CONTRACT DOCUMENTS FOR
CONSTRUCTION OF

SOUTH FAYETTE WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM

Fayette County WaterSystem

PREPARED FOR

FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

VOLUME 2 OF 2
DRAWINGS

For information regarding this project, contact:
NATASHA DUGGAN,
FAYETTE COUNTY PURCHASING DEPARTMENT
140 STONEWALL AVE. W., SUITE 204
FAYETTEVILLE, GA 30214
nduggan@fayettecountyga.gov

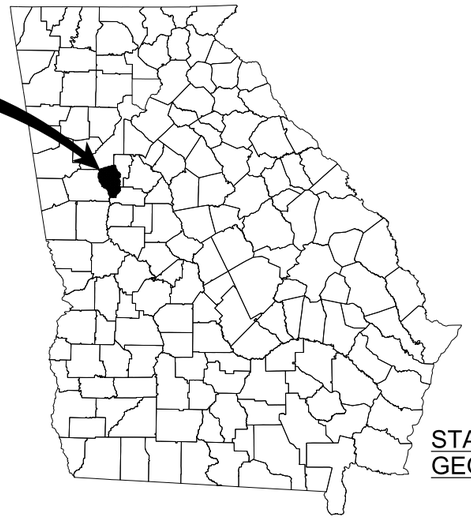
ch2m

Project No.
698133

AUGUST 2019

BID DOCUMENTS

FAYETTE COUNTY



STATE OF GEORGIA

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VICINITY MAP
NTS

INDEX TO DRAWINGS

00 - GENERAL

05 - CIVIL SITE

08 - INSTRUMENTATION AND CONTROL

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95 - STANDARD DETAILS

NO.	DATE	REVISION	BY	APVD
DSGN	EP MINCHEW	DR KL DIAZ CHK L JESTER	EP MINCHEW	APVD

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL
VICINITY MAP AND INDEX TO DRAWINGS

BID DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	00-G-01
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GENERAL SITE NOTES:

1. EXISTING BASE MAPPING SHOWN CONSIST OF COMPILATION OF THE FOLLOWING:
   - TOPOGRAPHY DRAWINGS FROM MALLET AND ASSOCIATES, PERFORMED IN OCTOBER 1998,
   - SITE VISITS OBSERVATIONS AND RECORD DRAWINGS

   EXISTING CONDITIONS MAY VARY TO THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
2. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED. EXCEPTION TO THIS ARE THE DEMOLITION PLANS THAT SHOW EXISTING CONDITION BOLD OR HEAVY-LINED.
3. HORIZONTAL DATUM: NAD 83
   VERTICAL DATUM: NAVD 88
   COORDINATE SYSTEM: STATE PLANE - GEORGIA WEST, ZONE 1002, SURVEY FOOT
   DIMENSIONS SHOWN ARE IN U.S. SURVEY FEET.
4. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
5. ALL ELEVATIONS SHOWN REFER TO NAVD 88. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
6. CONTRACTOR SHALL PROVIDE AND MAINTAIN PLANT ROADS ACCESSIBLE AT ALL TIMES. TEMPORARY CLOSURE OF PLANT ROAD SHALL BE COORDINATED WITH PLANT OPERATOR.
7. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, AND CONCURRENT WITH ANY LAND-DISTURBING ACTIVITIES. SEE EROSION CONTROL DRAWINGS FOR FURTHER NOTES AND DETAILS.
8. ALL DISTURBED AREAS NOT RECEIVING A HARD SURFACE SHALL BE COVERED WITH COMMON BERMUDA GRASS UNLESS OTHERWISE SHOWN IN THE PLANS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION.
10. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE.

FAYETTE COUNTY NOTES:

1. ALL IMPROVEMENTS TO CONFORM WITH FAYETTE COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS, LATEST EDITION.
2. NO STRUCTURES, FENCES OR OTHER OBSTRUCTIONS MAY BE LOCATED WITHIN A DRAINAGE OR ACCESS EASEMENT WITHOUT PRIOR APPROVAL BY THE FAYETTE COUNTY DEPARTMENT OF ENGINEERING.
3. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY FAYETTE COUNTY OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLANDS AREAS. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY WETLAND AREA DISTURBANCE.
4. APPROVAL OF THESE PLANS BY FAYETTE COUNTY IS SUBJECT TO, AND CONTINGENT UPON THE APPLICANT OBTAINING ANY AND ALL NECESSARY APPROVALS FROM ANY AND ALL APPLICABLE AGENCIES INCLUDING, BUT NOT LIMITED TO THE UNITED STATES ARMY CORPS OF ENGINEERS, THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE USDA-NRCS, GEORGIA DEPARTMENT OF NATURAL RESOURCES, GEORGIA ENVIRONMENTAL PROTECTION DIVISION, AND THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION.
5. MAXIMUM CUT SLOPES SHALL BE 2 HORIZONTAL TO 1 VERTICAL. CONTINUOUS FILL SLOPES TEN (10) FEET IN HEIGHT OR LESS MAY BE 2 HORIZONTAL TO 1 VERTICAL. ALL CONTINUOUS FILL SLOPES THAT EXCEED TEN (10) FEET IN HEIGHT MUST BE 3 HORIZONTAL TO 1 VERTICAL UNLESS: (A) A MECHANICALLY ENGINEERING STABILIZED SLOPE IS APPROVED BY THE FAYETTE COUNTY DIRECTOR OF ENGINEERING; OR (B) THE DESIGNED AND CONSTRUCTED SLOPES ARE CERTIFIED BY A REGISTERED ENGINEER EXPERIENCED IN GEOTECHNICAL ENGINEERING AND LICENSED IN THE STATE OF GEORGIA.
6. ALL UNDISTURBED BUFFERS SHALL BE IDENTIFIED WITH ORANGE, FOUR-FOOT TREE-SAVE FENCING PRIOR TO ANY LAND DISTURBANCE (UDC SEC. 18-10.1)

CIVIL LEGEND

EXISTING	THIS CONTRACT	
× 157.7	⊗ 158.5	SPOT ELEVATION
155	155	CONTOUR LINE
	3:1	EMBANKMENT AND SLOPE
		DRAINAGEWAY OR DITCH
	CB OR (CB)	CATCH BASIN OR INLET
		TRENCH DRAIN
	OR	SIGN
	(D) OR (S)	MANHOLE
E	(E)	ELECTRICAL MANHOLE
H	H	ELECTRIC HANDHOLE
	•	POST OR GUARD POST
		GUY ANCHOR
		FIRE HYDRANT
		UTILITY POLE
		LIGHT POLE
	B1	SOIL BORING
		SURVEY CONTROL POINT OR POINT OF INTERSECTION
		BRUSH/TREE LINE
		TREE
		PROPERTY LINE
		CENTER LINE, BUILDING, ROAD, ETC.
		STAGING OR WORK AREA LIMITS
	N 1000.00 E 1000.00	STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
OR	OR	DEMOLITION (SEE NOTE 1 ON DEMO PLANS)
OR	OR	STRUCTURE, BUILDING OR FACILITY
		ASPHALT CONCRETE PAVEMENT
		RESURFACED ASPHALT CONC. PAVEMENT
		CONCRETE PAVEMENT
		CONCRETE SIDEWALK
		GRAVEL ROAD
		GRAVEL SURFACING
		CURB AND GUTTER
		CONCRETE VALLEY GUTTER
		CHAIN LINK FENCE
		CULVERT
		CHAIN LINK FENCE GATE
		RIPRAP STONE/ ROCK CHECKDAM
		GRASS (SOD)
		SILT FENCE

GENERAL YARD PIPING AND UTILITIES NOTES:

1. EXISTING UNDERGROUND UTILITIES SHOWN OBTAINED FROM RECORD DRAWINGS. NOT ALL UTILITIES ARE SHOWN. UNLESS OTHERWISE NOTED ALL UNDERGROUND FEATURES ARE SHOWN AT ASCE 38-02 QUALITY LEVEL D.

   ASCE 38-02 DEFINITIONS:
   QUALITY LEVEL D: INFORMATION DERIVED FROM EXISTING RECORDS.
   QUALITY LEVEL C: INFORMATION OBTAINED FROM SURVEYING ABOVE GROUND UTILITY FEATURES.
   QUALITY LEVEL B: INFORMATION OBTAINED FROM SURFACE GEOPHYSICAL METHODS, MARKED, SURVEYED (WITH TOLERANCES), AND MAPPED.
   QUALITY LEVEL A: PRECISE HORIZONTAL AND VERTICAL LOCATION KNOWN.
2. CONTRACTOR SHALL USE NON-DESTRUCTIVE METHODS (HAND-DIGGING, POTHOLING, ETC.) TO FIELD VERIFY DEPTH AND LOCATION OF EXISTING PIPING UNLESS OTHERWISE NOTED, PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
3. FOR PIPING LEGEND, SEE I&C LEGEND DRAWING OR SECTION 40 27 00, PIPING SCHEDULE.
4. UNLESS OTHERWISE SHOWN ALL PIPING SHALL HAVE A MINIMUM OF 3 FEET COVER.
5. ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS UNLESS A FITTING IS SHOWN.
6. ALL NEW WATER PIPES MUST BE PROPERLY FLUSHED, PRESSURE TESTED, CHLORINATED AND BACTERIOLOGICALLY TESTED, AS SPECIFIED.
7. MINIMUM ALLOWABLE CLEARANCE BETWEEN PIPES AT CROSSINGS SHALL BE 3". CONTROLLED LOW STRENGTH MATERIAL SUPPORT IS REQUIRED AT CROSSINGS LESS THAN 12".
8. FOR TRENCHING AND BACKFILL, SEE (3123-110)
9. UNLESS OTHERWISE NOTED, ALL SURFACE RESTORATION OF TRENCHES SHALL BE COMPLETED PER DETAIL (3123-115)

YARD PIPING LEGEND

EXISTING	THIS CONTRACT	
	8" PE	NOMINAL PIPE DIAMETER
	8" PE	PIPE USE IDENTIFICATION
8" PE	8" PE	PIPING
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		NON-FREEZE HOSE VALVE (V-X) X = NO. IN SPECIFICATIONS
		NON-FREEZE HOSE VALVE WITH HOSE RACK (V-X) X = NO. IN SPECIFICATIONS
		INDICATOR POST VALVE
		GATE VALVE AND VALVE BOX
		BUTTERFLY VALVE AND VALVE BOX
		PLUG VALVE AND VALVE BOX
		FLEXIBLE COUPLING
		90° ELBOW UP
		90° ELBOW DOWN
		BEND < 90° UP
		BEND < 90° DOWN
		CONCENTRIC REDUCER
		CAP OR PLUG
		CLEANOUT
		FIRE HYDRANT

GENERAL NOTE:

1. THIS IS A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
		C SCHARER	KL DIAZ	J RAMOS		C SCHARER	

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400 EMBASSY ROW, SUITE 600
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0 1"

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DESIGN CRITERIA

1. APPLICABLE CODE: 2012 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED BY THE STATE OF GEORGIA IN 2012, 2014, 2015, 2017 AND 2018 AND ALL OTHER APPLICABLE LOCAL AGENCIES.
2. REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.
3. ALL LOADS SHOWN ARE SERVICE LEVEL (UNFACTORED) UNLESS SPECIFICALLY NOTED OTHERWISE.
4. DEAD LOADS:
   A. SELF WEIGHT
   B. COLLATERAL = 3.0 PSF
5. ROOF LOADS:
   GROUND SNOW LOAD, Pg = 5.0 PSF
   SNOW EXPOSURE FACTOR, Ce = 1.0
   THERMAL FACTOR, Ct = 1.2
   SLOPE FACTOR, Cs = 1.0
   IMPORTANCE FACTOR, I = 1.2
   MINIMUM FLAT ROOF SNOW LOAD, Pf = 6.0 PSF
6. LIVE LOADS: = 300 PSF
7. WIND LOADS:
   ASCE 7 METHOD
   BASIC WIND SPEED (3-SECOND GUST)
   Vult = 120 MPH
   Vasd = 93 MPH
   EXPOSURE CATEGORY = C
   INTERNAL PRESSURE COEFFICIENT, GCpi = BY MANUFACTURER
   RISK CATEGORY = IV
8. SEISMIC LOADS:

   MAPPED SPECTRAL RESPONSE ACCELERATIONS
   Ss = 0.161 g
   S1 = 0.084 g
   DESIGN SPECTRAL RESPONSE ACCELERATIONS
   SDS = 0.171 g
   SD1 = 0.135 g
   SITE CLASS (ASSUMED) = D
   RISK CATEGORY = IV
   IMPORTANCE FACTOR, Ie = 1.5
   SEISMIC DESIGN CATEGORY = D

GENERAL INFORMATION

1. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
3. VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.
4. FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.
5. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
6. VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

INSPECTION AND TESTING

1. SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR INSPECTIONS REQUIRED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL SCHEDULE BOTH INSPECTIONS.
2. SPECIFIED CONCRETE AND OTHER MATERIAL TESTING RELATED TO SPECIAL INSPECTION DURING CONSTRUCTION WILL BE OWNER FURNISHED.
3. SPECIFIED LABORATORY TEST MIXES AND SIMILAR TEST RESULTS TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO SPECIFICATIONS, AND SUBMITTED FOR REVIEW PRIOR TO ACCEPTANCE FOR USE ON THE PROJECT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. SPECIAL INSPECTION, TESTING AND OBSERVATION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTIONS 110 AND 1704 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS AS NOTED IN SECTION 01 45 33 SPECIAL INSPECTION, OBSERVATION AND TESTING.

FOUNDATIONS

1. REFER TO THE FOLLOWING:
   GEOTECHNICAL REPORT BY MALLETT AND ASSOCIATES DATED 1997.
   TECHNICAL MEMORANDUM BY CH2M HILL DATED MARCH 14, 2014.
2. EXCAVATIONS SHALL BE SHORED TO PREVENT SUBSIDENCE AND DAMAGE TO ADJACENT EXISTING STRUCTURES, ROADS, UTILITIES, ETC.
3. FOUNDATION SLABS, SLABS-ON-GRADE AND WALL AND COLUMN FOUNDATIONS SPECIFICALLY NOTED TO BE ON FILL SHALL BEAR ON 6 INCHES OF COMPACTED GRANULAR FILL.
4. FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER OR QUALIFIED DESIGNEE PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL.
5. NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP WALLS UNTIL THE CONCRETE HAS ATTAINED 100 PERCENT OF ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
6. SOIL DESIGN PARAMETERS:
   A. NET ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF
   B. MODULUS OF SUBGRADE REACTION: 125 PCI
7. FROST DEPTH: 8 IN

FORMWORK, SHORING, AND BRACING

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.
2. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOOR OR SLABS HAVE REACHED 80 PERCENT OF THE 28 DAY COMPRESSIVE STRENGTH AS DETERMINED BY FIELD CYLINDER BREAKS.
3. "BURY"BARS OR "CARRIER"BARS ARE NOT ALLOWED FOR THE BOTTOM MATS OF REINFORCING IN ALL ELEVATED SLABS AND ARE NOT ALLOWED FOR THE TOP MATS OF REINFORCING IN ELEVATED SLABS LESS THAN 12 INCHES THICK.

CONCRETE REINFORCING

1. REINFORCING STEEL:
   TYPICAL: ASTM A615, GRADE 60
   WELDED: ASTM A706, GRADE 60 (WELDING IS ONLY PERMITTED WITH WRITTEN PERMISSION FROM ENGINEER)
2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE"AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
3. MINIMUM REINFORCING FOR CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS:

THICKNESS	REINF EACH WAY	LOCATION
6"	#4@12"	CENTERED
8"	#5@12"	CENTERED
10"	#4@12"	EACH FACE
12"	#5@12"	EACH FACE

   PROVIDE LARGER SIZES AND MORE REINFORCING IN SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.
4. CONCRETE COVER FOR REINFORCING, UNLESS SHOWN OTHERWISE, SHALL BE:
   WHEN CAST AGAINST EARTH: 3"
   OTHER CONCRETE SURFACES: 2"
5. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL 0330-003. WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE AS SHOWN ON THE DRAWINGS AND REFERENCED TO THIS DETAIL. TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING.
6. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.
7. WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED IN DETAIL 0330-003.
8. WALL FOOTING CORNER AND INTERSECTION REINFORCEMENT BARS SHALL BE EXTENDED INTO CONNECTING FOOTINGS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING FOOTING. OUTSIDE FACE WALL FOOTING REINFORCEMENT SHALL BE LAPPED WITH CORNER BARS.
9. REINFORCING STEEL FOR FOOTINGS AND SLABS ON GRADE SHALL BE ADEQUATELY SUPPORTED ON BAR SUPPORTS WITH SPACERS TO KEEP REINFORCING ABOVE THE PREPARED GRADE. LIFTING REINFORCING OFF GRADE DURING CONCRETE PLACEMENT IS NOT PERMITTED.
10. REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:

CONCRETE DESIGN STRENGTH = 4,000 PSI MIN AT 28 DAYS[3] GRADE 60 REINFORCING STEEL										
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE LENGTH										
SPACING = 3"	TOP BAR [2]	1'-4"	1'-8"	2'-1"	3'-0"	5'-2"	6'-8"	8'-6"	10'-10"	13'-4"
	OTHER BAR	1'-4"	1'-4"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
SPACING = 4"	TOP BAR [2]	1'-4"	1'-8"	2'-0"	2'-5"	3'-10"	5'-0"	6'-5"	8'-1"	10'-0"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
SPACING ≥ 6"	TOP BAR [2]	1'-4"	1'-8"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT LENGTH										
SPACING = 3"	TOP BAR [2]	1'-0"	1'-3"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-10"	3'-1"	4'-0"	5'-1"	6'-5"	7'-11"
SPACING = 4"	TOP BAR [2]	1'-0"	1'-3"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-4"	3'-0"	3'-10"	4'-10"	5'-11"
SPACING ≥ 6"	TOP BAR [2]	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"

1. LAP LENGTHS ARE BASED ON MINIMUM CONCRETE COVER OF 2". LONGER LENGTHS ARE REQUIRED FOR CONCRETE COVER LESS THAN 2".
2. TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
3. WHERE 3000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16 PERCENT. WHERE 3500 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 7 PERCENT.

CAST IN PLACE CONCRETE

1. 28-DAY COMPRESSIVE STRENGTHS (TO MEET STRUCTURAL STRENGTH REQUIREMENTS):
   UNLESS NOTED OTHERWISE: 4500 PSI
   CONCRETE CURBS AND SIDEWALKS: 4500 PSI
2. DESIGN STRENGTHS ARE SAME AS 28-DAY COMPRESSIVE STRENGTHS.
3. CONTINUOUS WATERSTOP AS SPECIFIED SHALL BE INSTALLED IN CONSTRUCTION JOINTS OF HYDRAULIC STRUCTURES, CHANNELS, AND BELOW GRADE STRUCTURES, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
4. CONSTRUCTION JOINTS INDICATED ARE SUGGESTED LOCATIONS. CONTRACTOR MAY REVISE LOCATION OF JOINTS, SUBJECT TO SPECIFIED REQUIREMENTS. LAYOUT SHOWING ALL CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED FOR REVIEW BY ENGINEER.
5. ROUGHEN AND CLEAN CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE.
6. COORDINATE PLACEMENT OF OPENINGS, PIPE PENETRATIONS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.
7. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
8. DO NOT PLACE CONDUIT PARALLEL TO BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN DRAWINGS.
9. PATCH FORM TIE HOLES IN ACCORDANCE WITH DETAIL 0310-051.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK OR ARE REQUIRED TO BE SUBMITTED FOR REVIEW ONLY BY THE ENGINEER.
2. WHERE DEFERRED SUBMITTALS INCLUDE ADDITIONAL MATERIALS, INSTALLATION, ANCHORAGE, OR CERTIFICATION OF COMPONENTS THAT REQUIRE SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION TO MEET CODE REQUIREMENTS, THE DEFERRED SUBMITTAL SHALL INCLUDE SPECIFIC LINE ITEMS TO BE ADDED TO THE APPROPRIATE TABLES IN THE PROJECT'S STATEMENT OF SPECIAL INSPECTIONS PLAN IF THEY ARE NOT ALREADY IDENTIFIED.
3. THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 107.3.4.1 OF 2012 IBC THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER'S COMMENT FORM, ALONG WITH THE COMPLETED, FINAL SUBMITTAL SHALL THEN BE SUBMITTED BY THE CONTRACTOR TO THE PERMITTING AGENCY AND APPROVED PRIOR TO INSTALLATION OF THESE ITEMS.

SPECIFICATION SECTION	CODE REQUIRED DEFERRED SUBMITTALS FOR REVIEW BY PERMITTING AGENCY
01 88 15	ANCHORAGE AND BRACING
10 73 00	PROTECTIVE COVERS
40 10 15	PIPING SUPPORT SYSTEMS
43 40 01	POLYETHYLENE STORAGE TANK
43 40 02	FIBERGLASS REINFORCED PLASTIC TANK
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATONS

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
	D EVERSON		J THORNTON		C ANSON		D EVERSON

DSGN

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA, 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL
STRUCTURAL
GENERAL NOTES

BID DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	00-G-03
SHEET	of

PIPE AND FITTING SYMBOLS

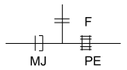
DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE
		NEW PIPE
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		MECHANICAL JOINT/ PROPRIETARY RESTRAINED JOINT
		PROPRIETARY RESTRAINED JOINT
		BELL & SPIGOT JOINT (LEADED)
		HUB & SPIGOT JOINT (RUBBER GASKET)
		BALL JOINT
		ADAPTER SIDE GROOVED END ADAPTER FLANGE
		FLANGED COUPLING ADAPTER
		FLEXIBLE COUPLING
		METAL BELLOWS EXP JOINT
		ELASTOMER BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER

DOUBLE LINE	SINGLE LINE	
		REDUCING BUSHING
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE
		CROSS
		TEE
		ELBOW, 45 DEGREE
		LATERAL

PIPE AND FITTING END PATTERNS

B	BELL	PE	PLAIN END
S	SPIGOT	GE	GROOVED END
F	FLANGE	MJ	MECHANICAL JOINT

EXAMPLE:



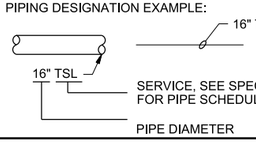
MISCELLANEOUS SYMBOLS

FLEXIBLE (ELASTOMER) PIPE CONNECTION

HOSE VALVE (HV- X) OR (V-X)
X = NO. IN SPECS

NOTES

1. SEE PIPING SPECIFICATIONS FOR PIPING AND JOINT MATERIALS & TYPES.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. UNLESS OTHERWISE INDICATED, EXISTING PIPING AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.
4. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
5. PIPING DESIGNATION EXAMPLE:

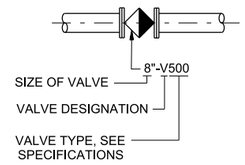


VALVE SYMBOLS

GATE		
KNIFE GATE	OR	
BUTTERFLY	OR	
GLOBE	OR	
BALL	OR	
ECCENTRIC PLUG	OR	(SEATING PORT)
PLUG OR COCK	OR	
NEEDLE	OR	
DIAPHRAGM	OR	
PINCH	OR	
SWING CHECK	OR	
BALL CHECK	OR	

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES



ACTUATED, SELF-REGULATED AND AIR RELEASE VALVES

SEE I&C LEGENDS FOR VALVE TAGGING BASIS AND SECTION 40 27 02 FOR VALVE SCHEDULES. NOTE THAT VALVES PROVIDED AS PART OF VENDOR PACKAGES MAY NOT BE SHOWN IN THE VALVE SCHEULES, SEE THE ASSOCIATED EQUIPMENT SPECIFICATION FOR DETAILS.

MECHANICAL LEGEND AND NOTES

GENERIC NOTES

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. CONTRACTOR SHALL DESIGN SUPPORTS AS SPECIFIED.
4. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
5. ALL FLEXIBLE CONNECTORS AND COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
6. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
7. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST RESTRAINTS. ALL CONNECTIONS TO EXISTING PIPE SHALL BE MADE WITH MEGALUGS.
8. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
9. WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.
10. ALL PIPELINES LEAVING FACILITIES AND / OR CONCRETE ENCASEMENT SHALL INCORPORATE FLEXIBILITY FEATURES AS SPECIFIED IN SECTION 40 27 00 AND SECTION 40 27 01. IN SOME CASES, PIPING JOINTS OUTSIDE FACILITIES ARE SHOWN ON DRAWINGS. PIPING FLEXIBILITY FEATURES SHALL BE INCORPORATED AS SPECIFIED REGARDLESS OF WHETHER OR NOT THEY ARE SHOWN ON A DRAWING.
11. ALL NEW W1 WATER PIPES MUST BE PROPERLY FLUSHED, PRESSURE TESTED, CHLORINATED AND BACTERIOLOGICALLY TESTED, AS SPECIFIED.

REVISION

NO.	DATE	DR	CHK	APVD
DSGN	M YANG	KL DIAZ	L JESTER	APVD

BY APVD
EP MINCHEW

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
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SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

ch2m

GENERAL

PROCESS MECHANICAL LEGEND

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
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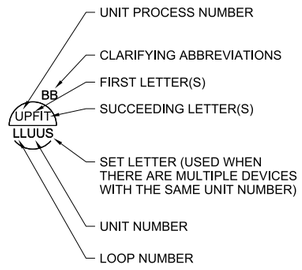
DWG	00-G-04
SHEET	of

BID DOCUMENTS

INSTRUMENT IDENTIFICATION

EXAMPLE SYMBOLS



DIGITAL SYSTEM INTERFACES

- ▲ ANALOG INPUT
- ▼ ANALOG OUTPUT
- $\triangle_X$ DISCRETE INPUT
- ∇_X DISCRETE OUTPUT

INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

TABLE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
(*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS

- FIELD MOUNTED
- REAR-OF-PANEL MOUNTED (OPERATOR INACCESSIBLE)
- PANEL MOUNTED (OPERATOR ACCESSIBLE)
- MCC MOUNTED
- COMPUTER FUNCTION
- PLC FUNCTION
- SHARED DISPLAY, SHARED CONTROL

TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE

CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

ACCESSORY DEVICES

A	ALARM
C	CONTROLLER
I	INDICATOR
R	RECORDER
S	SWITCH
T	TRANSMITTER
X	UNCLASSIFIED

EXAMPLE

TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT

SPECIAL CASES

ON AND OFF EVENT LIGHTS

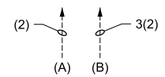
ON-OFF HAND SWITCH, MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

STOP-START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).

LINE LEGEND

- PRIMARY PROCESS (CLOSED CONDUIT, DASHED LINE INDICATES ALTERNATE FLOW STREAM)
- SECONDARY PROCESS
- BYPASS PROCESS
- PROCESS (OPEN CHANNEL)
- ANALOG SIGNAL (4 TO 20 mAdc, ETC.)
- DISCRETE (ON/OFF, ETC.)
- PNEUMATIC SIGNAL
- FILLED SYSTEM SIGNAL
- HYDRAULIC SYSTEM SIGNAL
- DATA LINK
- BUILDING OR FACILITY BOUNDARY
- PACKAGE SYSTEM EQUIPMENT
- TYPICAL BREAK
- POWER (P)
- MANUFACTURER'S SUPPLIED CABLE (MSC)

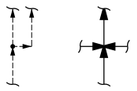
PARALLELING LINES



(A) TOTAL OF 2 SIGNALS

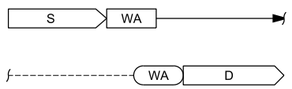
(B) 3 TYPICAL SETS OF 2 SIGNALS EACH. TOTAL OF 6 SIGNALS.

CONNECTING LINES



NON-CONNECTING LINES

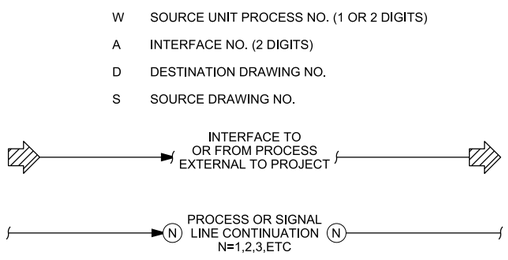
INTERFACE SYMBOLS



PROCESS INTERFACE

SIGNAL INTERFACE

- W SOURCE UNIT PROCESS NO. (1 OR 2 DIGITS)
- A INTERFACE NO. (2 DIGITS)
- D DESTINATION DRAWING NO.
- S SOURCE DRAWING NO.



SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

W-D-X-Y

W		UNIT PROCESS NUMBER
D	ARV	AIR RELEASE VALVE
	AVRV	AIR AND VACUUM RELEASE VALVE
	E	EJECTOR
	G	GATE
	M	MECHANICAL EQUIPMENT
	P	PUMP
	T	TANK
X		LOOP NUMBER
Y		UNIT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AM	AUTO-MANUAL
CAM	COMPUTER-AUTO-MANUAL
CCS	CENTRAL CONTROL SYSTEM
Cl_2 etc.	CHLORINE (TYPICAL; USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
ENSW	ETHERNET SWITCH
FCl_2	FREE CHLORINE RESIDUAL
FOPP	FIBER OPTIC PATCH PANEL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X=PANEL NUMBER)
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
ISR	INTRINSICALLY SAFE RELAY
LEL	LOWER EXPLOSIVE LIMIT
LOS	LOCKOUT STOP
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MSC	MANUFACTURER SUPPLIED CABLE
OC	OPEN-CLOSE(D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCl_2	TOTAL CHLORINE RESIDUAL
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TURB	TURBIDITY
UPS	UNINTERRUPTABLE POWER SUPPLY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
$\triangle$	DIFFERENCE
Σ	SUM
$\times$	MULTIPLY
$\div$	DIVIDE
F(X)	CHARACTERIZED
X^n	RAISED TO THE Nth POWER
$\sqrt{\ }$	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
}	BIAS
%	GAIN OR ATTENUATE

GENERAL NOTES

1. COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK ($\ast$) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
2. COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK ($\ast\ast$) ARE TO BE PROVIDED UNDER DIVISION 16, ELECTRICAL.
3. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
		C BATES	G MESSER	C WILSON	C WILSON	C WILSON	APVD

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CHLORINE DIOXIDE GENERATION SYSTEM
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0 1"

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BID DOCUMENTS

VALVE SYMBOLS

- GATE
- KNIFE GATE
- BUTTERFLY
- GLOBE
- BALL
- V — VEE-BALL
- PLUG
- SEAT PORT ECCENTRIC PLUG
- DIAPHRAGM
- PINCH
- NEEDLE
- SWING CHECK
- BALL CHECK
- BACKFLOW PREVENTER
- ROTARY
- TELESCOPE
- S — SAMPLE
- MUD
- PRESSURE RELIEF
- AIR AND/OR VACUUM RELEASE
- REGULATED SIDE PRESSURE CONTROL
- PRESSURE REGULATION (CLAY-TYPE)
- MULTI-PORT VALVE (GATE VALVE SHOWN. FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN.) SEAT PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
- ANGLE GATE

GATE SYMBOLS

- SLUICE
- BUTTERFLY
- FABRICATED SLIDE
- FLAP
- STOP LOG
- SHEAR

ACTUATOR SYMBOLS

- PNEUMATIC DIAPHRAGM SPRING-OPPOSED, SINGLE OR DOUBLE ACTING
- PNEUMATIC CYLINDER SINGLE OR DOUBLE ACTING ACTUATED BY ONE INPUT
- M — ELECTRIC MOTOR
- S — SOLENOID
- VALVE POSITIONER
- H — HYDRAULIC
- DIAPHRAGM, DIFFERENTIAL PRESSURE
- E/H — ELECTROHYDRAULIC
- MANUAL

NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL, OR HYDRAULIC)

XX:
- FO FAIL OPEN
- FC FAIL CLOSED
- FLP FAIL TO LAST POSITION

PRIMARY ELEMENT SYMBOLS

- PARSHALL FLUME
- WEIR
- ORFICE PLATE
- FLOW TUBE
- PITOT-STATIC
- VORTEX METER
- ULTRASONIC FLOWMETER
- M — ELECTROMAGNETIC FLOWMETER
- VENTURI FLOWMETER
- PROPELLER OR TURBINE METER
- THERMAL FLOWMETER
- LEVEL (BUBBLER TUBE)
- LS — LEVEL (FLOAT)
- FI — ROTAMETER
- DE — DENSITY METER
- XX — GENERIC
- LE — LEVEL

MISCELLANEOUS SYMBOLS

- V — VENT TO ATMOSPHERE
- AIR GAP
- T — DRIP TRAP
- PIG INSERT POINT
- PIG CATCH POINT
- A — SELF CONTAINED AIR SUPPLY
- AP — AIR PURGE SET
- F — FLUSHING CONNECTION
- S — SEAL WATER SET
- WP — WATER PURGE SET
- FLEXIBLE CONNECTION
- AERATOR
- DIAPHRAGM SEAL
- ANNULAR DIAPHRAGM SEAL
- SS — COMPOSITE SAMPLER
- FLAME TRAP
- CALIBRATION COLUMN
- S — INLINE SILENCER
- BLIND FLANGE
- PIPE CAP
- STRAINER
- BASKET STRAINER
- FILTER
- PULSATION DAMPENER
- EXPANSION CHAMBER
- SSX — SURGE SUPPRESSOR TYPE "X"
- FFLCPLLLX — PANEL CONTINUED ON SAME OR OTHER DRAWING; PANEL OUTLINE; PANEL NAME
- 120V — 120 VOLT, 60 HZ POWER
- 480V — 480 VOLT, 60 HZ POWER
- XX — AIR SET XX = SUPPLY PRESSURE IN PSIG.
- PLUG
- RECEPTACLE
- RUPTURE DISK (VACUUM)
- RUPTURE DISK (PRESSURE)
- TV — TV MONITOR
- TV — TV CAMERA
- A, B → AND → C — LOGIC ELEMENT: IF A AND NOT B THEN C
- A, B → OR → C — LOGIC ELEMENT: IF A OR B THEN C
- RADIO ANTENNA
- I — OR — I — INTERLOCK, SEE CONTROL DIAGRAMS
- VOICE COMMUNICATION POINT
- SKIMMING MECHANISM
- SCREW CONVEYOR
- MIXER
- ELECTRIC MOTOR

PUMP AND COMPRESSOR SYMBOLS

- CENTRIFUGAL PUMP (DRY PIT) — XX
- CENTRIFUGAL WET PIT PUMP OR TURBINE PUMP — XX
- RECIPROCATING OR METERING PUMP (POSITIVE DISPLACEMENT) — XX
- DIAPHRAGM PUMP — XX
- GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT) — XX
- PROGESSING CAVITY PUMP — XX
- COMPRESSOR (CENTRIFUGAL) — XX
- COMPRESSOR (PISTON) — XX
- BLOWER OR FAN (CENTRIFUGAL) — XX
- EDUCTOR
- PISTON PUMP — XX
- SUBMERSIBLE SUMP PUMP — XX
- ROTARY PUMP
- VACUUM PUMP
- SCREW PUMP

XX:
- AS ADJUSTABLE SPEED
- CS-1 CONSTANT SPEED (SINGLE SPEED)
- CS-2 CONSTANT SPEED (TWO SPEED)

FLOW STREAM IDENTIFICATION

CLO2	CHLORINE DIOXIDE
D	DRAIN (SANITARY)
OF	OVERFLOW
PUR	PURATE
SA	SAMPLE
SU	SULFURIC ACID
V	VENT
W1	NO. 1 (POTABLE) WATER
W2	NO. 2 (NON-POTABLE) WATER

NO.	DATE	REVISION	DR	CHK	APVD
DSGN	C BATES	G MESSER	C.WILSON	C.WILSON	C.WILSON

BY

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ONE LINE DIAGRAMS

SYMBOL	DESCRIPTION
400	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO
100/M	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP RATING SHOWN, 3 POLE, UNO
100	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO
60 (3)	FUSE, CURRENT RATING AND QUANTITY INDICATED
1	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO
AFD	ELECTRONIC STARTER/SPEED CONTROL RVSS = REDUCED VOLTAGE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE DC = DC ADJUSTABLE SPEED DRIVE RVAT = REDUCED VOLTAGE AUTO TRANSFORMER TYPE RVRT = REDUCED VOLTAGE REACTOR TYPE
	CABLE OR BUS CONNECTION POINT
	SURGE ARRESTER (GAP TYPE)
10	CAPACITOR - KVAR INDICATED, 3 PHASE
3	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED
G 500/625	GENERATOR, KW/KVA RATING SHOWN
VS V 0-600V	ANALOG METER WITH SWITCH - SCALE RANGE SHOWN V = VOLTAGE KW = KILOWATTS A = AMPERAGE KVAR = KILOVARS PF = POWER FACTOR
DPM	DIGITAL POWER METER (MULTIFUNCTION)
	GROUND
15 KVA 480-120/240V 1 PH	TRANSFORMER, SIZE, VOLTAGE RATINGS, AND PHASE INDICATED
480-120V (3)	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED
100:5 (3)	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	TERMINAL BLOCK LUG
	DELTA CONNECTION
	WYE GROUNDED CONNECTION, SOLID GROUND

POWER SYSTEM PLAN

SYMBOL	DESCRIPTION
L P X X A	PANELBOARD - SURFACE MOUNTED PANELBOARD LETTER OR NUMBER FACILITY NUMBER LP - LOW VOLTAGE PANEL DP - DISTRIBUTION PANEL
LPXXA	HOME RUN - DESTINATION SHOWN
or G	EXPOSED CONDUIT AND CONDUCTORS*
or G	CONCEALED CONDUIT AND CONDUCTORS*

NOTE:
ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.

SYMBOL	DESCRIPTION
G	CROSSHATCHES WITH BAR INDICATE NO.10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
[A1]	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
	CONDUIT DOWN
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED
	CONDUIT TERMINATION AT CABLE TRAY
EX	EXISTING CONDUIT/ DUCT BANK
BD	BUS DUCT - SEE SPECIFICATIONS
CE	CONCRETE ENCASED CONDUIT
DB	DIRECT BURIED CONDUIT
FO	FIBER OPTIC CONDUIT
J or HH	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE
CS	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.
30	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE

GROUND SYSTEM PLAN

SYMBOL	DESCRIPTION
	GROUND ROD
	GROUND ROD IN TEST WELL
G	GROUNDING CONDUCTOR, SIZE AS INDICATED
	PIGTAIL FOR CONNECTION TO EQUIPMENT CABINET OR FRAME
G	EQUIPMENT GROUND BUS
N	EQUIPMENT NEUTRAL BUS

NOTES:

1. THESE ARE STANDARD LEGEND SHEETS. SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE LEGEND AND NOT ON THE DRAWINGS.
2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND STRUCTURAL/ARCHITECTURAL) SEE OTHER LEGENDS.

GENERAL CIRCUIT CONDUCTOR AND CONDUIT IDENTIFICATION

CONDUIT AND RACEWAY

POWER CIRCUIT CALLOUTS			
[P1]	[1/2"FLEX, 2#12,#12G]	[P24]	[1"C,3#8,3#14,1#10G]
[P2]	[3/4"C,2#12,1#12G]	[P25]	[1"C,3#8,4#14,1#10G]
[P3]	[3/4"C,3#12,1#12G]	[P26]	[1"C,3#8,5#14,1#10G]
[P4]	[3/4"C,4#12,1#12G]	[P27]	[1"C,2#6, 1#10G]
[P5]	[3/4"C,5#12,1#12G]	[P28]	[1"C,3#6, 1#10G]
[P6]	[3/4"C,6#12,1#12G]	[P29]	[1"C,3#6, 2#14,1#10G]
[P7]	[3/4"C,7#12,1#12G]	[P30]	[1"C,3#6, 3#14,1#10G]
[P8]	[3/4"C,8#12,1#12G]	[P31]	[1"C,3#6, 4#14,1#10G]
[P9]	[3/4"C,4#12,2#10,1#12G]	[P32]	[1"C,4#6, 1#8G]
[P10]	[3/4"C,3#12,3#14,1#12G]	[P33]	[1"C,3#4,1#8G]
[P11]	[3/4"C,3#12,4#14,1#12G]	[P34]	[1 1/4"C,3#4,3#14,1#8G]
[P12]	[3/4"C,3#12,5#14,1#12G]	[P35]	[1 1/4"C,3#4,5#14,1#8G]
[P13]	[3/4"C,3#12,6#14,1#12G]	[P36]	[1 1/4"C,3#3, 1#8G]
[P14]	[3/4"C,3#12,7#14,1#12G]	[P37]	[1 1/4"C,3#3, 3#14,1#8G]
[P15]	[3/4"C,2#10,1#10G]	[P38]	[1 1/4"C,3#2, 1#6G]
[P16]	[3/4"C,3#10,1#10G]	[P39]	[1 1/4"C,3#1, 1#6G]
[P17]	[3/4"C,4#10,1#10G]	[P40]	[1 1/2"C,3#1, 3#14,1#6G]
[P18]	[3/4"C,6#10,1#10G]	[P41]	[1 1/2"C,3#2/0, 1#6G]
[P19]	[3/4"C,8#10,1#10G]	[P42]	[2"C,3#3/0, 1#4G]
[P20]	[3/4"C,3#10,5#14,1#10G]	[P43]	[2"C,3#4/0, 1#4G]
[P21]	[1"C,2#8,1#10G]		
[P22]	[1"C,3#8,1#10G]		
[P23]	[1"C,3#8,2#14,1#10G]		

POWER CABLE CIRCUIT CALLOUTS	
[PC1]	[3/4"C,1 (3C#12,1#12G) TYPE 2]
[PC2]	[3/4"C,1 (3C#10,1#10G) TYPE 2]
[PC3]	[1"C,1 (3C#8,1#10G) TYPE 2]
[PC4]	[1 1/4"C,2 (3C#12,1#12G) TYPE 2]
[PC5]	[1 1/2"C,2 (3C#10,1#10G) TYPE 2]
[PC1A]	[3/4"C,1 (2C#12,1#12G) TYPE 2]
[PC2A]	[3/4"C,1 (2C#10,1#10G) TYPE 2]

EMPTY CONDUIT	
[EC-1]	[3/4"C,WITH PULL STRING]
[EC-2]	[1"C,WITH PULL STRING]
[EC-3]	[1 1/4"C,WITH PULL STRING]
[EC-4]	[1 1/2"C,WITH PULL STRING]
[EC-5]	[2"C,WITH PULL STRING]
[EC-6]	[3"C,WITH PULL STRING]
[EC-7]	[4"C,WITH PULL STRING]
[EC-8]	[5"C,WITH PULL STRING]

ANALOG CIRCUIT CALLOUTS	
[A1]	[3/4"C,1 TYPE 3]
[A2]	[1"C,2 TYPE 3]
[A3]	[1"C,3 TYPE 3]
[A4]	[1"C,4 TYPE 3]
[A5]	[1 1/4"C,5 TYPE 3]
[A6]	[1 1/4"C,6 TYPE 3]
[A7]	[1 1/2"C,7 TYPE 3]
[A8]	[1 1/2"C,8 TYPE 3]
[A9]	[1 1/2"C,9 TYPE 3]
[A10]	[2"C,10 TYPE 3]
[A11]	[2"C,11 TYPE 3]
[A12]	[2"C,12 TYPE 3]
[A13]	[2"C,13 TYPE 3]
[A14]	[2"C,14 TYPE 3]
[A15]	[3/4"C,1 TYPE 4]
[A16]	[3/4"C,2 TYPE 4]
[A17]	[1"C,3 TYPE 4]
[A18]	[1 1/4"C,4 TYPE 4]
[A19]	[1 1/4"C,5 TYPE 4]
[A20]	[1 1/4"C,6 TYPE 4]
[A21]	[1 1/2"C,7 TYPE 4]
[A22]	[1 1/2"C,8 TYPE 4]
[A23]	[2"C,9 TYPE 4]
[A24]	[3/4"C,1-4 pr. TYPE 5]
[A25]	[1"C,2-4 pr. TYPE 5]

CONTROL CIRCUIT CALLOUTS	
[C1]	[3/4"C,MSC]
[C2]	[3/4"C,2#14,1#14G]
[C3]	[3/4"C,3#14,1#14G]
[C4]	[3/4"C,4#14,1#14G]
[C5]	[3/4"C,5#14,1#14G]
[C6]	[3/4"C,6#14,1#14G]
[C7]	[3/4"C,7#14,1#14G]
[C8]	[3/4"C,8#14,1#14G]
[C9]	[3/4"C,9#14,1#14G]
[C10]	[3/4"C,10#14,1#14G]
[C11]	[3/4"C,11#14,1#14G]
[C12]	[3/4"C,12#14,1#14G]
[C13]	[3/4"C,13#14,1#14G]
[C14]	[3/4"C,14#14,1#14G]
[C15]	[3/4"C,15#14,1#14G]
[C16]	[3/4"C,16#14,1#14G]
[C17]	[3/4"C,17#14,1#14G]
[C18]	[3/4"C,18#14,1#14G]
[C19]	[3/4"C,19#14,1#14G]
[C20]	[1"C,20#14,1#14G]
[C21]	[1"C,21#14,1#14G]
[C22]	[1"C,22#14,1#14G]
[C23]	[1"C,23#14,1#14G]
[C24]	[1"C,24#14,1#14G]
[C25]	[1"C,25#14,1#14G]

CONTROL CABLE CIRCUIT CALLOUTS	
[CC5]	[3/4"C,1-5C TYPE 1]
[CC7]	[3/4"C,1-7C TYPE 1]
[CC9]	[1"C,1-9C TYPE 1]
[CC12]	[1"C,1-12C TYPE 1]
[CC19]	[1 1/2"C, 1-19C TYPE 1]
[CC25]	[1 1/2"C,1-25C TYPE 1]
[CC37]	[2"C,1-37C TYPE 1]
[CCC1]	[1-7C #12 TYPE 1]

NOTES:

1. FOR CABLE TYPES, SEE SPECIFICATIONS.
2. CONDUIT SIZES ARE BASE ON THE AREA OF THW CONDUCTORS.
3. SIZING OF CONDUCTORS #2AWG AND SMALLER BASED ON AMPACITIES AT 60 DEGREES C, SIZING OF CONDUCTORS #1AWG AND LARGER BASED ON AMPACITIES AT 75 DEGREES C.
4. WHERE CIRCUITS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE ENCASED, MINIMUM CONDUIT SIZE SHALL BE 1".
5. FOR METRIC CONDUIT SIZES USE THE FOLLOWING CONVERSION:
   1/2" = 16 mm 1/4" = 35 mm
   3/4" = 21 mm 1 1/2" = 41 mm
   1" = 27 mm 2" = 53 mm

NO.	DATE	REVISION	DR	CHK	BY	APVD
	KB HORTON	A PASTRANA	G YARBERRY		KB HORTON	

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL
ELECTRICAL LEGEND

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	00-G-07
SHEET	of

BID DOCUMENTS

ARCHITECTURAL ABBREVIATIONS

ABBREVIATION	DEFINITION
A	AWNING
AC	ACOUSTICAL CEILING
ACFL	ACCESS FLOORING
ACMU	ACOUSTICAL CMU
ACT	ACOUSTICAL TILE
AJ	ADJUSTABLE
AL	ALUMINUM
AS	AS SELECTED
BRK	BRICK
BNZ	BRONZE
BV	BLOCK VENT
C	CASEMEMT
CLR	CLEAR
CLSR	CLOSER
CMU	CONCRETE MASONRY UNITS
CNTR	COUNTER
COL	COLOR
CONC	CONCRETE
CONSTR	CONSTRUCTION
CPT	CARPET
CRC	CHEMICAL-RESISTANT COATINGS
CT	CERAMIC TILE
DA	DUAL ACTION
DB	DRAINABLE
DH	DOUBLE HUNG
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EXP	EXPOSED STRUCTURE
FCTY	FACTORY
FNSH	FINISH
FRP	FIBERGLASS REINFORCED PLASTIC
FWC	FABRIC WALL COVERING
FX	FIXED
GALV	GALVANIZED STEEL
GCMU	GLAZED CONCRETE MASONRY
GH	GREENHOUSE
GLZ	GLAZING
GMU	GLASS MASONRY UNITGRY GRAY
GSB	GYPSUM SOFFIT BOARD
GWB	GYPSUM BOARD
HC	HOLLOW CORE
HDNR	HARDENER
HGT	HEIGHT
HM	HOLLOW METAL
HS	HORIZONTAL SLIDING
J	JALOUSIE
JA	JAL-AWNING
KEY	KEY GROUP
KPL	KICK PLATE
LD	COMBINATION LOUVER/DAMPER
MATL	MATERIAL
MDO	MEDIUM DENSITY OVERLAY
MET	METAL
MO	MANUALLY OPERABLE
MS	MANUFACTURER'S STANDARD
P	PROJECTED
PAVT	PAVER TILE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLWD	PLYWOOD
PNL	PANELING
PP	PUSH-PULL
PTN	PARTITION
QT	QUARRY TILE
RESIL	RESILIENT
RFS	ROLL-UP FIRE SHUTTER
RRUB	RADIAL RUBBER FLOORING
RUB	RUBBER SHEET FLOORING
SC	SOLID CORE WOOD
SIM	SIMILAR
SMLS	SEAMLESS EPOXY
SOI	SPRAY-ON INSULATION
SP	STORMPROOF
SST	STAINLESS STEEL
STL	STEEL
SVIN	SHEET VINYL
TCTG	TRAFFIC COATING
TH	TOP HINGED
TR	TRANSOM
TSHD	THRESHOLD
TWP	TRANSLUCENT PANEL SYSTEM
VCT	VINYL COMPOSITION TILE
VINT	VINYL TILE
VNL	VINYL
VP	VERTICAL PIVOTED
VS	VERTICAL SLIDE
VWC	VINYL WALL COVERING
WD	WOOD
WHT	WHITE
WRB	WATER RESISTANT GWB
WS	WEATHERSTRIPPING
WW	WINDOW WALL
X	OPEN

ARCH/STRUCT MATERIAL SYMBOLS

SYMBOL	LEGEND	SYMBOL	LEGEND
	GRATING, SPAN DIRECTION INDICATED		WOOD STUD WALL (PLAN)
	CHECKERED PLATE		RIGID INSULATION
	GROUT		BATT INSULATION
	GRANULAR FILL		STEEL
	EARTH OR FINISH GRADE		ALUMINUM
	CONCRETE		PLYWOOD
	CMU WALL (PLAN)		GYPSUM WALLBOARD
	CMU WALL (SECTION)		ACOUSTICAL TILE
	MASONRY WALL		WOOD, ROUGH CONTINUOUS
	METAL STUD WALL (PLAN)		WOOD, ROUGH NON-CONTINUOUS
			WOOD, FINISHED

ARCHITECTURAL/STRUCTURAL LEGEND

SYMBOL	LEGEND
A	GRID / COLUMN INDICATOR
ROOM NAME XX101 OR ROOM NAME 101	ROOM IDENTIFIER
"XX" = FACILITY INDICATOR (IF SHOWN); XX101A; DOOR LETTER; ROOM NUMBER	DOOR IDENTIFIER
XXW-1 OR W-1	WINDOW IDENTIFIER
XXR-1 OR R-1	RELIGHT IDENTIFIER
XXL-1 OR L-1	LOUVER IDENTIFIER
A	WALL TYPE INDICATOR
S-1	SIGNAGE IDENTIFIER
QUANTITY AND DIRECTION OF POINTERS AS REQUIRED; A B C D E; 1 XX-A-301	INTERIOR ELEVATION INDICATOR
	SPOT ELEVATION INDICATOR (IN FEET)
⊗ 110.50	
XXXX EL XX.XX	ELEVATION DATUM (IN FEET)
	DIRECTION OF SLOPE DOWN
HINGE SIDE	HATCH SWING INDICATOR
ACTIVE; XX101A; INACTIVE	INDICATES PAIR OF DOORS (DOOR # ON ACTIVE)
F.EXT-X (IN CABINET); F.EXT-X (ON BRACKET)	FIRE EXTINGUISHER "X" = NUMBER IN SPECIFICATIONS
CJ	CONTROL JOINT
X" EJ	EXPANSION JOINT X" = DIMENSION
POST	RAILINGS
P-1	PRECAST PANEL IDENTIFIER
S-X	SLAB INDICATOR
X	COLUMN INDICATOR
W-X	WALL INDICATOR
B-X	BEAM INDICATOR

GENERAL ARCHITECTURAL NOTES

1. UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO COLUMN GRID ON CENTERLINES, NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
2. "FLOOR LINE" REFERS TO TOP OF CONCRETE SLABS. FINISH FLOORING IS INSTALLED ABOVE THE FLOOR LINE. FOR DEPRESSED FLOORS AND CURBS, SEE STRUCTURAL DRAWINGS.
3. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
4. WHERE DOOR IS LOCATED NEAR CORNER OF ROOM AND IS NOT LOCATED BY DIMENSION ON PLAN OR DETAILS, DIMENSION SHALL BE 3-INCHES FROM FACE OF STUD (WALL) TO FACE OF ROUGH OPENING. DIMENSION SHALL BE 6" FROM FACE OF ALL TO EDGE OF ROUGH OPENING AT CONCRETE WALLS, 8" AT CMU WALLS.
5. AT SOUND INSULATED WALLS, FULL HEIGHT PARTITIONS SHALL BE SEALED BOTH SIDES WITH ACOUSTIC SEALANT; TOP, BOTTOM, INTERSECTION, DOOR FRAMES, GLAZED OPENING FRAMES, AND OTHER PENETRATIONS.
6. LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR ON THE SECTION END EXCEPT AS NOTED.
7. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
8. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OR DRAWINGS FOR ADDITIONAL NOTES.
9. VERIFY SIZE AND LOCATION OF, AND PROVIDE: REQUIRED OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES AND BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.

APPLICABLE CODES

INTERNATIONAL BUILDING CODE, 2012 EDITION, WITH GEORGIA AMENDMENTS 2014 2015 2017 2018

INTERNATIONAL FIRE CODE, 2012 EDITION, WITH GEORGIA AMENDMENTS 2014

LIFE SAFETY CODE, NFPA 101, 2012 EDITION (RULES & REGULATIONS OF THE SAFETY FIRE COMMISSIONER CHAPTER 120-3-3 RULES AND REGULATIONS FOR THE STATE MINIMUM FIRE SAFETY STANDARDS, 120-3-3-.04 (72))

INTERNATIONAL PLUMBING CODE, 2012 EDITION, WITH GEORGIA AMENDMENTS 2014 2015

NATIONAL ELECTRICAL CODE, NFPA 70, 2017 EDITION (NO GEORGIA AMENDMENTS)

NO.	DATE	DSGN	REVISION	DR	CHK	APVD	BY	APVD
				B NARAMORE	T DODGE	T DODGE		T DODGE

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

ARCHITECTURAL
LEGEND

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE JANUARY 2019
PROJ 698133
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GENERAL SHEET NOTES

1. CONTRACTOR SHALL DEMOLISH AND REMOVE EXISTING SIDEWALK SOUTH OF THE CHEMICAL BUILDING. ASSOCIATED STEPS AND STOOP SHALL REMAIN.
2. CONTRACTOR SHALL FIELD VERIFY MATERIAL, DIAMETER, AND LOCATION OF EXISTING NATURAL GAS LINE. ENGINEER APPROVAL REQUIRED FOR PROPOSED ROUTE OF RELOCATED NATURAL GAS LINE.
3. STORMWATER DRAIN PIPES SHALL HAVE A 1% SLOPE MINIMUM.
4. CONTRACTOR TO ADD MULCH, TEMPORARY SODDING, AND PERMANENT SODDING TO ALL DISTURBED AREAS.
5. LAWN AREA TRENCH BACKFILL (3123-918) IS TO BE APPLIED TO DISTURBED TRENCH SECTIONS OVER GRASS AREA.

SHEET KEYNOTES

1. COORDINATE ROAD CUTTING AND REPAIR WITH OWNER FOR DELIVERY OF CHEMICALS TO CHEMICAL BUILDING.

N

0 10 20 30

1"=10'

30" DIP RAW WATER

Ds1 Ds2 Ds3

SILT FENCE TYPE A (Sd1)

GRASS RESTORATION (3123-918)

DEMOLISH AND REMOVE EXISTING NATURAL GAS LINE (3123-110)

7' X 26' ASPHALT SURFACE RESTORATION (3123-115) (1)

CURB AND GUTTER REPAIR (3216-310)

DEMOLISH AND REMOVE EXISTING SIDEWALK

1 1/2" W1
2" SU (FEED)
2" PUR (FEED)
(3123-110)

CHEMICAL CONTAINMENT BUILDING
FFE: 820'

DOWNSPOUT BOOT (0741-035)

5'

FFE: 818'

45 DEGREE 6" PVC
IE 811

SIDEWALK ELEVATION TO MATCH EXISTING BOTTOM OF STAIR

3' 6"

SLOPE MIN 5:1

EXTERNAL CLEANOUT (3305-740)

6" PVC MIN. 1% SLOPE (3123-110)

5'

8'

45 DEGREE 6" PVC

2" CPVC DR GRAVITY LINE (3123-110)

DOWNSPOUT CONNECTION FROM ROOF AND CANOPY STORMWATER DRAINS TO 6" PVC (1073-001)

CONCRETE SIDEWALK (3213-220)

6" PVC MIN. 1% SLOPE (3123-110)

EXTERNAL CLEANOUT (3305-740)

EXISTING RAW WATER METER VAULT (APPROX. LOCATION)

30" DIP RAW WATER

PIPE CONNECTION TO EXISTING MANHOLE (3305-730)

30" CMP WASHWATER DRAIN

GRASS RESTORATION (3123-918)

PROPOSED NATURAL GAS LINE (3123-110)

MH-G8
RIM EL: 818.5

2" CPVC DR GRAVITY LINE
IE: 816'

PIPE CONNECTION TO EXISTING STORMWATER INLET (3305-730)

INLET RIM ELEVATION: 814'
6" PVC IE: 810'

30" CMP WASHWATER DRAIN

DEMOLISH AND REMOVE EXISTING NATURAL GAS LINE (3123-110)

GRASS RESTORATION (3123-918)

Ds1 Ds2 Ds3

SILT FENCE TYPE A (Sd1)

CURB INLET FILTER (Sd2-P)

CONSTRUCTION STAGING AREA

PROPOSED NATURAL GAS LINE (3123-110)

6" DIP PLANT UTILITY WATER LINE

811 Know what's below. Call before you dig.

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

NO.	DATE	DR	REVISION	CHK	APVD	BY
DSGN	C SCHARER	M HALES		J RAMOS	APVD	C SCHARER

ch2m

CIVIL

SITE PLAN

BID DOCUMENTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	05-C-01
SHEET	of

EROSION CONTROL NOTES

1. ALL PERIMETER EROSION AND SEDIMENT CONTROL DEVICES FENCE SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF SITE WORK AND REMAIN UNTIL COMPLETION OF WORK. CONTRACTOR IS RESPONSIBLE TO REPAIR OR REPLACE DAMAGED ITEMS.
2. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
3. SOIL DISTURBING ACTIVITIES WILL INCLUDE: PLACEMENT OF EROSION CONTROL MEASURES, GRADING OPERATIONS, SHORING AND SLOPE STABILIZATION, CONSTRUCTION OF FACILITIES, CONSTRUCTION OF ASPHALT PAVEMENT, TRENCHING AND UTILITY INSTALLATION.
4. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES INSTALLED IN GOOD WORKING ORDER FOR THE FULL DURATION OF THIS CONTRACT.
5. EROSION, SEDIMENT AND POLLUTION CONTROL MEASURES SHALL BE PROVIDED AS SHOWN AND ARE THE MINIMUM REQUIRED. ADDITIONAL DEVICES MAY BE REQUIRED AS NECESSARY DURING CONSTRUCTION.
6. CONTRACTOR SHALL INSTALL AND ADD TO EROSION CONTROL MEASURES AS DETERMINED BY THE ENGINEER, OWNER OR THE COUNTY.
7. PROVISIONS TO PREVENT EROSION OF SOIL FROM THE SITE SHALL BE, AT A MINIMUM, IN CONFORMANCE WITH THE REQUIREMENTS OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, CURRENT EDITION. THIS DESIGN SHALL CONFORM TO AND ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THIS PUBLICATION.
8. NO BURN OR BURY PITS SHALL BE PERMITTED ON THE SITE WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF THE SITE OWNER AND/OR THE ENGINEER OF RECORD.
9. A TEMPORARY COVER OF HEAVY MULCH OR MULCH WITH TEMPORARY SEEDING SHALL BE PLACED ON ALL AREAS WHERE PERMANENT COVER CAN NOT BE ESTABLISHED IMMEDIATELY DUE TO SEASONAL LIMITATIONS.
10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT UNDER NO CIRCUMSTANCES ANY SEDIMENT, TRASH, OR DEBRIS BE ALLOWED ONTO ADJACENT PROPERTIES, PUBLIC LANDS, OR OUTSIDE OF THE CONSTRUCTION LIMITS.
11. TEMPORARY SILT CONTROL FENCE SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL INSPECT FENCE DAILY AND AFTER EVERY RAIN EVENT. ACCUMULATED SILT SHALL BE REMOVED AS SOON AS PRACTICAL, BUT NO LATER THAN WHEN FENCE IS HALF FULL. CONTRACTOR SHALL REMOVE THE SILT FENCE WHEN PERMANENT GRASSING HAS BEEN ESTABLISHED.
12. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL MEET THE MINIMUM REQUIREMENTS OF THE SPECIFICATIONS AND ALL LOCAL, STATE, AND FEDERAL LAWS AS APPLICABLE TO THIS PROJECT. ALL DEVICES SHALL BE PROPERLY INSTALLED AND BE OF SUITABLE MATERIALS. ANY DEVICES JUDGED TO BE INADEQUATE IN MATERIAL AND/OR CONSTRUCTION WILL IMMEDIATELY BE REPLACED WITH NEW OR ADDITIONAL DEVICES TO ENSURE PROPER CONTROL.
13. ALL EROSION CONTROL DEVICES, THAT ARE NOT DIRECTLY SPECIFIED AS TO INSTALLATION AND MATERIALS, SHALL MEET THE REQUIREMENTS OF THE GA. DEPT. OF TRANSPORTATION, SPECIFICATIONS FOR THE CONSTRUCTION OF ROADS AND BRIDGES, CURRENT EDITION, AND LATEST SUPPLEMENT IN EFFECT AT THE TIME OF BID OPENING OR THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, CURRENT EDITION.
14. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT ALL TIMES.
15. ALL WASTEWATER AND FROM CONSTRUCTION ACTIVITIES OR CLEANING OPERATIONS SHALL NOT BE DISCHARGED ON THE GROUND.

