the Project - includes the time from the beginning of the Work on the Project until the CONTRACTOR's/ person's Work on the Project has been completed and accepted by OWNER.

.3 Persons providing services on the Project ("subcontractor" in Texas Labor Code, Section 406.096) - includes all persons or entities performing all or part of the services the CONTRACTOR has undertaken to perform on the Project, regardless of whether that person contracted directly with the CONTRACTOR and regardless of whether that person has employees. This includes, without limitation, independent contractors, Subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the Project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the Project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

5.2.2 CONTRACTOR shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the CONTRACTOR providing services on the Project, for the duration of the Project.

5.2.3 CONTRACTOR must provide a certificate of coverage to OWNER prior to being awarded the Contract.

5.2.4 If the coverage period shown on the CONTRACTOR's current certificate of coverage ends during the duration of the Project, the CONTRACTOR must, prior to the end of the coverage period, file a new certificate of coverage with OWNER showing that coverage has been extended.

5.2.5 CONTRACTOR shall obtain from each person providing services on the Project, and provide to OWNER:

.1 A certificate of coverage, prior to that person beginning Work on the Project, so OWNER will have on file certificates of coverage showing coverage for all persons providing services on the Project; and

.2 No later than seven (7) days after receipt by CONTRACTOR, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project.

5.2.6 CONTRACTOR shall retain all required certificates of coverage for the duration of the Project and for one (1) year thereafter.

5.2.7 CONTRACTOR shall notify OWNER in writing by certified mail or personal delivery, within ten (10) days after CONTRACTOR knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project.

5.2.8 CONTRACTOR shall post on each Project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the Project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

5.2.9 CONTRACTOR shall contractually require each person with whom it contracts to provide services on a Project, to:

.1 Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the Project, for the duration of the Project;

.2 Provide to CONTRACTOR, prior to that person beginning Work on the Project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the Project, for the duration of the Project;

.3 Provide CONTRACTOR, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;

.4 Obtain from each other person with whom it contracts, and provide to CONTRACTOR: a) a certificate of coverage, prior to the other person beginning Work on the Project; and b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;

.5 Retain all required certificates of coverage on file for the duration of the Project and for one (1) year thereafter;

.6 Notify OWNER in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project; and

.7 Contractually require each person with whom it contracts, to perform as required by paragraphs 5.2.9.1 - 5.2.9.7, with the certificates of coverage to be provided to the person for whom they are providing services.

5.2.10 By signing this Contract or providing or causing to be provided a certificate of coverage, CONTRACTOR is representing to OWNER that all employees of the CONTRACTOR who will provide services on the Project will be covered by workers' compensation coverage for the duration of the Project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the Texas Worker’s Compensation Commission's Division of Self- Insurance Regulation. Providing false or misleading information

may subject CONTRACTOR to administrative penalties, criminal penalties, civil penalties, or other civil actions.

5.2.11 CONTRACTOR's failure to comply with any of these provisions is a breach of Contract by CONTRACTOR which entitles OWNER to declare the Contract void if CONTRACTOR does not remedy the breach within ten (10) days after receipt of notice of breach from OWNER.

5.3 Other Bond and Insurance Requirements: For additional insurance requirements, refer to the Supplemental General Conditions.

5.4 Bonds:

5.4.1 General.

.1 Bonds, when required, shall be executed on forms furnished by or acceptable to OWNER. All bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

.2 If the surety on any bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Texas or it ceases to meet the requirements of the preceding paragraph, CONTRACTOR shall within ten (10) days thereafter substitute another bond and surety, both of which must be acceptable to OWNER.

.3 When Performance Bonds and/or Payment Bonds are required, each shall be issued in an amount of one hundred percent (100%) of the Contract Amount as security for the faithful performance and/or payment of all CONTRACTOR's obligations under the Contract Documents. Performance Bonds and Payment Bonds shall be issued by a solvent surety company authorized to do business in the State of Texas, and shall meet any other requirements established by law or by OWNER pursuant to applicable law. Any surety duly authorized to do business in Texas may write Performance and Payment Bonds on a project without reinsurance to the limit of ten percent (10%) of its capital and surplus. Such a surety must reinsure any obligations over ten percent (10%).

5.4.2 Performance Bond.

.1 If the Contract Amount exceeds $100,000, CONTRACTOR shall furnish OWNER with a Performance Bond in the form set out in Section 00610.

.2 If the Contract Amount exceeds $25,000 but is less than or equal to $100,000, CONTRACTOR shall furnish OWNER with a Performance Bond in the form set out in Section 00610, unless the original Contract Time is 60 Calendar Days/40 Working Days or less, in which case CONTRACTOR can agree to the following terms and conditions for payment in lieu of providing a Performance Bond: no moneys will be paid to CONTRACTOR until completion and acceptance of the Work by OWNER; CONTRACTOR shall be entitled to receive 95% of the Contract Amount following Final Completion, and the remaining 5% of the Contract Amount following the one (1) year warranty period.

.3 If the Contract Amount is less than or equal to $25,000, CONTRACTOR will not be required to furnish a Performance Bond; provided that no moneys will be paid to CONTRACTOR until completion and acceptance of the Work by OWNER under the following terms and conditions: CONTRACTOR shall be entitled to receive 95% of the Contract Amount following Final Completion, and the remaining 5% of the Contract Amount following the one (1) year warranty period.

.4 If a Performance Bond is required to be furnished, it shall extend for the one (1) year warranty period.

5.4.3 Payment Bond.

.1 If the Contract Amount exceeds $50,000, CONTRACTOR shall furnish OWNER with a Payment Bond in the form set out in Section 00620.

.2 If the Contract Amount is less than or equal to $50,000, CONTRACTOR will not be required to furnish a Payment Bond; provided that no moneys will be paid to CONTRACTOR until completion and acceptance of the Work by OWNER under the terms and conditions specified in paragraph 5.4.2.3.

5.4.4 **Maintenance Bond:** If the Contract Documents contemplate a period of maintenance beyond the one (1) year contractual warranty period, OWNER agrees that any bond to be required for such maintenance work will be in the amount of the maintenance work during any extended maintenance period.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.1 Supervision and Superintendence:

6.1.1 CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

6.1.2 CONTRACTOR shall have a competent, qualified Superintendent on the Work at all times that work is in progress. To be qualified, at a minimum, the Superintendent must be effective at (a) communicating both verbally and in writing with the OWNER's representative; (b) receiving and fulfilling instructions from the Owner's Representative; (c) supervising and directing the construction of the Work; (d) reading and interpreting the plans and specifications; (e) writing, preparing and submitting necessary paperwork; and (f) understanding work sequencing and scheduling. The Superintendent will be CONTRACTOR's representative on the Work and shall have the authority to act on the behalf of CONTRACTOR. All communications given to the Superintendent shall be as binding as if given to CONTRACTOR. Either CONTRACTOR or the Superintendent shall provide a cellular telephone number and an emergency and home telephone number at which one or the other may be reached if necessary when work is not in progress. The Superintendent must be an employee of the CONTRACTOR, unless such requirement is waived in writing by the Owner's Representative. If the CONTRACTOR proposes a management structure with a Project Manager supervising, directing, and managing construction of the work in addition to or in substitution of a Superintendent, the requirements of these Construction Documents with respect to the Superintendent shall likewise apply to any such Project Manager.

.1 CONTRACTOR shall present the resume of the proposed Superintendent to the Owner's Representative showing evidence of experience and successful superintendence and direction of work of a similar scale and complexity. If, in the opinion of the Owner's Representative, the proposed Superintendent does

not indicate sufficient experience in line with the Work, he/she will not be allowed to be the designated Superintendent for the Work.

.2 The Superintendent shall not be replaced without Written Notice to Owner's Representative. If CONTRACTOR deems it necessary to replace the Superintendent, CONTRACTOR shall provide the necessary information for approval, as stated above, on the proposed new Superintendent.

.3 A qualified substitute Superintendent may be designated in the event that the designated Superintendent is temporarily away from the Work, but not to exceed a time limit acceptable to the Owner's Representative. CONTRACTOR shall replace the Superintendent upon OWNER's request in the event the Superintendent is unable to perform to OWNER's satisfaction.

6.2 Labor, Materials and Equipment:

6.2.1 CONTRACTOR shall maintain a work force adequate to accomplish the Work within the Contract Time. CONTRACTOR agrees to employ only orderly and competent workers, skillful in performance of the type of Work required under this Contract. CONTRACTOR, Subcontractors, Sub-subcontractors, and their employees may not use or possess any alcoholic or other intoxicating beverages, illegal drugs or controlled substances while on the job or on OWNER's property, nor may such workers be intoxicated, or under the influence of alcohol or drugs, on the job. Subject to the applicable provisions of Texas law, CONTRACTOR, Subcontractors, Sub-subcontractors, and their employees may not use or possess any firearms or other weapons while on the job or on OWNER'S property. If OWNER or Owner's Representative notifies CONTRACTOR that any worker or representative of Contractor is incompetent, disorderly, abusive, or disobedient, has knowingly or repeatedly violated safety regulations, has possessed any firearms in contravention of the applicable provisions of Texas law, or has possessed or was under the influence of alcohol or drugs on the job, CONTRACTOR shall immediately remove such worker or representative, including an officer or owner of CONTRACTOR, from performing Contract Work, and may not employ such worker or representative again on Contract Work without OWNER's prior written consent. CONTRACTOR shall at all times maintain good discipline and order on or off the site in all matters pertaining to the Project. Workers on Project shall be paid not less than wage rates, including fringe benefits, as published by the Department of Labor (DOL) for Building Construction and Heavy and Highway Trades "AS APPLICABLE" and/or the minimum wage required by City of Austin Ordinance No. 20160324-015, whichever is higher. The Total Minimum Wage required can be met using any combination of cash and non-cash qualified fringe benefits provided the cash component meets or exceeds the minimum wage required.

6.2.2 Unless otherwise specified in Division 1, CONTRACTOR shall provide and pay for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.2.3 All materials and equipment shall be of good quality and new (including new products made of recycled materials, pursuant to Section 361.426 of the Texas Health & Safety Code), except as otherwise provided in the Contract Documents. If required by Owner's Representative, CONTRACTOR shall furnish satisfactory evidence (reports of required tests, manufacturer's certificates of compliance with material requirements, mill reports, etc.) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected,

erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

6.2.4 Substitutes and "Approved Equal" Items:

.1 Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quality required. Unless the specification or description contains words reading that no like, equivalent or "approved equal" item or no substitution is permitted, other items of material or equipment of other Suppliers may be submitted by CONTRACTOR, at CONTRACTOR'S sole risk, including disruptions to the Critical Path of the Progress Schedule, to E/A through Owner's Representative under the following circumstances:

.1.1 "Approved Equal": If in E/A's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by E/A as an "approved equal" item, in which case review of the proposed item may, in E/A's sole discretion, be accomplished without compliance with some or all of the requirements for evaluation of proposed substitute items. CONTRACTOR shall provide E/A with the documentation required for E/A to make its determination.

.1.2 Substitute Items: If in E/A's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "approved equal" item under subparagraph 6.2.4.1.1, it will be considered a proposed substitute item. CONTRACTOR shall submit sufficient information as provided in Division 1 to allow E/A to determine that the item of material or equipment proposed is essentially equivalent to that named and a substitute therefor.

.2 Substitute Construction Methods and Procedures: If a specific means, method, technique, sequence or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may, at CONTRACTOR'S sole risk, including disruptions to the Critical Path of the Progress Schedule, with prior approval of E/A furnish or utilize a substitute means, method, technique, sequence, or procedure of construction. CONTRACTOR shall submit sufficient information to Owner's Representative to allow E/A, in E/A's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by E/A will be same as that provided for substitute items in Division 1.

.3 E/A's Evaluation: E/A will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to subparagraphs 6.2.4.1.1 and 6.2.4.1.2. E/A will be the sole judge of acceptability. No "approved equal" or substitute shall be ordered, installed, or utilized until E/A's review is complete, which will be evidenced by either a Change Order or completion of the Shop Drawing review procedure. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety bond with respect to any "approved equal" or substitute or for any other delay or disruption to the Critical Path of the Project Schedule attributable to any such substitution. OWNER shall not be responsible for any delay due to review time for any "approved equal" or substitute.

.4 CONTRACTOR's Expense: All data and documentation to be provided by CONTRACTOR in support of any proposed "approved equal" or substitute item will be at CONTRACTOR's expense.

.5 The approval of the E/A will not relieve the CONTRACTOR from primary responsibility and liability for the suitability and performance of any proposed substitute item, method or procedure and will not relieve CONTRACTOR from its primary responsibility and liability for curing defective Work and performing warranty work, which the CONTRACTOR shall cure and perform, regardless of any claim the CONTRACTOR may choose to advance against the E/A or manufacturer.

6.2.5 CONTRACTOR agrees to assign to OWNER any rights it may have to bring antitrust suits against its Suppliers for overcharges on materials incorporated in the Project growing out of illegal price fixing agreements. CONTRACTOR further agrees to cooperate with OWNER should OWNER wish to prosecute suits against Suppliers for illegal price fixing.

6.3 Progress Schedule: Unless otherwise provided in Division 1, CONTRACTOR shall adhere to the Baseline Schedule established in accordance with paragraph 2.6 as it may be adjusted from time to time as provided below:

6.3.1 CONTRACTOR shall submit to Owner's Representative for review and approval any proposed adjustments in the Progress Schedule that will not change the Contract Times or Milestones on a monthly basis. Any such proposed adjustments must be substantiated with documentation of any changes to the underlying logic of the Progress Schedule. CONTRACTOR's Progress Schedule must show how the CONTRACTOR will consistently advance the progress of the Work in accordance with the Critical Path of the Work and the Contract Time or Milestones. Such adjustments will conform generally to the Progress Schedule then in effect and additionally will comply with any provisions of Division 1 applicable thereto.

6.3.2 Proposed adjustments in the Progress Schedule that will change the Contract Times or Milestones shall be submitted in accordance with the requirements of Article 12. Any such proposed adjustments must be substantiated with documentation of any changes to the underlying logic of the Progress Schedule. Such adjustments may only be made by a Change Order or Time Extension Request in accordance with Article 12.

6.4 Concerning Subcontractors, Suppliers and Others:

6.4.1 Assignment: CONTRACTOR agrees to retain direct control of and give direct attention to the fulfillment of this Contract. CONTRACTOR agrees not to, by Power of Attorney, or otherwise, assign said Contract without the prior written consent of OWNER. In addition, without OWNER'S written consent, the CONTRACTOR will not subcontract the performance of the entire Work or the supervision and direction of the Work.

6.4.2 Award of Subcontracts for Portions of the Work: CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization, whether initially or as a substitute, against whom OWNER may have reasonable objection. OWNER will communicate such objections by Written Notice. If OWNER requires a change without good cause of any Subcontractor, person or organization previously accepted by OWNER, the Contract Amount shall be increased or decreased by the difference in the cost occasioned by any such change, and appropriate Change Order shall be issued. CONTRACTOR shall not substitute any Subcontractor, person or

organization that has been accepted by OWNER, unless the substitute has been accepted in writing by OWNER. No acceptance by OWNER of any Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER to reject defective Work.

6.4.3 CONTRACTOR shall enter into written agreements with all Subcontractors and Suppliers which specifically binds the Subcontractors or Suppliers to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and E/A. The OWNER reserves the right to specify that certain requirements shall be adhered to by all Subcontractors and Sub-subcontractors as indicated in other portions of the Contract Documents and these requirements shall be made a part of the agreement between CONTRACTOR and Subcontractor or Supplier. Subject to and in accordance with the above requirements, the CONTRACTOR must provide and will be deemed for all purposes to have provided in its contracts with major Subcontractors or Suppliers on the Project (those contracts of more than $10,000) the following specific provision: alternative dispute resolution (paragraphs 16.2 and 16.3), which shall be mandatory in the event of a subcontractor or supplier claim and a prerequisite for the submission of any derivative claim. The CONTRACTOR's standard subcontract form is subject to the OWNER's review and approval. The OWNER may request and the CONTRACTOR will provide within five (5) working days a copy of any subcontract requested by the OWNER.

6.4.4 CONTRACTOR shall be fully responsible to OWNER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier or other person or organization any contractual relationship between OWNER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or E/A to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by laws and regulations.

6.4.5 CONTRACTOR shall be solely responsible for efficiently scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR in order to avoid any delays or inefficiencies in the prosecution of the Work. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with Owner's Representative through CONTRACTOR.

6.4.6 The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing or delineating the Work to be performed by any specific trade.

6.4.7 CONTRACTOR shall pay each Subcontractor and Supplier their appropriate share of payments made to CONTRACTOR not later than ten (10) Calendar Days of CONTRACTOR's receipt of payment from OWNER. Upon request from Owner, the CONTRACTOR has two (2) Working Days to provide documentation verifying Payment to Subcontractor(s). The CONTRACTOR is required to notify the Subcontractor(s) in writing of rejection of Application for Payment within two (2) Working Days following notification by Owner. Failure of CONTRACTOR to make payments to Subcontractors or for labor, materials or equipment in accordance to this contract, may be cause to reject future Bids by the CONTRACTOR in accordance

with Section 00100 9.B.4 and may be cause to reject payment in accordance with 00700 14.4.1.3.

6.4.8 To the extent allowed by Texas law, the OWNER shall be deemed to be a third party beneficiary to each subcontract and may, if OWNER elects, following a termination of the CONTRACTOR, require that the Subcontractor(s) perform all or a portion of unperformed duties and obligations under its subcontract(s) for the benefit of the OWNER, rather than the CONTRACTOR; however, if the OWNER requires any such performance by a Subcontractor for the OWNER's direct benefit, then the OWNER shall be bound and obligated to pay such Subcontractor the reasonable value for all Work performed by such Subcontractor to the date of the termination of the CONTRACTOR, less previous payments, and for all Work performed thereafter. In the event that the OWNER elects to invoke its right under this section, OWNER will provide notice of such election to the CONTRACTOR and the affected Subcontractor(s).

6.5 Patent Fees and Royalties:

6.5.1 CONTRACTOR shall be responsible at all times for compliance with applicable patents or copyrights encompassing, in whole or in part, any design, device, material, or process utilized, directly or indirectly, in the performance of the Work or the formulation or presentation of its Bid.

6.5.2 CONTRACTOR shall pay all royalties and license fees and shall provide, prior to commencement of Work hereunder and at all times during the performance of same, for lawful use of any design, device, material or process covered by letters, patent or copyright by suitable legal agreement with the patentee, copyright holder, or their duly authorized representative whether or not a particular design, device, material, or process is specified by OWNER.

6.5.3 CONTRACTOR shall defend all suits or claims for infringement of any patent or copyright and shall save OWNER harmless from any loss or liability, direct or indirect, arising with respect to CONTRACTOR's process in the formulation of its Bid or the performance of the Work or otherwise arising in connection therewith. OWNER reserves the right to provide its own defense to any suit or claim of infringement of any patent or copyright in which event CONTRACTOR shall indemnify and save harmless OWNER from all costs and expenses of such defense as well as satisfaction of all judgments entered against OWNER.

6.5.4 OWNER shall have the right to stop the Work and/or terminate this Agreement at any time in the event CONTRACTOR fails to disclose to OWNER that CONTRACTOR's work methodology includes the use of any infringing design, device, material or process.

6.6 Permits, Fees: Unless otherwise provided in the Supplemental General Conditions, CONTRACTOR shall obtain and pay for all construction permits, licenses and fees required for prosecution of the Work.

6.7 Laws and Regulations:

6.7.1 CONTRACTOR shall give all notices and comply with all laws and regulations applicable to furnishing and performing the Work, including arranging for and

obtaining any required inspections, tests, approvals or certifications from any public body having jurisdiction over the Work or any part thereof. Except where otherwise expressly required by applicable laws and regulations, neither OWNER nor E/A shall be responsible for monitoring CONTRACTOR's compliance with any laws and regulations.

6.7.2 Maintaining clean water, air and earth or improving thereon shall be regarded as of prime importance. CONTRACTOR shall plan and execute its operations in compliance with all applicable Federal, State and local laws and regulations concerning control and abatement of water pollution and prevention and control of air pollution.

6.7.3 If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to laws or regulations, CONTRACTOR shall bear all claims, costs, losses and damages arising therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with laws and regulations, but this does not relieve CONTRACTOR of CONTRACTOR's obligations under Article 3.

6.8 Taxes:

6.8.1 CONTRACTOR shall pay only those sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the laws and regulations of the State of Texas in the performance of this public works contract.

6.8.2 OWNER is an exempt organization as defined by Chapter 11 of the Property Tax Code of Texas and is thereby exempt from payment of Sales Tax under Chapter 151, Limited Use Sales, Excise and Use Tax, Texas Tax Code, and Article 1066 (C), Local Sales and Use Tax Act, Revised Civil Statutes of Texas.

6.9 Use of Premises:

6.9.1 CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by laws and regulations, right-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of or in connection with the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. **CONTRACTOR shall indemnify, defend and hold harmless OWNER, E/A, E/A'S Consultants and anyone directly or indirectly employed by any of them from and against all claims, costs, losses and damages (including court costs and reasonable attorney's fees) arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, E/A or any other party indemnified hereunder to the extent caused by or based upon performance of the work or failure to perform the Work.**

6.9.2 During the progress of the Work and on a daily basis, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for occupancy by OWNER at Substantial Completion of the Work. CONTRACTOR shall, at a minimum, restore to original condition all property not designated for alteration by the Contact Documents. If the CONTRACTOR fails to clean up at the completion of the Work, OWNER may do so and the cost thereof will be charged against the CONTRACTOR.

6.9.3 CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.10 Record Documents: CONTRACTOR shall maintain in a safe place at the site, or other location acceptable to OWNER, one (1) record copy of all Drawings, Specifications, Addenda, Change Orders, Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.5) in good order and annotated to show all changes made during construction. These record documents together with all final samples and all final Shop Drawings will be available to OWNER and E/A for reference during performance of the Work. Upon Substantial Completion of the Work, these record documents, samples and Shop Drawings shall be promptly delivered to Owner's Representative.

6.11 Safety and Protection:

6.11.1 CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Upon request, and prior to installation of measures, CONTRACTOR shall submit a site security plan for approval by OWNER. By reviewing the plan or making recommendations or comments, OWNER will not assume liability nor will CONTRACTOR be relieved of liability for damage, injury or loss. CONTRACTOR shall take all necessary precautions for the safety of and shall provide the necessary protection to prevent damage, injury or loss to:

.1 all persons on the Work site or who may be affected by the Work;

.2 all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

.3 other property at the site or adjacent thereto, including, but not limited to, trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated for removal, relocation or replacement in the course of construction.

6.11.2 CONTRACTOR shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of underground facilities, and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.11.1.2 and 6.11.1.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, Subcontractor, Supplier or any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or

Specifications or to the acts or omissions of OWNER, or E/A, or E/A's consultant or anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the faults or negligence of CONTRACTOR or any Subcontractor, Supplier or other person or organization directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and protection of the Work shall continue until such time as all the Work is completed and Owner's Representative has issued a notice to OWNER and CONTRACTOR in accordance with Article 14 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion). Without limitation, CONTRACTOR shall comply with the following specific provisions:

It shall be the duty and responsibility of CONTRACTOR and all of its subcontractors to be familiar with and comply with 29 USC Section 651, et seq., the Occupational Safety and Health Act of 1970, as amended ("OSHA") and to enforce and comply with all provisions of this Act.

The CONTRACTOR and all of its subcontractors shall comply with all applicable requirements of Subpart P of Part 1926 of 29 C.F.R, OSHA Safety and Health Standards, Texas Health and Safety Code Section 756.023, as amended, and shall submit a unit price for the particular excavation safety systems to be utilized by the Contractor for all excavations which exceed a depth of five feet (5').

Before commencing any excavation which will exceed a depth of five feet (5'), the CONTRACTOR shall provide the Owner with detailed plans and specifications regarding the safety systems to be utilized. Said plans and specifications shall include a certification from a Texas licensed professional engineer indicating full compliance with the OSHA provisions cited above.

6.11.3 Safety Representative: CONTRACTOR shall designate in writing a qualified and experienced safety representative (the "Safety Representative") at the site whose duties and responsibilities shall include safety training; identifying and mitigating hazardous conditions and unsafe work practices; and developing, maintaining and supervising the implementation of safe work practices and safety programs as deemed necessary and appropriate for the Project. The term "Safety Representative" includes any designated Safety Supervisor, Superintendent or Safety Manager. The Safety Representative shall exercise due diligence in the execution of all Project related safety duties. Upon request of OWNER, CONTRACTOR shall provide certifications or other acceptable documentation of the Safety Representative's qualifications. The following requirements will be effective as of September 1, 2010:

.1 The Safety Representative shall present certification of completion of the OSHA 30-hour Construction Industry Training Outreach Program described at: http://www.osha.gov/dte/outreach/construction_generalindustry/construction.html

.2 The Safety Representative shall verify that all construction workers (defined as persons covered by a prevailing wage determination) on the job site, whether employed by the CONTRACTOR or subcontractors, have completed the OSHA 10-hour Construction Industry Training Outreach Program described at: http://www.osha.gov/dte/outreach/construction_generalindustry/construction.html. The Safety Representative must receive a certificate of training completion before allowing a worker on site and shall have all such certificates available for inspection by the OWNER.

.3 The Safety Representative shall ensure that workers, including designated competent persons, have completed all applicable OSHA specific or other training needed to perform their job assignments. Training topics applicable

to the scope of the current Project may include, but are not limited to, scaffolds, fall protection, cranes, excavations, electrical safety, tools, concrete and masonry construction, steel erection, operation of motor vehicles and mechanized equipment.

.4 The Safety Representative shall post notice on the site of the Work stating that all workers shall have completed OSHA Construction Industry Training. The Owner may require, and the Safety Representative should consider providing a means of readily identifying workers who have completed the required training to monitor compliance with these requirements.

.5 The Safety Representative shall ensure that all required OSHA and Workers Compensation notices to workers are posted in English and Spanish at one or more conspicuous locations on the work site.

6.11.4 Hazard Communication Programs: CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in accordance with laws and regulations.

6.11.5 Emergencies:

.1 In emergencies affecting the safety or protection of persons or the Work at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or E/A, is obligated to act reasonably to prevent threatened damage, injury or loss and to mitigate damage or loss to the Work. CONTRACTOR shall give Owner's Representative telephone notification as soon as reasonably practical and a prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If Owner's Representative determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Change Directive or Change Order will be issued to document the consequences of such action; otherwise OWNER will not be responsible for CONTRACTOR's emergency action.

.2 Authorized agents of CONTRACTOR shall respond immediately to call-out at any time of any day or night when circumstances warrant the presence on Project site of CONTRACTOR or his agent to protect the Work or adjacent property from damage, restriction or limitation or to take such action or measures pertaining to the Work as may be necessary to provide for the safety of the public. Should CONTRACTOR and/or their agent fail to respond and take action to alleviate such an emergency situation, OWNER may direct other forces to take action as necessary to remedy the emergency condition, and OWNER will deduct any cost of such remedial action from the funds due CONTRACTOR under this Contract.

.3 In the event there is an accident involving injury to any individual or damage to any property on or near the Work, CONTRACTOR shall provide to Owner's Representative verbal notification within one (1) hour and written notification within twenty-four (24) hours of the event and shall be responsible for recording the location of the event and the circumstances surrounding the event through photographs, interviewing witnesses, obtaining medical reports, police accident reports and other documentation that describes the event. Copies of such documentation shall be provided to Owner's Representative, for OWNER's and E/A's records, within forty-eight (48) hours of the event.

Contractor shall cooperate with OWNER on any OWNER investigation of any such incident.

6.11.6 Rest Breaks:

.1 Except as provided in subsection 6.11.6.2 below, an employee performing construction activity at a construction site is entitled to a rest break of not less than ten (10) minutes for every four (4) hours worked. No employee may be required to work more than 3.5 hours without a rest break. A rest break means a break from work within working hours, excluding meal breaks, during which an employee may not work. A rest break shall be scheduled as near as possible to the midpoint of the work period.

.2 An employee is not entitled to a rest break under subsection 6.11.6.1 on any day the employee works less than 3.5 hours or spends more than half of his or her work time engaged in non-strenuous labor in a climate controlled environment.

.3 A sign describing the requirements of this Section 6.11.6 in English and Spanish shall be posted by the employer in each establishment subject to the requirement of a rest break in a conspicuous place or places where notices to employees are customarily posted, in accordance with the OWNER's then current rules for size, content, and location of such signage.

.4 The violation of Ordinance No. 20100729-047, enacted July 29, 2010, which establishes the rest break requirements set forth above, may be enforced with criminal penalties and civil remedies, as set forth in the Ordinance.

6.11.7 If the Contractor fails to carry out the Work in accordance with the Contract Documents so that a safety violation has occurred, the Owner may order the Contractor to stop the Work or any portion thereof, until the cause for such order has been eliminated. However, the right of the Owner to stop the Work under this paragraph shall not give rise to a duty on the part of the Owner to supervise the Contractor's Work or to control the Contractor's means and methods or to exercise this right for the benefit of the Contractor or any other person or entity. All time lost due to Project shut down will be the Contractor's sole responsibility, will be charged against the Contract Time, and the Contractor will be responsible for any and all expenses incurred. This provision is in addition to and supplemental to the applicable provisions of the Project's ROCIP Safety Manual.

6.11.8 Confined Space Program

.1 Contractor acknowledges and agrees that the Owner is temporarily transferring management and control of the site of the Work to the Contractor for the purpose of constructing the Project. The Contractor's responsibilities to manage the Work includes the responsibility to manage the property for purposes of compliance with 29 CFR 1926 subpart AA. To the best of Owner's knowledge and belief, Owner has provided the following information in the plans and specifications and other Contract Documents: (i) the location of each known permit space, (ii) the hazards or potential hazards in each space or the reason it is a permit space; and (iii) any precautions that the Owner or any previous contractor has implemented for the protection of employees in the permit space. This transfer will result in the Contractor being both the host employer and the controlling contractor for this portion of the Work.

6.12 Continuing the Work: CONTRACTOR shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as OWNER and CONTRACTOR may otherwise agree in writing.

6.13 CONTRACTOR's General Warranty and Guarantee:

6.13.1 CONTRACTOR warrants and guarantees to OWNER that all Work will conform to the plans and specifications, be performed in a good and workmanlike manner in accordance with the Contract Documents and will not be defective. This warranty will survive the termination or expiration of the Contract. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

.1 abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors or Suppliers; or

.2 normal wear and tear under normal usage.

6.13.2 CONTRACTOR's obligation to perform and complete the Work in a good and workmanlike manner in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

.1 observations by Owner's Representative and/or E/A;

.2 recommendation of any progress or final payment by Owner's Representative;

.3 the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents;

.4 use or occupancy of the Work or any part thereof by OWNER;

.5 any acceptance by OWNER or any failure to do so;

.6 any review of a Shop Drawing or sample submittal;

.7 any inspection, test or approval by others; or

.8 any correction of defective Work by OWNER.

6.14 INDEMNIFICATION:

6.14.1 CONTRACTOR shall defend, indemnify and hold harmless OWNER, E/A, E/A'S Consultants and Sub consultants and their respective officers, directors, partners, employees, agents and other Consultants and any of them (the "INDEMNIFIED PARTIES") from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage:

.1 Is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself), including the loss of use resulting therefrom, and

.2 Is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of the INDEMNIFIED PARTIES hereunder or whether liability is imposed upon such INDEMNIFIED PARTY by laws and regulations regardless of the negligence of any such person or entity.

In the event that indemnification of the INDEMNIFIED PARTIES is prohibited by law, CONTRACTOR shall nonetheless be solely responsible for any liability arising out of or resulting from the performance of the Work, subject to the limitations set forth above, and shall indemnify and hold harmless the remaining INDEMNIFIED PARTIES, who may be legally indemnified, from such liability of the CONTRACTOR and the associated costs described above.

6.14.2 The indemnification obligation under paragraph 6.14.1 shall not be limited in any way by any limitation on the amount or type of damages, or compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

6.14.3 The obligations of CONTRACTOR under paragraph 6.14.1 shall not extend to the liability of OWNER, E/A, E/A's consultants, and their officers, directors, partners, employees or agents caused primarily by negligent preparation of maps, drawings, surveys, designs or specifications upon which is placed the applicable state-authorized design professional seal of OWNER's, E/A's or E/A's consultant's officers, directors, partners, employees or agents.

6.14.4 In the event CONTRACTOR fails to follow OWNER's directives concerning use of the site, scheduling or course of construction, or engages in other conduct which proximately causes damage to property based on inverse condemnation or otherwise, then and in that event, CONTRACTOR shall indemnify OWNER against all costs resulting from such claims.

6.14.5 In the event CONTRACTOR unreasonably delays progress of the work being done by others on the site so as to cause loss for

which OWNER becomes liable, then CONTRACTOR shall indemnify OWNER from and reimburse OWNER for such loss.

6.15 Survival of Obligations: All representations, indemnifications, warranties and guarantees made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Agreement.

6.16 **Losses from Natural Causes:** Unless otherwise specified, all loss or damage to CONTRACTOR arising out of the nature of the Work to be done or from action of the elements, floods or from unforeseeable circumstances in prosecution of the Work or from unusual obstructions or difficulties which may be encountered in prosecution of the Work, shall be sustained and borne by CONTRACTOR at its own cost and expense.

6.17 **Notice of Claim:** Should CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of OWNER or of any of OWNER's employees or agents or others for whose acts OWNER is liable, a Claim must be made to the other party within thirty (30) calendar days of the event giving rise to such injury or damage. The provisions of this paragraph 6.17 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or statute of repose.

6.18 **Liquidated Damages:** CONTRACTOR or its Surety shall be liable for liquidated damages for the failure of the CONTRACTOR to timely complete the Work or any portion thereof within the Contract Time.

ARTICLE 7 - OTHER WORK

7.1 OWNER may perform other work related to the Project at the site by OWNER's own forces, or let other contracts therefor, or have other work performed by utility owners. CONTRACTOR and OWNER agree to and shall use best efforts to cooperate and coordinate the Work with others performing work and other work related to the Project in order to avoid conflicts and delays in the Work. If CONTRACTOR believes that delay or additional cost is involved because of such action by OWNER, CONTRACTOR may make a Claim as provided in Article 11 or 12.

7.2 CONTRACTOR shall afford other contractors who are in a contract with OWNER and each utility owner (and OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of Owner's Representative and the other contractors whose work will be affected. CONTRACTOR shall promptly remedy damage wrongfully caused by CONTRACTOR to completed or partially completed construction or to property of the OWNER or separate contractors.

7.3 If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to Owner's Representative in writing any delays, defects or deficiencies in

such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in such other work.

7.4 OWNER shall provide for coordination of the activities of the OWNER's own forces and of each separate contractor with the Work of CONTRACTOR, who shall cooperate with them. CONTRACTOR shall participate with other separate contractors and Owner's Representative in reviewing their construction Progress Schedules when directed to do so. On the basis of such review, CONTRACTOR shall make any revisions to the construction Progress Schedule deemed necessary after a joint review and mutual agreement. The agreed upon construction Progress Schedules shall then constitute the Progress Schedules to be used by CONTRACTOR, separate contractors and OWNER until subsequently revised.

7.5 Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.1 Prior to the start of construction, OWNER will designate in writing a person or entity to act as Owner's Representative during construction. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through Owner's Representative.

8.2 OWNER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto. OWNER is not responsible for any failure of CONTRACTOR to comply with laws and regulations applicable to furnishing or performing the Work. OWNER is not responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents. Failure or omission of OWNER to discover, or object to or condemn any defective Work or material shall not release CONTRACTOR from the obligation to properly and fully perform the Contract.

8.3 OWNER is not responsible for the acts or omissions of CONTRACTOR, or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work. CONTRACTOR acknowledges and agrees that OWNER'S direction to perform Work in accordance with the approved Progress Schedule is not a demand for acceleration or a dictation of CONTRACTOR'S means or methods.

8.4 Information or services under the OWNER's control shall be furnished by the OWNER with reasonable promptness to avoid delay in orderly progress of the Work. The OWNER shall have a reasonable amount of time to investigate site conditions, review submittals, analyze requests for changes, and to make other decisions in the orderly administration of the Contract. CONTRACTOR must notify the OWNER in writing, if the time for the investigation, review, analysis of any submittals, required for changes or otherwise required for OWNER'S decision, impacts in any way the Critical Path of the approved Progress Schedule.

8.5 The foregoing are in addition to other duties and responsibilities of the OWNER enumerated herein and especially those in respect to Article 4 (Availability of Lands; Subsurface and Physical Conditions; Reference Points), Article 7 (Other Work) and Article 14 (Payments to CONTRACTOR and Completion).

8.6 **Notice of Claim:** Should OWNER suffer injury or damage to person or property because of any error, omission or act of CONTRACTOR or of any of CONTRACTOR's employees or agents or others for whose acts CONTRACTOR is liable, a Claim will be made to the other

party within thirty (30) calendar days of receipt of actual or constructive notice of the event giving rise to such injury or damage. The provisions of this paragraph 8.6 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or statute of repose.

ARTICLE 9 - ENGINEER/ARCHITECT'S STATUS DURING CONSTRUCTION

9.1 E/A's Authority and Responsibilities:

9.1.1 The duties and responsibilities and the limitations of authority of E/A during construction, as set forth in the Contract Documents, may be assigned or assumed by the OWNER, but shall not be extended without written consent of OWNER and/or E/A. The assignment of any authority, duties or responsibilities to E/A under the Contract Documents, or under any agreement between OWNER and E/A, or any undertaking, exercise or performance thereof by E/A, is intended to be for the sole and exclusive benefit of OWNER and not for the benefit of CONTRACTOR, Subcontractor, Supplier, or any other person or organization, or for any surety or employee or agent of any of them.

9.1.2 E/A will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto. E/A is not responsible for any failure of CONTRACTOR to comply with laws and regulations applicable to the furnishing or performing the Work. E/A is not responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents. Failure or omission of E/A to discover, or object to or condemn any defective Work or material shall not release CONTRACTOR from the obligation to properly and fully perform the Contract.

9.1.3 E/A is not responsible for the acts or omissions of CONTRACTOR, or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.1.4 If OWNER and E/A agree, E/A will review the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals and other documentation required to be delivered by Article 14, but only to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals that the results certified indicate compliance with, the Contract Documents.

9.1.5 The limitations upon authority and responsibility set forth in this paragraph 9.1 shall also apply to E/A's Consultants, Resident Project Representative and assistants.

9.2 E/A as Owner's Representative: E/A may be designated as the Owner's Representative under paragraph 8.1.

9.3 Visits to Site: If OWNER and E/A agree, E/A will make visits to the site at intervals appropriate to the various stages of construction as E/A deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, E/A will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. E/A will not be required to make exhaustive or continuous on-site

inspections to check the quality or quantity of the Work. E/A's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and on-site observations, E/A will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work. E/A's visits and on-site observations are subject to all the limitations on E/A's authority and responsibility set forth in paragraph 9.1.

9.4 Resident Project Representative: If OWNER and E/A agree, E/A will furnish a Resident Project Representative to assist E/A in providing more continuous observation of the Work. The responsibilities and authority and limitations of any such Resident Project Representative and assistants will be as provided in paragraph 9.1 and in the Supplemental General Conditions. OWNER may designate another representative or agent to represent OWNER at the site who is not E/A, E/A's consultant, agent or employee.

9.5 Clarifications and Interpretations: E/A may determine that written clarifications or interpretations of the requirements of the Contract Documents (in the form of drawings or otherwise) are necessary. Such written clarifications or interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents, will be issued with reasonable promptness by Owner's Representative and will be binding on OWNER and CONTRACTOR. If OWNER or CONTRACTOR believes that a written clarification or interpretation justifies an adjustment in the Contract Amount or the Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in Article 11 or 12.

9.6 Rejecting Defective Work: E/A will recommend that OWNER disapprove or reject Work which E/A believes to be defective, or believes will not produce a completed Project that conforms to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

9.7 Shop Drawings: Refer to Division 1 for E/A's authority concerning Shop Drawings.

ARTICLE 10 - CHANGES IN THE WORK

10.1 Changes:

10.1.1 Without invalidating the Contract and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work. Such changes in the Work will be authorized by Change Order, Change Directive or Field Order. In the event that the OWNER and the CONRACTOR are unable to negotiate the terms of a Change Order for the performance of additional Work, the OWNER may, at its election, perform such additional Work with its own forces or with another contractor and such work will be considered "Other Work" in accordance with Article 7.

10.1.2 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and CONTRACTOR shall proceed promptly, unless otherwise provided in the Change Order, Change Directive or Field Order. CONTRACTOR's proposals for changes in the Contract Amount and/or Contract Time shall be submitted within ten (10) Calendar Days of request by Owner's Representative, including impacts to the approved Progress Schedule, unless Owner's Representative grants an extension. OWNER will review each proposal and respond to CONTRACTOR within ten (10) Calendar Days. After review by OWNER, CONTRACTOR shall provide any supporting data requested by Owner's Representative within seven (7) Calendar Days, unless Owner's Representative grants an extension. OWNER will determine within seven (7) Calendar Days whether to pursue the change in Work.

10.1.3 CONTRACTOR shall not be entitled to an increase in the Contract Amount or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.3.1 and 3.3.2, except in the case of an emergency as provided in paragraph 6.11.5 or in the case of uncovering Work as provided in paragraph 13.4.

10.1.4 Except in the case of an emergency as provided in paragraph 6.11.5, a Change Order or Change Directive is required before CONTRACTOR commences any activities associated with a change in the Work which, in CONTRACTOR 's opinion, will result in a change in the Contract Amount and/or Contract Times.

10.1.5 If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Amount or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

10.2 Change Orders:

10.2.1 OWNER and CONTRACTOR shall execute appropriate written Change Orders covering:

.1 a change in the Work;

.2 the amount of the adjustment in the Contract Amount, if any; and

.3 the extent of the adjustment in the Contract Time, if any.

10.2.2 An executed Change Order shall represent the complete, equitable, and final amount of adjustment in the Contract Amount and/or Contract Time owed to CONTRACTOR or OWNER as a result of the occurrence or event causing the change in the Work encompassed by the Change Order.

10.3 Change Directives:

10.3.1 Without invalidating the Contract, OWNER may, by written Change Directive, using the Force Account method, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Amount and Contract Time being adjusted as necessary. "Force Account" means a basis of payment for the direct performance of Work with payment based on the actual cost of the labor, equipment and materials furnished and consideration for overhead and profit as set forth in Section 11.5, below. A Change Directive shall be used in the absence of complete and prompt agreement on the terms of a Change Order. Where practicable, any items of Work that may be agreed upon, prior to the performance of Work under this Section, will be included in a separate Change Order. For example, the cost of the installation of additional asphalt may be agreed upon based on the unit prices in the Bid.

10.3.2 If the Change Directive provides for an adjustment to the Contract Amount, the adjustment shall be based on the method provided in paragraph 11.5.

10.3.3 A Change Directive shall be effective immediately and shall be recorded later by preparation and execution of an appropriate Change Order.

10.3.4 Upon receipt of a Change Directive, CONTRACTOR shall promptly proceed with the change in the Work involved, provided, prior to the commencement of any Work under this section, the CONTRACTOR must submit its proposed Work plan, anticipated schedule, and a list of its work force and equipment proposed to be

used in the Work for OWNER'S approval. Upon such approval, CONTRACTOR must promptly commence and make continuous progress in the Work. The OWNER reserves the right to withhold payment for low production or lack of progress.

10.4 Field Order:

10.4.1 Owner's Representative may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Amount or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These shall be accomplished by written Field Order and shall be binding on OWNER and on CONTRACTOR who shall perform the Work involved promptly.

10.4.2 If CONTRACTOR believes that a Field Order would require an adjustment in the Contract Amount and/or Contract Times, CONTRACTOR shall make a prompt written request to Owner's Representative for a Change Order. Any request by CONTRACTOR for an adjustment in Contract Amount and/or Contract Times must be made in writing prior to beginning the work covered by the Field Order.

10.5 No Damages for Delay: CONTRACTOR shall receive no compensation for delays or hindrances to the Work, except when direct and unavoidable extra cost to CONTRACTOR is caused by failure of OWNER to provide information or material, if any, which is to be furnished by OWNER or access to the Work and only to the extent that such acts continue after the CONTRACTOR furnishes OWNER with written notice of such failure. When such extra compensation is claimed a written statement thereof shall be presented by CONTRACTOR to OWNER and if by OWNER found correct shall be approved. If delay is caused by specific orders given by OWNER to stop work or by performance of extra Work or by failure of OWNER to provide material or necessary instructions for carrying on the Work, then such delay will entitle CONTRACTOR to an equivalent extension of time, CONTRACTOR's application for which shall, however, be subject to approval of OWNER. No such extension of time shall release CONTRACTOR or surety on its performance bond from all CONTRACTOR's obligations hereunder which shall remain in full force until discharge of the Contract. In no event shall the CONTRACTOR be entitled to any compensation or recovery of any special damages in connection with any delays, including without limitation: consequential damages, lost opportunity costs, impact damages, or other similar damages. The OWNER'S exercise of any of its rights or remedies under the Contract Documents (including without limitation ordering changes in the Work, or directing suspension, rescheduling, or correction of the Work), regardless of the extent or frequency of the OWNER'S exercise of such rights or remedies, shall not be construed as active interference in the CONTRACTOR'S performance of the Work. Except as otherwise provided herein, an extension of Contract Time, to the extent permitted under Article 12, shall be the sole remedy of the CONTRACTOR for any acknowledged delays.

ARTICLE 11 - CHANGE OF CONTRACT AMOUNT

11.1 The Contract Amount is stated in the Agreement and, including authorized adjustments, is the total amount payable by OWNER to CONTRACTOR for performance of the Work under the Contract Documents.

11.2 The original Contract Amount may not be increased by more than twenty-five percent (25%) and it may not be decreased more than twenty-five percent (25%) without the consent of the CONTRACTOR to such decrease, except in the event of a termination for convenience under paragraph 15.2 or the failure of the City Council to appropriate sufficient

funding for the Project, in which events it is agreed that the consent of the CONTRACTOR will not be required.

11.3 The Contract Amount shall only be changed by a Change Order. Any claim for an adjustment in the Contract Amount shall be made by Written Notice delivered by the party making the Claim to the other party promptly (but in no event later than thirty (30) calendar days) after the start of the occurrence or event giving rise to the Claim and stating the general nature of the Claim. Notice of the amount of the Claim with supporting data shall be delivered within thirty (30) calendar days after Written Notice of Claim is delivered by claimant, and shall represent that the adjustment claimed covers all known amounts to which claimant is entitled as a result of said occurrence or event. If OWNER and CONTRACTOR cannot otherwise agree, all Claims for adjustment in the Contract Amount shall be determined as set out in Article 16.

11.4 Determination of Value of Work:

11.4.1 The value of any Work covered by a Change Order for an adjustment in the Contract Amount will be determined by one or more of the following methods:

.1 by application of unit prices contained in the Contract Documents to the quantities of the items involved.

.2 by a mutually agreed unit price, or lump sum properly itemized and supported by sufficient substantiating data, including documentation by subcontractors performing the work, to permit evaluation.

.3 by cost of Work plus CONTRACTOR's fee for all overhead costs and profit (determined as provided in paragraph 11.5).

.4 No cost will be included in the change order for time spent preparing the change order, nor will costs be included for an estimate of time to negotiate the change order costs for machinery, tools, or equipment as described in subparagraph 11.5.3

11.4.2 Before using the method described in paragraph 11.4.1.3, OWNER and CONTRACTOR agree to negotiate a Change Order using the methods identified in paragraphs 11.4.1.1 and 11.4.1.2, as appropriate, to determine the adjustment in the Contract Amount.

11.5 Cost of Work: If neither of the methods defined in paragraphs 11.4.1.1 nor 11.4.1.2 can be agreed upon before a change in the Work is commenced which will result in an adjustment in the Contract Amount, then the change in the Work will be performed by Change Directive, using the Force Account method, and payment will be made as follows:

11.5.1 For all personnel, CONTRACTOR will receive actual field cost wage rates for each hour that said personnel are actually engaged in such Work, as substantiated by its certified payroll, to which will be added an amount equal to twenty-five percent (25%) of the sum thereof as compensation for CONTRACTOR's total overhead, profit, and small tools. No separate charge will be made by CONTRACTOR or its Subcontractor(s) for organization or overhead expenses. In no case will the rate of wage be less than the minimum shown in the Contract for a particular category. CONTRACTOR will also receive an amount equal to 55% of the wages paid personnel, excluding the 25% compensation provided above, for CONTRACTOR’s and any effected Subcontractor’s cost of premiums on public liability insurance, workers' compensation insurance, social security and unemployment insurance. The cost for superintendence, project management, and other salaried employees are considered as included in the twenty five percent (25%) total overhead, profit, and small tools mark-up unless considered necessary and ordered by Owner.

11.5.2 CONTRACTOR will receive the actual cost, including freight charges, of the materials used and installed on such Work, to which costs will be added a sum equal to twenty-five percent (25%) thereof as compensation for CONTRACTOR's and any affected Subcontractor's total overhead and profit. In case material invoices indicate a discount may be taken, the actual cost will be the invoice price minus the discount.

11.5.3 For machinery, trucks, power tools, or other similar equipment (the "equipment") agreed to be necessary by OWNER and CONTRACTOR, OWNER will allow CONTRACTOR the Regional and Model Year adjusted Monthly Ownership Cost divided by 176 plus the Hourly Estimated Operating Costs as given in the latest edition of the "Rental Rate Blue Book" as published by EquipmentWatch (1-800-669-3282) for each hour that said equipment is in use on such work. The established equipment rates will be paid for each hour that the equipment is utilized in the Work. In the event that the equipment is used intermittently during the Work, full payment for an eight-hour day will be made if the equipment is not idle more than four (4) hours of the day. If the equipment is idle more than four (4) hours in a day, then payment will be made only for the actual hours worked. No additional compensation will be allowed on the equipment for CONTRACTOR's or any affected Subcontractor's overhead and profit. OWNER may accept an actual rental invoice in lieu of the method of calculation set forth in paragraph 11.5.3 for equipment rented exclusively for Force Account Work or for equipment not included in the Rental Rate Blue Book.

11.5.4 For Subcontractors, CONTRACTOR will receive the approved actual invoice cost plus 5% as compensation for CONTRACTOR's total overhead and profit.

11.5.5 CONTRACTOR will receive an additional 1% of the total of 11.5.1, 11.5.2, 11.5.3, and 11.5.4 as compensation for increased bond costs.

11.5.6 The compensation, as herein provided for, shall be received by CONTRACTOR and any affected Subcontractor as payment in full for work done by Change Directive and will include use of small tools, and total overhead expense and profit. CONTRACTOR and Owner's Representative shall compare records of work done by Change Directive at the end of each day. Copies of these records will be made upon forms provided for this purpose by OWNER and signed by both Owner's Representative and CONTRACTOR, with one copy being retained by OWNER and one by CONTRACTOR. Refusal by CONTRACTOR to sign these records within two (2) working days of presentation does not invalidate the accuracy of the record.

11.6 Unit Price Work:

11.6.1 Where the Contract Documents provide that all or part of the Work is to be unit price Work, initially the Contract Amount will be deemed to include for all unit price work an amount equal to the sum of the established unit price for each separately identified item of unit price work times the estimated quantity of each item as indicated in the Bid. The estimated quantities of items of unit price work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Amount. Determinations of the actual quantities and classifications of unit price work performed by CONTRACTOR will be made by Owner's Representative. Owner's Representative will review with CONTRACTOR the preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise).

11.6.2 When "plan quantity" is indicated for a Bid item, CONTRACTOR shall be paid amount specified in the Contract Documents without any measurements.

11.6.3 Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

11.6.4 A Major Item is any individual Bid item in the Bid that has a total cost equal to or greater than five percent (5%) of the original Contract Amount or $50,000, whichever is greater, computed on the basis of Bid quantities and Contract unit prices.

11.6.5 OWNER or CONTRACTOR may make a Claim for an adjustment in the Contract Amount in accordance with Article 11 if:

.1 the actual quantity of any Major Item should become as much as twenty percent (20%) more than or twenty percent (20%) less than that in the Bid; or

.2 CONTRACTOR presents documentation contesting accuracy of "plan quantity" and Owner's Representative verifies quantity and determines original value is in error by five percent (5%) or more;

Provided, however, in the event a Major Item is reduced by twenty percent (20%) or more of the amount in the Bid, no additional Article 11 profit or overhead will be added, if, due to other additions in the Work, the net value of the Contract Amount is not reduced.

ARTICLE 12 - CHANGE OF CONTRACT TIMES

12.1 Working Day and Calendar Day Contracts:

12.1.1 The Contract Times (or Milestones) may only be changed by Change Order or Time Extension Request duly executed by both CONTRACTOR and Owner's Representative. Any claim for an adjustment of the Contract Times (or Milestones) shall be made by Written Notice delivered by the party making the Claim to the other party promptly (but in no event later than thirty (30) calendar days after the start of the occurrence or event giving rise to the delay) and stating the general nature of the delay. Notice of the extent of the delay with supporting data shall be delivered within thirty (30) calendar days after Written Notice of Claim is delivered by claimant, and shall represent that the adjustment claimed is the entire adjustment to which claimant is entitled as a result of said occurrence or event. If OWNER and CONTRACTOR cannot otherwise agree, all Claims for adjustment in the Contract Times (or Milestones) shall be determined as set out in Article 16. No Claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of this paragraph.

12.1.2 When CONTRACTOR is at fault and OWNER stops the Work, so that corrections in the Work can be made by CONTRACTOR, no extension in time will be allowed.

12.1.3 When CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. If performance by the CONTRACTOR or OWNER is interrupted by any occurrence not occasioned by its own conduct, whether such occurrence be an act of god or the result of war, riot, civil commotion, sovereign conduct, or the conduct of a third party, then such performance will be excused for a period of time necessary to remedy its effects, provided, however, in such an

event, a conference will be held within three (3) business days to establish a proposed new Progress Schedule for the Project.

12.1.4 OWNER will consider time extension requests and may grant CONTRACTOR an extension of time because of:

.1 Changes ordered in the work which justify additional time.

.2 Failure of materials or products being at the Project site due to delays in transportation or failures of Suppliers, which are not the result of CONTRACTOR's, Subcontractor's or Supplier's negligence. The request for an extension of time shall be supported by a citation of acts demonstrating that the delays are beyond CONTRACTOR's control, including, but not limited to, CONTRACTOR's efforts to overcome such delays documented as follows:

a) Copy of purchase order for delayed item(s) indicating date ordered by CONTRACTOR/ Subcontractor and date purchase order received by Supplier.

b) If item(s) require Shop Drawings or other submittal information in accordance with the Contract Documents, provide record of date submittal(s) forwarded to Owner's Representative, date submittal(s) returned to CONTRACTOR, and date submittal(s) forwarded to Supplier.

c) Copy of document(s) from Supplier, on Supplier's letterhead, indicating date(s) item(s) would be ready for shipment and/or actual shipment date(s).

d) Copies of all correspondence between CONTRACTOR / Subcontractor and Supplier indicating CONTRACTOR / Subcontractor's efforts to expedite item(s).

e) If item(s) are being purchased by a Subcontractor, provide correspondence, meeting notes, etc., that reflect CONTRACTOR's efforts with the Subcontractor to expedite delivery of the item(s).

.3 When acts of OWNER, E/A, utility owners or other contractors employed by OWNER delay progress of work through no fault of CONTRACTOR. The CONTRACTOR will only be entitled to an extension of time for delays that affect the Critical Path of the Work and that are not caused by the CONTRACTOR.

.4 When CONTRACTOR is delayed by strikes, lockouts, fires, losses from natural causes, or other unavoidable cause or causes beyond CONTRACTOR's control.

12.2 Calendar Day Contracts:

12.2.1 Under a Calendar Day Contract, CONTRACTOR may be granted an extension of time because of unusual inclement weather, including but not limited to unusual rainfall events, which are beyond the normal rainfall recorded and expected for Austin, Texas. However, the CONTRACTOR will not be granted an extension of time for "normal rainfall", as described below.

12.2.2 "Unusual Inclement Weather" is defined as a rain event or other weather related event which occurs at the site and is of sufficient magnitude to prevent CONTRACTOR from performing units of Work critical to maintaining the Progress Schedule.

12.2.3 Baseline Rain Day Determination. "Normal rainfall" compiled by the State climatologist, based on U.S. Weather Bureau Records for Austin, Texas, is considered a part of the Calendar Day Contract, and is not a justification for an extension of time. Listed below are the number of days in each month for which no compensatory days for rainfall events ("Rain Days") in such months may be claimed:

January..... 8 days

February..... 8 days

March..... 7 days

April..... 7 days

May..... 9 days

June..... 6 days

July..... 5 days

August..... 5 days

September..... 7 days

October..... 7 days

November..... 7 days

December..... 7 days

Rain Days in addition to the baseline Rain Day determination described above will be measured with the Owner's Representative's approval at the nearest operational public weather data collection facility to the site, including but not limited to the OWNER's early warning flood gauge system.

12.2.4 CONTRACTOR may receive credit in any month for Unusual Inclement Weather, and specifically for any Rain Days in that month which exceed the number of Rain Days allocated to that month, if a Claim is made in accordance with paragraph 12.1.1 and the weather event meets the definition for "Unusual Inclement Weather", and as applicable, "Rain Day" and such claimed day is a day on which Work critical to maintaining the Progress Schedule is scheduled to be performed and is otherwise capable of being performed.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.1 Notice of Defects: Prompt notice of all defective Work of which OWNER or E/A has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected or accepted as provided in Article 13. CONTRACTOR must give OWNER and E/A prompt notice of any defective Work of which CONTRACTOR has actual knowledge.

13.2 Access to Work: OWNER, E/A, E/A's Consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies having jurisdiction will have access to the Work at reasonable times for observing, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access, and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

13.3 Tests and Inspections:

13.3.1 CONTRACTOR shall give timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.3.2 OWNER shall employ and pay for services of an independent testing laboratory to perform all inspections, tests or approvals required by the Contract Documents except:

.1 for inspections, tests or approvals covered by paragraphs 13.3.3 and 13.3.4 below;

.2 that costs incurred for tests or inspections conducted pursuant to paragraph 13.4.3 shall be paid as provided in paragraph 13.4.3;

.3 for reinspecting or retesting defective Work, including any associated costs incurred by the testing laboratory for cancelled tests or standby time; and

.4 as otherwise specifically provided in the Contract Documents.

13.3.3 If laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith and furnish Owner's Representative the required certificates of inspection or approval.

13.3.4 CONTRACTOR shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for OWNER's and E/A's review of submittals covering materials, equipment, and mix designs to be incorporated in the Work.

13.3.5 All testing laboratories shall meet the requirements of ASTM E-329.

13.4 Uncovering Work:

13.4.1 If any Work (or the work of others) that is to be inspected, tested or approved is covered by CONTRACTOR without written concurrence of Owner's Representative, or if any Work is covered contrary to the written request of Owner's Representative, it must, if requested by Owner's Representative, be uncovered and recovered at CONTRACTOR's expense.

13.4.2 Uncovering Work as provided in paragraph 13.4.1 shall be at CONTRACTOR's expense unless CONTRACTOR has given Owner's Representative timely notice of CONTRACTOR's intention to cover the same and Owner's Representative has not acted within five (5) working days to such notice.

13.4.3 If Owner's Representative considers it necessary or advisable that covered Work be observed, inspected or tested, CONTRACTOR shall uncover, expose or otherwise make available for observation, inspection or testing that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all claims, costs, losses and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Amount, and may make a Claim therefor as provided in Article 11. If,

however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Amount or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement and reconstruction; and CONTRACTOR may make a Claim therefor as provided in Articles 11 and 12.

13.5 OWNER May Stop the Work:

13.5.1 If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers, suitable materials, and/or equipment; or fails to furnish or perform the Work in such a way that the Work in progress or the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

13.5.2 If CONTRACTOR fails to correct defective Work or submit a satisfactory plan to take corrective action, with procedure and time schedule, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until cause for such order has been eliminated, or take any other action permitted by this Contract. A notice to stop the Work, based on defects, shall not stop calendar or working days charged to the Project.

13.6 Correction or Removal of Defective Work: If required by OWNER, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by Owner's Representative, remove it from the site and replace it with Work that is not defective. CONTRACTOR shall correct or remove and replace defective Work, or submit a plan of action detailing how the deficiency will be corrected, within the time frame identified in the notice of defective Work. CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.7 Warranty period:

13.7.1 If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by laws or regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents (e.g. paragraph 14.11.2), any Work, including work performed after the Substantial Completion date, is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions:

(i) correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with Work that is not defective, and

(ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom.

If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR. The warranty period will be deemed to be renewed and recommenced in connection with the completed items of Work requiring correction.

13.7.2 In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the warranty period for that item may start to run from an earlier date if so provided in the Contract Documents.

13.7.3 If correction of defective Work will affect the function or use of the facility CONTRACTOR shall not proceed with correction of defective Work without prior coordination and approval of OWNER.

13.7.4 The obligations of the CONTRACTOR to perform warranty work will survive the acceptance of the Work and any termination of the Contract.

13.8 Acceptance of Defective Work: If, instead of requiring correction or removal and replacement of defective Work, OWNER decides to accept it, OWNER may do so. CONTRACTOR shall pay all claims, costs, losses and damages attributable to OWNER's evaluation of and determination to accept such defective Work. If any such acceptance occurs prior to recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents and compensating OWNER for the diminished value of the defective Work. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER after a calculation by OWNER of the diminution in value of the defective Work.

13.9 OWNER May Correct Defective Work: If CONTRACTOR fails within a reasonable time after Written Notice of OWNER to correct defective Work, or to remove and replace rejected Work, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven (7) calendar days' Written Notice to CONTRACTOR, correct and remedy any such deficiency. If, in the opinion of the Owner's Representative, significant progress has not been made during this seven (7) calendar day period to correct the deficiency, the OWNER may exercise any actions necessary to remedy the deficiency. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, its agents and employees, OWNER's other contractors, E/A and E/A's consultants access to the site to enable OWNER to exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's defective Work. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones), or claims of damage because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 Application for Progress Payment:

14.1.1 Within 45 days from when the work was performed by the Contractor and Subcontractors, but not more often than once a month, CONTRACTOR shall submit to Owner's Representative for review an Application for Payment, in a form

acceptable to OWNER, filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

14.1.2 Such applications shall not include requests for payment on account of changes in the Work which have been properly authorized by Change Directives but not yet included in Change Orders.

14.1.3 Such applications shall not include requests for payment of amounts the CONTRACTOR does not intend to pay to a Subcontractor or Supplier because of a dispute or other reason.

14.1.4 If payment is requested on the basis of materials or equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall be accompanied by such bills of sale, data and other procedures satisfactory to OWNER substantiating OWNER's title to such materials or equipment or otherwise protecting OWNER's interest. Payment on account of such materials or equipment will not include any amount for CONTRACTOR's overhead or profit or relieve CONTRACTOR of its obligation to protect and install such materials or equipment in accordance with the requirements of the Contract and to restore damaged or defective Work. If materials or equipment are stored at another location, at the direction of the OWNER they shall be stored in a bonded and insured facility, accessible to E/A and OWNER, and shall be clearly marked as property of OWNER. Title to materials delivered to the site of the Work or a staging area will pass to OWNER upon payment by OWNER without the necessity for further documentation. Risk of loss will not pass to OWNER until acceptance.

14.1.5 Where the original Contract Amount is less than $400,000, OWNER will pay CONTRACTOR total amount of approved Application for Payment, less ten percent (10%) of amount thereof, which ten percent (10%) will be retained until final payment, less all previous payments and less all other sums that may be retained by OWNER under the terms of this Agreement. Where the original Contract Amount is $400,000 or more, OWNER will pay CONTRACTOR total amount of approved Application for Payment, less five percent (5%) of amount thereof, which five percent (5%) will be retained until final payment, less all previous payments and less all other sums that may be retained by OWNER under the terms of this Agreement. In either case, if the Work is near completion and delay occurs due to no fault or neglect of CONTRACTOR, OWNER may pay a portion of the retained amount to CONTRACTOR. CONTRACTOR, at OWNER's option, may be relieved of the obligation to complete the Work and, thereupon, CONTRACTOR shall receive payment of the balance due under the Contract subject to the conditions stated under paragraph 15.2. A Subcontractor may submit a written request to the CONTRACTOR and Project Manager requesting release of retainage for work by the Subcontractor that has been completed and approved. The Project Manager will evaluate the request and if it is approved, the Project Manager will request the CONTRACTOR to include the request for release of an appropriate amount of retainage in the next Pay Application.

14.1.6 Applications for Payment shall include the following documentation:

.1 updated Progress Schedule;

.2 monthly subcontractor report;

.3 any other documentation required under the Supplemental General Conditions.

14.2 CONTRACTOR's Warranty of Title: CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER free and clear of all Liens no later than the time of payment to CONTRACTOR.

14.3 Review of Applications for Progress Payment:

14.3.1 Owner's Representative will, within seven (7) calendar days after receipt of each Application for Payment, either indicate a recommendation for payment and forward the Application for processing by OWNER, or return the Application to CONTRACTOR indicating Owner's Representative's reasons for refusing to recommend payment. In the latter case, CONTRACTOR shall make the necessary corrections and resubmit the Application.

14.3.2 Owner's Representative's recommendation of any payment requested in an Application for Payment will constitute a representation by Owner's Representative, based upon Owner's Representative's on-site observations of the executed Work and on Owner's Representative's review of the Application for Payment and the accompanying data and schedules, that to the best of Owner's Representative's knowledge, information and belief:

.1 the Work has progressed to the point indicated; and

.2 the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for unit price Work, and to any other qualifications stated in the recommendation).

14.3.3 By recommending any such payment, Owner's Representative will not thereby be deemed to have represented that:

.1 exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work;

.2 examination has been made to ascertain how or for what purpose CONTRACTOR has used money previously paid on account of the Contract Amount;

.3 CONTRACTOR's construction means, methods, techniques, sequences or procedures have been reviewed; or

.4 that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

14.4 Decisions to Withhold Payment:

14.4.1 OWNER may withhold or nullify the whole or part of any payment to such extent as may be necessary on account of:

.1 defective Work not remedied;

.2 third party Claims filed or reasonable evidence indicating probable filing of such Claims;

.3 failure of CONTRACTOR to make payments properly to Subcontractors for labor, materials or equipment;

.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Amount;

.5 damage to OWNER or another contractor;

.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

.7 failure of CONTRACTOR to submit a schedule of values in accordance with the Contract Documents;

.8 failure of CONTRACTOR to submit a submittal schedule in accordance with the Contract Documents;

.9 failure of CONTRACTOR to submit and update a construction Progress Schedule in accordance with the Contract Documents;

.10 failure of CONTRACTOR to maintain a record of changes on drawings and documents;

.11 failure of CONTRACTOR to maintain weekly payroll reports and, as applicable, provide copies of reports in a timely manner upon request of OWNER;

.12 failure of CONTRACTOR to submit monthly subcontractor reports;

.13 CONTRACTOR's neglect or unsatisfactory prosecution of the Work, including failure to clean up;

.14 failure of CONTRACTOR to comply with the Austin City Code, Chapter 2-9-A, as amended, "Minority-Owned and Women-Owned Business Enterprise Procurement Program;" or

.15 failure of CONTRACTOR to comply with any provision of the Contract Documents.

14.4.2 When the above reasons for withholding payment are removed, CONTRACTOR shall resubmit a statement for the value of Work performed. Payment will be made within thirty (30) calendar days of receipt of approved Application for Payment.

14.4.3 Subcontractors may request Partial Payment when the OWNER withholds payment of an invoice to the CONTRACTOR for any reason listed in Section 14.4.1. If payment is withheld by the OWNER, the CONTRACTOR shall notify all affected Subcontractors within two (2) working days of notice that payment is being withheld. Upon notification, Subcontractors may submit a formal written request for Partial Payment to the CONTRACTOR and OWNER. If directed by the OWNER, the CONTRACTOR shall within three (3) working days resubmit to the OWNER an invoice for the same period that includes only the work performed by the requesting Subcontractors during this period. The OWNER will review this resubmitted invoice in accordance with Section 14.3.1. Upon receipt of payment for the resubmitted invoice, CONTRACTOR shall pay the subcontractor within ten (10) Calendar Days in accordance with Section 6.4.7.

14.5 Delayed Payments: Should OWNER fail to make payment to CONTRACTOR of sum named in any Application for Payment within thirty (30) calendar days after the day on which OWNER received the mutually acceptable Application for Payment, then OWNER will pay to CONTRACTOR, in addition to sum shown as due by such Application for Payment, interest thereon at the rate specified in Government Code, Section 2251.025(b) from date due until fully paid, which shall fully liquidate any injury to CONTRACTOR growing out of such delay in payment.

14.6 Arrears: No money shall be paid by OWNER upon any claim, debt, demand or account whatsoever, to any person, firm or corporation who is in arrears to City for taxes; and City shall be entitled to counterclaim and automatically offset against any such debt, claim, demand or account in the amount of taxes so in arrears and no assignment or transfer of such debt, claim, demand or account after said taxes are due, shall affect the right of OWNER to so offset said taxes, and associated penalties and interest if applicable, against the same.

14.7 Substantial Completion:

14.7.1 When the CONTRACTOR considers that the Work, or a portion thereof which the OWNER agrees to accept separately, is substantially complete, the CONTRACTOR shall notify Owner's Representative and request a determination as to whether the Work or designated portion thereof is substantially complete. If Owner's Representative does not consider the Work substantially complete, Owner's Representative will notify CONTRACTOR giving reasons therefor. After performing any required Work, CONTRACTOR shall then submit another request for Owner's Representative to determine Substantial Completion. If Owner's Representative considers the Work substantially complete, Owner's Representative will prepare and deliver a certificate of Substantial Completion which shall establish the date of Substantial Completion, shall include a punch list of items to be completed or corrected before final payment, shall establish the time within which CONTRACTOR shall finish the punch list, and shall establish responsibilities of the OWNER and CONTRACTOR for security, maintenance, heat, utilities, damage to the Work, warranty and insurance. Failure to include an item on the punch list does not alter the responsibility of CONTRACTOR to complete all Work in accordance with the Contract Documents. If a Certificate of Occupancy is required by public authorities having jurisdiction over the Work, said certificate shall be issued before the Work or any portion thereof is considered substantially complete. The certificate of Substantial Completion shall be signed by OWNER and CONTRACTOR to evidence acceptance of the responsibilities assigned to them in such certificate.

14.7.2 OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER will allow CONTRACTOR reasonable access to complete or correct items on the punch list and complete warranty work.

14.8 Partial Utilization: Use by OWNER, at OWNER's option, of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) OWNER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work in accordance with the following:

14.8.1 OWNER at any time may request CONTRACTOR to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR shall certify to Owner's Representative that such part of the Work is substantially complete and request Owner's Representative to issue a certificate of substantial Completion for that part of the Work. CONTRACTOR at any time may notify Owner's Representative that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request Owner's Representative to issue a certificate of Substantial Completion for that part of the Work. The provisions of paragraphs 14.7.1 and 14.7.2 will apply with respect to certification of Substantial Completion

of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.8.2 Such partial utilization is authorized by public authorities having jurisdiction over the Work.

14.9 Final Inspection: Upon Written Notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, Owner's Representative will make a final inspection with CONTRACTOR and provide Written Notice of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.10 Final Application for Payment: CONTRACTOR may make application for final payment following the procedure for progress payments after CONTRACTOR has completed all such corrections to the satisfaction of Owner's Representative and delivered the following documents:

14.10.1 Affidavit by CONTRACTOR certifying the payment of all debts and claims;

14.10.2 Three (3) complete operating and maintenance manuals, each containing maintenance and operating instructions, schedules, guarantees, and other documentation required by the Contract Documents;

14.10.3 Record documents (as provided in paragraph 6.10);

14.10.4 Consent of surety, if any, to final payment. If surety is not provided, complete and legally effective releases or waivers (satisfactory to OWNER) of all claims arising out of or filed in connection with the Work;

14.10.5 Certificate evidencing that insurance required by the Supplemental General Conditions will remain in force after final payment and through the warranty period;

14.10.6 Non-Use of Asbestos Affidavit (After Construction);

14.10.7 Subcontractor report and all other documentation necessary for evaluation of CONTRACTOR’s fulfillment of the Contract MBE/WBE or DBE goals;

14.10.8 Documentation of notice to claimants, to the extent applicable and subject to subparagraph 14.11.4;

14.10.9 Proof of performance Bond extension through warranty period, if a performance Bond was required; and

14.10.10 Any other documentation called for in the Contract Documents.

14.11 Final Payment and Acceptance:

14.11.1 If, on the basis of observation of the Work during construction, final inspection, and review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Owner's Representative is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled and there are no outstanding claims, Owner's Representative will recommend the final Application for Payment and thereby notify the OWNER, who will pay to CONTRACTOR the balance due CONTRACTOR under the terms of the Contract. If the sole remaining unfinished item to complete the Work is the reestablishment of vegetation, CONTRACTOR may execute a revegetation letter with fiscal posted (letter of credit) to ensure completion of this item. This Work must be accomplished within one hundred twenty (120) Calendar Days of the date of Final Completion of the Work. When

the permanent erosion control has been established, OWNER will initiate an inspection for final acceptance of the erosion controls. If the revegetation is not completed within the one hundred twenty (120) Calendar Days, OWNER, at its option, may complete the Work using the posted fiscal.

14.11.2 If the Contract measures Contract Time to Final Completion, rather than Substantial Completion, Owner's Representative will issue a letter of final acceptance to CONTRACTOR which establishes the Final Completion date and initiates the one-year warranty period. If the sole remaining unfinished item to complete the Work is the reestablishment of vegetation and CONTRACTOR has executed a revegetation letter with fiscal posted (letter of credit) to ensure completion of this item, the Owner's Representative will issue a letter of conditional acceptance to CONTRACTOR which established the Final Completion date and initiates the one-year warranty period.

14.11.3 Final payment is considered to have taken place when CONTRACTOR or any of its representatives negotiates OWNER's final payment check, whether labeled final or not, for cash or deposits check in any financial institution for its monetary return.

14.11.4 The OWNER will withhold funds sufficient to cover the amount of any unresolved contract claims from final payment for six months under the following limited conditions:

.1 CONTRACTOR must provide written notice to the claimant (via certified mail or hand delivery) that (i) OWNER will hold funds in the amount of the disputed claim for six (6) months from the date of the receipt of the notice and (ii) CONTRACTOR and the claimant have certain alternative dispute resolution rights; and

.2 CONTRACTOR must provide OWNER with a copy of the receipted notice.

Provided the claimant has received notice under this section, OWNER will release the withheld funds, if the CONTRACTOR provides a bond in substantial compliance with the provisions of Section 52.231 of the Texas Property Code; when the OWNER receives a settlement or release of the claim with accompanying instructions regarding payment; upon resolution of the claim in litigation, if suit is filed within such six (6) month period and the OWNER receives written notice of such filing; or when such six (6) month period has passed, if no such bond, settlement, release, or notice of filing of suit have been received. The above provisions notwithstanding, if efforts to timely resolve a disputed claim are not being made to OWNER'S reasonable satisfaction, OWNER may, in its complete discretion, file an interpleader action and deposit the withheld funds in the registry of a court of competent jurisdiction. In addition, CONTRACTOR must include a provision in each of its subcontracts that the prevailing party in any litigation arising thereunder will be entitled to recover its costs of court and reasonable attorney's fees.

14.12 Waiver of Claims: The making and acceptance of final payment will constitute:

14.12.1 a waiver of claims by OWNER against CONTRACTOR, except claims arising from unsettled claims, from defective Work appearing after final inspection, from failure to comply with the Contract Documents or the terms of any warranty specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

14.12.2 a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.1 OWNER May Suspend Work Without Cause: At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than ninety (90) calendar days by Written Notice to CONTRACTOR which will fix the date on which the Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Amount or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes an approved Claim therefor as provided in Articles 11 and 12.

15.2 OWNER May Terminate Without Cause: Upon seven (7) calendar days' Written Notice to CONTRACTOR, OWNER may, without cause and without prejudice to any right or remedy of OWNER, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items):

15.2.1 for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination;

15.2.2 for reasonable demobilization costs; and

15.2.3 for anticipated profits on completed and accepted Work not previously paid and not included in separate pay items calculated to date of termination but not for anticipated profit on the entire Contract not previously paid, unabsorbed overhead, or lost opportunity.

15.3 OWNER May Terminate With Cause:

15.3.1 Upon the occurrence of any one or more of the following events:

.1 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents;

.2 if CONTRACTOR disregards laws or regulations of any public body having jurisdiction;

.3 if CONTRACTOR disregards the authority of Owner's Representative;

.4 if CONTRACTOR makes fraudulent statements;

.5 if CONTRACTOR fails to maintain a work force adequate to accomplish the Work within the Contract Time;

.6 if CONTRACTOR fails to make adequate progress and endangers successful completion of the Contract; or

.7 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety, if any) seven (7) calendar days Written Notice terminate the services of CONTRACTOR. OWNER, at its option, may proceed with negotiation with surety for completion of the Work. Alternatively, OWNER may under these circumstances exclude CONTRACTOR from the site and take possession of the Work (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Amount exceeds all claims, costs,

losses and damages sustained by OWNER arising out of or resulting from completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses and damage exceed such unpaid balance, CONTRACTOR or surety shall pay the difference to OWNER. In the event that a termination for cause is found to be wrongful, the termination shall be converted to a termination without cause as set forth in Section 15.2 and CONTRACTOR'S remedy for wrongful termination is limited to the recovery of the payments permitted for termination without cause as set forth in Section 15.2.

15.3.2 Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR and surety then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability. In the event OWNER terminates Contract with cause, OWNER may reject any and all Bids submitted by CONTRACTOR for up to three (3) years after the date of such termination. These sanctions will be administered in accordance with the City of Austin Purchasing Office Probation, Suspension, and Debarment Procedures for Vendors, which include notice and an opportunity for a hearing.

15.4 CONTRACTOR May Stop Work or Terminate: If through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety (90) calendar days by OWNER or under an order of court or other public authority, or (except during disputes) Owner's Representative fails to forward for processing any mutually acceptable Application for Payment within thirty (30) calendar days after it is submitted, or (except during disputes) OWNER fails for sixty (60) calendar days after it is submitted to pay CONTRACTOR any sum finally determined by OWNER to be due, then CONTRACTOR may, upon seven (7) calendar days' Written Notice to OWNER, and provided OWNER does not remedy such suspension or failure within that time, terminate the Agreement and recover from OWNER payment on the same terms as provided in paragraph 15.2. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if (except during disputes) Owner's Representative has failed to forward for processing any mutually acceptable Application for Payment within thirty (30) calendar days after it is submitted, or (except during disputes) OWNER has failed for sixty (60) calendar days after it is submitted to pay CONTRACTOR any sum finally determined by OWNER to be due, CONTRACTOR may upon seven (7) calendar days' Written Notice to OWNER stop the Work until payment of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.4 are not intended to preclude CONTRACTOR from making a Claim under Articles 11 and 12 for an increase in Contract Amount or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this paragraph.

15.5 Discretionary Notice to Cure: In its complete discretion, OWNER may, but is not required to, provide a Notice to Cure to CONTRACTOR and its surety to cure an event of default described above and/or an anticipatory breach of contract and, if required by OWNER, to attend a meeting with OWNER, regarding the Notice to Cure, the event of default, and/or the anticipatory breach of contract. The Notice to Cure will set forth the time limit in which the cure is to be completed or commenced and diligently prosecuted. Upon receipt of any Notice to Cure, CONTRACTOR shall prepare a report describing its program and measures to affect the cure of the event of default and/or anticipatory breach of contract within the time required by the Notice to Cure. The CONTRACTOR'S report must be delivered to OWNER at least three (3) days prior to any requested meeting with the OWNER and surety.

15.6 Bankruptcy: If CONTRACTOR declares bankruptcy or is adjudged bankrupt or makes an assignment for the benefit of creditors or if a receiver is appointed for the benefit of creditors or if a receiver is appointed by reason of CONTRACTOR'S insolvency, CONTRACTOR may be unable to perform this Contract in accordance with the Contract

requirements. In such an event, OWNER may demand CONTRACTOR or its successor in interest provide OWNER with adequate assurance of CONTRACTOR'S future performance in accordance with the terms and conditions of the Contract. If CONTRACTOR fails to provide adequate assurance of future performance to OWNER'S reasonable satisfaction within ten (10) days of such a request, OWNER may terminate the CONTRACTOR'S services for cause or without cause, as set forth above. If CONTRACTOR fails to provide timely adequate assurance of its performance and actual performance, OWNER may prosecute the Work with its own forces or with other contractors on a time and material or other appropriate basis and the cost of which will be charged against the Contract balance.

15.7 Duty to Mitigate: In the event of any termination or suspension under this Contract, the CONTRACTOR agrees to and shall take all reasonable actions to mitigate its damages and any and all claims which may be asserted against the OWNER.

15.8 Responsibility during Demobilization: While demobilizing, the CONTRACTOR will take all necessary and reasonable actions to preserve and protect the Work, the site and other property of the OWNER or others at the site.

ARTICLE 16 - DISPUTE RESOLUTION

16.1 Filing of Claims:

16.1.1 Claims arising from the circumstances identified in paragraphs 3.2, 4.1, 4.2.2, 4.2.4, 6.4.2, 6.11.5.2, 6.17, 7.5, 8.6, 9.5, 10.4.2, 13.4.3, 13.8, 13.9, 15.1, 15.2, 15.3, or 15.4, or other occurrences or events, shall be made by Written Notice delivered by the party making the Claim to the other party within thirty (30) calendar days after the start of the occurrence or event giving rise to the Claim and stating the general nature of the Claim. Notice of the amount of the Claim with supporting data shall be delivered in writing within thirty (30) calendar days after Written Notice of Claim is delivered by claimant and shall represent that the adjustment claimed covers all known amounts and/or extensions of time to which claimant is entitled.

16.1.2 Within thirty (30) calendar days of receipt of notice of the amount of the Claim with supporting data, Owner's Representative and CONTRACTOR shall meet to discuss the Claim, after which an offer of settlement or notification of no settlement offer will be made to claimant. If claimant is not satisfied with the proposal presented, claimant shall have thirty (30) calendar days in which to: (i) submit additional supporting data requested by the other party; (ii) modify the initial Claim; or (iii) request Alternative Dispute Resolution.

16.2 Alternative Dispute Resolution:

16.2.1 If a dispute exists concerning a Claim, the parties agree to use the following procedure prior to pursuing any other available remedies. OWNER reserves the right to include the E/A as a party.

16.2.2 Negotiating with Previously Uninvolved Personnel: Either party may make a written request for a meeting to be held between representatives of each party within fourteen (14) Calendar Days of the request or such later period that the parties may agree to. Each party shall endeavor to include, at a minimum, one (1) previously uninvolved senior level decision maker (an owner, officer, or employee of each organization) empowered to negotiate on behalf of their organization. If a previously uninvolved senior level decision maker is unavailable due to the size of the CONTRACTOR'S organization or any other reason, the

CONTRACTOR shall nonetheless provide an appropriate senior level decision maker for the meeting. The purpose of this and any subsequent meetings will be good faith negotiations of the matters constituting the dispute. Negotiations shall be concluded within thirty (30) Calendar Days of the first meeting, unless mutually agreed otherwise. This step may be waived by a written agreement signed by both parties, in which event the parties may proceed directly to mediation as described below.

16.2.3 Mediation:

.1 If the procedure described in 16.2.2 proves unsuccessful or is waived pursuant to its terms, the parties shall initiate the mediation process. OWNER and CONTRACTOR agree to select within thirty (30) calendar days a mediator trained in mediation skills, to assist with resolution of the dispute. OWNER and CONTRACTOR agree to act in good faith in the selection of the mediator and to give consideration to qualified individuals nominated to act as mediator. Nothing in this agreement prevents the parties from relying on the skills of a person who also is trained in the subject matter of the dispute and/or a contract interpretation expert. Should the parties fail to agree on a mediator within thirty (30) calendar days of initiation of the mediation process, the parties agree to ask the Travis County Dispute Resolution Center to select a qualified individual, which selection shall be binding on the parties.

.2 Mediation is a forum in which an impartial person, the mediator, facilitates communication between parties to promote reconciliation, settlement, or understanding among them. The parties hereby agree that mediation, at a minimum, shall provide for (i) conducting an on-site investigation, if appropriate, by the mediator for fact gathering purposes, (ii) a meeting of all parties for the exchange of points of view and (iii) separate meetings between the mediator and each party to the dispute for the formulation of resolution alternatives. The parties agree to participate in mediation in good faith for up to thirty (30) calendar days from the date of the first mediation session, unless mutually agreed otherwise. Should the parties fail to reach a resolution of the dispute through mediation, then each party is released to pursue other remedies available to them.

16.3 Resolution of Disputes between Contractor and Subcontractor or Supplier: If a dispute exists concerning a claim between a CONTRACTOR and a Subcontractor or Supplier, the CONTRACTOR agrees to participate with such Subcontractor and/or Supplier in a process substantially paralleling the steps set out in paragraphs 16.1 and 16.2 above, including the delivery of written notices, submission of supporting data, negotiation with previously uninvolved personnel, and, if such alternative dispute resolution process is unsuccessful, mediation between the parties to the claim. If the CONTRACTOR and Subcontractor or Supplier agreement provides an alternative dispute resolution process, which provides substantially equivalent rights to those set forth herein, it may be followed, unless the CONTRACTOR and affected Subcontractor or Supplier agree to follow the process outlined above. The OWNER is not a party to the alternative dispute resolution process between the CONTRACTOR and Subcontractor or Supplier and will not pay any costs incurred in the process. Each party will be responsible for its own expenses incurred in the process, which will include an equal share of the mediation expenses, unless otherwise determined by the mediator. NOTICE: THE PROCESS SET FORTH HEREIN IS NOT A SUBSTITUTE FOR THE STATUTORY PAYMENT BOND CLAIM PROCESS.

16.4 Claim Calculation:

16.4.1 Delay Claims: The intent of paying for delay damages is to reimburse the CONTRACTOR for actual expense arising out of a compensable delay. No profit or force account markups, other than labor burden, will be allowed for delay claims by the CONTRACTOR seeking reimbursement for expenses arising out of an alleged event of delay. No consequential damages will be allowed to the CONTRACTOR in connection with any claimed delays. If the CONTRACTOR requests compensation for delay damages and the delay is determined to be compensable, then standby equipment costs and project overhead compensation will be based on the duration of the compensable delay and the following:

.1 Standby equipment costs will not be allowed during periods when the equipment would have otherwise been idle. Standby equipment time will not exceed more than eight (8) hours per twenty-four (24) hour day, forty (40) hours per week, and one hundred seventy-six (176) hours per month. Standby equipment costs will be paid at 50 percent (50%) of the applicable Rental Rate Blue Book rates and calculated by dividing the monthly rate by one hundred seventy-six (176), multiplying the result by the number of standby hours and multiplying that number by the regional adjustment factor and the rate adjustment factor contained in the Blue Book. Operating costs will not be allowed.

.2 Project overhead will be determined from actual costs that the CONTRACTOR will be required to document. Project overhead is defined as the administrative and supervisory expenses incurred at the work site and will not include home office overhead.

16.4.2 General: Except as limited with respect to delay claims, as set forth above, the criteria set forth in Section 11.4.1 may be used as a basis to calculate an adjustment in the Contract Amount in the resolution of a claim, provided that there will be no compensation for home office overhead.

16.5 MBE/WBE Program Progressive Sanctions: CONTRACTOR is subject to progressive sanctions for failure of CONTRACTOR to comply with Austin City Code, Chapter 2-9A, as amended: "Minority-owned and Women-owned Business Enterprise Procurement Program." Available sanctions for Program violations are set forth in Program rules adopted by the Small and Minority Business Resources Department (SMBR), as amended, and may include the following progressive sanctions for Program violations within a rolling 24-month period: (i) a period of probation for up to six (6) months for the first violation (ii) a period of suspension from bidding for up to 24 months for the second violation, and (iii) a period of debarment for up to five (5) years for the third violation. If the CONTRACTOR engages in more than one of the violations listed below at any given time, OWNER has the discretion to determine whether such actions should be counted as multiple violations of the MBE/WBE Ordinance. Program violations include:

.1 providing false or misleading information to the OWNER in connection with the submission of a Bid, responses to request for qualifications or Proposals, Good Faith Efforts documentation, post award compliance or other Program operations;

.2 substituting M/WBE Subcontractors without first receiving approval for such substitutions;

.3 failure to comply with the approved Compliance Plan without an approved request for a change, an approved Change Order or other approved change to the Contract;

.4 violation of any other provision of the "Minority-owned and Women-owned Business Enterprise Procurement Program";

.5 providing false or misleading information to the OWNER in connection with an application for or challenge to certification, recertification or decertification as a MBE/WBE; and

.6 bid shopping.

The Progressive Sanctions will be administered in accordance with the City of Austin Purchasing Office Probation, Suspension, and Debarment Procedures for Vendors, which includes notice and an opportunity for a hearing.

ARTICLE 17 – MISCELLANEOUS

17.1 Venue: In the event of any suit at law or in equity involving the Contract, venue shall be exclusively in Travis County, Texas and the laws of the State of Texas shall apply to the interpretation and enforcement of the Contract.

17.2 Extent of Agreement: This Contract represents the entire and integrated agreement between the OWNER and CONTRACTOR with respect to the subject matter hereof and supersedes all prior negotiations, representations or agreements, either written or oral.

17.3 Cumulative Remedies: The rights and remedies available to the parties are not to be construed in any way as a limitation of any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations, by special warranty or guarantees or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. Specifically, the OWNER is not required to only assess liquidated damages, and OWNER may elect to pursue its actual damages resulting from the failure of the CONTRACTOR to complete the Work in accordance with the requirements of the Contract Documents.

17.4 Severability: If any word, phrase, clause, sentence or provision of the Contract, or the application of same to any person or set of circumstances is for any reason held to be unconstitutional, invalid or unenforceable, that finding shall only effect such word, phrase, clause, sentence or provision, and such finding shall not affect the remaining portions of this Contract; this being the intent of the parties in entering into the Contract; and all provisions of the Contract are declared to be severable for this purpose.

17.5 Independent Contractor: The Contract shall not be construed as creating an employer/employee relationship, a partnership, or a joint venture. CONTRACTOR is an independent contractor and CONTRACTOR's services shall be those of an independent contractor. CONTRACTOR agrees and understands that the Contract does not grant any rights or privileges established for employees of OWNER.

17.6 Prohibition of Gratuities: OWNER may, by Written Notice to CONTRACTOR, terminate the Contract without liability if is determined by OWNER that gratuities were offered or given by CONTRACTOR or any agent or representative of CONTRACTOR to any officer or employee of OWNER with a view toward securing the Contract or securing favorable treatment with respect to the awarding or amending or the making of any determinations with respect to the performing of such Contract. In the event the Contract is terminated by OWNER pursuant to this provision, OWNER shall be entitled, in addition to any other rights

and remedies, to recover or withhold the amount of the cost incurred by CONTRACTOR in providing such gratuities.

17.7 Prohibition Against Personal Interest in Contracts: No officer, employee, independent consultant, or elected official of OWNER who is involved in the development, evaluation, or decision-making process of the performance of any solicitation shall have a financial interest, direct or indirect, in the Contract resulting from that solicitation. Any violation of this provision, with the knowledge, expressed or implied, of CONTRACTOR shall render the Contract voidable by OWNER.

17.8 OWNER'S Right to Audit:

17.8.1 Records means all records generated by or on behalf of CONTRACTOR and each Subcontractor and Supplier of CONTRACTOR, whether paper, electronic, or other media, which are in any way related to performance of or compliance with this Contract, including, without limitation:

.1 accounting records;

.2 written policies and procedures;

.3 subcontract files (including proposals of successful and unsuccessful Bidders, Bid recaps, etc.);

.4 original estimates and estimating work sheets;

.5 correspondence;

.6 Change Order files (including documentation covering negotiated settlements);

.7 back charge logs and supporting documentation;

.8 general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends;

.9 lump sum agreements between CONTRACTOR and any Subcontractor or Supplier;

.10 records necessary to evaluate: Contract compliance, Change Order pricing, and any Claim submitted by CONTRACTOR or any of its payees; and

.11 any other CONTRACTOR record that may substantiate any charge related to this Contract.

17.8.2 CONTRACTOR shall allow OWNER'S agent or its authorized representative to inspect, audit, and/or reproduce, or all three, all Records generated by or on behalf of CONTRACTOR and each Subcontractor and Supplier, upon OWNER'S written request. Further, CONTRACTOR shall allow OWNER'S agent or authorized representative to interview any of CONTRACTOR'S employees, all Subcontractors and all Suppliers, and all their respective employees.

17.8.3 CONTRACTOR shall retain all its Records, and require all its Subcontractors and Suppliers to retain their respective Records, during this Contract and for three (3) years after final payment, until all audit and litigation matters that OWNER has brought to the attention of CONTRACTOR are resolved, or as otherwise required by law, whichever is longer. OWNER'S right to inspect, audit, or reproduce Records, or interview employees of CONTRACTOR or its respective Subcontractors or Suppliers exists during this Contract, and for three (3) years after final payment, until all audit and litigation matters that OWNER has brought to CONTRACTOR'S attention are resolved, or as otherwise required by law, whichever is longer, and at

no cost to OWNER, either from CONTRACTOR or any of its Subcontractors or Suppliers that may furnish Records or make employees available for interviewing.

17.8.4 CONTRACTOR must provide sufficient and accessible facilities during its normal business hours for OWNER to inspect, audit, or reproduce Records, or all three, and to interview any person about the Records.

17.8.5 CONTRACTOR shall insert these requirements in each written contract between CONTRACTOR and any Subcontractor or Supplier and require each Subcontractor and Supplier to comply with these provisions.

17.9 Survival: The terms and conditions of this Contract, which contemplate a period of time beyond completion or termination will survive such completion or termination and not be merged therein or otherwise terminated.

17.10 No Waiver: The waiver of any provision of this Contract will not be deemed to be a waiver of any other provision of this Contract. No waiver of any provision of this Contract will be deemed to constitute a continuing waiver unless expressly provided in writing, nor will a waiver of any default be deemed a waiver of any subsequent defaults of the same type. The failure at any time to enforce this Contract, whether the default is known or not, shall not constitute a waiver or estoppel of the right to do so.

17.11 Conditions Precedent to Right to Sue: Notwithstanding anything herein to the contrary, the CONTRACTOR will have at least 90 days to give notice of a claim for damages as a condition precedent to the right to sue on the Contract, subject to the contractual claim and alternative dispute resolution processes set forth herein.

17.12 Waiver of Trial by Jury: OWNER and CONTRACTOR agree that they have knowingly waived the right to trial by jury and have instead agreed that, in the event of any litigation arising out of or connected to this Contract, to proceed with a trial before the court, unless both parties subsequently agree otherwise in writing.

17.13 Contractor Evaluation: The Owner will review and evaluate the Contractor's Work and performance on the Project and provide the Contractor with a written Contractor Evaluation Report in accordance with City of Austin Administrative Rule R161-13.37. Rule R161-13.37 provides an appeal process.

http://www.austintexas.gov/department/contract-management

End

The Supplemental General Conditions contained herein amend or supplement the General Conditions, Section 00700.

ARTICLE 1 – DEFINITIONS

1.20 Engineer/Architect (E/A): The OWNER's design professional for this contract is:

Name: *Danny M. Hurtado*
Company: *Carollo Engineers, Inc.*
Address: *8911 North Capital of Texas Hwy, Suite 2200, Austin TX 78759*

Add the following definitions:

1.51 Insurance Cost Form - Section 00425A of the Contract, submitted by CONTRACTOR with its Bid, used to notify OWNER of insurance costs not included in CONTRACTOR's Bid as a result of the OWNER providing insurance through ROCIP.

1.52 Payment Form - A form used by the ROCIP Administrator to notify the OWNER's Project Manager that all required insurance information and documentation has been received from CONTRACTOR.

1.53 OWNER's ROCIP Administrator - The insurance broker responsible for administering the OWNER's Rolling Owner Controlled Insurance Program (ROCIP).

1.54 Rolling Owner Controlled Insurance Program (ROCIP) - A specialized insurance program provided by OWNER for specifically identified Capital Improvements Program (CIP) projects.

1.55 Commissioning Authority or Agent - A consultant retained by the OWNER charged with supporting E/A in monitoring the Work for conformance with the Contract Documents, and with assisting in the facility's start-up and testing as a member of the commissioning team.

1.56 Allowance - Allowance is defined as "a not-to-be-exceeded amount", either individually or in the aggregate, which is established between the Owner and the Contractor as part of its Bid Proposal when the precise scope of a particular line item(s) has not been defined to a level which is adequate for the Contractor to provide a definitive line item pricing for that particular scope of Work. The use of any Allowances by the Contractor will be subject to the Owner's sole approval and it is the Owner's intent to minimize the use of Allowances to the fullest extent possible. For any Allowances which the Owner allows the Contractor to use, the following rules shall apply: (i) Allowances shall cover the cost to the Contractor of the Cost of Work; (ii) Contractor's overhead and profit associated with the stated Allowance shall be included in the Allowance; and (iii) upon completion of the portion of the Work subject to an Allowance, the Contract Amount for that portion of the Work will be adjusted based upon the approved actual cost of the Work, which will not exceed the approved aggregate amount of the Allowances.

1.57 Mobilization Prompt Payment Program - The Owner's Mobilization Prompt Payment Program, will allow bimonthly payments during "critical mobilization stages" as specified in the Contract Documents by the Prime Contractor. The Mobilization Prompt Payment Program will only apply to projects with a construction cost greater than $2,000,000.

ARTICLE 2 - PRELIMINARY MATTERS

2.1 Delivery of Agreement, Bonds, Insurance, etc.: *Add the following 2.1.1*:

2.1.1 CONTRACTOR shall complete enrollment in the Rolling Owner Controlled Insurance Program (ROCIP) within five (5) Working Days after written notification of award of Contract.

*Add the following modification to the end of 2.4.2.1***:**

.1 The Baseline Schedule and schedule submittals for Projects in the Mobilization Prompt Payment Program must identify periods of 'critical mobilization.' The periods of critical mobilization will include the first two months of the Contract Time and additional periods identified by the Contractor and approved by Owner when peak Subcontractor mobilization will occur.

2.4 Before Starting Construction:

Delete 2.4.2.6 and replace with the following (changes to the original text are identified by underlining):

.6 A preliminary schedule of values for all of the Work, subdivided into component parts in sufficient detail to serve as the basis for progress payments during construction. At a minimum, the schedule of values shall be broken out by trade and by the Equipment list as shown in the plans. Prices will include an appropriate amount of overhead and profit applicable to each item of Work;

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.1 Availability of Lands: *Add the following as a second paragraph to 4.1*:

Field Notes and Special Provisions to Easements, where applicable, are attached to Section 00810. All Work associated with Special Provisions to Easements shall be subsidiary to the entire Bid, unless otherwise specified. Should the actions of the CONTRACTOR, or its Subcontractors, Vendors, or Suppliers, cause the Work to be delayed to the point that the ending date of an easement has been exceeded, the CONTRACTOR shall be responsible to reimburse the OWNER for any additional costs required to extend the period of rights to the easement in order to complete the Work. This delay shall be considered to be any period of time required by the CONTRACTOR to fully and satisfactorily execute the Work that is in addition to the original Contract duration, as modified by any executed Contract change orders.

ARTICLE 5 - BONDS AND INSURANCE

5.3 Other Bond and Insurance Requirements:

5.3.1 CONTRACTOR Provided Insurance

CONTRACTOR shall provide insurance coverages described in paragraph(s) 5.3.1.1 and 5.3.1.2 (and 5.3.1.5 and 5.3.1.6, as required) for all Work required by the Contract through

the end of the warranty period (with the exception of Builders' Risk, which is required only until the Work is accepted by OWNER). In addition, CONTRACTOR shall provide insurance coverages described in Paragraph(s) 5.3.1.3 and 5.3.1.4 from Substantial Completion of the Work (in accordance with Section 00700 General Conditions Paragraph 14.11) to the end of the warranty period.

Subcontractors performing Work which involves asbestos, hazardous material or pollution defined as asbestos or any other excluded contractor as described in 5.3.2.1 will not be enrolled in the Rolling Owner Controlled Insurance Program (ROCIP) and must provide insurance as specified in paragraphs 5.3.1.1 through 5.3.1.6.

In the event that the Rolling Owner Controlled Insurance Program (ROCIP) or the coverage it provides to the Project is terminated for any reason, whether prior to the start of Work or any time during the Work, upon thirty (30) days Written Notice from OWNER, CONTRACTOR shall purchase and maintain as minimum the insurance coverages described in Paragraphs 5.3.1.3 and 5.3.1.4, for all Work remaining under the Contract through the end of the warranty period. All insurance secured by CONTRACTOR, Subcontractors and Sub-subcontractors pursuant to OWNER's requirements under this provision shall be in accordance with Article 5 of the General Conditions and paragraph 5.3.1.1 of this section. If CONTRACTOR is required to provide insurance as described in paragraphs 5.3.1.3 and 5.3.1.4, OWNER shall reimburse CONTRACTOR for the reasonable cost of providing the insurance described therein based upon the "Total Cost of Insurance for Base Bid" (plus total of all "Total Cost of Insurance for Alternates" selected by OWNER) as stated by CONTRACTOR in Contract Section 00425A (Insurance Cost Form) pro-rated to take into account the Contract Time and Work remaining for performance of CONTRACTOR's obligations under the Contract.

5.3.1.1 General Requirements.

.1 CONTRACTOR shall carry insurance in the types and amounts indicated below for the duration of the Contract, which shall include items owned by OWNER in the care, custody and control of CONTRACTOR prior to and during construction and warranty period.

.2 CONTRACTOR must complete and forward the Certificate of Insurance, Section 00650, to OWNER before the Contract is executed as verification of coverage required below. CONTRACTOR shall not commence Work until the required insurance is obtained and until such insurance has been reviewed by OWNER. Approval of insurance by OWNER shall not relieve or decrease the liability of CONTRACTOR hereunder and shall not be construed to be a limitation of liability on the part of CONTRACTOR. CONTRACTOR must also complete and forward the Certificate of Insurance, Section 00650, to OWNER whenever a previously identified policy period has expired as verification of continuing coverage.

.3 CONTRACTOR's insurance coverage is to be written by companies authorized to do business in the State of Texas at the time the policies are issued and shall be written by companies with A.M. Best ratings of B+VII or better, except for hazardous material insurance which shall be written by companies with A.M. Best ratings of A- or better.

.4 All endorsements naming the OWNER as additional insured, waivers, and notices of cancellation endorsements as well as the Certificate of Insurance shall indicate: City of Austin, Capital Contracting Office, P.O. Box 1088, Austin, Texas 78767.

.1 In addition to the OWNER, WH200LP (Wild Horse Ranch Development) and TXDOT shall be added as an additional insured.

.5 The "other" insurance clause shall not apply to the OWNER where the OWNER is an additional insured shown on any policy. It is intended that policies required in the Contract, covering both OWNER and CONTRACTOR, shall be considered primary coverage as applicable.

.6 If insurance policies are not written for amounts specified below, CONTRACTOR shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of the primary coverage.

.7 OWNER shall be entitled, upon request and without expense, to receive certified copies of policies and endorsements thereto and may make any reasonable requests for deletion or revision or modification of particular policy terms, conditions, limitations, or exclusions except where policy provisions are established by law or regulations binding upon either of the parties hereto or the underwriter on any such policies.

.8 OWNER reserves the right to review the insurance requirements set forth during the effective period of this Contract and to make reasonable adjustments to insurance coverage, limits, and exclusions when deemed necessary and prudent by OWNER based upon changes in statutory law, court decisions, the claims history of the industry or financial condition of the insurance company as well as CONTRACTOR.

.9 CONTRACTOR shall not cause any insurance to be canceled nor permit any insurance to lapse during the term of the Contract or as required in the Contract.

.10 CONTRACTOR shall be responsible for premiums, deductibles and self-insured retentions, if any, stated in policies. All deductibles or self-insured retentions shall be disclosed on the Certificate of Insurance.

.11 CONTRACTOR shall provide OWNER thirty (30) days written notice of erosion of the aggregate limits below occurrence limits for all applicable coverages indicated within the Contract.

.12 If OWNER owned property is being transported or stored off-site by CONTRACTOR, then the appropriate property policy will be endorsed for transit and storage in an amount sufficient to protect OWNER's property.

.13 The insurance coverages required under this contract are required minimums and are not intended to limit the responsibility or liability of CONTRACTOR.

5.3.1.2 Business Automobile Liability Insurance. Provide coverage for all owned, non-owned and hired vehicles. The policy shall contain the following endorsements in favor of OWNER:

a) Waiver of Subrogation endorsement CA 0444;
b) 30 day Notice of Cancellation endorsement CA 0244; and
c) Additional Insured endorsement CA 2048.

Provide coverage in the following types and amounts:

.1 A minimum combined single limit of $500,000 per occurrence for bodily injury and property damage. Alternate acceptable limits are $250,000 bodily injury per person, $500,000 bodily injury per occurrence and at least $100,000 property damage liability each accident.

5.3.1.3 Workers' Compensation And Employers' Liability Insurance. Coverage shall be consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Section 401). CONTRACTOR shall assure compliance with this Statute by submitting two (2) copies of a standard certificate of coverage (e.g. ACCORD form) to Owner's Representative for every person providing services on the Project as acceptable proof of coverage. The Certificate of Insurance, Section 00650, must be presented as evidence of coverage for CONTRACTOR. CONTRACTOR's policy shall apply to the State of Texas and include these endorsements in favor of OWNER:

a) Waiver of Subrogation, form WC 420304; and
b) 30 day Notice of Cancellation, form WC 420601.

The minimum policy limits for Employers' Liability Insurance coverage shall be as follows:

.1 $100,000 bodily injury per accident, $500,000 bodily injury by disease policy limit and $100,000 bodily injury by disease each employee.

5.3.1.4 Commercial General Liability Insurance. The Policy shall contain the following provisions:

a) Contractual liability coverage for liability assumed under the Contract and all contracts relative to this Project.
b) Completed Operations/Products Liability for the duration of the warranty period.
c) Explosion, Collapse and Underground (X, C & U) coverage.
d) Independent Contractors coverage (Contractors/ Subcontractors work).
e) Aggregate limits of insurance per project, endorsement CG 2503.
f) OWNER listed as an additional insured, endorsements CG 2010 and CG 2037 or equivalent.
g) 30 day notice of cancellation in favor of OWNER, endorsement CG 0205.
h) Waiver of Transfer of Recovery Against Others in favor of OWNER, endorsement CG 2404.

Provide coverages A&B with minimum limits as follows:

.1 A combined bodily injury and property damage limit of $500,000 per occurrence.

5.3.1.5 Builders' Risk Insurance. CONTRACTOR shall maintain Builders' Risk Insurance or Installation Insurance on an all risk physical loss form in the Contract Amount. Coverage shall continue until the Work is accepted by OWNER. OWNER shall be a loss payee on the policy. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.

5.3.1.7 Professional Liability Insurance. For Work which requires professional engineering or professional survey services to meet the requirements of the Contract, including but not limited to excavation safety systems, traffic control plans, and construction surveying, the CONTRACTOR or Subcontractors, responsible for performing the professional services shall provide Professional Liability Insurance with a minimum limit of $500,000 per claim and in the aggregate to pay on behalf of the assured all sums which the assured shall become legally obligated to pay as damages by reason of any negligent act, error, or omission committed with respect to all professional services provided in due course of the Work of this Contract. CONTRACTOR's policy shall include the following endorsement in favor of the OWNER:

a) 30 day Notice of Cancellation endorsement CA 0244

5.3.2 OWNER Controlled Insurance.

5.3.2.1 OWNER has procured, and will maintain at its own expense a Rolling Owner Controlled Insurance Program (ROCIP) with the following coverage for OWNER, CONTRACTOR, each Subcontractor and their respective Sub-subcontractors while engaged in Work under the Contract. It is not the intent of this ROCIP to cover architects, engineers (not including design/build subcontractors), consultants, vendors, suppliers (who do not perform or subcontract installation), material dealers, guard services, janitorial services, truckers. Moreover, this ROCIP will not provide coverage for:

.1 Contractors and subcontractors whose main function is abating asbestos or removing hazardous materials and/or waste from the project site;

.2 Others whose sole function is to transport, pickup, deliver or carry materials, supplies, tools, equipment, parts or other items to or from the project site;

.3 Any employee(s) of the Contractor or an enrolled subcontractor of any tier that does not work and/or generate payroll at the Project Site

5.3.2.2 Workers' Compensation and Employers' Liability Insurance. All states including monopolistic.

.1 Workers' Compensation - Statutory Benefits for Texas or state of hire as required by statute.

.2 Employers' Liability. Limits of $1,000,000 bodily injury each accident. $1,000,000 bodily injury by disease, each employee. $1,000,000 bodily injury by disease, policy limit.

.3 Endorsements:

a) Employers' Liability Coverage Endorsement
b) Designated Workplaces Exclusion Endorsement
c) Voluntary Compensation and Employers Liability Coverage Endorsement
d) Policy Period Endorsement
e) Texas Waiver of Our Right to Recover From Others Endorsement
f) Federal Employers' Liability Act Coverage Endorsement
g) Longshoremen's and Harbor Workers' Compensation Act
h) Maritime Coverage Endorsement
i) Sole Proprietors, Partners, Officers and Others Coverage Endorsement
j) Sole Agent Consolidated Insurance Programs
k) Unintentional Error And Omissions Endorsement
l) Knowledge and Notice of Occurrence Endorsement
m) Texas Health Care Network Endorsement
n) Terrorism Risk Insurance Program Reauthorization Act Disclosure Endorsement
o) Notice of Cancellation
p) Texas Amendatory Endorsement - Notice of Cancellation
q) Alternate Employer Endorsement
r) Texas Deductible Endorsement
s) Texas Amendatory Endorsement – Who Is An Insured
t) State Specific Endorsements

5.3.2.3 Commercial General Liability Insurance.

.1 Limits of Liability:

a) $4,000,000 - General Aggregate Limit
b) $4,000,000 - Products-Completed Operations Aggregate Limit
c) $2,000,000 - Personal and Advertising Injury
d) $2,000,000 - Each Occurrence
e) $1,000,000 - Damages to Premises Rented to You Limit (Any one premises. Subject to occurrence limit.)
f) $10,000 Medical Expense Limit (Any one person. Subject to occurrence limit.)
g) Aggregate limits reinstate annually during the 5-year project period. For 10 Year Completed Operations Extension, the Products Completed Operations Aggregate will be shared with the latest annual policy period during which a policy issued by us was in effect.

.2 Policy Form. Commercial General Liability Coverage Form CG 00 01 (04/13 Edition).

.3 Forms:

a) Wrap-up Insurance Program – Amendment of Coverage
b) Products and Completed Operations Extension – Ten (10) Years – This is part of the Wrap-Up Insurance Program Amendment of Coverage Endorsement
c) Repair Work – Twenty-Four (24) Months– This is part of the Wrap-Up Insurance Program Amendment of Coverage Endorsement
d) Sole Agent / First Named Insured is the Sole Agent – This is part of the Wrap-Up Insurance Program Amendment of Coverage Endorsement
e) Designated Projects - This is part of the Wrap-Up Insurance Program Amendment of Coverage Endorsement
f) Project Completion Date - This is part of the Wrap-Up Insurance Program Amendment of Coverage Endorsement
g) Common Policy Conditions
h) Texas Disclosure Form
i) Earlier Notice of Cancellation Provided By Us
j) Texas Changes - Cancellation And Nonrenewal Provisions For Casualty Lines And Commercial Package Policies
k) Designated Construction Project or Designated Location Combined Aggregate Limits – with Total Aggregate Limit for All Projects and Locations
l) Blanket Additional Insured
m) Notice of Occurrence, Offense or Injury
n) Knowledge of Occurrence or Offense
o) Non-owned Watercraft Amended
p) Contractual Liability - Railroads
q) Texas Changes – Employment Related Practices Exclusion
r) Per Project and Per Location combined Aggregate Limits – With Optional Capped Limits Endorsement
s) Unintentional Failure to Disclose
t) Reasonable Force
u) Bodily Injury Redefined
v) Waiver of Transfer Rights of Recovery Against Others to Us
w) Bodily Injury to Co-Employees Coverage – Supervisors, Managers and Good Samaritans
x) Exclusion – Contractors – Professional Liability

y) Professional Health Care Services by Employees or Volunteer Workers Coverage
z) Total Pollution Exclusion with Hostile Fire Exception
aa) Silica Exclusion Endorsement
bb) Recording and Distribution of Material or Information in Violation of Law Exclusion
cc) Lead Exclusion
dd) Mold And Mold Related Construction Defect Exclusion
ee) Asbestos Exclusion Endorsement
ff) Advertisement Redefined
gg) Joint Defense Endorsement
hh) Joint and Several Amendment
ii) Nuclear Energy Liability Exclusion Endorsement (Broad Form)
jj) Non-Cumulation of Liability (Same Occurrence)
kk) Discrimination Exclusion
ll) Composite Rate Endorsement
mm) Deductible – Damages and Supplementary Payments (Damages Within The Deductible Erode The Policy Limit)
nn) Personal and Advertising Injury – Occurrence Redefined
oo) Personal and Advertising Injury – Definition of Publication
pp) Cap On Losses From Certified Acts of Terrorism
qq) Exclusion of Punitive Damages From Certified Acts of Terrorism
rr) Other Terrorism Endorsements
ss) All State Mandatory Endorsements

5.3.2.4 Umbrella/Excess Liability Insurance.

.1 $50,000,000 - Each Occurrence
.2 $50,000,000 - Products-Completed Operations Aggregate
.3 $50,000,000 - Other Aggregate (Where Applicable)
.4 Umbrella/Excess includes a Completed Operations Extension period of Ten (10) years.

5.3.2.5 General Provisions.

.1 Coverage Availability. All insurance specified herein shall be maintained continuously until Substantial Completion of the Project except as provided in Section 5.3.1. All insurance shall provide for OWNER to take occupancy of the Work or any part thereof during the term of said insurance.

.2 Insurance Policies and Certificates. The Broker and/or Insurers will issue Policies for Worker's Compensation and Binders for General Liability to CONTRACTOR, each Subcontractor and each Sub-subcontractor participating in the ROCIP.

.3 CONTRACTOR, Subcontractor and Sub-subcontractors agree to comply with the requirements of the ROCIP including enrollment, record keeping, reporting, auditing, and claim requirements.

.4 The first five thousand dollars ($5,000) of any insurable general liability property damage loss will be the responsibility of and paid by the CONTRACTOR and deducted from the contract amount.

