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**Hilliard N. Fletcher Water Resource Recovery Facility Phase II
Improvements**
City of Tuscaloosa

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STANDARD DETAILS



For the Construction of

HILLARD N. FLETCHER WATER RESOURCE AND RECOVERY FACILITY PHASE II IMPROVEMENTS

TUSCALOOSA, ALABAMA

File No. OCA-23-1043
Garver Project No. 19W10160

VOLUME 3 OF 4

Prepared For:

City of Tuscaloosa

November 2023



DIVISION 03 - CONCRETE		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D03	3000-100C	STANDARD HOOK AND REINFORCING LAP SPLICE
D03	3000-102A	FLAT RIBBED WATERSTOP DETAIL
D03	3000-102B	STRIP-TYPE WATERSTOP DETAIL
D03	3000-105	SPLASH BLOCK DETAIL
D03	3000-120	TYPICAL BAR CLEARANCES
D03	3000-127	TYPICAL FOUNDATION CONSTRUCTION JOINT
D03	3000-130	CONCRETE ROOF COVER PLATE
D03	3000-200	TYP REINF. WALL, GRADE BEAM, & FOUNDATION INTERSECTION/CORNER REINFORCING
D03	3000-201	WALL JOINT TO FOUNDATION JOINT
D03	3000-202	WALL VERTICAL CONSTRUCTION JOINT
D03	3000-205	PIPE CARRIER TRENCH DETAIL
D03	3000-206	RETROFIT WATERSTOP
D03	3000-303	TYPICAL SPLICE DETAIL AT CIRCULAR BASIN WALLS
D03	3000-400	STRIP FOOTING INTERSECTION DETAIL
D03	3000-401	STRIP FOOTING CORNER DETAIL
D03	3000-402	STEP FOOTING DETAIL
D03	3000-502	CONTAINMENT SLAB ON GRADE
D03	3000-600	ADDITIONAL REINF. AT WALL OPENINGS
D03	3000-602	STANDARD CHAMFER AT CONCRETE
D03	3000-605	EXPANSION JOINT AT EXISTING STRUCTURE
D03	3000-606	EXPANSION JOINT-WALL
D03	3000-607	TOP OF WEIR WALL DETAIL
D03	3000-700	CONSTRUCTION JOINT-CORNER
D03	3000-701	CONSTRUCTION JOINT-TEE
D03	3000-703	CONSTRUCTION JOINT AT FUTURE EXPANSION
D03	3000-801	TYPICAL PIPE SUPPORT PEDESTAL ON CONCRETE
D03	3000-804	PRESSURE RELIEF VALVE SECTION
D03	3000-902	CANTILEVERED CONCRETE STAIR
D03	3000-1000	EQUIPMENT BASE DETAIL
D03	3000-1001	ANCHOR BOLT DETAIL
D03	3300-901	GENERATOR FOUNDATION

DIVISION 04 - MASONRY		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D04	0421-001	MASONRY VENEER WATER TABLE DETAIL
D04	0421-002	HEAD OF WALLS DETAILS
D04	0421-003	TYP BASE OF WALL DETAIL
D04	2200-001	RETROFIT LINTEL
D04	2200-002	TYPICAL CMU LINTEL BEAMS
D04	2200-003	TYPICAL CMU BOND BEAM DETAIL
D04	2200-004	TYPICAL CMU BOND BEAM CORNER REINFORCEMENT
D04	2200-005	TYPICAL CMU WALL REINFORCEMENT
D04	2200-007	TYPICAL CMU PIER DETAIL
D04	2200-100	TYPICAL CMU CONTROL JOINT
D04	2200-101	TYPICAL CMU SILL DETAIL
D04	2200-103	CMU WALL PIPE PENETRATION
D04	2200-104	CMU PIPE OPENING REINFORCING
D04	2200-104A	CMU SQUARE OPENING REINFORCING
D04	2200-204	ROOF DECK TO MASONRY WALL CONNECTION WITH BRICK VENEER
D04	2200-300	REINF. AT OPENINGS DETAIL
D04	2200-302	TYPICAL CMU BOND BEAM INTERSECTION REINFORCEMENT
D04	2200-304	TYPICAL WALL REINFORCEMENT AT WALL JOIST DETAIL
D04	2200-306	PLAN MASONRY JOINT
D04	2200-307	TYPICAL CONNECTION AT CMU WALL INTERSECTION
D04	2200-308	TYP CMU OVERHEAD DOOR JAMB
D04	2200-309	CONDITION WITH A PARAPET WALL DETAIL
D04	2200-402	TYP STEEL BEAM LINTEL WITH BRICK
D04	2200-600	VENEER-CONCRETE JOINT FILLER

DIVISION 05 - METALS		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D05	3100-001	ROOF DECK MAKE-UP SECTION
D05	5000-401	DECK OPENING REINFORCEMENT DETAIL

DIVISION 05 - METALS		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D05	5000-402	JOIST REINFORCEMENT DETAIL
D05	5000-500	PIPE RESTRAINTS
D05	5000-800	SINGLE ALUMINUM HATCH
D05	5000-801	DOUBLE ALUMINUM HATCH
D05	5000-803	LADDER RUNG DETAIL
D05	5000-804	LADDER BRACELET DETAILS
D05	5000-805	STANDARD LADDER DETAILS
D05	5000-807	LADDER BASE FLANGE DETAIL
D05	5000-900	FLOOR OPENING COVER PLATE
D05	5000-901	CONNECTION DETAILS
D05	5000-902	CONNECTION DETAIL NOTES
D05	5000-907	BEAM TO WALL CONNECTION DETAIL
D05	5000-908	BEAM TO WALL CONNECTION DETAIL
D05	5000-910	ALUMINUM CHANNEL TO WALL CONNECTION
D05	5000-912	GRATE SUPPORT CHANNEL CONNECTION DETAIL
D05	5000-913	GRATE SUPPORT ANCHOR CONNECTION DETAIL
D05	5000-914	BEAM TO BEAM CONNECTION DETAIL
D05	5000-915	BEAM TO WALL CONNECTION DETAIL
D05	5000-916	BEAM TO WALL CONNECTION DETAIL
D05	5000-917	BEAM TO BEAM CONNECTION DETAIL
D05	5000-918	CHANNEL TO WALL CONNECTION DETAIL
D05	5000-920	BEAM SINGLE PLATE SHEAR CONNECTION - STEEL
D05	5000-921	BEAM-COLUMN FLANGE CONNECTION
D05	5000-922	BEAM-CONCRETE WALL CONNECTION
D05	5000-923	BEAM-BEAM CONNECTION
D05	5000-924	COLUMN BASEPLATE CONNECTION
D05	5000-930	ALUMINUM SINGLE PIPE SUPPORT
D05	5000-950	DIGESTER COVER PIPE SUPPORT
D05	5000-951	DIGESTER COVER PIPE SUPPORT DETAILS
D05	5100-700	TYPICAL OSHA TYPE STAIRS SIDEMOUNT BRACKET ELEVATION
D05	5100-703	HEAD OF STAIR AT LANDING PLATFORM
D05	5100-704	HEAD OF STAIR AT CONCRETE WALL OR SLAB
D05	5100-705	BASE OF STAIRS AT CONCRETE SLAB OR LANDING PAD
D05	5100-706	TYPICAL STAIR HANDRAIL ELEVATION
D05	5100-709	BOTTOM OF STAIR CONCRETE LANDING
D05	5100-710	TOP OF STAIRS CONCRETE LANDING
D05	5120-001	STEEL DOUBLE ANGLE BOLTED CONNECTION VERTICAL BOLT LINES
D05	5120-002	STEEL SINGLE PLATE SHEAR CONNECTION
D05	5120-101	BEAM TO MASONRY WALL CONNECTION
D05	5120-102	BEAM TO MASONRY WALL CONNECTION
D05	5120-103	DETAIL- TRUSS ROOF TO CMU
D05	5120-105	ANCHOR BOLTS IN MASONRY
D05	5120-110	BEAM TO CONCRETE WALL CONNECTION
D05	5213-100	TEE FITTING DETAIL
D05	5213-101	TOEBOARD DETAILS
D05	5213-102	SPLICE LOCK
D05	5213-103	TYPICAL WALL RAIL DETAIL
D05	5213-105	SIDE MOUNT BRACKET
D05	5213-106	STAIR STRINGER BASE FLANGE DETAIL
D05	5213-107	BASE FLANGE DETAIL
D05	5213-108	EXPANSION JOINT SPLICE
D05	5213-109	EXPANSION SPLICE DETAIL
D05	5213-110	TYPICAL SAFETY CHAIN DETAIL
D05	5213-111	TYPICAL LATCH RING DETAIL
D05	5213-112	TYPICAL WIDE FLANGE DETAIL
D05	5213-113	DETAILS
D05	5213-116	TOEBOARD DETAILS
D05	5213-117	SIDE MOUNT BRACKET
D05	5213-118	BASE FLANGE DETAIL CONCRETE STAIR
D05	5213-139	VERTICAL GRAB BARS
D05	5213-600	OSHA TYPE GUARDRAIL
D05	5213-701	WALL MOUNTED HANDRAIL
D05	5213-807	LADDER BASE FLANGE DETAIL
D05	5300-901	TYPICAL GRATING AND FRAME DETAIL
D05	5300-902	TYPICAL GRATING AND SUPPORT DETAILS
D05	5300-903	TYPICAL HINGED GRATING DETAIL
D05	5300-904	TYPICAL GRATING DETAIL AND FRAMING DETAIL

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

INDEX OF DETAILS I

DIVISION

SECTION - DETAIL NO.

DATE: 10/09/2023

DIVISION 07 - THERMAL & MOISTURE PROTECTION		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D07	7100-001	OVERFLOW SCUPPER FOR BUILT UP AND SINGLE PLY ROOFING
D07	7100-002	ROOF DRAIN SCUPPER FOR BUILT-UP AND SINGLE PLY ROOFING
D07	7100-003	CONDUCTOR HEAD
D07	7100-004	DOWNSPOUT
D07	7100-005	PARAPET DETAILS
D07	7100-006	SINGLE-PLY ROOFING
D07	7200-001	EQUIPMENT CURB @ SINGLE-PLY ROOFING
D07	9200-001	DOME COVER SEAL

DIVISION 08 - OPENINGS		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D08	1613-100A	SINGLE FLUSH DOOR WITH VIEW PARTIAL VISION PANEL GLAZED GLASS
D08	1613-100B	TYP SINGLE FLUSH DOOR TYPE
D08	1613-100C	DOUBLE FLUSH DOORS WITH PARTIAL VISION PANELS GLAZED GLASS
D08	1613-100D	DOUBLE FLUSH DOORS
D08	1613-100E	DOUBLE FLUSH DOORS WITH PARTIAL VISION PANELS GLAZED GLASS HINED TRANSOM PANEL
D08	1613-100F	TYP DOUBLE FLUSH TRANSOM DOOR TYPE
D08	1613-100G	DOUBLE FLUSH DOORS WITH PARTIAL VISION PANELS GLAZED GLASS
D08	1613-100J	SINGLE FLUSH DOOR
D08	1613-201	TYPICAL PERSONEL DOOR @ MASONRY WALL w/ VENEER
D08	1613-204	TYPICAL DOOR JAMB @ EXTERIOR MASONRY WALL
D08	3323-100C	TYP OVERHEAD DOOR TYPE
D08	3323-306	TYP SILL EXT OVERHEAD DOOR DETAILS
D08	3323-307	TYPICAL DOOR JAMB @ EXTERIOR CMU
D08	3323-308	OVERHEAD DOOR HEAD DETAIL @ EXTERIOR MASONRY WALL
D08	9000-800	TYP HEAD EXT LOUVER DETAIL
D08	9000-803	TYPICAL LOUVER JAMB DETAIL
D08	9000-806	TYP SILL EXT LOUVER DETAIL

DIVISION 22 - PLUMBING		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D22	0529-001	ADJUSTABLE FLOOR MOUNTED PIPE SUPPORT
D22	0529-003	CONCRETE PIPE SUPPORTS AT EXISTING STRUCTURE
D22	0529-008	PIPE HANGER
D22	0529-010	ELBOW PIPE SUPPORT
D22	0529-017	STAINLESS STEEL STRUT CHANNEL PIPE SUPPORT
D22	0529-027	HANGING ROD ANCHOR - EXPANSION ANCHOR

DIVISION D23 - HVAC		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D23	2318-004	CONDENSATE DRAIN DETAIL
D23	8127-002	TYPICAL CONDENSING/HEAT PUMP UNIT DETAIL

DIVISION D26 - ELECTRICAL		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D26	0515-001	TYPICAL MOTOR LEAD DETAIL
D26	0526-006	CONDUIT GROUNDING DETAIL
D26	0526-009	GROUNDING CONDUIT SLEEVE DETAIL
D26	0526-010	DRY TYPE DISTRIBUTION TRANSFORMER GROUNDING DETAIL
D26	0529-001	CONDUIT AND JUNCTION BOX SUPPORT DETAIL
D26	0529-014	TYPICAL UNISTRUT STAND DETAIL
D26	0533-017	CONDUIT WALL PENETRATION SEAL DETAIL
D26	0543-012	CONCRETE ENCASED ELECTRICAL DUCT DETAIL
D26	0543-013	UNDERGROUND DETECTABLE WARNING TAPE DETAIL
D26	0543-014	ELECTRICAL PULLBOX DETAIL
D26	0543-015	TYPICAL DUCTBANK SPACING AND COUPLNG DETAIL
D26	0553-002	TYPICAL ENGRAVED NAMEPLATE DETAIL

DIVISION D31 - EARTHWORK		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D31	2316-001	EXISTING UTILITY PROTECTION
D31	2323-001_AL	BEDDING BACKFILL FOR TRENCHES_AL
D31	2339-006	BURIED DUCTILE IRON PIPE THRUST RESTRAINT TABLE
D31	3200-001	SLIT FENCE

DIVISION D32 - EXTERIOR IMPROVEMENTS		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D32	0000-004	INTEGRAL CURB AND GUTTER
D32	0000-009	TYPICAL BOLLARD
D32	1216-001-AL	TYPICAL SECTION - ASPHALT PAVEMENT AL

DIVISION D40 - PROCESS INTEGRATION		
DIVISION	SECTION - DETAIL NO.	DESCRIPTION
D40	0513-006	PRESSURE SWITCH & INDICATOR W/ANNULAR SEAL INSTALLATION
D40	2339-003	DUCTILE IRON PIPE- BURIED EXTERIOR
D40	2343-005	AIR VACUUM AND AIR RELEASE VALVE FOR VARIOUS SIZES
D40	2400-001	PIPE WALL PENETRATION SEAL
D40	2400-003	FLOOR SLEEVE

REV	DATE	DESCRIPTION	BY
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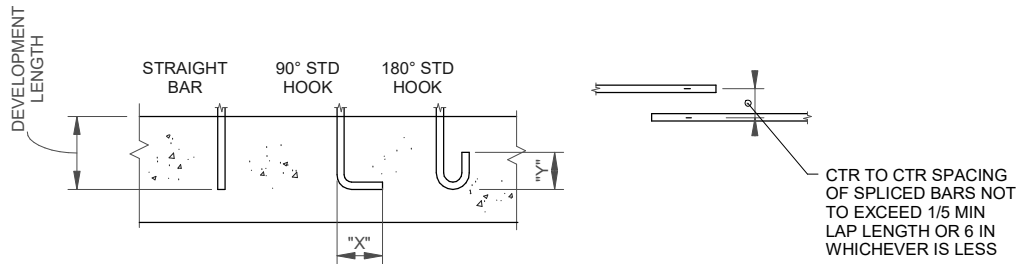
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
PHASE II IMPROVEMENTS

INDEX OF DETAILS II

DIVISION
SECTION - DETAIL NO.

FOR CLEARCOVER OF 2", F_c=4,000PSI, & GRADE 60 STEEL

BAR SIZE	DIAMETER (d _b) (INCHES)	DEVELOPMENT LENGTH (l _d) (INCHES)		CLASS A LAP SPLICE (INCHES)		CLASS B LAP SPLICE (INCHES)		90° STD HOOK "X" (INCHES)		180° STD HOOK "Y" (INCHES)
		"TOP" BARS	OTHER	"TOP" BARS	OTHER	"TOP" BARS	OTHER	HOOK	l _{dh}	
REINFORCING BARS IN TENSION										
#3	0.375	12	9	12	9	15	12	6	7	6
#4	0.5	15	12	15	12	20	15	8	10	6
#5	0.625	19	15	19	15	24	19	10	12	6
#6	0.75	23	17	23	17	30	23	12	14	6
#7	0.875	33	25	33	25	42	33	14	17	7
#8	1.0	37	29	37	29	48	37	16	19	8
#9	1.128	46	36	46	36	60	46	20	22	11
#10	1.27	57	44	57	44	74	57	22	24	12
#11	1.41	68	53	68	53	90	68	24	27	13
REINFORCING BARS IN COMPRESSION										
#3	0.375	8				12		HOOKED BARS SHALL NOT BE USED IN COMPRESSION		
#4	0.5	10				15				
#5	0.625	12				19				
#6	0.75	14				23				
#7	0.875	17				26				
#8	1.0	19				30				
#9	1.125	22				34				
#10	1.25	24				38				
#11	1.375	27				42				



NOTES:

1. "TOP" BARS SHALL BE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
2. CLEAR SPACING OR BARS BEING DEVELOPED OR SPLICED SHALL:
 - A. NOT BE LESS THAN l_d , HAVE CLEAR COVER NOT LESS THAN d_b , AND STIRRUPS OR TIES THROUGHOUT l_d NOT LESS THAN THE CODE MINIMUM OR;
 - B. CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN $2d_b$ AND CLEAR COVER NOT LESS THAN d_b WHERE d_b = DIAMETER OF REINFORCING BAR AND l_d = DEVELOPMENT LENGTH.
3. ALL LAP SPLICES SHALL BE CLASS B UNO.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

STANDARD HOOK AND REINFORCING LAP SPLICE

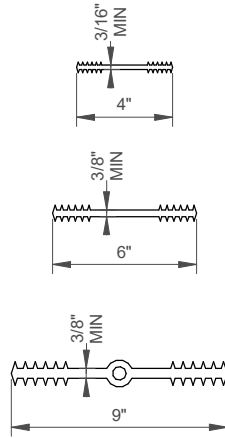
DIVISION

D03

SECTION - DETAIL NO.

3000-100C

DATE: 10/09/2023



NOTE:

1. FLAT RIBBED PVC WATERSTOP TO BE USED IN NEW CONSTRUCTION OF NEW CONCRETE TO NEW CONCRETE.
2. WATERSTOPS SHALL BE GREENSTREAK OR APPROVED EQUAL

REV	DATE	DESCRIPTION	BY
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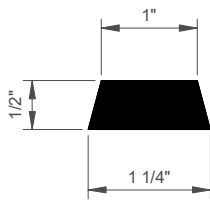
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 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

FLAT RIBBED WATERSTOP
 DETAIL

DIVISION
D03
 SECTION - DETAIL NO.
3000-102A

JOB NO.: 19W10160

DATE: 10/09/2023



TYPE A: NON-HYDROPHILIC WATERSTOP
 1. SIZE: 3/4" X 1" X CONT.
 2. REQUIRED HYDROSTATIC PRESSURE RESISTANCE: 20 PSI
 3. SUPPLY TYPE A, AS NOTED.

TYPE B: HYDROPHILIC WATERSTOP
 1. SIZE: 3/4" X 1" X CONT.
 2. REQUIRED HYDROSTATIC PRESSURE RESISTANCE: 100 PSI
 3. SUPPLY TYPE B, UNO

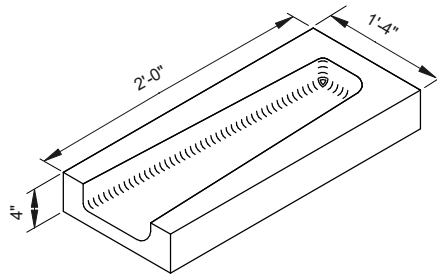
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

STRIP-TYPE WATERSTOP
 DETAIL

DIVISION
D03
 SECTION - DETAIL NO.
3000-102B



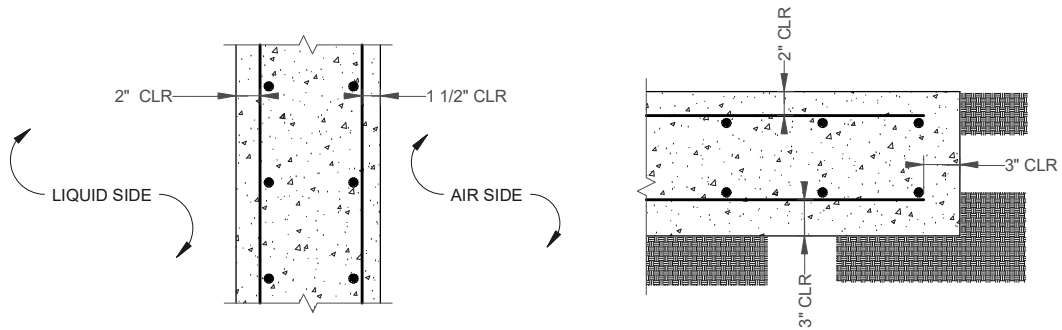
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 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

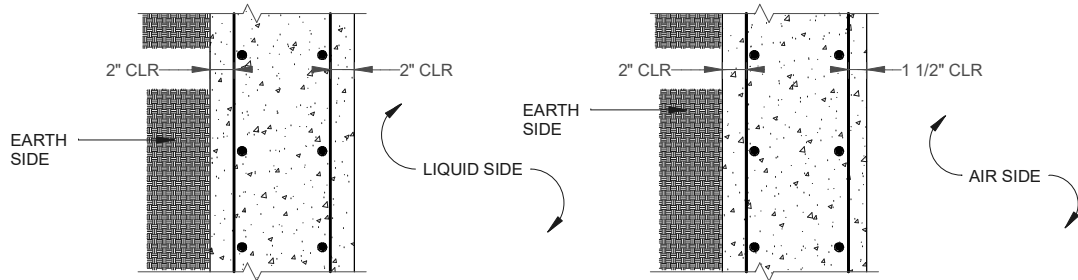
SPLASH BLOCK DETAIL

DIVISION
D03
 SECTION - DETAIL NO.
3000-105



ABOVE GRADE
CONCRETE WALLS

BASE SLAB & FTG'S
POURED AGAINST EARTH



BELOW GRADE WALLS
LIQUID RETAINING

BELOW GRADE WALLS
NON-LIQUID RETAINING

NOTE: REBAR POSITION MAY VARY

REV	DATE	DESCRIPTION	BY
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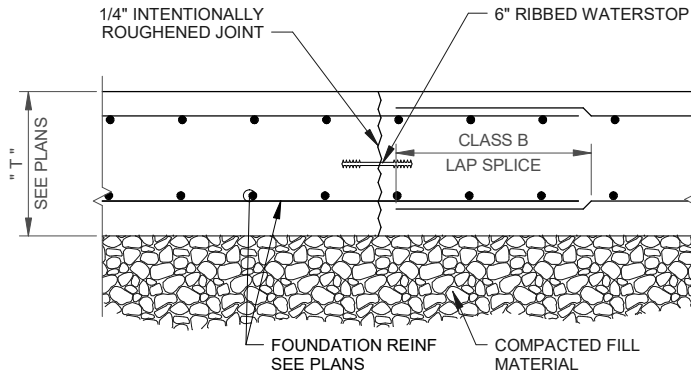
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TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL BAR CLEARANCES

DIVISION
D03
SECTION - DETAIL NO.
3000-120

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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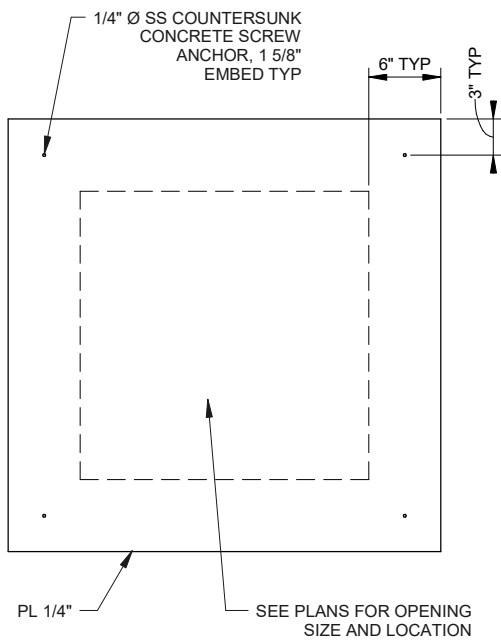
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TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL FOUNDATION
CONSTRUCTION JOINT

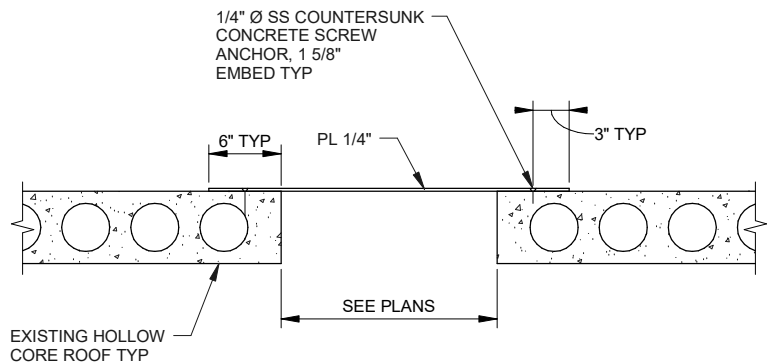
DIVISION
D03
SECTION - DETAIL NO.
3000-127

JOB NO.: 19W10160

DATE: 10/09/2023



PLAN



SECTION

REV	DATE	DESCRIPTION	BY
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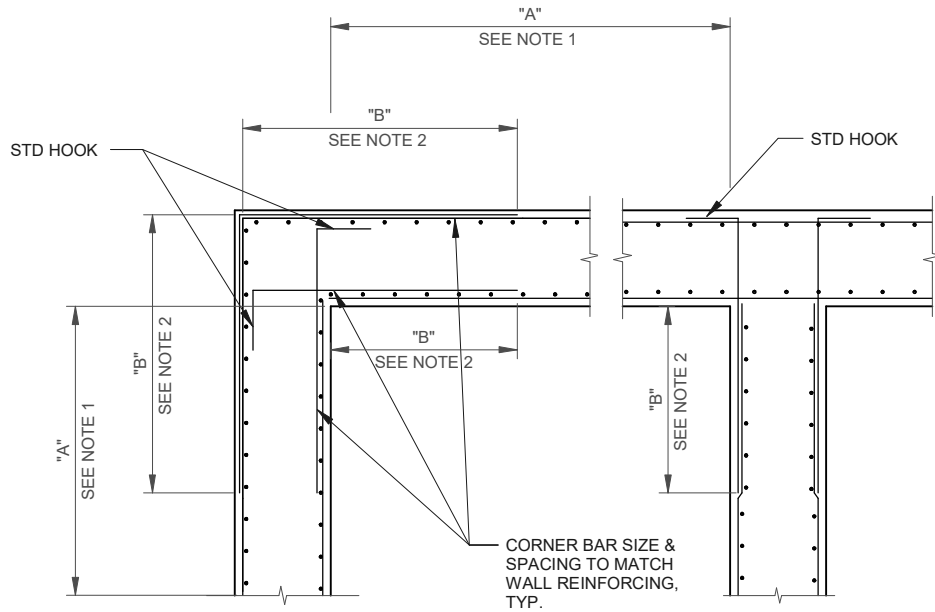
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RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

CONCRETE ROOF COVER
PLATE

DIVISION
D03
SECTION - DETAIL NO.
3000-130

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. DIMENSION "A" = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION.
2. UNLESS OTHERWISE NOTED ON THE DRAWINGS, DIMENSION "B" SHALL BE THE MINIMUM CLASS B LAP SPLICE LENGTH AS REQUIRED. IF BAR SIZES DIFFER, USE THE MINIMUM LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO BARS BEING SPLICED.
3. ALL GRADE BEAMS AND FOUNDATIONS SHALL ALSO HAVE CORNER BARS.

REV	DATE	DESCRIPTION	BY
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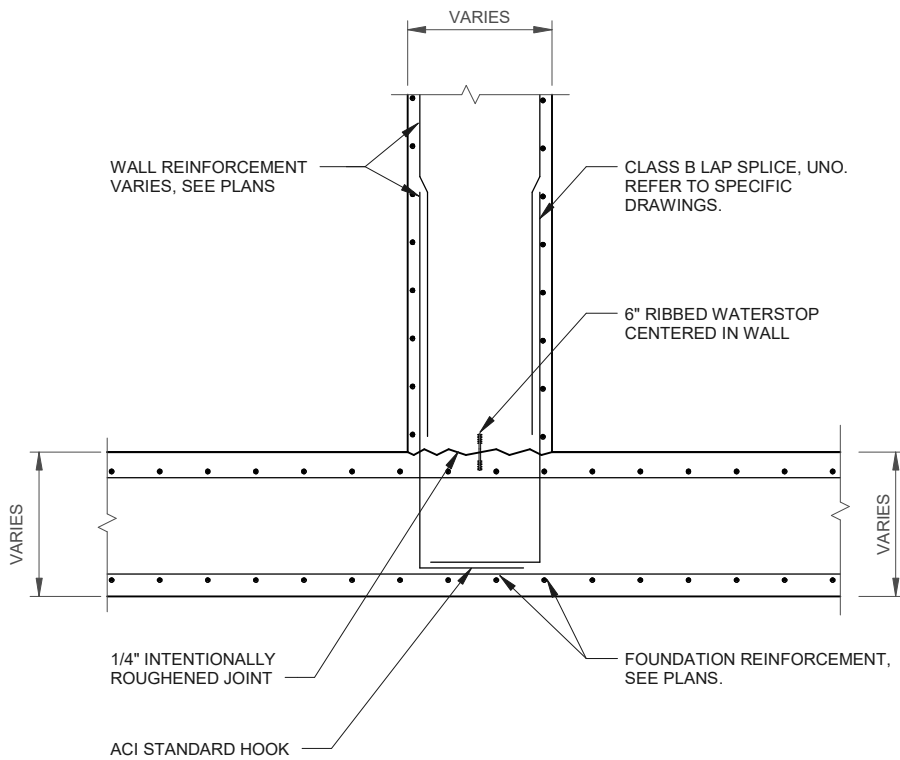
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RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYP REINF. WALL, GRADE
BEAM, & FOUNDATION
INTERSECTION/CORNER
REINFORCING

DIVISION
D03
SECTION - DETAIL NO.
3000-200

JOB NO.: 19W10160

DATE: 10/09/2023



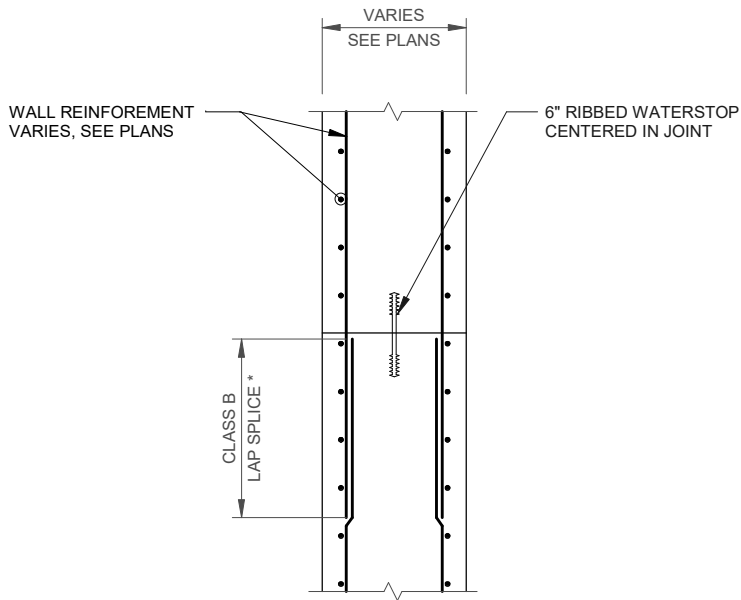
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**WALL JOINT TO FOUNDATION
JOINT**

DIVISION
D03
SECTION - DETAIL NO.
3000-201



WALL REINFORCEMENT CONTINUES THRU JOINT AS INDICATED

*SPLICES IN HORIZONTAL BARS IN CIRCULAR STRUCTURES SHALL BE STAGGERED AS SHOWN IN DETAIL

D03
3000-303

REV	DATE	DESCRIPTION	BY
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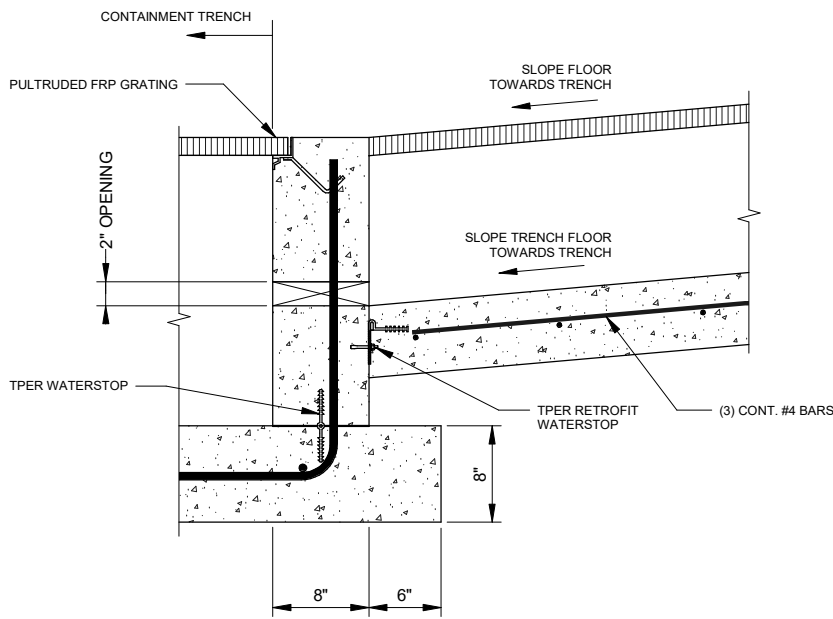
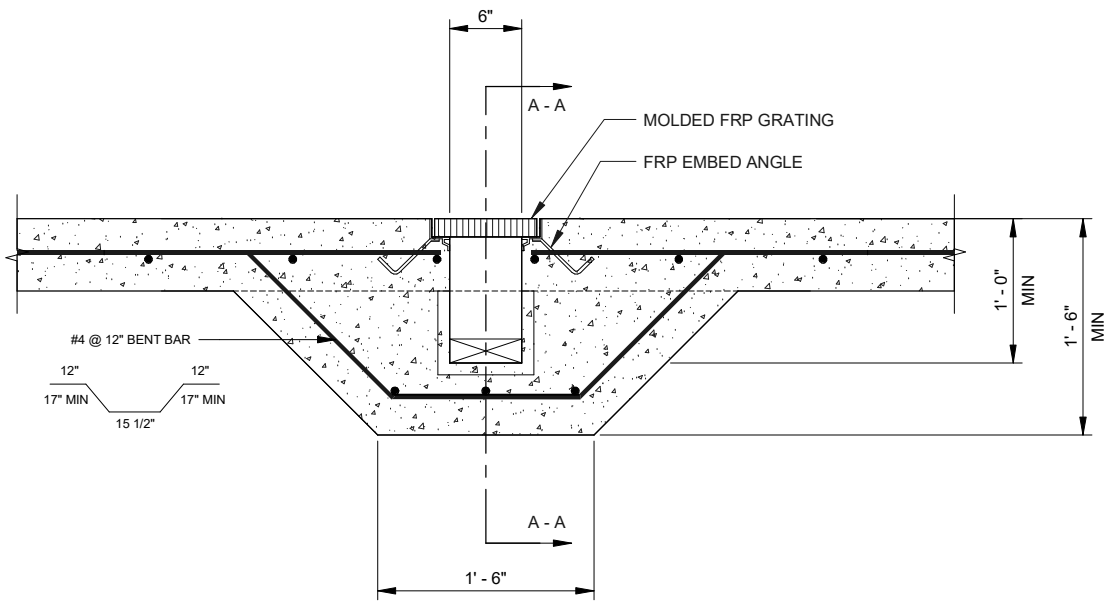
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RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

WALL VERTICAL
CONSTRUCTION JOINT

DIVISION
D03
SECTION - DETAIL NO.
3000-202

JOB NO.: 19W10160

DATE: 10/09/2023



SECTION A - A

REV	DATE	DESCRIPTION	BY
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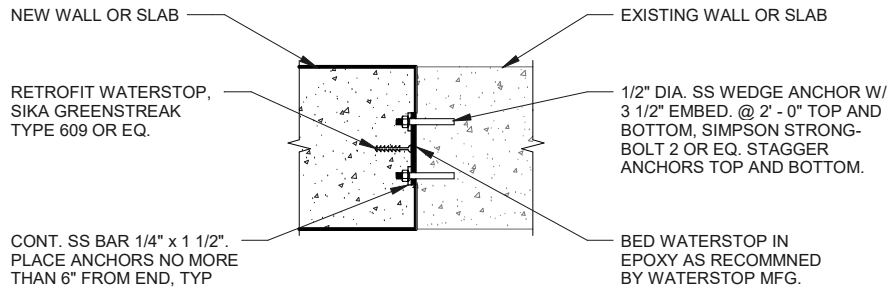
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

PIPE CARRIER TRENCH
 DETAIL

DIVISION
D03
 SECTION - DETAIL NO.
3000-205

JOB NO.: 19W10160

DATE: 10/09/2023



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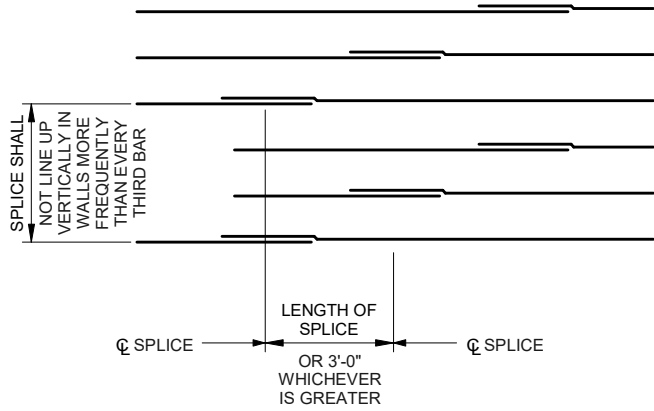


HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

RETROFIT WATERSTOP

DIVISION
D03
SECTION - DETAIL NO.
3000-206

JOB NO.: 19W10160 DATE: 10/09/2023



NOTES:

1. TYPICAL FOR WALL HORIZONTAL BARS AND BASE SLAB.
2. CLASS B LAP SPLICE REQUIRED

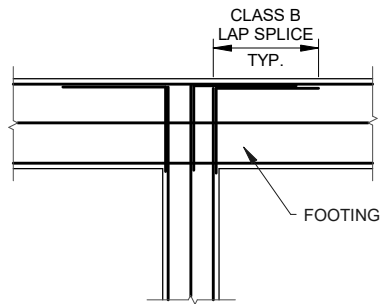
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL SPLICE DETAIL AT
CIRCULAR BASIN WALLS

DIVISION
D03
SECTION - DETAIL NO.
3000-303



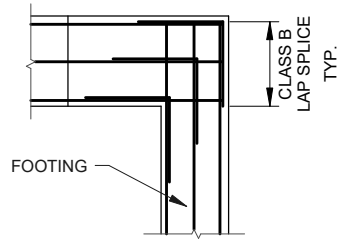
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

STRIP FOOTING
 INTERSECTION DETAIL

DIVISION
D03
 SECTION - DETAIL NO.
3000-400



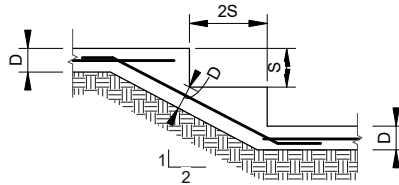
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

