

**TABLE OF CONTENTS**

**CONTRACT DOCUMENTS**

<b><u>Section No.</u></b>	<b><u>Title</u></b>
00001	Inside Title Page
00003	Table of Contents
00004	List of Drawings
00020	Invitation to Bid
00100	Instructions to Bidders
00300	Bid
00500	Agreement
00610	Construction Performance Bond
00620	Payment Bond
00630	One-Year Maintenance Bond
00700	General Conditions of the Construction Contract
00800	Supplementary Conditions

**NOTE: Capitalized specification sections indicated in these Table of Contents are included as part of the North Harris County Regional Water Authority’s standard technical specifications, found online at <https://www.nhcrwa.com/docs/design-construction/>. These standard technical specifications are incorporated into this Project Manual by reference as if copied verbatim. Specifications otherwise indicated in normal case are provided by the ENGINEER and bound into this Project Manual.**

**The date shown against each Specification represents the date on which this Specification was last modified or added. If this date is after the Contractor’s bid submittal date, the Contractor must use the applicable specification shown on the Authority website shown as “Prior Specifications”, which shall become part of the Project Manual.**

**Note that standard technical specification sections marked with an asterisk (\*) are amended by a supplemental specification and placed in front of the specification title it amends.**

***Note to Design Engineer: The asterisk (\*) placed in front of the standard technical specification indicates that a supplemental specification has been included, with a letter S as a suffix to the number against it. Both the standard and supplemental specifications are included in the Table of Contents for identifying the changes made.***

**TECHNICAL SPECIFICATIONS**

**Division 1 – General Requirements**

<b><u>Section No.</u></b>	<b><u>Title</u></b>	<b><u>Date</u></b>
01110	Summary Of Work .....	May 2022
01145	Use Of Premises .....	June 2017
01255	Change Order Procedures .....	June 2017
01270	Measurement And Payment .....	June 2017
01292	Schedule Of Values .....	June 2017
01312	Coordination And Meetings .....	June 2017
01321	Construction Photographs.....	June 2017
01325	Construction Schedule.....	May 2021
01330	Submittal Procedures.....	June 2017
01340	Shop Drawings, Product Data, and Samples .....	June 2017
01410	TPDES Requirements.....	June 2017

**North Harris County Regional Water Authority**

---

01422	Reference Standards .....	June 2017
01450	Contractor’s Quality Control .....	June 2017
01452	Inspection Services .....	June 2017
01454	Testing Laboratory Services .....	June 2017
01502	Mobilization .....	June 2017
01504	Temporary Facilities And Controls .....	June 2017
01520	Temporary Field Office .....	June 2017
01555	Traffic Control And Regulation.....	June 2017
01562	Tree And Plant Protection .....	June 2017
01574	Reinforced Filter Fabric Barrier .....	September 2020
01575	Stabilized Construction Exit.....	June 2017
01576	Waste Material Disposal.....	June 2017
01577	Inlet Protection Barriers.....	June 2017
01578	Control Of Ground Water And Surface Water .....	June 2017
01580	Project Identification Signs.....	June 2017
01610	Basic Product Requirements.....	June 2017
01661	Water Receiving Facility (WRF) Start-Up.....	July 2022
01725	Field Surveying.....	June 2017
01731	Cutting And Patching .....	June 2017
01740	Restoration Of Site .....	June 2017
01770	Closeout Procedures .....	June 2017
01782	Operations And Maintenance Data.....	June 2017
01785	Project Record Documents .....	June 2023

**Division 2 – Site Work**

<b><u>Section No.</u></b>	<b><u>Title</u></b>	<b><u>Date</u></b>
02081	CAST-IN-PLACE CONCRETE MANHOLES .....	June 2017
02082	PRECAST CONCRETE MANHOLES.....	September 2022
02084	FRAMES, GRATES, RINGS, AND COVERS.....	June 2017
02085	VALVE BOXES, METER BOXES, AND METER VAULTS .....	June 2017
02086	ADJUSTING MANHOLES, INLETS, AND VALVE BOXES TO GRADE.....	June 2017
02087	STORM WATER BRICK MANHOLES .....	June 2017
02221	REMOVING EXISTING PAVEMENTS, STRUCTURES AND BURIED UTILITIES .....	June 2017
02233	CLEARING AND GRUBBING.....	June 2017
02260	TRENCH SAFETY SYSTEM .....	June 2017
02315	ROADWAY EXCAVATION .....	June 2017
02316	EXCAVATION AND BACKFILL FOR STRUCTURES .....	June 2017
02317	EXCAVATION AND BACKFILL FOR UTILITIES.....	October 2021
02319	BORROW.....	June 2017
02320	UTILITY BACKFILL MATERIALS .....	June 2017
02321	CEMENT STABILIZED SAND .....	June 2017
02330	EMBANKMENT.....	June 2017
02336	LIME-STABILIZED SUBGRADE.....	June 2017
02337	LIME/FLY-ASH STABILIZED SUBGRADE .....	June 2017
02338	PORTLAND CEMENT STABILIZED SUBGRADE .....	June 2017
02400	TUNNEL SHAFTS .....	November 2022
02425	TUNNEL EXCAVATION AND PRIMARY LINER.....	November 2022