.5 Contract Insurance Cost.

a) CONTRACTOR agrees not to duplicate or include any portion of their normal insurance cost, including Subcontractor insurance costs, in their Bid or in Change Orders (if any) for the coverages provided by OWNER under paragraphs 5.3.2.2 through 5.3.2.4.
b) CONTRACTOR stipulates that the insurance costs as defined in the Insurance Cost Form (Section 00425A), submitted with the Bid and part of the Contract, as the amount that would have been included in the Bid if OWNER elected not to provide such coverage.
c) CONTRACTOR agrees to the audit conditions specified in the Insurance Cost Form (Section 00425A).
d) In the event OWNER elects not to include CONTRACTOR's Work under the ROCIP coverages, the insurance amounts reported in the Insurance Cost Form (Section 00425A) will be added to the Contract Amount on a pro-rated basis.
e) CONTRACTOR shall agree to cooperate fully with OWNER's ROCIP Administrator and Project Manager in providing the necessary insurance data and information as required in the Bid Documents and associated documents and submittals furnished and required by OWNER during the duration of the Project or until OWNER furnished coverages are terminated. Failure to provide insurance information or documents/submittals to the OWNER's ROCIP Administrator and OWNER's Representative within specified time periods, by CONTRACTOR, any Subcontractor or Sub-subcontractor will result in withholding of progress payments to CONTRACTOR by OWNER. The Green Form can be withheld due to failure to provide insurance information or documents within specified time periods.

.6 Governing Conditions. In the event of conflict between Insurance Policy Terms and Conditions and the coverage conditions specified herein, the insurance policies will govern.

.7 CONTRACTOR Furnished Insurance.

a) Automobile Liability Insurance. CONTRACTOR and all Subcontractors, Sub-subcontractors and vendors shall maintain Automobile Liability Insurance as specified in paragraphs 5.3.1.1 and 5.3.1.2, at their own expense. CONTRACTOR must submit Certificates of Insurance for all Subcontractors to OWNER prior to their commencing Work on the Project.
b) Vendors, Suppliers and Haulers Required Insurance
c) Workers' Compensation and Employers' Liability Insurance. Vendors, suppliers, haulers, and other non-ROCIP participants as outlined in 5.3.2.1 shall provide workers' compensation insurance as specified in paragraphs 5.3.1.1 and 5.3.1.3.

This coverage requirement does not apply to motor carriers who are required pursuant to Texas Civil Statutes, Article 6675c to register with the Texas Department of Transportation and to provide accidental insurance coverage pursuant to Texas Civil Statutes, Article 6675c.

This coverage requirement does not apply to sole proprietors, partners, and corporate officers who meet the requirements of the Texas Workers' Compensation Act (Act), Article 406.09(c) and who are explicitly excluded from coverage in accordance with the Act.

d) Automobile Liability Insurance. Vendors, suppliers, haulers and other non-ROCIP participants as outlined in 5.3.2.1 shall provide workers' compensation insurance as specified in paragraphs 5.3.1.1 and 5.3.1.2.

e) Commercial General Liability Insurance. Vendors, suppliers, haulers, and other non-ROCIP participants as outlined in 5.3.2.1 shall provide Commercial General Liability Insurance as specified in paragraphs 5.3.1.1 and 5.3.1.4.

.8 Other Insurance.

a) The ROCIP as outlined herein is intended to afford broad coverage and relatively high limits of liability, but it may not provide all the insurance needed or desired by CONTRACTOR, Subcontractors or Sub-subcontractors. Any insurance or limits of liability greater than those provided by the ROCIP or other coverages which CONTRACTOR, Subcontractors or Sub-subcontractors may be required by Law to carry or may need for its own protection, shall be at their own expense and the cost therefore may not be included in the Bid.

b) If CONTRACTOR chooses to have such policies endorsed to recognize the Project site during the construction period, coverage should be excess and/or Difference In Conditions (DIC) of the OWNER's ROCIP as determined by CONTRACTOR or Subcontractor. OWNER shall be endorsed as additional insured.

c) Any policy of insurance covering CONTRACTOR, any Subcontractor or any Sub-subcontractor for its owned and leased machinery, water craft, vehicles, tools, or equipment (used in connection with the Project) for physical loss or damage shall provide a Waiver of Subrogation Rights against OWNER, Project Manager, if applicable, CONTRACTOR, Subcontractor, or Sub-subcontractor that is insured under the ROCIP, including the employees, agents or assigns of any one of them.

.9 Mutual Waiver of Property Damage and Right of Recovery. To the extent of coverage provided by the Builder's Risk Insurance, OWNER has waived its rights to recover physical damage or loss to its property against CONTRACTOR, Subcontractors and Sub-subcontractors. CONTRACTOR, Subcontractors and Sub-subcontractors shall also waive any and all rights each may have to recover physical damage or loss to the property of each against OWNER, its designees, E/A, and other contractors engaged in the Project. This waiver of the right of recovery for property damage shall be binding upon any property, automobile or equipment insured in respect to any subrogation rights which such insurer may possess by virtue of any payments of damage or loss. CONTRACTOR, Subcontractors and Sub-subcontractors agree as a condition of performing Work on the Project to execute such documents and coverage described herein and the waiver(s) of subrogation as described herein.

.10 Certificates of Insurance. CONTRACTOR shall submit three (3) copies of the required Certificates of Insurance (Section 00650) for CONTRACTOR and all Subcontractors and Sub-subcontractors to OWNER prior to their commencing Work on the job site. CONTRACTOR and all Subcontractors and Sub-subcontractors shall provide the following information on the Certificate of Insurance:

Workers' Compensation (off-site)
General Liability (off-site)
Umbrella/Excess Liability (off-site)
Automobile Liability - Primary (CONTRACTOR must provide hired/non-owned)

5.3.2.6 ROCIP Subcontractor Process Information. During the subcontracting of the Work, the Contractor will comply with the applicable Contractor – Subcontractor notice and documentation requirements of the Section 00425B. This provision applies to any subcontract entered into on or after January 1, 2016:

Owner will provide the ROCIP Information outlined in Section 00425B to the Contractor and, at least 10 days prior to entering into a subcontract, the Contractor must provide the ROCIP Information to its Subcontractors. The Contractor and Subcontractors must acknowledge receipt of the ROCIP Information and provide the Affidavit and Acknowledgment indicating receipt of the ROCIP Information included in Section 00425B. If the Contractor does not provide the ROCIP Information to its Subcontractors and obtain the Affidavit of Receipt and Provision of the ROCIP Information from its Subcontractors prior to entering into a subcontract, the Contractor is responsible to the Subcontractors under Section 151.004 of the Texas Insurance Code for the actual cost of providing the insurance required under Article 5 of the 00700 General Conditions and Paragraph 5.3.1 of the Section 00810 Supplemental General Conditions. If for any reason a Subcontractor is not provided the ROCIP Information on a timely basis and the Contractor subsequently provides the ROCIP Information to the Subcontractor, the Subcontractor may acknowledge its receipt and provide the Affidavit included in Section 00425B to the Contractor prior to commencing Work on the Project.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.6 Permits, Fees: *Add the following*:

OWNER will obtain and pay for the following permits, licenses and/or fees:

6.6.1 Site Development Permit.

6.6.2 Building Permit(s). OWNER's responsibility for obtaining and paying for the Building Permit(s) shall be limited to the following where applicable: the required Electrical Service (Aid of Construction) Fee, Water and Wastewater Tap Fees, Water and Wastewater Capital Recovery Fees, and Septic Permit Fee. The OWNER's responsibility for obtaining and paying for the Building Permit(s) excludes securing and paying for the following where applicable: Driveway Permit (Concrete) Fee, Electrical Permit, Mechanical Permit, Plumbing Permit, Water Engineering Inspection Fee, Temporary Use of Right-of Way Permit, the gas company's Gas Yard Line Contribution Fee, and any other permits/fees not listed above.

6.6.3 Texas Department of Transportation permit for Work in State rights-of-way.

6.6.4 Fees for secondary power connection by Bluebonnet Electric.

6.6.5 Fees for fiber-optic connection by AT&T.

6.7 Laws and Regulations: *Add the following 6.7.4*:

6.7.4 This Work is subject to the Texas Pollution Discharge Elimination System (TPDES) permitting requirements for the installation and maintenance of temporary and permanent erosion and sediment controls and storm water pollution prevention measures throughout the construction period.

OWNER has prepared a Storm Water Pollution Prevention Plan (SWPPP). Reference Section 01096 for this SWPPP.

OWNER shall file the Owner's Notice of Intent and Notice of Termination to the Texas Commission on Environmental Quality (TCEQ). OWNER shall pay the TPDES storm water application fee.

CONTRACTOR's responsibilities are as follows.

.1 File a Notice of Intent (NOI) form with the TCEQ at least two (2) days prior to start of construction activity and pay for the permit. Form is available from OWNER or on the Internet at:
http://www.tceq.state.tx.us/assets/public/permitting/waterquality/forms/20022.pdf

The form shall be mailed or submitted online to the TCEQ. If submitting online, the web address is https://www6.tceq.state.tx.us/steers/. If CONTRACTOR has not already registered to use the TCEQ online application submittal service, it will take up to ten (10) Working Days to receive a user name and password. CONTRACTOR shall take this timeframe into consideration if applying online. A Time Extension shall not be granted for this timeframe. The mailing address is:

Texas Commission on Environmental Quality
Storm Water & General Permits Team; MC-228
P.O. Box 13087
Austin, TX 78711-3087

A copy of the completed Notice of Intent (NOI) form must also be mailed to the local Municipal Separate Storm Sewer Systems (MS4) representative:

TPDES Program Coordinator
City of Austin – WPD – ERM
P.O. Box 1088
Austin, TX 78767

.2 Obtain a signed certification statement from all Subcontractors responsible for implementing the erosion and sediment control measures. This statement shall indicate that the Subcontractor understands the permit requirements. The certified statement forms shall be attached to and become part of the SWPPP.

.3 Post a notice near the main entrance of the Work with the following information.

a) The TPDES permit number for the Work or a copy of the NOI if a permit number has not yet been assigned,
b) The name and telephone number of a local contact person,
c) A brief description of the Work, and
d) The location of the SWPPP if the site is inactive or does not have an on-site location to store the plan.

If posting this information near a main entrance is infeasible due to safety concerns, the notice must be posted in a local public building. If the Work is linear (pipeline, highway, etc.), the notice must be placed in a publicly accessible location near where construction is actively underway and moved as necessary. For linear Work, multiple postings of the information may be required by OWNER (e.g. postings at both ends of the Work).

.4 Maintain all erosion and sediment control measures and other protective measures identified in the SWPPP in effective operating condition.

.5 Perform inspections every five (5) working days and after every ½ inch rainfall event, noting the following observations on an inspection form provided by OWNER:

a) Locations of discharges of sediment or other pollutants from the site.
b) Locations of storm water / erosion / sedimentation controls that are in need of maintenance.
c) Locations of storm water / erosion / sedimentation controls that are not performing, failing to operate, or are inadequate.
d) Locations where additional storm water / erosion / sedimentation controls are needed.

.6 Maintain at Work site at all times a copy of the SWPPP (with all updates, as described below) and inspection reports.

.7 Update the SWPPP as necessary to comply with TPDES permitting requirements, which includes noting changes in erosion / sedimentation controls and other best management practices that are part of the SWPPP and which may be necessary due to the results of inspection reports. Any SWPPP revisions or updates must be signed and certified by a Certified Professional in Erosion and Sedimentation Control (CPESC) or a Registered Professional Engineer. If the SWPPP includes engineering calculations, then SWPPP must be sealed and signed by a Registered Professional Engineer.

.8 File a Notice of Termination with the TCEQ within thirty (30) days of final stabilization on all portions of the Work site. Form is available from OWNER or on the Internet at:
http://www.tceq.state.tx.us/assets/public/permitting/waterquality/forms/20023.pdf.

The NOTICE shall be mailed to:

Storm Water & General Permits Team; MC-228
P.O. Box 13087
Austin, TX 78711-3087
(512) 239-4671

.9 Upon completion of the Work, provide TPDES records to OWNER.

6.11 Safety and Protection: *Add the following to paragraph 6.11.2*:

CONTRACTOR shall comply with all provisions of the "Project Safety Manual" provided by OWNER as part of its insurance coverage program under the Rolling Owner Controlled Insurance Program (ROCIP). This program is in addition to CONTRACTOR's existing safety program, not in lieu of that program.

ARTICLE 9 - ENGINEER/ARCHITECT'S STATUS DURING CONSTRUCTION

9.4 Project Representative: *Add the following*:

9.4.1 Engineer will furnish a Resident Project Representative to assist Engineer in providing more continuous observation of the Work. The RPR will act as directed by ENGINEER, in order to assist ENGINEER in inspecting performance of the work of the

Contractor. Through on-site inspections of the work in progress and field checks of materials and equipment by the RPR, ENGINEER will endeavor to protect the OWNER against defects and deficiencies in the work of the Contractor, but the furnishing of such resident project representation will not make ENGINEER responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions or programs, or for the Contractor's failure to perform their work in accordance with the Contract Documents.

ARTICLE 11 - CHANGE OF CONTRACT AMOUNT

11.4 Determination of Value of Work: *Add the following to paragraph 11.4.1.2*:

In the case of a Change Order determined by a mutually agreed lump sum or unit price properly itemized and supported by sufficient substantiating data, including documentation by subcontractors performing the work, to permit evaluation, the following method may be used:

COMPONENT ONE - The R.S. Means Co., Inc. 'Building Construction Cost Data' - latest edition - will be used as a basis for evaluating:

1a - the cost of labor (base rate, including fringe benefits),
1b - the cost of material and equipment to be incorporated in the Work, and
1c - the cost of tools, equipment and facilities necessary to accomplish the Work described in the change.

COMPONENT TWO - The costs of payroll taxes and insurance, Liability and Builder's Risk Insurance, shall be calculated as follows:

2a - Payroll taxes and Workers' Compensation Insurance <14.65% of payroll (Item 1a)

2b - Liability and Builder's Risk Insurance <.034% of "total costs" (Items 1a, 1b, 1c, and 2a)

COMPONENT THREE - Overhead and profit shall be calculated as follows:

3a - For Subcontractors and for those portions of the Work performed by CONTRACTOR's own forces:

15% of the first $10,000.00 of costs and 10% of the balance over $10,000.00.
("costs" = Items 1a, 1b, and 1c, above, broken down into Contractor and Subcontractor costs).

3b - For the CONTRACTOR for that portion of the Work performed by Subcontractors:

10% of the first $10,000.00 of the Subcontractor costs and 7.5% of the balance over $10,000.00.

("costs" = Items 1a, 1b, and 1c, above, broken down into Subcontractor costs)

COMPONENT FOUR - Bonds
Performance and Payment Bond according to the following table ("TOTAL COST" = Items 1a, 1b, 1c, 2a, 2b, 3a, and 3b):

DOLLAR VALUE OF CONTRACT				**% OF TOTAL COST OF CHANGE ORDER ADDED FOR BOND EXPENSE**
$100,000	OR	LESS		2.5
$100,001	THRU	$500,000		1.5
$500,001	THRU	$2,500,000		1.0
$2,500,001	THRU	$5,000,000		0.75
$5,000,001	THRU	$7,500,000		0.70
OVER $7,500,000				0.65

a) The total costs for the change, whether additive or deductive, shall be the sum total of COMPONENTS ONE - FOUR.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.7 Warranty Period: *Add the following*:

13.7.5 OWNER will utilize a "Warranty Item Form" (attached at the end of this Section) for the purpose of providing Written Notice of warranty defects to CONTRACTOR. CONTRACTOR shall date, sign, complete and return the form to OWNER when the defect is corrected, including such information on or attached to the form to describe the nature of the repairs or corrections that were made. If the defect cannot be corrected in seven (7) Calendar Days, CONTRACTOR shall provide a written explanation to the Owner's Representative describing the repairs needed and the time required to complete the repairs.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 Application for Progress Payment: *Delete 14.1.1 and replace with the following (changes to the original text are identified by underlining)*:

14.1.1 No more often than once a month, unless authorized as part of the Mobilization Prompt Payment Program, CONTRACTOR shall submit to Owner's Representative for review a completed and executed Application for Payment, in a form acceptable to OWNER, covering the Work completed as of the date of the Application and not previously paid and accompanied by such supporting documentation as required by the Contract Documents.

Add the following paragraph to 14.1.1:

.1 Mobilization Prompt Payment Program. During critical mobilization periods, as identified by the CONTRACTOR and as approved by OWNER in accordance with 00700 2.4.2.1 of this Contract, CONTRACTOR shall submit bi-monthly Applications for Payment. The additional Pay Applications will include any costs accrued during the periods of critical mobilization. The Program will allow the CONTRACTOR and Subcontractors to invoice for costs as they are accrued during periods of critical mobilization. The CONTRACTOR shall submit bimonthly invoices to the OWNER for such costs. The CONTRACTOR shall pay Subcontractors for costs within 10 days of receipt of payment from OWNER.

Add the following paragraph to 14.1.6:

14.1.6.4 Payroll Authorization and Certificates of Insurance. CONTRACTOR shall provide monthly payroll reports (including CONTRACTOR and all Subcontractors and Sub-subcontractors) to the ROCIP Insurance Administrator on forms provided by the ROCIP Administrator or on other mutually agreed upon forms. In addition, Contractor shall assure

that current certificates of insurance are provided as necessary for CONTRACTOR and all Subcontractors and Sub-subcontractors. A Payment Form signed by the ROCIP Administrator shall be submitted with each Application for Payment. Failure to submit this form will result in withholding of payment. The ROCIP Insurance Administrator will generate the Payment Form upon receipt of the monthly payroll report and required certificates of insurance.

14.1.6.5 Updated schedule of values.

14.4 Decisions to Withhold Payment: *Reference 14.4.1; add the following*:

.16 failure of CONTRACTOR to meet the ROCIP and/or Safety Program requirements.

.17 property damage losses that are the responsibility of the CONTRACTOR (reference section 00810, 5.3.2.5.4)

14.7 Substantial Completion: *Add the following to 14.7.1:*

14.7.1.1 For water and wastewater lines construction, Substantial Completion means that the Work, including all testing and disinfection, has been completed and accepted and the line(s) placed into service. A certificate of Substantial Completion will not be issued. Work that remains after Substantial Completion could include the final pavement of roadways, adjustment of structures to final grade and revegetation. Owner's Representative will issue a notice specifying what portion of the Work is partially completed for the purpose of payment and what Work remains to be done on the portion being accepted as Substantially Complete. This subsection 14.7.1.1 changes the 00700 General Conditions definition of Substantial Completion.

14.8 Partial Utilization: *Delete 14.8.1 and replace with the following (changes to the original text are identified by underlining)*:

14.8.1 OWNER at any time may request CONTRACTOR to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to Owner's Representative that such part of the Work is substantially complete and request Owner's Representative to issue a notice specifying what portion of the Work is substantially complete for the purpose of payment and what Work remains to be done on the portion being accepted. CONTRACTOR at any time may notify Owner's Representative that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request Owner's Representative to issue a notice specifying what portion of the Work is partially completed for the purpose of payment and what Work remains to be done on the portion being accepted. The provisions of paragraphs 14.7.1 and 14.7.2 will apply with respect to the notice specifying what portion of the Work is partially completed for the purpose of payment and what Work remains to be done on the portion being accepted."

14.10 Final Application for Payment: *Add the following paragraph(s) to 14.10*:

14.10.10 Documentation required by the ROCIP.

14.10.11 TPDES records in accordance with 6.7.4.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.3 Owner May Terminate with Cause: *Add the following paragraph to 15.3.1*:

.8 If CONTRACTOR fails to meet the ROCIP and/or Safety Program requirements;

ARTICLE 17 - MISCELLANEOUS

17.1.1 Notice of Building Project Defect and Right to Cure.

.1 Pursuant to Texas Government Code Chapter 2272, before the OWNER brings a court proceeding with respect to alleged defective Work, the OWNER shall: (a) provide each party with whom the OWNER has a contract for the construction of a building a written report by certified mail, return receipt requested, describing with reasonable clarity: (i) the defective Work or related condition; (ii) the present physical condition of the building; and (iii) any modification, maintenance, or repairs to the building made by the OWNER or others since the building was initially occupied or used (the "Report"); b) allow each party against whom the OWNER has claimed and any known subcontractor or supplier, who is subject to the claim: (i) a reasonable opportunity to inspect the alleged defective Work or related condition identified in the Report for a period of 30 days after OWNER sends the Report; and (ii) at least 120 days after the inspection to: (A) correct the defective Work or related condition identified in the Report; or (B) enter into a separate agreement with the OWNER to correct the defective Work or related condition.

.2 The CONTRACTOR must provide bonds and insurance in accordance with Contract requirements to cover the correction of the defective Work or related condition.

.3 The right to correct the defective Work or related condition is unavailable, if the CONTRACTOR has been previously terminated for cause by the OWNER; or has been convicted of a felony.

.4 In addition, the right to correct defective Work or related condition terminates, if OWNER complies with the Report, inspection, and cure period process and a) the defective Work or condition was not corrected within 120 days or as otherwise agreed; or b) the attempt to correct the defective Work or condition resulted in new defective Work or condition.

.5 The CONTRACTOR shall provide a copy of the Report to its insurers and sureties and each subcontractor and supplier whose Work is subject to the claim not later than the fifth day after its receipt. The insurer shall treat the received Report as the filing of a suit asserting a claim against its insured for purposes of the relevant policy terms, but only with respect to an insurance policy delivered, issued, or renewed on or after January 1, 2020.

.6 This section does not prohibit or limit the OWNER from making emergency repairs to the property in question as necessary to protect the health, safety, and welfare of the public or building occupants.

.7 This section does not apply to an action for personal injury, survival or wrongful death, residential construction, a project with TxDOT or

federal highway funding, or a "civil works" project as defined by Texas Government Code Section 2269.351.

WARRANTY ITEM NO. _____ (PROJECT NAME)

The General Conditions of the Contract require that Warranty Defects be corrected within 7 days after written notice is received.

TO: _____
contractor name address / telephone / fax / email

ATTENTION OF: _____

FROM: _____
project manager name / address / telephone / fax / email

PROJECT: _____
name / location / CIP ID number

END OF ONE YEAR WARRANTY:_____

SUBJECT:_____
[ ] If checked, the damage requires immediate attention. The Contractor has been called.
[ ] If checked, the Consultant has been asked to consult with the Contractor on the problem.

PLEASE CORRECT OR REPAIR THE FOLLOWING ITEM(S):

DATE OF REQUEST_____ **SIGNATURE** _____
Project Manager

xc:
[ ] _____Phone No._____
[ ] _____Phone No._____
[ ] _____Phone No._____
[ ] _____Phone No._____

RESPONSE FROM CONTRACTOR: DATE CORRECTION WAS MADE:_____

The Contractor must endeavor to correct the defect within 7 calendar days after written notice is given. If the defect cannot be corrected in that time, Contractor shall provide a written explanation to the Owner's Representative describing the repairs needed and the time required to complete the repairs.

Description of corrections made:

DATE OF REPLY_____SIGNATURE_____
When the repair is complete, the contractor should return a copy to each of the following:
[ ] _____Phone No._____
[ ] _____Phone No._____
[ ] _____Phone No._____
[ ] _____Phone No._____
END

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 – GENERAL

1.1 SECURITY POLICY

Paramount to the Austin Water Utility are 1) the production and delivery of an adequate supply of safe drinking water to all customers, 2) uninterrupted collection of wastewater, without spills, and 3) and adequate processing of wastewater to safely return to the environment . The Utility shall provide high quality physical security at all its facilities and shall initiate, implement, enforce, and update as needed, specific rules and procedures to protect property, personnel, facilities, and material against unauthorized entry, trespass, damage, sabotage, or other acts that might threaten the security of these facilities, the quality of the drinking water, or the quality of treated wastewater.

1.2 RELATED DOCUMENTS

The most current version of the Austin Water Utility's "Facility Security Procedures for Contractors, SP-1070" shall be considered a part of this Specification Section.

1.3 SECURITY PROCEDURE

The CONTRACTOR shall become familiar with this Specification Section and the most current version of the Austin Water Utility's "Facility Security Procedure for Contractors, SP-1070", and shall assure that all SUBCONTRACTORS do likewise. The CONTRACTOR and each SUBCONTRACTOR shall sign an affidavit attesting to the fact that they have read, understood, and will abide by this procedure. The CONTRACTOR's signed affidavit shall be delivered to the Utility no later than the Pre-construction Conference and before any access is allowed to the work site.

1.4 SUBMITTALS

The CONTRACTOR shall submit a "Contractor's Acknowledgement" form (Appendix A of "Facility Security Procedure for Contractors, SP-1070") signed by the Contractor's Project Manager and Site Superintendent no later than the Pre-Construction Conference. This submittal shall be an original document, with original signatures. Copies or facsimiles will not be accepted.

The CONTRACTOR shall submit a "Contractor's Acknowledgement" form (Appendix A of "Facility Security Procedure for Contractors, SP-1070") signed by each Subcontractor's Project Manager and Site Supervisor no later than two weeks prior to the date the Subcontractor wishes to enter the secured area. Each submittal shall be an original document, with original signatures. Copies or facsimiles will not be accepted.

The CONTRACTOR shall submit an "Application for Authorization to Enter Secured Austin Water Utility Facilities" form (Appendix B of "Facility Security Procedure for Contractors, SP-1070") for every Contractor's and Subcontractors' employee that will need to enter the secured area. Each application shall be accompanied by a complete "Background Security Check" (including fingerprint card), performed by a governmental law enforcement agency, as described in the "Facility Security Procedure for Contractors, SP-1070". These submittals shall each be an original document, with original signatures. Copies or facsimiles will not be accepted.

The CONTRACTOR shall submit a sample of their company's Security Identification Badge, sized and formatted as described in the "Facility Security Procedure for Contractors, SP-1070".

PART 2 – PRODUCTS

AS PART OF CONTRACT MOBILIZATION COSTS, THE CONTRACTOR SHALL INCLUDE A $1,000 ALLOWANCE FOR PROCUREMENT OF THE PERMANENT BADGE DECALS OR ID BADGE BLANKS. These items shall be ordered by, and delivered directly to the UTILITY from vendors already designated by the UTILITY to provide these specialty items. The Allowance shall be reduced or increased by Change Order to match the exact cost of procurement.

PART 3 – EXECUTION

3.1 SITE SECURITY

The CONTRACTOR shall be responsible for maintaining absolute site security and for following all provisions of the UTILITY's "Facility Security Procedures for Contractors, SP-1070" in good faith. Failure to follow any of the provisions of this procedure shall be considered a breech of this CONTRACT.

3.1.1 FENCES AND GATES

All existing fences and gates shall be maintained secure. If existing fences or gates must be moved or removed, equally secure temporary fencing shall be erected to maintain site security before any removal is initiated. If there is no existing fencing, temporary fencing and gates, as identified in another section of these specifications, shall be erected before any other work is performed. Gates shall be maintained closed and locked at all times. If necessary for convenient access, a guard, fluent in speaking and reading English, may be stationed at the gate to open and close it. In addition, the guard shall notify the Contractor's Site Superintendent of the arrival of all deliveries and shall examine the Identification Badges of all personnel seeking to enter the site, to assure that only persons with proper Security Identification Badges are allowed to enter.

3.1.2 BUILDINGS

All existing buildings shall be maintained secure. If access to an existing building is controlled by an existing security system, the CONTRACTOR, all SUBCONTRACTORS, and their respective employees shall follow the procedures for access as described in the "Facility Security Procedures for Contractors, SP-1070"

3.2 PERSONNEL

Personnel access to the construction site shall be limited to those identified in the "Facility Security Procedures for Contractors, SP-1070", and access will be controlled by the use of Security Identification Badges. The CONTRACTOR shall be responsible for assuring that all personnel allowed to enter the work site have proper Security Identification Badges. A proper Security Identification Badge is a picture badge, as described in SP-1070, either issued by the CONTRACTOR or SUBCONTRACTOR with the proper Utility-applied authorization decal, or a badge issued by the UTILITY. The CONTRACTOR shall deny access to any person lacking a proper Security Identification Badge. Any person discovered on the work site without a proper identification badge will be escorted off the site and may be subject to arrest by law enforcement authorities.

3.2.1 ACCESS AUTHORIZATION

The CONTRACTOR shall provide an original "Application for Authorization to Enter Secured Austin Water Utility Facilities" (including Background Security Check and fingerprint card) for each person who will be working on the site at least five (5) working days prior to the date that person is scheduled to begin work on the site. The UTILITY shall determine whether or not to grant each person access to the work site based upon the results of the Background Security Check. Random audits shall be performed by the UTILITY on the results of the Background Security Checks.

The original "Application for Authorization to Enter Secured Austin Water Utility Facilities" shall be kept on file by the Utility's Facility Manager or Project Manager. A copy of this document will be returned to the

CONTRACTOR with an indication of the approval or denial of access for the named employee. The Background Security Check and fingerprint card shall be returned to the CONTRACTOR also, but must be kept available for audit until one year following Final Completion.

3.2.2 IDENTIFICATION BADGES

The CONTRACTOR shall provide Security Identification Badges for each of their employees and their SUBCONTRACTORS' employees. The badges shall be picture badges conforming to all the requirements of the "Facility Security Procedure for Contractors, SP-1070". The badge must be worn by all persons at all times while present on the work site, and must be worn above the waist and be clearly visible from the front. Following a satisfactory review of each person's Background Security Check, and presentation of a government-issued picture identification, the UTILITY will apply a permanent access authorization decal to the badge.

--- End of Section 00819 ---

THIS PAGE INTENTIONALLY LEFT BLANK

Section 00100 – INSTRUCTIONS TO BIDDERS

Add the following to Paragraph 6, Consideration of Bid Amount:

OWNER has established a priority order (Alternate No. 1 has highest priority) for acceptance of Bid alternates based on the Project needs and budget. Alternates will be accepted in the order listed on the Bid Form, not to exceed the construction contract budget. Bidders are to respond to all alternates listed on the Bid Form, even if acceptance or rejection of an alternate will not change the Bid amount.

END

THIS PAGE INTENTIONALLY LEFT BLANK

WAGE RATES AND PAYROLL REPORTING
Section 00830

1. PAYMENT

1.1 Classification Definitions, Building and Heavy and Highway

1.1.1 Definitions for Building Construction and Heavy and Highway classifications shall conform to the current "Occupational Information Network (O*NET)" as approved by the U.S. Department of Labor. For interpretive guidance, the Core Task list in O*NET will be used to make prevailing wage determinations. Final classification of workers will be made by the OWNER.

1.2 Minimum Wages

1.2.1 Workers on Project shall be paid not less than wage rates, including fringe benefits, as published by the Department of Labor (DOL) or the $20.00 minimum wage required by City of Austin Ordinance No. 20160324-015, whichever is higher. The Total Minimum Wage required can be met using any combination of cash and non-cash qualified fringe benefits provided the cash component meets or exceeds the $20.00 minimum wage required.

1.2.2 Such wage rates shall be used throughout the Contract. If a classification is to be used, which is not listed in the attached wage rates, CONTRACTOR shall submit to OWNER rates and classification proposed for use, for approval, prior to performance of the Work.

1.2.3 All laborers and mechanics working upon the Work for this Project shall be paid unconditionally and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by Secretary of Labor under the Copeland Act, Title 29 CFR, Part 3) full wages accrued and when due, computed at rates not less than wage rates bound herein pertaining to type of Work being performed. When Work is of such a nature that both Building and Heavy and Highway wage scales are incorporated into contract, CONTRACTOR shall pay wage rates to mechanics or laborers performing Work in more than one classification at the rate indicated for each classification for time actually worked as determined by area practice applicable to type (Site Construction Crafts or Building Construction Crafts) of Work being performed without regards to skill. Salaried specialists (project superintendent and administrative personnel only) in the permanent employment of CONTRACTOR do not fall under any Wage Classification. A supervisor/foreman who is not exempt under 29 CFR Part 541 and who spends more than a substantial amount of time (20 percent) in a given workweek as a laborer or mechanic must be paid the applicable Wage Rate for the classification of work performed for all hours engaged in such work as a laborer or mechanic.

1.2.4 Wage rates shall be posted by CONTRACTOR at site(s) of Work in prominent, easily accessible places where they can be seen by all workers. The following shall also be posted by the CONTRACTOR: City of Austin wage contact posters (English and Spanish), City of Austin Equal Employment Opportunity posters (English and Spanish), Workers' Compensation Notice (English and Spanish), Texas Payday Law (English and Spanish), City Rest Break Ordinance

(English and Spanish), City of Austin Non-Discrimination Statement (related to Title VI of the Civil Rights Act), and Federal Notices, as appropriate.

1.3 Overtime Requirements

1.3.1 No CONTRACTOR, Subcontractor, or Sub-subcontractor contracting for any part of contract Work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any workweek in which he is employed on such Work, to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times their basic rate of pay for all hours in excess of forty hours in such workweek.

1.3.2 Overtime wages must be calculated using the Adjusted Wage Rate specified in the Wage Rate Determination or the actual basic rate of pay, whichever is higher.

2. APPRENTICES

2.1 Locally and Federally Funded Projects

2.1.1 The terms journeyman and apprentice apply to both union and independent workers, and are not intended to imply that these positions are union workers only.

2.1.2 Apprentices and Trainees will be permitted to work as such only when they are registered, individually, under a bonafide Apprenticeship or Trainee program registered with the Bureau of Apprenticeship and Training, United States Department of Labor. The allowable ratio of Apprentices or Trainees to journeymen in any craft classification shall not be greater than the ratio permitted to CONTRACTOR as stated in the registered apprenticeship program standards. Any employee listed on a payroll at an Apprentice or Trainee wage rate, who is not registered as above, shall be paid the wage rate provided in Contract for Work employee actually performed. CONTRACTOR, Subcontractor, or Subsubcontractor shall furnish to OWNER written evidence of registration of his program for Apprentices and Trainees as well as of the appropriate ratios and wage rates, for the area of construction prior to using any Apprentices or Trainees on this Contract.

3. WITHHOLDING PAYMENTS

3.1 OWNER may withhold or cause to be withheld from CONTRACTOR as much of the accrued payments as necessary to pay laborers and mechanics employed by CONTRACTOR, Subcontractors, or Sub-subcontractors the amount of wages required to comply with the Contract. In the event of nonpayment of wages to laborers or mechanics working on the site of the Work of this Contract, OWNER may, after Written Notice to CONTRACTOR, take such action as may be necessary to cause suspension of any further payments or advance of funds to CONTRACTOR until such violations have ceased and until restitution has been made. Payments may also be withheld if CONTRACTOR fails to maintain weekly payroll reports or fails to provide copies in a timely manner upon request of Owner.

4. PAYROLLS

4.1 CONTRACTOR shall keep records showing:

4.1.1 The name, address and occupation of each worker employed by the CONTRACTOR or subcontractor(s) in the construction of the public work.

4.1.2 The actual per diem wages paid to each worker

4.1.3 Employee Certification. CONTRACTOR, all levels of Subcontractors shall identify in writing, the classification agreed to by all laborers and mechanics employed by them in the execution of the Contract, and pay not less than rates specified in the attached Wage Rate Determination(s). Contractor shall prepare a completed form for the signature of Employee and a witness shall sign the form in the presence of Employee. If work performed by worker is different than the trade classification agreed upon, the worker shall be paid for that work no less than the minimum prevailing wage for that specified trade.

4.1.4 Payroll Deduction Authorization Form. CONTRACTOR, Subcontractor, and Sub subcontractor shall prepare for employee signature a payroll deduction authorization form to identify all payroll deductions excluding those required by statute, such as federal income taxes, Medicare and social security.

4.2 The record shall be open at all reasonable hours to inspection by the officers and agents of the Owner as requested. CONTRACTOR will be responsible to provide copies of records as requested by the Owner within two (2) working days. Payrolls relating to this Work shall be maintained during term of Contract and preserved for a period of three (3) years thereafter by CONTRACTOR for all laborers and mechanics working on the Work.

4.3 A Statement of Compliance, a letter signed and dated by party responsible for supervising the payment of persons employed by CONTRACTOR or subcontractor shall accompany payrolls required by Owner. The Statement of Compliance letter shall identify but is not limited to:

4.3.1 Name of signatory party and title

4.3.2 Name of project, payroll period and

4.3.3 Name of CONTRACTOR or Subcontractor

4.4 The signed letter attests that the payroll complies with 29CFR issued by the Secretary of Labor.

4.5 Federal Funding. In the event that federal funding is used:

4.5.1 Contractor and all levels of Subcontractors shall submit weekly certified payroll reports and signed wage compliance statements to the Owner's designated office no later than seven (7) calendar days after the scheduled payday.

4.5.2 Contractors and all levels of Subcontractors shall pay all "mechanics and laborers" not less often than once per week, for work performed the previous week.

4.5.3 Submit to the Owner's designated office Standard Form 1413, Statement and Acknowledgement, from each subcontractor prior to the subcontractor performing work on the project.

5. NONCOMPLIANCE

5.1 According to Chapter 2258 Texas Government Code Title 10A, a CONTRACTOR or subcontractor(s) who violates this section shall pay to the political subdivision on whose behalf the contract is made, $60 for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in the contract. A public body shall use any money collected under this section to offset the costs incurred in the administration of this chapter.

5.2 Confirmed Disciplinary action taken by CONTRACTOR against employees who provide information during an interview or investigation by the Owner on wages received, may result in suspension or debarment from consideration of award of City contracts.

6. AREA PRACTICE

6.1 Heavy and Highway Construction Rates shall be used on this Project, unless the Project consists primarily of Building Construction and Building Construction Rates are to be used.

6.1.1 Building Construction consists generally of all aspects of construction of buildings, which are sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment or supplies, including without limitation the installation of utilities and equipment, both above and below grade level, as well as incidental demolition, grading, utilities, paving and other site work. Buildings need not be "habitable" to be classified as Building Construction and the installation of heavy machinery and/or equipment will not generally change a Building Construction project's classification.

6.1.2 The determination of Building Construction Wage Rates includes all construction trades and work necessary to complete a building, regardless of the number of contracts involved, so long as all such contracts are closely related in purpose, time and place.

6.2 For projects that involve both Building Construction and Heavy and Highway trades, the following classifications shall be used:

6.2.1 A multiple classification shall be used if Building Construction items are more than 20% of the Heavy and Highway project cost.

6.2.2 A multiple classification shall be used if Heavy and Highway Construction items are more than 20% of the Building Construction Project cost.

6.3 Split classifications/multiple wage rate schedules: When construction work requires that an employee perform work under multiple classifications or multiple wage scales, the employer must pay that worker (at least) the highest prevailing wage or the employer payroll records must accurately set forth the times spent performing the work of each classification and under each scale. For those projects that involve both Building Construction and Heavy and Highway trades, the Heavy and Highway wage rates may only be applied to workers when engaged in site work at least five (5) feet beyond the building.

7. TEXAS OPEN RECORDS ACT

7.1 Unless covered by an exception to mandatory disclosure under the Texas Public Information Act, Chapter 552, Texas Government Code, any and all documents submitted to the City of Austin become Public Records and are, therefore, subject to public disclosure.

Wage Rates for This Project Are Attached

END

THIS PAGE INTENTIONALLY LEFT BLANK

WAGE RATE DETERMINATION

Building Construction Type
County Name: TRAVIS

Wages based on DOL Prevailing Wage Rate General Decision: TX20220271 08/05/2022 and City of Austin Ordinance #20160324-015 Resolution #20160324-020

DOL Rate column is for information only. The Total Minimum Wage Rate is derived from the Adjusted Wage Rate Required pursuant to City Ordinance plus the DOL Fringes and can be met using any combination of cash and non-cash qualified fringe benefits, provided the cash component is at least $20.00/hour.

Classification	DOL Rate For info Only	Adjusted Wage Rate Required Pursuant to City Ordinance	DOL Fringes	Total Minimum Wage Rate Required
Asbestos Worker/Heat & Frost Insulator (Duct, Pipe, and Mechanical System Insulation)	$ 28.10	$ 28.10	$ 8.29	$ 36.39
Boilermaker	$ 29.47	$ 29.47	$ 24.10	$ 53.57
Bricklayer	$ 20.07	$ 20.07	$ -	$ 20.07
Carpenter	$ 26.00	$ 26.00	$ 9.12	$ 35.12
Carpenter (Acoustical Ceiling Installation only)	$ 14.00	$ 20.00	$ -	$ 20.00
Carpenter (Form Work Only)	$ 15.62	$ 20.00	$ 0.05	$ 20.05
Cement Mason/Concrete Finisher	$ 15.71	$ 20.00	$ -	$ 20.00
Drywall Finisher/Taper	$ 17.06	$ 20.00	$ 4.43	$ 24.43
Drywall Hanger and Metal Stud Installer	$ 17.47	$ 20.00	$ 3.45	$ 23.45
Electrical Installer (Sound and Communication Systems, Excluding Wiring)	$ 18.00	$ 20.00	$ 2.30	$ 22.30
** Electrician (Excludes Installation of Sound and Communication Systems)	$ 31.52	$ 31.52	$ 9.20	$ 40.72
***Elevator Mechanic	$ 43.72	$ 43.72	$ 36.365	$ 80.085
Floor Layer (Carpet)	$ 21.88	$ 21.88	$ -	$ 21.88
Glazier	$ 12.83	$ 20.00	$ -	$ 20.00
HVAC Mechanic (HVAC Unit Installation Only)	$ 23.78	$ 23.78	$ 6.89	$ 30.67
Ironworker, Ornamental	$ 26.76	$ 26.76	$ 7.88	$ 34.64
Ironworker, Reinforcing	$ 12.27	$ 20.00	$ -	$ 20.00
Ironworker, Structural	$ 20.73	$ 20.73	$ 5.24	$ 25.97
*Lead Paint or Asbestos Abatement Worker	*	$ 20.00	$ -	$ 20.00
Laborer, Common or General	$ 11.44	$ 20.00	$ -	$ 20.00
Laborer, Mason Tender - Brick	$ 12.22	$ 20.00	$ -	$ 20.00
Laborer, Mason Tender - Cement/Concrete	$ 11.85	$ 20.00	$ -	$ 20.00
Laborer, Pipelayer	$ 12.45	$ 20.00	$ -	$ 20.00

Laborer, Roof Tearoff	$ 11.28	$ 20.00	$ -	$ 20.00
Operator, Backhoe/Excavator/Trackhoe	$ 19.43	$ 20.00	$ 3.49	$ 23.49
Operator, Bobcat/Skid Steer/Skid Loader	$ 13.00	$ 20.00	$ -	$ 20.00
Operator, Bulldozer	$ 14.00	$ 20.00	$ -	$ 20.00
Operator, Crane	$ 34.85	$ 34.85	$ 9.85	$ 44.70
Operator, Drill	$ 14.50	$ 20.00	$ -	$ 20.00
Operator, Forklift	$ 16.64	$ 20.00	$ 6.26	$ 26.26
Operator, Grader/Blade	$ 19.30	$ 20.00	$ -	$ 20.00
Operator, Loader	$ 14.00	$ 20.00	$ -	$ 20.00
Operator, Mechanic	$ 18.75	$ 20.00	$ 5.12	$ 25.12
Operator, Paver (Asphalt, Aggregate, and Concrete)	$ 16.03	$ 20.00	$ -	$ 20.00
Operator, Roller	$ 11.25	$ 20.00	$ -	$ 20.00
Painter (Brush, Roller, and Spray, Excludes Drywall Finishing/Taping)	$ 18.76	$ 20.00	$ 6.35	$ 26.35
Pipefitter (Including HVAC Pipe Installation)	$ 33.15	$ 33.15	$ 15.37	$ 48.52
Plumber, Excludes HVAC Pipe Installation	$ 23.57	$ 23.57	$ 6.37	$ 29.94
Roofer	$ 12.00	$ 20.00	$ -	$ 20.00
*Roofer, Metal	$ 14.05	$ 20.00	$ -	$ 20.00
Sheet Metal Worker (Excluding HVAC Duct Installation)	$ 28.35	$ 28.35	$ 15.56	$ 43.91
Sheet Metal Worker (HVAC Duct Installation)	$ 28.35	$ 28.35	$ 15.56	$ 43.91
Sprinkler Fitter (Fire Sprinklers)	$ 31.68	$ 31.68	$ 22.50	$ 54.18
Tile Finisher	$ 11.32	$ 20.00	$ -	$ 20.00
Tile Setter	$ 16.35	$ 20.00	$ -	$ 20.00
Truck Driver, Dump Truck	$ 12.39	$ 20.00	$ 1.18	$ 21.18
Truck Driver, Flatbed Truck	$ 19.65	$ 20.00	$ 8.57	$ 28.57
Truck Driver, Semi-Trailer Truck	$ 12.50	$ 20.00	$ -	$ 20.00
Truck Driver, Water Truck	$ 12.00	$ 20.00	$ 4.11	$ 24.11
Waterproofer	$ 16.30	$ 20.00	$ 0.06	$ 20.06

http://www.wdol.gov/wdol/scafiles/davisbacon/tx.html

See below for Additional Wage Information.

Note: *Lead Paint & Asbestos Abatement and Roofer, Metal Classifications have been added to this Prevailing Wage Rate Determination pursuant to a City of Austin Prevailing Wage Survey (trades absent from DOL).

The Wage Compliance information detailed below was excerpted from DOL General Decision TX20220271 or other sources.

1. ADDITIONAL TRADE INFORMATION

**Electricians - Including low voltage wiring for computers, fire/smoke alarms.
***Elevator Mechanics – 6% under 5 years based on regular hourly rate for all hours worked. 8% over 5 years based on regular hourly rate for all hours worked as Vacations Pay Credit. Also, must be paid for 7 holidays - New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Veterans Day.
Welders - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added upon the advance approval of City of Austin Contract Administration. CONTRACTOR shall submit to City of Austin Contract Administration for review the classification, a bona fide definition of work to be performed and a proposed wage with sample payrolls conforming to area practice **prior** to the start of the job for that type of work.

2. WAGES

The Total Wage may be met by any combination of cash wages and credible "bona fide" fringe benefits paid for by the employer. Overtime wages must be calculated using the Adjusted Wage Rate specified in the Wage Rate Determination or the actual basic rate of pay, whichever is higher. City of Austin Ordinance No. 20160324-015 Resolution #20160324-020 requires that construction workers are paid a Minimum Wage of at least $20.00/hour. The cash portion of their compensation must meet or exceed this amount.

3. CREDITING FRINGE BENEFIT CONTRIBUTIONS TO MEET DBA/DBRA AND CITY OF AUSTIN REQUIREMENTS

The Davis-Bacon Act (and 29 CFR 5.23), list fringe benefits to be considered. Examples are:

> Life Insurance
> Health Insurance
> Pension
> Vacation
> Holidays
> Sick Leave

Note: The use of a truck is not a fringe benefit; a Thanksgiving turkey or Christmas bonus is not a fringe benefit. No credit may be taken for any benefit required by federal, state, or local law such as: workers compensation, unemployment compensation; or social security contributions.

Contributions to fringe benefit plans must be made regularly, e.g. daily, weekly, etc. They must be more frequent than quarterly. (See 29 CFR 5.5 (a)(1)(I)) A periodic bonus may not be counted as a fringe benefit.

4. ANNUALIZATION OF BENEFIT COSTS

If a firm provides an electrician with $200 per month medical insurance, to calculate allowable fringe benefit credit contributions per hour, the formula ([$200 x 12 months] divided by 2080 hours = $1.15 per hour) should be used.

5. PROPER DESIGNATION OF TRADE

A work classification on the wage decision for each worker must be made based on the actual type of work he/she performed, and each worker must be paid no less than the wage rate on the wage decision for that classification **regardless** of his or her level of skill.

6. SPLIT CLASSIFICATION

If a firm has employees that perform work in more than one classification, it can pay the

wage rates specified f o r each classification ONLY if it maintains accurate time records showing the amount of time spent in each classification. If accurate time records are not maintained, these employees must be paid the highest wage rate of all the classifications of work performed by each worker. Accurate time records tracking how many hours a worker performed the work of one trade and then switched to another trade must be accounted for on a daily basis and reflected on Employer Certified Payroll accordingly.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

6.1 Union Rate Identifiers

A four-letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: **PLUM0198-005 07/01/2014**. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014. Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

6.2 Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: **SULA2012-007 5/13/2014**. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier. Survey wage rates are not updated and remain in effect until a new survey is conducted.

6.3 Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: **UAVG-OH-0010 08/29/2014**. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination.

08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

7. WAGE DETERMINATION APPEALS PROCESS

7.1 Has there been an initial decision in the matter? This can be:

.1 An existing published wage determination
.2 A survey underlying a wage determination
.3 A Wage and Hour Division letter setting forth a position on a wage determination matter
.4 A conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in .**2** and **.3** should be followed.

7.2 With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determination
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W. Washington, DC 20210

7.3 If the answer to the question in .**1** is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor.
200 Constitution Avenue, N.W. Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

7.3 If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W. Washington, DC 20210

7.4 All decisions by the Administrative Review Board are final.

END

THIS PAGE INTENTIONALLY LEFT BLANK

WAGE RATE DETERMINATION

Heavy and Highway
County Name: TRAVIS

Wages based on DOL General Decision: TX20220007 02/25/2022 and City of Austin Ordinance #20160324-015 Resolution #20160324-020

DOL Rate column is for information only. The Total Minimum Wage Rate is derived from the Adjusted Wage Rate Required pursuant to City Ordinance, and can be met using any combination of cash and non-cash qualified fringe benefits, provided the cash component is at least $20.00/hour.

Classification	DOL Rate For info Only	Adjusted Wage Rate Required Pursuant to City Ordinance	Total Minimum Wage Rate Required
Agricultural Tractor Operator	$12.69	$20.00	$20.00
Asphalt Distributor Operator	$15.55	$20.00	$20.00
Asphalt Paving Machine Operator	$14.36	$20.00	$20.00
Asphalt Raker	$12.12	$20.00	$20.00
Boom Truck Operator	$18.36	$20.00	$20.00
Broom or Sweeper Operator	$11.04	$20.00	$20.00
Cement Mason/Concrete Finisher	$12.56	$20.00	$20.00
Concrete Pavement Finishing Machine Operator	$15.48	$20.00	$20.00
Crane, Hydraulic, 80 tons or less	$18.36	$20.00	$20.00
Crane, Lattice Boom, 80 tons or less	$15.87	$20.00	$20.00
Crane, Lattice Boom, over 80 tons	$19.38	$20.00	$20.00
Crawler Tractor	$15.67	$20.00	$20.00
Directional Drilling Locator	$11.67	$20.00	$20.00
Directional Drilling Operator	$17.24	$20.00	$20.00
Electrician	$26.35	$26.35	$26.35
Excavator 50,000 lbs. or less	$12.88	$20.00	$20.00
Excavator, over 50,000 lbs.	$17.71	$20.00	$20.00
Flagger	$9.45	$20.00	$20.00
Form Builder/Form Setter - Paving & Curb	$12.94	$20.00	$20.00
Form Builder/Form Setter - Structures	$12.87	$20.00	$20.00
Foundation Drill Operator, Truck Mounted	$16.93	$20.00	$20.00
Front End Loader Operator, 3CY or less	$13.04	$20.00	$20.00
Front End Loader, over 3CY	$13.21	$20.00	$20.00

Laborer, Common	$10.50	$20.00	$20.00
Laborer, Utility	$12.27	$20.00	$20.00
Loader/Backhoe Operator	$14.12	$20.00	$20.00
Mechanic	$17.10	$20.00	$20.00
Milling Machine	$14.18	$20.00	$20.00
Motor Grader Operator - Fine Grade	$18.51	$20.00	$20.00
Motor Grader Operator, Rough	$14.63	$20.00	$20.00
Painter - Structures	$18.34	$20.00	$20.00
Pavement Marking Machine Operator	$19.17	$20.00	$20.00
Pipelayer	$12.79	$20.00	$20.00
Reclaimer/Pulverizer	$12.88	$20.00	$20.00
Reinforcing Steel Setter	$14.00	$20.00	$20.00
Roller Operator, Asphalt	$12.78	$20.00	$20.00
Roller Operator, Other	$10.50	$20.00	$20.00
Scraper Operator	$12.27	$20.00	$20.00
Servicer	$14.51	$20.00	$20.00
Spreader Box Operator	$14.04	$20.00	$20.00
Structural Steel Worker	$19.29	$20.00	$20.00
Traffic Signal Installer/Light Pole Worker	$16.00	$20.00	$20.00
Trenching Machine Operator, Heavy	$18.48	$20.00	$20.00
Truck Driver Tandem Axle Semi-Trailer	$12.81	$20.00	$20.00
Truck Driver, Lowboy/Float	$15.66	$20.00	$20.00
Truck Driver, Single Axle	$11.79	$20.00	$20.00
Truck Driver, Off Road Hauler	$11.88	$20.00	$20.00
Truck Driver, Single or Tandem Axle Dump	$11.68	$20.00	$20.00
*Welders	$15.97	$20.00	$20.00
Work Zone Barricade Servicer	$11.85	$20.00	$20.00

The Wage Compliance information detailed below was excerpted from DOL General Decision TX170016 or other sources.

1. ADDITIONAL TRADE INFORMATION

Unlisted classifications needed for work not listed within the scope of the classifications listed may be added upon the advance approval of Contract Procurement. CONTRACTOR shall submit to City of Austin Contract Procurement the following: classification, a bona fide definition of work to be performed and a proposed wage with sample payrolls conforming to area practice **prior** to the start of the job for that type of work. Proposed trade may not be performed by any trade already listed.

2. WAGES

The Total Minimum Wage Rate may be met by any combination of cash wages and credible "bona fide" fringe benefits paid for by the employer. Overtime must be used in computing overtime pay. Wages must be calculated using the Total Minimum Wage Rate specified in the Wage Rate Determination or the actual basic rate of pay, whichever is higher.

City of Austin Ordinance No. 2016324-015 requires that construction workers are paid a minimum Wage of at least $20.00/hour. The cash portion of their compensation must meet or exceed this amount.

3. PROPER DESIGNATION OF TRADE

A work classification from the Prevailing Wage Poster for each worker must be made based on the actual type of work he/she performed on the job. In summary the work performed, not the "title" determines the correct worker classification and wage. Each worker must be paid no less than the adjusted wage rate on the wage decision for that classification **regardless** of his/her level of skill (exclusive of a bona fide apprentice currently registered in a DOL approved apprentice program - proof of individual registration must be supplied in advance to the City of Austin).

4. SPLIT CLASSIFICATION

If a firm has employees that perform work in more than one classification, it can pay the adjusted wage rates specified for each classification ONLY if it maintains accurate time records showing the amount of time spent in each classification. If accurate time records are not maintained, these employees must be paid the highest adjusted wage rate of all the classifications of work performed by each worker. Accurate time records tracking how many hours a worker performed the work of one trade and then switched to another trade must be accounted for on a daily basis and reflected on Employer Certified Payroll accordingly.

---

*WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

5. WAGE DETERMINATION APPEALS PROCESS

5.1 Has there been an initial decision in the matter? This can be:

- **.1** An existing published wage determination
- **.2** A survey underlying a wage determination
- **.3** A Wage and Hour Division letter setting forth a position on a wage determination

matter

.4 A conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in **.2** and **.3** should be followed.

5.2 With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determination
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W. Washington, DC 20210

5.3 If the answer to the question in **.1** is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W. Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

5.4 If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W. Washington, DC 20210

5.5 All decisions by the Administrative Review Board are final.

END

CONSTRUCTION TRAINING PROGRAM REQUIREMENTS

Section 00840

The **City of Austin Construction Training Program (the "Program")** is intended to train workers on City of Austin's construction projects in order to develop a pool of qualified, ready-to-work skilled and semi-skilled construction workers. This training commitment is not intended and shall not be used to discriminate against any applicant.

Training Requirement. Establishment of the Construction Training Requirement for each project will be based on project scope, dollar amount, and opportunities available to achieve the training requirements. The requirements will be established either prior to solicitation, or during contract negotiations, using the criteria in Charts A and B. Program requirements will be subject to availability of Trainees and Graduates.

Chart A - Evaluation Criteria
1. Material cost vs labor cost
2. Scope of work
3. Schedule of values (a comprehensive list of work for a particular project)
4. Project duration and schedule
5. Unique aspects of the project
6. Available training programs for the specific training plan
7. Workforce determined by the number of workers that will be on the project enough days to establish a training program.

Chart B - CTP Training Requirement

Construction Budget	Trainee Requirement	Trainees must be a Current Enrollee, or Graduate* of a COA-Approved:
$500K - $2.5M	2	• **Pipeline Organization**[1] **or** • **DOL-Registered/Approved/Certified**[2] Apprenticeship, OJT, or Bilingual Training Program
Over $2.5M - $5M	4	• **Pipeline Organization**[1] **or** • **DOL-Registered/Approved/Certified**[2] Apprenticeship, OJT, or Bilingual Training Program
Over $5M - $10M	6	• **Pipeline Organization**[1] **or** • **DOL-Registered/Approved/Certified**[2] Apprenticeship, OJT, or Bilingual Training Program
Over $10M	15% of Total Workforce	• **DOL-Registered/Certified**[2] Apprenticeship or Bilingual Training Program for **Vertical (BC) Projects** • **DOL-Approved/Certified**[2] OJT or Bilingual Training Program for **Horizontal (HH) Projects**

* Graduates cannot satisfy more than half of the training requirement; current employees of a company may also be enrolled in a COA-Approved DOL Registered/ Approved/Certified Program to meet the requirement.

[1] Click link to view COA-Approved list of Pipeline Organizations for Construction Ready Trainees.

[2] Click link to view COA-Approved list of DOL-Registered/Approved/Certified Apprenticeship, OJT, or Bilingual Training Programs.

1. **DEFINITIONS**

1.1 *Apprentice* – a worker currently enrolled in a DOL-registered Apprenticeship Program.

1.2 *Apprentice Graduate* – a worker who can provide evidence of graduating from a DOL-registered Apprenticeship, DOL-certified Bilingual Training Program.

1.3 ***Apprenticeship** Program* – a work training program registered by the DOL and conforming to the requirements of 29 CFR 29-30.

1.4 *Capital Contracting Office (CCO)* – The City of Austin's Office responsible for administering the Construction Training Program.

1.5 *City's Approved Minimum Wage Rate* – a minimum wage rate established by the City of Austin for workers performing construction activities on City of Austin contracts.

1.6 *DOL or U.S. DOL* – United States Department of Labor

1.7 *Journeyman* – a fully-trained tradesperson, who may or may not be a union worker, and may or may not have completed apprenticeship training through a DOL-registered Apprenticeship Program, a DOL-Approved OJT Program, or a DOL-Certified Bilingual Training Program.

1.8 *Trainee* – For the purposes of the City of Austin Construction Training Program, those individuals enrolled in, or graduates of, a DOL-registered Apprenticeship Program, a DOL-Approved OJT Program, or a DOL-Certified Bilingual Training Program.

1.9 *Training Plan* – a plan identifying how a contractor intends to meet its training requirement, subject to OWNER's review and approval.

1.10 *Construction Training Program Training Report* – a form provided by the OWNER which documents the contractor's training activities and trainee status.

1.11 *Horizontal Construction Project* – civil construction, such as roads, bridges, and utilities.

1.12 *Vertical Construction Project* – a project which includes significant vertical structural components or buildings requiring building construction trades.

1.13 *Workforce* – the estimated number of full-time employees to be employed on the project and taking into consideration training opportunities.

2. **TRAINING REQUIREMENT**

2.1 For projects with a combined Section 00830BC and Section 00830HH Wage Determinations, and a construction budget over $10,000,000, a minimum of 15% of the Workforce must be current enrollees or Graduates of a U.S. DOL-Registered Apprenticeship Program, a DOL-Approved OJT Program, or a DOL-Certified Bilingual Training Program. Graduates must not satisfy more than half of the training requirement.

2.2 Any trainees enrolled in a DOL-Registered Apprenticeship Program, a DOL-Approved OJT Program, or a DOL-Certified Bilingual Training Program must be paid at least the percentage of the prevailing journeyman wage rate as specified in the applicable DOL Program for that trade, but may NOT be paid less than the City's Approved Minimum Wage Rate.

3. **CONTRACTOR'S RESPONSIBILITIES**

3.1 No later than 14 calendar days after the bid opening date, the CONTRACTOR shall provide a Training Plan for OWNER's approval, listing the anticipated trades to be used. The plan shall specify how the CONTRACTOR intends to satisfy the contract's requirements under this Section 00840. The CONTRACTOR will have fulfilled its responsibilities under this Section 00840 of the contract by having complied with the CONTRACTOR's Training Plan approved by the OWNER.

3.2 In the event that a CONTRACTOR subcontracts a portion of the contract work, CONTRACTOR shall determine if the requirements of the program will be assumed by the subcontractor. The CONTRACTOR should ensure that this training provision is made applicable to such subcontract; however, the CONTRACTOR shall retain the responsibility for meeting the training requirements imposed by this provision.

3.3 CONTRACTOR shall provide training in the construction trades. CONTRACTOR may pay a percentage of the prevailing wage rate for each trade as specified in the DOL-registered apprenticeship program, but not less than the City's Approved Minimum Wage Rate.

3.4 OWNER will provide a list of available DOL-registered apprenticeship and DOL-certified bilingual, training organizations. The CONTRACTOR shall contact those training organizations as needed in order to recruit workers for the program.

3.5 The Trainees may be distributed among the work classifications on the basis of the CONTRACTOR's needs and the availability of journeymen in the various classifications.

3.6 The CONTRACTOR shall submit a Training Report to OWNER for each Trainee no later than 30 calendar days after the Notice-to-Proceed. This Training Report must be submitted monthly thereafter for the duration of the project or to report no activity if applicable. This shall indicate work classification and graduation details, as well as training status changes. If a Trainee is terminated or resigns, the CONTRACTOR is required to make a reasonable effort to replace the Trainee within 30 calendar days.

3.7 For each trainee performing work on the project, the CONTRACTOR must submit to CCO the following:

3.7.1 evidence of enrollment in the appropriate training program,

3.7.2 completed Employee Certifications, as stipulated in Section 00830 (Wage Rates and Payroll Reporting), for each Trainee, and

3.7.3 summary of planned training for the enrollee from the training provider

3.8 The CONTRACTOR must provide the Trainee a copy of the training program.

3.9 The Trainee(s) shall remain on the project as long as training opportunities exist or until the training is completed.

3.10 The allowable ratio of Apprentices to Journeymen in any craft classification shall not be greater than the ratio permitted to CONTRACTOR as stated in the registered Apprenticeship Program.

3.11 **CONTRACTOR's Reasonable Efforts to Comply.** The CONTRACTOR will be responsible for demonstrating the steps taken to meet the training requirement. If CONTRACTOR has fewer Apprentices and/or Apprentice Graduates employed on the project than specified in the Training Plan, the CONTRACTOR must submit evidence of recruitment efforts, including:

3.11.1 contacts made to OWNER for a current list of approved training providers
3.11.2 log of applicants contacted
3.11.3 log of training organizations contacted
3.11.4 documented outreach efforts made to all available training organizations (per current OWNER list) to satisfy the requirement

3.11.5 documentation of CONTRACTOR's recruitment efforts performed until program requirements are met or project is complete as part of the Construction Training Program Training Report

4. **NON-COMPLIANCE**

4.1 Lack of demonstrated reasonable effort to comply with the Construction Training Program will be reflected in the Contractor's Performance Evaluation and may impact the receipt of future business with the City of Austin.

THIS PAGE INTENTIONALLY LEFT BLANK

Notice to Bidders: *This form, Addendum, Section 00900, is included for your information only. If an actual Addendum is issued for this project, the format shown below will be used. Additionally, issued addenda will be bound at the beginning of the Project Manual following the Table of Contents at the time of contract execution.*

ADDENDUM NO. _____

Date _____, _____

City of Austin

Project Name _____

C.I.P. No. _____ IFB No.: _____

This Addendum forms a part of the Contract and corrects or modifies original Bid Documents, issued on _____, _____. **Acknowledge receipt of this addendum in space provided on bid form.** Failure to do so may subject bidder to disqualification.

A. Project Manual Revisions:

B. Drawing Revisions:

This addendum consists of _____ page(s)/sheet(s).

_____
Approved by OWNER

_____
Approved by ENGINEER/ARCHITECT (as applicable per license requirements)

END

SAMPLE

THIS PAGE INTENTIONALLY LEFT BLANK

The Work of this Contract includes sustainability requirements as shown in the Division 1 Sections 01352 and/or 01505 and all other applicable specification sections. It is the intent of the Owner to work in partnership with the Contractor in implementing sustainable construction practices to the greatest extent possible.

PART 1 - GENERAL

1.1 Related Documents:

Drawings and general provisions of Contract, including General Conditions, Section 00700, and Supplemental General Conditions, Section 00810, and Division 1 requirements.

1.2 DESCRIPTION OF WORK

1.21 Scope of Work

A. This section describes the Project in general and provides an overview of the extent of the Work to be performed by the CONTRACTOR. Detailed requirements and extent of Work is stated in the applicable Specification Sections and shown on the Drawings. CONTRACTOR shall, except as otherwise specifically stated herein or in any applicable part of these Contract Documents, provide and pay for all labor, materials, equipment, tools, construction equipment, and other facilities and services necessary for proper execution, testing, and completion of the Work.

B. Any part or item of the Work which is reasonably implied or normally required to make the installation satisfactorily operable shall be performed by the CONTRACTOR and the expense thereof shall be included in the applicable unit prices or lump sum prices bid for the Work. It is the intent of these Specifications to provide the OWNER with the complete system. All miscellaneous appurtenances and other items of Work that are incidental to meeting the intent of the Specifications shall be considered as having been included in the applicable unit prices or lump sum prices bid for the Work even though these appurtenances and items may not be specifically called for in the Bid Documents.

C. The Work shall include furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of expansion of the Wild Horse WWTP from 0.75 mgd (average daily flow) capacity to 2.25 mgd. The expansion will incorporate biological nutrient removal. Facilities to be constructed or improved include the influent lift station, headworks, aeration basins, secondary clarifiers, disk filters, UV disinfection system, sludge holding tanks and a sludge thickening facility. Included in the project are electrical and instrumentation and controls infrastructure to provide a fully-functioing system. A new electrical building and administration building will also be constructed as part of the project.

1.22 Location of Project

A. The Project begins at the furn off to the plant access road at 10621 Blue Bluff Road, near the intersection of Blue Bluff Rd and State Highway 130. The WWTP site is located at the end of the acces rd approximately 0.9 miles south of Blue Bluff Rd. The project location/route is shown on the Drawings.

1.23 Contractor's Responsibilities

A. Execute all Work, including excavation, installing pipe, backfill, miscellaneous concrete and testing. The Work of this Contract is specified in the City of Austin Standard Specifications, Special Provisions and Special Specifications listed in the Table of Contents.

B. Secure all construction-related permits, other than those provided by OWNER as described in paragraph 6.6 of Section 00810, Supplemental General Conditions, and pay for the same.

C. Arrange for the necessary temporary water and electric service and pay for these services and all water and electricity consumed during the construction Work.

D. Provide adequate temporary sanitary facilities.

1.24 Easements and Rights-Of-Way

CONTRACTOR shall confine his construction operations within the limits indicated on the Drawings, and shall use due care in placing construction tools, equipment, excavated materials, and pipeline materials and supplies so as to cause the least possible damage to property and interference with traffic. If the CONTRACTOR requires additional easement for his operations, the CONTRACTOR is solely responsible for acquisition and maintenance of the easement. No additional compensation will be provided by the OWNER.

A. Easements - Easements across private property are indicated on the Drawings. CONTRACTOR shall set stakes to mark the boundaries of construction easement across private property. The stakes shall be protected and maintained until completion of construction and cleanup.

B. Rights-of-Way - Permits for Work in rights-of-way shall be obtained by the CONTRACTOR. All Work performed and all operations of CONTRACTOR, his employees, or subcontractors, within the limits of railroad and highway rights-of-way, shall be in conformity with the requirements and be under the control (through OWNER) of the railroad or highway authority owning, or having jurisdiction over and control of, the right-of-way in each case.

1.25 Operation of Existing Facilities

Existing water and wastewater facilities shall be kept in continuous operation throughout the construction period. No interruption will be permitted which adversely affects the degree of service provided. Provided permission is obtained from OWNER in advance, portions of the existing facilities may be taken out of service for short periods corresponding with periods of minimum service demands.

CONTRACTOR shall provide temporary facilities and make temporary modifications as necessary to keep the existing facilities in operation during the construction period.

1.26 Connections to Existing Facilities

Unless otherwise specified or indicated, CONTRACTOR shall make all necessary connections to existing facilities including structures, drain lines, and utilities. In each case, CONTRACTOR shall receive permission from OWNER or the owning utility prior to undertaking connections. CONTRACTOR shall protect facilities against deleterious substances and damage.

Connections to existing facilities which are in service shall be thoroughly planned in advance, and all required equipment, materials and labor shall be on hand at the time of undertaking the connection. Work shall proceed continuously (around the clock) if necessary to complete connections in the minimum time. Operation of valves or other appurtenances on existing utilities, when required, shall be by or under the direct supervision of the owning utility.

1.27 Unfavorable Construction Conditions

No portion of the Work shall be constructed under conditions which adversely affect the quality or efficiency thereof, unless special means or precautions are taken by CONTRACTOR to perform the Work in a proper and satisfactory manner.

END

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

Applicable portions of the Project Manual including but not limited to the Drawings and Specifications.

1.2 SUMMARY

This Section includes administrative and procedural requirements governing allowances.

Definition:

Allowances. "'Allowance' is defined as "a not-to-be-exceeded amount", either individually or in the aggregate, which is established between the Owner and the CONTRACTOR as part of the bid documents when the precise scope of a particular line item(s) has not been defined to a level which is adequate for the CONTRACTOR to provide a definitive line item pricing for that particular scope of Work.

1.3 COORDINATION

At the earliest practical date after award of the Contract, the Contractor shall advise Owner of the date when final selection and purchase of each product or Work described by an Allowance must be completed to avoid delaying the Work.

Coordinate Allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.4 PROCEDURES

Submit cost proposals for purchase of products or work included in Allowances in the form specified for Change Orders.

Coordinate and process submittals for Allowance items in accordance with Section 01300 as for other portions of the Work.

The use of any Allowances by the CONTRACTOR will be subject to the Owner's sole approval and it is the Owner's intent to minimize the use of Allowances to the fullest extent possible.

For any Allowances which the Owner allows the CONTRACTOR to use, the following rules shall apply: (i) the Allowance shall cover the cost to the CONTRACTOR of the cost of Work, as defined in the Agreement and the CONTRACTOR's portion of overhead and profit associated with the stated Allowance; and (iii) upon completion of the portion of the Work subject to an Allowance, the Contract Amount for that portion of the Work will be adjusted based upon the approved actual Cost of the Work, including the proportionate overhead and profit, provided however that the total amount of payments under the Allowances will not exceed the approved aggregate amount of the Allowances.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

3.1 SCHEDULE OF ALLOWANCES

Allowance No. 1 – Allowance for SCADA equipment for top end and control rooms

This is for the purchase and installation of SCADA equipment required for this project as identified by the Owner to the Contractor after the Contractor's bid award. This includes all of the server equipment, workstation computer, the control room desktop computers, and possible additional plant remote communication equipment that may be needed. Unless explicitly indicated as "Allowance" on the PLANS, all proposed equipment shown on the PLANS and specifications are part of the base bid of this project.

Allowance No. 2 – Security equipment (cameras and card readers).

This is for the purchase and installation of card readers and security cameras at the Administration building, Electrical Building and Existing Operations Building. An allowance is provided so that the latest technology can be selected at the time of procurement and to be consistent with the utility-wide security system.

Allowance No. 3 – Forklift for operations and maintenance.

This is for the purchase of a forklift needed for the transport of chemical totes and other large pieces of equipment at the Wild Horse Ranch WWTP. Specifications for forklift will be coordinated with Austin Water at time of procurement.

Allowance No. 4 – UV lamp cleaning table and filter drains.

This work applies to area 50 of the Drawings. This is for the procurement of a fabricated stainless steel table used to clean the lamps of the UV disinfection system. Required dimensions of the cleaning table will be determined once the UV system supplier is selected. This allowance will also be used install a small diameter drain manifold and valving on the disk filter units.

Allowance No. 5 – Predictive Maintenance System Install.

This is for the procurement and installation of equipment sensors and monitoring system for select equipment in the wastewater treatment plant. Vibration and temperature will be monitored and data will be transferred to a cloud-based data monitoring system through wireless gateways placed throughout the treatment plant.

Allowance No. 6. – Filter and Thickener Manufacturer Services.

This is for any manufacturer services or parts needed during the project for the existing, Owner-furnished cloth disk filters and volute thickener system, outside of those services and parts specified in Sections 11366B and 11355A. AD3

3.2 PAYMENT

Once the cost proposal for the Allowance has been incorporated into the Contract by Change Order, Payment for the Allowance will be based upon either the unit prices or a schedule of values provided with the proposal and incorporated in the Change Order.

END

[AD3] Addendum No. 3

THIS PAGE INTENTIONALLY LEFT BLANK

MEASUREMENT AND PAYMENT LUMP SUM CONTRACTS
Section 01025

For this Project, all measurement and payment sections, including standard technical specifications and special specifications, are modified by this Section.

All work items installed, provided, constructed, etc. with the exception of the unit price items listed in the 300L or payment for mobilization as described in 700S, shall not be paid for separately but shall be considered subsidiary to the lump sum bid price for the Project. The cost of all work materials, labor, overhead, insurance, equipment, etc. necessary to finish the work complete in place shall be included in the lump sum bid price for the project.

End

THIS PAGE INTENTIONALLY LEFT BLANK

ALTERNATES
Section 01030

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

Applicable portions of the Project Manual, including but not limited to relevant Drawings and Specifications.

1.2 SUMMARY

This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: A Bid Item for a scope of work described in the Section 00300 Bid Requirements and Contract Documents that, if accepted by Owner, may result in additions to or deductions from the Base Bid.

1.4 PROCEDURES

A. Coordination: The Contractor must modify or adjust any affected adjacent Work as necessary to completely integrate work of the Alternate into the Project.

B. The Contractor must include as part of each Alternate, any miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of the Alternate.

C. Notification: The awarded contract will include all accepted Alternates.

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in such schedule contain requirements for materials necessary to achieve the Work described under each Alternate.

E. Bidders must respond to all Alternates listed on the 00300 Bid Form, even if acceptance or rejection of an alternate will not change the Bid amount. Bid amounts must be entered in the spaces for each Alternate in the Bid Form.

The Owner has established a priority order (Alternate No. 1 has the highest priority) for the acceptance of Bid Alternates based on the Project needs and budget. Alternates will be accepted in the order listed on the Bid Form, but such acceptance will not exceed the Project budget.

PART 2 - PRODUCTS

NOT USED

PART 3 – EXECUTION

3.1 SCHEDULE OF ALTERNATES

Alternate No. 1: Procurement and installation of a third disk filter in the Filter/UV Disinfection Complex in the location of the filter labeled as "FUTURE" on Drawings 50M01, 50M02, 50M03 and 50M04. This alternate bid item shall include the procurement and installation of the filter equipment (as described in Section 11366B), piping, valves and electrical and instrumentation connections as shown on the Drawings. This alternate bid item shall also include the full integration of the third filter into the Plant's SCADA system and testing to provide a fully functioning system as described in Section 11366B.

The price of Alternate No. 1 is in addition to the Base Bid. The Base Bid includes the equipment pad and the conduit for the third filter, shown in Drawing 50E02.

END

SECTION 01045

CUTTING AND PATCHING

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:
   1. Cutting and patching existing and new construction.
   2. Non-destructive testing and embedment detection in existing concrete.

1.02 SUBMITTALS

A. Submit as specified in Section 01300 - Submittals.

B. Cutting and patching plan:
   1. Submit details of proposed construction before cutting and patching construction commences affecting:
      a. Work of Owner or of others.
      b. Structural integrity of element of Project.
   2. Cutting and patching plan shall include the following:
      a. Identification of Work.
      b. Description of affected construction.
      c. Necessity for cutting, patching, alteration, or excavation.
      d. Description of proposed construction.
      e. Scope of cutting, patching, alteration, or excavation.
      f. Qualifications of the non-destructive testing agency.
      g. Location of all existing and proposed new embedded items.

1.03 NON-DESTRUCTIVE TESTING AND EMBEDMENT DETECTION IN EXISTING CONCRETE.

A. Prior to drilling, coring, and/or any other method that penetrates the existing concrete, Contractor retain and pay for the services of a certified non-destructive testing agency to perform an investigation to determine the location of existing steel reinforcement, plumbing, conduit, and/or any other embedments in the concrete in order to prevent damage existing embedments.

B. The non-destructive testing agency shall have a minimum of 5 years experience in performing non-destructive testing and steel reinforcement detection in existing concrete, similar to that required for this Contract.
   1. The Contractor shall submit qualifications of the non-destructive testing agency to the Engineer for approval.

C. The location of all embedded items, as identified above, shall be documented using diagrams and/or other required media that clearly show dimensions and locations of existing structural elements, existing embedded items and proposed new embedments and their relationship to each other.

D. Submit the documentation to the Engineer for review and approval as specified in City of Austin Section 01300 – Submittals before any work involving penetration of existing concrete is initiated.

PART 2 PRODUCTS

2.01 MATERIALS

A. Comply with specifications and standards for products involved.

PART 3 EXECUTION

3.01 PREPARATION

A. Provide adequate temporary support as necessary to ensure structural integrity of affected portion of Work.

B. Provide devices and methods to protect other portions of Project from damage and persons from injury.

C. Provide protection from elements for that portion of Project which may be exposed by cutting and patching, and maintain excavations free from water.

3.02 CUTTING AND PATCHING

A. Cut, fit, and patch when required to:
   1. Make its several parts fit together properly.
   2. Remove and replace construction not conforming to Contract Documents.
   3. Remove samples of installed construction as specified for testing.
   4. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

B. Execute cutting and demolition by methods which will prevent damage and will provide proper surfaces to receive installation of repairs.

C. Openings in existing concrete and masonry:
   1. Create openings by:
      a. Saw cutting completely through concrete or masonry.
      b. Scoring edges of opening with saw to at least 1-inch depth on both surfaces (when accessible) and removing concrete or masonry by chipping.
   2. Do not allow saw cuts to extend beyond limits of opening.
   3. Make corners square and true by combination of core drilling and grinding or chipping.
   4. Prevent debris from falling into adjacent tanks or channels in service or from damaging existing equipment and other facilities.

D. Sizing of openings in existing concrete or masonry:
   1. Make openings sufficiently large to permit final alignment of pipe and fittings without deflections.
   2. Allow adequate space for packing around pipes and conduit to ensure watertightness.

E. Grouting pipes in place:
   1. Sandblast concrete surfaces and thoroughly clean sand and other foreign material from surfaces prior to placing grout.
   2. Grout pipes, sleeves, castings, and conduits in place by pouring grout under a head of at least 4 inches. Vibrate grout into place. Completely fill the spaces occupied by pipes, sleeves, castings, and conduits.
   3. Water cure the grout.

F. Connections to existing pipes:
   1. Cut existing pipe square.
   2. Properly prepare the ends for the connection indicated on the Drawings.
   3. Repair any damage to existing lining and coating.

G. Rehabilitate all areas affected by removal of existing equipment, equipment pads and bases, piping, supports, electrical panels, electric devices, and conduits such that little or no evidence of the previous installation remains:
   1. Fill areas in existing floors, walls, and ceilings from removed piping, conduit and fasteners with non-shrink grout and finish smooth.
   2. Remove concrete bases for equipment and supports by:
      a. Saw cutting clean, straight lines with a depth equal to the concrete cover over reinforcement minus 1/2 inch below finished surface. Do not cut existing reinforcement on floors.
      b. Chip concrete within scored lines and cut exposed reinforcing steel and anchor bolts.
      c. Patch with non-shrink grout to match adjacent grade and finish.
   3. Terminate abandoned piping and conduits with blind flanges, caps, or plugs.

H. Treat existing concrete reinforcement as follows:
   1. Where existing reinforcement is to remain, protect, clean, and extend into new concrete.
   2. Where existing reinforcement is not to be retained, cut off as follows:
      a. Where new concrete joins existing concrete at the removal line, cut reinforcement flush with concrete surface at the removal line.
      b. Where concrete surface at the removal line is the finished surface, cut reinforcement 2 inches below the surface, paint ends with epoxy, and patch holes with dry pack mortar.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

1. CONTRACTOR shall perform all layout work to transfer all controls for grades, lines, levels and measurements from a minimum of two reference points provided by OWNER. All survey work will be performed under the direct supervision of a Texas Registered Professional Land Surveyor (RPLS).

2. Within 5 work days of the Notice To Proceed date, or within 10 Working Days of initiating work based on the approved Schedule in a new area of the Project, the CONTRACTOR shall survey and stake the locations of all proposed improvements behind the curb and within the ROW (examples: manholes, storm inlets, fire hydrants, etc.), or any other improvements identified by the OWNER'S REPRESENTATIVE, for the purpose of identifying the nature and location of these improvements to the adjacent property owner(s). The OWNER'S REPRESENTATIVE will identify to the CONTRACTOR the improvements to be staked.

3. OWNER will not stake for construction and will not be on site for survey layout activities, except to perform quality control checks.

4. CONTRACTOR shall be required to set elevation hubs (blue tops) for subgrade and base course on centerline, at quarter points and curb lines or edge of pavement at intervals not exceeding 50 feet.

5. The construction plans will include horizontal and vertical control points. References to approved COA benchmarks used in establishing controls on the drawings will be provided by the Owner's E/A. In addition, on building projects and/or projects not built within an existing public ROW, a boundary survey will be supplied together with a legal description of the property and all easements where Work will take place.

6. CONTRACTOR shall submit construction staking layout sheets sealed by a Professional Engineer or Registered Professional Land Surveyor registered in the State of Texas. CONTRACTOR shall use a qualification based selection process consistent with the Professional Services Procurement Act, Chapter 2254.004 of the Texas Government Code, when securing the services of a Professional Engineer or Registered Professional Land Surveyor. It is a violation of State Law to solicit bids for the services of a Professional Engineer of Registered Professional Land Surveyor.
   6.1 Any discrepancies found with the construction documents' dimensional layout will be corrected. CONTRACTOR shall assure that the Owner's Representative and E/A are notified so that the appropriate actions are taken to correct the Contract drawings.

   6.2 All Work shall be done to the lines, grades and elevations indicated on the drawings. Information concerning basic horizontal and vertical control points will be provided by the E/A, Carollo Engineers, Inc. These points shall be used as the datum basis under this Contract.

   6.3 All work to transfer all controls for grades, lines, levels, layout and measurements shall be performed under the supervision of a Texas Registered Professional Land Surveyor, provided by the CONTRACTOR. Such work shall conform to the standards for construction staking in the most recent edition of the Texas Society of Professional Surveyors Manual of Practice for Land Surveying, Category 5, Sections 1-12 inclusive.

6.4 The centerline and offset centerline stakes will be set at no greater than fifty (50) foot intervals. References to lines and grades as established by the CONTRACTOR's surveyor shall be in reference to these stake lines. The CONTRACTOR is required to provide a sealed statement from his RPLS that the controls are correct and the site layout has been done by their professional staff.

6.5 The CONTRACTOR shall place grade stakes and submit construction staking layout sheets. The CONTRACTOR shall allow a minimum of ten (10) days after submission to the Owner's Representative for review of construction staking layout sheets. Construction staking layout sheets shall include, at a minimum, the information contained in the form included at the end of this section. No Work shall be performed without Owner's Representative review and return to CONTRACTOR of construction staking layout sheets. The Owner's Representative, E/A and the CONTRACTOR shall review the survey controls on the ground.

6.6 Prior to any excavation, the CONTRACTOR shall establish the elevation to top of ground at offset stakes at the distance deemed appropriate by the CONTRACTOR to preclude disturbance of offset stakes during construction.

6.7 The CONTRACTOR shall furnish, without charge, experienced personnel and such calibrated survey equipment, tools, stakes, and other materials that the Owner's Representative may require in establishing or checking control points, or in checking survey, layout, and measurement work performed by the CONTRACTOR.

6.8 The CONTRACTOR shall keep the Owner's Representative informed in a reasonable time in advance of the times and places at which he wishes to do work, so that any checking deemed necessary by the OWNER may be done with minimum inconvenience to the E/A and minimum delay to the CONTRACTOR. Surveying will be coordinated between the Owner's Representative and CONTRACTOR in a manner convenient to both.

6.9 During layout, CONTRACTOR shall field verify the elevation and alignment of all tie-in points to existing infrastructure. This work shall be performed sufficiently in advance of construction so that any conflicts may be resolved without delay. Any work done without being properly located may be ordered removed and replaced at the CONTRACTOR's expense.

6.10 The CONTRACTOR shall carefully preserve all monuments, benchmarks, reference points, and stakes. In case of the destruction thereof, the CONTRACTOR shall bear the cost of replacement and shall be responsible for any mistake or loss of time that may be caused. Permanent monuments or benchmarks, which must be removed or disturbed, shall be protected until properly referenced for relocation. The CONTRACTOR shall furnish materials and assistance for the proper replacement of such monuments or benchmarks.

6.11 The CONTRACTOR shall satisfy himself before commencing work as to the meaning and correctness of all survey control stakes, marks, etc., and no claim will be entertained by the OWNER for or on account of any alleged inaccuracies, unless the CONTRACTOR notifies the OWNER in writing before commencing the affected Work.

7. As needed for necessary documentation of the work progress, the CONTRACTOR shall maintain and/or protect offset or survey staking for the duration of the project. Any re-staking required to meet this requirement shall be done at the CONTRACTOR'S expense.

8. This item is subsidiary to the work as a whole.
9. Upon completion of construction, or at intervals specified in the Contract, CONTRACTOR shall provide a record survey of the work in progress or completed. This information will be submitted to the Owner's Representative and shall be supplied electronically and on a separate full size plan sheet to be transmitted to the E/A for evaluation and merging into the Record Drawings.

End See attached "Construction Staking Layout Sheet"

CONSTRUCTION STAKING LAYOUT SHEET

Project Name: _____ **Date:** _____
C.I.P. ID#: _____ **Instrument No.:** _____
Person Recording: _____ **Weather Conditions:** _____
Crew Members: _____
General Purpose & Scope of Survey: _____

STATION	B.S.	H.I.	F.S.	LEVEL LOOP ELEVATION	ROD READING	HUB ELEVATION AT STATION	(TARGET) (eg., pipe invert) ELEVATION	C - CUT OR F - FILL	% GRADE	NOTES: INDICATE WHETHER CENTERLINE HUB OR _____ FT. OFFSET HUB

Austin Water

FACILITY SECURITY PROCEDURE FOR CONTRACTORS

SP-1070

Water and Wastewater Treatment Plants, Water Pump Stations and Reservoirs, Lift Stations, Service Centers, and Administration Buildings

NOTICE: ACCESS TO AUSTIN WATER SITES WILL NOT BE GRANTED UNTIL THE ENCLOSED APPLICATION IS SUBMITTED AND APPROVED.

Facility Security Procedure for Contractors

SP-1070

Approval Record

Prepared by Austin Water Security Management Division:

Rick Verardi 05/12/2021

Rick Verardi, Security Manager Date

Approved by Austin Water Security Steering Committee:

Shay Ralls Roalson 5/12/2021

Shay Ralls Roalson, P.E., Assistant Director, Engineering Committee Chair Date

Anna Bryan - Borja 5/12/2021

Anna Bryan-Borja, CIA, CFE, Assistant Director, Business Services Date

Rick Coronado 5/12/2021

Rick Coronado, P.E., Assistant Director, Operations Date

Steven W. Hutton 5/12/2021

Steve Hutton, Acting Chief Information Officer Date

Facility Security Procedure for Contractors

SP-1070

Revision Record

Version	Date	Description- Affected Pages	Approved By
1	16 Sept 2014	Updated, included all facilities All pages	Rick Verardi Security Mgr.
2	16 Sept 2018	Updated decal issuing/valid dates	Rick Verardi Security Mgr.
3	24 Oct 2019	Updated Escorted access, removed decal, added ID Badges	Rick Verardi Security Mgr.
4	12 May 2021	Updated Escorted access, application updated, additional notices/updates	Rick Verardi Security Mgr.

FACILITY SECURITY PROCEDURE FOR CONTRACTORS

SP-1070

Table of Contents

1 SECURITY POLICY 5

2 SECURITY PROCEDURE 5

2.1 PURPOSE 5

2.2 SECURITY PROCEDURE MAINTENANCE 5

2.3 RESTRICTED AREA ACCESS POLICY 5

2.3.1 Unescorted Access 5

2.3.2 Escorted Access 5

2.4 CONTRACTOR'S BASIC SECURITY RESPONSIBILITIES 6

2.4.1 Read-and-Follow Requirement 6

2.4.2 Basic Security Functions 6

2.5 APPLICATIONS FOR AUTHORITY TO ENTER FACILITIES, BACKGROUND SECURITY CHECKS AND IDENTIFICATION BADGES 7

2.5.1 Applications for Authority to Enter Facilities 7

2.5.2 Background Security Checks 7

2.5.3 Security Identification Badges 7

2.5.4 Identification Badge Control and Handling 8

2.5.5 Revoking Access Authorization 8

2.6 FACILITY SECURITY AND ACCESS CONTROL 9

2.6.1 Access to Facilities 9

2.6.2 Site Security Requirements 9

2.6.3 Combinations and Key Controls 10

2.6.4 Operation of Access-Controlled Doors at Remote Facilities 10

2.6.5 Tailgating 11

APPENDIX A: 12

APPENDIX B: 13

APPENDIX C: 14

1 SECURITY POLICY

Paramount to Austin Water (AW) is:

- The production and delivery of adequate supply of safe drinking water to all customers
- Uninterrupted collection of wastewater, without spills, and
- Adequate processing of wastewater to be safely returned to the environment.

AW shall provide high quality physical security at all its facilities and shall initiate, implement, enforce, and update as needed, specific rules and procedures to protect property, personnel, equipment, and material against unauthorized entry, trespass, damage, sabotage, or other acts that might threaten the security of essential facilities, the quality of the drinking water, or the quality of treated wastewater.

2 SECURITY PROCEDURE

2.1 PURPOSE

The purpose of this Procedure is to provide Contractors and Subcontractors with standard operating methods, directives and instructions in accordance with AW's mission to protect its assets.

2.2 SECURITY PROCEDURE MAINTENANCE

The maintenance and updating of this Facility Security Procedure is the responsibility of the Security Manager with input from the Treatment Program Division Managers and Facilities Management.

This Facility Security Procedure will be reviewed and updated at least yearly. A record of all revisions will be maintained at the front of all copies.

2.3 RESTRICTED AREA ACCESS POLICY

2.3.1 Unescorted Access

Unescorted access is granted to contractors that have completed the "Application for Authorization to Enter Secured Austin Water Facilities" (Appendix B) and clear the background security check. An Austin Water technology badge or identification badge will be issued.

2.3.2 Escorted Access

Escorted access is not granted to contractors performing regularly scheduled contract work for Austin Water. Escorted access may be granted in situations that necessitate the need for Austin Water staff to be present for the contractors visit. Escorted access, when approved, is allowed provided an Austin Water and/or City of Austin employee physically escorts the visitor and is present with the visitor at all times.

Exceptions to the Escorted access policy are reviewed and approved by Security Management on a case by case basis. Contractors requesting escorted access must submit their request in writing to Security Management and the site Supervisor a minimum of 12 hours before they intend to be on site except in emergency situations. Contractors must have written confirmation of an exception to the escort policy from Security Management before being granted site access. Security management can be reached at AWFacilitySecurity@austintexas.gov.

Any exceptions granted to contractors regarding the Escorted Access policy are valid for one (1) day. Contractors scheduled for contract work for longer than one (1) day are required to apply for unescorted access.

In the event of an unplanned facility emergency that requires an immediate response from a contractor, that contractor may be granted temporary access to the facility. The contractor must be met at the facility entry point by an Austin Water or approved City of Austin employee escort, must sign the visitor guest log (which will include the name of AW/CoA employee escorting the contractor), and must remain in the presence of the escorting AW/CoA employee for the duration of the visit. Security Management must approve all City of Austin employees assigned to escort on Austin Water property.

2.4 CONTRACTOR'S BASIC SECURITY RESPONSIBILITIES

2.4.1 Read-and-Follow Requirement

All Contractors and Subcontractors shall read and follow this Procedure. The Contractor's Project Manager and Site Superintendent, and all Subcontractors' on-site Supervisors will be required to sign the "CONTRACTOR'S ACKNOWLEDGEMENT OF AUSTIN WATER FACILITY SECURITY PROCEDURES FOR CONTRACTORS" (Appendix A) attesting to the fact that they have read and understood this Procedure. The "Contractor's Acknowledgement" signed by the Contractor's Project Manager and Site Superintendent shall be delivered to AW at the Preconstruction Conference, and before any access is permitted to the work site. The "Contractor's

Acknowledgement" signed by the Subcontractors' Project Managers and Site Supervisors will be delivered to AW at least **two (2) weeks** before the Subcontractor requires access to the site.

All Contractor's and Subcontractors' employees are expected to be thoroughly knowledgeable in the contents of this Procedure. Contractors and Subcontractors shall instruct their employees on the provisions and requirements of this procedure and shall emphasize the importance of their compliance. **Any person's failure to follow any of the provisions or requirements of this Procedure may result in that person being removed from the job site and losing access privileges.**

Persons removed from the site for violations of this Procedure may reapply for access to the site if approved by Security Management and the site Superintendent. Security Management reserves the right to refuse access to persons found to have intentionally violated this Procedure.

2.4.2 Basic Security Functions

The basic security functions of Contractors and Subcontractors shall center on the protection of water and wastewater quality, personnel, and AW and Contractors' property. These basic functions will involve securing and monitoring the project site, controlling access, preventing unlawful entry, unlocking and locking buildings, and enforcing AW's rules, policies, procedures and directives.

Contractors and Subcontractors shall provide deterrence against fire, theft, vandalism, and trespass and shall assist in the elimination of safety hazards and security breaches. In some cases, Contractors and Subcontractors will be called upon to assist in the detection and detention of persons guilty of trespassing on or committing offenses on AW property. Uniformed officers from the Austin Police Department and local Sheriffs' Departments shall provide the enforcement support for criminal acts committed on AW property.

Contractors and Subcontractors shall accurately report and record all transgressions and incidents.

2.5 APPLICATIONS FOR AUTHORITY TO ENTER FACILITIES, BACKGROUND SECURITY CHECKS AND IDENTIFICATION BADGES

2.5.1 Applications for Authority to Enter Facilities

The Contractor shall submit an "Application for Authorization to Enter Secured Austin Water Facilities" (Appendix B) for each of their employees and their Subcontractors' employees before that employee is allowed to enter the project site. All information requested on the application shall be provided, including required signatures. Each application submitted shall be an original document. Copies or facsimiles are not acceptable.

Each application shall be accompanied by a complete background security check. Each employee's application and background security check shall be submitted at least **five (5) working days** prior to the first day that employee is to work on the secured site to allow for adequate review of the documents. Each background check submitted shall be an original document. Copies or facsimiles are not acceptable.

2.5.2 Background Security Checks

The Contractor shall submit a "Criminal History Records Check Disqualifying Criminal Offenses" (Appendix C) and provide a current **fingerprint based** background security check for each of their employees and their Subcontractors' employees submitted along with the "Application for Authorization to Enter Secured Austin Water Facilities" (Appendix B). The background check must be performed by either the United States Federal Government (FBI) or the Department of Public Safety from the employee's home state (the state in which the employee resides and from which they obtained their driver's license or identification card). The background security check for a non-US citizen shall be performed by their native country's national law-enforcement agency (e.g. a Canadian citizen shall submit a background check performed by the Royal Canadian Mounted Police). Contractors may employ a background check service. Contractors are responsible for ensuring the service conducts the correct type of background check.

The results of each background check shall be dated and submitted as an original, certified official document from the agency performing the check, and shall bear all appropriate letterheads, seals, and signatures. The background check shall clearly indicate the agency performing the check and include their address and telephone number. Background checks performed less than one year prior to the subject Contract's Notice-to Proceed will be acceptable.

Due to the current nationwide pandemic Applications and Background Security Checks may be submitted electronically to Security management.

2.5.3 Security Identification Badges

Austin Water utilizes two methods of Security ID Badges

ID Badge: This badge is issued to contractors working at a facility that require access to the facility grounds via the entrance gate. An example would-be long-term contractor. Badges are given an **expiration date** set to expire at a date determined by Security Management. Badges are issued for a maximum of two years.

Technology Badge: This badge is issued to contractors working at a facility that require access to secured buildings on an AW site. Examples are the cleaning crew, security guards, and contractor superintendents supervising multiple job sites. Badges are given an expiration date set to expire at a date determined by Security Management. Badges are issued for a maximum of two years. **Technology Badges are issued at the discretion of Security Management**.

Authorization to enter protected facilities and the issuing of an ID Badge or Technology Badge shall require a review of the background security check and approval from Security Management.

A new background check is required prior to the issuance of another Badge after the previous one expires.

2.5.4 Identification Badge Control and Handling

All personnel on the job site shall maintain the Security Identification Badge on their person at all times. The Badge should be displayed on their outer clothing in a clear manner. Arm band ID holders are acceptable.

Security Identification Badge holders will take reasonable care to protect their badge from unauthorized use. **Badge holders will not allow others to use their badge.**

In the event that a Security Badge holder discovers that their badge has been lost, the badge holder shall immediately report the loss to the Contractor's Site Superintendent, who will immediately report the loss to the AW Project Sponsor/Manager, and to the AW Plant Superintendent (at treatment plants) or the AW Operation Manager at the South First Support Center (512-972-0502) (for pump stations and reservoirs).

2.5.5 Revoking Access Authorization

Authorization to enter and/or work on any Austin Water site is at the sole discretion of AW and may be revoked at any time.

Authorization to enter secured AW sites shall be revoked immediately for the following reasons:

- The badge holder ends their employment with the Contractor or Subcontractor
- The badge holder allows another person to use their badge, or the badge holder permits, or allows another person without a badge to enter a secured site.
- The badge holder acts without authorization to defeat any security device at any secured site.
- The badge holder's actions (or inaction) result(s) in damage to AW facilities or threaten(s) the quality of the drinking water.
- The badge holder has been involved in a criminal action on site and has been determined as a threat to any persons or property at this site.

Personnel in the following positions may revoke Access Authorization:

- AW Director and Assistant Directors for Treatment and for Engineering
- AW Division Heads, Plant Superintendents, and Supervisors in the Treatment Program Area
- AW Security Manager
- AW Project Sponsor/Manager and Consultant's Project Manager
- City of Austin Public Works Project Manager
- Contractor's Project Manager and Site Superintendent

If a person in one of the positions listed above believes that another person's Access Authorization should be immediately revoked to eliminate or mitigate a threat to site security or the security of the water, they shall contact the Project Manager/Sponsor or the Contractor's Site Superintendent. The badge shall be taken from the person and they shall be escorted from the work site.

2.6 FACILITY SECURITY AND ACCESS CONTROL

2.6.1 Access to Facilities

Access to AW facilities shall be limited to:

- City of Austin Public Works or Austin Water employees who possess appropriate unescorted access authorization by AW and have a valid Security Identification Badge.
- Contractor's and Subcontractors' employees who possess appropriate access authorization(s) and possess and wear a proper AW-authorized Security Identification Badge. All Contractor's and Subcontractors' employees will follow AW procedures while on the site.
- Contractor's or Subcontractors' supplier delivery personnel. Delivery personnel may be permitted access to complete material deliveries and will not be required to obtain a Security Identification Badge. Delivery personnel shall be closely escorted within the secured site by the Contractor's Site Superintendent and shall be permitted access only for the time required to unload the material being delivered. Under no circumstances will any delivery personnel be allowed to remain on site for longer than one hour. If delivery of any material or equipment is projected to require more than one hour, an "Application for Authorization to Enter Secured Water Treatment Facilities", complete Background Security Check, and Security Identification Badge will be required for all personnel associated with making that delivery.
- Visitors who have been authorized in advance, in writing, by the Plant Superintendent or Division Manager. (Persons who perform work on the site or deliver equipment or materials to the site are not considered to be visitors) Visitors who have been authorized such access must be closely escorted within AW facility by an AW employee who possesses the appropriate access authorization and Security Identification Badge. The Entry gate guard staff shall maintain a Visitor Register to record all visits. The Visitor Register shall record the name of each visitor, their employer, date of the visit, arrival and departure times, the purpose of visit and the name of the escort. This Visitor Register shall be made available at every project progress meeting and shall be delivered to the AW Project Manager at the end of the project. Visitors do not require an ID badge. Contractors are not eligible for access to the facility as a visitor except for pre-bid meetings.

2.6.2 Site Security Requirements

All AW facilities shall be kept secure at all times. The following provisions, at a minimum shall be maintained:

- An eight-foot high perimeter fence shall be maintained without gaps or holes, with gate(s) locked with a tempered chain and padlock. A security guard may also be employed if desired by the Contractor or required by the Contract.
- All perimeter door(s) (if present) shall be locked and alarmed.
- Other installed security devices (if present) such as motion detectors, fence monitors and CCTV cameras shall be operational.
- All classified material (if present) shall be properly stored.

During the Contractor's working hours, the Contractor's Site Superintendent shall maintain an active cellular telephone to enable AW's Plant Superintendent or the Central Security Operator to contact him/her in the event that a security alarm is triggered on the job site. If an alarm is triggered and the Plant Superintendent or the Central Security Operator is unable to contact the Contractor's Site Superintendent to ascertain the reason for the alarm, law enforcement officers will be summoned to the site.

At the beginning of each day that the Contractor or a Subcontractor performs work on a pump station or reservoir site, a Supervisor authorized by the Contractor (and previously identified to the pump station or reservoir Central Security Operator) shall open the security gate to the site as follows:

- Place a telephone call to the Central Security Operator (512-972-0502) before unlocking the gate.
- Identify themselves and advise the Central Security Operator that they are at the site entrance, identify where on the site they intend to work, and advise that they are about to open the gate. The Central Security Operator will disarm any alarms that might be triggered by the gate opening or by employees working in the areas identified. The Central Security Operator will advise the Supervisor placing the call when the alarms are disarmed.
- Unlock the gate, enter the site, and lock the gate or post a guard to assure that only authorized personnel wearing required, proper Security Identification Badges may enter.

At the end of every work day at a pump station or reservoir site, when the last employee has left the job site, the Contractor's Site Superintendent shall place a call to the Central Security Operator to advise that everyone has left the site, that the security gate is locked, and that the alarms should be rearmed.

2.6.3 Combinations and Key Controls

Knowledge of the combination of locks and access to any keys will be limited to designated individuals assigned to work in the associated facilities. All combinations will be changed regularly at times designated by the Division Manager, and whenever it is suspected the combination has been compromised.

Facility keys are cut to fit a number of cylinders. If a key shared with the Contractor is lost, all similar lock cylinders, whether present on the site or off the site, will be re-keyed by AW, at the expense of the Contractor.

2.6.4 Operation of Access-Controlled Doors at Remote Facilities

Entry to all remote facilities will be coordinated with the Central Security Operator. Many facilities include an access-control door. An access-control door may be used by authorized Security Identification Badge holders for entry and exit using the following procedure:

Entry procedure:

1. Contact the Central Security Operator (512-972-0502) and request permission to enter. Hang up the telephone.
2. The CSO will call back the person requesting to enter (on their previously authorized number) and verify the request.
3. The CSO will unlock the door or request that the person's Security Identification Badge be presented to the exterior card reader.
4. Unlock the deadbolt (if present)
5. Enter PIN
6. Open door
7. Enter
8. Close the door

Exit procedure:

1. Press crash bar
2. Open door
3. Exit
4. Close the door

5. Lock the deadbolt (if present)
6. Contact the CSO and request that the door be locked, advise them that the site's alarms need to be re-armed
7. The CSO shall lock the door and re-arm all alarm devices
8. The CSO shall call back and ask the requestor to verify that the door is locked

2.6.5 Tailgating

Tailgating is the entry of multiple individuals through an access-controlled door or gate without closing the door (or gate) between entries. Tailgating is allowed by authorized ID Badge holders provided that each presents their badge to the card reader or person controlling access prior to entry. Tailgating by unauthorized individuals or anyone not possessing an authorized ID Badge is not allowed.

APPENDIX A:

CONTRACTOR'S ACKNOWLEDGEMENT OF AUSTIN WATER FACILITY SECURITY PROCEDURES FOR CONTRACTORS

PROJECT NAME: _____

CIP/PROJECT NUMBER: _____

By signing this document, I acknowledge that I have received a copy of the Austin Water **SP-1070 FACILITY SECURITY PROCEDURE FOR CONTRACTORS** and that I have read it and understand its contents. Furthermore, I agree to follow all the provisions contained therein.

CONTRACTOR: _____

PROJECT MANAGER:

_____ _____
Print Signature

SITE SUPERINTENDENT:

_____ _____
Print Signature

SUBCONTRACTOR: _____

PROJECT MANAGER:

_____ _____
Print Signature

SITE SUPERINTENDENT:

_____ _____
Print Signature

SUBCONTRACTOR: _____

PROJECT MANAGER:

_____ _____
Print Signature

SITE SUPERINTENDENT:

_____ _____
Print Signature

APPENDIX B:

APPLICATION FOR AUTHORIZATION TO ENTER SECURED AUSTIN WATER FACILITIES (CONTRACTOR EMPLOYEE)

PROJECT: _____ **Date of Application:** ____ - ____ - ____

CONTRACTOR: _____

SUBCONTRACTOR: _____

SITE(S) TO BE ACCESSED: _____

APPLICANT: _____ _____ _____
Last Name First Name Middle Name

Job Title: _____

Home Address: _____ Birth date: _____ - ____ - _____
Street / Apt No.

_____ _____ _____ _____
City State Country Zip Code

SUPERVISOR: _____ **Job Title:** _____

Work Telephone No. _____

AUTHORIZATIONS:
CONTRACTOR'S PROJECT MANAGER: _____ _____
Print Sign

I HAVE READ AND UNDERSTAND THE POLICIES AND PROCEDURES LISTED IN THE SP-1070 DOCUMENT. I UNDERSTAND THAT ANY VIOLATION OF THOSE POLICIES MAY RESULT IN MY ACCESS TO ALL AUSTIN WATER SITES BEING REVOKED.

SIGNATURE: _____

APPENDIX C:

Criminal History Records Check Disqualifying Criminal Offenses

An individual has a disqualifying offense if the individual has been convicted of, or found not guilty of by reason of insanity, any of the disqualifying crimes listed in this paragraph in any jurisdiction during the 10 years before the date of the individual's application for unescorted access authority, or while the individual has unescorted access authority. The disqualifying criminal offenses are as follows:

		Yes	No
1	Felony involving burglary.	☐	☐
2	Felony involving theft.	☐	☐
3	Felony involving dishonesty, fraud, or misrepresentation.	☐	☐
4	Felony involving possession or distribution of stolen property.	☐	☐
5	Aggravated assault.	☐	☐
6	Felony involving bribery.	☐	☐
7	Terrorist threat.	☐	☐
8	Armed or felony unarmed robbery.	☐	☐
9	Felony involving willful destruction of property.	☐	☐
10	Felony involving importation or manufacture of a controlled substance.	☐	☐
11	Extortion.	☐	☐
12	Felony arson.	☐	☐

		Yes	No
13	Murder.	☐	☐
14	Assault with intent to murder.	☐	☐
15	Espionage.	☐	☐
16	Rape or aggravated sexual abuse.	☐	☐
17	Kidnapping or hostage taking.	☐	☐
18	Treason.	☐	☐
19	Class A Criminal Mischief (500 or Above).	☐	☐
20	Criminal Trespass at Critical Infrastructure Facility.	☐	☐
21	Burglary of Vehicle	☐	☐
22	Engaging in Organized Criminal Activity	☐	☐
23	Conspiracy or attempt to commit any of the criminal acts listed on this page.	☐	☐

By signing below, I certify that I do not have any of the above listed disqualifying criminal offenses.

Also signing below indicates my understanding that I have a continuing obligation under Title 49, CFR, Parts 1542.209 and 1544.229 to disclose to Austin Water within 24 hours if I plead guilty or nolo contendere ("no contest") to, have an adjudication withheld, have been convicted or found not guilty by reason of insanity to any of the disqualifying crimes listed on this application or the federal security regulations.

Also signing below indicates the information I have provided on this application is true, complete, and correct to the best of my knowledge and belief and is provided in good faith. I understand that a knowing and willful false statement on this application can be punished by fine or imprisonment or both. (See section 1001 of Title 18 United States Code.)

PRINT NAME	SIGNATURE	DATE

DEFINITIONS

General: Basic Contract definitions are included in the General Conditions, Section 00700 included herein.

Approved: The term approved, when used in conjunction with the Owner's Representative's action on the CONTRACTOR'S submittals, applications, and requests, is limited to the Owner's Representative's duties and responsibilities as stated in the Conditions of the Contract. A stamp reading "No Exceptions Taken" shall have the same intent as "Approved".

Furnish: The term furnish means supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

Indicated: The term indicated refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as shown, noted, scheduled, and specified are used to help the reader locate the reference. There is no limitation on location.

Install: The term install describes operations at the Project site including the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

Installer: An Installer is the CONTRACTOR or another entity engaged by the CONTRACTOR, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in operations they are engaged to perform.

Project Site: The space available to the CONTRACTOR for performing construction activities either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.

Provide: The term provide means to furnish and install, complete and ready for the intended use.

Regulations: The term regulations includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

Trades: Using terms such as carpentry is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as carpenter. It also does not imply that requirements specified apply exclusively to trades persons of the corresponding generic name.

INDUSTRY STANDARDS

Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.

Conflicting Requirements: Where compliance with two or more standards is specified and where the standards may establish different or conflicting requirements for minimum quantities or quality levels, refer to the Owner's Representative for a decision before proceeding.

Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

Abbreviations and Names: Trade association names, titles of general standards, and names and titles of government agencies are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturer's Association
AAN	American Association of Nurserymen.
AASHTO	American Association of State Highway and Transportation Officials.
AATCC	American Association of Textile Chemists and Colorists
ACI	American Concrete Institute
ACIL	American Council of Independent Laboratories
ACPA	American Concrete Pipe Association
ADC	Air Diffusion Council
AFBMA	Anti-Friction Bearing Manufacturers Association
AGA	American Gas Association
AGC	Associated General Contractors of America
AGMA	American Gear Manufacturers Association
AHA	American Hardboard Association
AHAM	Association of Home Appliance Manufacturers
AI	Asphalt Institute
AIA	American Institute of Architects
AIHA	American Industrial Hygiene Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction.
ALCA	Associated Landscape Contractors of America
ALI	Associated Laboratories, Inc.
ALSC	American Lumber Standards Committee
AMCA	Air Movement and Control Association

ANSI	American National Standards Institute.
AOAC	Association of Official Analytical Chemists
AOSA	Association of Official Seed Analysts
APA	American Plywood Association
API	American Petroleum Institute.
AREA	American Railroad Engineers Association
ARI	Air Conditioning and Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASA	Acoustical Society of America
ASA	American Standards Association.
ASC	Adhesive and Sealant Council
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating & Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASPE	American Society of Plumbing Engineers
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials.
AWCMA	American Window Covering Manufacturers Association
AWG	American Wire Gage
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPB	American Wood Preservers Bureau
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Institute of America
BIFMA	Business and Institutional Furniture Manufacturers Association
CAGI	Compressed Air and Gas Institute

CAUS	Color Association of the United States
CBM	Certified Ballast Manufacturers
CCC	Carpet Cushion Council
CDA	Copper Development Association
CE	Corps of Engineers
CFR	Code of Federal Regulations
CGA	Compressed Gas Association
CISCA	Ceiling and Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CPSC	Consumer Product Safety Commission
CRI	Carpet and Rug Institute
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard of NBS (U.S. Dept. of Commerce)
CTI	Ceramic Tile Institute
DFPA	Douglas Fir Plywood Association
DHI	Door and Hardware Institute
DLPA	Decorative Laminate Products Association
DOC	U.S. Department of Commerce
DOT	Department of Transportation
ECSA	Exchange Carriers Standards Association
EIA	Electronic Industries Association
EIMA	Exterior Insulation Manufacturers Association
EJMA	Expansion Joint Manufacturers Association
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FGMA	Flat Glass Marketing Association
FHA	Federal Housing Administration
FM	Factory Mutual Research Organization

FS	Federal Specifications
FSC	Forest Stewardship Council
FTI	Facing Tile Institute
GA	Gypsum Association
GSA	General Services Administration
HEI	Heat Exchange Institute
HI	Hydronics Institute
H.I.	Hydraulic Institute
HMA	Hardwood Manufacturers Association
HPMA	Hardwood Plywood Manufacturers Association
IBD	Institute of Business Designers
ICEA	Insulated Cable Engineers Association, Inc.
IEEE	Institute of Electrical and Electronic Engineers, Inc.
IESNA	Illuminating Engineering Society of North American
IGCC	Insulating Glass Certification Council
ILI	Indiana Limestone Institute of America
IMSA	International Municipal Signal Association
IRI	Industrial Risk Insurers
ISA	Instrument Society of America
ITE	Institute of Transportation Engineers
LEED™	Leadership in Energy and Environmental Design
LIA	Lead Industries Association, Inc.
LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturer's Association
MCAA	Mechanical Contractors Association of America
MFMA	Maple Flooring Manufacturers' Association
MIA	Marble Institute of America
ML/SFA	Metal Lath/Steel Framing Association
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry

MUTCD	Texas Department of Transportation Manual on Uniform Traffic Control Devices
NAAMM	National Association of Architectural Metal Manufacturers
NAIMA	North American Insulation Manufacturers Association
NAPA	National Asphalt Pavement Association
NBFU	National Board of Fire Underwriters
NBGQA	National Building Granite Quarries Association
NBS	National Bureau of Standards (U.S. Dept. of Commerce)
NCMA	National Concrete Masonry Association
NCRPM	National Council on Radiation Protection and Measurements
NCSPA	National Corrugated Steel Pipe Association
NEC	National Electrical Code (Published by NFPA)
NECA	National Electrical Contractors Association
NEII	National Elevator Industry, Inc.
NEMA	National Electrical Manufacturers Association
NETA	International Electrical Testing Association
N.F.P.A.	National Forest Products Association
NFPA	National Fire Protection Association
NHLA	National Hardwood Lumber Association
NIST	National Institute of Standards and Technology
NLGA	National Lumber Grades Authority
NOFMA	National Oak Flooring Manufacturers Association
NPA	National Particleboard Association
NPCA	National Paint and Coatings Association
NRCA	National Roofing Contractors Association
NWMA	National Woodwork Manufacturers Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PDI	Plumbing and Drainage Institute

PE	Professional Engineer
REA	Rural Electrification Administration
RFCI	Resilient Floor Covering Institute
RMA	Rubber Manufacturing Association
RPLS	Registered Professional Land Surveyor
SDI	Steel Deck Institute
S.D.I.	Steel Door Institute
SFPA	Southern Forest Products Association
SGCC	Safety Glazing Certification Council
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPIB	Southern Pine Inspection Bureau
SPRI	Single Ply Roofing Institute
SSPC	Steel Structures Painting Council
SSPMA	Sump and Sewage Pump Manufacturers Association
SWI	Steel Window Institute
SWPA	Submersible Wastewater Pump Association
TCA	Tile Council of America
TEX TEST	TxDOT Laboratory Test
TIMA	Thermal Insulation Manufacturers Association
TPI	Truss Plate Institute
TxDOT	Texas Department of Transportation
UL	Underwriters Laboratory, Inc.
USDA	U. S. Department of Agriculture
USGBC	U. S. Green Building Council
USPS	U. S. Postal Service
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Wallcovering Manufacturers Association
WIC	Woodwork Institute of California

WLPDIA	Western Lath, Plaster, Drywall Industries Association
WRI	Wire Reinforcement Institute
WSC	Water Systems Council
WSFI	Wood and Synthetic Flooring Institute
WWPA	Western Wood Products Association
W.W.P.A.	Woven Wire Products Association

END

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

The Storm Water Pollution Prevention Plan for this project is attached.