STRIP FOOTING CORNER
 DETAIL

DIVISION
D03
 SECTION - DETAIL NO.
3000-401



S = 2'-0" MAX FOR
CAST-IN-PLACE
CONC
WALLS

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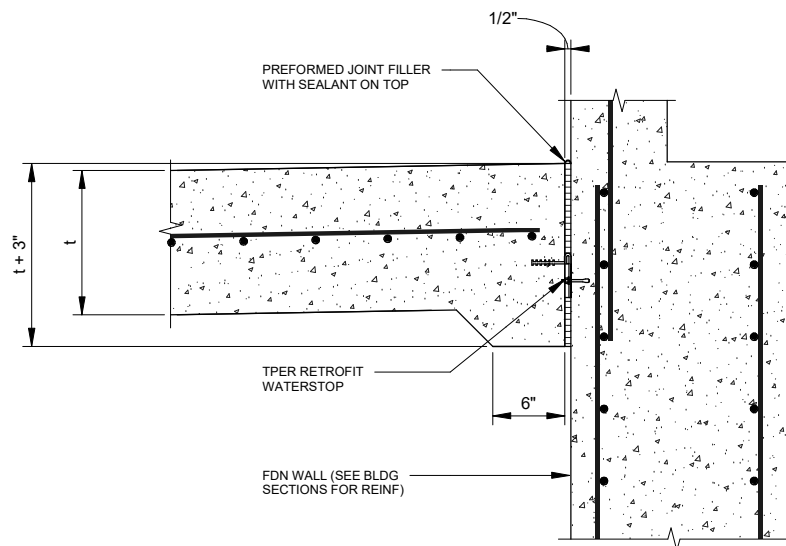
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

STEP FOOTING DETAIL

DIVISION
D03
SECTION - DETAIL NO.
3000-402

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

- 1. EXTERIOR FDN WALL SHOWN

REV	DATE	DESCRIPTION	BY
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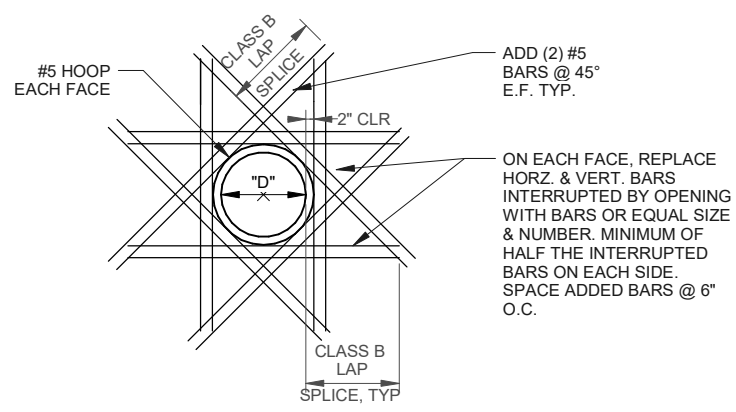
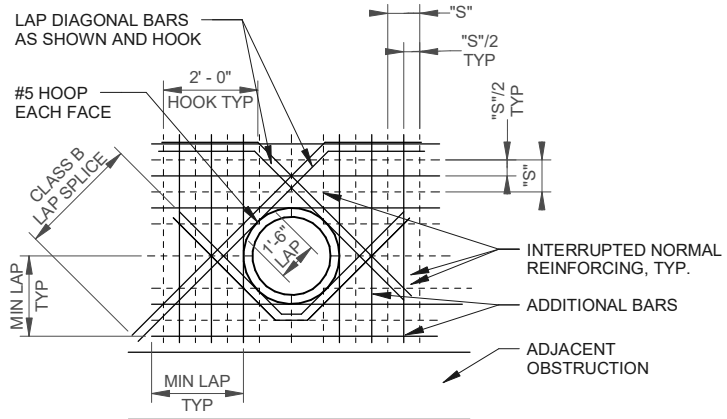
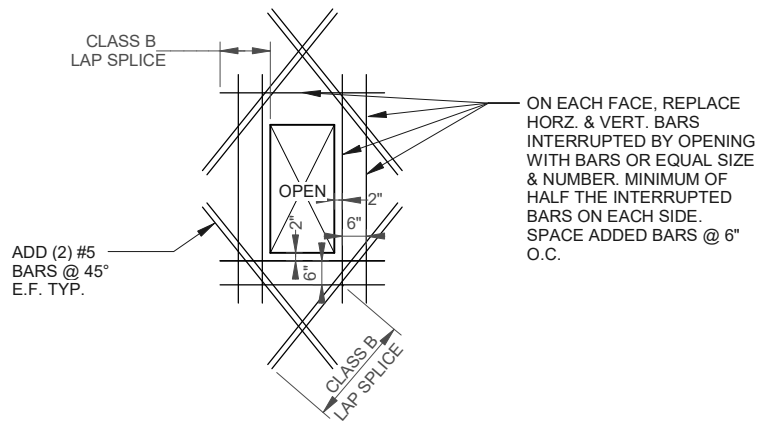
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**CONTAINMENT SLAB ON
GRADE**

DIVISION
D03
SECTION - DETAIL NO.
3000-502

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. NUMBER OF ADDITIONAL REINFORCING BARS AT EACH SIDE OF OPENING SHALL EQUAL HALF THE NUMBER OF INTERRUPTED BARS IN EACH LAYER OF REINFORCING.
2. SIZE OF ADDITIONAL REINFORCING BARS TO EQUAL SIZE OF INTERRUPTED REINFORCING BARS.
3. PROVIDE STD HOOKS FOR BARS IF LAP LENGTH EXTENSION CANNOT BE OBTAINED AT JOINTS OR OTHER OBSTRUCTIONS. PLACE ADDITIONAL BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
4. UNLESS NOTED OTHERWISE, SIZE OF DIAGONAL BARS SHALL BE THE SAME SIZE AS THE INTERRUPTED NORMAL REINFORCING LOCATE DIAGONALS IN EACH LAYER OF REINFORCING.
5. PLACE DIAGONAL BARS INSIDE NORMAL REINFORCING.
6. PROVIDE 2 DIAGONAL BARS EACH LAYER OR FACE, EACH WAY AS SHOWN. ALL REINFORCING TO CLEAR OPENING OR FLANGE COLLARS BY 2".

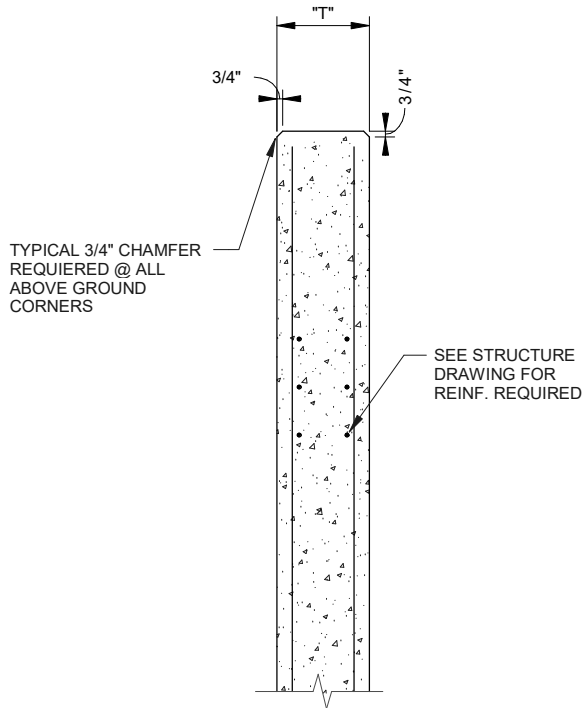
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
PHASE II IMPROVEMENTS

ADDITIONAL REINF. AT WALL OPENINGS

DIVISION
D03
 SECTION - DETAIL NO.
3000-600



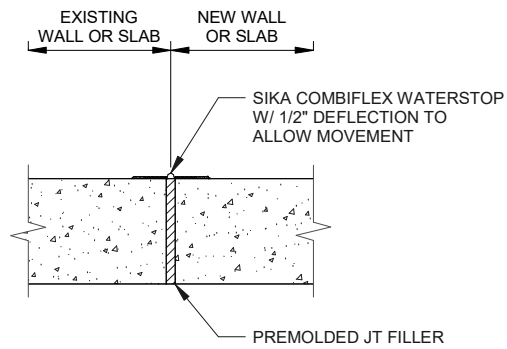
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

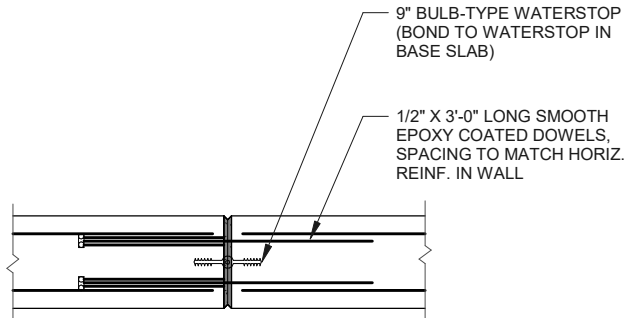
STANDARD CHAMFER AT
CONCRETE

DIVISION
D03
SECTION - DETAIL NO.
3000-602



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	HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY TUSCALOOSA, AL PHASE II IMPROVEMENTS	EXPANSION JOINT AT EXISTING STRUCTURE	DIVISION D03
	JOB NO.: 19W10160		SECTION - DETAIL NO. 3000-605
DATE: 10/09/2023			



APPLIES HORIZONTAL OR VERTICAL JOINT

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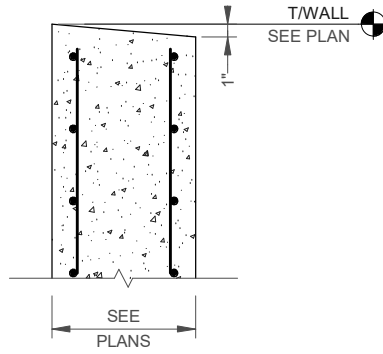
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

EXPANSION JOINT-WALL

DIVISION
D03
SECTION - DETAIL NO.
3000-606

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. REINFORCING SHALL BE AS DETAILED ON PLANS.
2. SEE MECHANICAL DETAILS FOR WEIR PLATE DETAILS.

REV	DATE	DESCRIPTION	BY
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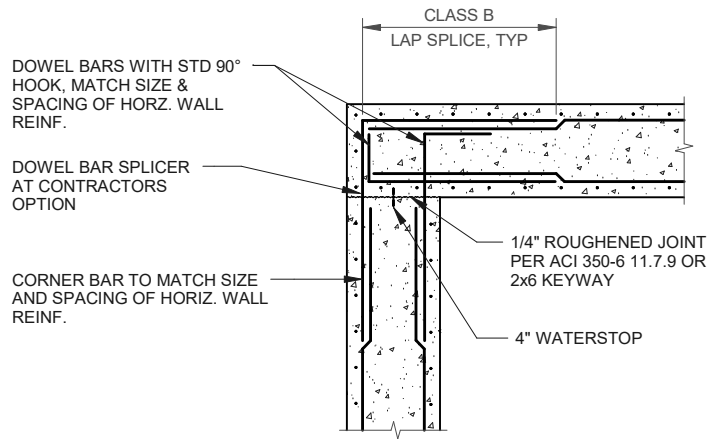
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TOP OF WEIR WALL DETAIL

DIVISION
D03
SECTION - DETAIL NO.
3000-607

JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:

WALL THICKNESS AND REINFORCEMENT LOCATIONS MAY VARY. SEE PLANS AND SECTIONS FOR THESE REQUIREMENTS.

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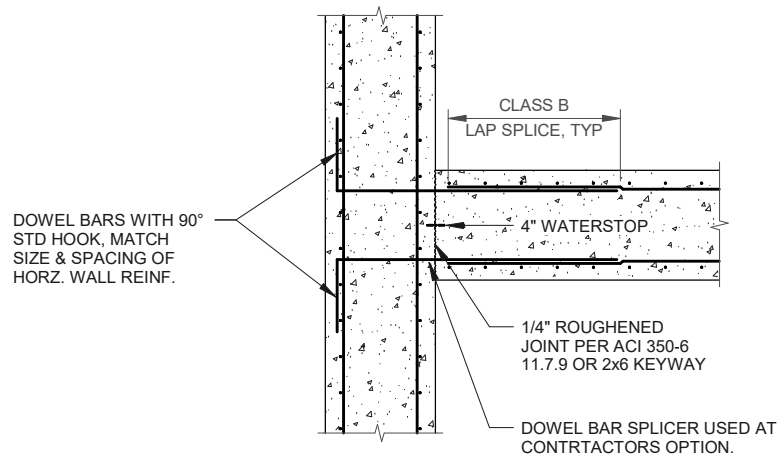
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**CONSTRUCTION
JOINT-CORNER**

DIVISION
D03
SECTION - DETAIL NO.
3000-700

JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:

WALL THICKNESS AND REINFORCEMENT LOCATIONS MAY VARY. SEE PLANS AND SECTIONS FOR THESE REQUIREMENT.

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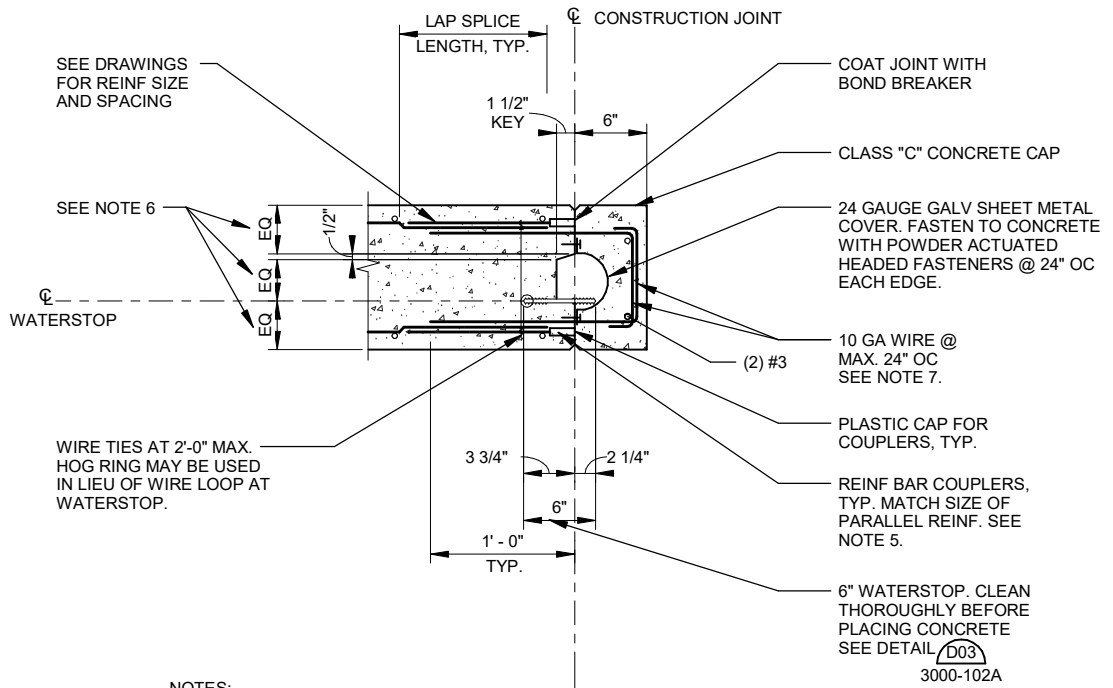
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

CONSTRUCTION JOINT-TEE

DIVISION
D03
SECTION - DETAIL NO.
3000-701

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. FOR WALLS, FORM ALL JOINT EDGES WITH 1/4" CHAMFER.
2. FOR SLABS, EDGE EXPOSED SLAB JOINT EDGES TO 1/4" RADIUS.
3. FOR UNDERSIDE OF EXPOSED SLABS, FORM JOINT EDGES WITH 1/4" CHAMFER.
4. PROVIDE CONCRETE COVER OVER REINF BARS AND REINF BAR COUPLERS PER UNLESS OTHERWISE INDICATED ON THE DRAWINGS. D03 3000-101
5. REINF BAR COUPLERS WITH FLANGES SHALL BE CLIPPED FLANGED TYPE. LOCATE CLIPPED SIDE OF FLANGE TOWARDS THE OUTSIDE FACE OF THE WALL OR SLAB.
6. IF WATERSTOP CONFLICTS WITH MAT OR REINF, ADJUST KEY LOCATION.
7. FIELD BEND 10 GAUGE WIRE AROUND #3 BARS AFTER SHEET METAL COVER IS INSTALLED OVER WATERSTOP.

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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

CONSTRUCTION JOINT AT FUTURE EXPANSION

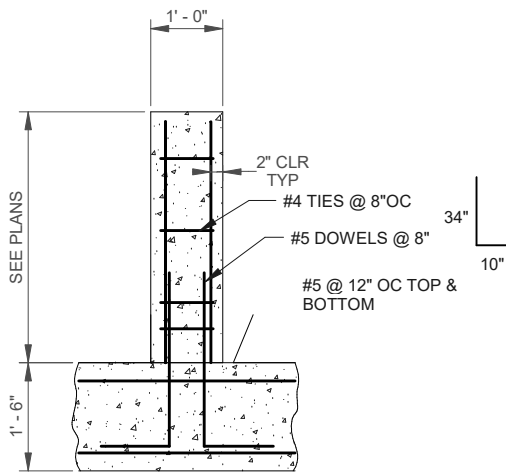
DIVISION

D03

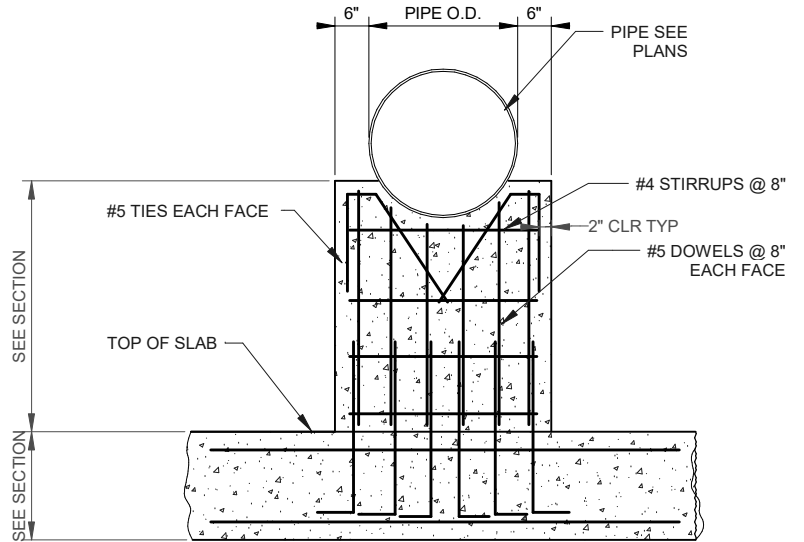
SECTION - DETAIL NO.

3000-703

DATE: 10/09/2023



SIDE VIEW



FRONT VIEW

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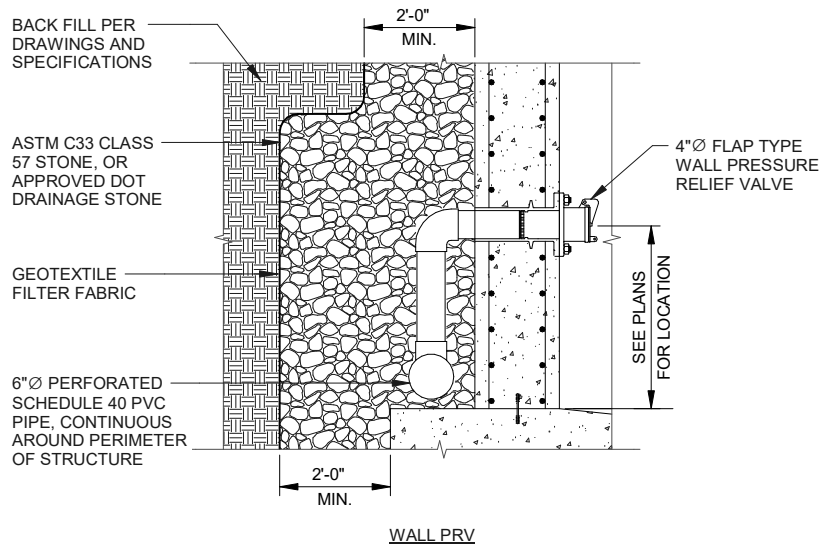
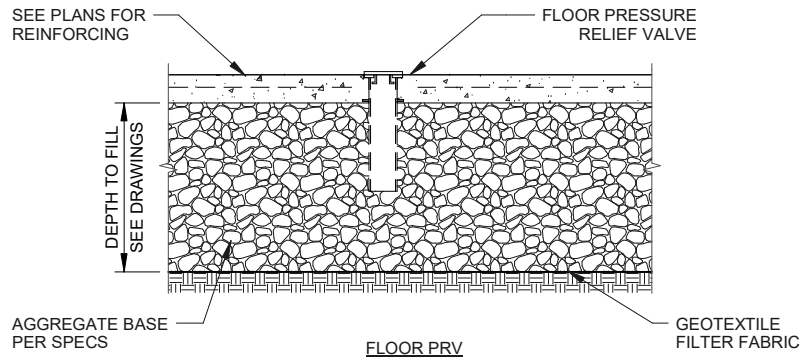
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

TYPICAL PIPE SUPPORT
PEDESTAL ON CONCRETE

DIVISION
D03
SECTION - DETAIL NO.
3000-801

DATE: 10/09/2023



NOTES:

1. PRESSURE RELIEF VALVE SHALL BE TROY VALVE A2550-RS OR APPROVED EQUAL.

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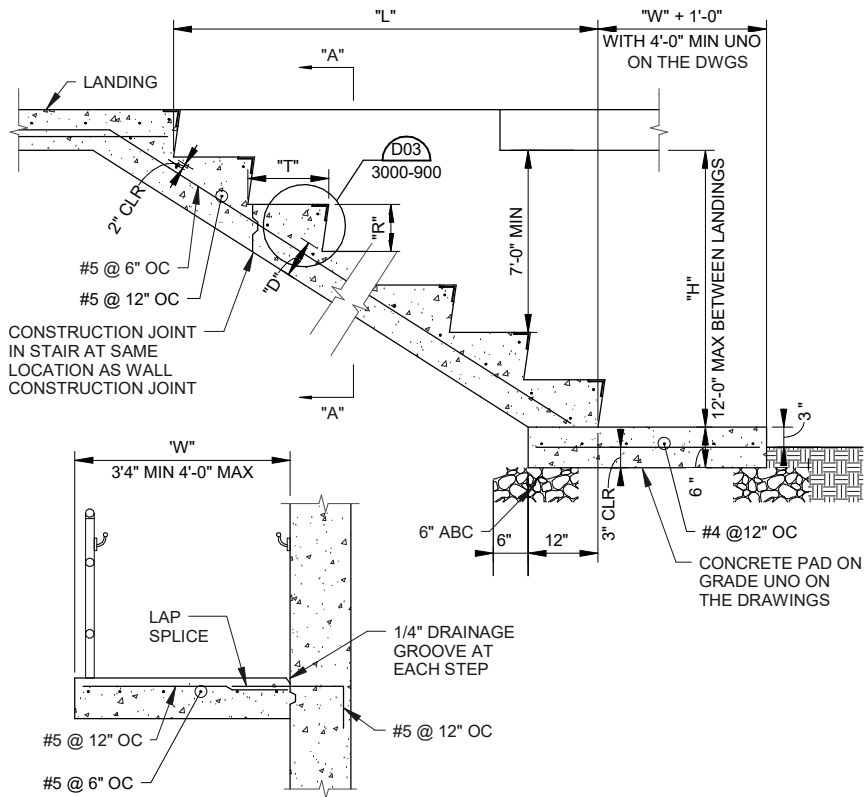
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

**PRESSURE RELIEF VALVE
SECTION**

DIVISION
D03
SECTION - DETAIL NO.
3000-804


DATE: 10/09/2023



CONSTRUCTION JOINT
IN STAIR AT SAME
LOCATION AS WALL
CONSTRUCTION JOINT

SECTION "A"

NOTES:

1. ALL STAIRS SHALL HAVE HANDRAILS ON EACH SIDE. SEE DRAWINGS FOR SPECIFIC GUARDRAIL TYPE AND MATERIAL TO BE PROVIDED.
2. CONSTRUCTION JOINT SHALL BE PLACED AT NEAREST RISER ADJACENT TO ALL JOINTS IN WALLS ON WHICH STAIRWAY IS SUPPORTED.
3. SEE DRAWINGS FOR DIMENSIONS "D" ("D" MIN = 8"), "H", "L", "R", "T" AND "W".
4. SEE DETAIL  FOR STAIR HANDRAIL.
5100-700

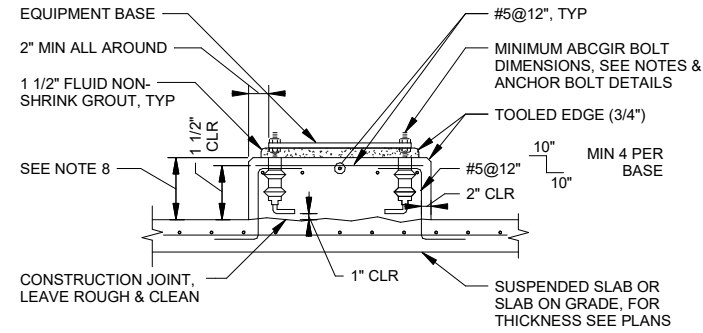
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS
JOB NO.: 19W10160

**CANTILEVERED CONCRETE
STAIR**

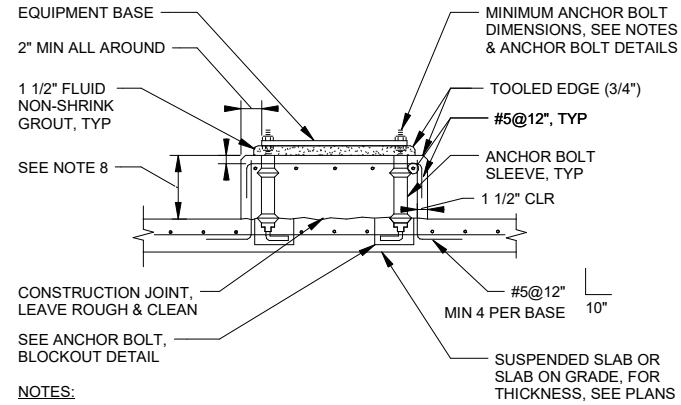
DIVISION
D03
SECTION - DETAIL NO.
3000-902
DATE: 10/09/2023



NOTES:

1. SEE EQUIPMENT BASE NOTES.
2. SEE TYPE B NOTES.

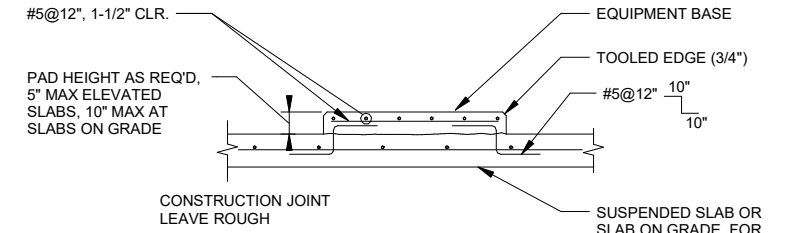
TYPE A



NOTES:

1. SEE EQUIPMENT BASE NOTES.
2. USE TYPE B BASE IN PLACE OF TYPE A WHERE REQUIRED BY EQUIPMENT OR STRUCTURE GEOMETRY. SEE NOTE 8.

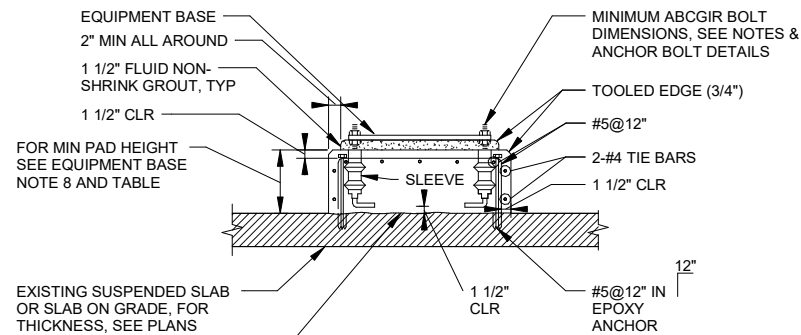
TYPE B



NOTES:

1. SEE EQUIPMENT BASE NOTES.
2. ANCHOR EQUIPMENT TO CONCRETE USING SST CONCRETE ANCHORS OR ANCHOR BOLTS SPECIFIED
3. PAD SHALL BE 6" LARGER THAN EQUIPMENT ON ALL SIDES UNO OR AS REQUIRED BY EQUIP. MFG.

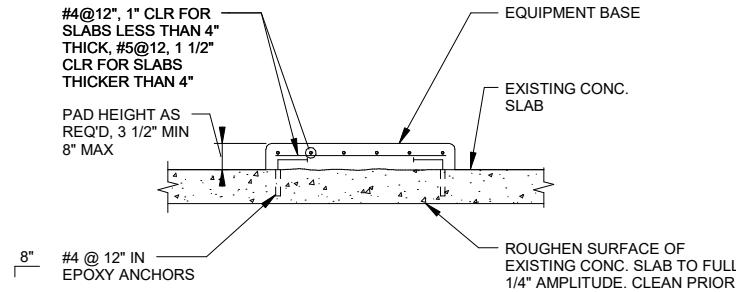
TYPE C



NOTES:

- SEE EQUIPMENT BASE NOTES.

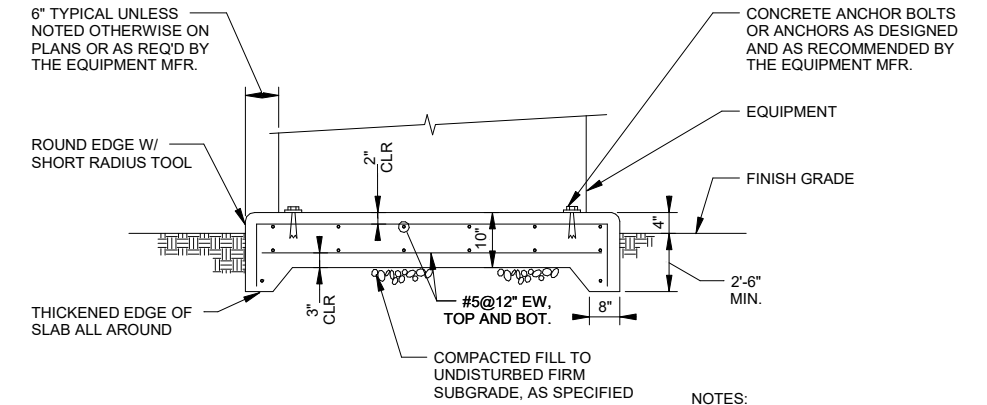
TYPE D



NOTES:

- ANCHOR EQUIPMENT TO CONCRETE USING SST CONCRETE ANCHORS SPECIFIED

TYPE E



NOTES:

- VERIFY PAD SIZE WITH EQUIPMENT MANUFACTURER PRIOR TO CONSTRUCTION.

TYPE F

EQUIPMENT BASE NOTES:

1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS. VERIFY ALL PAD SIZE REQUIREMENTS WITH SHOP DRAWINGS OF ACTUAL EQUIPMENT FURNISHED AND OBTAIN ENGINEER'S APPROVAL OF FINAL DIMENSIONS.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A ONE PIECE TEMPLATE, MATCHING THE BASE PLATE, WHILE PAD IS BEING POURED.
3. ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
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.

5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.
6. WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. IF LEFT IN THE WEDGES OR SHIMS SHALL NOT BE EXPOSED TO VIEW.
7. HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT OUT OF SLAB (SEE TABLE BELOW). WHERE EQUIPMENT OR PIPING ELEVATION REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOW, USE TYPE B WITH BLOCKOUT.

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

8. TYPE "D" PADS MAY BE SUBSTITUTED FOR TYPE "A" PADS FOR LOCATIONS APPROVED IN WRITING BY THE ENGINEER.
9. SEE ANCHOR BOLT AND BLOCKOUT DETAILS.

HILLIARD N. FLETCHER WATER RESOURCE
RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

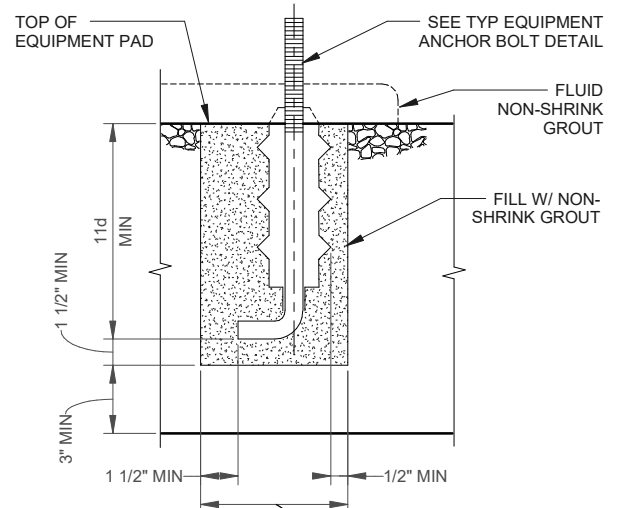
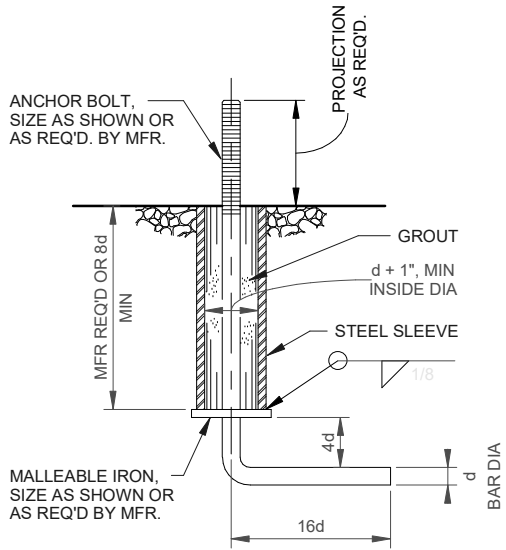
EQUIPMENT BASE
DETAIL

DIVISION
D03
SECTION - DETAIL NO.
3000-1000



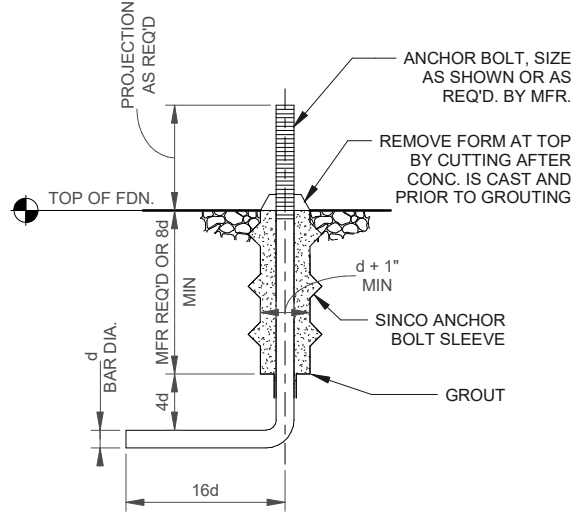
JOB NO.: 19W10160

DATE: 10/09/2023

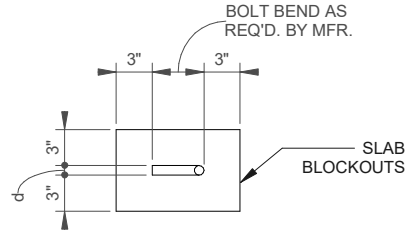


BLOCKOUT IN NEW CONC. OR CORED HOLE IN EXST. CONC. W/ DIA. REQ'D. FOR A MIN CLR. OF 1/2" ALL AROUND

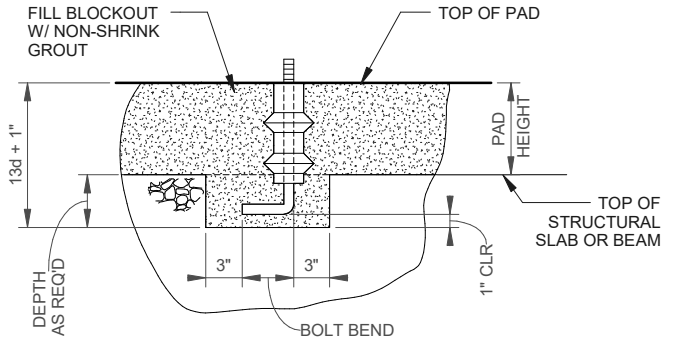
ANCHOR BOLT BLOCKOUT
ANCHOR BOLT BLOCKOUT



MACHINERY ANCHOR BOLT DETAIL



PLAN



ELEVATION

ANCHOR BOLT BLOCKOUT

NOTES:

1. SINCO PRODUCTS INC. EAST HAMPTON, CT 1-800-243-6753.
2. REFER TO EQUIPMENT BASE NOTES.
3. 3d WHERE MANUFACTURER VERIFIES NO BOLT PULLOUT RESISTANCE REQUIRED.

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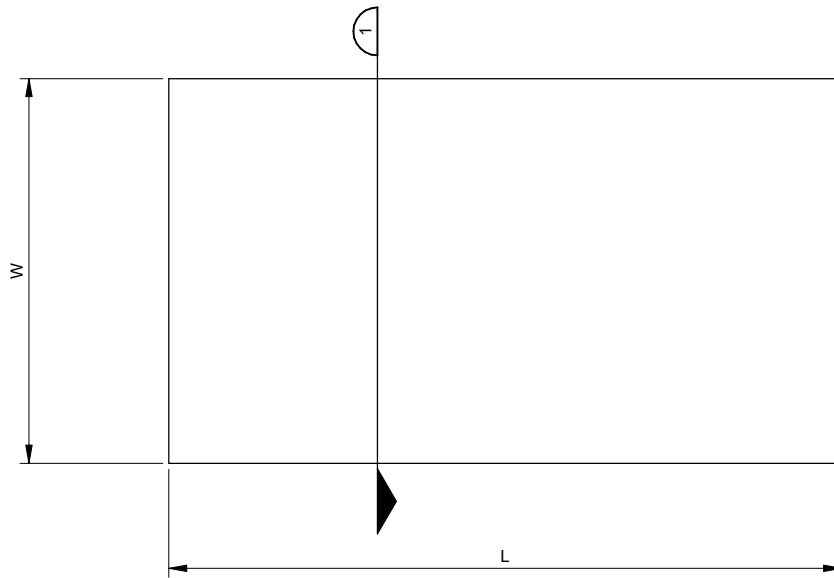
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

ANCHOR BOLT DETAIL

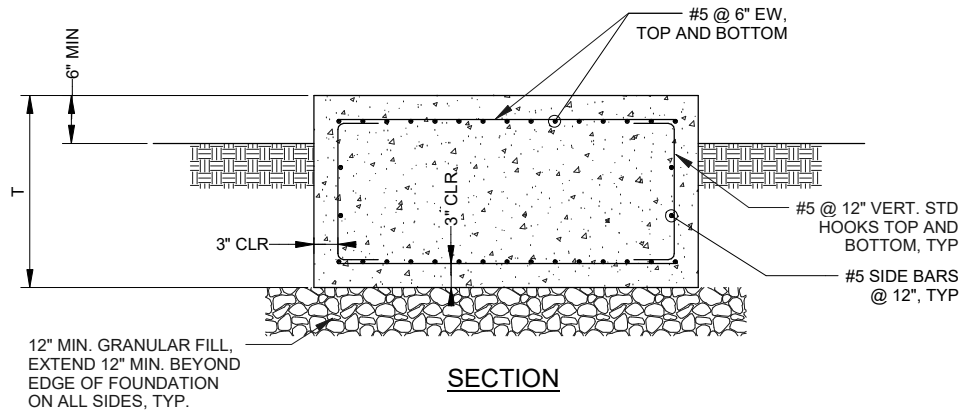
DIVISION
D03
SECTION - DETAIL NO.
3000-1001

JOB NO.: 19W10160

DATE: 10/09/2023



PLAN



SECTION

LOCATION	L	W	T
TREATMENT PLANT NO. 1 (EAST)	28' - 0"	10' - 6"	3' - 0"
TREATMENT PLANT NO. 2 (WEST)	27' - 0"	13' - 0"	3' - 3"

NOTES:

- DISTANCE FROM CENTER OF ANCHOR RODS TO EDGE OF CONCRETE SHALL BE MINIMUM OF 6". ADJUST FOUNDATION SIZE LARGER THAN LISTED ABOVE AS REQUIRED.