Ds1

DEFINITION
APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS, PRODUCED ON THE SITE IF POSSIBLE,TO THE SOIL SURFACE.

CONDITIONS
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS. IF AN AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED.

SPECIFICATIONS
MULCHING WITHOUT SEEDING
THIS STANDARD APPLIES TO GRADES OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION
1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORINGMULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS
SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED:
1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
3. CUTBACK ASPHALT (SLOW CURING) SHALL BE APPLIED AT 1200 GALLONS PER ACRE (OR 1/4 GALLON PER SQ.YD.).
4. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND REUSED.

APPLYING MULCH
WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.
1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICALEQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.
3. CUTBACK ASPHALT SHALL BE APPLIED UNIFORMLY. CARE SHOULD BE TAKEN IN AREAS OF PEDESTRIAN TRAFFIC DUE TO PROBLEMS OF 'TRACKING IN"OR DAMAGE TO SHOES, CLOTHING, ETC.
4. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH
1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK."DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-5 OR SS-1). THE ASPHALT EMULSION SHALL BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE. USE 100 GALLONS OF EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH. TACKIFERS AND BINDERS CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION TB -TACKIFERS AND BINDERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

MULCHING RATE		
MATERIAL	RATE	DEPTH
STRAW	2.0 TON/ACRE	2" - 4"
HAY	2.5 TON/ACRE	2" - 4"
WOOD WASTE: CHIPS, SAWDUST, BARK	---	2" - 3"
POLYETHYLENE FILM	SECURE W/ SOIL ANCHORS	---

Ds1: DISTURBED AREA STABILIZATION (MULCH)

NTS

Ds3

CONDITIONS
THE PURPOSE OF PERMANENT SEEDING IS TO REDUCE RUNOFF AND EROSION, IMPROVE WILDLIFE HABITAT, IMPROVE AESTHETICS, IMPROVE TILTH AND ORGANIC MATTER, REDUCE DOWNSTREAM COMPLAINTS, REDUCE LIKELIHOOD OF LEGAL ACTION, REDUCE LIKELIHOOD OF WORK STOPPAGE DUE TO LEGAL ACTION, AND INCREASE GOOD NEIGHBOR BENEFITS.

INSTALLATION
1. USE CONVENTIONAL PLANTING METHODS IF POSSIBLE.
2. APPLY IN ACCORDANCE WITH BELOW TABLE.
3. CHECK THE TAG ON THE BAG OF SEED TO VERIFY THE TYPE AND GERMINATION OF THE SEED TO BE PLANTED AND THE DATE OF THE TEST.
4. SCARIFY, PIT OR TRENCH SEALED OR CRUSTED SOIL.
5. FERTILIZE BASED ON SOIL TESTS OR PER SPECIFICATION.
6. APPLY AGRICULTURAL LIME AS PRESCRIBED BY SOIL TESTS OR AT A RATE OF 1 to 2 TONS PER ACRE.
7. APPLY SEED BY HAND, CYCLONE SEEDER, DRILL OR HYDRO-SEEDER. SEED PLANTED WITH A DRILL SHALL BE PLANTED 1#4" TO 1#2" DEEP.
8. STRAW OR HAY MULCH SHALL BE APPLIED AT A RATE OF 2 TO 2.5 TONS PER ACRE.
9. IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL, BUT NOT TO THE EXTENT TO CAUSE EROSION.

MAINTENANCE
1. RE-SEED AREA WHERE AN ADEQUATE STAND OF VEGETATION FAILS TO EMERGE OR WHERE A POOR STAND EXISTS.
2. APPLY FERTILIZER PER SPECIFICATION.
3. MOW BERMUDA AND BAHIA AS DESIRED. MOW SERICEA LESPEDEZA ONLY AFTER FROST TO ENSURE SEEDS ARE MATURE.
4. MAINTAIN 6" OR MORE OF TOP GROWTH.

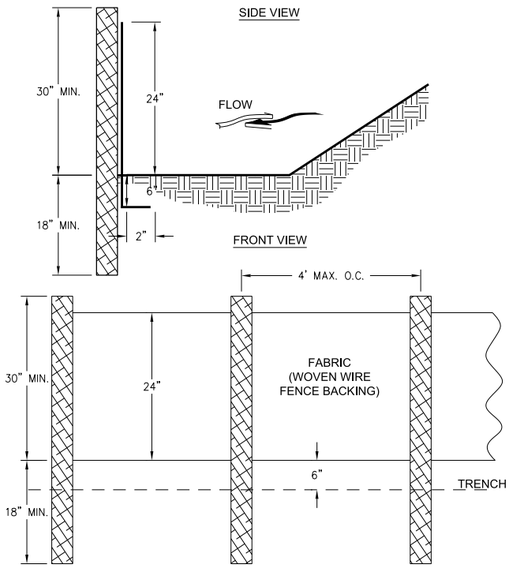
SEEDING RATES FOR PERMANENT SEEDING

SPECIES	RATE Per 1,000 sq.ft.	RATE Per Acre *	PLANTING DATES **
BAHIA	1.4 POUNDS	60 LBS.	3/1-6/1
BERMUDA	0.2 POUND	10 LBS.	4/1-6/1
CENTIPEDE	BLOCK SOD ONLY	BLOCK SOD ONLY	11/1-6/1
LESPEDEZA	1.7 POUNDS	75 LBS.	9/1-2/15
WEEPING LOVE GRASS	0.1 POUND	4 LBS.	3/15-5/15
RED CANARY GRASS	0.9 POUND	40 LBS.	3/15-5/15

* Unusual site conditions may require heavier seeding rates
** Seeding dates may need to be altered to fit temperture variations and conditions.

Ds3: DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

NTS

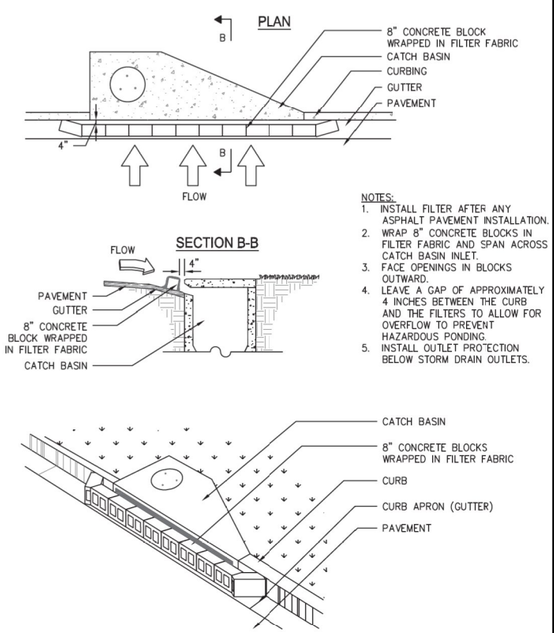


Sd1-S: SILT FENCE - NON-SENSITIVE (Sd1)

NTS

NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

CURB INLET FILTER "PIGS IN BLANKET"



NOTES:
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
3. FACE OPENINGS IN BLOCKS OUTWARD.
4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
5. INSTALL OUTLET PRO"ECTION BELOW STORM DRAIN OUTLETS.

Figure 6-28.6 Curb Inlet Filter "Pigs in Blanket" (Sd2-P)

Ds2

CONDITIONS
THE PURPOSE OF TEMPORARY SEEDING IS TO REDUCE RUNOFF, EROSION, AND SEDIMENTATION, IMPROVE WILDLIFE HABITAT, IMPROVE AESTHETICS, AND IMPROVE TILTH AND ORGANIC MATTER.

INSTALLATION
1. INSTALL ALL ES&PC MEASURES PRIOR TO APPLYING TEMPORARY VEGETATION.
2. GRADING OR SHAPING ARE NOT REQUIRED IF SLOPES CAN BE PLANTED WITH A HYDROSEEDER OR BY HAND-SEEDING.
3. SEEDBED PREPARATION IS NOT REQUIRED IF SOIL IS LOOSE AND NOT SEALED BY RAIN.
4. WHEN THE SOIL IS SEALED OR CRUSTED, IT SHOULD BE PITTED, TRENCHED OR SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.
5. AGRICULTURAL LIME IS NOT REQUIRED.
6. FERTILIZE LOW FERTILITY SOILS PRIOR TO OR DURING PLANTING AT A RATE OF 500-700 POUNDS PER ACRE OF 10-10-10 FERTILIZER OR EQUIVALENT (12-16 POUNDS PER 1000 SQUARE FEET).
7. IT IS IMPERATIVE THAT CONTRACTOR CHECK THE TAG ON THE BAG OF SEED TO VERIFY THE TYPE AND GERMINATION OF THE SEED TO BE PLANTED.
8. APPLY SEED BY HAND, CYCLONE SEEDER, DRILL OR HYDRO-SEEDER. SEED PLANTED WITH A DRILL SHALL BE PLANTED 1#4" TO 1#2" DEEP.
9. APPLY IN ACCORDANCE WITH ABOVE TABLE.
10. TEMPORARY COVER SHALL APPLIED TO ALL DISTURBED AREAS LEFT IDLE FOR 14 DAYS. IF AN AREA IS LEFT IDLE FOR 6 MONTHS, PERMANENT COVER SHALL BE APPLIED.

MAINTENANCE
1. RE-SEED AREAS WHERE AN ADEQUATE STAND OF TEMPORARY VEGETATION FAILS TO EMERGE OR WHERE A POOR STAND EXISTS.

SEEDING RATES FOR TEMPORARY SEEDING

SPECIES	RATE Per 1,000 sq.ft.	RATE Per Acre *	PLANTING DATES **
Rye	3.9 pounds	3 bu.	9/15-12/1
Ryegrass	0.9 pound	40 lbs.	9/1-12/15
Annual Lespedeza	0.9 pound	40 lbs.	3/1-4/1
Weeping Lovegrass	0.1 pound	4 lbs.	4/1-6/1
Sudangrass	1.4 pounds	60 lbs.	5/1-8/1
Browntop Millet	0.9 pound	40 lbs.	4/15-7/1
Wheat	4.1 pounds	3 bu.	11/1-12/15

* Unusual site conditions may require heavier seeding rates
** Seeding dates may need to be altered to fit temperture variations and conditions.

Ds2: DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

NTS

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

NO.	DATE	REVISION	DR	CHK
			D RATZLAFF	J RAMOS
			C SCHARER	APVD
			DSGN	BY
				APVD

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ch2m:

CIVIL
ES&PC
NOTES AND DETAILS

BID DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	05-C-02
SHEET	of

CHEMICAL BUILDING SCADA PANEL

SS1
PLC
UPS

STORAGE TANK
LI
LAHH
SS2
CONTAINMENT SUMP
LAH
120V
FP-212-1
CONTAINMENT LEAK
LAH 212-9
TANK LEVEL
LI 212-1
I/I
LY 212-1
HI/HI LEVEL
LAHH 212-1
HIGH LEVEL
LAH 212-1
(2)
@ TRUCK DELIVERY

PRODUCTION SETPOINT
PRODUCTION
RUN PERMISSIVE
REMOTE START
GEN. RUNNING
GEN. ALARM
GEN. SHUTDOWN ALARM
BOOSTER PUMP RUNNING
MODBUS TCP/IP (CAT6)
CP-210 *
PLC
HMI
SS1
ON
YL 210
OFF
YL 210
RUN
SPEED

480V
AFD-211-2 *
PRV-211-3
PSV-211-4
FROM PLANT WATER
W2
BACKFLOW PREVENTER
AS
BOOSTER PUMP
P-211-2
BYP
FT 210-6
PI 210-7
PT 210-8
(OPEN / CLOSE)
AIT 210-9 *
MSC
AE 210-9 *
CLO2
PT 210-5
REACTOR
FV 210-4
PRV-210-2
PRV-210-3
PSV-210-3
FV 210-2
SULFURIC ACID PUMP
P- 210-2
CHLORINE DIOXIDE SYSTEM
M-210-1
PURATE PUMP
P-210-3
FV 210-3
SU
PUR
SU PAN DRAIN
PUR PAN DRAIN
REACTOR DRAIN
TO CONTAINMENT
CONTRACTOR SUPPLIED
NALCO AN ECOLAB COMPANY SUPPLIER

SS4
4091-383D
LIT 212-1
TRUCK DELIVERY
SULFURIC ACID STORAGE TANK
T-212-1
LE 212-1
4091-252
OF
DR
4091-248
LSH 212-9
CONTAINMENT SUMP

STORAGE TANK
LI
LAHH
SS2
CONTAINMENT SUMP
LAH
SHOWER ACTIVATED
FAH
120V
FP-213-1
CONTAINMENT LEAK
LAH 213-9
TANK LEVEL
LI 213-1
I/I
LY 213-1
HI/HI LEVEL
LAHH 213-1
HIGH LEVEL
LAH 213-1
@ TRUCK DELIVERY
HORN / STROBE
XA 200-1 *1
FSH 200-1 *1
W1
SAFETY SHOWER/ EYEWASH
SSH-200-1 *1

SS4
4091-383D
LIT 213-1
MSC
TRUCK DELIVERY
4091-252
LE 213-1
OF
PURATE TANK
T-213-1
PSV-213-3
DR
4091-248
LSH 213-9
CONTAINMENT SUMP
CLO2
TO CHEMICAL INJECTION TRENCH
TO INLET OF EXISTING MANHOLE (MH-G8)

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
		CL BATES		G MESSER	C WILSON	C WILSON	

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

ch2m

INSTRUMENTATION & CONTROLS
P&ID
CHLORINE DIOXIDE GENERATION

BID DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
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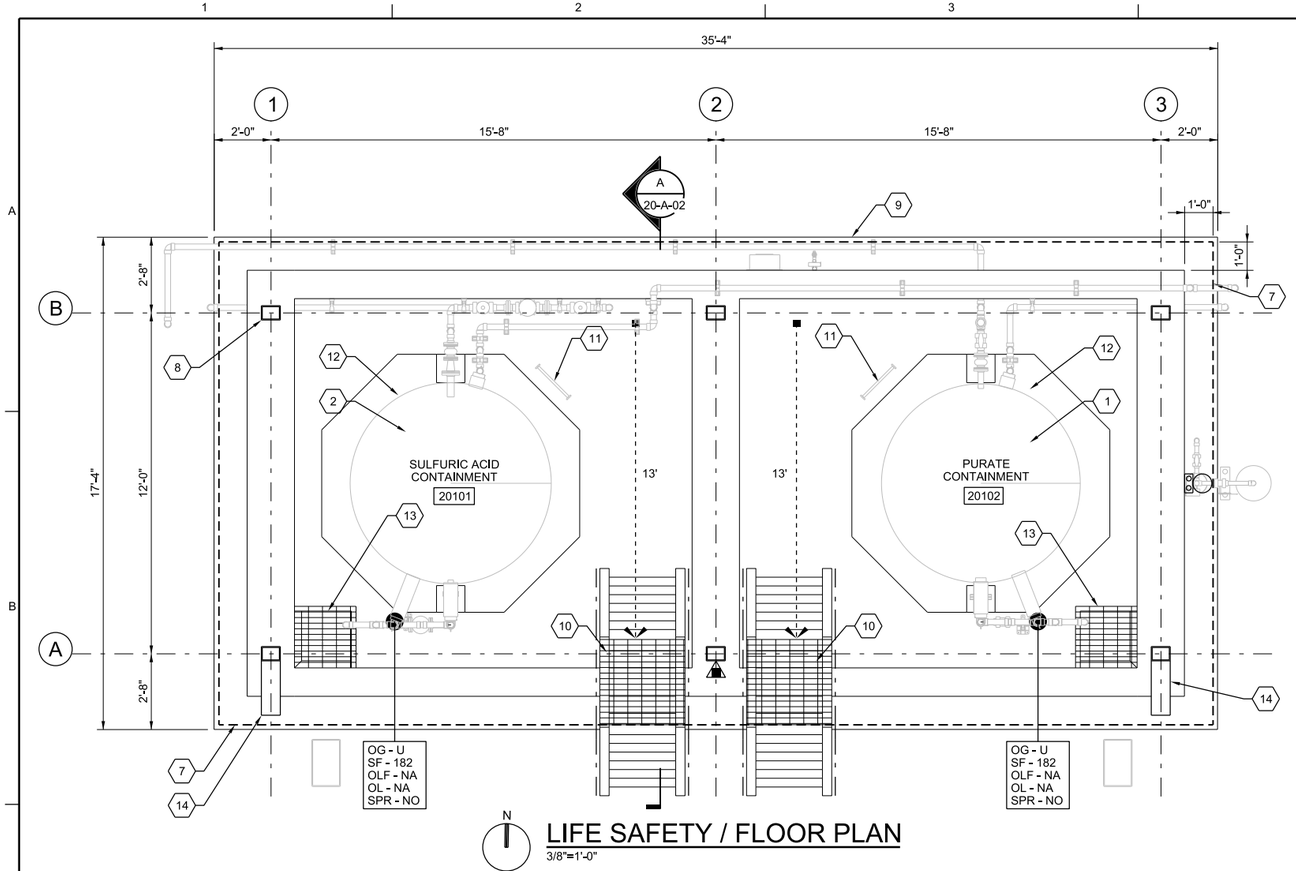
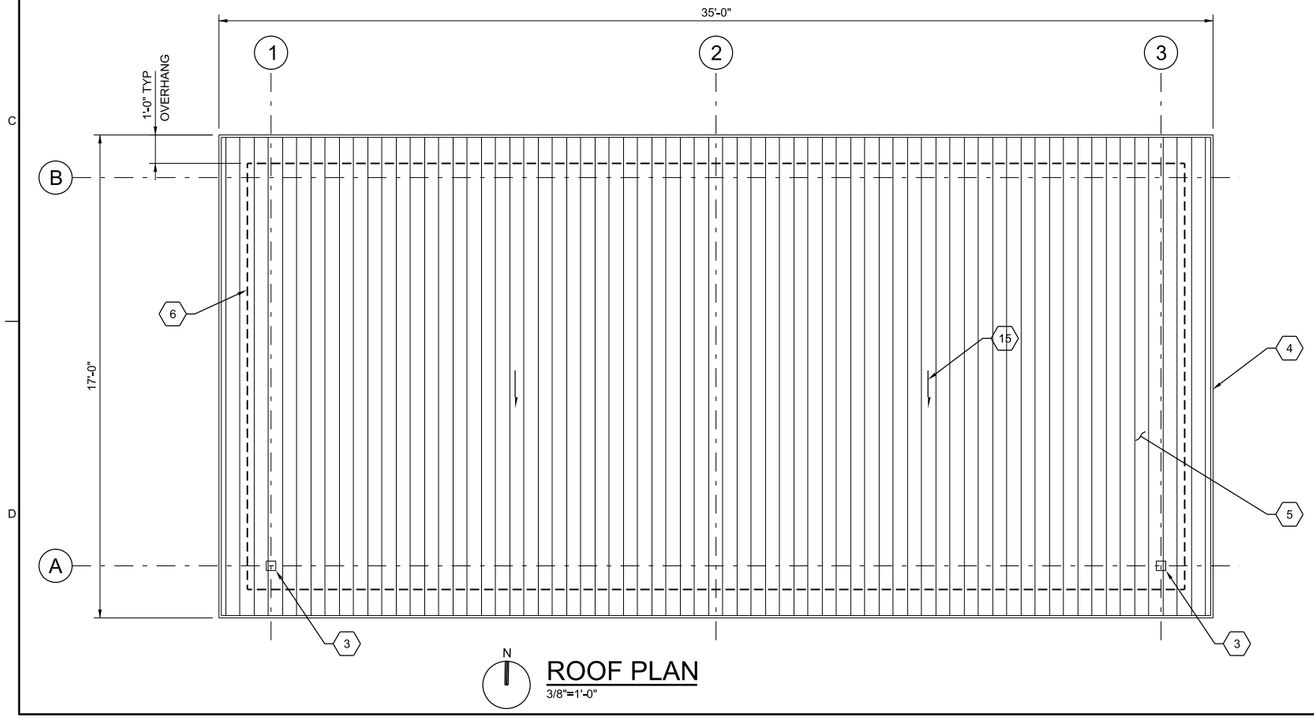
DATE	JANUARY 2019
PROJ	698133
DWG	08-N-01
SHEET	of



LIFE SAFETY / FLOOR PLAN

3/8"=1'-0"



ROOF PLAN

3/8"=1'-0"

GENERAL SHEET NOTES

1. SEE SPECIFICATION 10 73 00 PROTECTIVE COVERS FOR CANOPY STRUCTURE.
2. SEE SPECIFICATION 10 44 00 FOR FIRE EXTINGUISHERS.
3. SEE SPECIFICATIONS 09 90 00 PAINTING AND COATING AND 09 96 35 CHEMICAL RESISTANT COATINGS FOR CONTAINMENT STRUCTURE COATINGS.
4. SEE DRAWING 20-D-03 AND SPECIFICATION 09 90 00 PAINTING AND COATING FOR REPAIRS AND PAINTING OF EXISTING INTERIOR CMU WALLS IN NEW CHLORINE DIOXIDE GENERATION SYSTEMS ROOM.

SHEET KEYNOTES

1. 2,550 GALLON TANK OF PURATE (SODIUM CHLORATE AND HYDROGEN PEROXIDE BLEND - 45% SOLUTION) - NFPA HAZARDOUS CLASSIFICATION: 3-0-1-OX.
2. 2,550 GALLON TANK OF SULFURIC ACID (78% SOLUTION) - NFPA HAZARDOUS CLASSIFICATION: 3-0-2-~~W~~.
3. DRAIN BEAM DECK OPENINGS.
4. ALUMINUM FASCIA FULL PERIMETER.
5. CORRUGATED ALUMINUM ROOF PANELS.
6. OUTLINE OF CONTAINMENT WALL BELOW.
7. OUTLINE OF CANOPY ABOVE.
8. ALUMINUM CANOPY COLUMN, TYPICAL AROUND CANOPY PERIMETER.
9. EDGE OF SLAB.
10. CONTAINMENT SHIP LADDER.
11. TANK ACCESS LADDER.
12. CONCRETE TANK BASE.
13. CONTAINMENT AREA SUMP.
14. EXTEND ALUM TUBE COLUMNS DOWN TO DISCHARGE STORMWATER INTO BELOWGRADE PIPING. PROVIDE COLUMNS WITH DEFLECTOR PLATES AND ALUM PIPE STUB-OUTS FOR CONNECTION TO BELOWGRADE PIPING, SEE
15. SLIGHT ROOF DECK SLOPE. (1073-001)

LIFE SAFETY LEGEND

X'	TRAVEL DISTANCE (X = TOTAL DISTANCE TO EXIT IN FEET)
	MULTIPURPOSE FIRE EXTINGUISHER (F.EXT-1)
	EYEWASH/ SAFETY SHOWER
OG	OCCUPANCY GROUP
SF	SQUARE FEET
OLF	OCCUPANT LOAD FACTOR
OL	OCCUPANT LOAD
SPR	SPRINKLER
NA	NOT APPLICABLE

CODE DATA

INTERNATIONAL BUILDING CODE 2012 EDITION (IBC)

NFPA 101, LIFE SAFETY CODE 2012 EDITION (LSC)

BUILDING: CHLORINE DIOXIDE SYSTEM CANOPY

PROJECT LOCATION: FAYETTE COUNTY, GA	ARCHITECT: TIMOTHY DODGE 643 SW 4th AVE, SUITE 4 GAINESVILLE, FLORIDA

GENERAL INFORMATION

OCCUPANCY CLASSIFICATION:	GROUP U (IBC 312.1) OUTDOOR STORAGE OF, OXIDIZER. WATER-REACTIVE AND CORROSIVE HEALTH HAZARD LIQUIDS NOT WITHIN A CONTROL AREA. IFC SECTIONS 5001, 5003, & 5004 APPLY
	SPECIAL -PURPOSE INDUSTRIAL OCCUPANCY (LSC, 40.1.2.1.2)
CONSTRUCTION CLASSIFICATION:	TYPE VB (IBC 602.5 & TABLE 503)
	TYPE V (000) (NFPA 220, 4.6)

AREA AND HEIGHT LIMITATIONS

MAXIMUM STORIES ALLOWED:	1 (IBC TABLE 503)
ACTUAL NUMBER OF STORIES:	1
MAXIMUM BUILDING HEIGHT ALLOWED:	40 FT (IBC TABLE 503)
ACTUAL BUILDING HEIGHT ABOVE GRADE:	23'-2"
MAXIMUM BUILDING AREA ALLOWED PER FLOOR:	5,500 SF (IBC TABLE 503)
ACTUAL MAXIMUM AREA PER FLOOR:	364 SF

OCCUPANCY / EGRESS INFORMATION

OCCUPANT LOAD FACTOR:	NA (SPECIAL -PURPOSE INDUSTRIAL USE, LSC TABLE 7.3.1.2)
MINIMUM EGRESS DOOR WIDTH:	NA - OPEN CANOPY
ACTUAL MINIMUM EGRESS DOOR WIDTH:	NA - OPEN CANOPY
MINIMUM INDUSTRIAL EQUIPMENT ACCESS WIDTH:	22 IN (LSC TABLE 40.2.5.2.1)
MINIMUM OTHER MEANS OF EGRESS WIDTH:	36 IN (LSC 7.3.4.1, (2))

EXIT REQUIREMENTS

MAX.TRAVEL DISTANCE ALLOWED:	300 FT (NOT PROTECTED) (LSC TABLE 40.2.6)
MAXIMUM COMMON PATH OF EGRESS TRAVEL:	100 FT (LSC TABLE 40.2.5)

FIRE PROTECTION

AUTOMATIC FIRE DETECTION & SPRINKLER SYSTEMS:	NOT REQUIRED NOT PROVIDED
PORTABLE FIRE EXTINGUISHERS:	REQUIRED (IBC 906 & TABLE 906.3(1))
ILLUMINATED EMERGENCY EXIT SIGNS:	NOT REQUIRED NOT PROVIDED
STRUCTURAL FIRE PROTECTION:	NONE (0 HRS): - TYPE VB CONSTRUCTION (IBC TABLE 601) - TYPE V (000) CONSTRUCTION (NFPA 220 TABLE 4.1.1)
EXTERIOR WALL FIRE-RESISTANCE RATINGS:	NONE REQUIRED FOR TYPE VB CONSTRUCTION WITH FIRE SEPARATION DISTANCE GREATER THAN 10 FT FOR GROUP U OCCUPANCY (IBC TABLE 602)

ACCESSIBILITY

NOT REQUIRED - EQUIPMENT SPACES ONLY (IBC 1103.2.9)

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

ch2m.