THIS PAGE INTENTIONALLY LEFT BLANK

Stormwater Pollution Prevention Plan (SWPPP)

For Construction Activities At:

Wild Horse Ranch WWTP Expansion
10621 Blue Bluff Rd
Manor, TX 78653
Insert Project/Site Telephone Number

SWPPP Prepared For:

Austin Water
Joanette Aird, EIT
2600 Webberville Rd., 2nd Floor
Austin, Texas 78702
512-972-0185
Joanette.aird@austintexas.gov

SWPPP Prepared By:

CAS Consulting & Services, Inc
TBPE Firm No. F-3572
Stephanie D. Blew, PE
7908 Cameron Rd
Austin, Tx 78754
512-836-2388
Stephanie.Blew@casengineers.com

SWPPP Preparation Date:

07/02/2021

Estimated Project Dates:

Project Start Date: Insert Date

Project Completion Date: Insert Date

Contents

SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES 1
1.1 Operator(s) / Subcontractor(s) 1
1.2 Stormwater Team 2
SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING 3
2.1 Project/Site Information 3
2.2 Discharge Information 3
2.3 Nature of the Construction Activities 5
2.4 Sequence and Estimated Dates of Construction Activities 7
2.5 Authorized Non-Stormwater Discharges 7
2.6 Site Maps 9
SECTION 3: DOCUMENTATION OF COMPLIANCE WITH OTHER FEDERAL REQUIREMENTS 10
3.1 Endangered Species Protection 10
3.2 Historic Preservation 11
3.3 Safe Drinking Water Act Underground Injection Control Requirements 12
SECTION 4: EROSION AND SEDIMENT CONTROLS 13
4.1 Natural Buffers or Equivalent Sediment Controls 13
4.2 Perimeter Controls 14
4.3 Sediment Track-Out 15
4.4 Stockpiled Sediment or Soil 17
4.5 Minimize Dust 18
4.6 Minimize Steep Slope Disturbances 19
4.7 Topsoil 20
4.8 Soil Compaction 20
4.9 Storm Drain Inlets 21
4.10 Stormwater Conveyance Channels 22
4.11 Sediment Basins 22
4.12 Chemical Treatment 23
4.13 Dewatering Practices 23
4.14 Other Stormwater Controls 24
4.15 Site Stabilization 25
SECTION 5: POLLUTION PREVENTION STANDARDS 29
5.1 Potential Sources of Pollution 29
5.2 Spill Prevention and Response 31
5.3 Fueling and Maintenance of Equipment or Vehicles 32
5.4 Washing of Equipment and Vehicles 32
5.5 Storage, Handling, and Disposal of Building Products, Materials, and Wastes 34
5.6 Washing of Applicators and Containers used for Paint, Concrete or Other Materials 38
5.7 Fertilizers 39
5.8 Other Pollution Prevention Practices 40

SECTION 6: INSPECTION, MAINTENANCE, AND CORRECTIVE ACTION.....41
6.1 Inspection Personnel and Procedures.....41
6.2 Corrective Action.....43
6.3 Delegation of Authority.....43
SECTION 7: TRAINING.....44
SECTION 8: CERTIFICATION AND NOTIFICATION.....45
SWPPP APPENDICES.....46

SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES

1.1 Operator(s) / Subcontractor(s)

Instructions:

- Identify the operator(s) who will be engaged in construction activities at the site. Indicate respective responsibilities, where appropriate. Also include the 24-hour emergency contact.
- List subcontractors expected to work on-site. Notify subcontractors of stormwater requirements applicable to their work.
- Consider using Subcontractor Agreements such as the type included as a sample in Appendix G of the Template.

Operator(s):

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email
Insert area of control (if more than one operator at site)

Subcontractor(s):

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email
Insert area of control (if more than one operator at site)

Subcontractor(s):

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email
Insert area of control (if more than one operator at site)

Emergency 24-Hour Contact:

Insert Company or Organization Name
Insert Name
Insert Telephone Number

1.2 Stormwater Team

Instructions:

- Identify the individuals (by name or position) that are part of the project's stormwater team, their individual responsibilities, and which members are responsible for inspections. At a minimum the stormwater team is comprised of individuals who are responsible for overseeing the development of the SWPPP, any later modifications to it, and for compliance with the permit requirements (i.e., installing and maintaining stormwater controls, conducting site inspections, and taking corrective actions where required).
- Each member of the stormwater team must have ready access to either an electronic or paper copy of applicable portions of the 2018 CGP and the SWPPP.

Stormwater Team		
Name and/or position, and contact	Responsibilities	I Have Read the CGP and Understand the Applicable Requirements
Stephanie D. Blew, P.E. Supervisory Engineer (210)-264-2300 Stephanie.blew@casengineers.com	SWPPP Preparer	☒ Yes Date: 3/30/2021
Insert name of responsible person Insert Position Insert Telephone Number Insert Email	Insert Responsibility	☐ Yes Date: Click here to enter a date.
Insert name of responsible person Insert Position Insert Telephone Number Insert Email	Insert Responsibility	☐ Yes Date: Click here to enter a date.

SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING

2.1 Project/Site Information

Project Name and Address

Project/Site Name: Wild Horse Ranch WWTP Expansion
Project Street/Location: 10621 Blue Bluff Rd
City: Manor
State: Texas
ZIP Code: 78653
County or Similar Subdivision: Travis County

Business days and hours for the project: Generally, Monday – Friday 7:00 am to 7:00 pm, weekend and overnight work may occur during specific phases of construction to bring new facilities on-line based on the off-peak flow times at the wastewater treatment plant.

Project Latitude/Longitude

Latitude: 301905.09° N (decimal degrees)

Longitude: - 973404.82 ° W (decimal degrees)

Latitude/longitude data source:

☐ Map ☐ GPS ☒ Other (please specify): __Google Earth on 02/02/21_____

Horizontal Reference Datum:

☐ NAD 27 ☒ NAD 83 ☐ WGS 84

2.2 Discharge Information

Does your project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☒ No

Are there any waters of the U.S. within 50 feet of your project's earth disturbances? ☒ Yes ☐ No

For each point of discharge, provide a point of discharge ID (a unique 3-digit ID, e.g., 001, 002), the name of the first water of the U.S. that receives stormwater directly from the point of discharge and/or from the MS4 that the point of discharge discharges to, and the following receiving water information, if applicable:								
Point of Discharge ID	Name of receiving water:	Is the receiving water impaired (on the CWA 303(d) list)?	If yes, list the pollutants that are causing the impairment:	Has a TMDL been completed for this receiving waterbody?	If yes, list TMDL Name and ID:	Pollutant(s) for which there is a TMDL:	Is this receiving water designated as a Tier 2, Tier 2.5, or Tier 3 water?	If yes, specify which Tier (2, 2.5, or 3)?
0O1	Gilleland Creek (TX-1428C_02)	☐ Yes ☒ No		☐ Yes ☒ No			☐ Yes ☒ No	
0O2	Gilleland Creek (TX-1428C_02)	☐ Yes ☒ No		☐ Yes ☒ No			☐ Yes ☒ No	
0O3	Gilleland Creek (TX-1428C_02)	☐ Yes ☒ No		☐ Yes ☒ No			☐ Yes ☒ No	
0O4	Gilleland Creek (TX-1428C_02)	☐ Yes ☒ No		☐ Yes ☒ No			☐ Yes ☒ No	
0O5	Gilleland Creek (TX-1428C_02)	☐ Yes ☒ No		☐ Yes ☒ No			☐ Yes ☒ No	

2.3 Nature of the Construction Activities

General Description of Project

Provide a general description of the nature of your construction activities, including the age dates of past renovations for structures that are undergoing demolition:

This project includes the following work:

- Demolition of an existing odor control pad and hydropneumatics tank (approximately 15 years old).
- Demolition of an existing scum wetwell (approximately 15 years old).
- Construction of an electrical building.
- Construction of a headworks facility
- Construction of an aeration basin
- Construction of two secondary clarifiers
- Construction of a filter and ultraviolet disinfection facility
- Construction of a plant water pump station
- Construction of a plant drain pump station.
- Construction of a sludge holding tank.
- Construction of a solids thickening and lift station odor control facility.
- Construction of a headworks odor control facility.
- Construction of an administration building.
- Construction of a water quality pond.
- Construction of a flood protection wall.
- Construction of a mixed liquor splitter box.
- Construction of an aeration basin splitter box.
- Construction of a return activated sludge pump station.
- Construction of a waste activated sludge pump station.
- Construction of two scum wetwells.
- Construction of a parking area.
- Construction of a potable water line.
- Construction of miscellaneous yard piping.
- Modifying the existing sludge holding tank (approximately 15 years old).
- Modifying the existing aeration basin (approximately 15 years old).
- Miscellaneous improvements to the plant access road.
- Repaving the plant perimeter road.

Size of Construction Site

Size of Property	33.19 Ac
Total Area Expected to be Disturbed by Construction Activities	7.65 Ac
Maximum Area Expected to be Disturbed at Any One Time	7.65 Ac

Type of Construction Site *(check all that apply):*

☐ Single-Family Residential ☐ Multi-Family Residential ☐ Commercial ☐ Industrial

☐ Institutional ☐ Highway or Road ☒ Utility ☒ Other __WWTP Expansion with a potable water line_____

Will there be demolition of any structure built or renovated before January 1, 1980?	☐ Yes	☒ No	
If yes, do any of the structures being demolished have at least 10,000 square feet of floor space?	☐ Yes	☐ No	☒ N/A
Was the pre-development land use used for agriculture?	☒ Yes	☐ No	

Pollutant-Generating Activities

List and describe all pollutant-generating activities and indicate for each activity the type of pollutant that will be generated. Take into account where potential spills and leaks could occur that contribute pollutants to stormwater discharges, and any known hazardous or toxic substances, such as PCBs and asbestos, that will be disturbed during construction.

Pollutant-Generating Activity (e.g., paving operations; concrete, paint, and stucco washout and waste disposal; solid waste storage and disposal; and dewatering operations)	**Pollutants or Pollutant Constituents** (e.g., sediment, fertilizers, pesticides, paints, caulks, sealants, fluorescent light ballasts, contaminated substrates, solvents, fuels)
Soil Disturbing Activities	Pesticides, fertilizers, soil
Equipment Storage	Quick Dry Floor Sweep/Sweep Ez, transmission fluid, motor oil, soluble oil D, petroleum-based automotive fuel, diesel fuel
Paving Operations	Concrete, steel, sand
Concrete Truck Washout	Concrete, sand, gravel, additives,
Material Storage	Lumber, sand, gravel, soil, oil and based-paints, cleaners and solvents, adhesive sealant, acrylic seam sealer, acrylic bedding sealant, high performance glazing tape sealant, general purpose glazing sealant
Waste Generation, Storage, and Disposal	Lumber, sand, packaging
Paint	Acetone, oil and water-based paints
Dewatering Operations	soil
Asphalt Pavement Products	Sand, gravel, asphalt, bituminous material
Utility/Pipeline Installation	Aluminum alloys, concrete, steel, ramnek, rubber seals, adhesives, sealants,
Building Construction	Glass, hi solids polyester, aluminum alloys, adhesive sealant, acrylic seam sealer, acrylic bedding sealant, acrylic sealant, high performance glazing tape sealant, general purpose glazing sealant, fiberglass insulation, dry-wall material, concrete, steel, formaldehyde

Miscellaneous	Cleaners and solvents, aromatic hydrocarbons,

Construction Support Activities *(only provide if applicable)*

Describe any construction support activities for the project (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas):

Support activities will include equipment and material staging and storage areas, as well as excavated material storage. All storage areas will be surrounded by perimeter erosion and sediment controls and are shown on the project site map.

Contact information for construction support activity:

INSERT NAME
INSERT TELEPHONE NO.
INSERT EMAIL
INSERT ADDRESS

Subcontractor(s):

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email

2.4 Sequence and Estimated Dates of Construction Activities

Sequence of construction:

1. Install temporary erosion/sedimentation controls.
2. Install stabilized construction entrances.
3. Construct project improvements.
4. Restore and revegetate disturbed areas.
5. Remove temporary erosion controls after revegetation is established.

Estimated project start date: March 2022.
Estimated project completion date: February 2025.

2.5 Authorized Non-Stormwater Discharges

List of Authorized Non-Stormwater Discharges Present at the Site

Type of Authorized Non-Stormwater Discharge	Likely to be Present at Your Site?
Discharges from emergency fire-fighting activities	☐ Yes ☒ No
Fire hydrant flushings	☒ Yes ☐ No
Landscape irrigation	☒ Yes ☐ No

Waters used to wash vehicles and equipment	☒ Yes ☐ No
Water used to control dust	☒ Yes ☐ No
Potable water including uncontaminated water line flushings	☒ Yes ☐ No
External building washdown (soaps/solvents are not used and external surfaces do not contain hazardous substances)	☒ Yes ☐ No
Pavement wash waters	☒ Yes ☐ No
Uncontaminated air conditioning or compressor condensate	☒ Yes ☐ No
Uncontaminated, non-turbid discharges of ground water or spring water	☒ Yes ☐ No
Foundation or footing drains	☒ Yes ☐ No
Construction dewatering water	☒ Yes ☐ No

(Note: You are required to identify the likely locations of these authorized non-stormwater discharges on your site map. See Section 2.6, below, of the SWPPP Template.)

2.6 *Site Maps*

Instructions:

- Attach site maps in Appendix A of the Template. For most projects, a series of site maps is necessary and recommended. The first should show the undeveloped site and its current features. An additional map or maps should be created to show the developed site or, for more complicated sites, show the major phases of development.

These maps must include the following features:

- Boundaries of the property (Overall Site Survey) and of the locations where construction will occur, including:
  - ✓ Locations where earth-disturbing activities will occur, noting any phasing of construction activities and any demolition activities; (Ex Topo E/S Control & Tree Protection Plant Site Plans)
  - ✓ Approximate slopes before and after major grading activities. (Ex Topo E/S Control & Tree Protection Plant Site Plans) for existing slopes (Paving and Grading Site Plans) for proposed slopes
  - ✓ Locations where sediment, soil, or other construction materials will be stockpiled (Ex Topo E/S Control & Tree Protection Plant Site Plans);
  - ✓ Locations of any crossings of waters of the U.S. (Ex Topo E/S Control & Tree Protection Plant Site Plans);
  - ✓ Designated points where vehicles will exit onto paved roads (Ex Topo E/S Control & Tree Protection Plant Site Plans);
  - ✓ Locations of structures and other impervious surfaces upon completion of construction (Overall Site Plan); and
  - ✓ Locations of on-site and off-site construction support activity areas covered by this permit (Ex Topo E/S Control & Tree Protection Plant Site Plans).
- Locations of all waters of the U.S., including wetlands, on your site and within one mile downstream of the site's discharge point. (Ex Topo E/S Control & Tree Protection Plant Site Plans).
- Areas of federally-listed critical habitat for endangered or threatened species within the site and/or at discharge locations. N/A – No Critical Habitat located within the site or at discharge locations.
- Type and extent of pre-construction cover on the site (e.g., vegetative cover, forest, pasture, pavement, structures) See Environmental Resource Inventory in Appendix M
- Drainage pattern(s) of stormwater and authorized non-stormwater before and after major grading activities. Onsite Drainage Study & Proposed Drainage Area Maps
- Stormwater and authorized non-stormwater discharge locations, including:
  - ✓ Locations where stormwater and/or authorized non-stormwater will be discharged to storm drain inlets Water Quality/Detention Pond Plan (Existing) & Water Quality Pond Plan (Proposed); and
  - ✓ Locations where stormwater or allowable non-stormwater will be discharged to waters of the U.S. (including wetlands) Onsite Drainage Study & Proposed Drainage Area Maps.
- Locations of all potential pollutant-generating activities (Ex Topo E/S Control & Tree Protection Plant Site Plans).
- Locations of stormwater controls, including natural buffer areas and any shared controls utilized to comply with the permit Water Quality/Detention Pond Plan (Existing) & Water Quality Pond Plan (Proposed);.
- Locations where polymers, flocculants, or other treatment chemicals will be used and stored. (Ex Topo E/S Control & Tree Protection Plant Site Plans)

SECTION 3: DOCUMENTATION OF COMPLIANCE WITH OTHER FEDERAL REQUIREMENTS

3.1 Endangered Species Protection

Instructions (see Appendix D, and the "Endangered Species Protection" section of the Appendix J – NOI form):

Using the instructions in Appendix D of the permit, determine under which criterion listed below (A-F) you are eligible for coverage under this permit with respect to the protection of endangered species. To make this determination, you must use information from **BOTH** the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). Both the NMFS and USFWS maintain lists of Endangered Species Act-listed (ESA-listed) species and designated critical habitat. Operators must consult both when determining their eligibility.

- Check only 1 box, include the required information and provide a sound basis for supporting the criterion selected. Select the most conservative criterion that applies
- Include documentation supporting your determination of eligibility.

Eligibility Criterion

Under which criterion listed in Appendix D are you eligible for coverage under this permit?

☒ **Criterion C:** Discharges not likely to adversely affect ESA-listed species and/or designated critical habitat. ESA-listed species and/or designated critical habitat(s) under the jurisdiction of the USFWS and/or NMFS are likely to occur in or near your site's "action area," and you certify to EPA that your site's discharges and discharge-related activities are not likely to adversely affect ESA-listed threatened or endangered species and/or designated critical habitat. This certification may include consideration of any stormwater controls and/or management practices you will adopt to ensure that your discharges and discharge-related activities are not likely to adversely affect ESA-listed species and/or designated critical habitat. To certify your eligibility under this criterion, indicate 1) the ESA-listed species and/or designated habitat located in your "action area" using the process outlined in Appendix D of this permit; 2) the distance between the site and the listed species and/or designated critical habitat in the action area (in miles); and 3) a rationale describing specifically how adverse effects to ESA-listed species will be avoided from the discharges and discharge-related activities. You must also include a copy of your site map from your SWPPP showing the upland and in-water extent of your "action area" with this NOI.

Basis statement content/Supporting documentation: A basis statement supporting the selection of Criterion C should identify the information resources and expertise (e.g., state or federal biologists) used to arrive at this conclusion. Any supporting documentation should explicitly state that both ESA-listed species and designated critical habitat under the jurisdiction of the USFWS and/or NMFS were considered in the evaluation.

- ✓ Resources used to make determination:
  USFWS ECOS Environmental Conservation Online System – Listed Species believed to or known to occur in Texas
  https://ecos.fws.gov/ecp/report/species-listings-by-state?stateAbbrev=TX&stateName=Texas&statusCategory=Listed
  Critical Habitat for Threatened & Endangered Species (USFWS):
  https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77

- ✓ ESA-listed Species/Critical Habitat in action area:
  Endangered Bee Creek Cave harvestman (Texella reddelli)
  Endangered Bone Cave harvestman (Texella reyesi)
  Endangered Tooth Cave pseudoscorpion (Tartarocreagris texana)
  Endangered Tooth Cave Spider (Neoleptoneta myopica)
  Endangered Golden Cheeked Warbler (Dendroica chrysoparia)
  Threatened Piping Plover (Charadrius melodus)
  Threatened Red Knot (Calidris canutus rufa)
  Endangered Whooping crane (Grus americana)
  Endangered Kretschmarr Cave mold beetle (Texamaurops reddelli)
  Endangered Tooth Cave Ground Beetle (Rhadine Persephone)
  No Critical Habitat is known within the project limits.
- ✓ Distance between site and ESA-listed Species/Critical Habitat: 0 Miles

3.2 Historic Preservation

Appendix E, Step 1

Do you plan on installing any of the following stormwater controls at your site? Check all that apply below, and proceed to Appendix E, Step 2.

- ☐ Dike
- ☐ Berm
- ☐ Catch Basin
- ☒ Pond
- ☒ Stormwater Conveyance Channel (e.g., ditch, trench, perimeter drain, swale, etc.)
- ☐ Culvert
- ☒ Other type of ground-disturbing stormwater control: Partial Sedimentation-Filtration Pond

Appendix E, Step 2

If you answered yes in Step 1, have prior surveys or evaluations conducted on the site already determined that historic properties do not exist, or that prior disturbances at the site have precluded the existence of historic properties? ☒ YES ☐ NO

- If yes, no further documentation is required for Section 3.2 of the Template.
- If no, proceed to Appendix E, Step 3.

Appendix E, Step 3 - N/A

If you answered no in Step 2, have you determined that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties? ☐ YES ☐ NO

If yes, provide documentation of the basis for your determination.

If no, proceed to Appendix E, Step 4.

Appendix E, Step 4 – N/A

If you answered no in Step 3, did the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Office (THPO), or other tribal representative (whichever applies) respond to you within 15 calendar days to indicate whether the subsurface earth disturbances caused by the installation of stormwater controls affect historic properties? ☐ YES ☐ NO

If no, no further documentation is required for Section 3.2 of the Template.

If yes, describe the nature of their response:

- ☐ Written indication that no historic properties will be affected by the installation of stormwater controls.
- ☐ Written indication that adverse effects to historic properties from the installation of stormwater controls can be mitigated by agreed upon actions.
- ☐ No agreement has been reached regarding measures to mitigate effects to historic properties from the installation of stormwater controls.
- ☐ Other:

3.3 Safe Drinking Water Act Underground Injection Control Requirements

Do you plan to install any of the following controls? No
Check all that apply below.

- ☐ Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)
- ☐ Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow
- ☐ Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)

SECTION 4: EROSION AND SEDIMENT CONTROLS

4.1 Natural Buffers or Equivalent Sediment Controls

Buffer Compliance Alternatives

Are there any waters of the U.S. within 50 feet of your project's earth disturbances? ☒ YES ☐ NO

Check the compliance alternative that you have chosen:

☐ (i) I will provide and maintain a 50-foot undisturbed natural buffer.

☐ (ii) I will provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

☒ (iii) It is infeasible to provide and maintain an undisturbed natural buffer of any size, therefore I will implement erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

- The project requires a potable waterline (linear project) to cross Gilleland Creek Tributary 1B which may have jurisdictional waters. The disturbed area to the potential jurisdictional waters will be less than 0.10 Acre and does not require a Pre-Construction Notification (PCN) under the USACE NPW 58 – Utility Line Activities for Water and Other Substances.
- Additional erosion and sedimentation controls in the form of Rock Berm to prevent in strem sediment from leaving the disturbed area, Silt fence with j-hooks located 50' each side of the Creek.

☐ I qualify for one of the exceptions in Part 2.2.1.b. (If you have checked this box, provide information on the applicable buffer exception that applies, below.)

Buffer Exceptions

Which of the following exceptions to the buffer requirements applies to your site? None

☐ For a "linear construction sites" (defined in Appendix A), site constraints (e.g., limited right-of-way) make it infeasible to meet any of the CGP Part 2.2.1.a compliance alternatives.

☐ Buffer disturbances are authorized under a CWA Section 404 permit.

4.2 Perimeter Controls

General

- Silt fencing, mulch socks, or rock berm will be installed near the perimeter of all disturbed areas to intercept sediment and will remain in place until the disturbed area is permanently stabilized.

Specific Perimeter Controls

SILT FENCING	
Description: Silt Fence is a temporary barrier made of non-woven polypropylene, polyethylene, or polyamide material that is trenched or sliced into the ground and supported by posts on the downstream side of the fabric. Silt fence works by intercepting sheet flow from slopes, causing the runoff to pond behind the fence, thereby promoting deposition of sediment on the uphill side of the fence. They are most effective when designed to provide comprehensive water and sediment control throughout a construction site and if used in conjunction with erosion control practices.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season. Repair undercut silt fences. Repair or replace split, torn, slumping, or weathered fabric. The lifespan of silt fence fabric is generally 5 to 8 months. Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed of, and replaced with new silt fence barriers. Sediment that accumulates in the silt fence must be periodically removed in order to maintain silt fence effectiveness. Sediment should be removed when the sediment accumulation reaches approximately one-half of the fence height (one foot) on the silt fence. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed at an appropriate location. Upon removal of silt fence, accumulated sediment must also be removed and disposed of properly. Silt fences should be left in place until the upstream area is permanently stabilized. Until then, the silt fence must be inspected and maintained. Holes, depressions, or other ground disturbance caused by the removal of the silt fences should be backfilled and repaired.
Design Specifications	SEE SPEC 642S IN APPENDIX K.

MULCH SOCK	
Description: A mulch sock consists of material encased in a tube of mesh. It is used to intercept, settle, and filter sheet flow and pond runoff. Mulch socks provide an environmentally sensitive and cost-effective alternative to sediment fences.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Inspect mulch socks after installation for gaps under the mulch socks and for gaps between the joints of adjacent ends of mulch socks. Contractor shall repair gaps such that no water flows under or around sock. Inspect every seven days and within 24 hours of a rainfall event of 0.5 inches or greater. Replace and repair mulch socks as necessary. Sediment retained by the mulch socks shall be removed when it has reached one third of the exposed height of the mulch socks. Mulch socks can be vegetated or un-

	vegetated. Vegetated mulch socks can be left in place. The vegetation will grow in the slope, further anchoring the sock
Design Specifications	SEE SPEC 648S IN APPENDIX K.

ROCK BERM	
Description: A temporary berm constructed of open graded rock installed at the toe of a slope or the perimeter of a developing or disturbed area. Rock berms are appropriate for use as flow diverters, energy dissipators, grade control, and level spreaders to release the water in sheet flow.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	The area upstream from the rock berm shall be maintained in a condition which will allow sediment to be removed following the runoff of a rainfall event. Weekly or after each rainfall, inspection shall be made by the responsible party and if the sediment reaches a depth equal to 1/3 the height of the berm or one (1) foot, whichever is less, it shall be removed, and the accumulated sediment disposed of at an approved site in a manner that will not contribute to additional sedimentation.
Design Specifications	SEE SPEC 639SIN APPENDIX K.

4.3 Sediment Track-Out

General

- Stabilized Construction Entrances will be installed prior to site disturbances to prevent trucks from tracking dirt onto public roads. At the main plant entrance/exit a wheel wash station will be provided to prevent sediment from being tracked onto adjacent paved roadways.

Specific Track-Out Controls

STABILIZED CONSTRUCTION ENTRANCE	
Description: A stabilized pad of crushed stone located at any point where traffic will be entering or leaving a construction site to or from a public right of way, street, alley, sidewalk or parking area	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights of way. This may require periodic top dressing with additional stone as conditions demand and repair and/or clean out of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights of way must be removed immediately by contractor. When necessary, wheels must be cleaned to remove sediment prior to entrance onto public right of way. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved sediment trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch or watercourse using approved methods.
Design Specifications	SEE SPEC 341S IN APPENDIX K.

<table>
<tr><th colspan="2">WHEEL WASHER/WASH RACK - OPTIONAL</th></tr>
<tr><td colspan="2">Description: In many cases, the action of tires moving over the rock pad may not adequately remove sediment, and a wash rack may be required. Wheel washer systems – also called wash racks – use pressure-sprayed water to remove mud, soil, and rock from vehicles exiting the site. They can be fabricated from piping, hoses, driveway racks (e.g., concrete and metal cattle guards), and other materials, or acquired from construction site stormwater compliance vendors. Designs range from pipe units that can be hung from Jersey wall sections to wash stations that include elevated driveways above sediment trapping basins. Specific design requirements include:
Washer spray must be directed to remove material on the inside as well as outside of wheels.
Design so that drainage from the wheel wash area leads to a trap, silt fence, or other BMP for settling.
Wash water migrating off the site will need to be treated to remove sediment (e.g., via a sediment trap, rock berm, or sediment pond) or recycled.
Consider ice buildup on roadways as dripping vehicles leave the site during cold weather.
A wash rack installed on the rock pad may make washing more convenient and effective. The wash rack would consist of a heavy grating over a lowered area. The grating may be a prefabricated rack, such as a cattle guard, or it may be constructed on site of structural steel. The wash rack must be strong enough to support the vehicles that will cross it.</td></tr>
<tr><td>Installation</td><td>INSERT APPROXIMATE DATE OF INSTALLATION</td></tr>
<tr><td>Maintenance Requirements</td><td>If site inspection(s) reveal concerns, maintenance will be necessary. Maintenance of vehicle tracking BMPs includes the following:
Immediately remove mud, soil, and other debris from offsite areas – particularly roadways.
Remove sediment that accumulates in the pad area, ditch/swale, or nearby stormwater facilities if performance is affected.
Revegetate or otherwise stabilize eroding ditches, swales, or traps/basins treating exit pad runoff.
Adjust the vehicle tracking BMPs to ensure proper functioning if performance is poor, including the following:
Clean or add rock – including larger rock, or extend the length of rock pads.
Regrade rock as needed to ensure positive drainage.
Extend the length of shaker racks; ensure drivers use enough speed to dislodge debris.
Maintenance of wheel washers/wash racks includes the following:
Ensure wash water drainage, collection, and treatment systems are functioning.
The wash water collection area should be regularly cleaned out to ensure sediment is contained properly.
Remove/discharge wash water as needed.
Maintain a clean run-out pad.</td></tr>
</table>

	• Adjust wheel washer nozzle direction and spray pressure, and add nozzles as needed.
Design Specifications	SEE MNDOT SPEC 2573.3K IN APPENDIX K.

4.4 Stockpiled Sediment or Soil

Instructions:

- Describe stormwater controls and other measures you will take to minimize the discharge of sediment or soil particles from stockpiled sediment or soil. Include a description of structural practices (e.g., diversions, berms, ditches, storage basins), including design, installation, and maintenance specifications, used to divert flows from stockpiled sediment or soil, retain or detain flows, or otherwise limit exposure and the discharge of pollutants from stockpiled sediment or soil.
- For piles that will be unused for 14 or more days, describe what cover or other appropriate temporary stabilization will be used.
- Also, describe any controls or procedures used to minimize exposure resulting from adding to or removing materials from the pile.

General

- Silt Fence and Mulch Socks

Specific Stockpile Controls

SILT FENCE	
Description: Silt Fence is a temporary barrier made of non-woven polypropylene, polyethylene, or polyamide material that is trenched or sliced into the ground and supported by posts on the downstream side of the fabric. Silt fence works by intercepting sheet flow from slopes, causing the runoff to pond behind the fence, thereby promoting deposition of sediment on the uphill side of the fence. They are most effective when designed to provide comprehensive water and sediment control throughout a construction site and if used in conjunction with erosion control practices.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements	Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season. Repair undercut silt fences. Repair or replace split, torn, slumping, or weathered fabric. The lifespan of silt fence fabric is generally 5 to 8 months. Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed of, and replaced with new silt fence barriers. Sediment that accumulates in the silt fence must be periodically removed in order to maintain silt fence effectiveness. Sediment should be removed when the sediment accumulation reaches approximately one-half of the fence height (one foot) on the silt fence. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed at an appropriate location. Upon removal of silt fence, accumulated sediment must also be removed and disposed of properly. Silt fences should be left in place until the upstream area is permanently stabilized. Until then, the silt fence must be inspected and maintained. Holes, depressions, or other ground disturbance caused by the removal of the silt fences should be backfilled and repaired
Design Specifications	SEE SPEC 642S IN APPENDIX K.

MULCH SOCK	
Description: A mulch sock consists of material encased in a tube of mesh. It is used to intercept, settle, and filter sheet flow and pond runoff. Mulch socks provide an environmentally sensitive and cost-effective alternative to sediment fences.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Inspect mulch socks after installation for gaps under the mulch socks and for gaps between the joints of adjacent ends of mulch socks. Contractor shall repair gaps such that no water flows under or around sock. Inspect every seven days and within 24 hours of a rainfall event of 0.5 inches or greater. Replace and repair mulch socks as necessary. Sediment retained by the mulch socks shall be removed when it has reached one third of the exposed height of the mulch socks. Mulch socks can be vegetated or un-vegetated. Vegetated mulch socks can be left in place. The vegetation will grow in the slope, further anchoring the sock
Design Specifications	SEE SPEC 648S IN APPENDIX K.

4.5 Minimize Dust

General

Sprinkling for Dust Control

Specific Dust Controls

SPRINKLING FOR DUST CONTROL - OPTIONAL	
Description: This item shall govern the authorized application of water for dust control on specified streets, detours, haul routes or construction sites, as shown on the Drawings or directed by the Engineer or designated representative, for the purpose of maintaining these areas relatively free of dust.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Contractor will maintain a sufficiently moist environment as to control dust.
Design Specifications	SEE SPEC 220S IN APPENDIX K.

4.6 Minimize Steep Slope Disturbances

Instructions:

- Describe how you will minimize the disturbance to steep slopes.
- Describe controls (e.g., erosion control blankets, tackifiers), including design, installation and maintenance specifications, that will be implemented to minimize sediment discharges from slope disturbances.

General

- MULCHING & Soil Retention Blankets

Specific Steep Slope Controls

MULCHING	
Description: Mulching is the process of applying wood mulch, wood chips, or other organic material to the exposed soil surface to protect it from erosive forces (wind, water, etc.) and to conserve soil moisture until plants can become established. Mulching shall not be considered a primary erosion control, but shall be used in conjunction with other approved controls.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	The mulched area shall be inspected regularly and after each large rainfall. Any required repairs shall be made immediately, with additional mulching material placed on top of the mulch to reach the recommended thickness. When the mix is decomposed, clogged with sediment, eroded or ineffective, it must be replaced or repaired. Vegetation adds stability and should be promoted. If the mulch is not removed prior to revegetation, it should be spread out into the landscape to a depth that will not prevent seed germination and will encourage effective revegetation of the site.
Design Specifications	See COA ECM ITEM 1.4.5.A. MULCHING IN APPENDIX K.

SOIL RETENTION BLANKETS
Description: This item shall govern the provision and placement of wood, straw or coconut fiber mat, synthetic mat, paper mat, jute mesh or other material as a soil retention blanket for erosion control on slopes or ditches or short-term or long-term protection of seeded or

sodded areas indicated on the Drawings or as specified by the Engineer or designated representative.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Contractor will inspect weekly & after each rain event, and the stone/fabric core-woven wire sheathing will be replaced as needed. When silt reaches depth equal to 1/3 the berm height or 1' (whichever comes first), silt shall be removed and disposed of in an appropriate manner.
Design Specifications	SEE SPEC 605S IN APPENDIX K.

4.7 Topsoil

General

- Salvaging and Placing Topsoil

Specific Topsoil Controls

SALVAGING AND PLACING TOPSOIL	
Description: This item shall govern the removal, storage and placement of approved on-site naturally occurring topsoil and topsoil mix to the depths and area shown on the Drawings or as directed by the Engineer or Landscape Architect.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	The contractor will maintain proper sediment control for stockpiled topsoil and maintain a level of moisture such as to keep the soil from drying out and becoming airborne.
Design Specifications	SEE SPEC 601S IN APPENDIX K.

4.8 Soil Compaction

General

- Salvaging and Placing Topsoil, Soil Decompaction

Specific Soil Compaction Controls

SALVAGING AND PLACING TOPSOIL	
Description: This item shall govern the removal, storage and placement of approved on-site naturally occurring topsoil and topsoil mix to the depths and area shown on the Drawings or as directed by the Engineer or Landscape Architect.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	The contractor will maintain proper sediment control for stockpiled topsoil and maintain a level of moisture such as to keep the soil from drying out and becoming airborne.
Design Specifications	SEE SPEC 601S IN APPENDIX K.

SOIL DECOMPACTION - OPTIONAL
Description: This work shall consist of performing all required activities for soil decompaction in areas shown on the Drawings or as directed by the Engineer, Landscape Architect, or authorized City of Austin representative. The scope of work includes all labor, materials, tools, supplies, equipment, facilities, transportation and

services necessary for, and incidental to performing all operations in connection with Soil Decompaction, complete as shown on the drawings and as specified herein. The scope of work in this section includes, but is not limited to, the following: 1. Modify existing site soil. a. Modify existing in-situ site soil in place for use as Planting Soil. b. Install existing or modified existing stockpiled soil for use as Planting Soil. 2. Install compost and/or other amendments into existing site soil as part of decompaction. 3. Clean up and disposal of all excess and surplus material.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	INSERT MAINTENANCE REQUIREMENTS FOR THE SOIL COMPACTION CONTROL
Design Specifications	SEE SPEC 661S IN APPENDIX K.

4.9 Storm Drain Inlets

General

- Triangular Sediment Filtration Dikes and Mulch Socks 628S, 648S

Specific Storm Drain Inlet Controls

TRIANGULAR SEDIMENT FILTER DIKE	
Description: A temporary barrier constructed of wire mesh and geotextile fabric, installed along a flat area.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Silt accumulation behind hay bales and triangular sediment filter dikes shall be removed at a maximum depth of 6 inches (150 mm) or when, in the opinion of the Engineer or designated representative, the structure ceases to function as intended. All dikes shall be inspected by the Contractor at least monthly and after each rainfall. Dikes shall be repaired or replaced when necessary or as directed by the Engineer or designated representative.
Design Specifications	SEE SPEC 628S IN APPENDIX K.

MULCH SOCKS	
Description: A mulch sock consists of material encased in a tube of mesh. It is used to intercept, settle, and filter sheet flow and pond runoff. Mulch socks provide an environmentally sensitive and cost-effective alternative to sediment fences.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Inspect mulch socks after installation for gaps under the mulch socks and for gaps between the joints of adjacent ends of mulch socks. Contractor shall repair gaps such that no water flows under or around sock. Inspect every seven days and within 24 hours of a rainfall event of 0.5 inches or greater. Replace and repair mulch socks as necessary. Sediment retained by the mulch socks shall be removed when it has reached one third of the exposed height of the mulch socks. Mulch socks can be vegetated or un-vegetated. Vegetated mulch socks can be left in place. The vegetation will grow in the slope, further anchoring the sock

Design Specifications	SEE SPEC 648S IN APPENDIX K.

4.10 Stormwater Conveyance Channels

General

- Rock Berms & Severe Service Rock Berms will be installed prior to site disturbances in order to minimize velocity of water and sediment leaving the site.

Specific Conveyance Channel Controls

ROCK BERM / SEVERE SERVICE ROCK BERM	
Description: A temporary berm constructed of open graded rock installed at the toe of a slope or the perimeter of a developing or disturbed area. Rock berms are appropriate for use as flow diverters, energy dissipators, grade control, and level spreaders to release the water in sheet flow.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	The area upstream from the rock berm shall be maintained in a condition which will allow sediment to be removed following the runoff of a rainfall event. Weekly or after each rainfall, inspection shall be made by the responsible party and if the sediment reaches a depth equal to 1/3 the height of the berm or one (1) foot, whichever is less, it shall be removed, and the accumulated sediment disposed of at an approved site in a manner that will not contribute to additional sedimentation.
Design Specifications	SEE SPEC 639S IN APPENDIX K.

[Repeat as needed for individual stormwater conveyance channel controls.]

4.11 Sediment Basins

General

- N/A

Specific Sediment Basin Controls

INSERT NAME OF SEDIMENT BASIN CONTROL TO BE INSTALLED	
Description: N/A	
Installation	N/A
Maintenance Requirements	INSERT MAINTENANCE REQUIREMENTS FOR THE SEDIMENT BASIN CONTROL. (Note: At a minimum, you must comply with following requirement in CGP Part 2.2.12.f: "Remove accumulated sediment to maintain at least one-half of the design capacity and conduct all other appropriate maintenance to ensure the basin or impoundment remains in effective operating condition.")
Design Specifications	N/A

4.12 Chemical Treatment

Soil Types
List all the soil types (including soil types expected to be found in fill material) that are expected to be exposed during construction in areas of the project that will drain to chemical treatment systems: Refer to geotechnical report for soil types. Refer to Site Map for drainage patterns.

Treatment Chemicals
List all treatment chemicals that will be used at the site and explain why these chemicals are suited to the soil characteristics: Calcium Oxide (QuickLime)
Describe the dosage of all treatment chemicals you will use at the site or the methodology you will use to determine dosage: Geotechnical investigations will determine the amount of Lime to be added to the native soil to produce the desired subgrade characteristics to provide a durable long lasting pavement section.

Provide information from any applicable Safety Data Sheets (SDS): Refer to Appendix N for SDS for QuickLime.

Describe how each of the chemicals will stored: In accordance with manufacturers recommendations.

Include references to applicable state or local requirements affecting the use of treatment chemicals, and copies of applicable manufacturer's specifications regarding the use of your specific treatment chemicals and/or chemical treatment systems: See Specification 203S in Appendix K

Special Controls for Cationic Treatment Chemicals (if applicable)
If the applicable TCEQ Regional Office authorized you to use cationic treatment chemicals, include the official EPA authorization letter or other communication, and identify the specific controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to an exceedance of water quality standards: N/A

Schematic Drawings of Stormwater Controls/Chemical Treatment Systems
Provide schematic drawings of any chemically-enhanced stormwater controls or chemical treatment systems to be used for application of treatment chemicals: N/A

Training
Describe the training that personnel who handle and apply chemicals have received prior to permit coverage, or will receive prior to the use of treatment chemicals: In accordance with OSHA requirements.

4.13 Dewatering Practices

General
Silt Fence or Dewatering Bags

Specific Dewatering Practices

SILT FENCING	
Description: Silt Fence is a temporary barrier made of non-woven polypropylene, polyethylene, or polyamide material that is trenched or sliced into the ground and supported by posts on the downstream side of the fabric. Silt fence works by intercepting sheet flow from slopes, causing the runoff to pond behind the fence, thereby promoting deposition of sediment on the uphill side of the fence. They are most effective when designed to provide comprehensive water and sediment control throughout a construction site and if used in conjunction with erosion control practices.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements	Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season. Repair undercut silt fences. Repair or replace split, torn, slumping, or weathered fabric. The lifespan of silt fence fabric is generally 5 to 8 months. Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed of, and replaced with new silt fence barriers. Sediment that accumulates in the silt fence must be periodically removed in order to maintain silt fence effectiveness. Sediment should be removed when the sediment accumulation reaches approximately one-half of the fence height (one foot) on the silt fence. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed at an appropriate location. Upon removal of silt fence, accumulated sediment must also be removed and disposed of properly. Silt fences should be left in place until the upstream area is permanently stabilized. Until then, the silt fence must be inspected and maintained. Holes, depressions, or other ground disturbance caused by the removal of the silt fences should be backfilled and repaired.
Design Specifications	SEE SPEC 642S IN APPENDIX K.

DEWATERING BAGS	
Description: Use Dewatering Bags for dewatering operations that do not discharge to sediment dams or sediment basins. Dewatering Bags are fabricated from non-woven geotextile materials that filter sediment-laden water from dewatering operations. Sediment laden water is pumped into the non-woven geotextile fabric bag that allows filtered water to pass through.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Follow all manufacturer recommendations for inspection and maintenance guidelines. Replace Dewatering Bags when trapped sediment has accumulated to 50% of the bag capacity or in accordance with the manufacturer's recommendations. Dewatering Bags are full when they no longer efficiently filter sediment or pass water at a reasonable rate. Incoming flow rates will vary depending on the size of the Dewatering Bag, the type and amount of sediment discharged into the Dewatering Bag, the permeability of the underlying aggregate, and the degree of slope on which the bag lies.
Design Specifications	SEE SPECIAL TXDOT SPEC 4091 IN APPENDIX K.

4.14 Other Stormwater Controls

General

- N/A.

Specific Stormwater Control Practices

N/A
Description: N/A

Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	N/A
Design Specifications	IF APPLICABLE, INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

4.15 Site Stabilization

Total Amount of Land Disturbance Occurring at Any One Time

☐ *Five Acres or less*

☒ *More than Five Acres*

Use this template box if you are <u>not</u> located in an arid, semi-arid, or drought-stricken area

SEEDING FOR EROSION CONTROL	
☒ *Vegetative* ☐ *Non-Vegetative* ☒ *Temporary* ☒ *Permanent*	
Description: ▪ This item shall govern the preparation of a seed bed for temporary or permanent erosion control; sowing of seeds; fertilizing; mulching with straw, cellulose fiber wood chips, and recycled paper mulch; and other management practices along and across such areas as indicated in the Drawings or as directed by the Landscape Architect, Engineer or designated representative.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Completion	INSERT APPROXIMATE COMPLETION DATE
Maintenance Requirements	Maintenance includes weed management (pesticide or mechanical removal) so that 90% of vegetated area is free of weeds listed in Table 3 and reseeding the areas of poor germination to achieve coverage and height per 604S.9 with no bare areas greater than 10s.f. See design spec for further details.
Design Specifications	SEE SPEC 604S IN APPENDIX K.

SODDING FOR EROSION CONTROL	
☒ *Vegetative* ☐ *Non-Vegetative* ☐ *Temporary* ☒ *Permanent*	
Description: ▪ This item shall govern planting of Bermuda grass; St. Augustine or other acceptable grass sod at locations indicated on the Drawings or as directed by the Engineer or designated representative in accordance with this Standard Specification Item.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Completion	INSERT APPROXIMATE COMPLETION DATE
Maintenance Requirements	Sod will watered with a minimum of 5 gallons per square yard at 10-day intervals until grass is uniformly 2.5" in height. Once established, routine mowing, watering, and fertilizing practice will be upheld by the responsible party.
Design Specifications	SEE SPEC 602S IN APPENDIX K.

PLANTING	
☒ *Vegetative* ☐ *Non-Vegetative* ☐ *Temporary* ☒ *Permanent*	
Description: ▪ This item shall govern the provision of the specified plants and other materials, the initial installation of plants and other materials, the maintenance of plantings, transplanting and any replacement of trees, plants and ground cover which are damaged, diseased or otherwise unhealthy during the warranty period or as directed by the Engineer or designated representative.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Completion	INSERT APPROXIMATE COMPLETION DATE
Maintenance Requirements	Proper mulching, irrigation, mowing/trimming, bracing, disease/pest control and fertilization measures will be maintained by the responsible party. See details for futher info.
Design Specifications	SEE SPEC 608S IN APPENDIX K.

NATIVE SEEDING AND PLANTING FOR RESTORATION	
☒ *Vegetative* ☐ *Non-Vegetative* ☒ *Temporary* ☒ *Permanent*	
Description: ▪ This item shall govern the preparation of a seeding and planting area to the lines and grades indicated on the Drawings. This may include seedbed preparation, sowing of seeds, planting of rooted plants, watering, hydromulch, compost and other management practices, as indicated in the Drawings or as directed by the Landscape Architect, Engineer or designated representative.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Completion	INSERT APPROXIMATE COMPLETION DATE
Maintenance Requirements	Management Practices include (1) weed management (pesticide application or mechanical removal) to so than 90 percent of the revegetation area is free of weeds listed in Table 3, (2) reseeding areas of poor germination to achieve coverage and height per 609S.8, with no bare areas greater than 10 s.f., and (3) replacement and replanting of rooted plants per 608S.5(O) [Plant Material Removal and Replacement] and 608S.7 (Acceptability of Plants). See detail for further info.
Design Specifications	SEE SPEC 609S IN APPENDIX K.

Use this template box if you are located in an arid, semi-arid, or drought-stricken area.

SOIL RETENTION BLANKET
☐ *Vegetative* ☒ *Non-Vegetative* ☒ *Temporary* ☒ *Permanent*
Description: ▪ This item shall govern the provision and placement of wood, straw or coconut fibert mat, synthetic mat, paper mat, jute mesh or other material as a soil retention blanket for erosion control on slopes or ditches or short-term or long-term

protection of seeded or sodded areas indicated on the Drawings or as specified by the Engineer or designated representative.	
Dry Period	▪ Beginning date of seasonally dry period: INSERT APPROXIMATE DATE ▪ Ending date of seasonally dry period: INSERT APPROXIMATE DATE ▪ Site conditions during this period: DESCRIBE YOUR SITE CONDITIONS DURING THIS PERIOD
Installation and completion schedule	DESCRIBE THE SCHEDULE YOU WILL FOLLOW FOR INITIATING AND COMPLETING VEGETATIVE STABILIZATION ▪ Approximate installation date: INSERT APPROXIMATE DATE ▪ Approximate completion date: INSERT APPROXIMATE DATE
Maintenance Requirements	Soil retention blanket will be repaired or replaced as needed and additional staples or anchors installed as needed by the contractor.
Design Specifications	SEE SPEC 605S IN APPENDIX K.

Use this template box if unforeseen circumstances have delayed the initiation and/or completion of vegetative stabilization.

SOIL RETENTION BLANKET	
☐ *Vegetative* ☐ *Temporary* ☐ *Permanent*	
Description: ▪ This item shall govern the provision and placement of wood, straw or coconut fibert mat, synthetic mat, paper mat, jute mesh or other material as a soil retention blanket for erosion control on slopes or ditches or short-term or long-term protection of seeded or sodded areas indicated on the Drawings or as specified by the Engineer or designated representative.	
Justification	INSERT DESCRIPTION OF CIRCUMSTANCES THAT PREVENT YOU FROM MEETING THE DEADLINES REQUIRED IN CGP PARTS 2.2.14.a
Installation and completion schedule	**Vegetative Measures:** DESCRIBE THE SCHEDULE YOU WILL FOLLOW FOR INITIATING AND COMPLETING VEGETATIVE STABILIZATION ▪ Approximate installation date: INSERT APPROXIMATE DATE ▪ Approximate completion date: INSERT APPROXIMATE DATE
	Non-Vegetative Measures: *(must be completed within 14 days of the cessation of construction if disturbing 5 acres or less; within 7 days if disturbing more than 5 acres)* ▪ Approximate installation date: INSERT APPROXIMATE DATE ▪ Approximate completion date: INSERT APPROXIMATE DATE
Maintenance Requirements	Soil retention blanket will be repaired or replaced as needed and additional staples or anchors installed as needed by the contractor.
Design Specifications	SEE SPEC 605S IN APPENDIX K.

MULCHING
☐ *Vegetative* ☐ *Temporary* ☐ *Permanent*
Description:

▪ Mulching is the process of applying wood mulch, wood chips, or other organic material to the exposed soil surface to protect it from erosive forces (wind, water, etc.) and to conserve soil moisture until plants can become established. Mulching shall not be considered a primary erosion control, but shall be used in conjunction with other approved controls.	
Justification	INSERT DESCRIPTION OF CIRCUMSTANCES THAT PREVENT YOU FROM MEETING THE DEADLINES REQUIRED IN CGP PARTS 2.2.14.a
Installation and completion schedule	**Vegetative Measures:** DESCRIBE THE SCHEDULE YOU WILL FOLLOW FOR INITIATING AND COMPLETING VEGETATIVE STABILIZATION ▪ Approximate installation date: INSERT APPROXIMATE DATE ▪ Approximate completion date: INSERT APPROXIMATE DATE
	Non-Vegetative Measures: *(must be completed within 14 days of the cessation of construction if disturbing 5 acres or less; within 7 days if disturbing more than 5 acres)* ▪ Approximate installation date: INSERT APPROXIMATE DATE ▪ Approximate completion date: INSERT APPROXIMATE DATE
Maintenance Requirements	The mulched area shall be inspected regularly and after each large rainfall. Any required repairs shall be made immediately, with additional mulching material placed on top of the mulch to reach the recommended thickness. When the mix is decomposed, clogged with sediment, eroded or ineffective, it must be replaced or repaired. Vegetation adds stability and should be promoted. If the mulch is not removed prior to revegetation, it should be spread out into the landscape to a depth that will not prevent seed germination and will encourage effective revegetation of the site.
Design Specifications	See COA ECM ITEM 1.4.5.A. MULCHING IN APPENDIX K.

SECTION 5: POLLUTION PREVENTION STANDARDS

5.1 Potential Sources of Pollution

Construction Site Pollutants

Pollutant-Generating Activity	**Pollutants or Pollutant Constituents** (that could be discharged if exposed to stormwater)	**Location on Site** (or reference SWPPP site map where this is shown)
Soil Disturbing Activities	Pesticides, fertilizers, soil	See attached map for proposed improvements and their location.
Equipment Storage	Quick Dry Floor Sweep/Sweep Ez, transmission fluid, motor oil, soluble oil D, petroleum-based automotive fuel, diesel fuel	
Paving Operations	Concrete, steel, sand	
Concrete Truck Washout	Concrete, sand, gravel, additives,	
Material Storage	Lumber, sand, gravel, soil, oil and based-paints, cleaners and solvents, adhesive sealant, acrylic seam sealer, acrylic bedding sealant, high performance glazing tape sealant, general purpose glazing sealant	
Waste Generation, Storage, and Disposal	Lumber, sand, packaging	
Paint	Acetone, oil and water-based paints	
Dewatering Operations	soil	
Asphalt Pavement Products	Sand, gravel, asphalt, bituminous material	See attached map for proposed improvements and their location.
Utility/Pipeline Installation	Aluminum alloys, concrete, steel, ramnek, rubber seals, adhesives, sealants,	
Building Construction	Glass, hi solids polyester, aluminum alloys, adhesive sealant, acrylic seam sealer, acrylic bedding sealant, acrylic sealant, high performance glazing tape sealant, general purpose glazing sealant, fiberglass insulation, dry-wall material, concrete, steel,	

	formaldehyde	
Miscellaneous	Cleaners and solvents, aromatic hydrocarbons,	

5.2 Spill Prevention and Response

Included herein are "Best Management Practices" which describe measures to be utilized to prevent any spill within the project. The Best Management Practices also describe actions to be taken if there were to be a spill in the project site. Best management practices complying with TCEQ regulations 30 T.A.C., Chapter 327 Spill Prevention and Control and any local regulations are to be used to contain all potentially hazardous spills.

The following practices will be followed for spill prevention and cleanup:

- Materials and equipment necessary for spill cleanup should be kept onsite in anticipation of expected spills. Equipment and materials will most likely include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.

- When spills or other accidental exposure of the substances described above occur, the following steps will be taken by the operator:

    - To the maximum extent practicable, the spill or leak will be stopped.

    - Once the leaking material has been stopped, the spill must be contained so as to minimize the affected area.

    - If the spill poses an immediate danger to the public, emergency response personnel will be called. All operators on site will be notified of the spill immediately.

    - The engineer inspector will determine whether the spill is of a reportable quantity and will coordinate appropriate activities as determined by the manufacturers' recommended methods for spill cleanup or material safety data sheet.

During Construction measures to be taken to report and contain any spill of hydrocarbons or hazardous substances include:

- Immediate isolation of the substance source to keep additional spill or possible infiltration from occurring. Approximately 2-3 cubic yards of clean sand shale shall be kept on site to assist in the isolation and containment of the spill material.

- The substance and contaminated materials will be excavated and placed within an impervious container or impervious-lined area that is protected from stormwater runoff. Excavated materials will be covered to protect against rain.

- The hazardous substance will be positively identified.

- The spill area, after the excavation, will be sampled to verify that the hazardous substance has been properly and adequately remediated.

- The excavated materials will be disposed of at an approved facility licensed to accept the substance identified. All transporting and disposal will follow State requirements for hazardous substances.

- In the event of a reportable spill (as defined by the Texas Administrative Code Rule 327.4) TCEQ is to be notified immediately at:

- Contact the TCEQ Spill Response Emergency Hotline 1-800-832-8224

Spill Regulations – Spill prevention, control, cleanup, and reporting shall comply with TCEQ regulations 30 T.A.C., Chapter 327 Spill Prevention and Control and any local regulations.

Spill Procedures – Spill cleanup procedures and training, including personal safety guidelines will be clearly posted and available for operator personnel in the event of a spill. The spill prevention plan will be adjusted as necessary to include measures to prevent particular types of spills from reoccurring.

Spill Clean Up Materials – Materials and equipment for spill cleanup, such as absorbent, rags, sand, sawdust, containers, etc., will be available in vehicles or at the materials storage area onsite. All spills will be cleaned up immediately and waste residue disposed of properly.

Spill Reporting – Any reportable quantities of spills of hazardous materials shall be reported to the City of Austin and appropriate TCEQ and/or local officials as required by law. If the responsible party is uncertain whether the quantity is reportable, the City of Austin Environmental Inspector shall be notified, and their direction followed.

For further direction, see http://www.tceq.state.tx.us/compliance/er/spill_rq.html

5.3 Fueling and Maintenance of Equipment or Vehicles

General

- Fuel will not be stored on site; Refueling activities will occur off-site; Spill clean-up kits will remain on-site to clean up any potential leaks.

Specific Pollution Prevention Practices

N/A	
Description: INSERT DESCRIPTION OF PRACTICE TO BE INSTALLED	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE
Design Specifications	IF APPLICABLE INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

5.4 Washing of Equipment and Vehicles

General

- Stabilized Construction Entrance, Wheel Washer/Wash Rack (Opt.)

Specific Pollution Prevention Practices

STABILIZED CONSTRUCTION ENTRANCE
Description: This item governs the construction of a stabilized pad of crushed stone located at any point where traffic will be entering or leaving a construction site to or from a public right of

way, street, alley, sidewalk, or parking area. The removal of the stabilized pad of crushed stone shall also be included in the item. The purposed of the stabilized construction entrance is to reduce or eliminate the tracking or deposition of sediment onto public right of way (Environmental Criteria Manual Section 1.4.2.N.4)	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	The entrance shall be maintained in a condition, that will prevent tracking or deposition of sediment onto public right of way. This restriction may require periodic tap dressing with additional stone as conditions demand, as well as the repair and/or cleanout of any measures use to trap sediment. All sediment that is spilled, dropped, washed or tracked onto public right of way must be removed immediately.
Design Specifications	SEE SPEC 641S IN APPENDIX K.

WHEEL WASHER/WASH RACK - OPTIONAL

Description: In many cases, the action of tires moving over the rock pad may not adequately remove sediment, and a wash rack may be required. Wheel washer systems – also called wash racks – use pressure-sprayed water to remove mud, soil, and rock from vehicles exiting the site. They can be fabricated from piping, hoses, driveway racks (e.g., concrete and metal cattle guards), and other materials, or acquired from construction site stormwater compliance vendors. Designs range from pipe units that can be hung from Jersey wall sections to wash stations that include elevated driveways above sediment trapping basins. Specific design requirements include:

- Washer spray must be directed to remove material on the inside as well as outside of wheels.
- Design so that drainage from the wheel wash area leads to a trap, silt fence, or other BMP for settling.
- Wash water migrating off the site will need to be treated to remove sediment (e.g., via a sediment trap, rock berm, or sediment pond) or recycled.
- Consider ice buildup on roadways as dripping vehicles leave the site during cold weather.

A wash rack installed on the rock pad may make washing more convenient and effective. The wash rack would consist of a heavy grating over a lowered area. The grating may be a prefabricated rack, such as a cattle guard, or it may be constructed on site of structural steel. The wash rack must be strong enough to support the vehicles that will cross it.

Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	If site inspection(s) reveal concerns, maintenance will be necessary. Maintenance of vehicle tracking BMPs includes the following: • Immediately remove mud, soil, and other debris from offsite areas – particularly roadways. • Remove sediment that accumulates in the pad area, ditch/swale, or nearby stormwater facilities if performance is affected. • Revegetate or otherwise stabilize eroding ditches, swales, or traps/basins treating exit pad runoff. • Adjust the vehicle tracking BMPs to ensure proper functioning if performance is poor, including the following:

	○ Clean or add rock – including larger rock, or extend the length of rock pads. ○ Regrade rock as needed to ensure positive drainage. ○ Extend the length of shaker racks; ensure drivers use enough speed to dislodge debris. Maintenance of wheel washers/wash racks includes the following: • Ensure wash water drainage, collection, and treatment systems are functioning. • The wash water collection area should be regularly cleaned out to ensure sediment is contained properly. • Remove/discharge wash water as needed. • Maintain a clean run-out pad. • Adjust wheel washer nozzle direction and spray pressure, and add nozzles as needed.
Design Specifications	SEE MNDOT SPEC 2573.3K IN APPENDIX K.

5.5 Storage, Handling, and Disposal of Building Products, Materials, and Wastes

5.5.1 Building Products

General

- Construction and Demolition Waste Mangement

Specific Pollution Prevention Practices

Construction Waste Management	
Description: The Owner has established that as much as is economically feasible of the "waste" materials produced as a result of the Work, shall be employed, salvaged, reused, or recycled in order to minimize the impact of construction and demolition waste on landfills and reducing disposal costs. *The Contractor shall develop a Construction and Demolition Waste Management Plan of non-hazardous construction and demolition waste. The plan shall identify the materials to be diverted from disposal and define the materials to be separated on-site or off-site. Calculations can be done by weight or volume, but must be consistent throughout.*	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	**A.** Contractor shall employ and encourage practices that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors. **B.** Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local, pertaining to legal disposal of all construction waste materials. **C.** Contractor shall recycle and divert materials for secondary uses whenever economically feasible. Acceptable methods of diversion include: Recycling, reuse and salvage Donation to nonprofit organizations Removal from jobsite by staff or subcontractors for use (not disposal)

	Return to supplier Sale to organizations or individuals
Design Specifications	SEE SPEC 01505 IN APPENDIX K.

5.5.2 Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials

General

- Integrated Pest Management Plan, Fertilizer, Planting, Native Seeding and Planting for Restoration

Specific Pollution Prevention Practices

INTEGRATED PEST MANAGEMENT PLAN	
Description: Integrated Pest Management (IPM) is a common sense approach to managing pests. Landscapes are monitored regularly, problems properly identified, severity considered, control options evaluated; and then, selected least-toxic control(s) are implemented. Plant native and well-adapted, pest-resistant plant varieties, and keep them healthy	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	• **Accurately diagnose** problems before considering any treatment • Use least-toxic solutions when addressing landscape problems • Don't apply fertilizer or **pesticides** before a rain • Don't kill every bug – 95% of insects are not pests • Use **pesticides** as a last resort • Always read and follow **pesticide** label instructions • Encourage **beneficial** insects • If you follow **Grow Green** practices you already practice
Design Specifications	SEE SPECS 606S, 608S, 609S IN APPENDIX K.

FERTILIZER	
Description: This item shall govern the provision and incorporation of fertilizer into the soil on areas of proposed seeding, sodding, or other planting areas indicated on the Drawings and in accordance with these specifications.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Fertilizer should be applied (1) during seed germination and plant establishment and (2) after plant establishment. To minimize potential nutrient leaching to groundwater, fertilizer shall not be applied during plant dormancy or within 48 hours of a potential rain event. If needed, maintenance fertilizing shall be applied every 6 months after the new sod, grass or seeding is placed or until the work is accepted by the City.
Design Specifications	SEE SPECS 606S IN APPENDIX K.

PLANTING
Description: This item shall govern the provision of the specified plants and other materials, the initial installation of plants and other materials, the maintenance of plantings, transplanting and any replacement of trees, plants and ground cover which are damaged, diseased or otherwise unhealthy during the warranty period or as directed by the Engineer or designated representative.

Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Proper mulching, irrigation, mowing/trimming, bracing, disease/pest control and fertilization measures will be maintained by the responsible party. See details for futher info.
Design Specifications	SEE SPECS 608S IN APPENDIX K.

NATIVE SEEDING AND PLANTING FOR RESTORATION	
Description: This item shall govern the preparation of a seeding and planting area to the lines and grades indicated on the Drawings. This may include seedbed preparation, sowing of seeds, planting of rooted plants, watering, hydromulch, compost and other management practices, as indicated in the Drawings or as directed by the Landscape Architect, Engineer or designated representative.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Management Practices include (1) weed management (pesticide application or mechanical removal) to so than 90 percent of the revegetation area is free of weeds listed in Table 3, (2) reseeding areas of poor germination to achieve coverage and height per 609S.8, with no bare areas greater than 10 s.f., and (3) replacement and replanting of rooted plants per 608S.5(O) [Plant Material Removal and Replacement] and 608S.7 (Acceptability of Plants). See detail for further info.
Design Specifications	SEE SPECS 609S IN APPENDIX K.

5.5.3 Diesel Fuel, Oil, Hydraulic Fluids, Other Petroleum Products, and Other Chemicals

General

- These substances are not anticipated to be stored on-site. If located on-site, it will be stored enclosed/covered container not subject to runoff.

Specific Pollution Prevention Practices

N/A	
Description: INSERT DESCRIPTION OF PRACTICE TO BE INSTALLED	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE
Design Specifications	IF APPLICABLE INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

5.5.4 Hazardous or Toxic Waste

(Note: Examples include paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids.)

General

- Construction and Demolition Waste Management

Specific Pollution Prevention Practices

HAZARDOUS WASTE MANAGEMENT
Description: No hazardous waste is expected to be generated or encountered in this project. In the event that hazardous waste is encountered, the contractor will advise the Owner immediately. All hazardous waste materials will be disposed of in a manner specified by local or

state regulation or by the manufacturer. The contractor who manages day-to-day site operations will be responsible for assuring that these practices are followed for any hazardous waste that is generated. Contractor will not aggravate any hazardous waste that is encountered.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	*Hazardous Materials and Wastes*: • Consult with local waste management authorities about the requirements for disposing of hazardous materials. • To prevent leaks, empty and clean hazardous waste containers before disposing of them. • Never remove the original product label from the container because it contains important safety information. Follow the manufacturer's recommended method of disposal, which should be printed on the label. • Never mix excess products when disposing of them, unless specifically recommended by the manufacturer. To ensure the proper disposal of contaminated soils that have been exposed to and still contain hazardous substances, consult with state or local solid waste regulatory agencies or private firms. Some landfills might accept contaminated soils, but they require laboratory tests first. Paint and dirt are often removed from surfaces by sandblasting. Sandblasting grits are the byproducts of this procedure and consist of the sand used and the paint and dirt particles that are removed from the surface. These materials are considered hazardous if they are removed from older structures because they are more likely to contain lead-, cadmium-, or chrome-based paints. To ensure proper disposal of sandblasting grits, contract with a licensed waste management or transport and disposal firm.
Design Specifications	SEE SPEC 01505 IN APPENDIX K.

5.5.5 Construction and Domestic Waste

(Note: Examples include packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.)

General

- Construction and Demolition Waste Management

Specific Pollution Prevention Practices

Construction Waste Management	
***Description**: The Owner has established that as much as is economically feasible of the "waste" materials produced as a result of the Work, shall be employed, salvaged, reused, or recycled in order to minimize the impact of construction and demolition waste on landfills and reducing disposal costs.* The Contractor shall develop a Construction and Demolition Waste Management Plan of non-hazardous construction and demolition waste. The plan shall identify the materials to be diverted from disposal and define the materials to be separated on-site or off-site. Calculations can be done by weight or volume but must be consistent throughout.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	**A.** Contractor shall employ and encourage practices that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

	B. Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local, pertaining to legal disposal of all construction waste materials. **C.** Contractor shall recycle and divert materials for secondary uses whenever economically feasible. Acceptable methods of diversion include: Recycling, reuse and salvage Donation to nonprofit organizations Removal from jobsite by staff or subcontractors for use (not disposal) Return to supplier Sale to organizations or individuals
Design Specifications	SEE SPEC 01505 IN APPENDIX K.

5.5.6 Sanitary Waste

General

- Temporary Facilities

Specific Pollution Prevention Practices

SANITARY FACILITIES	
Description: CONTRACTOR shall furnish temporary sanitary facilities at the site, as provided herein, for the needs of all construction workers and others performing Work or furnishing services on the Project.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least one toilet shall be furnished for each 20 employees. CONTRACTOR shall enforce the use of such sanitary facilities by all personnel at the site.
Design Specifications	SEE SPEC 01500 IN APPENDIX K.

5.6 Washing of Applicators and Containers used for Paint, Concrete or Other Materials

Instructions:

– Describe how you will wash applications and containers.

General

- Concrete Washout, Washing of applicators and containers for paint will be done off-site or at a sink which will transfer these items to the wastewater stream for processing and treatment prior to release. 01505 (for washout)

Specific Pollution Prevention Practices

CONCRETE WASHOUT	
Description: A concrete washout will be provided by the stabilized construction entrance.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	**A.** Contractor shall employ and encourage practices that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors. **B.** Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local, pertaining to legal disposal of all construction waste materials. **C.** Contractor shall recycle and divert materials for secondary uses whenever economically feasible. Acceptable methods of diversion include: Recycling, reuse and salvage Donation to nonprofit organizations Removal from jobsite by staff or subcontractors for use (not disposal) Return to supplier Sale to organizations or individuals
Design Specifications	SEE SPECS 01500, 01505 IN APPENDIX K.

5.7 Fertilizers

General

- Fertilizer

Specific Pollution Prevention Practices

FERTILIZER	
Description: This item shall govern the provision and incorporation of fertilizer into the soil on areas of proposed seeding, sodding, or other planting areas indicated on the Drawings and in accordance with these specifications.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Fertilizer should be applied (1) during seed germination and plant establishment and (2) after plant establishment. To minimize potential nutrient leaching to groundwater, fertilizer shall not be applied during plant dormancy or within 48 hours of a potential rain event. If needed, maintenance fertilizing shall be applied every 6 months after the new sod, grass or seeding is placed or until the work is accepted by the City.
Design Specifications	SEE SPEC 606S IN APPENDIX K.

5.8 Other Pollution Prevention Practices

General

- Dewatering Bags

Specific Pollution Prevention Practices

DEWATERING BAGS	
Description: Use Dewatering Bags for dewatering operations that do not discharge to sediment dams or sediment basins. Dewatering Bags are fabricated from non-woven geotextile materials that filter sediment-laden water from dewatering operations. Sediment laden water is pumped into the non-woven geotextile fabric bag that allows filtered water to pass through.	
Installation	INSERT APPROXIMATE DATE OF INSTALLATION
Maintenance Requirements	Follow all manufacturer recommendations for inspection and maintenance guidelines. Replace Dewatering Bags when trapped sediment has accumulated to 50% of the bag capacity or in accordance with the manufacturer's recommendations. Dewatering Bags are full when they no longer efficiently filter sediment or pass water at a reasonable rate. Incoming flow rates will vary depending on the size of the Dewatering Bag, the type and amount of sediment discharged into the Dewatering Bag, the permeability of the underlying aggregate, and the degree of slope on which the bag lies.
Design Specifications	SEE TXDOT SS4091 IN APPENDIX K.

SECTION 6: INSPECTION, MAINTENANCE, AND CORRECTIVE ACTION

6.1 Inspection Personnel and Procedures

Instructions:

Describe the procedures you will follow for conducting inspections..

Personnel Responsible for Inspections

INSERT NAMES OF PERSONNEL OR TYPES OF PERSONNEL WHO WILL BE CONDUCTING SITE INSPECTIONS HERE

Note: All personnel conducting inspections must be considered a "qualified person." CGP Part 4.1 clarifies that a "qualified person" is a person knowledgeable in the principles and practices of erosion and sediment controls and pollution prevention, who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality, and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

Inspection Schedule

Select the inspection frequency(ies) that applies.

(Note: you may be subject to different inspection frequencies in different areas of the site. Check all that apply)

Standard Frequency:

☒ Every 7 days

☐ Every 14 days and within 24 hours of a 0.25" rain or the occurrence of runoff from snowmelt sufficient to cause a discharge

Increased Frequency (if applicable):

For areas of sites discharging to sediment or nutrient-impaired waters or to waters designated as Tier 2, Tier 2.5, or Tier 3

☐ Every 7 days and within 24 hours of a 0.25" rain

Reduced Frequency (if applicable)

For stabilized areas

☐ Twice during first month, no more than 14 calendar days apart; then once per month after first month;

- SPECIFY LOCATIONS WHERE STABILIZATION STEPS HAVE BEEN COMPLETED
- INSERT DATE THAT THEY WERE COMPLETED

(Note: It is likely that you will not be able to include this in your initial SWPPP. If you qualify for this reduction (see CGP Part 4.4.1), you will need to modify your SWPPP to include this information.)

For stabilized areas on "linear construction sites"

☐ Twice during first month, no more than 14 calendar days apart; then once more within 24 hours of a 0.25" rain

- SPECIFY LOCATIONS WHERE STABILIZATION STEPS HAVE BEEN COMPLETED
- INSERT DATE THAT THEY WERE COMPLETED

(Note: It is likely that you will not be able to include this in your initial SWPPP. If you qualify for this reduction (see CGP Part 4.4.1), you will need to modify your SWPPP to include this information.)
For arid, semi-arid, or drought-stricken areas during seasonally dry periods or during drought ☐ Once per month and within 24 hours of a 0.25" rain Insert beginning and ending dates of the seasonally-defined dry period for your area or the valid period of drought: ▪ Beginning date of seasonally dry period: INSERT APPROXIMATE DATE ▪ Ending date of seasonally dry period: INSERT APPROXIMATE DATE
For frozen conditions where earth-disturbing activities are being conducted ☐ Once per month Insert beginning and ending dates of frozen conditions on your site: ▪ Beginning date of frozen conditions: INSERT APPROXIMATE DATE ▪ Ending date of frozen conditions: INSERT APPROXIMATE DATE

Rain Gauge Location (if applicable)

SPECIFY LOCATION(S) OF RAIN GAUGE TO BE USED FOR DETERMINING WHETHER A RAIN EVENT OF 0.25 INCHES OR GREATER HAS OCCURRED (only applies to inspections conducted for Part 4.2.2, 4.3, or 4.4.2)

Inspection Report Forms

INSERT COPY OF ANY INSPECTION REPORT FORMS YOU WILL USE HERE OR IN APPENDIX D OF THIS SWPPP TEMPLATE

6.2 Corrective Action

Instructions:

- Describe the procedures for taking corrective action.

Personnel Responsible for Corrective Actions

INSERT NAMES OF PERSONNEL OR TYPES OF PERSONNEL RESPONSIBLE FOR CORRECTIVE ACTIONS

Corrective Action Forms

INSERT A COPY OF ANY CORRECTIVE ACTION FORMS YOU WILL USE HERE OR IN APPENDIX E OF THIS SWPPP TEMPLATE

6.3 Delegation of Authority

Instructions:

- Identify the individual(s) or positions within the company who have been delegated authority to sign inspection reports.
- Attach a copy of the signed delegation of authority (see example in Appendix J of the Template.)

Duly Authorized Representative(s) or Position(s):

Insert Company or Organization Name
Insert Name
Insert Position
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email

SECTION 7: TRAINING

Instructions:

- Complete the table below to provide documentation that the personnel required to be trained completed the appropriate training
- If personnel will be taking course training (which is not required as part of the CGP), consider using Appendix I of this SWPPP template to track completion of this training
- The following personnel, at a minimum, must receive training, and therefore should be listed out individually in the table below:
  - ✓ Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention measures);
  - ✓ Personnel responsible for the application and storage of treatment chemicals (if applicable);
  - ✓ Personnel who are responsible for conducting inspections as required in Part 4.1; and
  - ✓ Personnel who are responsible for taking corrective actions as required in Part 5.
- Required personnel must be trained to understand the following if related to the scope of their job duties:
  - ✓ The permit deadlines associated with installation, maintenance, and removal of stormwater controls and with stabilization;
  - ✓ The location of all stormwater controls on the site required by this permit, and how they are to be maintained;
  - ✓ The proper procedures to follow with respect to the permit's pollution prevention requirements; and
  - ✓ When and how to conduct inspections, record applicable findings, and take corrective actions.

Table 7-1: Documentation for Completion of Training

Name	Describe Training	Date Training Completed
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE
INSERT NAME OF PERSONNEL		INSERT COMPLETION DATE

SECTION 8: CERTIFICATION AND NOTIFICATION

Instructions:

- The following certification statement must be signed and dated by a person who meets the requirements of Appendix I, Part I.11.b.
- This certification must be re-signed in the event of a SWPPP Modification.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

[Repeat as needed for multiple construction operators at the site.]

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Appendix A – Site Maps

Appendix B – Copy of 2018 TPDES CGP

Appendix C – NOI and TCEQ Authorization Email

Appendix D – Inspection Form

Appendix E – Corrective Action Form

Appendix F – SWPPP Amendment Log

Appendix G – Subcontractor Certifications/Agreements

Appendix H – Grading and Stabilization Activities Log

Appendix I – Training Log

Appendix J – Delegation of Authority

Appendix K – Design Specifications

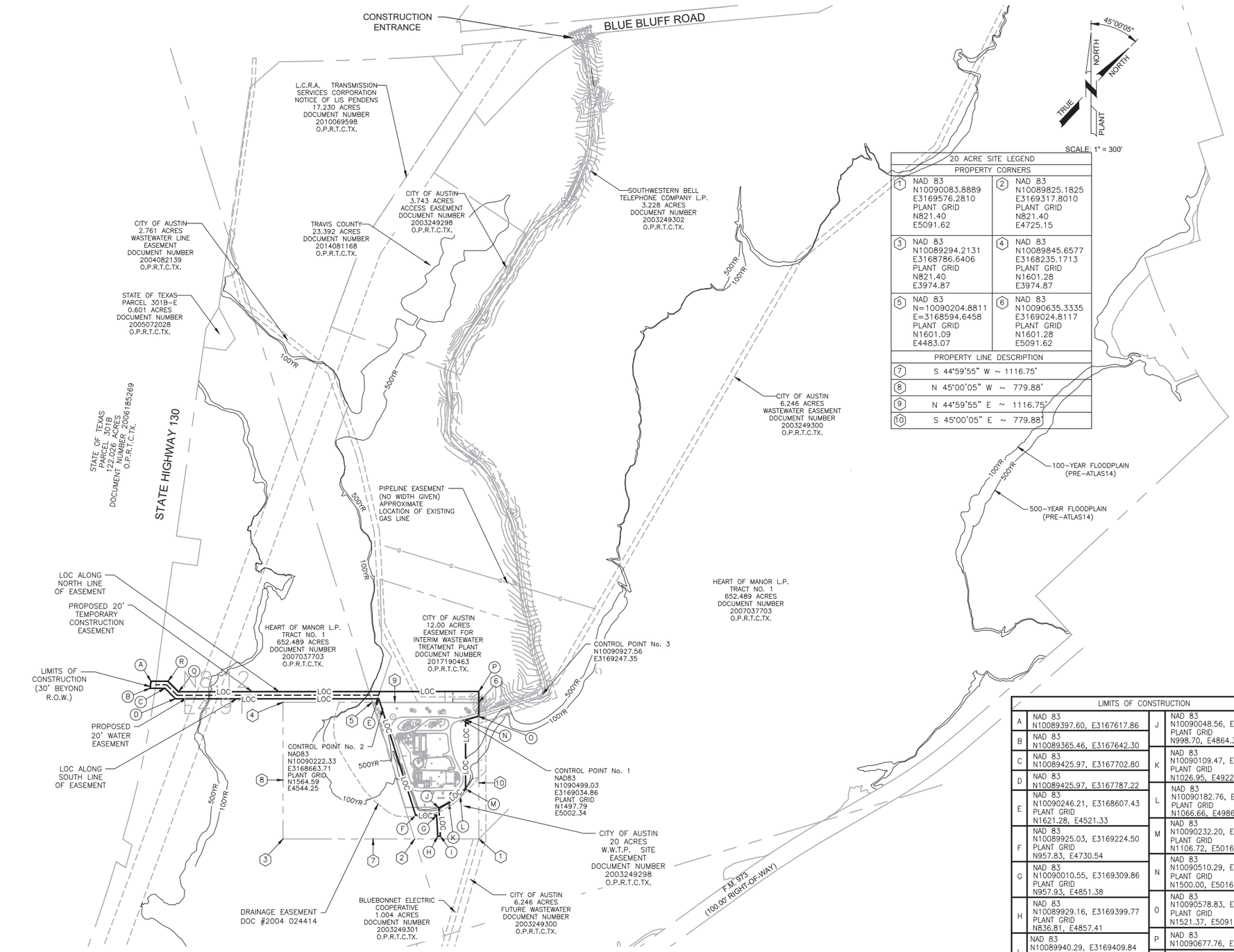
Appendix L – Rainfall Gauge Recording

Appendix M – ERI

Appendix N – QuickLime Safety Data Sheet

Appendix A – Site Maps

(See following pages)



20 ACRE SITE LEGEND	
PROPERTY CORNERS	
1 NAD 83 N10090083.8889 E3169576.2810 PLANT GRID N821.40 E5091.62	2 NAD 83 N10089825.1825 E3169317.8010 PLANT GRID N821.40 E4725.15
3 NAD 83 N10089294.2131 E3168786.6406 PLANT GRID N821.40 E3974.87	4 NAD 83 N10089845.6577 E3168235.1713 PLANT GRID N1601.28 E3974.87
5 NAD 83 N=10090204.8811 E=3168594.6458 PLANT GRID N1601.09 E4483.07	6 NAD 83 N10090635.3335 E3169024.8117 PLANT GRID N1601.28 E5091.62
PROPERTY LINE DESCRIPTION	
7	S 44°59'55" W ~ 1116.75'
8	N 45°00'05" W ~ 779.88'
9	N 44°59'55" E ~ 1116.75'
10	S 45°00'05" E ~ 779.88'

LIMITS OF CONSTRUCTION			
A	NAD 83 N10089397.60, E3167617.86	J	NAD 83 N10090048.56, E3169290.22 PLANT GRID N998.70, E4864.37
B	NAD 83 N10089365.46, E3167642.30	K	NAD 83 N10090109.47, E3169311.17 PLANT GRID N1026.95, E4922.25
C	NAD 83 N10089425.97, E3167702.80	L	NAD 83 N10090182.76, E3169328.31 PLANT GRID N1066.66, E4986.20
D	NAD 83 N10089425.97, E3167787.22	M	NAD 83 N10090232.20, E3169321.10 PLANT GRID N1106.72, E5016.06
E	NAD 83 N10090246.21, E3168607.43 PLANT GRID N1621.28, E4521.33	N	NAD 83 N10090510.29, E3169043.00 PLANT GRID N1500.00, E5016.06
F	NAD 83 N10089925.03, E3169224.50 PLANT GRID N957.83, E4730.54	O	NAD 83 N10090578.83, E3169081.31 PLANT GRID N1521.37, E5091.62
G	NAD 83 N10090010.55, E3169309.86 PLANT GRID N957.93, E4851.38	P	NAD 83 N10090677.76, E3168982.38
H	NAD 83 N10089929.16, E3169399.77 PLANT GRID N836.81, E4857.41	Q	NAD 83 N10089465.97, E3167771.13
I	NAD 83 N10089940.29, E3169409.84 PLANT GRID N837.55, E4872.39	R	NAD 83 N10089465.97, E3167686.23

LEGEND

- PROPERTY BOUNDARY
- EASEMENTS
- 100YR 100YR — 100 YEAR FLOODPLAIN
- 500YR 500YR — 500 YEAR FLOODPLAIN
- LOC LOC — LIMITS OF CONSTRUCTION

SURVEY CONTROL POINTS (GRID-FEET) (TEXAS CENTRAL ZONE – NAD83)

PNT NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
1	10090499.0300'	3169034.8600'	488.06'	⅝" IRON ROD SET WITH CAP
2	10090222.3330'	3168663.7140'	486.26'	⅝" IRON ROD SET WITH CAP
3	10090927.5590'	3169247.3500'	490.64'	⅝" IRON ROD SET WITH CAP
25	10089379.1732'	3167643.4383'	524.08'	1/2" IRON ROD SET WITH CAP
50	10098045.7249'	3181993.8323'	509.95'	NGS Q240

NOTES:

1. A PORTION OF THIS PROJECT IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM PANEL 48453C0480J DATED AUGUST 18, 2014 FOR TRAVIS COUNTY, TEXAS.
2. THIS SITE IS LOCATED IN THE GILLELAND WATERSHED, CLASSIFIED AS A SUBURBAN WATERSHED.
3. THIS SITE IS NOT LOCATED IN THE EDWARDS AQUIFER ZONE, AS DEFINED BY THE CITY OF AUSTIN AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY.
4. THIS PROJECT IS IN GENERAL COMPLIANCE WITH THE WATERSHED PROTECTION REGULATIONS (CHAPTER 25-2 AND 25-8 OF LDC).
5. THIS PROJECT IS IN THE LIMITED PURPOSE JURISDICTION OF THE CITY OF AUSTIN AND ZONED P.U.D.
6. ALL COORDINATES, BEARINGS AND DISTANCES REFER TO THE TEXAS STATE PLANE COORDINATE SYSTEM (GRID), CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83, US SURVEY FEET).
7. ELEVATIONS AND CONTOURS ARE BASED ON U.S.G.S. BENCHMARK STAMPED (Q 240), NAVD 1988 ELEVATION=509.84.

   STATION LOCATION:
   10.3 MI W FROM ELGIN, 10.3 MILES WEST ALONG THE TEXAS AND NEW ORLEANS RAILROAD FROM THE STATION AT ELGIN, 9.5 FEET WEST OF THE 2ND POLE EAST OF MILEPOST 98, 73 FEET SOUTHWEST OF THE CENTER OF A PRIVATE ROAD CROSSING, 41.7 FEET SOUTH OF THE SOUTH RAIL, 56 FEET NORTH OF A FENCE, 3 FEET EAST OF A WITNESS POST, SET IN THE TOP OF A CONCRETE POST WHICH PROJECTS 0.7 FOOT ABOVE THE GROUND.
8. BOUNDARY AND RIGHT-OF-WAY LINES ARE FOR REPRESENTATIONAL PURPOSES ONLY. ZAMORA LLC DID NOT PERFORM A BOUNDARY SURVEY.
9. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT.
10. FLOOD HAZARD INFORMATION WAS OBTAINED FROM THE FEMA FLOOD MAP SERVICE CENTER WEB SITE.
11. SURVEY WAS PERFORMED BY ZAMORA LLC FROM JANUARY TO OCTOBER 2020.
12. PLANT GRID BEARING BASIS WAS DETERMINED BY HOLDING A LINE, BEGINNING AT AN IRON ROD FOUND AT THE SOUTHEAST CORNER OF THE CITY OF AUSTIN 20 ACRE WWTP PROPERTY, TEXAS STATE PLANE COORDINATE SYSTEM (GRID), CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83, US SURVEY FEET) N10090083.89, E3169576.28, PLANT GRID, N821.40,E5091.62 AND A IRON ROD FOUND AT THE INTERSECTION OF EASTERLY PROPERTY LINE OF THE CITY OF AUSTIN 20 ACRE WWTP SITE AND THE INTERSECTION WITH THE NORTH EASEMENT LINE OF A SOUTHWESTERN BELL TELEPHONE COMPANY L.P. 3.228 ACRES DOCUMENT NUMBER 2003249302 O.P.R.T.C.TX., TEXAS STATE PLANE COORDINATE SYSTEM (GRID), CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83, US SURVEY FEET) N10090572.79, E3169087.35, PLANT GRID, N5691.43, E5091.62.

   NAD 83 GRID BEARING = N45°00'05"W 691.47 FEET.

   PLANT GRID BEARING = N45°00'05"W 691.47 FEET.
13. WATER EASEMENT BEARING BASIS WAS DETERMINED BY HOLDING A 1/2-INCH ROD, FOUND AT THE NORTHWEST CORNER OF 20.00 ACRE TRACT (TEXAS STATE PLANE NAD 83(93), CENTRAL ZONE, SURFACE COORDINATES, COMBINED SCALE FACTOR – 1.00007, A 1/2-INCH IRON ROD FOUND AT THE NORTHEAST CORNER OF 20.00 ACRE TRACT (TEXAS STATE PLANE NAD 83(93), CENTRAL ZONE, SURFACE COORDINATES, COMBINED SCALE FACTOR –1.00007.

    NAD 83(93) GRID BEARING = S 45°00'33" E, 780.08 FEET.
    PLANT GRID BEARING = S 00°00'00" E, 780.08 FEET.

REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED RL
DRAWN AW
CHECKED
DATE JULY 2021

STATE OF TEXAS — CASEY G. WAUTERS — 93889 — LICENSED PROFESSIONAL ENGINEER — 7/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

carollo
TBPE No. F-882

CITY OF AUSTIN
FOUNDED 1839
CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
GENERAL
OVERALL SITE SURVEY MAP

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10976A.10
DRAWING NO. 00G14
SHEET NO. 16 OF 455

LAST SAVED BY:

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN - STANDARD NOTES
EROSION AND SEDIMENTATION CONTROL

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR EXCAVATION).

2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.

3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.

4. ANY SIGNIFICANT VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS MUST BE APPROVED BY THE REVIEWING ENGINEER.

5. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT DAILY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES. SILT ACCUMULATION AT INLET DEVICES SHOULD BE REMOVED WHEN THE DEPTH REACHES TWO (2) INCHES.

6. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.

7. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS ONE SQUARE FOOT OR LARGER IN TOTAL AREA, BLOWS AIR FROM WITHIN THE SUBSTRATE, AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME, IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT THE OWNER FOR FURTHER INVESTIGATION.

8. PERMANENT EROSION/SEDIMENTATION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE THE CRITERIA MANUAL AND CONTRACT DOCUMENTS DIFFER THE MOST ENVIRONMENTALLY BENEFICIAL MATERIALS/METHOD SHALL BE REQUIRED.

9. DEVELOPER INFORMATION:

OWNER:
COMPANY: CITY OF AUSTIN
CONTACT:
ADDRESS:

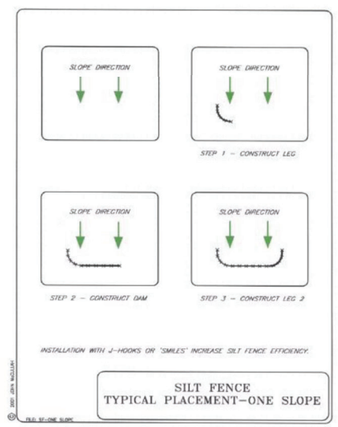
PHONE:
E-MAIL:

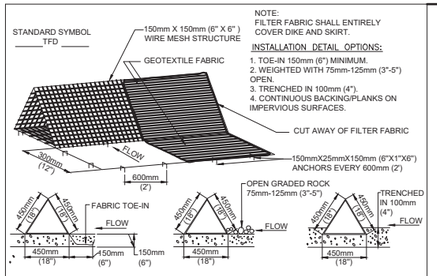
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
COMPANY:
CONTACT:
ADDRESS:

PHONE:
E-MAIL:

PARTY RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
COMPANY: CONTRACTOR

PARTY RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
COMPANY: CONTRACTOR





GENERAL NOTES:

1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.

2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.

3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 75-125mm (3-5") OPEN GRADED ROCK OR TOED-IN 150mm (6") WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 100mm (4").

4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 150mm (6") WIRE STAPLES ON 600mm (2') CENTERS ON BOTH EDGES AND SKIRT, OR STAKE USING 10M (3/8 ") DIAMETER RE-BAR WITH TEE ENDS.

5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 150mm (6") TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.

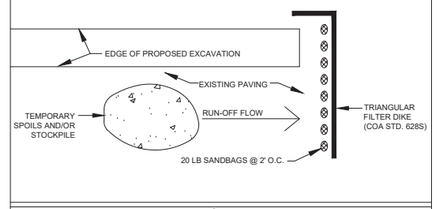
6. THE DIKE STRUCTURE SHALL BE MW40-150mmX150mm (6 GA. 6"X6") WIRE MESH, 450mm (18") ON A SIDE.

7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6") AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.

9. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTE 8 ABOVE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TRIANGULAR SEDIMENT FILTER DIKE	
RECORD COPY SIGNED BY J. PATRICK MURPHY	3/27/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 628S



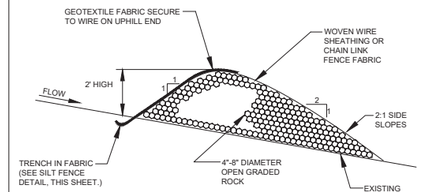
NOTES:

1. THE TEMPORARY SPOILS/STOCKPILE STORAGE AREA AND STAGING AREA MAY BE LOCATED DIRECTLY ADJACENT TO THE EXCAVATION AND ON THE PAVEMENT.

2. ANY SPOIL NOT INTENDED TO BE REUSED WILL BE HAULED TO AN APPROVED OR PERMITTED DISPOSAL SITE DAILY.

3. INSTALL TRIANGULAR SEDIMENT FILTER DIKE (DETAIL 682S) ACROSS FULL WIDTH OF TRAFFIC CLOSURE AND DOWNSTREAM OF CONSTRUCTION AREA, PERPENDICULAR TO CURB AND PLACED TO EFFECTIVELY CATCH AND CONTAIN SEDIMENT LADEN RUNOFF FROM THE EXCAVATED AREA. FILTER DIKE TO FOLLOW ACTIVE CONSTRUCTION. REMOVING AND RE-SETTING FILTER DIKE IS CONSIDERED SUBSIDIARY TO BARRICADES AND TRAFFIC HANDLING.

ADDITIONAL EROSION/SEDIMENTATION CONTROL FOR WORK IN PAVED AREAS



NOTES:

1. USE ONLY OPEN GRADED ROCK, 4-8 INCH DIAMETER, FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK, 3-5 INCH DIAMETER, FOR OTHER CONDITIONS.

2. ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE.

3. ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

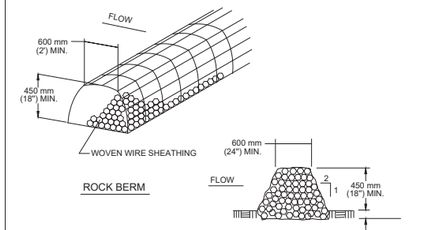
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.

5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.

6. WHEN SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

FABRIC COVERED (SEVERE SERVICE) ROCK BERM

CITY OF AUSTIN		
GENERAL PERMIT PROGRAM APPROVED	ADOPTED: SCALE: N.T.S. INITIAL:	STANDARD NO. N/A



STANDARD SYMBOL FOR ROCK BERM (RB)
RB

NOTES:

1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.

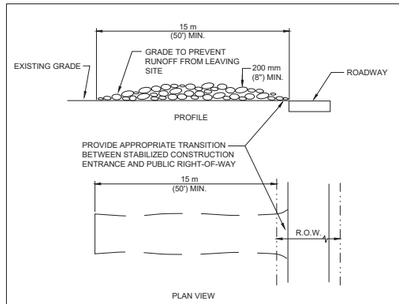
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).

3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTATION PROBLEM.

5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		ROCK BERM	
RECORD COPY SIGNED BY MORGAN BYARS	8/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S-1



NOTES:

1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.

2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').

3. THICKNESS: NOT LESS THAN 200 mm (8").

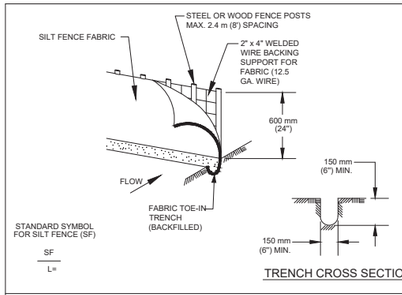
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.

5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.

7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY	5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1



1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.

3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

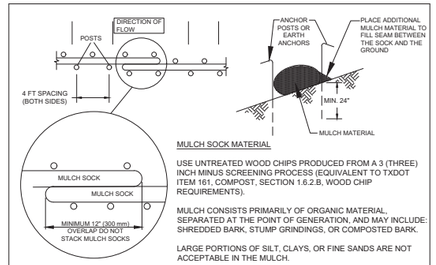
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.

5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		SILT FENCE	
RECORD COPY SIGNED BY MORGAN BYARS	*09/01/2011* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1



MULCH SOCK MATERIAL

USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:

1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.

2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OF MULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).

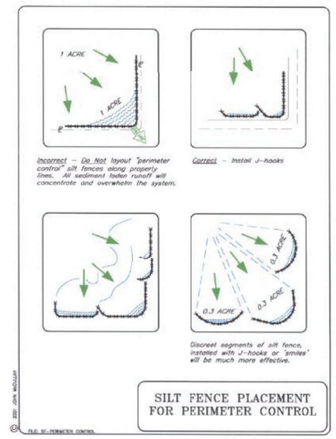
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.

4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.

5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.

6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		MULCH SOCK	
RECORD COPY SIGNED BY MORGAN BYARS	08/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S-1



REV	DATE	BY	DESCRIPTION

FINAL SUBMITTAL

DESIGNED CW
DRAWN AW
CHECKED CW
DATE JULY 2021

STATE OF TEXAS · CASEY G. WAUTERS · 93889 · LICENSED PROFESSIONAL ENGINEER · 11/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

carollo
TBPE No. F-882

CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
EROSION SEDIMENTATION CONTROL DETAILS AND NOTES

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10976A.10
DRAWING NO. 00GC03
SHEET NO. 222 OF 455

LAST SAVED BY: dseivert

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn

THIS PAGE INTENTIONALLY LEFT BLANK

STANDARD ENVIRONMENTAL NOTES

ADDITIONAL AREAS:

1. ANY ADDITIONAL AREAS REQUIRED FOR CONSTRUCTION OF THIS PROJECT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR MUST SECURE CITY OF AUSTIN APPROVAL OF PROPOSED ADDITIONAL AREAS PRIOR TO USE.
2. ALL ASSOCIATED PERMITS AND FEES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR MUST INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTION FOR ALL SUCH AREAS IN ACCORDANCE WITH THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL AND AS INCLUDED IN THE APPROVED SUBMITTAL.

DEWATERING:

CONTRACTOR IS RESPONSIBLE FOR DEWATERING OF WORK AREA. CONTRACTOR MUST SECURE CITY OF AUSTIN APPROVAL OF PROPOSED DEWATERING PROCEDURES PRIOR TO INSTALLATION OR USE.

FUEL STORAGE:

FUEL STORAGE IS PROHIBITED ON THIS PROJECT. ADDITIONALLY, THE CONTRACTOR IS REQUIRED TO NOTIFY THE OWNER IMMEDIATELY FOLLOWING ANY SPILL OF FUEL OR OTHER TOXIC MATERIAL. CONTRACTOR IS REQUIRED TO FOLLOW-UP WITH WRITTEN DOCUMENTATION, INCLUDING A COMPLETE DESCRIPTION OF THE INCIDENT, MATERIAL SPILLED, AND ACTIONS TAKEN TO CONTAIN AND CLEAN-UP MATERIAL.

FUGITIVE DUST CONTROL:

ALL PROJECTS MUST COMPLY WITH THE CODE OF THE CITY OF AUSTIN AND THE ENVIRONMENTAL CRITERIA MANUAL REQUIREMENTS TO CONTROL AIRBORNE DUST. COMPLIANCE IS REQUIRED FOR ENTIRE PROJECT SITE AS WELL AS ASSOCIATED OPERATIONS.

SPOILS STORAGE:

NO SPOILS STORAGE IS ALLOWED WITHIN A CRITICAL WATER QUALITY ZONE, A 100-YEAR FLOODPLAIN, OR ON A SLOPE WITH A GRADIENT OF MORE THAN 15 PERCENT.

E/S CONTROLS FOR BORE / RECEIVING PIT LOCATIONS:

TEMPORARY E/S CONTROLS MUST SURROUND THE ENTIRETY OF BORING OPERATIONS, INCLUDING PIT, EQUIPMENT, ETC. FOR LOCATIONS WITHIN IMPERVIOUS AREAS, TEMPORARY CONTROL WILL BE TRIANGULAR FILTER DIKE (COA STANDARD DETAIL #642BS). DIKE FLAP WILL BE CONTINUOUSLY WEIGHTED DOWN THROUGH THE USE OF 1" BY 4" WOOD STRIPS NAILED TO THE PAVEMENT, EXCEPT FOR THE ACCESS POINT. PLACEMENT OF TEMPORARY E/S CONTROLS ACROSS ACCESS POINT WILL BE REQUIRED WHENEVER THE SITE IS NOT ACTIVELY USED. FOR LOCATIONS WITHIN PERVIOUS AREAS, TEMPORARY CONTROL WILL BE SILT FENCE (COA STANDARD DETAIL #642S-1).

SOIL RETENTION BLANKET:

UNLESS OTHERWISE INDICATED IN THE PROJECT DOCUMENTS, INSTALLATION OF SOIL RETENTION BLANKET WILL BE REQUIRED FOR ALL IMPACTED SLOPES GREATER THAN 3:1 AND ALL IMPACTED AREAS WITHIN DRAINAGE CONVEYANCES. (CITY OF AUSTIN STANDARD SPECIFICATION ITEM 605S) SOIL RETENTION BLANKET SUBMITTAL MUST BE APPROVED BY PROJECT ENGINEER INSPECTOR PRIOR TO USE AND MUST INCLUDE PRODUCT AND INSTALLATION DETAILS PROVIDED BY MANUFACTURER. FINISH GRADING MUST BE INSPECTED AND APPROVED BY INSPECTOR PRIOR TO BLANKET INSTALLATION. INSTALLATION MUST BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST BE INSPECTED AND APPROVED BY INSPECTOR PRIOR TO ACCEPTANCE.

SOD INSTALLATION:

REVEGETATION WITHIN MANAGED TURF AREAS MUST BE ACCOMPLISHED THROUGH THE INSTALLATION OF SOLID BLOCK GRASS SOD. SOD TYPE MUST MATCH ADJACENT GRASS TYPE. QUESTIONS REGARDING SOD TYPE WILL BE RESOLVED BY THE INSPECTOR. REFER TO CITY OF AUSTIN STANDARD SPECIFICATION ITEM NO. 602S: SODDING FOR EROSION CONTROL, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS.

TxDOT RIGHT OF WAYS:

TOPSOIL, SOIL RETENTION BLANKET, AND REVEGETATION INSTALLED WITHIN TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) RIGHT OF WAY SHALL COMPLY WITH "REQUIREMENTS FOR INSTALLATION OF UTILITIES WITHIN THE STATE RIGHT OF WAY, AUSTIN DISTRICT".

PROJECT SEQUENCE:

(REFER TO FULL PLAN SET FOR PROJECT-SPECIFIC ADDITIONS, IF APPLICABLE.)

PRIOR TO CONSTRUCTION:

1. SECURE APPLICABLE COA PERMITS, INCLUDING APPROVAL UNDER UTILITY STREET CUT PERMIT.
2. NOTIFY INSPECTOR PRIOR TO PLACEMENT OF E/S CONTROLS AND TREE PROTECTION FENCING. ALL PROPOSED PHASING OF CONTROLS MUST BE SUBMITTED TO AND APPROVED BY THE INSPECTOR PRIOR TO THE FIELD PRE-CONSTRUCTION CONFERENCE.
3. NOTIFY INSPECTOR PRIOR TO PLACEMENT OF TEMPORARY TRAFFIC CONTROLS. ALL PROPOSED PHASING OF CONTROLS MUST BE INDICATED ON APPROVED TEMPORARY TRAFFIC CONTROL PLAN AND SEALED BY PROFESSIONAL ENGINEER.
4. PLACE TEMPORARY E/S CONTROLS AND TREE PROTECTION FENCING PRIOR TO BEGINNING ANY EXCAVATION. INSTALL C.I.P. SIGN, IF APPLICABLE.
5. HOLD ENVIRONMENTAL PRE-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, OWNER'S REPRESENTATIVE, AND INSPECTOR AFTER INSTALLATION OF E/S CONTROLS AND TREE PROTECTION FENCING AND PRIOR TO ANY TRENCHING OPERATIONS.
6. PLACE TEMPORARY TRAFFIC CONTROL DEVICES.

PROJECT CONSTRUCTION:

1. BEGIN CONSTRUCTION. NOTIFY INSPECTOR A MINIMUM OF 48 HOURS IN ADVANCE OF TRANSITION BETWEEN PHASES.
2. CONTACT OWNER TO SCHEDULE FIELD INSPECTION PRIOR TO BEGINNING INSTALLATION OF PERMANENT E/S CONTROLS.
3. COMPLETE RESTORATION OF ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES FOR THIS PROJECT. (PERMANENT E/S CONTROLS)
4. HOLD ENVIRONMENTAL POST-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, OWNER'S REPRESENTATIVE, AND INSPECTOR. ALL PERMANENT E/S CONTROLS MUST BE ACCEPTED BY THE INSPECTOR.
5. FOLLOWING FINAL ACCEPTANCE OF PERMANENT E/S CONTROLS BY THE INSPECTOR, REMOVE TEMPORARY E/S CONTROLS. CLEAN EXISTING STORM DRAINAGE SYSTEMS AS NECESSARY DUE TO CONSTRUCTION OPERATIONS.
6. DRESS-UP AND RESTORE ANY AREAS DISTURBED BY REMOVAL OF TEMPORARY E/S CONTROLS DESCRIBED ABOVE.
7. REMOVE TEMPORARY TRAFFIC CONTROL DEVICES.

REQUIRED SUBMITTALS:

SUBMITTALS REQUIRED TO BE APPROVED INCLUDE: SUBMITTALS TRIGGERED BY CITY OF AUSTIN SERIES 600 SPECIFICATIONS AND RELATED SPECIAL PROVISIONS/SPECIFICATIONS, PRE-NOTICE TO PROCEED SCHEDULE, TREE PROTECTION, DEWATERING PLAN, WATERING SCHEDULE FOR REVEGETATION AREAS, AND ANY VEGETATIVE REPLACEMENT PROPOSALS, IF NOT ALREADY PART OF THE PERMITTED PLAN SET.

APPENDIX P-2

CITY OF AUSTIN - STANDARD NOTES TREE AND NATURAL AREA PROTECTION

1. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY MEASURES.
2. PROTECTIVE MEASURES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARDS FOR TREE PROTECTION.
3. PROTECTIVE MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE PROJECT.
4. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
5. TREE PROTECTION SHALL COMPLETELY SURROUND THE TREES OR GROUP OF TREES AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE), FOR NATURAL AREAS, PROTECTIVE MEASURES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
   - A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
   - B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL) OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE OWNER;
   - C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;
   - D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
6. EXCEPTIONS TO INSTALLING PROTECTIVE FENCES AT CRITICAL ROOT ZONES MAY BE PERMITTED IN THE FOLLOWING CASES:
   - A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
   - B. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA
   - C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING
   - D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT OWNER TO DISCUSS ALTERNATIVES.

SPECIAL NOTE:

FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.

WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 5 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING.

7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN AREAS OF UNPROTECTED ROOT ZONES, THOSE AREAS SHOULD BE COVERED WITH 4 INCHES (MINIMUM) OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION.
8. ALL GRADING WITHIN PROTECTED ROOT ZONE AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCES TO 2 FEET BEHIND THE GRADE CHANGE AREA.
9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL BACKFILL AND BACKFILLED WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
10. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIP LINES, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE DAMAGE TO REMAINING ROOTS.
11. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
12. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
13. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
14. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.
15. ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES.
16. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NONCOMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.
17. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.

SUPPLEMENTAL TREE PROTECTION NOTES

1. ALL TREE PROTECTION MUST COMPLY WITH CITY OF AUSTIN REQUIREMENTS AS OUTLINED IN THE ENVIRONMENTAL CRITERIA MANUAL AND AS INDICATED BY STANDARD COA NOTES AND DETAILS INCLUDED WITHIN THIS DOCUMENT SET. CONTRACTOR SHALL INSTALL PROTECTION PRIOR TO PRE-CONSTRUCTION CONFERENCE, MAKE ADJUSTMENTS TO PROTECTION AS DIRECTED BY THE INSPECTOR, AND MAINTAIN PROTECTION UNTIL PROJECT IS COMPLETE.
2. TYPE AND LOCATION OF ALL TREE PROTECTION MUST BE APPROVED IN THE FIELD BY THE INSPECTOR PRIOR TO CONSTRUCTION.
3. WALK-THROUGH: CONTRACTOR SHALL CONDUCT WALK-THROUGH MEETING WITH INSPECTOR PRIOR TO PERFORMING ANY PRUNING ACTIVITIES ON TREES IN PROJECT AREA. PURPOSE OF WALK-THROUGH WILL BE TWOFOLD. ONE PURPOSE WILL BE TO DETERMINE THE MINIMUM AMOUNT OF PRUNING NECESSARY TO ALLOW CONSTRUCTION WORK TO BE COMPLETED. SECOND PURPOSE WILL BE TO DETERMINE AREAS OF PROJECT IN WHICH EXHAUST DIVERTERS WILL BE REQUIRED ON CONSTRUCTION EQUIPMENT TO PREVENT SCORCHING OF EXISTING TREES.
4. ALL PRUNING MUST BE PERFORMED IN ACCORDANCE WITH ANSI A300 (PART 1) - 2001 AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS (PRUNING), OR LATEST APPROVED VERSION. THIS DOCUMENT MAY BE OBTAINED ONLINE FOR A FEE AT WWW.ANSI.ORG.
5. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS. TO PREVENT BARK TEARS, THE WEIGHT OF THE BRANCH SHALL BE REMOVED BEFORE MAKING FINAL PRUNING CUT.
6. ALL PRUNING SHALL PRESERVE THE NATURAL CHARACTER OF THE TREE.
7. ONLY COLLAR CUTS ARE ACCEPTABLE. NO FLUSH CUTS OR STUB CUTS WILL BE ALLOWED.
8. ALL BRANCHES THAT ARE BROKEN OR DAMAGED DURING CONSTRUCTION SHALL BE REMOVED.
9. PRUNING CUTS OR DAMAGED AREAS ON AN OAK TREE SHALL BE PAINTED WITHIN FIVE MINUTES WITH A STANDARD TREE WOUND DRESSING. TREE WOUND DRESSING SHALL BE EITHER TREEKOTE AEROSOL OR TANGLE FOOT PRUNING SEALER (OR APPROVED EQUAL). THIS ALSO APPLIES TO WOUNDS CREATED BY CONSTRUCTION VEHICLES OR EQUIPMENT.
10. ANY TREE ROOTS THAT ARE EXPOSED, CUT, OR TORN DURING CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SURROUNDING SOIL. (REFER ALSO TO NUMBER 9 OF THE TREE AND NATURAL AREA PROTECTION NOTES INCLUDED IN THIS PLAN SET.)
11. ALL TRENCHING WITHIN THE CRITICAL ROOT ZONE OF A TREE TO BE PRESERVED WILL BE SAW CUT.

APPENDIX P-4:

STANDARD SEQUENCE OF CONSTRUCTION

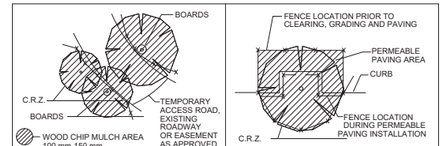
THE FOLLOWING SEQUENCE OF CONSTRUCTION SHALL BE USED FOR ALL DEVELOPMENT. THE APPLICANT IS ENCOURAGED TO PROVIDE ANY ADDITIONAL DETAILS APPROPRIATE FOR THE PARTICULAR DEVELOPMENT.

1. TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED AS INDICATED ON THE APPROVED SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN AND IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) THAT IS REQUIRED TO BE POSTED ON THE SITE. INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES.
2. THE ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR MUST CONTACT THE WATERSHED PROTECTION DEPARTMENT, ENVIRONMENTAL INSPECTION, AT 512-974-2278, 72 HOURS PRIOR TO THE SCHEDULED DATE OF THE REQUIRED ON-SITE PRECONSTRUCTION MEETING.
3. THE ENVIRONMENTAL PROJECT MANAGER, AND/OR SITE SUPERVISOR, AND/OR DESIGNATED RESPONSIBLE PARTY, AND THE GENERAL CONTRACTOR WILL FOLLOW THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REVISED, IF NEEDED, TO COMPLY WITH CITY INSPECTORS' DIRECTIVES, AND REVISED CONSTRUCTION SCHEDULE RELATIVE TO THE WATER QUALITY PLAN REQUIREMENTS AND THE EROSION PLAN.
4. ROUGH GRADE THE POND(S) AT 100%% PROPOSED CAPACITY. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A SUMP PIT OUTLET AND AN EMERGENCY SPILLWAY MEETING THE REQUIREMENTS OF THE DRAINAGE CRITERIA MANUAL AND/OR THE ENVIRONMENTAL CRITERIA MANUAL, AS REQUIRED. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL INSTALLATION OF THE PERMANENT WATER QUALITY POND(S.)
5. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE.
6. BEGIN SITE CLEARING/CONSTRUCTION (OR DEMOLITION) ACTIVITIES.
7. IN THE BARTON SPRINGS ZONE, THE ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR WILL SCHEDULE A MID-CONSTRUCTION CONFERENCE TO COORDINATE CHANGES IN THE CONSTRUCTION SCHEDULE AND EVALUATE EFFECTIVENESS OF THE EROSION CONTROL PLAN AFTER POSSIBLE CONSTRUCTION ALTERATIONS TO THE SITE. PARTICIPANTS SHALL INCLUDE THE CITY INSPECTOR, PROJECT ENGINEER, GENERAL CONTRACTOR AND ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR. THE ANTICIPATED COMPLETION DATE AND FINAL CONSTRUCTION SEQUENCE AND INSPECTION SCHEDULE WILL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR.
8. PERMANENT WATER QUALITY PONDS OR CONTROLS WILL BE CLEANED OUT AND FILTER MEDIA WILL BE INSTALLED PRIOR TO/CONCURRENTLY WITH REVEGETATION OF SITE.
9. COMPLETE CONSTRUCTION AND START REVEGETATION OF THE SITE AND INSTALLATION OF LANDSCAPING.
10. UPON COMPLETION OF THE SITE CONSTRUCTION AND REVEGETATION OF A PROJECT SITE, THE DESIGN ENGINEER SHALL SUBMIT AN ENGINEER'S LETTER OF CONCURRENCE TO THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT INDICATING THAT CONSTRUCTION, INCLUDING REVEGETATION, IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.
11. UPON COMPLETION OF LANDSCAPE INSTALLATION OF A PROJECT SITE, THE LANDSCAPE ARCHITECT SHALL SUBMIT A LETTER OF CONCURRENCE TO THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT INDICATING THAT THE REQUIRED LANDSCAPING IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.
12. AFTER A FINAL INSPECTION HAS BEEN CONDUCTED BY THE CITY INSPECTOR AND WITH APPROVAL FROM THE CITY INSPECTOR, REMOVE THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND COMPLETE ANY NECESSARY FINAL REVEGETATION RESULTING FROM REMOVAL OF THE CONTROLS. CONDUCT ANY MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

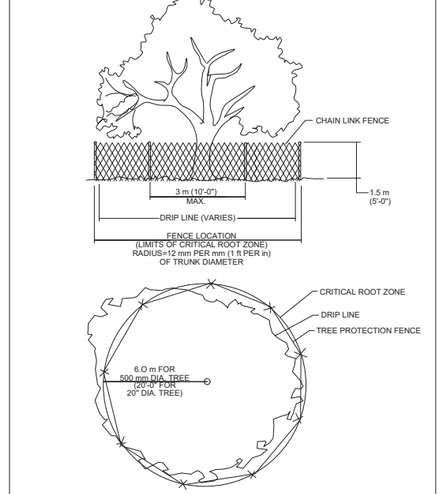
APPENDIX P-6:

REMEDIAL TREE CARE NOTES AERATION AND SUPPLEMENTAL NUTRIENT REQUIREMENTS FOR TREES WITHIN CONSTRUCTION AREAS

1. AS A COMPONENT OF AN EFFECTIVE REMEDIAL TREE CARE PROGRAM PER ENVIRONMENTAL CRITERIA MANUAL SECTION 3.5.4, PRESERVED TREES WITHIN THE LIMITS OF CONSTRUCTION MAY REQUIRE SOIL AERATION AND SUPPLEMENTAL NUTRIENTS. SOIL AND/OR FOLIAR ANALYSIS SHOULD BE USED TO DETERMINE THE NEED FOR SUPPLEMENTAL NUTRIENTS. THE CITY ARBORIST MAY REQUIRE THESE ANALYSES AS PART OF A COMPREHENSIVE TREE CARE PLAN. SOIL PH SHALL BE CONSIDERED WHEN DETERMINING THE FERTILIZATION COMPOSITION AS SOIL PH INFLUENCES THE TREE'S ABILITY TO UPTAKE NUTRIENTS FROM THE SOIL. IF ANALYSES INDICATE THE NEED FOR SUPPLEMENTAL NUTRIENTS, THEN HUMATE/NUTRIENT SOLUTIONS WITH MYCORRHIZAE COMPONENTS ARE HIGHLY RECOMMENDED. IN ADDITION, SOIL ANALYSIS MAY BE NEEDED TO DETERMINE IF ORGANIC MATERIAL OR BENEFICIAL MICROORGANISMS ARE NEEDED TO IMPROVE SOIL HEALTH. MATERIALS AND METHODS ARE TO BE APPROVED BY THE CITY ARBORIST (512-974-1876) PRIOR TO APPLICATION. THE OWNER OR GENERAL CONTRACTOR SHALL SELECT A FERTILIZATION CONTRACTOR AND INSURE COORDINATION WITH THE CITY ARBORIST.
2. PRE-CONSTRUCTION TREATMENT SHOULD BE APPLIED IN THE APPROPRIATE SEASON, IDEALLY THE SEASON PRECEDING THE PROPOSED CONSTRUCTION. MINIMALLY, AREAS TO BE TREATED INCLUDE THE ENTIRE CRITICAL ROOT ZONE OF TREES AS DEPICTED ON THE CITY APPROVED PLANS. TREATMENT SHOULD INCLUDE, BUT NOT LIMITED TO, FERTILIZATION, SOIL TREATMENT, MULCHING, AND PROPER PRUNING.
3. POST-CONSTRUCTION TREATMENT SHOULD OCCUR DURING FINAL REVEGETATION OR AS DETERMINED BY A QUALIFIED ARBORIST AFTER CONSTRUCTION. CONSTRUCTION ACTIVITIES OFTEN RESULT IN A REDUCTION IN SOIL MACRO AND MICRO PORES AND AN INCREASE IN SOIL BULK DENSITY. TO AMELIORATE THE DEGRADED SOIL CONDITIONS, AERATION VIA WATER AND/OR AIR INJECTED INTO THE SOIL IS NEEDED OR BY OTHER METHODS AS APPROVED BY THE CITY ARBORIST. THE PROPOSED NUTRIENT MIX SPECIFICATIONS AND SOIL AND/OR FOLIAR ANALYSIS RESULTS NEED TO BE PROVIDED TO AND APPROVED BY THE CITY ARBORIST PRIOR TO APPLICATION (FAX # 512-974-3010). CONSTRUCTION WHICH WILL BE COMPLETED IN LESS THAN 90 DAYS MAY USE MATERIALS AT ½ RECOMMENDED RATES. ALTERNATIVE ORGANIC FERTILIZER MATERIALS ARE ACCEPTABLE WHEN APPROVED BY THE CITY ARBORIST. WITHIN 7 DAYS AFTER FERTILIZATION IS PERFORMED, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF THE WORK PERFORMED TO THE CITY ARBORIST, PLANNING AND DEVELOPMENT REVIEW DEPARTMENT. P.O. BOX 1088, AUSTIN, TX 78767. THIS NOTE SHOULD BE REFERENCED AS ITEM #1 IN THE SEQUENCE OF CONSTRUCTION.