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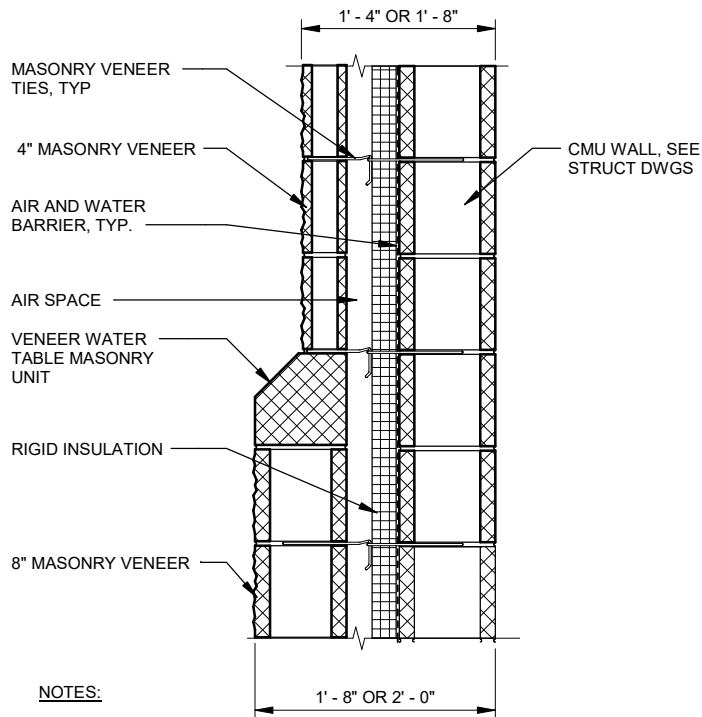
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

GENERATOR FOUNDATION

DIVISION
D03
SECTION - DETAIL NO.
3300-901

JOB NO.: 19W10160

DATE: 10/09/2023



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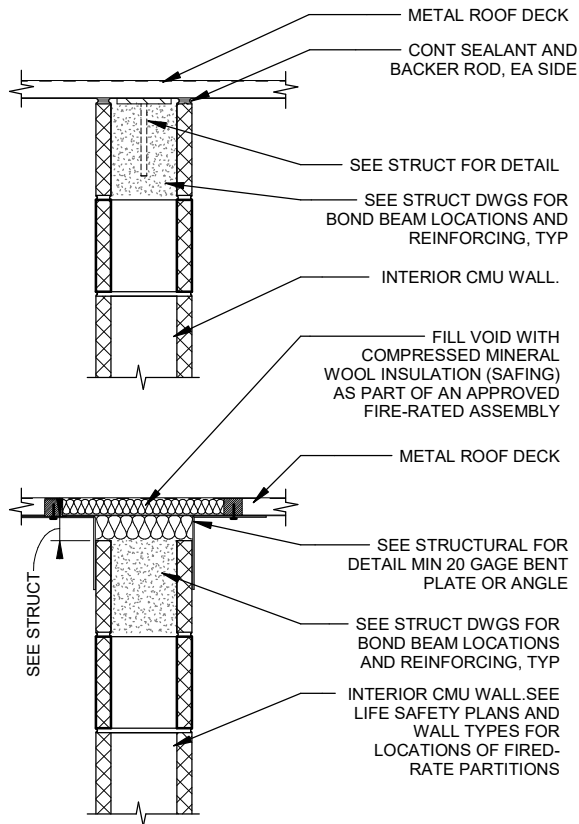
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

MASONRY VENEER WATER
 TABLE DETAIL

DIVISION
D04
 SECTION - DETAIL NO.
0421-001

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. MAINTAIN FIRE-RATED ASSEMBLY AT FIRE-RATED WALLS. SEE SECTION FOR SYSTEM.
2. DETAILS VARY SLIGHTLY WHEN DECK ORIENTED OPPOSITE SPAN. DIRECTION. TOP WALLS MUST BE SEALED FOR FIRE-RATED CONSTRUCTION AND FOR ENVIRONMENTAL SEPARATION.

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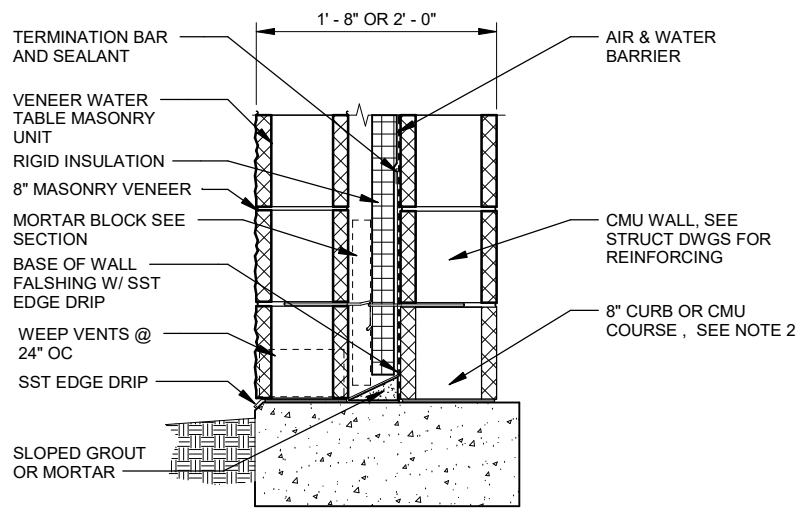
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

HEAD OF WALLS DETAILS

DIVISION
D04
SECTION - DETAIL NO.
0421-002

DATE: 10/09/2023



NOTES:

1. EXTEMND BASE FLASHING 6" HIGHER THAN MORTAR BLOCK MATERIAL
2. SEE STRUCT DWGS FOR LOCATION OF CURBS.

REV	DATE	DESCRIPTION	BY
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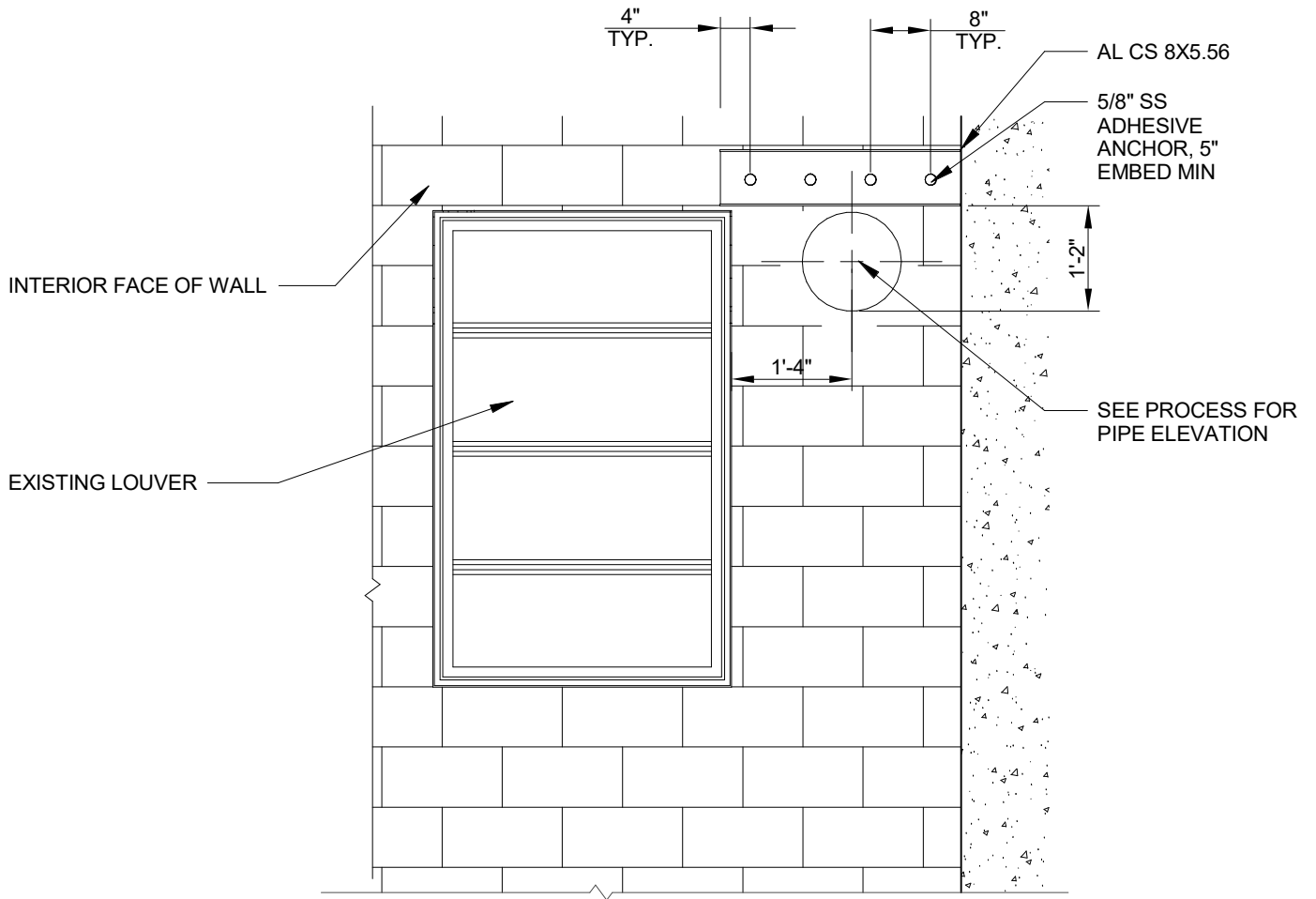
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYP BASE OF WALL DETAIL

DIVISION
D04
 SECTION - DETAIL NO.
0421-003

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE CONSTRUCTION.
2. SCREEN TUBES MAY BE USED FOR ADHESIVE ANCHORS IF CELLS ARE HOLLOW.
3. BACK OF CHANNEL SHALL BE COATED WITH BITUMINOUS PAINT, SEE SPEC 05 50 00.

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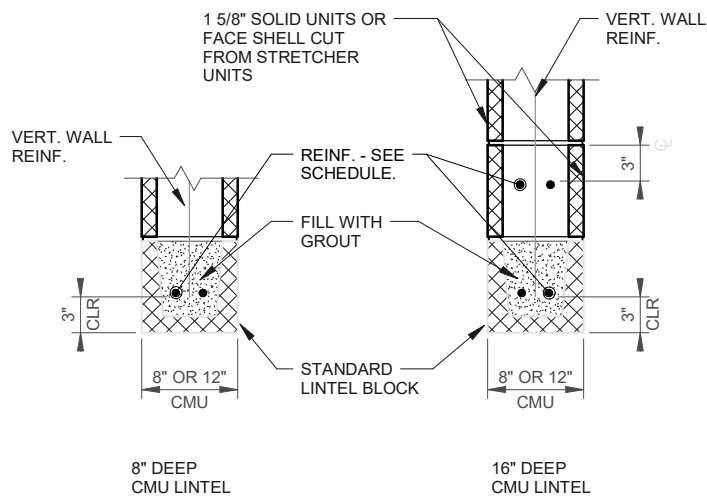
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

RETROFIT LINTEL

DIVISION
D04
SECTION - DETAIL NO.
2200-001

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. EXTEND LINTEL BEAM 8" BEYOND OPENING EACH END.
2. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

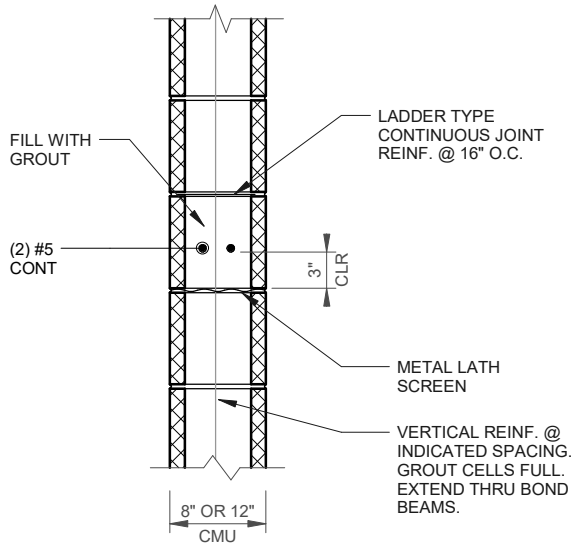
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS
JOB NO.: 19W10160

TYPICAL CMU LINTEL BEAMS

DIVISION
D04
SECTION - DETAIL NO.
2200-002
DATE: 10/09/2023



NOTE:
SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

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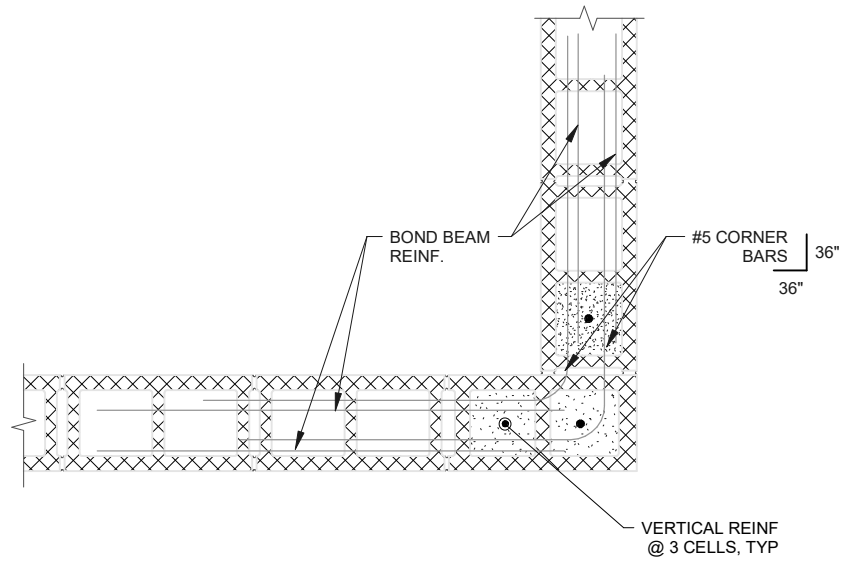
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

TYPICAL CMU BOND BEAM
DETAIL

DIVISION
D04
SECTION - DETAIL NO.
2200-003

DATE: 10/09/2023



NOTES:

1. CENTER VERTICAL REINF. IN CELL AND EXTEND THRU BOND BEAMS. LAP 36" MIN AS REQ'D.
2. FILL REINF. CELLS SOLID WITH GROUT.
3. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

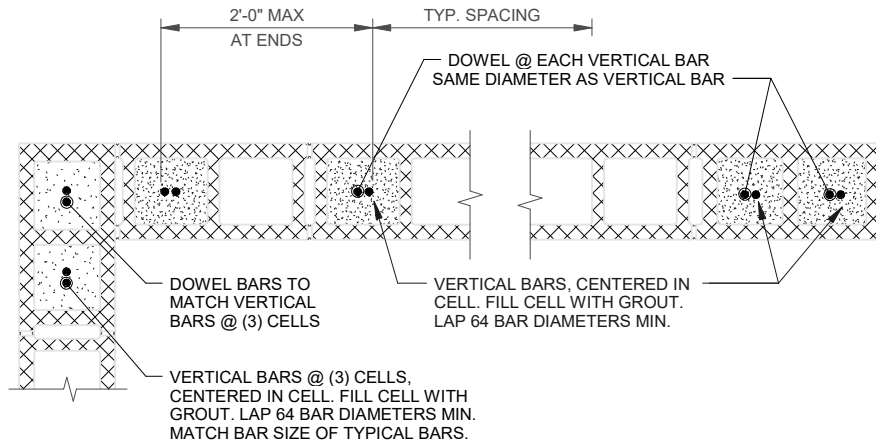
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL CMU BOND BEAM
 CORNER REINFORCEMENT

DIVISION
D04
 SECTION - DETAIL NO.
2200-004



CORNER

TYPICAL BARS

END OF WALL OR
JAMB AT OPENING

NOTES:

1. PROVIDE MIN. HORIZONTAL WALL REINF. - LADDER TYPE STANDARD WEIGHT WELDED WIRE MASONRY REINF. @ 16" O.C. VERTICALLY, UNLESS SHOWN OTHERWISE.
2. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

REV	DATE	DESCRIPTION	BY
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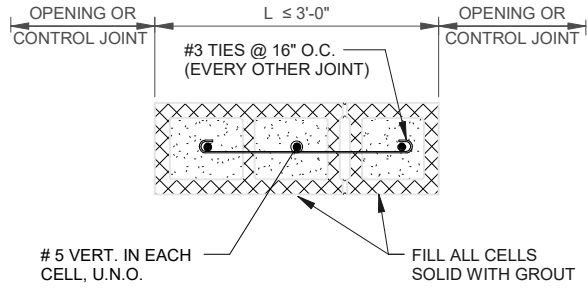
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

TYPICAL CMU WALL
REINFORCEMENT

DIVISION
D04
SECTION - DETAIL NO.
2200-005

DATE: 10/09/2023



NOTES:

1. THIS DETAIL TYPICAL FOR PIER OR WALL SECTION $\leq 3'-0"$ WIDTH, UNLESS SHOWN OTHERWISE.
2. REINFORCING SHOWN FOR WALL PIERS BOUNDED BY WINDOW OPENINGS, DOOR OPENINGS, LOUVER OPENINGS OR CONTROL JOINTS.
3. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

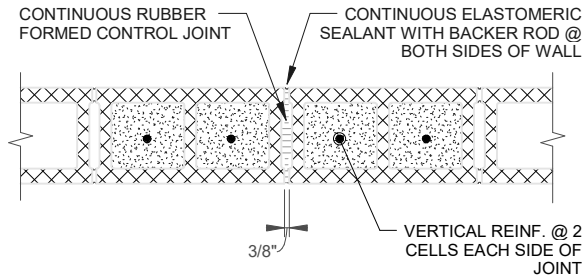
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS
JOB NO.: 19W10160

TYPICAL CMU PIER DETAIL

DIVISION
D04
SECTION - DETAIL NO.
2200-007
DATE: 10/09/2023



NOTES:

1. CENTER VERTICAL REINF. IN CELL AND EXTEND THRU BOND BEAMS. LAP 36" MIN AS REQ'D.
2. VERTICAL REINF. BAR SIZE SHALL MATCH VERTICAL REINF. OF TYPICAL CMU WALL.
3. FILL REINF. CELLS SOLID WITH GROUT.
4. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

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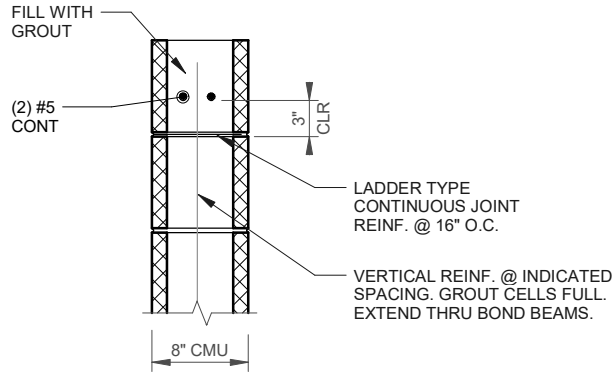
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL CMU CONTROL JOINT

DIVISION
D04
SECTION - DETAIL NO.
2200-100

JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:
SEE STRUCTURAL DRAWINGS FOR REINFORCED
HOLLOW CMU NOTES.

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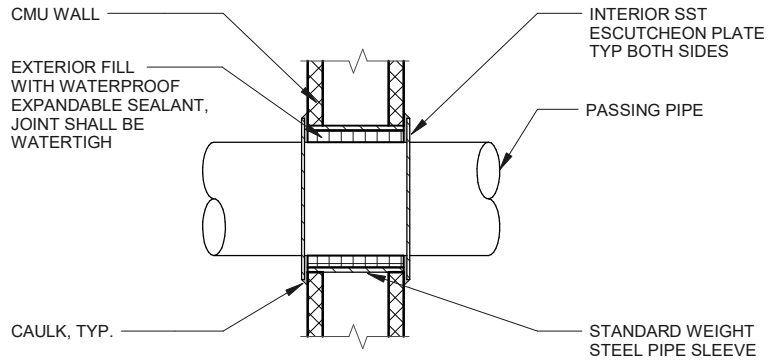
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL CMU SILL DETAIL

DIVISION
D04
SECTION - DETAIL NO.
2200-101

JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:
SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

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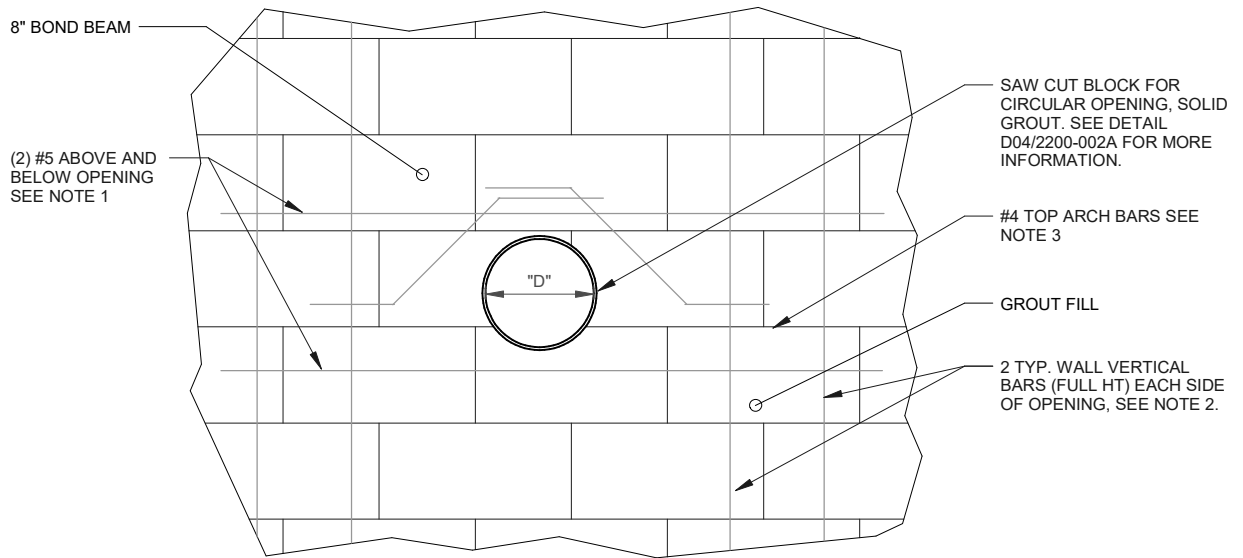


HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

CMU WALL PIPE PENETRATION

DIVISION
D04
SECTION - DETAIL NO.
2200-103

JOB NO.: 19W10160 DATE: 10/09/2023



NOTES:

1. AT ADJACENT OPENINGS WITH LESS THAN 8'-0" WALL BETWEEN, CONTINUE HORIZONTAL REINFORCING TO 2'-8" BEYOND FURTHEST OPENING.
2. LOCATE VERTICAL BARS CENTERED IN 2 ADJACENT CELLS IN 8" WALLS, AND EACH FACE IN SINGLE GROUT CELL IN 12" WALLS. LAP 48 BAR DIAMETERS WITH MATCHING FOUNDATION DOWELS.
3. LOCATE #4 ARCH BARS CENTERED IN 8" WALLS, AND EACH FACE IN 12" WALLS.
4. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

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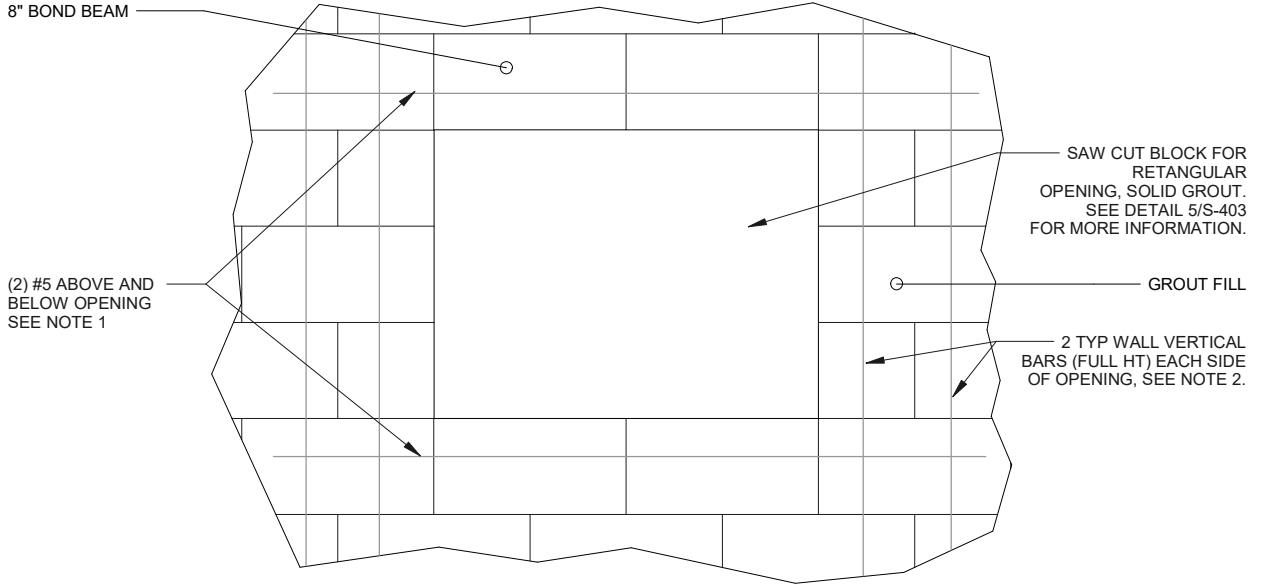
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

**CMU PIPE OPENING
REINFORCING**

DIVISION
D04
SECTION - DETAIL NO.
2200-104

DATE: 10/09/2023



NOTES:

1. AT ADJACENT OPENINGS WITH LESS THAN 8'-0" WALL BETWEEN, CONTINUE HORIZONTAL REINFORCING TO 2'-8" BEYOND FURTHEST OPENING.
2. LOCATE VERTICAL BARS CENTERED IN 2 ADJACENT CELLS IN 8" WALLS, AND EACH FACE IN SINGLE GROUT CELL IN 12" WALLS. LAP 48 BAR DIAMETERS WITH MATCHING FOUNDATION DOWELS.
3. LOCATE #4 ARCH BARS CENTERED IN 8" WALLS, AND EACH FACE IN 12" WALLS.
4. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

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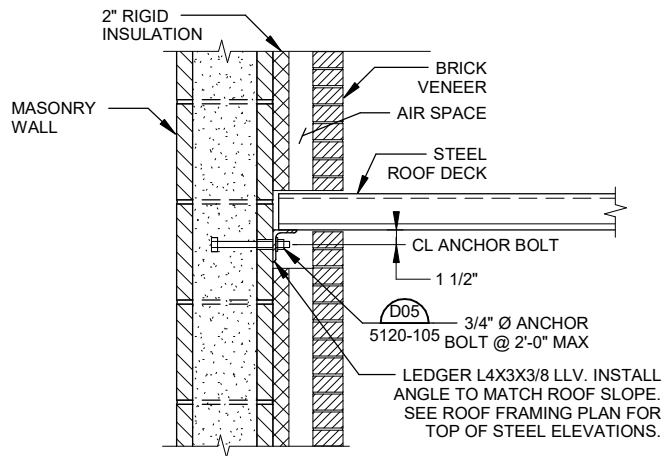
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

CMU SQUARE OPENING
REINFORCING

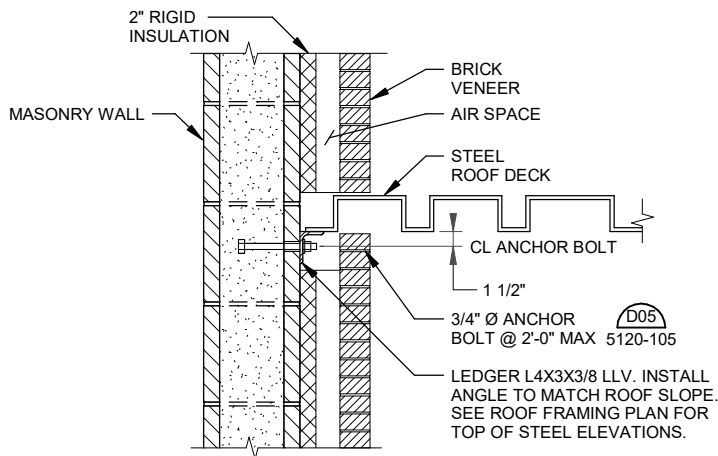
DIVISION
D04
SECTION - DETAIL NO.
2200-104A

JOB NO.: 19W10160

DATE: 10/09/2023



ROOF DECK RIBS PERPENDICULAR TO WALL



ROOF DECK RIBS PARALLEL TO WALL

NOTES:

1. FIRST ANCHOR BOLT AT EACH END OF SECTION OF ANGLE SHALL BE 6" OR LESS FROM END OF ANGLE.
2. ANGLE SHALL STOP AT EACH SIDE OF CONTROL AND EXPANSION JOINTS. GAP BETWEEN ENDS OF ANGLES SHALL BE EQUAL WIDTH OF JOINT.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

ROOF DECK TO MASONRY
WALL CONNECTION WITH
BRICK VENEER

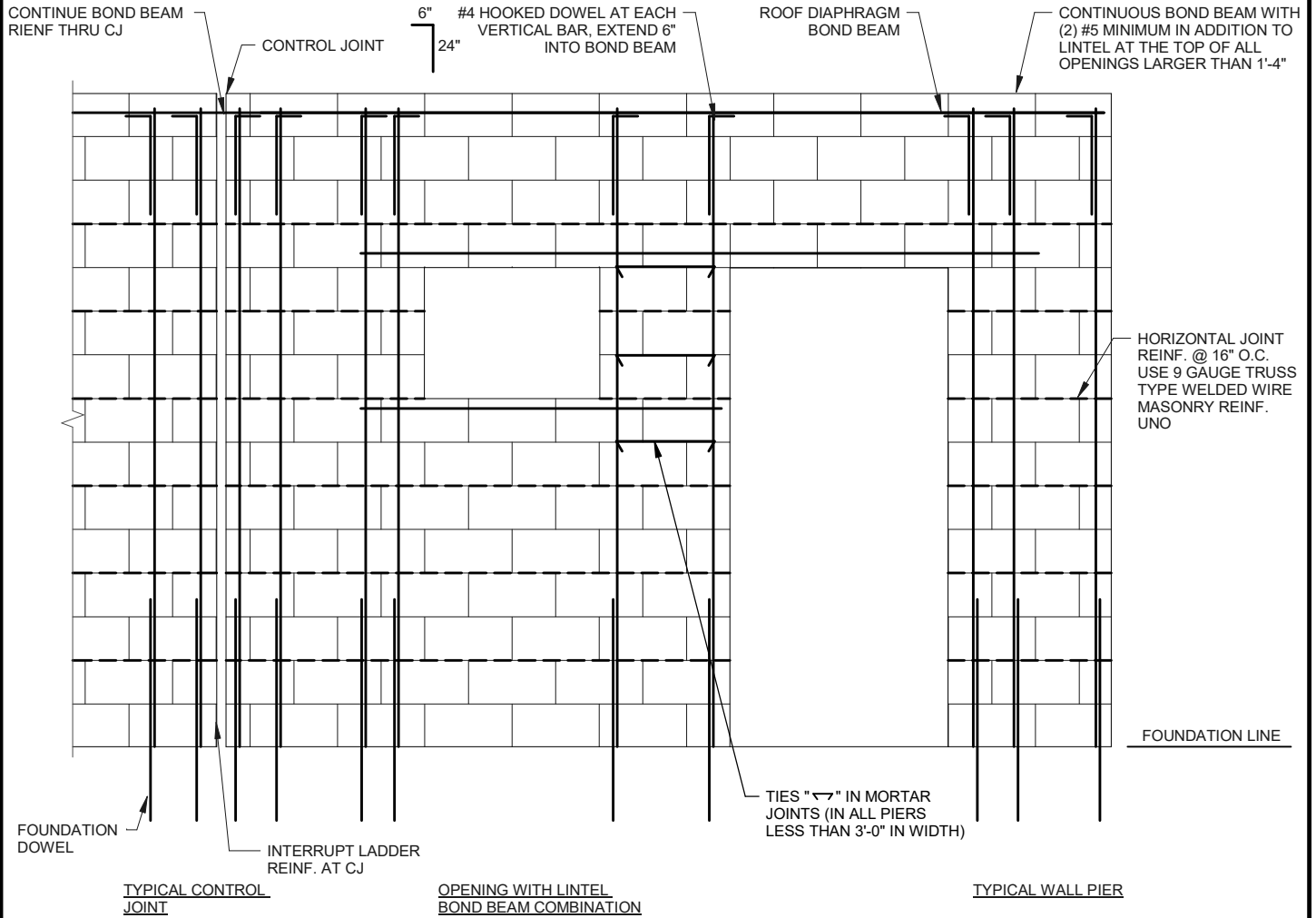
DIVISION

D04


SECTION - DETAIL NO.

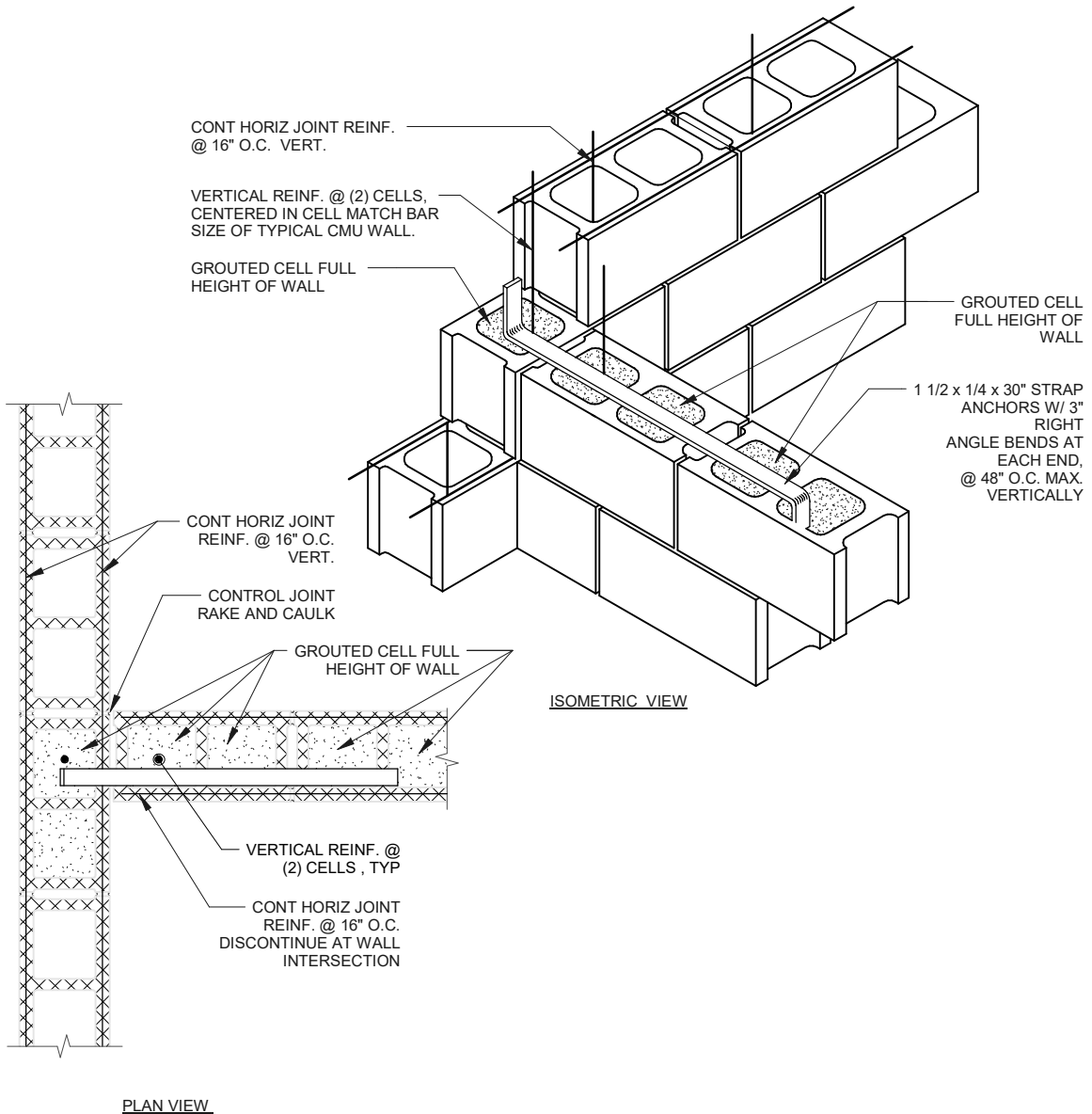
2200-204

DATE: 10/09/2023



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	HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY TUSCALOOSA, AL PHASE II IMPROVEMENTS	REINF. AT OPENINGS DETAIL	DIVISION D04
	JOB NO.: 19W10160		SECTION - DETAIL NO. 2200-300
DATE: 10/09/2023			



- NOTES:
1. CENTER VERTICAL REINF. IN CELL AND EXTEND THRU BOND BEAMS. LAP 36" MIN AS REQ'D.
 2. FILL REINF. CELLS SOLID WITH GROUT.
 3. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

REV	DATE	DESCRIPTION	BY
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

**TYPICAL CMU BOND BEAM
INTERSECTION
REINFORCEMENT**

DIVISION
D04
SECTION - DETAIL NO.
2200-302

DATE: 10/09/2023

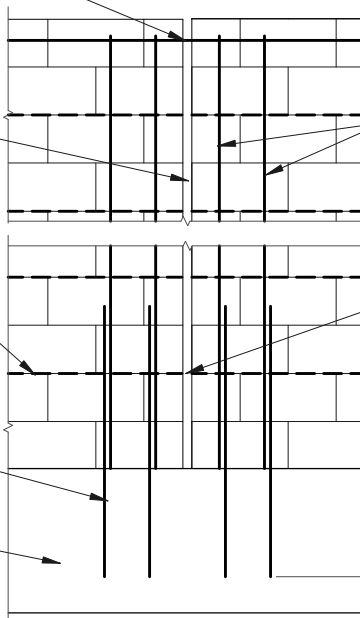
BOND BEAM @ ROOF
DIAPHRAGM OR AS
INDICATED. REINFORCEMENT
CONTINUES THROUGH CJ

WALL CONTROL JOINT
(CJ)

BEGIN HORIZ. LADDER
REINF. AT TOP OF SECOND
BLOCK COURSE ABOVE
TOP OF FOUNDATION
SPACE @ 16" O.C.