ARCHITECTURAL

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

CHLORINE DIOXIDE BULK STORAGE CANOPY PLANS AND CODE DATA

NO.	DATE	REVISION	BY	APVD
DSGN	T DODGE	DR	T DODGE	APVD
		CHK	P DENNING	A DOLSAK

BID DOCUMENTS

3/8"=1'-0"

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

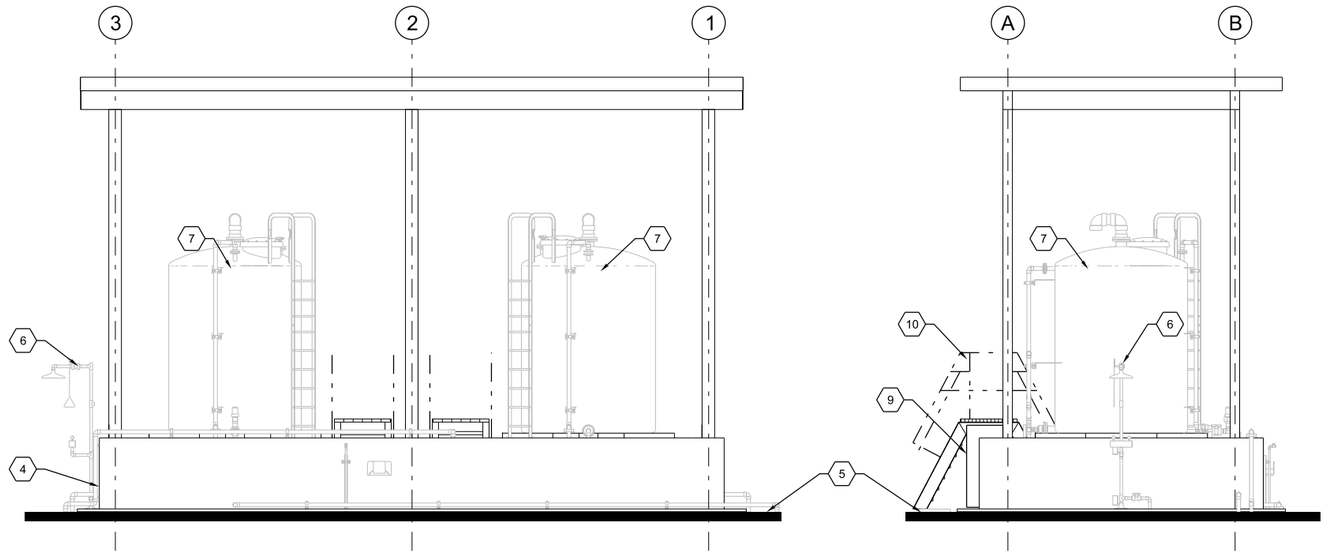
DATE	JANUARY 2019
PROJ	698133
DWG	20-A-01
SHEET	of

GENERAL SHEET NOTES

1. SEE SPECIFICATION 10 73 00 PROTECTIVE COVERS FOR ALUMINUM CANOPY.

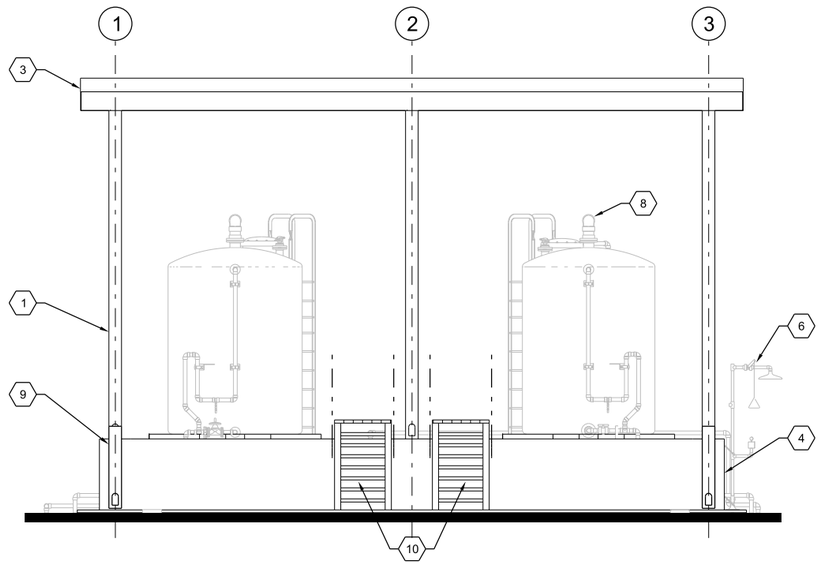
SHEET KEYNOTES

1. ALUMINUM COLUMNS W/ INTEGRAL ROOF DRAINAGE, TYPICAL
2. CORRUGATED ALUMINUM ROOF PANELS
3. ALUMINUM FASCIA EACH SIDE
4. CONTAINMENT STRUCTURE, SEE STRUCTURAL
5. APPROXIMATE GRADE, SEE CIVIL
6. EYEWASH / SAFETY SHOWER
7. CHEMICAL TANK
8. TANK VENT
9. EXTEND ALUM TUBE COLUMNS DOWN TO DISCHARGE STORMWATER INTO BELOW GRADE PIPING, PROVIDE COLUMNS WITH DEFLECTOR PLATES AND ALUM PIPE STUB-OUTS FOR CONNECTION TO BELOWGRADE PIPING, SEE 1073-001
10. CONTAINMENT SHIP LADDER
11. SLIGHT ROOF DECK SLOPE TOWARDS DOWNSPOUTS ON SOUTH SIDE OF CANOPY

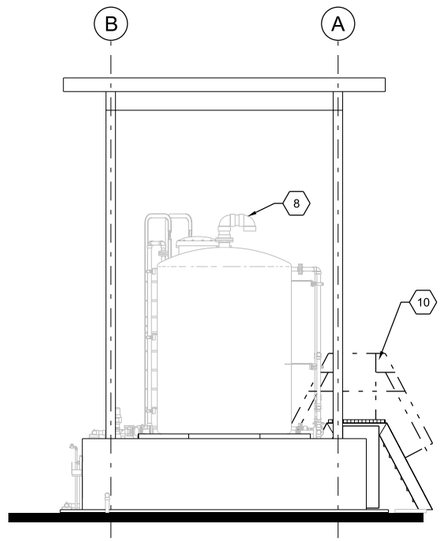


NORTH ELEVATION
1/4"=1'-0"

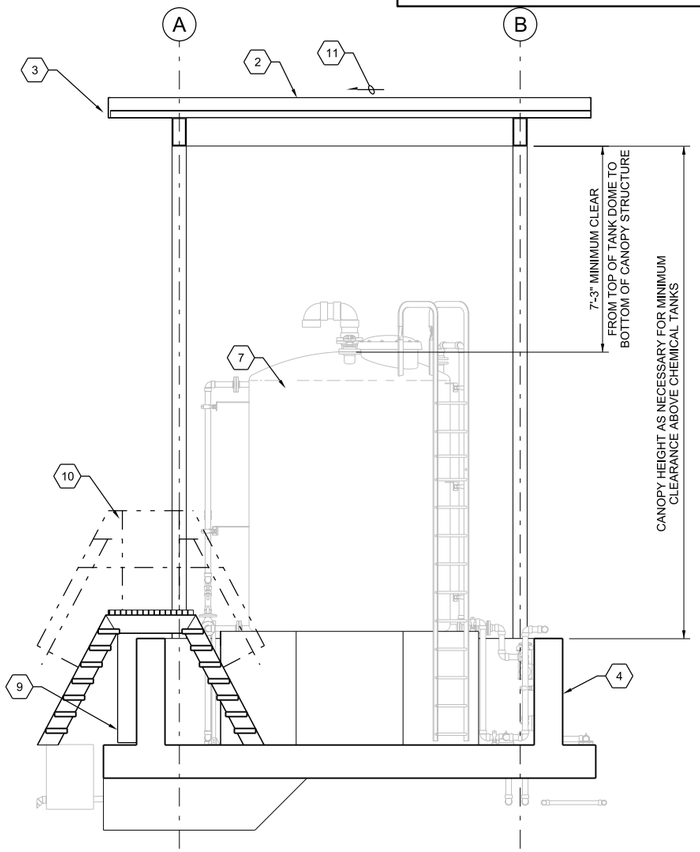
EAST ELEVATION
1/4"=1'-0"



SOUTH ELEVATION
1/4"=1'-0"



WEST ELEVATION
1/4"=1'-0"



A SECTION
3/8"=1'-0"
20-A-2001

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

ch2m

ARCHITECTURAL

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

CHLORINE DIOXIDE BULK STORAGE CANOPY ELEVATIONS AND SECTION

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
DSGN	T DODGE	P DENNING	T DODGE	A DOLSAK	A DOLSAK	T DODGE	T DODGE

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING, 0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-A-02
SHEET	of

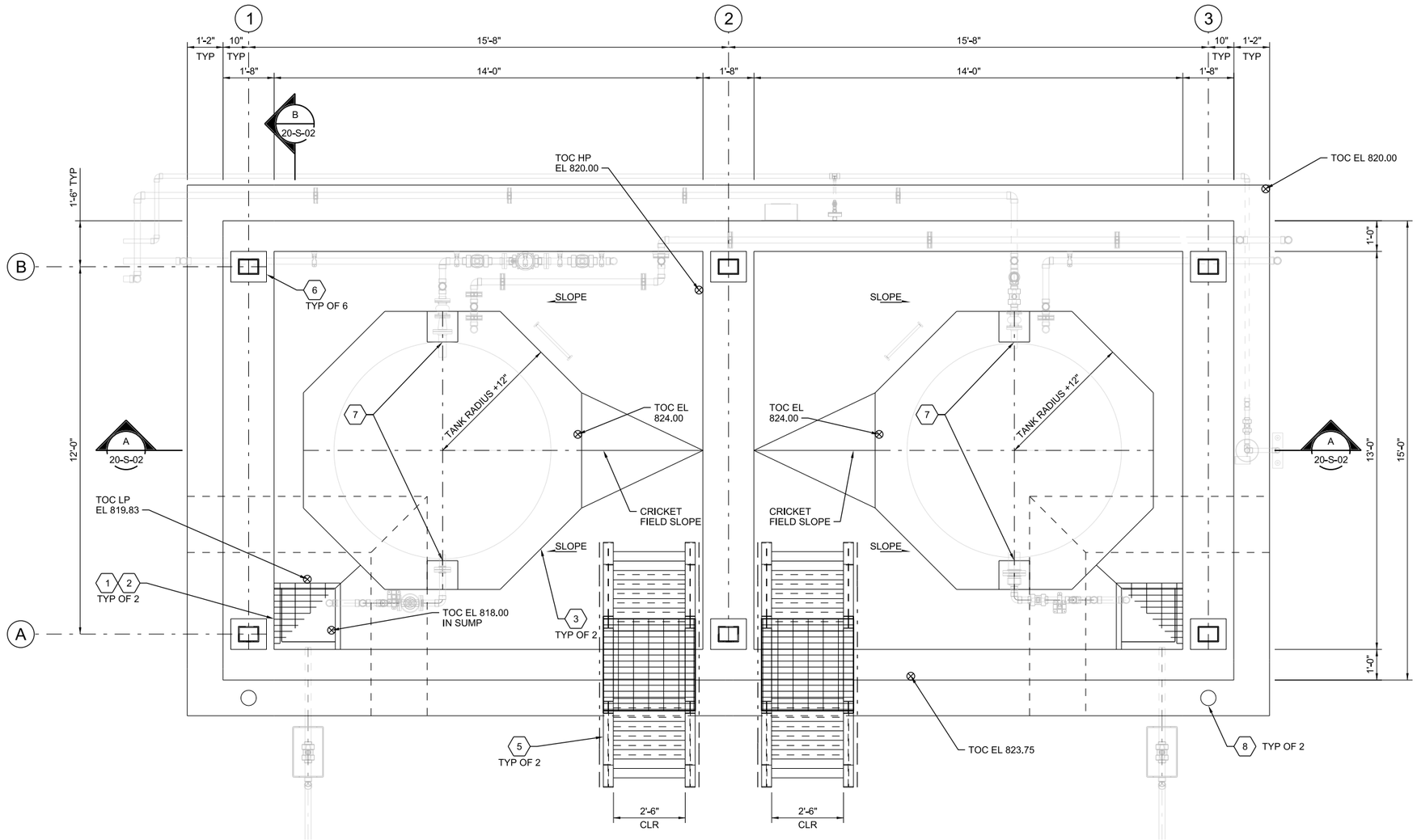
BID DOCUMENTS

GENERAL SHEET NOTES

1. FOR GENERAL STRUCTURAL NOTES, SEE 00-G-03.
2. CANOPY REACTIONS SHALL BE SUBMITTED FOR FOUNDATION DESIGN REVIEW. REINFORCEMENT SHOP DRAWINGS WILL NOT BE REVIEWED AND CONCRETE SHALL NOT BE PLACED PRIOR TO FINAL APPROVAL OF CANOPY SUBMITTAL.
3. CANOPY SEISMIC FORCE RESISTING SYSTEM: AS REQUIRED BY CANOPY MANUFACTURER.

SHEET KEYNOTES

1. FRP GRATING WITH SUPPORT TYPE GS-1 AT SLAB AND TYPE GS-3 AT WALL PER DETAIL 0682-030.
2. 2'-0" x 2'-0" x 2'-0" SUMP.
3. CONCRETE EQUIPMENT PAD TYPE 'A', 0330-056.
4. CONCRETE COVER OVER TOP REINF SHALL BE 2" CLR, MIN AND 4" CLR, MAX TO CREATE SLOPES.
5. FRP SHIP STAIR CROSSOVER W/ 48" CLEARANCE, BY FIBERGATE OR APPROVED EQUAL.
6. PROVIDE BLOCKOUT IN WALL AS REQUIRED BY CANOPY SUPPLIER FOR EMBEDDED CANOPY COLUMNS. SEE DETAIL 1/20-S-203. MODIFICATION TO WALL GEOMETRY MAY BE REQUIRED TO ACCOMMODATE COLUMN EMBED. COORDINATE WITH ENGINEER.
7. PROVIDE BLOCKOUT IN PAD FOR OUTLET AND DRAIN NOZZLES. COORDINATE LOCATION AND SIZE WITH TANK MANUFACTURER.
8. PENETRATION IN CONC MAT FOR DOWNSPOUT TIE-IN TO CIVIL DRAIN, SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR MORE DETAILS.



N

FOUNDATION PLAN

1/2"=1'-0"

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

NO.	DATE	REVISION	BY	APVD
DSGN	D EVERSON	DR J THORNTON	CHK C ANSON	APVD D EVERSON

STRUCTURAL

CHLORINE DIOXIDE GENERATION SYSTEM - FOUNDATION PLAN

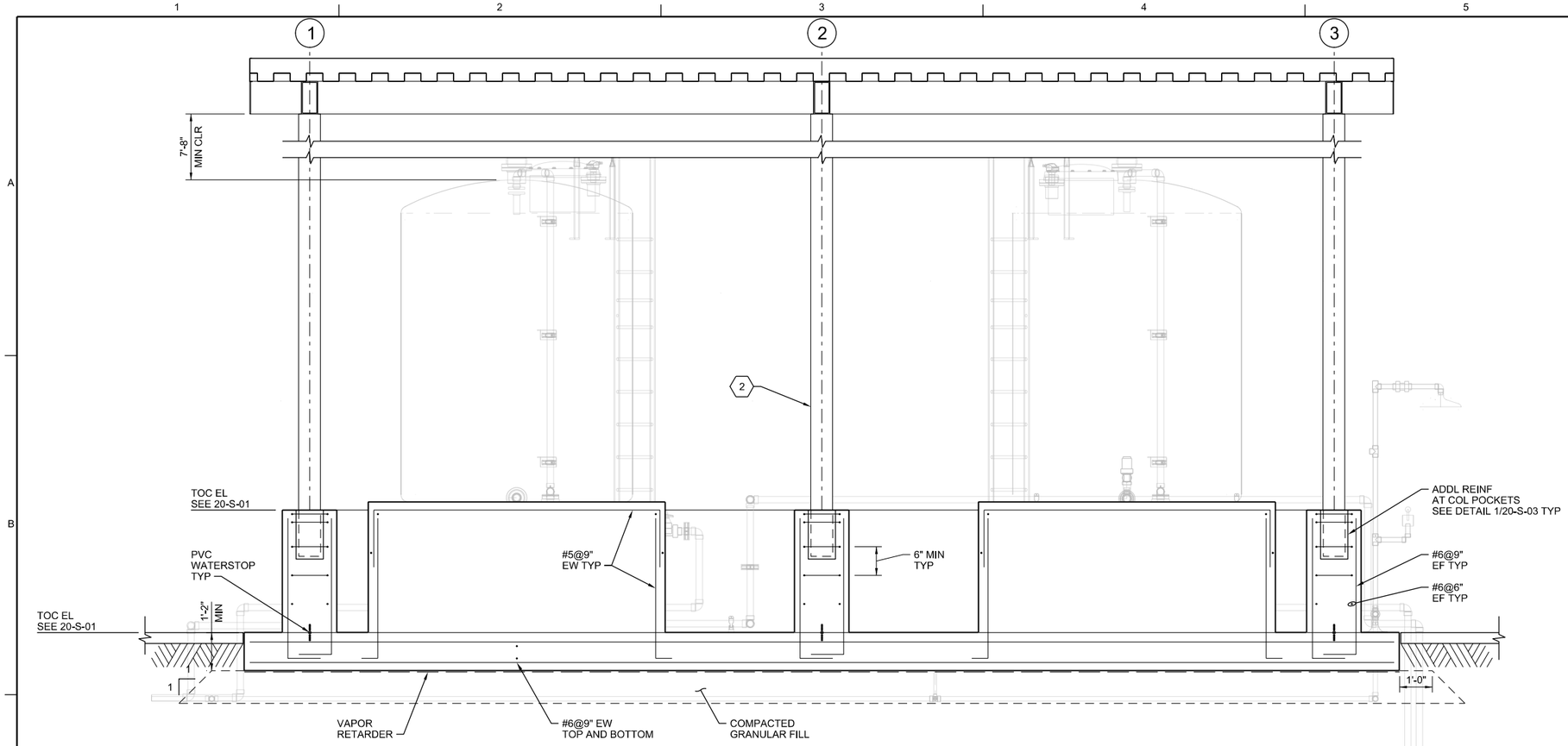
AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-S-01
SHEET	of

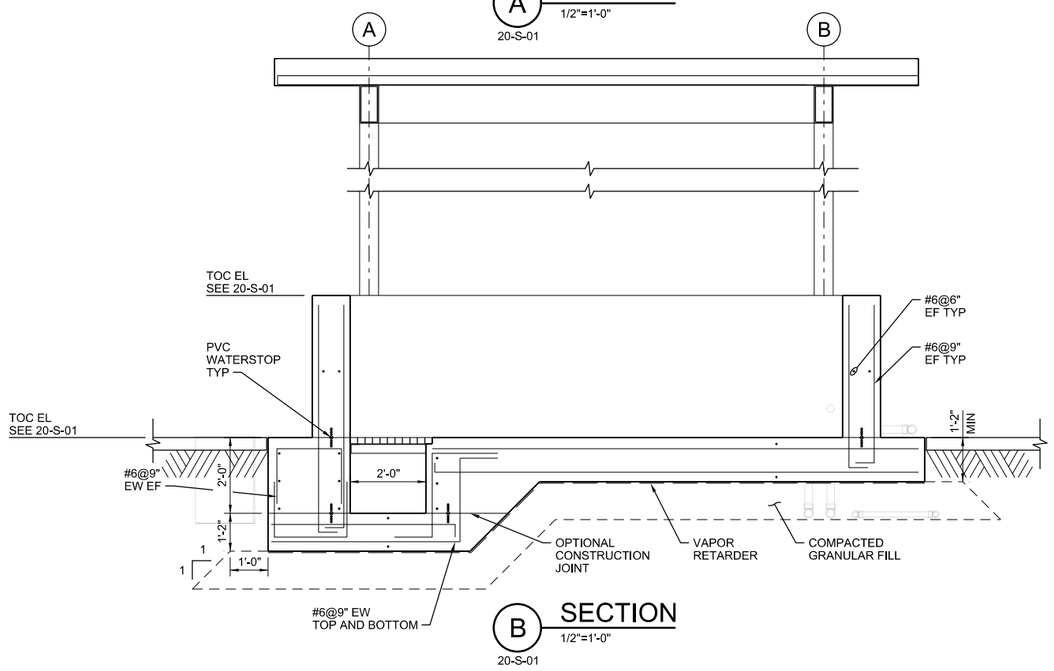
BID DOCUMENTS

SHEET KEYNOTES

1. PRE-ENGINEERED ALUMINUM CANOPY.



A SECTION
1/2"=1'-0"
20-S-01



B SECTION
1/2"=1'-0"
20-S-01

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

NO.	DATE	DSGN	DR	REVISION	CHK	APVD	BY	APVD
	D EVERSON		J THORNTON		C ANSON		D EVERSON	

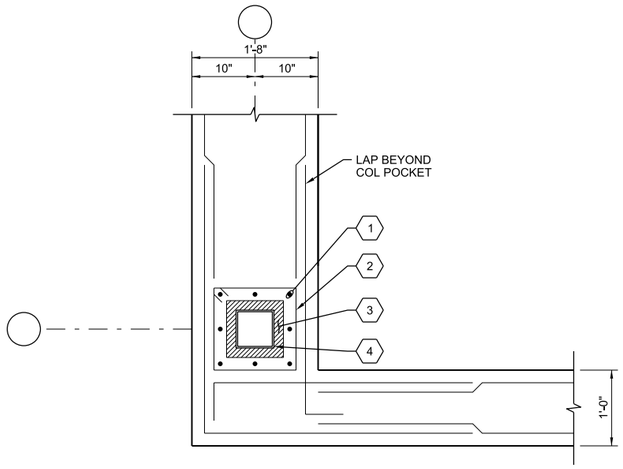
STRUCTURAL

CHLORINE DIOXIDE GENERATION SYSTEM - SECTIONS

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-S-02
SHEET	of

BID DOCUMENTS



1 DETAIL
1"=1'-0"
20-S-201

SHEET KEYNOTES

1. 8#6 VERT DOWELS AT COLUMN PIER.
2. #4@9" TIES. PROVIDE 2 TIES IN THE TOP 5" OF PIER.
3. GROUT POCKET IN PIER AS REQUIRED BY CANOPY MANUFACTURER.
4. AL CANOPY COLUMN, SIZE, EMBEDMENT AND INSTALLATION REQUIREMENTS TO BE COORDINATED WITH CANOPY MANUFACTURER.

NO.	DATE	REVISION	BY
DSGN	D EVERSON	DR J THORNTON	CHK C ANSON	APVD D EVERSON

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

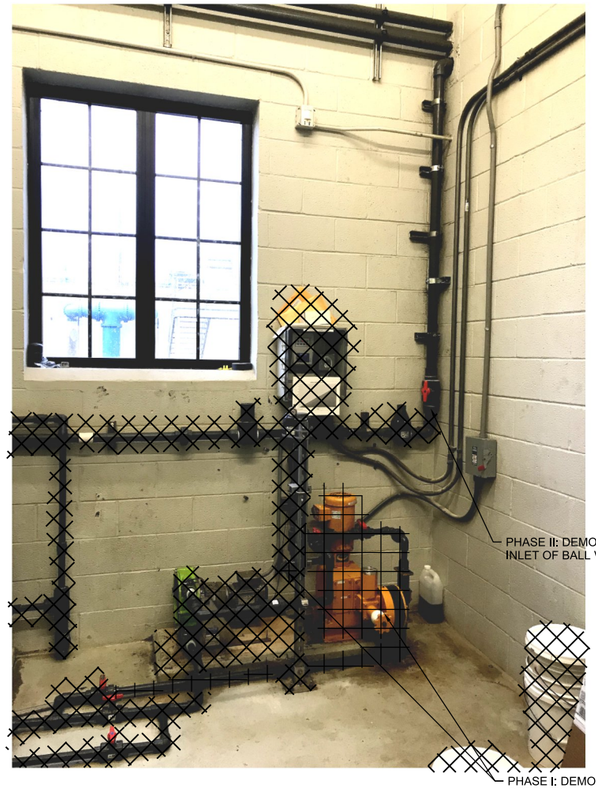
STRUCTURAL
CHLORINE DIOXIDE GENERATION SYSTEM - DETAILS

BID DOCUMENTS

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-S-03
SHEET	of

1 DEMOLITION PHOTO DETAIL
NTS



2 DEMOLITION PHOTO DETAIL
NTS

3 DEMOLITION PHOTO DETAIL
NTS

4 DEMOLITION PHOTO DETAIL
NTS

GENERAL NOTES

1. PHASE 1 DEMOLITION INDICATES EQUIPMENT TO BE DEMOLISHED PRIOR TO THE INSTALLATION OF THE NEW CLO2 EQUIPMENT IN THE EXISTING CLO2 ROOM. THE CONTRACTOR SHALL PERFORM PHASE 1 DEMOLITION AND INSTALLATION OF THE NEW CLO2 EQUIPMENT WITHOUT INTERFEREING WITH THE OPERATION OF THE EXISTING CLO2 EQUIPMENT.
2. PHASE II DEMOLITION INDICATES EQUIPMENT TO BE DEMOLISHED AFTER THE NEW CLO2 GENERATOR EQUIPMENT HAVE BEEN INSTALLED IN THE EXISTING CLO2 ROOM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLISHING EQUIPMENT SHOWN WHILE MAINTAINING INTEGRITY OF SURROUNDING EQUIPMENT.
3. SEE DRAWING 20-E-03 FOR ADDITIONAL DEMOLITION REQUIREMENTS.