CITY OF AUSTIN, WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE LOCATIONS	
RECORD COPY SIGNED BY J. PATRICK MURPHY	11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1



CITY OF AUSTIN, WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE TYPE A - CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY	11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-2

REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED CW
DRAWN AW
CHECKED CW
DATE JULY 2021

STATE OF TEXAS — CASEY G. WAUTERS — 93889 — LICENSED PROFESSIONAL ENGINEER — 7/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

TBPE No. F-882

CITY OF AUSTIN — FOUNDED 1839

CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
TREE PROTECTION ENVIRONMENTAL DETAILS AND NOTES

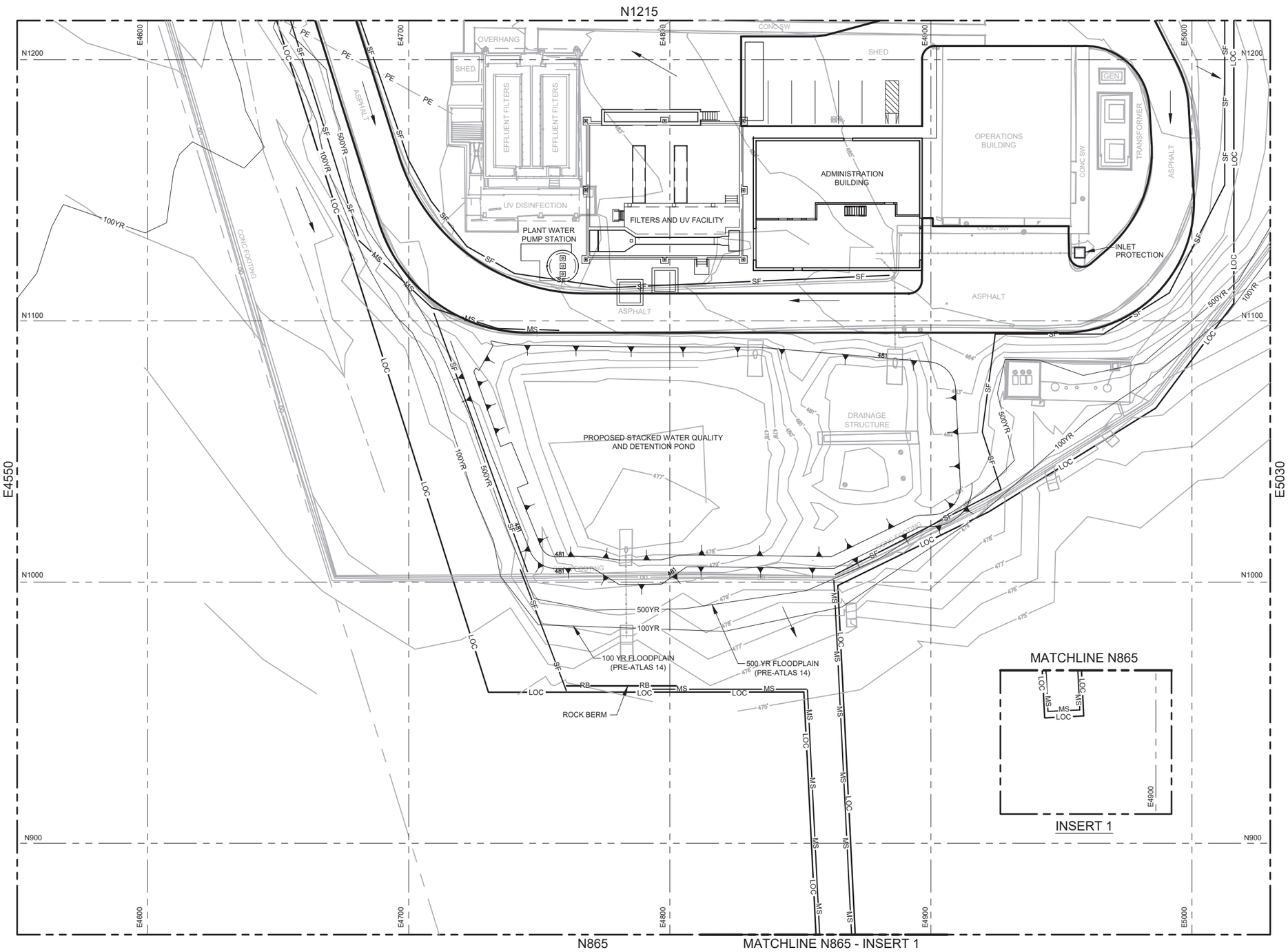
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10976A.10
DRAWING NO. 00GC04
SHEET NO. 223 OF 455

LAST SAVED BY: dsevert

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn

THIS PAGE INTENTIONALLY LEFT BLANK



45°00'05"
NORTH
NORTH
TRUE
PLANT

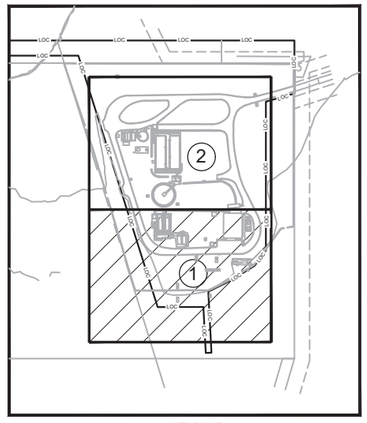
SCALE: 1" = 20'

LEGEND

- EXISTING
- PROPOSED
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- SF — SF — SILT FENCE
- MS — MS — MULCH SOCK
- LOC — LOC — LIMITS OF CONSTRUCTION
- RB — RB — ROCK BERM

NOTES:

1. REFERENCE DRAWING 00G06 FOR OVERALL WWTP SITE PLAN.
2. REFERENCE DRAWING 00G14 FOR ALL SURVEY CONTROL POINTS AND COORDINATES.
3. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THOSE SHOWN IN THIS DRAWING. CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY THIS WORK PRIOR TO INITIATING WORK.
4. CONTRACTOR TO COORDINATE ALL STORAGE AREAS WITH THE OWNER TO ENSURE NO ACCESS WAYS, MANHOLES OR VALVES ARE BLOCKED OR COVERED.
5. ALL ACCESS WAYS AND DRIVEWAYS TO BE KEPT CLEAR TO ALLOW OPERATORS ACCESS TO ALL AREAS FOR MAINTENANCE AND EMERGENCIES. CONTRACTOR TO COORDINATE THE DELIVERY AND LOADING / UNLOADING OF EQUIPMENT WITH OWNER AT A MINIMUM OF 48 HOURS PRIOR TO DELIVERY.
6. CONTRACTOR TO NOT OBSTRUCT DELIVERIES ON THE PLANT ACCESS ROAD. WORK WITHIN THE ACCESS ROAD MUST BE DONE IN A WAY THAT CAN BE COVERED TO PROVIDE DELIVERY ACCESS. ACCESS ROAD CLOSURES MUST BE AGREED UPON WITH THE CITY OF AUSTIN IN ADVANCE.
7. CONTRACTOR SHALL NOT BLOCK DRAINAGE SWALES, DITCHES, CULVERTS, OR ANY OTHER STORM WATER DRAINAGE WAY AT ANY TIME DURING EXECUTION OF THE PROJECT. DAMAGE RESULTING FROM FLOODING DUE TO BLOCKED DRAINAGE WAYS WILL BE THE RESPONSIBILTY OF THE CONTRACTOR AT NO ADDITIONAL PAY.



KEYMAP
NTS

REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED CW
DRAWN AW
CHECKED
DATE JULY 2021

STATE OF TEXAS · CASEY G. WAUTERS · 93889 · LICENSED · PROFESSIONAL ENGINEER · 7/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

carollo
TBPE No. F-882

CITY OF AUSTIN
FOUNDED 1839

CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
EX. TOPO, E / S CONTROL & TREE PROTECTION PLANT SITE PLAN - (SHEET 1 OF 2)

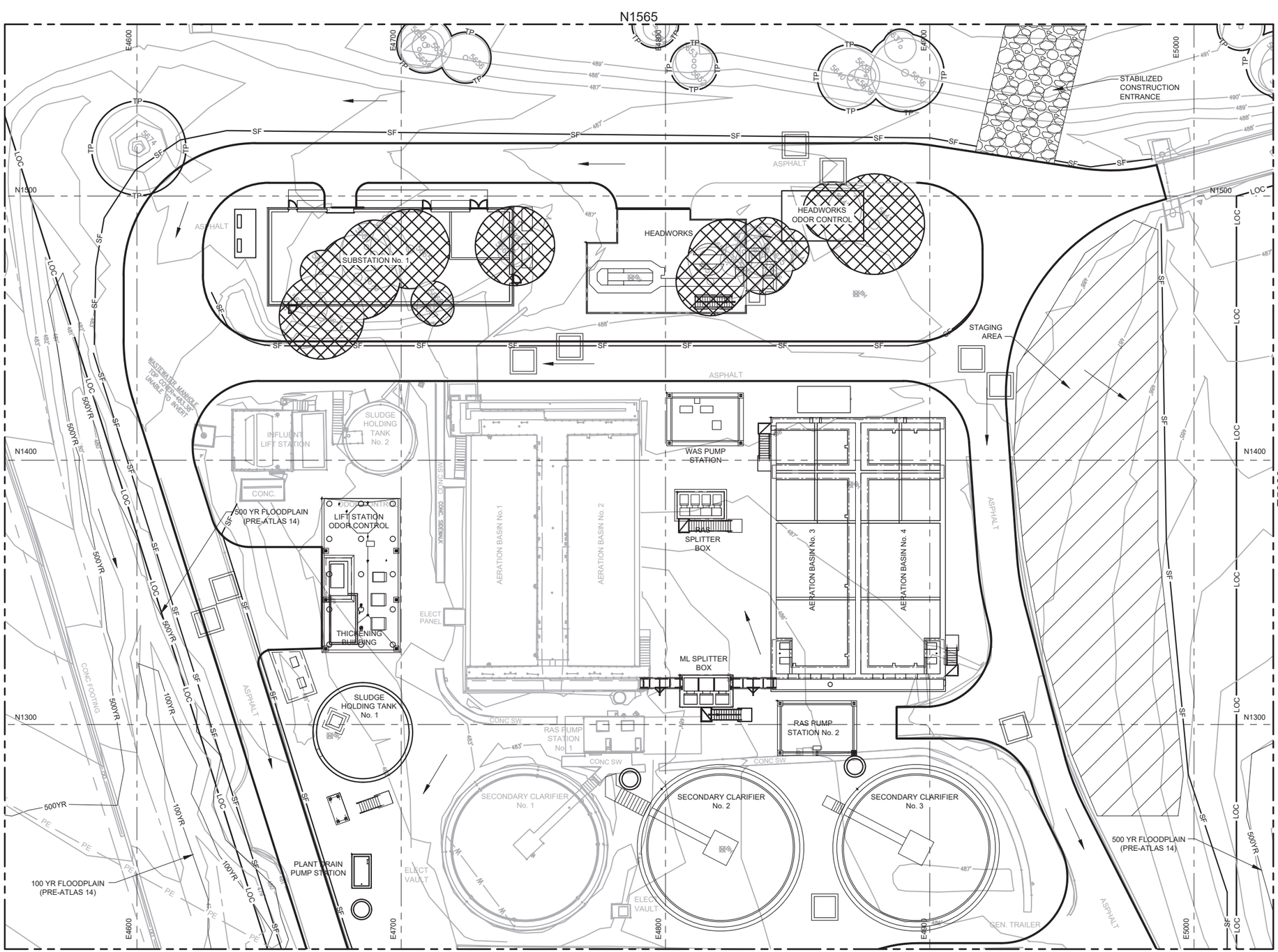
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

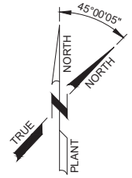
JOB NO. 10976A.10
DRAWING NO. 00GC05
SHEET NO. 224 OF 455

LAST SAVED BY:

PROJECT NO. 9585A10 FILE NAME: 01C01

THIS PAGE INTENTIONALLY LEFT BLANK





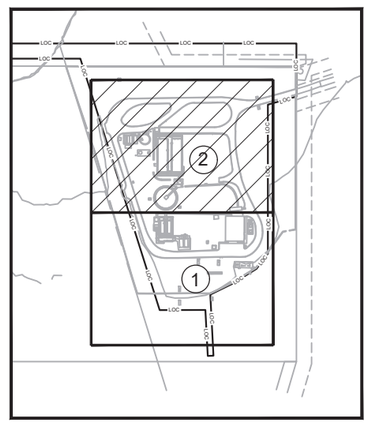
SCALE: 1" = 20'

LEGEND

- EXISTING
- PROPOSED
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- SF — SILT FENCE
- LOC — LIMITS OF CONSTRUCTION
- RB — ROCK BERM
- TREE TO BE REMOVED
- TREE TO BE PROTECTED

NOTES:

1. REFERENCE DRAWING 00G06 FOR OVERALL WWTP SITE PLAN.
2. REFERENCE DRAWING 00G14 FOR ALL SURVEY CONTROL POINTS AND COORDINATES.
3. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THOSE SHOWN IN THIS DRAWING. CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY THIS WORK PRIOR TO INITIATING WORK.
4. CONTRACTOR TO COORDINATE ALL STORAGE AREAS WITH THE OWNER TO ENSURE NO ACCESS WAYS, MANHOLES OR VALVES ARE BLOCKED OR COVERED.
5. ALL ACCESS WAYS AND DRIVEWAYS TO BE KEPT CLEAR TO ALLOW OPERATORS ACCESS TO ALL AREAS FOR MAINTENANCE AND EMERGENCIES. CONTRACTOR TO COORDINATE THE DELIVERY AND LOADING / UNLOADING OF EQUIPMENT WITH OWNER AT A MINIMUM OF 48 HOURS PRIOR TO DELIVERY.
6. CONTRACTOR TO NOT OBSTRUCT DELIVERIES ON THE PLANT ACCESS ROAD. WORK WITHIN THE ACCESS ROAD MUST BE DONE IN A WAY THAT CAN BE COVERED TO PROVIDE DELIVERY ACCESS. ACCESS ROAD CLOSURES MUST BE AGREED UPON WITH THE CITY OF AUSTIN IN ADVANCE.
7. CONTRACTOR SHALL NOT BLOCK DRAINAGE SWALES, DITCHES, CULVERTS, OR ANY OTHER STORM WATER DRAINAGE WAY AT ANY TIME DURING EXECUTION OF THE PROJECT. DAMAGE RESULTING FROM FLOODING DUE TO BLOCKED DRAINAGE WAYS WILL BE THE RESPONSIBILTY OF THE CONTRACTOR AT NO ADDITIONAL PAY.



KEYMAP
NTS

REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED CW
DRAWN AW
CHECKED
DATE JULY 2021

STATE OF TEXAS — CASEY G. WAUTERS — 93889 — LICENSED PROFESSIONAL ENGINEER — 7/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

TBPE No. F-882

CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
EX. TOPO, E / S CONTROL & TREE PROTECTION PLANT SITE PLAN - (SHEET 2 OF 2)

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10976A.10
DRAWING NO. 00GC06
SHEET NO. 225 OF 455

LAST SAVED BY: dsevert

PROJECT NO. 9585A10 FILE NAME: 01C02

THIS PAGE INTENTIONALLY LEFT BLANK

STABILIZED CONSTRUCTION ENTRANCE

STATE HIGHWAY 130

N10089373.50
E3167636.19
0+00

N10089389.01
E3167651.70

STATE OF TEXAS
PARCEL 101B
122.026 ACRES
DOCUMENT NUMBER 2006185269
O.P.R.T.C.TX.

EXISTING 24" DI WATERLINE

L.C.R.A. TRANSMISSION SERVICES CORPORATION
NOTICE OF LIS PENDENS
17.230 ACRES
DOCUMENT NUMBER 2010069598
O.P.R.T.C.TX.

HEART OF MANOR L.P. TRACT NO. 1
652.489 ACRES DOCUMENT NUMBER
2007037703
O.P.R.T.C.TX.

500 - YEAR FLOOD PLAIN (PRE-ATLAS 14)

100 - YEAR FLOOD PLAIN (PRE-ATLAS 14)

PROPOSED 20' TEMPORARY CONSTRUCTION EASEMENT

PROPOSED 20' WATER EASEMENT

ADD J-HOOKS AT 100 FT INTERVALS (TYP)

HEART OF MANOR L.P. TRACT NO. 1
652.489 ACRES DOCUMENT NUMBER
2007037703
O.P.R.T.C.TX.

HEART OF MANOR L.P. TRACT NO. 1
652.489 ACRES DOCUMENT NUMBER
2007037703
O.P.R.T.C.TX.

HEART OF MANOR L.P. TRACT NO. 1
652.489 ACRES DOCUMENT NUMBER
2007037703
O.P.R.T.C.TX.

SCALE: 1" = 20'

MATCHLINE STA 5+00

LEGEND

- EASEMENTS
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- CL FLOW STREAM
- SF — SF — SILT FENCE
- LOC — LOC — LIMITS OF CONSTRUCTION
- RB — RB — ROCK BERM
- TREE TO BE REMOVED
- TREE TO BE PROTECTED

NOTES:

1. REFERENCE DRAWING 00G14 FOR ALL SURVEY CONTROL POINTS AND COORDINATES.
2. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THOSE SHOWN IN THIS DRAWING. CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY THIS WORK PRIOR TO INITIATING WORK.
3. CONTRACTOR SHALL NOT BLOCK DRAINAGE SWALES, DITCHES, CULVERTS, OR ANY OTHER STORM WATER DRAINAGE WAY AT ANY TIME DURING EXECUTION OF THE PROJECT. DAMAGE RESULTING FROM FLOODING DUE TO BLOCKED DRAINAGE WAYS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL PAY.
4. USE COA SPECIFICATION 609S FOR REVEGETATION WITHIN THE CRITICAL WATER QUALITY ZONE AND COA SPECIFICATION 604S FOR REVEGETATION OUTSIDE THE CRITICAL WATER QUALITY ZONE.
5. FINAL STABILIZATION WILL BE ACHIEVED WHEN THERE IS 95% VEGETATIVE COVERAGE AND THERE ARE NO BARE SPOTS LARGER THAN 16 SQUARE FEET,
6. PLANTINGS AND SEEDED AREAS WITHIN THE CRITICAL WATER QUALITY ZONE SHALL BE PROTECTED FROM DISTURBANCE BY CATTLE AND OTHER GRAZING ANIMALS.

HEART OF MANOR L.P. TRACT NO. 1
652.489 ACRES DOCUMENT NUMBER
2007037703
O.P.R.T.C.TX.

MATCHLINE STA 5+00

MATCHLINE STA 10+00

PROPOSED 20' TEMPORARY CONSTRUCTION EASEMENT

PROPOSED 20' WATER EASEMENT

ROCK BERM

FLOW STREAM LINE

HEART OF MANOR L.P. TRACT NO. 1
652.489 ACRES DOCUMENT NUMBER
2007037703
O.P.R.T.C.TX.

CITY OF AUSTIN
20 ACRES
W.W.T.P. SITE EASEMENT
DOCUMENT NUMBER 2003249298
O.P.R.T.C.TX.

REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED CW
DRAWN AW
CHECKED
DATE JULY 2021

STATE OF TEXAS — CASEY G. WAUTERS — 93889 — LICENSED PROFESSIONAL ENGINEER — 7/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. No. F-3580

TBPE No. F-882

CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
EX. TOPO, E / S CONTROL & TREE PROTECTION WATERLINE PLAN - (SHEET 1 OF 2)

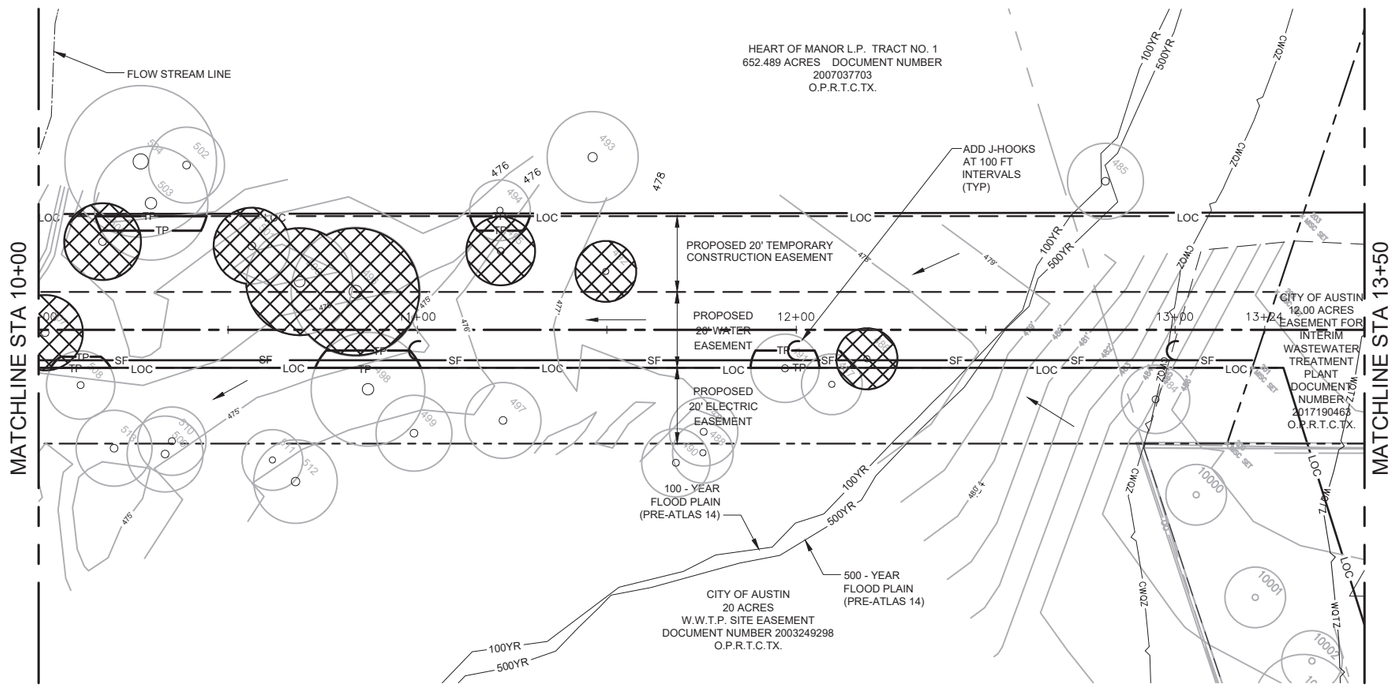
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

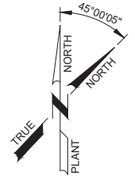
JOB NO. 10976A.10
DRAWING NO. 00GC07
SHEET NO. 226 OF 455

LAST SAVED BY: dselvert

PROJECT NO. 9585A10 FILE NAME: 01C02

THIS PAGE INTENTIONALLY LEFT BLANK





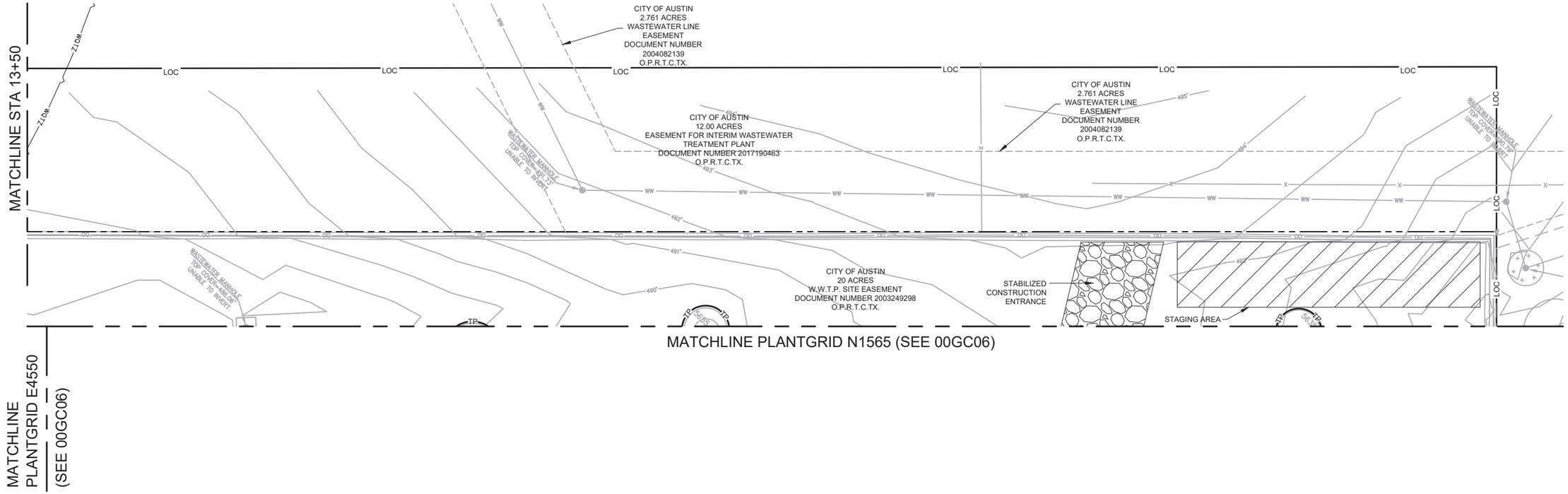
SCALE: 1" = 20'

LEGEND

- EASEMENTS
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- FLOW STREAM CL
- SF — SF — SILT FENCE
- LOC — LOC — LIMITS OF CONSTRUCTION
- RB — RB — ROCK BERM
- TREE TO BE REMOVED
- TREE TO BE PROTECTED (TP)

NOTES:

1. REFERENCE DRAWING 00G14 FOR ALL SURVEY CONTROL POINTS AND COORDINATES.
2. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THOSE SHOWN IN THIS DRAWING. CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY THIS WORK PRIOR TO INITIATING WORK.
3. CONTRACTOR SHALL NOT BLOCK DRAINAGE SWALES, DITCHES, CULVERTS, OR ANY OTHER STORM WATER DRAINAGE WAY AT ANY TIME DURING EXECUTION OF THE PROJECT. DAMAGE RESULTING FROM FLOODING DUE TO BLOCKED DRAINAGE WAYS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL PAY.
4. USE COA SPECIFICATION 609S FOR REVEGETATION WITHIN THE CRITICAL WATER QUALITY ZONE AND COA SPECIFICATION 604S FOR REVEGETATION OUTSIDE THE CRITICAL WATER QUALITY ZONE.
5. FINAL STABILIZATION WILL BE ACHIEVED WHEN THERE IS 95% VEGETATIVE COVERAGE AND THERE ARE NO BARE SPOTS LARGER THAN 16 SQUARE FEET,
6. PLANTINGS AND SEEDED AREAS WITHIN THE CRITICAL WATER QUALITY ZONE SHALL BE PROTECTED FROM DISTURBANCE BY CATTLE AND OTHER GRAZING ANIMALS.



REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED AB
DRAWN AW
CHECKED
DATE JULY 2021

STATE OF TEXAS — CASEY G. WAUTERS — 93889 — LICENSED PROFESSIONAL ENGINEER — 7/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

TBPE No. F-882

CITY OF AUSTIN

WILD HORSE RANCH WWTP EXPANSION

CIVIL

EX. TOPO, E / S CONTROL &TREE PROTECTION WATERLINE PLAN - (SHEET 2 OF 2)

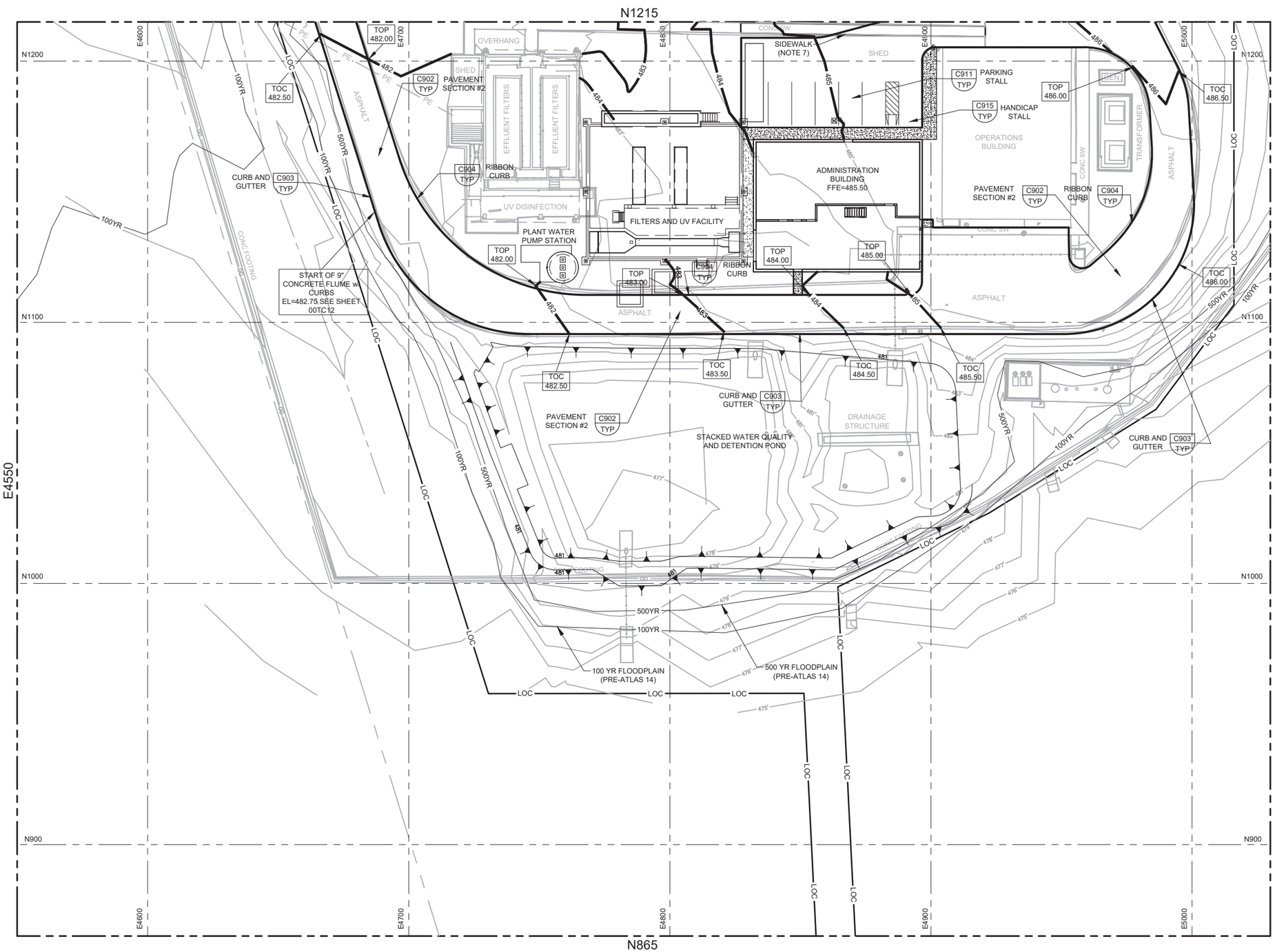
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

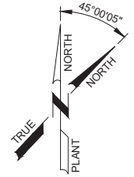
JOB NO. 10976A.10
DRAWING NO. 00GC08
SHEET NO. 227 OF 455

LAST SAVED BY: dseivert

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn

THIS PAGE INTENTIONALLY LEFT BLANK





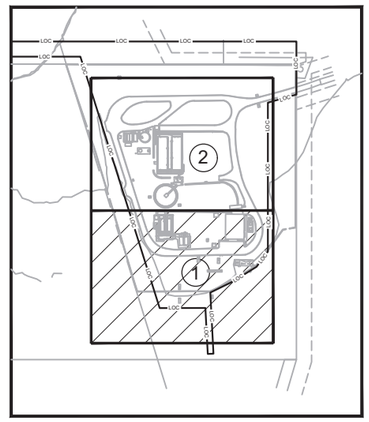
SCALE: 1" = 20'

LEGEND

- EXISTING
- PROPOSED
- XXX — FINISHED GRADE CONTOUR
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- LOC — LOC — LIMITS OF CONSTRUCTION

NOTES:

1. REFERENCE DRAWING 00G06 FOR OVERALL WWTP SITE PLAN.
2. REFERENCE DRAWING 00G14 FOR ALL SURVEY CONTROL POINTS AND COORDINATES.
3. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THOSE SHOWN IN THIS DRAWING. CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY THIS WORK PRIOR TO INITIATING WORK.
4. ALL ACCESS WAYS AND DRIVEWAYS TO BE KEPT CLEAR TO ALLOW OPERATORS ACCESS TO ALL AREAS FOR MAINTENANCE AND EMERGENCIES. CONTRACTOR TO COORDINATE THE DELIVERY AND LOADING / UNLOADING OF EQUIPMENT WITH OWNER AT A MINIMUM OF 48 HOURS PRIOR TO DELIVERY.
5. CONTRACTOR TO NOT OBSTRUCT DELIVERIES ON THE PLANT ACCESS ROAD. WORK WITHIN THE ACCESS ROAD MUST BE DONE IN A WAY THAT CAN BE COVERED TO PROVIDE DELIVERY ACCESS. ACCESS ROAD CLOSURES MUST BE AGREED UPON WITH THE CITY OF AUSTIN IN ADVANCE.
6. CONTRACTOR SHALL NOT BLOCK DRAINAGE SWALES, DITCHES, CULVERTS, OR ANY OTHER STORM WATER DRAINAGE WAY AT ANY TIME DURING EXECUTION OF THE PROJECT. DAMAGE RESULTING FROM FLOODING DUE TO BLOCKED DRAINAGE WAYS WILL BE THE RESPONSIBILTY OF THE CONTRACTOR AT NO ADDITIONAL PAY.
7. SIDEWALKS TO BE CONSTRUCTED AT GRADE.



KEYMAP
NTS

REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED CW
DRAWN AW
CHECKED
DATE JULY 2021

STATE OF TEXAS — CASEY G. WAUTERS — 93889 — LICENSED PROFESSIONAL ENGINEER — 7/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

carollo
TBPE No. F-882

CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
PAVING AND GRADING SITE PLAN
SHEET 1 OF 2

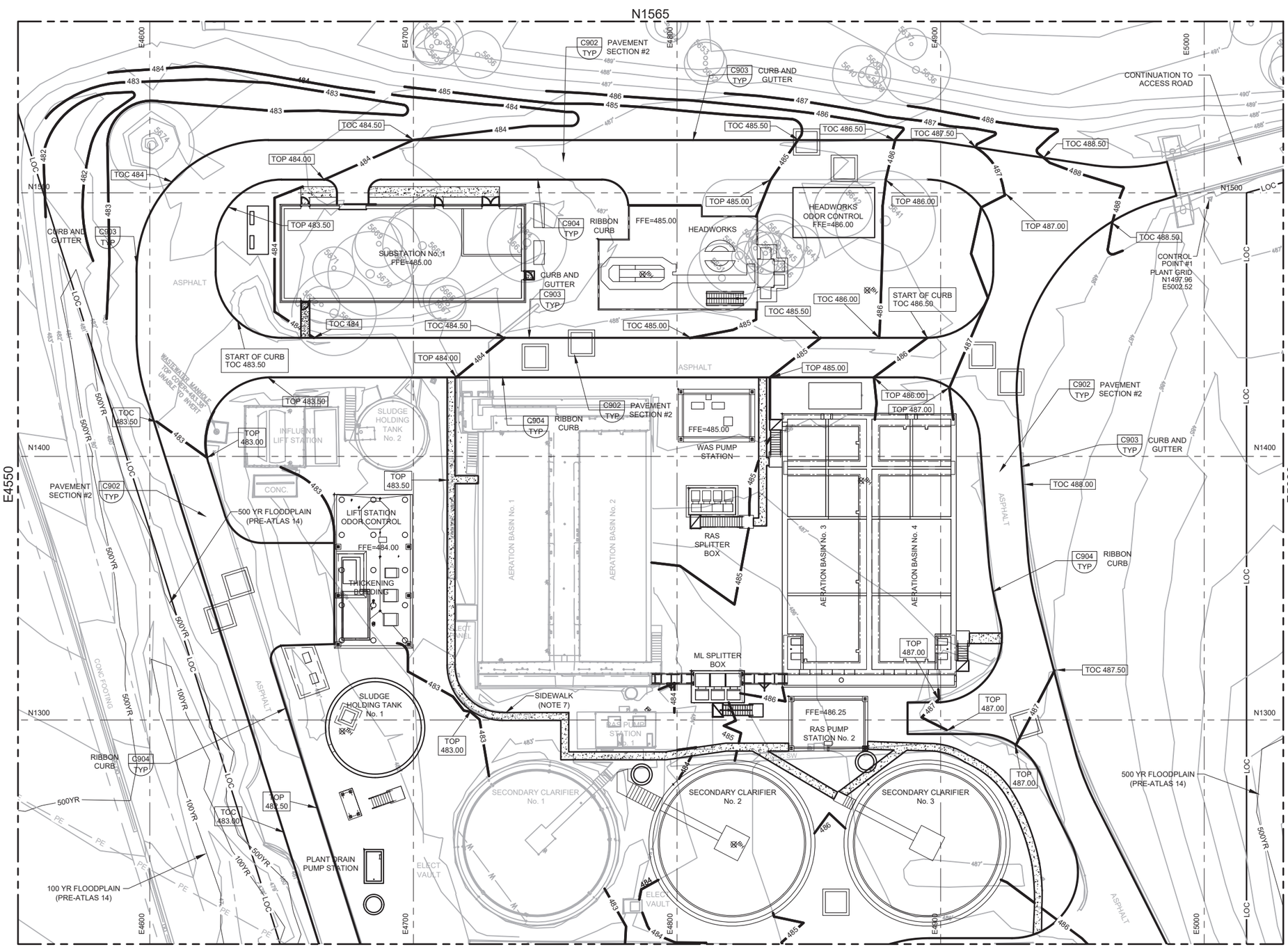
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10976A.10
DRAWING NO. 01C01
SHEET NO. 233 OF 455

LAST SAVED BY:

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn

THIS PAGE INTENTIONALLY LEFT BLANK



45°00'05"
NORTH
NORTH
TRUE
PLANT

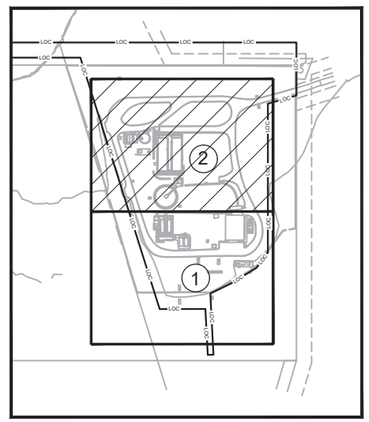
SCALE: 1" = 20'

LEGEND

- EXISTING
- PROPOSED
- XXX — FINISHED GRADE CONTOUR
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- LOC — LOC — LIMITS OF CONSTRUCTION

NOTES:

1. REFERENCE DRAWING 00G06 FOR OVERALL WWTP SITE PLAN.
2. REFERENCE DRAWING 00G14 FOR ALL SURVEY CONTROL POINTS AND COORDINATES.
3. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THOSE SHOWN IN THIS DRAWING. CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY THIS WORK PRIOR TO INITIATING WORK.
4. ALL ACCESS WAYS AND DRIVEWAYS TO BE KEPT CLEAR TO ALLOW OPERATORS ACCESS TO ALL AREAS FOR MAINTENANCE AND EMERGENCIES. CONTRACTOR TO COORDINATE THE DELIVERY AND LOADING / UNLOADING OF EQUIPMENT WITH OWNER AT A MINIMUM OF 48 HOURS PRIOR TO DELIVERY.
5. CONTRACTOR TO NOT OBSTRUCT DELIVERIES ON THE PLANT ACCESS ROAD. WORK WITHIN THE ACCESS ROAD MUST BE DONE IN A WAY THAT CAN BE COVERED TO PROVIDE DELIVERY ACCESS. ACCESS ROAD CLOSURES MUST BE AGREED UPON WITH THE CITY OF AUSTIN IN ADVANCE.
6. CONTRACTOR SHALL NOT BLOCK DRAINAGE SWALES, DITCHES, CULVERTS, OR ANY OTHER STORM WATER DRAINAGE WAY AT ANY TIME DURING EXECUTION OF THE PROJECT. DAMAGE RESULTING FROM FLOODING DUE TO BLOCKED DRAINAGE WAYS WILL BE THE RESPONSIBILTY OF THE CONTRACTOR AT NO ADDITIONAL PAY.
7. SIDEWALKS TO BE CONSTRUCTED AT GRADE.



KEYMAP
NTS

REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED CW
DRAWN AW
CHECKED
DATE JULY 2021

STATE OF TEXAS — CASEY G. WAUTERS — 93889 — LICENSED PROFESSIONAL ENGINEER

AECOM
AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

carollo
TBPE No. F-882

CITY OF AUSTIN — FOUNDED 1839

CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
PAVING AND GRADING SITE PLAN
SHEET 2 OF 2

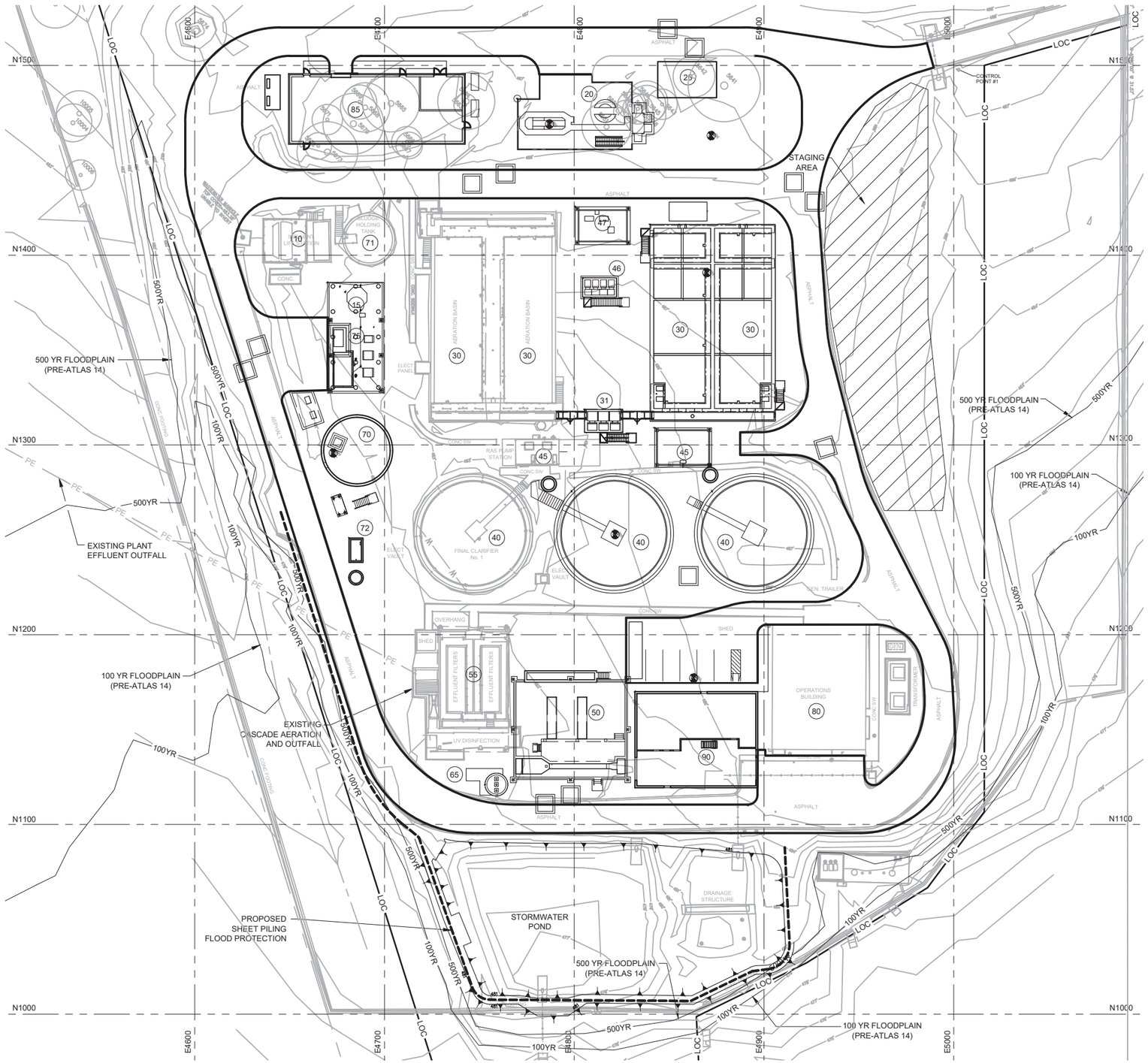
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

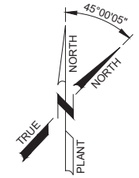
JOB NO. 10976A.10
DRAWING NO. 01C02
SHEET NO. 234 OF 455

LAST SAVED BY:

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn

THIS PAGE INTENTIONALLY LEFT BLANK





SCALE: 1" = 30'

LEGEND

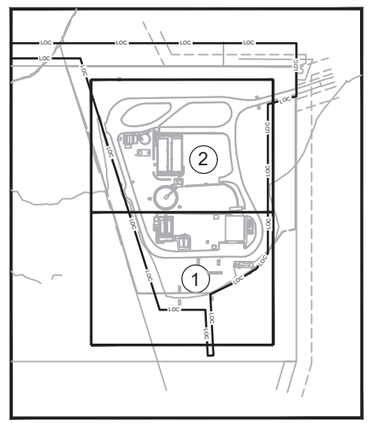
- EXISTING
- PROPOSED
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- LOC — LOC — LIMITS OF CONSTRUCTION
- PROPOSED FLOOD PROTECTION

NOTES:

1. AREA DESIGNATIONS INCLUDE FACILITIES WITHIN A 5 FOOT PERIMETER AROUND DESIGNATED AREA. REFERENCE SITE DRAWINGS FOR FACILITIES OUTSIDE THIS PERIMETER.

AREA NUMBERS:

10	INFLUENT LIFT STATION
15	INFLUENT LIFT STATION ODOR CONTROL
20	HEADWORKS
25	HEADWORKS ODOR CONTROL
30	AERATION BASINS
31	MIXED LIQUOR SPLITTER BOX
40	SECONDARY CLARIFIERS
45	RAS PUMP STATION
46	RAS SPLITTER BOX
47	WAS PUMP STATION
50	FILTERS AND UV FACILITY
55	EXISTING FILTER STRUCTURE
65	PLANT WATER PUMP STATION
70	SLUDGE HOLDING TANK NO. 1
71	SLUDGE HOLDING TANK NO. 2
72	PLANT DRAIN PUMP STATION
75	THICKENING BUILDING
80	OPERATIONS BUILDING
85	SUBSTATION No. 1
90	ADMINISTRATION BUILDING



KEYMAP
NTS

REV	DATE	BY	DESCRIPTION

FINAL SUBMITTAL

DESIGNED CW
DRAWN AW
CHECKED
DATE JULY 2021

STATE OF TEXAS
CASEY G. WAUTERS
93889
LICENSED
PROFESSIONAL ENGINEER
7/1/21

AECOM TECHNICAL SERVICES INC.
13640 BRIARWICK DRIVE, SUITE 200
AUSTIN, TEXAS 78729
WWW.AECOM.COM
TBPE REG. NO. F-3580

TBPE No. F-882

CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
GENERAL
OVERALL WWTP SITE PLAN

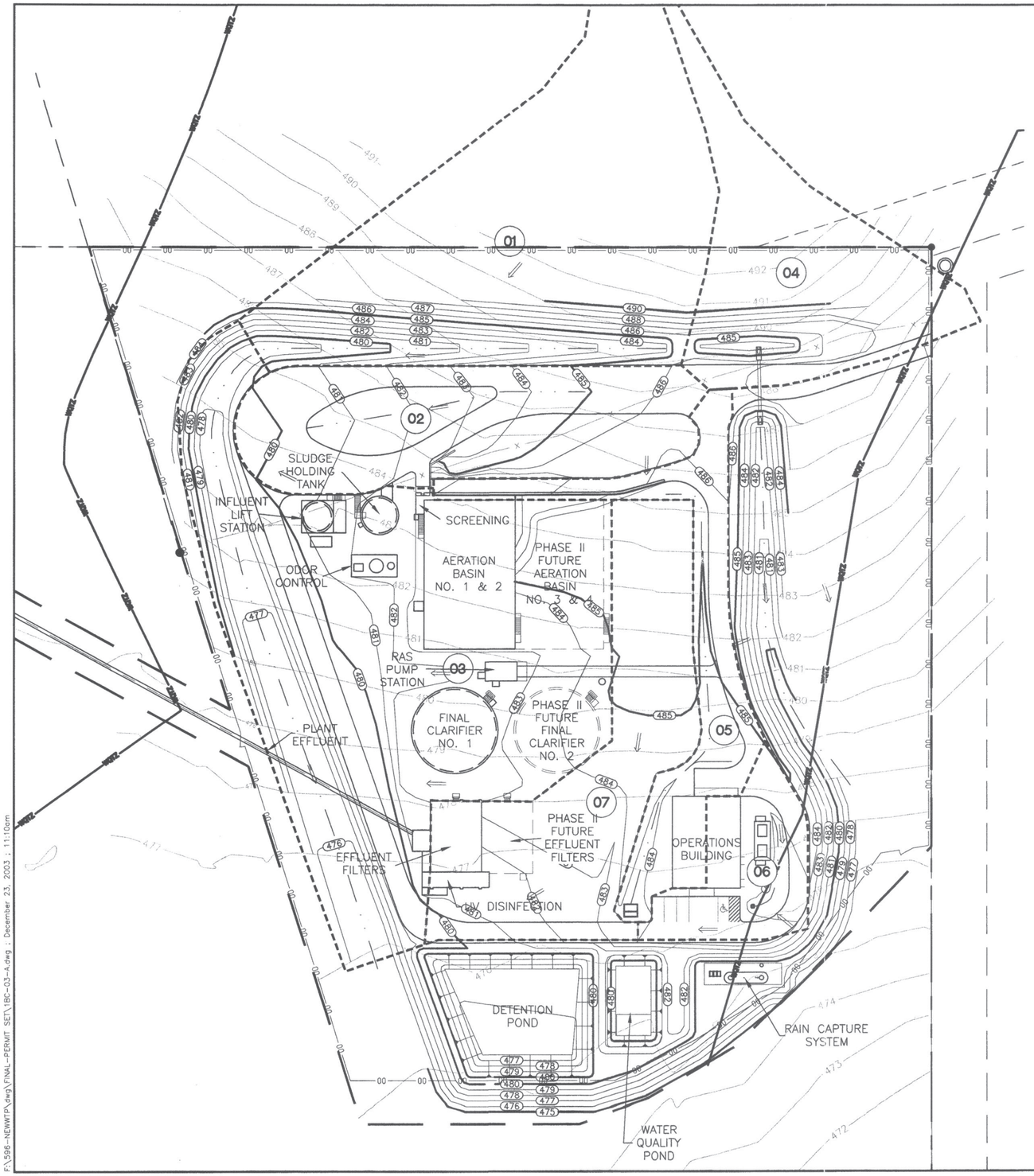
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

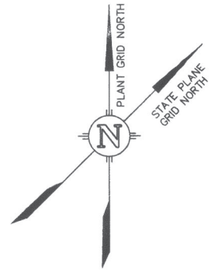
JOB NO. 10976A.10
DRAWING NO. 00G06
SHEET NO. 8 OF 455

LAST SAVED BY:

PROJECT NO. 9585A10 FILE NAME: 00G06

THIS PAGE INTENTIONALLY LEFT BLANK





DRAINAGE CALCULATIONS

Area Number	Area Acres	T_c min	I_2	I_{10}	I_{25}	I_{100}	C_2	C_{10}	C_{25}	C_{100}	Q_2 cfs	Q_{10} cfs	Q_{25} cfs	Q_{100} cfs
1	1.30	13	4.88	6.68	7.74	9.45	0.29	0.35	0.39	0.46	1.8	3.0	3.9	5.7
2	0.63	5	6.48	8.64	9.84	11.88	0.54	0.61	0.66	0.74	2.2	3.3	4.1	5.5
3	1.26	5	6.48	8.64	9.84	11.88	0.35	0.41	0.45	0.52	2.8	4.5	5.6	7.8
4	0.58	12	5.03	6.87	7.94	9.69	0.35	0.42	0.46	0.53	1.0	1.7	2.1	3.0
5	0.39	5	6.48	8.64	9.84	11.88	0.56	0.63	0.68	0.76	1.4	2.1	2.6	3.5
6	0.23	5	6.48	8.64	9.84	11.88	0.59	0.66	0.71	0.79	0.9	1.3	1.6	2.2
7	0.65	7	5.98	8.04	9.20	11.14	0.33	0.38	0.42	0.49	1.3	2.0	2.5	3.5

IMPERVIOUS COVER CALCULATIONS

	2-year	10-year	25-year	100-year
C value for impervious surfaces	0.75	0.83	0.88	0.97
C value for pervious surfaces	0.29	0.35	0.39	0.46

(Reference COA Drainage Criteria Manual)

Area Number	Building Sq. Feet	Pavement Sq. Feet	Total Impervious Cover Square Feet	Total Impervious Cover Acres	Area Acres	Percent Impervious	C Value 2-year	C Value 10-year	C Value 25-year	C Value 100-year	Remarks
1			0	0.00	1.28	0%	0.29	0.35	0.39	0.46	
2		15,123	15,123	0.35	0.63	55%	0.54	0.61	0.66	0.74	
3		6,773	6,773	0.16	1.26	12%	0.35	0.41	0.45	0.52	excludes 0.45 ac clarifiers & aeration basins
4		3,556	3,556	0.08	0.58	14%	0.35	0.42	0.46	0.53	
5	1,630	7,931	9,561	0.22	0.37	59%	0.56	0.63	0.68	0.76	
6	1,630	4,914	6,544	0.15	0.23	65%	0.59	0.66	0.71	0.79	
7	7,645	2,430	10,075	0.23	0.65	36%	0.45	0.52	0.56	0.64	

LEGEND

- (03) AREA LABEL
- FLOW DIRECTION
- DRAINAGE AREA
- SWALE CENTERLINE
- EXISTING CONTOUR
- WATER QUALITY TRANSITION ZONE

NOTES:

1. CONTOUR DATA BASED ON GROUND SURVEY.
2. DRAINAGE AREAS 5 & 6 ARE ROUTED TO WATER QUALITY PRIOR TO DETENTION. AREA 7 IS ROUTED TO DETENTION.

SITE PLAN RELEASE Sheet 12 of 36

FILE NUMBER: SP-03-0358C EXPIRATION DATE: 3/2/07
CASE MANAGER: SUE WELCH APPLICATION DATE: 8/18/2003
APPROVED ADMINISTRATIVELY ON: 3/2/04
APPROVED BY PLANNING COMMISSION ON: ____
APPROVED BY CITY COUNCIL ON: ____
under Section 112 on Chapter 25-5 of the Austin City Code.

Signing For Director, Watershed Protection and Development Review Department

DATE OF RELEASE: 3/2/04 Zoning: PUD
Rev. 1 ____ Correction 1 ____
Rev. 2 ____ Correction 2 ____
Rev. 3 ____ Correction 3 ____

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

RAYMOND CHAN & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
4319 JAMES CASEY STREET, SUITE 300
AUSTIN, TEXAS 78745
PH. (512) 480-8155 FAX (512) 480-8811

NO.	DATE	REVISION	APPROV.
4			
3			
2			
1			

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

STATE OF TEXAS
BLAYNE E. STANSBERRY
88646
LICENSED PROFESSIONAL ENGINEER
12/2005

CITY OF AUSTIN, TEXAS
NORTHEAST INTERIM WASTEWATER TREATMENT PLANT
10621 BLUE BLUFF ROAD

ONSITE DRAINAGE STUDY

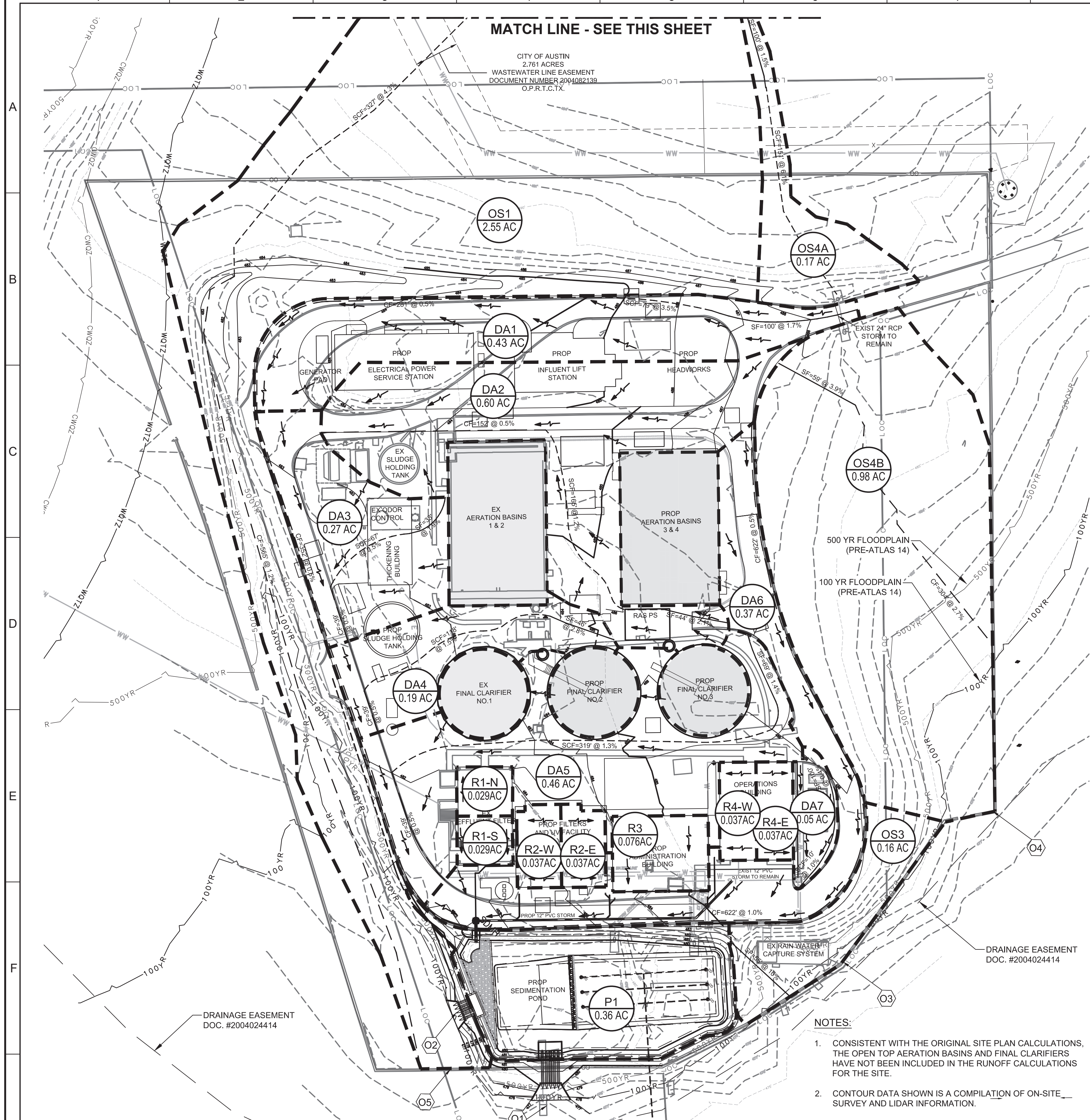
Turner Collie & Braden Inc.
ENGINEERS • PLANNERS • PROJECT MANAGERS

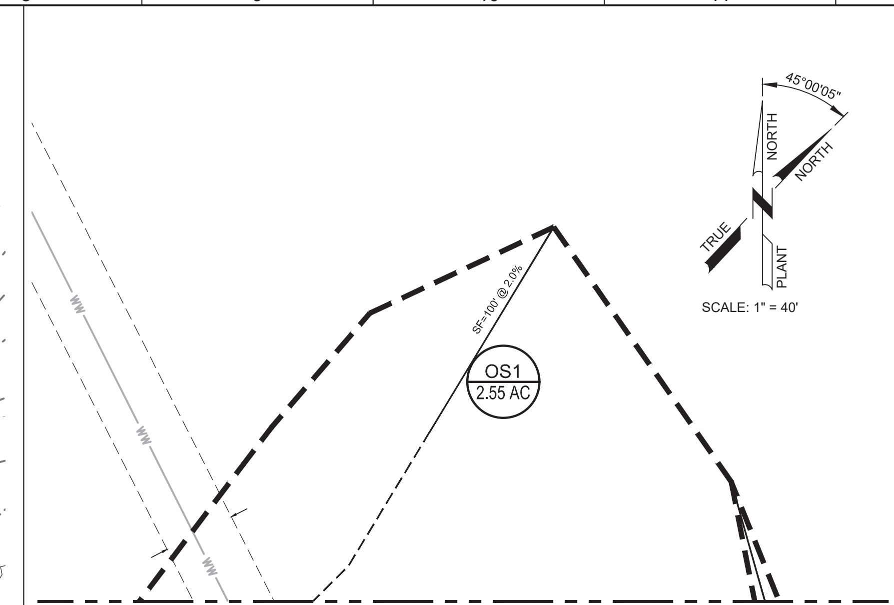
Unit PUBLIC WORKS	Scale 1"=40'	Date DECEMBER 2003	
Designed BS	Checked TC	Job No. 052-122094-0003	
Drawn CD	Approved RE	Sheet 12 OF 36	
Dwg. No. BC-3A			

SP-03-0358C

F:\596-NEWWTP\dwg\FINAL-PERMIT SET\BC-03-A.dwg : December 23, 2003 : 11:10am

THIS PAGE INTENTIONALLY LEFT BLANK





45°00'05"
NORTH
TRUE NORTH
PLANT NORTH
SCALE: 1" = 40'

LEGEND

- SF — SHEET FLOW
- SCF — SHALLOW CONCENTRATED FLOW
- CF — CHANNEL FLOW
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPOSED CONTOURS
- 100YR — 100 YEAR FLOODPLAIN
- 500YR — 500 YEAR FLOODPLAIN
- CWQZ — CRITICAL WATER QUALITY ZONE
- DRAINAGE EASEMENT
- DRAINAGE AREA
- PROPOSED STORM DRAIN LINE
- SHEET PILE WALL CENTERLINE
- FLOW DIRECTION
- O1 — OUTFALL / DESIGN POINTS
- DRAINAGE EXCLUSION
- DA1 / 0.00 AC — DRAINAGE AREA NAME / ACREAGE

HYDRAULIC GRADELINE COMPUTATIONS FOR STORM DRAINS - 25 YR.

"MANHOLE OR INLET" FROM DESIGN POINT	TO DESIGN POINT	CONDUIT LENGTH BETWEEN MANHOLE OR INLET	DRAINAGE AREA INCREMENT AREA NO.	INCREMENT AREA	TOTAL AREA	RUNOFF COEFFICIENT "C"	INCREMENTAL "CA"	TOTAL "CA"	TIME OF CONCENTRATION INLET/ SYSTEM TIME	FLOW TIME IN PIPE	TOTAL TIME	DESIGN FREQUENCY	INTENSITY	DISCHARGE	DESIGN SLOPE	CONDUIT SHAPE	SLOPE OF FRICTIONAL GRADIENT	"HYDRAULIC GRADIENT ELEVATIONS" UP STREAM	DOWN STREAM	UP STREAM VELOCITY	DOWN STREAM VELOCITY	DOWN STREAM VELOCITY HEAD	UP STREAM VELOCITY HEAD	HEADLOSS COEFFICIENT	HYDRAULIC LOSS AT DOWN STREAM JUNCTION	HGL AT UP STREAM DESIGN POINT	CONDUIT INVERT ELEVATIONS UP STREAM	DOWN STREAM
--	--	FT.	--	ACRES	ACRES	CONSTANT	ACRES	ACRES	MIN	MIN	MIN	--	IN/HR	CFS	%	DIAMETER	%	FT MSL	FT MSL	FT/S	FT/S	FT	FT	CONSTANT	FT	FT MSL	FT MSL	FT MSL
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
SD TRUNK LINE																												
CB-5	T-5	42.9	DA-7	0.05	0.09	0.490	0.033	0.066	5.02	0.23	5.25	25	11.61	0.68	0.50%	12 " PVC	0.10%	481.56	481.56	5.16	3.14	0.15	0.41	HEC-22 ENERGY	0.01	481.58	481.03	480.80
T-5	T-4	23.8	--	--	0.09	--	--	0.066	5.25	0.14	5.38	25	11.47	0.67	0.40%	12 " PVC	0.10%	481.55	481.55	3.14	2.87	0.13	0.15	0.235	0.01	481.55	480.80	480.70
T-4	T-3	11.2	--	--	0.13	--	0.033	0.099	5.38	0.05	5.43	25	11.38	1.81	0.40%	12 " PVC	0.20%	481.49	481.48	2.87	3.81	0.23	0.13	HEC-22 MINOR	0.03	481.49	480.70	480.65
T-3	T-2	60.5	--	--	0.13	--	--	0.099	5.43	0.27	5.70	25	11.35	1.8	0.40%	12 " PVC	0.20%	481.44	481.37	3.81	3.80	0.22	0.23	0.235	0.08	481.44	480.65	480.38
T-2	T-1	60.7	--	--	0.24	--	0.099	0.198	5.70	0.24	5.94	25	11.20	2.52	0.50%	12 " PVC	0.30%	481.3	481.11	3.80	4.17	0.27	0.22	HEC-22 MINOR	0.04	481.3	480.38	480.09
T-1	MH-1	24.7	--	--	0.31	--	0.058	0.256	5.94	0.10	6.04	25	11.06	2.85	0.50%	12 " PVC	0.40%	481.06	480.96	4.17	4.26	0.28	0.27	HEC-22 MINOR	0.03	481.06	480.09	479.97
MH-1	O-1	11.2	--	--	0.34	--	0.025	0.281	6.04	0.04	6.07	25	11.00	3.11	0.40%	18 " PVC	0.10%	481.01	481.00	4.26	1.76	0.05	0.28	HEC-22 ENERGY	--	481.01	479.47	479.42
SD LATERAL CO-8																												
CB-1	MH-1	30	R1-S	0.03	0.03	0.88	0.025	0.025	5.00	0.19	5.19	25	11.62	0.29	0.40%	8 " PVC	0.20%	481.11	481.06	0.84	0.84	0.01	0.01	HEC-22 ENERGY	0.03	481.12	480.07	479.97
SD LATERAL CO-9																												
CB-2	T-1	18.7	R2-W	0.04	0.07	0.88	0.058	0.058	5.00	0.13	5.13	25	11.62	0.68	0.40%	8 " PVC	0.20%	481.17	481.14	1.09	1.09	0.02	0.02	HEC-22 ENERGY	0.04	481.18	480.32	480.26
SD LATERAL CO-10																												
CB-3	T-2	17	R2-E/R3-W	0.08	0.11	0.88	0.099	0.099	5.00	0.12	5.12	25	11.62	1.16	0.40%	8 " PVC	0.20%	481.38	481.35	2.2	2.2	0.08	0.08	HEC-22 ENERGY	0.08	481.44	480.51	480.46
SD LATERAL CO-11																												
CB-4	T-4	34.5	R3-E/R4-W	0.08	0.04	0.88	0.033	0.033	5.00	0.12	5.12	25	11.62	0.39	1.50%	8 " PVC	1.20%	481.63	481.39	5.01	5.01	0.39	0.39	HEC-22 ENERGY	0.01	482.12	481.31	480.95
SD LATERAL CO-12																												
CB-6	CB-5	6	R4-E	0.04	0.04	0.88	0.033	0.033	5.00	0.02	5.02	25	11.62	0.39	2.30%	8 " PVC	1.10%	482.17	481.94	5.16	5.16	0.41	0.41	HEC-22 ENERGY	0.01	482.45	481.85	481.71

HYDRAULIC GRADELINE COMPUTATIONS FOR STORM DRAINS - 100 YR.

"MANHOLE OR FROM DESIGN POINT	TO DESIGN POINT	CONDUIT LENGTH BETWEEN MANHOLE	DRAINAGE AREA INCREMENT AREA NO.	INCREMENT AREA	TOTAL AREA	RUNOFF COEFFICIENT "C"	INCREMENTAL "CA"	TOTAL "CA"	TIME OF CONCENTRATION INLET/ SYSTEM TIME	FLOW TIME IN PIPE	TOTAL TIME	DESIGN FREQUENCY	INTENSITY	DISCHARGE	DESIGN SLOPE	CONDUIT SHAPE	SLOPE OF FRICTIONAL GRADIENT	"HYDRAULIC GRADIENT UP STREAM	DOWN STREAM	UP STREAM VELOCITY	DOWN STREAM VELOCITY	DOWN STREAM VELOCITY HEAD	UP STREAM VELOCITY HEAD	HEADLOSS COEFFICIENT	HYDRAULIC LOSS AT DOWN STREAM	HGL AT UP STREAM DESIGN POINT	CONDUIT INVERT ELEVATIONS UP STREAM	DOWN STREAM
--	--	FT.	--	ACRES	ACRES	CONSTANT	ACRES	ACRES	MIN	MIN	MIN	--	IN/HR	CFS	%	DIAMETER	%	FT MSL	FT MSL	FT/S	FT/S	FT	FT	CONSTANT	FT	FT MSL	FT MSL	FT MSL
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
SD TRUNK LINE																												
CB-5	T-5	42.9	DA-7	0.05	0.09	0.580	0.036	0.072	5.02	0.18	5.20	100	15.29	1.01	0.50%	12 " PVC	0.10%	482.5	482.48	2.85	1.29	0.03	0.13	HEC-22 ENERGY	0.01	482.52	481.03	480.80
T-5	T-4	23.8	--	--	0.09	--	--	0.072	5.20	0.11	5.31	100	14.83	0.98	0.40%	12 " PVC	0.10%	482.47	482.46	1.29	1.25	0.02	0.03	0.235	0.11	482.47	480.80	480.70
T-4	T-3	11.2	--	--	0.13	--	0.036	0.108	5.31	0.05	5.37	100	14.59	2.58	0.40%	12 " PVC	0.40%	482.35	482.31	1.25	3.29	0.17	0.02	HEC-22 MINOR	0.04	482.35	480.70	480.65
T-3	T-2	60.5	--	--	0.13	--	--	0.108	5.37	0.28	5.65	100	14.55	2.58	0.40%	12 " PVC	0.40%	482.27	482.04	3.29	3.28	0.17	0.17	0.235	0.15	482.27	480.65	480.38
T-2	T-1	60.7	--	--	0.24	--	0.109	0.217	5.65	0.27	5.92	100	14.32	3.58	0.50%	12 " PVC	0.70%	481.89	481.45	3.28	4.56	0.32	0.17	HEC-22 MINOR	0.09	481.89	480.38	480.09
T-1	MH-1	24.7	--	--	0.31	--	0.064	0.281	5.92	0.11	6.03	100	14.16	4.06	0.50%	12 " PVC	0.90%	481.35	481.13	4.56	5.16	0.41	0.32	HEC-22 MINOR	0.06	481.35	480.09	479.97
MH-1	O-1	11.2	--	--	0.34	--	0.028	0.309	6.03	0.04	6.07	100	14.11	4.43	0.40%	18 " PVC	0.10%	481.21	481.20	5.16	2.51	0.10	0.41	HEC-22 ENERGY	--	481.21	479.47	479.42
SD LATERAL CO-8																												
CB-1	MH-1	30	R1-S	0.03	0.03	0.97	0.028	0.028	5.00	0.19	5.19	100	15.32	0.43	0.30%	8 " PVC	0.10%	481.38	481.36	1.23	1.23	0.02	0.02	HEC-22 ENERGY	0.06	481.39	480.07	479.97
SD LATERAL CO-9																												
CB-2	T-1	18.7	R2-W	0.04	0.07	0.97	0.064	0.064	5.00	0.13	5.13	100	15.32	0.55	0.30%	8 " PVC	0.10%	481.47	481.45	1.58	1.58	0.04	0.04	HEC-22 ENERGY	0.09	481.49	480.32	480.26
SD LATERAL CO-10																												
CB-3	T-2	17	R2-E/R3-W	0.08	0.11	0.97	0.109	0.109	5.00	0.12	5.12	100	15.32	1.12	0.30%	8 " PVC	0.50%	482.13	482.04	3.21	3.21	0.16	0.16	HEC-22 ENERGY	0.15	482.22	480.51	480.46
SD LATERAL CO-11																												
CB-4	T-4	34.5	R3-E/R4-W	0.08	0.04	0.97	0.036	0.036	5.00	0.13	5.13	100	15.32	1.7	0.30%	8 " PVC	1.20%	482.86	482.46	4.87	4.87	0.37	0.37	HEC-22 ENERGY	0.11	483.14	481.31	480.95
SD LATERAL CO-12																												
CB-6	CB-5	6	R4-E	0.04	0.04	0.97	0.036	0.036	5.00	0.02	5.02	100	15.32	0.56	2.30%	8 " PVC	0.60%	482.51	482.47	2.85	2.85	0.13	0.13	HEC-22 ENERGY	0.01	482.65	481.85	481.71

COMPOSITE C VALUES AND RUNOFF CALCULATIONS

DA	AREA (AC)	T_C (min)	IC (AC)	IC (%)	C_{02}	C_{10}	C_{25}	C_{100}	i_{02} (in/hr)	i_{10} (in/hr)	i_{25} (in/hr)	i_{100} (in/hr)	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
1	0.430	5.0	0.330	76.7	0.61	0.68	0.70	0.81	6.27	9.43	11.62	15.32	1.64	2.76	3.52	5.36
2	0.597	6.0	0.218	36.5	0.40	0.45	0.49	0.58	5.96	8.95	11.02	14.51	1.42	2.43	3.20	4.98
3	0.271	7.1	0.185	68.4	0.57	0.63	0.66	0.76	5.68	8.51	10.47	13.78	0.87	1.46	1.87	2.85
4	0.191	6.9	0.063	33.0	0.38	0.43	0.47	0.55	5.73	8.59	10.57	13.91	0.42	0.71	0.94	1.47
5	0.455	18.3	0.165	36.1	0.40	0.45	0.49	0.57	3.85	5.74	7.07	9.32	0.70	1.18	1.56	2.43
6	0.373	5.0	0.353	94.4	0.70	0.78	0.80	0.92	6.27	9.43	11.62	15.32	1.64	2.74	3.47	5.25
7	0.051	5.0	0.019	36.6	0.40	0.46	0.49	0.58	6.27	9.43	11.62	15.32	0.13	0.22	0.29	0.45
OS1	2.550	18.1	0.000	0.0	0.21	0.25	0.29	0.36	3.87	5.77	7.11	9.37	2.07	3.68	5.26	8.60
OS3	0.160	5.0	0.000	0.0	0.21	0.25	0.29	0.36	6.27	9.43	11.62	15.32	0.21	0.38	0.54	0.88
OS4A	0.170	14.8	0.000	0.0	0.21	0.25	0.29	0.36	4.25	6.34	7.80	10.27	0.15	0.27	0.38	0.63
OS4B	0.980	8.9	0.000	0.0	0.21	0.25	0.29	0.36	5.25	7.86	9.66	12.70	1.08	1.92	2.74	4.48
R1N*	0.029	5.0	0.029	100.0	0.75	0.83	0.88	0.97	6.27	9.43	11.62	15.32	0.14	0.23	0.30	0.43
R1S	0.029	5.0	0.029	100.0	0.75	0.83	0.88	0.97	6.27	9.43	11.62	15.32	0.14	0.23	0.30	0.43
R2W	0.037	5.0	0.037	100.0	0.75	0.83	0.88	0.97	6.27	9.43	11.62	15.32	0.17	0.29	0.38	0.55
R2E	0.037	5.0	0.037	100.0	0.75	0.83	0.88	0.97	6.27	9.43	11.62	15.32	0.17	0.29	0.38	0.55
R3W	0.038	5.0	0.038	100.0	0.75	0.83	0.88	0.97	6.27	9.43	11.62	15.32	0.18	0.30	0.39	0.56
R3E	0.038	5.0	0.038	100.0	0.75	0.83	0.88	0.97	6.27	9.43	11.62	15.32	0.18	0.30	0.39	0.56
R4W	0.037	5.0	0.037	100.0	0.75	0.83	0.88	0.97	6.27	9.43	11.62	15.32	0.17	0.29	0.38	0.55
R4E	0.037	5.0	0.037	100.0	0.75	0.83	0.88	0.97	6.27	9.43	11.62	15.32	0.17	0.29	0.38	0.55

* Roof top DA drains to downspot discharges at grade

NOTES:

1. CONSISTENT WITH THE ORIGINAL SITE PLAN CALCULATIONS, THE OPEN TOP AERATION BASINS AND FINAL CLARIFIERS HAVE NOT BEEN INCLUDED IN THE RUNOFF CALCULATIONS FOR THE SITE.
2. CONTOUR DATA SHOWN IS A COMPILATION OF ON-SITE SURVEY AND LIDAR INFORMATION.

REV	DATE	BY	DESCRIPTION
			FINAL SUBMITTAL

DESIGNED SDB
DRAWN JTC
CHECKED AR
DATE JULY 2021

07-01-2021 STATE OF TEXAS STEPHANIE D. BLEW 92682 LICENSED PROFESSIONAL ENGINEER
Stephanie D Blew

CAS CONSULTING & SERVICES, INC.
CIVIL ENGINEERING | PROGRAM MANAGEMENT | CONSTRUCTION MANAGEMENT
7908 Cameron Road | Austin, TX 78754 |REG. NO. F-003572
Main: 512.836.2388 | Fax: 512.836.4515

carollo®
TBPELS No. F-882

CITY OF AUSTIN FOUNDED 1839
CITY OF AUSTIN

CITY OF AUSTIN
WILD HORSE RANCH WWTP EXPANSION
CIVIL
PROPOSED DRAINAGE MAP AND CALCULATIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

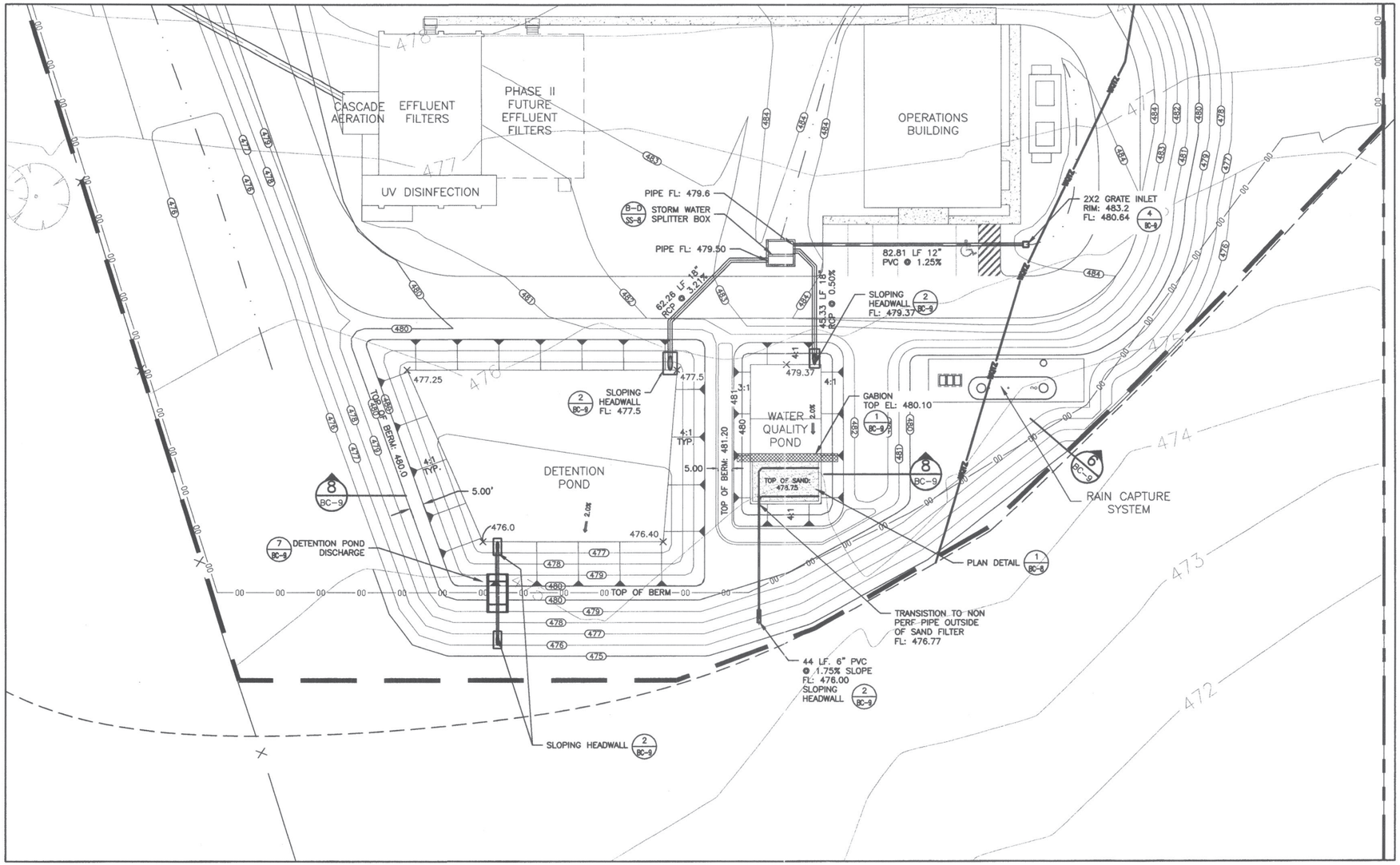
JOB NO. 10976A.00
DRAWING NO. 00C01
SHEET NO. 229 OF 390

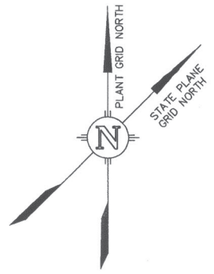
LAST SAVED BY: dseivert

PROJECT NO. 9585A10 FILE NAME: 9585A10_SheetSeed.dgn

THIS PAGE INTENTIONALLY LEFT BLANK

N1213





LEGEND

- EASEMENT LIMITS
- PHASE I
- PHASE II (NOT IN THIS CONTRACT)
- CONSTRUCTION LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR

SITE PLAN RELEASE Sheet 11 of 36

FILE NUMBER: SP-03-0358C EXPIRATION DATE: 3/2/07
CASE MANAGER: SUE WELCH APPLICATION DATE: 8/18/2003
APPROVED ADMINISTRATIVELY ON: 3/2/04
APPROVED BY PLANNING COMMISSION ON:
APPROVED BY CITY COUNCIL ON:
under Section 112 on Chapter 25-5 of the Austin City Code.

Signing For Director, Watershed Protection and Development Review Department

DATE OF RELEASE: 3/2/04 Zoning: PUD
Rev. 1 Correction 1
Rev. 2 Correction 2
Rev. 3 Correction 3

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

RAYMOND CHAN & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
4319 JAMES CASEY STREET, SUITE 300
AUSTIN, TEXAS 78745
PH. (512) 480-8155 FAX (512) 480-8811

NO.	DATE	REVISION	APPROV.
4			
3			
2			
1			

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

STATE OF TEXAS
BLAYNE E. STANSBERRY
88646
LICENSED PROFESSIONAL ENGINEER

CITY OF AUSTIN, TEXAS
NORTHEAST INTERIM WASTEWATER TREATMENT PLANT
10621 BLUE BLUFF ROAD

WATER QUALITY/DETENTION PLAN

Turner Collie & Braden Inc.
ENGINEERS • PLANNERS • PROJECT MANAGERS

Unit	PUBLIC WORKS	Scale	1"=20'	Date	DECEMBER 2003
Designed	BS	Checked	TC	Job No.	052-122094-0003
Drawn	CD	Approved	RC	Sheet	16 OF 36
Dwg. No.	BC-7A				

SP-03-0358C

F:\598-NEWWTP\dwg\FINAL-PERMIT SET\18C-07-A.dwg ; December 23, 2003 ; 11:10am

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix B – *Copy of 2018 TPDES CGP*

(See following pages)

General Permit to Discharge Under the Texas Pollutant Discharge Elimination System

Stormwater Discharges Associated with Construction Activities

TXR150000

Effective March 5, 2018

printed on recycled paper

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Texas Commission on Environmental Quality

P.O. Box 13087, Austin, Texas 78711-3087

GENERAL PERMIT TO DISCHARGE UNDER THE

TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM

under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

This permit supersedes and replaces
TPDES General Permit No. TXR150000, issued March 5, 2013

Construction sites that discharge stormwater associated with construction activity

located in the state of Texas

may discharge to surface water in the state

only according to monitoring requirements and other conditions set forth in this general permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ or Commission), the laws of the State of Texas, and other orders of the Commission of the TCEQ. The issuance of this general permit does not grant to the permittee the right to use private or public property for conveyance of stormwater and certain non-stormwater discharges along the discharge route. This includes property belonging to but not limited to any individual, partnership, corporation or other entity. Neither does this general permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This general permit and the authorization contained herein shall expire at midnight, five years from the permit effective date.

EFFECTIVE DATE: March 5, 2018

ISSUED DATE: 2-8-18

Bryan W. Shaw

For the Commission

TPDES GENERAL PERMIT NUMBER TXR150000 RELATING TO STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

Table of Contents

Part I. Flow Chart and Definitions 5

Section A. Flow Chart to Determine Whether Coverage is Required 5

Section B. Definitions 6

Part II. Permit Applicability and Coverage 13

Section A. Discharges Eligible for Authorization 13

1. Stormwater Associated with Construction Activity 13
2. Discharges of Stormwater Associated with Construction Support Activities 13
3. Non-Stormwater Discharges 13
4. Other Permitted Discharges 14

Section B. Concrete Truck Wash Out 14

Section C. Limitations on Permit Coverage 14

1. Post Construction Discharges 14
2. Prohibition of Non-Stormwater Discharges 14
3. Compliance with Water Quality Standards 14
4. Impaired Receiving Waters and Total Maximum Daily Load (TMDL) Requirements 14
5. Discharges to the Edwards Aquifer Recharge or Contributing Zone 15
6. Discharges to Specific Watersheds and Water Quality Areas 16
7. Protection of Streams and Watersheds by Other Governmental Entities 16
8. Indian Country Lands 16
9. Oil and Gas Production and Transportation 16
10. Stormwater Discharges from Agricultural Activities 16
11. Endangered Species Act 16
12. Other 17

Section D. Deadlines for Obtaining Authorization to Discharge 17

1. Large Construction Activities 17
2. Small Construction Activities 17

Section E. Obtaining Authorization to Discharge 17

1. Automatic Authorization for Small Construction Activities with Low Potential for Erosion: 17
2. Automatic Authorization for Small Construction Activities: 18
3. Authorization for Large Construction Activities: 19

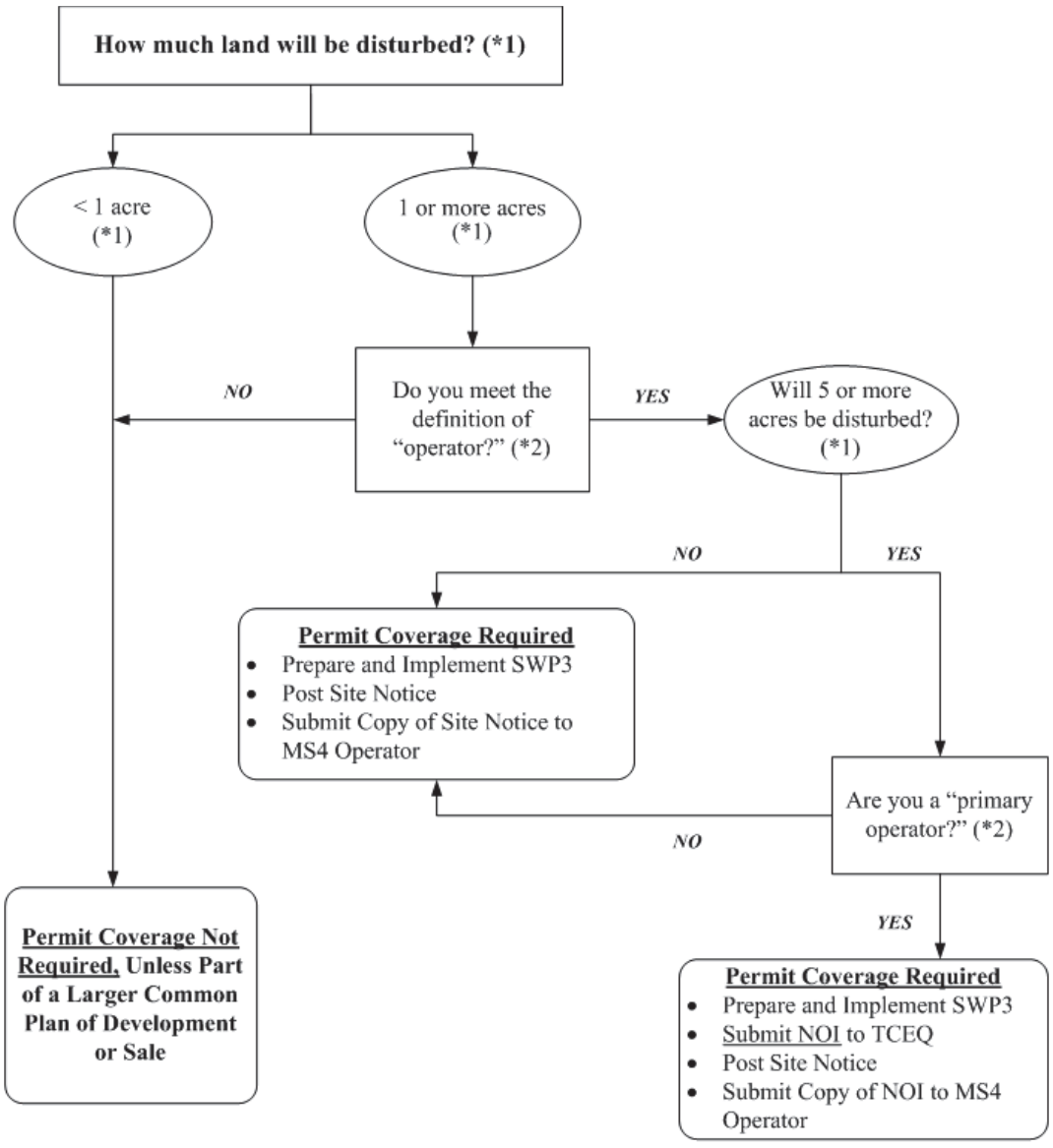
4. Waivers for Small Construction Activities:....20
5. Effective Date of Coverage....20
6. Notice of Change (NOC)....21
7. Signatory Requirement for NOI Forms, Notice of Termination (NOT) Forms, NOC Letters, and Construction Site Notices....22
8. Contents of the NOI....22
Section F. Terminating Coverage....23
1. Notice of Termination (NOT) Required....23
2. Minimum Contents of the NOT....23
3. Termination of Coverage for Small Construction Sites and for Secondary Operators at Large Construction Sites....24
4. Transfer of Day-to-Day Operational Control....24
Section G. Waivers from Coverage....25
1. Waiver Applicability and Coverage....25
2. Steps to Obtaining a Waiver....26
3. Effective Date of a LREW....26
4. Activities Extending Beyond the LREW Period....26
Section H. Alternative TPDES Permit Coverage....27
1. Individual Permit Alternative....27
2. Alternative Authorizations for Certain Discharges....27
3. Individual Permit Required....27
4. Alternative Discharge Authorization....27
Section I. Permit Expiration....27
Part III. Stormwater Pollution Prevention Plans (SWP3)....28
Section A. Shared SWP3 Development....29
Section B. Responsibilities of Operators....29
1. Secondary Operators and Primary Operators with Control Over Construction Plans and Specifications....29
2. Primary Operators with Day-to-Day Operational Control....30
Section C. Deadlines for SWP3 Preparation, Implementation, and Compliance....30
Section D. Plan Review and Making Plans Available....30
Section E. Revisions and Updates to SWP3s....31
Section F. Contents of SWP3....31
Section G. Erosion and Sediment Control Requirements Applicable to All Sites....40
Part IV. Stormwater Runoff from Concrete Batch Plants....42
Section A. Benchmark Sampling Requirements....42
Section B. Best Management Practices (BMPs) and SWP3 Requirements....44

Section C. Prohibition of Wastewater Discharges....46
Part V. Concrete Truck Wash Out Requirements....46
Part VI. Retention of Records....47
Part VII. Standard Permit Conditions....47
Part VIII. Fees....48
Appendix A: Automatic Authorization....50
Appendix B: Erosivity Index (EI) Zones in Texas....52
Appendix C: Isoerodent Map....53
Appendix D: Erosivity Indices for EI Zones in Texas....54

Part I. Flow Chart and Definitions

Section A. Flow Chart to Determine Whether Coverage is Required

When calculating the acreage of land area disturbed, include the disturbed land-area of all construction and construction support activities.



***(*1)** To determine the size of the construction project, use the size of the entire area to be disturbed, and include the size of the larger common plan of development or sale, if the project is part of a larger project (refer to Part I.B., "Definitions," for an explanation of "common plan of development or sale").*

***(*2)** Refer to the definitions for "operator," "primary operator," and "secondary operator" in Part I., Section B. of this permit.*

Section B. Definitions

Arid Areas - Areas with an average annual rainfall of 0 to 10 inches.

Best Management Practices (BMPs) - Schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spills or leaks, waste disposal, or drainage from raw material storage areas.

Commencement of Construction - The initial disturbance of soils associated with clearing, grading, or excavation activities, as well as other construction-related activities (e.g., stockpiling of fill material, demolition).

Common Plan of Development - A construction activity that is completed in separate stages, separate phases, or in combination with other construction activities. A common plan of development (also known as a "common plan of development or sale") is identified by the documentation for the construction project that identifies the scope of the project, and may include plats, blueprints, marketing plans, contracts, building permits, a public notice or hearing, zoning requests, or other similar documentation and activities. A common plan of development does not necessarily include all construction projects within the jurisdiction of a public entity (e.g., a city or university). Construction of roads or buildings in different parts of the jurisdiction would be considered separate "common plans," with only the interconnected parts of a project being considered part of a "common plan" (e.g., a building and its associated parking lot and driveways, airport runway and associated taxiways, a building complex, etc.). Where discrete construction projects occur within a larger common plan of development or sale but are located ¼ mile or more apart, and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development or sale, provided that any interconnecting road, pipeline or utility project that is part of the same "common plan" is not included in the area to be disturbed.

Construction Activity - Includes soil disturbance activities, including clearing, grading, excavating, construction-related activity (e.g., stockpiling of fill material, demolition), and construction support activity. This does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (e.g., the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities). Regulated construction activity is defined in terms of small and large construction activity.

Construction Support Activity – A construction-related activity that specifically supports construction activity, which can involve earth disturbance or pollutant-generating activities of its own, and can include, but are not limited to, activities associated with concrete or asphalt batch plants, rock crushers, equipment staging or storage areas, chemical storage areas, material storage areas, material borrow areas, and excavated material disposal areas. Construction support activity must only directly support the construction activity authorized under this general permit.

Dewatering – The act of draining rainwater or groundwater from building foundations, vaults, and trenches.

Discharge – For the purposes of this permit, the drainage, release, or disposal of pollutants in stormwater and certain non-stormwater from areas where soil disturbing activities (e.g., clearing, grading, excavation, stockpiling of fill material, and demolition), construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck wash out, fueling), or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located.

Drought-Stricken Area – For the purposes of this permit, an area in which the National Oceanic and Atmospheric Administration's U.S. Seasonal Drought Outlook indicates for the period during which the construction will occur that any of the following conditions are

likely: (1) "Drought to persist or intensify", (2) "Drought ongoing, some improvement", (3) "Drought likely to improve, impacts ease", or (4) "Drought development likely". See http://www.cpc.ncep.noaa.gov/products/expert_assessment/seasonal_drought.html.

Edwards Aquifer - As defined under Texas Administrative Code (TAC) § 213.3 of this title (relating to the Edwards Aquifer), that portion of an arcuate belt of porous, water-bearing, predominantly carbonate rocks known as the Edwards and Associated Limestones in the Balcones Fault Zone trending from west to east to northeast in Kinney, Uvalde, Medina, Bexar, Comal, Hays, Travis, and Williamson Counties; and composed of the Salmon Peak Limestone, McKnight Formation, West Nueces Formation, Devil's River Limestone, Person Formation, Kainer Formation, Edwards Formation, and Georgetown Formation. The permeable aquifer units generally overlie the less-permeable Glen Rose Formation to the south, overlie the less-permeable Comanche Peak and Walnut Formations north of the Colorado River, and underlie the less-permeable Del Rio Clay regionally.

Edwards Aquifer Recharge Zone - Generally, that area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer. The recharge zone is identified as that area designated as such on official maps located in the offices of the Texas Commission on Environmental Quality (TCEQ) and the appropriate regional office. The Edwards Aquifer Map Viewer, located at http://www.tceq.texas.gov/compliance/field_ops/eapp/mapdisclaimer.html, can be used to determine where the recharge zone is located.

Edwards Aquifer Contributing Zone - The area or watershed where runoff from precipitation flows downgradient to the recharge zone of the Edwards Aquifer. The contributing zone is located upstream (upgradient) and generally north and northwest of the recharge zone for the following counties: all areas within Kinney County, except the area within the watershed draining to Segment No. 2304 of the Rio Grande Basin; all areas within Uvalde, Medina, Bexar, and Comal Counties; all areas within Hays and Travis Counties, except the area within the watersheds draining to the Colorado River above a point 1.3 miles upstream from Tom Miller Dam, Lake Austin at the confluence of Barrow Brook Cove, Segment No. 1403 of the Colorado River Basin; and all areas within Williamson County, except the area within the watersheds draining to the Lampasas River above the dam at Stillhouse Hollow reservoir, Segment No. 1216 of the Brazos River Basin. The contributing zone is illustrated on the Edwards Aquifer map viewer at http://www.tceq.texas.gov/compliance/field_ops/eapp/mapdisclaimer.html.

Effluent Limitations Guideline (ELG) – Defined in 40 Code of Federal Regulations (CFR) § 122.2 as a regulation published by the Administrator under § 304(b) of the Clean Water Act (CWA) to adopt or revise effluent limitations.

Facility or Activity – For the purpose of this permit, referring to a construction site, the location of construction activity, or a construction support activity that is regulated under this general permit, including all contiguous land and fixtures (for example, ponds and materials stockpiles), structures, or appurtenances used at a construction site or industrial site.

Final Stabilization - A construction site status where any of the following conditions are met:

(a) All soil disturbing activities at the site have been completed and a uniform (that is, evenly distributed, without large bare areas) perennial vegetative cover with a density of at least 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

(b) For individual lots in a residential construction site by either:

(1) the homebuilder completing final stabilization as specified in condition (a) above; or

(2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization. If temporary stabilization is not feasible, then the homebuilder may fulfill this requirement by retaining perimeter controls or BMPs, and informing the homeowner of the need for removal of temporary controls and the establishment of final stabilization. Fulfillment of this requirement must be documented in the homebuilder's stormwater pollution prevention plan (SWP3).

(c) For construction activities on land used for agricultural purposes (such as pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to surface water and areas that are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

(d) In arid, semi-arid, and drought-stricken areas only, all soil disturbing activities at the site have been completed and both of the following criteria have been met:

(1) Temporary erosion control measures (for example, degradable rolled erosion control product) are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years without active maintenance by the operator, and

(2) The temporary erosion control measures are selected, designed, and installed to achieve 70% of the native background vegetative coverage within three years.

Hyperchlorination of Waterlines – Treatment of potable water lines or tanks with chlorine for disinfection purposes, typically following repair or partial replacement of the waterline or tank, and subsequently flushing the contents.

Impaired Water - A surface water body that is identified as impaired on the latest approved CWA §303(d) List or waters with an EPA-approved or established total maximum daily load (TMDL) that are found on the latest EPA approved *Texas Integrated Report of Surface Water Quality for CWA Sections 305(b) and 303(d)*, which lists the category 4 and 5 water bodies.

Indian Country Land – All land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; (2) all dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and (3) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. (40 CFR §122.2)

Indian Tribe - Any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian Reservation (40 CFR §122.2).

Infeasible –Not technologically possible, or not economically practicable and achievable in light of best industry practices. (40 CFR §450.11(b)).

Large Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than five (5) acres of land. Large construction activity also includes the disturbance of less than five (5) acres of total

land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than five (5) acres of land. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (for example, the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.)

Linear Project – Includes the construction of roads, bridges, conduits, substructures, pipelines, sewer lines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities in a long, narrow area.

Low Rainfall Erosivity Waiver (LREW) - A written submission to the executive director from an operator of a construction site that is considered as small construction activity under the permit, which qualifies for a waiver from the requirements for small construction activities, only during the period of time when the calculated rainfall erosivity factor is less than five (5).

Minimize - To reduce or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer System (MS4) - A separate storm sewer system owned or operated by the United States, a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over the disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, that discharges to surface water in the state.

Notice of Change (NOC) – Written notification to the executive director from a discharger authorized under this permit, providing changes to information that was previously provided to the agency in a notice of intent form.

Notice of Intent (NOI) - A written submission to the executive director from an applicant requesting coverage under this general permit.

Notice of Termination (NOT) - A written submission to the executive director from a discharger authorized under this general permit requesting termination of coverage.

Operator - The person or persons associated with a large or small construction activity that is either a primary or secondary operator as defined below:

Primary Operator – the person or persons associated with construction activity that meets either of the following two criteria:

(a) the person or persons have on-site operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

(b) the person or persons have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a Storm Water Pollution Prevention Plan (SWP3) for the site or other permit conditions (for example, they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

Secondary Operator – The person or entity, often the property owner, whose operational control is limited to:

(a) the employment of other operators, such as a general contractor, to perform or supervise construction activities; or

(b) the ability to approve or disapprove changes to construction plans and specifications, but who does not have day-to-day on-site operational control over construction activities at the site.

Secondary operators must either prepare their own SWP3 or participate in a shared SWP3 that covers the areas of the construction site, where they have control over the construction plans and specifications.

If there is not a primary operator at the construction site, then the secondary operator is defined as the primary operator and must comply with the requirements for primary operators.

Outfall - For the purpose of this permit, a point source at the point where stormwater runoff associated with construction activity discharges to surface water in the state and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances that connect segments of the same stream or other water of the U.S. and are used to convey waters of the U.S.

Permittee - An operator authorized under this general permit. The authorization may be gained through submission of a notice of intent, by waiver, or by meeting the requirements for automatic coverage to discharge stormwater runoff and certain non-stormwater discharges from construction activity.

Point Source –Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are, or may be, discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff (40 CFR §122.2).

Pollutant - Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, filter backwash, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into any surface water in the state. The term "pollutant" does not include tail water or runoff water from irrigation or rainwater runoff from cultivated or uncultivated rangeland, pastureland, and farmland. For the purpose of this permit, the term “pollutant” includes sediment.

Pollution - The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any surface water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose (Texas Water Code (TWC) §26.001(14)).

Rainfall Erosivity Factor (R factor) - the total annual erosive potential that is due to climatic effects, and is part of the Revised Universal Soil Loss Equation (RUSLE).

Receiving Water - A “Water of the United States” as defined in 40 CFR §122.2 or a surface water in the state into which the regulated stormwater discharges.

Semiarid Areas - areas with an average annual rainfall of 10 to 20 inches.

Separate Storm Sewer System - A conveyance or system of conveyances (including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), designed or used for collecting or conveying stormwater; that is not a combined sewer, and that is not part of a publicly owned treatment works (POTW).

Small Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one (1) acre and less than five (5) acres of land. Small construction activity also includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and

less than five (5) acres of land. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (for example, the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities).

Steep Slopes – Where a state, Tribe, local government, or industry technical manual (e.g. stormwater BMP manual) has defined what is to be considered a "steep slope", this permit's definition automatically adopts that definition. Where no such definition exists, steep slopes are automatically defined as those that are 15 percent or greater in grade.

Stormwater (or Stormwater Runoff) - Rainfall runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Associated with Construction Activity - Stormwater runoff, as defined above, from a construction activity.

Structural Control (or Practice) - A pollution prevention practice that requires the construction of a device, or the use of a device, to reduce or prevent pollution in stormwater runoff. Structural controls and practices may include but are not limited to: silt fences, earthen dikes, drainage swales, sediment traps, check dams, subsurface drains, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

Surface Water in the State - Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state (from the mean high water mark (MHWM) out 10.36 miles into the Gulf), and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

Temporary Stabilization - A condition where exposed soils or disturbed areas are provided a protective cover or other structural control to prevent the migration of pollutants. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either permanent stabilization can be achieved or until further construction activities take place.

Thawing Conditions – for the purposes of this permit, thawing conditions are expected based on the historical likelihood of two or more days with daytime temperatures greater than 32 ℉. This date can be determined by looking at historical weather data.

Note: The estimation of thawing conditions is for planning purposes only. During construction, the permittee will be required to conduct site inspections based upon actual conditions (i.e., if thawing conditions occur sooner than expected, the permittee will be required to conduct inspections at the regular frequency).

Total Maximum Daily Load (TMDL) - The total amount of a pollutant that a water body can assimilate and still meet the Texas Surface Water Quality Standards.

Turbidity – A condition of water quality characterized by the presence of suspended solids and/or organic material.

Waters of the United States - Waters of the United States or waters of the U.S. means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate wetlands;

(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) which are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition;

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial sea; and

(g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the U.S. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the U.S. (such as disposal area in wetlands) nor resulted from the impoundment of waters of the U.S. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Part II. Permit Applicability and Coverage

Section A. Discharges Eligible for Authorization

1. Stormwater Associated with Construction Activity

Discharges of stormwater runoff and certain non-stormwater discharges from small and large construction activities may be authorized under this general permit.

2. Discharges of Stormwater Associated with Construction Support Activities

Discharges of stormwater runoff and certain non-stormwater discharges from construction support activities as defined in Part I.B of this general permit may be authorized, provided that the following conditions are met:

(a) the construction support activities are located within one (1) mile from the boundary of the construction site where the construction activity authorized under the permit is being conducted that requires the support of these activities;

(b) an SWP3 is developed for the permitted construction site according to the provisions in Part III.F of this general permit, and includes appropriate controls and measures to reduce erosion and the discharge of pollutants in stormwater runoff according to the provisions in Part III.G of this general permit;

(c) the activities are directly related to the construction site;

(d) the activities are not a commercial operation, nor serve other unrelated construction projects; and

(e) the activities do not continue to operate beyond the completion of the construction activity at the project it supports.

Construction support activities that operate outside the terms provided in (a) through (e) above must obtain authorization under a separate Texas Pollutant Discharge Elimination System (TPDES) permit, which may include the TPDES Multi Sector General Permit (MSGP), TXR050000 (related to stormwater discharges associated with industrial activity), an alternative general permit (if available), or an individual water quality permit.

3. Non-Stormwater Discharges

The following non-stormwater discharges from sites authorized under this general permit are also eligible for authorization under this general permit:

(a) discharges from fire-fighting activities (fire-fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, or similar activities);

(b) uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life), which include flushings from systems that utilize potable water, surface water, or groundwater that does not contain additional pollutants (uncontaminated fire hydrant flushings do not include systems utilizing reclaimed wastewater as a source water);

(c) water from the routine external washing of vehicles, the external portion of buildings or structures, and pavement, where detergents and soaps are not used, where spills or leaks of toxic or hazardous materials have not occurred (unless spilled materials have been removed; and if local state, or federal regulations are applicable, the materials are removed according to those regulations), and where the purpose is to remove mud, dirt, or dust;

(d) uncontaminated water used to control dust;

(e) potable water sources, including waterline flushings, but excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life;

(f) uncontaminated air conditioning condensate;

(g) uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with industrial materials such as solvents; and

(h) lawn watering and similar irrigation drainage.

4. Other Permitted Discharges

Any discharge authorized under a separate National Pollutant Discharge Elimination System (NPDES), TPDES, or TCEQ permit may be combined with discharges authorized by this general permit, provided those discharges comply with the associated permit.

Section B. Concrete Truck Wash Out

The wash out of concrete trucks at regulated construction sites must be performed in accordance with the requirements of Part V of this general permit.

Section C. Limitations on Permit Coverage

1. Post Construction Discharges

Discharges that occur after construction activities have been completed, and after the construction site and any supporting activity site have undergone final stabilization, are not eligible for coverage under this general permit. Discharges originating from the sites are not authorized under this general permit following the submission of the notice of termination (NOT) or removal of the appropriate site notice, as applicable, for the regulated construction activity.

2. Prohibition of Non-Stormwater Discharges

Except as otherwise provided in Part II.A of this general permit, only discharges that are composed entirely of stormwater associated with construction activity may be authorized under this general permit.

3. Compliance with Water Quality Standards

Discharges to surface water in the state that would cause, have the reasonable potential to cause, or contribute to a violation of water quality standards or that would fail to protect and maintain existing designated uses of surface water in the state are not eligible for coverage under this general permit. The executive director may require an application for an individual permit or alternative general permit (see Parts II.H.2 and 3.) to authorize discharges to surface water in the state if the executive director determines that any activity will cause, has the reasonable potential to cause, or contribute to a violation of water quality standards or is found to cause, has the reasonable potential to cause, or contribute to, the impairment of a designated use. The executive director may also require an application for an individual permit considering factors described in Part II.H.3 of this general permit.

4. Impaired Receiving Waters and Total Maximum Daily Load (TMDL) Requirements

The permittee shall determine whether the authorized discharge is to an impaired water body on the latest EPA-approved CWA Section 303(d) List or waters with an EPA-approved or established TMDL that are found on the latest EPA-approved *Texas*

Integrated Report of Surface Water Quality for CWA Sections 305(b) and 303(d), which lists the category 4 and 5 water bodies.

New sources or new discharges of the pollutants of concern to impaired waters are not authorized by this permit unless otherwise allowable under 30 TAC Chapter 305 and applicable state law. Impaired waters are those that do not meet applicable water quality standard(s) and are listed as category 4 or 5 in the current version of the *Texas Integrated Report of Surface Water Quality*, and waterbodies listed on the CWA § 303(d) list. Pollutants of concern are those for which the water body is listed as impaired.

Discharges of the pollutants of concern to impaired water bodies for which there is a TMDL are not eligible for coverage under this general permit unless they are consistent with the approved TMDL. Permittees must incorporate the conditions and requirements applicable to their discharges into their SWP3, in order to be eligible for coverage under this general permit. For consistency with the construction stormwater-related items in an approved TMDL, the SWP3 must be consistent with any applicable condition, goal, or requirement in the TMDL, TMDL Implementation Plan (I-Plan), or as otherwise directed by the executive director.