**North Harris County Regional Water Authority**

---

02431	TUNNEL GROUT .....	June 2017
02447	DRY AND SLURRY AUGERING OF PIPE AND CONDUIT .....	November 2022
02450	HORIZONTAL DIRECTIONAL DRILLING .....	October 2021
02464	SPECIAL SHORING .....	October 2021
02465	DRILLED SHAFT FOUNDATIONS .....	June 2017
02501	DUCTILE IRON PIPE AND FITTINGS .....	October 2021
02502	STEEL PIPE AND FITTINGS .....	June 2017
02505	HIGH DENSITY POLYETHYLENE (HDPE) PIPE .....	June 2017
02506	POLYVINYL CHLORIDE PIPE .....	October 2021
02507	PRESTRESSED CONCRETE CYLINDER PIPE .....	August 2020
02511	WATER LINES.....	November 2022
02513	WET CONNECTIONS .....	June 2017
02514	DISINFECTION OF WATER LINES .....	June 2017
02515	HYDROSTATIC TESTING OF WATER LINES .....	June 2017
02516	CLEANING AND FLUSHING OF WATER LINES .....	June 2017
02517	WATER LINE IN TUNNELS.....	June 2017
02518	STEEL PIPE AND FITTINGS FOR LARGE DIAMETER WATER LINES .....	August 2022
02519	CONDUCTIVE TRACE WIRE FOR NONMETALLIC PIPE .....	October 2020
02520	FLUSHING HYDRANTS.....	June 2017
02521	GATE VALVES.....	June 2017
02522	BUTTERFLY VALVES .....	November 2022
02524	AIR RELEASE AND VACUUM RELIEF VALVES .....	June 2017
02525	TAPPING SLEEVES AND VALVES .....	June 2017
02527	POLYURETHANE COATINGS AND LININGS ON STEEL PIPE .....	October 2021
02528	POLYETHYLENE WRAP .....	June 2017
02529	ELECTROMAGNETIC FLOW METERS .....	December 2021
02531	GRAVITY SANITARY SEWERS .....	June 2017
02613	BAR WRAPPED STEEL CYLINDER PIPE.....	August 2020
02621	GEOTEXTILE.....	June 2017
02632	CAST-IN-PLACE INLETS, HEADWALLS AND WINGWALLS .....	June 2017
02633	PRECAST CONCRETE INLETS, HEADWALLS, AND WINGWALLS .....	June 2017
02711	HOT MIX ASPHALT BASE COURSE .....	June 2017
02712	CEMENT STABILIZED BASE COURSE .....	June 2017
02713	RECYCLED CRUSHED CONCRETE BASE COURSE.....	June 2017
02741	ASPHALTIC CONCRETE PAVEMENT.....	June 2017
02742	PRIME COAT .....	June 2017
02752	CONCRETE PAVEMENT JOINTS .....	June 2017
02753	CONCRETE PAVEMENT CURING .....	June 2017
02754	CONCRETE DRIVEWAYS .....	June 2017
02761	COLORLED CONCRETE FOR MEDIANS AND SIDEWALKS .....	June 2017
02762	BLAST CLEANING OF PAVEMENT.....	June 2017
02765	TEMPORARY AND REMOVABLE REFLECTORIZED PAVEMENT MARKINGS.....	June 2017
02767	THERMOPLASTIC PAVEMENT MARKINGS .....	June 2017
02771	CURB, CURB AND GUTTER, AND HEADERS .....	June 2017
02772	CONCRETE MEDIANS AND DIRECTIONAL ISLANDS .....	June 2017
02775	CONCRETE SIDEWALKS .....	June 2017
02821	CHAIN LINK FENCES AND GATES.....	June 2017

**North Harris County Regional Water Authority**

---

02911	TOPSOIL.....	June 2017
02915	TREE PLANTING .....	June 2017
02921	HYDRO-MULCH SEEDING .....	June 2017
02922	SODDING .....	June 2017
02951	PAVEMENT REPAIR AND RESURFACING .....	June 2017
02990	DECHLORINATION ACTIVITIES.....	August 2022

