

NHCRWA Detail Name	REF. NO.	Date
Cover Sheet	1	12/22/2020
Cover Sheet with COH Title Block	2	12/22/2020
Index	3	12/22/2020
General Construction Notes	4	12/22/2020
Utility Notes	5	12/22/2020
TWDB Notes	6	12/22/2020
Harris County Flood Control Notes	7	12/22/2020
Water Line Construction Notes	8	12/22/2020
Contractor Work Zone Notes	9	12/22/2020
Pipeline Coordination Notes	10	12/22/2020
Miscellaneous Notes	11	12/22/2020
Sheet Border	12	12/22/2020
Sheet Border with COH Title Block	13	12/22/2020
Logo	14	12/22/2020
Project Sign	15	12/22/2020
Reinforced Filter Fabric Barrier (18")	16	12/22/2020
Reinforced Filter Fabric Barrier (24")	17	12/22/2020
Stabilized Construction Access	18	12/22/2020
Inlet Protection Barriers for Stage II Inlets	19	12/22/2020
Heavy Duty Manhole Ring and Cover	20	12/22/2020
Heavy Duty Manhole Cover	21	12/22/2020
Standard Flushing Hydrant	22	12/22/2020
Valve Box	23	12/22/2020
Lap Weld Field Joint - Steel Pipe (Flexible Coating and Lining)	24	12/22/2020
Butt Weld Field Joint - Steel Pipe (Flexible Coating and Lining)	25	12/22/2020
Lap Weld Field Joint - Steel Pipe (Cement Mortar Lined/Coated)	26	12/22/2020
Internal Elliptical Dished Head Plug - Steel Pipe (Flexible Coating and Lining)	27	12/22/2020
Internal Elliptical Dished Head Plug Removal - Steel Pipe (Flexible Coating and Lining)	28	12/22/2020
Field Welded O-Ring Joint (Flexible Coating and Cement Mortar Lining)	29	12/22/2020
O-Ring Joint - Steel Pipe (Cement Mortar Lining and Flexible Coating)	30	12/22/2020
Carnegie Joint - Steel Pipe (Cement Mortar Lining and Cement Mortar Coating)	31	12/22/2020
Closure Piece - Steel Pipe (Cement Mortar Lining and Cement Mortar Coating)	32	12/22/2020
Joint - Embedded Cylinder Pipe	33	12/22/2020
Welded Joint with Trimmed Spigot - Embedded Cylinder Pipe	34	12/22/2020
Joint - Bar Wrapped Cylinder Pipe	35	12/22/2020
Joint - Lined Cylinder Pipe	36	12/22/2020
Welded Joint Lined Cylinder Pipe (Exterior Weld - Water Lines Smaller Than 36-Inches)	37	12/22/2020

Welded Joint Lined Cylinder Pipe (Interior Weld - Water Lines 36-Inches and Larger)	38	12/22/2020
Internal Elliptical Dished Head Plug - Cement Mortar Lining/Coating	39	12/22/2020
Internal Elliptical Dished Head Plug Removal - Cement Mortar Lining/Coating	40	12/22/2020
Tunnel Detail - Water Mains 36-Inches and Larger	41	12/22/2020
Tunnel Detail - Water Mains Less than 36-Inches with Steel Casing or Steel Ribs and Lagging	42	12/22/2020
Tunnel Detail - Water Mains Less Than 36-Inches with Liner Plates	43	12/22/2020
Casing Detail - Dry Slurry Augering of Pipe and Conduit	44	12/22/2020
Typical Pipe Offset Section for Water Mains	45	12/22/2020
Permanent Blow-Off	46	12/22/2020
Operator Manhole Details for Mainline Valves	47	12/22/2020
Service Manhole Detail for Drainline Valve Connection	48	12/22/2020
Manhole in Pavement	49	12/22/2020
Typical Wall Penetration and Reinforcement Detail	50	12/22/2020
Butterfly Valve Assembly	51	09/01/2022
PVC Water Main Marker	52	12/22/2020
Vent Pipe Details	53	12/22/2020
Combination Air Valve Assembly (Water Lines Smaller Than 30-Inches Diameter)	54	09/01/2022
Combination Air Valve Assembly In Service Manhole (Water Lines 30-Inches and Larger Diame	55	09/01/2022
Access Manway In Service Manhole (Water Lines 30-Inches and Larger Diameter)	56	09/01/2022
Manhole Step Detail	57	12/22/2020
Combination Air Valve Assembly In Service Manhole (PVC Water Lines 30-Inches Diameter)	58	09/01/2022
Access Manway in Service Manhole (PVC Water Lines 30-Inches In Diameter)	59	09/01/2022
Flow Meter - Flow Control Valve Station Process Schematic - V1	60A	09/01/2022
Flow Meter - Flow Control Valve Station Process Schematic - V1	60B	09/01/2022
Flow Meter - Flow Control Valve Station Process Schematic - V2	61A	09/01/2022
Flow Meter - Flow Control Valve Station Process Schematic - V2	61B	09/01/2022
Standard Flow Meter Station	62	02/01/2022
Standard Flow Control Valve Station	63	02/01/2022
Flow Meter/Flow Control Valve Station - Layout No. 1 (Preferred)	64	12/22/2020
Flow Meter/Flow Control Valve Station - Layout No. 2	65	12/22/2020
Flow Meter/Flow Control Valve Station - Layout No. 3	66	12/22/2020
Flow Meter/Flow Control Valve Station - Layout No. 4	67	12/22/2020
Flow Meter/Flow Control Valve Station - Layout No. 5	68	12/22/2020
Meter Station & Pressure Flow Control Concrete Slab	69	12/22/2020
Automatic Control Valve Insulated Enclosure	70	12/22/2020
Ground Storage Tank Riser Detail	71	02/01/2022
Sample Faucet	72	02/01/2022
Tank Level Indicator	73	02/01/2022
Gas Chlorination & Liquid Ammonia Sulfate Process Schematic-V1	74	09/01/2022