5. Discharges to the Edwards Aquifer Recharge or Contributing Zone

Discharges cannot be authorized by this general permit where prohibited by 30 TAC Chapter 213 (relating to Edwards Aquifer). In addition, commencement of construction (i.e., the initial disturbance of soils associated with clearing, grading, or excavating activities, as well as other construction-related activities such as stockpiling of fill material and demolition) at a site regulated under 30 TAC Chapter 213, may not begin until the appropriate Edwards Aquifer Protection Plan (EAPP) has been approved by the TCEQ's Edwards Aquifer Protection Program.

(a) For new discharges located within the Edwards Aquifer Recharge Zone, or within that area upstream from the recharge zone and defined as the Contributing Zone (CZ), operators must meet all applicable requirements of, and operate according to, 30 TAC Chapter 213 (Edwards Aquifer Rule) in addition to the provisions and requirements of this general permit.

(b) For existing discharges located within the Edwards Aquifer Recharge Zone, the requirements of the agency-approved Water Pollution Abatement Plan (WPAP) under the Edwards Aquifer Rule is in addition to the requirements of this general permit. BMPs and maintenance schedules for structural stormwater controls, for example, may be required as a provision of the rule. All applicable requirements of the Edwards Aquifer Rule for reductions of suspended solids in stormwater runoff are in addition to the requirements in this general permit for this pollutant.

(c) For discharges located within ten stream miles upstream of the Edwards Aquifer recharge zone, applicants shall also submit a copy of the NOI to the appropriate TCEQ regional office.

Counties: **Comal, Bexar, Medina, Uvalde, and Kinney**

Contact: TCEQ Water Program Manager
San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
(210) 490-3096

Counties: **Williamson, Travis, and Hays**

Contact: TCEQ Water Program Manager
Austin Regional Office
12100 Park 35 Circle

Room 179, Building A
Austin, Texas 78753
(512) 339-2929

6. Discharges to Specific Watersheds and Water Quality Areas

Discharges otherwise eligible for coverage cannot be authorized by this general permit where prohibited by 30 TAC Chapter 311 (relating to Watershed Protection) for water quality areas and watersheds.

7. Protection of Streams and Watersheds by Other Governmental Entities

This general permit does not limit the authority or ability of federal, other state, or local governmental entities from placing additional or more stringent requirements on construction activities or discharges from construction activities. For example, this permit does not limit the authority of a home-rule municipality provided by Texas Local Government Code §401.002.

8. Indian Country Lands

Stormwater runoff from construction activities occurring on Indian Country lands are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges of stormwater require authorization under federal NPDES regulations, authority for these discharges must be obtained from the U.S. Environmental Protection Agency (EPA).

9. Oil and Gas Production and Transportation

Stormwater runoff from construction activities associated with the exploration, development, or production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline, are not under the authority of the TCEQ and are not eligible for coverage under this general permit. Authorization for stormwater discharges from construction activities that are associated with production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline must be obtained, as required, from the U.S. EPA or the Texas Railroad Commission, as applicable. Discharge of stormwater related to construction activity, from a facility that stores both refined products intended for off-site use and crude oil in aboveground storage tanks, is regulated by the TCEQ and is eligible for coverage under this general permit.

10. Stormwater Discharges from Agricultural Activities

Stormwater discharges from agricultural activities that are not point source discharges of stormwater are not subject to TPDES permit requirements. These activities may include clearing and cultivating ground for crops, construction of fences to contain livestock, construction of stock ponds, and other similar agricultural activities. Discharges of stormwater runoff associated with the construction of facilities that are subject to TPDES regulations, such as the construction of concentrated animal feeding operations, would be point sources regulated under this general permit.

11. Endangered Species Act

Discharges that would adversely affect a listed endangered or threatened aquatic or aquatic-dependent species or its critical habitat are not authorized by this permit, unless the requirements of the Endangered Species Act are satisfied. Federal requirements related to endangered species apply to all TPDES permitted discharges and site-specific controls may be required to ensure that protection of endangered or threatened species is achieved. If a permittee has concerns over potential impacts to listed species, the permittee may contact TCEQ for additional information.

12. Other

Nothing in Part II of the general permit is intended to negate any person's ability to assert *force majeure* (act of God, war, strike, riot, or other catastrophe) defenses found in 30 TAC §70.7.

Section D. Deadlines for Obtaining Authorization to Discharge

1. Large Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction activity occurs on or after the effective date of this general permit must be authorized, either under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Operators of large construction activities continuing to operate after the effective date of this permit, and authorized under the TPDES Construction General Permit TXR150000 (effective on March 5, 2013), must submit an NOI to renew authorization or a NOT to terminate coverage under this general permit within 90 days of the effective date of this general permit. During this interim or grace period, as a requirement of this TPDES permit, the operator must continue to meet the conditions and requirements of the 2013 TPDES general permit.

2. Small Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction activity occurs on or after the effective date of this general permit must be authorized, either under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Discharges from ongoing small construction activities that commenced prior to the effective date of this general permit, and that do not meet the conditions to qualify for termination of this permit as described in Part II.F of this general permit, must meet the requirements to be authorized, either under this general permit or a separate TPDES permit, within 90 days of the effective date of this general permit. During this interim period, as a requirement of this TPDES permit, the operator must continue to meet the conditions and requirements of the 2013 TPDES Construction General Permit.

Section E. Obtaining Authorization to Discharge

1. <u>Automatic Authorization for Small Construction Activities with Low Potential for Erosion</u>:

Operators of small construction activity, as defined in Part I.B of this general permit, shall not submit an NOI for coverage, unless otherwise required by the executive director.

Operators of small construction activities, which occur in certain counties and during periods of low potential for erosion that do not meet the conditions of the waiver described in Part II.G of this general permit, may be automatically authorized under this general permit if all the following conditions are met.

(a) the construction activity occurs in a county and during the corresponding date range(s) listed in Appendix A;

(b) the construction activity is initiated and completed, including either final or temporary stabilization of all disturbed areas, within the time frame identified in Appendix A for the location of the construction site;

(c) all temporary stabilization is adequately maintained to effectively reduce or prohibit erosion, permanent stabilization activities have been initiated, and a condition of final stabilization is completed no later than 30 days following the end date of the time frame identified in Appendix A for the location of the construction site;

(d) the permittee signs a completed TCEQ small construction site notice for low potential for erosion, including the certification statement;

(e) a signed and certified copy of the small construction site notice for low potential for erosion is posted at the construction site in a location where it is readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction activities, and maintained in that location until completion of the construction activity;

NOTE: Posted site notices may have a redacted signature as long as there is an original signed and certified site notice, with a viewable signature, located on-site and available for review by any applicable regulatory authority.

(f) a copy of the signed and certified small construction site notice for low potential for erosion is provided to the operator of any MS4 receiving the discharge at least two days prior to commencement of construction activities;

(g) discharges of stormwater runoff or other non-stormwater discharges from any supporting concrete batch plant or asphalt batch plant is separately authorized under an individual TPDES permit, another TPDES general permit, or under an individual TCEQ permit where stormwater and non-stormwater is disposed of by evaporation or irrigation (discharges are adjacent to water in the state); and

(h) any non-stormwater discharges are either authorized under a separate permit or authorization, are not considered by TCEQ to be a wastewater, or are captured and routed for disposal at a publicly operated treatment works or licensed waste disposal facility.

If all of the conditions in (a) – (h) above are met, then the operator(s) of small construction activities with low potential for erosion are not required to develop a SWP3.

If an operator is conducting small construction activities and any of the above conditions (a) – (h) are not met, the operator cannot declare coverage under the automatic authorization for small construction activities with low potential for erosion and must meet the requirements for automatic authorization (all other) small construction activities, described below in Part II.E.2.

For small construction activities that occur during a period with a low potential for erosion, where automatic authorization under this section is not available, an operator may apply for and obtain a waiver from permitting (Low Rainfall Erosivity Waiver – LREW), as described in Part II.G of this general permit. Waivers from coverage under the LREW do not allow for any discharges of non-stormwater and the operator must ensure that discharges on non-stormwater are either authorized under a separate permit or authorization.

2. Automatic Authorization for Small Construction Activities:

Operators of small construction activities as defined in Part I.B of this general permit shall not submit an NOI for coverage, unless otherwise required by the executive director.

Operators of small construction activities, as defined in Part I.B of this general permit or as defined but who do not meet in the conditions and requirements located in Part II.E.1 above, may be automatically authorized for small construction activities, provided that they meet all of the following conditions:

(a) develop a SWP3 according to the provisions of this general permit, that covers either the entire site or all portions of the site for which the applicant is the operator, and implement the SWP3 prior to commencing construction activities;

(b) all operators of regulated small construction activities must post a copy of a signed and certified Small Construction site notice, the notice must be posted at the construction site in a location where it is safely and readily available for viewing by the general public, local, state, and federal authorities, at least two days prior to commencing construction activity , and maintain the notice in that location until completion of the construction activity (for linear construction activities, e.g. pipeline or highway, the site notice must be placed in a publicly accessible location near where construction is actively underway; notice for these linear sites may be relocated, as necessary, along the length of the project, and the notice must be safely and readily available for viewing by the general public; local, state, and federal authorities);

(c) operators must maintain a posted site notice at the construction site until final stabilization has been achieved; and

NOTE: Posted site notices may have a redacted signature as long as there is an original signed and certified Small Construction site notice, with a viewable signature, located on-site and available for review by an applicable regulatory authority.

(d) provide a copy of the signed and certified construction site notice to the operator of any municipal separate storm sewer system (MS4) receiving the discharge at least two days prior to commencement of construction activities.

As described in Part I.B of this general permit, large construction activities include those that will disturb less than five (5) acres of land, but that are part of a larger common plan of development or sale that will ultimately disturb five (5) or more acres of land, and must meet the requirements of Part II.E.3. below.

3. Authorization for Large Construction Activities:

Operators of large construction activities that qualify for coverage under this general permit must meet all of the following conditions:

(a) develop a SWP3 according to the provisions of this general permit that covers either the entire site or all portions of the site where the applicant is the operator. The SWP3 must be developed and implemented prior to obtaining coverage and prior to commencing construction activities;

(b) primary operators of large construction activities must submit an NOI prior to commencing construction activity at a construction site. A completed NOI must be submitted to TCEQ electronically using the online e-Permits system on TCEQ's website. Operators with an electronic reporting waiver must submit a completed NOI to TCEQ at least seven (7) days prior to prior to commencing construction activity to obtain provisional coverage seven (7) days from the postmark date for delivery to the TCEQ. An authorization is no longer provisional when the executive director finds the NOI is administratively complete and an authorization number is issued to the permittee for the construction site indicated on the NOI.

If an additional primary operator is added after the initial NOI is submitted, the additional primary operator must meet the same requirements for existing primary operator(s), as indicated above.

If the primary operator changes due to responsibility at the site being transferred from one primary operator to another after the initial NOI is submitted, the new primary operator must submit a paper NOI or an electronic NOI at least ten (10)

days prior to assuming operational control of a construction site and commencing construction activity.

Operators that submit NOIs electronically must use the online e-Permits system available through the TCEQ website.

(c) all operators of large construction activities must post a site notice in accordance with Part III.D.2 of this permit. The site notice must be located where it is safely and readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction activities, and must be maintained in that location until completion of the construction activity (for linear construction activities, e.g. pipeline or highway, the site notice must be placed in a publicly accessible location near where construction is actively underway; notice for these linear sites may be relocated, as necessary, along the length of the project, and the notice must be safely and readily available for viewing by the general public, local, state, and federal authorities);

(d) two days prior to commencing construction activities, all primary operators must:

i. provide a copy of the signed NOI to the operator of any MS4 receiving the discharge and to any secondary construction operator, and

ii. list in the SWP3 the names and addresses of all MS4 operators receiving a copy;

(e) all persons meeting the definition of "secondary operator" in Part I of this permit are hereby notified that they are regulated under this general permit, but are not required to submit an NOI, provided that a primary operator at the site has submitted an NOI, or prior to commencement of construction activities, a primary operator is required to submit an NOI and the secondary operator has provided notification to the operator(s) of the need to obtain coverage (with records of notification available upon request). Any secondary operator notified under this provision may alternatively submit an NOI under this general permit, may seek coverage under an alternative TPDES individual permit, or may seek coverage under an alternative TPDES general permit if available; and

(f) all secondary operators of large construction activities must post a copy of the signed and certified Secondary Operator construction site notice and provide a copy of the signed and certified site notice to the operator of any MS4 receiving the discharge at least two days prior to the commencement construction activities.

NOTE: Posted site notices may have a redacted signature as long as there is an original signed and certified Secondary Operator construction site notice, with a viewable signature, located on-site and available for review by an applicable regulatory authority.

Effective September 1, 2018, applicants must submit an NOI using the online e-Permits system available through the TCEQ website, or request and obtain a waiver from electronic reporting from the TCEQ. Waivers from electronic reporting are not transferrable and expire on the same date as the authorization to discharge.

4. Waivers for Small Construction Activities:

Operators of certain small construction activities may obtain a waiver from coverage under this general permit, if applicable. The requirements are outlined in Part II.G below.

5. Effective Date of Coverage

(a) Operators of small construction activities as described in either Part II.E.1 or II.E.2 above are authorized immediately following compliance with the applicable conditions of Part II.E.1 or II.E.2. Secondary operators of large construction

activities as described in Part II.E.3 above are authorized immediately following compliance with the applicable conditions in Part II.E.3. For activities located in areas regulated by 30 TAC Chapter 213, related to the Edwards Aquifer, this authorization to discharge is separate from the requirements of the operator's responsibilities under that rule. Construction may not commence for sites regulated under 30 TAC Chapter 213 until all applicable requirements of that rule are met.

(b) Primary operators of large construction activities as described in Part II.E.3 above that electronically submit an NOI are authorized immediately following confirmation of receipt of the electronic form by the TCEQ, unless otherwise notified by the executive director. Operators with an electronic reporting waiver are provisionally authorized seven (7) days from the date that a completed paper NOI is postmarked for delivery to the TCEQ, unless otherwise notified by the executive director. An authorization is no longer provisional when the executive director finds the NOI is administratively complete and an authorization number is issued to the permittee for the construction site indicated on the NOI.

For construction activities located in areas regulated by 30 TAC Chapter 213, related to the Edwards Aquifer, this authorization to discharge is separate from the requirements of the operator's responsibilities under that rule. Construction activities may not commence for sites regulated under 30 TAC Chapter 213 until all applicable requirements of that rule are met.

(c) Operators are not prohibited from submitting late NOIs or posting late notices to obtain authorization under this general permit. The TCEQ reserves the right to take appropriate enforcement action for any unpermitted activities that may have occurred between the time construction commenced and authorization was obtained.

(d) If operators that submitted NOIs have active authorizations for construction activities that are ongoing when the term of the current general permit expires and a new general permit is issued, a 90-day interim (grace) period is granted to provide coverage that is administratively continued until operators with active authorizations can obtain coverage under the newly issued CGP. The 90-day grace period starts on the effective date of the newly issued CGP. Deadlines for obtaining coverage for operators of small and large construction are provided in Part II.D.1 and 2 above.

6. Notice of Change (NOC)

If relevant information provided in the NOI changes, the operator that has submitted the NOI must submit an NOC to TCEQ at least fourteen (14) days before the change occurs, if possible. Where a 14-day advance notice is not possible, the operator must submit an NOC to TCEQ within 14-days of discovery of the change. If the operator becomes aware that it failed to submit any relevant facts or submitted incorrect information in an NOI, the correct information must be submitted to TCEQ in an NOC within 14 days after discovery. The NOC shall be submitted on a form provided by the executive director, or by letter if an NOC form is not available. A copy of the NOC form or letter must also be placed in the SWP3 and provided to the operator of any MS4 receiving the discharge. A list that includes the names and addresses of all MS4 operators receiving a copy of the NOC (or NOC letter) must be included in the SWP3.

Information on an NOC may include, but is not limited to, the following: a change in the description of the construction project; an increase in the number of acres disturbed (for increases of one or more acres); or the name of the operator (where the name of the operator has changed).

A transfer of operational control from one operator to another, including a transfer of the ownership of a company. Coverage under this general permit is not transferable

from one operator to another or one company to another, and may not be included in an NOC.

A transfer of ownership of a company may include, but is not limited to, the following: changes to the structure of a company, such as changing from a partnership to a corporation or changing corporation types, so that the filing number (or charter number) that is on record with the Texas Secretary of State must be changed.

An NOC is not required for notifying TCEQ of a decrease in the number of acres disturbed. This information must be included in the SWP3 and retained on site.

Effective September 1, 2018, applicants must submit an NOC using the online e-Permits system available through the TCEQ website, or request and obtain a waiver from electronic reporting from the TCEQ. Waivers from electronic reporting are not transferrable and expire on the same date as the authorization to discharge.

7. Signatory Requirement for NOI Forms, Notice of Termination (NOT) Forms, NOC Letters, and Construction Site Notices

NOI forms, NOT forms, NOC letters, and Construction Site Notices that require a signature must be signed according to 30 TAC § 305.44 (relating to Signatories for Applications).

8. Contents of the NOI

The NOI form shall require, at a minimum, the following information:

(a) the TPDES CGP authorization number for existing authorizations under this general permit, where the operator submits an NOI to renew coverage within 90 days of the effective date of this general permit;

(b) the name, address, and telephone number of the operator filing the NOI for permit coverage;

(c) the name (or other identifier), address, county, and latitude/longitude of the construction project or site;

(d) the number of acres that will be disturbed by the applicant;

(e) confirmation that the project or site will not be located on Indian Country lands;

(f) confirmation that a SWP3 has been developed in accordance with this general permit, that it will be implemented prior to commencement of construction activities, and that it is compliant with any applicable local sediment and erosion control plans; for multiple operators who prepare a shared SWP3, the confirmation for an operator may be limited to its obligations under the SWP3 provided all obligations are confirmed by at least one operator;

(g) name of the receiving water(s);

(h) the classified segment number for each classified segment that receives discharges from the regulated construction activity (if the discharge is not directly to a classified segment, then the classified segment number of the first classified segment that those discharges reach); and

(i) the name of all surface waters receiving discharges from the regulated construction activity that are on the latest EPA-approved CWA § 303(d) List of impaired waters or Texas Integrated Report of Surface Water Quality for CWA Sections 305(b) and 303(d) as not meeting applicable state water quality standards.

Section F. Terminating Coverage

1. Notice of Termination (NOT) Required

Each operator that has submitted an NOI for authorization of large construction activities under this general permit must apply to terminate that authorization following the conditions described in this section of the general permit.

Authorization of large construction must be terminated by submitting an NOT on a paper form to TCEQ supplied by the executive director or electronically via the online e-Permits system available through the TCEQ website. Authorization to discharge under this general permit terminates at midnight on the day a paper NOT is postmarked for delivery to the TCEQ or immediately following confirmation of the receipt of the NOT submitted electronically by the TCEQ. Compliance with the conditions and requirements of this permit is required until an NOT is submitted.

Effective September 1, 2018, applicants must submit an NOT using the online e-Permits system available through the TCEQ website, or request and obtain a waiver from electronic reporting from the TCEQ. Waivers from electronic reporting are not transferrable and expire on the same date as the authorization to discharge.

The NOT must be submitted to TCEQ, and a copy of the NOT provided to the operator of any MS4 receiving the discharge (with a list in the SWP3 of the names and addresses of all MS4 operators receiving a copy), within 30 days after any of the following conditions are met:

(a) final stabilization has been achieved on all portions of the site that are the responsibility of the operator;

(b) a transfer of operational control has occurred (See Section II.F.4 below); or

(c) the operator has obtained alternative authorization under an individual TPDES permit or alternative TPDES general permit.

2. Minimum Contents of the NOT

The NOT form shall require, at a minimum, the following information:

(a) if authorization for construction activity was granted following submission of an NOI, the permittee's site-specific TPDES authorization number for a specific construction site;

(b) an indication of whether final stabilization has been achieved at the site and a NOT has been submitted or if the permittee is simply no longer an operator at the site;

(c) the name, address, and telephone number of the permittee submitting the NOT;

(d) the name (or other identifier), address, county, and location (latitude/longitude) of the construction project or site; and

(e) a signed certification that either all stormwater discharges requiring authorization under this general permit will no longer occur, or that the applicant is no longer the operator of the facility or construction site, and that all temporary structural erosion controls have either been removed, will be removed on a schedule defined in the SWP3, or have been transferred to a new operator if the new operator has applied for permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

3. Termination of Coverage for Small Construction Sites and for Secondary Operators at Large Construction Sites

(a) Each operator that has obtained automatic authorization for small construction or is a secondary operator for large construction must perform the following when terminating coverage under the permit:

i. remove the site notice;

ii. complete the applicable portion of the site notice related to removal of the site notice; and

iii. submit a copy of the completed site notice to the operator of any MS4 receiving the discharge (or provide alternative notification as allowed by the MS4 operator, with documentation of such notification included in the SWP3).

(b) The activities described in Part II.F.3.(a) above must be completed by the operator within 30 days of meeting any of the following conditions:

i. final stabilization has been achieved on all portions of the site that are the responsibility of the operator;

ii. a transfer of day-to-day operational control over activities necessary to ensure compliance with the SWP3 and other permit conditions has occurred (See Section II.F.4. below); or

iii. the operator has obtained alternative authorization under an individual or general TPDES permit.

Authorization to discharge under this general permit terminates immediately upon removal of the applicable site notice. Compliance with the conditions and requirements of this permit is required until the site notice is removed.

4. Transfer of Day-to-Day Operational Control

(a) When the primary operator of a large construction activity changes or operational control over activities necessary to ensure compliance with the SWP3 and other permit conditions is transferred to another primary operator, the original operator must do the following:

i. submit an NOT within ten (10) days prior to the date that responsibility for operations terminates, and the new operator must submit an NOI at least ten (10) days prior to the transfer of operational control, in accordance with condition (c) below; and

ii. submit a copy of the NOT from the primary operator terminating its coverage under the permit and its operational control of the construction site and submit a copy of the NOI from the new primary operator to the operator of any MS4 receiving the discharge in accordance with Part II.F.1 above.

(b) For transfer of operational control, operators of small construction activities and secondary operators of large construction activities who are not required to submit an NOI must do the following:

i. the existing operator must remove the original site notice, and the new operator must post the required site notice prior to the transfer of operational control, in accordance with the conditions in Part II.F.4.(c) i or ii below; and

ii. a copy of the site notice, which must be completed and provided to the operator of any MS4 receiving the discharge, in accordance with Part II.F.3 above.

(c) Each operator is responsible for determining its role as an operator as defined in Part I.B and obtaining authorization under the permit, as described above in Part

II.E. 1 – 3. Where authorization has been obtained by submitting an NOI for coverage under this general permit, permit coverage is not transferable from one operator to another. A transfer of operational control can include changes to the structure of a company, such as changing from a partnership to a corporation, or changing to a different corporation type such that a different filing (or charter) number is established with the Texas Secretary of State. A transfer of operational control can also occur when of the following criteria is met, as applicable:

i. Another operator has assumed control over all areas of the site that do not meet the definition for final stabilization;

ii. all silt fences and other temporary erosion controls have either been removed, scheduled for removal as defined in the SWP3, or transferred to a new operator, provided that the original permitted operator has attempted to notify the new operator in writing of the requirement to obtain permit coverage. Records of this notification (or attempt at notification) shall be retained by the operator transferring operational control to another operator in accordance with Part VI of this permit. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal; or

iii. a homebuilder has purchased one or more lots from an operator who obtained coverage under this general permit for a common plan of development or sale. The homebuilder is considered a new operator and shall comply with the requirements of this permit. Under these circumstances, the homebuilder is only responsible for compliance with the general permit requirements as they apply to the lot(s) it has operational control over in a larger common plan of development, and the original operator remains responsible for common controls or discharges, and must amend its SWP3 to remove the lot(s) transferred to the homebuilder.

Section G. Waivers from Coverage

The executive director may waive the otherwise applicable requirements of this general permit for stormwater discharges from small construction activities under the terms and conditions described in this section.

1. Waiver Applicability and Coverage

Operators of small construction activities may apply for and receive a waiver from the requirements to obtain authorization under this general permit, when the calculated rainfall erosivity (R) factor for the entire period of the construction project is less than five (5).

The operator must submit either a signed paper Low Rainfall Erosivity Waiver (LREW) certification form to the TCEQ, supplied by the executive director, or complete the form electronically via the online e-Permits system available through the TCEQ website. The form is a certification by the operator that the small construction activity will commence and be completed within a period when the value of the calculated R factor is less than five (5).

The paper LREW certification form must be postmarked for delivery to the TCEQ at least seven (7) days before construction activity begins or, if submitted electronically, construction may begin at any time following the receipt of written confirmation from TCEQ that a complete electronic application was submitted and acknowledged.

This waiver from coverage does not apply to any non-stormwater discharges, including what is allowed under this permit. The operator must insure that all non-stormwater discharges are either authorized under a separate permit or authorization, or are captured and routed to an authorized treatment facility for disposal.

Effective September 1, 2018, applicants must submit an LREW using the online e-Permits system available through the TCEQ website, or request and obtain a waiver from electronic reporting from the TCEQ. Waivers from electronic reporting are not transferrable and expire on the same date as the authorization to discharge.

2. Steps to Obtaining a Waiver

The construction site operator may calculate the R factor to request a waiver using the following steps:

(a) Estimate the construction start date and the construction end date. The construction end date is the date that final stabilization will be achieved.

(b) Find the appropriate Erosivity Index (EI) zone in Appendix B of this permit.

(c) Find the EI percentage for the project period by adding the results for each period of the project using the table provided in Appendix D of this permit, in EPA Fact Sheet 2.1, or in USDA Handbook 703, by subtracting the start value from the end value to find the percent EI for the site.

(d) Refer to the Isoerodent Map (Appendix C of this permit) and interpolate the annual isoerodent value for the proposed construction location.

(e) Multiply the percent value obtained in Step (c) above by the annual isoerodent value obtained in Step (d). This is the R factor for the proposed project. If the value is less than 5, then a waiver may be obtained. If the value is five (5) or more, then a waiver may not be obtained, and the operator must obtain coverage under Part II.E.2. of this permit.

Alternatively, the operator may calculate a site-specific R factor utilizing the following online calculator: http://ei.tamu.edu/index.html, or using another available resource.

A copy of the LREW certification form is not required to be posted at the small construction site.

3. Effective Date of a LREW

Unless otherwise notified by the executive director, operators of small construction activities seeking coverage under a LREW are provisionally waived from the otherwise applicable requirements of this general permit seven (7) days from the date that a completed paper LREW certification form is postmarked for delivery to TCEQ, or immediately upon receiving confirmation of approval of an electronic submittal, made via the online e-Permits system available through the TCEQ website.

Effective September 1, 2018, applicants seeking coverage under a LREW must submit an application for a LREW using the online e-Permits system available through the TCEQ website, or request and obtain a waiver from electronic reporting from the TCEQ. Waivers from electronic reporting are not transferrable and expire on the same date as the authorization to discharge.

4. Activities Extending Beyond the LREW Period

If a construction activity extends beyond the approved waiver period due to circumstances beyond the control of the operator, the operator must either:

(a) recalculate the R factor using the original start date and a new projected ending date, and if the R factor is still under five (5), submit a new waiver certification form at least two (2) days before the end of the original waiver period; or

(b) obtain authorization under this general permit according to the requirements for automatic authorization for small construction activities in Part II.E.2 of this permit, prior to the end of the approved LREW period.

Section H. Alternative TPDES Permit Coverage

1. Individual Permit Alternative

Any discharge eligible for coverage under this general permit may alternatively be authorized under an individual TPDES permit according to 30 TAC §305 (relating to Consolidated Permits). Applications for individual permit coverage must be submitted at least three hundred and thirty (330) days prior to commencement of construction activities to ensure timely authorization. Existing coverage under this general permit should not be terminated until an individual permit is issued and in effect.

2. Alternative Authorizations for Certain Discharges

Certain discharges eligible for authorization under this general permit may alternatively be authorized under a separate general permit according to 30 TAC Chapter 205 (relating to General Permits for Waste Discharges), as applicable.

3. Individual Permit Required

The executive director may require an operator of a construction site, otherwise eligible for authorization under this general permit, to apply for an individual TPDES permit in the following circumstances:

(a) the conditions of an approved TMDL or TMDL I-Plan on the receiving water;

(b) the activity being determined to cause, has a reasonable potential to cause, or contribute to a violation of water quality standards or being found to cause, or contribute to, the loss of a designated use of surface water in the state: and

(c) any other consideration defined in 30 TAC Chapter 205 (relating to General Permits for Waste Discharges) including 30 TAC Chapter 205.4(c)(3)(D), which allows the commission to deny authorization under the general permit and require an individual permit if a discharger has been determined by the executive director to have been out of compliance with any rule, order, or permit of the commission, including non-payment of fees assessed by the executive director.

A discharger with a TCEQ compliance history rating of “unsatisfactory” is ineligible for coverage under this general permit. In that case, 30 TAC § 60.3 requires the executive director to deny or suspend an authorization to discharge under a general permit. However, per TWC § 26.040(h), a discharger is entitled to a hearing before the commission prior to having an authorization denied or suspended for having an “unsatisfactory” compliance history.

Denial of authorization to discharge under this general permit or suspension of a permittee’s authorization under this general permit for reasons other than compliance history shall be done according to commission rules in 30 TAC Chapter 205 (relating to General Permits for Waste Discharges).

4. Alternative Discharge Authorization

Any discharge eligible for authorization under this general permit may alternatively be authorized under a separate general permit according to 30 TAC Chapter 205 (relating to General Permits for Waste Discharges), if applicable.

Section I. Permit Expiration

1. This general permit is effective for a term not to exceed five (5) years. All active discharge authorizations expire on the date provided on page one (1) of this permit. Following public notice and comment, as provided by 30 TAC §205.3 (relating to Public Notice, Public Meetings, and Public Comment), the commission may amend,

revoke, cancel, or renew this general permit. All authorizations that are active at the time the permit term expires will be administratively continued as indicated in Part II.I.2 below and in Part II.D.1(b) and D.2(b) of this permit.

2. If the executive director publishes a notice of the intent to renew or amend this general permit before the expiration date, the permit will remain in effect for existing, authorized discharges until the commission takes final action on the permit. Upon issuance of a renewed or amended permit, permittees may be required to submit an NOI within 90 days following the effective date of the renewed or amended permit, unless that permit provides for an alternative method for obtaining authorization.
3. If the commission does not propose to reissue this general permit within 90 days before the expiration date, permittees shall apply for authorization under an individual permit or an alternative general permit. If the application for an individual permit is submitted before the expiration date, authorization under this expiring general permit remains in effect until the issuance or denial of an individual permit. No new NOIs will be accepted nor new authorizations honored under the general permit after the expiration date.

Part III. Stormwater Pollution Prevention Plans (SWP3)

All regulated construction site operators shall prepare an SWP3, prior to submittal of an NOI, to address discharges authorized under Parts II.E.2 and II.E.3 of this general permit that will reach Waters of the U.S. This includes discharges to MS4s and privately owned separate storm sewer systems that drain into surface water in the state or Waters of the U.S.

Individual operators at a site may develop separate SWP3s that cover only their portion of the project, provided reference is made to the other operators at the site. Where there is more than one SWP3 for a site, operators must coordinate to ensure that BMPs and controls are consistent and do not negate or impair the effectiveness of each other. Regardless of whether a single comprehensive SWP3 is developed or separate SWP3s are developed for each operator, it is the responsibility of each operator to ensure compliance with the terms and conditions of this general permit in the areas of the construction site where that operator has control over construction plans and specifications or day-to-day operations.

An SWP3 must describe the implementation of practices that will be used to minimize to the extent practicable the discharge of pollutants in stormwater associated with construction activity and non-stormwater discharges described in Part II.A.3, in compliance with the terms and conditions of this permit.

An SWP3 must also identify any potential sources of pollution that have been determined to cause, have a reasonable potential to cause, or contribute to a violation of water quality standards or have been found to cause or contribute to the loss of a designated use of surface water in the state from discharges of stormwater from construction activities and construction support activities. Where potential sources of these pollutants are present at a construction site, the SWP3 must also contain a description of the management practices that will be used to prevent these pollutants from being discharged into surface water in the state or Waters of the U.S.

> NOTE: Construction support activities can also include vehicle repair areas, fueling areas, etc. that are present at a construction site solely for the support construction activities and are only used by operators at the construction site.

The SWP3 is intended to serve as a road map for how the construction operator will comply with the effluent limits and other conditions of this permit and does not establish the effluent limits that apply to the construction site's discharges. These limits are established in Part III.G of the permit.

Section A. Shared SWP3 Development

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site is encouraged. Operators of small and large construction activities must independently obtain authorization under this permit, but may work together with other regulated operators at the construction site to prepare and implement a single, comprehensive SWP3, which can be shared by some or all operators, for the construction activities that each of the operators are performing at the entire construction site.

1. The SWP3 must include the following:
   (a) for small construction activities – the name of each operator that participates in the shared SWP3;
   (b) for large construction activities - the name of each operator that participates in the shared SWP3, the general permit authorization numbers of each operator (or the date that the NOI was submitted to TCEQ by each operator that has not received an authorization number for coverage under this permit); and
   (c) for large and small construction activities - the signature of each operator participating in the shared SWP3.
2. The SWP3 must clearly indicate which operator is responsible for satisfying each shared requirement of the SWP3. If the responsibility for satisfying a requirement is not described in the plan, then each permittee is entirely responsible for meeting the requirement within the boundaries of the construction site where they perform construction activities. The SWP3 must clearly describe responsibilities for meeting each requirement in shared or common areas.
3. The SWP3 may provide that one operator is responsible for preparation of a SWP3 in compliance with the CGP, and another operator is responsible for implementation of the SWP3 at the project site.

Section B. Responsibilities of Operators

1. Secondary Operators and Primary Operators with Control Over Construction Plans and Specifications

   All secondary operators and primary operators with control over construction plans and specifications shall:

   (a) ensure the project specifications allow or provide that adequate BMPs are developed to meet the requirements of Part III of this general permit;
   (b) ensure that the SWP3 indicates the areas of the project where they have control over project specifications, including the ability to make modifications in specifications;
   (c) ensure that all other operators affected by modifications in project specifications are notified in a timely manner so that those operators may modify their BMP s as necessary to remain compliant with the conditions of this general permit; and
   (d) ensure that the SWP3 for portions of the project where they are operators indicates the name and site-specific TPDES authorization number(s) for operators with the day-to-day operational control over those activities necessary to ensure compliance with the SWP3 and other permit conditions. If a primary operator has not been authorized or has abandoned the site, the secondary operator is considered to be the responsible party and must obtain authorization

as a primary operator under the permit, until the authority for day-to-day operational control is transferred to another primary operator. The new primary operator must update or develop a new SWP3 that will reflect the transfer of operational control and include any additional updates to the SWP3 to meet requirements of the permit.

2. Primary Operators with Day-to-Day Operational Control

Primary operators with day-to-day operational control of those activities at a project that are necessary to ensure compliance with an SWP3 and other permit conditions must ensure that the SWP3 accomplishes the following requirements:

(a) meets the requirements of this general permit for those portions of the project where they are operators;

(b) identifies the parties responsible for implementation of BMPs described in the SWP3;

(c) indicates areas of the project where they have operational control over day-to-day activities; and

(d) the name and site-specific TPDES authorization number of the parties with control over project specifications, including the ability to make modifications in specifications for areas where they have operational control over day-to-day activities.

Section C. Deadlines for SWP3 Preparation, Implementation, and Compliance

The SWP3 must be prepared prior to obtaining authorization under this general permit, and implemented prior to commencing construction activities that result in soil disturbance. The SWP3 must be prepared so that it provides for compliance with the terms and conditions of this general permit.

Section D. Plan Review and Making Plans Available

1. The SWP3 must be retained on-site at the construction site or, if the site is inactive or does not have an on-site location to store the plan, a notice must be posted describing the location of the SWP3. The SWP3 must be made readily available at the time of an on-site inspection to: the executive director; a federal, state, or local agency approving sediment and erosion plans, grading plans, or stormwater management plans; local government officials; and the operator of a municipal separate storm sewer receiving discharges from the site. If the SWP3 is retained off-site, then it shall be made available as soon as reasonably possible. In most instances, it is reasonable that the SWP3 shall be made available within 24 hours of the request.
2. Operators with authorization for construction activity under this general permit must post a TCEQ site notice at the construction site at a place readily available for viewing by the general public, and local, state, and federal authorities.

(a) Primary and secondary operators of large construction activities must each post a TCEQ construction site notice, respective to their role as an operator at the construction site, as required above and according to requirements in Part II.E.3 of this general permit.

(b) Primary and secondary operators of small construction activities must post the TCEQ site notice as required in Part III.D.2.(a) above and for the specific type of small construction described in Part II.E.1 and 2 of the permit.

(c) If the construction project is a linear construction project, such as a pipeline or highway, the notices must be placed in a publicly accessible location near where construction is actively underway. Site notices for small and large construction

activities at these linear construction sites may be located, as necessary, along the length of the project, but must still be readily available for viewing by the general public; local, state, and federal authorities; and contain the following information:

i. the site-specific TPDES authorization number for the project if assigned;

ii. the operator name, contact name, and contact phone number;

iii. a brief description of the project; and

iv. the location of the SWP3.

3. This permit does not provide the general public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that permittees allow members of the general public access to a construction site.

Section E. Revisions and Updates to SWP3s

The permittee must revise or update the SWP3 within seven days of when any of the following occurs:

1. a change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants and that has not been previously addressed in the SWP3;
2. changing site conditions based on updated plans and specifications, new operators, new areas of responsibility, and changes in BMPs; or
3. results of inspections or investigations by construction site personnel authorized by the permittee, operators of a municipal separate storm sewer system receiving the discharge, authorized TCEQ personnel, or a federal, state or local agency approving sediment and erosion plans indicate the SWP3 is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under this general permit.

Section F. Contents of SWP3

The SWP3 must be developed and implemented by primary operators of small and large construction activities and include, at a minimum, the information described in this section and must comply with the construction and development effluent guidelines in Part III, Section G of the general permit.

1. A site or project description, which includes the following information:
   (a) a description of the nature of the construction activity;
   (b) a list of potential pollutants and their sources;
   (c) a description of the intended schedule or sequence of activities that will disturb soils for major portions of the site, including estimated start dates and duration of activities;
   (d) the total number of acres of the entire property and the total number of acres where construction activities will occur, including areas where construction support activities (defined in Part I.B of this general permit) occur;
   (e) data describing the soil or the quality of any discharge from the site;
   (f) a map showing the general location of the site (e.g. a portion of a city or county map);
   (g) a detailed site map (or maps) indicating the following:

i. drainage patterns and approximate slopes anticipated after major grading activities;

ii. areas where soil disturbance will occur;

iii. locations of all controls and buffers, either planned or in place;

iv. locations where temporary or permanent stabilization practices are expected to be used;

v. locations of construction support activities, including those located off-site;

vi. surface waters (including wetlands) either at, adjacent, or in close proximity to the site, and also indicate whether those waters are impaired;

vii. locations where stormwater discharges from the site directly to a surface water body or a municipal separate storm sewer system;

viii. vehicle wash areas; and

ix. designated points on the site where vehicles will exit onto paved roads (for instance, this applies to construction transition from unstable dirt areas to exterior paved roads).

Where the amount of information required to be included on the map would result in a single map being difficult to read and interpret, the operator shall develop a series of maps that collectively include the required information.

(h) the location and description of support activities authorized under the permittee's NOI, including asphalt plants, concrete plants, and other activities providing support to the construction site that is authorized under this general permit;

(i) the name of receiving waters at or near the site that may be disturbed or that may receive discharges from disturbed areas of the project;

(j) a copy of this TPDES general permit;

(k) the NOI and the acknowledgement of provisional and non-provisional authorization for primary operators of large construction sites, and the site notice for small construction sites and for secondary operators of large construction sites;

(l) stormwater and allowable non-stormwater discharge locations, including storm drain inlets on site and in the immediate vicinity of the construction site where construction support activities will occur; and

(m) locations of all pollutant-generating activities at the construction site and where construction support activities will occur, such as the following: Paving operations; concrete, paint and stucco washout and water disposal; solid waste storage and disposal; and dewatering operations.

2. A description of the BMPs that will be used to minimize pollution in runoff.

The description must identify the general timing or sequence for implementation. At a minimum, the description must include the following components:

(a) General Requirements

i. Erosion and sediment controls must be designed to retain sediment on-site to the extent practicable with consideration for local topography, soil type, and rainfall.

ii. Control measures must be properly selected, installed, and maintained according to the manufacturer's or designer's specifications.

iii. Controls must be developed to minimize the offsite transport of litter, construction debris, and construction materials.

(b) Erosion Control and Stabilization Practices

The SWP3 must include a description of temporary and permanent erosion control and stabilization practices for the construction site, where small or large construction activity will occur. The erosion control and stabilization practices selected by the permittee must be compliant with the requirements for sediment and erosion control, located in Part III.G of this permit. The description of the SWP3 must also include a schedule of when the practices will be implemented. Site plans must ensure that existing vegetation at the construction site is preserved where it is possible.

i. Erosion control and stabilization practices may include but are not limited to: establishment of temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, slope texturing, temporary velocity dissipation devices, flow diversion mechanisms, and other similar measures.

ii. The following records must be maintained and either attached to or referenced in the SWP3, and made readily available upon request to the parties listed in Part III.D.1 of this general permit:

(A) the dates when major grading activities occur;

(B) the dates when construction activities temporarily or permanently cease on a portion of the site; and

(C) the dates when stabilization measures are initiated.

iii. Erosion control and stabilization measures must be initiated immediately in portions of the site where construction activities have temporarily ceased and will not resume for a period exceeding 14 calendar days. Stabilization measures that provide a protective cover must be initiated immediately in portions of the site where construction activities have permanently ceased. The term "immediately" is used to define the deadline for initiating stabilization measures. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased. Except as provided in (A) through (D) below, these measures must be completed as soon as practicable, but no more than 14 calendar days after the initiation of soil stabilization measures:

(A) Where the immediate initiation of vegetative stabilization measures after construction activity has temporarily or permanently ceased due to frozen conditions, non-vegetative controls must be implemented until thawing conditions (as defined in Part I.B of this general permit) are present, and vegetative stabilization measures can be initiated as soon as practicable.

(B) In arid areas, semi-arid areas, or drought-stricken areas, as they are defined in Part I.B of this general permit, where the immediate initiation of vegetative stabilization measures after construction activity has temporarily or permanently ceased or is precluded by arid conditions, other types of erosion control and stabilization measures must be initiated at the site as soon as practicable. Where vegetative controls are infeasible due to arid conditions, and within 14 calendar days of a temporary or permanent cessation of construction activity in any portion of the site, the operator shall immediately install non-

vegetative erosion controls in areas of the construction site where construction activity is complete or has ceased. If non-vegetative controls are infeasible, the operator shall install temporary sediment controls as required in Part III.F.2.(b).iii.(C) below.

(C) In areas where non-vegetative controls are infeasible, the operator may alternatively utilize temporary perimeter controls. The operator must document in the SWP3 the reason why stabilization measures are not feasible, and must demonstrate that the perimeter controls will retain sediment on site to the extent practicable. The operator must continue to inspect the BMPs at the frequencies established in Part III.F.7.(c) for unstabilized sites.

(D) The requirement for permittees to initiate stabilization is triggered as soon as it is known with reasonable certainty that construction activity at the site or in certain areas of the site will be stopped for 14 or more additional calendar days. If the initiation or completion of vegetative stabilization is prevented by circumstances beyond the control of the permittee, the permittee must employ and implement alternative stabilization measures immediately. When conditions at the site changes that would allow for vegetative stabilization, then the permittee must initiate or complete vegetative stabilization as soon as practicable.

iv. Final stabilization must be achieved prior to termination of permit coverage.

v. TCEQ does not expect that temporary or permanent stabilization measures to be applied to areas that are intended to be left un-vegetated or un-stabilized following construction (e.g., dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, or materials).

(c) Sediment Control Practices

The SWP3 must include a description of any sediment control practices used to remove eroded soils from stormwater runoff, including the general timing or sequence for implementation of controls.

i. Sites With Drainage Areas of Ten or More Acres

(A) Sedimentation Basin(s)

(1) A sedimentation basin is required, where feasible, for a common drainage location that serves an area with ten (10) or more acres disturbed at one time. A sedimentation basin may be temporary or permanent, and must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone permanent stabilization, if these flows are diverted around both the disturbed areas of the site and the sediment basin. Capacity calculations shall be included in the SWP3.

(2) Where rainfall data is not available or a calculation cannot be performed, the sedimentation basin must provide at least 3,600 cubic feet of storage per acre drained until final stabilization of the site.

(3) If a sedimentation basin is not feasible, then the permittee shall provide equivalent control measures until final stabilization of the site. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater, and other similar considerations. The permittee shall document the reason that the sediment basins are not feasible, and shall utilize equivalent control measures, which may include a series of smaller sediment basins.

(4) Unless infeasible, when discharging from sedimentation basins and impoundments, the permittee shall utilize outlet structures that withdraw water from the surface.

(B) Perimeter Controls: At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area, and for those side slope boundaries deemed appropriate as dictated by individual site conditions.

ii. Controls for Sites With Drainage Areas Less than Ten Acres:

(A) Sediment traps and sediment basins may be used to control solids in stormwater runoff for drainage locations serving less than ten (10) acres. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area, and for those side slope boundaries deemed appropriate as dictated by individual site conditions.

(B) Alternatively, a sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained may be utilized. Where rainfall data is not available or a calculation cannot be performed, a temporary or permanent sediment basin providing 3,600 cubic feet of storage per acre drained may be provided. If a calculation is performed, then the calculation shall be included in the SWP3.

(C) If sedimentation basins or impoundments are used, the permittee shall comply with the requirements in Part III.G.6 of this general permit.

3. Description of Permanent Stormwater Controls

A description of any stormwater control measures that will be installed during the construction process to control pollutants in stormwater discharges that may occur after construction operations have been completed must be included in the SWP3. Permittees are responsible for the installation and maintenance of stormwater management measures, as follows:

(a) permittees authorized under the permit for small construction activities are responsible for the installation and maintenance of stormwater control measures prior to final stabilization of the site; or

(b) permittees authorized under the permit for large construction activities are responsible for the installation and maintenance of stormwater control measures prior to final stabilization of the site and prior to submission of an NOT.

4. Other Required Controls and BMPs

(a) Permittees shall minimize, to the extent practicable, the off-site vehicle tracking of sediments and the generation of dust. The SWP3 shall include a description of controls utilized to accomplish this requirement.

(b) The SWP3 must include a description of construction and waste materials expected to be stored on-site and a description of controls to minimize pollutants from these materials.

(c) The SWP3 must include a description of potential pollutant sources in discharges of stormwater from all areas of the construction site where construction activity, including construction support activities, will be located, and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

(d) Permittees shall place velocity dissipation devices at discharge locations and along the length of any outfall channel (i.e., runoff conveyance) to provide a non-erosive flow velocity from the structure to a water course, so that the natural physical and biological characteristics and functions are maintained and protected.

(e) Permittees shall design and utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water from the site.

(f) Permittees shall ensure that all other required controls and BMPs comply with all of the requirements of Part III.G of this general permit.

(g) For demolition of any structure with at least 10,000 square feet of floor space that was built or renovated before January 1, 1980, and the receiving waterbody is impaired for polychlorinated biphenyls (PCBs):

i. Implement controls to minimize the exposure of PCB-containing building materials, including paint, caulk, and pre-1980 fluorescent lighting fixtures to precipitation and to stormwater; and

ii. Ensure that disposal of such materials is performed in compliance with applicable state, federal, and local laws.

5. Documentation of Compliance with Approved State and Local Plans

(a) Permittees must ensure that the SWP3 is consistent with requirements specified in applicable sediment and erosion site plans or site permits, or stormwater management site plans or site permits approved by federal, state, or local officials.

(b) SWP3s must be updated as necessary to remain consistent with any changes applicable to protecting surface water resources in sediment erosion site plans or site permits, or stormwater management site plans or site permits approved by state or local official for which the permittee receives written notice.

(c) If the permittee is required to prepare a separate management plan, including but not limited to a WPAP or Contributing Zone Plan in accordance with 30 TAC Chapter 213 (related to the Edwards Aquifer), then a copy of that plan must be either included in the SWP3 or made readily available upon request to authorized personnel of the TCEQ. The permittee shall maintain a copy of the approval letter for the plan in its SWP3.

6. Maintenance Requirements

(a) All protective measures identified in the SWP3 must be maintained in effective operating condition. If, through inspections or other means, as soon as the permittee determines that BMPs are not operating effectively, then the permittee shall perform maintenance as necessary to maintain the continued effectiveness

of stormwater controls, and prior to the next rain event if feasible. If maintenance prior to the next anticipated storm event is impracticable, the reason shall be documented in the SWP3 and maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

(b) If periodic inspections or other information indicates a control has been used incorrectly, is performing inadequately, or is damaged, then the operator shall replace or modify the control as soon as practicable after making the discovery.

(c) Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.

(d) If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee shall work with the owner or operator of the property to remove the sediment.

7. Inspections of Controls

(a) Personnel provided by the permittee must inspect disturbed areas (cleared, graded, or excavated) of the construction site that do not meet the requirements of final stabilization in this general permit, all locations where stabilization measures have been implemented, areas of construction support activity covered under this permit, stormwater controls (including pollution prevention controls) for evidence of, or the potential for, the discharge of pollutants, areas where stormwater typically flows within the construction site, and points of discharge from the construction site.

i. Personnel conducting these inspections must be knowledgeable of this general permit, the construction activities at the site, and the SWP3 for the site.

ii. Personnel conducting these inspections are not required to have signatory authority for inspection reports under 30 TAC §305.128.

(b) Requirements for Inspections

i. Inspect all stormwater controls (including sediment and erosion control measures identified in the SWP3) to ensure that they are installed properly, appear to be operational, and minimizing pollutants in discharges, as intended.

ii. Identify locations on the construction site where new or modified stormwater controls are necessary.

iii. Check for signs of visible erosion and sedimentation that can be attributed to the points of discharge where discharges leave the construction site or discharge into any surface water in the state flowing within or adjacent to the construction site.

iv. Identify any incidents of noncompliance observed during the inspection.

v. Inspect locations where vehicles enter or exit the site for evidence of off-site sediment tracking.

vi. If an inspection is performed when discharges from the construction site are occurring: identify all discharge points at the site, observe and document the visual quality of the discharge (i.e., color, odor, floating, settled, or

suspended solids, foam, oil sheen, and other such indicators of pollutants in stormwater).

vii. Complete any necessary maintenance needed, based on the results of the inspection and in accordance with the requirements listed in Part III.F.6 above.

(c) Inspection frequencies:

i. Inspections of construction sites must be conducted at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater, unless as otherwise provided below in Part III.F.7.(c).ii – v below.

ii. Inspection frequencies must be conducted at least once every month in areas of the construction site that meet final stabilization or have been temporarily stabilized.

iii. Inspection frequencies for construction sites, where runoff is unlikely due to the occurrence of frozen conditions at the site, must be conducted at least once every month until thawing conditions begin to occur (See definitions for thawing conditions in Part I.B). The SWP3 must also contain a record of the approximate beginning and ending dates of when frozen conditions occurred at the site, which resulted in inspections being conducted monthly, while those conditions persisted, instead of at the interval of once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.

iv. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. The SWP3 must also contain a record of the total rainfall measured, as well as the approximate beginning and ending dates of when drought conditions occurred at the site, which resulted in inspections being conducted monthly, while those conditions persisted, instead of at the interval of once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.

v. As an alternative to the inspection schedule in Part III.F.7.(c).i above, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

vi. The inspection procedures described in Part III.F.7.(c).i. – v above can be performed at the frequencies and under the applicable conditions indicated for each schedule option, provided that the SWP3 reflects the current schedule and that any changes to the schedule are made in accordance with the following provisions: the inspection frequency schedule can only be changed a maximum of one time each month; the schedule change must be implemented at the beginning of a calendar month; and the reason for the schedule change documented in the SWP3 (e.g., end of “dry” season and beginning of “wet” season).

(d) Utility line installation, pipeline construction, and other examples of long, narrow, linear construction activities may provide inspection personnel with limited access to the areas described in Part III.F.7.(a) above.

i. Inspection of linear construction sites could require the use of vehicles that could compromise areas of temporary or permanent stabilization, cause

additional disturbance of soils, and result in the increase the potential for erosion. In these circumstances, controls must be inspected at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater, but representative inspections may be performed.

ii. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described in Part III.F.7.(a) above. The conditions of the controls along each inspected 0.25 mile portion may be considered as representative of the condition of controls along that reach extending from the end of the 0.25 mile portion to either the end of the next 0.25 mile inspected portion, or to the end of the project, whichever occurs first.

As an alternative to the inspection schedule described in Part III.F.7.(c).i above, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

iii. The SWP3 for a linear construction site must reflect the current inspection schedule. Any changes to the inspection schedule must be made in accordance with the following provisions:

(A) the schedule may be changed a maximum of one time each month;

(B) the schedule change must be implemented at the beginning of a calendar month, and

(C) the reason for the schedule change must be documented in the SWP3 (e.g., end of "dry" season and beginning of "wet" season).

(e) In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

(f) Inspection Reports

i. A report summarizing the scope of any inspection must be completed within 24-hours following the inspection. The report must also include the date(s) of the inspection and major observations relating to the implementation of the SWP3. Major observations in the report must include: the locations of where erosion and discharges of sediment or other pollutants from the site have occurred; locations of BMPs that need to be maintained; locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and locations where additional BMPs are needed.

ii. Actions taken as a result of inspections must be described within, and retained as a part of, the SWP3. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWP3 and this permit. The report must be retained as part of the SWP3 and signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

iii. The names and qualifications of personnel making the inspections for the permittee may be documented once in the SWP3 rather than being included in each report.

(g) The SWP3 must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions to the SWP3 must be completed

within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the SWP3 and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable.

8. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for all eligible non-stormwater components of the discharge, as listed in Part II.A.3 of this permit.
9. The SWP3 must include the information required in Part III.B of this general permit.
10. The SWP3 must include pollution prevention procedures that comply with Part III.G.4 of this general permit.

Section G. Erosion and Sediment Control Requirements Applicable to All Sites

Except as provided in 40 CFR §§125.30-125.32, any discharge regulated under this general permit, with the exception of sites that obtained waivers based on low rainfall erosivity, must achieve, at a minimum, the following effluent limitations representing the degree of effluent reduction attainable by application of the best practicable control technology currently available (BPT).

1. *Erosion and sediment controls*. Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:
   (a) Control stormwater volume and velocity within the site to minimize soil erosion in order to minimize pollutant discharges;
   (b) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge point(s);
   (c) Minimize the amount of soil exposed during construction activity;
   (d) Minimize the disturbance of steep slopes;
   (e) Minimize sediment discharges from the site. The design, installation, and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
   (f) If earth disturbance activities are located in close proximity to a surface water in the state, provide and maintain appropriate natural buffers if feasible and as necessary, around surface water in the state, depending on site-specific topography, sensitivity, and proximity to water bodies. Direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible. If providing buffers is infeasible, the permittee shall document the reason that natural buffers are infeasible and shall implement additional erosion and sediment controls to reduce sediment load;
   (g) Preserve native topsoil at the site, unless the intended function of a specific area of the site dictates that the topsoil be disturbed or removed, or it is infeasible; and
   (h) Minimize soil compaction. In areas of the construction site where final vegetative stabilization will occur or where infiltration practices will be installed, either:
      i. restrict vehicle and equipment use to avoid soil compaction; or

ii. prior to seeding or planting areas of exposed soil that have been compacted, use techniques that condition the soils to support vegetative growth, if necessary and feasible;

Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted.

(i) TCEQ does not consider stormwater control features (e.g., stormwater conveyance channels, storm drain inlets, sediment basins) to constitute "surface water" for the purposes of triggering the buffer requirement in Part III.G.1.(f) above.

2. *Soil stabilization*. Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased. Temporary stabilization must be completed no more than 14 calendar days after initiation of soil stabilization measures, and final stabilization must be achieved prior to termination of permit coverage. In arid, semi-arid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative non-vegetative stabilization measures must be employed as soon as practicable. Refer to Part III.F.2.(b) for complete erosion control and stabilization practice requirements. In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed.

3. *Dewatering*. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited, unless managed by appropriate controls.

4. *Pollution prevention measures*. Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

(a) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

(b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater;

(c) Minimize the exposure of waste materials by closing waste container lids at the end of the work day. For waste containers that do not have lids, where the container itself is not sufficiently secure enough to prevent the discharge of pollutants absent a cover and could leak, the permittee must provide either a cover (e.g., a tarp, plastic sheeting, temporary roof) to minimize exposure of wastes to precipitation, or a similarly effective means designed to minimize the discharge of pollutants (e.g., secondary containment);and

(d) Minimize the discharge of pollutants from spills and leaks, and implement chemical spill and leak prevention and response procedures.

5. *Prohibited discharges*. The following discharges are prohibited:

(a) Wastewater from wash out of concrete, unless managed by an appropriate control;

(b) Wastewater from wash out and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(c) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;

(d) Soaps or solvents used in vehicle and equipment washing; and

(e) Toxic or hazardous substances from a spill or other release.

6. *Surface outlets*. When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

Part IV. Stormwater Runoff from Concrete Batch Plants

Discharges of stormwater runoff from concrete batch plants present at regulated construction sites and operated as a construction support activity may be authorized under the provisions of this general permit, provided that the following requirements are met for concrete batch plant(s) authorized under this permit. Only the discharges of stormwater runoff and non-stormwater from concrete batch plants that meet the requirements of a construction support activity can be authorized under this permit (see the requirements for "Non-Stormwater Discharges" in Part II.A.3 and "Discharges of Stormwater Associated with Construction Support Activity" in Part II.A.2).

If discharges of stormwater runoff or non-stormwater from concrete batch plants are not authorized under this general permit, then discharges must be authorized under an alternative general permit or individual permit [see the requirement in Part II.A.2.(c)].

This permit does not authorize the discharge or land disposal of any wastewater from concrete batch plants at regulated construction sites. Authorization for these wastes must be obtained under an individual permit or an alternative general permit.

Section A. Benchmark Sampling Requirements

1. Operators of concrete batch plants authorized under this general permit shall sample the stormwater runoff from the concrete batch plants according to the requirements of this section of this general permit, and must conduct evaluations on the effectiveness of the SWP3 based on the following benchmark monitoring values:

Table 1. Benchmark Parameters

Benchmark Parameter	Benchmark Value	Sampling Frequency	Sample Type
Oil and Grease (*1)	15 mg/L	1/quarter (*2) (*3)	Grab (*4)
Total Suspended Solids (*1)	50 mg/L	1/quarter (*2) (*3)	Grab (*4)
pH	6.0 – 9.0 Standard Units	1/quarter (*2) (*3)	Grab (*4)
Total Iron(*1)	1.3 mg/L	1/quarter (*2) (*3)	Grab (*4)

(*1) All analytical results for these parameters must be obtained from a laboratory that is accredited based on rules located in 30 TAC §25.4 (a) or through the National Environmental Laboratory Accreditation Program (NELAP). Analysis must be performed using sufficiently sensitive methods for analysis that comply with the rules located in 40 CFR §136.1(c) and 40 CFR §122.44(i)(1)(iv).

(*2) When discharge occurs. Sampling is required within the first 30 minutes of discharge. If it is not practicable to take the sample, or to complete the sampling, within the first 30 minutes, sampling must be completed within the first hour of discharge. If sampling is not completed within the first 30 minutes of discharge, the reason must be documented and attached to all required reports and records of the sampling activity.

(*3) Sampling must be conducted at least once during each of the following periods. The first sample must be collected during the first full quarter that a stormwater discharge occurs from a concrete batch plant authorized under this general permit.

January through March

April through June

July through September

October through December

For projects lasting less than one full quarter, a minimum of one sample shall be collected, provided that a stormwater discharge occurred at least once following submission of the NOI or following the date that automatic authorization was obtained under Section II.E.2, and prior to terminating coverage.

(*4) A grab sample shall be collected from the stormwater discharge resulting from a storm event that is at least 0.1 inches of measured precipitation that occurs at least 72 hours from the previously measurable storm event. The sample shall be collected downstream of the concrete batch plant, and where the discharge exits any BMPs utilized to handle the runoff from the batch plant, prior to commingling with any other water authorized under this general permit.

2. The permittee must compare the results of sample analyses to the benchmark values above, and must include this comparison in the overall assessment of the SWP3's effectiveness. Analytical results that exceed a benchmark value are not a violation of this permit, as these values are not numeric effluent limitations. Results of analyses are indicators that modifications of the SWP3 should be assessed and may be necessary to protect water quality. The operator must investigate the cause for each exceedance and must document the results of this investigation in the SWP3 by the end of the quarter following the sampling event.

   The operator's investigation must identify the following:

   (a) any additional potential sources of pollution, such as spills that might have occurred;

   (b) necessary revisions to good housekeeping measures that are part of the SWP3;

   (c) additional BMPs, including a schedule to install or implement the BMPs; and

   (d) other parts of the SWP3 that may require revisions in order to meet the goal of the benchmark values.

   Background concentrations of specific pollutants may also be considered during the investigation. If the operator is able to relate the cause of the exceedance to background concentrations, then subsequent exceedances of benchmark values for that pollutant may be resolved by referencing earlier findings in the SWP3. Background concentrations may be identified by laboratory analyses of samples of stormwater run-on to the permitted facility, by laboratory analyses of samples of stormwater run-off from adjacent non-industrial areas, or by identifying the pollutant is a naturally occurring material in soils at the site.

Section B. Best Management Practices (BMPs) and SWP3 Requirements

Minimum SWP3 Requirements – The following are required in addition to other SWP3 requirements listed in this general permit, which include, but are not limited to the applicable requirements located in Part III.F.7 of this general permit, as follows:

1. Description of Potential Pollutant Sources - The SWP3 must provide a description of potential sources (activities and materials) that can cause, have a reasonable potential to cause or contribute to a violation of water quality standards or have been found to cause, or contribute to, the loss of a designated use of surface water in the state in stormwater discharges associated with concrete batch plants authorized under this permit. The SWP3 must describe the implementation of practices that will be used to minimize to the extent practicable the discharge of pollutants in stormwater discharges associated with industrial activity and non-stormwater discharges (described in Part II.A.3 of this general permit), in compliance with the terms and conditions of this general permit, including the protection of water quality, and must ensure the implementation of these practices.

   The following must be developed, at a minimum, in support of developing this description:

   (a) Drainage – The site map must include the following information:

      i. the location of all outfalls for stormwater discharges associated with concrete batch plants that are authorized under this permit;

      ii. a depiction of the drainage area and the direction of flow to the outfall(s);

      iii. structural controls used within the drainage area(s);

      iv. the locations of the following areas associated with concrete batch plants that are exposed to precipitation: vehicle and equipment maintenance activities (including fueling, repair, and storage areas for vehicles and equipment scheduled for maintenance); areas used for the treatment, storage, or disposal of wastes; liquid storage tanks; material processing and storage areas; and loading and unloading areas; and

      v. the locations of the following: any bag house or other dust control device(s); recycle/sedimentation pond, clarifier or other device used for the treatment of facility wastewater (including the areas that drain to the treatment device); areas with significant materials; and areas where major spills or leaks have occurred.

   (b) Inventory of Exposed Materials – A list of materials handled at the concrete batch plant that may be exposed to stormwater and that have a potential to affect the quality of stormwater discharges associated with concrete batch plants that are authorized under this general permit.

   (c) Spills and Leaks - A list of significant spills and leaks of toxic or hazardous pollutants that occurred in areas exposed to stormwater and that drain to stormwater outfalls associated with concrete batch plants authorized under this general permit must be developed, maintained, and updated as needed.

   (d) Sampling Data - A summary of existing stormwater discharge sampling data must be maintained, if available.

2. Measures and Controls - The SWP3 must include a description of management controls to regulate pollutants identified in the SWP3's "Description of Potential Pollutant Sources" from Part IV.B.1 of this permit, and a schedule for implementation of the measures and controls. This must include, at a minimum:

(a) Good Housekeeping - Good housekeeping measures must be developed and implemented in the area(s) associated with concrete batch plants.

i. Operators must prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), settled dust, or other significant materials from paved portions of the site that are exposed to stormwater. Measures used to minimize the presence of these materials may include regular sweeping or other equivalent practices. These practices must be conducted at a frequency that is determined based on consideration of the amount of industrial activity occurring in the area and frequency of precipitation, and shall occur at least once per week when cement or aggregate is being handled or otherwise processed in the area.

ii. Operators must prevent the exposure of fine granular solids, such as cement, to stormwater. Where practicable, these materials must be stored in enclosed silos, hoppers or buildings, in covered areas, or under covering.

(b) Spill Prevention and Response Procedures - Areas where potential spills that can contribute pollutants to stormwater runoff, and the drainage areas from these locations, must be identified in the SWP3. Where appropriate, the SWP3 must specify material handling procedures, storage requirements, and use of equipment. Procedures for cleaning up spills must be identified in the SWP3 and made available to the appropriate personnel.

(c) Inspections - Qualified facility personnel (i.e., a person or persons with knowledge of this general permit, the concrete batch plant, and the SWP3 related to the concrete batch plant(s) for the site) must be identified to inspect designated equipment and areas of the facility specified in the SWP3. Personnel conducting these inspections are not required to have signatory authority for inspection reports under 30 TAC §305.128. Inspections of facilities in operation must be performed once every seven days. Inspections of facilities that are not in operation must be performed at a minimum of once per month. The current inspection frequency being implemented at the facility must be recorded in the SWP3. The inspection must take place while the facility is in operation and must, at a minimum, include all areas that are exposed to stormwater at the site, including material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, truck wash down and equipment cleaning areas. Follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections must be maintained and be made readily available for inspection upon request.

(d) Employee Training - An employee training program must be developed to educate personnel responsible for implementing any component of the SWP3, or personnel otherwise responsible for stormwater pollution prevention, with the provisions of the SWP3. The frequency of training must be documented in the SWP3, and at a minimum, must consist of one training prior to the initiation of operation of the concrete batch plant.

(e) Record Keeping and Internal Reporting Procedures - A description of spills and similar incidents, plus additional information that is obtained regarding the quality and quantity of stormwater discharges, must be included in the SWP3. Inspection and maintenance activities must be documented and records of those inspection and maintenance activities must be incorporated in the SWP3.

(f) Management of Runoff - The SWP3 shall contain a narrative consideration for reducing the volume of runoff from concrete batch plants by diverting runoff or otherwise managing runoff, including use of infiltration, detention ponds, retention ponds, or reusing of runoff.

3. Comprehensive Compliance Evaluation – At least once per year, one or more qualified personnel (i.e., a person or persons with knowledge of this general permit, the concrete batch plant, and the SWP3 related to the concrete batch plant(s) for the site) shall conduct a compliance evaluation of the plant. The evaluation must include the following.

   (a) Visual examination of all areas draining stormwater associated with regulated concrete batch plants for evidence of, or the potential for, pollutants entering the drainage system. These include, but are not limited to: cleaning areas, material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, and truck wash down and equipment cleaning areas. Measures implemented to reduce pollutants in runoff (including structural controls and implementation of management practices) must be evaluated to determine if they are effective and if they are implemented in accordance with the terms of this permit and with the permittee's SWP3. The operator shall conduct a visual inspection of equipment needed to implement the SWP3, such as spill response equipment.

   (b) Based on the results of the evaluation, the following must be revised as appropriate within two weeks of the evaluation: the description of potential pollutant sources identified in the SWP3 (as required in Part IV.B.1, "Description of Potential Pollutant Sources"); and pollution prevention measures and controls identified in the SWP3 (as required in Part IV.B.2, "Measures and Controls"). The revisions may include a schedule for implementing the necessary changes.

   (c) The permittee shall prepare and include in the SWP3 a report summarizing the scope of the evaluation, the personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the SWP3, and actions taken in response to the findings of the evaluation. The report must identify any incidents of noncompliance. Where the report does not identify incidences of noncompliance, the report must contain a statement that the evaluation did not identify any incidence(s), and the report must be signed according to 30 TAC §305.128, relating to Signatories to Reports.

   (d) The Comprehensive Compliance Evaluation may substitute for one of the required inspections delineated in Part IV.B.2.(c) of this general permit.

Section C. Prohibition of Wastewater Discharges

Wastewater discharges associated with concrete production including wastewater disposal by land application are not authorized under this general permit. These wastewater discharges must be authorized under an alternative TCEQ water quality permit or otherwise disposed of in an authorized manner. Discharges of concrete truck wash out at construction sites may be authorized if conducted in accordance with the requirements of Part V of this general permit.

Part V. Concrete Truck Wash Out Requirements

This general permit authorizes the land disposal of wash out from concrete trucks at construction sites regulated under this general permit, provided the following requirements are met. Any discharge of concrete production waste water to surface water in the state must be authorized under a separate TCEQ general permit or individual permit.

A. Discharge of concrete truck wash out water to surface water in the state, including discharge to storm sewers, is prohibited by this general permit.

B. Concrete truck wash out water shall be disposed in areas at the construction site where structural controls have been established to prevent discharge to surface water

in the state, or to areas that have a minimal slope that allow infiltration and filtering of wash out water to prevent discharge to surface water in the state. Structural controls may consist of temporary berms, temporary shallow pits, temporary storage tanks with slow rate release, or other reasonable measures to prevent runoff from the construction site.

C. Wash out of concrete trucks during rainfall events shall be minimized. The discharge of concrete truck wash out water is prohibited at all times, and the operator shall insure that its BMPs are sufficient to prevent the discharge of concrete truck wash out as the result of rainfall or stormwater runoff.

D. The disposal of wash out water from concrete trucks, made under authorization of this general permit must not cause or contribute to groundwater contamination.

E. If a SWP3 is required to be implemented, the SWP3 shall include concrete wash out areas on the associated site map.

Part VI. Retention of Records

The permittee must retain the following records for a minimum period of three (3) years from the date that a NOT is submitted as required in Part II.F.1 and 2 of this permit. For activities in which an NOT is not required, records shall be retained for a minimum period of three (3) years from the date that the operator terminates coverage under Section II.F.3 of this permit. Records include:

A. A copy of the SWP3;

B. All reports and actions required by this permit, including a copy of the construction site notice;

C. All data used to complete the NOI, if an NOI is required for coverage under this general permit; and

D. All records of submittal of forms submitted to the operator of any MS4 receiving the discharge and to the secondary operator of a large construction site, if applicable.

Part VII. Standard Permit Conditions

A. The permittee has a duty to comply with all permit conditions. Failure to comply with any permit condition is a violation of the permit and statutes under which it was issued (CWA and TWC), and is grounds for enforcement action, for terminating, revoking and reissuance, or modification, or denying coverage under this general permit, or for requiring a discharger to apply for and obtain an individual TPDES permit, based on rules located in TWC §23.086, 30 TAC §305.66 and 40 CFR §122.41 (a).

B. Authorization under this general permit may be modified, suspended, revoked and reissued, terminated or otherwise suspended for cause, based on rules located in TWC §23.086, 30 TAC §305.66 and 40 CFR §122.41(f). Filing a notice of planned changes or anticipated non-compliance by the permittee does not stay any permit condition. The permittee must furnish to the executive director, upon request and within a reasonable time, any information necessary for the executive director to determine whether cause exists for modifying, revoking and reissuing, terminating or, otherwise suspending authorization under this permit, based on rules located in TWC §23.086, 30 TAC §305.66 and 40 CFR §122.41 (h). Additionally, the permittee must provide to the executive director, upon request, copies of all records that the permittee is required to maintain as a condition of this general permit.

C. It is not a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the permit conditions.

D. Inspection and entry shall be allowed under TWC Chapters 26-28, Texas Health and Safety Code §§361.032-361.033 and 361.037, and 40 CFR §122.41(i). The statement in TWC §26.014 that commission entry of a facility shall occur according to an establishment's rules and regulations concerning safety, internal security, and fire protection is not grounds for denial or restriction of entry to any part of the facility or site, but merely describes the commission's duty to observe appropriate rules and regulations during an inspection.

E. The discharger is subject to administrative, civil, and criminal penalties, as applicable, under TWC Chapter 7 for violations including but not limited to the following:

1. negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under CWA §402, or any requirement imposed in a pretreatment program approved under CWA §§402(a)(3) or 402(b)(8);
2. knowingly making any false statement, representation, or certification in any record or other document submitted or required to be maintained under a permit, including monitoring reports or reports of compliance or noncompliance; and
3. knowingly violating CWA §303 and placing another person in imminent danger of death or serious bodily injury.

F. All reports and other information requested by the executive director must be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

G. Authorization under this general permit does not convey property or water rights of any sort and does not grant any exclusive privilege.

H. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

I. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

J. The permittee shall comply with the monitoring and reporting requirements in 40 CFR §122.41(j) and (l), as applicable.

K. Analysis must be performed using sufficiently sensitive methods for analysis that comply with the rules located in 40 CFR §136.1(c) and 40 CFR §122.44(i)(1)(iv).

Part VIII. Fees

A. A fee of must be submitted along with the NOI:

1. $325 if submitting a paper NOI, or
2. $225 if submitting an NOI electronically.

B. Fees are due upon submission of the NOI. An NOI will not be declared administratively complete unless the associated fee has been paid in full.

C. No separate annual fees will be assessed for this general permit. The Water Quality Annual Fee has been incorporated into the NOI fees as described above.

D. Effective September 1, 2018, applicants seeking coverage under an NOI or LREW must submit their application using the online e-Permits system available through the TCEQ website, or request and obtain a waiver from electronic reporting from the TCEQ. Waivers from electronic reporting are not transferrable and expire on the same date as the authorization to discharge.

Appendix A: Automatic Authorization

Periods of Low Erosion Potential by County – Eligible Date Ranges

Andrews: Nov. 15 - Apr. 30

Archer: Dec. 15 - Feb. 14

Armstrong: Nov. 15 - Apr. 30

Bailey: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Baylor: Dec. 15 - Feb. 14

Borden: Nov. 15 - Apr. 30

Brewster: Nov. 15 - Apr. 30

Briscoe: Nov. 15 - Apr. 30

Brown: Dec. 15 - Feb. 14

Callahan: Dec. 15 - Feb. 14

Carson: Nov. 15 - Apr. 30

Castro: Nov. 15 - Apr. 30

Childress: Dec. 15 - Feb. 14

Cochran: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Coke: Dec. 15 - Feb. 14

Coleman: Dec. 15 - Feb. 14

Collingsworth: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

Concho: Dec. 15 - Feb. 14

Cottle: Dec. 15 - Feb. 14

Crane: Nov. 15 - Apr. 30

Crockett: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Crosby: Nov. 15 - Apr. 30

Culberson: Nov. 1 - May 14

Dallam: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Dawson: Nov. 15 - Apr. 30

Deaf Smith: Nov. 15 - Apr. 30

Dickens: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Dimmit: Dec. 15 - Feb. 14

Donley: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

Eastland: Dec. 15 - Feb. 14

Ector: Nov. 15 - Apr. 30

Edwards: Dec. 15 - Feb. 14

El Paso: Jan. 1 - Jul. 14, or May 15 - Jul. 31, or Jun. 1 - Aug. 14, or Jun. 15 - Sept. 14, or Jul. 1 - Oct. 14, or Jul. 15 - Oct. 31, or Aug. 1 - Apr. 30, or Aug. 15 - May 14, or Sept. 1 - May 30, or Oct. 1 - Jun. 14, or Nov. 1 - Jun. 30, or Nov. 15 - Jul. 14

Fisher: Dec. 15 - Feb. 14

Floyd: Nov. 15 - Apr. 30

Foard: Dec. 15 - Feb. 14

Gaines: Nov. 15 - Apr. 30

Garza: Nov. 15 - Apr. 30

Glasscock: Nov. 15 - Apr. 30

Hale: Nov. 15 - Apr. 30

Hall: Feb. 1 - Mar. 30

Hansford: Nov. 15 - Apr. 30

Hardeman: Dec. 15 - Feb. 14

Hartley: Nov. 15 - Apr. 30

Haskell: Dec. 15 - Feb. 14

Hockley: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Howard: Nov. 15 - Apr. 30

Hudspeth: Nov. 1 - May 14

Hutchinson: Nov. 15 - Apr. 30

Irion: Dec. 15 - Feb. 14

Jeff Davis: Nov. 1 - Apr. 30 or Nov. 15 - May 14

Jones: Dec. 15 - Feb. 14

Kent: Nov. 15 - Jan. 14 or Feb. 1 - Mar. 30

Kerr: Dec. 15 - Feb. 14

Kimble: Dec. 15 - Feb. 14

King: Dec. 15 - Feb. 14

Kinney: Dec. 15 - Feb. 14

Knox: Dec. 15 - Feb. 14

Lamb: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Loving: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Lubbock: Nov. 15 - Apr. 30

Lynn: Nov. 15 - Apr. 30

Martin: Nov. 15 - Apr. 30

Mason: Dec. 15 - Feb. 14

Maverick: Dec. 15 - Feb. 14

McCulloch: Dec. 15 - Feb. 14

Menard: Dec. 15 - Feb. 14

Midland: Nov. 15 - Apr. 30

Mitchell: Nov. 15 - Apr. 30

Moore: Nov. 15 - Apr. 30

Motley: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Nolan: Dec. 15 - Feb. 14

Oldham: Nov. 15 - Apr. 30

Parmer: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Pecos: Nov. 15 - Apr. 30

Potter: Nov. 15 - Apr. 30

Presidio: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Randall: Nov. 15 - Apr. 30

Reagan: Nov. 15 - Apr. 30

Real: Dec. 15 - Feb. 14

Reeves: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Runnels: Dec. 15 - Feb. 14

Schleicher: Dec. 15 - Feb. 14

Scurry: Nov. 15 - Apr. 30

Shackelford: Dec. 15 - Feb. 14

Sherman: Nov. 15 - Apr. 30

Stephens: Dec. 15 - Feb. 14

Sterling: Nov. 15 - Apr. 30

Stonewall: Dec. 15 - Feb. 14

Sutton: Dec. 15 - Feb. 14

Swisher: Nov. 15 - Apr. 30

Taylor: Dec. 15 - Feb. 14

Terrell: Nov. 15 - Apr. 30

Terry: Nov. 15 - Apr. 30

Throckmorton: Dec. 15 - Feb. 14

Tom Green: Dec. 15 - Feb. 14

Upton: Nov. 15 - Apr. 30

Uvalde: Dec. 15 - Feb. 14

Val Verde: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Ward: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Wichita: Dec. 15 - Feb. 14

Wilbarger: Dec. 15 - Feb. 14

Winkler: Nov. 1 - Apr. 30, or Nov. 15 - May 14

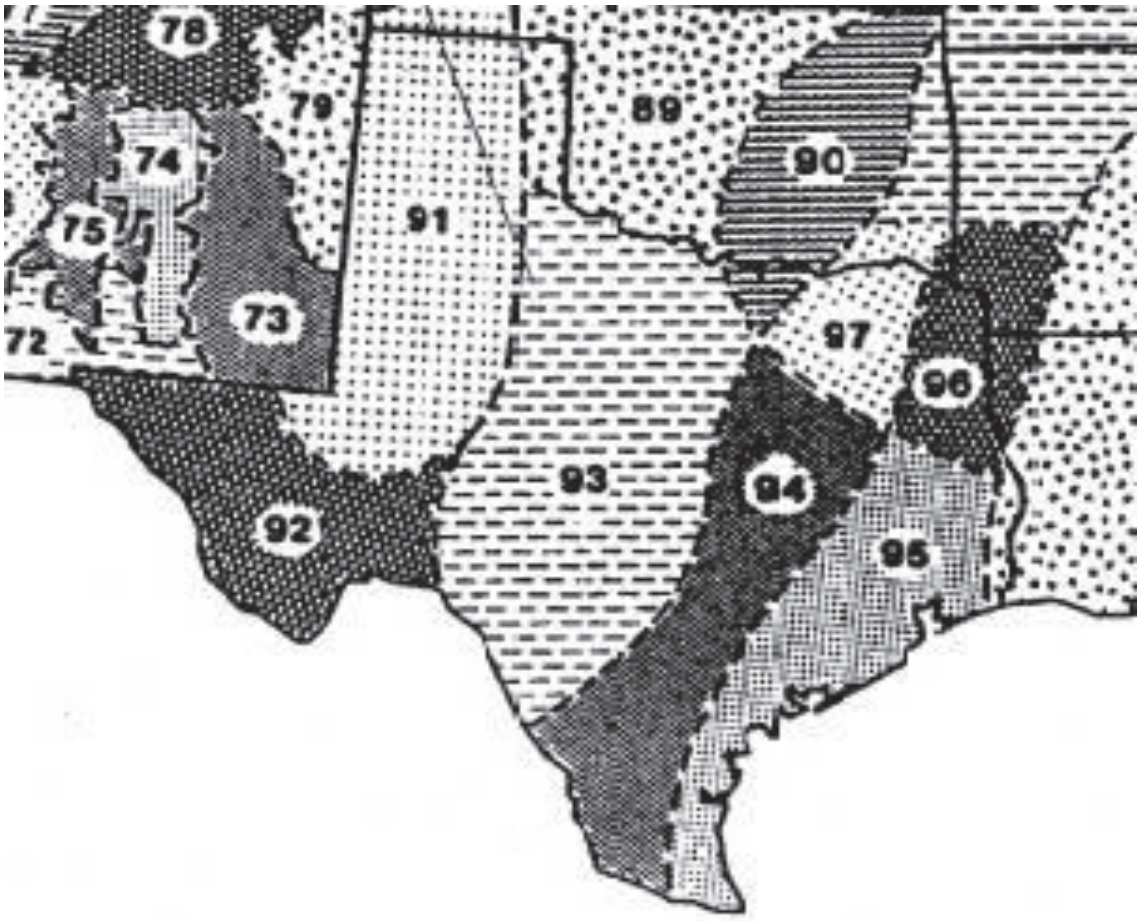
Yoakum: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Young: Dec. 15 - Feb. 14

Wheeler: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

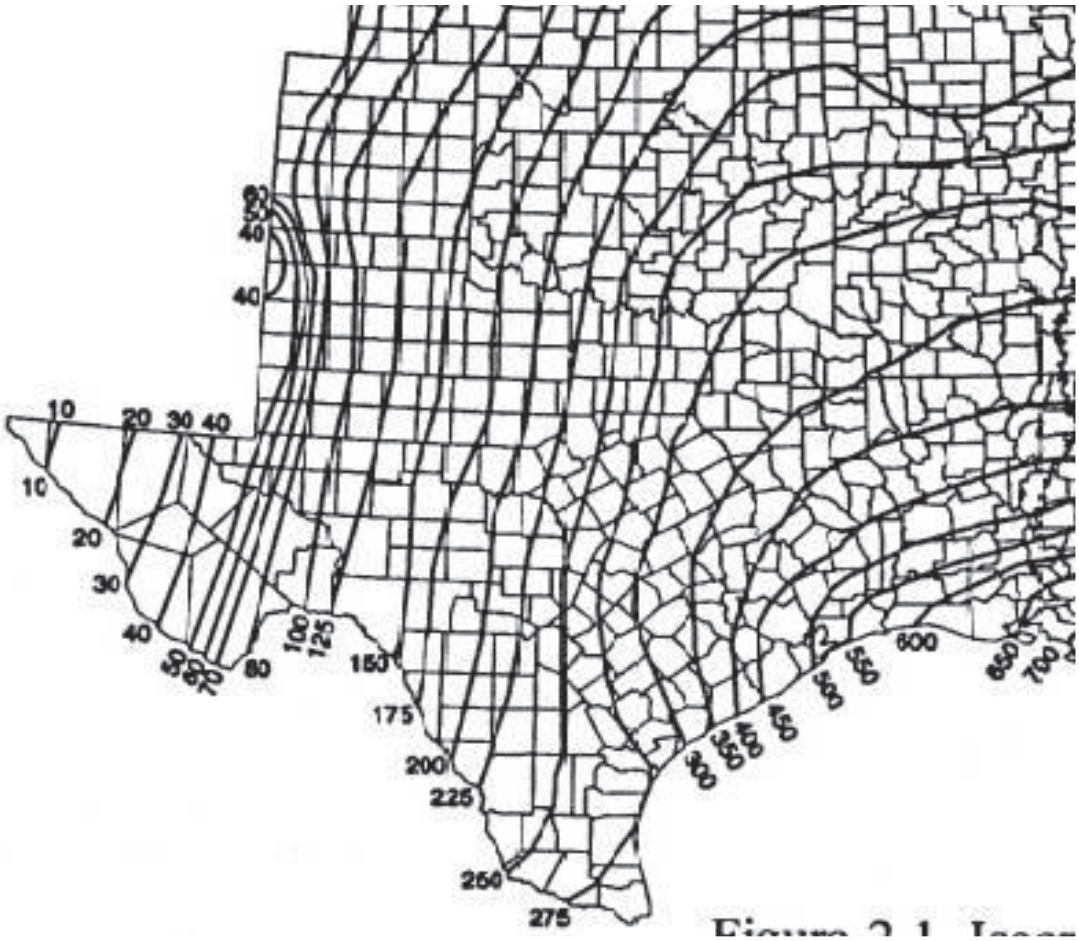
Zavala: Dec. 15 - Feb. 14

Appendix B: Erosivity Index (EI) Zones in Texas



Adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

Appendix C: Isoerodent Map



Adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

Appendix D: Erosivity Indices for EI Zones in Texas

Periods:

EI #	1/1	1/16	1/31	2/15	3/1	3/16	3/31	4/15	4/30	5/15	5/30	6/14	6/29	7/14	7/29	8/13	8/28	9/12	9/27	10/12	10/27	11/11	11/26	12/11	12/31
89	0	1	1	2	3	4	7	2	8	27	38	48	55	62	69	76	83	90	94	97	98	99	100	100	100
90	0	1	2	3	4	6	8	13	21	29	37	46	54	60	65	69	74	81	87	92	95	97	98	99	100
91	0	0	0	0	1	1	1	2	6	16	29	39	46	53	60	67	74	81	88	95	99	99	100	100	100
92	0	0	0	0	1	1	1	2	6	16	29	39	46	53	60	67	74	81	88	95	99	99	100	100	100
93	0	1	1	2	3	4	6	8	13	25	40	49	56	62	67	72	76	80	85	91	97	98	99	99	100
94	0	1	2	4	6	8	10	15	21	29	38	47	53	57	61	65	70	76	83	88	91	94	96	98	100
95	0	1	3	5	7	9	11	14	18	27	35	41	46	51	57	62	68	73	79	84	89	93	96	98	100
96	0	2	4	6	9	12	17	23	30	37	43	49	54	58	62	66	70	74	78	82	86	90	94	97	100
97	0	1	3	5	7	10	14	20	28	37	48	56	61	64	68	72	77	81	86	89	92	95	98	99	100
106	0	3	6	9	13	17	21	27	33	38	44	49	55	61	67	71	75	78	81	84	86	90	94	97	100

* Each period begins on the date listed in the table above and lasts until the day before the following period. The final period begins on December 11 and ends on December 31.

Table adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

Appendix C – Copy of NOI and TCEQ Authorization email

INSERT COPY OF NOI AND TCEQ'S AUTHORIZATION EMAIL PROVIDING COVERAGE UNDER THE CGP

Appendix D – Copy of Inspection Form

(See following pages)

Appendix E – Copy of Corrective Action Form

(See following pages)

Appendix F – *Sample* SWPPP Amendment Log

Instructions:

- Create a log here of changes and updates to the SWPPP. You may use the table below to track these modifications.
- SWPPP modifications are required pursuant in the following circumstances:
  - ✓ Whenever new operators become active in construction activities on your site, or you make changes to your construction plans, stormwater controls, or other activities at your site that are no longer accurately reflected in your SWPPP;
  - ✓ To reflect areas on your site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;
  - ✓ If inspections or investigations determine that SWPPP modifications are necessary for compliance with this permit;
  - ✓ Where TCEQ determines it is necessary to install and/or implement additional controls at your site in order to meet requirements of the permit; and
- To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the stormwater control measures implemented at the site.
- If applicable, if a change in chemical treatment systems or chemically-enhanced stormwater control is made, including use of a different treatment chemical, different dosage rate, or different area of application.

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	

Appendix G – *Sample* Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

Appendix H – *Sample* Grading and Stabilization Activities Log

Date Grading Activity Initiated	**Description of Grading Activity**	**Description of Stabilization Measure and Location**	**Date Grading Activity Ceased** (Indicate Temporary or Permanent)	**Date When Stabilization Measures Initiated**
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE

Appendix I – *Sample* SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ☐ **Sediment and Erosion Controls**
- ☐ **Stabilization Controls**
- ☐ **Pollution Prevention Measures**
- ☐ **Emergency Procedures**
- ☐ **Inspections/Corrective Actions**

Specific Training Objective:_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		

Appendix J – *Sample* Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit (CGP), at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of TCEQ's CGP, and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix I.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

Appendix L – Rainfall Gauge Recording

Use the table below to record the rainfall gauge readings at the beginning and end of each work day. An example table follows.

Month/Year			Month/Year			Month/Year		
Day	Start time	End time	Day	Start time	End time	Day	Start time	End time
1			1			1		
2			2			2		
3			3			3		
4			4			4		
5			5			5		
6			6			6		
7			7			7		
8			8			8		
9			9			9		
10			10			10		
11			11			11		
12			12			12		
13			13			13		
14			14			14		
15			15			15		
16			16			16		
17			17			17		
18			18			18		
19			19			19		
20			20			20		
21			21			21		
22			22			22		
23			23			23		
24			24			24		
25			25			25		
26			26			26		
27			27			27		
28			28			28		
29			29			29		
30			30			30		
31			31			31		

Example Rainfall Gauge Recording

April 2017			May 2017			June 2017		
Day	7:00 am	4:400 pm	Day	7:00 am	4:00 pm	Day	7:00 am	4:00 pm
1	--	--	1	0.2	0	1	0	0.4
2	--	--	2	0	0	2	0	0
3	0	0	3	0.1	0.3	3	--	--
4	0	0.3	4	0	0	4	--	--
5	0	0	5	0	0	5	0	0

In this example (for only partial months), 0.25-inch rainfall inspections would have been conducted on April 4 and June 1.

Appendix M – ERI

Environmental Resource Inventory

For the City of Austin
Related to LDC 25-8-121, City Code 30-5-121, ECM 1.3.0 & 1.10.0

Case No.: -
_____
(City use only)

The ERI is required for projects that meet one or more of the criteria listed in LDC 25-8-121(A), City Code 30-5-121(A).

1. SITE/PROJECT NAME: Wild Horse Ranch Wastewater Treatment Plant Expansion

2. COUNTY APPRAISAL DISTRICT PROPERTY ID (#'S): Travis CAD Parcel 848799

3. ADDRESS/LOCATION OF PROJECT: 10621 Blue Bluff Road, Manor, Texas 78653

4. WATERSHED: Gilleland Creek Watershed

5. THIS SITE IS WITHIN THE *(Check all that apply)*
   Edwards Aquifer Recharge Zone* *(See note below)*..... ☐ Yes ☒ No
   Edwards Aquifer Contributing Zone*..... ☐ Yes ☒ No
   Edwards Aquifer 1500 ft Verification Zone*..... ☐ Yes ☒ No
   Barton Spring Zone* ..... ☐ Yes ☒ No
   **(as defined by the City of Austin – LDC 25-8-2 or City Code 30-5-2)*

   Note: If the property is over the Edwards Aquifer Recharge zone, the Hydrogeologic Report and karst surveys must be completed and signed by a Professional Geoscientist Licensed in the State of Texas.

6. DOES THIS PROJECT PROPOSE FLOODPLAIN MODIFICATION?..... ☐ YES** ☒ NO
   If yes, then check all that apply:
   ☐ *(1) The floodplain modifications proposed are necessary to protect the public health and safety;*
   ☐ *(2) The floodplain modifications proposed would provide a significant, demonstrable environmental benefit, as determined by a **functional assessment** of floodplain health as prescribed by the Environmental Criteria Manual (ECM), or*
   ☐ *(3) The floodplain modifications proposed are necessary for development allowed in the critical water **quality zone under LDC 25-8-261 or 25-8-262, City Code 30-5-261 or 30-5-262.***
   ☐ *(4) The floodplain modifications proposed are outside of the Critical Water Quality zone in an area determined to be in poor or fair condition by a **functional assessment** of floodplain health.*

   **** If yes, then a functional assessment must be completed and attached to the ERI (see ECM 1.7 and Appendix X for forms and guidance) unless conditions 1 or 3 above apply.**

7. IF THE SITE IS WITHIN AN URBAN OR SUBURBAN WATERSHED, DOES THIS PROJECT PROPOSE A UTILITY LINE PARALLEL TO AND WITHIN THE CRITICAL WATER QUALITY ZONE? ..... ☐ YES*** ☒ NO

   *****If yes, then riparian restoration is required by LDC 25-8-261€ or City Code 30-5-261€ and a functional assessment must be completed and attached to the ERI (see ECM1.5 and Appendix X for forms and guidance).**

8. There is a total of 0 Critical Environmental Feature(s) (CEFs) on or within 150 feet of the project site. If CEF(s) are present, attach a detailed **DESCRIPTION** of the CEF(s), color **PHOTOGRAPHS**, the **CEF WORKSHEET** and provide **DESCRIPTIONS** of the proposed CEF buffer(s) and/or wetland mitigation. Provide the number of each type of CEFs on or within 150 feet of the site *(Please provide the number of CEFs)*:

0 (#'s) Spring(s)/Seep(s) 0 (#'s) Point Recharge Feature(s) 0 (#'s) Bluff(s)

0 (#'s) Canyon Rimrock(s) 0 (#'s) Wetland(s)

Note: Standard buffers for CEFs are 150 feet, with a maximum of 300 feet for point recharge features. Except for wetlands, if the standard buffer is not provided, you must provide a written request for an administrative variance from LDC 25-8-281(C)(1) and provide written findings of fact to support your request. Request forms for administrative variances from requirements stated in LDC 25-8-281 are available from Watershed Protection Department.

Baer Engineering conducted a field survey of the assessment area on December 14, 2020. The assessment area is defined as the project area plus a 150-ft buffer. Approximately 0.12 inches of rain were recorded near the project area in the two weeks before the field survey. No drought status was noted by the Lower Colorado River Authority hydromet.

For wetland identification, Baer Engineering used the recommended routine method outlined in the COA ECM Section 1.10.3. This method assumes adequate hydrology and hydric soils if the area under examination is dominated (over 50% vegetative cover during growing season) by Facultative-wet and/or Obligate plant species (as listed in the USACE-provided National Wetland Plant List: 2016 wetland ratings, Great Plains Region) and an abrupt boundary is evident between these Facultative-wet and/or Obligate plant community and the Upland plant communities.

No CEFs were identified in Baer Engineering's survey.

9. The following site maps are attached at the end of this report *(Check all that apply and provide)*:

All ERI reports must include:

☒ **Site Specific Geologic Map with 2-ft Topography – Figure 1**

☒ **Historic Aerial Photo of the Site – Figure 2**

☒ **Site Soil Map – Figure 3**

☒ **Critical Environmental Features and Well Location Map on current Aerial Photo with 2-ft Topography – Figure 4**

Only if present on site *(Maps can be combined)*: **- Figure 5**

☐ **Edwards Aquifer Recharge Zone with the 1500-ft Verification Zone**
(Only if site is over or within 1500 feet the recharge zone)

☐ **Edwards Aquifer Contributing Zone**

☐ **Water Quality Transition Zone (WQTZ)**

☒ **Critical Water Quality Zone (CWQZ)**

☐ **City of Austin Fully Developed Floodplains for all water courses with up to 64-acres of drainage**

10. **HYDROGEOLOGIC REPORT – Provide a description of site soils, topography, and site-specific geology below (Attach additional sheets if needed):**

Surface Soils on the project site are summarized in the table below, using the SCS Hydrologic Soil Groups*. If there is more than one soil unit on the project site, show each soil unit on the site soils map.

Soil Series Unit Name & Subgroup**	Group*	Thickness (feet)	Percentage of Site
Ferris-Heiden complex (FhF3)	D	6.66	6.2%
Heiden clay (HeC2)	D	5.84	38.6%
Houston Black clay (HnB)	D	8.66	5.3%
Houston Black gravelly clay (HoD2)	D	8.66	41.0%
Tinn clay (Tw)	D	6.66	8.8%

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, the native soils mapped in the project area comprise five soil groups, listed above. The soil series descriptions for these soils, based on the Travis County Soil Survey, are provided below (USDA 1974).

***Soil Hydrologic Groups Definitions**
(Abbreviated)

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

**Subgroup Classification – See Classification of Soil Series Table in County Soil Survey.

FhF3:
These are clay soils with a very slow infiltration rate. These soils are typically found in rolling hills topography and have a severe erosion hazard. Surface soils are typically dark brown and typically are grayish-brown mottled with olive yellows below 15 inches. These soils are typically used for pasture land.

HeC2:
These are clay soils with a very slow infiltration rate. The natural surface topography of these soils is typically gently undulating. These soils typically have severe erosion hazard and are often used for pasture land.

HnB:
These soils have a very slow infiltration rate. The natural surface topography of these soils is typically gently undulating. These soils typically have a moderate erosion hazard and are often used for cultivation.

HoD2:
These are clay soils with a very slow infiltration rate. This soil typically occupies ridges and side slopes. Chert gravel, mostly 1 to 3 inches in diameter, covers 30 to 75 percent of the surface in most areas. The surface layer is dark-gray gravelly clay about 24 inches thick. The next layer, which extends to a depth of 70 inches, is gray clay that contains pockets of chert gravel.

Tw:
These are clay soils with a very slow infiltration rate. These soils are typically found in flood plains and are often used for pastureland and orchards. Because of the flooding typical of these areas, the surface coloration varies.

Description of Site Topography and Drainage *(Attach additional sheets if needed)*:

Information was gathered from desktop research, site assessment, and various maps. **PHOTOGRAPHS 1 THROUGH 4** show typical areas within the project area.

According to the COA Property Profile GIS Viewer 2017 Contour Layer, the elevation within the project site ranges from approximately 474 to 530 feet above mean sea level (COA 2017). The local topography within the project limits is graded flat in the wastewater treatment plant area and sloped on the narrow western area of the site. The general topography of the area slopes towards the tributary to Gilleland Creek. The tributary transects the site on the narrow western section, as shown in the attached **FIGURE 1**. Surface runoff from the site flows (from maintained landscaping/adjacent woods) to the nearby tributaries to Gilleland Creek.

The project is located in the Gilleland Creek watershed, which is classified as suburban by COA. Gilleland Creek flows into the Colorado River. The narrow western area of the site is within the FEMA-defined 100-year floodplain of Gilleland Creek and its tributaries (FEMA 2016). The majority of the existing wastewater treatment plant area is not within the FEMA-defined 100-year or 500-year floodplains. A preexisting rainwater capture system is within the FEMA-defined 500-year floodplain. The extent of the floodplain is shown in **FIGURE 5**.

The current land uses in the project area are a water treatment plant and vacant land.

Citations for this Section:

City of Austin. 2021. Property Profile GIS Viewer, 2017 Contours. Site Accessed on 1/05/2021. http://www.austintexas.gov/gis/propertyprofile/

List surface geologic units below:

Group	Formation	Member
Taylor Group	Navarro and Taylor Groups, undivided	--
--	Alluvium	--

Brief description of site geology *(Attach additional sheets if needed)*:

According to the University of Texas at Austin, Bureau of Economic Geology (BEG), Geologic Atlas of Texas (GAT), Austin Sheet, the site is underlain by Navarro and Taylor Group, undivided (Knt) and Quaternary alluvium (Qal) (BEG 1974). The GAT describes these formations as below:

- Knt is a Cretaceous formation of siltstone-mudstone and limestone. This layer is typically silty with clays and sandstone beds. Marine megafossils are present and the formation is typically light gray in color.
- Qal is a Quaternary formation that comprises silt, sand, clay, and gravel. These are typically in floodplains or former floodplains. Gravels include quartz, quartzite, limestone, chert, and petrified wood gravels. This formation typically varies in color due to the variety of gravels and sediments deposited.

Citations for this Section:

Bureau of Economic Geology. 1974. Geologic Atlas of Texas, Austin Sheet; Bureau of Economic Geology. The University of Texas at Austin.

Wells – Identify all recorded and unrecorded wells on site (test holes, monitoring, water, oil, unplugged, capped and/or abandoned wells, etc.):

There are __4__ (#) wells present on the project site and the locations are shown and labeled
__1__ (#'s) The wells are not in use and have been properly abandoned.
____ (#'s) The wells are not in use and will be properly abandoned.
____ (#'s) The wells are in use and comply with 16 TAC Chapter 76.
There are __0__(#'s) wells that are off-site and within 150 feet of this site.

The four wells shown in the TWDB Groundwater database are monitoring wells. Well locations and information have not been verified.

11. **THE VEGETATION REPORT** – Provide the information requested below:

Brief description of site plant communities *(Attach additional sheets if needed)*:

The project area is within the U.S. EPA defined Northern Blackland Prairie, described below:

> *The rolling to nearly level plains of the Northern Blackland Prairie ecoregion are underlain by interbedded chalks, marls, limestones, and shales of Cretaceous age. Soils are mostly fine-textured, dark, calcareous, and productive vertisols. Historical vegetation was dominated by little bluestem, big bluestem, yellow Indiangrass, and tall dropseed. In lowlands and more mesic sites, such as on some of the clayey vertisol soils in the higher precipitation areas to the northeast, dominant grasses were eastern gamagrass and switchgrass. Common forbs included asters, prairie bluet, prairie clovers, and black-eyed Susan. Stream bottoms were often wooded with bur oak, Shumard oak, sugar hackberry, elm, ash, eastern cottonwood, and pecan. Most of the prairie has been converted to cropland, non-native pasture, and expanding urban uses.*

The project area was characterized during the field work as having three distinct habitat types: **Mowed Landscaping, Deciduous Woodland,** and **Mesquite Scrubland/Grassland**.

Mowed Landscaping was characterized by maintained grasses within the treatment plant and occasional planted trees. The habitat dominantly consisted of Bermudagrass (*Cynodon dactylon*), with doveweed (*Croton texensis*) and silverleaf nightshade (*Solanum elaeagnifolium*). Cedar elm trees (*Umus crassifolia*) were landscaped around the property. Please refer to **PHOTOGRAPH 1.**

Deciduous Woodland included parts of the project area immediately west of the wastewater treatment plant. The tree canopy consisted primarily of live oak (*Quercus fusiformis*), cedar elm, and sugar hackberry (*Celtis laevigata*), with some ashe juniper (*Juniperis asheii*), and osage orange (*Maclura pomifera*). Groundcover consisted of greenbriar (*Smilax bona-nox*), Texas dewberry (*Rubus trivialis*), and Canada wild rye (*Elymus canadensis*). Please refer to **PHOTOGRAPH 2.**

The **Mesquite Scrubland/Grassland** area was observed between SH 130 and the deciduous woodland. Dominant canopy species included honey mesquite (*Prosopis glandulosa*), osage orange, and cedar elm. Canada wild rye, greenbriar, doveweed, and elbowbush (*Forestiera pubescens*) were common understory species. A tributary to Gilleland Creek ran through the scrubland, with patchy, limited hydrophytic vegetation mixed with upland vegetation on its banks. Species included bushy bluestem (*Andropogon glomeratus*), black willow (*Salix nigra*), and sand spikerush (*Eleocharis montevidensis*), with some sumpweed (*Iva annua*), and annual saltmarsh aster (*Symphyotrichum divaricatum*). Please refer to **PHOTOGRAPH 3-4.**

There is a woodland community on site..... ☒ Yes ☐ No *(Check one).*
If yes, list the dominant species below:

Scientific Name	Common Name
Amaranthus sp.	Pigweed
Baccharis neglecta	Roosevelt Weed
Celtis laevigata	Sugar Hackberry
Elymus canadensis	Canada Wild Rye
Gutierrezia sarothrae	Broom Snakeweed
Juniperis asheii	Ashe Juniper
Maclura pomifera	Osage Orange
Prosopis glandulosa	Honey Mesquite
Quercus fusiformis	Live Oak
Rubus trivialis	Texas Dewberry
Tridens texanus	Texas Tridens
Umus crassifolia	Cedar Elm
Xanthium strumarium	Rough Cocklebur

There is grassland/prairie/savanna on site ..... ☒ Yes ☐ No *(Check one).*
If yes, list the dominant species below:

Scientific Name	Common Name
Croton texensis	Doveweed
Cylindropuntia leptocaulis	Pencil cactus
Cynodon dactylon	Bermudagrass
Forestiera pubescens	Elbowbush
Hesperaloe rupicola	Red Yucca
Mahonia trifoliolata	Agarita
Opuntia engelmannii	Prickly Pear
Smilax bona-nox	Greenbriar
Solanum elaeagnifolium	Silverleaf Nightshade
Umus crassifolia	Cedar Elm

There is hydrophytic vegetation on site..... ☒ Yes ☐ No *(Check one).*
If yes, list the dominant species below:

Scientific Name	Common Name	Wetland Indicator Status
Andropogon glomeratus	Bushy bluestem	FACW

Eleocharis montevidensis	Sand Spikerush	FACW
Iva annua	Sumpweed	FAC
Salix nigra	Black Willow	FACW
Symphyotrichum divaricatum	Annual Saltmarsh Aster	OBL

A tree survey of all trees with a diameter of at least eight inches measured four and one-half feet above natural grade level has been completed on the site.
☒ YES ☐ NO *(Check one).*

12. **WASTEWATER REPORT** – Provide the information requested below.

Wastewater for the site will be treated by *(Check all that apply)*:

☐ On-site system(s)

☒ City of Austin Centralized sewage collection system

☐ Other Centralized collection system

Note: All sites that receive water or wastewater service from the Austin Water Utility must comply with City Code Chapter 15-12 and wells must be registered with the City of Austin

The site sewage collection system is designed and will be constructed to in accordance to all State, County and City standard specifications.
☐ YES ☐ NO *(Check one).*

Calculations of the size of the drainfield or wastewater irrigations area(s) are attached at the end of this report or shown on the site plan.
☐ YES ☐ NO ☒ Not Applicable *(Check one).*

Wastewater lines are proposed within the Critical Water Quality Zone?
☐ YES ☒ NO *(Check one).* If yes, then provide justification below:

Is the project site over the Edwards Aquifer?
☐ YES ☒ NO *(Check one).*

If yes, then describe the wastewater disposal systems proposed for the site, its treatment level and effects on receiving watercourses or the Edwards Aquifer.

13. **One (1) hard copy and one (1) electronic copy of the completed assessment have been provided.**

Date(s) ERI Field Assessment was performed: December 14, 2020

My signature certifies that to the best of my knowledge, the responses on this form accurately reflect all information requested.

Kenneth Sparks
Print Name

Signature

(512) 453-3733
Telephone

ksparks@baereng.com
Email address

Baer Engineering & Environmental Consulting
Name of Company

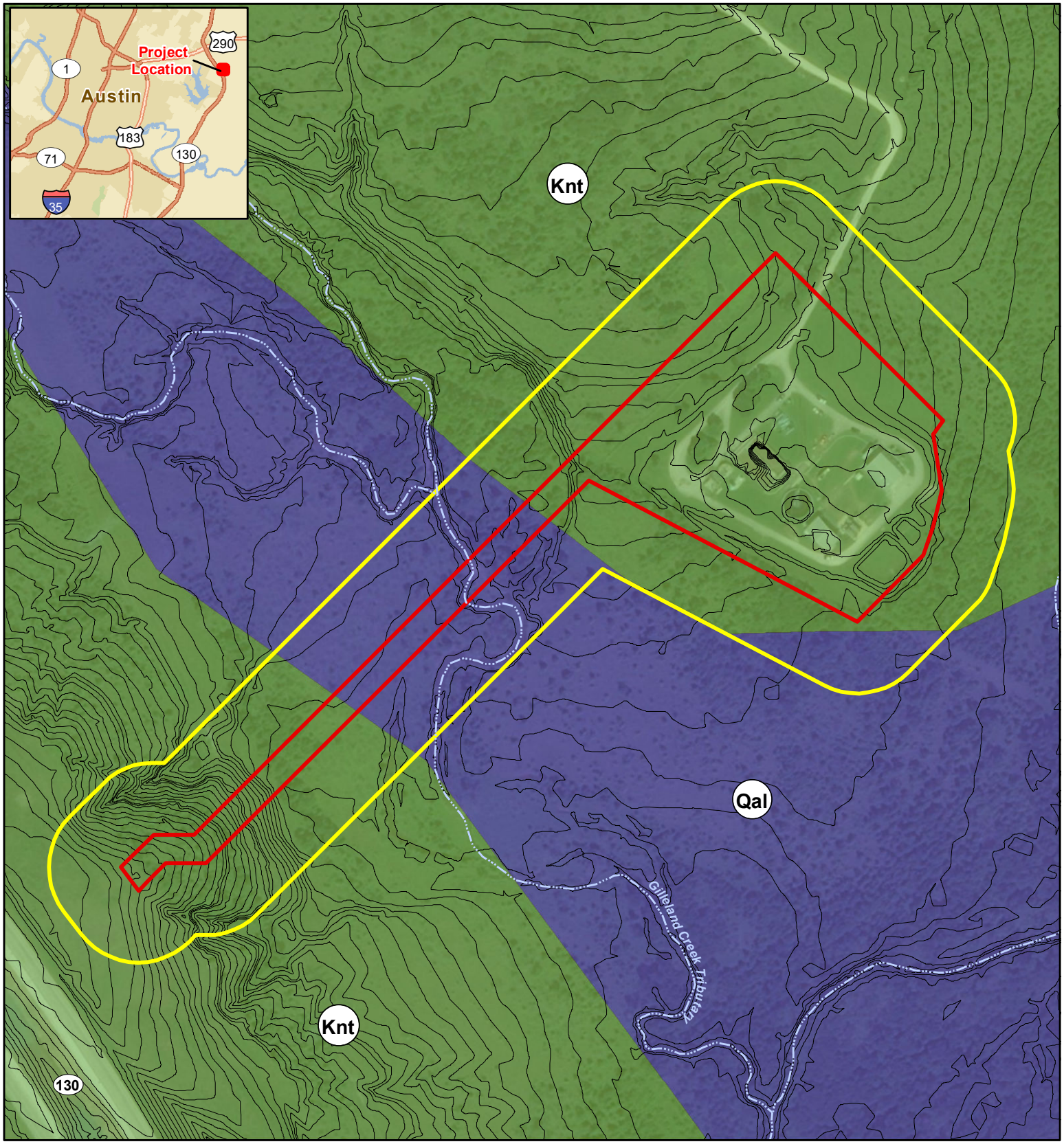
1/26/2021
Date

Photograph 1: A view of the mowed landscaping in the wastewater treatment plant.

Photograph 2: The deciduous woodland near the wastewater treatment plant.

Photograph 3: A general view of the mesquite scrubland/grassland west of the treatment plant near SH 130.

Photograph 4: Another view of the scrubland near a tributary of Gilleland Creek.



COA-mapped Creekline

COA Elevation Contour (2-ft)

Limits of Construction

Assessment Area

Geologic Formation (BEG):

Knt: Navarro and Taylor Groups

Qal: Quaternary alluvium

N W E S

Feet

0 150 300

Baer Project No. 202079.01
Date: January 22, 2021

TBPE Firm No. F-3181 TBPG Firm No. 50030

Base Map: World Imagery

Figure 1
Site-Specific Geology

Wild Horse Ranch Wastewater Treatment Plant Expansion
10621 Blue Bluff Road
Manor, Texas 78653

Baer Engineering
and Environmental Consulting, Inc.

COA-mapped Creekline

Limits of Construction

Assessment Area

N
W E
S

Feet

0 150 300

Baer Project No. 202079.01
Date: January 22, 2021

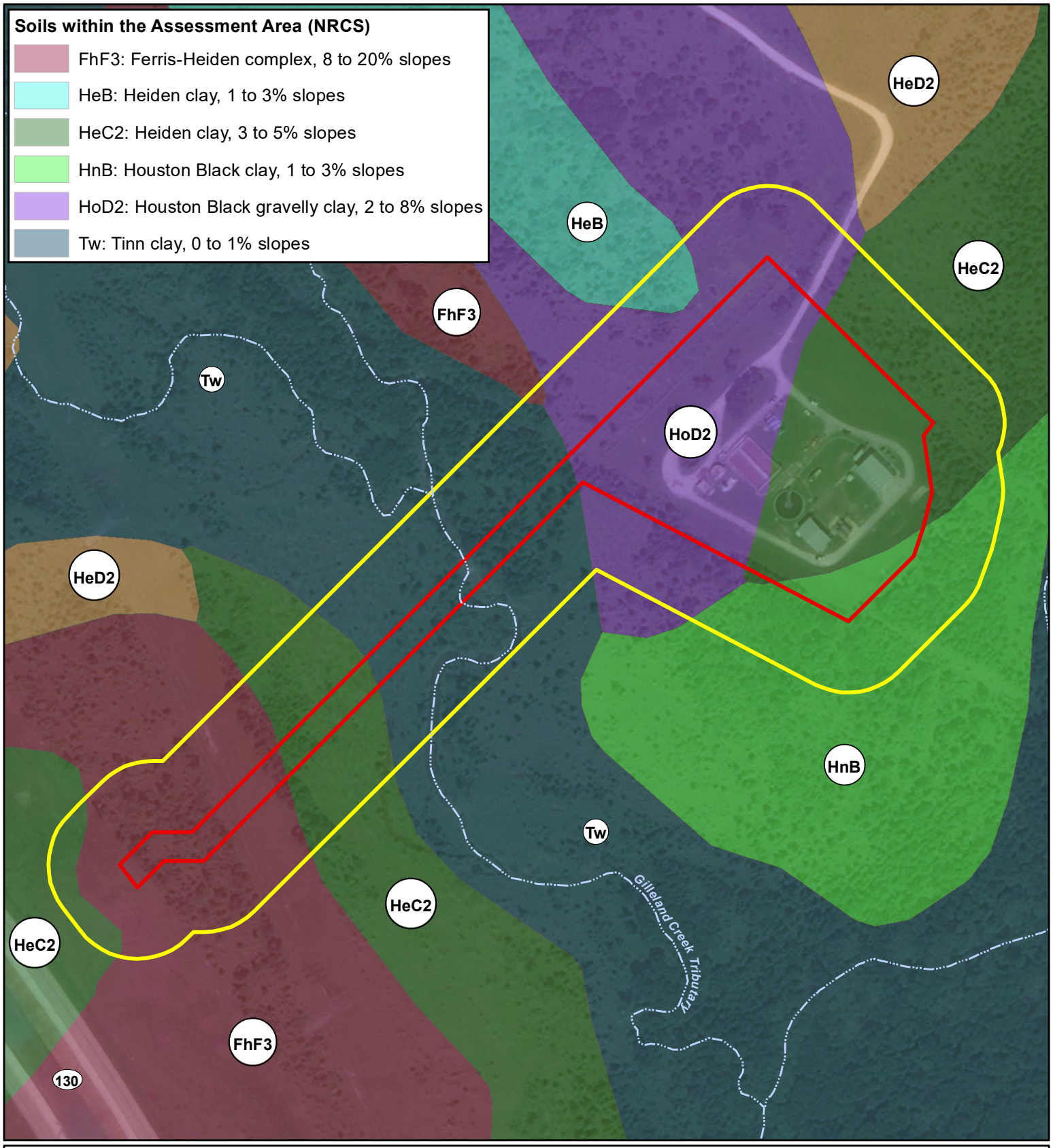
TBPE Firm No. F-3181 TBPG Firm No. 50030

Base Map: 1996 Manor NW Quadrangle

Figure 2
Historical Aerial Photograph

Wild Horse Ranch Wastewater
Treatment Plant Expansion
10621 Blue Bluff Road
Manor, Texas 78653

Baer Engineering
and Environmental Consulting, Inc.