= PHASE I DEMOLITION

= PHASE II DEMOLITION

NO.	DATE	REVISION	BY	APVD
DSGN	M YANG	DR KL DIAZ	CHK L JESTER	APVD EP MINCHEW

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA, 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

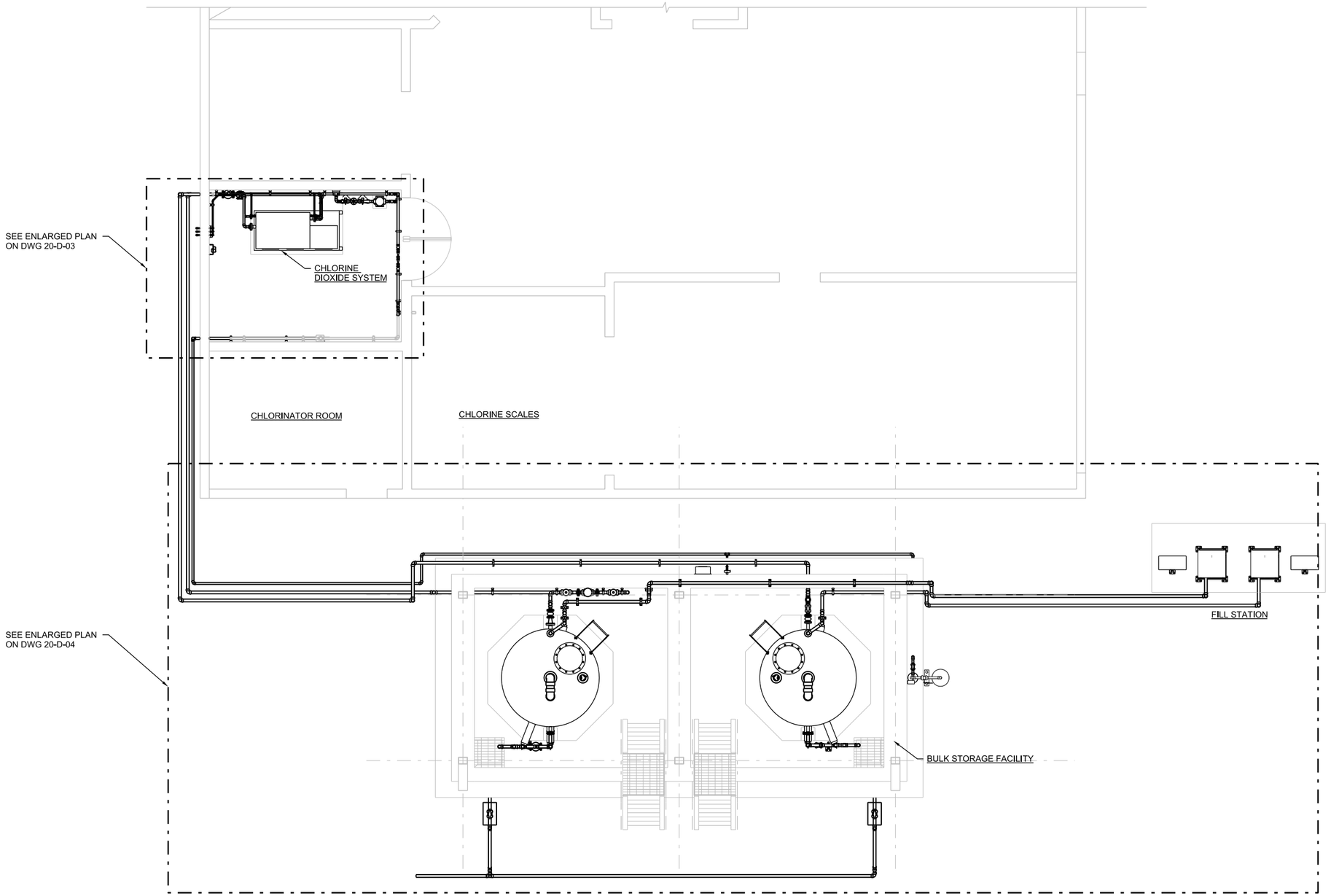
PROCESS MECHANICAL

CHEMICAL BUILDING DEMOLITION PHOTO DETAILS

BID DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-D-01
SHEET	of



N

OVERALL PLAN

1/4"=1'-0"

NO.	DATE	BY	REVISION	CHK	APVD
DSGN	M YANG	DR	M HALES	L JESTER	APVD

EP MINCHEW

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA, 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

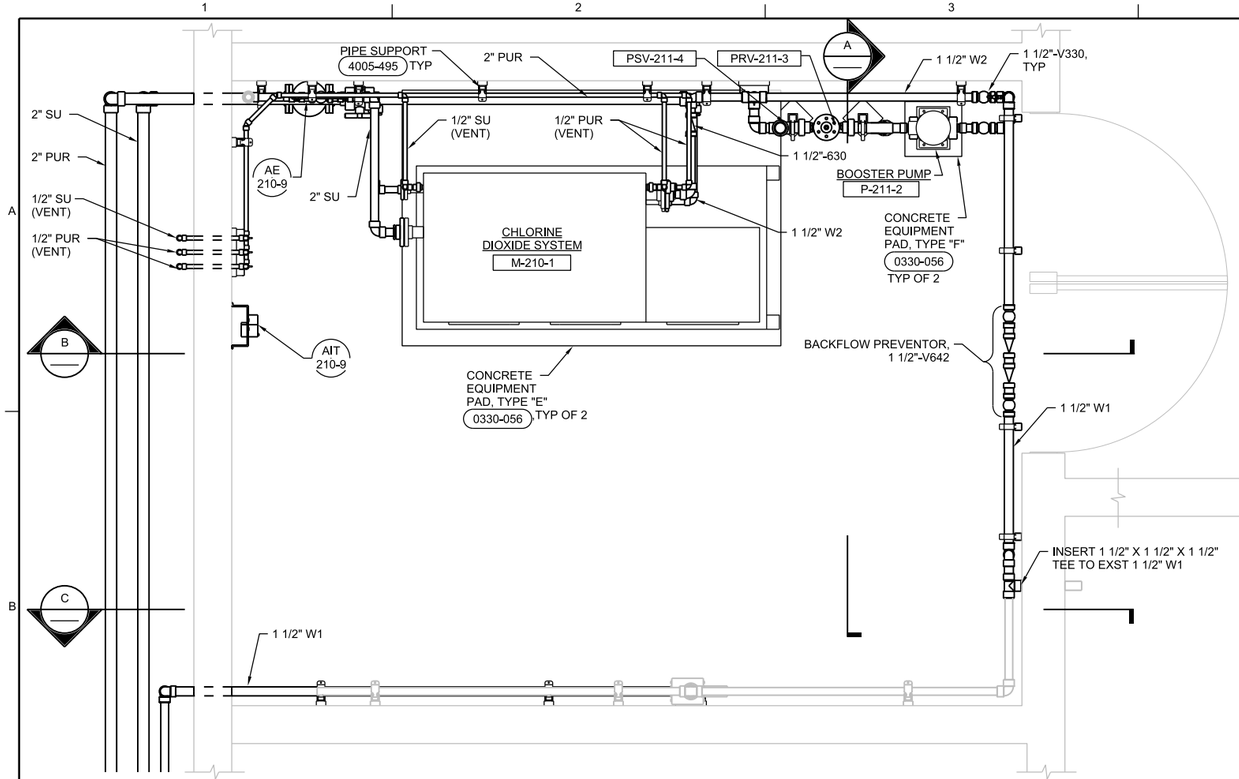
PROCESS MECHANICAL

CHEMICAL BUILDING-CHLORINE DIOXIDE GENERATION SYSTEM AND BULK STORAGE OVERALL PLAN

BID DOCUMENTS

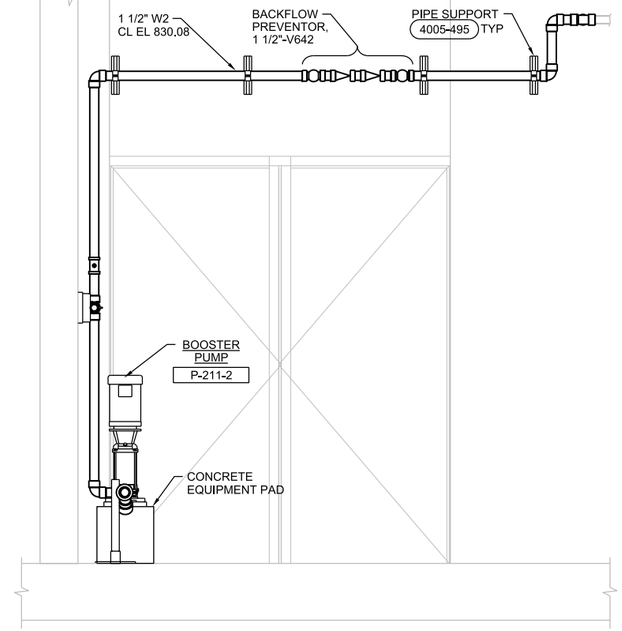
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-D-02
SHEET	of



CHLORINE DIOXIDE GENERATION SYSTEM PLAN

3/4"=1'-0"

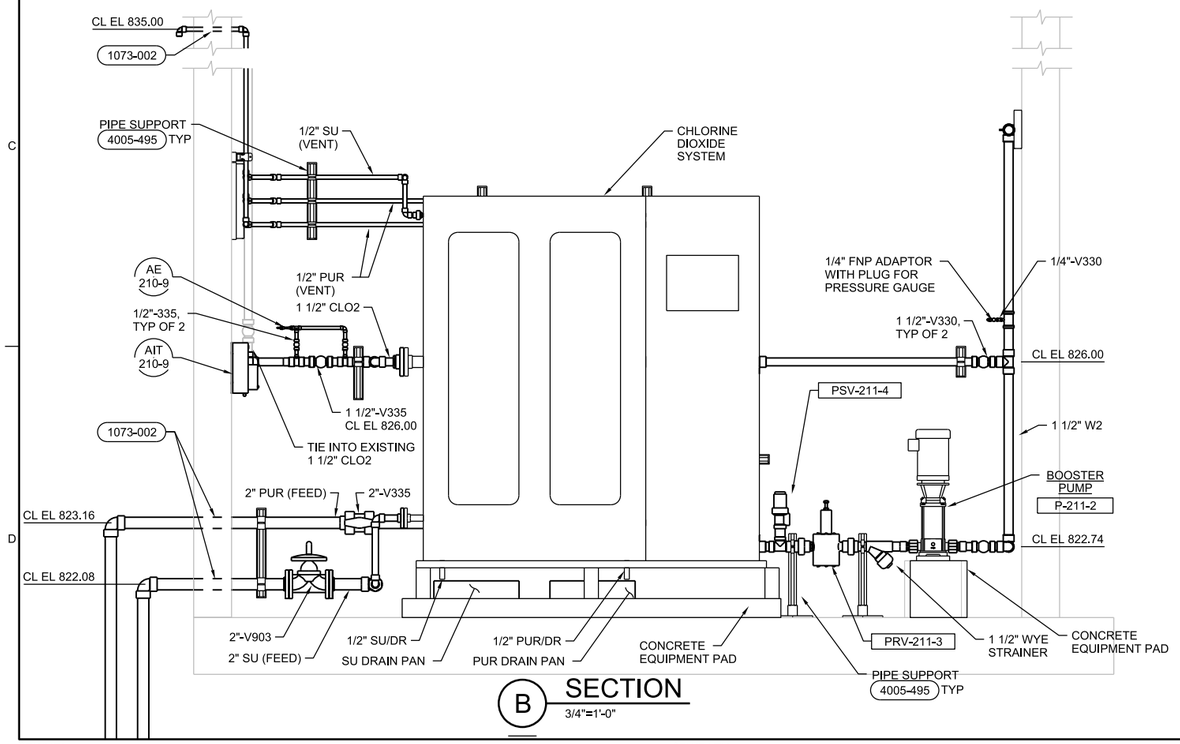


A SECTION

3/4"=1'-0"

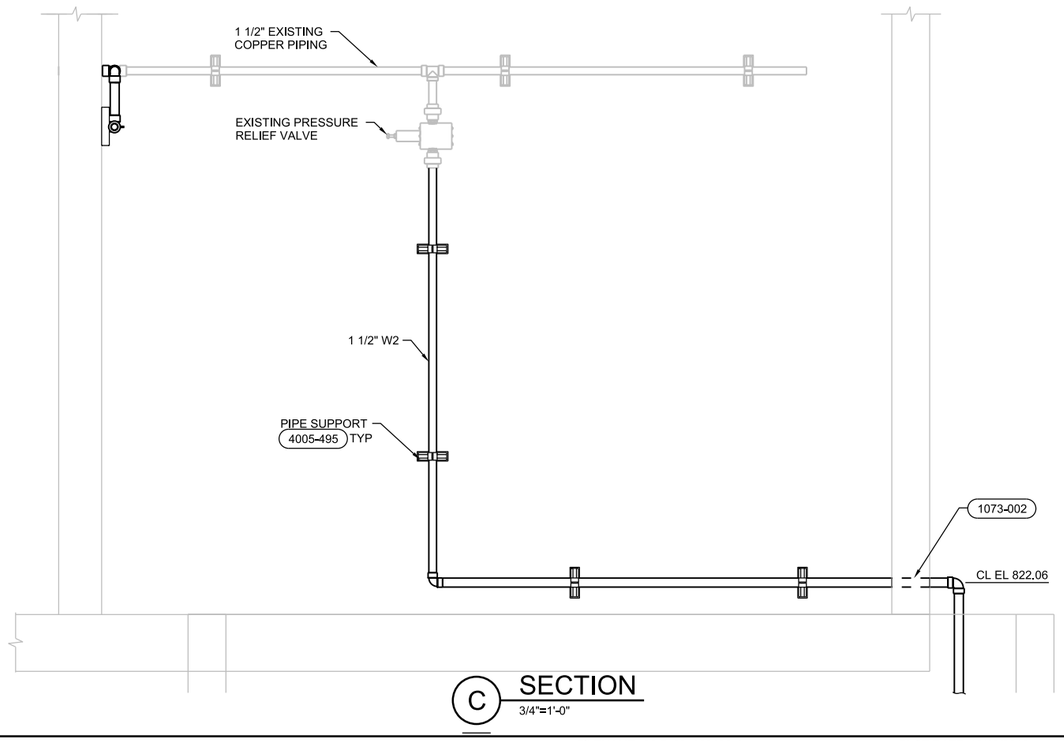
GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS AND DIMENSIONS ON STRUCTURES AND PIPING BEFORE COMMENCING WORK.
2. CONTRACTOR SHALL INSTALL THE CLO2 GENERATOR AND BOOSTER PUMP AFTER DEMOLITIN PHASE I INDICATED ON 20-D-01 IS COMPLETED.
3. PRIOR TO ANY MODIFICATIONS TO THE EXISTING CLO2 EQUIPMENT OR TO THE EXISTING SERVICE, CONTRACTOR SHALL NOTIFY AND COORDINATE WITH SOUTH FAYETTE PLANT OPERATORS TO TEMOPORARILY SUSPEND THE EXISTING CLO2 PROCESS.
4. AFTER DEMOLITION OF EXISTING EQUIPMENT IN ROOM FOR NEW CHLORINE DIOXIDE GENERATION SYSTEM, PATCH ALL DRILLED HOLDES, CHIPS, AND CRACKS IN EXISTING CMU PER SPECIFICATION 03 01 32 REPAIR OF VERTICALAND OVERHEAD CONCRETE SURFACES. PAINT ALL EXPOSED WALL SURFACES PER SPECIFICATION 09 90 00 PAINTING AND COATING.



B SECTION

3/4"=1'-0"



C SECTION

3/4"=1'-0"

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA, 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

NO.	DATE	DR	REVISION	CHK	BY	APVD
DSGN	M YANG		M HALES	L JESTER	EP MINCHEW	

PROCESS MECHANICAL

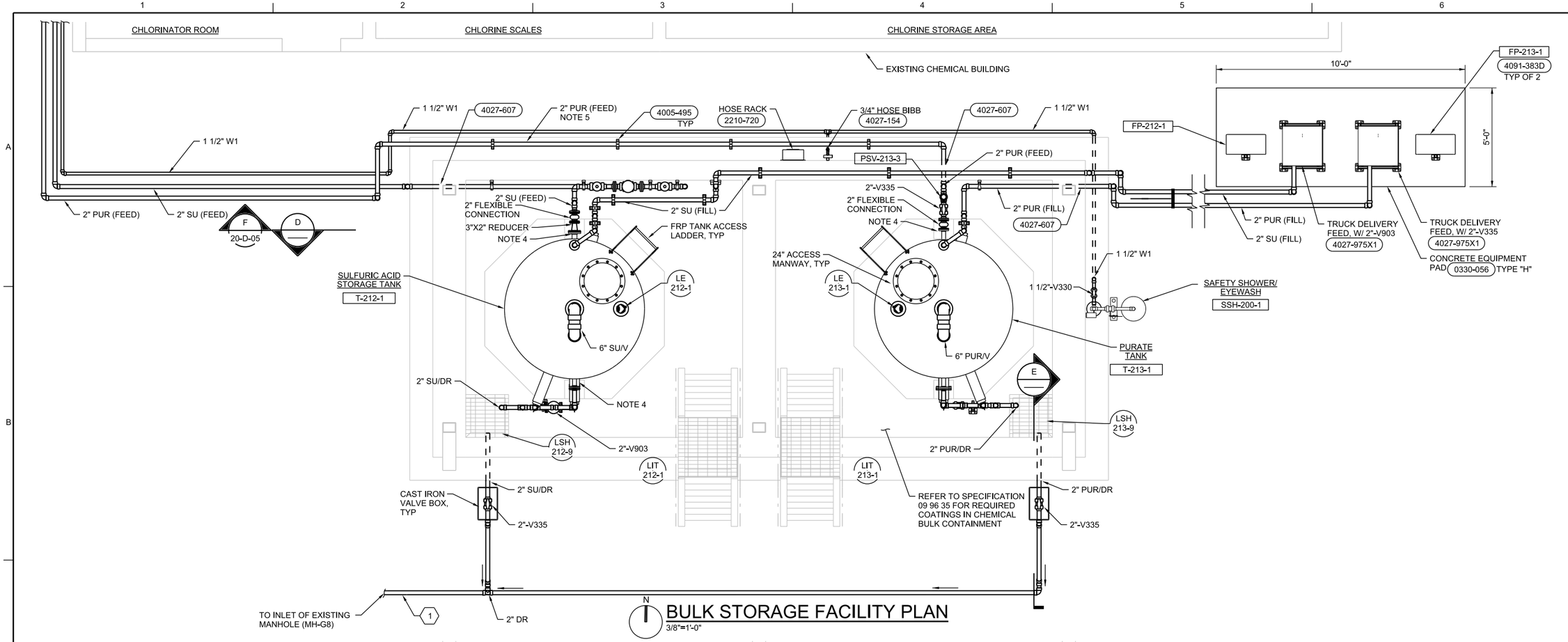
CHEMICAL BUILDING CHLORINE DIOXIDE GENERATION SYSTEM - PLAN AND SECTIONS

BID DOCUMENTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-D-03
SHEET	of



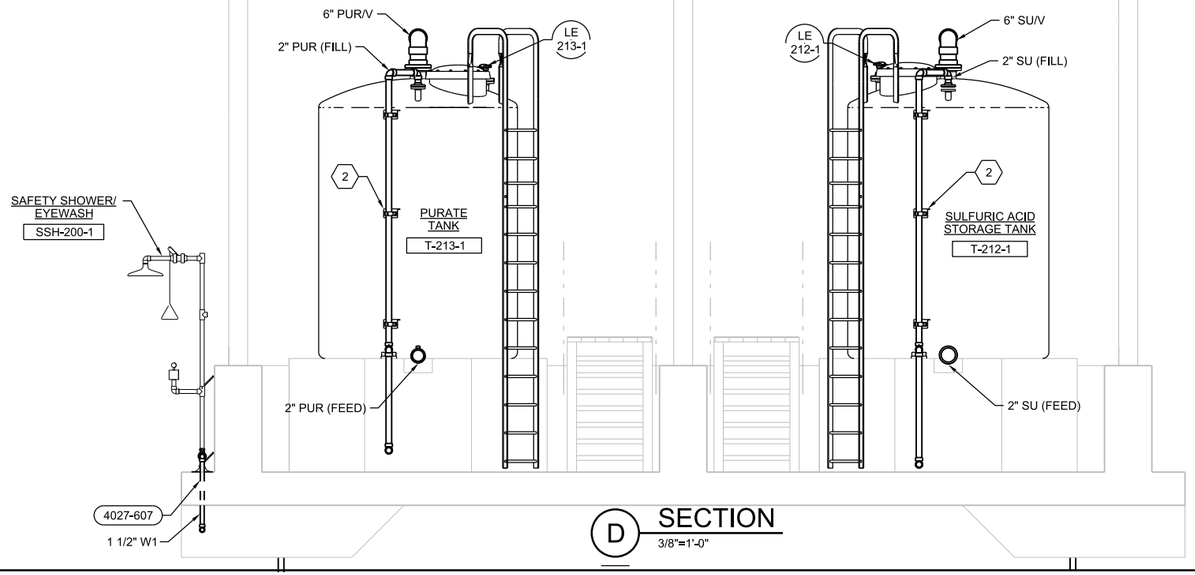
BULK STORAGE FACILITY PLAN
3/8"=1'-0"

GENERAL SHEET NOTES

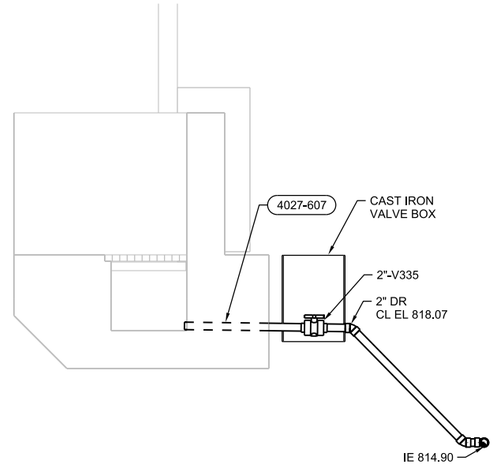
1. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS AND DIMENSIONS ON STRUCTURES AND PIPING BEFORE COMMENCING WORK.
2. INSULATE AND HEAT TRACE EXPOSED PURATE PIPING, W1 PIPING AND SAFETY SHOWER/EYEWASH PER SPECIFICATION 40 05 33.
3. HEAT TRACING AND INSULATION SHALL BE PROVIDED ON PURATE STORAGE TANK BY MANUFACTURER. INSULATION SHALL BE PROVIDED ON SULFURIC STORAGE TANK BY MANUFACTURER.
4. CONTRACTOR SHALL PROVIDE DEPRESSION ON TANK PADS TO ENSURE PROPER INSTALLATION OF NOZZLES AND FITTING ON OUTLET AND DRAIN LINES AS RECOMMENDED BY MANUFACTURE.
5. INSTALL PURATE PIPING WITH MINIMUM DOWNWARD SLOPE OF 1/4" PER FOOT FROM THE TANK TO THE GROUND UNTIL IT REACHES THE CHEMICAL BUILDING. FROM THERE, THE PIPING SHOULD BE SLOPED UP AT MINIMUM OF 1/4" PER FOOT TO THE GENERATOR.
6. INSULATE ALL EXPOSED PIPING, FITTINGS AND VALVES FOR SULFURIC ACID.

SHEET KEYNOTES

1. SLOPE 2" DR 1/8" PER FOOT.
2. PIPE SUPPORTS ON TANK BY SUPPLIER.



D SECTION
3/8"=1'-0"



E SECTION
1/2"=1'-0"

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
	M YANG	M YANG	M HALES	L JESTER	EP MINCHEW		

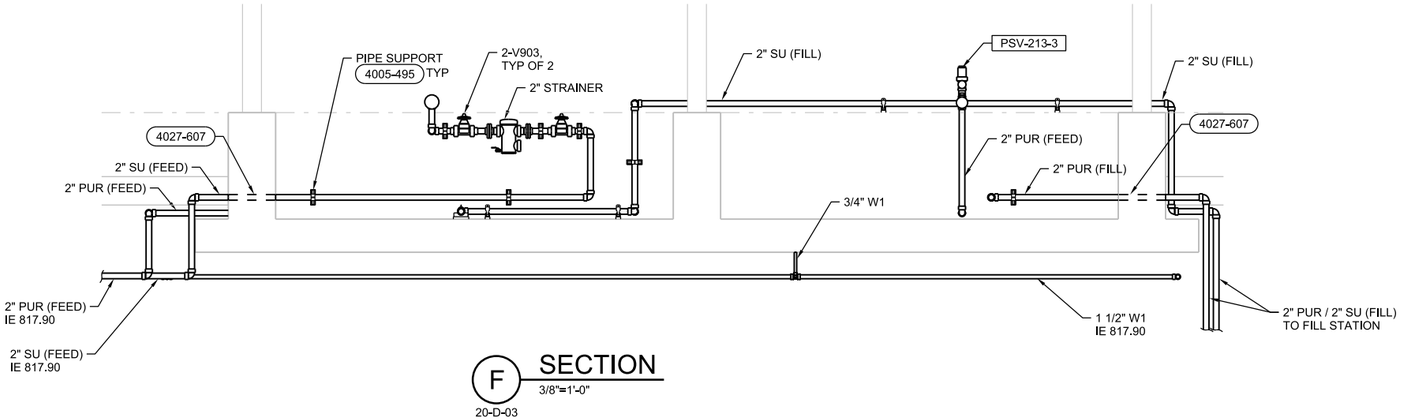
PROCESS MECHANICAL

CHLORINE DIOXIDE BULK STORAGE PLAN AND SECTIONS

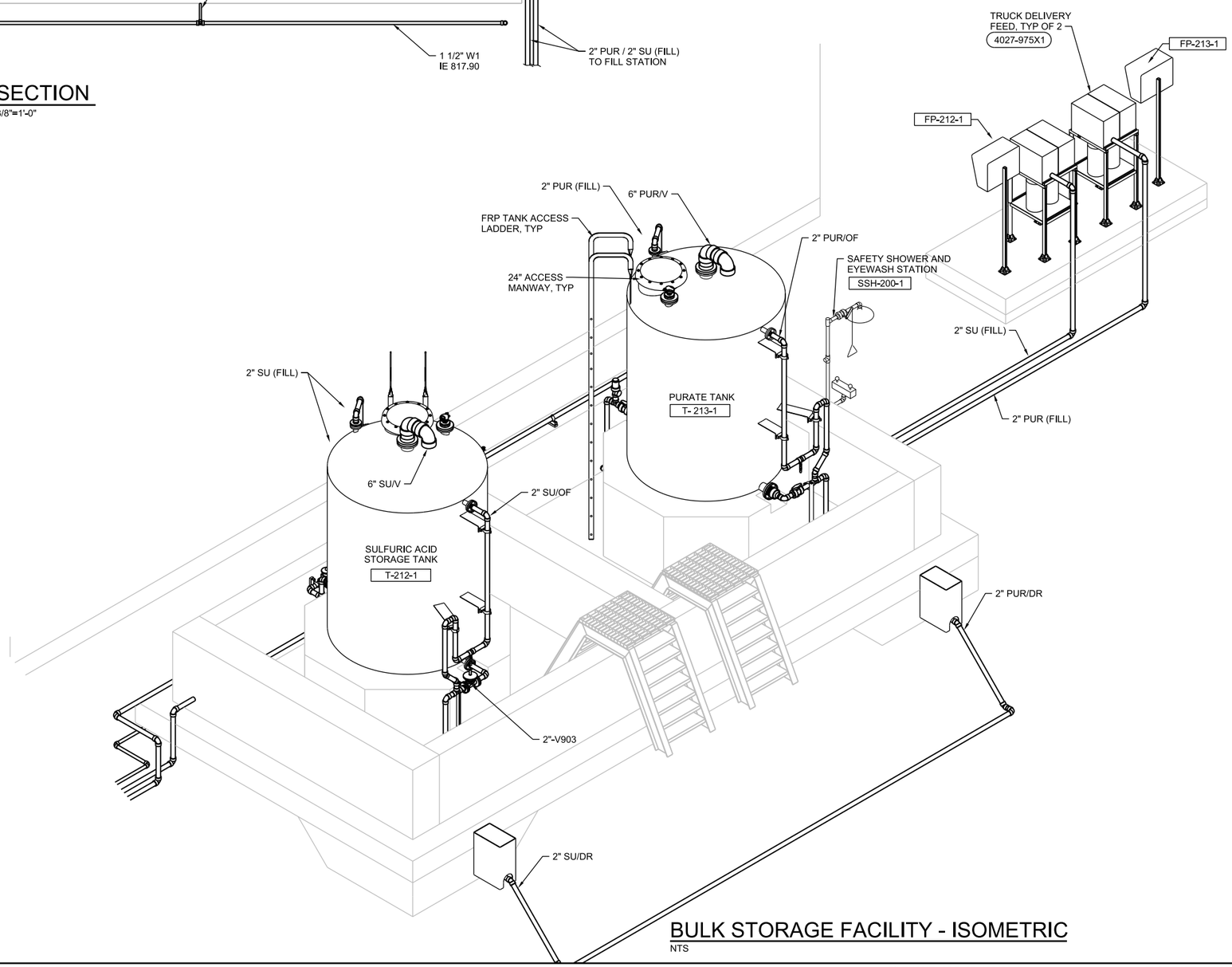
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-D-04
SHEET	of

BID DOCUMENTS



F SECTION
3/8"=1'-0"
20-D-03



BULK STORAGE FACILITY - ISOMETRIC
NTS

NO.	DATE	DR	CHK	APVD	BY	REVISION
DSGN	M YANG	M HALES	L JESTER	APVD	EP MINCHEW	

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

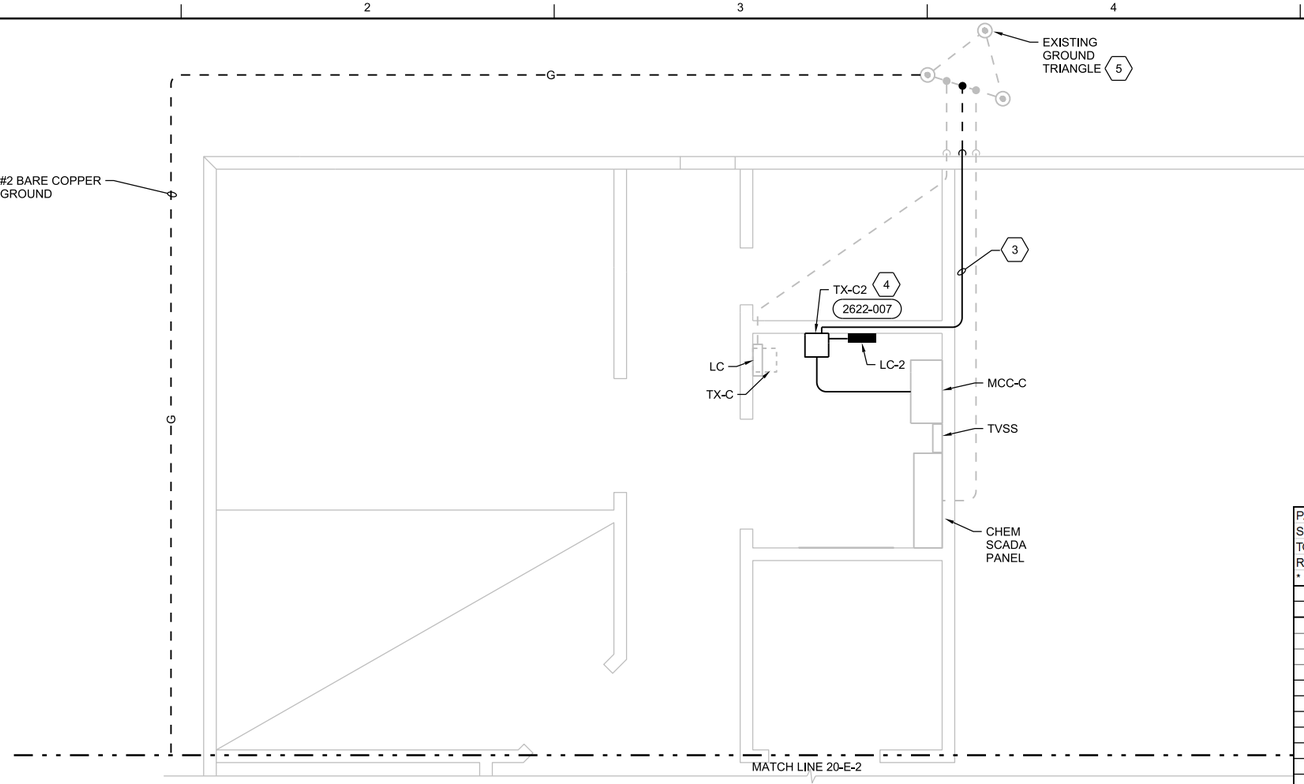
PROCESS MECHANICAL

CHLORINE DIOXIDE BULK STORAGE SECTION AND ISOMETRIC

BID DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-D-05
SHEET	of



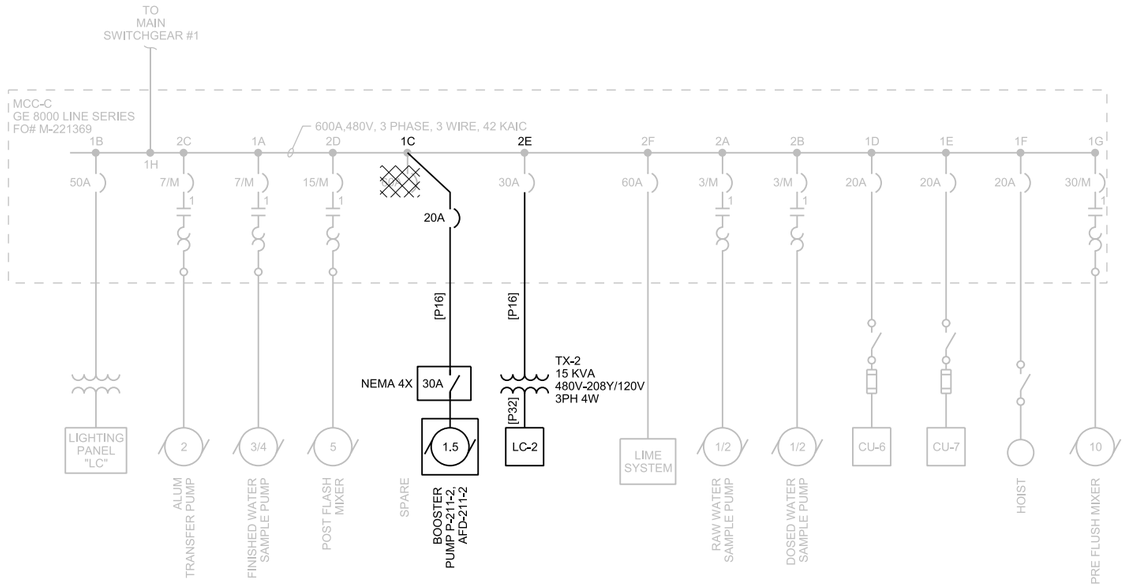
N

PLAN
1/4"=1'-0"

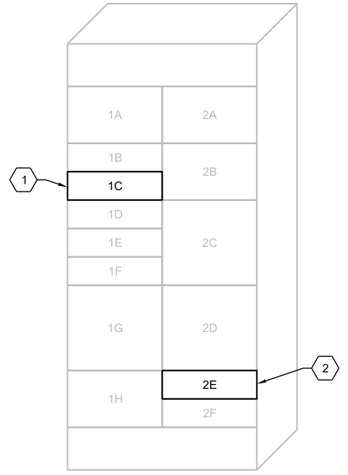
SHEET KEYNOTES

1. REPLACE EXISTING 60A/3P CIRCUIT BREAKER WITH 20A/3P BREAKER.
2. REUSE EXISTING 30A/3P CIRCUIT FOR NEW PANELBOARD.
3. ROUTE #6 GROUND IN PVC CONDUIT TO EXISTING GROUND GRID.
4. WALL MOUNT TRANSFORMER 6'-6" AFF.
5. FIELD LOCATE EXISTING GROUND GRID. PROTECT LIME PIPING INSTALLED ON NORTH SIDE OF CHEMICAL FACILITY.