Division 3 – Concrete

**Section No. Title**

03001	CONCRETE (PAVEMENT & STRUCTURES) .....	June 2017
03002	CONCRETE PAVEMENT.....	June 2017
03210	REINFORCING STEEL.....	June 2017
03315	CONCRETE FOR UTILITY CONSTRUCTION .....	June 2017

Division 4 – Masonry

**Section No. Title**

04061	MORTAR.....	June 2017
04210	BRICK MASONRY FOR UTILITY CONSTRUCTION .....	June 2017

Division 5 – Metals (NOT USED)

Division 6 – Wood and Plastics (NOT USED)

Division 7 – Thermal and Moisture Protection (NOT USED)

Division 8 – Doors and Windows (NOT USED)

Division 9 – Finishes

**Section No. Title**

09902	PAINTING AND PROTECTIVE COATING.....	August 2022
09905	REPAINTING AND REPAIR OF EXISTING WATER FACILITIES.....	August 2022

Division 10 – Specialties (NOT USED)

Division 11 – Equipment

**Section No. Title**

11260	GAS CHLORINATION SYSTEM .....	February 2022
11261	SODIUM HYPOCHLORITE (BLEACH) CHLORINATION SYSTEM .....	February 2022
11262	LIQUID AMMONIUM SULFATE (LAS) SYSTEM.....	February 2022
11263	CHLORINE GAS LEAK DETECTOR.....	June 2021
11301	CHLORINE ANALYZERS.....	June 2021
11302	AMMONIA ANALYZERS.....	June 2021
11303	CHEMICAL ANALYZERS.....	June 2021
11306	PACKAGE SANITARY SEWER LIFT STATION FOR ANALYZER STATION BY-PASS FLOWS .....	December 2021
11337	STATIC MIXERS AND APPURTENANCES .....	June 2017
11700	EMERGENCY EYEWASH AND SHOWER EQUIPMENT.....	June 2021

# North Harris County Regional Water Authority

---

## Division 12 – Furnishings (NOT USED)

## Division 13 – Special Construction

<u>Section No.</u>	<u>Title</u>	
13202	POLYETHYLENE CHEMICAL STORAGE TANKS .....	December 2021
13207	GROUND STORAGE TANK (GST) MODIFICATIONS, CLEANING AND DISINFECTION .....	June 2017
13446	PRIMARY INSTRUMENTATION DEVICES .....	June 2021

## Division 14 – Conveying Systems (NOT USED)

## Division 15 – Mechanical

<u>Section No.</u>	<u>Title</u>	
15064	POLYVINYL CHLORIDE PIPE LESS THAN 4” IN DIAMETER.....	June 2017
15100	CHEMICAL PIPING.....	June 2021
15105	COMBINATION FLOW CONTROL VALVES .....	December 2021
15111	AIR RELEASE AND VACUUM RELIEF VALVES FOR WRF AND PLANT WORK .....	December 2021
15116	CHECK VALVE, TWIN DISC.....	June 2018
15130	PRESSURE GAUGES, TRANSMITTERS AND ELEMENTS .....	February 2022
15140	PIPE HANGERS, SUPPORTS, AND RESTRAINTS .....	June 2017
15145	PIPE AND EQUIPMENT INSULATION.....	October 2021
15150	BASKET STRAINER .....	October 2021
15155	COUPLINGS AND COUPLING ADAPTERS.....	June 2017
15770	HEAT TRACING .....	October 2021
15959	INSULATED ENCLOSURE (HOT BOX) FOR AUTOMATIC CONTROL VALVE.....	June 2021

## Division 16 – Electrical

<u>Section No.</u>	<u>Title</u>	
16051	ELECTRICAL CONSTRUCTION .....	September 2020
16060	ELECTRICAL DEMOLITION.....	June 2017
16061	JOINT BONDING AND ELECTRICAL ISOLATION.....	June 2017
16062	CORROSION CONTROL TEST STATIONS.....	June 2017
16111	CONDUIT, FITTINGS, AND BODIES.....	June 2017
16116	PRECAST ELECTRICAL MANHOLES AND PULL BOXES .....	October 2021
16195	ELECTRICAL IDENTIFICATION .....	June 2017
16196	LOW VOLTAGE AC SURGE PROTECTIVE DEVICES (SPDS).....	September 2020
16402	UNDERGROUND DUCT BANKS .....	June 2017
16463	MINI-POWER CENTERS .....	February 2022
16473	PROGRAMMABLE LOGIC CONTROLLERS, SCADA INTERFACE PANELS AND PANEL MOUNTED EQUIPMENT (WRF).....	April 2023
16486	MECHANICAL EQUIPMENT MANUFACTURER (MEM) PROVIDED CONTROL PANELS .....	October 2021
16640	CATHODIC PROTECTION FOR WATER LINES .....	November 2022

## Division 17 – Instrumentation (NOT USED)