COA-mapped Creekline

Limits of Construction

Assessment Area

N
W E
S

Feet

0 150 300

Baer Project No. 202079.01
Date: January 22, 2021

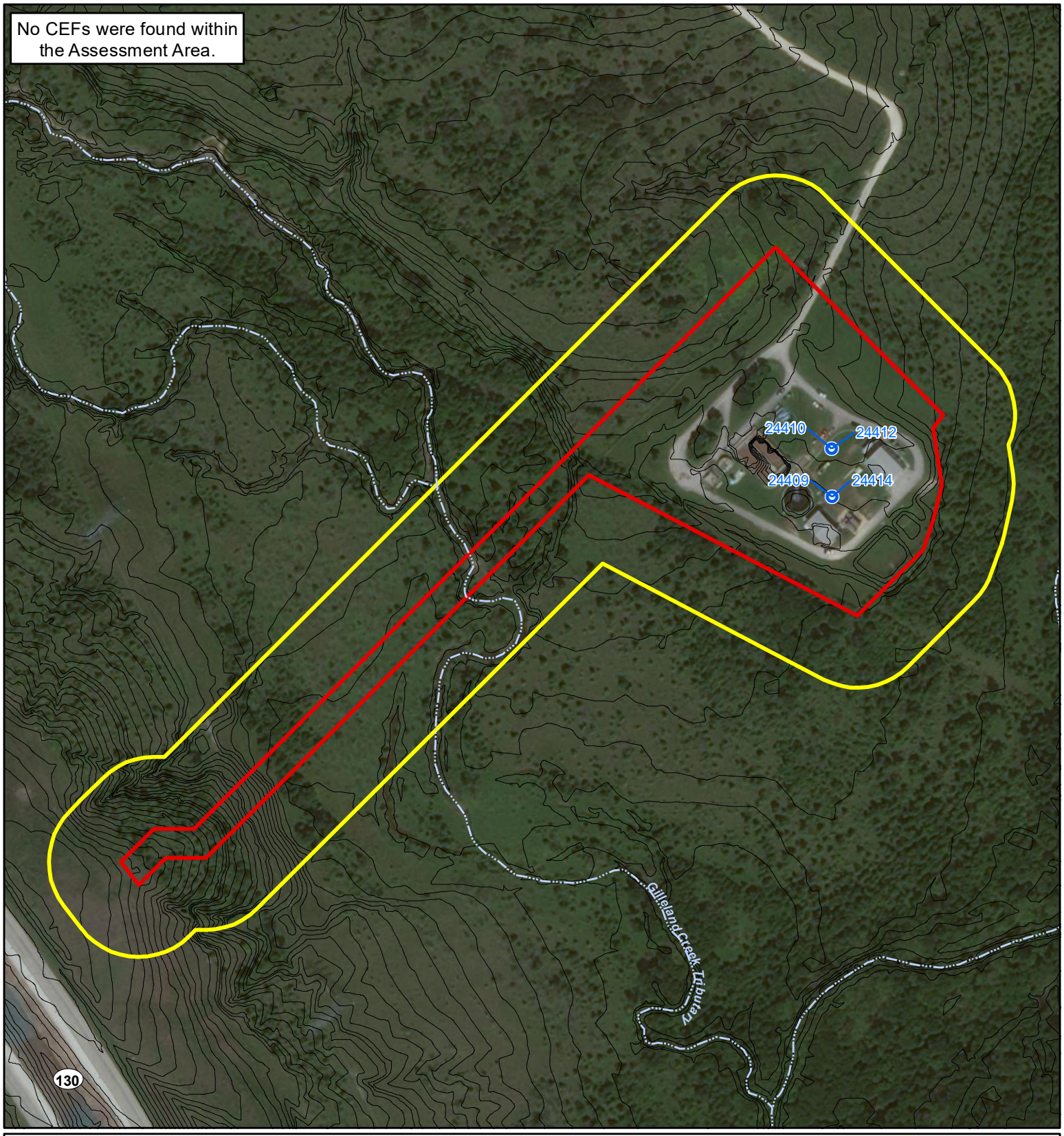
TBPE Firm No. F-3181 TBPG Firm No. 50030

Base Map: World Imagery

Figure 3
Travis County Soils

Wild Horse Ranch Wastewater
Treatment Plant Expansion
10621 Blue Bluff Road
Manor, Texas 78653

Baer Engineering
and Environmental Consulting, Inc.



Texas Water Development Board Well Location (Well Report #)

COA-mapped Creekline

COA Elevation Contour (2-ft)

Limits of Construction

Assessment Area

N
W E
S

Feet

0 150 300

Baer Project No. 202079.01
Date: January 22, 2021

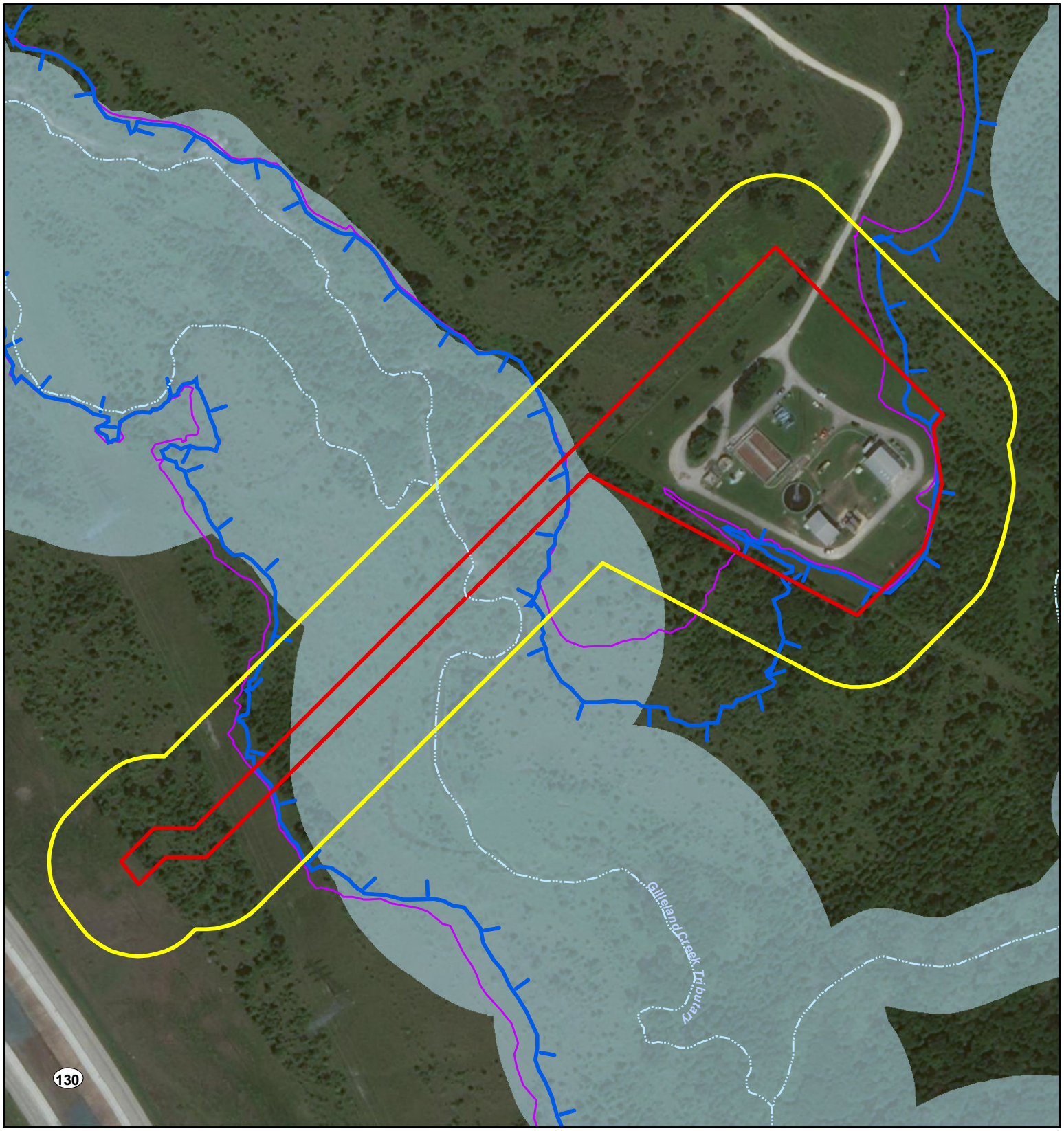
TBPE Firm No. F-3181 TBPG Firm No. 50030

Base Map: World Imagery

Figure 4
Critical Environmental Features and Well Location Map with 2-ft Topography

Wild Horse Ranch Wastewater Treatment Plant Expansion
10621 Blue Bluff Road
Manor, Texas 78653

Baer Engineering
and Environmental Consulting, Inc.



COA-mapped Creekline

Critical Water Quality Zone

FEMA 100-year Floodplain

FEMA 500-year Floodplain (Atlas 14)

Limits of Construction

Assessment Area

N
W E
S

Feet

0 150 300

Baer Project No. 202079.01
Date: January 22, 2021

TBPE Firm No. F-3181 TBPG Firm No. 50030

Base Map: World Imagery

Figure 5
Critical Water Quality Zone and Floodplains

Wild Horse Ranch Wastewater Treatment Plant Expansion
10621 Blue Bluff Road
Manor, Texas 78653

Baer Engineering
and Environmental Consulting, Inc.

Appendix N – QuickLime Safety Data Sheet

SAFETY DATA SHEET

SECTION 1	IDENTIFICATION

Product

Name: High Calcium Quicklime (all sizes)

Other Names: Lime, Pebble Lime; Hi-cal Lime, Hi-cal quicklime, Calcium Oxide

Recommended Uses: Steel, Pulp/ Paper, Water treatment, pH adjustment, FGT, Construction

Company Identification:

US Operations:

Lhoist North America, Inc.
5600 Clearfork Main St, Ste. 300
Fort Worth, TX 76109
817-732-8164

Canadian Operations:

Lhoist North America of Canada, Inc.
20303-102B Ave.
Langley, BC V1M 3H1
604-888-4333

Emergency Phone Number:

Chemtrec 1-800-424-9300

SECTION 2	HAZARDS(S) IDENTIFICATION

Classification

Eye Damage – Category 1

Carcinogen – Category 1

Skin Irritation – Category 2

Specific Target Organ Toxicity Single Exposure – Category 3 (Respiratory System)

Specific Target Organ Toxicity Repeat Exposure – Category 1 (Respiratory System)

Labeling:

Pictograms:

Signal Word(s): Danger

Hazard Statements: Causes serious eye damage.

Causes skin irritation.

May cause respiratory irritation.

Causes damage to lungs through prolonged or repeated exposure when inhaled.

May cause cancer through inhalation.

Reacts vigorously with water and releases heat, which can ignite combustible material.

Precautionary Statements:

Wear protective gloves and eye protection. Wash exposed skin thoroughly after handling. Do not breathe dust. Use only outdoors or in a well-ventilated area. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.

If on skin: wash exposed skin with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately. If inhaled: Remove person to fresh air and keep comfortable for breathing. Seek medical attention if you feel unwell.

If exposed or concerned: Get medical advice

Dispose of contents or containers in accordance with applicable regulations. Do not use water on material spills.

Other Hazards: Quicklime reacts vigorously with water, releasing heat that may ignite combustible materials in certain instances.

SECTION 3	COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Name: Calcium Oxide

Common names and synonyms: Lime, Hi-cal Lime, Burnt Lime, Calcium Oxide

Chemical Identity	CAS #	Concentration, % Wt.
Calcium Oxide	1305-78-8	> 87
Magnesium Oxide	1309-48-4	< 5
Crystalline Silica	14808-60-7	< 2

SECTION 4	FIRST AID MEASURES

Eye Contact: Contact can cause severe irritation or burning of eyes, including permanent damage. Immediately flush eyes with generous amounts of water for as long as needed. This may take several minutes. Pull back the eyelid to ensure that all lime dust has been washed out. Seek medical attention immediately. Do not rub eyes.

Inhalation: This product can cause severe irritation of the respiratory system. Move victim to fresh air. Seek medical attention if necessary. If breathing has stopped, give artificial respiration.

Skin Contact: Contact can cause severe irritation or burning of skin, especially in the presence of moisture. Wash exposed area with large amounts of water. Seek medical attention immediately.

Ingestion: This product can cause severe irritation or burning of gastrointestinal tract if swallowed. Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth unless instructed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Irritation of skin, eyes, gastrointestinal tract or respiratory tract. Long-term exposure by inhalation may cause permanent damage. This product contains crystalline silica, which has been classified by IARC as (Group I) carcinogenic to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.

Note to Physician: Provide general supportive measures and treat symptomatically.

SECTION 5	FIREFIGHTING MEASURES

Extinguishing Media

Appropriate Extinguishing Media: Use dry chemical fire extinguisher

Inappropriate Extinguishing Media: Do not use water or halogenated compounds, except that large amounts of water may be used to deluge small quantities of quicklime.

Firefighting

Fire Hazards: Quicklime is not combustible or flammable. However, quicklime reacts vigorously with water and can release sufficient energy to ignite combustible products. Quicklime is not considered to be an explosive hazard, although reaction with water or other incompatible materials may rupture containers.

Hazardous Combustion Products: None

Special Protective Equipment and Fire Fighting Instructions: Keep personnel away from and upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

SECTION 6	ACCIDENTAL RELEASE MEASURES

Personal Precautions: Do NOT use water on bulk material spills. Lime reacts vigorously with water, releasing heat. Use proper protective equipment.

Environmental Precautions: For large spills, as much as possible, avoid the generation of dusts. Prevent release to sewers or waterways.

Methods and Materials for Containment and Cleaning Up:

Small Spills: Use dry methods to collect spilled materials. Avoid generating dust. Do not clean up with compressed air. Store collected materials in dry, sealed plastic or metal containers. Residue on surfaces may be washed with water or vinegar solution.

Large Spills: Use dry methods to collect spilled materials. Evacuate area downwind of clean-up operations to minimize dust exposure. Store spilled materials in dry, sealed plastic or metal containers.

SECTION 7	HANDLING AND STORAGE

Precautions for Safe Handling: Keep in tightly closed containers. Protect containers from physical damage. Avoid direct skin contact with the material.

Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, dry, and well-ventilated location. Do not store near incompatible materials (see Section 10 below). Keep away from moisture. Do not store or ship in aluminum containers.

SECTION 8	EXPOSURE CONTROLS/ PERSONAL PROTECTION

Control Parameters:

Component	CAS #	Exposure Limits
Calcium Oxide	1305-78-8	OSHA PEL: 5 mg/m3 ACGIH TLV: 2 mg/m3
Magnesium Oxide	1309-48-4	OSHA PEL: 15 mg/m3 ACGIH TLV: 10 mg/m3
Crystalline Silica	14808-60-7	OSHA PEL: 0.050 mg/m3 as an 8 hr. TWA (respirable) ACGIH TLV: 0.025 mg/m3 (respirable)

Appropriate Engineering Controls: Provide ventilation adequate to maintain PELs.

Personal Protection

Respiratory Protection: Use NIOSH approved respirators if airborne concentration exceeds PEL.

Eye Protection: Use safety glasses with side shields or safety goggles. Contact lenses should not be worn when working with lime products.

Skin Protection: If there is a risk of skin contact, wear appropriate clothing and gloves to prevent contact.

Other: Eye wash fountain and emergency showers are recommended.

SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State:	Solid
Color:	White or grayish-white
Odor:	Odorless
Odor Threshold:	N/ A
pH:	12.44 @ 25° C when made into a saturated solution
Melting Point:	4658° F, 2570° C
Initial Boiling Point:	5162° F, 2850° C
Freezing Point:	N/ A
Flash Point:	N/ A
Evaporation Rate:	N/ A

Flammability (solid, gas): Non-flammable

Explosion Limits:	N/ A
Vapor Pressure:	N/ A
Vapor Density:	N/ A
Relative Density:	1.6 – 2.8 g/ cm^3 (apparent)

Solubility(ies): Reacts with water to produce $Ca(OH)_2$ with large amounts of heat. Solubility is 1.2 g/L at 25° C

Partition coefficient: Relatively insoluble

Auto-ignition Temperature: N/ A

Decomposition Temperature: N/ A

Viscosity: N/A

SECTION 10	STABILITY AND REACTIVITY

Reactivity: Quicklime reacts vigorously with water to form calcium hydroxide, generating heat. See also Incompatibility below.

Chemical Stability: Quicklime is chemically stable.

Possibility of Hazardous Reactions: See reactivity above

Conditions to Avoid: Do not allow quicklime to come into contact with incompatible materials.

Incompatible Materials: Quicklime should not be mixed or stored with the following materials, due to the potential for violent reaction and release of heat:

Water and acids (unless in a controlled process)
Reactive Fluoridated Compounds
Reactive Brominated Compounds
Reactive Powdered Metals
Organic Acid Anhydrides
Nitro-Organic Compounds
Reactive Phosphorous Compounds
Interhalogenated Compounds

Hazardous Decomposition Products: None

SECTION 11	TOXICOLOGICAL INFORMATION

Health Effects: see First Aid discussion in Section 4

Routes of Exposure: see First Aid discussion in Section 4

Symptoms Related to Exposure: see First Aid discussion in Section 4

Carcinogen Listing: Quicklime is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product contains crystalline silica, which has been classified by IARC as (Group I) carcinogenic to humans when inhaled.

SECTION 12	ECOLOGICAL INFORMATION

Ecotoxicity: Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems in high concentrations.

Persistence and Degradability: Reacts with atmospheric CO_2 over time to form calcium carbonate

Bioaccumulation Potential: This material shows no bioaccumulation effect or food chain concentration toxicity.

Mobility in Soil: Minimal mobility in soil. Reacts with clay portion of soil to form calcium silicates and calcium aluminates

Other Adverse Effects: This material is alkaline and if released into water or moist soil will cause an increase in pH

SECTION 13	DISPOSAL CONSIDERATIONS

Disposal Recommendations: Dispose of in accordance with all applicable federal, state, and local environmental regulations.

Regulatory Disposal Information: If this product as supplied, and unmixed, becomes a waste, it will not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act.

SECTION 14	TRANSPORT INFORMATION

UN Number: UN1910

UN Proper Shipping Name: Calcium Oxide

Transport Hazard Class(es): When transported by air only: Hazard Class 8 - Corrosive

Packing Group: When transported by air only: Packing Group III

Marine Pollutant (y/n): This material is alkaline and if released into water or moist soil will cause an increase in pH.

Special Precautions: When being transported by air, quicklime is classified in the Department of Transportation (DOT) regulations as a hazardous material (49 CFR 172.101). For aircraft transport only, Calcium Oxide is classified as Hazard Class 8-Corrosive, UN1910, Packing Group III. For passenger aircraft, the maximum net quantity allowed per container is 25 kg. For cargo aircraft, the maximum net quantity allowed per container is 100 kg. For quantities greater than 25 kg up to and including 100 kg, the container shall be labeled with CARGO AIRCRAFT ONLY.) Because express carriers (i.e., Federal Express, Airborne Express, and United Parcel Service) ship by air, quicklime presented to these carriers for shipment must be packaged, marked, and labeled in accordance with IATA requirements,

and must be accompanied by the appropriate shipping documentation. Only personnel trained and certified under applicable DOT Hazardous Materials Regulations (contained in Title 49 of the Code of Federal Regulations) may prepare any quicklime product for air transport. Quicklime is not classified as a hazardous material by DOT when transported by means other than by air.

SECTION 15	REGULATORY INFORMATION

National Chemical Inventory Listings:

All chemical ingredients are listed on the USEPA TSCA Inventory List.

US Regulations:

RCRA Hazardous Waste Number: not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261): not classified
CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b) (4); CWA, Sec. 307(a), CAA, Sec. 112
CERCLA Reportable Quantity (RQ) not listed.
SARA 311/312 Codes: not listed.
SARA Toxic Chemical (40 CFR 372.65): not listed.
SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ): not listed

Specific State Regulations: Consult State and Local authorities for guidance.

⚠WARNING: This product can expose you to chemicals, including crystalline silica, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov
These naturally occurring impurities may also be regulated by other States.

Canadian DSL: Listed

Canadian NPRI: None of the components are listed

CEPA Toxic Substances: None of the components are listed

SECTION 16	OTHER INFORMATION

Prepared By: Lhoist North America Technical Services

Date Prepared: January 27, 2020

Revision: 2020-1

Abbreviations:

N/A	Not Available or Not Applicable
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association

ACGIH	ACGIH American Conference of Governmental Industrial Hygienists
TWA	Time Weighted Average
PEL	Permissible Exposure Limit
TLV	Threshold Limit Value
REL	Recommended Exposure Limit

Lhoist North America provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person. Individuals receiving this information must consult their own technical and legal advisors and/ or exercise their own judgment in determining its appropriateness for a particular purpose. Lhoist North America makes no representations or warranties, either express or implied, including without limitation and warranties of merchantability or fitness for a particular purpose with respect to the Information set forth herein or the product(s) to which the information refers. Accordingly, Lhoist North America will not be responsible or liable for any claims, losses or damages resulting from the use of or reliance upon or failure to use this information.

SECTION 01140

WORK RESTRICTIONS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Requirements for scheduling the Work affected by existing site and facility, work restrictions, and coordination between construction operations and plant operations.

1.02 SUBMITTALS

A. Baseline Schedule with MOP tasks.

B. Method of Procedure (MOP) Form.

C. Method of Procedure (MOP) Log.

D. Progress Schedule with MOP tasks.

1.03 GENERAL CONSTRAINTS ON WORK AND SCHEDULING OF WORK

A. Plant access for Contractor will be provided through two gates; 1) at the entrance road on Blue Bluff Rd, and 2) at the WWTP site. Both gates will be open from 7am to 4pm Monday through Friday.

B. Perform abandoned pipe Work as specified in Section 01738 -Selective Alterations and Demolition.

C. Wastewater projects:
   1. The Wild Horse Ranch Wastewater Treatment Plant is the City's only means of treating domestic and industrial wastewater prior to discharging to Gilleland Creek. Impairing the operational capabilities of this treatment plant will result in serious environmental damage and monetary fines.
   2. Conduct Work in a manner that will not impair the operational capabilities of essential elements of the treatment process or reduce the capacity of the entire treatment plant below levels sufficient to treat the quality of raw wastewater to the water quality limitations specified in the discharge permit.
   3. Conduct commissioning activities as specified in Section 01756 - Commissioning in a manner that will not impair the operational capabilities of essential elements of the treatment process or reduce the capacity of the entire treatment plant below levels sufficient to treat the quality of raw wastewater to the water quality limitations specified in the discharge permit.
   4. PCIS Optimization and Fine-Tuning as specified in Section 17100 – Process Instrumentation and Control Systems.
   5. The status of the treatment plant shall be defined as "operational" when it is capable of treating the entire quantity of wastewater received to the water quality limits specified in the discharge permit with a fully functioning control system.

1.04 SHUTDOWN AND CONSTRUCTION CONSTRAINTS

A. General shutdown constraints:
   1. The existing disk filters must be temporarily relocated during construction of the new Filter/UV Disinfection facility, as shown in Drawings 50D01 and 50D02.
   2. Due to the criticality of the secondary process and the disinfection system, the construction of the aeration basins, clarifiers and Filter/UV facility shall be prioritized.
   3. Execute the Work while the existing facility is in operation. The new process units must be online and fully functioning before the existing facilities can be taken offline. These new facilities include (in order of process flow), but not limited to, the following:
      a. Headworks and headworks odor control.
      b. Aeration basins No. 3 and 4.
      c. The MLSS splitter box (for aeration basins No. 3 and 4).
      d. At least one of the new clarifiers (No. 2 or 3).
      e. RAS pumping for online clarifier(s).
      f. RAS splitter box and WAS pumps.
      g. Disk filtration system.
      h. UV disinfection system and UV control/ballast panels located in the Administration Building.
      i. Plant Water Pump Station.
      j. Drain Pump Station.
      k. Substation No. 1 (which powers the new facilities).
   4. Contractor shall provide bypass pumping for the Influent Lift Station while improvements are performed.
   5. Some activities may be accomplished without a shutdown.
   6. Apply to activities of construction regardless of process or work area.
   7. Activities that disrupt plant or utilities operations must comply with these shutdown constraints.
   8. Organize work to be completed in a minimum number of shutdowns.
   9. Provide thorough advanced planning, including having required equipment, materials, and labor on hand at time of shutdown.
   10. Where required to minimize treatment process interruptions while complying with specified constraints, provide temporary pumping, power, lighting, controls, instrumentation, and safety devices.
   11. Final determination of the permitting of shutdowns will be the sole judgment of the Owner.
   12. Owner maintains the ability to abort on the day of the scheduled shutdown.

B. General maximum plant flow work limitations:
   1. Activities that disrupt plant operations are prohibited during the following flow conditions, unless otherwise approved in writing by the Owner and Engineer.
      a. Flow condition: 3.0 mgd.

C. Unit process availability work limitations:
   1. Shutdowns and tie-ins or other activities that disrupt plant operations are prohibited unless the following unit process availability conditions exist and unless otherwise approved in writing by the Owner and Engineer.
      a. Bypass pumping for the influent lift station shall be provided at any time the existing influent pump station is not functional.

b. Aeration air must be provided to aeration basins at all times. A short interruption to air supply (less than 1 hour) may be possible with close coordination with the Owner. At least one larger capacity blower shall be in operation at all times.
c. An interruption of air supply to the sludge holding tank will be limited to a maximum of 3 hours per day under close coordination with the Owner.
d. Contractor shall install temporary air piping as required to construct new aeration basins and blower system. Temporary air piping shall be unlined steel, stainless steel or ductile iron, with minimum pressure rating of 20 psi. Per record drawings, existing underground air piping is ductile iron with grooved ends. AD5
e. Relocation of the disk filters must be done one filter at a time, to ensure filtration throughout the duration of construction. Filtration may be shut down for a maximum duration of two hours per day to facilitate the reconnection of the existing filter units. A maximum of four 2-hr filtration shutdowns are allowed during the project. AD5
f. Daily sludge wasting must be maintained throughout the duration of the project, unless coordinated with the Owner.
g. An interruption to the UV disinfection system is prohibited.

2. At a minimum, the following facilities must be in service in order to proceed with a scheduled shutdown.
   a. Bypass pumping at the influent lift station for work at the lift station.

D. Shutdown activities:
1. Scheduling:
   a. Perform between the hours of 4 a.m. and 8 a.m. or as approved by Owner.
2. Unplanned shutdowns due to emergencies are not defined in this Section.

E. Dewatering of existing process and disposal of residue:
1. When the Owner has turned the process unit over to the Contractor for modification or temporary use, the Contractor is responsible for costs and procedures required to dewater and dispose of liquid, solids, etc. in the process unit.
   a. Drainage and disposal of process unit liquids, solids, etc. into another treatment process unit on the plant site may be allowed if approved in advance by the Engineer and Owner, and is conducted in accordance with Owner's requirements.
      1) Contractor is responsible for removal of debris from the influent lift station.
      2) The mixed liquor from the aeration basins shall be pumped to the new process units, once online. It is expected that the aeration basins will have an average of 9" of residual grit/sludge/debris once drained and dried out. Contractor shall remove and dispose of solids and residuals.
      3) The Owner will be responsible for removing the contents of the existing sludge holding tank, down to the diffuser level.
   b. Costs for dewatering, disposal of solids and residuals, and preparation of surfaces for the Work are Contractor's responsibility.
      1) Includes tipping fees for the removal and disposal of the grit/debris.
   c. Dewatering of grit/debris to meet landfill requirements is the responsibility of the Contractor.

d. Contractor shall provide adequate time in schedules for draining and cleanup of basins and channels.

F. Process area construction constraints:
1. The following constraints shall be observed while working in and around each of the following process areas.
a. Material hauling operations:
1) Contractor shall comply with restrictions regarding Contractor's use of site and premises as specified in Section 01010 - Summary of Work.
2. Influent Lift Station: An influent pumping capacity of 3.0 mgd must be maintained at all times during the project.
a. Any bypass pumping shall be equipped with standby units and shall be monitored 24 hours a day, either with on-site staff or through an electronic monitoring system that is capable of placing in service standby units if needed.
b. Bypass pumps may pull suction from manhole directly upstream of the lift station. Contractor shall be responsible for placing and maintaining the means of flow isolation at the lift station.
3. Headworks:
a. Headworks odor control must be online for Headworks to be placed in operation.
4. Activated Sludge System:
a. Aeration Basin, MLSS Splitter Box, Secondary Clarifier(s), RAS pumping, RAS Splitter Box and WAS pumping must all started up at the same time.
b. A minimum of one clarifier must be operational.
5. MgOH System:
a. Existing MgOH system shall be relocated to the north of the new aeration basins, as shown on the Drawings.
b. The MgOH system must be online before Activated Sludge system is placed online.
6. Blower Facility:
a. Aeration air must be maintained to the aeration basins and sludge holding tank(s) throughout the project.
b. The existing system is equipped with two large blowers and one small blower. The small blower is not used and can be removed at any time.
c. At least one existing larger blower, or one new blower is required to provide sufficient air to the system. One standby blower shall be functional at all times.
d. Contractor is responsible for installing and maintaining temporary air piping, as required.
7. Filtration System:
a. Filtration, using the cloth media disk filters, must be maintained throughout the project.
8. Drain Pump Station:
a. The drain pump station must be functional prior to any process which send drainage to the drain pump station are placed online.
9. UV Disinfection system:
a. UV disinfection must be maintained at all times during the project.
10. Contractor shall not obstruct deliveries to plant and accessways shall be kept clear as to not impede plant operations, including sludge hauling. As noted on 01D02, road pavement shall be replaced after all construction is complete.

Refer to Section 01045 for cutting and patching requirements for modifications to roads during construction. AD5

1.05 METHOD OF PROCEDURE (MOP)

A. MOP Instructions: See Appendix A.

B. Prepare MOP for the following conditions:
   1. Shutdowns, diversions, and tie-ins to the existing facility.
   2. Process start-up activities.
   3. Power interruption and tie-ins.
   4. Switch over between temporary and permanent facilities, equipment, piping, and electrical and instrumentation systems.
   5. Process constraints requiring interruption of operating processes or utilities.

C. Other Work not specifically listed may require MOPs as determined necessary by the Contractor, Owner, or Engineer.

D. Submit Baseline Schedule, as specified in Section 01321 - Schedules and with proposed MOPs.

E. Submit MOP Log at construction progress meetings.

F. No consideration will be given to claims of additional time and cost associated to preparing MOPs required by the Owner and Engineer to complete this work in a manner that facilitates proper operation of the facility and compliance with effluent discharge criteria.

G. Where required to minimize treatment process interruptions while complying with specified constraints, provide temporary pumping, power, lighting, controls, instrumentation, and safety devices.

1.06 COMPLIANCE WITH TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

A. The existing facility is operating under the terms of a Texas Pollutant Discharge Elimination System permit issued by TCEQ. This permit specifies the water quality limits that the plant must meet prior to discharge of effluent. A copy of the existing permit is on file for review through TCEQ.

B. Perform work in a manner that will not prevent the existing facility from achieving the finished water quality requirements established by regulations.

C. Bear the cost of penalties imposed on the Owner for discharge violations caused by actions of the Contractor.

1.07 REQUIREMENTS FOR OPERATION OF PLANT AND MAINTAINING CONTINUOUS OPERATION OF EXISTING FACILITIES

A. The existing plant must be kept operational until the new facilities are tested and brought online, as described herein.

B. Conduct the Work and provide temporary facilities required to keep the existing plant continuously operational.

C. Do not remove or demolish existing facilities required to keep the existing plant operational at the capacities specified until the existing facilities are replaced by temporary, new, or upgraded facilities or equipment.
   1. Test replacement facilities to demonstrate operational success prior to removing or demolishing existing facilities.

1.08 OPERATIONS AND MAINTENANCE ACCESS

A. Provide safe, continuous access to process control equipment for plant operations personnel.

B. Provide access on 1-hour advance notice to process control equipment for plant maintenance personnel and associated maintenance equipment.

1.09 UTILITIES

A. Provide advance notice to and utilize services of proper authorities for location and marking of underground utilities operated by utility agencies other than the Owner.

B. Maintain electrical, water, sanitary facilities, and other utilities within existing facilities in service. Provide temporary utilities when necessary.

C. New yard utilities were designed using existing facility drawings.
   1. Field verification of utilities locations was not performed during design.
   2. Services crossed or located nearby by new yard utilities may require relocation and possible shutdowns.
   3. Pipe alignments as indicated on the Drawings.

D. Contractor shall coordinate with AT&T for new fiber optic connection to the site. The Owner shall be responsible for any connection fees. AD5

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

APPENDIX A
"Method of Procedure" (MOP)
Instructions and Forms

Definition and Purpose

"Method of Procedure" (MOP) is a detailed document submitted by the Contractor to request process shutdown(s), utility tie-in(s), work in areas that may risk unanticipated outages, or flow diversions to accommodate site construction activities during a project. Such activities may include (but are not limited to) new tie-ins to utilities or structures, mechanical modifications to process piping or equipment, demolition, bulkhead installation, and cleaning processes.

The MOP provides a detailed plan to the Owner and Engineer that describes specific aspects of the work including purpose, time of execution, and anticipated impacts on treatment processes. The MOP also includes contingency measures and provisions for rapid closure in the event that shutdown or work progress difficulties are encountered. Information from relevant trades associated with the requested shutdown, diversion, or tie-in is also included.

The Owner should use the information within the MOP to define operational procedures and methods to safely and successfully assist the Contractor.

MOP Process Summary

WHO	STEP	TIMING
Contractor	1. Identify MOPs needed on MOP Log and Baseline Schedule.	No later than 7 days prior to Preconstruction Scheduling Meeting
Contractor, Owner, Engineer	2. Pre-MOP Meeting.	More than 28 days prior to work
Contractor	3. Submits MOP.	No later than 28 days prior to work
Owner	4. Reviews MOP.	
Owner	5. MOP finalized.	No later than 7 days prior to work
Contractor	6. Complete Readiness Checklist.	No later than 5 days prior to work
Contractor	7. Complete Safety Checklist.	Immediately prior to commencing work
Contractor	8. Complete Work.	
Contractor	9. Update MOP Log and Progress Schedules.	Monthly

MOP Process Detail

STEP 1. Identifies MOPs needed on MOP Log and Baseline Schedule.

Contractor submits a preliminary list of anticipated project MOPs on MOP Log. MOPs identified but not limited to those shutdowns, diversions, or tie-ins described in the Contract Documents. Incorporate MOPs as tasks in Baseline Schedule. Date scheduled MOPs to coincide with the appropriate construction activities.

STEP 2. Pre-MOP Meeting.

Contractor requests a Pre-MOP Meeting with the Owner and Engineer to discuss the nature of the shutdown, diversion, or tie-in, and to gather the information necessary to complete the MOP Form. The pre-MOP meeting may be waived by the Owner or Engineer if the work is deemed to be minor.

STEP 3. Submits MOP.

Contractor completes the MOP Form and submit 3 copies for approval to the Owner's Project Manager (OPM).

STEP 4. Reviews MOP.

OPM distributes MOP Form for review by the Owner's Construction Coordinator, O&M Representative, and Engineer's Project Representative. Review MOP Form for completeness, accuracy, compliance with both the construction schedule, constraints defined in contract documents, and to ensure that the requested work does not negatively impact plant operations or other concurrent project activities. Additional information may be requested to better understand the nature of and method for completing the Work.

STEP 5. MOP finalized.

Once the MOP is agreed to by all parties, the MOP will be finalized by signature. Copies are distributed to the Owner, Engineer, and Contractor.

STEP 6. Complete Readiness Checklist.

Contractor verifies everything is ready for the work.

STEP 7. Complete Safety Checklist.

Contractor ensures safety.

STEP 8. Complete work.

Contractor complete work.

STEP 9. Update MOP Log and Progress Schedules.

Contractor updates MOP Log weekly and distributes at the regularly scheduled construction progress meetings.

METHOD OF PROCEDURE (MOP) FORM

Owner: _____ **Date:** _____

Contractor: _____ **Carollo Project No.:** _____

Project Name: _____ **Submittal No.:** _____

Submittal Title: _____ **Spec/Dwg. Reference:** _____

MOP #	Task Title *(Provide <10 word title)*:	Submittal Date: *(No later than 28 days prior to work)*

SCHEDULE OF WORK ACTIVITY START: *(Date/Time)* END: (Date/Time)

REQUESTOR:

PRIMARY POINT OF CONTACT: PHONE/PAGER:

SECONDARY POINT OF CONTACT: PHONE/PAGER:

NOTIFY ☐ Control Room, Phone ☐ Security, Phone

BUILDING: LOCATION OF WORK FLOOR/LEVEL:

DESCRIPTION OF WORK: *(Provide sufficient details on process isolation, work sequencing, and safety (i.e., control of significant hazards unique to the work) to demonstrate an understanding of the work and how it will be completed within the constraints, and its impact on the processes and facility.)*

Task Summary: _____

Processes Affected: _____

Trades Affected: _____

WORK PLAN:

Work Sequencing: _____

Process Isolation: _____

Spill Prevention Plan: _____

Contingency Plans: _____

CRITICAL EQUIPMENT/TOOLS: *(pumps and discharge hoses with correct fittings, blind flanges and pipe plugs, no-hub fittings, properly sized electrical service components, generators, portable lighting, chlorine for potable water pipe breaks, etc.)*

☐	Acoustic Ceiling/or Walls Access	☐	Excavation Permit	☐	Lock Out/Tag Out
☐	Chemical Use Approval	☐	Fire Sprinkler Impairment	☐	Life Safety Systems
☐	Confined Space Permit	☐	Flammable Materials	☐	Roof Protocol
☐	Critical Lift Plan	☐	Flush / Discharge	☐	Work After Dark
☐	Energized Electrical Work	☐	High Pressure Test	☐	
☐	Elect. Panel Schedules	☐	Hot Work/Open Flame	☐	

EXISTING SERVICE(S) AT RISK:

☐	Breathing Air	☐	Elect Normal	☐	Process Access	☐	Telephones
☐	Chemical Distribution	☐	Fire Protection	☐	Safety Showers	☐	UPS
☐	City Water	☐	HVAC	☐	SCADA	☐	VAX/DATA
☐	Communication	☐	Inert Gas	☐	Security	☐	
☐	Domestic Drain	☐	Instrument - Air	☐	Solvent Drain	☐	
☐	Elect-Bus Duct	☐	Life Safety System	☐	Specialty Gases	☐	

☐	Elect Emergency	☐	Natural Gas	☐	Storm Drain	☐	

REVIEWER'S INSTRUCTIONS / COMMENTS:

☐ PREJOB BRIEFING MUST BE COMPLETED PRIOR TO COMMENCING WORK:

	Full Name (printed)	Signature	Phone	Date
Submitted By				
System Owner				
Reviewer (if needed)				
Reviewer (if needed)				
Reviewer (if needed)				
Reviewer (if needed)				

READINESS CHECKLIST
(5 days prior to work)

Checklist provided as a guide but is not all inclusive.

1. Confirm all parts and materials are on site: _____
2. Review work plan: _____
3. Review contingency plan: _____

SAFETY CHECKLIST
(Just prior to commencing work)

Checklist provided as a guide but is not all inclusive.

1. Location awareness:
   a. Emergency exits: _____
   b. Emergency shower and eyewash: _____
   c. Telephones and phone numbers: _____
   d. Shut-off valve: _____
   e. Electrical disconnects: _____
2. Inspect work area:
   a. Take time to survey the area you are working in. Ensure that what you want to do will work. Do you have enough clearance? Is your footing secure? Do you have adequate lighting and ventilation? Are surrounding utilities out of the way for you to perform your work?
3. SDS (Safety Data Sheets):
   a. Understand the chemicals and substances in the area you are working in by reading the SDS.
4. Lockout/Tagout Procedure:
   a. Lockout/tagout energy sources before beginning work.
   b. Make sure all valves associated with the work are locked out and tagged out on each side of the penetration.
   c. Make sure the lines are depressurized.
5. Overhead work:
   a. Use appropriate personal protective equipment; i.e., safety harness, lifeline, etc.
   b. Select appropriate tie-off points; i.e., structurally adequate, not a pipe or conduit, etc.
   c. Spotter assigned and in position.
   d. Pipe rack access; i.e., check design capacity, protective decking or scaffolding in place, exposed valves or electrical switches identified and protected.
6. Safety equipment:
   a. Shepherd's hook.
   b. ARC flash protection.
   c. Fire extinguisher.
   d. Other: _____.
7. Accidents:
   a. Should accidents occur, do not shut off and do not attempt to correct the situation, unless you are absolutely positive that your action will correct the problem and not adversely affect other people or equipment.
8. Review process start-up documents:
   a. In the event the system is shutdown, the Control Center should have a working knowledge of the process start-up procedures in order to deal effectively with unforeseen events.
9. Evacuation procedures:
   a. Do not obstruct evacuation routes.
   b. Take time to survey the area for evacuation routes.

Method of Procedure (MOP) Log
Sample

MOP Number	Task Title	Date Requested	Date Approved	Date Work Planned	Work Completed (yes/no)
001					
002					
003					

[AD5] Addendum No. 5

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Documents related to this section will include the construction drawings and general provisions of the Contract, including the General Conditions, Section 00700, Supplemental General Conditions, Section 00810, and other Division 1 requirements.

1.2 SUMMARY

A. This section describes the preconstruction conference and other Project related meetings which may be held on a routine schedule throughout the duration of the Project.

B. The CONTRACTOR, or his authorized representative(s), shall attend all Project related meetings as indicated herein. The CONTRACTOR's representatives, as a minimum, shall include his Project Manager and Superintendent. Other CONTRACTOR's representatives may attend Project related meetings; however, there shall be a maximum of four (4) CONTRACTOR's representatives at any one meeting unless the ENGINEER/ARCHITECT approves a larger number.

C. The CONTRACTOR shall provide all pertinent reports, copies of reports, etc., for each meeting as may be required by this or other sections of the Contract.

1.3 PARTNERING WORKSHOP

A. To complete this work most beneficially for all parties, the Owner desires to form a Partnering Team among the Owner, Engineer/Architect, Contractor, and Subcontractor(s). This relationship will draw on the strength of all parties to identify and achieve mutual goals. The objectives are effective and efficient contract performance, intended to achieve completion within budget, on schedule, and in accordance with the drawings and specifications.

B. The Owner will schedule a Partnering Workshop independent of or in conjunction with the Preconstruction Conference, to facilitate the project objectives. The partnering relationship will be multilateral in makeup and participation will be totally voluntary.

1.4 PRECONSTRUCTION CONFERENCE

A. Attendees

A preconstruction conference shall be held as soon after the award and execution of the Contract as possible and before any Work at the site is started. The conference will be held at a location selected by the Owner's Project Manager. The Owner's Project Manager shall prepare and distribute the meeting agenda, preside over the conference, and may distribute meeting minutes. The conference shall be attended by:

1. CONTRACTOR's Project Manager.
2. CONTRACTOR's Superintendent.
3. Any Subcontractors' and/or Suppliers' representatives whom the CONTRACTOR may desire to invite or whom the ENGINEER/ARCHITECT or OWNER may request to attend.
4. ENGINEER/ARCHITECT's representative.
5. OWNER's Project Manager.
6. OWNER's REPRESENTATIVE
7. OWNER's Sponsor Department Representative.

8. Representative from the City of Austin, Transportation Department if a traffic management plan is required.
9. Representative from the City of Austin, Watershed Protection and Development Review Department, Environmental Inspection Division, if site erosion / sedimentation controls are required.
10. Representative from the City of Austin, Transportation Department if utility coordination has occurred through the Austin Utility Location and Coordination Committee.
11. Representative from the City of Austin, Contract Management Department, Contract Administration Division, to discuss wage.
12. Representative from the City of Austin, Small and Minority Business Resources Department to discuss M/WBE compliance.

B. Meeting topics

The topics to be discussed may include, but will not be limited to, the following items:

1. Introduction of persons attending the meeting.
2. General project description, including length of contract and liquidated damages.
3. Key personnel associated with the construction (may include, but is not limited to the following):
    - CONTRACTOR's Project Manager
    - CONTRACTOR's Superintendent
    - OWNER's Project Manager
    - ENGINEER/ARCHITECT's representative
    - OWNER's Sponsor Department Representative.
    - Representatives of the various utilities.
4. Lines of communication and chains of command.
5. Wage and personnel records and reporting requirements.
6. Subcontractors and suppliers.
7. Submittal review and approval procedure. Submittals may include, but are not limited to the following:
    - Letter stating the name and qualifications of the CONTRACTOR's Superintendent
    - Letter(s) from the Subcontractor(s) listing their salaried specialists
    - If applicable, a letter designating the Registered Professional Land Surveyor
    - If applicable, a letter designating the Safety Representative (for general project safety) and the "Competent Person" for excavation safety
    - Excavation Safety Systems Plan
    - Schedule of Values
    - Schedule for submittals
    - Shop drawings
    - Construction schedule (The schedule shall indicate the phases of work in which subcontractors will be participating. Subcontractors shall be indicated by name.)
    - Payroll reports
    - Substitution of subcontractors
    - Non-use of asbestos materials affidavit
    - Appropriate safety training certificates for workers that will initially be on site

- Documentation for all workers initially on site who are governed by a prevailing wage classification as described in Section 00830.
- Construction Equipment Emissions Reduction Plan

8. Job and traffic safety.
9. Permits.
10. Utility coordination report.
11. Notification of property owners and other affected by the project
12. Job meetings.
13. Use of the site for construction, storage, staging, etc., and interrelationship with other contracts.
14. Equal opportunity requirements.
15. Laboratory testing of material requirements.
16. Inventory of materials stored on site provisions.
17. Progress estimate and payment procedure.
18. Posting of signs.
19. Project safety.
20. Prompt payment procedure.
21. Review of contract - addenda, supplementary general conditions, special provisions, special specifications, and other unique project items.
22. Other

1.5 JOB MEETINGS

A. General

Job meetings shall be held as deemed necessary by the ENGINEER/ARCHITECT or OWNER or as requested by the CONTRACTOR throughout the duration of the Project. The meetings shall be held at a location selected by or approved by the Owner's Representative. The OWNER's REPRESENTATIVE or CONTRACTOR, as agreed to, shall preside over the meeting and issue meeting minutes.

B. Attendees

Job meetings will be attended by the following:

1. CONTRACTOR's Project Manager, when requested to attend.
2. CONTRACTOR's Construction Superintendent.
3. Any subcontractors' and/or suppliers' representatives whom the CONTRACTOR may desire to invite or whom the ENGINEER/ARCHITECT or OWNER requests to attend.
4. OWNER's REPRESENTATIVE
5. ENGINEER/ARCHITECT's representative(s), if needed or required.
6. OWNER's PROJECT MANAGER, if needed or required
7. OWNER's Sponsor Department representative(s), if needed or required.

C. Meeting topics

The topics will include, but not necessarily be limited to, the following subjects:

1. Review of previous meetings' notes and update of pertinent information and Project status.
2. Identification and discussion of new job related construction problems. Such discussion will be toward resolving identified problems.
3. Review work accomplished to date and establish proposed construction activities for the upcoming week(s).
4. Discuss the status of or need for change orders.
5. Check of required bonds and insurance certificates (including Workers' Compensation Insurance verification for CONTRACTOR's, Subcontractor's, and Sub-Subcontractor's employees as stated in Section 00700, General Conditions, 5.2 Workers' Compensation).
6. Status of pay requests.
7. Work in progress.
8. Review and update construction schedule including three week look ahead.
9. Review of submittals schedule and status of submittals.
10. Status of SMBR Compliance Plan.
11. Status of Safety Training certificates for all new workers on project.
12. Other.

1.6 OTHER MEETINGS

Other meetings shall be held from time to time as may be requested by the CONTRACTOR, the ENGINEER/ARCHITECT, or the OWNER. The time and place of the meetings shall be as mutually agreed upon. The attendance at the meetings shall be as requested by the party requesting the meeting.

END

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

The Contractor prepares submittals. Drawings and general provisions of Contract, including Section 00700, "General Conditions"; Section 00810, "Supplemental General Conditions"; Division 1 requirements and City of Austin Technical Specifications and Special Provisions thereto, should be used as the related documents for this requirement.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following:

1. Security plan.
2. Contractor's construction schedule.
3. Submittal schedule.
4. Shop drawings.
5. Product data.
6. Samples.
7. Quality assurance and quality control submittals, including calculations, mix designs and substantiating test results.

B. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:

1. Permits.
2. Applications for Payment.
3. Performance and Payment bonds.
4. Insurance certificates.
5. Monthly Subcontractors expense report.
6. Non-use of asbestos affidavits

C. Related Sections: The following Sections contain requirements that relate to this Section:

1. Section 00700, "General Conditions"; Section 00810, "Supplemental General Conditions"; and/or Division 1, Section 01025, "Measurement and Payment" specifies requirements for submittal of the Schedule of Values.

2. Division 1, Section 01200, "Project Meetings" specifies requirements for submittal and distribution of meeting and conference minutes.

3. Section 00700, "General Conditions"; Section 00810, "Supplemental General Conditions"; and/or Division 1, Section 01700, "Contract Close-out" specifies requirements for submittal of Project Record Documents and warranties at project close-out.

4. Section 00700, "General Conditions" Article 6.2.4 specifies requirements for Substitutes and "Approved Equal" Items.

D. Technical Submittals: Technical information required to be submitted by the Standard Specifications, Special Provisions or Special Specifications.

PART 2 - PRODUCTS - not used

PART 3 - EXECUTION

3.1 SUBMITTAL PROCEDURES

Contractor shall be responsible for the following:

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals or resubmittals concurrently.

    a. The E/A reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.

3. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.

    a. Allow fourteen (14) calendar days for initial review. Allow additional time if the Engineer must delay processing to permit coordination with subsequent submittals.

    b. If an intermediate submittal is necessary, process the same as the initial submittal.

    c. Allow fourteen (14) calendar days for processing each resubmittal.

    d. No extension of Contract Time will be authorized because of failure to transmit submittals to the E/A sufficiently in advance of the Work to permit processing.

B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

1. Provide a space approximately 4 inches by 5 inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.

2. Include the following information on the label for processing and recording action taken.

    a. Project name.
    b. Date.
    c. Name and address of the Contractor’s Engineer.
    d. Name and address of the Contractor.
    e. Name and address of the subcontractor.
    f. Name and address of the supplier.
    g. Name of the manufacturer.
    h. Number and title of appropriate Specification Section.
    i. Drawing number and detail references, as appropriate.

C. Number of Copies:

1. Two (2) copies of the proposed Construction schedule and subsequent revision are required.

2. Two (2) copies of the proposed Submittal schedule and subsequent revision are required.

3. Nine (9) copies of Shop Drawings, Product, Product Samples, Quality Assurance and Quality Control submittals are required.

D. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the E/A through the Owner's Representative using a transmittal form (An example Transmittal Form is provided at the end of this section). The E/A will not accept submittals received from sources other than the Contractor.

1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

2. Number transmittals in sequence for each Series of the Specifications thus: x-xxx. The number after the dash indicates the Section of the Specifications, and the number before the dash is the sequence number of the transmittal. For example, the first item submitted related to Specification Item No. 506, "Manholes" would be labeled **1-506**, the second item submitted would be labeled **2-506**, etc. If the submittal item relates to a Special Provision or Special Specification, use **SP506** or **SS5061**, for example, to indicate the applicable Specification Section. Identify resubmittals with a letter of the alphabet following the original sequence number, using "A" for the first resubmittal, "B" for the second resubmittal, etc. For example, the first resubmittal of the second item submitted for Specification SP506 would be labeled **2A-SP506**.

3.2 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Construction Schedule: As described in Section 2.4.2 of Section 00700 "General Conditions", prepare a fully developed Contractor's construction schedule ("Baseline Schedule") using Microsoft Project© software unless otherwise approved by Owner's Representative. Submit Baseline Schedule prior to or at the preconstruction conference, and submit updated schedules as specified by the E/A, usually at each regularly scheduled Project Meeting and with each pay application.

1. Detail each significant construction activity and use a weekly timeframe for the schedule. Use the same breakdown of units of the Work as indicated in the "Schedule of Values."

2. With each update, revise task completion percentage and mark completed tasks.

3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.

4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically the critical path items and the sequences necessary for completion of related portions of the Work.

5. Indicate the phases of work in which subcontractors will be participating. Subcontractors shall be indicated by name.

6. Coordinate the Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other schedules.

7. Indicate substantial completion in advance of the date established for Final Completion to allow time for the E/A's procedures necessary for certification of Substantial and Final Completion.

B. Work Stages: Indicate important stages of construction for each major portion of the Work, including submittal review, testing, and installation.

C. Cost Correlation: Within the Baseline Schedule, provide cost information indicating planned and actual costs. On the appropriate task line(s), show dollar volume of Work performed as of the dates used for preparation of applications for payment. Refer to Section 00700, "General Conditions", Article 14 Payment to Contractor and Completion for cost reporting and payment procedures.

D. Distribution: Following response to the Baseline Schedule submittal, distribute electronic copies to the E/A, subcontractors, suppliers, and other parties required to comply with scheduled dates. Keep a copy at the Project Site at all times.

1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

E. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made and as requested by the E/A. Issue the updated schedule concurrently with the report of each meeting, or as requested by the E/A.

F. Contractor shall provide a three week look ahead schedule in a format acceptable to the Project Manager at each Job Meeting as required in 1200 1.5 C.

3.3 SUBMITTAL SCHEDULE

A. Concurrently with the development of the Contractor's Construction Schedule, prepare a complete schedule of submittals. Submit the initial Submittal Schedule along with the Construction Schedule, at, or prior to, the Pre-construction Conference.

1. Coordinate Submittal Schedule with the list of subcontractors, Schedule of Values, and the list of products as well as the Contractor's Construction Schedule.

2. Prepare the schedule in chronological order. Provide the following information:

a. Scheduled date for the first submittal.
b. Related Section number or Specification number.
c. Submittal category (Shop Drawings, Product Data, Calculations, Test Results, or Samples).
d. Name of the subcontractor.
e. Description of the part of the Work covered.
f. Scheduled date for resubmittal.
g. Scheduled date for completion of the E/A's review.

B. Contractor's schedule of submittals will be reviewed to verify that the list of submittals provided is all inclusive and the schedule is reasonable and realistic for delivery of the project. Owner will provide a response to the Contractor based on the assessment of the schedule of submittals.

C. Distribution: Upon Owner's agreement with the schedule of submittals, print and distribute copies to the Owner's Representative, E/A, Owner, subcontractors, suppliers, and other parties required to comply with submittal dates indicated. Keep copies at the Project Site at all times.

1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

D. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting, or as requested by the E/A.

3.4 CONSTRUCTION SEQUENCE PLANS

The Contractor is required to submit construction sequence plans to the City at, or prior to, the pre-construction conference for approval. The Project shall be divided into phases according to the sequence of construction given in the Drawings and traffic control plans. The Contractor shall arrange his/her work schedule to complete all Work on each phase, including street repair, any valve casting or manhole adjustments, and street overlay before moving on to the next work area.

3.5 SHOP DRAWINGS

A. Submit newly prepared information drawn accurately to scale. Highlight, circle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.

B. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:

1. Dimensions;
2. Identification of products and materials included by sheet and detail number;
3. Compliance with specified standards;
4. Notation of coordination requirements; and
5. Notation of dimensions established by field measurement.
6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 inches by 11 inches but no larger than 24 inches by 36 inches.
7. Do not use Shop Drawings without an appropriate stamp indicating action taken.

3.6 PRODUCT DATA

A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, applicable certifications and performance curves.

1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:

   a. Manufacturer's printed recommendations;
   b. Compliance with trade association standards;
   c. Compliance with recognized testing agency standards;
   d. Application of testing agency labels and seals;
   e. Notation of dimensions verified by field measurement; and
   f. Notation of coordination requirements.

2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

3. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.

   a. Do not proceed with installation until a copy of the final submission of Product Data is in the Installer's possession.

b. Do not permit use of unmarked copies of Product Data in connection with construction.

4. Potable Water, Reclaimed Water, and Wastewater Items or Projects: The Contractor shall submit descriptive information and evidence that the materials and equipment the Contractor proposes for incorporation into the Work is of the kind and quality that satisfies the specified functions and quality. **Austin Water Utility Standard Products Lists (SPL)** are a part of the Specifications. Contractors shall use products specified in the Contract Documents, listed on the SPLs, or approved by AWU through the process in Section 2.4.0 of the Utilities Criteria Manual. Products contained in the SPL cannot be substituted for items shown on the Drawings, or called for in the specifications, unless approved by the E/A in conjunction with the Austin Water Utility Standards Committee. **Unless otherwise specified,** products current at the time of solicitation shall be installed except where an updated List has been issued to remove a product because of quality or performance issues.

3.7 SAMPLES

A. Submit full-size, fully fabricated Samples cured and finished when specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.

1. Mount or display Samples in the manner to facilitate review of qualities indicated. Include the following:

   a. Specification Section number and reference;
   b. Generic description of the Sample;
   c. Sample source;
   d. Product name or name of the manufacturer;
   e. Compliance with recognized standards; and
   f. Availability and delivery time.

2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.

   a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least 3 multiple units that show approximate limits of the variations.

   b. Refer to other Specification Sections for requirements of Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.

   c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.

   d. Samples not incorporated into the Work, or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.

3. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.

   a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

b. Sample sets may be used by Owner for final acceptance of the construction associated with each set.

B. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.

3.8 QUALITY ASSURANCE AND QUALITY CONTROL SUBMITTALS

A. Submit quality assurance and quality control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, materials test results, field testing and inspection reports, and other quality-control submittals as required under other Sections of the Specifications.

B. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a certification from the manufacturer or responsible Engineer certifying compliance with specified requirements.

1. Signature: Certification shall be signed by an officer of the corporation or other individual authorized to sign documents on behalf of the company.

C. Calculations: When required in the technical specification, calculations shall be prepared and stamped by a Professional Engineer registered in the State of Texas.

D. Concrete, Controlled Low Strength Material, Asphalt Stabilized Base and Hot Mix Asphaltic Concrete Mix Designs and Substantiating Test Data: Requirements for submittal of mix designs and substantiating test data are specified in the applicable Technical Specification Section. Each separate batch plant supplying ASB, HMAC and/or concrete shall submit mix designs to the Owner’s Representative for review.

3.9 ENGINEER/ARCHITECT'S ACTION

A. Except for submittals, for the record, or for information where action and return is not required, the E/A will review each submittal, mark to indicate action taken, and return within the time frame specified in Paragraph 3.1.A.3.

1. Compliance with specified characteristics is the Contractor's responsibility.

B. Action Stamp: The E/A will stamp each submittal with a uniform, action stamp. The E/A will mark the stamp appropriately to indicate the action taken, as follows:

1. “Reviewed”: the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.

2. "Reviewed with Comments”: the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.

3. "Revise and Resubmit” or “Rejected": do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations and resubmit without delay. Repeat if necessary to obtain different action mark.

a. Do not use, or allow others to use, submittals marked "Revise and Resubmit" or “Rejected” at the Project Site or elsewhere where Work is in progress.

4. Other Action: Where a submittal is for information, or for record purposes, or for special processing, or for other activity, the E/A will return the submittal marked "Record Copy", "Action Not Required" or "No Action Taken."

C. Unsolicited Submittals: The E/A will return unsolicited submittals to the sender without action.

3.10 PREPARATION AND SUBMITTAL OF CONSTRUCTION RECORD DRAWINGS

The Owner's Representative and the Contractor's Superintendent will each maintain a set of bluelines noting any changes in ink during construction of the Project. The Owner's Representative and the Contractor's Superintendent will compare bluelines at least weekly (at a time mutually acceptable to both) to exchange information and compare notes to ensure all items installed and changes are documented. The following is a recommended minimum of items to be noted:

GENERAL

1. Notes should be sufficiently clear to allow a draftsperson to easily make the necessary changes without the need for field checks and interpretation.
2. One complete set of Construction Record bluelines will be submitted prior to the final pay request and forwarded to the Owner.

STREET RECONSTRUCTION AND OVERLAY PROJECTS

1. Location, type, and quantity of all work added or deleted from the Project including repair areas, milled areas, sidewalk, ramps, curb and gutter, etc.
2. Deviations in street, sidewalk, curb and gutter location and grades from Drawings.

WATER/WASTEWATER PROJECTS

1. Type, name and model numbers of all valves (with # of turns to open/close), air release valves, drain and fire hydrants noted at locations installed.
2. Installed locations of all assignments, appurtenances and elevations which differ from those indicated on the Drawings.
3. Pipe manufacturer type and classification noted in sufficient detail to determine location and extent of each type or classification installed.
4. Modification to any standard or special details noted.
5. Location and description of pipe closures.
6. Thrust blocking locations and restrained pipe lengths, approximate dimensions and quantities noted.
7. Location, type and quantity of all addition and deletions.
8. Changes in grade.

The above list is not intended to be complete. Any information noted which could be used for future maintenance, location and construction projects is encouraged to be noted on the bluelines.

3.11 CONSTRUCTION DIARIES

The Contractor shall prepare a daily construction diary recording as a minimum the following information concerning events at the site and submit duplicate copies to the Owner's Representative at weekly intervals. The copies are to be signed by the project Superintendent as defined in Section 00700, Article 6.1.2.

1. Work performed;
2. Approximate count of Contractor's personnel, by classification, on the site;
3. List by classification, of all Subcontractors, personnel and any professionals on the site that day;
4. List of all equipment on the site by make and model;
5. High and low temperatures together with general weather conditions;
6. Start time and finish time of day's work;
7. Accidents and / or unusual events;
8. Meetings and significant decisions made;
9. Stoppages, delays, shortages and / or losses;

10. Meter readings and / or similar recordings;
11. Emergencies procedures that may have been needed;
12. Orders and requests of governing authorities;
13. Change Orders received and implemented;
14. Services connected and / or disconnected;
15. Installed equipment and / or system tests and / or startups and results;
16. Partial completions and / or occupancies; and
17. Date of substantial completion certified.

Shop Drawing Transmittal

Month XX, 2008

Transmittal No. _____
Previous Transmittal No. _____
Previous Submittal Date _____

City of Austin
Construction Inspection Division
Public Works Department
P.O. Box 1088
Austin, Texas 78767

Project Name: Austin Lakeside Drive

Attention: Owner's Representative

Enclosed are nine (9) copies of the following items for your review:

Item No.	Description	Submittal Type	Specification Section	Subcontractor/Supplier
1.	6" DI Pipe	Produce Data	510	ABC Company
2.	8" Resilient Seat Gate Valve	Product Data	511	DEF Company

Example

NOTE: Item 1 above contains a deviation from the Specifications as indicated on the item

Submitted by: _____

XYZ Company
101 Ranch Road 2974
Austin, Texas 78759

END

SECTION 01310

SCHEDULES AND REPORTS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Preparation, submittal, and maintenance of computerized progress schedule and reports, contract time adjustments, and payment requests, including the following:
   1. Preliminary Schedule.
   2. Baseline Schedule.
   3. Monthly Schedule Updates.
   4. Weekly Summary Schedule.
   5. Schedule of Submittals.
   6. Manpower Schedule.
   7. Equipment Schedule.
   8. Commissioning and Process Start-up Schedule.
   9. As-built Schedule.

B. Related sections:
   1. It is the Contractor's responsibility for scheduling and coordinating the Work of subcontractors, suppliers, and other individuals or entities performing or furnishing any of Contractor's Work.
   2. The following Sections are related to the Work described in this Section. This list of Related Sections is provided for convenience only and is not intended to excuse or otherwise diminish the duty of the Contractor to see that the completed Work complies accurately with the Contract Documents.
      a. Section 00700 - General Conditions.
      b. Section 01756 - Commissioning.

1.02 SCHEDULER

A. Designate, in writing and within 5 calendar days after Notice of Award, person responsible for preparation, maintenance, updating and revision of all schedules.

B. Qualifications of scheduler:
   1. Authority to act on behalf of Contractor.
   2. 5 years verifiable experience in preparation of complex construction schedules for projects of similar value, size, and complexity.
   3. Knowledge of critical path method (CPM) scheduling utilizing scheduling software.

C. Owner reserves the right to disapprove scheduler when submitted by Contractor if not qualified. Owner reserves the right to remove scheduler from the project if found to be incompetent.

1.03 SCHEDULING FORMAT AND SOFTWARE

A. Schedule format: Utilize CPM format.

B. Prepare computerized schedule utilizing Microsoft Project, most current version.

1.04 PRECONSTRUCTION SCHEDULING MEETING

A. Engineer and/or the Owner's Representative will conduct Preconstruction Scheduling Meeting with Contractor's Project Manager, General Superintendent, Owner's Representative, and scheduler within 7 calendar days after Notice To Proceed. This meeting is separate from the Preconstruction Conference Meeting and is intended to cover schedule issues exclusively.

B. At the meeting, review scheduling requirements. These include schedule preparation, reporting requirements, updates, revisions, and schedule delay analysis. Present schedule methodology, planned sequence of operations, and proposed activity coding structure.

C. Coding structure:
   1. Submit proposed coding structure, identifying the code fields and the associated code values it intends to use in the project schedule.
   2. A minimum, include code fields for Project Segment or Phase, Area of Work, Type of Work.
   3. Submittal/Procurement/Construction and Responsibility/Subcontractor. Refer to NETWORK DETAILS AND GRAPHICAL OUTPUT for listing of activity categories to be included in the schedule.

D. Naming convention: Name schedule files with the year, month and day of the data date, revision identifier, and a description of the schedule.
   1. Example 1: 2014_07_30 rev 1 draft baseline schedule.xer.
   2. Example 2: 2014_09_30 rev 2 sep final update.xer.

E. Filing: Post submitted files to Owner's construction document control system.

1.05 SCHEDULE PREPARATION

A. Preparation and submittal of Progress Schedule represents Contractor's intention to execute the Work within specified time and constraints. Failure to conform to requirement may result in termination for cause as specified in Document 00700, under Suspension of Work and Termination.

B. Contractor's bid covers all costs associated with the execution of the Work in accordance with the Progress Schedule.

C. During preparation of the preliminary Progress Schedule, Owner's Representative will facilitate Contractor's efforts by being available to answer questions regarding sequencing issues, scheduling constraints, interface points, and dependency relationships.

D. Prepare schedule utilizing Precedence Diagramming Method (PDM).

E. Prepare schedule utilizing activity durations in terms of working days. Do not exceed 15 working day duration on activities except concrete curing, submittal review, and equipment fabrication and deliveries. Where duration of continuous work exceeds 15 working days, subdivide activities by location, stationing, or other sub-element of the Work. Coordinate holidays to be observed with the Owner and Owner's Representative and incorporate them into the schedule as non-working days.

F. Failure to include an activity required for execution of the Work does not excuse Contractor from completing the Work and portions thereof within specified times and at price specified in Contract. Contract requirements are not waived by failure of Contractor to include required schedule constraints, sequences, or milestones in schedule. Contract requirements are not waived by Owner's acceptance of the schedule. In event of conflict between accepted schedule and Contract requirements, terms of Contract govern at all times, unless requirements are waived in writing by the Owner.

G. Reference schedule to working days with beginning of Contract Time as Day "1".

H. Baseline Schedule and Project Completion: Should Contractor submit a Baseline Schedule showing project completion more than 20 working days prior to Contract completion date Owner may issue Change Order, at no cost to Owner, revising time of performance of Work and Contract completion date to match Contractor's schedule completion date. Adjust accordingly any Contract milestone dates.

I. Contract float is for the mutual benefit of both Owner and Contractor. Changes to the project that can be accomplished within this available period of float may be made by Owner without extending the Contract time, by utilizing float. Time extensions will not be granted nor delay damages owed until Work extends beyond currently accepted Contract completion date. Likewise, Contractor may utilize float to offset delays other than delays caused by Owner. Mutual use of float can continue until all available float shown by schedule has been utilized by either Owner or Contractor, or both. At that time, extensions of the Contract time will be granted by Owner for valid Owner-caused or third party-caused delays which affect the planned completion date and which have been properly documented and demonstrated by Contractor.

J. Schedule logic: Assembled to show order in which Contractor proposes to carry out Work, indicate restrictions of access, availability of Work areas, and availability and use of manpower, materials, and equipment. Form basis for assembly of schedule logic on the following criteria:
   1. Which activities must be completed before subsequent activities can be started?
   2. Which activities can be performed concurrently?
   3. Which activities must be started immediately following completed activities?
   4. What major facility, equipment, or manpower restrictions are required for sequencing these activities?

K. Non-sequestering of float: Pursuant to float sharing requirements of Contract, schedule submittals can be rejected for, use of float suppression techniques such as preferential sequencing or logic, special lead or lag logic restraints, extended activity durations or imposed dates.

L. Interim milestone dates, operational constraints: In event there are interim milestone dates and/or operational constraints set forth in Contract, show them on schedule. Do not use Zero Total Float constraint or Mandatory Finish Date on such Contract requirements.

M. Schedule windows for owner-furnished, Contractor-installed equipment or materials: Immediately after Award of Contract, obtain from Owner's Representative anticipated delivery dates of Owner furnished equipment or materials. Show these dates in the schedule in same manner indicated by Owner's Representative.

N. All schedules:
   1. Only on-site construction activities.
   2. The sum total cost of all activities equal the current value of the Contract, including change orders, at all times.
   3. Owner acceptance of the Baseline Schedule creates the Schedule of Values required as specified in Section 00700 and Section 00810.
   4. Provide updated Schedule of Values as the monthly Payment Application as specified in Section 00700.
   5. Payments will not be made until updated Schedule of Values is accepted.

1.06 NETWORK DETAILS AND GRAPHICAL OUTPUT

A. Produce a clear, legible, and accurate calendar based, time scaled, graphical network diagram. Group activities related to the same physical areas of the Work. Produce the network diagram based upon the early start of all activities.

B. Include for each activity, the description, activity number, estimated duration in working days, total float, and all activity relationship lines.

C. Illustrate order and interdependence of activities and sequence in which Work is planned to be accomplished. Incorporate the basic concept of the precedence diagram network method to show how the start of 1 activity is dependent upon the start or completion of preceding activities and its completion restricts the start of following activities.

D. Indicate the critical path for the project.

E. Delineate the specified contract duration and identify the planned completion of the Work as a milestone. Show the time period between the planned and Contract completion dates, if any, as an activity identified as project float unless a Change Order is issued to officially change the Contract completion date.

F. Identify system shutdown dates, system tie-in dates, specified interim completion or milestone dates and contract completion date as milestones.

G. Include, in addition to construction activities:
   1. Submission dates and review periods for major equipment submittals, shoring submittals, and indicator pile program:
      a. Shoring reviews: Allow 4-week review period for each shoring submittal.
      b. Pile indicator program: Allow 3-week review period for analysis of program.
   2. Any activity by the Owner or the Owner's Representative that may affect progress or required completion dates.

3. Equipment and long-lead material deliveries over 8 weeks.
4. Approvals required by regulatory agencies or other third parties.

H. Produce network diagram on 22-inch by 34-inch sheets with grid coordinate system on the border of all sheets utilizing alpha and numeric designations.

I. Identify the execution of the following:
1. Mobilization.
2. All required submittals and submittal review times showing 30 calendar day duration for such activities and equal amount of time for re-submittal reviews.
3. Equipment and materials procurement/fabrication/delivery.
4. Excavation.
5. Shoring design and submission of detailed shoring submittals. Identify submission as a milestone.
6. Shoring review, shoring materials procurement, shoring installation, and shoring removal.
7. Piles.
8. Backfill and compaction.
9. Dewatering.
10. Grading, subbase, base, paving, and curb and gutters.
11. Concrete, including installation of forms and reinforcement, placement of concrete, curing, stripping, finishing, and patching.
12. Masonry.
13. Metal fastenings, framing, structures, and fabrications.
14. Doors and windows, including hardware and glazing.
15. Finishes including coating and painting, flooring, ceiling, and wall covering.
16. Process equipment, including identification of ordering lead-time, factory testing, and installation.
17. Conveying equipment including hoists and cranes, conveyor systems, and materials handling equipment, including identification of ordering lead-time and installation.
18. Other mechanical equipment including fans and heating, ventilating, and air conditioning equipment.
19. Trenching, pipe laying, and trench backfill and compaction.
20. Piping, fittings and appurtenances, including identification of ordering and fabrication lead time, layout, installation and testing.
21. Valves, gates, and operators, including identification of order lead-time, installation, and testing.
22. Electric transmission, service, and distribution equipment, including identification of ordering lead-time, and factory testing.
23. Other electrical work including lighting, heating and cooling, and special systems, including identification of ordering lead-time.
24. Instrumentation and controls, including identification of ordering lead-time.
25. Preliminary testing of equipment, instrumentation, and controls.
26. Commissioning Phase:
    a. Source Testing.
    b. Owner Training.
    c. Installation Testing.
    d. Functional Testing.
    e. Clean Water Facility Testing.

27. Process Start-up Phase:
    a. Process Start-up.
    b. Process Operational Period.
    c. Instrumentation and Controls Performance Testing.
28. Substantial completion.
29. Punch list work.
30. Demobilization.

1.07 SUBMITTAL OF PROGRESS SCHEDULES

A. Submit preliminary and baseline schedule.

B. Submit, on a monthly basis, updated schedules as specified.

C. Submit final schedule update as specified.

D. Submit revised schedules and time impact analyses as specified.

E. Submit schedules in the media and number of copies as follows:
    1. Three sets of the CPM network and/or bar chart (as specified by the Owner) on D-size sheets. Color-coding to be specified by the Owner.
    2. Three sets of Tabular reports listing all activities sorted numerically identifying duration, early start, late start, early finish, late finish, total float, and all predecessor/successor information.
    3. Two sets of CPM Schedule data electronic files stored on CD/DVD.

1.08 PRELIMINARY SCHEDULE

A. Submit Preliminary Schedule at least 5 days prior to the Preconstruction Meeting. Include a detailed plan of operations for first 90 calendar days of Work after receipt of Notice to Proceed.

B. Meet with Owner's Representative within 7 calendar days after receipt of Preliminary Schedule to review and make necessary adjustments. Submit revised preliminary schedule within 5 calendar days after meeting.

C. Submit schedule of costs for all activities on revised Preliminary Schedule.

D. Schedule of costs:
    1. Schedule of Values required under Section 00700 – General Conditions for first 90 calendar days of Work.
    2. Submittal and acceptance of Preliminary Schedule is condition precedent to making of progress payments as specified in Section 00700 – General Conditions and payments for mobilization costs otherwise provided for in the Contract.
    3. No pay item Work shall commence until Preliminary Schedule and schedule of costs have been accepted by Owner.

E. Incorporated unchanged, the accepted Preliminary Schedule as first 90 calendar days of activity in Contractor's Baseline Schedule.

F. Updated monthly during first 90 calendar days after Notice to Proceed. Updated Preliminary Schedule shall be the payment application required under Section 00700 - General Conditions.

1.09 BASELINE SCHEDULE

A. No more than 45 calendar days after Notice to Proceed, submit the Baseline Schedule for all Work of the project. Show sequence and interdependence of all activities required for complete performance of all Work, beginning with date of Notice to Proceed and concluding with date of final completion of Contract.

B. Acceptance of the Baseline Schedule by the Owner is a condition precedent to making payments as specified in Section 00700 - General Conditions after the first 90 calendar days after Notice to Proceed.

1.10 REVIEW AND ACCEPTANCE OF SCHEDULES

A. Resident Project Representative and Owner's Representative will review Baseline Schedule, Schedule Updates, Schedule Revisions, and Time Impact Analyses to ascertain compliance with specified project constraints, compliance with milestone dates, reasonableness of durations and sequence, accurate inter-relationships and completeness.

B. Resident Project Representative and Owner's Representative will issue written comments following completion of review of Baseline Schedule within 21 calendar days after receipt.

C. Written comments on review of Schedule Updates and Schedule Revisions and Time Impact Analyses will be returned to Contractor within 14 calendar days after receipt by Resident Project Representative and Owner's Representative.

D. Revise and resubmit schedule in accordance with Owner's Representative's and Resident Project Representative's comments within 7 calendar days after receipt of such comments, or request joint meeting to resolve objections.

E. If Resident Project Representative or Owner's Representative requests a meeting the Contractor and all major subcontractors must participate in the meeting with Resident Project Representative or Owner's Representative.
   1. Revise and resubmit schedule within 7 calendar days after meeting.

F. Use accepted schedule for planning, organizing, and directing the work and for reporting progress.

G. Submittal review response:
   1. When schedule reflects Owner's and Contractor's agreement of project approach and sequence, schedule will be accepted by Owner's Representative.

2. Resident Project Representative's submittal review response for schedule submittal will be "Receipt Acknowledged – Filed for Record" including applicable comments.
3. Acceptance of the schedules by the Owner's Representative is for general conformance with the Contract Documents and for Owner's planning information, and does not relieve the Contractor of sole responsibility for planning, coordinating, and executing the Work within the contract completion dates. Omissions and errors in the accepted schedules shall not excuse performance less than that required by the Contract Documents. Acceptance by the Owner's Representative in no way constitutes an evaluation or validation of the Contractor's plan, sequence or means, methods, and techniques of construction.

1.11 SCHEDULE UPDATES

A. Any update:
   1. Prepare update using most recent accepted version of schedule including:
      a. Actual start dates of activities that have been started.
      b. Actual finish dates of activities that have been completed.
      c. Percentage of completion of activities that have been started but not finished.
      d. Actual dates on which milestones were achieved.
      e. Update activities by inputting percent complete figures with actual dates.
      f. Use retained logic in preparing Schedule Updates.
      g. When necessary, input remaining durations for activities whose finish dates cannot be calculated accurately with a percent complete figure only.
      h. Revisions to the schedule may be included that have been previously approved as specified in this Section under Revisions to Schedule.

B. Monthly updates:
   1. Submit written narrative report in conjunction with each Schedule Update including descriptions of the following:
      a. Activities added to or deleted from the schedule are to adhere to cost and other resource loading requirements.
         1) Identify added activities in manner distinctly different from original activity designations.
      b. Changes in sequence or estimated duration of activities.
      c. Current or anticipated problems and delays affecting progress, impact of these problems and delays and measures taken to mitigate impact.
      d. Assumptions made and activities affected by incorporating change order work into the schedule.
   2. Submit updated schedule and materials specified under Submittal of Progress Schedules, 5 calendar days before the monthly schedule update meeting.
   3. Since Monthly Schedule Update is the application for progress payment required as specified in Section 00700 – General Conditions, submittal and acceptance of the monthly Schedule Update is a condition precedent to the making of any progress payments.

C. Weekly progress meeting:
   1. Update the schedule prior to weekly progress meeting.
      a. Identify overall progress of each Major Item of Work in the Summary Schedule.

b. If there are significant changes to the schedule, submit a written report at the weekly progress meeting.

2. Should monthly Schedule Update show project completion earlier than current Contract completion date, show early completion time as schedule activity, identified as “Project Float”.
3. Should monthly Schedule Update show project completion later than current Contract completion date, prepare and submit a Schedule Revision in accordance with the Revisions to Schedule.

1.12 REVISIONS TO SCHEDULE

A. Submit Revised Schedule within 5 calendar days:
   1. When delay in completion of any activity or group of activities indicates an overrun of the Contract time or milestone dates by 20 working days or 5 percent of the remaining duration, whichever is less.
   2. When delays in submittals, deliveries, or work stoppages are encountered making necessary the replanning or rescheduling of activities.
   3. When the schedule does not represent the actual progress of activities.
   4. When any change to the sequence of activities, the completion date for major portions of the work, or when changes occur which affect the critical path.
   5. When Contract modification necessitates schedule revision, submit schedule analysis of change order work with cost proposal.

B. Create a separate submittal for Schedule Revisions.
   1. Comply with schedule updates as specified in this Section.
   2. Do not submit with Schedule Updates.

C. Schedule Revisions will not be reflected in the schedule until after the revision is accepted by the Owner.
   1. This includes Schedule Revisions submitted for the purpose of mitigating a Contractor-caused project delay (Recovery Schedule).

1.13 PAYMENT REQUESTS AND CASH FLOW

A. After Baseline Schedule has been submitted and accepted by the Owner, submit on a monthly basis, a tabular and graphic report showing anticipated earnings each month of the contract period. This tabulation will be based on the summation of the activities each month. Submit an updated payment schedule each month showing actual earned amounts and anticipated remaining earnings.

B. Utilize monthly Progress Schedule Updates as the applications for payment specified in Section 00700 - General Conditions. List payment application in Excel format of all schedule activities showing cost and percentage completion during the current month for which payment is sought. Progress payments will not be made until monthly Progress Schedule Update is provided.

1.14 WEEKLY SCHEDULE

A. Submit to Owner's Representative, at every weekly progress meeting, a 6-Week Schedule showing the activities completed during the previous week and the Contractor’s schedule of activities for following 5 weeks.

B. Use the logic and conform to the status of the current progress schedule when producing a Weekly Schedule in CPM schedule or a bar chart format. In the event that the Weekly Schedule no longer conforms to the current schedule, Contractor may be required to revise the schedule as specified in this Section.

C. The activity designations used in the Weekly Schedule must consistent with those used in the Baseline Schedule and the monthly Schedule Updates.

D. Contractor and Owner's Representative must agree on the format of the Weekly Schedule.

1.15 SCHEDULE OF VALUES

A. Requirements for Schedule of Values are specified in Section 00700 – General Conditions and Section 00810 – Supplemental General Conditions.

B. Submit, in conjunction with the Progress Schedule, a Schedule of Values identifying costs of all on-site construction activities as generated by the schedule. Equate the aggregate of these costs to the Lump Sum Contract Price.

1.16 ADJUSTMENT OF CONTRACT TIMES

A. Contract Time will be adjusted only for causes specified in Contract Documents.
   1. Non-excusable delay: Non-excusable delays include actions or inactions of the Contractor, or events for which the Contractor has assumed contractual responsibility (including actions or inactions of subcontractors, suppliers, or material manufacturers at any tier) that would independently delay the completion of the Work beyond the current Contract completion date). No time extensions will be granted for non-excusable delays.
   2. Excusable delay: Events which are unforeseeable, outside the control of, and without the fault or negligence of either the Owner or the Contractor (or any party for whom either is responsible), which would independently delay the completion of the Work beyond the current Contract completion date. The Contractor is entitled to a time extension only. No other damages will be approved.
   3. Compensable delay: As specified in Section 00700 - General Conditions and 00810 - Supplemental General Conditions.

B. If the Contractor believes that the Owner has impacted its work, such that the project completion date will be delayed, the Contractor must submit proof demonstrating the delay to the critical path. This proof, in the form of a Time Impact Analysis, may entitle the Contractor to an adjustment of contract time.

C. The Time Impact Analysis:
   1. Use the accepted schedule update that is current relative to the time frame of the delay event (change order, third party delay, or other Owner-caused delay). Represent the delay event in the schedule by:
      a. Inserting new activities associated with the delay event into the schedule,
      b. Revising activity logic, or
      c. Revising activity durations.
   2. If the project schedule’s critical path and completion date are impacted as a result of adding this delay event to the schedule, a time extension equal to the magnitude of the impact may be warranted.

3. The Time Impact Analysis submittal must include the following information:
    a. A fragnet of the portion of the schedule affected by the delay event.
    b. A narrative explanation of the delay issue and how it impacted the schedule.
    c. A CD containing the schedule file used to perform the Time Impact Analysis.

D. Indicate clearly that the Contractor has used, in full, all project float available for the work involved in the request, including any float that may exist between the Contractor's planned completion date and the Contract completion date. Utilize the latest version of the Schedule Update accepted at the time of the alleged delay, and all other relevant information, to determine the adjustment of the contract time.

E. Adjustment of the Contract Times will be granted only when the Contract Float has been fully utilized and only as specified in Section 00700 - General Conditions.

F. Actual delays in activities which do not affect the critical path work or which do not move the Contractor's planned completion date beyond the Contract completion date will not be the basis for an adjustment to the contract time.

G. If completion of the project occurs within the specified contract time, the Contractor is not entitled to job-site or home office overhead beyond the Contractor's originally planned occupancy of the site.

H. Notify Owner’s Representative of a request for contract time adjustment. Submit request as specified in Document 00700. In cases where the Contractor does not submit a request for contract time adjustment for a specific change order, delay, or Contractor request within the specified period of time, then it is mutually agreed that the particular change order, delay, or Contractor request has no time impact on the Contract completion date and no time extension is required.

I. The Owner’s Representative will, within 30 calendar days after receipt of a contract time adjustment, request any supporting evidence, review the facts and advise the Contractor in writing.
    1. Include the new Progress Schedule data, if accepted by the Owner, in the next monthly Schedule Update.

1.17 SUMMARY SCHEDULE

A. Provide Summary Schedule, which consolidates groups of activities associated with Major Items of Work shown on Baseline Schedule. Summary Schedule is intended to give an overall indication of the project schedule without a large amount of detail.

B. Submit updated Summary Schedule at weekly progress meetings and after each Schedule Update or Schedule Revision.

1.18 SCHEDULE OF SUBMITTALS

A. Schedule of Submittals shall include submittals required in the Contract Documents but not limited to Commissioning and Process Start-up Plans, Training Plans, test procedures, operation and maintenance manuals, shop drawings, samples, record documents, and specifically required certificates, warranties, and service agreements.

B. Preliminary Schedule of Submittals:
   1. Due date: After Preliminary Schedule has been submitted and accepted by Owner.
   2. Format:
      a. Include submittals anticipated in the first 90 calendar days after Notice to Proceed using early start dates.
      b. Indicate week and month anticipated for each submittal.
      c. Indicate “Priority” submittals where review time can impact Contractor’s schedule.
         1) “Priority” indication will not alter review times specified in Section 01300 - Submittals.
         2) Owner’s Representative will endeavor to provide early review of “Priority” submittals where possible.
   3. Submittal of Preliminary Schedule of Submittals shall be a condition precedent to Owner making progress payments during the first 90 calendar days after Notice to Proceed.

C. Final Schedule of Submittals:
   1. Due date: After Baseline Schedule has been submitted and accepted by Owner.
   2. Format:
      a. Include submittals using early start dates.
      b. Include all submittals, including those required in the preliminary Schedule of Submittals.
      c. Indicate week and month anticipated for each submittal.
      d. Indicate “Priority” submittals where review time can impact Contractor’s schedule.
         1) “Priority” indication will not alter review times specified in Section 01300 - Submittals.
         2) Owner’s Representative will endeavor to provide early review of “Priority” submittals where possible.
   3. Submittal of Final Schedule of Submittals shall be a condition precedent to Owner making progress payments after the first 90 calendar days after Notice to Proceed.

D. Provide updated Schedule of Submittals with updated schedules if schedule revisions change listing and timing of submittals.

1.19 MANPOWER SCHEDULES

A. Due date: After Baseline Schedule has been submitted and accepted by Owner.

B. Format:
   1. Schedule histogram depicting total craft manpower and craft manpower for Contractor’s own labor forces and those of each subcontractor.
   2. Submit electronically on a computer disk in Excel format, with 1 paper copy.

C. Progress payments after the first 90 calendar days after Notice to Proceed will not be made until manpower schedule is provided.

1.20 EQUIPMENT SCHEDULE

A. Due date: After Baseline Schedule has been submitted and accepted by Owner.

B. Format:
   1. Tabular report listing each major piece of construction equipment to be used in performing the Work.
   2. Include major equipment for Contractor and each subcontractor.
   3. Submit electronically on a computer disk in Excel format with 1 paper copy.

C. Progress payments after the first 90 calendar days after Notice to Proceed will not be made until equipment schedule is provided.

1.21 TESTING, TRAINING, AND FACILITY START-UP SCHEDULE SUBMITTAL

A. Proposed Testing, Training, and Facility Start-Up Schedule:
   1. Due date: As specified in Section 01756.
   2. Schedule requirements: As specified in Section 01756.
   3. Owner’s Representative response due within 20 calendar days of receipt.
   4. Contractor responsible for updating schedule and resubmitting within 10 calendar days of receipt of Owner's Representative and Owner comments.

B. The Testing, Training, and Facility Start-Up Schedule may not be combined with the Detailed Schedule until Owner's Representative acceptance of the proposed Testing, Training, and Facility Start-Up Schedule.

C. Testing, Training, and Facility Start-Up Schedule monthly update requirements:
   1. Highlight percentages of completion, actual start and finish dates, and remaining durations, as applicable.
   2. Include activities not previously included in the previously accepted detail work plan Progress Schedule.
   3. Change Order required for any change to contractual dates.
   4. Reviews of these submittals by Owner's Representative will not be construed to constitute acceptance within the time frames, durations, or sequence of work for each added activity.

1.22 FINAL SCHEDULE SUBMITTAL

A. The final Schedule Update becomes the As-Built Schedule.
   1. The As-Built Schedule reflects the exact manner in which the project was constructed by reflecting actual start and completion dates for all activities accomplished on the project.
   2. Contractor’s Project Manager and scheduler sign and certify the As-Built Schedule as being an accurate record of the way the project was actually constructed.

B. Retainage will not be released until final Schedule Update is provided.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01322

WEB BASED CONSTRUCTION DOCUMENT MANAGEMENT

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:
   1. Requirements for web-based construction document management.

1.02 REQUIREMENTS

A. Owner, Engineer, Construction Manager**,** and Contractor shall utilize EADOC (EADOC is a registered trademark of EADOC LLC). For submission of all data and documents (unless specified otherwise in this Section) throughout the duration of the Contract.
   1. EADOC is a web-based electronic media site hosted by EADOC LLC.
   2. EADOC is available to all Contractor's personnel, subcontractor personnel, suppliers, consultants, Owner, Construction Manager**,** and Engineer at no cost.
   3. The joint use of this system is to facilitate electronic exchange of information, automation of key processes, and overall management of Contract Documentation.
   4. EADOC shall be the primary means of project information submission and management.

1.03 USER ACCESS LIMITATIONS

A. Provide a list of Contractor's key EADOC personnel for the Owner's Representative's acceptance. The Owner's Representative reserves the right to perform a security check on all potential users. The Contractor will be allowed to add additional personnel and subcontractors to EADOC.

B. The Owner's Representative will grant initial access to EADOC by creating user profiles to accepted Contractor personnel. User profiles will define levels of access into the system; determine assigned function based authorizations and user privileges. Subcontractors and suppliers will be given access to EADOC by and through the Contractor. Contractor is responsible for adding and removing users from the system after the initial setup by the Owner's Representative .

1.04 JOINT OWNERSHIP OF DATA

A. Data entered in a collaborative mode (entered with the intent to share as determined by permissions and workflows within the EADOC system) by Engineer and Contractor will be jointly owned.

1.05 AUTOMATED SYSTEM NOTIFICATION AND AUDIT LOG TRACKING

A. Review comments made (or lack thereof) by Owner on Contractor submitted documentation shall not relieve Contractor from compliance with requirements of

the Contract Documents. Contractor is responsible for managing, tracking, and documenting the Work to comply with the requirements of the Contract Documents. Owner's acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the Contractor's submitted information.

1.06 COMPUTER REQUIREMENTS

A. Contractor shall use computer hardware and software that meets the requirements of the EADOC system as recommended by EADOC LLC to access and utilize EADOC. As recommendations are modified by EADOC, Contractor will upgrade their system(s) to meet or exceed the recommendations. Upgrading of Contractor's computer systems will not be justification for a cost or time modification to the Contract.

B. Contractor shall ensure that connectivity to the EADOC system is accomplished through DSL, cable, T-1 or wireless communications systems. The minimum bandwidth requirements for using the system is 128 kb/s. It is recommended a faster connection be used when uploading pictures and files into the system.

C. EADOC supports the current and prior 2 major versions of Chrome, Mozilla's Firefox, Microsoft's Internet Explorer and Apple's Safari on a rolling basis.
   1. Each time a new version of one of these browsers is released, EADOC will begin supporting the update and stop supporting the fourth-oldest version.

1.07 CONTRACTOR RESPONSIBILITY

A. Contractor shall be responsible for the validity of their information placed in EADOC and for the abilities of their personnel.

B. Entry of information exchanged and transferred between the Contractor and its subcontractors and suppliers on EADOC shall be the responsibility of the Contractor.

C. Accepted users shall be knowledgeable in the use of computers, including Internet Browsers, email programs, cad drawing applications, and Adobe Portable Document Format (PDF) document distribution program.

D. Contractor shall utilize the existing forms in EADOC to the maximum extent possible. If a form does not exist in EADOC the Contractor must include a form of their own or provided by the Owner's Representative as an attachment to a submittal.

E. Adobe PDF documents will be created through electronic conversion rather than optically scanned whenever possible. Contractor is responsible for the training of their personnel in the use of EADOC (outside what is provided by Owner) and the other programs indicated above as needed.

1.08 TRAINING

A. The Owner has arranged and paid for web-based training on EADOC for the Contractor.

B. Contractor shall arrange and pay for the facilities and hardware/software required to facilitate Contractor's training.

PART 2 PRODUCTS

2.01 DESCRIPTION

A. EADOC project management application (no equal). Provided by EADOC LLC, www.EADOCsoftware.com.

PART 3 EXECUTION

3.01 EADOC UTILIZATION

A. EADOC shall be utilized in connection with all document and information management required by these Contract Documents.

3.02 SUBMITTALS

A. Use EADOC for submittals.

B. Content: As specified in City of Austin Section 01300 - Submittals.

C. Format: As specified in City of Austin Section 01300 - Submittals.

D. Submit Portable Document Format (PDF) documents to the EADOC submittal work flow process and forms.
   1. Consolidate electronic format submittals with multiples pages into a single file.

E. Hardcopy submittals:
   1. Contractor shall provide 3 hard copies of submittals within 14 days of the Submittal being closed.
   2. Hardcopy requirements as specified in City of Austin Section 01300 - Submittals.

F. Samples:
   1. Contractor shall enter submittal data information into EADOC.
   2. Attach a copy of the submittal form(s) to the sample.

G. Record And Closeout Submittals:
   1. Operation and maintenance data as specified in Section 01730 - Operation and Maintenance Manuals.
   2. Extra materials, spare parts, etc.

3.03 REQUESTS FOR INFORMATION/INTERPRETATION (RFI)

A. Use EADOC for RFIs as specified in Section 00810 - Supplemental General Conditions.

3.04 OFFICIAL CORRESPONDENCE

A. Use EADOC for memos, notices, change proposals, or any official correspondence.

3.05 INSPECTION REQUESTS

A. Use EADOC to request inspection for a portion of Work that is ready for inspection and prior to covering up the Work.

3.06 FINANCIAL SUBMITTALS

A. Use EADOC for financial submittals as specified in City of Austin Section 01300 - Submittals.

3.07 OTHER

A. Use EADOC for daily reports, meeting agendas and minutes, and other construction documents.

END OF SECTION

Division 1 General Requirements

SUSTAINABLE CONSTRUCTION REQUIREMENTS

Section 01352

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section. The requirements may or may not include reference to sustainability/LEED.

Language in each section provides detailed guidelines to inform the Contractor of appropriate performance requirements for specific materials and products. All LEED/sustainable design materials, products, and methods must meet the specifications as written unless otherwise approved by the Architect.

Related Sections include the following Division 1 Sections:

1. Section 01300 Submittals.
2. Section 01505 Construction and Demolition Waste Management and Disposal.
3. Section 01756 Commissioning.
4. Section 01730 Operation and Maintenance Data.

1.2 SUMMARY

A. This Section includes general requirements and procedures for compliance with certain Sustainable Construction requirements.

1. Some Sustainability requirements are dependent on material selections and may not be specifically identified as sustainability requirements. Compliance with requirements may be used as one criterion to evaluate substitution requests.

2. Additional Sustainability Construction requirements are dependent on Architect's design and other aspects of the Project that are not part of the Work of the Contract.

B. Related Sections: The contents of this Section are related to all Sections of these Specifications. Language in each section provides detailed guidelines to inform the Contractor of appropriate performance requirements for specific materials and products. All sustainable design materials, products, and methods must meet the specifications as written unless otherwise approved by the Architect.

C. Green Seal: standards for commercial adhesives and cleaning products; www.greenseal.org

1.3 DEFINITIONS

A. Certificates of Chain-of-Custody: Certificates signed by manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria." Certificates shall include evidence that mill is certified for chain-of-custody by an FSC-accredited certification body.

B. LEED™: Leadership in Energy & Environmental Design. This is not a requirement of this project. Included for information only.

C. Rapidly Renewable Materials: Materials made from agricultural products that are typically harvested within a ten-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.

D. Regionally Manufactured Materials: Materials that are manufactured within a radius of 500 miles (800 km) from the Project location. Manufacturing refers to the final assembly of components into the building product that is installed at the Project site.

E. Regionally Extracted, Harvested, or Recovered Materials: Materials that are extracted, harvested or recovered and manufactured within a radius of 500 miles (800 km) from the Project site.

F. Recycled Content: The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer), or after consumer use (post-consumer).

1. Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.

2. Discarded materials from one manufacturing process that are used as constituents in another manufacturing process are pre-consumer recycled materials.

G. Albedo: The ratio of the amount of light reflected from a material to the amount of light shone on the material ranging from 0 (black) to 1 (white). As defined by the USGBC, a high albedo material has a reflectance of at least .3. Albedo is also known as solar reflectance or reflectivity.

H. Composite agrifiber product: A board or sheet product that uses an agricultural waste product (such as straw from wheat, oats, rice, and rye) as its fiber source instead of wood.

I. Embodied energy: The total energy that a product may be said to "contain," including all energy used in growing, extracting, and manufacturing it and the energy used to transport it to the point of use. The embodied energy of a structure or system includes the embodied energy of its components plus the energy used in construction. In some cases, a material designed for energy conservation may have more energy invested in making it than it can save throughout most of its lifetime.

J. Formaldehyde: A colorless, pungent smelling gas used as an adhesive component in many glues (especially those used to make composite and laminated wood products), and as an additive in paint and other products. As a monomer, formaldehyde can cause respiratory problems, cancer, or chemical sensitivity even at very low exposure levels (National Institute for Occupational Safety and Health (NIOSH) exposure threshold level is one part per million (ppm). See urea formaldehyde below.

K. Heat island effect: When warmer temperatures (from 6 - 10°F) are experienced in urban landscapes as a result of solar energy retention on constructed surfaces. Principle surfaces that contribute to heat island effect include streets, sidewalks, parking lots, and buildings. Also called "Urban Heat Island Effect."

L. Impervious surfaces: Surfaces that promote runoff of precipitation volumes instead of infiltration into the subsurface. The imperviousness or degree of runoff potential can be estimated for different surface materials.

M. In-factory VOC Flushout: Curing and ventilating materials after manufacture in order to reduce overall VOC levels before shipping to project site.

N. Indoor Air Quality: The character of air inside a building that affects the health and well being of building occupants. According to the U.S. Environmental Protection Agency and National lnstitute of Occupational Safety and Health, the definition of good indoor air quality includes (1) introduction and distribution of adequate ventilation air; (2) control of airborne contaminants; and (3) maintenance of acceptable temperature and relative humidity. According to ASHRAE Standard 62-1999, acceptable indoor air quality is defined as "air in which there are no known contaminants at harmful concentrations as determined by cognizant authorities and with which a substantial majority (80 percent or more) of the people exposed do not express dissatisfaction."

O. Indoor Environmental Quality: The overall character of the indoor environment that affects the health and well being of building occupants and is achieved through prevention, planning, and control of systems.

P. Life cycle: The consecutive, interlinked stages of a product, beginning with raw materials acquisition and manufacture and continuing with its fabrication, manufacture, construction, and use, and concluding with any of a variety of recovery, recycling, or waste management options.

Q. Life cycle cost (LCC) of material: The costs accruing throughout the service life of a material. Life-cycle costs address the capital costs involved in production, maintenance, and disposal, and can also include other environmentally related capital costs and societal costs.

R. Local/regional materials: Materials that are extracted, harvested or recovered, as well as manufactured within a 500-mile radius of the project site. See definition for manufactured below.

S. Manufactured: Refers to the final assembly of components into the building product before it is furnished and installed by tradesman (Reference: LEEDTM Materials & Resources)

T. Material Safety Data Sheets (MSDS): Occupational Safety and Health Administration (OSHA) required documents supplied by manufacturers of potentially hazardous products. MSDS contain information regarding potentially significant air-borne contaminants, precautions, steps for inspection, health effects, odor description, volatility, expected contaminants from combustion, reactivity, and procedures for cleanup.

U. MERV: The Minimum Efficiency Reporting Value for filtration media as determined by the ANSI/ASHRAE 52.2-1999.

V. Off-gas/out-gas: A process of evaporation or chemical decomposition through which vapors are released from materials. Carpeting, furniture, building materials, and wet-applied products (like paints, adhesives, and caulks) typically off-gas chemical compounds that are unpleasant to breathe and may be hazardous to installer and occupant health.

W. Post-consumer recycled content: The percentage (by weight) of a reclaimed waste material contained in a product. A reclaimed waste material (e.g., newspaper, magazines, beverage containers, etc.) has already served a purpose to a consumer and has been diverted or separated from waste stream for recycling.

X. Pre-Consumer Recycled Content: Previously referred to as Post-industrial recycled content. The percentage (by weight) of a waste material obtained from industrial processes which are contained in a product.

Y. Recycled material: A material that would otherwise be destined for landfill disposal but is diverted or separated from the waste stream, reintroduced as material feedstock, and processed into marketed end products.

Z. Reused Material: Any item that is salvaged or reused without significant reprocessing as in a recycling process.

AA. Source reduction: Minimization of waste at the start of a process or activity so that there is a reduced amount of waste to recycle or dispose. Also called precycling.

BB. Sustainable: The condition of being able to "meet the needs of present generations without compromising those needs for future generations". Achieving a balance among extraction and renewal and environmental inputs and outputs, so as to cause no overall net environmental burden or deficit. To be truly sustainable, a human community must not decrease biodiversity, must not consume resources faster than they are renewed, must recycle and reuse virtually all materials, and must rely primarily on resources of its own region.

CC. Urea formaldehyde: An adhesive resin polymer produced by reacting urea with formaldehyde (a VOC and a potential carcinogen). It is the least stable formaldehyde resin, emitting formaldehyde monomers for months or even years after manufacture. Generally used as a binder for interior composite wood products. See also formaldehyde and VOC.

DD. Visible Transmittance (Tvis): The ratio of total transmitted light to total incident light. In other words, the amount of light passing through a glazing surface divided by the amount of light striking the glazing surface. A higher Tvis value indicates that a greater percentage of incident light is passing through the glazing.

EE. Volatile Organic Compound (VOC): A large family of chemicals based on carbon and hydrogen structures that vaporize at room temperature. VOCs are one type of indoor air contaminant. They are found in many indoor sources including common building products and materials. Although thousands have been identified in indoor air, only a few are well understood and regulated. VOCs are considered unhealthful to humans - some individual VOCs are known or suspected human carcinogens or irritants to the eyes, nose, and mucous membranes. When released, VOCs can contribute to the formation of ground level ozone and smog. Formaldehyde and toluene are two examples of VOCs commonly found in building materials.

FF. Xeriscape: Quality landscaping that conserves water and protects the environment through its employment of seven principles: planning and design; soil analysis; appropriate plant selection; practical turf areas; efficient irrigation; use of mulches; and appropriate maintenance.

1.4 SUSTAINABILITY OBJECTIVES/GOALS

The City of Austin is committed to sustainability and expects the Project to reflect this commitment. The specific Sustainable (Design & Construction) goals for this project include:

1. Protection of the environment.
2. Limiting construction site area and disturbance of natural habitat and protection of trees and vegetation.
3. Reduction of waste created by construction activity.
4. Increasing the use of materials and products with recycled content.
5. Reliable systems.
6. Energy-efficient systems.
7. Chemically safe building materials and pest management.

8. Building materials that use less energy and create less pollution in manufacture, delivery, installation, renovation, and demolition.
9. Occupant health through good indoor air quality, thermal comfort, day-lighting, views, access to the outdoors, and ergonomic work areas.

1.5 SUBMITTALS

A. General: Submit additional Sustainability submittal requirements included in other sections of the Specifications. Provide completed Sustainable Construction Submittal Form with all submittals. Appendix A.

B. Sustainability submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated requirements.

C. Project Materials Cost Data: Provide statement indicating total cost for building materials used for Project. Include statement indicating total cost of mechanical and electrical components. Include breakout of costs for Divisions 2 -10 including overhead transport and taxes and for the following categories of items:

1. Wood-based construction materials

D. Sustainable Construction Action Plans: Provide preliminary submittals within 14 calendar days of date established for the Notice to Proceed indicating how the following requirements will be met.

1. Construction & Demolition Waste Management Plan complying with Division 1 Section 01505 "Construction Waste Management."
2. Construction Indoor Air Quality (IAQ) Management Plan complying with Division 1 Section 01510 "Construction Indoor Air Quality (IAQ) Management."

E. Sustainable Construction Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with Action Plans for the following:

1. Waste reduction progress reports complying with Division 1 Section 01505 "Construction & Demolition Waste Management and Disposal."
2. Salvaged and refurbished materials.

F. Sustainability Documentation Submittals:

1. Product Data for roofing materials indicating Energy Star compliance.
2. Data for interior and exterior lighting fixtures that stop direct beam illumination from leaving the building site.
3. Product Data for plumbing fixtures indicating water consumption.
4. Product Data for new HVAC equipment indicating absence of CFC refrigerants. Phaseout plan to replace CFC refrigerants in HVAC/R systems with CFC free refrigerants within the Construction Period.
5. Product Data for new HVAC equipment indicating absence of HCFC refrigerants, and for clean-agent fire-extinguishing systems indicating absence of HCFC and Halon.
6. Comply with Division 1 Section 01505 "Construction Waste Management."

7. Receipts for salvaged and refurbished materials used for Project, indicating sources and costs for salvaged and refurbished materials.
8. Product Data and material safety data sheets (MSDSs) for paints and coatings used on the interior of the building indicating chemical composition and VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA method 24). VOC emissions from paints and coatings must not exceed the VOC and chemical component limits of Green Seal's Standard GS-11 requirements. List all interior paints and coatings used in the building that are addressed by Green Seal Standard GS-11, GS 03 or South Coast Air Quality Management District (SCAQMD) Rule 1113 and document that they comply with the current VOC and chemical component limits of the standard. Include a summary table comparing credit requirements and actual VOC levels for each product.

1.6 QUALITY ASSURANCE

A. Sustainability Coordinator: Engage a responsible person on the construction team who is familiar with Sustainable practices and procedures. The Coordinator may also serve as the Waste Management coordinator.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.1 SITE DISTURBANCE

A. Special Site Practices:
   1. Construction Activity Pollution Prevention: Comply with City of Austin standard requirements.
   2. Protect and restore natural vegetation per division 1 Sections and plans, and restrict construction activity only to defined site limits per plans.

3.2 CONSTRUCTION WASTE MANAGEMENT

A. Comply with Division 1 Section 01505 "Construction Waste Management."

3.3 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

A. Comply with Division 1 Section 01510 "Construction Indoor Air Quality Management."
B. Comply with SMACNA IAQ Guideline for Occupied Buildings under Construction.

3.4 COMMISSIONING

A. Comply with Division 1 Section "Facility Start-up/Commissioning."

APPENDIX A: Sustainable Construction Submittal Form:

SECTION 01352.2 APPENDIX A

PROJECT NAME: REQUIRED FOR ALL SUBMITTALS

Sustainable Construction Submittal Information SUBMITTALS CAN NOT BE APPROVED UNTIL RECEIPT OF THIS COMPLETED FORM.

1. General Information: PROVIDE FOR ALL MATERIALS

This information is used exclusively for sustainability records. All answers must be provided and supporting documentation must accompany this form.

Product/Material: _____ CSI Code(s): _____

Vendor/Sub: _____ Submittal #: _____

Contact name: _____ Phone: _____

Manufacturer: _____ Does the product/material meet the Project Specification requirements? YES OR NO ?

Cost Information: PROVIDE FOR ALL MATERIALS IN DIVS. 2 - 10 ONLY

Each material/product must have a separate spreadsheet.

Provide the "materials cost" for each product/material. The material cost is the cost paid to guarantee the material in final assembly form excluding installation costs (labor & equipment). Overhead, transportation, and taxes shall be included in materials costs.

Material Cost: $ _____ OR Unit Cost: $ _____ per _____ unit

# of units installed: _____

2. Recycled Content - FOR MATERIALS IN DIVS. 2 - 10 ONLY

* If the product is NOT an assembly of various components:
  * What percentage of the product is post-consumer? _____ %

    post-consumer = product went through consumer stream as another product
  * What is the source of this information? (Submittal, cost sheet, product brochure, letter from mfg., etc) _____
  * What percentage of the product is pre-consumer / post-industrial: _____ %

    pre-consumer/post-industrial = product is by-product from a manufacturing process
  * What is the source of this information? (Submittal, cost sheet, product brochure, letter from mfg., etc) _____
* If the product is an assembly of various components, fill in the table below.

Assembly: (List Product) Components	Weight (lbs)	Recycled Content (%)	% By Weight	Recycled Content Source	Company Providing Components

3. Regional Materials - FOR MATERIALS IN DIVS. 2 - 10 ONLY

* Was the product extracted, recovered, harvested, and manufactured within 500 miles of the project site? _____
* Provide the name and street address of the manufacturing facility. _____
* What is the distance of the manufacturing facility from the job site? _____ miles
* Provide the name and street address of the extraction or harvesting site or facility. _____

SECTION 01352.2 APPENDIX A

PROJECT NAME: REQUIRED FOR ALL SUBMITTALS

Sustainable Construction Submittal Information SUBMITTALS CAN NOT BE APPROVED UNTIL RECEIPT OF THIS COMPLETED FORM.

* What is the distance of the extraction or harvesting site from the project site? _____ miles

* Use table below for assemblies that have multiple sources for the same material:

Materials:	Extraction Site location (address):	Distance in miles	Manufacturing location (address):	Distance in miles

4. Low Emitting Materials

FOR PAINTS, COATINGS, STAINS, ADHESIVES, SEALANTS, CAULK, FIRESTOPPING, OR ANYTHING FROM A BUCKET, TUBE OR AEROSOL CAN
(Inside the weatherproofing system and applied on-site only)

* Does it meet the VOC requirements listed in the Specifications (shown in grams/Liter)?
If yes, provide manufacturer's data sheet with VOC content clearly shown. _____ grams/Liter

FOR CARPET OR CARPET TILE AND CARPET CUSHION

* For carpet, does it meet Green Label Plus certification? Yes or No
If yes, provide manufacturer's data sheet stating Green Label Plus certification has been met.

* For cushion, does it meet Green Label Plus certification? Yes or No
If yes, provide manufacturer's data sheet stating Green Label Plus certification has been met.

FOR COMPOSITE WOOD AND AGRIFIBER PRODUCTS (particleboard, MDF, plywood, wheatboard, strawboard, panel substrates and door cores)
(Inside the weatherproofing system and applied on-site only)

* Does it meet requirement of containing no added urea-formaldehyde resins? Yes or No
If yes, provide manufacturer's data sheet stating no added urea-formaldehyde resins are contained in material/product.

LAMINATING ADHESIVES USED TO FABRICATE ON-SITE AND SHOP-APPLIED COMPOSITE WOOD AND AGRIFIBER ASSEMBLIES

* Does the adhesive meet the requirement of containing no added urea-formaldehyde resins? Yes or No
If yes, provide manufacturer's data sheet stating no added urea-formaldehyde resins are contained in adhesive.

5. Rapidly Renewable Material

INCLUDES MATERIALS SUCH AS: BAMBOO, CORK, COTTON, LINOLEUM, WOOL AND WHEAT

What percentage, if any, does the manfacturing process use any rapidly renewable materials _____ %

Wood Product Type	Cost	Percentage of product by weight	Manufacturer/Vendor

6. Certified Wood

INCLUDES WOOD PRODUCTS SUCH AS: FRAMING, FLOORS, DOORS AND FINISHES

What percentage, if any, of the wood based materials are FSC Certified? _____ %

Product Name	Cost	Percentage of product by weight	FSC Chain of Custody Number	Manufacturer/Vendor

CONSTRUCTION EQUIPMENT EMISSIONS REDUCTION PLAN
Section 01353

1. GENERAL

1.1. RELATED DOCUMENTS

A. This Section applies to Drawings and all provisions of Contract.

1.2. SUMMARY – CONSTRUCTION EQUIPMENT EMISSIONS PLAN

A. The OWNER, as part of the Council Resolution No. 20100211-019, has decided to take steps to reduce emissions associated with construction process including Nitrogen Oxides (NOx), particulate matter and greenhouse gas. Construction activity is a source of large quantities of particulate matter and ozone forming Nitrogen Oxides that adversely affect the health of our community and the natural environment.

B. The CONTRACTOR shall employ practices and take actions that reduce emissions from NOx, particulate matter (black soot) and greenhouse gases resulting from activities associated with new construction and demolition Projects.

C. The CONTRACTOR shall maximize the use of equipment and vehicles with advanced emission controls in support of the City's goals, utilizing equipment that meets defined EPA emissions standards.

1.3. DEFINITIONS

A. "Construction Equipment" means equipment powered by an internal combustion engine and used for performing or otherwise advancing the Work on the Project, other than motor vehicles intended for use on public highways and registered pursuant to Section 502.002 of the Texas Transportation Code.

B. The list of applicable Construction Equipment includes, but is not limited to excavators, backhoes, loaders, bulldozers, graders, rock saws, generators, and other similar equipment.

C. "EPA" means the United States Environmental Protection Agency.

D. "Low-Use Equipment" means any piece of construction equipment which is used for less than ten (10) hours per week on site for a single construction contract.

E. "Greenhouse Gases" are emissions that absorb and emit radiation within the atmosphere. Greenhouse Gases can be one or a combination of, these gases: carbon dioxide, methane, nitrous oxide and three groups of fluorinated gases (sulfur hexafluoride, hydro fluorocarbons, and perfluorocarbons)

1.4. REQUIREMENTS – Not Used

1.5. SUBMITTALS

A. CONSTRUCTION EQUIPMENT EMISSIONS REDUCTION PLAN:

1. The CONTRACTOR agrees to prepare a draft Emissions Reduction Plan (referred to as PLAN) prior to start of construction. This PLAN shall include an inventory report

containing identifying data for each piece of equipment to be used on the worksite and shall include the following:

- Vehicle/Equipment: Make & Model Year
- Vehicle/Equipment: Engine Make & Model Year
- Vehicle/Equipment: Fuel Type
- Vehicle/Equipment: Expected gallons or hours used for project duration

a) The OWNER will provide Emissions Reduction Toolkit to help the CONTRACTOR in preparation of the PLAN and inventory.