PANEL: LC-2				LOCATION: CHEMICAL BUILDING ELECTRICAL ROOM								
SERVICE VOLTAGE: 208/120V				PHASE: 3			WIRE:4					
TOTAL LOAD KVA: 5.2				BUS SIZE: 100			MAIN SIZE: 50		TYPE: MCB			
REMARKS:				NEUTRAL: FULL			MOUNTING: SURFACE					
* GFEP												
LOAD IN KVA				BKR	CKT	CKT	BKR		LOAD IN KVA			
A	B	C	CIRCUIT DESCRIPTION	A/P	NO.	NO.	A/P	CIRCUIT DESCRIPTION	A	B	C	
0.5			FP-212-1	20/1	1	2	20/1*	HT-1 2"PUR/DR	0.1			
	0.5		FP-213-1	20/1	3	4	20/1*	HT-2 SSH/W1		0.1		
		1.0	CP-210	20/1	5	6	20/1*	HT-3 W1			0.1	
0.2			LIT-212-1	20/1	7	8	20/1*	HT-4 2"PUR	0.1			
	0.2		LIT-213-1	20/1	9	10	30/1*	TANK HT		1.5		
			SPARE	20/1	11	12	20/1*	HT-5 2" PUR			0.4	
0.2			AIT-210-9	20/1	13	14						
	0.2		XA-200-1	20/1	15	16	20/3	SPARE				
			SPARE	20/1	17	18						
0.1			EXTERNAL LIGHTS	20/1	19	20	20/1*	SPARE				
			SPARE	20/1	21	22	20/1*	SPARE				
			SPARE	20/1	23	24	20/1*	SPARE				
					25	26						
					27	28						
					29	30						
1.0	0.9	1.0	TOTAL						0.2	1.6	0.5	



MCC-C ONE-LINE DIAGRAM
NTS



MCC-C ELEVATION
NTS

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
						KB HORTON	
		KB HORTON	G MESSER	G YARBERRY	APVD		

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA, 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

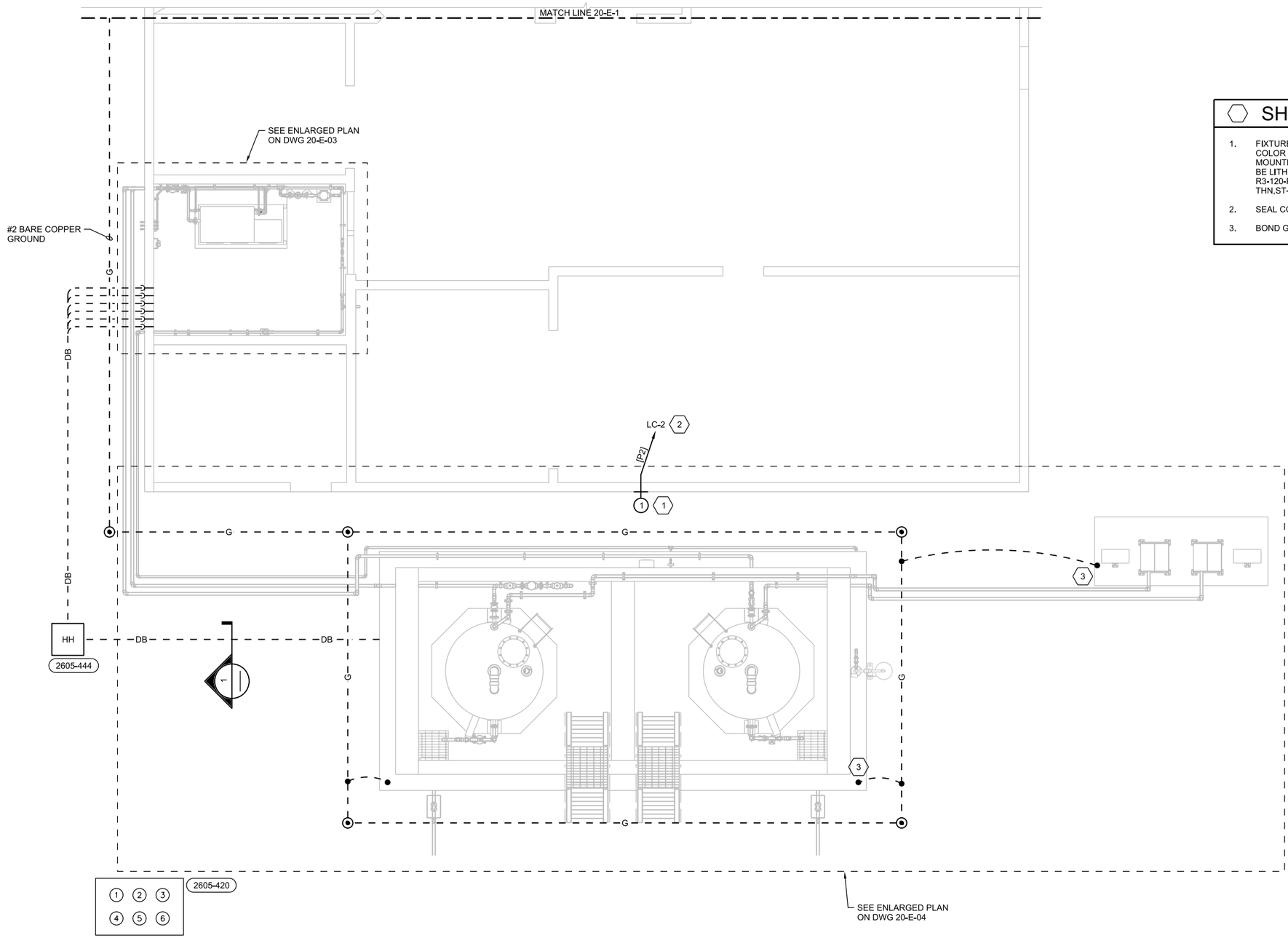
ELECTRICAL

CHEMICAL BUILDING-CHLORINE DIOXIDE GENERATION SYSTEM AND BULK STORAGE PARTIAL PLAN & ONE-LINE DIAGRAM

BID DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-E-01
SHEET	of



SHEET KEYNOTES

1. FIXTURE "TYPE 1": LED WALL LUMINAIRE, 3000 K COLOR TEMPERATURE, 120V TO BE SURFACE MOUNTED AT 15'-0" ABOVE SIDEWALK. FIXTURE TO BE LITHONIA MODEL KAYW LED-P3-30K-R3-120-PER-DDBND WITH PHOTO CELL-SSL THN,ST-LOCK-DLL127F,5JU.
2. SEAL CONDUIT ROUTED THRU CHLORINE ROOM.
3. BOND GROUND GRID TO REINFORCING STEEL.

1 = [[C14] FROM FP-213-1 TB TO CHEM SCADA PANEL]

2 = [[A2] FROM FP-213-1 TB TO CHEM SCADA PANEL]

3 = [[P4] FROM LIT's TO PANEL LC-2]

4 = [[P6] FROM FP's TO PANEL LC-2]

5 = [[P19] FROM HEAT TRACE TO PANEL LC-2]

6 = [[P15] FROM TANK HT TO PANEL LC-2]

1 SECTION
NTS

PLAN
1/4"=1'-0"

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
		KB HORTON	G MESSER	G YARBERRY	APVD	KB HORTON	

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA, 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

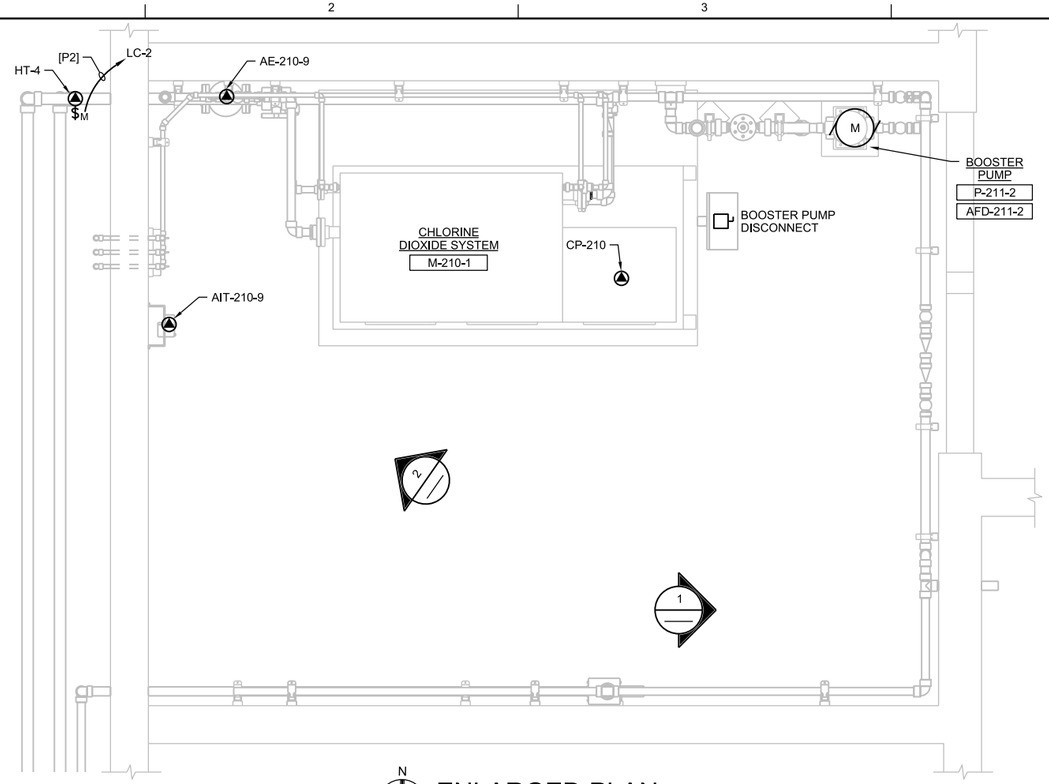
ELECTRICAL

CHEMICAL BUILDING-CHLORINE DIOXIDE GENERATION SYSTEM AND BULK STORAGE PARTIAL PLAN

BID DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-E-02
SHEET	of



N

ENLARGED PLAN

3/4"=1'-0"

1 PHOTO DETAIL

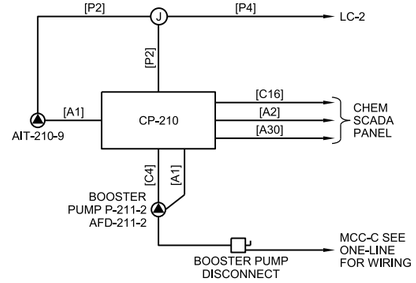
NTS

2 PHOTO DETAIL

NTS

SHEET KEYNOTES

1. EXISTING CL02 AND ASSOCIATED INSTRUMENTS MUST REMAIN OPERATIONAL DURING INSTALLATION OF THE NEW CHLORIDE DIOXIDE SYSTEM. EXISTING SYSTEM CONDUIT AND WIRE TO BE DEMOLISHED AFTER NEW SYSTEM IS FUNCTIONAL. SEE DRAWING 20-D-01 FOR ADDITIONAL DEMO DETAIL AND DEFINITION. ONE OF THE EXISTING PUMPS AND ITS ASSOCIATED ELECTRICAL WILL NEED TO BE DEMOLISHED PRIOR TO THE NEW GENERATOR SYSTEM BEING INSTALLED.
2. TEMPORARY REMOTE CONTROL & POWER CONTRACTORS TO MAINTAIN EXISTING SYSTEM DURING CONSTRUCTION.
3. EXISTING AIT AND PUMP FEED MUST REMAIN OPERATIONAL UNTIL NEW CHLORINE DIOXIDE SYSTEM IN OPERATIONAL.



WIRING DIAGRAM

NTS

NO.	DATE	REVISION	DR	CHK	APVD
DSGN	K HORTON	A PASTRANA	J RAMOS		BY APVD
					KB HORTON

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

ELECTRICAL

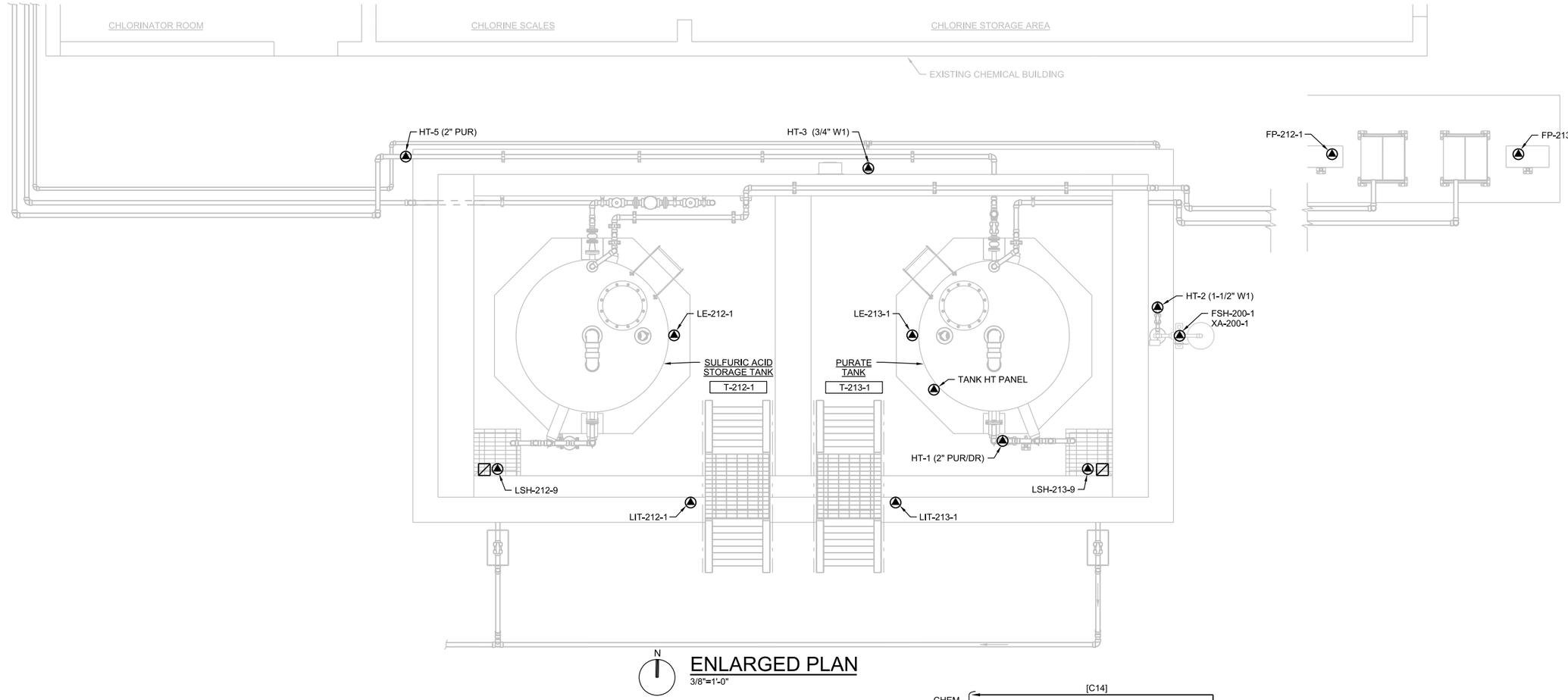
CHEMICAL BUILDING CHLORINE DIOXIDE GENERATION SYSTEM - ENLARGED PLAN AND PHOTOS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-E-03
SHEET	of

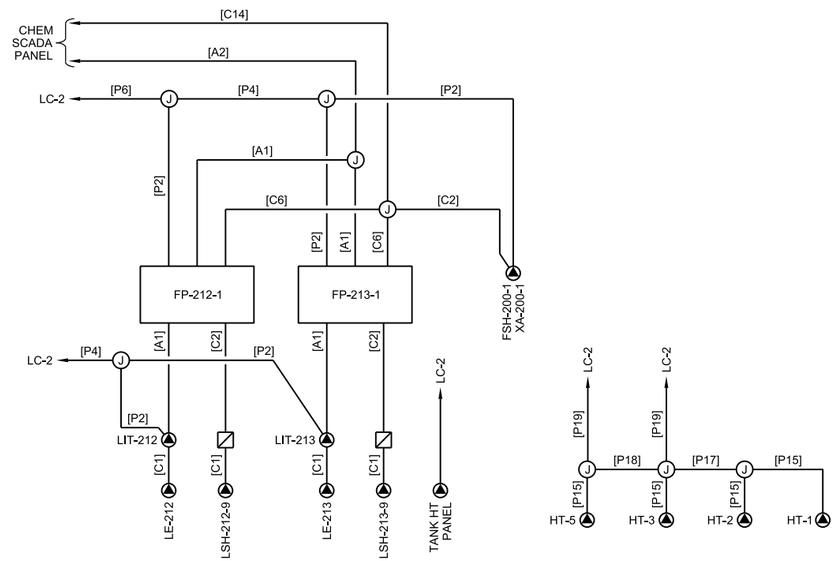
BID DOCUMENTS



N

ENLARGED PLAN

3/8"=1'-0"



WIRING DIAGRAM

NTS

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

ELECTRICAL

CHLORINE DIOXIDE BULK STORAGE ENLARGED PLAN

NO.	DATE	DSGN	DR	CHK	APVD
		K HORTON	A PASTRANA	J RAMOS	KB HORTON

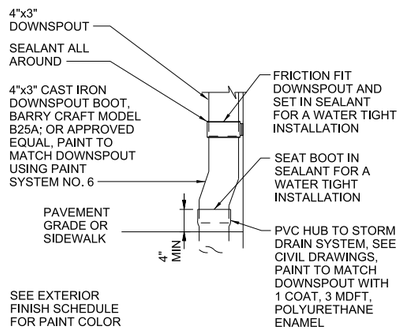
REVISION BY APVD

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	20-E-04
SHEET	of

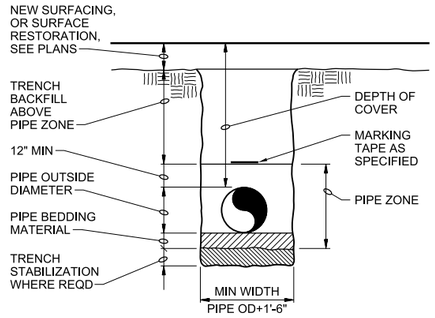
BID DOCUMENTS



DOWNSPOUT BOOT

NTS

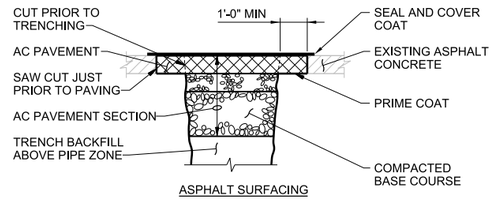
0741-035



TYPICAL TRENCH

NTS

3123-110



AC PAVEMENT SECTION (MATCH EXISTING SECTION MATERIAL AND THICKNESSES OR AS A MINIMUM) :

1.5" SURFACE COURSE PER GDOT SP-9.5
2.5" BINDER COURSE PER GDOT SP-12.5
6" MIN. GAB GROUP 1 BASE COURSE

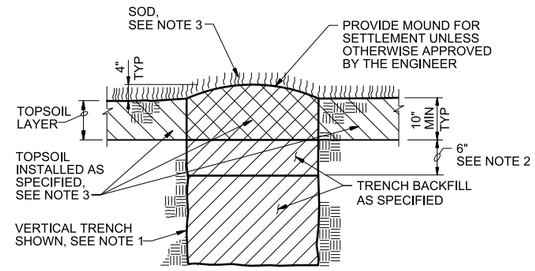
NOTES:

1. IF LOCATION OF TRENCH SAW CUT IS WITHIN 2 FEET OF AN EXISTING JOINT OR EDGE OF CONCRETE, REPLACE ENTIRE CONCRETE TO THE JOINT OR EDGE.
2. CONSTRUCT JOINTS ACROSS NEW CONCRETE TO MATCH EXISTING JOINT TYPES AND LOCATIONS.
3. PERFORM ASPHALT RESTORATION FOLLOWING GDOT SECTION 400.

SURFACE RESTORATION

NTS

3123-115



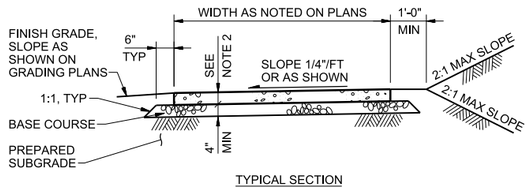
NOTES:

1. CONTRACTOR SHALL SLOPE TRENCH WALLS OR SHORE EXCAVATIONS FOR CONSTRUCTION AND SAFETY AND IN ACCORDANCE WITH CURRENT OSHA REQUIREMENTS.
2. THE TOP 6" OF TRENCH BACKFILL, BENEATH THE TOPSOIL LAYER, SHOULD BE INSTALLED, SMOOTHED, BUT LEFT UN-COMPACTED.
3. TOPSOIL AND SOD SHALL EXTEND BEYOND TOP OF TRENCH AND TO THE LIMITS SPECIFIED.

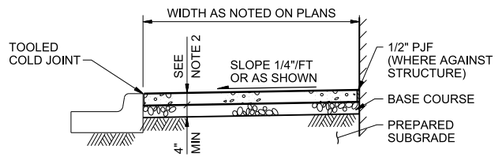
LAWN AREA TRENCH BACKFILL SECTION

NTS

3123-918



TYPICAL SECTION



TYPICAL CURB SECTION

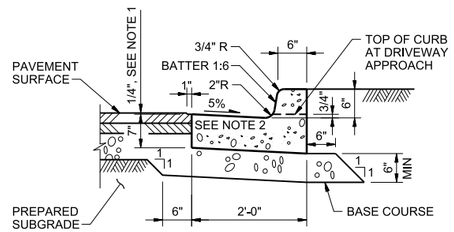
NOTES:

1. SIDEWALKS 8 FEET AND WIDER SHALL HAVE A LONGITUDINAL CONTRACTION JOINT AT THE MIDPOINT.
2. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE NOMINAL 4" MINIMUM WITH 4" OF GAB.
3. ALL SIDEWALKS SHALL BE REINFORCED WITH WELDED WIRE MESH 6X6 - W4.0/W4.0, CENTERED.
4. MAXIMUM SPACING OF TRANSVERSE CONCREATION JOINT SHALL BE 5 FEET UNLESS OTHERWISE NOTED.

TYPICAL CONCRETE SIDEWALK

NTS

3213-220



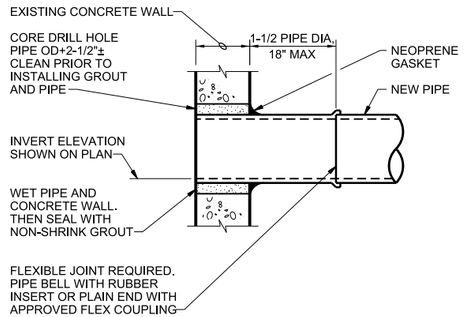
NOTE:

1. 1/4" PAVEMENT LIP ON LOW SIDE GUTTERS ONLY.
2. WHEN USED ON THE HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE SLOPE OF THE ADJACENT PAVEMENT, UNLESS OTHERWISE DETAILED ON THE PLANS.

CONCRETE CURB AND GUTTER

NTS

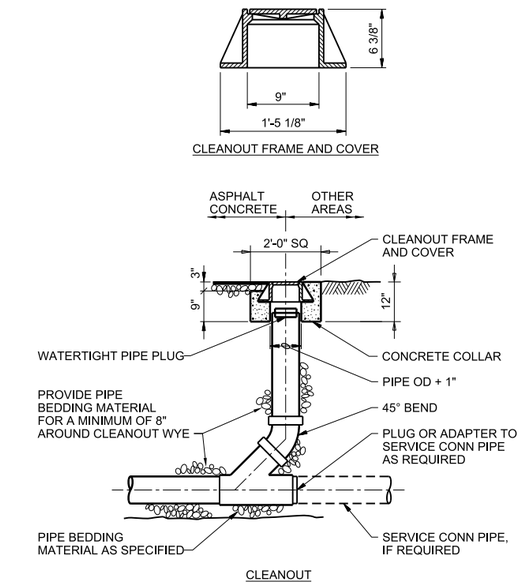
3216-310



PIPE CONNECTIONS

NTS

3305-730



CLEANOUT

EXTERIOR CLEANOUT

NTS

3305-740

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

NO.	DATE	DR	REVISION	CHK	APVD
DSGN	C SCHARER	D RATZLAFF		J RAMOS	C SCHARER

BY APVD

ch2m.

CIVIL

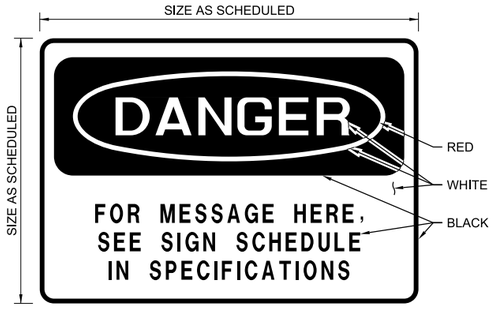
STANDARD DETAILS

BID DOCUMENTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	95-C-01
SHEET	of



DANGER SIGN

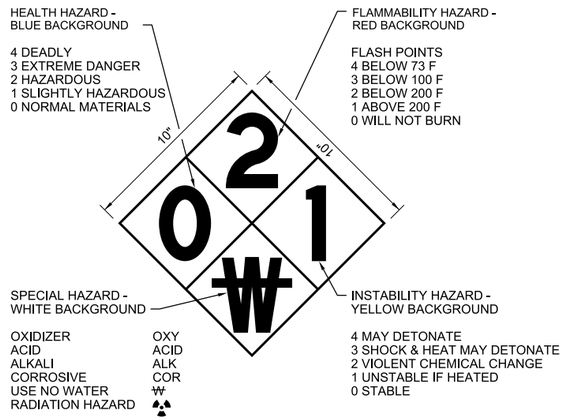
NTS

1014-001

WARNING SIGN

NTS

1014-003



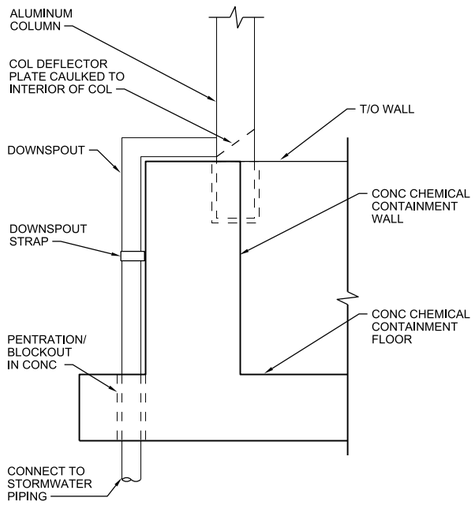
NOTES:

1. LETTER HEIGHT: 4"
   LETTER COLOR: BLACK
2. NUMBERS AND LETTERS ON ABOVE SIGNAL DETAIL ARE EXAMPLES ONLY. SEE SPECIFICATION 10 14 00 FOR REQUIREMENTS ON THIS PROJECT.