DOWELS MATCHING
WALL REINFORCING

FOUNDATION, TYP



(2) #5 BARS IN
GROUTED CELLS EACH
SIDE OF CJ, TYP

INTERRUPT LAADDER
REINF. AT CJ

TOP OF SLAB
SEE PLAN

1' - 6"
MIN.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL WALL REINFORMENT
AT WALL JOIST DETAIL

DIVISION
D04
SECTION - DETAIL NO.
2200-304

JOB NO.: 19W10160

DATE: 10/09/2023

(2) VERT BARS FULL HEIGHT GROUT
CELL SOLID FULL HEIGHT EACH SIDE
OF JOINT, TYP

CONTROL JOINT
MATERIAL

8" OR 12" CMU BLOCK

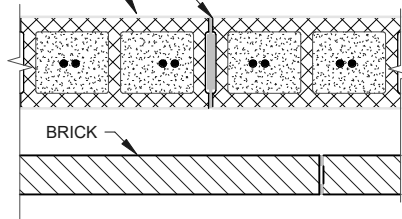
BRICK

PROVIDE NEOPRENE
PAD TO PREVENT MORTAR AND
DEBRIS FROM CLOGGING JOINT

CONT. SEALANT

CONT. SEALANT
W/ BACKER ROD

DETAIL A



DETAILS AND SPECIFICATIONS FOR DETAIL B
ARE THE SAME AS DETAIL A.
THE ONLY DIFFERENCE IS THE LOCATION
OF THE JOINTS.

DETAIL B

NOTES:

1. CENTER VERTICAL REINF. IN CELL AND EXTEND THRU BOND BEAMS. LAP 36" MIN AS REQ'D.
2. VERTICAL REINF. BAR SIZE SHALL MATCH VERTICAL REINF. OF TYPICAL CMU WALL.
3. FILL REINF. CELLS SOLID WITH GROUT.
4. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

REV	DATE	DESCRIPTION	BY
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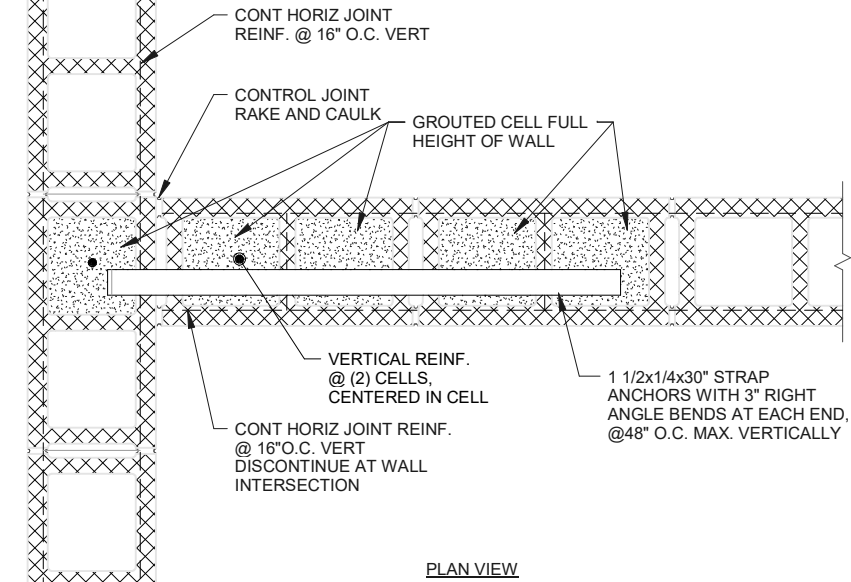
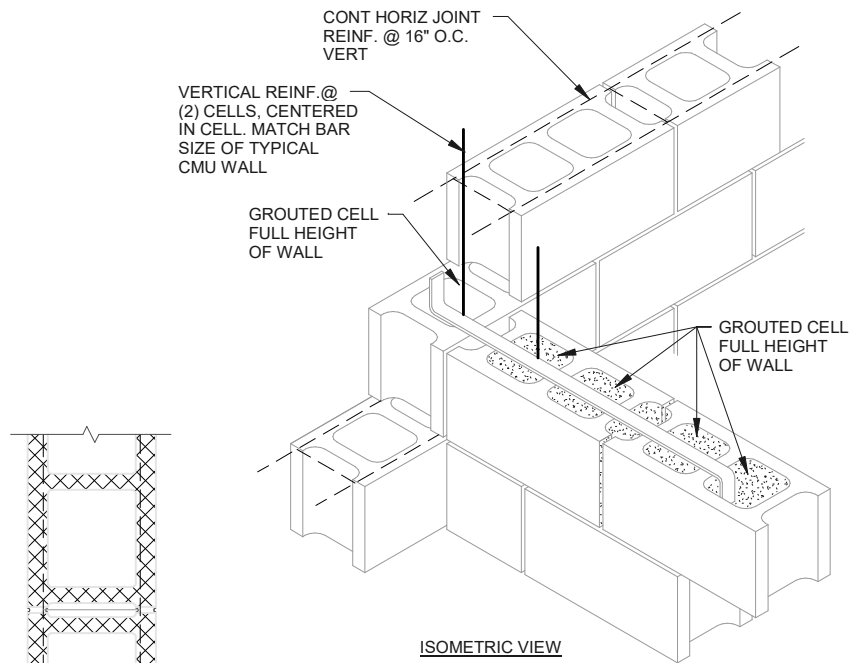
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

PLAN MASONRY JOINT

DIVISION
D04
SECTION - DETAIL NO.
2200-306

JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:
SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW HMU NOTES.

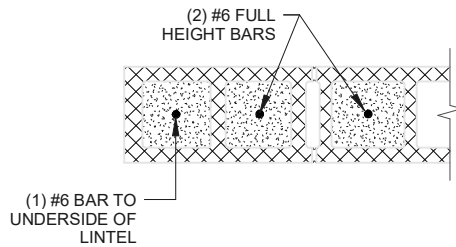
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS
JOB NO.: 19W10160

TYPICAL CONNECTION AT CMU WALL INTERSECTION

DIVISION
D04
SECTION - DETAIL NO.
2200-307
DATE: 10/09/2023



- NOTES:
1. CENTER VERTICAL REINF. IN CELL AND EXTEND THRU BOND BEAMS. LAP 36" MIN AS REQ'D.
 2. FILL REINF. CELLS SOLID WITH GROUT.
 3. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

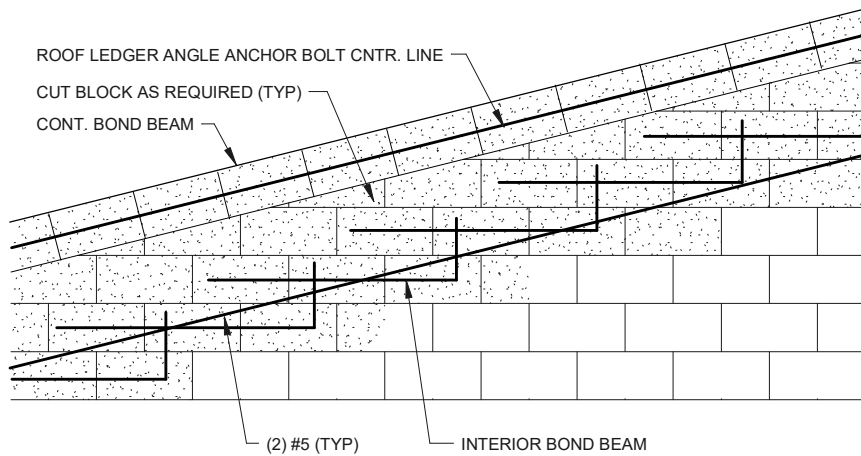
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYP CMU OVERHEAD DOOR
 JAMB

DIVISION
D04
 SECTION - DETAIL NO.
2200-308



NOTES:

1. VERTICAL REINF. NOT SHOWN FOR CLARITY
2. SHADED AREA REPRESENT GROUTED CELLS.

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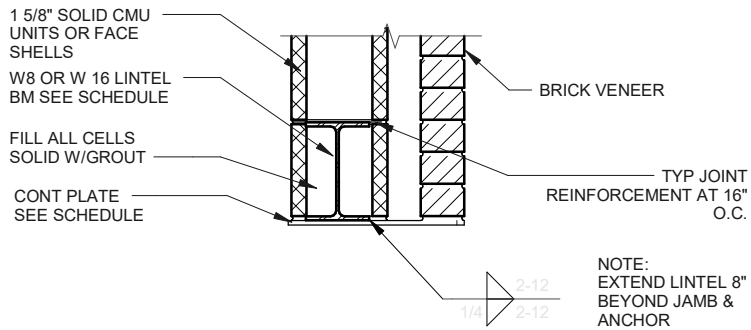
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

CONDITION WITH A PARAPET
 WALL DETAIL

DIVISION
D04
 SECTION - DETAIL NO.
2200-309

JOB NO.: 19W10160

DATE: 10/09/2023



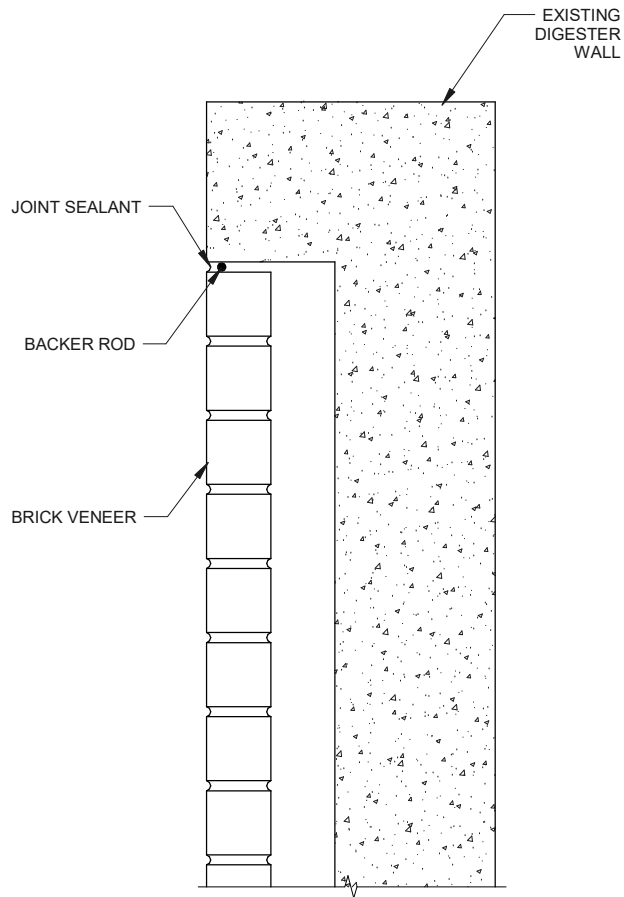
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYP STEEL BEAM LINTEL WITH
BRICK

DIVISION
D04
SECTION - DETAIL NO.
2200-402



NOTES:

1. PROVIDE JOINT SEALANT BETWEEN ALL VENEER, NEW OR EXISTING, AND CONCRETE JOINTS.
2. SEE SPEC 07 92 00 FOR JOINT SEALANT REQUIREMENTS.
3. SEE SPEC 40 26 13 FOR VENEER REQUIREMENTS.

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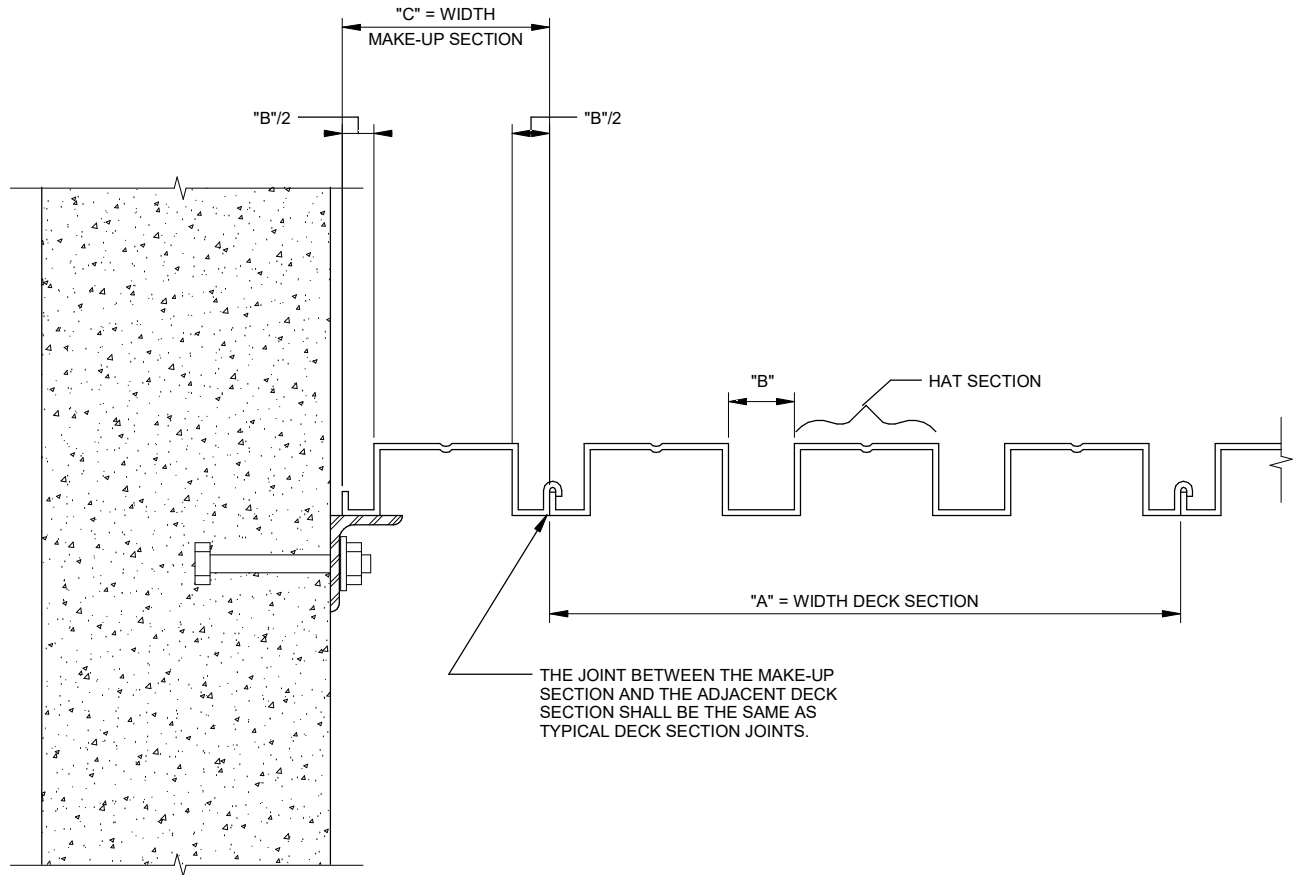
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

VENEER-CONCRETE JOINT
FILLER

DIVISION
D04
SECTION - DETAIL NO.
2200-600

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. GAUGE OF MAKE-UP SECTION SHALL BE THE SAME AS THE ROOF DECK SECTION GAUGE AS INDICATED ON THE DRAWINGS. IF "C" IS GREATER THAN $\frac{2}{3}$ "A", THE MAKE-UP SECTION SHALL CONSIST OF THREE HAT SECTIONS. TWO HAT SECTIONS ARE REQUIRED WHEN "C" IS GREATER THAN $\frac{1}{3}$ "A", AND ONE HAT SECTION IS REQUIRED WHEN "C" IS LESS THAN $\frac{1}{3}$ "A".
2. SEE ROOF FRAMING PLAN FOR DECK FASTENING.
3. ROOFING AND INSULATION NOT SHOWN FOR CLARITY.

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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

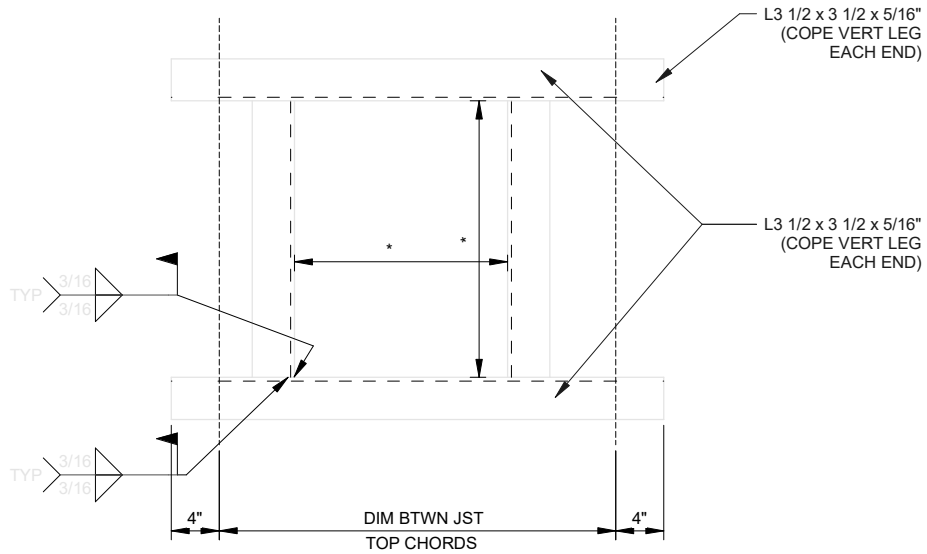
JOB NO.: 19W10160

**ROOF DECK MAKE-UP
SECTION**

DIVISION
D05
SECTION - DETAIL NO.
3100-001

DATE: 10/09/2023

NOTE: DECK SUPPLIER TO PROVIDE 1 1/2" HIGH, 20 GAGE CHANNEL CLOSURE
ALONG NON-BEARING SIDES OF DECK.



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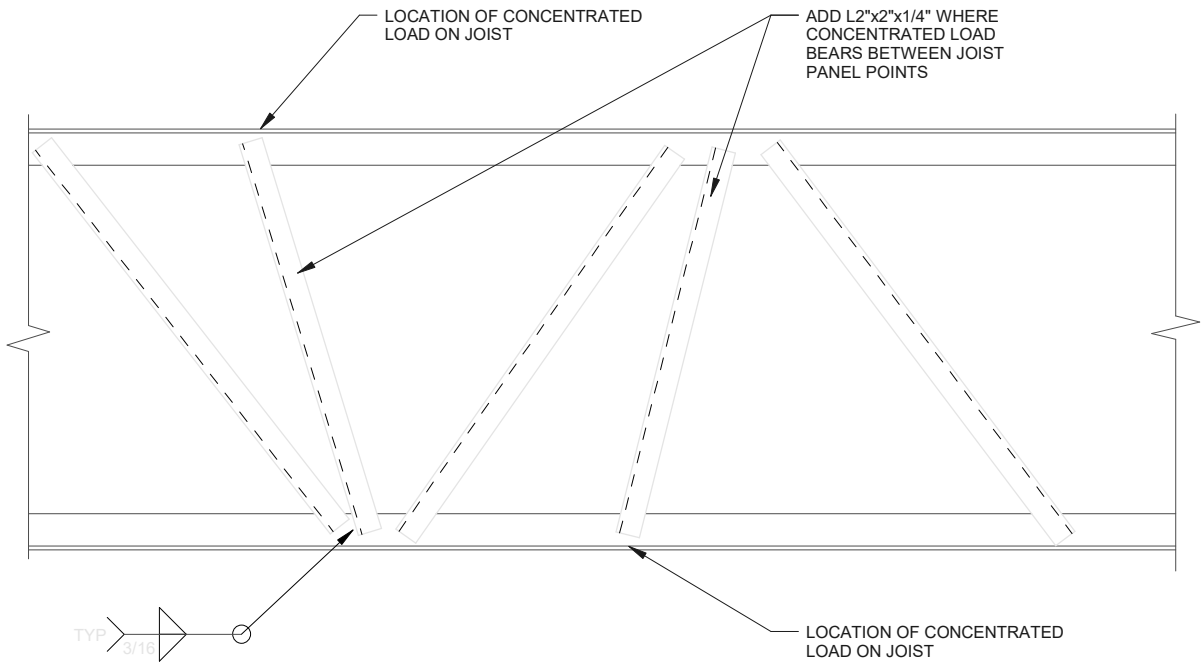
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**DECK OPENING
REINFORCEMENT DETAIL**

DIVISION
D05
SECTION - DETAIL NO.
5000-401

JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:
TYP AT ALL NON-BEARING WALLS

REV	DATE	DESCRIPTION	BY
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**JOIST REINFORCEMENT
DETAIL**

DIVISION
D05
SECTION - DETAIL NO.
5000-402

JOB NO.: 19W10160

DATE: 10/09/2023

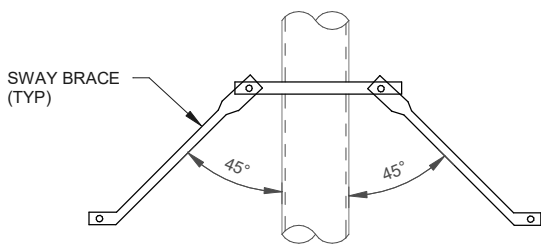


FIGURE "A"

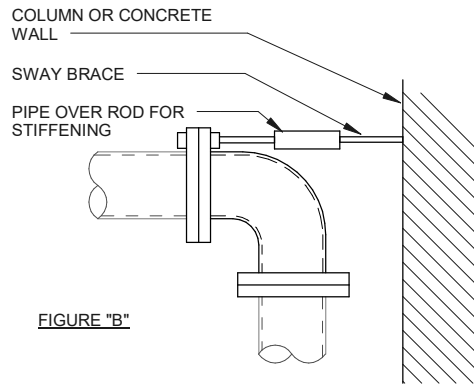
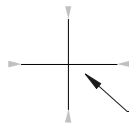


FIGURE "B"

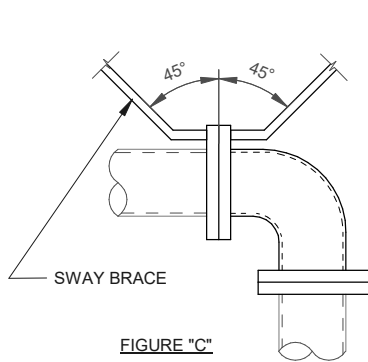


FIGURE "C"

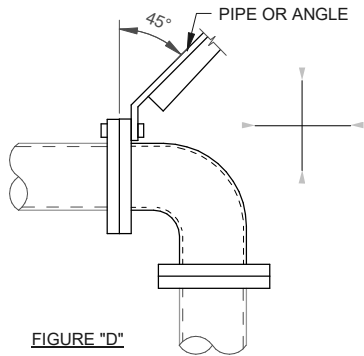


FIGURE "D"

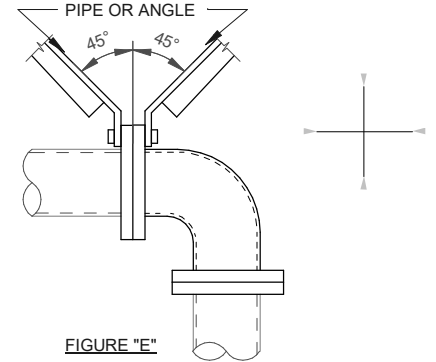


FIGURE "E"

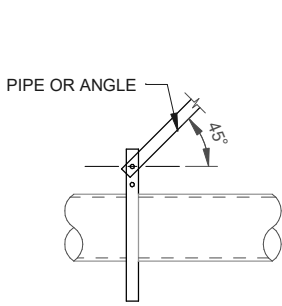


FIGURE "F"

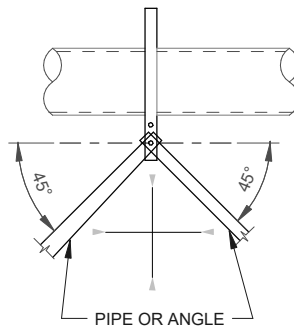


FIGURE "G"

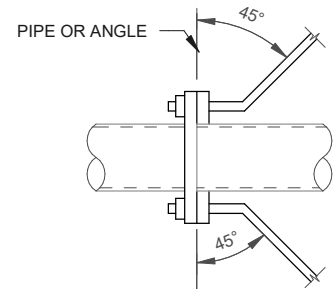


FIGURE "H"

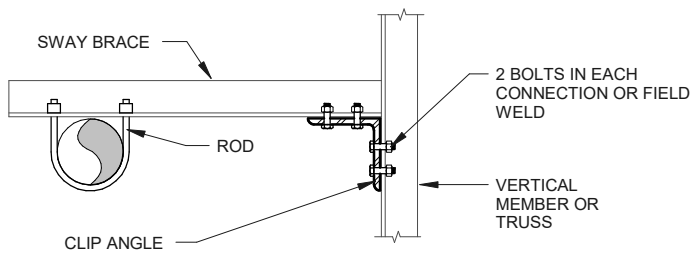


FIGURE "I"

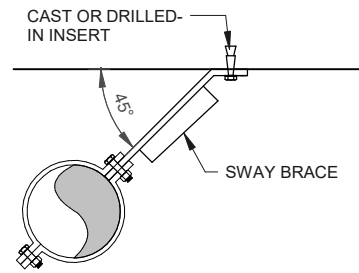


FIGURE "J"

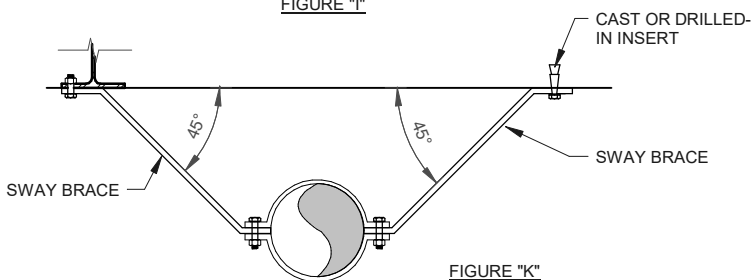


FIGURE "K"

REV	DATE	DESCRIPTION	BY
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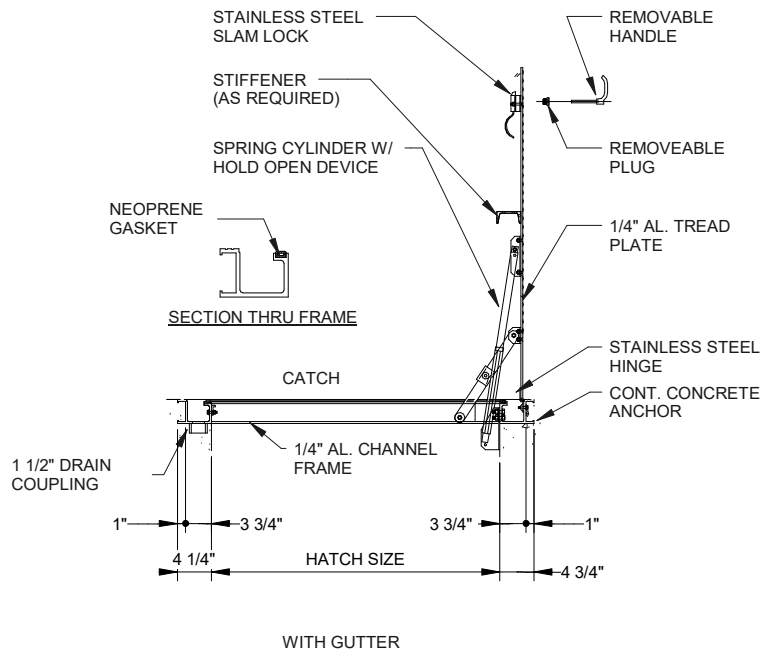
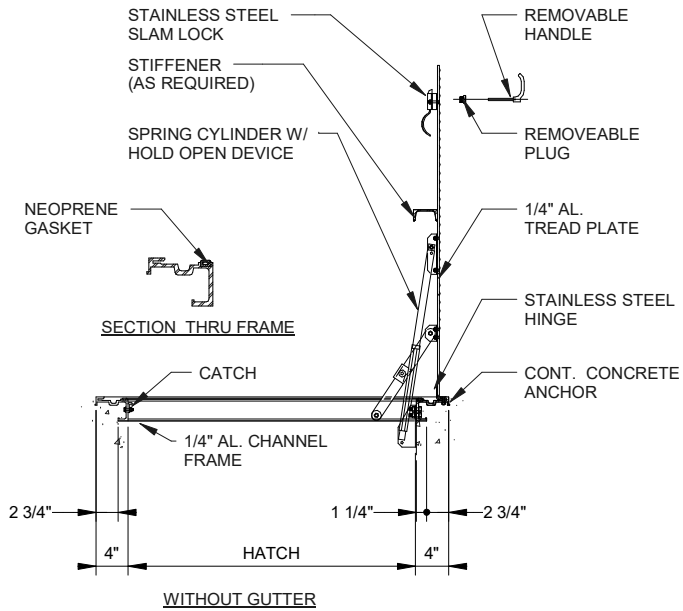
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

PIPE RESTRAINTS

DIVISION
D05
 SECTION - DETAIL NO.
5000-500

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. PROVIDE INTEGRAL SAFETY GRATING ONLY WHERE SPECIFICALLY INDICATED ON PLANS.
2. ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR ISOLATORS OR OTHER APPROVED MATERIAL.
3. ADDITIONAL REQUIREMENT AND LOADS PER SPECIFICATIONS.

REV	DATE	DESCRIPTION	BY
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

SINGLE ALUMINUM HATCH

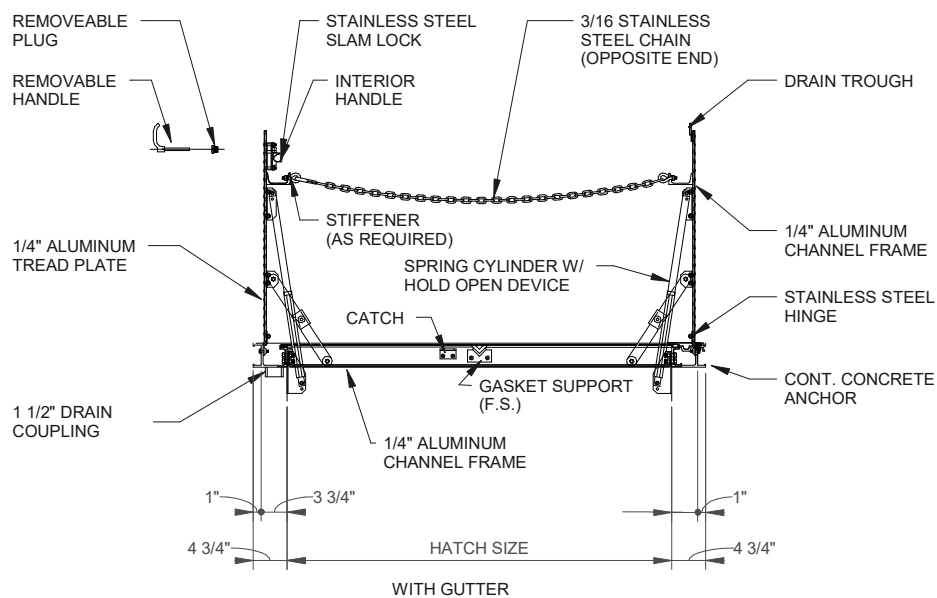
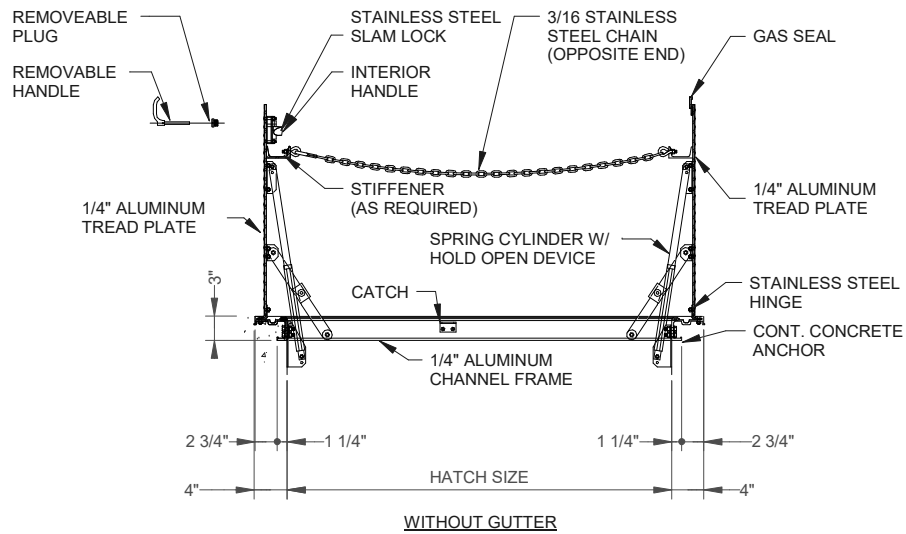
DIVISION

D05

SECTION - DETAIL NO.

5000-800

DATE: 10/09/2023



NOTES:

1. PROVIDE INTEGRAL SAFETY GRATING ONLY WHERE SPECIFICALLY INDICATED ON PLANS.
2. ALUMINUM SURFACES IN CONTACT WITH CONCRETE. GROUT OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR ISOLATORS OR OTHER APPROVED MATERIAL.
3. ADDITIONAL REQUIREMENT AND LOADS PER SPECIFICATIONS.

REV	DATE	DESCRIPTION	BY
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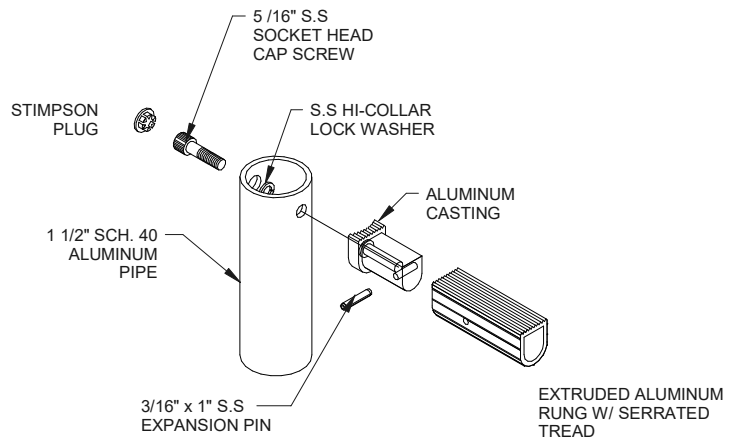
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
PHASE II IMPROVEMENTS

DOUBLE ALUMINUM HATCH

DIVISION
D05
 SECTION - DETAIL NO.
5000-801

JOB NO.: 19W10160

DATE: 10/09/2023



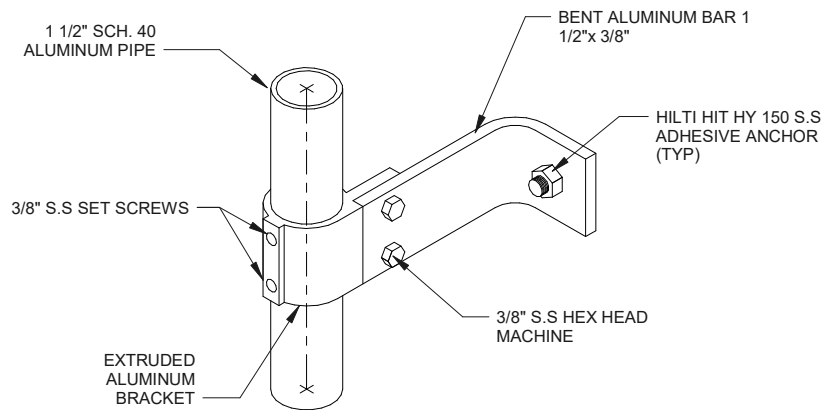
REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

LADDER RUNG DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5000-803



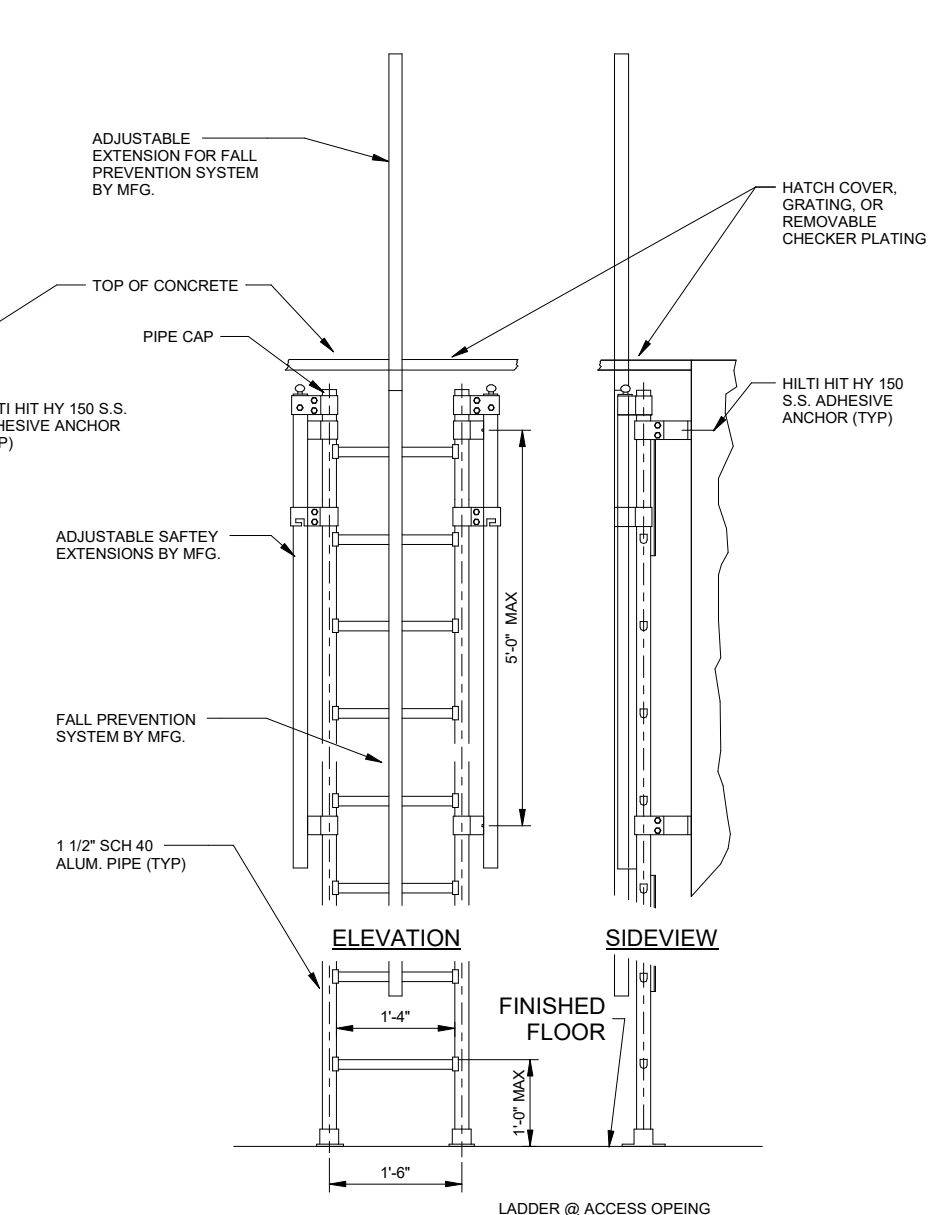
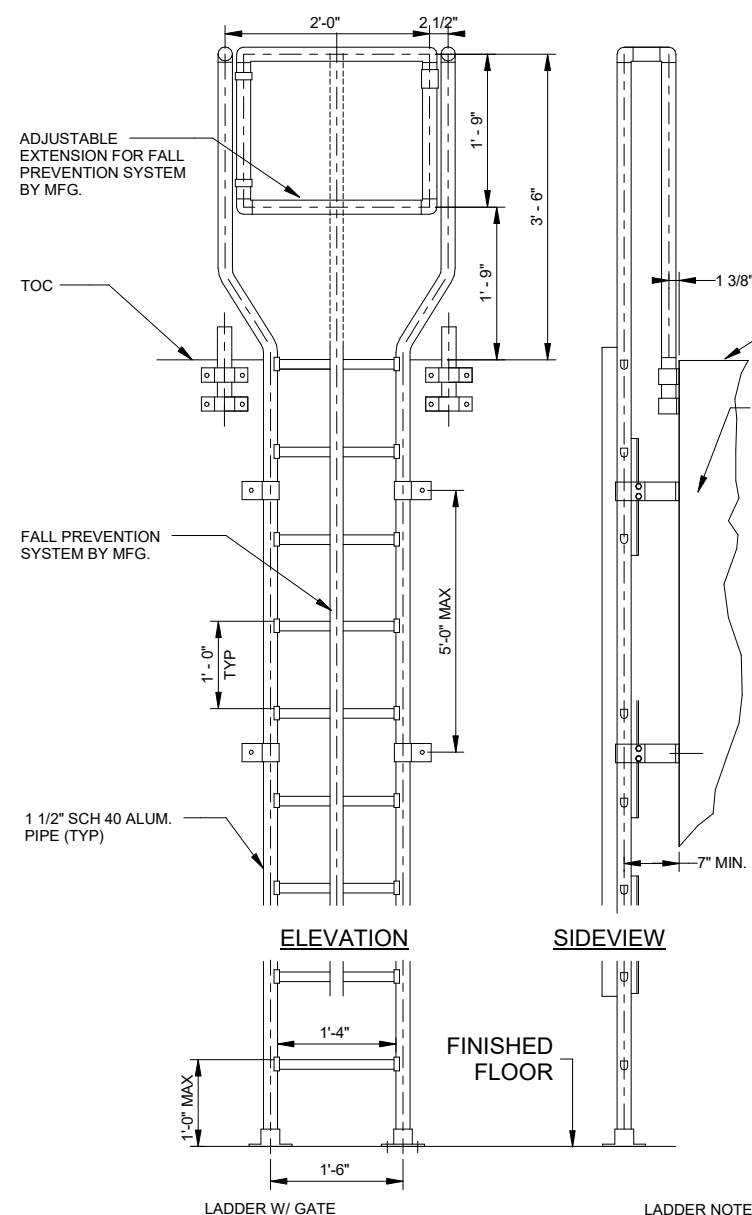
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

LADDER BRACELET DETAILS

DIVISION
D05
SECTION - DETAIL NO.
5000-804



- LADDER NOTES**
1. ALL LADDERS TO BE ALUMINUM UNLESS OTHERWISE NOTED.
 2. PROVIDE ADJUSTABLE EXTENSIONS, SAFTEY CAGES, FALL PREVENTION SYSTEMS AS SPECIFIED.
 3. DESIGN PER SPECIFICATION

HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

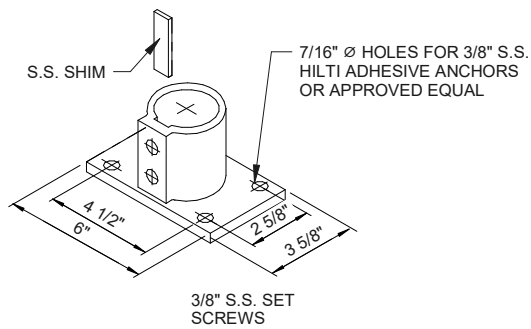
STANDARD LADDER DETAILS

DIVISION
D05
 SECTION - DETAIL NO.
5000-805



JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:
 LADDERS AT ACCESS HATCH OPENINGS DO NOT REQUIRE THE FLARED RAIL
 EXTENSION AT EACH SIDE NOR THE GATE AND RAILINGS (EA. SIDE) TERMINATED
 W/A BASE FLANGE. THE REMOVABLE (CENTER POLE) EXTENSION IS TO BE
 PROVIDED FOR EACH "HATCH" LADDER.