2. The CONTRACTOR shall develop a list of strategies to be used in this Project in order to reduce emissions from NOx, particulate matter and greenhouse gas (CO_2 equivalent). Once prepared, the agreed upon strategies shall be incorporated into the PLAN. The PLAN will then be signed by the CONTRACTOR and made ready for implementation. Implementation progress will be reviewed once a month in regularly scheduled project progress meetings. The PLAN may be modified during construction if changes are made to the Project, but adjustments shall be approved by the OWNER prior to implementation.

3. This PLAN may be used by the Owner's Representative or Inspector to conduct site inspections and/or verify compliance with specification elements.

4. If additional equipment is brought on-site after construction begins, the Contractor shall provide this same inventory information to the Owner's Representative for the new equipment on or before the day it begins work on-site. All additional equipment shall conform to the PLAN.

5. Reports shall be provided for all equipment used on-site.

B. EQUIPMENT EMISSIONS CLOSEOUT DOCUMENTATION:

1. Submit the following prior to final payment:

a) Record of changes made to the original PLAN and reasons.

b) Provide a summary and documentation of strategies used and estimated reductions in fuel & emissions.

c) Provide documentation of amount and % of alternative fuel used.

2. PRODUCTS

Not used.

3. EXECUTION

3.1. GENERAL

A. Implement the submitted PLAN. Provide personnel, documentation, equipment, signage, transportation, and other items as required to implement the PLAN during the entire duration of the Contract.

3.2. EQUIPMENT EMISSIONS PLAN IMPLEMENTATION

A. Plan Coordinator (Could be same as superintendent): Designate an on-site person responsible for instructing workers on the Owner's intent to reduce emissions, overseeing implementation and documenting results of the PLAN for the Project.

B. Plan Review: Review the PLAN in monthly progress meeting and include comments in the meeting notes.

C. Instruction: Provide on-site instructions to all subcontractors of emissions reduction methods to be used by all parties for the appropriate activities of the Project.

D. Discuss Owner's goals and requirements at the following meetings:

1. Pre-bid conference.

2. Pre-construction conference.

3. Progress meetings (monthly).

3.3 EQUIPMENT EMISSIONS REDUCTION TOOLKIT

A. Equipment Emissions Reduction Toolkit available at:

1. Website: (http://austintexas.gov/department/capital-improvement-program)

2. City of Austin Public Works Department, Project Management Division, One Texas Center, Suite 900

3. Construction Job Site Office (after contract award)

B. Equipment Emissions Reduction Toolkit consists of:

1. A list of Construction Equipment Emissions Reduction Strategies

2. EPA fuel savings calculator by idling reductions

3. Posting of Anti-idling signs

4. Memorandum of Agreement by Local Area Governments

5. Equipment Inventory Form

3.4 A LIST OF EQUIPMENT EMISSIONS REDUCTION STRATEGIES

The following are suggested emissions reduction strategies and references. As per the specification section 01353, 1.5 Submittals, the CONTRACTOR shall develop a list of strategies to be used in this Project at the start of construction.

C-1 Anti-Idling Strategies:

1. Implement and enforce anti-idling practices for all equipment and vehicles on and adjacent to the site and associated with the project. City will provide a construction site sign and stickers for vehicles and equipment. Add Hyperlink to COA Idling flyer location TBD

Also refer to:

https://www.nctcog.org/trans/quality/air/for-everyone/engine-off-north-texas

Another potential resource for the COA website on emission specifications:
https://www.tceq.texas.gov/airquality/mobilesource/vehicleidling.html

2. Limit all idling of project associated vehicles and equipment operations to five (5) minutes unless the idling is applicable to one or more of the following exceptions:

   a) Idling is being used for emergency response purposes;

   b) Idling is necessary for component of mechanical operation, maintenance, or diagnostic purposes; or

   c) Idling is for the health or safety of the equipment operator.

3. Provide education to all staff, vendors and subcontractors about emissions hazards and anti-idling practices and encourage use of EPA calculator for fuel savings.

4. To the extent possible, do not stop or idle haulage trucks directly under tree limbs and foliage overhanging the street along the haul route. Further avoid such damage from truck exhaust by means of exhaust diversion devices to redirect or diffuse exhaust from being directed in a concentrated manner to tree limbs and foliage.

5. Avoid vehicle loitering or queuing outside or inside the gates of the work area to minimize degradation of localized air quality.

   (http://austintexas.gov/airquality/)

C-2 Alternative Fuels:

6. Utilize **alternative fuels** including, Texas LED Compliant B20 (or higher) biodiesel, Compressed Natural Gas (CNG), propane and electric. (Refer to EPA Energy Policy Act for full list).

7. Avoid unnecessary fuel use by providing on-site fuelling for alternate fuels.

   (http://www.tceq.texas.gov/airquality/mobilesource/txled/cleandiesel.html)

   (http://www.eere.energy.gov/cleancities)

   (http://lonestarcfa.org)

C-3 Vehicle/Equipment Improvements:

8. It is recommended that CONTRACTOR takes advantage of the **Texas Emission Reduction Plan (TERP)** grant incentives to upgrade (replace or repower) vehicles with retrofitted emission reduction technologies. (http://www.tceq.texas.gov/airquality/terp/index.html) or (www.terpgrants.com)

9. Utilize **battery powered and/or solar powered equipment** where available. This strategy can be combined with anti-idling strategies by using this technology for sign boards. (evtransportal.org/dieselengineidlereduction.pdf)

10. Consider using voluntary and mandatory sections of the City of Chicago Clean Diesel Program related to https://www.chicago.gov/city/en/progs/env/clean-diesel.htmlfile:///C:/Users/user/Documents/Downloads/O2011-1418.pdf

11. Consider an air quality training section administered by a governmental entity to help comply with an updated

COA Construction Equipment Emission Reduction Plan by using the California Air Resources Board (CARB) training section in the link below:
https://ww2.arb.ca.gov/our-work/topics/construction-earthmoving-equipment

C-4 Maintenance Program:

1. Establish a preventative **maintenance program** addressing issues including but not limited to, fuel use, air emissions, tire pressure, smoke from exhaust and noise.
2. Make all efforts to **prevent oil/fuel spillage** on to site surfaces.

C-5 Resource Management:

3. Utilize equipment companies that are located closest to the construction site.
4. Store equipment on site during construction use or arrange for closest overnight storage including **temporary use of the Right of Way** if possible.
5. To the extent possible, CONTRACTOR shall maximize use of **local and regional materials** to reduce transportation emissions.
6. CONTRACTOR shall maximize **salvage and reuse** of appropriate on-site materials. (http://www.usgbc.org/ShowFile.aspx?DocumentID=1095)
7. To the greatest extent possible, stage equipment and vehicles away from, and minimize operation near, sensitive receptors including, but not limited to, operable windows, fresh air intakes, hospitals, schools, licensed day care facilities, residences and areas where people congregate.

END

THIS PAGE INTENTIONALLY LEFT BLANK

CONSTRUCTION PHOTOGRAPHY & VIDEOS
Section 01380

1. GENERAL

CONTRACTOR shall be responsible for the production of pre-construction, construction progress and post-construction photographs as provided herein. Owner's Representative may also designate additional subjects for photographs in addition to the general guidelines identified below.

2. QUALITY

All photographs must be produced by a competent photographer and shall be digital (6 Mega-Pixel) date-stamped color photography of commercial quality. All CONTRACTOR-generated photographs must be stored in a .jpeg file format Each photograph shall be submitted in duplicate as two 3x5 prints with no more than 3 photos per page of professional quality enclosed in clear plastic sleeve within 3 tab folders. The prints shall be accompanied by digital date-stamped photographs in CD format or other format acceptable to the City. Each print shall be marked with the name and CIP ID number for the Contract, name of CONTRACTOR, description and location of view and identity of photographer.

Each photograph submittal must include a Photo Log that includes the name and CIP ID number of Contract, name of CONTRACTOR, the name of the photographer and company, photograph number, the date of the photograph and the filename that the camera assigns to the photo (e.g. MVC-001.jpg). In addition, appropriate descriptive information to properly identify the location of view must be entered into the Photo Log that includes a project drawing or sketch to assist in maintaining a concise project record (e.g. location of MH 5 - Line A or Sta. 2+00 - Line A or location of Sedimentation Basin 5, sludge pump A).

3. VIEWS AND QUANTITIES

3.1. PRE-CONSTRUCTION VIDEO
STREET, RIGHTS-OF-WAY OR WATER/WASTEWATER/STORMWATER PROJECTS

CONTRACTOR shall document by video, within the limits of construction, all pre-existing site conditions/elements as listed for the Pre-construction Photographs below. The video documentation shall provide a clear and continuous view of the project alignment showing all visible utilities and features within the limits of construction. The pre-construction video shall be in a format acceptable to the City and shall be shot prior to the occurrence of any site disturbance after Notice to Proceed. The pre-construction video shall be submitted within ten (10) calendar days of the Notice to Proceed.

3.2. PRE-CONSTRUCTION PHOTOGRAPHS
STREET, RIGHTS-OF-WAY OR WATER/WASTEWATER/STORMWATER PROJECTS

All pre-construction photographs must be submitted within ten (10) calendar days of the Notice to Proceed. Pre-construction photographs must be taken at sufficient intervals to be able to carefully document the pre-construction conditions of the Work, but in no case less than 100 foot intervals along the street, right-of-way, drainage easement or water/wastewater line route before commencement of Work. Each photograph location shall be taken from a minimum of two (2) views (one forward station view and one backward station view along the street, drainage, easement or pipeline route) within the limits of construction. Particular attention must be devoted to pre-existing damage to structures; landscape features, streets, curbs, sidewalks, driveways, signs, mailboxes, retaining walls, MSE walls, etc. shall be documented. An identifier such as houses or businesses address/ signs, property numbers, mail boxes, landscaping, etc. shall be included in each view for ease of later identification. At a minimum, Pre-construction photographs must be taken of the following views:

- The entire street ROW
- The entire easement width and length (both permanent and temporary)
- All curb lines (both sides of street) – all pre-existing curb damage not called for replacement within the Work and shall include major cracks
- All driveways, steps, and curbs and curb ramps (both sides of street)
- Fence and gate conditions
- Trees, ornamental shrubs, plantings/planter boxes and evidence of irrigation features
- Other privately or publically owned features or facilities that might be disturbed by the construction
- Prominent utility features, such as: guy wires, poles, signs, valves, fire hydrants, meters, pull boxes, etc.
- Streams and stream banks within the limits of construction
- Other significant or prominent features in order to protect the OWNER and CONTRACTOR following construction (e.g. close up photographs of pre-existing broken curbs, cracked/failed pavement, damaged adjacent retaining walls, etc.)
- Views of structures, both inside and adjacent to the ROW/easement in areas where CONTRACTOR will be working within five (5) feet of said structure
- Other views as requested by the OWNER

3.2 PRE-CONSTRUCTION PHOTOGRAPHS
INFRASTRUCTURE FACILITIES (i.e. TREATMENT PLANTS, PUMP STATIONS, LIFT STATIONS, RESERVOIRS, ETC) OR BUILDING PROJECTS

All pre-construction photographs must be submitted prior to the CONTRACTOR or Subcontractor beginning any Work that may cause site disturbance and shall be submitted with the initial CONTRACTOR'S Pay Application. As a minimum, Pre-construction photographs must be taken of the following views:

- The entire construction site area (full width and length)
- All curb lines showing all pre-existing curb damage not called for replacement within the Work and shall include major cracks
- All driveways, steps, and curbs and curb ramps (both sides of street adjoining the project site)
- Fence and gate conditions
- Trees, ornamental shrubs, plantings/planter boxes and evidence of irrigation features

- Views of structures, both inside and adjacent to the project site and easements in areas where CONTRACTOR will be working within five (5) feet of said structure
- Other views as requested by the OWNER

3.3 CONSTRUCTION PROGRESS PHOTOGRAPHS
STREET, RIGHTS-OF-WAY OR WATER/WASTEWATER/STORMWATER PROJECTS

Construction Progress photos must be taken at least weekly showing the progress of the work for the week. Construction photographs of the same views taken during pre-construction photography must be taken during the progress of the Work and shall be submitted monthly with the Contractor's monthly progress payment application.

3.3. CONSTRUCTION PROGRESS PHOTOGRAPHS.
INFRASTRUCTURE FACILITIES (i.e. TREATMENT PLANTS, PUMP STATIONS, LIFT STATIONS, RESERVOIRS, ETC) OR BUILDING PROJECTS

Construction Progress photos must be taken at least [twice] per month.

One set of Construction progress photographs, as the work progresses, of the same views taken during pre-construction photography must be taken during the progress of the Work.

One set of the progress photos must be taken to depict the work accomplished during the month that includes:

- Work not yet covered up
- When MEP or building inspections are scheduled
- The beginning of installation of major items of equipment
- After installation of major items of equipment
- Other significant construction activities.

Both sets of photos shall be submitted monthly with the CONTRACTOR'S monthly progress payment application.

3.4 POST CONSTRUCTION PHOTOGRAPHS
Post-construction photographs must be taken of the same views taken during pre-construction photography to fully document the completed project. Post-construction photographs must be taken after cleanup and site restoration, and must be submitted with the final payment.

3.5 ADDITIONAL ASSET PHOTOGRAPHS

INFRASTRUCTURE FACILITIES (I.E. TREATMENT PLANTS, PUMP STATIONS, LIFT STATIONS, RESERVOIRS, ETC)

Additional asset photographs shall be taken to show, identify and locate AWU's assets as they are being installed as part of the work. The quantity of asset photos required is determined by the number of asset items added to AWU's Computerized Maintenance Management System (CMMS) data base as part of the construction of this project. A specific complete list of assets to be installed within this contract is identified in the Submittals Section of the Contract (Section 01300).

Each asset photograph shall be submitted in duplicate as two 3x5 prints with no more than 3 photos per page of professional quality enclosed in clear plastic sleeve within 3 ring folders. The prints shall be accompanied by digital date-stamped photographs in CD format or other format acceptable to the City.

Each print of the asset shall be marked with the following information:

- The CIP ID number for the Contract
- Name of CONTRACTOR
- AWU's CMMS asset number
- The date of installation of the asset
- Location of asset (i.e. Sta. number, or State Plane Coordinate number, or other suitable information identifying where the asset was installed)

Each asset photograph must be included in an Asset Management Photo Log that indicates the AWU CMMS asset number, the CIP ID number of Contract, name of CONTRACTOR, the date of the photograph and the filename that the camera assigns to the photo (e.g. MVC-001.jpg).

End

SECTION 01400

QUALITY CONTROL SERVICES

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:
   1. Quality control and control of installation.
   2. Tolerances.
   3. References.
   4. Mock-up requirements.
   5. Authority and duties of Owner’s representative or inspector.
   6. Sampling and testing.
   7. Testing and inspection services.
   8. Contractor’s responsibilities.

1.02 QUALITY CONTROL AND CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work by persons qualified to produce required and specified quality.

F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

H. When specified, products will be tested and inspected either at point of origin or at Work site:
   1. Notify Owner’s Representative in writing well in advance of when products will be ready for testing and inspection at point of origin.
   2. Do not construe that satisfactory tests and inspections at point of origin is final acceptance of products. Satisfactory tests or inspections at point of origin do not preclude retesting or re-inspection at Work site.

I. Do not ship products which require testing and inspection at point of origin prior to testing and inspection.

1.03 ARCHITECTURAL PRE-INSTALLATION MEETINGS

A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.

B. Require attendance of parties directly affecting, or affected by, Work of specific section.

C. Notify Owner’s Representative ten days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of installation, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within ten days after meeting to participants, with one copy to Architect, Owner, and those affected by decisions made.

1.04 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.

C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.

F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.05 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. When Manufacturers' tolerances conflict with Contract Documents, request clarification from Owner’s Representative before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.06 REFERENCES

A. American Society for Testing and Materials (ASTM): E 329 - Standard for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.

B. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.

C. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.

D. Obtain copies of standards where required by product specification sections.

E. When specified reference standards conflict with Contract Documents, request clarification from Owner’s Representative before proceeding.

1.07 MOCK-UP REQUIREMENTS

A. Tests will be performed under provisions identified in this Section and identified in respective product specification sections.

B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

C. Accepted mock-ups shall be comparison standard for remaining Work.

D. Where mock-up has been accepted by Engineer and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by Engineer.

1.08 SAMPLING AND TESTING

A. General:
   1. Prior to delivery and incorporation in the Work, submit listing of sources of materials, when specified in sections where materials are specified.
   2. When specified in sections where products are specified:
      a. Submit sufficient quantities of representative samples of character and quality required of materials to be used in the Work for testing or examination.
      b. Test materials in accordance with standards of national technical organizations.

B. Sampling:
   1. Furnish specimens of materials when requested.

2. Do not use materials which are required to be tested until testing indicates satisfactory compliance with specified requirements.
3. Specimens of materials will be taken for testing whenever necessary to determine quality of material.
4. Assist Engineer in preparation of test specimens at site of work, such as soil samples and concrete test cylinders.

1.09 TESTING AND INSPECTION SERVICES

A. Contractor will employ and pay for specified services of an independent firm to perform Contractor quality control testing as required in the technical specifications for various work and materials.

B. Owner will employ and pay for specified services of an “Owner’s independent testing firm” to perform testing and inspection as required in the technical specifications for various work and materials or stipulated in Section 01455 - Regulatory Quality Assurance to confirm Contractor’s compliance with Contract Documents.

C. The Owner’s independent testing firm will perform tests, inspections and other services specified in individual specification sections and as required by Owner.

D. The qualifications of laboratory that will perform the testing, contracted by the Contractor, shall be as follows:
1. Has authorization to operate in the state where the project is located.
2. Meets “Recommended Requirements for Independent Laboratory Qualification,” published by American Council of Independent Laboratories.
3. Meets requirements of ASTM E 329.
4. Laboratory Staff: Maintain full time specialist on staff to review services.
5. Testing Equipment: Calibrated at reasonable intervals with devices of accuracy traceable to National Bureau of Standards (NBS) or accepted values of natural physical constants.
6. Will submit copy of report of inspection of facilities made by Materials Reference Laboratory of NBS during most recent tour of inspection, with memorandum of remedies of deficiencies reported by inspection.

E. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing inspections and source quality control as required by Engineer or Owner.

F. Contractor shall cooperate with Owner’s independent testing firm, furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
1. Notify Engineer and Owner’s independent testing firm 48 hours prior to expected time for operations requiring testing.
2. Make arrangements with Owner’s independent testing firm and pay for additional samples and tests required for Contractor’s use.

G. Testing and employment of an Owner's independent testing firm or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

H. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same Owner's independent testing firm on instructions by Owner's Representative. Payment for re-testing or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.

1.10 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with Owner's independent testing firm or laboratory personnel and provide access to construction and manufacturing operations.

B. Provide to Owner's Representative preliminary mix design proposed to be used for concrete, and other materials mixes which require control by testing laboratory.

C. Furnish electronically and 5 hard copies of product test reports.

D. Furnish incidental labor and facilities:
   1. To provide access to construction to be tested.
   2. To obtain and handle samples at Work site or at source of product to be tested.
   3. To facilitate inspections and tests.
   4. For storage and curing of test samples.

E. Notify Owner's Representative 48 hours in advance of when observations, inspections, and testing is needed for laboratory to schedule and perform in accordance with their notice of response time.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01410

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Regulatory authorities and codes.

1.02 AUTHORITIES HAVING JURISDICTION

A. Building Department: City of Austin.

B. Fire Department: City of Austin.

1.03 APPLICABLE CODES

A. International Code Council (ICC).
   1. Building code:
      a. International Building Code (IBC), 2015.
         1) Local amendments.
      b. International Existing Building Code (IEBC), 2015.
         1) Local amendments.
   2. Electrical code:
      a. National Fire Protection Association (NFPA), NFPA 70: National Electrical Code (NEC), 2020.
         1) Local amendments.
   3. Energy code:
      a. International Energy Conservation Code (IECC), 2015.
         1) Local amendments.
   2) Fire code:
      b. International Fire Code (IFC), 2015.
         1) Local amendments.
   4. Mechanical code:
      a. Uniform Mechanical Code (UMC), 2015.
         1) Local amendments.
   5. Plumbing code:
      a. International Plumbing Code (IPC), 2015.
         1) Local amendments.

B. Products in contact with drinking water
   1. Materials in contact with drinking waters: In accordance with NSF 61 and NSF 372.
      a. Certification by an independent ANSI accredited third party, including, but not limited to, NSF International, as being lead free.

C. Texas Commission on Environmental Quality (TCEQ).
   1. TAC – 30, Chapter 217.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01455

REGULATORY QUALITY ASSURANCE

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: This Section describes project regulatory requirements for quality assurance that includes special inspections, special certification, and structural observation.

1.02 REFERENCES

A. American Concrete Institute (ACI):
   1. 318 - Building Code Requirements for Structural Concrete.
   2. 530 – Building Code Requirements for Masonry Structures.
   3. 530.1 – Specification for Masonry Structures.

B. American Institute of Steel Construction (AISC):
   1. 360 – Specification for Structural Steel Buildings.

C. American Society of Civil Engineers (ASCE):
   1. 7 - Minimum Design Loads for Buildings and Other Structures.

D. American Welding Society (AWS):
   1. D1.3 - Structural Welding Code - Sheet Steel.
   2. D1.4 - Structural Welding Code - Reinforcing Steel.

E. ASTM International (ASTM):
   1. A706 – Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.
   2. C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
   3. C172 - Standard Practice for Sampling Freshly Mixed Concrete.
   4. C1611 Standard Test Method for Slump Flow of Self-Consolidating Concrete.

F. International Building Code (IBC) 2012 with City of Austin amendments.

1.03 DEFINITIONS

A. Special Certification: Certification for designated seismic systems that demonstrates compliance with performance requirements.

B. Special Inspection: Inspection of the materials, installation, fabrication, erection, or placement of components and connections requiring special expertise to ensure compliance with approved construction documents and referenced standards.

C. Special Inspection, Continuous: The full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.

D. Special Inspection, Periodic: The part-time, or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed and at the completion of the work.

E. Structural Observation: The visual observation of the structural system by a registered design professional for general conformance to the approved construction documents at significant construction stages and at completion of the structural system.

1.04 DESCRIPTION

A. This Section describes special inspections, special certification and structural observation of structural assemblies and components to be performed in compliance with the building code specified in Section 01410 - Regulatory Requirements.

B. The special certification and special inspections specified in this Section are in addition to the requirements specified in Section 01450 - Quality Control, and by the individual Sections.

1.05 SUBMITTALS

A. Contractor shall submit special certifications for designated seismic systems.

B. Contractor shall schedule and coordinate the submittal of Special Inspection reports and test results prepared by others.

1.06 SPECIAL INSPECTION

A. Owner will employ 1 or more special inspectors who will provide special inspections during construction.

B. Special inspector(s) shall be qualified for inspection of the particular type of materials or operations requiring special inspection.

C. Testing laboratory: Testing that is required to satisfy the requirements of special inspection will be performed by the Owner's testing laboratory as specified in Section 01450 - Quality Control.

D. Duties of Special Inspector:
   1. General: Required duties of the special inspector(s) shall be as described in Chapter 17 of the building code specified in Section 01410 - Regulatory Requirements.
   2. Reporting: Special inspector(s) shall provide reports of each inspection to the Contractor. Contractor shall distribute copes of inspection reports to the Owner.
      a. Reports shall, at a minimum, include the following items:
         1) Date and time of inspection, and name(s) of individual(s) preforming the inspection.
         2) Structures and areas of the structure where work or testing was observed.

3) Discrepancies between the requirements of the Contract Documents and the work or testing observed.
4) Other areas of deficiency in the Work.

E. Special inspections shall not be construed as fulfilling the requirements for structural observation.

F. Owner or special inspector are responsible to select materials for special inspection.
1. It is not acceptable for Contractor to select materials for special inspection.

1.07 SPECIAL CERTIFICATION

A. Contractor shall be responsible for providing equipment that meets the special certification requirements of the building code specified in Section 01410 – Regulatory Requirements.

B. The following designated seismic systems shall be subject to the testing and qualification requirements of the regulatory building code, Section 1705.12.4 as specified in Section 01410 – Regulatory Requirements and shall require special certification as set forth in ASCE 7, Section 13.2:
1. Mechanical equipment that is assigned an importance factor of 1.50 as specified in Section 01612 - Seismic Design Criteria.
2. All electrical equipment.

C. Special certification requirements for designated seismic systems:
1. Submittals for mechanical and electrical equipment identified in this Section as designated seismic systems shall include certification that the equipment is seismically qualified. Certifications shall be subject to review and acceptance by Owner.
2. Certifications may be at least 1 of the following in accordance with ASCE 7, Section 13.2:
a. Analysis.
b. Testing.
c. Experience data.

1.08 STRUCTURAL OBSERVATION

A. Owner will employ 1 or more registered design professionals who will provide structural observation(s) during construction.
1. Registered design professional shall be a civil or structural engineer currently licensed as such in the state where the project is located and regularly engaged in structural design equivalent to or similar to those indicated on the Drawings.

B. Structural observations shall not be construed as fulfilling the requirements for special inspections.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.01 SPECIAL INSPECTIONS

A. The Owner will provide special inspection of following types of work as described in in Section 1705 of the building code as specified in Section 01410 - Regulatory Requirements wherever such work occurs unless otherwise specified.
   1. Appendix A, Concrete - Special Inspection Schedule.
   1. Appendix B, Architectural, Mechanical, and Electrical Components - Special Inspection Schedule.
   2. Appendix C1, Masonry Special Inspection Schedule – "Level B."
   3. Appendix C2, Masonry Special Inspection Schedule – Level "C."
   4. Appendix D, Soils Verification and Inspection Schedule.
   5. Appendix E, Structural Steel - Special Inspection Schedule.
   6. Appendix F, Structural Steel Bolting - Special Inspection Schedule.
   7. Appendix G, Steel Construction (Steel Deck, Open Web Steel Joitsts and Joist Girders, and Cold Formed Steel Trusses) - Special Inspection Schedule.
   8. Appendix H: Deep Foundations, Cast-in-Place - Special Inspection Schedule.
   9. Appendix I: Deep Foundations, Driven - Special Inspection Schedule.

3.02 SPECIAL CERTIFICATION

A. Special inspector shall examine the designated seismic system(s) specified and determine whether the designated system components, including anchorage, are consistent with the evidence of compliance submitted for special certification.

3.03 STRUCTURAL OBSERVATION

A. The following work requires structural observation in accordance with Section 1704.5 of the building code specified in Section 01410 - Regulatory Requirements.
   1. All structures in all areas:
      a. Foundations.

B. Elevated slabs.

3.04 SCHEDULE

A. Contractor shall allow time necessary for special inspections and structural observation specified herein.

B. Sufficient notice shall be given so that the special inspections and structural observations can be performed. Contractor shall allow time for individuals performing special inspection and structural observation to travel to the site.

3.05 PROCEDURE

A. The Contractor will immediately notify the Owner’s Representative of any corrections required and follow notification with appropriate documentation.

B. Contractor shall not proceed until the work is satisfactory to the Owner’s Representative.

END OF SECTION

ATTACHMENT A - CONCRETE SPECIAL INSPECTION SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

CONCRETE SPECIAL INSPECTION SCHEDULE
(Includes: cast-in-place, precast, prestressed, precast-prestressed, and shotcrete.)

Verification and Inspection	Reference Standard ACI 318-14 AWS D1.4-18 IBC 2018	Frequency of Inspection[1] (During Task Listed)	
		Continuous	Periodic
1. Inspect reinforcement, including prestressing tendons, and verify placement.	ACI 318: 20, 25.2, 25.3, 26.6.1-26.6.3 IBC: 1908.4		●
2. Reinforcing bar welding:			
a. Verify weldability of reinforcing bars other than ASTM A706;	AWS D1.4 ACI 318: 26.6.4		●
b. Inspect single-pass fillet welds, maximum 5/16"; and	AWS D1.4 ACI 318: 26.6.4		●
c. Inspect all other welds.	AWS D1.4 ACI 318: 26.6.4	●	
3. Inspect anchors cast in concrete.	ACI 318: 17.8.2		●
4. Inspect anchors post-installed in hardened concrete members.			
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	ACI 318: 17.8.2.4	●	
b. Mechanical anchors and adhesive anchors not defined in 4.a.	ACI 318: 17.8.2		●
5. Verify use of required design mix.	ACI 318: 19, 26.4.3, 26.4.4 IBC: 1904.1, 1904.2, 1908.2, 1908.3		●
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12 IBC: 1908.10	●	
7. Inspect concrete and shotcrete placement for proper application techniques.	ACI 318: 26.5 IBC: 1908.6, 1908.7, 1908.8	●	
8. Verify maintenance of specified curing temperature and techniques.	ACI 318: 26.5.3-26.5.5		●

Verification and Inspection	Reference Standard ACI 318-14 AWS D1.4-18 IBC 2018	Frequency of Inspection[1] (During Task Listed)	
		Continuous	Periodic
	IBC: 1908.9		
9. Inspect prestressed concrete for:			
a. Application of prestressing forces; and	ACI 318: 26.10	●	
b. Grouting of bonded prestressing tendons.	ACI 318: 26.10	●	
10. Inspect erection of precast concrete members.	ACI 318: 26.9		●
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	ACI 318: 26.11.2		●
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	ACI 318: 26.11.1.2.(b)		●

Notes:

(1) The "●" represents a required inspection activity for the project where it occurs.

ATTACHMENT B - ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS SPECIAL INSPECTION SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS
SPECIAL INSPECTION SCHEDULE

Verification and Inspection	Reference Standard IBC 2015	Frequency of Inspection[1] (During Task Listed)	
		Continuous	Periodic
1. Architectural components:	Not required for SDC A		
2. Plumbing, mechanical, and electrical components:	Not required for SDC A		
3. Fire-resistance elements:			
a. Sprayed fire-resistant coatings:	IBC: 1705.14		●
b. Mastic and intumescent coatings:	IBC: 1705.15		●
c. Fire-resistant penetrations and joint systems:	IBC: 1705.17,		●
4. Smoke control systems;	IBC: 1705.18		●

Notes:

(1) The "●" represents a required inspection activity for the project where it occurs.

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT C1 - MASONRY SPECIAL INSPECTION SCHEDULE - "LEVEL B"

THIS PAGE INTENTIONALLY LEFT BLANK

MASONRY SPECIAL INSPECTION SCHEDULE - "LEVEL B"

MINIMUM TESTS

Verification of Slump flow and Visual Stability Index (VSI) as delivered to the project site as determined by ASTM C1611 for self-consolidating grout

Verification of f'_m in accordance with Specification Section 04220 - Concrete Unit Masonry prior to construction.

MINIMUM SPECIAL INSPECTION – LEVEL B			
	Reference Standard	**Frequency of Inspection(1) (During Task Listed)**	
Verification and Inspection	**ACI 530-13 ACI 530.1-13**	**Continuous**	**Periodic**
1. Verify compliance with the approved submittals.	ACI 530.1: Art. 1.5		●
2. As masonry construction begins, verify that the following are in compliance:			
a. Proportions of site-prepared mortar.	ACI 530.1: Art. 2.1, 2.6A		●
b. Placement of masonry units and construction of mortar joints.	ACI 530.1: Art. 3.3B		●
c. Placement of reinforcement, connectors, and anchors.	ACI 530.1: Art. 3.4, 6.1, 6.2.6, 6.2.7		●
d. Reinforcing bar couplers and terminators.		●	
3. Prior to grouting, verify that the following are in compliance:			
a. Placement of masonry units and construction of mortar joints	ACI 530.1: Art.3.3B		●
b. Grout space.	ACI 530.1: Art. 3.2D, 3.2F		●
c. Grade, type, and size of reinforcement and anchor bolts.	ACI 530.1: Art. 2.4, 3.4 ACI 530: Sec. 6.1		●
d. Placement of reinforcement, connectors, and anchors.	ACI 530.1: Art. 3.2E, 3.4 ACI 530: Sec. 6.1		●
e. Proportions of site-prepared grout.	ACI 530.1: Art. 2.6B		●

MINIMUM SPECIAL INSPECTION – LEVEL B			
Verification and Inspection	**Reference Standard** **ACI 530-13** **ACI 530.1-13**	**Frequency of Inspection(1) (During Task Listed)**	
		Continuous	**Periodic**
4. Verify during construction:			
a. Size and location of structural elements:	ACI 530.1: Art. 3.3F		●
b. Type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction.	ACI 530: Sec. 1.2.1(e), 6.1.4.3, 6.2.1		●
c. Welding of reinforcement.	ACI 530: Sec. 8.1.6.7.2, 9.3.3.4(c),11.3.3.4(b)	●	
d. Preparation, construction, and protection of masonry during cold weather (temperature below 40 degrees F) or hot weather (temperature above 90 degrees F).	ACI 530.1: Art. 1.8C, 1.8D		●
5. Observe preparation of grout specimens, mortar specimens, and/or prisms.	ACI 530.1: Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4		●
Notes: (1) The "●" represents a required inspection activity for the project where it occurs.			

ATTACHMENT C2 - MASONRY SPECIAL INSPECTION SCHEDULE - “LEVEL C”

THIS PAGE INTENTIONALLY LEFT BLANK

MASONRY SPECIAL INSPECTION SCHEDULE - "LEVEL C"

MINIMUM TESTS

Verification of Slump flow and Visual Stability Index (VSI) as delivered to the project site as determined by ASTM C1611 for self-consolidating grout.

Verification of proportions of materials in premixed or pre-blended mortar and grout as delivered to the project site.

Verification of f'_m in accordance with Specification Section 04220 - Concrete Unit Masonry prior to construction.

MINIMUM SPECIAL INSPECTION – LEVEL C			
Verification and Inspection	**Reference Standard** ACI 530-13 ACI 530.1-13	**Frequency of Inspection(1) (During Task Listed)**	
		Continuous	**Periodic**
1. Verify compliance with the approved submittals.	ACI 530.1: Art. 1.5		●
2. As masonry construction begins, verify that the following are in compliance:			
a. Proportions of site-prepared mortar.	ACI 530.1: Art. 2.1, 2.6A		●
b. Placement of masonry units and construction of mortar joints.	ACI 530.1: Art. 3.3B		●
c. Placement of reinforcement, connectors, and anchors.	ACI 530.1: Art 3.4 ACI 530: Sec 6.1, 6.2.6, 6.2.7	●	
d. Reinforcing bar couplers and terminators.		●	
3. Prior to grouting, verify that the following are in compliance:			
a. Placement of masonry units and construction of mortar joints.	ACI 530.1: Art. 3.3B		●
b. Grout space.	ACI 530.1: Art. 3.2D, 3.2F	●	
c. Grade, type, and size of reinforcement and anchor bolts.	ACI 530.1: Art. 2.4, 3.4 ACI 530: Sec. 6.1		●
d. Placement of reinforcement, connectors, and anchors.	ACI 530.1: Art. 3.2E, 3.4 ACI 530: Sec. 6.1, 6.2.6, 6.2.7	●	

MINIMUM SPECIAL INSPECTION – LEVEL C			
Verification and Inspection	**Reference Standard** ACI 530-13 ACI 530.1-13	**Frequency of Inspection(1) (During Task Listed)**	
		Continuous	**Periodic**
4. Verify during construction:			
a. Size and location of structural elements:	ACI 530.1: Art. 3.3F		●
b. Type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction.	ACI 530: Sec. 1.2.1(e), 6.1.4.3, 6.2.1	●	
c. Welding of reinforcement.	ACI 530: Sec 8.1.6.7.2, 9.3.3.4(c), 11.3.3.4(b)	●	
d. Preparation, construction, and protection of masonry during cold weather (temperature below 40 degrees F) or hot weather (temperature above 90 degrees F).	ACI 530.1: Art. 1.8C, 1.8D		●
5. Observe preparation of grout specimens, mortar specimens, and/or prisms.	ACI 530.1: Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4	●	
Notes: (1) The "●" represents a required inspection activity for the project where it occurs.			

ATTACHMENT D - SOILS VERIFICATION AND INSPECTION SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

SOILS VERIFICATION AND INSPECTION SCHEDULE

Verification and Inspection	Reference Standard IBC 2015	Frequency of Inspection[1] (During Task Listed)	
		Continuous	Periodic
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	IBC: T-1705.6		●
2. Verify excavations are extended to proper depth and have reached proper material.	IBC: T-1705.6		●
3. Perform classification and testing of fill and backfill materials.	IBC: T-1705.6		●
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of fill and backfill.	IBC: T-1705.6	●	
5. Prior to placement of fill, observe subgrade and verify that site has been prepared properly.	IBC: T-1705.6		●

Notes:

(1) The "●" represents a required inspection activity for the project where it occurs.

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT E - STRUCTURAL STEEL SPECIAL INSPECTION SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

STRUCTURAL STEEL SPECIAL INSPECTION SCHEDULE

Verification and Inspection	Referenced Standard AISC 360-10	Frequency of Inspection[1] (During Task Listed)	
		Continuous	**Periodic**
Inspection Tasks Prior to Welding	AISC 360, Table N5.4-1		
1. Welding procedure specifications (WPSs) available.		●	
2. Manufacturer certifications for welding consumables available.		●	
3. Material identification (type/grade).			●
4. Welder identification system.			●
5. Fit-up groove welds (including joint geometry): • Joint preparation. • Dimensions (alignment, root opening, root face, bevel). • Cleanliness (condition of steel surfaces). • Tacking (tack weld quality and location). • Backing type and fit (if applicable).			●
5. Configuration and finish of access holes.			●
6. Fit-up of fillet welds: • Dimensions (alignment, gaps at root). • Cleanliness (condition of steel surfaces). • Tacking (tack weld quality and location).			●
7. Check welding equipment.			●
Inspection Tasks During Welding	AISC 360, Table N5.4-2		
8. Use of qualified welders.			●
9. Control and handling of welding consumables: • Packaging. • Exposure control.			●
10. No welding over cracked tack welds.			●
11. Environmental conditions: • Wind speed within limits. • Precipitation and temperature.			●

Verification and Inspection	Referenced Standard AISC 360-10	Frequency of Inspection[1] (During Task Listed) Continuous	 Periodic
12. WPS followed: • Settings on welding equipment. • Travel speed. • Selected welding materials. • Shielding gas type/flow rate. • Preheat applied. • Interpass temperature maintained (min/max). • Proper position (F, V, H, OH).			●
13. Welding techniques: • Interpass and final cleaning. • Each pass within profile limitations. • Each pass meets quality requirements.			●
Inspection Tasks After Welding	AISC 360, Table N5.4-3		
14. Welds cleaned.			●
15. Size, length, and location of welds.		●	
16. Welds meet visual acceptance criteria: • Crack prohibition. • Weld/base-metal fusion. • Crater cross section. • Weld profiles. • Weld size. • Undercut. • Porosity.		●	
17. Arc strikes.		●	
18. k-area.		●	
19. Backing removed and weld tabs removed (if required).		●	
20. Repair activities.		●	
21. Document acceptance or rejection of welded joint or member.		●	

Notes:

(1) The "●" represents a required inspection activity for the project where it occurs.

ATTACHMENT F - STRUCTURAL STEEL BOLTING SPECIAL INSPECTION SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

STRUCTURAL STEEL BOLTING SPECIAL INSPECTION SCHEDULE

Verification and Inspection	Referenced Standard ASIC 360-10	Frequency of Inspection[1] (During Task Listed) Continuous	 Periodic
Inspection Tasks Prior to Bolting	AISC 360, Table N5.6-1		
1. Manufacturer's certifications available for fastener materials.		●	
2. Fasteners marked in accordance with ASTM requirements.			●
3. Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane).			●
4. Proper bolting procedure selected for joint detail.			●
5. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.			●
6. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.			●
7. Proper storage provided for bolts, nuts, washers and other fastener components.			●
Inspection Tasks During Bolting	AISC 360, Table N5.6-2		
8. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.			●
9. Joint brought to the snug-tight condition prior to the pretensioning operation.			●
10. Fastener component not turned by the wrench prevented from rotating.			●
11. Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges.			●
Inspection Tasks After Bolting	AISC 360, Table N5.6-3		
12. Document acceptance or rejection of bolted connections.		●	

Notes:

(1) The "●" represents a required inspection activity for the project where it occurs.

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT G - STEEL CONSTRUCTION – STEEL DECK; OPEN WEB STEEL JOISTS GIRDERS; AND COLD-FORMED STEEL TRUSSES AND JOIST SPECIAL INSPECTION SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

STEEL CONSTRUCTION – STEEL DECK; OPEN WEB STEEL JOISTS AND JOIST GIRDERS; AND COLD-FORMED STEEL TRUSSES
SPECIAL INSPECTION SCHEDULE

Verification and Inspection	Referenced Standard IBC 2015	Frequency of Inspection(1) (During Task Listed)	
		Continuous	Periodic
1. Cold-formed steel deck:			
a. Materials: Identification markings conform to ASTM standards specified in the approved construction documents.	Applicable ASTM material standards		●
b. Materials: Manufacturer's certified test reports.			●
c. Welding: Floor and roof deck welds.	AWS D1.3		●
2. Open web steel joints and joist girders:			
a. End connections – welded or bolted	SJI specs		●
b. Bridging – horizontal or diagonal	SJI specs		●
3. Cold-formed steel:			
a. Trusses: Inspect temporary and permanent installation restraints/bracing conform to approved truss submittal.	IBC 1705.2.4		●

Notes:

(1) The "●" represents a required inspection activity for the project where it occurs.

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT H - DEEP FOUNDATIONS, CAST-IN-PLACE – SPECIAL INSPECTION SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

DEEP FOUNDATIONS, CAST-IN-PLACE – SPECIAL INSPECTION SCHEDULE

Verification and Inspection	Reference Standard IBC 2015	Frequency of Inspection(1) (During task listed)	
		Continuous	Periodic
1. Observe drilling operations and maintain complete and accurate records for each element.	IBC 1705.8	●	
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock or specified stratum (if applicable), and adequate end-bearing strata capacity. Record concrete or grout volumes.	IBC 1705.8	●	
3. For concrete or grout installations, perform additional special inspection in accordance with Appendix A – Concrete Special Inspection.	IBC 1705.8	-	-

Notes:

(1) The "●" represents a required inspection activity for the project where it occurs.

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT I - DEEP FOUNDATIONS, DRIVEN – SPECIAL INSPECTION SCHEDULE

THIS PAGE INTENTIONALLY LEFT BLANK

DEEP FOUNDATIONS, DRIVEN – SPECIAL INSPECTION SCHEDULE

Verification and Inspection	Reference Standard IBC 2015	Frequency of Inspection(1) (During task listed)	
		Continuous	Periodic
1. Verify that element materials, sizes, and lengths comply with approved contract documents and approved shop drawings.	IBC 1705.7	●	
2. Determine capacities of test elements and conduct additional load tests, as required	IBC 1705.7		
3. Inspect driving operations and maintain complete and accurate records for each element.	IBC 1705.7	●	
4. Verify placement location and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve required/design capacity, record tip and butt elevations, and document any damage to foundation element.	IBC 1705.7	●	
5. Steel elements: perform additional special inspection as specified for structural steel.	IBC 1705.7	-	-
6. Concrete and concrete-filled elements: perform tests and additional special inspections as specified for concrete.	IBC 1705.7	-	-
7. Specialty elements: perform additional inspections as indicated on the approved shop drawings.	IBC 1705.7	-	-

Notes:

(1) The "●" represents a required inspection activity for the project where it occurs.

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 - GENERAL

1.1 Related Documents:

Drawings and general provisions of Contract, including General Conditions, Section 00700,and Supplemental General Conditions, Section 00810, and Division 1 requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 Office at the Work Site (Job Shack)

During the performance of this Contract, CONTRACTOR shall maintain a suitable office at or near the site of the Work which shall be the headquarters of his superintendent. Any communication given to the superintendent or delivered to CONTRACTOR's office at the site of the Work in his absence shall be deemed to have been delivered to CONTRACTOR.

In addition, CONTRACTOR shall provide a suitable field office with at least 200 square feet of floor space, either adjacent to, or partitioned off from, his office at the site for use by Owner's Representative. The office shall be provided with outside entrance door with a substantial lock, glazed windows suitable for light and ventilation, and adequate heating, air conditioning, and lighting facilities. CONTRACTOR shall pay all electricity and heating bills and shall provide telephone services with a telephone as specified hereinafter. The office shall be furnished with a desk, two four-drawer filing cabinets, a table, two chairs, a plan rack, and a locker for storage of surveying instruments. The doors on the locker shall be equipped for padlocking. The general arrangement of the office and facilities provided shall be acceptable to Owner's Representative.

3.2 Water for Construction

All water required for and in connection with the Work to be performed shall be furnished by and at the expense of the CONTRACTOR through meters installed on hydrants, except for water used in the "disinfection of potable water lines" process per Specification 510.3(29). All water used in the disinfection process shall not be metered, but rather shall be measured by calculation. Such water use does not require a meter, but a double-check valve assembly is required when connecting to a fire hydrant or a City main. CONTRACTOR shall submit a written plan for the disinfection process for review and approval by OWNER prior to commencing Work. The written plan shall include the CONTRACTOR's plan for final flushing and discharge of chlorinated water, and shall specify the quantities of potable water that will be required for the procedure and dosage plan proposed by the CONTRACTOR. Water used in the disinfection process shall be supplied by the OWNER through hydrants or connection through a City main at no charge to the CONTRACTOR for the initial disinfection procedure up to the quantities agreed to in the written plan for the disinfection process. Should the initial disinfection procedure fail to produce acceptable bacteriological sample test results, the cost of water at standard rates used for subsequent disinfection procedures shall be the responsibility of the CONTRACTOR with quantities determined through calculations.

For all water required for and in connection with the Work to be performed other than for the disinfection process, water and meters will be available from OWNER at standard rates. All costs for obtaining a water meter shall be the responsibility of the CONTRACTOR. The CONTRACTOR shall contact the Austin Water Utility and arrange to pick up the meter. CONTRACTOR shall install a double-check valve assembly on the fire hydrant between the

hydrant and the meter, to prevent backflow in the event of pressure failure. CONTRACTOR shall supply all necessary tools, hose and pipe, and shall make necessary arrangements for securing and transporting such water and shall take water in such a manner, and at such times, that will not produce a harmful drain or decrease of pressure in the OWNER's water system. It shall be the CONTRACTOR's responsibility to make arrangements with the Austin Water Utility for the metering and reporting of the amount of water used. Water shall not be used in a wasteful manner. Standard hydrant wrenches shall be used for opening and closing of fire hydrants. In no case shall pipe wrenches be used for this purpose. Temporary lines shall be removed when no longer required.

"If applicable, after the installation of the City of Austin's water meter(s) for the Project, the CONTRACTOR has the option to utilize the water available from this service at the CONTRACTOR's expense. An adjustment to the Contract amount will be made by Change Order at the end of the Project for the costs incurred by the City of Austin for the water."

3.4 Sanitary Facilities

CONTRACTOR shall furnish temporary sanitary facilities at the site, as provided herein, for the needs of all construction workers and others performing Work or furnishing services on the Project.

Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least one toilet shall be furnished for each 20 employees. CONTRACTOR shall enforce the use of such sanitary facilities by all personnel at the site.

3.5 Protection of Public and Private Property

CONTRACTOR shall protect, shore, brace, support and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by the CONTRACTOR's operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with all sod and shrubs in yards, parkways, and medians, shall be restored to their original condition, whether within or outside the easement/right-of-way. All replacements shall be made with new materials.

CONTRACTOR shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property, which may be caused by transporting equipment, materials, or men to or from the Work, whether by him or his Subcontractors. CONTRACTOR shall make satisfactory and acceptable arrangements with the owner of, or the agency having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

3.6 Tree and Plant Protection

All trees and other vegetation which must be removed to perform the Work shall be removed and disposed of by the CONTRACTOR; however, no trees or cultured plants shall be unnecessarily removed unless their removal is indicated on the Drawings. All trees and plants not removed shall be protected against injury from construction operations.

No tree shall be removed outside of permanent easement(s), except where authorized by the E/A. Whenever practicable, CONTRACTOR shall tunnel beneath trees in yards and parking lots when on or near the line of trenching operations. Hand excavations shall be employed as necessary to prevent injury to trees. Care shall be taken with exposed roots, unearthed during construction, so that roots do not dehydrate causing tree damage.

Trees considered by the E/A to have any significant effect on construction operations are indicated on the Drawings and those which are to be preserved are so indicated.

CONTRACTOR shall take extra measures to protect trees designated to be preserved, using methods shown on the Drawings and as specified in Standard Specification Item No. 610S "Preservation of Trees and other Vegetation".

3.7 Security

CONTRACTOR shall be responsible for protection of the site, and all Work, materials, equipment, and existing facilities hereon, against vandals and other unauthorized persons.

No claim shall be made against OWNER by reason of any act of an employee or trespasser, and CONTRACTOR shall make good all damage to the OWNER's property resulting from CONTRACTOR's failure to provide security measures as specified.

Security measures shall be at least equal to those usually provided by OWNER to protect existing facilities during normal operations, and shall also include such additional security fencing, barricades, lighting, and other measures as required to protect the site. When required, the CONTRACTOR shall provide a security plan to the OWNER for review as to appropriateness of the security measures proposed.

3.8 Access Roads

CONTRACTOR shall establish and maintain temporary access roads to various parts of the site as required to complete the Project. Such roads shall be available for the use of all others performing Work or furnishing services in connection with the Project.

3.9 Parking

CONTRACTOR shall provide and maintain suitable parking areas for the use of all construction workers and others performing Work or furnishing services in connection with the Project, as required, to avoid any need for parking personal vehicles where they may interfere with public traffic, the OWNER's operations, or construction activities.

3.10 Dust Control

Dust Control during construction of this Project shall conform to Standard Specifications Item No. 220S, "Sprinkling for Dust Control". No direct payment will be made for dust control. Dust Control shall be considered subsidiary work relating to various Bid items of the Contract.

3.11 Temporary Drainage Provisions

CONTRACTOR shall be responsible for providing for the drainage of stormwater and such water as may be applied or discharged on the site in performance of the Work. CONTRACTOR shall obtain E/A approval for temporary drainage facilities which will handle, carry through, or divert around his Work all drainage flow, including storm flow and flows created by construction activity, to prevent silting of waterways or flooding damage to the property and adjacent property.

3.12 Erosion Control

CONTRACTOR shall prevent erosion of soil on the site and adjacent property resulting from his construction activities. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operations which will disturb the natural protection.

CONTRACTOR shall use controls found in "Environmental Criteria Manual" or developed from successful techniques elsewhere as approved by E/A.

3.13 Pollution Control

CONTRACTOR shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris and the substances resulting from construction activities. No sanitary wastes will be permitted to enter any drain or watercourse. No sediment, debris or other substance will be permitted to enter sanitary sewers and reasonable measures shall be taken by CONTRACTOR to prevent such materials from entering any drain or watercourse.

CONTRACTOR shall observe the rules and regulations of the State of Texas and agencies of the U.S. Government prohibiting the pollution of any lake, stream, river, or wetland by the dumping of any refuse, rubbish, dredge material, or debris therein.

CONTRACTOR is specifically cautioned that disposal of materials into any water of the State must conform to the requirements of the Texas Commission on Environmental Quality (TCEQ), and any applicable permit from the U.S. Army Corps of Engineers.

3.14 Noise Control

CONTRACTOR shall comply with the City of Austin's Noise Ordinance. CONTRACTOR shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound level in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound-muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work.

3.15 CIP Sign

CONTRACTOR shall erect install and maintain CIP signs as specified. Signs shall be constructed in accordance with City Standard Specification Item No. 802S "Project Signs," as indicated on the Drawings.

3.16 Fences

All existing fences affected by the Work shall be maintained by the CONTRACTOR until completion of the Work. Fences which interfere with construction operations shall not be relocated or dismantled until written permission is obtained from the owner of the fence, and the period the fence may be left relocated or dismantled has been agreed upon. Where fences must be maintained across any construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.

Upon completion of the Work across any tract of land, CONTRACTOR shall restore all fences to preconstruction, or to a better, condition and to their preconstruction location.

3.17 Mail Boxes

CONTRACTOR shall remove, reset temporarily, and relocate permanently all mail boxes that are within construction site limits conforming to requirements of United States Postal Service. Mailboxes shall not be laid on the ground, but shall be temporarily reset the same day as removed. Payment for removing and resetting of mail boxes will not be paid for directly, but will be considered subsidiary to the various Bid items. Any damage to mail boxes or posts shall be the responsibility of the CONTRACTOR.

3.18 Emergency Facilities

Free access shall be maintained at all times to fire lanes and emergency and utility control facilities such as fire hydrants, fire alarm boxes, police call boxes, and utility valves, manholes, junction boxes, etc. In the event that it is necessary to make one of these facilities temporarily inaccessible, CONTRACTOR shall obtain approval of such action and schedule of Work from the OWNER. CONTRACTOR shall also provide at least 24 hours prior notice to the Fire Department, Police Department, and City Department governing the affected utility. The same Department(s) shall be promptly notified by the CONTRACTOR when such facilities are placed back in unobstructed service.

3.19 Notification of Owners

Unless otherwise indicated, the OWNER will notify property owners abutting the right-of-way of impending construction. The CONTRACTOR shall exercise diplomacy and tact with individual property owners.

3.20 Maintenance of Traffic

CONTRACTOR shall conduct his Work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways, and walks whether public or private, the CONTRACTOR shall provide and maintain suitable safe bridges, detours or other temporary measures to accommodate public and private travel, and shall provide reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when CONTRACTOR has obtained written permission from the owner and the tenant of the private property, or from the authority having jurisdiction over public property involved, to obstruct traffic at the designated point. A copy of the initial written permission shall be provided to the Owner's Representative.

Safety and conveyance of traffic shall be regarded as prime importance. Unless otherwise directed, all portions of streets associated with this Project shall be kept open and provided a dust free, smooth and comfortable ride to traffic. It shall be the responsibility of the CONTRACTOR to ensure that two-way traffic may safely bypass the construction site and that access is provided to abutting private property. In making open cut street crossings, the CONTRACTOR shall not block more than one-half of the street at one time without approval of the OWNER. Whenever possible, CONTRACTOR shall widen the shoulder on the opposite side to facilitate traffic control. Temporary surfacing shall be provided as necessary on shoulders.

Prior to beginning Work, CONTRACTOR shall designate, in writing, a competent person who will be responsible and available on the Project site, or in the immediate area, to ensure compliance with the traffic control plan. CONTRACTOR shall provide documentation to demonstrate the sufficient training in Traffic Control for his competent person. Owner will designate a qualified person to observe implementation and who will have authority to assure compliance with the traffic control plan.

The CONTRACTOR shall perform the necessary cleanup and finishing immediately after all or a portion of the Work is completed. When the Work includes paving operations, the entire site shall be kept clean to facilitate placement of required traffic control devices. Temporary and permanent striping lay-out shall be approved by the Transportation Department prior to placement, when included in the Work.

1. Detours

Where indicated on the traffic control plan CONTRACTOR shall erect and maintain detours around construction activities. Should CONTRACTOR desire to propose a detour, not already included in the traffic control plan, it shall be his responsibility to prepare a revised traffic control plan showing the detour, and obtain approval of the revised traffic control plan from the Transportation Department, prior to implementation of the detour. The Transportation Department has final authority as to the acceptability of any proposed revisions to the traffic control plan. The CONTRACTOR shall bear all costs for revising the traffic control plan and for maintaining the proposed detour.

2. Barricades and lights

CONTRACTOR shall place and maintain in good condition, standard barricades at each end of the Project and at other locations where traffic is rerouted or blocked from using regular traffic lanes. Barricades and warning signs shall be in accordance with the Texas Manual on Uniform Traffic Control Devices (MUTCD) and City of Austin Standard Specification Item No. 803S, "Barricades, Signs and Traffic Handling". Signs, barricades, and warning devices informing the public of construction features will be placed and maintained by the

CONTRACTOR, who shall be solely responsible for their maintenance. The decision to use a particular device at a particular location as indicated in the traffic control plan or as determined by the CONTRACTOR, shall be the sole responsibility of the CONTRACTOR.

All open trenches and other excavations shall have suitable barricades, signs, and lights to provide adequate protection to the public. Obstructions, such as material piles and equipment shall be provided with similar warning signs and lights.

All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Material storage and conduct of the Work on, or along side, public streets and highways shall cause a minimum obstruction and inconvenience of the traveling public.

3.21 Required Job Site Postings and Notices

CONTRACTOR shall post the following postings and notices in English and Spanish at one or more conspicuous locations on the job site. In the case of Projects with multiple sites, the notices and postings must be displayed at each site. In the case of Projects that do not have a job shack or other temporary facility on the site, CONTRACTOR shall post all notices on a temporary bulletin board. Other special conditions are noted below.

Required for all Projects	
Poster	Available at:
Baseline Schedule for Project identifying when all subcontractors will be used	N/A (as required under Section 00700, paragraph 2.4.2.1.)
Wage Rates as required under Section 00830.	Section 00830BC and/or Section 008300HH
City of Austin Wage Contact posters	Provided at Pre-Construction meeting (English and Spanish)
City of Austin Equal Employment Opportunity posters	http://austintexas.gov/department/wage-compliance (English and Spanish)
Texas Commission on Environmental Quality "Construction Site Notice" form, if applicable, as required or the required TPDES information	http://www.tceq.state.tx.us/assets/public/permitting/waterquality/attachments/stormwater/txr152d2.pdf (Option 1 – as required under Section 00810, 6.7.4.2 N/A (Option 2 – as required under Section 00810, 2.6.7.4.3)
OSHA poster "Job Safety and Health: It's the Law"	http://www.osha.gov/Publications/osha3165.pdf (English) http://www.osha.gov/Publications/osha3167.pdf (Spanish)
City of Austin Rest Break Ordinance Signs	http://austintexas.gov/department/wage-compliance (English and Spanish) As required to be posted in English and Spanish under Ordinance No. 20100729-047
Texas Payday Law Poster	http://www.twc.state.tx.us/ui/lablaw/ll10.pdf (English) http://www.twc.state.tx.us/ui/lablaw/ll10s.pdf (Spanish)
Texas Workers Compensation notice that the employer does or does not carry Workers Compensation insurance	Does not carry Workers Compensation Insurance: http://www.tdi.state.tx.us/forms/dwc/notice5.pdf (English) http://www.tdi.state.tx.us/forms/dwc/notice5s.pdf (Spanish) Does carry Workers Compensation Insurance: http://www.tdi.state.tx.us/forms/dwc/notice6.pdf (English) http://www.tdi.state.tx.us/forms/dwc/notice6s.pdf (Spanish)
TWC Employer's	http://www.oiec.state.tx.us/documents/Employer_Notice_of_O.pdf

Required for all Projects	
Poster	Available at:
Notification of the Ombudsman Program to Employees	(both versions)
DOL – The Uniformed Services Employment and Reemployment Rights Act (USERRA)	http://www.dol.gov/vets/programs/userra/USERRA_Private.pdf
EEOC Equal Employment Act and the Americans with Disabilities Act (ADA)	http://www.dol.gov/ofccp/regs/compliance/posters/pdf/eeopost.pdf (English) http://www.dol.gov/ofccp/regs/compliance/posters/pdf/eeosp.pdf (Spanish)
Fair Labor Standards Act (FLSA) Minimum Wage Poster	http://www.dol.gov/whd/regs/compliance/posters/flsa.htm (English) http://www.dol.gov/whd/regs/compliance/posters/flsaspan.htm (Spanish)
If applicable: Employee Rights for Workers with Disabilities/Special Minimum Wage Poster – Employment Standards	http://www.dol.gov/whd/regs/compliance/posters/disabc.pdf http://www.dol.gov/whd/regs/compliance/posters/disabspanc3p.pdf
"Your Rights Under the Family and Medical Leave Act (FLMA)"	http://www.dol.gov/whd/regs/compliance/posters/fmlaen.pdf (English) http://www.dol.gov/whd/regs/compliance/posters/fmlasp.pdf (Spanish)
Title VI Rights Poster	http://austintexas.gov/department/wage-compliance
Additional Postings Required for Federally Funded Projects	
"Employee Rights Under the Davis-Bacon Act"	http://www.dol.gov/whd/regs/compliance/posters/fedprojc.pdf (English) http://www.dol.gov/whd/regs/compliance/posters/davispan.pdf (Spanish)
Applies to USDOT/FHWA funded projects: "Notice of False Statements Concerning Highway Projects"	http://www.mdt.mt.gov/publications/docs/forms/dbe/eeo_board/false_statements.pdf (as required in Section 00810A Standard Federal-Aid Assurances)
Applies to USDOT/FHWA funded projects; "Contractors EEO Policy"	N/A (as required in Section 00810A Standard Federal-Aid Assurances)

END

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01505.3

Non-Building Projects – Water/Wastewater and Street Reconstruction

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

1. Division 01 Section 01200 "Project Meetings".
2. Division 01 Section 01500 "Temporary Facilities".
3. Division 00 Section "Hazardous Waste Management".
4. Division 01 Section 01700 "Contract Closeout".
5. Division 02 102s Section "Demolition" & "Clearing and Grubbing".
6. Division 01 Section 01352 "Sustainable Construction Requirements".

1.2 SUMMARY

A. The Owner has established that the Project shall minimize the creation of construction and demolition waste on the Project site and shall recycle and/or salvage non-hazardous construction, demolition, and land clearing debris to divert waste from Landfills. See 1.5 Waste Management Goals.

1. All profits resulting from salvaging and recycling shall go to the Contractor.

2. Where there is little cost difference between recycling/salvaging and land-filling of items, the Contractor is directed to recycle/salvage.

B. Hazardous materials are an exception to this Section. Comply with applicable requirements of Local, State and Federal regulations.

C. This Section includes administrative and procedural requirements for recycling, salvaging and disposing of non-hazardous demolition and construction waste

1.3 REFERENCES

A. The standards listed below form a part of this Section to extent referenced. Standards are referred to in the text by basic reference only.

1. Sustainable Building Sourcebook – Austin Energy Green Building:http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/Sourcebook/constructionWasteManagement.html

2. Resource Exchange Network for Eliminating Waste (RENEW), TCEQ (MC-112), Biannual catalog lists materials available and wanted; serves Texas and surrounding states; lists are posted on the Internet: http://www.tceq.state.tx.us/assistance/P2Recycle/renew/renew.html

3. Recycle Texas Online, A service of the Texas Commission on Environmental Quality. Contains information on about 1000 businesses and local governments handling materials from Texas. Organizations' information is self-reported and listings are free of charge. www.tceq.state.tx.us/assistance/P2Recycle/rtol/rtol.html

1.4 DEFINITIONS

A. Chemical Waste: Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.

B. Clean: Untreated, unpainted, not contaminated with oils, solvents, caulk, or other materials.

C. Disposal: Acceptance of solid wastes at legally permitted and operating facility for the purposes of land-filling.

D. Diversion: Avoidance of demolition and construction waste sent for disposal to landfill or incineration. Diversion does not include using materials for landfill, alternate daily cover on landfills, or materials used as fuel in waste-to-energy processes.

E. Hazardous Waste: Byproducts of society that can pose a substantial or potential hazard to human health or the environment when improperly managed, and possessing at least 1 of 4 of the following characteristics, or appearing on a special Environmental Protection Agency (EPA) list.

1. Ignitability.

2. Corrosivity.

3. Reactivity.

4. Toxicity.

F. Landfill: Authorized land waste disposal site that is located to minimize waste pollution from runoff and leaching.

G. Recycling: The process of sorting, cleansing, treating, and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

H. Return: To give back reusable items or unused products to vendors for credit.

I. Reuse: A strategy to return materials to active use in the same or a related capacity.

J. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.

K. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become a waste.

L. Toxic: Poisonous to living beings either immediately or after a long period of exposure.

M. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

N. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes all materials removed from the Project site to be land-filled, recycled, or salvaged for reuse. Pallets, containers, packaging and packing materials in which construction products are delivered to the Project site are considered waste materials.

1.5 WASTE MANAGEMENT GOALS

A. The Owner has established that as much as is economically feasible of the "waste" materials produced as a result of the Work, shall be employed, salvaged, reused, or recycled in order to minimize the impact of construction and demolition waste on landfills and reducing disposal costs.

B. Contractor shall employ and encourage practices that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local, pertaining to legal disposal of all construction waste materials.

D. Contractor shall recycle and divert materials for secondary uses whenever economically feasible.

E. Acceptable methods of diversion include:
Recycling, reuse and salvage
Donation to nonprofit organizations
Removal from jobsite by staff or subcontractors for use (not disposal)
Return to supplier
Sale to organizations or individuals

F. The Contractor shall develop a Construction and Demolition Waste Management Plan of non-hazardous construction and demolition waste. The plan shall identify the materials to be diverted from disposal and define the materials to be separated on-site or off-site. Calculations can be done by weight or volume, but must be consistent throughout.

1.6 SUBMITTALS

A. ***Waste Management Plan:*** A Project-specific plan for the collection, transportation, and disposal of the waste generated at the construction site, shall be submitted for approval within 14 calendar days after notice to proceed, or prior to any waste removal, whichever occurs first. The approved Plan shall be distributed to all subcontractors and the owner and will not relieve the Contractor's responsibility for compliance with applicable environmental regulations.

An example template is included as "Appendix A" to this section.

1. The Waste Management Plan shall include the following:

a. Identify each type of waste material produced as a result of the Work on the Project Site.

b. Identify each type and quantity of demolished and waste material intended to be recycled, salvaged or reused.

c. Identify material separation requirements.

e. Identify location of temporary on-Site storage for recycled and reused materials.

f. Identify final destination means of transportation for each recycled and reused material.

h. Identify the name/phone number of the Contractor's on-site coordinator of the Waste Management Plan.

i. Indicate permit or license and the location of the municipal solid waste landfills and other disposal area(s) to be used.

j. List of materials that cannot be recycled or reused.

B. ***Construction Waste Management Closeout Documentation:*** Submit the following upon the completion of The Work and prior to final payment:

a. A Summary of Solid Waste Disposal and Diversion (refer example template "Appendix B") prepared and maintained through Project duration, demonstrating that 100% of all non-hazardous construction wastes were recycled, salvaged or disposed of properly and includes as a minimum the following information:

1. Dates
2. Materials Description and Quantity
3. Indicate whether recycled, salvaged, reused of sent to landfill for disposal.
4. Destination or Name and location of accepting facility.

b. Copies of all receipts, manifests, weight tickets, and other documentation that identify all materials recycled, salvaged, land-filled or incinerated.

PART 2 - PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 GENERAL

A. Implement the Waste Management Plan as approved by the City of Austin Project Manager. Provide handling, containers, storage, signage, transportation, and other items as required to implement Waste Management Plan during the entire duration of the Contract.

B. Satisfy the requirements outlined in Subsection 1.5, Waste Management Goals.

3.2 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Plan Coordinator: Designate an on-site party (or parties) responsible for instructing workers, overseeing implementation and documenting results of the Waste Management Plan for the Project.

B. Plan Distribution: Provide copies of the Waste Management Plan to the Contractor's superintendent, each Subcontractor, the Owner, and the Engineer.

C. Meetings: Include Construction Waste Management in progress meetings to maintain the Plan for achieving the owners waste management goals:

D. Carefully order materials to avoid over supply.

E. Protect materials from contamination during handling, storage and transport to meet the requirements of the accepting facilities.

F. Assign and label a specific area to facilitate separation of materials for potential recycling, salvage, reuse, return and disposal. This area shall be kept neat and clean and clearly marked in order to avoid contamination of materials.

3.3 RECYCLING REQUIREMENTS

A. Materials: In general the contractor is encouraged to recycle the following types of construction waste materials generated during the course of this project, that are not salvaged or reused:

a. Asphalt concrete pavement.

b. Concrete materials.

c. Metals, including the following.

i. Banding straps.
ii. Reinforcing steel.
iii. Iron.
iv. Steel pipe.
v. Galvanized steel pipe.

d. Clean dimensional lumber.

e. Wood crates and pallets.

f. Glass and glass containers.

g. Plastics.

h. Electrical wiring.

i. Cardboard, paper, and packaging.

j. Beverage containers.

B. Methods: The following recycling methods, or a combination of, may be used.

1. On-site separation: Each material to be recycled shall be separated at the Project site and delivered to the recycling markets or directly from the Project site.

   a. If on-site separation method is used, designate a specific area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return.

   b. Maintain recycling and waste bin areas neat and clean and clearly marked, both in Spanish and in English, in order to avoid co-mingling of materials.

   c. Protect materials from contamination.

2. Off-site separation: Materials to be recycled are delivered unsorted from the Project site to a materials recovery facility or transfer station where recyclable materials are separated from other waste.

   a. Contractor shall verify that the entity responsible for the off-site separation has a market for all materials required to be recycled from the Project site.

   b. The same Submittals procedures shall apply.

   c. Protect materials from contamination.

3.4 REUSE

A. Contractor is encouraged to reuse as many demolished and waste materials as possible.

B. Reuse of waste materials includes the following:

a. Salvaging materials scheduled for disposal.

b. Off-Site storage of waste materials for future reuse by Contractor on other projects.

c. Returning unused and reusable materials, packaging and pallets, to vendor.

e. Assemble designated reuse items in a single location safe from damage, for review and approval by the owner's representative.

3.5 SALVAGE

A. Salvage Guidelines:

1. The contractor is encouraged to salvage as many items as deemed economically possible, considering reduction of land filling fees and possible use by others.
2. Assemble potentially salvageable items in one area and donate or sell to the public after review by the City of Austin Project Manager.
3. All proceeds from the sale of salvaged items shall go to the contractor.

Appendix A. Sample Construction Waste Management Plan

Construction Waste Management Plan

Project:
Contractor:
Date:
Contact:
Phone:
Prepared by:

Diversion Goal: Recycle, reuse and/or salvage as much land-clearing and construction waste as is economically feasible.

I. Coordination and Training

a. Name of Contractor's representative responsible for CWM implementation & coordination.

b. Describe method(s) of waste recycling management – on-site and/or off-site.

c. Describe how Contractor's staff and subcontractors will be informed regarding proper recycling and separation procedures

d. Describe and/or show on an attached site map where the temporary waste material storage area(s) will be located, and how will contamination of separated waste materials will be prevented?

II. Waste Minimization

a. What waste minimization techniques will be employed during the construction phase?

_____
_____
_____
_____

b. Which employees and / or subcontractors will be involved with each technique?

_____
_____
_____
_____

III. Construction Waste Analysis (including site / land-clearing materials, as applicable)

a. ***Diverted Materials***: For each material anticipated to be reused or recycled (diverted from the landfill), provide information to complete the table below. (Note: Whenever possible, attempt to use or donate construction waste materials rather than recycling.)

Material or Item	Storage Method (roll-off, bin, area, on pallet, etc.)	Quantity estimate (no., linear ft., square ft., etc.)	Proposed Recipient

Add rows (or paper pages) as required

b. ***Landfill***: For construction phase trash and materials / items that will not be diverted, complete the following table:

Quantity estimate (weight or volume)	Number and size of roll offs anticipated	Proposed landfill site

Appendix B. Summary of Solid Waste Disposal and Diversion

Project name _____ Project Number _____
Contractor Name _____ License Number_____
Contractor Address_____

Solid Waste Material	**Recycled, Reused, salvaged or disposed**	**Date Material Disposed** or diverted	**Amount Disposed/ Diverted** (Ton or cubic yd.)	**Municipal Solid Waste Facility** (Name, address, Phone)	**Recycling/Reuse Facility** Name Address Phone	**Comment** (If disposed state why not diverted)
Vegetation						
Soil						
Trench spoils						
Rock						
Asphalt						
Concrete						
Metal						
Wood						
Debris						
Glass						
Trash						
Other						

Signature _____ Date _____

Page / of / total pages

END

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 - GENERAL

1.1 Related Documents:

Drawings and general provisions of Contract, including General Conditions, Section 00700, and Supplemental General Conditions, Section 00810, and Division 1 requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 General

CONTRACTOR shall maintain reasonable local vehicular and pedestrian dust free traffic, including use of driveways, to proceed safely with minimum inconvenience, except during actual construction operations. CONTRACTOR provided flaggers shall assist traffic when a street is operating under a single lane. Two-way traffic shall be maintained at all other times unless otherwise authorized by Owner.

CONTRACTOR shall provide, at the work zone location during temporary traffic control installation, a designated Competent Traffic Control Person to ensure compliance with the traffic control plans and the provisions of the Contract. Training Certificates for the designated Competent Person shall be provided with submittals at the Precon. Training certificates for competent persons shall be good for four (4) years from the date of training. After such time the competent person must show that additional training or re-certification has been completed to maintain competent person status.

CONTRACTOR shall maintain a smooth and safe ride for traffic by placing steel plates with Asphaltic concrete berms, temporary fill or bridging and temporary surfacing with cold or hot-mix Asphaltic concrete paving in accordance with applicable City Standards.

Sidewalks shall not be obstructed, except by special permission of Owner or E/A. Access to private dwelling and to commercial establishments shall be provided at all times.

CONTRACTOR shall plan and execute his operations in a manner that will cause a minimum interference with traffic. The CONTRACTOR shall place and maintain in good condition, standard barricades at each end of the Project and at other locations where traffic is rerouted or blocked from using regular traffic lanes. Barricades and warning signs shall be in accordance with Texas Manual on Uniform Traffic Control Devices (MUTCD) and the City of Austin Transportation Criteria Manual.

Signs, barricades and warning devices informing public of construction features shall be placed and maintained by the CONTRACTOR who shall be solely responsible for their maintenance.

Unless otherwise specified elsewhere in Division 1, neither explosives nor blasting shall be permitted on this Project.

3.2 Traffic Control

3.2.1 It shall be the sole responsibility of the CONTRACTOR to furnish, install, maintain and remove barricades, detour signs, warning signs, lights and all regulatory traffic control devices of the size and type specified, at locations indicated, or as directed or approved by the OWNER in accordance with the Texas Manual on Uniform Traffic Control Devices, (MUTCD), Part VI, Traffic Control for Street and Highway Construction and Maintenance Operations and the City of Austin Transportation Criteria Manual. Upon phase completion, the Contractor shall immediately revise the

temporary traffic devices to reflect the next phase or if the project is complete remove them from the public right of way.

3.2.2 Throughout the life of the Contract, all existing roads and Traffic Control devices included in the Work shall be maintained by the CONTRACTOR to a condition, in the opinion of the OWNER, which is equal to or better than that which existed when Work commenced. Maintenance of existing roads and devices shall take priority over all other Work items and shall be subject to a seven-day-a-week, 24-hours-per-day time frame. The CONTRACTOR shall provide a smooth and safe riding surface for all vehicles along the route of this Project. This could include, but not be limited to, small cars, motorcycles, mopeds and bicycles. If the condition of the street surface deteriorates, for any reason, CONTRACTOR shall take necessary steps to insure immediate restoration.

3.2.3 During construction of streets, drainage, and utility projects, if conditions of existing street surface require maintenance to upgrade from their state when the Work began, a separate pay item may be included in Bid. Otherwise, maintenance work will not be paid for directly but will be considered subsidiary to various Bid items of this Contract.

3.2.4 In the event that CONTRACTOR fails, in opinion of OWNER, to maintain a smooth surface for public comfort, fails to provide ingress and egress to private property, and/or does not provide and maintain proper traffic control devices, OWNER may provide these services and deduct any cost thereof, including overtime and administrative expenses, from all estimates thereafter due the CONTRACTOR. Such action by the OWNER shall not relieve the CONTRACTOR of his liability to protect the public at construction site. Owner may also assess an investigation fee, as established by separate Fee Ordinance, for violations resulting in more than one deficiency report issued to Contractor.

3.2.5 A permit must be obtained from Texas Department of Transportation (TxDOT), prior to Work being performed on state highway routes passing through the City.

3.2.6 CONTRACTOR shall notify the Owner's Representative, Police Department, Fire Department, EMS, and Right of Way Management Division at least seven Calendar Days in advance of beginning proposed Work, with intention to close or partially block any street or any part thereof, or of any construction affecting free flow of traffic. The CONTRACTOR shall plan and adequately provide barricades and warning devices. The same parties shall be notified when normal traffic flow is restored.

3.2.7 Should the CONTRACTOR, in his operations, reduce an existing two-way roadway to less than 20 feet in width, CONTRACTOR shall provide a route through or around the narrowed area as approved by Owner or E/A.

3.2.8 The CONTRACTOR's Flaggers shall be required any time it is necessary for the CONTRACTOR's equipment to move into or across an open traffic lane, or at other such times as directed by the Owner's Representative. A flagger shall be utilized to aid exit of hauling equipment from open traffic lanes to the Work area, and entry of hauling equipment from Work area to open traffic lanes. Flaggers shall be dressed and conduct operations in accordance with Texas Manual on Uniform Traffic Control Devices and the Transportation Criteria Manual. Flagging operations shall be the sole responsibility of the CONTRACTOR.

3.2.9 The CONTRACTOR and Subcontractors shall confine their activities to the immediate area of the construction site and provide the following:

a. Appropriate temporary fences, barricades, and/or Metal Beam Guard Fence if required, for site work involving excavation, utility extensions, remote construction work or other circumstances involving safety of public or protection of the work in progress.

b. Warning lights at open trenches, excavations, etc., during hours from dusk to dawn each day. Protection of structures, utilities, sidewalks, pavements, and other facilities immediately adjacent to excavations, from damages caused by settlement, lateral movement, undermining, washout and other hazards.

3.3 Spoil Disposal

CONTRACTOR may make other arrangements for spoil disposal subject to E/A evaluation of the CONTRACTOR-supplied proof that the Owner(s) of the proposed site(s) has a valid fill permit issued by the appropriate governmental agency. Finally, the CONTRACTOR shall submit a haul route plan including a map of the proposed route(s) for the E/A and Owner's approval.

3.4 Restoration

WATER AND WASTEWATER CONSTRUCTION REQUIREMENTS

3.4.1 In order to minimize environmental and potential flood impacts, the sum of the amount of trench opened in advance of the completed line and the amount of trench left unfilled at any time shall be restricted to one (1) full block or 300 linear feet, whichever is less.

3.4.2 Restoration shall be an on-going process during construction operations and shall immediately precede completion of construction of each successive section of the line, which shall not exceed 1,200 linear feet without approval of the E/A.

3.5 Street Markers and Traffic Control Signs

It shall be responsibility of the CONTRACTOR to remove, preserve and reset, as required, Street Marker and Traffic Control Signs that are within construction limits to the line and heights as described in Texas Manual on Uniform Traffic Control Devices before any sidewalks or street excavation is begun. Signs shall not be laid on the ground. No payment will be made for this work but shall be considered subsidiary to the various Bid items. Traffic Sign Activity Section of the Transportation Department (457-4850) shall be notified a minimum of five Working Days prior to completion of the Project so that signs may be checked for damage. Any damage to signs or posts shall be paid for by the CONTRACTOR.

3.6 Burning Permit

Open burning within City limits will not be allowed. Trench burning shall require a permit from the Fire Marshal. Burning permits outside City limits shall be obtained from the appropriate authority.

The CONTRACTOR shall secure and pay for all burning permits.

3.7 Driveways

Unless otherwise indicated, the approach grade of existing driveways shall be modified as indicated and as directed by the Owner's Representative. The OWNER will contact property owners whose driveways require grade modification beyond street right-of-way and the OWNER will obtain their concurrence for approach grade modification. Within the right-of-way, all driveways shall be replaced with concrete driveways. Outside the right-of-way, when approach grade modifications are required, flexible base shall be placed by the CONTRACTOR to resurface existing dirt or gravel driveways; asphalt and concrete drives shall be replaced in kind by the CONTRACTOR. Excavation, Flexible Base, Portland Cement Concrete and Asphaltic Concrete, used for driveways as prescribed above shall not be measured for payment but shall be considered subsidiary to various Bid items in the Contract unless payment is included as a separate Contract pay item.

3.8 Removal or Relocation of Fences and Sprinkler Systems

Removal or relocation of privately owned fences and sprinkler systems not specified in Bid, and within public right-of-way is the primary responsibility of the property owner. OWNER will cause property owners to be aware of any known conflicts and encourage them to make desired adjustments in advance of construction. In the event the property owner does not, or will not, make adjustments necessary for construction of improvements to be made under this Contract, CONTRACTOR, after receiving written approval from the OWNER, shall remove those portions that interfere with the Work, as follows:

3.8.1 Fences shall be disassembled, by hand, into hand manageable sizes and placed on the private property.

3.8.2 For sprinkler systems, the CONTRACTOR, after assuring that electrical and/or mechanical controls are disconnected, shall remove sprinkler heads, valves, controls, and any other miscellaneous items, including distribution pipe, or wire, saw cut from the system. The CONTRACTOR shall present these materials to the property owner. Where piping is cut, the pipe shall be permanently capped or plugged, unless otherwise directed by the OWNER.

Work for removal or relocation of fences and sprinkler systems shall not be paid for directly but shall be subsidiary to the various Bid items.

End

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Requirements for tangible materials, raw or manufactured, that become part of the project.

1.02 REFERENCES

A. NSF International (NSF):
   1. 61 - Drinking Water System Components - Health Effects.

1.03 DEFINITIONS

A. Certificates: Describe certificates that document affirmations by the Contractor or other entity that the work is in accordance with the Contract Documents.

B. Extra stock materials: Describe extra stock materials to be provided for the Owner's use in facility operation and maintenance.

C. Manufacturer's instructions:
   1. Stipulations, directions, and/or recommendations issued in printed form by the manufacturer of the product addressing handling, installation, erection, and/or application of the product.

D. Products:
   1. Raw materials, finished goods, equipment, systems, and shop fabrications.

E. Product data:
   1. Public information about the product which is found in the manufacturer's catalogs or on their web site including catalog pages, data sheets, bulletins, and brochures.

F. Samples:
   1. As defined in the General Conditions and Supplementary Conditions.
   2. Full-size actual products or pieces of products intended to illustrate the products to be incorporated into the project. Sample submittals are often necessary for such characteristics as colors, textures, and other appearance issues.

G. Schedules:
   1. Product parts and materials lists.

H. Shop drawings:
   1. As defined in the General Conditions and Supplementary Conditions.
   2. Shop drawings are prepared specifically for the project to illustrate details, dimensions, and other data necessary for satisfactory fabrication or

construction that are not shown in the contract documents. Shop drawings could include graphic line-type drawings, single-line diagrams, or schedules and lists of products and their application.

I. Spare parts:
   1. Duplicate parts necessary to replace a damaged or worn part of the product.
   2. Consumables such as operating fluids.

J. Special tools:
   1. Special wrenches, gauges, circuit setters, and other similar devices required for the proper operation or maintenance of a system that would not normally be in the Owner's tool kit and that have been specifically made for use on a product for assembly, disassembly, repair, or maintenance.

K. Source Quality Control:
   1. Testing and inspections at the location of fabrication or assembly.
   2. Includes Factory Acceptance Testing (FAT), Factory Testing, and Source Testing.
   3. Test reports including the following information:
      a. Test description.
      b. List of equipment used.
      c. Name of the person conducting the test.
      d. Date and time the test was conducted.
      e. Ambient temperature and weather conditions.
      f. Raw data collected.
      g. Calculated results.
      h. Clear statement if the test passed or failed the requirements stated in Contract Documents.
      i. Signature of the person responsible for the test.

L. Submittals:
   1. As defined in the General Conditions and Supplementary Conditions.
   2. Samples, product data, shop drawings, and others that demonstrate how Contractor intends to conform to the Contract Documents.

1.04 SUBMITTALS

A. Submit as specified in City of Austin Section 01300 - Submittals.

B. Products in contact with drinking water:
   1. Provide certification for by an independent ANSI accredited third party.
      a. In accordance with NSF 61.
      b. Weighted average lead content of less than 0.25 percent in accordance with NSF 372.

1.05 GENERAL REQUIREMENTS

A. Comply with specified requirements.

B. Provide products by same manufacturer when products are of similar nature, unless otherwise specified.

C. Provide like parts of duplicate units that are interchangeable.

D. Provide equipment or product that has not been in service prior to delivery, except as required by tests.

E. Provide manufacturer’s standard products when available.

F. Provide products produced by manufacturers regularly engaged in the production of these products.

G. Provide products that bear approvals and labels as specified.

1.06 QUALITY CONTROL

A. Manufacturer to provide permanent quality control department and laboratory facility capable of performing inspections and testing as required by the Contract Documents.
   1. Material testing, inspection procedures, and manufacturing process are subject to inspection by Engineer.
   2. Contractor shall notify Engineer in writing of the manufacturing start date not less than 14 days prior to the start of manufacturer of project pipe.
   3. Perform manufacturer’s tests and inspections required by the referenced standards and as specified in this Section including the following:
      a. Provide the Manufacturer's Certificate of Source Testing.
      b. Calibration within last 12 months for equipment such as scales, measuring devices and calibration tools used in the manufacturing of pipe as required by ISO 9001.
         1) Each device used in the manufacturer of pipe is required to have a tag recording date of last calibration.
         2) Provide calibration certificate.
         3) Devices are subject to inspection by Engineer.

1.07 SERVICES OF MANUFACTURER'S REPRESENTATIVES

A. Qualification of manufacturer's representative as specified in the Contract Documents technical Sections include the following:
   1. Authorized representative of the manufacturer, factory trained and experienced in the technical applications and installation of respective products with full authority by the product manufacturer to issue the certifications required of the manufacturer.
   2. Competent, experienced technical representative of the product manufacturer for installation.
   3. Additional qualifications may be specified in the individual sections.
   4. Submit qualifications of the manufacturer's representative no later than 30 days in advance of required observations. Representative subject to approval by Owner and Engineer.
   5. No substitute representatives will be allowed until written approval by Owner and Engineer has been obtained.

B. Completion of manufacturer on-site services: Engineer approval required.
   1. The manufacturer’s representative will advise aspects of installation including but not limited to:
      a. Handling.
      b. Storing.
      c. Cleaning and inspecting.

d. Coating and lining repairs.
e. Tapping.
f. General construction methods.

C. Manufacturer is responsible for determining the time required to perform the specified services.
1. No additional costs associated with performing the required services will be approved.
2. Manufacturer required to schedule services in accordance with the Contractor's project schedule up to and including making multiple trips to project site when there are separate milestones associated with installation of each occurrence of manufacturer's product.

D. Manufacturer's on-site services as specified in the Contract Documents include the following:
1. Assistance during Construction.
2. Provide 1 copy of daily manufacturer's representative's field notes and data to Engineer.
3. Other requirements as specified in the Contract Documents.

1.08 TEST PLANNING

A. Testing plans:
1. Provide separate testing plans for each individual product requiring field testing that include the following:
a. Approach to testing including procedures and schedule.
b. Test objective: Demonstrate product meets the design requirements as specified in the technical Sections.
c. Test descriptions, forms, temporary systems (pumps, piping, etc.), shutdown requirements for existing systems, test forms, test logs, witness forms, and checklists to be used to control and document the required tests.
d. Test forms: Include, but not limited to, the following information:
1) Name of product to be tested.
2) Test date.
3) Names of persons conducting the test.
4) Names of persons witnessing the test, where applicable.
5) Test data.
6) Applicable project requirements.
7) Check offs for each completed test or test step.
8) Place for signature of person conducting tests and for the witnessing person, as applicable.
2. Engineer approval of test plan is required prior to performing test.
a. Revise and update test plans based on review comments, actual progress, or to accommodate changes in the sequence of activities.
b. Submit test reports for each phase of testing for each product.
c. Engineer approval of preceding test reports is required prior to start of next test.
d. Tests will be rescheduled if test plan is not approved by the required deadline.
1) Contractor is responsible for any resulting delay.

3. Contractor is responsible to reproduce and distribute final test procedures.
    a. Provide 3 copies for Engineer.
4. Tests may commence only after Engineer has received approved test plan copies.
5. Submittals:
    a. Submit test plans not less than 120 calendar days prior to planned installation testing of system.
    b. Test procedures and forms: Provide signed-off copy of test forms and test reports upon completion of the test.
    c. Test reports:
        1) Submit preliminary copies within 1 day after testing completion.
        2) Submit final copies and report within 14 days after testing completion.
    d. Furnish labor, power, tools, equipment, instruments, and services required for and incidental to completing testing activities in accordance with the approved Testing Plans.
    e. Prior to testing, verify equipment protective devices and safety devices have been installed, calibrated, and tested.
    f. Acceptable tests: Demonstrate the system performance meets the requirements stated in the Contract Documents.
        1) When the system fails to meet the specified requirements, perform additional, more detailed, testing to determine the cause, correct, repair, or replace the causative components and repeat the testing that revealed the deficiency.

1.09 SOURCE TESTING

A. As specified in Section 01455 – Regulatory Quality Assurance.

B. Also referred to as factory testing or factory acceptance testing (FAT).

C. Test products for proper performance at point of manufacture or assembly as specified in the technical Sections.

D. Notify Engineer in writing when the product is ready for source inspection and testing.

E. Source Test Plan:
1. As specified in this Section and other technical Sections.
2. Source testing requirements as specified in technical Sections.
    a. Non-witnessed: Provide Manufacturer's Certificate of Source Testing, Appendix B.
    b. Witnessed: 1 Owner's representative and 1 Engineer's representative present during testing, unless otherwise specified, and provide Manufacturer's Certificate of Source Testing, Appendix B.
    c. Contractor is responsible for costs associated with Owner's representatives and Engineer’s representative witnessing Source Tests.
        1) Include costs for at least the following:
            a) Transportation:
                (1) Travel 1 day on commercial airline to site including air flight costs and $1,600 allowance per person per day.

(2) Travel 1 day on commercial airline from site including air flight costs and $1,600 allowance per person per day.
(3) Rental car from hotel to and from the test site.

b) Hotel costs at a facility with an American Automobile Association 4 star rating or equivalent for single occupancy room per person per day.
c) Meal allowance of $60 per person per day.
d) On-site time: 1 day at the site, unless specified otherwise, including $1,600 allowance per person per day.

2) If Source Test is not ready when the witnesses arrive or if the Source Test fails, the witnesses will return home with Contractor responsible for costs associated with the trip including costs described above. Contractor is responsible for rescheduling the Source Test and witnesses' costs associated with the second trip including costs described above.
3) Contractor is responsible for witnesses' costs associated with retests including costs described above.

3. Prepared by Contractor as specified in the Contract Documents.
4. Provide the following items for each Source Test:
   a. Purpose and goals of the test.
   b. Identification of each product.
   c. Description of the pass/fail criteria that will be used.
   d. Listing of pertinent reference documents (Contract Documents and industry standards or Sections applicable to the testing).
   e. Complete description, including drawings or photographs, of test stands and/or test apparatus.
   f. Credentials of test personnel.
   g. Descriptions of test equipment to be used, product information, and all appropriate calibration records for the test equipment.
   h. Test set-up procedures.
   i. Detailed step-by-step test procedures.
      1) Provide sufficient level of detail for any witness with a rudimentary technical aptitude to be able to follow the steps and develop confidence that the tests were being performed as planned.
   j. Sample data logs and data recording forms.
   k. Sample computations or analyses with the results in the same format as the final report to demonstrate how data collected will be used to generate final results.
      1) Complete disclosure of the calculation methodologies.
      2) Include a sample for each type of computation required for the test and analysis of the results.
   l. Detailed outline of the Source Test report.
   m. Sample test reports.
3. Submit Source Test Plan and forms as specified in the technical Sections.
   a. Submit a copy of the Source Test Plan at least 21 days before any scheduled test date.
   b. Engineer approval of Source Test Plan required prior to beginning source testing.
   c. Schedule the testing after approval of the test procedures submittal.
4. Indicate the desired dates for source inspection and testing.
   a. Notify Engineer of the scheduled tests a minimum of 15 days before the date of the test.

F. Test results:
   1. Prepare and submit test results with collected data attached.
   2. Contractor is responsible for providing fuel, chemicals, and other consumables needed for Source Testing.

1.10 INSTALLATION TESTING

A. Field test backfill, welded joints, alignment and grade, and pipeline pressure as specified in technical Sections.

1.11 FUNCTIONAL TESTING

A. Notify Engineer 5 days prior to when the Work is ready for Functional Testing.
   1. Perform testing in the presence of the Engineer.

B. Perform Functional Testing in addition to the other tests specified in the technical Sections.
   1. Contractor is responsible for providing fuel, chemicals, and other consumables needed.

C. Repair or replace products that perform improperly and retest.

D. Submit testing results as specified in technical Sections.

PART 2 PRODUCTS

2.01 GENERAL

A. Material requirements:
   1. Materials: Provide corrosion resistance suitable for project conditions as specified in Section 01610 - Project Design Criteria.
   2. Dissimilar metals: Separate contacting surfaces with dielectric material.

B. Edge grinding:
   1. Sharp projections of cut or sheared edges of ferrous metals which are not to be welded shall be ground to a radius required to ensure satisfactory paint adherence.

C. Aluminum in contact with concrete or masonry: Apply epoxy mastic as specified in Section 09960 - High-Performance Coatings, coating system EPX-M-5.

D. Provide new pipe manufactured for the project, not from manufacturer's inventory, under the following conditions:
   1. Pipe 24-inch diameter and larger.
   2. Pipe material subject to UV degradation manufactured more than 6 months prior to delivery to the project.
   3. Pipe with coating material subject to UV degradation manufactured more than 6 months prior to delivery to the project.
   4. Ductile iron pipe with cement-mortar lining manufactured more than 6 months prior to delivery to the project.
   5. Steel pipe 6-inch diameter and larger.

E. Mark each length of pipe in accordance with applicable standards.

2.02 PRODUCT SELECTION

A. When products are specified by standard or specification designations of technical societies, organizations, or associations only, provide products that meet or exceed reference standard and Specifications.

B. When products are specified with names of manufacturers but no model numbers or catalog designations, provide:
   1. Products by one of named manufacturers that meet or exceed Specifications.
   2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.

C. When products are specified with names of manufacturers and model numbers or catalog designations, provide:
   1. Products with model numbers or catalog designations by one of named manufacturers.
   2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.

D. When products are specified with names of manufacturers, but with brand or trade names, model numbers, or catalog designations by one manufacturer only, provide:
   1. Products specified by brand or trade name, model number, or catalog designation.
   2. Products by one of named manufacturers proven, in accordance with requirements for an "or equal", to meet or exceed quality, appearance and performance of specified brand or trade name, model number, or catalog designation.
   3. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.

E. When Products are specified with only one manufacturer followed by "or Equal," provide:
   1. Products meeting or exceeding Specifications by specified manufacturer.
   2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.

2.03 SHIPMENT

A. Requirements prior to shipment of equipment:
   1. Engineer approved shop drawings.
   2. Engineer approved Manufacturer’s Certificate of Source Testing when required by specifications.
   3. Draft operations and maintenance manuals, as specified in Section 01730 - Operation and Maintenance Manuals, when required by specifications.

B. Prepare products for shipment by:
   1. Tagging or marking products to agree with delivery schedule or shop drawings.
   2. Including complete packing lists and bills of material with each shipment.

3. Packaging products to facilitate handling and protection against damage during transit, handling, and storage.
4. Securely attach special instructions for proper field handling, storage, and installation to each piece of equipment before packaging and shipment.

C. Transport products by methods that avoid product damage.

D. Deliver products in undamaged condition in manufacturer's unopened containers or packaging.

2.04 SPARE PARTS, MAINTENANCE PRODUCTS, AND SPECIAL TOOLS

A. Provide spare parts and maintenance products as required by Technical Sections.

B. Provide one set of special tools required to install or service the equipment.

C. Box, tag, and clearly mark items.

D. Contractor is responsible for spare parts, maintenance products, and special tools until acceptance by Owner.

E. Immediately store products not to be incorporated into the work in accordance with the manufacturer's instructions.

F. Add product to the Spare Parts, Maintenance Products, and Special Tools Inventory List - form as given in Appendix B.

G. Store spare parts, maintenance products, and special tools in enclosed, weather-proof, and lighted facility during the construction period.
1. Protect parts subject to deterioration, such as ferrous metal items and electrical components with appropriate lubricants, desiccants, or hermetic sealing.

H. With Owner's written request for advanced delivery of spare parts, maintenance products, and special tools.
1. Deliver requested items and deduct them from the inventory list.
2. Provide transmittal documentation.

I. Provide spare parts and special tools inventory list, see Appendix B:
1. Equipment tag number.
2. Equipment manufacturer.
3. Subassembly component, if appropriate.
4. Quantity.
5. Storage location.

J. Store large items individually:
1. Weight: Greater than 50 pounds.
2. Size: Greater than 24 inches wide by 18 inches high by 36 inches long.
3. Clearly labeled:
   a. Equipment tag number.
   b. Equipment manufacturer.
   c. Subassembly component, if appropriate.

K. Store in spare parts box smaller items:
   1. Weight: Less than 50 pounds.
   2. Size: Less than 24 inches wide by 18 inches high by 36 inches long.
   3. Clearly labeled:
      a. Equipment tag number.
      b. Equipment manufacturer.
      c. Subassembly component, if appropriate.

L. Spare parts and special tools box:
   1. Box material: Waterproof, corrosion resistant.
   2. Hinged cover:
      a. Locking hasp.
   3. Spare parts inventory list taped to underside of cover.
   4. Clearly labeled:
      a. The words “Spare Parts and/or Special Tools”.
      b. Equipment tag number.
      c. Equipment manufacturer.
      d. Subassembly component, if appropriate.

PART 3 EXECUTION

3.01 DELIVERY AND HANDLING

A. Handle equipment in accordance with manufacturer's instructions.

B. Provide construction equipment and personnel to handle products by methods to prevent soiling or damage.

C. Upon delivery, promptly inspect shipments:
   1. Verify compliance with Contract Documents, correct quantities, and undamaged condition of products.
   2. Acceptance of shipment does not constitute final acceptance of equipment.

3.02 STORAGE AND PROTECTION

A. Immediately store and protect products and materials until installed in Work.

B. Furnish covered, weather-protected storage structures providing a clean, dry, noncorrosive environment for mechanical equipment, valves, architectural items, electrical and instrumentation equipment and special equipment to be incorporated into this project.
   1. Storage of equipment shall be in strict accordance with the “instructions for storage” of each equipment supplier and manufacturer including connection of heaters, placing of storage lubricants in equipment, rotating equipment, etc.
   2. The Contractor shall furnish a copy of the manufacturer’s instructions for storage to the Engineer prior to storage of equipment and materials.
   3. Maintain products within temperature and humidity ranges required or recommended by manufacturer.

C. Store products with seals and legible labels intact.

D. Protect painted or coated surfaces against impact, abrasion, discoloration, and damage.
   1. Repaint or recoat damaged painted or coated surfaces.

E. Exterior storage of fabricated products:
   1. Place on aboveground supports that allow for drainage.
   2. Cover products subject to deterioration with impervious sheet covering.
   3. Provide ventilation to prevent condensation under covering.

F. Store moisture sensitive products in watertight enclosures.

G. Store loose granular materials on solid surfaces in well-drained area.
   1. Prevent materials mixing with foreign matter.
   2. Provide access for inspection.

H. If approved by the Engineer, provide offsite storage location within 20 miles of the project site.
   1. Provide proof of insurance coverage for products stored offsite.

I. Payment will not be made for equipment and materials improperly stored or stored without providing Engineer with the manufacturer's instructions for storage.

J. Provide an equipment log and stored products log with monthly pay applications.
   1. Data includes as a minimum: The storage location, equipment or product identification, date stored, date of inspection/maintenance, date removed from storage, copy of manufacturer’s recommended storage guidelines, description of inspection/maintenance activities performed, and signature of party performing inspection/maintenance.

3.03 PROTECTION AFTER INSTALLATION

A. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations.
   1. Remove covering when no longer needed.
   2. Replace corroded, damaged, or deteriorated equipment, product, or parts before acceptance of the project.

B. Update equipment log on a monthly basis with description of maintenance activities performed in accordance with the manufacturer’s recommendation and industry standards and signature of party performing maintenance.

3.04 ATTACHMENTS

A. Appendix A - Spare Parts, Maintenance Products, and Special Tools Inventory List.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT A - SPARE PARTS, MAINTENANCE PRODUCTS, AND SPECIAL TOOLS INVENTORY LIST

THIS PAGE INTENTIONALLY LEFT BLANK

SPARE PARTS, MAINTENANCE PRODUCTS, AND SPECIAL TOOLS INVENTORY LIST

Owner: _____ **Date:** _____

Contractor: _____ **Project No.:** _____

Project Name: _____

Inventory List				
Spec Number: _____		Spec Title _____		
Equipment Tag No.: _____		Equipment Manufacturer: _____		
Quantity	**Subassembly Component**	**Description**	**Manufacturer's Part Number**	**Storage Location**

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01610

PROJECT DESIGN CRITERIA

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Project design criteria such as temperature and site elevation.

1.02 PROJECT DESIGN CRITERIA

A. Equipment and materials for the project are to be suitable for performance in wastewater treatment plant environment and under following conditions:
   1. Design temperatures are:
      a. Outdoor temperatures: 26 to 100 degrees Fahrenheit.
      b. Indoor temperatures for the following buildings:
         1) Process areas: 55 to 85 degrees Fahrenheit.
         2) Electrical rooms: 70 to 75 degrees Fahrenheit.
         3) Administration areas: 70 to 75 degrees Fahrenheit.
         4) Other: 55 to 85 degrees Fahrenheit.
   2. Climate design conditions in accordance with the latest edition of the ASHRAE Handbook for the nearest weather station.
   3. Design groundwater elevation: 45 feet below surface per Geotech report.
   4. Moisture conditions: Defined in individual equipment sections.
   5. Site elevation: Approximately 483 feet above mean sea level.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01612

SEISMIC DESIGN CRITERIA

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Seismic design criteria for the following:
   1. Anchorage of mechanical and electrical equipment.
   2. Seismic design and design of anchorage for small tanks fabricated off site and shipped to the Project site.
   3. Other structures or items as specified or indicated on the Drawings.

1.02 REFERENCES

A. American Society of Civil Engineers (ASCE):
   1. 7-10 - Minimum Design Loads for Buildings and Other Structures.

1.03 SYSTEM DESCRIPTION

A. Design in accordance with the requirements of the building code as specified in Section 01410 - Regulatory Requirements.

B. Risk Category:

Table 1: Risk Category

Structure/Area	Risk Category
All	III

C. Design spectral acceleration at short period, S_{DS}: 0.069g.

D. Design of non-structural components and their connections to structures:
   1. Component amplification factor, a_p: In accordance with ASCE 7, Tables 13.5-1 and 13.6-1.
   2. Component response modification factor, R_p: In accordance with ASCE 7, Tables 13.5-1 and 13.6-1.
   3. Component importance factor, I_p:

Table 2: Component Importance Factor, I_p		
Risk Category	**Description**	**Ip**
All	Equipment and as specified in Division 16 26 - Electrical.	1.5
All	Fire protection as specified in Section 10520 - Fire Protection Specialties.	1.5
IV	Equipment and components as specified in Divisions 6-15, except HVAC and plumbing defined below.	1.5
II or III	Equipment and components as specified in Divisions 6-15.	1.0
All	HVAC and plumbing equipment.	1.0
All	All other equipment not listed above.	1.0

E. (SDC):
   1. Seismic Design Category (SDC) for certification of mechanical and electrical equipment as required by ASCE 7:
      a. All areas: Seismic Design Category A.

F. Design requirements: Anchorage of equipment to structures.
   1. Do not use friction to resist sliding due to seismic forces. Do not design or provide connections that use friction to resist seismic loads. Resist seismic forces through direct tension and/or direct bearing in shear on anchors and fasteners.
   2. Do not use more than 60 percent of the weight of the mechanical and electrical equipment for designing anchors for resisting overturning due to seismic forces.
   3. Do not use more than 60 percent of the weight of the tank for resisting overturning due to seismic forces.
   4. Anchoring and fastening to concrete and masonry:
      a. Anchors provided under the following Specifications shall hold a current Evaluation Service report allowing use in Seismic Design Categories indicated for this Work.
         1) Post-installed mechanical anchors specified in Section 05190 - Mechanical Anchoring and Fastening to Concrete and Masonry.
         2) Post-installed adhesive bonded anchors specified in Section 03055 - Adhesive-Bonded Reinforcing Bars and All Thread Rods in Concrete.
         3) Post-installed adhesive bonded anchors specified in Section 04055 – Adhesive Bonding Reinforcing Bars and All Thread Rods in Masonry.
   5. Anchor bolt holes in equipment support frames:
      a. Do not exceed bolt diameter by more than 25 percent, up to a maximum diameter equal to that of the bolt plus 1/4 inch.

1.04 SUBMITTALS

A. Shop drawings and calculations: Complete shop drawings and seismic calculations for anchorage to structures.

B. Calculations shall be signed and sealed by a civil or structural engineer licensed in the state where the Project is located.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01614

WIND DESIGN CRITERIA

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Wind design criteria.

1.02 SYSTEM DESCRIPTION

A. Design requirements:
   1. Building code criteria: Design for wind in accordance with building code as specified in Section 01410 - Regulatory Requirements:
      a. Risk category: III.
      b. Wind speed, V_{ult}: 120 miles per hour.
      c. Exposure category: C.
      d. Topographic factor, K_{zt}: 1.0
   2. Resist wind forces through direct bearing on anchors and fasteners. Do not design or provide connections that use friction to resist wind loads.
   3. Anchoring and fastening to concrete and masonry:
      a. Provide anchors specified in Section 03055 - Adhesive-Bonded Reinforcing Bars and All-Thread Rods and 05190 - Mechanical Anchoring and Fastening to Concrete and Masonry.
      b. Use only cast-in and built-in anchors (anchor bolts and welded studs) for anchors at connections that resist wind forces.
      c. Do not use concrete anchors, flush shells, sleeve anchors, flush shells, screw anchors, powder actuated fasteners, or other types of post-installed mechanical anchors unless indicated on the Drawings or accepted in writing by the Engineer.

1.03 SUBMITTALS

A. Shop drawings and calculations: Complete shop drawings and wind design calculations.

B. Calculations shall be signed and stamped by a civil or structural engineer licensed in the state where the Project is located.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Contract closeout requirements including:
   1. Final cleaning.
   2. Waste disposal.
   3. Touch-up and repair.
   4. Disinfection of systems.
   5. Preparation and submittal of closeout documents.
   6. Certificate of Substantial Completion.

1.02 REFERENCES

A. American Water Works Association (AWWA).

1.03 FINAL CLEANING

A. Perform final cleaning prior to inspections for Final Completion.

B. Employ skilled workers who are experienced in cleaning operations.

C. Use cleaning materials which are recommended by manufacturers of surfaces to be cleaned.

D. Prevent scratching, discoloring, and otherwise damaging surfaces being cleaned.

E. Clean roofs, gutters, downspouts, and drainage systems.

F. Broom clean exterior paved surfaces and rake clean other surfaces of site work:
   1. Police yards and grounds to keep clean.

G. Remove dust, cobwebs, and traces of insects and dirt.

H. Clean grease, mastic, adhesives, dust, dirt, stains, fingerprints, paint, blemishes, sealants, plaster, concrete, and other foreign materials from sight-exposed surfaces, and fixtures and equipment.

I. Remove non-permanent protection and labels.

J. Wax and buff hard floors, as applicable.

K. Wash and polish glass, inside and outside.

L. Clean permanent filters and replace disposable filters when heating, ventilation, and air conditioning units were operated during construction.

M. Clean ducts, blowers and coils when units were operated without filters during construction.

N. Clean light fixtures and replace burned-out or dim lamps.

O. Probes, elements, sample lines, transmitters, tubing, and enclosures have been cleaned and are in like-new condition.

1.04 WASTE DISPOSAL

A. Arrange for and dispose of surplus materials, waste products, and debris off-site:
   1. Prior to making disposal on private property, obtain written permission from Owner of such property.

B. Do not fill ditches, washes, or drainage ways which may create drainage problems.

C. Do not create unsightly or unsanitary nuisances during disposal operations.

D. Maintain disposal site in safe condition and good appearance.

E. Complete leveling and cleanup prior to Final Completion of the Work.

1.05 TOUCH-UP AND REPAIR

A. Touch-up or repair finished surfaces on structures, equipment, fixtures, and installations that have been damaged prior to inspection for Final Completion.

B. Refinish or replace entire surfaces which cannot be touched-up or repaired satisfactorily.

1.06 FINAL CLEANING AND DISINFECTION OF SYSTEMS OF PLANT FACILITIES

A. Wash, wherever practicable, or broom sweep channels, pipe, basins, reservoirs, and tanks.

B. Disinfect piping intended to carry potable water as follows or in accordance with AWWA Standards.

C. Provide ample sampling outlets in pipe for testing.

D. Fill pipe with chlorine solution of sufficient strength to retain residual of not less than 10 parts per million at end of 24 hours.

E. After disinfection, rinse entire potable water system with potable water sufficient to reduce chlorine residual to not more than 0.6 parts per million throughout system before system is put into service.

1.07 CLOSEOUT DOCUMENTS

A. Submit following Closeout Submittals before Substantial Completion:
   1. Punchlist of items to be completed or corrected with the request for issuance of Substantial Completion.
   2. Evidence of Compliance with Requirements of Governing Authorities.

3. Project Record Documents.
4. Approved Operation and Maintenance Manuals.
5. Approved Warranties and Bonds.
6. Keys and Keying Schedule.
7. Completed contract requirements for commissioning and process start-up.

B. Submit following Closeout Submittals before final completion of the Work and at least 7 days prior to submitting Application for Final Payment:
1. Punchlist of items have been completed and Engineer and Owner are satisfied that all deficiencies are corrected.
2. Evidence of Payment and Release of Liens or Stop Payment Notices as outlined in Conditions of the Contract.
3. Release of claims as outlined in Conditions of the Contract.
4. Submit certification of insurance for products and completed operations, as specified in the General Conditions.
5. Final statement of accounting.

1.08 EVIDENCE OF COMPLIANCE WITH REQUIREMENTS OF GOVERNING AUTHORITIES

A. Submit the following:
1. Certificates of Inspection:
a. Bridge Cranes.

1.09 PROJECT RECORD DOCUMENTS

A. Maintain at Project site, available to Owner and Engineer, 1 copy of the Contract Documents, shop drawings, and other submittals in good order:
1. Mark and record field changes and detailed information contained in submittals and change orders.
2. Record actual depths, horizontal and vertical location of underground pipes, duct banks, and other buried utilities. Reference dimensions to permanent surface features.
3. Identify specific details of pipe connections, location of existing buried features located during excavation, and the final locations of piping, equipment, electrical conduits, manholes, and pull boxes.
4. Identify location of spare conduits including beginning, ending, and routing through pull boxes and manholes. Record spare conductors, including number and size, within spare conduits and filled conduits.
5. Provide schedules, lists, layout drawings, and wiring diagrams.
6. Make annotations in hardcopy format with erasable colored pencil conforming to the following color code:

Additions:	Red
Deletions:	Green
Comments	Blue
Dimensions:	Graphite

B. Maintain documents separate from those used for construction:
1. Label documents "RECORD DOCUMENTS."

C. Keep documents current:
   1. Record required information at the time the material and equipment is installed and before permanently concealing.
   2. Engineer will review Record Documents weekly to ascertain that changes have been recorded.

D. Deliver Record Documents with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.

E. Record Documents will be reviewed monthly to determine the percent complete for the monthly pay application.

F. Updated Record Documents are a condition for Engineer’s recommendation for progress payment.

G. Final Schedule Submittal as specified in Section 01310 - Schedules and Reports.

1.10 WARRANTIES AND BONDS

A. Additional requirements for warranties for the Work and products and installations that are specified to be warranted are included in this Section, General Conditions, and other in individual Sections of the Project Manual.

B. The duration and commencement of warranties and bonds shall be as outlined in the General Conditions, unless otherwise specified. Contractor will be responsible for coordinating with manufacturers to provide 1 year warranty, unless otherwise specified, based on Owner’s Date of Substantial Completion of the applicable milestones, regardless of the time of equipment installation, commissioning and process start-up.

C. Warranty shall cover parts, labor, shipping, and technician travel expenses.

D. Contractor and Manufacturer shall provide written warranties and bonds guaranteeing equipment and installations to be free from defects in workmanship, design, and/or materials.

E. The Contractor and Manufacturer shall repair or replace without charge to the Owner any part of the equipment which is defective or showing signs of undue wear within the guarantee period, or replace the equipment with new equipment if the mechanical performance is unsatisfactory; furnishing all parts, materials, labor, shipping, and all costs necessary to return the equipment to its specified performance level.

F. Contractor and Manufacturer shall provide, in a timely fashion, temporary equipment as necessary to replace Warranted items requiring repair or replacement, when warranted items are in use and are critical to the treatment process, as defined by the Owner. In the case that Owner has to provide temporary equipment to replace function of warranted item requiring repair or replacement, Contractor and Manufacturer shall reimburse Owner for such costs.

G. Product warranties and product bonds shall be submitted for approval by the Owner. Substantial Completion shall not be awarded without approved warranties for equipment and installations.

H. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

I. Within 15 calendar days of Substantial Completion, compile and submit electronically and 5 hard copies of each required warranty and bond properly executed by the Contractor, or subcontractor, supplier, or Manufacturer. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

J. Verify documents are in proper form, contain full information, and are notarized.

K. Co-execute submittals when required.

L. Provide a consolidated book of warranties.
   1. Electronic: PDF
   2. Hardcopy: Include Table of Contents and assemble in 3 D-side ring binders with durable cover. Identify each binder on the front and spine with typed or printed title “Warranties and Bonds”; Project Name or Title, and the Name Address and Telephone Number of the Contractor.

M. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 calendar days after acceptance, listing date of acceptance as beginning of warranty or bond period.

N. When operation and maintenance manuals are required for warranted construction, provide additional copies of each required warranty for inclusion in each copy of submitted manuals.

O. Related damages and losses: When correcting warranted Work that has failed, remove and replace other Work that had been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

1.11 MAINTENANCE SERVICE

A. Maintenance service shall be submitted.

B. Furnish service and maintenance of components as indicated in specification sections during warranty period.

C. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.

E. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

1.12 SUBSTANTIAL COMPLETION

A. Obtain Certificate of Substantial Completion.

1.13 FINAL COMPLETION

A. When Contractor considers the Work is complete, they shall submit written certification that:
   1. Work has been completed in accordance with the Contract Document.
   2. Punch list items have been completed or corrected.
   3. Work is ready for final inspection.

B. Engineer will make an inspection to verify the status of completion with reasonable promptness.

C. Should the Engineer consider that the Work is incomplete or defective:
   1. Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
   2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the Engineer that the Work is complete.
   3. Engineer shall re-inspect the Work.

1.14 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a final statement of accounting to the Engineer at least 7 days prior to final Application for Payment.

B. Statement shall reflect all adjustments to the Contract amount.
   1. The original Contract amount.
   2. Additions and deductions resulting from:
      a. Change Orders.
      b. Units installed and unit prices.
      c. Set-offs for uncorrected or incomplete Work.
      d. Set-offs for liquidated damages.
      e. Set-offs for reinspection payments.
      f. Extended engineering and/or inspection services and inspection overtime.
      g. Excessive shop drawings review cost by the Engineer.
      h. Other adjustments.
   3. Total Contract amount, as adjusted.
   4. Previous payments.
   5. Remaining payment due.