HAZARD SIGN

NTS

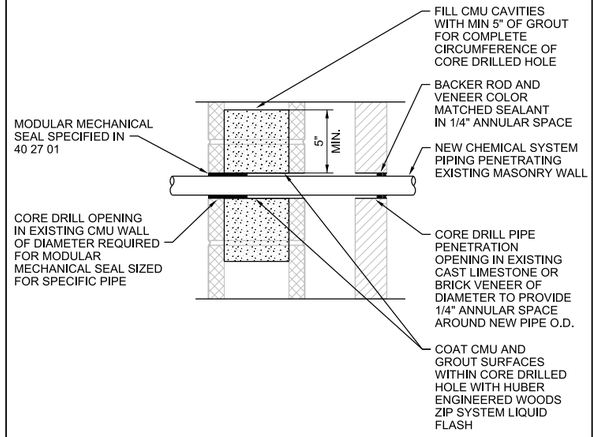
1014-006



DOWNSPOUT

NTS

1073-001



PIPE PENETRATION

NTS

1073-002

NO.	DATE	DR	REVISION	CHK	BY	APVD
DSGN	T DODGE	P DENNING		A DOLSAK	T DODGE	

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

ch2m.

ARCHITECTURAL

STANDARD DETAILS

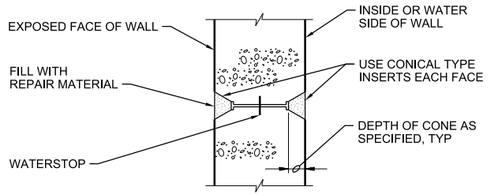
BID DOCUMENTS

AS NOTED

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	95-A-01
SHEET	of



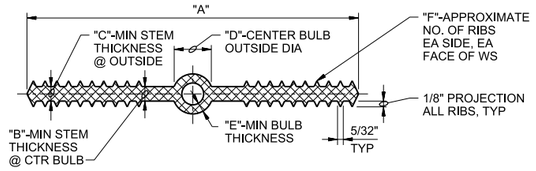
NOTE:

THE SPACING OF FORM TIES ON EXPOSED PORTIONS OF WALLS SHALL BE APPROXIMATELY EQUAL HORIZONTALLY AND VERTICALLY AND SHALL BE UNIFORM IN EACH DIRECTION.

FORM SNAP-TIE HOLE

NTS

0310-051



SIZE	"A"	"B"	"C"	"D"	"E"	"F"
4"x3/16"	4"	3/16"	3/16"	3/4"	1/4"	4
6"x3/8"	6"	3/8"	3/8"	7/8"	1/4"	6
9"x3/8"	9"	3/8"	3/8"	1"	1/4"	8

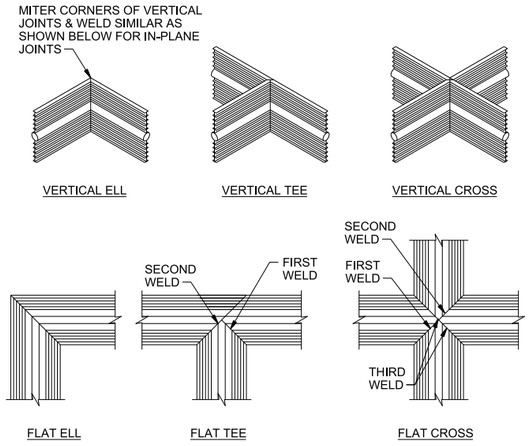
NOTES:

1. NON-ROUND CENTER BULBS SHALL HAVE A MINIMUM OUTSIDE DIMENSION OF 'D'.
2. SEE SPLICE DETAIL (0315-011)
3. BULB TYPE WATERSTOP SHOWN IS REQUIRED FOR EXPANSION AND CONTROL JOINTS. SIMILAR WATERSTOPS WITHOUT CENTER BULB MAY BE SUBSTITUTED AT CONSTRUCTION JOINTS.
4. USE 6 INCH WATERSTOPS IN ALL CONSTRUCTION JOINTS UNLESS SPECIFICALLY SHOWN OTHERWISE.

PLASTIC WATERSTOP

NTS

0315-001



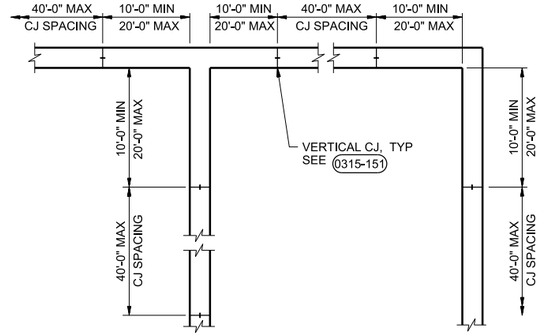
NOTE:

ALL WELDS SHALL BE PER WATERSTOP MANUFACTURER'S RECOMMENDATIONS.

WATERSTOP JOINTS

NTS

0315-011



PLAN

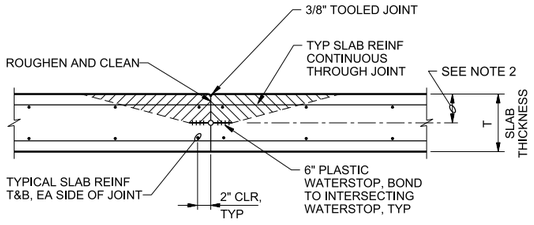
NOTES:

1. COORDINATE CONSTRUCTION JOINT LOCATIONS AND TIME BETWEEN CONCRETE POURS WITH SPECIFICATION 03 30 00.
2. LOCATE WALL CONSTRUCTION JOINTS AS SHOWN, UNLESS INDICATED OTHERWISE.

WALL CONSTRUCTION JOINT SPACING

NTS

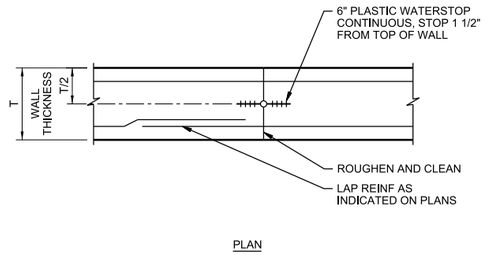
0315-131



SLAB CONSTRUCTION JOINT

NTS

0315-142



PLAN

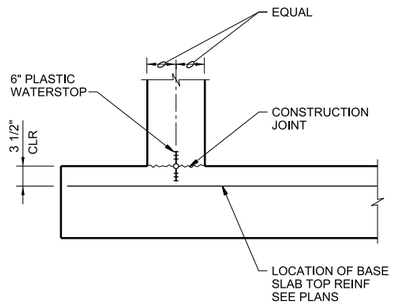
NOTES:

1. ALL REINFORCEMENT CONTINUOUS ACROSS JOINT.
2. FOR LOCATIONS, SEE (0315-131)

WALL VERTICAL CONSTRUCTION JOINT

NTS

0315-151



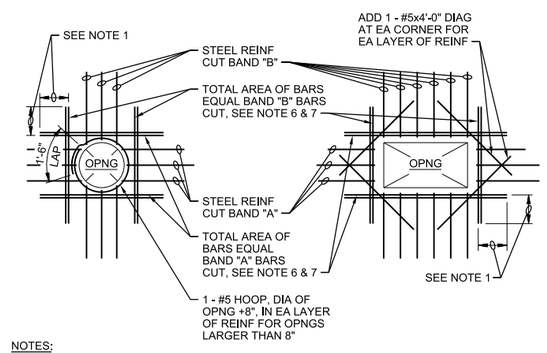
NOTES:

1. SECURE WATERSTOP IN-PLACE AS SPECIFIED.

WALL BASE CONSTRUCTION JOINT

NTS

0315-154



NOTES:

1. PROVIDE MINIMUM LAP, SEE GENERAL STRUCTURAL NOTES.
2. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS OF BELOW GRADE AND HYDRAULIC STRUCTURES AND ALL STRUCTURAL CONCRETE SLABS UNLESS INDICATED OTHERWISE ON PLANS.
3. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.
4. PROVIDE A MINIMUM OF 2 "A" BARS AND 2 "B" BARS EACH SIDE OF OPENING (1 EACH FACE), INCLUDING DOWELS AND CORNER BARS, TYPICAL.
5. FOR OPENINGS LARGER THAN 8'-0", REINFORCE SAME AS FOR 8'-0" OPENINGS.
6. SPACE AT 3 BAR DIAMETERS (OR 3" MINIMUM) ON CENTER. LOCATE HALF OF TOTAL AREA ON EACH SIDE OF OPENING.
7. AT OPENINGS WITHIN 12" OF AN INTERSECTING WALL OR SLAB, PROVIDE ONLY THE EXTRA REINFORCEMENT WHICH WILL FIT, AT THE BAR SPACING IN NOTE 6.

OPENING REINFORCEMENT

NTS

0330-001

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

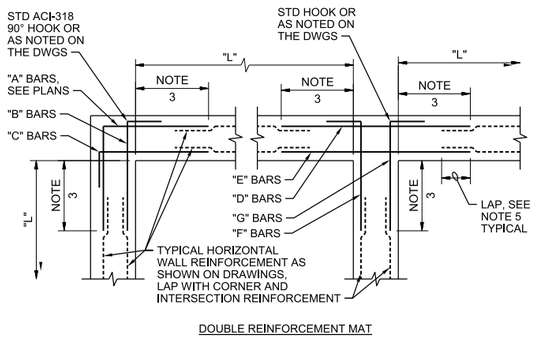
NO.	DATE	REVISION	BY	APVD
DSGN	D EVERSON	DR J THORNTON	CHK C ANSON	APVD D EVERSON

STRUCTURAL
STANDARD DETAILS

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	95-S-01
SHEET	of

BID DOCUMENTS



DOUBLE REINFORCEMENT MAT

TYPICAL WALL CORNER & INTERSECTION REINFORCEMENT

NTS

DETAIL 1 OF 2

0330-003

NOTES:

1. TYPICAL HORIZONTAL WALL CORNER AND INTERSECTION REINFORCEMENT LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT, FOR SIZE AND SPACING SEE PLANS. ALL HORIZONTAL REINFORCEMENT AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
2. WHERE THE CORNER OR INTERSECTION REINFORCEMENT SIZE AND SPACING IS NOT SHOWN, NOTED OR TABULATED ON THE PLANS, THE SIZE AND SPACING SHALL BE THE SAME AS THE WALL HORIZONTAL REINFORCEMENT SHOWN ON THE WALL SECTIONS OR AS NOTED FOR THE REINFORCEMENT BETWEEN THE CORNERS OR INTERSECTIONS.
3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF L/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2 FEET.
4. L = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION.
5. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 5" SHALL BE EQUAL TO ONE "LAP LENGTH" AS REQUIRED BY THE GENERAL STRUCTURAL NOTES. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCEMENT BARS BEING SPLICED.
6. UNLESS OTHERWISE NOTED, "B" AND "C" BARS ARE THE SAME SIZE AND SPACING AND "F" AND "G" BARS ARE THE SAME SIZE AND SPACING.

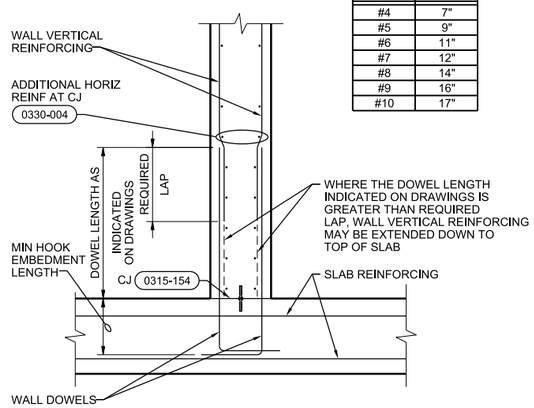
TYPICAL WALL CORNER & INTERSECTION REINFORCEMENT

NTS

DETAIL 2 OF 2

0330-003

ACI MINIMUM HOOK EMBEDMENT LENGTH	
BAR SIZE	MIN EMBED
#4	7"
#5	9"
#6	11"
#7	12"
#8	14"
#9	16"
#10	17"



WALL SECTION

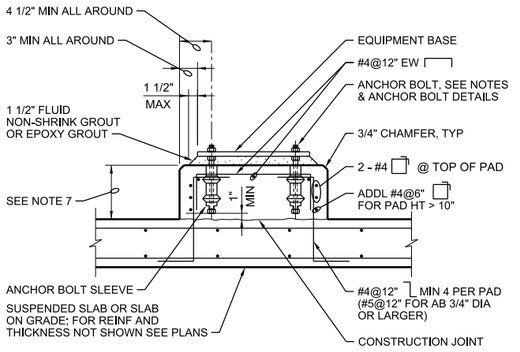
NOTE:

UNLESS NOTED OTHERWISE, ALL DOWEL HOOKS SHALL EXTEND TO AND BE TIED OFF TO BOTTOM MAT OF SLAB REINFORCING.

VERTICAL WALL REINFORCING / DOWEL PLACEMENT

NTS

0330-005



TYPE 'A'

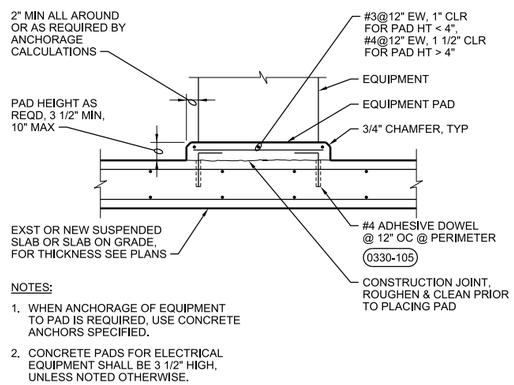
GENERAL NOTE:
FOR GENERAL NOTES SEE DETAIL 5 OF 5.

CONCRETE EQUIPMENT PAD - TYPE 'A'

NTS

DETAIL 1 OF 5

0330-056



NOTES:

1. WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.
2. CONCRETE PADS FOR ELECTRICAL EQUIPMENT SHALL BE 3 1/2" HIGH, UNLESS NOTED OTHERWISE.

TYPE 'E'

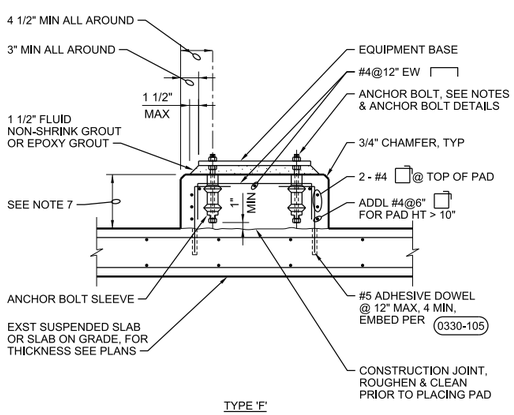
GENERAL NOTE:
FOR GENERAL NOTES SEE DETAIL 5 OF 5.

CONCRETE EQUIPMENT PAD - TYPE 'E'

NTS

DETAIL 2 OF 5

0330-056



TYPE 'F'

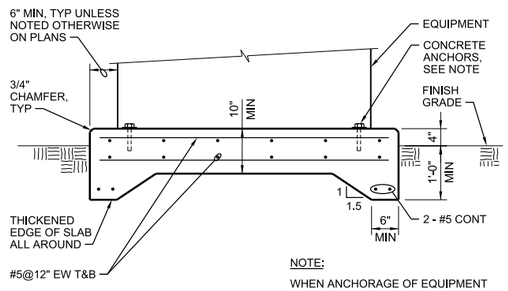
GENERAL NOTE:
FOR GENERAL NOTES SEE DETAIL 5 OF 5.

CONCRETE EQUIPMENT PAD - TYPE 'F'

NTS

DETAIL 3 OF 5

0330-056



NOTE:

WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.

TYPE H

GENERAL NOTE:
FOR GENERAL NOTES SEE DETAIL 5 OF 5.

CONCRETE EQUIPMENT PAD - TYPE H

NTS

DETAIL 4 OF 5

0330-056

NOTES:

1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE OR OTHER ACCEPTABLE MEANS, MATCHING THE BASE PLATE, WHILE PAD IS BEING PLACED.
3. ANCHOR BOLT SLEEVES SHALL BE USED TO PROVIDE MINIMUM ANCHOR BOLT MOVEMENT OF 1/2" IN ALL HORIZONTAL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER.
4. ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT AFTER BOLTS ARE ALIGNED, SEE (0330-057).
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS INDICATED OTHERWISE.
6. WEDGES, SHIMS, OR LEVELING NUTS SHALL BE USED TO SUPPORT THE BASE WHILE THE GROUT IS PLACED. WEDGES OR SHIMS SHALL BE REMOVED AFTER GROUT IS SET AND PACK VOID WITH GROUT.
7. HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT ABOVE SUPPORTING SLAB (SEE TABLE BELOW). WHERE EQUIPMENT OR PIPING ELEVATION REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOWN, USE TYPE "B" EQUIPMENT PAD WITH BLOCKOUT.
8. TYPE "D" PAD SHALL BE USED ONLY WHERE SPECIFICALLY INDICATED. PLACE THE SURROUNDING FLOOR SLAB AFTER THE EQUIPMENT PAD.
9. AT CONTRACTOR'S OPTION, CONCRETE ANCHORS MAY BE USED IN LIEU OF CAST-IN-PLACE ANCHOR BOLTS FOR EQUIPMENT ANCHOR BOLTS LESS THAN 3/4" DIAMETER WHEN APPROVED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER. ANCHORS SHALL BE INSTALLED WITH 4" MINIMUM EDGE DISTANCE IN EACH DIRECTION.

AB DIA (IN.)	1/2	5/8	3/4	7/8	1	1 1/4	1 3/8	1 1/2	1 3/4	2
MIN PAD HT (IN.)	7	8 1/2	10	11	12 1/2	15	16 1/2	18	21	24

CONCRETE EQUIPMENT PAD - NOTES

NTS

DETAIL 5 OF 5

0330-056

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

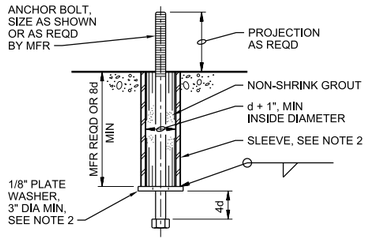
STRUCTURAL
STANDARD DETAILS

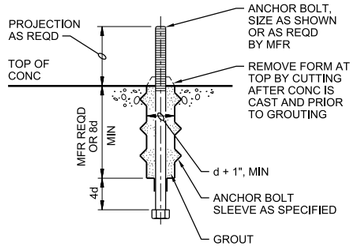
NO.	DATE	REVISION	DR	CHK	APVD
DSGN	D EVERSON		J THORNTON	C ANSON	BY APVD
	D EVERSON				D EVERSON

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	95-S-02
SHEET	of

BID DOCUMENTS





MACHINERY ANCHOR BOLT DETAIL

NOTES:

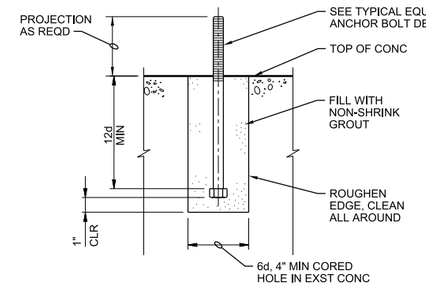
1. FOR CONCRETE EQUIPMENT PAD DETAILS AND NOTES NOT SHOWN SEE (0330-056)
2. MATERIAL TO MATCH BOLT.

ANCHOR BOLT DETAILS

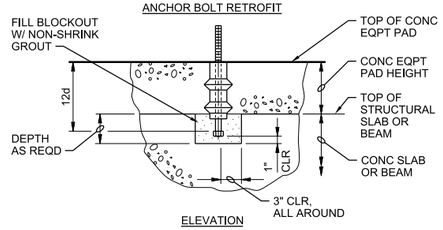
NTS

DETAIL 1 OF 2

(0330-057)



ANCHOR BOLT RETROFIT



ELEVATION

ANCHOR BOLT BLOCKOUT

NOTES:

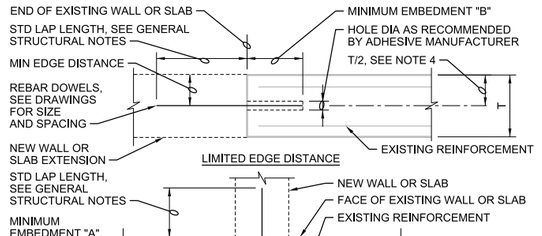
1. FOR CONCRETE EQUIPMENT PAD DETAILS AND NOTES NOT SHOWN SEE (0330-056)
2. MATERIAL TO MATCH BOLT.

ANCHOR BOLT DETAILS

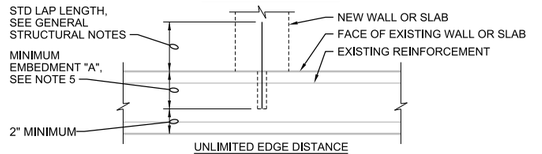
NTS

DETAIL 2 OF 2

(0330-057)



LIMITED EDGE DISTANCE



UNLIMITED EDGE DISTANCE

DOWEL SIZE	MINIMUM EDGE DISTANCE	MINIMUM EMBEDMENT "A"	MINIMUM EMBEDMENT "B"
#3	2 1/2"	5"	8"
#4	3 1/2"	7"	11"
#5	4"	8"	13"
#6	5"	10 1/2"	16"
#7	6"	12 1/2"	20"
#8	7"	14"	22"
#9	7 1/2"	15"	24"

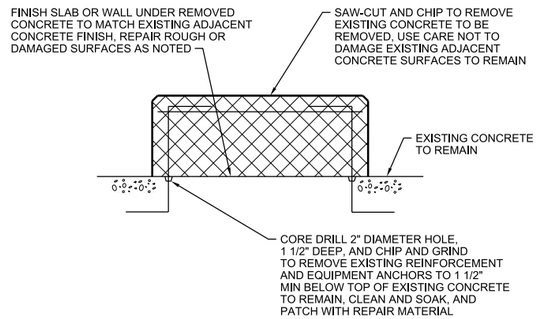
NOTES:

1. CONFORM TO REQUIREMENTS OF SPECIFICATION SECTION 03 63 00, CONCRETE DOWELING.
2. FOLLOW ADHESIVE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
3. USE MINIMUM EMBEDMENTS SHOWN, EXCEPT USE MANUFACTURER'S MINIMUM RECOMMENDED EMBEDMENT IF GREATER.
4. LOCATE DOWELS CENTERED IN WALL OR SLAB UNLESS OTHERWISE NOTED ON DRAWINGS. WHERE 2 ROWS OF DOWELS INDICATED, STAGGER SPACING & LOCATE ALTERNATING DOWELS AT MINIMUM EDGE DISTANCE FROM OPPOSITE FACES.
5. PROVIDE MINIMUM EMBEDMENT "A" SHOWN IN TABLE UNLESS SHORTER EMBEDMENT DEPTH IS CALLED OUT ON DRAWINGS.

ADHESIVE DOWEL

NTS

(0330-105)



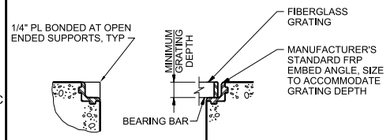
NOTES:

1. REMOVE CONCRETE OUT TO SOUND CONCRETE.
2. IF CHIPPING INTO THE SURFACE OF THE EXISTING SLAB OR WALL TO REMAIN IS REQUIRED, MAKE EDGES PERPENDICULAR TO THE SURFACE. DO NOT FEATHER EDGES.
3. FILL DEFECTIVE AREA WITH AN APPROVED PREPACKAGED REPAIR MATERIAL TO MATCH APPEARANCE OF ADJACENT CONCRETE SURFACES.
4. USE APPROVED BONDING AGENT ON SURFACES TO BE PATCHED PRIOR TO PLACING REPAIR MATERIAL.
5. DEMONSTRATE METHODS FOR REPAIR USING ACTUAL MATERIALS, METHODS, AND CURING PROCEDURES REQUIRED BY MATERIAL MANUFACTURERS. CONSULT WITH BONDING AGENT MANUFACTURER AND REPAIR MATERIAL MANUFACTURER ON TECHNIQUES.

CONCRETE DEMOLITION

NTS

(0330-143)



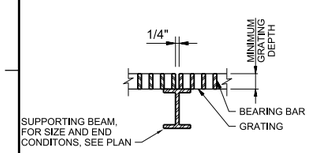
GS-1

GENERAL NOTES:

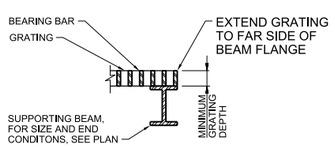
1. EXTEND GRATING CONTINUOUSLY OVER GATE GUIDES AND GATES.
2. NOTCH GRATING SUPPORTS AT GATES AS REQUIRED.
3. GRATING SPAN ⟷ SEE PLAN.
4. WIDTH OF GRATING SECTIONS SHALL NOT EXCEED 3'-0".
5. SHOP DRAWINGS BASED ON FIELD DIMENSIONS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION.
6. UNLESS NOTED OTHERWISE ON PLANS, MINIMUM GRATING THICKNESS SHALL BE AS TABULATED IN TABLE BELOW
7. DESIGN LL = 100 PSF
8. PROVIDE SST GRATING FASTENERS AS REQUIRED.
9. THE HORIZONTAL CLEARANCE BETWEEN THE GRATING AND GRATING SUPPORTS SHALL NOT BE LESS THAN 1/4" NOR GREATER THAN 1/2".
10. ALL GRATING SECTIONS, WHEN IN PLACE, SHALL ALWAYS BE FIRMLY ANCHORED TO THEIR SUPPORTS.
11. PROVIDE MINIMUM X" BEARING FOR ALL FIBERGLASS GRATING.

FOOT TRAFFIC		
MAXIMUM SPAN	MINIMUM GRATING DEPTH	*GRATING TYPE
3'-6"	1 1/2"	M OR P
4'-0"	1 1/2"	M OR P
4'-6"	1 1/2"	M OR P
5'-0"	2"	P
5'-6"	2"	P

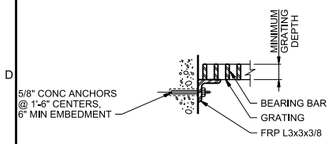
* M = MOLDED GRATING
P = PULTRUDED GRATING



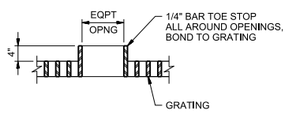
GS-2 - TWO SIDED



GS-2 - ONE SIDED



GS-3



EQUIPMENT OPENINGS

STANDARD FIBERGLASS GRATING

NTS

(0682-030)

NO.	DATE	BY	REVISION	CHK	APVD
DSGN	D EVERSON	DR	J THORNTON	C ANSON	D EVERSON

6800 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

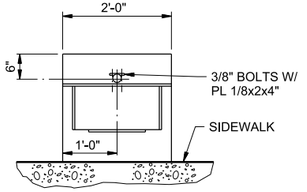
SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

STRUCTURAL
STANDARD DETAILS

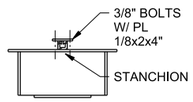
NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	95-S-03
SHEET	of

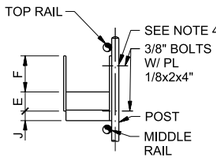
BID DOCUMENTS



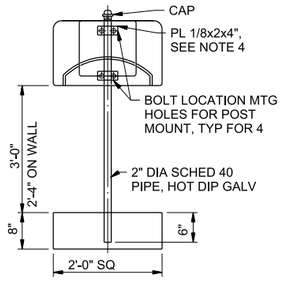
PLAN-POST MOUNT



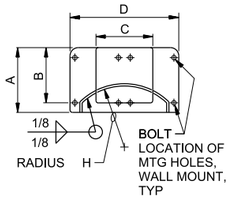
STANCHION MOUNTED



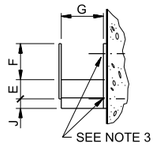
HANDRAIL POST MOUNTED



SECTION



WALL MOUNTED



DIMENSION IN INCHES

RACK TYPE	A	B	C	D	E	F	G	H	J
TYPE A-3/4" & 1" HOSE	10-1/2	9	9	18	3	6	7-1/2	9-3/4	1-1/2
TYPE B-1 1/2" HOSE	14	12	12	24	4	8	10	13	2

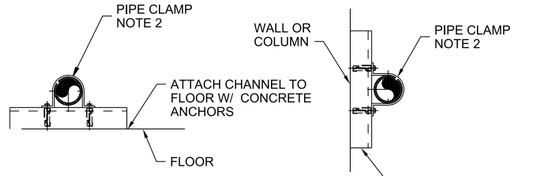
NOTES:

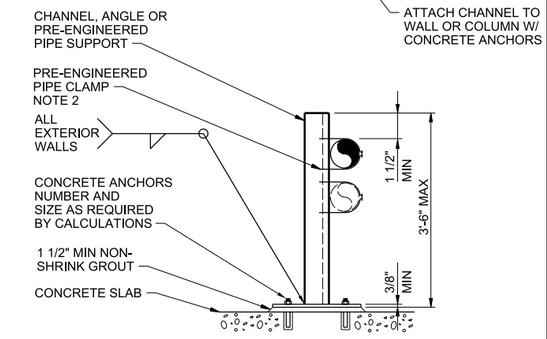
1. INTERIOR UNITS SHALL BE FABRICATED FROM 1/8" A-36 STEEL PLATE AND ENTIRE UNIT SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
2. EXTERIOR UNITS SHALL BE FABRICATED FROM 3/16" 6061-T6 ALUMINUM ALLOY PLATE.
3. ATTACH TO CONCRETE WALL WITH (4) - 3/8" STAINLESS STEEL STUD TYPE WEDGE ANCHORS.
4. ATTACH TO VERTICAL HANDRAIL OR INDIVIDUAL POST WITH PLATES AND (4)- 3/8" STAINLESS STEEL BOLTS.
5. ATTACH TO STEEL COLUMN WITH (4)- 3/8" ROUND HEAD BOLTS, ONE IN EACH CORNER. INSERT DOUBLE SPACER NUTS BETWEEN COLUMN AND HOSE RACK.