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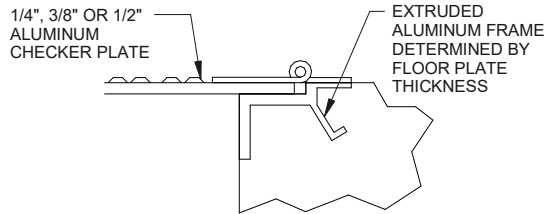
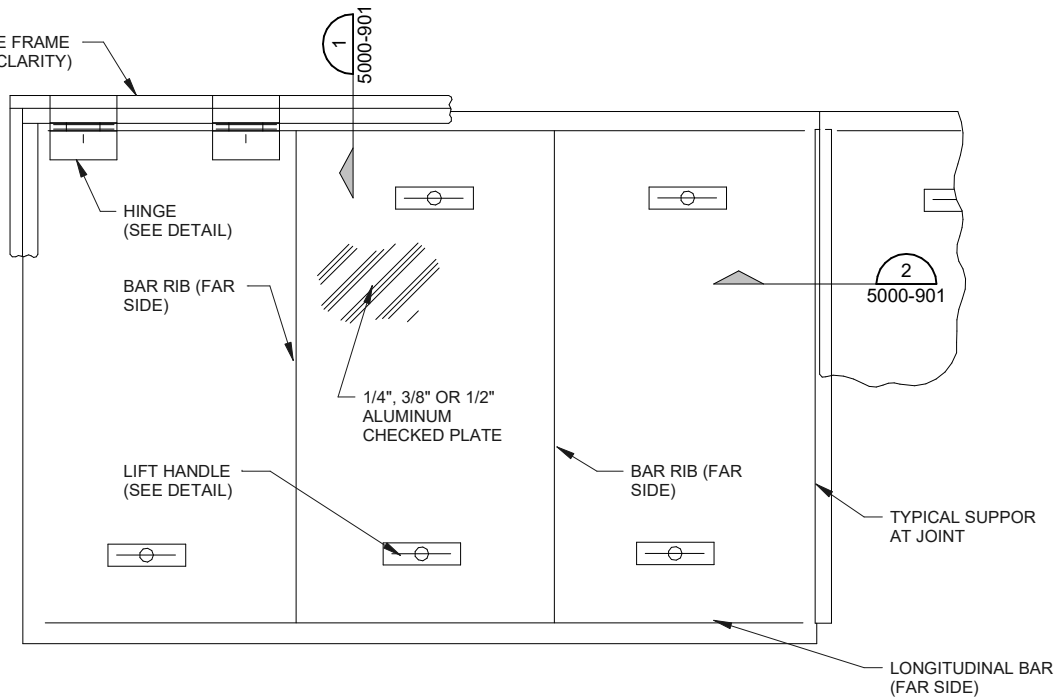


HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

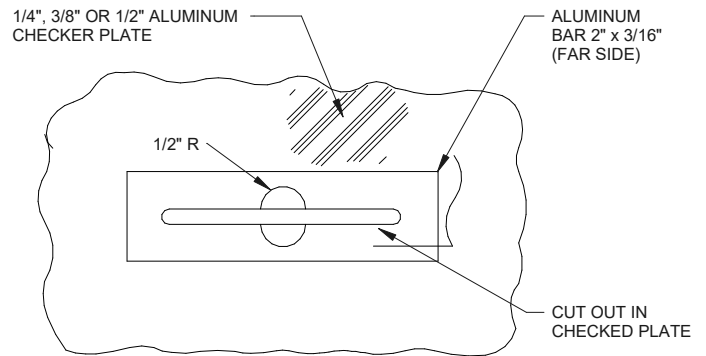
LADDER BASE FLANGE DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5000-807

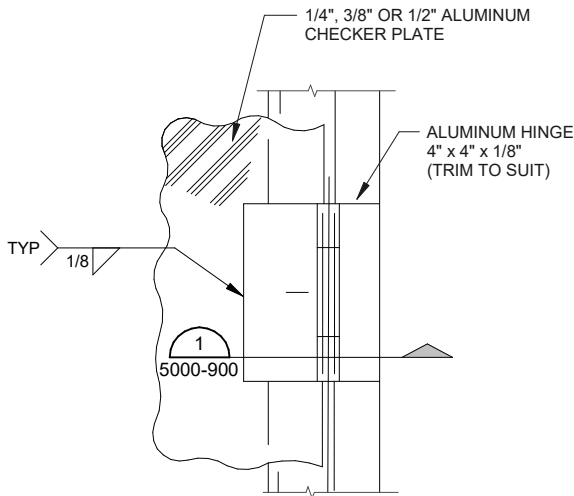
FRAME (COMPLETE FRAME NOT SHOWN FOR CLARITY)



SECTION 1



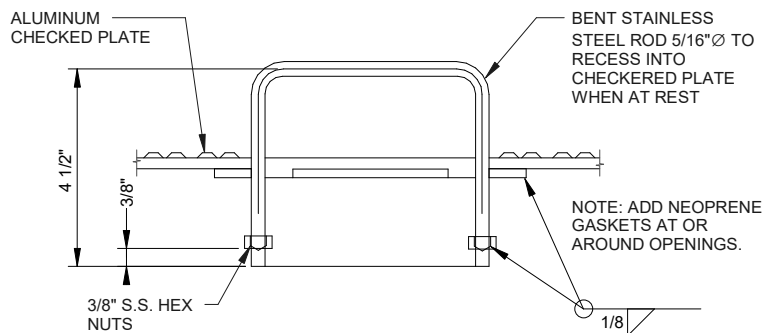
PLAN



PLAN

HINGE DETAIL

WHERE INDICATED ON PLANS



SECTION

LIFT HANDLE DETAIL

NOTES:

1. REFER TO DETAIL  FOR FLOOR OPENING COVER PLATE NOTES. 5000-902

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

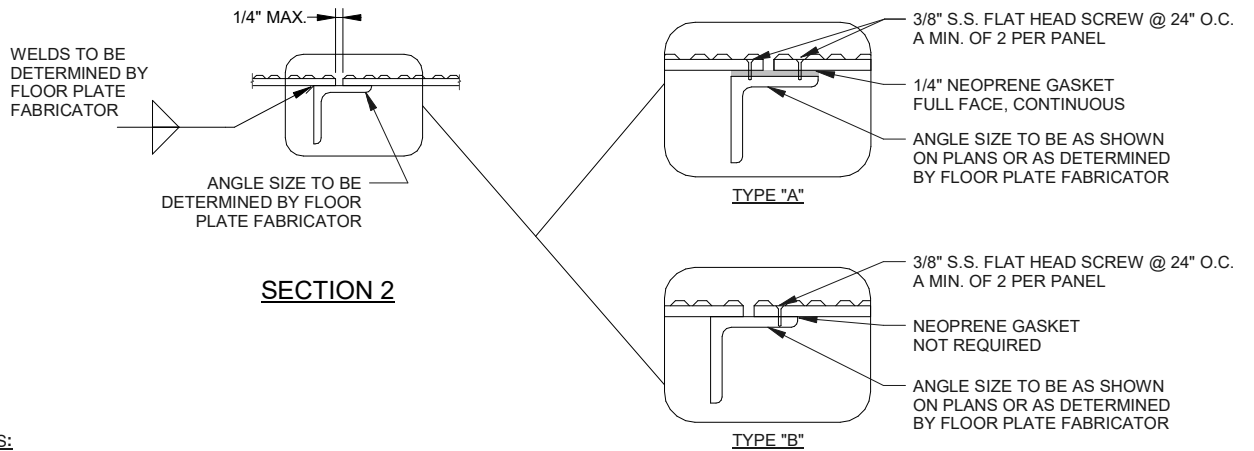
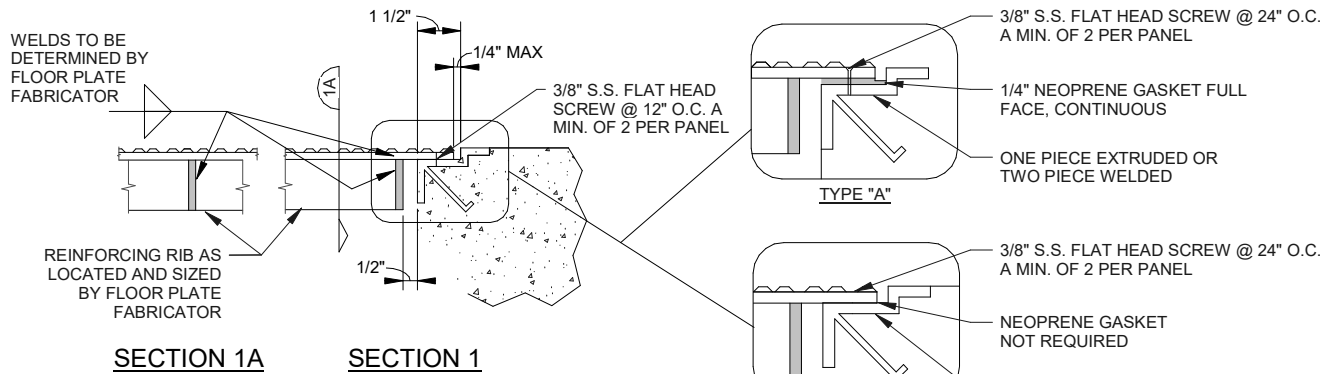
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

FLOOR OPENING COVER PLATE

DIVISION
D05
 SECTION - DETAIL NO.
5000-900

DATE: 10/09/2023



NOTES:

1. TYPE "A" WITH NEOPRENE GASKET TO BE USED AT ALL EXTERIOR OR ODOR CONTROL LOCATIONS, UNO.
2. REFER TO DETAIL D05/5000-902 FOR ALUMINUM PLATE CONNECTION DETAIL NOTES.
3. 1/4", 3/8" OR 1/2" ALUMINUM CHECKED PLATE AS REQ'D OR SHOWN ON PLANS.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

CONNECTION DETAILS

DIVISION

D05

SECTION - DETAIL NO.

5000-901

DATE: 10/09/2023

NOTES:

1. UNLESS SHOWN OR NOTED OTHERWISE, ALL GRATING, CHECKER PLATE, PLANK, HATCHES AND/OR ACCESS HATCHES SHALL BE ALUMINUM, SUPPORTING STRUCTURAL SYSTEM SHALL BE ALUMINUM OR TYPE 304 STAINLESS STEEL.
2. ALL CHECKERED PLATE AND ALL ALUMINUM GRATING, INCLUDING ALL SUPPORT MEMBERS, REINFORCING RIBS, STIFFENERS, EDGE MEMBERS, EDGE SUPPORTS, CORNER AND/OR INTERSECTION SUPPORTS AND ALL STRUCTURAL REQUIREMENTS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE WORK AND PROVIDED BY THE MANUFACTURER. SUCH DESIGN FOR GRATING, PLANK, AND/OR CHECKERED PLATE COVERING, INCLUDING ALL SUPPORTS AND INTEGRAL MEMBERS SHALL BE FOR THE ACTUAL DEAD LOAD AND A UNIFORM LIVE LOAD OF 200 LBS/SQ. FT. OR THE UNIFORM LIVE LOAD OF THE ADJACENT FLOOR, WHICHEVER LOADS PRODUCES THE GREATER EFFECT, WITH TOTAL LOAD DEFLECTION LIMITED TO L/180 NTE 3/8 INCH BETWEEN SUPPORTING MEMBERS MAXIMUM. THE CONTRACTOR SHALL SUBMIT THE DESIGN OF THE GRATING, PLANK, AND/OR CHECKERED PLATE, INCLUDING ALL SUPPORTS AND INTEGRAL MEMBERS, COMPLETE WITH DETAILS AND CALCULATIONS TO BE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OF THE APPLICATION GRATING, PLANK, AND/OR CHECKERED PLATE.
3. ALL ENDS AND OPENINGS SHALL BE BANDED.
4. PROVIDE 1/4" NEOPRENE GASKETS FOR ALL SEALED CHECKER PLATING, UNO.
5. THE WEIGHT OF A GRATING, PLANK, OR CHECKERED PLATE SECTION SHALL NOT EXCEED 150 LBS.
6. ALUMINUM SURFACES IN CONTACT WITH CONCRETE GROUT OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR ISOLATES OR OTHER APPROVED MATERIAL.
7. SEALED CHECKERED PLATE, PLANK, AND HATCHES REQUIRED AT ALL ODOR CONTROLLED STRUCTURES.
8. ADDITIONAL REQUIREMENTS PER SPECIFICATIONS.
9. LOADING CRITERIA FOR HATCHES PER SPECIFICATIONS.
10. LOADING CRITERIA FOR FIBER-REINFORCED PLASTIC (FRP) GRATING PER SPECIFICATIONS.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

CONNECTION DETAIL NOTES

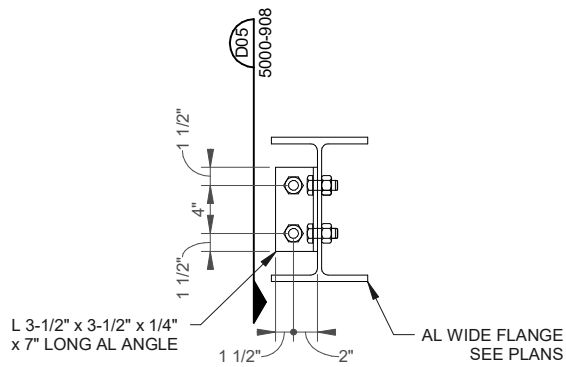
DIVISION

D05

SECTION - DETAIL NO.

5000-902

DATE: 10/09/2023



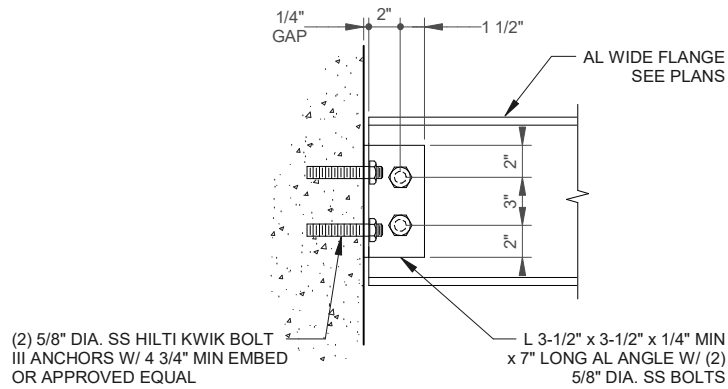
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BEAM TO WALL CONNECTION
DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5000-907



REV	DATE	DESCRIPTION	BY
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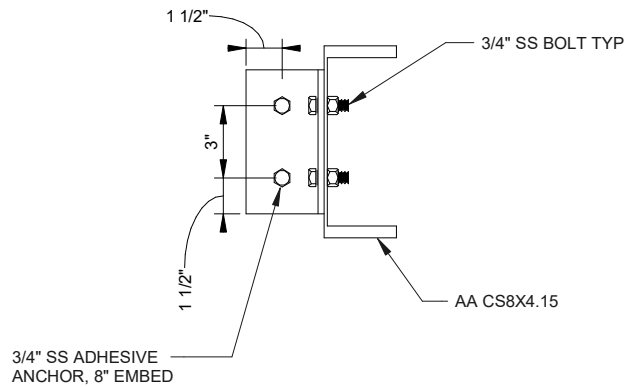
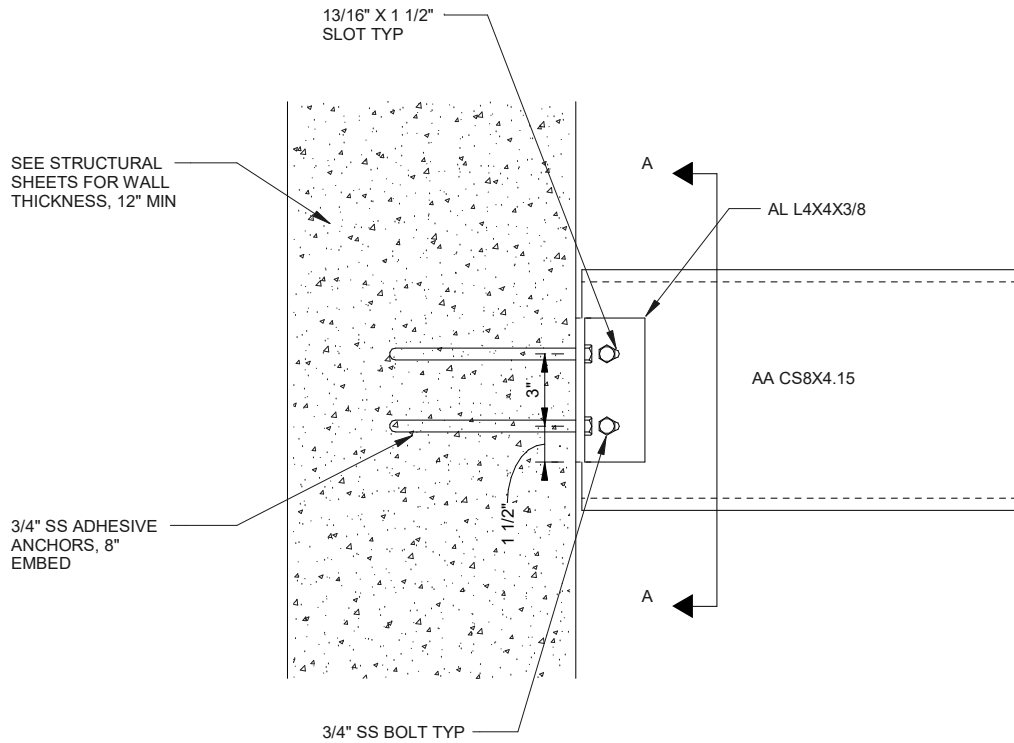
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BEAM TO WALL CONNECTION
DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5000-908

JOB NO.: 19W10160

DATE: 10/09/2023



SECTION A-A

REV	DATE	DESCRIPTION	BY
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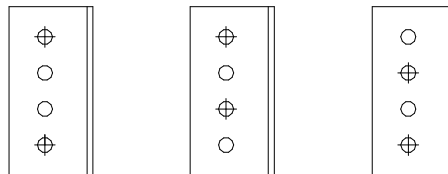
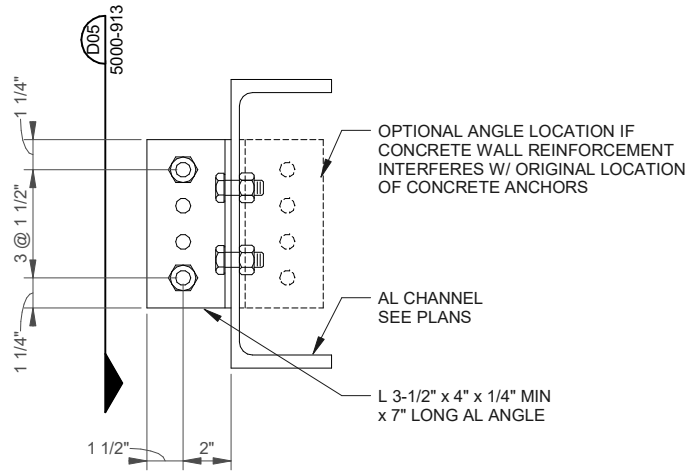
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

ALUMINUM CHANNEL TO WALL
 CONNECTION

DIVISION
D05
 SECTION - DETAIL NO.
5000-910

JOB NO.: 19W10160

DATE: 10/09/2023



OPTION 1 OPTION 1 OPTION 1

FIGURE 1.

NOTES

1. CONCRETE ANCHORS TO BE LOCATED IN ONE OF THE CONFIGURATIONS SHOWN IN FIGURE 1.

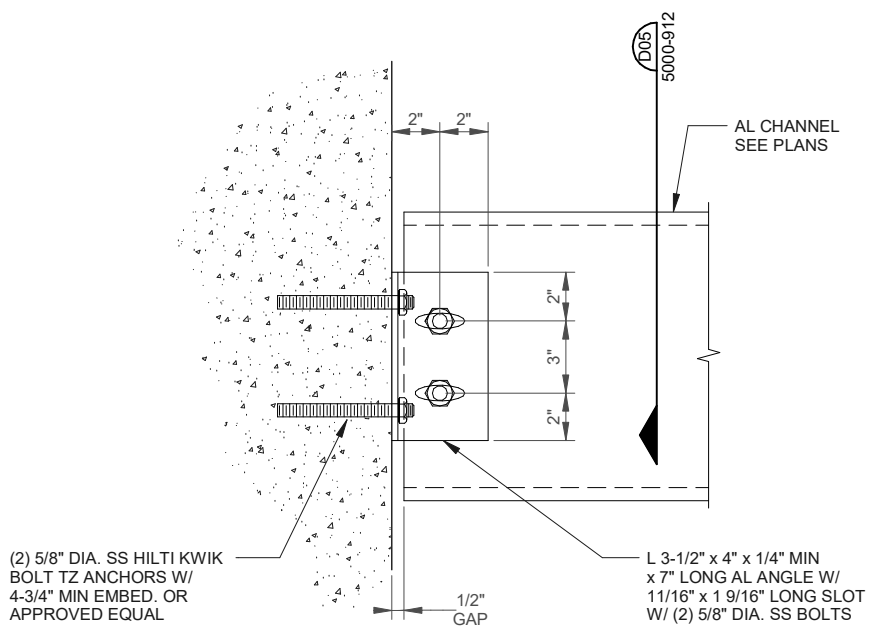
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**GRATE SUPPORT CHANNEL
CONNECTION DETAIL**

DIVISION
D05
SECTION - DETAIL NO.
5000-912



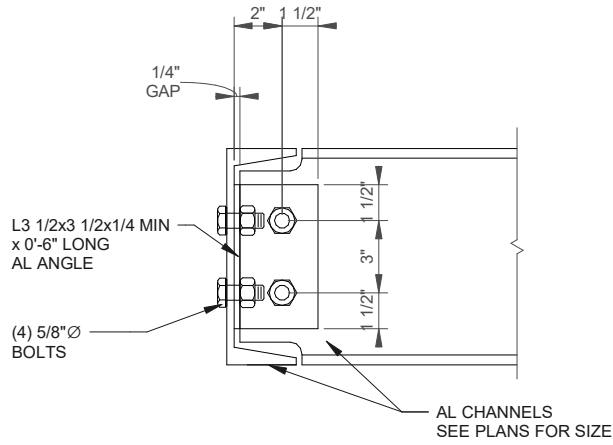
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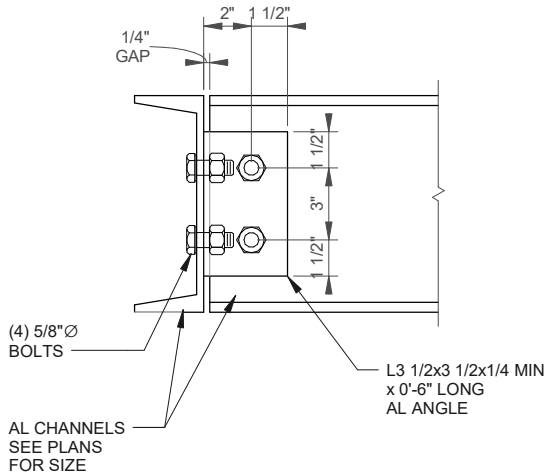
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

GRATE SUPPORT ANCHOR CONNECTION DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5000-913



COPED CONNECTION



REV	DATE	DESCRIPTION	BY
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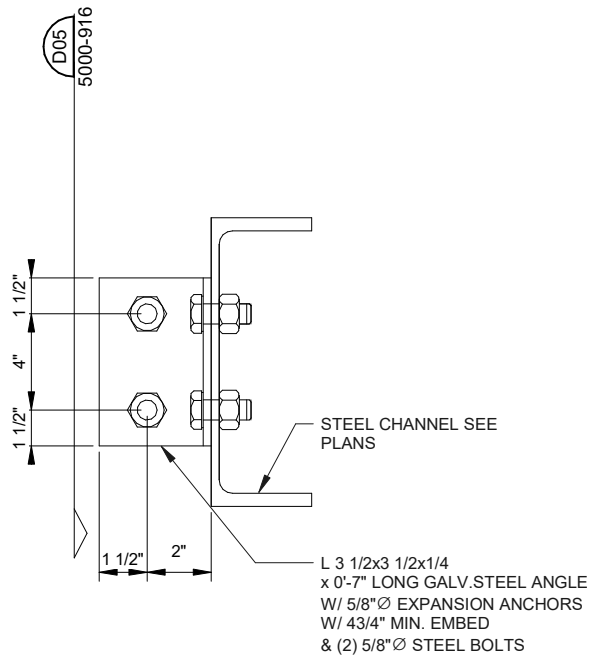
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BEAM TO BEAM CONNECTION
DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5000-914

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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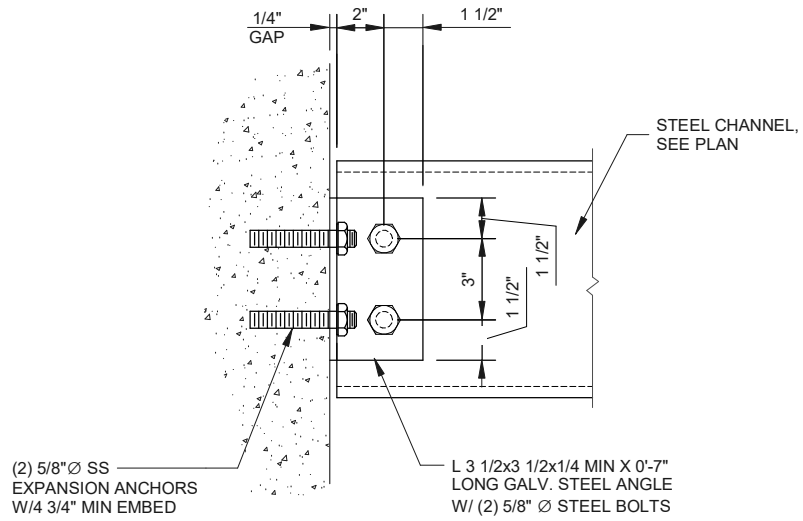
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BEAM TO WALL CONNECTION
DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5000-915

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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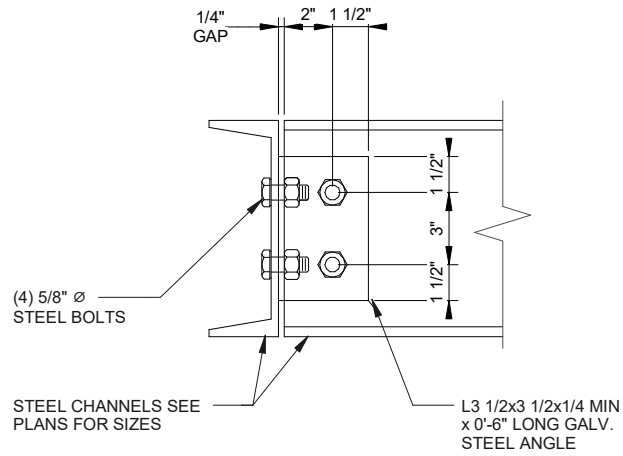
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BEAM TO WALL CONNECTION
DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5000-916

JOB NO.: 19W10160

DATE: 10/09/2023



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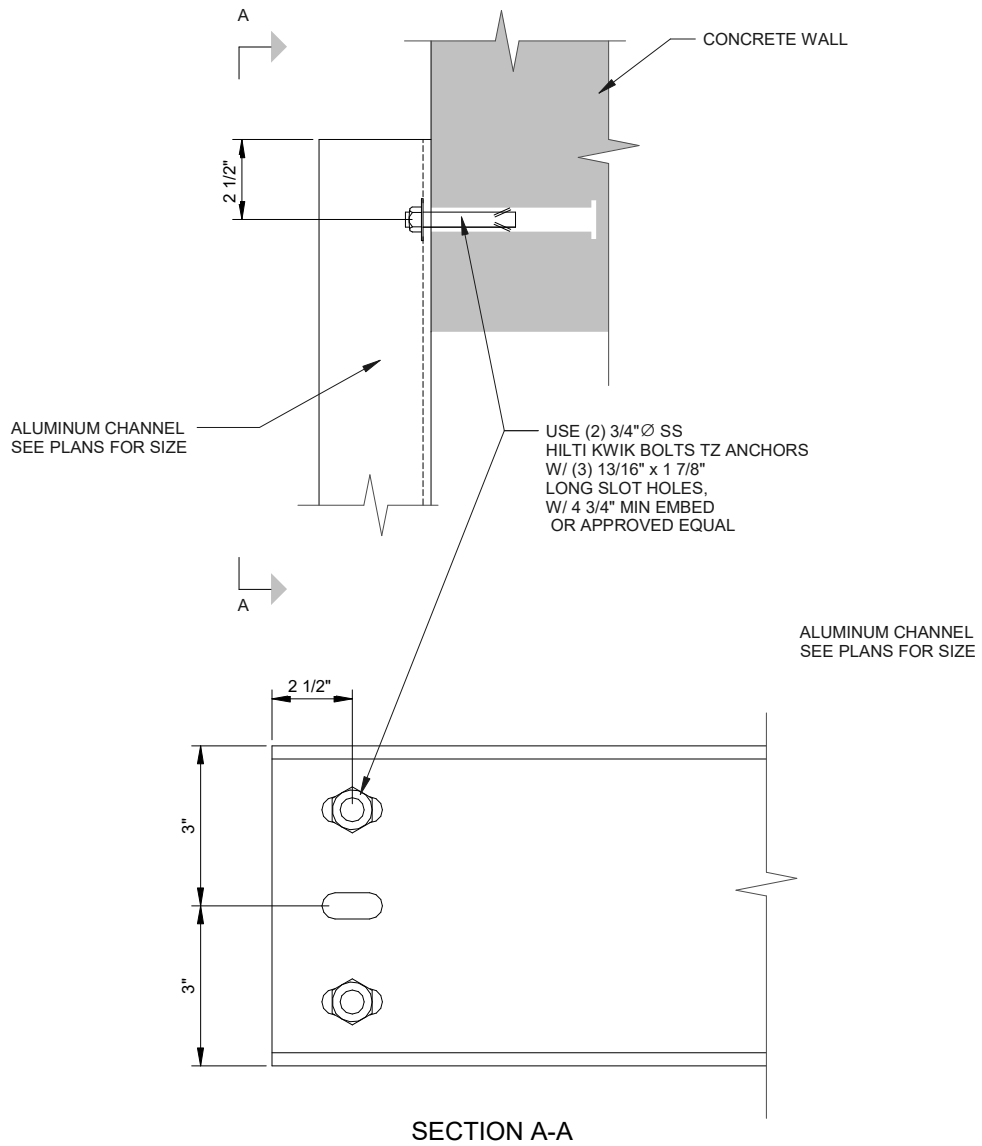
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

BEAM TO BEAM CONNECTION
 DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5000-917

JOB NO.: 19W10160

DATE: 10/09/2023



- NOTES:
 1. ALUMINUM GRATING NOT SHOWN FOR CLARITY.
 2. WHEN BOLTING, IF REBAR IS HIT, MOVE TO EMPTY SLOT.