Gas Chlorination & Liquid Ammonia Sulfate Process Schematic-V2	75	09/01/2022
Sodium Hypochlorite & Liquid Ammonia Sulfate Process Schematic-V1	76	09/01/2022
Sodium Hypochlorite & Liquid Ammonia Sulfate Process Schematic-V2	77	09/01/2022
Typical Gas Chlorination Equipment Layout Section	78	02/01/2022
Typical Chlorine Gas Room Layout	79	02/01/2022
Typical Sodium Hypochlorite (NaOCl) & Liquid Ammonia Sulfate (LAS) Equipment Layout	80	02/01/2022
Typical Sodium Hypochlorite & Liquid Ammonia Sulfate Room Layout	81	02/01/2022
Concrete Pipe Support Details	82	12/22/2020
Adjustable Pipe Encasement Support	83	02/01/2022
Adjustable Pipe Cradle Support	84	02/01/2022
Wall Pipe Type 1	85	12/22/2020
Concrete Support Pedestal	86	12/22/2020
Hold Down Strap Detail	87	12/22/2020
Adjustable Stanchion	88	02/01/2022
Restrained Joint - Flexible Coupling / Coupling Adapter	89	12/22/2020
Restrained Joint - Check Valve w/ Coupling Adapter	90	12/22/2020
Anchor Plate Details	91	12/22/2020
Air Release Valve	92	02/01/2022
Sample Valve	93	02/01/2022
Isolation Flange	94	12/22/2020
Magnetic Flow Meter Installation	95	12/22/2020
Thrust Block Details	96	12/22/2020
Chemical Injector Assembly	97	12/22/2020
Sample Tap	98	02/01/2022
Typical Emergency Shower and Eyewash	99	12/22/2020
Bypass Splash Box to Stormwater Piping	100	02/01/2022
Bypass Splash Box to Surface Drainage	101	02/01/2022
Package Sanitary Sewer Lift Station for Analyzer Bypass Flow	102	02/01/2022
Static Mixer	103	02/01/2022
SCADA Panel Mounting Details	104	09/01/2022
PLC Standard I/O Diagram	105	09/01/2022
PLC Logic Diagram: Chemical Systems	106	02/01/2022
Flowmeter Enclosure Assembly	107	12/22/2020
Flowmeter System Block Diagram	108	02/01/2022
Small Pull Box	109	02/01/2022
Typical Conduit Stub-Up	110	12/22/2020
Grounding System Test Well	111	02/01/2022
Duct Bank Section	112	12/22/2020
Typical Hot Box Electrical Installation	113	12/22/2020
Typical Hot Box One Line Diagram	114	12/22/2020
Flow Indicator Transmitter Mounting Assembly	115	12/22/2020
Typical Instrument Mounting Detail (Concrete Slab Mounted)	116	12/22/2020
4 inch Vacuum Valve & Vault Details	117	12/22/2020

Trenchless and Tunnel Schedule Detail	118	02/01/2022
Excavation & Backfill Detail	119	02/01/2022
PLC Set Points, Alarms, Parameters and Generated Signals	120	09/01/2022
PLC Inputs and Outputs	121	09/01/2022
Gate Valve Detail	122	09/01/2022