HOSE RACKS

NTS

2210-720





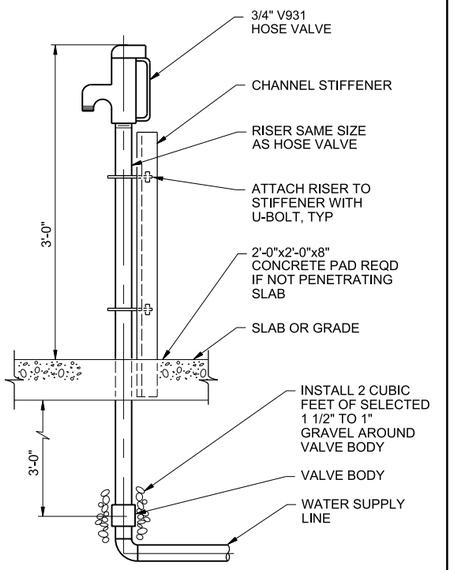
NOTES:

1. FOR MATERIALS OF CONSTRUCTION SEE SPECIFICATIONS SECTION 40 05 15.
2. FOR PVC PIPE USE CUSHION.
3. TIGHTEN CLAMP SNUG TO PIPE.

PIPE SUPOORT - CHANNEL TYPE

NTS

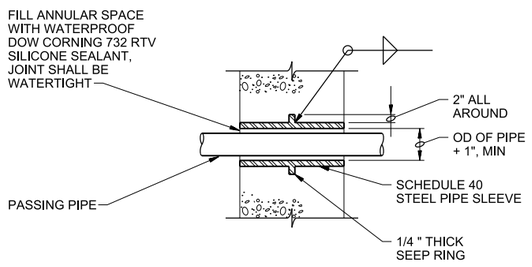
4005-495



NON-FREEZE POST HYDRANT

NTS

4027-154



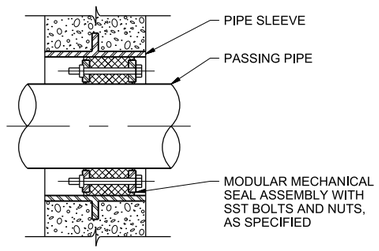
NOTES:

1. DO NOT USE WHERE SUBJECT TO HYDROSTATIC PRESSURE. PAINT ENTIRE SLEEVE AND SEEP RING AS SPECIFIED.

TYPE B PIPE SLEEVE

NTS

4027-604



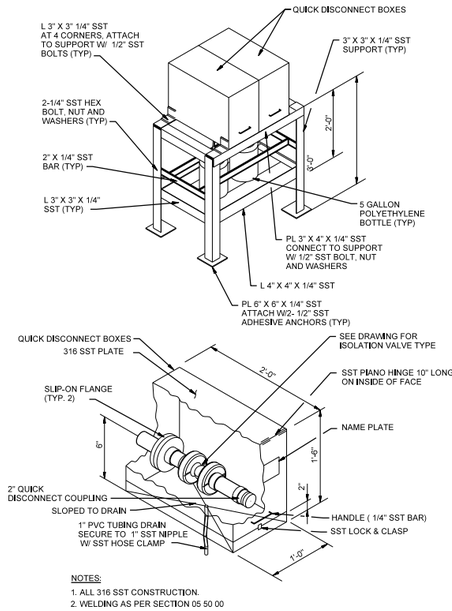
NOTES:

1. AFTER INSTALLATION OF MODULAR MECHANICAL SEAL ASSEMBLY, FILL IN BOTH SIDES WITH NON-SHRINK GROUT.

WALL PIPE PENETRATION SEAL

NTS

4027-607



NOTES:

1. ALL 316 SST CONSTRUCTION.
2. WELDING AS PER SECTION 05 50 00

CHEMICAL FILL STATION

NTS

4027-975X1

NO.	DATE	REVISION	CHK	APVD	BY
DSGN	M YANG	KL DIAZ	DR	L JESTER	APVD	EP MINCHEW

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

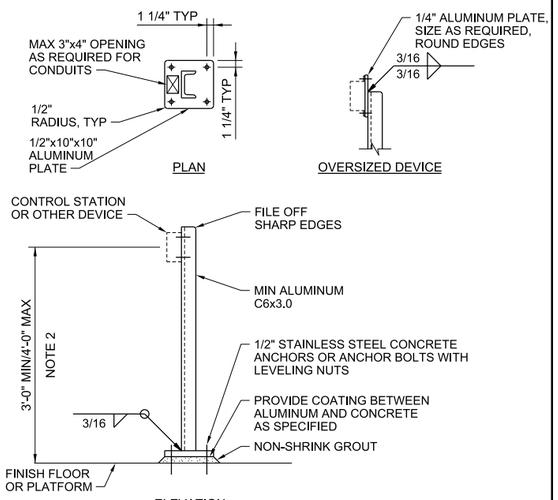
PROCESS MECHANICAL

STANDARD DETAILS

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	95-D-01
SHEET	of

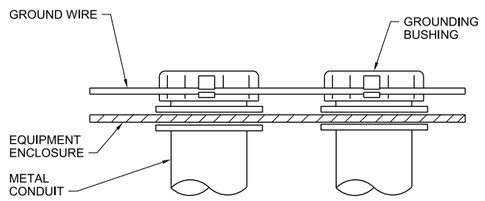
BID DOCUMENTS



NOTES:
1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHERS AND SPLIT-LOCK WASHERS UNDER ALL NUTS AND BOLTS.
2. FOR HEIGHTS EXCEEDING 4'-0" OR WEIGHTS OF MOUNTED EQUIPMENT EXCEEDING 200 LBS, SIZE POST AND CONNECTION FOR LATERAL LOADS. EXTEND POSTS TO STRUCTURE ABOVE WHERE REQUIRED BY CALCULATION.

DEVICE MOUNTING, PEDESTAL
NTS

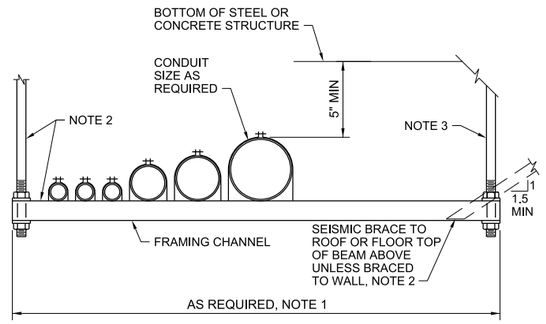
2605-011b



NOTES:
1. THE ENDS OF ALL CONDUITS REQUIRED TO BE GROUNDED BY THE SPECIFICATIONS SHALL BE GROUNDED IN ACCORDANCE WITH THIS DETAIL.

CONDUIT GROUNDING
NTS

2605-203

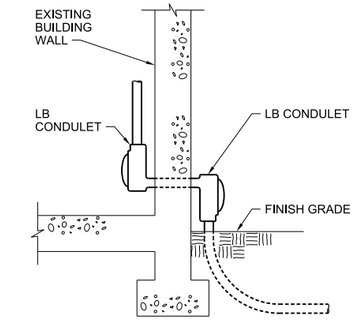


SINGLE RACK

NOTES:
1. LENGTH VARIES WITH NUMBER OF CONDUITS TO BE SUPPORTED AND SPACING BETWEEN CONDUITS.
2. DETERMINE SPAN AND TYPE OF SUPPORTS, LOCATE SUPPORTS, AND SIZE SUPPORT RODS, CONNECTIONS AND BRACES PER MANUFACTURER'S RECOMMENDATIONS AND SEISMIC REQUIREMENTS.
3. AT STEEL STRUCTURE, USE MALLEABLE BEAM CLAMP. AT CONCRETE STRUCTURE, USE UNIVERSAL CONCRETE INSERT, FRAMING CHANNEL WITH #4 x 3'-0" BELOW. TYPE AND SIZE AS REQUIRED BY TOTAL LOADS.
4. USE STAINLESS STEEL HARDWARE IN WET AND/OR CORROSIVE AREAS.
5. SPACE CONDUIT SUFFICIENTLY TO ALLOW REMOVAL OF ONE CONDUIT WITHOUT DISTURBING ADJACENT CONDUITS.

CONDUIT RACKING SYSTEM
NTS

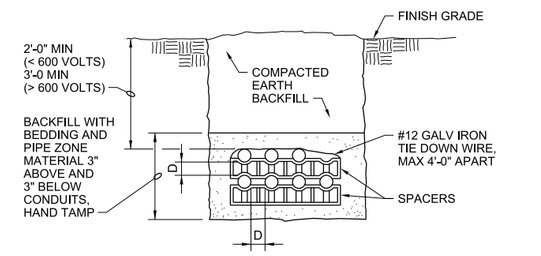
2605-300



NOTES:
1. INSTALL CONDUITS THROUGH EXISTING WALLS IN ACCORDANCE WITH THIS DETAIL IF NOT OTHERWISE INDICATED.
2. DRILL HOLE USING METHODS THAT LEAVE A SMOOTH OPENING. SEAL OPENING AROUND CONDUIT, INSIDE, AND OUTSIDE, WITH ONE PART POLYURETHANE IMMERSIBLE SEALANT.

CONDUIT ENTRANCE
NTS

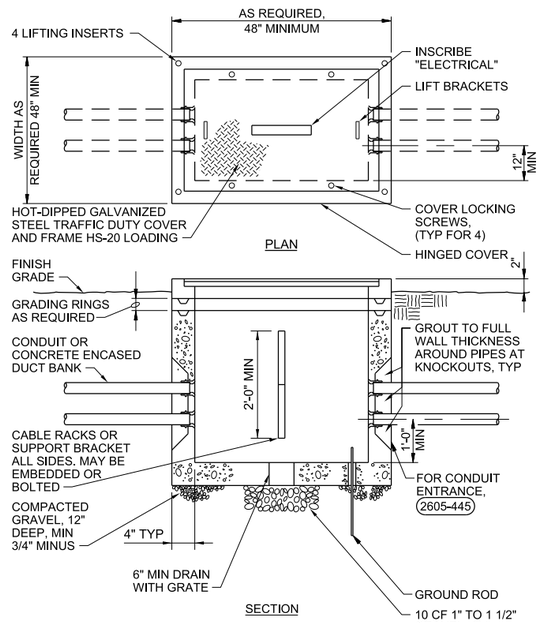
2605-304



NOTES:
1. INSTALLATION OF DIRECT BURIAL DUCT BANKS WHICH INCLUDE THREE OR MORE CONDUITS OR DUCTS SHALL BE MADE IN ACCORDANCE WITH THIS DETAIL.

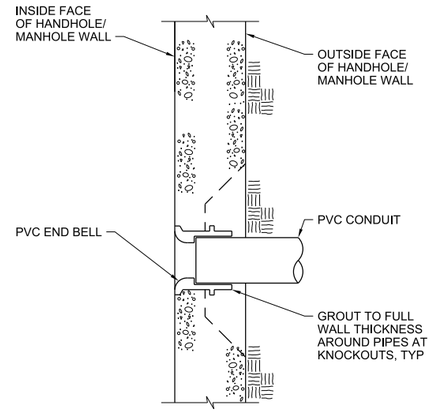
UNDERGROUND CONDUIT IN NON-PAVED AREAS
NTS

2605-420



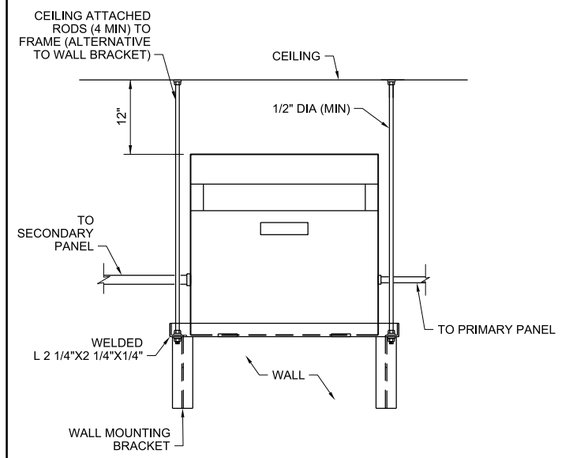
HANDHOLE
NTS

2605-444



CONDUIT HANDHOLE/MANHOLE ENTRANCE
NTS

2605-445



NOTES:
1. WHERE WALL MOUNTING BRACKETS ARE USED THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE REINFORCING OF THE WALL TO ASSURE THAT IT IS CAPABLE OF SUPPORTING THE LOAD.

DRY TYPE TRANSFORMER INSTALLATION
NTS

2622-007

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA. 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

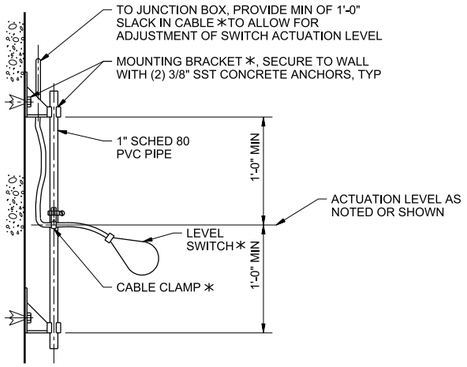
ELECTRICAL
STANDARD DETAILS

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
	D EVERSON	J THORNTON		KB HORTON	APVD	J RAMOS	

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2019
PROJ	698133
DWG	95-E-01
SHEET	of

BID DOCUMENTS



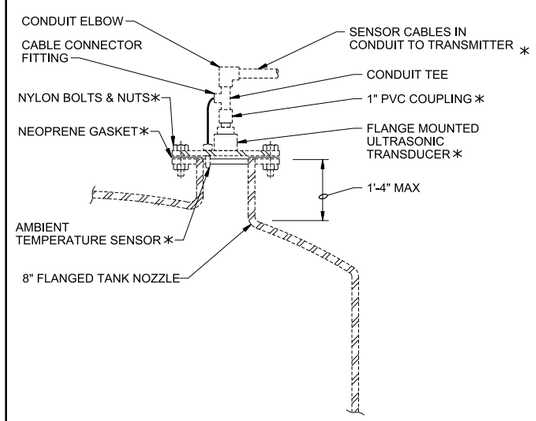
NOTES:

1. COMPONENTS DESIGNATED BY ✳ ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

TYPICAL FLOAT TYPE LEVEL SWITCH INSTALLATION

NTS

4091-248



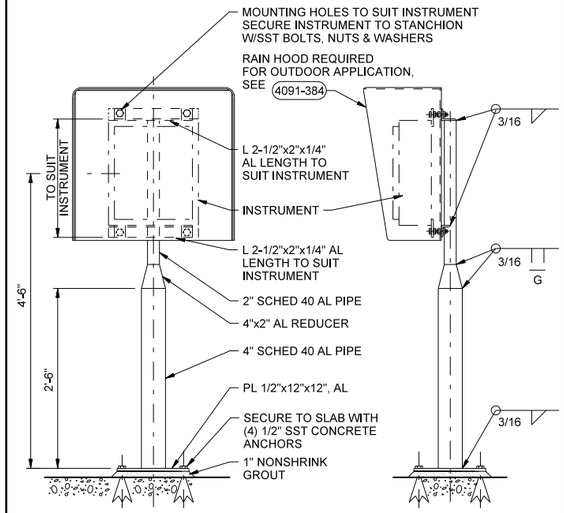
NOTES:

1. COMPONENTS DESIGNATED BY ✳ ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

PDT INSTALLATION FOR VENTED TANK LEVEL MEASUREMENT

NTS

4091-252



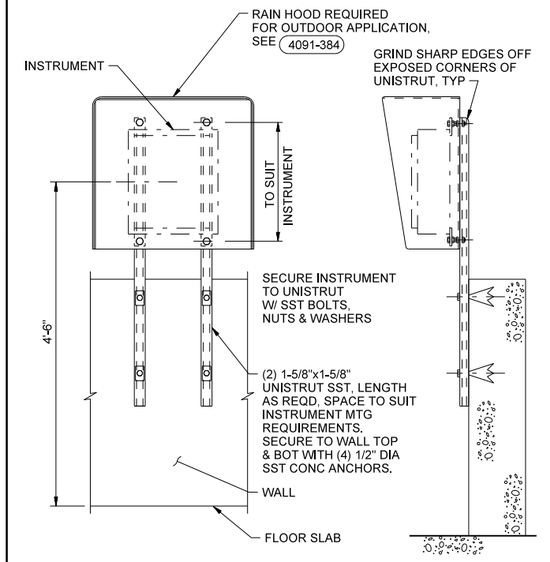
NOTES:

1. ROUND OFF ALL EXPOSED EDGES AND CORNERS.
2. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

STANCHION SUPPORT FOR CASE MOUNTED INSTRUMENTS

NTS

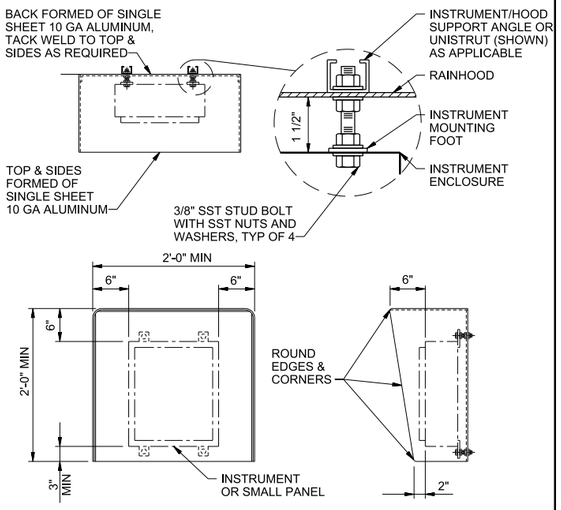
4091-383A



SHORT WALL MOUNTED PANEL INSTRUMENT INSTALLATION

NTS

4091-383D



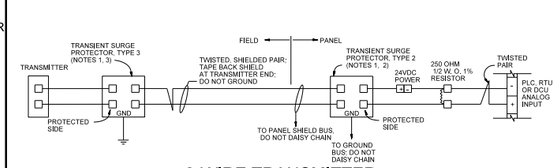
NOTES:

1. ALL EXPOSED EDGES TO BE GROUND SMOOTH AND BURR FREE.
2. MOUNT RAIN HOOD BETWEEN INSTRUMENT AND MOUNTING BRACKET. DRILL HOLES IN RAIN HOOD AS PER MOUNTING HOLES FOR INSTRUMENT, SEE X X

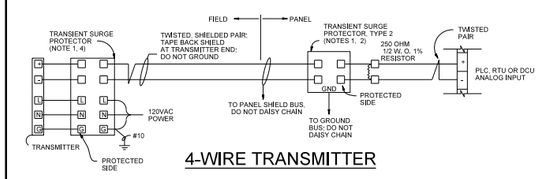
RAIN HOOD INSTALLATION

NTS

4091-384



2-WIRE TRANSMITTER



4-WIRE TRANSMITTER

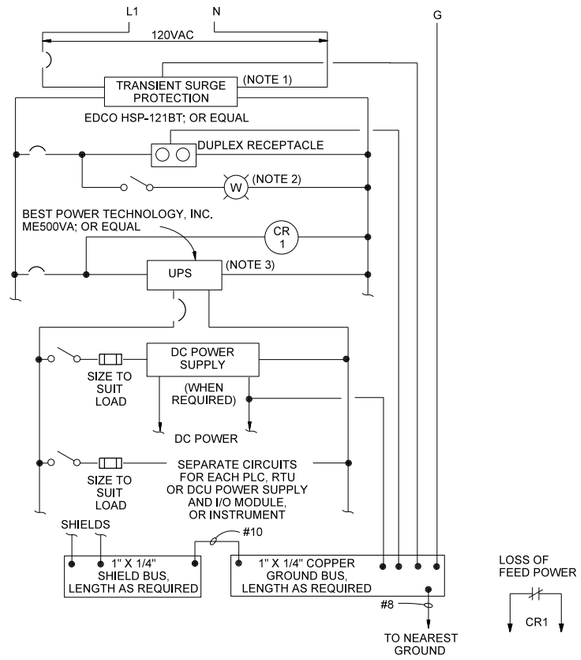
NOTES:

1. SEE SURGE SUPPRESSOR PRODUCTS TABLE, SECTION 40 90 00, SUPPLEMENT.
2. INSTALL USING DETAIL "TYPE 2 ANALOG SIGNAL SURGE SUPPRESSORS WITHIN PANELS"
3. INSTALL USING DETAIL "TYPE 3 SURGE SUPPRESSOR INSTALLATION 2- WIRE INSTRUMENT"
4. INSTALL USING DETAIL "TYPE 4 SURGE SUPPRESSOR INSTALLATION 4-WIRE INSTRUMENT"

TYPICAL OUTDOOR TRANSMITTERS

NTS

4091-405



NOTES:

1. IF LOAD EXCEEDS 15 AMPS PROVIDE ADDITIONAL PARRALLEL CIRCUITS WITH TRANSIENT SURGE PROTECTION AS SHOWN.
2. PROVIDE APPROPRIATE LIGHTING PACKAGE FOR PANEL SIZE HOFFMAN BULLETIN A-80, OR EQUAL.
3. FOR LOADS OVER 400VA, PROVIDE SIMILAR UPS SIZED FOR 125 PERCENT OF THE CONNECTED LOAD.

TYPICAL PANEL POWER DISTRIBUTION FOR PANELS WITH INTERNAL UPS

NTS

4091-406AG

NO.	DATE	REVISION	BY	APVD
DSGN	CL BATES	DR G MESSER	CHK C WILSON	APVD C WILSON

BID DOCUMENTS

6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA, GA, 30328 PH: 770-604-9095

SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

INSTRUMENTATION & CONTROLS

STANDARD DETAILS

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2019
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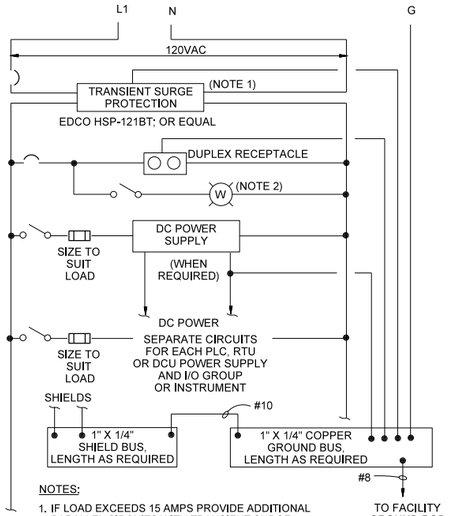
DWG	95-N-01
SHEET	of



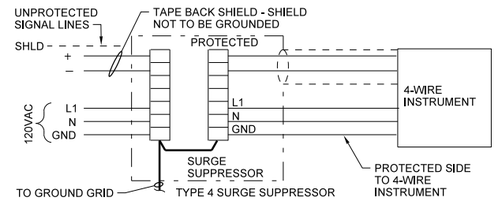
NOTES:

1. IF LOAD EXCEEDS 15 AMPS PROVIDE ADDITIONAL PARALLEL CIRCUITS WITH TRANSIENT SURGE PROTECTION AS SHOWN.
2. PROVIDE APPROPRIATE LIGHTING PACKAGE FOR PANEL SIZE, HOFFMAN BULLETIN A-80, OR EQUAL.

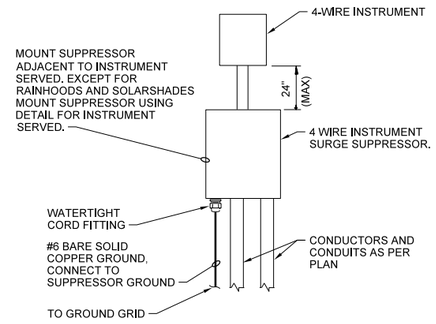
TYPICAL PANEL POWER DISTRIBUTION FOR PANELS WITHOUT UPS POWERED LOADS

NTS

4091-411G



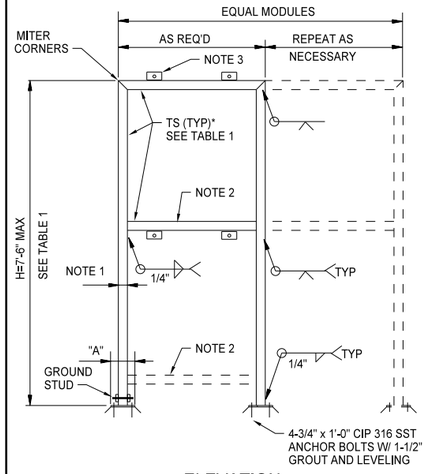
WIRING DIAGRAM



TYPE "4" SURGE SUPPRESSOR INSTALLATION 4-WIRE INSTRUMENT

NTS

4091-420BG



ELEVATION

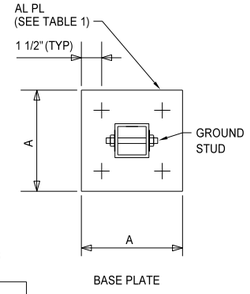
PROVIDE ONE 3/8" DIA, SILICON BRONZE GROUND STUD WITH SILICON BRONZE NUTS AND WASHERS. (NOTE 8)

PLAN

NOTES:

1. TOTAL WEIGHT OF PANEL(S) SHALL NOT EXCEED 750 LB IN EACH MODULE.
2. FOR PANELS WITH "H" GREATER THAN 4'-0", ONE HORIZONTAL MEMBER MUST BE LOCATED WITHIN THE MIDDLE THIRD OF THE FRAME HEIGHT. PROVIDE ADD'L MEMBERS AS NECESSARY FOR PANEL MOUNTING.
3. PROVIDE L 2 1/2"x 2 1/2"x 1/4"x 0'-3" WELD ALL AROUND TO TS: TYP AT EACH PANEL MOUNT.

4. GRIND ALL WELDS AND SHARP CORNERS SMOOTH.
5. THIS DETAIL APPLIES TO NON-FREE STANDING ELECTRICAL EQUIPMENT OVER 25 LB WHICH IS NOT MOUNTED ON A FREE STANDING FRAME OR IS NOT WALL MOUNTED.
6. PANEL OR INSTRUMENT FRONT FACES NORTH, UNLESS OTHERWISE NOTED.



BASE PLATE

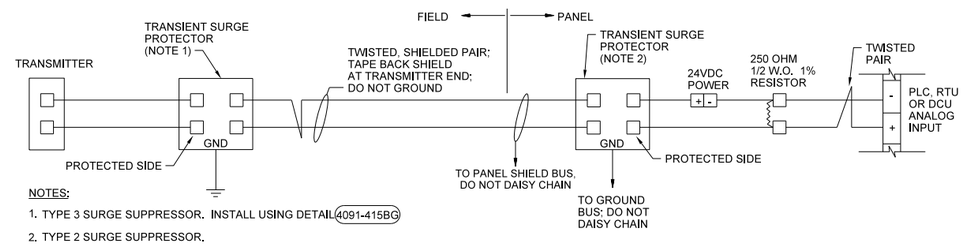
TABLE 1			
HEIGHT "H"	ALUMINUM FRAME TS (MIN SIZE)	BASE PLATE (IN) A	BASE PLATE (IN) t
5'-0" MAX.	TS 3 x 3 x.188	8	1/2
7'-6" MAX.	TS 4 x 4 x.188	9	5/8

7. FOR OUTDOOR APPLICATIONS, PROVIDE RAINHOOD/ SOLAR SHIELD AS PER DETAIL 4091-384
8. PROVIDE #6 BARE COPPER GROUND WIRE FROM EACH PANEL AND INSTRUMENT MOUNTED ON RACK TO GROUND STUD. CONNECTION TO GROUND GRID SPECIFIED UNDER DIVISION 16.

PANEL MOUNTING RACK

NTS

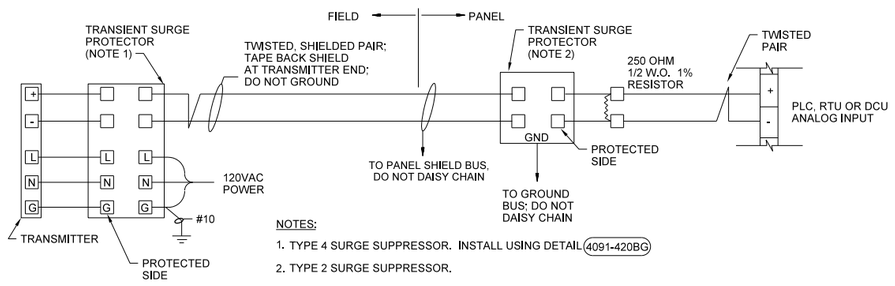
4091-402BG



NOTES:

1. TYPE 3 SURGE SUPPRESSOR. INSTALL USING DETAIL 4091-415BG
2. TYPE 2 SURGE SUPPRESSOR.

2-WIRE TRANSMITTER



NOTES:

1. TYPE 4 SURGE SUPPRESSOR. INSTALL USING DETAIL 4091-420BG
2. TYPE 2 SURGE SUPPRESSOR.

4-WIRE TRANSMITTER

TYPICAL OUTDOOR TRANSMITTERS

NTS

4091-405BG

NO.	DATE	REVISION	CHK	APVD	BY	APVD
DSGN	CL BATES	G MESSER	C WILSON	C WILSON	C WILSON	

6600 PEACHTREE DUNWOODY ROAD
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SOUTH FAYETTE
WATER TREATMENT PLANT
CHLORINE DIOXIDE GENERATION SYSTEM
FAYETTE COUNTY, GEORGIA

ch2m

INSTRUMENTATION & CONTROLS
STANDARD DETAILS

NTS
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BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

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