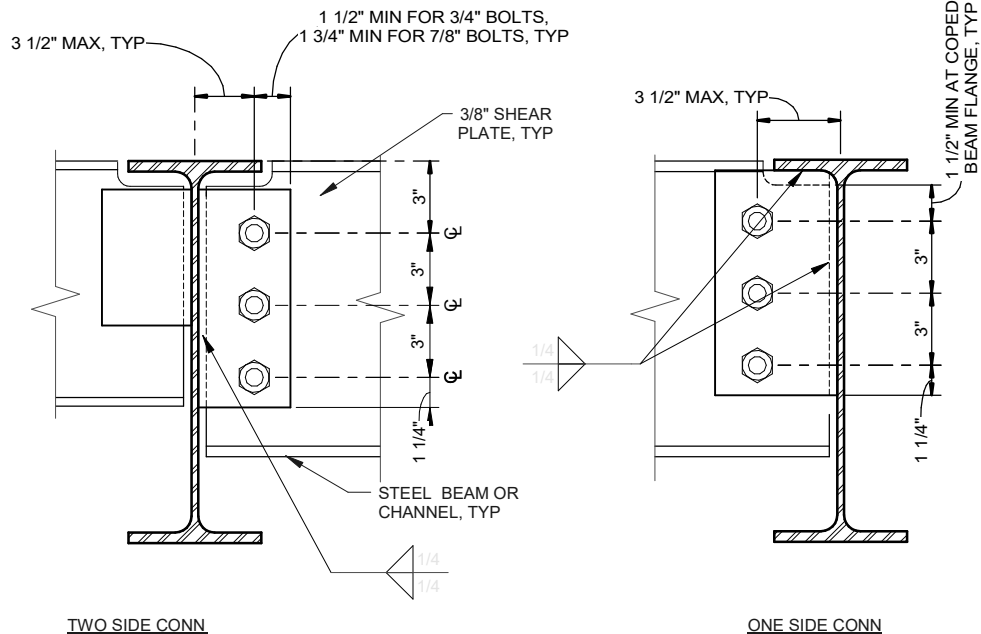
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

CHANNEL TO WALL
 CONNECTION DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5000-918



NOMINAL BEAM DEPTH, INCHES	ROWS OF BOLTS	BOLTS DIA, INCHES	LENGTH OF SHEAR PLATE
27	8	7/8"	2'-0"
24	7	3/4"	1'-8 1/2"
21	6	3/4"	1'-5 1/2"
18	5	3/4"	1'-2 1/2"
16	4	3/4"	11 1/2"
12-15	3	3/4"	8 1/2"
8-10	2	3/4"	5 1/2"

NOTES:

1. THIS DETAIL APPLIES ONLY WHERE SPECIFICALLY SHOWN ON DRAWINGS.
2. CONNECTION DETAIL SHOWN APPLICABLE ONLY TO BEAMS BRACED BY METAL DECK (COMPOSITE OR NON-COMPOSITE); FOR OTHER BEAM FRAMING CONDITIONS, SEE DETAIL
3. (*) DIMENSION SHALL BE 3" UNLESS OTHERWISE REQUIRED FOR PROPER FABRICATION

REV	DATE	DESCRIPTION	BY
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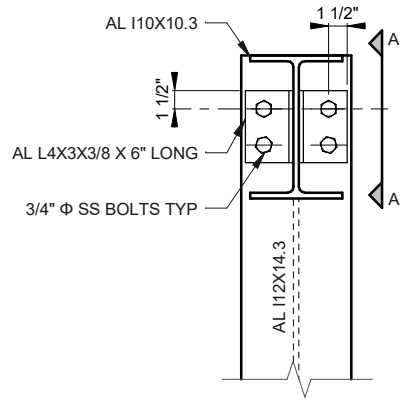
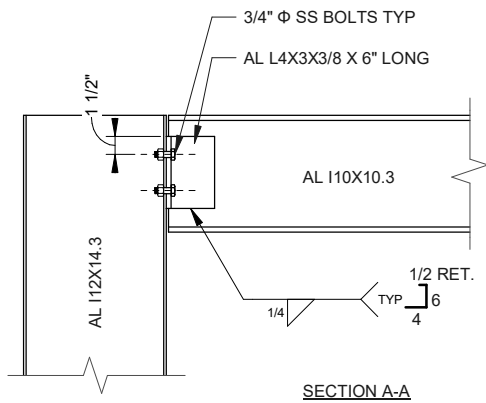
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

**BEAM SINGLE PLATE SHEAR
CONNECTION - STEEL**

DIVISION
D05
SECTION - DETAIL NO.
5000-920

DATE: 10/09/2023



1 CONNECTION DETAIL
SCALE: NTS

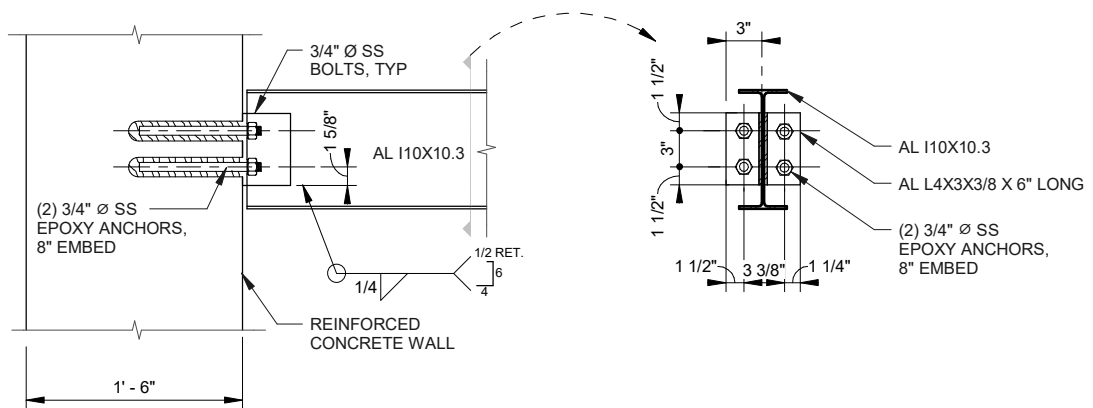
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS
JOB NO.: 19W10160

BEAM-COLUMN FLANGE
CONNECTION

DIVISION
D05
SECTION - DETAIL NO.
5000-921
DATE: 10/09/2023



1 CONNECTION DETAIL
SCALE: NTS

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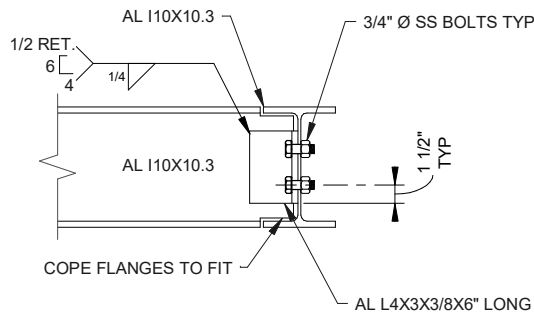
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BEAM-CONCRETE WALL
CONNECTION

DIVISION
D05
SECTION - DETAIL NO.
5000-922

JOB NO.: 19W10160

DATE: 10/09/2023



1

CONNECTION DETAIL

SCALE: NTS

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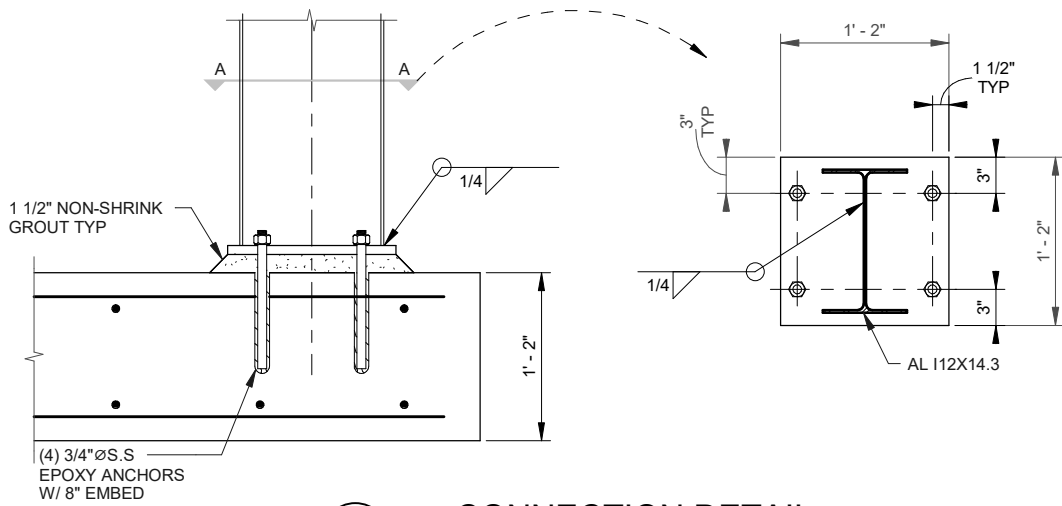
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BEAM-BEAM CONNECTION

DIVISION
D05
SECTION - DETAIL NO.
5000-923

JOB NO.: 19W10160

DATE: 10/09/2023



1

CONNECTION DETAIL

SCALE: NTS

REV	DATE	DESCRIPTION	BY
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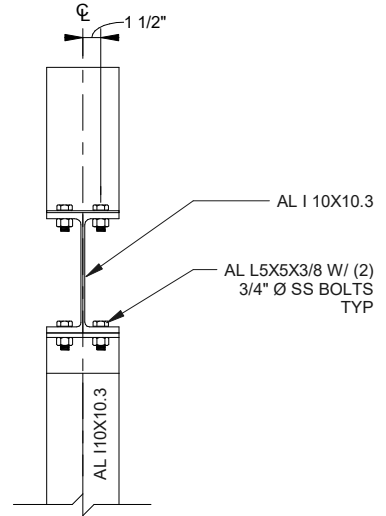
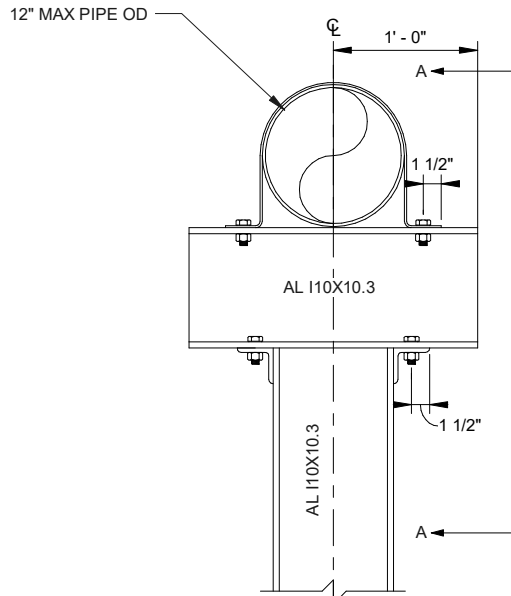
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**COLUMN BASEPLATE
CONNECTION**

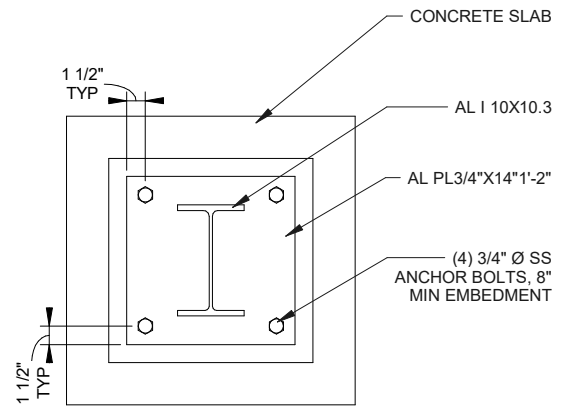
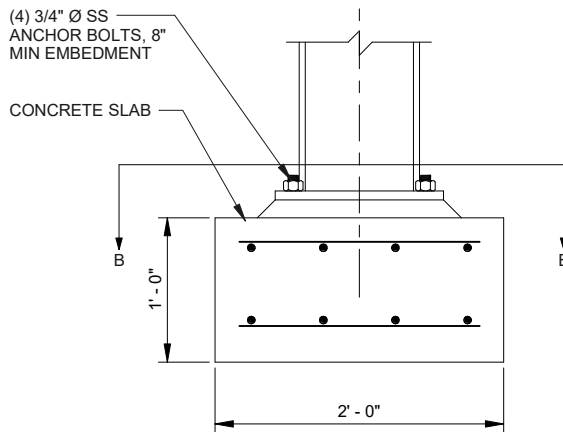
DIVISION
D05
SECTION - DETAIL NO.
5000-924

JOB NO.: 19W10160

DATE: 10/09/2023



SECTION A-A



SECTION B-B

REV	DATE	DESCRIPTION	BY
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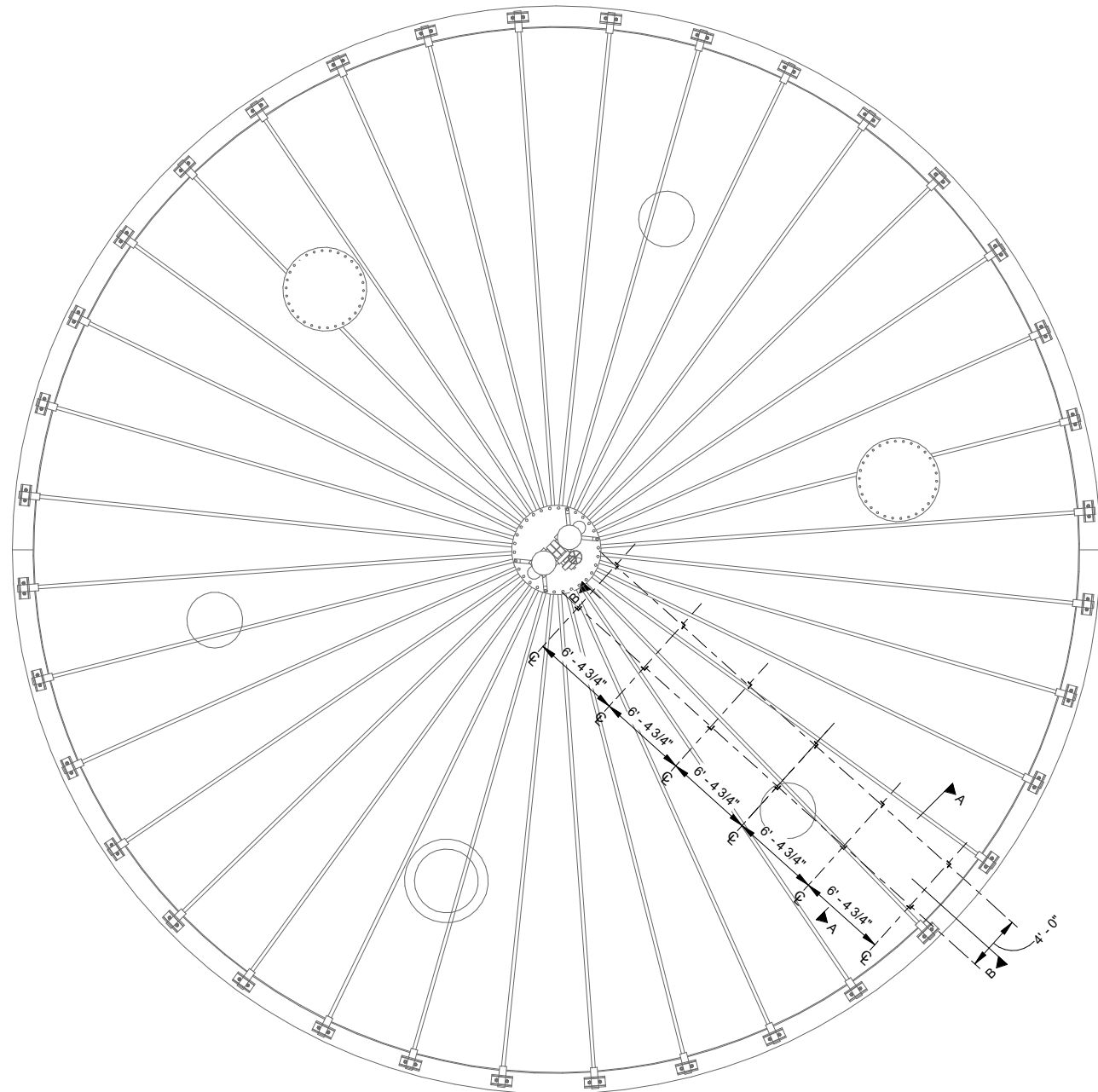
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

ALUMINUM SINGLE PIPE
SUPPORT

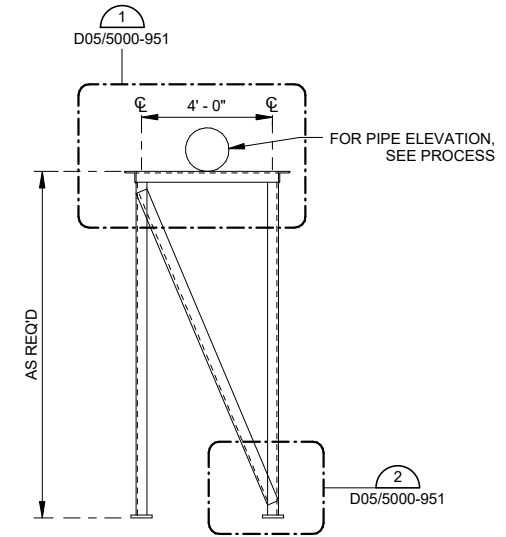
DIVISION
D05
SECTION - DETAIL NO.
5000-930

JOB NO.: 19W10160

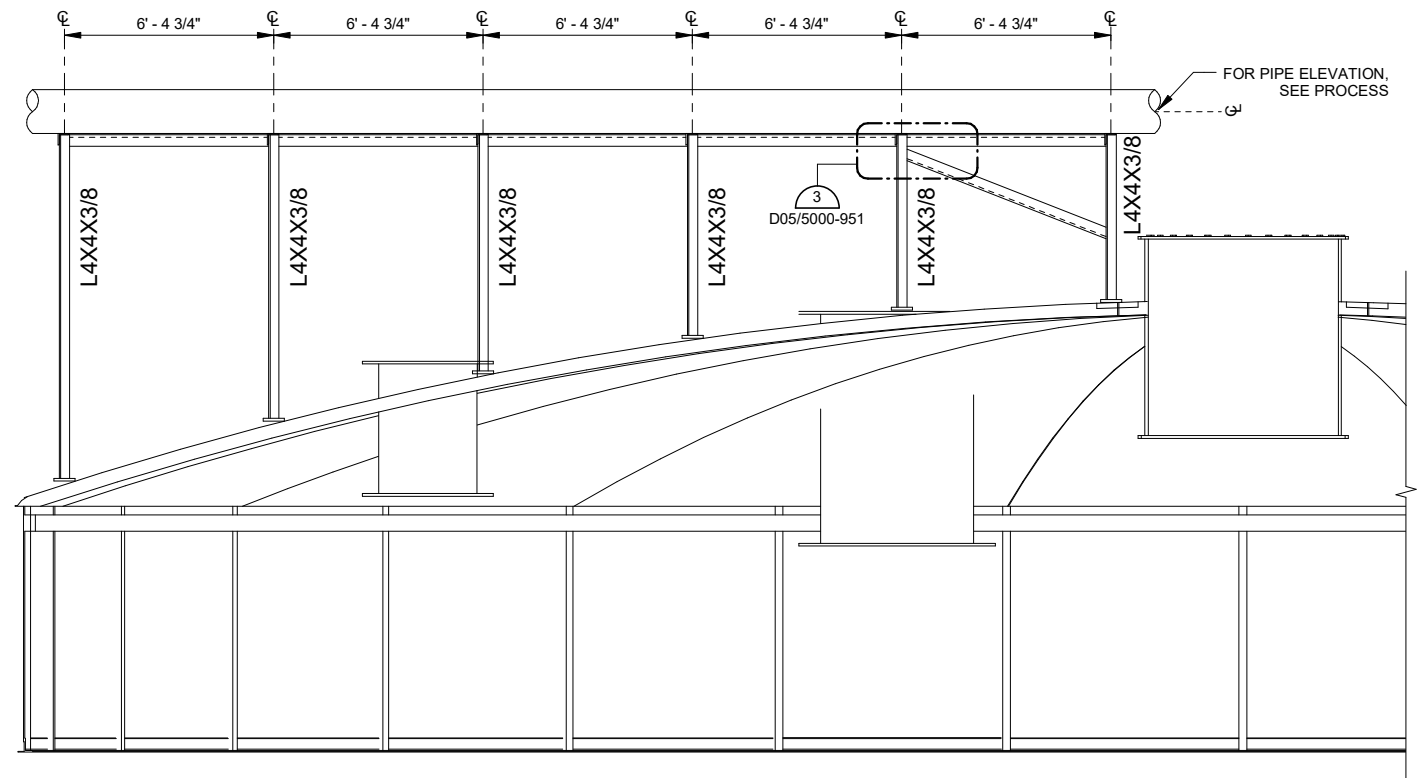
DATE: 10/09/2023



1 DIGESTER COVER PIPE SUPPORT
SCALE: NTS



2 SECTION A
SCALE: NTS



3 SECTION B
SCALE: NTS

HILLIARD N. FLETCHER WATER RESOURCE
RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

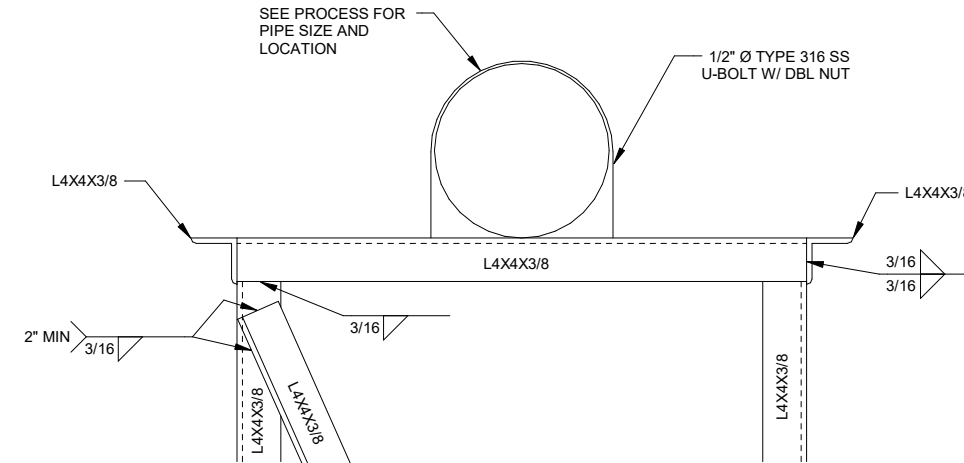
DIGESTER
COVER PIPE
SUPPORT

DIVISION
D05
SECTION - DETAIL NO.
5000-950



JOB NO.: 19W10160

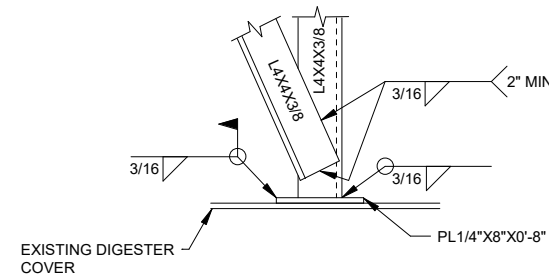
DATE: 10/09/2023



NOTES:

1. AFTER INSTALLATION, APPLY COLD GALVANIZING COMPOUND TO ANY WELDS OR DAMAGED AREAS

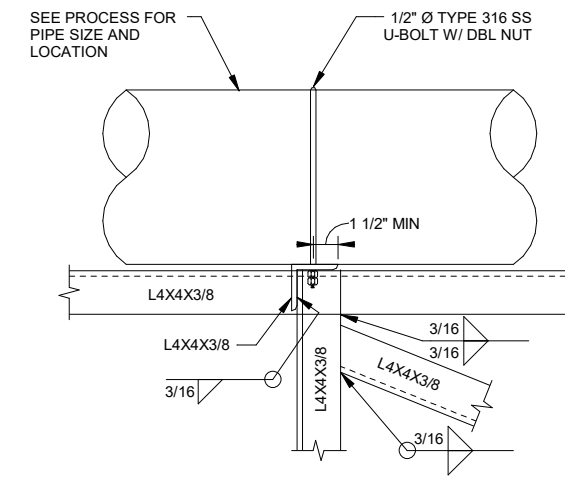
1 **DETAIL**
SCALE: NTS



NOTES:

1. THOROUGHLY CLEAN EXISTING DIGESTER COVER PRIOR TO WELDING
2. AFTER INSTALLATION, APPLY COLD GALVANIZING COMPOUND TO ANY WELDS OR DAMAGED AREAS

2 **DETAIL**
SCALE: NTS



NOTES:

1. AFTER INSTALLATION, APPLY COLD GALVANIZING COMPOUND TO ANY WELDS OR DAMAGED AREAS

3 **DETAIL**
SCALE: NTS

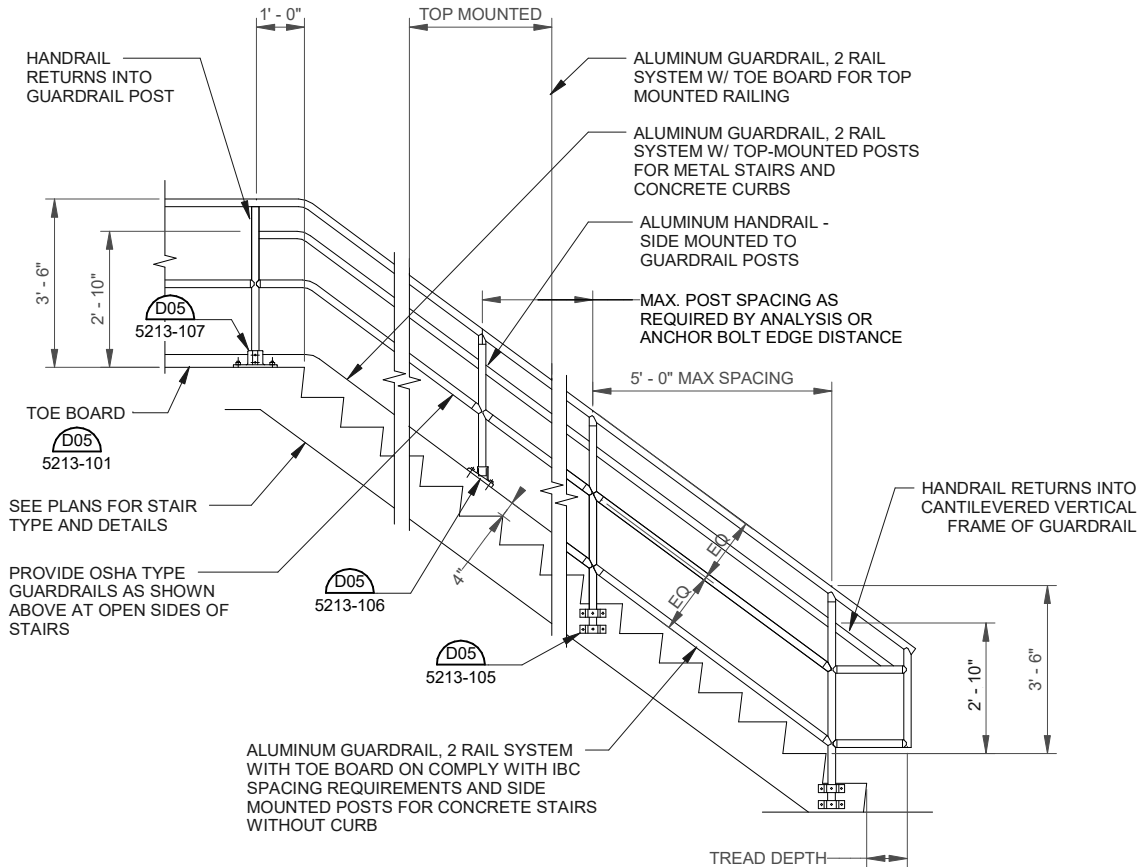
HILLIARD N. FLETCHER WATER RESOURCE
RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS
JOB NO.: 19W10160

DIGESTER
COVER PIPE
SUPPORT
DETAILS

DIVISION
D05
SECTION - DETAIL NO.
5000-951



DATE: 10/09/2023



GENERAL NOTES - HANDRAIL/GUARDRAIL

1. ADDITIONAL REQUIREMENTS PER SPECIFICATIONS.
2. SEE DRAWINGS FOR LOCATIONS OF OSHA TYPE AND PUBLIC TYPE HANDRAIL/GUARDRAIL.
3. SEE DRAWINGS TO DETERMINE WHERE TOP-MOUNTED OR SIDE-MOUNTED GUARDRAIL SHALL BE USED PROVIDE BASE FLANGE DETAILS OR SIDE-MOUNT BRACKET DETAIL, AS APPLICABLE.
4. MAX POST SPACING SHALL BE DETERMINED BY ANALYSIS AND SHALL NOT EXCEED MAX POST SPACING AS REQUIRED BY DETAIL **D05** 5213-107 FOR TOP-MOUNTED GUARDRAIL.
5. TOE BOARD SHALL CONFORM TO OSHA STANDARDS AND AS SHOWN IN DETAIL **D05** 5213-101. TOE BOARD SHALL BE PROVIDED ON GUARDRAILS AS REQUIRED BY OSHA AND/OR AS SHOWN ON DRAWINGS. TOE BOARDS SHALL BE SHIPPED LOOSE IN STOCK LENGTHS WITH PRE-MANUFACTURED CORNERS FOR FIELD INSTALLATION.
6. ALUMINUM TOE BOARD NOT REQUIRED WHERE HANDRAIL INSTALLED ON A 0' - 4" HIGH CONCRETE CURB.
7. FINISH SHALL BE ALUMINUM ASSOCIATION M10-C22-A41 (215-R1).
8. ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR ISOLATORS, OR APPROVED MATERIAL.
9. POST FOR OSHA TYPE RAILS SHALL BE SCHEDULE 40 MINIMUM. POST OF PUBLIC TYPE RAILS SHALL BE SCHEDULE 80 MINIMUM.

REV	DATE	DESCRIPTION	BY
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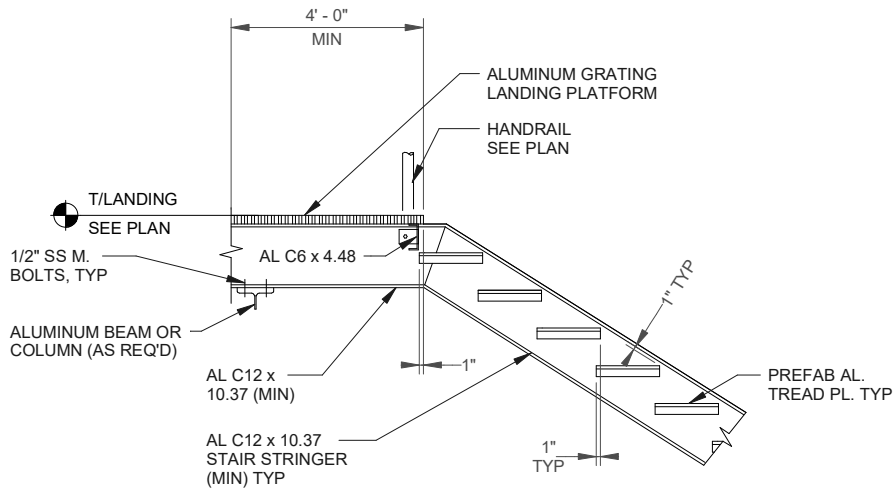
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

**TYPICAL OSHA TYPE STAIRS
 SIDEMOUNT BRACKET
 ELEVATION**

DIVISION
D05
 SECTION - DETAIL NO.
5100-700

DATE: 10/09/2023



NOTES:

1. MEMBER SIZES SHOWN ARE MINIMUM ACCEPTABLE UNLESS INDICATED OR INDIVIDUALLY DETAILED OTHERWISE.
2. ALL OTHER REQUIREMENTS PER SPECIFICATIONS.
3. ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR INSULATORS, OR OTHER APPROVED MATERIAL.

REV	DATE	DESCRIPTION	BY
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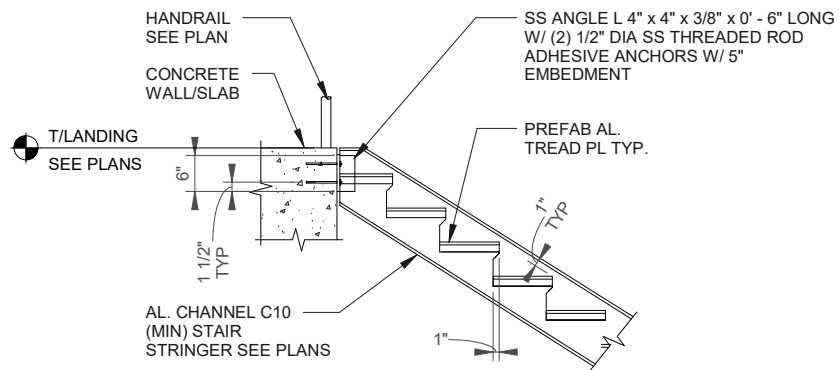
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

HEAD OF STAIR AT LANDING
PLATFORM

DIVISION
D05
SECTION - DETAIL NO.
5100-703

DATE: 10/09/2023



NOTES:

1. MEMBER SIZES SHOWN ARE MINIMUM ACCEPTABLE UNLESS INDICATED OR INDIVIDUALLY DETAILED OTHERWISE.
2. ALL OTHER REQUIREMENTS PER SPECIFICATIONS.
3. ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR INSULATORS, OR OTHER APPROVED MATERIAL.

REV	DATE	DESCRIPTION	BY
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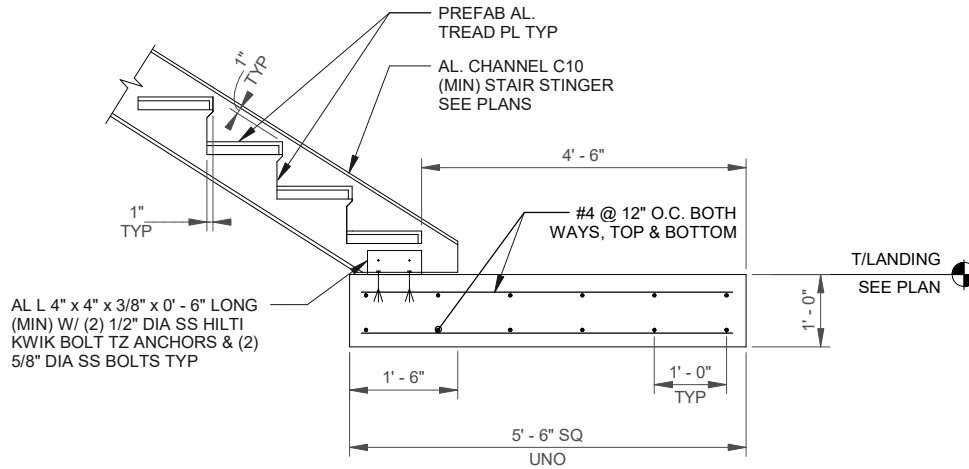
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**HEAD OF STAIR AT CONCRETE
WALL OR SLAB**

DIVISION
D05
SECTION - DETAIL NO.
5100-704

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. MEMBER SIZES SHOWN ARE MINIMUM ACCEPTABLE UNLESS INDICATED OR INDIVIDUALLY DETAILED OTHERWISE.
2. ALL OTHER REQUIREMENTS PER SPECIFICATIONS.
3. ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR INSULATORS, OR OTHER APPROVED MATERIAL.

REV	DATE	DESCRIPTION	BY
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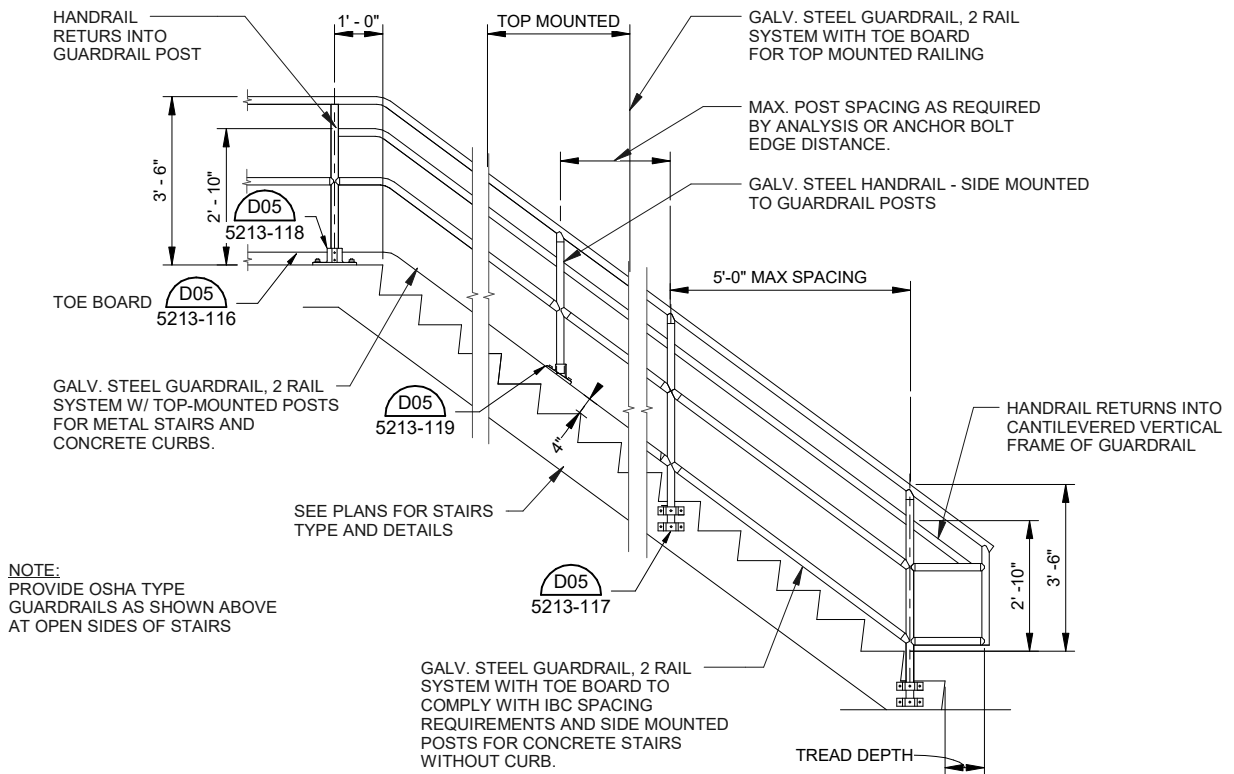
**HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY**
 TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**BASE OF STAIRS AT
 CONCRETE SLAB OR LANDING
 PAD**

DIVISION
D05
 SECTION - DETAIL NO.
5100-705

JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:
 PROVIDE OSHA TYPE
 GUARDRAILS AS SHOWN ABOVE
 AT OPEN SIDES OF STAIRS

GENERAL NOTES - HANDRAIL/GUARDRAIL

1. ADDITIONAL REQUIREMENTS PER SPECIFICATIONS.
2. SEE DRAWINGS FOR LOCATIONS OF OSHA TYPE AND PUBLIC TYPE GUARDRAIL/HANDRAIL.
3. SEE DRAWINGS TO DETERMINE WHERE TOP-MOUNTED OR SIDE-MOUNTED GUARDRAIL SHALL BE USED. PROVIDE BASE FLANGE DETAIL OR SIDE-MOUNT BRACKET DETAIL, AS APPLICABLE.
4. MAX POST SPACING SHALL BE DETERMINED BY ANALYSIS AND SHALL NOT EXCEED MAX POST SPACING AS REQUIRED BY DETAIL D05/5213-118 FOR TOP-MOUNTED GUARDRAIL.
5. TOE BOARD SHALL CONFORM TO OSHA STANDARDS AND AS SHOWN IN DETAIL D05/5213-116. TOE BOARD SHALL BE PROVIDED ON GUARDRAILS AS REQUIRED BY OSHA AND/OR AS SHOWN ON DRAWINGS. TOE BOARDS SHALL BE SHIPPED LOOSE IN STOCK LENGTHS WITH PRE-MANUFACTURED CORNERS FOR FIELD INSTALLATION.
6. TOE BOARD NOT REQUIRED WHERE HANDRAIL INSTALLED ON A 4" HIGH CONCRETE CURB.
7. THE PIPE SHALL BE PLASTIC-WRAPPED DURING SHIPPING AND INSTALLATION. THE PLASTIC WRAP MAY BE REMOVED AFTER FULL INSTALLATION IS COMPLETED.
8. METALLIC SURFACES IN CONTACT WITH CONCRETE, GROUT OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR ISOLATORS OR OTHER APPROVED MATERIAL.
9. POST FOR OSHA TYPE RAILS SHALL BE SCHEDULE 40 MINIMUM. POST FOR PUBLIC TYPE RAILS SHALL BE SCHEDULE 80 MINIMUM.