C. Engineer will prepare a final Change Order reflecting approved adjustments to the Contract amount which were not previously made by Change Orders.

1.15 FINAL APPLICATION FOR PAYMENT

A. Contractor shall submit the final Application for Payment reflecting the agreed upon information provided in the final statement of accounting.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01730

OPERATION AND MAINTENANCE MANUALS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Preparation and submittal of Operation and Maintenance Manuals.

1.02 GENERAL

A. Submit Operation and Maintenance Manuals as specified in technical sections.

B. Make approved manuals available at project site for use by construction personnel and Owner.

1.03 SUBMITTALS

A. Submit as specified in Section 01300 – Submittals.

B. Draft Operation and Maintenance Manuals:
   1. Submit prior to shipment of equipment or system to site.
   2. Shipment will be considered incomplete without the draft Operation and Maintenance Manuals.
   3. Quantity:
      a. Electronic: Submit via EADOC.

C. Final Operation and Maintenance Manuals:
   1. Make additions and revisions in accordance with Owner's and Engineer's review comments on draft manuals.
   2. Submit approved Operation and Maintenance Manuals at least 30 days prior to Functional Testing and at least 60 days prior to Owner Training.
   3. Quantity:
      a. Hard copy: 8 sets.
      b. Electronic: 2 USB flash drives.

1.04 PREPARATION

A. General requirements:
   1. Provide dimensions in English units.
   2. Assemble material, where possible, in the same order within each volume.
   3. Reduce drawings and diagrams to 8 1/2 by 11-inch size, if possible unless otherwise specified.
   4. Complete forms on computer, handwriting not acceptable.
   5. Delete items or options not provided in the supplied equipment or system.
   6. Provide package control system annotated ladder logic for PLC, if applicable.

B. Hard copy requirements:
   1. Binders: 3-ring with rigid covers.
      a. Break into separate binders as needed to accommodate large size.
   2. Utilize numbered tab sheets to organize information.
   3. Provide original and clear text on reproducible non-colored paper, 8 1/2 by 11-inch size, 24 pound paper.
   4. Drawings larger than 8 1/2 by 11 inch:
      a. Fold drawings separately and place in envelope bound into the manual.
      b. Label each drawing envelope on the outside regarding contents.

C. Electronic requirements:
   1. File format:
      a. Entire manual in PDF format.
         1) Include text and drawing information.
         2) Provide a single PDF file even if the hard copy version is broken into separate binders due to being large.
         3) Create PDF from the native format of the document (Microsoft Word, graphics programs, drawing programs, etc.).
            a) If material is not available in native format and only available in paper format, remove smudges, fingerprints, and other extraneous marks before scanning to PDF format.
            b) Hard copy record drawing requirements:
               (1) Provide a single multipage PDF file of each set of the scanned drawings.
               (2) Page 1 shall be the cover of the drawing set.
            c) At file opening, display the entire cover.
               (1) Scan drawings at 200 to 300 dots per inch (DPI), black and white, Group IV Compression, unless otherwise specified.
               (2) Scan drawings with photos in the background at 400 dots per inch (DPI), black and white, Group IV Compression.
         4) Pagination and appearance to match hard copy.
         5) Searchable.
         6) Scanned images are not acceptable.
         7) Bookmarks:
            a) Bookmarks shall match the table of contents.
            b) Bookmark each section (tab) and heading.
            c) Drawings: Bookmark at a minimum, each discipline, area designation, or appropriate division.
            d) At file opening, display all levels of bookmarks as expanded.
         8) Thumbnails optimized for fast web viewing.
      b. Drawing requirements:
         1) Provide additional copy of drawings in most current version of AutoCAD format.
         2) Drawings shall have a white background.
         3) Drawing shapes shall not degrade when closely zoomed.
         4) Screening effects intended to de-emphasize detail in a drawing must be preserved.
         5) Delete items or options not provided in the supplied equipment or system.
   2. Media:
      a. USB flash drive.
      b. Secure File Transfer Protocol (SFTP).

3. Label media with the following information:
    a. Operation and Maintenance Manual.
    b. Equipment name.
    c. Specification Section Number
    d. Equipment tag number.
    e. Owner's name.
    f. Project number and name.
    g. Date.
4. If multiple submittals are made together, each submittal must have its own subdirectory that is named and numbered based on the submittal number.

1.05 CONTENTS

A. Label the spines:
    1. Equipment name.
    2. Tag number.
    3. Project name.
    4. Owner name.

B. Cover page:
    1. Operation and Maintenance Manual.
    2. Equipment name.
    3. Specification Section Number
    4. Equipment tag number.
    5. Owner's name.
    6. Project number and name.
    7. Date.

C. Table of Contents: General description of information provided within each tab section.

D. Equipment Summary Form: Completed form as specified in Appendix A of this Section.

E. Electric Motor Technical Data Form: Completed form as specified in Appendix C of this Section.

F. Description of system and components.

G. Description of equipment function, normal operating characteristics, and limiting conditions.

H. Manufacturer's product data sheets:
    1. Where printed material covers more than 1 specific model, indicate the model number, calibrated range, and other special features.
    2. Equipment with bearings:
        a. Include manufacturer and model number of every bearing.
        b. Include calculated ball pass frequencies of the installed equipment for both the inner and outer raceways.

I. Assembly, installation, alignment, adjustment, and checking instructions.

J. Storage instructions.

K. Control diagrams:
   1. Internal and connection wiring, including logic diagrams, wiring diagrams for control panels, ladder logic for computer based systems, and connections between existing systems and new additions, and adjustments such as calibrations and set points for relays, and control or alarm contact settings.
   2. Complete set of 11-inch by 17-inch drawings of the control system.
   3. Complete set of control schematics.

L. Programming: Copies of Contractor furnished programming.

M. Start-up procedures: Recommendations for installation, adjustment, calibration, and troubleshooting.

N. Operating procedures:
   1. Step-by-step instructions including but not limited to the following:
      a. Safety precautions and applicable Safety Data Sheets.
      b. Guidelines.
      c. Manual keyboard entries.
      d. Entry codes.
      e. System responses.
      f. Other information as needed for safe system operation and maintenance.
   2. Modes:
      a. Startup.
      b. Routine and normal operation.
      c. Regulation and control.
      d. Shutdown under specified modes of operation.
      e. Emergency operating shutdown.

O. Preventative maintenance procedures:
   1. Recommended steps and schedules for maintaining equipment.
   2. Troubleshooting.

P. Lubrication information: Required lubricants and lubrication schedules.

Q. Overhaul instructions: Directions for disassembly, inspection, repair and reassembly of the equipment; safety precautions; and recommended tolerances, critical bolt torques, and special tools that are required.

R. Parts list:
   1. Complete parts list for equipment including but not limited to the following information:
   2. Catalog data: Generic title and identification number of each component part of equipment.
   3. Include bearing manufacturer, model and ball or roller pass frequencies for every bearing.
   4. Availability.
   5. Service locations.

S. Spare parts list: Recommended number of parts to be stored at the site and special storage precautions.

T. Engineering data:
   1. Drawings: Complete set of 11-inch by 17-inch equipment drawings.
   2. Exploded view or plan and section views with detailed callouts.
   3. Outline, cross-section, and assembly drawings.
   4. System drawings: Provide interconnection and wiring diagrams, plan views, panel layouts, bill of materials, etc.
   5. Packaged equipment system drawings: Provide instrumentation loop drawing, control schematic diagrams, interconnection and wiring diagrams, plan views, panel layouts, bill of materials, etc.
   6. System drawings and data sheets: Include drawings and data furnished by the Engineer and the Supplier; provide "as installed" version.
   7. Provide electrical and instrumentation schematic record drawings.

U. Test data and performance curves, when applicable.

V. Manufacturer's technical reference manuals.

W. Source (factory) Test results: Provide copies of Source Tests reports as specified in technical sections.

X. Functional Test results: After Functional Tests are completed, insert Functional Test reports as specified in technical sections.

1.06 ARCHIVAL DOCUMENTATION

A. Typically does not require updating to remain valid and should be stored in a format that preserves the document and limits one's ability to make changes.

B. Types of archival documents include the following:
   1. Record drawings.
   2. Reports.
   3. Specifications.
   4. Shop drawings.
   5. Vendor Equipment O & M Manuals.
   6. Photos.
   7. Demonstration and training videos.
   8. Other.

1.07 LIVING DOCUMENTATION

A. Requires periodic updates to remain valid and should be stored in formats that are easy to update.

B. Types of living documents include the following:
   1. Facility O&M Manuals.
   2. Standard Operating Procedures.
   3. Other.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

ATTACHMENT A - EQUIPMENT SUMMARY FORM

THIS PAGE INTENTIONALLY LEFT BLANK

EQUIPMENT SUMMARY FORM

1. EQUIPMENT ITEM _____

2. MANUFACTURER _____

3. EQUIPMENT IDENTIFICATION NUMBER(S) _____
(maps equipment number)

4. LOCATION OF EQUIPMENT _____

5. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS) _____

_____

_____

_____

NAMEPLATE DATA -

Horsepower _____
Amperage _____
Voltage _____
Service Factor (S.F.) _____
Speed _____
ENC Type _____
Capacity _____
Other _____

7. MANUFACTURER'S LOCAL REPRESENTATIVE

Name _____

Address _____

Telephone Number _____

8. MAINTENANCE REQUIREMENTS:

Maintenance Operation	Frequency	Lubricant (if applicable)	Comments
(List each operation required. Refer to specific information in Manufacturer's Manual, if applicable)	(List required frequency of each maintenance operation)	(Refer by symbol to lubricant list as required)	

9. LUBRICANT LIST:

Reference Symbol	Conoco Phillips	Exxon/Mobil	BP/Amoco	Other (List)

(Symbols used in Item 7 above)	(List equivalent lubricants, as distributed by each manufacturer for the specific use recommended)			

10. SPARE PARTS (recommendations)_____

_____

11. COMMENTS_____

12. GENERAL INFORMATION:

Date Accepted*: _____

Expected Life*: _____

Project Name & Number: _____

Design Engineer: _____

13. WARRANTY:

Start Date: _____

Expiration Date: _____

Prorated: _____

ATTACHMENT B - ELECTRIC MOTOR TECHNICAL DATA

THIS PAGE INTENTIONALLY LEFT BLANK

ELECTRIC MOTOR TECHNICAL DATA

Technical Data for Each Motor:

Application: _____

Manufacturer: _____

Frame No.: _____ Type: _____

Code Letter: _____ Design Letter: _____

Rating:

Horsepower: _____Voltage: _____ Phase: _____

Cycles: _____Full Load rpm: _____

(wound rotor secondary)

Volts: _____ Amperes: _____

Full Load Current: _____ amperes

Locked Rotor Current: _____ amperes

Locked Rotor or Starting Torque (percent of full load): _____ percent

Full Load Torque: _____ ft-lb

Breakdown Torque: _____ percent

Efficiency:		Power Factor:	
Full Load:	_____ percent	Full Load	_____ percent
3/4 Load:	_____ percent	3/4 Load:	_____ percent
1/2 Load:	_____ percent	1/2 Load:	_____ percent

Insulation:

Type: _____

Class: _____

Temperature Rise: _____ Above Ambient: _____

Enclosure: _____

Net Weight: _____ lbs

Wk^2: _____ lbs/sq ft

Type of Bearings: _____

Service Factor: _____

Noise Level in Decibels: _____

Heaters: _____ kW, _____ Phase, _____ volts

Altitude: _____

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01738

SELECTIVE ALTERATIONS AND DEMOLITION

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:
   1. Cutting or modifying of existing and new work.
   2. Partial demolition of structures.
   3. In-place abandonment of pipe.

1.02 REFERENCES

A. American National Standards Institute (ANSI):
   1. A10.6 - Safety and Health Program Requirements for Demolition Operations.

B. International Concrete Repair Institute (ICRI):
   1. Guideline No. 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
   2. Guideline No. 310.3R - Guide for the Preparation of Concrete Surfaces for Repair Using Hydrodemolition Methods.

1.03 DEFINITIONS

A. Chipping hammer: A hand-operated electrical or pneumatic demolition device for removal of hardened concrete or masonry materials having a weight of less than 15 pounds and an impact frequency of greater than 2,000 blows/minute.

B. Concrete breaker: A hand-operated electrical or pneumatic demolition device for removal of hardened concrete or masonry materials having a weight greater or impact frequency less than the limits defined for a chipping hammer.

C. Coring equipment: Non-impact rotary drill with diamond cutting edges.

D. Heavy abrasive blast: Cleaning procedure by which various abrasives materials, or steel shot, are forcibly propelled by high pressure against a surface to remove loose material and produce a concrete surface roughened to ICRI Surface Profile CSP-7, or higher, as specified in ICRI 301.3R.

1.04 DESCRIPTION OF WORK

A. The work includes partial demolition, cutting, and modifying of existing facilities, utilities, and/or structures.

B. These facilities may be occupied and/or operational. Satisfactory completion of the work will require that the Contractor plan activities carefully to work around unavoidable obstacles and to maintain overall stability of structures and structural elements. It will further require restoration of existing facilities, utilities, and

structures that are to remain in place and that are damaged by demolition or removal operations.

1.05 SUBMITTALS

A. General:
   1. Submit specified in Section 01300 - Submittals.

B. Shop drawings: Include:
   1. The location of all embedded items shall be documented using diagrams and/or other media that clearly show dimensions and locations of existing structural elements, existing embedded items and any new embedded items and their relationship to each other.

C. Submittals for information only:
   1. Permits and notices authorizing demolition.
   2. Certificates of severance of utility services.
   3. Permit for transport and disposal of debris.
   4. Selective Demolition Plan.
   5. Pipe Abandonment Plan.

D. Quality assurance submittals:
   1. Qualifications of non-destructive testing agency/agencies.

E. Project record documents.

F. Drawings and/or other media documenting locations of service lines and capped utilities.

1.06 QUALITY ASSURANCE

A. Qualifications:
   1. Assign relocation, removal, cutting, coring and patching to trades and workers qualified to perform the Work in manner that causes the least damage and that provides means of returning surfaces to an appearance at least equal to that of the surrounding areas unaffected by the Work.
   2. Non-destructive testing agencies: Minimum of 5 years' experience performing non-destructive testing for location of steel reinforcement in existing concrete under conditions similar to that required for this Work.

1.07 SEQUENCING

A. Perform Work in sequences and within times specified in Section 01140 - Work Restrictions.

B. If the facility or utility to be modified cannot be removed from service, perform the Work while the facility is in operation using procedures and equipment that do not jeopardize operation or materially reduce the efficiency of that facility.

C. Coordinate the Work with operation of the facility:
   1. Do not begin alterations of designated portions of the Work until specific permission for activities in each area has been granted by Owner in writing.

2. Engineer will coordinate the planned procedure with facility manager.
3. Complete Work as quickly and with as little delay as possible.

D. Operational functions of the facility that are required to be performed to facilitate the Work will be performed by facility personnel only.

E. Owner will cooperate in every way practicable to assist in expediting the Work.

F. When necessary for the proper operation or maintenance of portions of the facility, reschedule operations so the Work will not conflict with required operations or maintenance.

1.08 REGULATORY REQUIREMENTS

A. Dispose of debris in accordance with governing regulatory agencies.

B. Comply with applicable air pollution control regulations.

C. Obtain permits for building demolition, transportation of debris to disposal site and dust control.

1.09 PREPARATION

A. Non-destructive evaluation of existing concrete and masonry:
1. Prior to cutting, drilling, coring, and/or any other procedure that penetrates existing concrete or masonry, retain and pay for the services of a qualified non-destructive testing agency to perform investigations to determine the location of existing steel reinforcement, plumbing, conduit, and/or other embedments in the concrete.
2. Submit documentation of the investigations to the Engineer for review and approval as specified in Section 01300 - Submittal Procedures before any work involving penetration of existing concrete is initiated.

1.10 PROJECT CONDITIONS

A. Do not interfere with use of adjacent structures and elements of the facility not subject to the Work described in this Section. Maintain free and safe passage to and from such facilities.

B. Provide, erect, and maintain barricades, lighting, guardrails, and protective devices as required to protect building occupants, general public, workers, and adjoining property:
1. Do not close or obstruct roadways without permits.
2. Conduct operations with minimum interference to public or private roadways.

C. Prevent movement, settlement, or collapse of structures adjacent services, sidewalks, driveways and trees:
1. Provide and place bracing or shoring.
2. Cease operations and notify Engineer immediately when safety of structures appears to be endangered. Take precautions to properly support structure. Do not resume operations until safety is restored.
3. Assume liability for movement, settlement, or collapse. Promptly repair damage.

D. Arrange and pay for capping and plugging utility services. Disconnect and stub off.
   1. Notify affected utility company in advance and obtain approval before starting demolition.
   2. Place markers to indicate location of disconnected services.

E. Unknown conditions:
   1. The drawings may not represent all conditions at the site and adjoining areas. Compare actual conditions with drawings before commencement of Work.
   2. Existing utilities and drainage systems below grade are located from existing documents and from surface facilities such as manholes, valve boxes, area drains, and other surface fixtures.
   3. If existing active services encountered are not indicated or otherwise made known to the Contractor and interfere with the permanent facilities under construction, notify the Engineer in writing, requesting instructions on their disposition. Take immediate steps to ensure that the service provided is not interrupted, and do not proceed with the Work until written instructions are received from the Engineer.

PART 2 PRODUCTS

2.01 SALVAGE MATERIALS

A. Salvage materials: Materials removed from existing facility.

B. Materials designated for salvage:
   1. Refer to Drawings for structures and equipment designated to be salvaged.

C. Handling and storage:
   1. Prevent damage to salvaged materials during removal, handling, and transportation.
   2. Prepare salvaged materials for storage and/or relocation:
      a. Per Drawing 01D05, magnesium hydroxide feed system and electrical panels shall be salvaged and relocated.
      b. Per drawing 45D01 and 45D02, salvage and relocate WAS Pumps, master control panel, macerator and valves for use at the new WAS Pump Station location, shown on sheet 47M01.
      c. Per drawing 50D01 and 50D02, existing filter systems shall be protected and relocated.
      d. Reference detailed design drawings and equipment specifications for additional requirements for salvaged materials

   3. Coordinated the storage of salvaged materials with the Owner.

D. Pay costs associated with salvaging materials, including handling, transporting, and storage.

PART 3 EXECUTION

3.01 EXAMINATION

A. Prior to beginning selective demolition operations, perform a thorough inspection of the facility and site, and report to the Engineer defects and structural damage to or deterioration of existing construction to remain.

B. Examine areas affected by the Work and verify the following conditions prior to commencing demolition:
   1. Disconnection of utilities as required.
   2. That utilities serving occupied or active portions of surrounding facilities will not be disturbed, except as otherwise indicated.

C. If unsatisfactory conditions exist, notify the Engineer, and do not begin demolition operations until such conditions have been corrected.

3.02 PREPARATION

A. Selective Demolition Plan:
   1. Prepare and submit a comprehensive selective demolition plan for the Work including the following elements, at a minimum:
      a. Proposed sequence, methods, temporary support, and equipment for demolition, removal, and disposal of portions of structure(s).
      b. Provisions and procedures for salvage and delivery to Owner of salvaged items, if required.
      c. Method(s) of removing embedded relics and antiques.
      d. Detailed drawings showing proposed weatherproof closures and dustproof partitions.
   2. Plan shall be signed and sealed by a Professional Structural Engineer registered in Texas.
   3. Submit plan a minimum 4 weeks before demolition is scheduled to begin.

B. Pipe Abandonment Plan:
   1. Prepare and submit a comprehensive Pipe Abandonment Plan for the Work to demonstrate and verify with camera inspection that all solids have been removed and pipe is free of residual.
   2. At a minimum, define the following elements:
      a. Proposed sequence, methods, cleaning procedures, or demolition, removal, and disposal of contents of the piping.
      b. Method of verification of final pipe condition.
      c. Detailed drawings showing treatment of pipe ends**.**
   3. Submit plan a minimum 4 weeks before abandonment is scheduled to begin.

C. Protection:
   1. Erect weatherproof closures to protect the interior of facilities and elements or equipment that are not designed for exposure to the weather. Provide temporary heat, cooling, and humidity control as necessary to prevent damage to existing and new construction. Maintain existing exiting paths and/or provide new paths in compliance with Building Code requirements.
   2. Erect and maintain dustproof partitions as required to prevent spread of dust, to other parts of building. Maintain negative pressure in the area where the

Work is being performed to prevent the accidental spread of dust and to minimize the spread of fumes related to the Work.

3. Upon completion of Work, remove weatherproof closures and dustproof partitions, and repair damaged surfaces to match adjacent surfaces.
4. Provide and maintain protective devices to prevent injury from falling objects.
5. Locate guardrails in stairwells and around open shafts to protect workers. Post clearly visible warning signs.
6. Cause as little inconvenience to adjacent building areas as possible.
7. Protect landscaping**,** benchmarks**,** and existing construction to remain from damage or displacement.
8. Protect livestock from all demolition and provide proper barriers to block livestock from construction until substantial completion.
9. Carefully remove designated materials and equipment to be salvaged by Owner or reinstalled.
10. Store and protect materials and equipment to be reinstalled.

D. Layout:
   1. The limits of selective demolition are indicated on the Drawings. Confine demolition operations within the limits indicated on the Drawings.
   2. Lay out demolition and removal work at the site and coordinate with related Work for which demolition and removal is required. Clearly mark the extent of structural elements to be removed on the actual surfaces that will be removed.
   3. Arrange for Engineer's inspection of the lay out extents.
   4. Do not begin demolition/removal operations until the lay out markings have been reviewed by the Engineer.

3.03 DEMOLITION

A. General:
   1. Perform demolition work in accordance with ANSI A10.6.
   2. Demolish designated portions of structures and appurtenances in orderly and careful manner in accordance with the Selective Demolition Plan.
   3. Conduct demolition and removal work in a manner that will minimize dust and flying particles.
      a. Use water or dust palliative when necessary to prevent airborne dust.
      b. Provide and maintain hoses and connections to water main or hydrant.
   4. Demolish concrete and masonry in small sections. Perform demolition with small tools as much as possible. Blasting with explosive charges is not permitted.
   5. Sawcut concrete to establish the edges of demolition, wherever possible.
      a. Do not use a concrete breaker within 6 inches of reinforcing or structural metals that are designated to remain.
      b. At edges that are not sawcut, remove the final 6 inches of material with a chipping hammer as defined herein. At surfaces where material is removed with a chipping hammer, follow with a heavy abrasive blast to remove all loose material and microcracking.
      c. Alternate techniques to remove concrete may be used if acceptable to the Engineer; however, techniques other than those deemed by ICRI

Guideline No. 310.2R to provide a low risk of introducing microcracking will require a subsequent procedure to remove loose material.

d. Provide final surface preparation for repairs as specified in Sections 406S, 410S, as shown on the Drawings, specified herein, or as directed by the Engineer.

6. At locations indicated on the Drawings that the existing reinforcing is to be preserved, remove concrete using methods that do not damage the reinforcing. Use one of the following techniques:
   a. Hydrodemolition techniques as outlined in ICRI Guideline No. 310.3R.
   b. Chipping hammer, as defined herein, followed by heavy abrasive blast to remove all loose material and microcracking at remaining surfaces impacted by the chipping hammer.
   c. Alternate methods may be used, only if acceptable to the Engineer.
   d. For all methods, provide a small completed area for Engineer's review and acceptance. If the proposed method, in the opinion of the Engineer, damages the reinforcing, revise the removal method to remove the concrete with a less aggressive technique to protect the reinforcing.
7. Remove materials carefully, to the extent indicated and as required.
   a. Provide neat and orderly junctions between existing and new materials.
   b. Use methods that terminate surfaces in straight lines at natural points of division.
8. Do not remove anything beyond the limits of Work indicated without prior written authorization of the Engineer. If in doubt about whether to remove an item, obtain written authorization of the Engineer prior to proceeding.
9. Perform work so as to provide the least interference and most protection to existing facilities to remain.
10. Assume possession of demolished materials, unless otherwise indicated on the Drawings or specified.
    a. Remove demolished materials from site at least daily and dispose of in accordance with Laws and Regulations.
    b. Do not burn materials on site.

B. In-place Abandonment of Pipe:
   1. Abandoned pipe in-place as indicated on the Drawings.
   1. Clean buried or exposed solids service piping to a condition free of residual.
      a. Solids service piping includes: raw wastewater (RAW WW), primary sludge or scum (PS), mixed liquor (ML), return activated sludge (RAS), waste active sludge (WAS), surface waste activated sludge (SWAS), thickened waste activated sludge (TWAS), digested sludge (DS), centrate, or other similar solids service subject to biological degradation, etc.
   2. Provide closure of abandoned pipe cut ends as indicated on the Drawings using one of the following methods:
      a. Leave one end open.
      b. Install cap.
      c. Install plug.
      d. Install drain valves, pressure relief valves, vents, etc.
      e. Fill abandoned pipe as specified in Standard Specification Item No. 402S - Controlled Low Strength Material (CLSM) and as indicated on the Drawings.

C. Sizing of openings in existing concrete or masonry:
    1. Make openings large enough to permit final alignment of pipe and fittings without deflections, but without oversizing.
    2. Allow adequate space for packing around pipes and conduit to ensure watertightness.
    3. If the Engineer deems the opening to be insufficient in size to accomplish this criteria, remove additional material using the procedures outlined in this Section.

D. Cutting openings in existing concrete or masonry:
    1. Do not allow saw cuts to extend beyond limits of openings.
    2. Create openings by the following method or other means acceptable to the Engineer that prevents over-cutting of member at corners:
        a. Core-drill through slab or wall at corners, being careful not to damage materials beyond the area to be removed.
        b. Saw cut completely through the member, between the core holes at the corners.
        c. As an alternate to sawcutting through the member, score the edges of the opening with a saw to a 1-inch depth on both surfaces (when accessible).
            1) Remove concrete or masonry to within 6 inches of material to remain with a concrete breaker.
            2) Remove the remaining material with a chipping hammer.
        d. Remove the remaining material at the corners left by the core-drilling with a chipping hammer.
    2. Prevent debris from falling into adjacent tanks or channels in service or from damaging existing equipment and other facilities.

E. Immediately upon discovery, remove and dispose of contaminated, vermin-infested, or dangerous materials using safe means that will not endanger health of workers and public.

F. Remove trees and shrubs within marked areas; clear undergrowth and dead plant material as specified in Standard Specification Item No. 102S – Clearing and Grubbing.

G. Backfill open pits and holes caused by demolition as specified in Standard Specification Item No. 102S – Clearing and Grubbing and 402S – Structural Excavation and Backfill.

H. Rough grade areas as seen on the civil site drawings affected by demolition.

I. Remove demolished materials, tools, and equipment upon completion of demolition.

3.04 RESTORATION

A. General:
    1. Repair damage caused by demolition to conditions equal to those that existing prior to beginning of demolition.
        a. Patch and replace portions of existing finished surfaces that are damaged, lifted, and discolored with matching material. Refinish patched portion surfaces in a manner which produces uniform color and texture to entire surface.

b. When existing finish cannot be matched, refinish entire surface to nearest change of plane where angle of change exceeds 45 degrees.
2. The cost of repairs shall be at the Contractor's expense at no increase in the Contract Price.
3. When new construction abuts or finishes flush with existing construction, make smooth transitions. Match finish of existing construction.
4. Where partitions are removed, patch floors, walls, and ceilings with finish materials that match existing materials.
5. Where removal of partitions results in adjacent spaces becoming one, rework floors, walls, and ceilings to provide smooth planes without breaks, steps, or bulkheads.
6. Where changes of plane exceed 2 inches, request instructions for making transition.
7. Trim and refinish existing doors as necessary to clear new floors.
8. Match patched construction with adjacent construction in texture and appearance so that patch or transition is invisible at 5-foot distance.
9. When finished surfaces are cut so that smooth transition is impossible, terminate existing surface in neat manner along straight line at natural line of division and provide appropriate trim.

B. Restore existing concrete reinforcement as follows:
1. Where existing reinforcement is to be incorporated into the new Work, protect, clean, and extend into new concrete.
2. Where existing reinforcement is not to be retained, cut off as follows:
a. Where new concrete joins existing concrete at the removal line, cut reinforcement flush with concrete surface at the removal line.
b. Where concrete surface at the removal line will become the finished surface, cut reinforcement 2 inches below the surface, paint ends with epoxy, and patch holes with dry pack mortar.

C. Restore areas affected by removal of existing equipment, equipment pads and bases, piping, supports, electrical panels, electric devices, and conduits such that little or no evidence of the previous installation remains:
1. Fill areas in existing floors, walls, and ceilings from removed piping, conduit, and fasteners with non-shrink grout and finish smooth.
2. Remove concrete bases for equipment and supports by:
a. Saw cutting clean, straight lines with a depth equal to the concrete cover over reinforcement minus 1/2 inch below finished surface.
1) Do not cut existing reinforcement on floors.
b. Chip concrete within scored lines and cut exposed reinforcing steel and anchor bolts.
c. Patch with non-shrink grout to match adjacent grade and finish.
3. Terminate abandoned piping and conduits with blind flanges, caps, or plugs.

3.05 FIELD QUALITY CONTROL

A. Do not proceed with demolition without Engineer's inspection of lay out.

B. Do not deviate from the submitted demolition plan without notifying the Engineer prior to Work.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01756

COMMISSIONING

Table of Contents

PART 1 GENERAL 2
1.01 SUMMARY 2
1.02 DEFINITIONS 2
1.03 SUBMITTALS 4
1.04 COMMISSIONING COORDINATOR (CC) 4
1.05 SERVICES OF MANUFACTURER'S REPRESENTATIVES 5
1.06 PLANNING PHASE 6
1.07 TESTING AND TRAINING PHASE 9
1.08 PROCESS START-UP PHASE 18
PART 2 PRODUCTS 20
PART 3 EXECUTION 20

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Requirements for each Commissioning phase of, the Project equipment/system and/or facility.

1.02 DEFINITIONS

A. Clean Water Facility Testing - Testing of complete facility utilizing clean water for purposes of confirming extended equipment/system operation prior to Process Start-up Phase.

B. Commissioning - The process of planning, testing, and process start-up of the installation for compliance with contract requirements and demonstrating, through documented verification, that the project has successfully met the Contractual requirements. It includes training the Owner's staff to operate the facility.

C. Commissioning Phases - The work activities of facility commissioning are grouped into the phases defined in the table below.

Commissioning		
Planning Phase	**Testing and Training Phase**	**Process Start-Up Phase**
Owner Training Plan and Schedule	Source Testing	Process Start-up
Commissioning Schedule	Owner Training	Process Operational Period
Subsystem Testing Plan	Installation Testing	PCIS Optimization and Fine-Tuning
Clean Water Facility Testing Plan	Functional Testing	
	Clean Water Facility Testing	
	Closeout Documentation	

D. Component - A basic building block of equipment, subsystems, and systems that requires installation or functional testing but does not have an electrical connection or internal electronics. (Examples: filter effluent piping and manual isolation valves).

E. Device - A basic building block of equipment, subsystems, and systems that requires installation or functional testing and does have an electrical connection or internal electronics. (Examples: filter level transmitter or water pump pressure transmitter).

F. Equipment - An assembly of component(s) and devices(s) that requires installation or functional testing. (Examples: Pump, motor, VFD, Ozone Generator, UV Disinfection System, etc.).

G. Facility - A grouping of process areas, systems, subsystems, equipment, components, and devices (Examples: treatment plant, pump station, etc.).

H. Functional Testing - Testing performed on a completed subsystem to demonstrate that equipment/system meets manufacturers' calibration and adjustment requirements and other requirements as specified. Functional testing includes operating equipment/system manually in local, manually in remote (or remote manual), and automatically in remote (in remote auto).

I. Installation Testing - Testing to demonstrate that subsystem component (piping, power, networks, devices, etc.) is ready and meets the project requirements in advance of functional testing. Installation testing also includes manufacturers' certification of installation and other requirements as specified to prepare equipment/system for Functional Testing. Also referred to as Field Acceptance Testing.

J. Manufacturer's Certificate of Source Testing - When applicable, the form is used during Source Testing for the manufacturer to confirm that the applicable source tests have been performed and results conform to the Contract Documents. The form is provided at the end of this Section.

K. Manufacturer's Certificate of Installation and Functionality Compliance - The form is used during Installation Testing and Functional Testing. It is submitted at the end of Functional Testing to confirm that the equipment/system is installed in conformance with the Contract Documents and that it meets the Functional Testing requirements defined in the Contract Documents. The form is provided at the end of this Section.

L. PCIS Optimization and Fine-Tuning - Test and adjust the entire process control system under standard operating conditions.

M. Process Area - A grouping of systems, subsystems, equipment, components, and devices that divide a facility into functional areas. (Examples: Filter Process Area or Chemical Area).

N. Process Operational Period - A period of time after completion of the process start-up set aside for final Operational Testing to verify facility performance meets the Contract Document requirements. This period may specifically limit other construction activities.

O. Process Start-up Phase - Operating the facility to verify performance meets the Contract Document requirements.

P. Process Start-Up - Activities conducted after the testing and training phase that are necessary to place systems or process areas into operational service.

Q. Product - A system, subsystem or component.

R. Subsystem - A building block of systems made up from a grouping of components, devices, and equipment that perform a definable function. (Examples: Filter No. 1 Backwash Subsystem, Sedimentation Basin No. 1 Hoseless Sludge Removal Subsystem).

S. System - A grouping of subsystems, equipment, components, and devices that perform a definable function. (Examples: Filter No. 1, Sedimentation Basin).

1.03 SUBMITTALS

A. Qualifications:
   1. Commissioning Coordinator's qualifications.
   2. Manufacturer's representative's qualifications.

B. Schedules:
   1. Owner Training Plan Schedule.
   2. Commissioning Schedule.

C. Certificates:
   1. Manufacturer's Certificate of Source Testing.
   2. Manufacturer's Certificate of Installation and Functionality Compliance.

D. Reports:
   1. Test reports.

E. Plans:
   1. Owner Training Plan.
   2. Source Test Plan.
   3. Installation and Functional Testing Plan.
      a. Subsystem Testing Plans.
   4. Clean Water Facility Testing Plan.
   5. Process Start-Up Plan.
      a. Process Start-Up.
      b. Process Operational Period.
      c. PCIS Optimization and Fine-Tuning.
   6. Final Operational Testing Plan.

F. Documentation:
   1. Preliminary documentation.
   2. Final documentation.
   3. Closeout documentation.

1.04 COMMISSIONING COORDINATOR (CC)

A. Designate and provide a CC for this project.
   1. Submit summary of the CC's qualifications within 30 days of NTP:
      a. Include description of previous experience as a CC on similar projects for the designated CC with a list of references including phone numbers for review and Owner approval.
   2. The CC must have minimum of 10 years of experience in commissioning similar construction projects. The CC may be a member of the Contractor's Project Team and fill another role simultaneously if the designated person meets the requirements specified herein. AD2

B. CC responsibilities include the following:
   1. Lead efforts relating to Commissioning.
   2. Be thoroughly familiar with commissioning requirements in the Contract Documents.
   3. Be regularly engaged and experienced in all aspects of commissioning.
   4. Provide technical instruction for commissioning.
   5. Provide primary interface with Engineer and Owner for efforts relating to Commissioning of Project facilities.
   6. Coordinate training efforts.

~~C. CC on-site:~~
   ~~1. NTP to 30 percent milestone: 2 hours per week.~~
   ~~2. 30-percent milestone to 70-percent milestone: 1 day per week.~~
   ~~3. Testing and Training Phase: Full-time.~~
   ~~4. Process Start-up Phase: Full-time.~~

~~D. Designate and provide CC assistants, as needed.~~ AD3

1.05 SERVICES OF MANUFACTURER'S REPRESENTATIVES

A. Qualification of manufacturer's representative as specified in the Contract Documents technical sections include the following:
   1. Authorized representative of the manufacturer, factory trained and experienced in the technical applications, installation, operation, and maintenance of respective equipment/system with full authority by the equipment/system manufacturer to issue the certifications required of the manufacturer.
   2. Competent, experienced technical representative of equipment/system manufacturer for assembly, installation, testing guidance, and training.
   3. Additional qualifications may be specified in the individual sections.
   4. Submit qualifications of the manufacturer's representative no later than 30 days in advance of required observations.
   5. Representative subject to approval by Owner and Engineer.
   6. No substitute representatives will be allowed until written approval by Owner and Engineer has been obtained.

B. Completion of manufacturer on-site services: Engineer approval required.

C. Manufacturer is responsible for determining the time required to perform the specified services.
   1. Minimum times specified in the Contract Documents are estimates.
   2. No additional costs associated with performing the required services will be approved.
   3. Manufacturer required to schedule services in accordance with the Contractor's project schedule up to and including making multiple trips to project site when there are separate milestones associated with installation of each occurrence of manufacturer's equipment.

D. Manufacturer's on-site services as specified in the Contract Documents include the following:
   1. Assistance during Commissioning Phase and Process Start-Up Phase.

2. Provide weekly copies of manufacturer's representatives' field notes and data to Engineer.
3. Other requirements as specified in the Contract Documents.

1.06 PLANNING PHASE

A. Overview of Planning Phase:
   1. Define approach and timing for Commissioning.

B. Owner training plan and schedule:
   1. Training outcomes:
      a. Owner's operations, maintenance, and engineering staff have the information needed to safely operate, maintain, and repair the equipment/systems provided in the Contract Documents.
   2. Training objectives:
      a. To instruct personnel in the operation and maintenance of the equipment/system. Instruction shall include step-by-step troubleshooting procedures with all necessary test equipment/system.
      b. To instruct personnel in the removal, inspection, and cleaning of equipment/system as needed.
      c. Training tailored to the skills and job classifications of the staff attending the classes (e.g., plant superintendent, treatment plant operator, maintenance technician, electrician, etc.).
      d. Provide supporting documentation, such as vendor operation and maintenance manuals.
   3. Training schedule:
      a. Schedule Owner's staff training within the constraints of their workloads. Those who will participate in this training have existing full-time work assignments, and training is an additional assigned work task, therefore, scheduling is imperative. Owner staff work schedules regularly shift, as treatment facilities are typically operated on an around-the-clock basis.
   4. Training plan:
      a. Coordinate and arrange for manufacturer's representatives to provide both classroom-based learning and field (hands-on) training, based on training module content and stated learning objectives.
      b. Conduct classroom training at location designated by Owner.
      c. Scope and sequence:
         1) Plan and schedule training in the correct sequence to provide prerequisite knowledge and skills to trainees.
            a) Describe recommended procedures to check/test equipment/system following a corrective maintenance repair.
   5. Training scheduling coordination:
      a. CC is responsible for the following:
         1) Coordinate schedule for training periods with the Owner's personnel and manufacturer's representatives (instructors).
      b. Complete Owner training no sooner than 15 calendar days prior to start of process start-up of each system.
   6. Meetings:
      a. CC is responsible for setting commissioning coordination meeting dates and times, as well as preparing the agendas and meeting minutes.
      b. CC shall meet with Engineer and Owner's designated training coordinator to develop list of personnel to be trained and to establish expected

training outcomes and objectives at least 60 calendar days prior to commissioning of equipment/system.

c. CC shall conduct commissioning progress meetings throughout construction, to plan, scope, coordinate, and schedule future activities, resolve problems, etc.
    1) Frequency: Monthly minimum. Increase frequency as needed based on complexity and quantity of commissioning activities.

7. Submittals:
    a. Submit Training Plan Schedule 60 calendar days before the first scheduled training session, including but not limited to lesson plans, participant materials, instructor's resumes, and training delivery schedules.
    b. Submit training documentation including the following:
        1) Training plan:
            a) Training modules.
            b) Scope and sequence statement.
            c) Contact information for manufacturer's instructors including name, phone, and e-mail address.
            d) Instructor qualifications.
        2) Training program schedule:
            a) Format: Bar chart:
                (1) Additionally include in the Project Progress Schedule.
            b) Contents:
                (1) Training modules and classes.
8. Training sessions:
    a. Provide training sessions for equipment/system as specified in the individual equipment/system section.

C. Commissioning Schedule:
1. Commissioning overview:
    a. Comply with Commissioning Roles and Responsibilities Matrix specified at the end of this Section.
2. Submittal due date:
    a. Submit Commissioning Schedule not less than 60 calendar days prior to planned initial commissioning of each subsystem or system.
3. Schedule requirements:
    a. Schedule durations and float for commissioning activities to ensure Work does not fall behind schedule due to complications or delays during commissioning.
    b. Time-scaled network diagram detailing the work to take place in the period between 60 calendar days prior to planned initial commissioning of equipment and systems, and prior to the date of Substantial Completion, together with supporting narrative.
    c. Provide detailed schedule of commissioning activities including durations and sequencing requirements.
        1) Identify the following activities:
            a) Testing and Training Phase:
                (1) Source Testing.
                (2) Owner Training.
                (3) Installation Testing.
                (4) Functional Testing.

(5) Clean Water Facility Testing.
(6) Closeout Documentation.

b) Process Start-Up Phase:
(1) Process Start-Up.
(2) Process Operational Period.
(3) PCIS Optimization and Fine-Tuning.

d. Schedule manufacturer's services to avoid conflict with other on-site testing or other manufacturers' on-site services.

e. Verify that conditions necessary to allow successful testing have been met before scheduling services.

D. Installation and Functional Testing Plan:

1. Submit Installation and Functional Testing Plan.

2. Subsystem testing plans:

a. Submit separate testing plans for each individual subsystem and system that include the following:

1) Approach to testing including procedures, schedule, and recirculation requirements.

2) Test objective: Demonstrate subsystem meets the design requirements as specified in the technical sections.

3) Test descriptions, forms, temporary systems (pumps, piping, etc.), shutdown requirements for existing systems, test forms, test logs, witness forms, and checklists to be used to control and document the required tests.

4) Test forms: Include, but not limited to, the following information:

a) Tag and name of equipment/system to be tested.
b) Test date.
c) Names of persons conducting the test.
d) Names of persons witnessing the test, where applicable.
e) Test data.
f) Applicable project requirements.
g) Check offs for each completed test or test step.
h) Place for signature of person conducting tests and for the witnessing person, as applicable.

5) Define start-up sequencing of unit processes:

a) Include testing of alarms, interlocks, permissives, control circuits, capacities, speeds, flows, pressures, vibrations, sound levels, and other parameters.

b) Provide detailed test procedures setting forth step-by-step descriptions of the procedures for systematic testing of equipment/system.

c) Demonstrate proper rotation, alignment, speed, flow, pressure, vibration, sound level, adjustments, and calibration.
(1) Perform initial checks in the presence of and with the assistance of the manufacturer's representative.

d) Demonstrate proper operation of each control loop function including mechanical, electrical, alarms, local and remote controls, instrumentation, and other equipment/system functions.
(1) Generate signals with test equipment/system to simulate operating conditions in each control mode.

b. Engineer approval of test plan is required prior to performing test.
    1) Revise and update test plans based on review comments, actual progress, or to accommodate changes in the sequence of activities.
    2) Submit test reports for each phase of testing for each equipment/system.
    3) Engineer approval of preceding test reports is required prior to start of next test.
    4) Tests will be rescheduled if test plan is not approved by the required deadline.
        a) Contractor is responsible for any resulting delay.
c. Contractor is responsible to reproduce and distribute final test procedures.
    1) Provide 3 copies for Engineer.
d. Tests may commence only after Engineer has received approved test plan copies.
e. Submittals:
    1) Submit test plans not less than 30 calendar days prior to planned installation testing of subsystem or system.
    2) Completed Manufacturer's Certificate of Installation and Functionality Compliance.
    3) Test procedures and forms: Provide signed-off copy of test forms and test reports upon completion of the test.
    4) Test reports:
        a) Submit preliminary copies within 1 day after testing completion.
        b) Submit final copies and report within 14 days after testing completion.

E. Clean Water Facility Testing Plan:
    1. Submit a Clean Water Facility Testing Plan equivalent to the requirements of the subsystem test plans a minimum of 30 calendar days prior to Clean Water Facility Testing.

1.07 TESTING AND TRAINING PHASE

A. Overview of Testing and Training Phase:
    1. General:
        a. Include specified Source Testing, Owner Training, Installation Testing, Functional Testing, Clean Water Facility Testing, and Closeout Documentation required by this Section and the technical sections.
    2. Contractor responsibilities:
        a. Furnish labor, power, chemicals, tools, equipment, instruments, and services required for and incidental to completing commissioning activities in accordance with the approved Commissioning Plans.
        b. Prior to testing, verify equipment protective devices and safety devices have been installed, calibrated, and tested.
        c. Acceptable tests: Demonstrate the equipment/system performance meets the requirements stated in the Contract Documents.
            1) When the equipment/system fails to meet the specified requirements, perform additional, more detailed, testing to determine the cause, correct, repair, or replace the causative components and repeat the testing that revealed the deficiency.

B. Source testing:
    1. Also referred to as factory testing or factory acceptance testing (FAT).
    2. Test components, devices, and equipment/system for proper performance at point of manufacture or assembly as specified in the technical sections.
    3. Notify the Engineer in writing when the equipment/system is ready for source inspection and testing.
    4. Source Test Plan:
        a. As specified in this Section and other technical sections.
        b. Source testing requirements as specified in technical sections.
            1) Non-witnessed: Provide Manufacturer's Certificate of Source Testing.
            2) Witnessed: 1 Owner's representative and 1 Engineer's representative present during testing, unless otherwise specified, and provide Manufacturer's Certificate of Source Testing.
        c. Prepared by Contractor as a result of discussions and planning emerging from regularly conducted commissioning meetings for source tests as specified in the Contract Documents.
        d. Provide the following items for each Source Test:
            1) Purpose and goals of the test.
            2) Identification of each item of equipment/system, including system designation, location, tag number, control loop identifier, etc.
            3) Description of the pass/fail criteria that will be used.
            4) Listing of pertinent reference documents (Contract Documents and industry standards or sections applicable to the testing).
            5) Complete description, including drawings or photographs, of test stands and/or test apparatus.
            6) Credentials of test personnel.
            7) Descriptions of test equipment to be used, product information, and all appropriate calibration records for the test equipment.
            8) Test set-up procedures.
            9) Detailed step-by-step test procedures.
                a) The level of detail shall be sufficient for any witness with a rudimentary technical aptitude to be able to follow the steps and develop confidence that the tests were being performed as planned.
                b) All steps are significant, and all steps shall be included in the procedures.
            10) Sample data logs and data recording forms.
            11) Sample computations or analyses with the results in the same format as the final report to demonstrate how data collected will be used to generate final results.
                a) Complete disclosure of the calculation methodologies.
                b) Include a sample for each type of computation required for the test and analysis of the results.
            12) Detailed outline of the Source Test report.
            13) Sample test reports.
        e. Submit Source Test Plan and forms as specified in the technical sections.
            1) Submit a copy of the Source Test Plan at least 21 days before any scheduled test date.
            2) Engineer approval of Source Test Plan required prior to beginning source testing.
            3) Schedule the testing after approval of the Source Test Plan submittal.

f. Indicate the desired dates for source inspection and testing.
1) Notify the Engineer of the scheduled tests a minimum of 15 days before the date of the test.

5. Test results:
a. Prepare and submit test results with collected data attached.

C. Owner training:
1. Training instruction format:
a. The training for operations personnel shall be provided separately from the maintenance personnel.
1) The training for maintenance personnel shall be further subdivided into the following 3 trade groups:
a) Mechanical maintenance.
b) Electrical maintenance.
c) Instrumentation and controls maintenance.
d) Process Controls Network (PCN) maintenance.
b. Instructors shall apply adult education best practices, emphasizing learner participation and activity.
c. Training delivery may include problem solving, question/answer, hands-on instruction, practice, evaluation/feedback tools, and lecture.
d. Visual aids and hands-on practice sessions must support training objectives.
e. Lecturing should be less than 30 percent of class time.
f. Conduct hands-on instruction according to the following descriptions:
1) Present hands-on demonstrations of at least the following tasks:
a) Proper start-up, shutdown, and normal and alternative operating strategies.
b) Common corrective maintenance repairs for each group.
c) Recommended procedures to check/test equipment/system following a corrective maintenance repair.
d) Preventative maintenance points.
e) Calibration, if applicable.
2) Use tools and equipment provided by manufacturer to conduct the demonstrations.
a) Submit requests for supplemental assistance and facilities with the Contractor’s proposed lesson plans.
3) Contractor remains responsible for equipment disassembly or assembly during hands-on training situations involving equipment disassembly or assembly by Owner’s personnel.

2. Class agenda:
a. Include the following information in the agenda:
1) Instructor name.
2) Listing of subjects to be discussed.
3) Time estimated for each subject.
4) Allocation of time for Owner staff to ask questions and discuss the subject matter.
5) List of documentation to be used or provided to support training.
b. Owner may request that particular subjects be emphasized and the agenda be adjusted to accommodate these requests.
c. Distribute copies of the agenda to each student at the beginning of each training class.

3. Number of students:
    a. Estimated maximum class size: 10 persons.
        1) Owner will determine the actual number of students.
        2) Engineer will provide an estimated headcount 1 week prior to the class, so that the instructor can provide the correct number of training aids for students.
4. Instructor qualifications:
    a. Provide instructors completely knowledgeable in the equipment/system for which they are training.
    b. Provide instructors experienced in conducting classes.
    c. Provide instructor's technical preparation and instructional technology skills and experience.
    d. Sales representatives are not qualified instructors unless they possess the detailed operating and maintenance knowledge required for proper class instruction.
    e. If, in the opinion of the Owner, an appropriately knowledgeable person did not provide the scheduled training, such training shall be rescheduled and repeated with a suitable instructor.
5. Training aids:
    a. Instructors are encouraged to use audio-visual devices, P&IDs, models, charts, etc. to increase the transfer of knowledge.
    b. Instructors shall provide such equipment (televisions, video recorder/player, computer, projectors, screens, easels, etc.), models, charts, etc. for each class.
    c. Instructor is responsible for confirming with Engineer and Owner in advance of each class that the classroom will be appropriate for the types of audiovisual equipment to be employed.
6. Classroom documentation:
    a. Trainees will keep training materials and documentation after the session.
    b. Operations and maintenance manuals, as specified in technical sections:
        1) Provide the quantity final Engineer-approved operations and maintenance manuals as specified in Section 01730 - Operation and Maintenance Manuals for use during the classroom instruction.
        2) Owner reserves the right to delay training for a particular equipment item if the operations and maintenance manuals for that equipment are incomplete, inaccurate, or otherwise unsuitable for use by the Owner's staff.
        3) No contract extensions or extra costs will be allowed for training delays due to operations and maintenance manual submittal delays.
    c. Provide supplemental documentation handouts to support instruction.
    d. Digitally record audio and video of each training session.
        1) Include classroom and field instruction with question and answering periods.
        2) Engineer approval required for producer of video materials from one of the following options:
            a) Qualified, professional video production company.
            b) Contractor demonstrates satisfactory skill.
        3) Record in digital format and recording shall become property of the Owner.
            a) Provide audio quality that is not degraded during the recording of the field sessions due to background noise, space, distance or other factors.

4) Video files shall be file format and delivery medium as directed and approved by Owner.
5) Provide 2 complete sets of video materials fully indexed and cataloged with printed labels stating session content and dates recorded.
6) The Contractor shall provide a written release from all claims to the recorded training material produced, if required.

e. Training modules:
1) Provide a training module for each equipment category.
2) Divide each training module's instructional content into discrete lesson plans.

f. Lesson plans:
1) Provide performance-based learning objectives.
2) State learning objectives in terms of what the trainees will be able to do at the end of the lesson.
3) Define student conditions of performance and criteria for evaluating instructional success.
4) Instruction lesson plan outlines for each trade.
a) Provide specific components and procedures.
5) Minimum requirements:
a) Hands-on demonstrations planned for the instructions.
b) Cross-reference training aids.
c) Planned training strategies such as whiteboard work, instructor questions, and discussion points or other planned classroom or field strategies.
d) Attach handouts cross-referenced by section or topic in the lesson plan.
e) Indicate duration of outlined training segments.
6) Provide maintenance instruction lesson plans including mechanical, HVAC, instrumentation, and electrical aspects:
a) Equipment operation:
(1) Describe equipment's operating (process) function and system theory.
(2) Describe equipment's fundamental operating principles and dynamics.
(3) Identify equipment's mechanical, electrical, and electronic components and features.
(4) Identify support equipment associated with the operation of subject equipment.
(5) Detail the relationship of each piece of equipment or component to the subsystems, systems, and process.
(6) Cite hazards associated with the operations, exposure to chemicals associated with the component, or the waste stream handled by the component.
(7) Specify appropriate safety precautions, equipment, and procedures to eliminate, reduce, or overcome hazards.
b) Detailed component description:
(1) Define Preventative Maintenance (PM) inspection procedures required on equipment in operation, spot potential trouble symptoms (anticipate breakdowns), and

forecast maintenance requirements (predictive maintenance).
(a) Review preventive maintenance frequency and task analysis table.
(2) Identify each component function and describe in detail.
(3) Where applicable, group relative components into subsystems.
(4) Identify and describe in detail equipment safety features, permissive and controls interlocks.

7) Provide the following information in equipment troubleshooting lesson plans:
a) Define recommended systematic troubleshooting procedures as they relate to specific craft problems.
b) Provide component specific troubleshooting checklists as they relate to specific craft problems.

8) Provide the following information in equipment Corrective Maintenance (CM) troubleshooting lesson:
a) Describe recommended equipment preparation requirements as they relate to specific craft problems.
b) Identify and describe the use of any special tools required for maintenance of the equipment as they relate to specific craft problems.
c) Describe component removal/installation and disassembly/assembly procedures for specific craft repairs.
d) Perform at least 2 hands-on demonstrations of common corrective maintenance repairs.
(1) Additional demonstrations may be required by the Owner.
e) Describe recommended measuring instruments and procedures, and provide instruction on interpreting alignment measurements, as appropriate.

7. Class logistics:
a. Delivery time minimum: 2 hours.
b. Delivery time maximum: 4 hours.
1) Longer time requires Engineer approval.
c. Class agenda:
1) Refreshment break: One 10-minute break.
2) Meal break: One 45-minute break, unless otherwise specified.
3) Schedule refreshment breaks and meal breaks to meet the class needs and Owner work rules.
d. Schedule specific sessions:
1) Minimum of 30 days in advance to allow Owner staffing arrangements to take place.
2) At the times requested by the Owner, within the period 7 a.m. to 7 p.m. Monday through Friday.
a) Times scheduled will be at Owner’s discretion.
3) Owner approval and confirmation required for session schedules.
4) Provide minimum of 2 sessions for each class unless otherwise noted.
a) The purpose of having multiple sessions on each class is to accommodate the attendance of as many Owner personnel working different shifts as possible.
b) A maximum of 1 session per day for each class.

8. Distribute Training Evaluation Form following each training session.
    a. Training Evaluation Form is included in this Section.
    b. Return completed Training Evaluation Forms to Owner's designated training coordinator immediately after session is completed.
    c. Revise training sessions judged "Unsatisfactory" by a majority of attendees.
        1) Conduct training sessions again until a satisfactory rating is achieved at no additional cost to Owner.
9. Submittals:
    a. Prior to the training session:
        1) Instructor qualifications: Due 30 calendar days prior to initial training session.
        2) Training course materials: Due 14 calendar days prior to initial training session.
            a) Training agenda, lesson plan, presentation, and handouts.
            b) Other audio-visual aids utilized during each training course.
            c) Format: 2 electronic copies and 3 hard copies organized in notebooks.
    b. Post training session:
        1) Training course materials: Due 14 calendar days after class completion.
            a) Video recordings.
            b) Class attendance sheet.
            c) Training agenda, final lesson plan, presentation, and handouts.
            d) Other audio-visual aids utilized during each training course.
            e) Provide materials for all sessions of the class in a single transmittal.
            f) Format: 2 electronic copies and 3 hard copies organized in notebooks.

D. Installation Testing:
1. Perform subsystem testing according to approved Subsystem Testing Plans.
2. Initiate the Manufacturer's Certificate of Installation and Functionality Compliance for all equipment.
    a. Manufacturer's Certificate of Installation and Functionality Compliance form is included in this Section.
    b. Manufacturer's Certificate of Installation and Functionality Compliance certifies the equipment meets the following requirements:
        1) Has been properly installed, adjusted, aligned, and lubricated.
        2) Is free of any stresses imposed by connecting piping or anchor bolts.
        3) Is able to be operated as necessary for Functional Testing.
    c. Form shall be submitted after completion of Functional Testing, as specified in this Section.
3. Coordinate Installation Testing with restrictions and requirements as specified in Section 01140 - Work Restrictions.
4. Perform coating holiday testing as specified in Section 09960 - High-Performance Coatings.
5. Perform pressure and leakage testing as specified in individual component Sections and Section 15956 - Piping Systems Testing.
6. Perform mechanical equipment Installation Testing: As specified below and in individual equipment sections, such as Section 15050 - Common Work

Results for Mechanical Equipment, Section 15954 - Testing, Adjusting, and Balancing for HVAC, and Section 15958 - Mechanical Equipment Testing

a. Remove rust preventatives and oils applied to protect equipment during construction.
b. Flush lubrication systems and dispose of flushing oils.
    1) Recharge lubrication system with lubricant recommended by manufacturer.
c. Flush fuel system and provide fuel for testing and start-up.
d. Install and adjust packing, mechanical seals, O-rings, and other seals. Replace defective seals.
e. Remove temporary supports, bracing, or other foreign objects installed to prevent damage during shipment, storage, and erection.
f. Check rotating machinery for correct direction of rotation and for freedom of moving parts before connecting driver.
g. Perform cold alignment and hot alignment to manufacturer's tolerances.
h. Adjust V-belt tension and variable pitch sheaves.
i. Inspect hand and motorized valves for proper adjustment.
    1) Tighten packing glands to ensure no leakage, but permit valve stems to rotate without galling.
    2) Verify valve seats are positioned for proper flow direction.
j. Tighten leaking flanges or replace flange gasket.
    1) Inspect screwed joints for leakage.
k. Install gratings, safety chains, handrails, shaft guards, and sidewalks prior to operational testing.

7. Electrical devices and subsystems Installation Testing: As specified below, in Section 16950 - Field Electrical Acceptance Tests, and the technical sections.
    a. Complete requirements as specified in Section 16305 - Electrical System Studies.
8. Instrumentation devices and subsystems Installation Testing: As specified below, in Section 17200 - Instrumentation and Control Cabinets and Associated Equipment, and technical sections.

E. Functional Testing:
1. Prerequisite: Successful completion with Engineer approval of Installation Testing.
2. Complete valve and gate labeling as specified in Section 15076 - Pipe Identification prior to the start of Functional Testing.
3. Perform subsystem testing according to approved Subsystem Testing Plan.
    a. Heating, ventilating, and air conditioning systems.
        1) As specified in Section 15954 - Testing, Adjusting, and Balancing for HVAC, and technical sections.
4. Notify the Engineer 5 days prior to when the Work is ready for Functional Testing.
    a. Perform testing in the presence of the Engineer.
5. Determine Functional Testing durations with Owner’s input.
    a. Durations will vary depending on the availability of water for testing.
    b. Target minimum Functional Test duration: 8 hours.
        1) Identify equipment/system that cannot be tested for a minimum of 8 hours as specified in technical sections.

6. Perform Functional Testing as specified in technical sections.
    a. Perform Functional Testing in addition to the other tests specified in the technical sections.
    b. Perform Functional Testing to demonstrate that the component equipment functions as an entire system in accordance with the design requirements.
    c. Perform Functional Testing to demonstrate that the unit process has operated in a manner necessary to demonstrate equipment/system functions manually in local, manually in remote (or remote manual), and automatically in remote (in remote auto).
    d. Perform testing with Contractor-provided water.
    e. Repair or replace parts that operate improperly and retest.
    f. Submit testing reports as specified in the technical sections to the Owner and Engineer for approval of Functional Testing reports.
7. Provide completed Manufacturer's Certificate of Installation and Functionality Compliance forms for all equipment.
    a. Manufacturer's Certificate of Installation and Functionality Compliance form is included in this Section.
    b. Manufacturer's Certificate of Installation and Functionality Compliance certifies the equipment/system meets the following requirements:
        1) Is suitable for satisfactory full-time operation under full-load conditions.
        2) Operates within the allowable limits for vibration and noise.
        3) Electrical and instrumentation requirements:
            a) Electrical equipment, instrumentation, and control panels are properly installed, calibrated, and functioning.
            b) Electrical Installation Testing is complete, and test results have been approved by the Engineer.
                (1) Noted deficiencies have been corrected.
                (2) Relays, circuit breakers, and other protective devices are set.
            c) Control logic for start-up, shutdown, sequencing, interlocks, control, and emergency shutdown has been tested and is properly functioning.
            d) Motor control is calibrated and tested.

F. Clean Water Facility Testing:
1. Utilize potable water.
2. Prerequisite: Successful completion with Engineer approval of Functional Testing.
3. Test entire facility with recirculating water supply at the design flow for the largest single process or system train to ensure proper complete facility (equipment/system) hydraulic performance.
4. Perform testing in the presence of the Engineer unless such presence is expressly waived in writing.
5. The purpose of Clean Water Facility Testing is to confirm extended equipment/system operation prior to process start-up.
    a. Testing shall occur for a minimum of 7 days with all systems operational to the extent possible.
6. Reset to condition prior to testing:
    a. Remove, clean and replace permanent and temporary filters and strainers in pipeline systems.

b. Replace HVAC filters, dewater and clean sumps.
c. Dewater process units, where directed by the Engineer.

G. Closeout documentation submittals:
1. Provide records generated during Commissioning Phase of Project including but not limited to:
a. Training documentation.
b. Manufacturer’s Certificate of Source Testing.
c. Manufacturer’s Certificate of Installation and Functionality Compliance.
d. Daily logs of equipment/system testing identifying tests conducted and outcome.
e. Test forms and documentation.
f. Functional Testing results.
g. Logs of time spent by manufacturer's representatives performing services on the job site.
h. Equipment lubrication records.
i. Electrical phase, voltage, and amperage measurements.
j. Insulation resistance measurements.
k. Bearing temperature measurements.
l. Data sheets of control loop testing including testing and calibration of instrumentation devices and setpoints.
m. Provide: 2 electronic copies and 3 hard copies organized in notebooks.
n. Due date: Within 14 calendar days of Substantial Completion.

1.08 PROCESS START-UP PHASE

A. Overview of Process Start-Up Phase:
1. Operating the facility to verify performance meets the Contract Document requirements.

B. Process Start-Up:
1. Prerequisite: Successful completion with Engineer approval of Clean Water Facility Testing.
2. Perform process start-up in the presence of the Engineer.
3. Pre-start-up activities and submittals:
a. Commissioning Documentation and Data Review.
b. Start-Up Go/No-Go Decision Criteria.
c. Building and Fire Inspection Compliance Check.
d. Process Start-Up Sequence Review.
e. Process Start-Up plan for review by Engineer not less than 30 calendar days prior to planned commencement of process start-up activities.
1) Include the following:
a) Pre-start-up activities.
b) Process Start-Up.
c) Process Operational Period.
d) PCIS Optimization and Fine-Tuning.
f. Description of Temporary Testing Arrangement, if applicable.
g. Final Process Start-Up Forms and Documentations.
h. Final Operational Testing Plan.
4. Control loop tuning.
a. Perform control loop tuning during system testing with water to the extent possible.

5. Process area start-ups.
    a. Process start-up individual process areas comprised of multiple interdependent systems where possible and beneficial to reduce complexity and risk of complete facility testing.
    b. Process area test flows may be limited by upstream and downstream process constraints (i.e., tank and basin volumes) and/or localized recirculation capabilities.
6. Facility-wide process start-up.
    a. Upon approved completion of pre-start-up activities, perform entire facility process start-up.
        1) Complete control loop tuning during this phase of process start-up.
        2) Continue process start-up operations until facility meets or exceeds the Contract requirements.
    b. HVAC systems start-up and testing:
        1) Test complete HVAC system for the facility.
    c. Ancillary systems start-up and testing:
        1) Test complete security system, phone system, fire alarm system, etc. for the facility.
    d. Remaining equipment/system tests:
        1) Conduct remaining specified equipment/system performance tests that could not be performed during the Testing and Training Phase due to inter-system and/or treatment process dependencies.

C. Process Operational Period:
1. Prerequisite: Successful completion with Engineer approval of Process Start-Up.
2. Prior to beginning the Process Operational Period:
    a. Conformance with treatment standards is required prior to Operational Testing, if applicable.

        1) Biological processes require time to build up the necessary population of organisms to meet treatment standards, as specified in Section 01140 - Work Restrictions.
    b. Correct any outstanding punch list items prior to the Operational Testing.
3. Duration: 30 calendar days.
4. Engineer will be present for process operational period unless such presence is expressly waived in writing.
5. Prove facility conformance with Contract Document requirements.
6. Contractor to provide:
    a. Specified start-up materials and operating supplies.
    b. Necessary craft of labor assistance, in the event of an emergency equipment failure requiring immediate attention (emergency is defined as a failure of function which precludes the further operation of a critical segment of or the whole of the Work) with a response time of not more than 4 hours from the time of notification.
    c. Manufacturer’s authorized representative to supervise placing equipment/systems in operation and provide guidance during Operational Testing per applicable section.
    d. Necessary manufacturer’s representatives and operating supplies for retesting systems that fail to pass the initial Operational Testing due to

deficiencies in products of workmanship at no additional cost to the Owner.

e. List of 24-hour “on-call” representative supervisory persons who will monitor the Operational Testing and serve as liaison for the Engineer and Owner.

7. Owner will provide:
   a. Operations personnel for duration of test.
8. Contractor’s CC shall oversee Process Operational Period.
   a. Owner staff will operate the completed Project construction.
   b. Entire system shall continuously meet performance requirements and shall operate without fault, failure, or defect for a continuous period.
   c. Individual equipment/system failures that are corrected within 24 hours and do not prevent the entire project from continuously satisfying the established operational requirements shall not require the consecutive day test to be restarted unless the failure recurs.
   d. Restart the consecutive test period for any of the following conditions:
      1) Any failure of the complete Project construction to meet operational requirements.
      2) When malfunctions or deficiencies cause shutdown or partial operation of the facility, or results in failure of the complete Project construction to meet operational requirements.
      3) Any individual equipment/system failure that meets any of the following conditions:
         a) Requires more than 24 hours to correct, unless otherwise specified in Section 16800 - Calibrations, Testing and Setting.
         b) Recurs within the 24-hour correction period requiring further correction.
      4) Immediately correct defects in material, workmanship, or equipment/system which became evident during Operational Testing.
9. Permitting approval of Process Operational Period results required for Substantial Completion.

D. PCIS Optimization and Fine-Tuning
   1. Prerequisite: Successful completion with Engineer approval of Process Operational Period.
   2. Test PCIS system for additional 60 days as specified in Section 17100 – Process Instrumentation and Control Systems (PCIS) to identify issues and make corrections, as needed.
   3. Permitting approval of PCIS Optimization and Fine-Tuning results required for Substantial Completion.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

MANUFACTURER'S CERTIFICATE OF SOURCE TESTING

OWNER _____ EQPT/SYSTEM _____
PROJECT NAME _____ EQPT TAG NO. _____
PROJECT NO. _____ EQPT SERIAL NO. _____
SPECIFICATION NO. _____
SPECIFICATION TITLE _____

Comments: _____

_____

_____

_____

_____

I hereby certify Source Testing has been performed on the above-referenced equipment/system as defined in the Contract Documents, and results conform to the Contract Document requirements. Testing data is attached.

Date of Execution: _____, 20____

Manufacturer: _____

Manufacturer's Authorized Representative Name *(print)*: _____

_____
(Authorized Signature)

If applicable, Witness Name *(print)*: _____

_____
(Witness Signature)

MANUFACTURER'S CERTIFICATE OF INSTALLATION AND FUNCTIONALITY COMPLIANCE

OWNER _____ EQPT/SYSTEM _____
PROJECT NAME _____ EQPT TAG NO. _____
PROJECT NO. _____ EQPT SERIAL NO. _____
SPECIFICATION NO. _____
SPECIFICATION TITLE _____

I hereby certify the installation and function of the above-referenced equipment/system as defined in the Contract Documents. The above-referenced equipment/system has been: (Check Applicable)

- ☐ Installed in accordance with manufacturer's recommendations.
- ☐ Inspected, checked, and adjusted.
- ☐ Serviced with proper initial lubricants.
- ☐ Electrical/instrumentation and mechanical connections meet quality and safety standards.
- ☐ All applicable safety equipment has been properly installed.
- ☐ Functionally tested.
- ☐ System has been performance tested, and meets or exceeds specified performance requirements.

NOTES:
Attach test results with collected data and test report.

Attach written certification report prepared by and signed by the electrical and/or instrumentation subcontractor.

Comments: _____

_____

I, the undersigned manufacturer's representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate this equipment/system, and (iii) authorized to make recommendations required to ensure that the equipment/system furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date: _____

Manufacturer: _____

Manufacturer's Authorized Representative Name *(print)*: _____

By Manufacturer's Authorized Representative: _____
(Authorized Signature)

TRAINING EVALUATION FORM

EQUIPMENT/SYSTEM ITEM: _____

VENDOR/MANUFACTURER: _____

DATE: _____ NAME OF REPRESENTATIVE: _____

1.	Was representative prepared?	Acceptable	Unacceptable	or	N/A
2.	Was an overview description presented?	Acceptable	Unacceptable	or	N/A
3.	Were specific details presented for system components?	Acceptable	Unacceptable	or	N/A
4.	Were alarm and shutdown conditions clearly presented?	Acceptable	Unacceptable	or	N/A
5.	Were step-by-step procedures for starting, stopping, and troubleshooting presented?	Acceptable	Unacceptable	or	N/A
6.	Were routine/preventative maintenance items clearly identified?	Acceptable	Unacceptable	or	N/A
7.	Was the lubrication schedule (if any) discussed?	Acceptable	Unacceptable	or	N/A
8.	Was the representative able to answer all questions?	Acceptable	Unacceptable	or	N/A
9.	Did the representative agree to research and answer unanswered questions?	Acceptable	Unacceptable	or	N/A
10.	Comments: _____				

_____

_____

_____

11. Overall Rating: Satisfactory Unsatisfactory

Note:

Sessions judged “Unsatisfactory” by a majority of attendees shall be revised and conducted again until a satisfactory rating is achieved.

COMMISSIONING ROLES AND RESPONSIBILITIES MATRIX

NO.	TASK	OWNER	CONTRACTOR	ENGINEER
Testing and Training Phase				
Source Testing				
1	Source Testing	No Action	Lead	Witness, Review
Installation Testing				
2	Electrical Conductor Testing	No Action	Lead	Witness
3	Electrical Field Acceptance Tests	No Action	Lead	Witness
4	Instrument Field Calibration	No Action	Lead	Witness
5	Network Installation Testing	Witness	Lead	Witness
6	Loop Testing	Witness	Lead	Witness
7	Pressure Testing	No Action	Lead	Witness
8	Leak Testing	No Action	Lead	Witness
9	Holiday Testing	No Action	Lead	Witness
10	HVAC Testing	No Action	Lead	Witness
11	Motor Electrical Testing	No Action	Lead	Witness
Functional Testing				
12	Network Operational Testing	Witness	Lead	Review
13	Preliminary Run Testing Local/Manual Control	Witness	Lead	Review
14	PCIS Functional Demonstration Testing - Local/Auto Control Testing - Remote/Manual Contact Testing - Alarm Testing - Control Loop Testing	No Action	Lead	Review
15	Subsystem Start-Up and Testing	Witness	Lead	Review
16	Equipment/System Start-Up and Testing	Witness	Lead	Review
17	HVAC Start-Up and Testing	Witness	Lead	Review
18	Corrosion Control Start-Up and Testing	Witness	Lead	Review
19	Wide Area Network Communications Testing	Support	Lead	Witness
20	Manufacturer's Certificate of Installation and Functionality Compliance	No Action	Lead	Witness, Review
Clean Water Facility Testing				
21	Test Water Management Plan Finalization	Support	Lead	Review
22	Clean Water Facility Testing	Witness	Lead	Witness, Review
Process Start-Up Phase				
Process Start-Up				
23	Commissioning Documentation and Data Review	Review	Support	Lead
24	Start-Up Go/No-Go Decision Criteria	Lead	Support	Review
25	Building and Fire Inspection Compliance Check	No Action	Lead	Witness

NO.	TASK	OWNER	CONTRACTOR	ENGINEER
Testing and Training Phase				
26	HVAC Functionality Check	No Action	Lead	Witness
27	Start-Up Sequence Review	Support	Lead	Review
28	Temporary Testing Arrangement Finalization	Support	Lead	Support
29	Start-Up Forms Finalization	Support	Lead	Support
30	Operation Testing Plan Finalization	Review	Support	Lead
31	Test Water Management Plan Finalization	Support	Lead	Review
32	System Testing	Support	Lead	Witness
33	Control Loop Tuning	Support	Lead	Witness
34	Process Area Start-Ups	Support	Lead	Witness
35	Facility-Wide Start-Up	Support	Lead	Witness
36	Process Control Systems Testing	Support	Lead	Witness
38	HVAC Final Testing, Adjust, and Balancing	Witness	Lead	Witness, Review
Process Operational Period				
39	Operational Testing	Support	Lead	Witness, Review
40	Final Testing Reports	Support	Lead	Review
41	Water Quality Testing and Documentation	Support	Lead	Review
PCIS Optimization and Fine-Tuning				
42	As specified in Section 17100 – Process Instrumentation and Control Systems (PCIS)	Support	Lead	Review

Legend:
Lead: Primarily responsible for organization, coordination, and execution of task work product or result.
Support: Assist the lead with organization, coordination, and execution of task work product or result.
Witness: Observe and document completion of task work product or result.
Review: As necessary to accept task work product result.
No Action: Limited or no involvement.

[AD2] Addendum No. 2
[AD3] Addendum No. 3

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01757

DISINFECTION

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Cleaning and disinfection requirements for new and existing facilities affected by the Work.

1.02 REFERENCES

A. American Water Works Association (AWWA):
   1. C651 - Disinfecting Water Mains.
   2. C652 - Disinfection of Water Storage Facilities.
   3. C653 - Disinfection of Water Treatment Plants.

B. U.S. Environmental Protection Agency (EPA):
   1. Method 524.2 Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry.
   2. Safe Drinking Water Act (SDWA).

1.03 SUBMITTALS

A. Submit disinfection test plan which details procedure to be utilized to disinfect the facilities including:
   1. Method and locations of disinfectant application.
   2. Locations of sampling points.
   3. Method of flushing and location of flushing ports (as appropriate for method of chlorination).
   4. Method of dechlorination (as appropriate for method of chlorination).
   5. Disposal location for chlorinated water (as appropriate for method of chlorination).

B. Submit disinfection reports and include the following:
   1. Date issued.
   2. Project name and location.
   3. Treatment subcontractor's name, address, and phone number.
   4. Type and form of disinfectant used.
   5. Time and date of disinfectant injection start.
   6. Time and date of disinfectant injection completion.
   7. Test locations.
   8. Initial and 24-hour disinfectant residuals in milligrams per liter for each outlet tested.
   9. Time and date of flushing start.
   10. Time and date of flushing completion.
   11. Disinfectant residual after flushing in milligrams per liter for each outlet tested.

C. Submit bacteriological reports and include the following:
   1. Date issued.

2. Project name and location.
3. Laboratory's name, certification number, address, and phone number.
4. Time and date of water sample collection.
5. Name of person collecting samples.
6. Test locations.
7. Time and date of laboratory test start.
8. Coliform bacteria test results for each outlet tested.
9. Certification that water conforms or fails to conform to bacterial standards of SDWA.
10. Bacteriologist's signature and bacteriological laboratory's evidence of certification.

D. Submit required permits, including but not limited to permit clearance.
   1. Coordinate with Owner and Engineer to obtain any necessary signatures.

1.04 QUALITY ASSURANCE

A. Bacteriological and physical chemistry laboratory: Certified by state in which Project is located.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Protect chlorine and bacteriological samples against damage and contamination.

B. Maintain caution labels on hazardous materials.

C. Maintain storage room dry and with temperatures as uniform as possible between 60 degrees Fahrenheit and 80 degrees Fahrenheit.

1.06 PROTECTION

A. Provide necessary signs, barricades, and notices to prevent persons from accidentally consuming water or disturbing system being treated.

PART 2 PRODUCTS

2.01 MATERIALS

A. Disinfectant: Free chlorine in liquid, powder, tablet, or gas form in accordance with AWWA C653.

B. Dechlorination agent: Sulfur dioxide, sodium bisulfate, sodium sulfite, or sodium thiosulfate in accordance with AWWA C653.

PART 3 EXECUTION

3.01 PRELIMINARY CLEANING

A. Complete hydrostatic/leakage tests prior to disinfection.

B. Clean newly constructed and/or modified facilities, including filters and conveyance facilities, such as pipes and channels at the plant, in accordance with AWWA C653 and the following:
   1. Remove debris and material not associated with the structure or process prior to disinfection.
   2. Clean wall, floor, ceiling, and attached surfaces by use of high-pressure water jet, sweeping, scrubbing, or equally effective means.
   3. Remove water, paint flakes, sediment, dirt, and foreign material accumulated during cleaning.
   4. Remove by flushing or other means, soil and debris from water pipes and channels in accordance with AWWA C651.
   5. Protect surfaces from adverse environmental exposure between the preliminary cleaning and the disinfection stages.

C. Prior to chlorination, clean newly constructed and/or modified facilities to be disinfected in accordance with AWWA C651, C652, or C653, as applicable.

D. Contractor shall provide necessary blind flanges, hoses, sample taps, or any other appurtenances that may be required to clean and disinfect the piping and wetted surfaces.

3.02 SURFACES TO BE DISINFECTED

A. Disinfect interior surfaces of the filters, basins, filter channels, etc., including the ceilings.

B. Disinfect water storage reservoirs.

C. Disinfect wetted surfaces associated with conveyance elements, such as pipes and channels downstream of the filters, basins.

D. Disinfect any existing wetted surface downstream of the filters, basins that may have been contaminated during the construction process.

E. Piping systems that are used to convey water, solutions, or chemicals to potable water facilities.

3.03 DISINFECTION OF WATER LINES

A. Cleaning:
   1. Remove by flushing or other means, soil and debris from the water tanks in accordance with AWWA C652 prior to chlorination.

B. Inspection:
   1. Verify that water system is completed and cleaned of soil and debris prior to chlorination.
   2. Start disinfection when conditions are satisfactory.

C. System treatment:
   1. Perform disinfection of water lines and structures in accordance with AWWA C651, C652, and C653, and as specified in this Section.

2. Starting at outlet closest to water source, bleed water from each outlet until water produces odor of disinfectant. Repeat process at each outlet throughout system.
3. Test for disinfectant residual at each of following locations and other locations in accordance with submitted disinfection test plan:
    a. Ends of piping runs.
    b. Remote outlets.
    c. Tanks.
    d. At least 2 outlets on each building floor where directed.
    e. Drain lines.
    f. Filters and effluent channels and piping.
4. Maintain disinfectant in system for appropriate 6-hour or 24-hour interval in accordance with AWWA C652.
5. When disinfectant residual is less than 10 milligrams per liter after 24 hours, repeat system treatment.
6. Stainless steel piping:
    a. Modify procedures for disinfection of stainless steel piping and appurtenances as necessary to avoid causing corrosion, pitting, or attack of stainless steel materials.
        1) Take steps to eliminate chlorinated water trapped in crevices and under gaskets through the following procedures:
            a) Pressurize stainless steel piping systems so that gaskets and O-rings are seated before introducing chlorinated water into the system.
            b) Flush to displace a minimum of 3 pipe volumes at the conclusion of the disinfection procedure.
            c) Use the continuous-feed method to fill the stainless steel piping system with the minimum chlorine concentration required to provide a 10 milligrams per liter residual after 24 hours of contact time in accordance with AWWA C651.

3.04 DISINFECTION OF WATER RESERVOIRS

A. Perform disinfection of water tank in accordance with AWWA C652 and as specified in this Section.

B. Test for disinfectant residual at locations as specified in Disinfection Test Plan:
    1. Inlet and outlet piping.
    2. Drain line.

C. Maintain disinfectant in system for appropriate 6-hour or 24-hour interval in accordance with AWWA C652.

D. When disinfectant residual is less than 2 parts per million after 24 hours, repeat system treatment.

3.05 REPAIRS OR CONNECTIONS TO EXISTING LINES

A. Clean and sterilize the interior surfaces of new piping, fittings, equipment, and appurtenances to be installed in an existing potable water system or connected to an existing system.

B. Clean and sterilize the existing pipe or facilities for a minimum distance of 3 pipe diameters back from the ends of the pipe. Plug the ends of the line when work is not being performed on the pipe.

C. Perform sterilization by swabbing each item with a concentrated chlorine solution.
   1. Each piece is to be disinfected prior to being assembled for installation in the existing pipe.
   2. Disinfect each piece just prior to assembly to help prevent recontamination.
   3. Plug the ends of the assembly until a new item is to be added to the assembly.
   4. Store disinfected materials on blocks to prevent contact with the ground.

3.06 FLUSHING

A. Remove disinfection water from the facilities as appropriate for the type of disinfectant and method used for disinfection.

B. Flush facilities with potable water containing no more disinfectant residual than the active distribution system or 1.0 milligrams per liter, whichever is greater (as appropriate for method of chlorination).

C. Continue flushing until water at designated flushing ports contains disinfectant residual equal to concentration specified above.

3.07 DISPOSAL OF CHLORINATED WATER

A. Dispose of chlorinated water in accordance with the submitted disinfection test plan and applicable requirements of federal, state, county, and city having jurisdiction over disposal of hazardous wastes in location of the Project and disposal site.

B. Chlorinated water may only be disposed of in a sanitary sewer system with the written permission of the Owner. If allowed, discharge the chlorinated water at a low rate so it does not surcharge the sewer line.

3.08 BACTERIOLOGICAL TEST

A. Instruct bacteriological laboratory to collect water samples no sooner than 24 hours after start of disinfection of each facility.

B. A minimum of 24 hours after flushing system and within 24 hours before the water main is placed in service, collect bacteriological quality samples at each of following locations and other locations in accordance with the submitted disinfection test plan and Standard Methods for the Examination of Water and Wastewater:
   1. Where water enters system.
   2. Inlet piping.
   3. Ends of piping runs.
   4. Drain lines.
   5. Remote outlets.
   6. Tanks.
   7. At least 2 outlets on each building floor.

C. Analyze water samples in accordance with Standard Methods for Examination of Water and Wastewater.

D. When bacteriological test proves water quality to be unacceptable, repeat disinfection treatment process until water meets quality standards for disinfection.

END OF SECTION

SECTION 01759

WATER LEAKAGE TEST FOR CONCRETE STRUCTURES

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Hydrostatic leakage test for concrete water-holding structures.

1.02 REFERENCES

A. Abbreviations and acronyms.

B. Definitions.
   1. Damp spots: Surfaces where visible moisture can be picked up by a dry hand.
   2. Containment structure lined: Liquid-containing structure with barrier coating or membrane applied to the inside surfaces to prevent leaking of contents to the outside.
   3. Containment structure, unlined: Liquid containing structure where only the concrete structure itself is used to prevent leaking of contents to the outside.

C. Reference standards.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination.

B. Pre-installation meetings.

C. Sequencing.

D. Scheduling.

1.04 SUBMITTALS

A. Product data.

B. Shop drawings:
   1. Description and details of each evaporation/precipitation-measuring device anticipated for use during the test.

C. Samples.

D. Certificates.

E. Delegated design submittals.

F. Tests and evaluation reports:
   1. Results of water leakage test for each structure and for each portion of a structure designated for testing.

G. Manufacturer instructions.

H. Source quality control submittals.

I. Field/site quality control submittals.

J. Manufacturer reports.

K. Sustainable design submittals.

L. Special procedure submittals:
   1. Testing plan for each structure, or portion thereof, required to be tested.
      a. Describe methods of obtaining water for testing and of releasing water for disposal, including provisions for dechlorination if required.
      b. Include plans showing locations where measurements will be made and locations of evaporation/precipitation-measuring device.
      c. Indicate plans for filling and draining structure(s).
      d. Include schedule showing duration of test for each structure or cell to be tested, date and time for start of each test, dates and times of observations and measurements during the test, dates and times for closeout of testing procedures, and date for submittal of final results.
   2. Proposed procedures and products for repair of leaks.

M. Qualifications statements.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 GENERAL

A. Test structures and portions of structures listed in the following paragraphs for water leakage.
   1. Unless otherwise specified, the Contractor shall:
      a. Obtain all required permits for discharging testing water.
      b. Provide dechlorination of such water if required by the permits.
      c. Prepare and fill the structures.
      d. Provide access and equipment required for testing and for recording test results.
      e. Take measurements and make observations required for testing.
   2. At all times during testing, the Engineer shall have access to observe measurements by others or to make independent measurements.

B. Test the following concrete structures for water leakage:
   1. Influent Lift Station.
   2. Headworks channels.
   3. Aeration Basins.
   4. Mixed Liquor Splitter Structure.
   5. RAS Splitter Structure.

6. Secondary Clarifiers.
7. Sludge Holding Tanks.
8. Plant Drain Pump Station.
9. Plant Water Pump Station.
10. Filter/UV Disinfection Complex.

C. Required preparation for testing is designated in this Section. Waiver of, or failure to complete preparations shall not change the testing criteria or approval criteria for the areas tested.

D. Retest structures and portions of structures until the evaluation criteria are satisfied.

3.02 TEST WATER SOURCE AND DISPOSAL

A. Water used for the first filling of the tank will be furnished by Owner.
   1. Contractor shall obtain water for leakage testing from plant water system.

B. After leakage testing is complete, Contractor shall dispose of water by discharging through the effluent outfall.

3.03 PREPARATION

A. For each structure to be tested, prepare and submit a plan showing schedule and sequence of activities, method of filling, and methods of disposing of test water.

B. Sequencing requirements:
   1. Complete construction of concrete structure and cure concrete to obtain minimum specified 28-day compressive strength as specified in Cast-in-Place Concrete specification
      a. Do not begin tests until all portions of structure are complete and have reached their minimum specified 28-day compressive strength.
      b. Do not begin tests until at least 14 days have passed since completion of the last concrete placement.
   2. Complete tests before:
      a. Covering any surface of the structure with materials that might mask the location of leaks or obscure damp concrete surfaces. Such coverings include, but are not limited to basin bottom grout, masonry veneer, stucco, plaster, and other coatings.
      b. Installation of equipment, unless otherwise approved by the Engineer.
      c. Backfilling structures to elevations above the limits indicated in the following paragraphs.
   3. Liners and coatings:
      a. Install liners that are mechanically locked to the concrete surface during placement of plastic concrete and before leakage testing.
         1) Examine liners for pinholes, tears, and partially fused splices, complete all required liner integrity testing, and make required repairs before commencing leakage testing.
      b. Unless otherwise specified, do not install surface-applied protective or decorative coatings and linings until leakage tests have been completed.

C. Weather requirements:
   1. Tests on structures with tops open to the atmosphere shall not be scheduled for periods when the 10-day weather forecast indicates a substantial change in weather patterns.
   2. Measurements of water surface levels in the structure shall not be scheduled for periods when the weather forecast indicates a difference of more than 35 degrees Fahrenheit between the ambient temperature readings at the times of initial and final measurements.
   3. Tests shall not be scheduled for periods when the 10-day weather forecast indicates that the water surface may freeze before the test is complete.

D. Clean interior of structure:
   1. Remove dirt, contaminants, and construction debris.
   2. Flush floors and sumps to provide clean surfaces.
   3. Remove standing water that would interfere with examination of surfaces, cracks, or joints.

E. Observe the structure, or portions of the structure being tested, for potential leak locations:
   1. Give particular attention to cracks, open joints, voids, and honeycombed and repaired surfaces.
   2. Visually observe openings, fitting, and pipe penetrations in the structure at both faces, if possible.
   3. Repair potential leak locations in accordance with these Specifications and as approved by the Engineer.
   4. Backfill excavations to the top of the structure foundation. Do not place backfill against water-bearing walls or over footings unless approved in advance by the Engineer.
      a. If requesting backfilling of walls before testing, include a description of methods that will be used to detect leakage in the backfilled areas.
      b. Engineer's approval of backfilling before testing shall not relieve Contractor of the responsibility to conduct leakage tests, to satisfy the leakage acceptance criteria for the structure, or to repair leaking portions of the structure, including those portions below or behind the backfill.
   5. See Drawings and Earthwork specification for requirements to provide wall stability before backfilling.

F. Inlets to/outlets from the structure:
   1. Make inlets to and outlets from the structure watertight.
      a. Include valves; stop, sluice, and slide gates; and temporary bulkheads as required.
      b. Inlets and outlets not required to be operable may be temporarily sealed before testing of the compartments to which they open.
      c. Secure inlets used to fill the structure for testing to ensure that no water is entering or leaving the structure once it has been filled to the test level.
   2. Adjustments to measured leakage at inlets and outlets based on manufacturer's or Contractor's estimates will not be allowed.
      a. Adjustments to measured leakage may be permitted by the Engineer, and, at his/her discretion, only when the Contractor makes specific measurements of leakage at each individual inlet and outlet using methods approved by the Engineer.

3.04 HYDROSTATIC LEAKAGE TEST FOR OPEN OR COVERED CONTAINMENT STRUCTURES ("HST-100")

A. Isolate sections of water-holding structures that can be isolated in actual operation. Fill and test sections for leakage separately.
   1. Fill structures and sections of structures scheduled for testing to the normal operating water level indicated on the Hydraulic Profile indicated on the Drawings.

B. Initial rate for filling of structures shall not exceed 4 feet per hour.

C. HST-100 testing includes 2 parts, "Qualitative Testing," and "Quantitative Testing," as described in the following paragraphs:
   1. HST-100, Part 1 - Qualitative Testing:
      a. During the first 24 hours after structures are filled, examine exposed concrete surfaces for damp spots or flowing water.
         1) Make observations in early morning, at midday, and in late afternoon.
         2) Continue observations through the duration of the Quantitative Testing period.
         3) Pay particular attention to conditions at joints, honeycombed areas, cracks, and repaired portions of the structure.
      b. Evaluation criteria:
         1) The structure shall be considered to have failed these Qualitative Testing requirements if any of the following conditions are observed.
            a) Water droplets or moist areas on an outside surface that could only have originated inside the structure.
            b) Water is flowing or seeping from joints, cracks, or surfaces.
               (1) Exception: Dampness or wetness on top of a footing, in the absence of flowing water, shall not be considered as failure to meet this criterion.
            c) Moisture can be transferred to a dry hand from the outside surfaces of the filled area.
      c. Repairs and retesting:
         1) Where damp spots or flowing water as described in the preceding paragraphs are observed, mark locations, provide repairs, and retest the structure as specified in subsequent paragraphs.
   2. HST-100 - Part 2: Quantitative Testing:
      a. If approved by the Engineer, Quantitative Testing may begin before repairs are made to areas failing Part 1 of this test; however:
         1) Adjustments to volume loss calculations of Quantitative Testing based on observed leakage will not be permitted.
         2) All defects identified for repair during Qualitative Testing shall be repaired to the satisfaction of the Engineer before approval of the structure.
      b. Report the results of quantitative testing.
         1) Submit completed Attachment A - Leakage Test Report or at a minimum, include the information specified in Attachment A - Leakage Test Report.
      c. Unlined concrete structures:
         1) Fill to the designated water surface elevation. Maintain that level for at least 72 hours before recording initial water levels for leakage test.

2) Duration of test:
   a) Theoretical time required to lower the water surface in the structure by 3/8 inch when leakage is occurring at the maximum allowable rate specified in subsequent paragraphs of this Section.
   b) The duration ("D") of the test in days is determined by the following equation:

$$D = \frac{0.375 \text{ inches}}{(0.0005 \text{ in/in/day} \times H \text{ ft} \times 12 \text{ in/ft})}$$

Where: H = maximum liquid depth

   (1) Round results upward to the next full 24-hour period (day).
   (2) Minimum duration of test: 24 hours (1 day).
   (3) Maximum duration of test: 120 hours (5 days).

d. Lined concrete structures and secondary containment areas:
   1) Fill to the designated water surface elevation. Recording of water levels for leakage tests may begin as soon as the designated water surface level is reached and the water surface is calm.
   2) Duration of test: 72 hours (3 days).
e. Measurements: Water level:
   1) Record water levels at 24-hour intervals for the full duration of the test period.
   2) Measure water levels at not less than 2 locations on opposite ends of the structure, and preferably at 4 locations spaced equally around the structure. Mark locations on the structure and take measurements at the same locations throughout the duration of the test.
   3) Measure, to an accuracy of 1/16 inch, the vertical distance to the water surface from a fixed point on the structure above.
f. Measurements: Temperatures:
   1) As part of the first and last sets of level measurements, record water temperature at a depth of 18 inches below the water surface. Measure temperature at the same locations where level measurements are taken.
   2) Record ambient temperature at the time of each water level measurement.
g. Measurements: Evaporation and precipitation:
   1) Measure evaporation and precipitation by floating pans inside the structures during testing.
      a) For uncovered structures, measure both evaporation and precipitation.
      b) For covered structures that are well ventilated, measure evaporation.
   2) Measure using specially constructed clear containers:
      a) Provide clear plastic, calibrated, open-top containers not less than 18 inches in diameter and 18-inches deep.

b) Partially fill containers with water and float inside the structure. Make provisions to hold containers in place at each measurement location, but away from structure walls and items passing overhead, such as beams or pipes.
c) Measure initial depth of water in each device. Measure changes in water level in each device at the same time measurements of the water level inside the structure are taken.

h. Restart of test:
1) The Engineer may order a restart of the test when, in the Engineer's opinion, measurements have become unreliable due to unusual precipitation or other factors.
2) If measurements or observed leakage during the testing period indicate that the allowable leakage requirements will be exceeded, the test may be terminated before completion of the full test period. Take appropriate actions to correct problems before restarting the test.

i. Calculations of leakage test results:
1) For each section of the structure tested, use water surface level records to calculate average loss of volume per 24-hour interval.
a) For each 24-hour interval during the test, calculate the average of all measured drops in water level around the structure.
b) Use the average drop thus determined to calculate an average loss of volume for each 24-hour interval.
2) Adjustments to leakage calculations:
a) For uncovered basins, calculations shall be corrected for precipitation added to the structure.
b) Calculations may be corrected for evaporation and water temperature.

j. Evaluation criteria:
1) Unless otherwise specified, the average loss of volume during any 24-hour interval shall not exceed the limits shown in Table A.

Table - Loss of Volume Criteria for Leakage Tests

Structure Type	Maximum Loss of Water Volume
• Structure fully lined prior to leakage test. • Secondary containment areas.	No measurable loss over 72-hour test period.
• Structure with monolithically placed membrane floor slab.	0.0125 percent of volume per 24-hour period.
• Concrete paved canals, drying beds, lagoons, and similar structures.	0.100 percent of volume per 24-hour period.
• Other containment structures.	0.050 percent of volume per 24-hour period.

k. Repairs and retesting:
1) Structures and portions of structures that have satisfied the qualitative requirements of HST-100, but have failed to satisfy the quantitative requirements of HST-100 may be immediately retested for volume loss.
a) If the structure fails the second test for volume loss, the structure shall be drained, and the Contractor shall observe the interior for probable areas of leakage.

b) The structure shall not be retested until repairs to the probable areas of leakage are complete.

3.05 REPAIRS FOR RETESTING

A. Locations showing damp spots or flowing water:
   1. Mark locations of visible leaks and damp spots.
   2. Drain structures for repair.
   3. Repair defects causing damp spots and flowing water using methods specified and approved by the Engineer.
      a. Repair both interior and exterior surfaces and make structures watertight.
      b. Submit proposed repair products and procedures for Engineer's review.
      c. Refill structures for retesting.
   4. Repeat filling, observations, and repairs until no leaks or damp spots appear.

B. Structures for which water volume loss exceeds the limits specified after adjustments for evaporation, and precipitation:
   1. Determine cause of volume loss.
   2. Drain structures of water.
   3. Repair defects causing loss of water volume using methods specified and approved by the Engineer.
      a. Submit proposed repair products and procedures for Engineer's review.
   4. Refill water-holding structures.
   5. Repeat testing and repairs until volume loss does not exceed specified limits.

END OF SECTION

ATTACHMENT A - LEAKAGE TEST REPORT

THIS PAGE INTENTIONALLY LEFT BLANK

LEAKAGE TEST REPORT

PROJECT:		SUBMITTED BY:	
STRUCTURE:		WITNESSED BY:	
AREA:		TEST DATES:	
TEST DURATION:		TEST DURATION:	

Surface area of structure tested:		(square feet)
Volume of structure tested:		(cubic feet)
Volume of structure tested:		(gallons)
Measured loss through gates, etc.:		(gallons / day)
Allowable loss of water volume:		(per day)
Allowable loss of water volume:		(% in 24 hours)
Allowable measured loss over test duration (inches):		
Measured loss of water:		(gallons / day - From E below)
Measured loss of water volume (%):		(in 24 hours - From E below)

Water Temperature: Start of test: °F End of test: °F

			Water Surface Elevation (top of structure to top of water)				
			Location #1	Location #2	Location #3	Location #4	Initials**
Day	Date	Time	(inches)	(inches)	(inches)	(inches)	
1							
2							
3							
4							
5							
Changes in Level:							

A. Average change in level (feet): _____ (Average of total charges for all locations)

B. Correction for precipitation: _____ (Measured from pan)

C. Correction for evaporation: _____ (Measured from pan)

D. Corrected change in level (CL): _____

E. Total days tested: _____

F. Average measured % water loss in 24 hours: _____ = $\frac{(CL) \times (\text{surface area}) \times 100}{(\text{initial water volume}) \times (\text{number of test days})}$

Notes and field observations**

** Place date and initials at the beginning of each entry

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01783

WARRANTIES AND BONDS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Warranty and bonds requirements.

1.02 SUBMITTALS

A. For each item of material or equipment furnished under the Contract:
   1. Submit manufacturer's warranty prior to fabrication and shipment of the item from the manufacturer's facility.
   2. Submit manufacturer's special warranty when specified.

B. Provide consolidated warranties and bonds within 15 calendar days of Substantial Completion.
   1. Contents:
      a. Organize warranty and bond documents:
         1) Include Table of Contents organized by specification section number and the name of the product or work item.
      b. Include each required warranty and bond in proper form, with full information, are certified manufacturer as required, and are properly executed by Contractor, or subcontractor, supplier, or manufacturer.
      c. Provide name, address, phone number, and point of contact of manufacturer, supplier, and installer, as applicable.
   2. Hardcopy format:
      a. Submit 2 copies.
      b. Assemble in 3 D-side ring binders with durable cover.
      c. Identify each binder on the front and spine with typed or printed title "Warranties and Bonds"; Project Name or Title, and the Name Address and Telephone Number of the Contractor.
   3. Electronic copy in PDF format:
      a. Submit 1 copy.

1.03 OWNER'S RIGHTS

A. Owner reserves the right to reject warranties.

B. Owner reserves the right to refuse to accept Work for the project if the required warranties have not been provided.

1.04 RELATIONSHIP TO GENERAL WARRANTY AND CORRECTION PERIOD

A. Warranties specified for materials and equipment shall be in addition to, and run concurrent with, both Contractor's general warranty and the correction period requirements.

B. Disclaimers and limitations in specific materials and equipment warranties do not limit Contractor's general warranty, nor does such affect or limit Contractor's performance obligations under the correction period.

1.05 MANUFACTURER'S WARRANTY MINIMUM REQUIREMENTS

A. Written warranty issued by item's manufacturer.

B. Project-specific information, properly executed by product manufacturer, and expressly states that its provisions are for the benefit of the Owner.

C. Covers all costs associated with the correction of the defect, including but not limited to removal of defective parts, new parts, labor, and shipping.
   1. When correcting warranted Work that has failed, remove and replace other Work that had been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

D. Provides a timely response to correct the defect.
   1. Manufacturer shall provide, in a timely fashion, temporary equipment as necessary to replace warranted items requiring repair or replacement, when warranted items are in use and are critical to the treatment process, as defined by Owner.
   2. In the case that Owner has to provide temporary equipment to replace function of warranted item requiring repair or replacement, manufacturer shall reimburse Owner for such costs associated with the temporary equipment.

E. Warranty shall commence on the date of substantial completion of the work.
   1. For work that is beneficially utilized prior to project completion, Contractor shall warranty the work to maintain duration of warranty as noted herein.
   2. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit warranty within 10 calendar days after acceptance, listing date of acceptance as beginning of warranty period.

F. Duration of Warranty: 1 year after substantial completion of the project.

1.06 MANUFACTURER'S SPECIAL WARRANTY

A. Manufacturer's special warranty is a written warranty published by the manufacturer which includes the requirements specified in the section where the item is specified.
   1. Includes Project-specific information and requirements, properly executed by product manufacturer, and expressly states that its provisions are for the benefit of the Owner. Technical sections indicate Project-specific requirements that differ from the minimum warranty requirements for that item.
      a. Examples include extending the duration of manufacturer's warranty or to provide increased rights to Owner.
   2. Manufacturer's warranties commence on the date that the associated item is certified by Engineer as substantially complete.

1.07 WARRANTY WORK

A. Contractor's responsibilities:
   1. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the product, nor

does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with Contractor.

B. Replacement cost:
   1. Upon determination that work covered by warranty has failed, replace or rebuild the work to an acceptable condition complying with requirement of the Contract Documents.
      a. Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether Owner has benefited from the use of the work through a portion of its anticipated useful service life.

C. Related damages and losses:
   1. When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.

D. Owner's recourse:
   1. Written warranties are in addition to implied warranties, and shall not limit the duties, obligations, rights, and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitation on time in which Owner can enforce such other duties, obligations, rights, or remedies.

E. Reinstatement of warranty:
   1. When work covered by a warranty has failed and has been corrected by replacement or rebuilding, reinstate the warranty by written endorsement.
      a. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

1.08 IMPLIED WARRANTIES

A. Warranty of title and intellectual rights:
   1. Except as may be otherwise indicated in the Contract Documents, implied warranty of title required by Laws and Regulations is applicable to the Work and to materials and equipment incorporated therein.
   2. Provisions on intellectual rights, including patent fees and royalties, are in the General Conditions, as may be modified by the Supplementary Conditions.

B. Implied warranties: Duration in accordance with Laws and Regulations.

1.09 BONDS

A. Equipment bond and other bond requirements as specified in the technical sections.

B. Bonds commence running on the date of substantial completion.
   1. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit warranty within 10 calendar days after acceptance, listing date of acceptance as beginning of bond period.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not used.

END OF SECTION

ARTICLE 1 - GENERAL

1.1 RELATED DOCUMENTS

The following documents are a part of this section:

All documents in Bidding Requirements, Contract Forms and Conditions of the Contract.

Other sections of Division 1 - General Requirements apply to this section.

1.2 DESCRIPTION AND INTENT OF THE WORK

No asbestos containing material (ACM) shall be brought onto the Project site, and/or incorporated into the Project construction without the written consent of the OWNER. Any asbestos containing material found at any time including after contract completion, to have been brought onto the site or incorporated into the Project construction by the CONTRACTOR, or any Subcontractors, Sub-Subcontractors or Suppliers, shall be removed and disposed of in accordance with the then current governmental regulatory standards.

All costs associated with the inspection, sampling, testing, removal and disposal of ACM as described above shall be paid by the CONTRACTOR.

1.3 DEFINITIONS

ASBESTOS: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite) cummingtonite-grunerite (amosite), anthophyllite, actinolite and tremolite.

ASBESTOS CONTAINING MATERIAL (ACM): Any material containing more than one percent (1%) by weight of asbestos of any type or mixture of types.

ASBESTOS CONTAINING BUILDING MATERIAL (ACBM): Any material used in the construction of, or incorporated into the construction of, any building that contains more than one percent (1%) by weight of asbestos of any type or mixture of types.

MSDS: A material safety data sheet (MSDS) is a form containing data regarding the properties of component substances that comprise a manufactured product. They are a basic hazard communication tool that gives details on chemical and physical dangers, safety procedures, and emergency responses for chemicals.

1.4 QUALITY ASSURANCE

PROHIBITION OF ASBESTOS CONTAINING MATERIALS

The E/A has been instructed to not permit any asbestos containing materials to be specified, requested or approved for use in conjunction with this Project.

The E/A has signed the following:

A. 01900A Statement of Non-Inclusion of Asbestos Containing Material (E/A, Prior to Design): stating that the Engineer/Architect shall not specify, request or approve any ACM in this Project without prior written approval of OWNER.

B. 01900B Statement of Non-Inclusion of Asbestos Containing Material (E/A, After Design): stating that the Engineer/Architect has not specified, requested or approved any ACM in this Project without the prior written approval of the OWNER, and that any ACM allowed in this Project is identified in the Statements.

These Statements are included in the Construction Documents.

ASBESTOS CONTAINING MATERIALS PROHIBITED FROM SITE

No asbestos containing materials will be permitted as part of the Project construction. The following list is intended to be used as a general guide to show which types of materials are suspected to contain asbestos:

- Cement Pipes
- Cement Wallboard
- Cement Siding
- Asphalt Floor Tile
- Vinyl Floor Tile
- Vinyl Sheet Flooring/vinyl wall coverings
- Flooring Backing
- Construction Mastics (floor tile, carpet, ceiling tile, etc.)
- Acoustical Plaster
- Decorative Plaster / stucco
- Textured Paintings/Coatings
- Ceiling Tiles and Lay-in Panels
- Spray-Applied Insulation
- Blown-in Insulation
- Fireproofing Materials
- Taping Compounds (thermal)
- Packing Materials (for wall/floor penetrations)
- High Temperature Gaskets
- Laboratory Gloves
- Fire Blankets
- Fire Curtains
- Elevator Equipment Panels
- Elevator Brake Shoes
- HVAC Duct Insulation
- Boiler Insulation
- Breeching Insulation
- Ductwork Flexible Fabric Connections
- Cooling Towers
- Pipe Insulation (corrugated air-cell, block, etc.)
- Heating and Electrical Ducts
- Electrical Panel Partitions
- Electric Cloth
- Electric Wiring Insulation
- Chalkboards
- Roofing Shingles / tiles / membranes
- Roofing Felt
- Roof Coatings
- Base Flashing
- Thermal Paper Products
- Fire Doors
- Caulking/Putties
- Adhesives / mastics
- Wallboard
- Joint Compounds
- Spackling Compounds
- Laboratory hoods/tabletops
- CMU block fill materials

If any of these suspect materials are specified for use on the Project, and if they do not have specific labelling identifying them as asbestos free, then the CONTRACTOR shall notify the OWNER immediately. Laboratory analysis of the material by an OWNER-approved laboratory shall be performed at CONTRACTOR's expense in order to warrant that the material does not contain asbestos. A copy of the package labelling or results of laboratory testing must be provided to the OWNER prior to inclusion of the specified material during construction. Contractor's construction submittals must include MSDSs for all new materials used in construction of buildings, facilties and infrastructure.

1.5 SUBMITTALS

NON-USE OF ASBESTOS AFFIDAVITS

At the time that the CONTRACTOR signs the Agreement, they shall sign a Non-Use of Asbestos Affidavit (Contractor Prior to Construction), Contract Document 00680. This Affidavit certifies that the CONTRACTOR agrees that they will not allow any asbestos containing materials to be incorporated into the construction of the Project or allow any asbestos containing building materials on the site for which the OWNER has not given prior written approval.

Prior to final payment, the CONTRACTOR will provide to the OWNER a Non-Use of Asbestos Affidavit (Contractor After Construction), Contract Document 00681. This Affidavit certifies that the CONTRACTOR did not allow asbestos containing materials to be incorporated into the construction or allowed any asbestos containing building materials on the site for which the OWNER of the Project did not give prior written approval.

ASBESTOS CONTAINING MATERIALS: When any asbestos containing materials are used on the Project, provide the following information:

A detailed description of the material containing the asbestos.

The type and percent of asbestos contained in the material.

The quantity of the materials used, including the square footage, or in the case of pipe insulation, the size and linear footage.

A drawing showing the exact location of any asbestos containing materials.

Final payment shall be withheld until the above described Affidavits, submittals and/or information are received and approved.

END

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF AUSTIN

STATEMENT OF NON-INCLUSION OF ASBESTOS CONTAINING MATERIAL

STATE OF TEXAS
COUNTY OF TRAVIS

ENGINEER/ARCHITECT PRIOR TO DESIGN

"My name is Danny M. Hurtado, hereinafter known as Authorized Representative.

"I am over the age of 18 years and I have never been convicted of a crime. I am the Project Manager of Carollo Engineers hereinafter known as ENGINEER/ARCHITECT.

"I am fully competent to make this statement. I have personal knowledge of the facts set forth below and they are all true and correct.

"WHEREAS ENGINEER/ARCHITECT has been selected to provide designs, to prepare the bid and construction documents, and to assist the City of Austin, Texas, hereinafter known as OWNER, during the construction of the Wild Horse Ranch WWTP Expansion, located at Wild Horse Wastewater Treatment Plant, Austin, Texas, hereinafter known as Project, and

"WHEREAS asbestos in a dust form is a recognized health hazard, and
"WHEREAS the OWNER desires not to have any asbestos containing materials used or incorporated into the construction of the Project;
"THEREFORE the ENGINEER/ARCHITECT affirms that to the best of its knowledge and belief:

1. The ENGINEER/ARCHITECT, any person, firm or organization representing or represented by the ENGINEER/ARCHITECT, shall not knowingly specify, request, or approve for use in conjunction with the Project, any asbestos containing materials or any other materials defined as containing asbestos by any laws, rules or regulations promulgated by the United States Government, the State of Texas or any governmental organization or agency operating under the authority of either of those entities.
2. Realizing that there might be materials required in which a satisfactory non-asbestos containing material cannot be obtained, the ENGINEER/ARCHITECT will do the following before specifying any asbestos containing material:
   A. Inform the OWNER's Project Manager for this Project, in writing, of any intent to specify asbestos containing materials.
   B. Receive written approval from the City of Austin Project Manager for the specifying of any asbestos containing materials.
   C. At the completion of the design phase, and before the OWNER receives any bids for this Project, provide to the Project Manager, in writing, the proposed location of any asbestos containing materials, the type of asbestos they contain, and the percent of asbestos by types.
3. The ENGINEER/ARCHITECT states its understanding that if any asbestos containing materials not approved by the OWNER for inclusion into the Project, are determined, as a result of any inspection and sample analysis performed by an individual(s) and/or firm(s) certified and/or licensed to perform such inspection by the United States Government and/or the State of Texas, to have been knowingly specified, requested and/or approved by the ENGINEER/ARCHITECT for inclusion in the Project, the OWNER shall look to the ENGINEER/ARCHITECT for reimbursement of any and all costs incurred in the removal and/or other abatement of said asbestos containing materials.
4. ENGINEER/ARCHITECT further understands that OWNER shall also look to the ENGINEER/ARCHITECT for any and all damages to OWNER which result from the inability of the OWNER to use any portion or all of the Project due to the incorporation of asbestos containing materials that have been knowingly specified, requested and/or approved by the ENGINEER/ARCHITECT.
5. ENGINEER/ARCHITECT further understands that OWNER will pursue reimbursement of any said cost and compensation for any said damages from the ENGINEER/ARCHITECT by any and every means within OWNER's right and power.

Signature of Authorized Representative: _____

STATE OF TEXAS
COUNTY OF TRAVIS

ON July 12th, 2021 personally appeared Danny M. Hurtado and been duly sworn by me, subscribed to the foregoing statement and has stated that the facts stated therein are true and correct.

KATY BUTLER
Notary ID #130334182
My Commission Expires
August 27, 2023

Notary Public, State of Texas Katy Butler

Printed Name of Notary Katy Butler

My Commission Expires: August 27, 2023

01605A.00/110392

CITY OF AUSTIN

STATEMENT OF NON-INCLUSION OF ASBESTOS CONTAINING MATERIAL

ENGINEER/ARCHITECT AFTER DESIGN

STATE OF TEXAS
COUNTY OF TRAVIS

"My name is Danny M. Hurtado, hereinafter known as Authorized Representative.

"I am over the age of 18 years and I have never been convicted of a crime. I am the Project Manager of Carollo Engineers hereinafter known as ENGINEER/ARCHITECT.

"I am fully competent to make this statement. I have personal knowledge of the facts set forth below and they are all true and correct.

"WHEREAS ENGINEER/ARCHITECT has been selected to provide designs, to prepare the bid and construction documents, and to assist the City of Austin, Texas, hereinafter known as OWNER, during the construction of the Wild Horse Ranch WWTP Expansion, located at the Wild Horse Wastewater Treatment Plant Austin, Texas, hereinafter known as Project, and

"WHEREAS asbestos in a dust form is a recognized health hazard, and
"WHEREAS the OWNER desires not to have any asbestos containing materials used or incorporated into the construction of the Project;
"THEREFORE the ENGINEER/ARCHITECT affirms that to the best of its knowledge and belief:

1. The ENGINEER/ARCHITECT, any person, firm or organization representing or represented by the ENGINEER/ARCHITECT, shall not knowingly specify, request, or approve for use in conjunction with the Project, any asbestos containing materials or any other materials defined as containing asbestos by any laws, rules or regulations promulgated by the United States Government, the State of Texas or any governmental organization or agency operating under the authority of either of those entities.
2. The only exceptions to the above statement are the following materials that are required because a satisfactory non-asbestos containing material cannot be obtained. The inclusion of these materials has been approved by the OWNER's Project Manager for this Project.

   _____

   _____

   _____

   _____

3. The ENGINEER/ARCHITECT states its understanding that if any asbestos containing materials not approved by the OWNER for inclusion into the Project, are determined, as a result of any inspection and sample analysis performed by an individual(s) and/or firm(s) certified and/or licensed to perform such inspection by the United States Government and/or the State of Texas, to have been knowingly specified, requested and/or approved by the ENGINEER/ARCHITECT for inclusion in the Project, the OWNER shall look to the ENGINEER/ARCHITECT for reimbursement of any and all costs incurred in the removal and/or other abatement of said asbestos containing materials.
4. ENGINEER/ARCHITECT further understands that OWNER shall also look to the ENGINEER/ARCHITECT for any and all damages to OWNER which result from the inability of the OWNER to use any portion or all of the Project due to the incorporation of asbestos containing materials that have been knowingly specified, requested and/or approved by the ENGINEER/ARCHITECT.
5. ENGINEER/ARCHITECT further understands that OWNER will pursue reimbursement of any said cost and compensation for any said damages from the ENGINEER/ARCHITECT by any and every means within OWNER's right and power.

Signature of Authorized Representative: _____

STATE OF TEXAS
COUNTY OF TRAVIS

ON July 12th, 2021 personally appeared Danny M. Hurtado and been duly sworn by me, subscribed to the foregoing statement and has stated that the facts stated therein are true and correct.

KATY BUTLER
Notary ID #130334182
My Commission Expires
August 27, 2023

Notary Public, State of Texas Katy Butler

Printed Name of Notary Katy Butler

My Commission Expires: August 27, 2023

01605B/110392