REV	DATE	DESCRIPTION	BY
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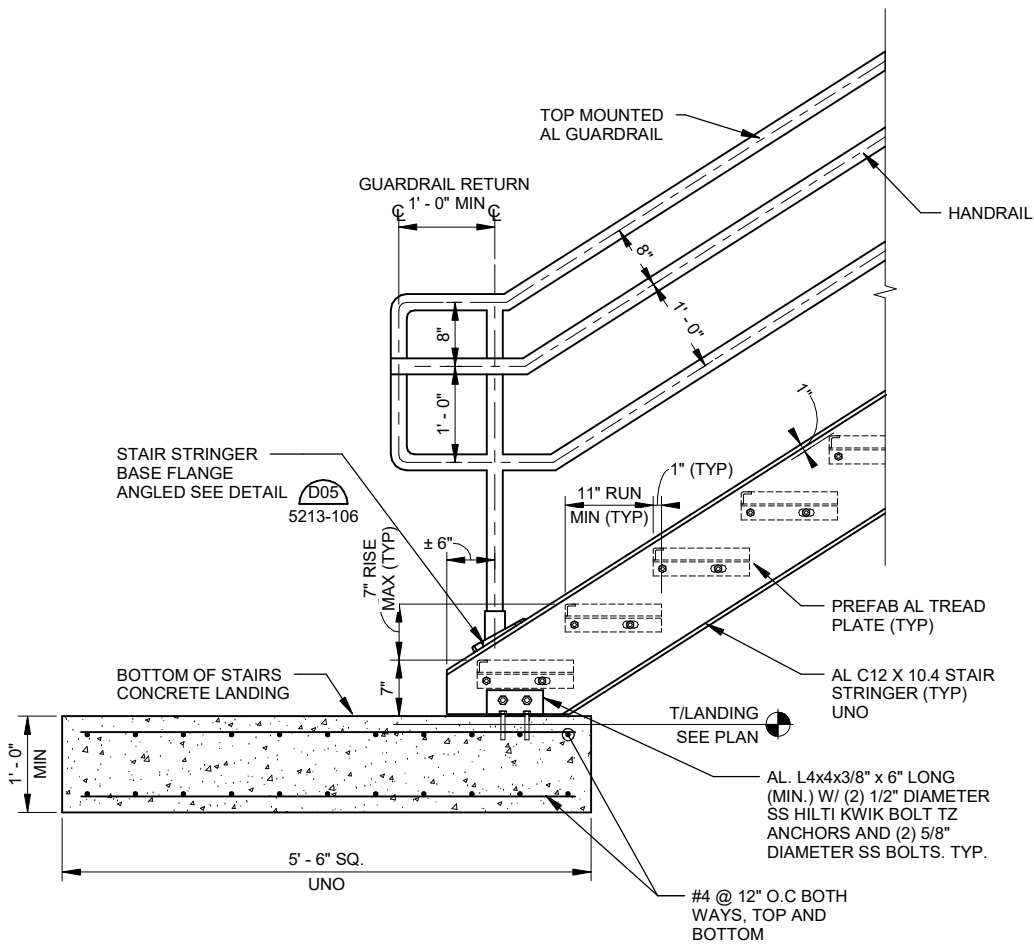
**HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY**
 TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

**TYPICAL STAIR HANDRAIL
 ELEVATION**

DIVISION
D05
 SECTION - DETAIL NO.
5100-706

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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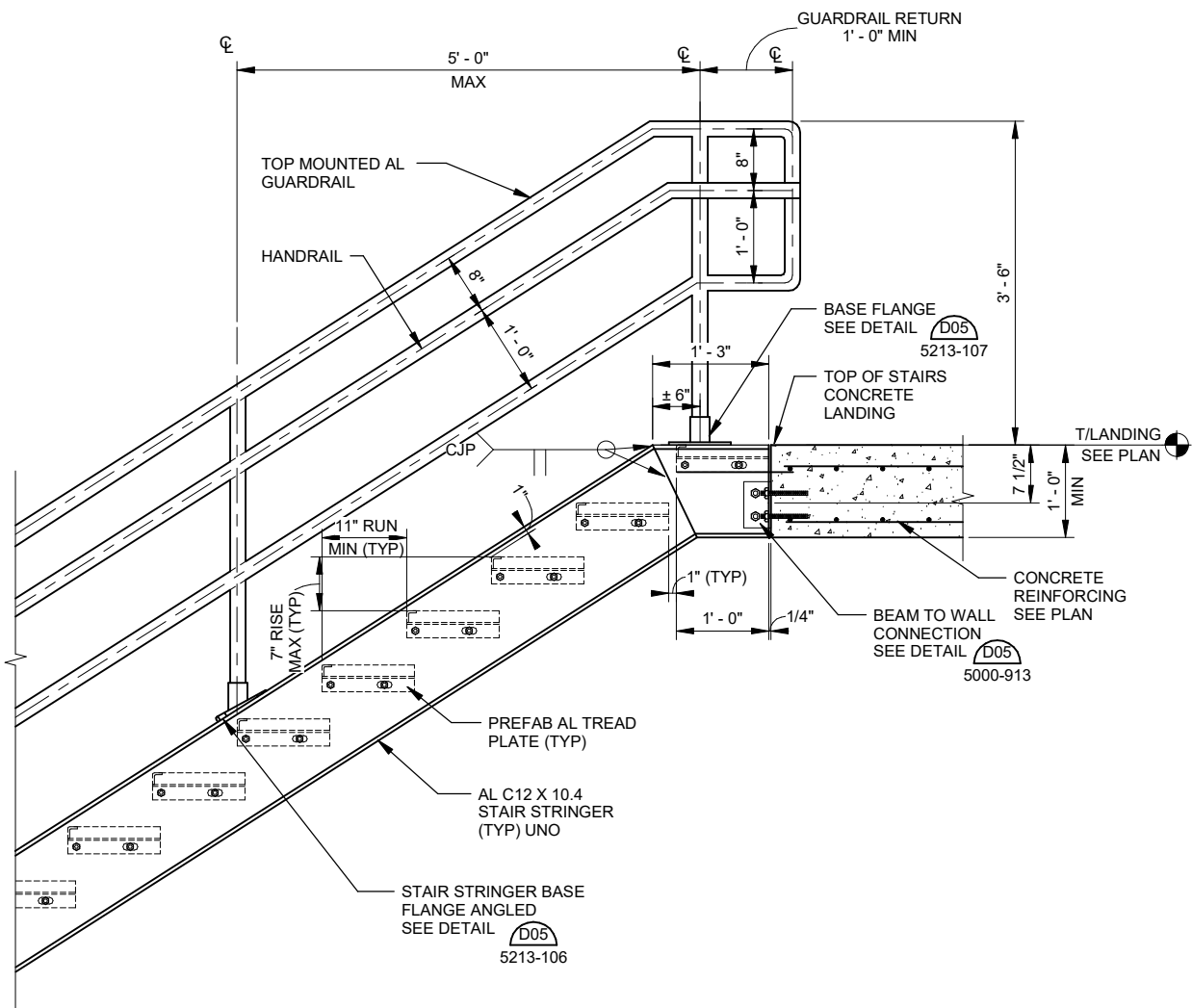
**HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY**
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

BOTTOM OF STAIR CONCRETE
 LANDING

DIVISION
D05
 SECTION - DETAIL NO.
5100-709

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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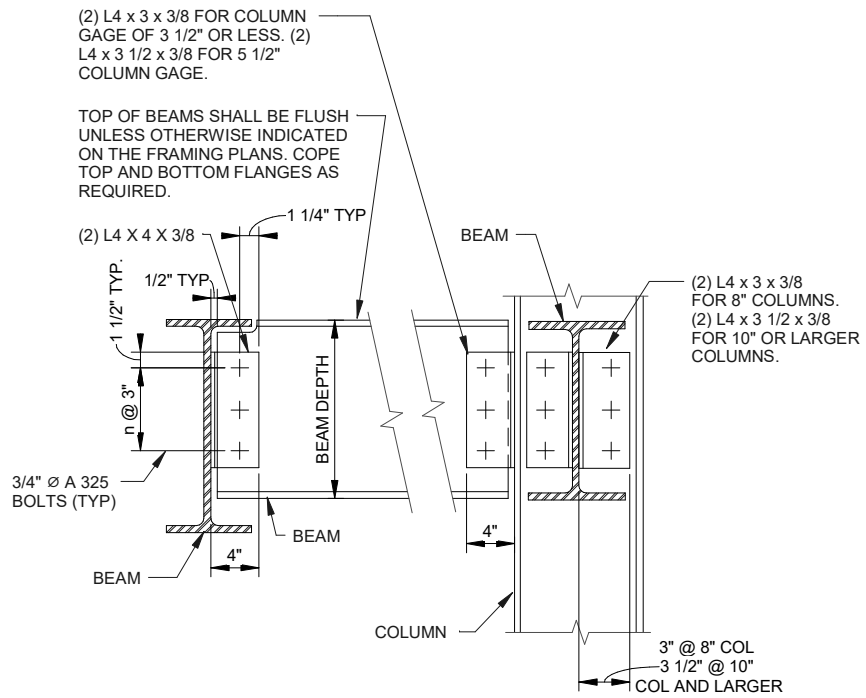
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

**TOP OF STAIRS CONCRETE
LANDING**

DIVISION
D05
SECTION - DETAIL NO.
5100-710

DATE: 10/09/2023



BEAM DEPTH (INCHES)	NUMBER OF BOLTS PER LEG (n)
8 - 10	2
12 - 16	3
18 - 21	4
24 - 30	6

NOTE:

- SCHEDULE APPLIES TO ALL BEAMS UNLESS NUMBER OF BOLTS IS OTHERWISE INDICATED ON THE PLANS.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

STEEL DOUBLE ANGLE BOLTED CONNECTION VERTICAL BOLT LINES

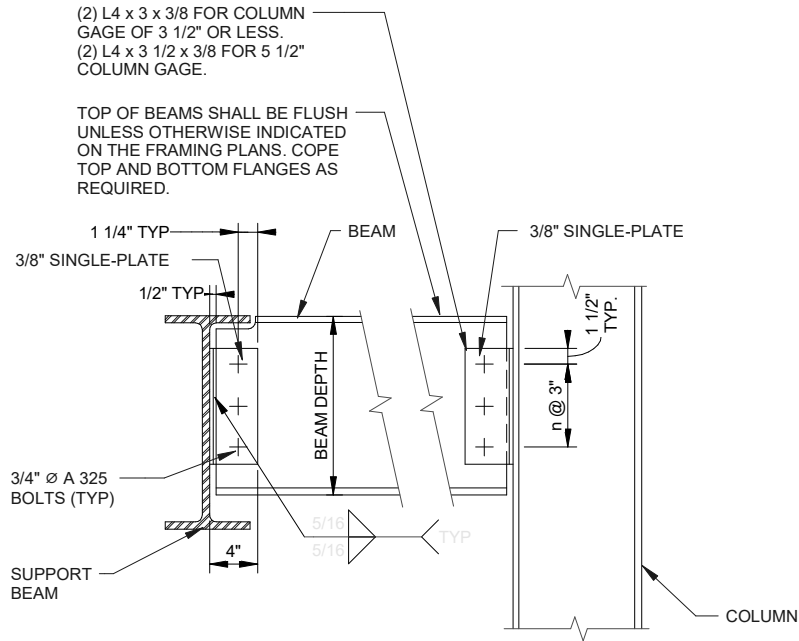
DIVISION

D05

SECTION - DETAIL NO.

5120-001

DATE: 10/09/2023



BEAM DEPTH (INCHES)	NUMBER OF BOLTS PER LEG (n)
8 - 10	2
12 - 16	3
18-21	5
24 -30	7

NOTE:

1. SCHEDULE APPLIES TO ALL BEAMS UNLESS NUMBER OF BOLTS IS OTHERWISE INDICATED ON THE PLANS.

REV	DATE	DESCRIPTION	BY
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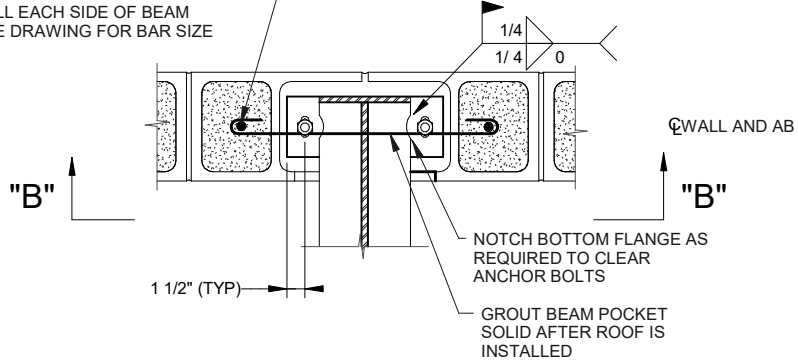


HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

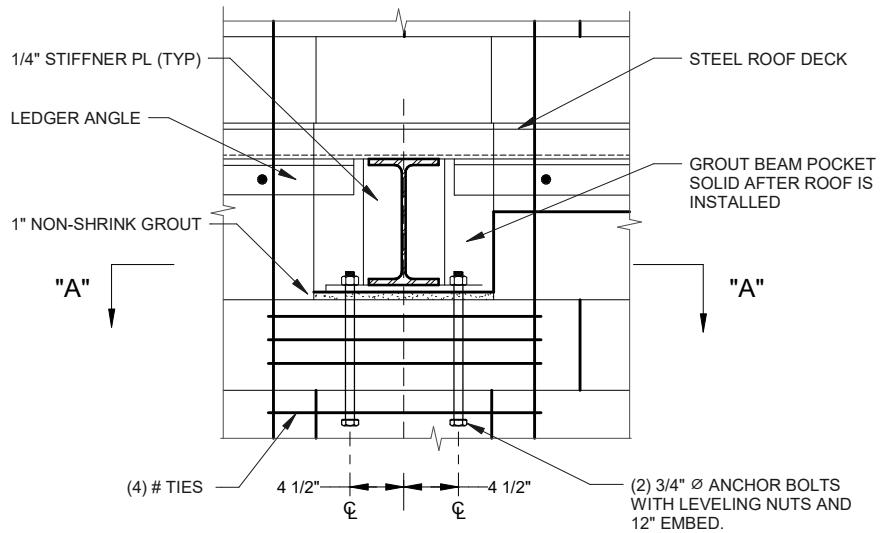
STEEL SINGLE PLATE SHEAR CONNECTION

DIVISION
D05
 SECTION - DETAIL NO.
5120-002

LOCATE TYP WALL BAR IN
CELL EACH SIDE OF BEAM
SEE DRAWING FOR BAR SIZE



PLAN "A"



SECTION "B"

REV	DATE	DESCRIPTION	BY
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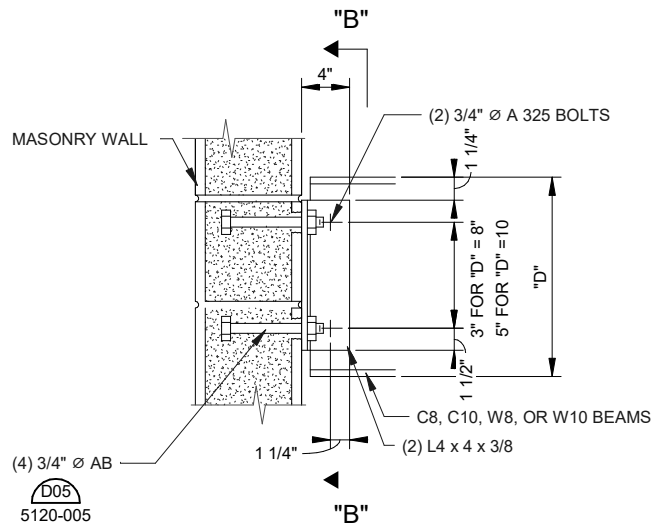
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**BEAM TO MASONRY WALL
CONNECTION**

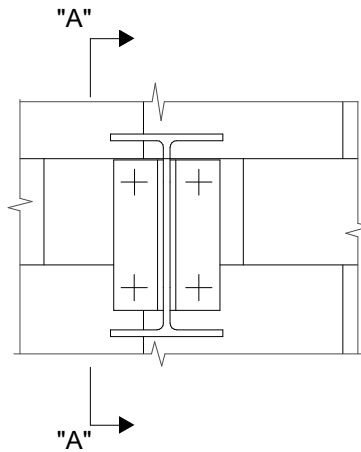
DIVISION
D05
SECTION - DETAIL NO.
5120-101

JOB NO.: 19W10160

DATE: 10/09/2023



SECTION "A"



SECTION "B"

- NOTES:
 1. FULLY GROUT MASONRY CELLS ON EACH SIDE OF BEAM.

REV	DATE	DESCRIPTION	BY
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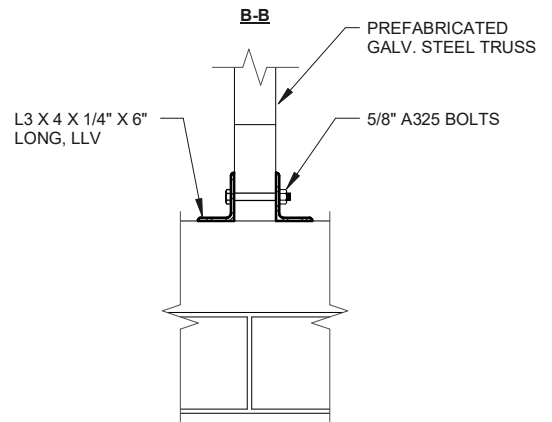
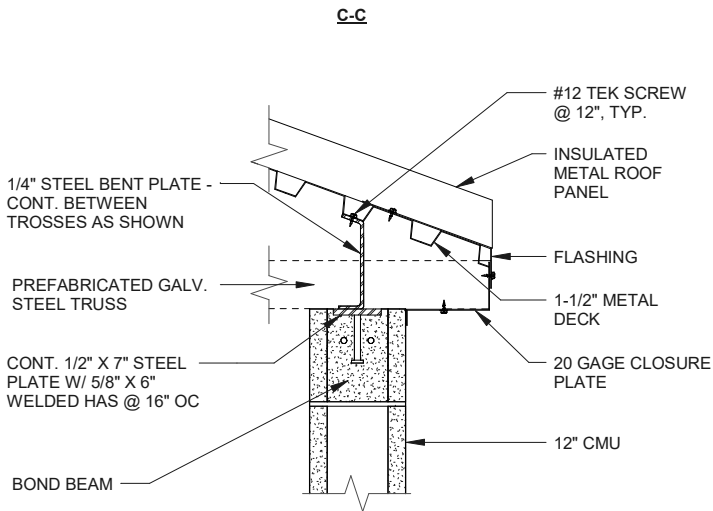
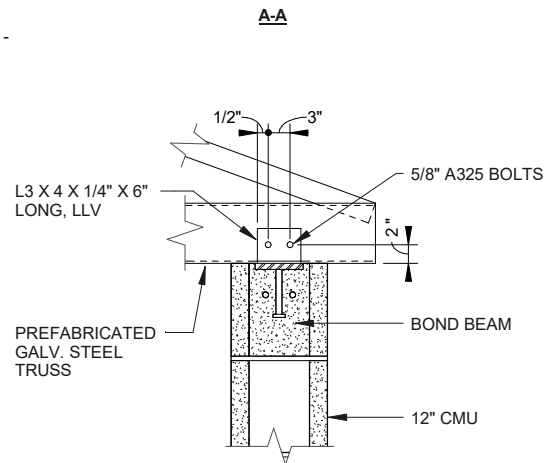
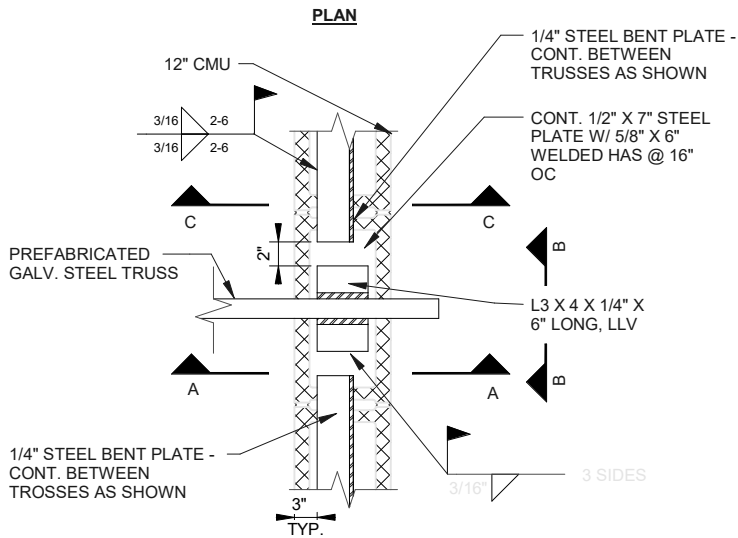
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

BEAM TO MASONRY WALL
 CONNECTION

DIVISION
D05
 SECTION - DETAIL NO.
5120-102

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

DETAIL- TRUSS ROOF TO CMU

DIVISION

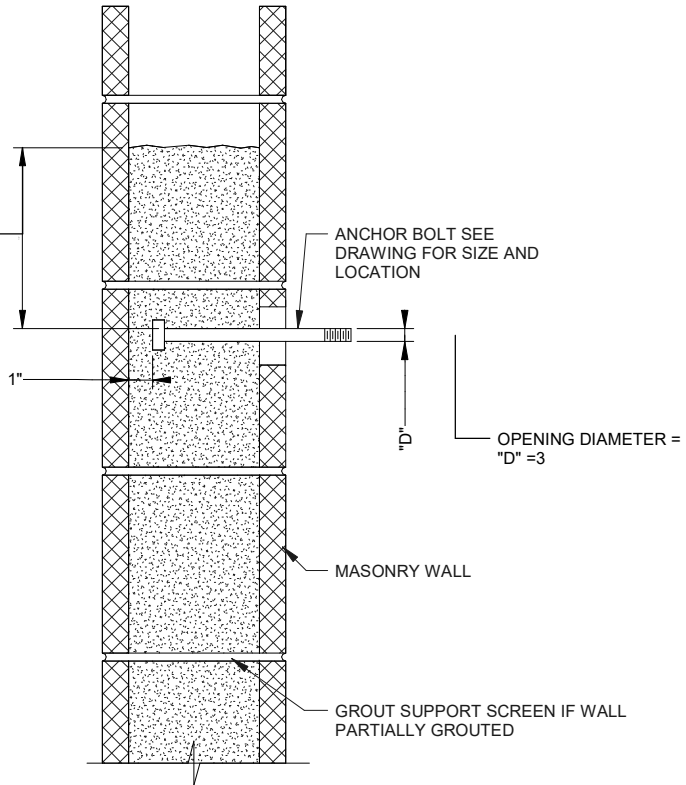
D05

SECTION - DETAIL NO.

5120-103

DATE: 10/09/2023

8" MIN GROUT ALL AROUND
ANCHOR BOLT IF WALL
PARTIALLY GROUTED



NOTES:

1. "D" DIAMETER OF ANCHOR BOLT.
2. SET ANCHOR BOLTS WITH TEMPLATE
3. CUT BLOCK WEB REQUIRED TO ALLOW PLACEMENT OF ANCHOR BOLT
WIT 1/2" MINIMUM OF GROUT BETWEEN ANCHOR BOLT AND BLOCK.

REV	DATE	DESCRIPTION	BY
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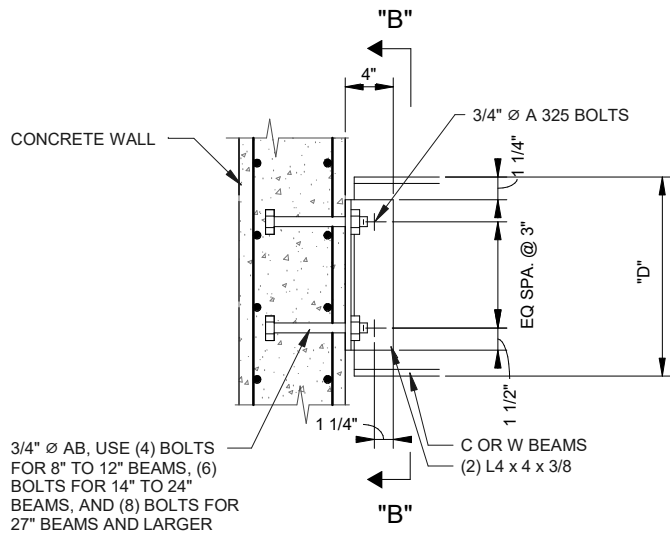
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

ANCHOR BOLTS IN MASONRY

DIVISION
D05
SECTION - DETAIL NO.
5120-105

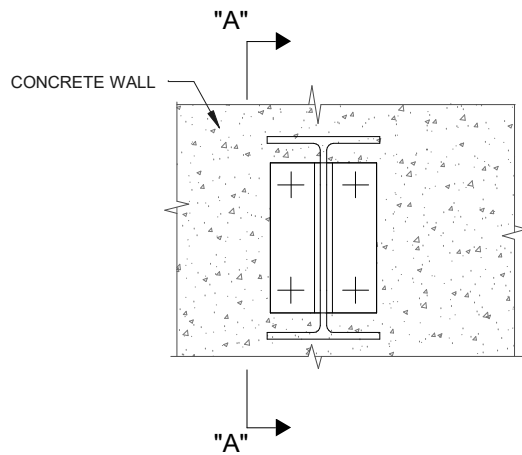
JOB NO.: 19W10160

DATE: 10/09/2023



3/4" Ø AB, USE (4) BOLTS FOR 8" TO 12" BEAMS, (6) BOLTS FOR 14" TO 24" BEAMS, AND (8) BOLTS FOR 27" BEAMS AND LARGER

SECTION "A"



SECTION "B"

REV	DATE	DESCRIPTION	BY
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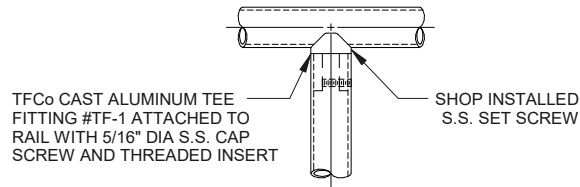
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

BEAM TO CONCRETE WALL CONNECTION

DIVISION
D05
 SECTION - DETAIL NO.
5120-110

JOB NO.: 19W10160

DATE: 10/09/2023



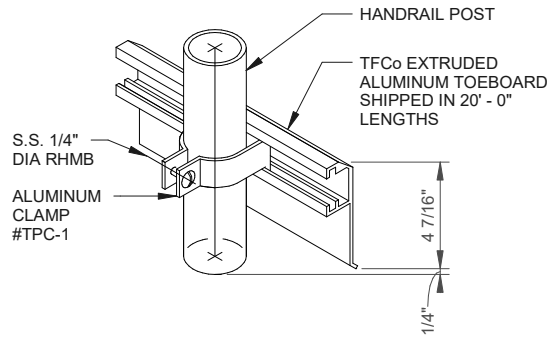
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TEE FITTING DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5213-100



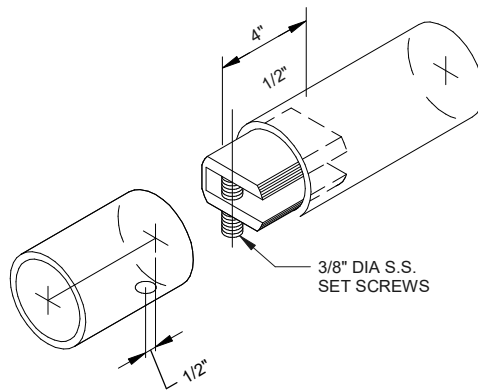
REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TOEBOARD DETAILS

DIVISION
D05
 SECTION - DETAIL NO.
5213-101



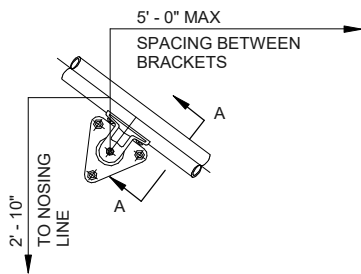
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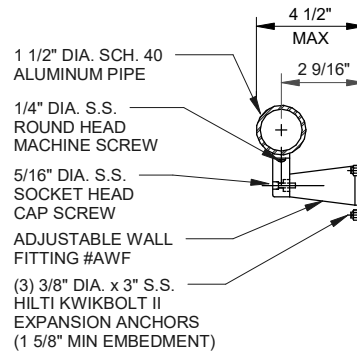
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

SPLICE LOCK

DIVISION
D05
 SECTION - DETAIL NO.
5213-102



WALL RAIL ELEVATION



SECTION A - A

REV	DATE	DESCRIPTION	BY
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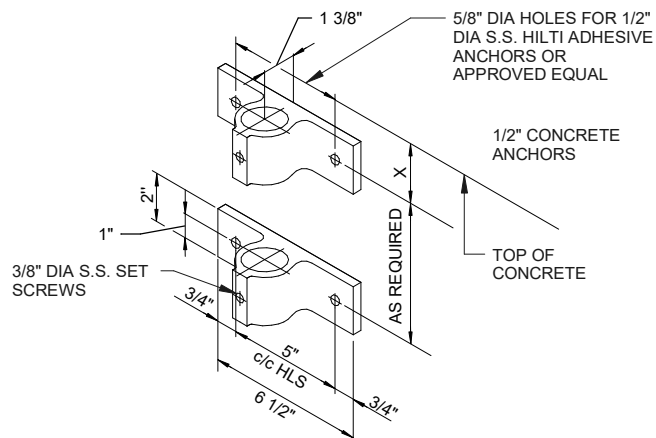
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

TYPICAL WALL RAIL DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5213-103

DATE: 10/09/2023



NOTES:

1. DIMENSION "X", EDGE DISTANCE SHALL COMPLY WITH FASTENER CALCULATIONS.

REV	DATE	DESCRIPTION	BY
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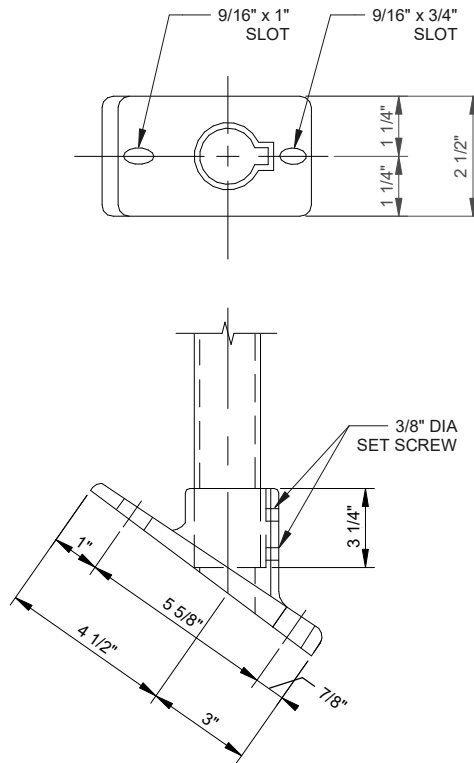
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

SIDE MOUNT BRACKET

DIVISION
D05
SECTION - DETAIL NO.
5213-105

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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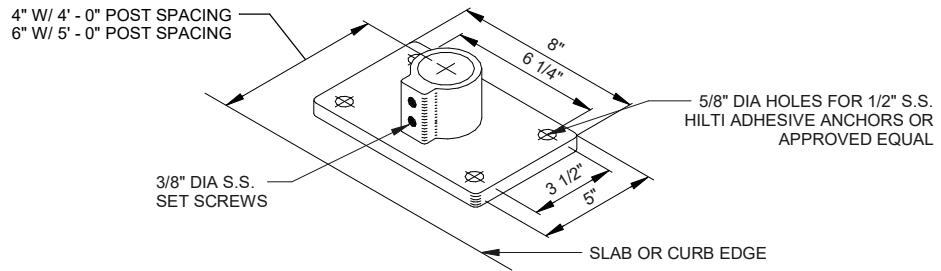
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

STAIR STRINGER BASE
 FLANGE DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5213-106

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. LOCATE SET SCREWS IN BASE FLANGE AT 90 DEGREES FROM CENTERLINE OF HANDRAIL RUN AND ON SIDE AWAY FROM WALKING SURFACE.

REV	DATE	DESCRIPTION	BY
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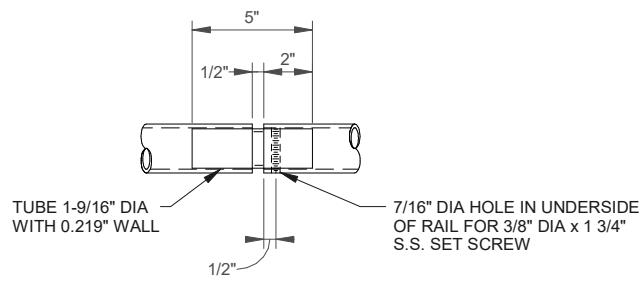
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BASE FLANGE DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5213-107

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. LOCATED AT 60' - 0" MAXIMUM INTERVALS.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

EXPANSION JOINT SPLICE

DIVISION
D05
SECTION - DETAIL NO.
5213-108

JOB NO.: 19W10160

DATE: 10/09/2023

TFCo CAST ALUMINUM
TEE FITTING #TF-1
ATTACHED TO POST
5/16" DIA S.S. THRU
BOLT

TFCo CAST ALUMINUM
TEE FITTING #TF-1
ATTACHED TO POST
5/16" DIA S.S. THRU BOLT

SHOP INSTALLED
S.S. SET SCREW



NOTES:

1. MIDRAIL EXPANSION SPLICE LOCATED AT 60' - 0" MAXIMUM INTERVALS.

REV	DATE	DESCRIPTION	BY
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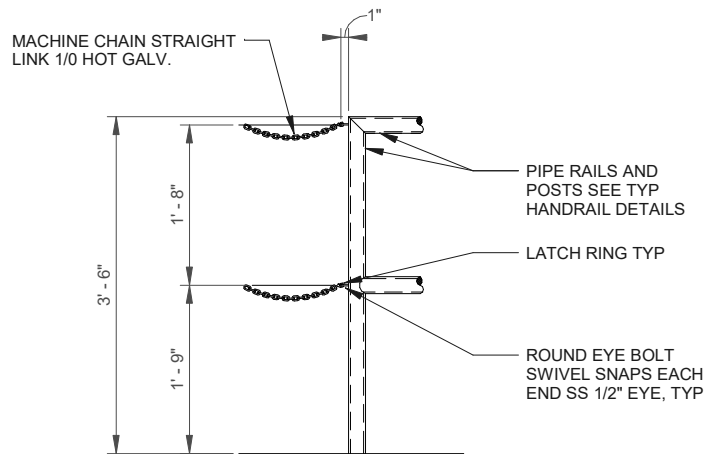
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

EXPANSION SPLICE DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5213-109

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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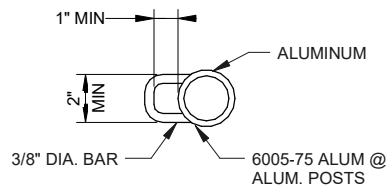
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

TYPICAL SAFETY CHAIN
DETAIL

DIVISION
D05
SECTION - DETAIL NO.
5213-110

DATE: 10/09/2023



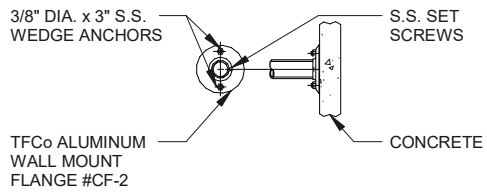
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL LATCH RING DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5213-111



REV	DATE	DESCRIPTION	BY
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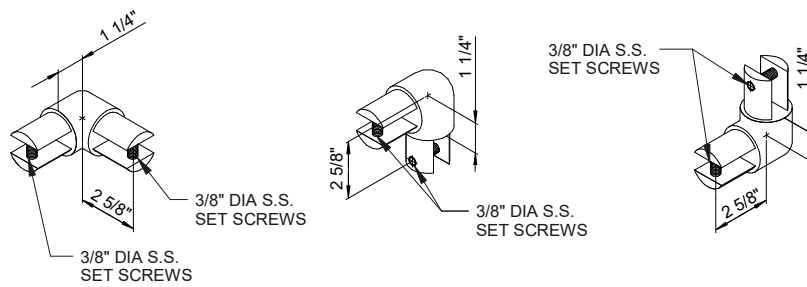
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL WIDE FLANGE DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5213-112

JOB NO.: 19W10160

DATE: 10/09/2023



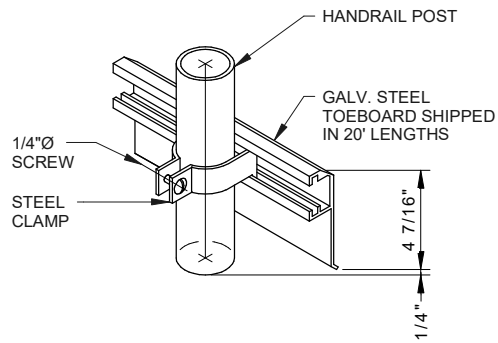
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

DETAILS

DIVISION
D05
 SECTION - DETAIL NO.
5213-113



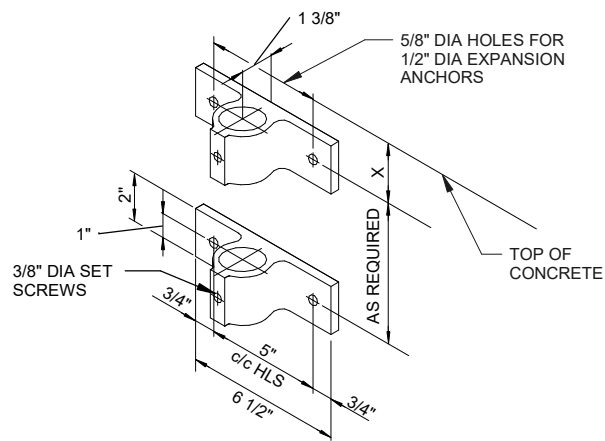
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TOEBOARD DETAILS

DIVISION
D05
 SECTION - DETAIL NO.
5213-116



NOTES:

1. DIMENSION "X", EDGE DISTANCE SHALL COMPLY WITH FASTENER CALCULATIONS.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

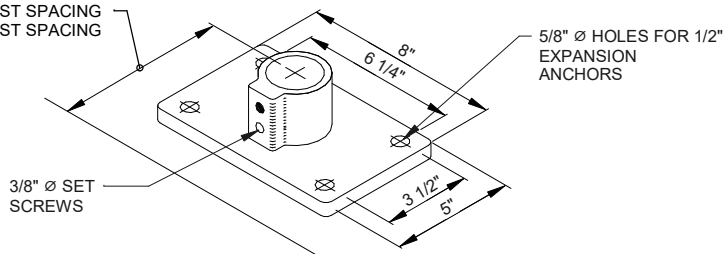
SIDE MOUNT BRACKET

DIVISION
D05
 SECTION - DETAIL NO.
5213-117

JOB NO.: 19W10160

DATE: 10/09/2023

4" W/4'-0" POST SPACING
6" W/5'-0" POST SPACING



5/8" Ø HOLES FOR 1/2" EXPANSION ANCHORS

3/8" Ø SET SCREWS

LOCATE SET SCREWS IN BASE FLANGE AT 90° FROM CENTLINE OF HANDRAIL RUN AN ON SIDE AWAY FROM WALKING SURFACE.

SLAB OR CURB EDGE

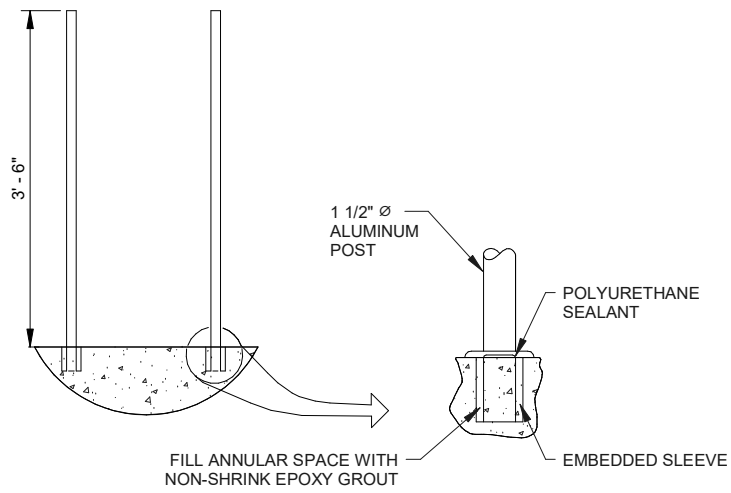
REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BASE FLANGE DETAIL
CONCRETE STAIR

DIVISION
D05
SECTION - DETAIL NO.
5213-118



REV	DATE	DESCRIPTION	BY
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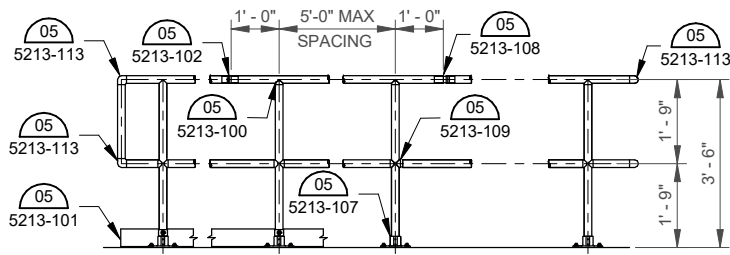
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

VERTICAL GRAB BARS

DIVISION
D05
 SECTION - DETAIL NO.
5213-139

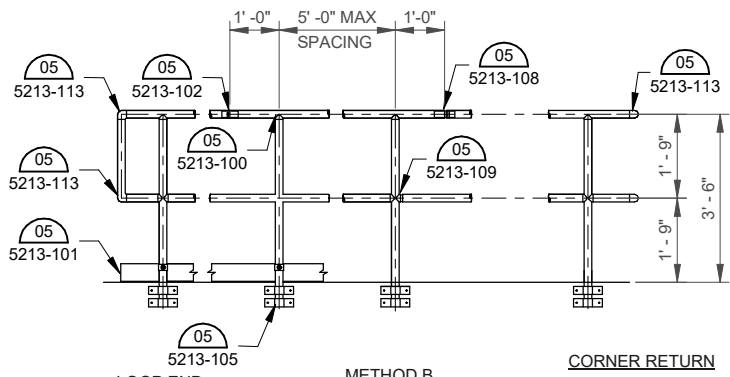
JOB NO.: 19W10160

DATE: 10/09/2023



LOOP END METHOD A CORNER RETURN
TYPICAL SIDE MOUNT RAILING

GUARDRAILS SHALL BE TOP MOUNTED OR SIDE MOUNTED AS SHOWN ON PLANS



LOOP END METHOD B CORNER RETURN
TYPICAL SIDE MOUNT RAILING

GUARDRAILS SHALL BE TOP MOUNTED OR SIDE MOUNTED AS SHOWN ON PLANS

REV	DATE	DESCRIPTION	BY
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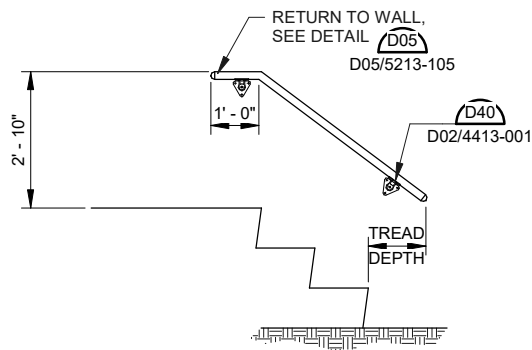
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

OSHA TYPE GUARDRAIL

DIVISION
D05
 SECTION - DETAIL NO.
5213-600

JOB NO.: 19W10160

DATE: 10/09/2023



GENERAL NOTES - HANDRAIL/GUARDRAIL

1. ADDITIONAL REQUIREMENTS PER SPECIFICATIONS.
2. TOE PLATE SHALL CONFORM TO OSHA STANDARDS. TOE PLATE SHALL BE MINIMUM OF 4" HIGH AND SHALL BE AN EXTRUSION THAT ATTACHES TO THE POSTS WITH CLAMPS WHICH WILL ALLOW FOR EXPANSION AND CONTRACTION BETWEEN POST. TOE PLATES SHALL BE SET 1/4" ABOVE THE WALKING SURFACE. TOE PLATES SHALL BE PROVIDED ON GUARDRAILS AS REQUIRED BY OSHA AND/OR AS SHOWN ON DRAWINGS. TOE PLATES SHALL BE SHIPPED LOOSE IN STOCK LENGTHS WITH PRE-MANUFACTURED CORNERS FOR FIELD INSTALLATION.
3. FINISH SHALL BE ALUMINUM ASSOCIATION M10-C22-A41 (215-R1). THE PIPE SHALL BE PLASTIC-WRAPPED. THE PLASTIC WRAP IS TO BE REMOVED AFTER ERECTION.
4. ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR ISOLATORS OR OTHER APPROVED MATERIAL.
5. ALUMINUM TOE BOARD NOT REQUIRED WHERE HANDRAIL INSTALLED ON A 4" HIGH CONCRETE CURB.
6. FOR TOP MOUNT GUARDRAIL/HANDRAIL, THE MINIMUM EDGE DISTANCE (EDGE OF CONCRETE TO CENTERLINE OF RAILING) SHALL BE 4". FOR AN EDGE DISTANCE LES THAN 6", THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 4' - 0" O.C.
7. SEE DRAWINGS FOR LOCATIONS OF OSHA TYPE AND PUBLIC TYPE GUARDRAIL/HANDRAIL.
8. POST FOR OSHA TYPE RAILS SHALL BE SCHEDULE 40 MINIMUM. POST FOR PUBLIC TYPE RAILS SHALL BE SCHEDULE 80 MINIMUM.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

WALL MOUNTED HANDRAIL

DIVISION

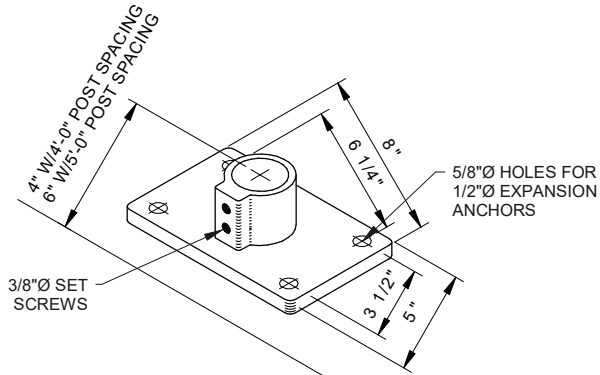
D05

SECTION - DETAIL NO.

5213-701

JOB NO.: 19W10160

DATE: 10/09/2023



LOCATE SET SCREWS IN BASE FLANGE AT 90° FROM CENTERLINE OF HANDRAIL RUN AND ON SIDE AWAY FROM WALKING SURFACE.

SLAB OR CURB EDGE

REV	DATE	DESCRIPTION	BY
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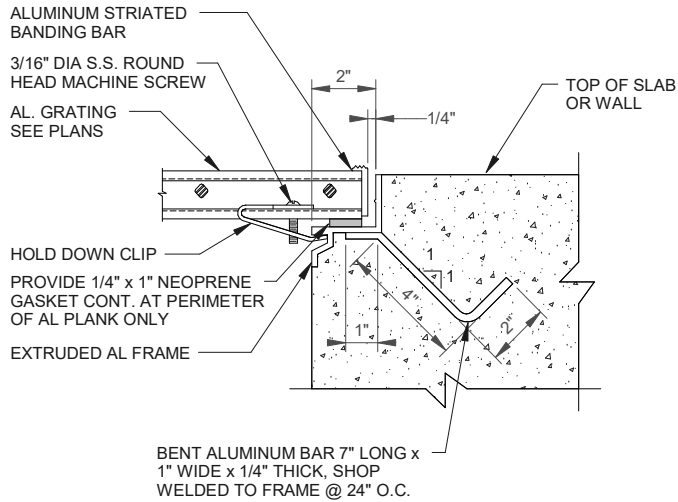
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

LADDER BASE FLANGE DETAIL

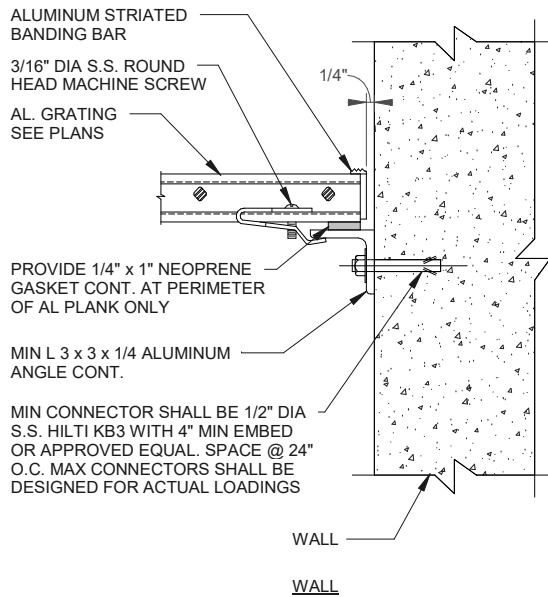
DIVISION
D05
 SECTION - DETAIL NO.
5213-807

JOB NO.: 19W10160

DATE: 10/09/2023




SLAB/TOP OF WALL



WALL

NOTES:

1. ALUMINUM GRATING SHOWN. FIBER-REINFORCED PLASTIC (FRP) GRATING AND ALUMINUM PLANK SIMILAR.
2. FOR LOCATIONS WITH FRP GRATING, PROVIDE FRP SUPPORT ANGLE, STAINLESS STEEL CLIPS, AND A FRP EMBED. ANGLE WITH PROTRUDED ANCHOR SUITABLE FOR CASTING INTO CONCRETE.
3. REFER TO  FOR GRATING NOTES.

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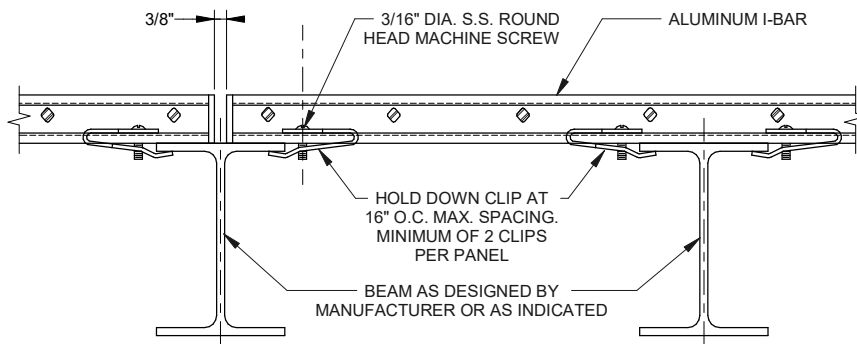


HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL GRATING AND FRAME
 DETAIL

DIVISION
D05
 SECTION - DETAIL NO.
5300-901



BEAM AT END OF GRATING PANELS

GRATING CONTINUOUS OVER BEAM, TYPICAL

GRATING AT SUPPORTS

NOTES:

1. ALUMINUM GRATING SHOWN. FIBER-REINFORCED PLASTIC (FRP) GRATING AND ALUMINUM PLANK SIMILAR.
2. REFER TO (D05) FOR GRATING NOTES. D05/5000-902

REV	DATE	DESCRIPTION	BY
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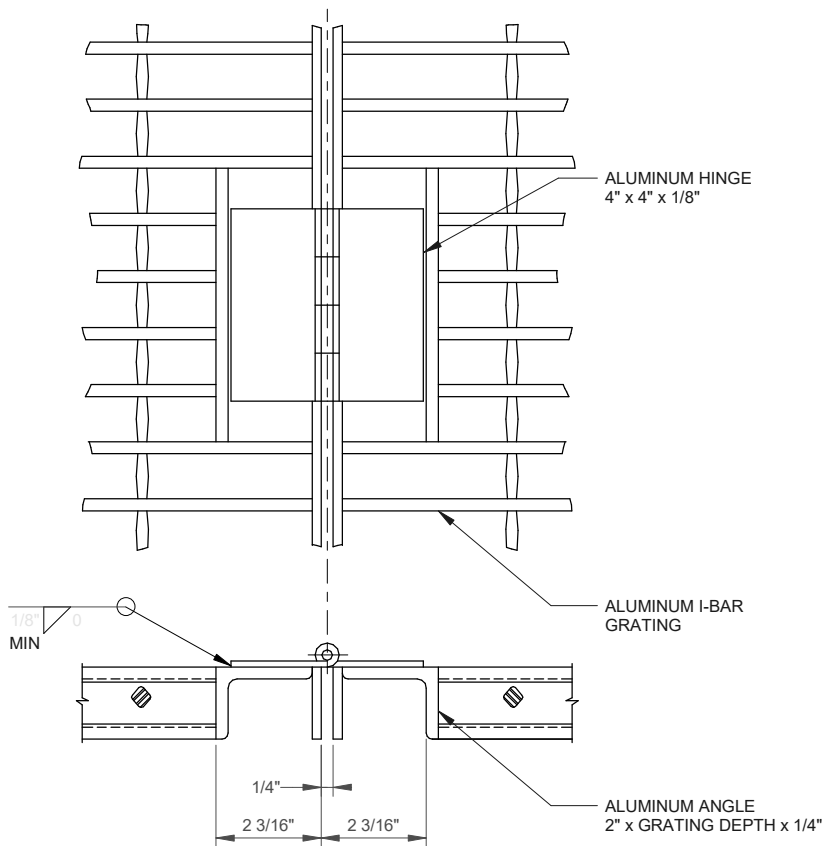
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL GRATING AND
SUPPORT DETAILS

DIVISION
D05
SECTION - DETAIL NO.
5300-902


JOB NO.: 19W10160

DATE: 10/09/2023



TYPICAL HINGED
GRATING DETAIL

NOTES:

1. ALUMINUM GRATING SHOWN. FIBER-REINFORCED PLASTIC (FRP) GRATING AND ALUMINUM PLANK SIMILAR.
2. REFER TO  5000-902 FOR GRATING NOTES.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

TYPICAL HINGED GRATING
DETAIL

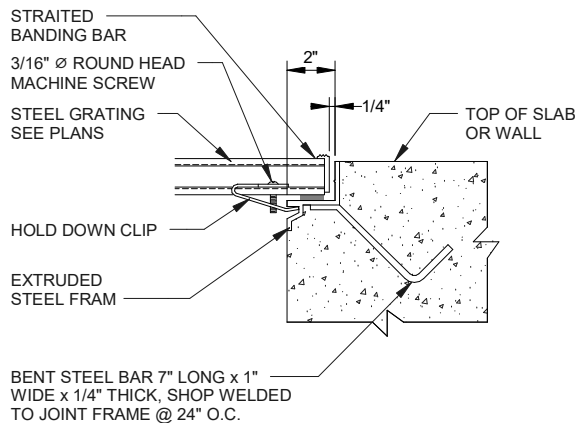
DIVISION

D05

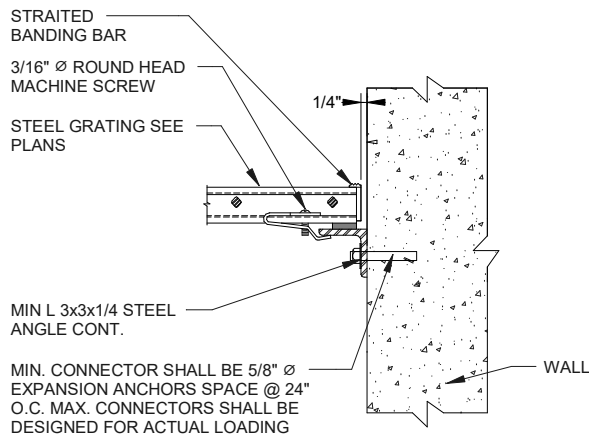
SECTION - DETAIL NO.

5300-903

DATE: 10/09/2023



SLAB/TOP OF WALL



WALL

NOTES:

1. REFER TO D05/5000-902 FOR GRATING NOTES

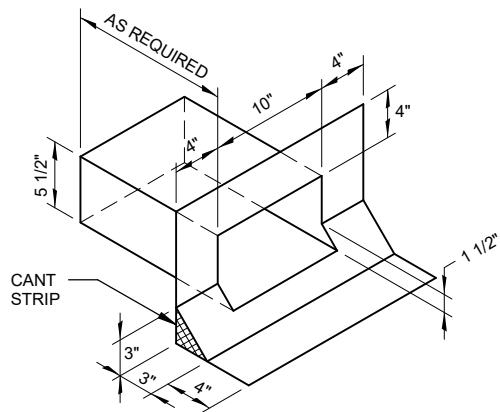
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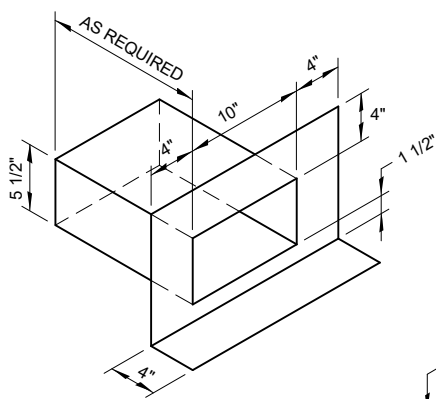
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL GRATING DETAIL AND
 FRAMING DETAIL

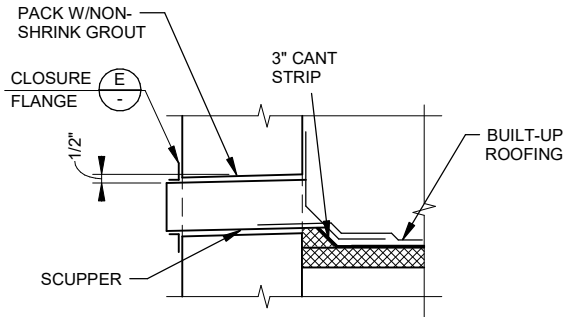
DIVISION
D05
 SECTION - DETAIL NO.
5300-904



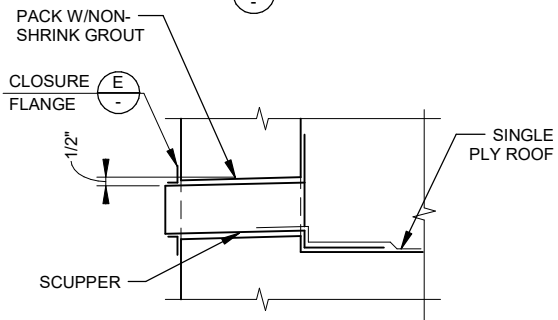
(A) ISOMETRIC - BUILT-UP ROOFING



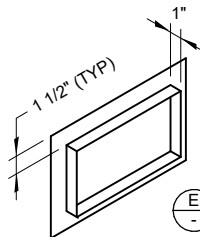
(C) ISOMETRIC - SINGLE PLY ROOFING



(B) SECTION



(D) SECTION



(E) CLOSURE FLANGE

NOTES:

1. PROVIDE SCUPPER AS DETAILED AND ADHERE TO SURROUNDING STRUCTURES UNLESS OTHERWISE RECOMMENDED BY ROOFING MANUFACTURER.
2. FABRICATE SCUPPER AND FLANGE FROM MIN 0.032" THICK PRE-FINISHED AL. FINISH SHALL BE KYNAR. COLOR SHALL BE ENGINEER SELECTED FROM STANDARD COLOR OFFERINGS. COAT AL IN CONTACT WITH CONCRETE AND CMU AS SPECIFIED.
3. LOCATE INVERT OF SCUPPER 2" ABOVE ADJACENT ROOF DRAIN INLET.
4. PROVIDE CLOSURE FLANGE AT EXTERIOR WALL. SET FLANGE IN SEALANT.

REV	DATE	DESCRIPTION	BY
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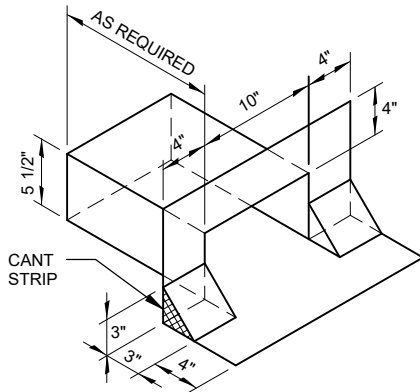
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

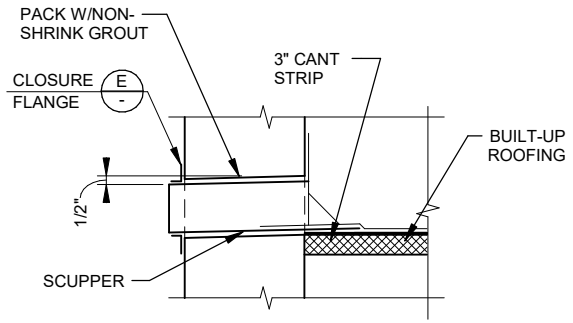
OVERFLOW SCUPPER FOR
BUILT UP AND SINGLE PLY
ROOFING

DIVISION
D07
SECTION - DETAIL NO.
7100-001

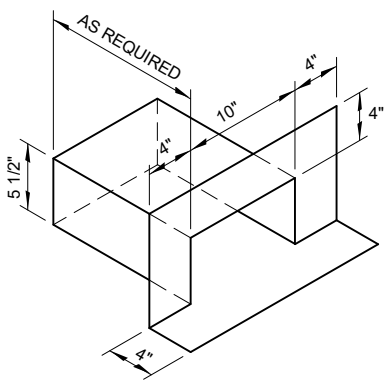
DATE: 10/09/2023



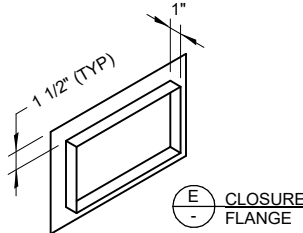
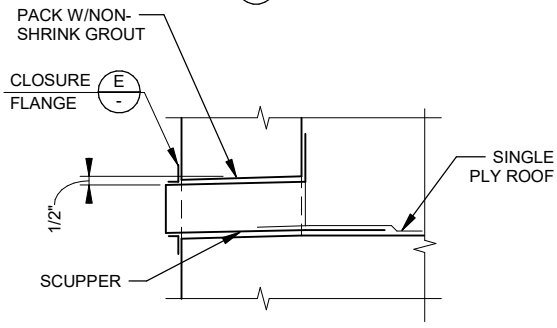
(A) ISOMETRIC - BUILT-UP ROOFING



(B) SECTION



(C) ISOMETRIC - SINGLE PLY ROOFING



(E) CLOSURE FLANGE

NOTES:

1. PROVIDE SCUPPER AS DETAILED AND ADHERE TO SURROUNDING STRUCTURES UNLESS OTHERWISE RECOMMENDED BY ROOFING MANUFACTURER.
2. FABRICATE SCUPPER AND FLANGE FROM MIN 0.032" THICK PRE-FINISHED AL. FINISH SHALL BE KYNAR. COLOR SHALL BE ENGINEER SELECTED FROM STANDARD COLOR OFFERINGS. COAT AL IN CONTACT WITH CONCRETE AND CMU AS SPECIFIED.
3. PROVIDE CLOSURE FLANGE AT EXTERIOR WALL. SET FLANGE IN SEALANT.

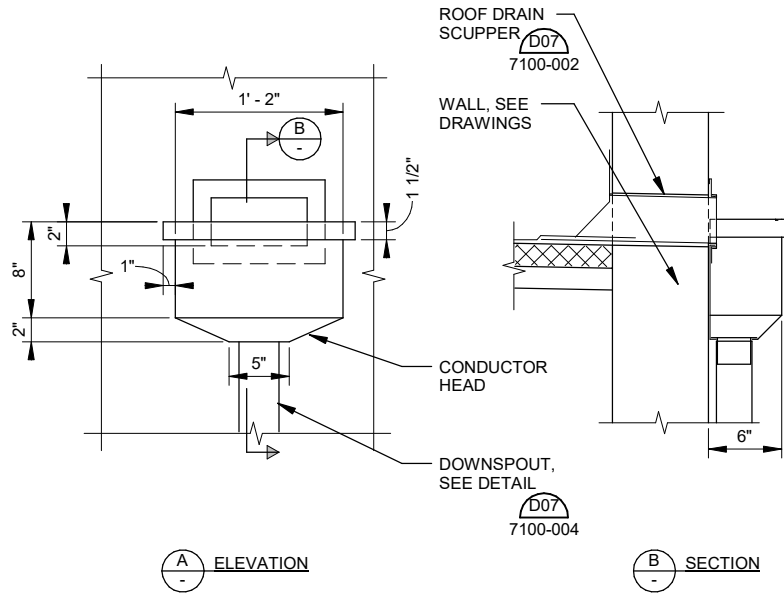
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
PHASE II IMPROVEMENTS
 JOB NO.: 19W10160

ROOF DRAIN SCUPPER FOR BUILT-UP AND SINGLE PLY ROOFING

DIVISION
D07
 SECTION - DETAIL NO.
7100-002
 DATE: 10/09/2023



NOTES:

1. PROVIDE CONDUCTOR HEAD AS DETAILED UNLESS OTHERWISE RECOMMENDED BY ROOFING MANUFACTURER.
2. FABRICATE CONDUCTOR HEAD FROM MIN 0.032" THICK PRE-FINISHED AL. FINISH SHALL BE KYNAR. COLOR SHALL BE ENGINEER SELECTED FROM STANDARD COLOR OFFERINGS. COAT AL IN CONTACT WITH CONCRETE AND CMU AS SPECIFIED. SEAL ALL JOINTS.
3. SEE SPEC FOR SPECIFIC ROOFING AND INSULATION MATERIAL. SCUPPER SHAPE WILL VARY WITH ROOFING TYPE.

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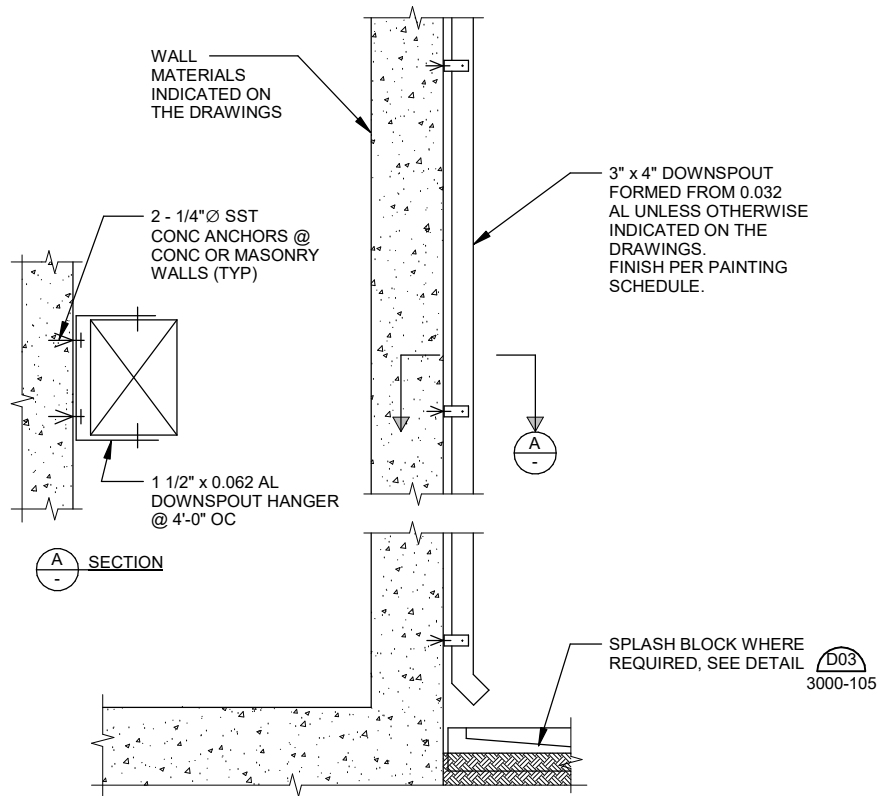
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

CONDUCTOR HEAD

DIVISION
D07
SECTION - DETAIL NO.
7100-003

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. PROVIDE SPLASH BLOCK AS SHOWN EXCEPT AT PAVING AND SIDEWALKS.
2. ALTERNATE SIZE DOWNSPOUTS WILL BE REQUIRED, IF SO INDICATED ON THE DRAWINGS.
3. COAT AL IN CONTACT WITH CONCRETE AND CMU AS SPECIFIED.

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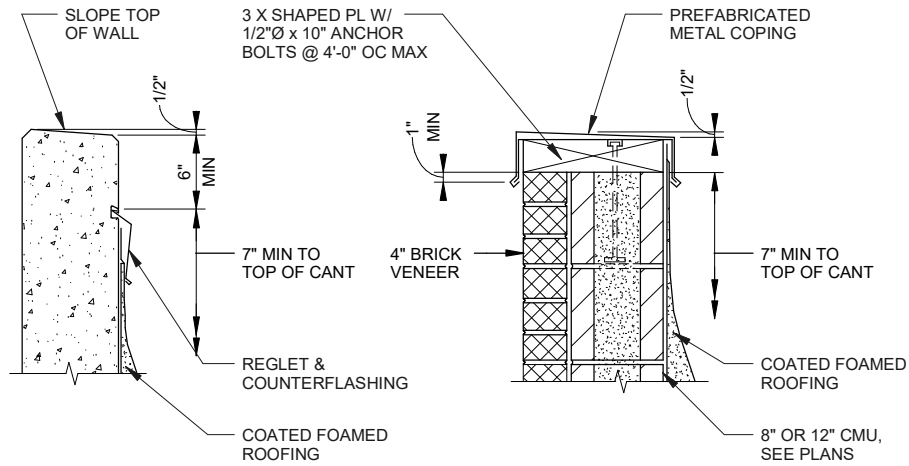
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

DOWNSPOUT

DIVISION
D07
SECTION - DETAIL NO.
7100-004

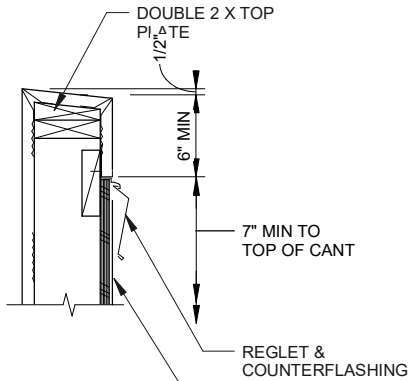
JOB NO.: 19W10160

DATE: 10/09/2023

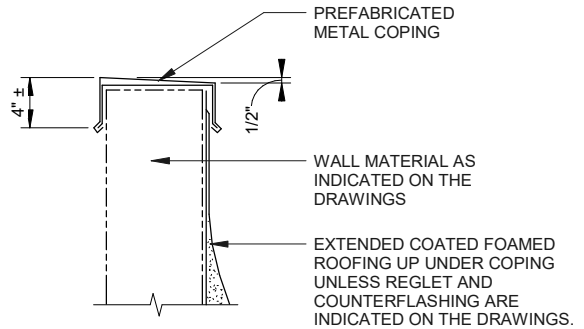


A CONCRETE WALL
W/ REGLET

B MASONRY WALL
W/ METAL COPING



C STUCCO FINISH
W/ REGLET



D PREFABRICATED
METAL COPING

REV	DATE	DESCRIPTION	BY
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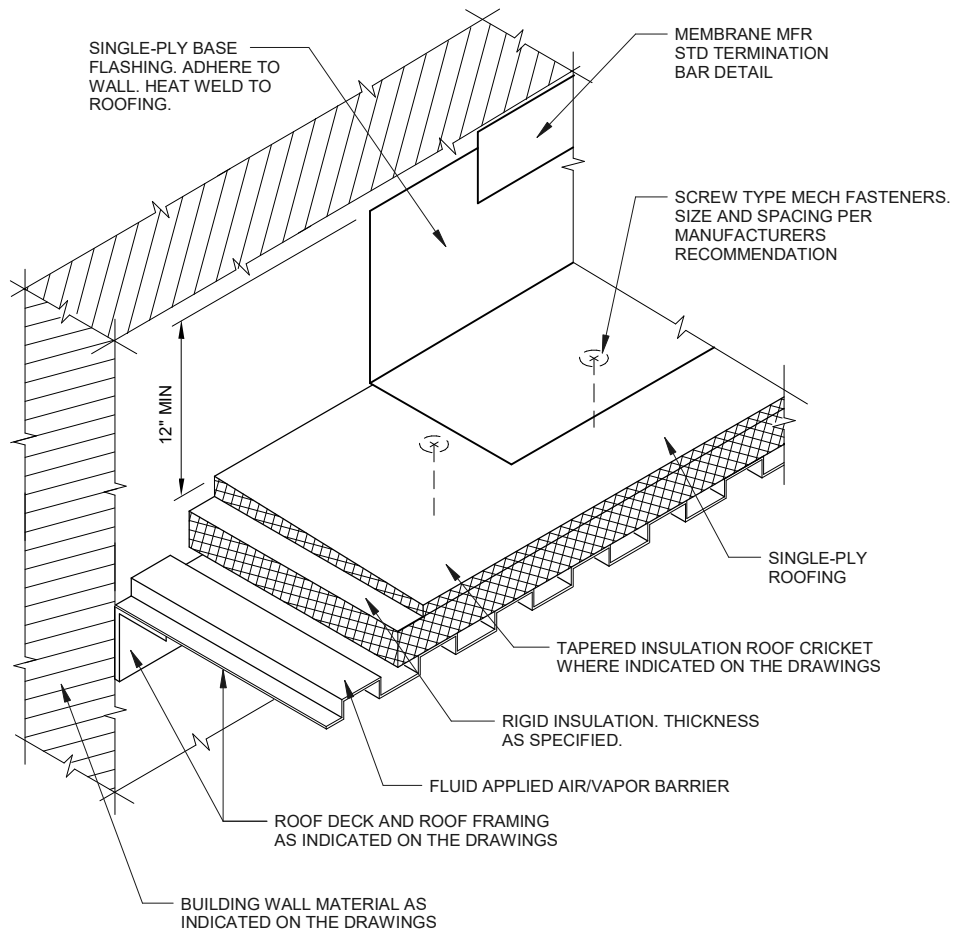
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

PARAPET DETAILS

DIVISION
D07
SECTION - DETAIL NO.
7100-005

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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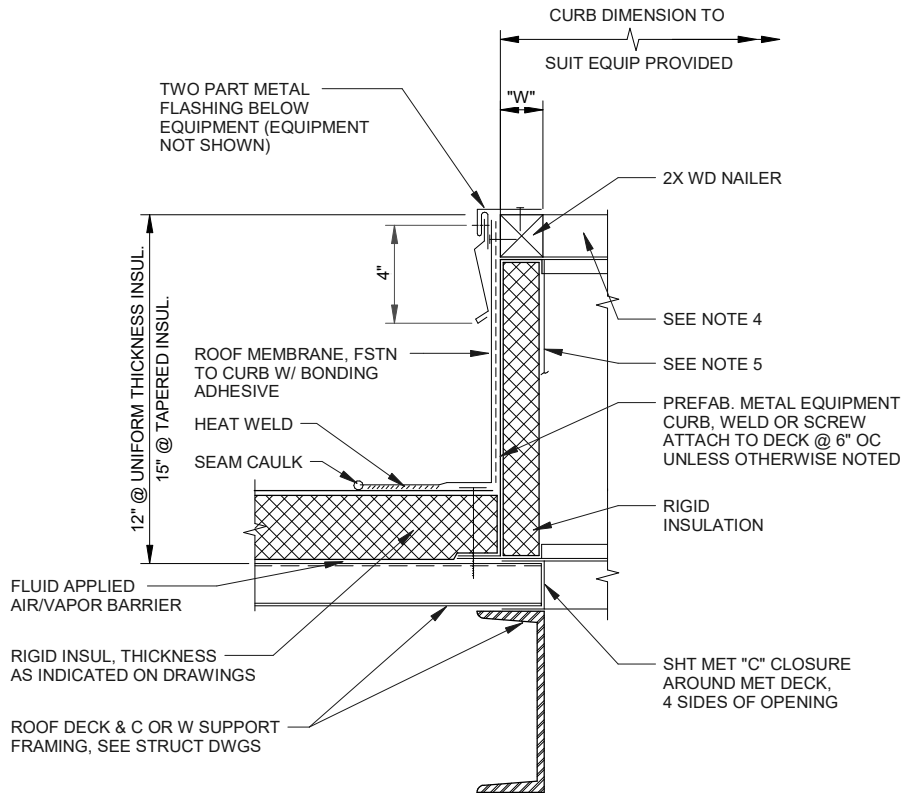
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

SINGLE-PLY ROOFING

DIVISION
D07
SECTION - DETAIL NO.
7100-006

DATE: 10/09/2023



NOTES:

1. "W" DIMENSION SHALL BE AS REQD BY EQUIP SUPPORTED. CURB MFR TO VERIFY "W" PRIOR TO FABRICATION.
2. SLOPE SIDES OF CURB TO COMPENSATE FOR ROOF SLOPE, PROVIDING LEVEL TOP ON WHICH TO MOUNT EQUIPMENT, UNLESS OTHERWISE NOTED.
3. CURB IS SHOWN @ EDGE OF DECK OPENING, CURB MAY BE LARGER THAN DECK OPENING OR DECK OPENING MAY NOT EXIST. SEE ROOF PLAN.
4. WHERE A PLATFORM IS INDICATED OR REQUIRED FOR SLED MTD EQUIP, PROVIDE A 3/4" PLYWOOD TOP WITH 20 GA GALV CAP FLASHING, WELDED WATERTIGHT. FSTN EQUIP TO PLATFORM W/ LAG BOLTS THROUGH RUBBER WASHERS.
5. WHERE CURB IS EXPOSED TO VIEW FROM BELOW, CURB MFR SHALL PROVIDE AN INTERIOR METAL LINER, MATCHING MATERIAL OF CURB TO CONCEAL INSULATION.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

EQUIPMENT CURB @ SINGLE-PLY ROOFING

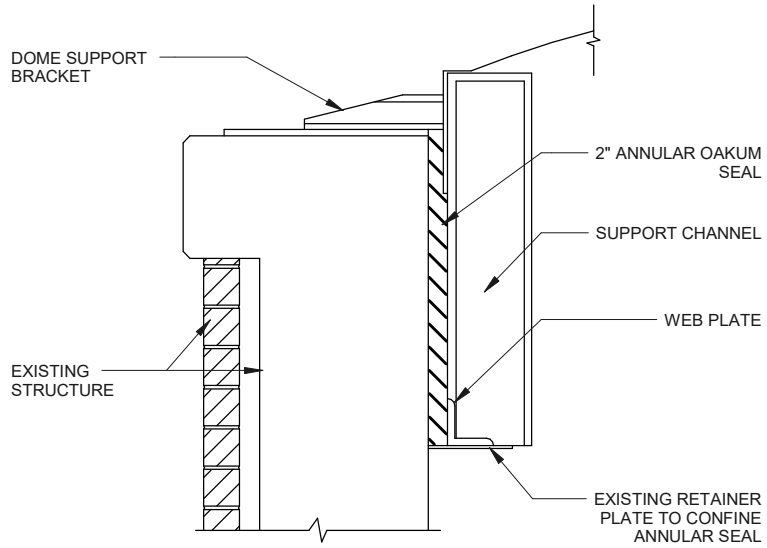
DIVISION

D07

SECTION - DETAIL NO.

7200-001

DATE: 10/09/2023



NOTES:

1. COVER SEAL DETAIL IS SCHEMATIC ONLY, MANUFACTURERS PREFERRED METHOD AND DETAILS SHALL BE USED.

REV	DATE	DESCRIPTION	BY
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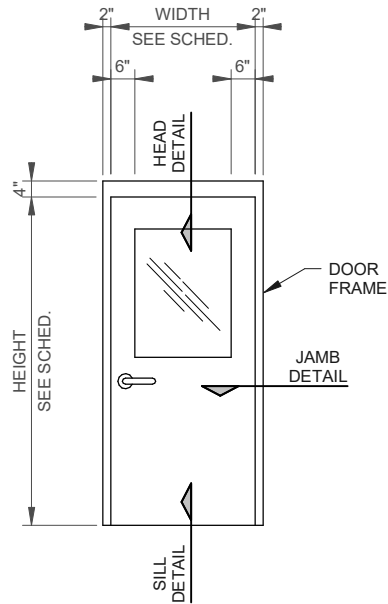
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

DOVE COVER SEAL

DIVISION
D07
 SECTION - DETAIL NO.
9200-001

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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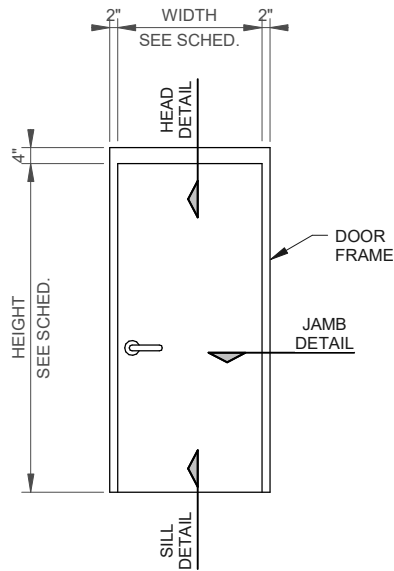
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

SINGLE FLUSH DOOR WITH
 VIEW PARTIAL VISION PANEL
 GLAZED GLASS

DIVISION
D08
 SECTION - DETAIL NO.
1613-100A

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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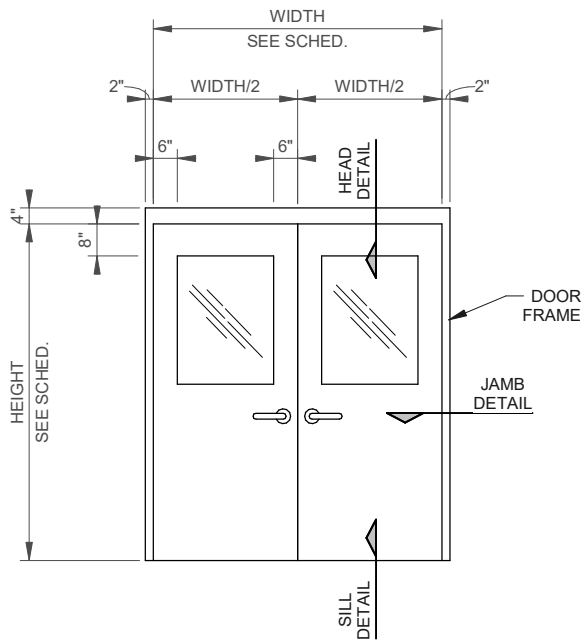
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYP SINGLE FLUSH DOOR
 TYPE

DIVISION
D08
 SECTION - DETAIL NO.
1613-100B

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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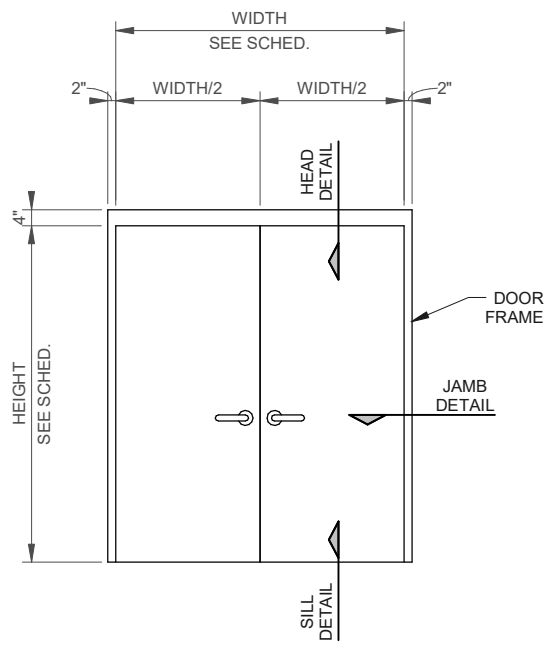
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**DOUBLE FLUSH DOORS WITH
PARTIAL VISION PANELS
GLAZED GLASS**

DIVISION
D08
SECTION - DETAIL NO.
1613-100C

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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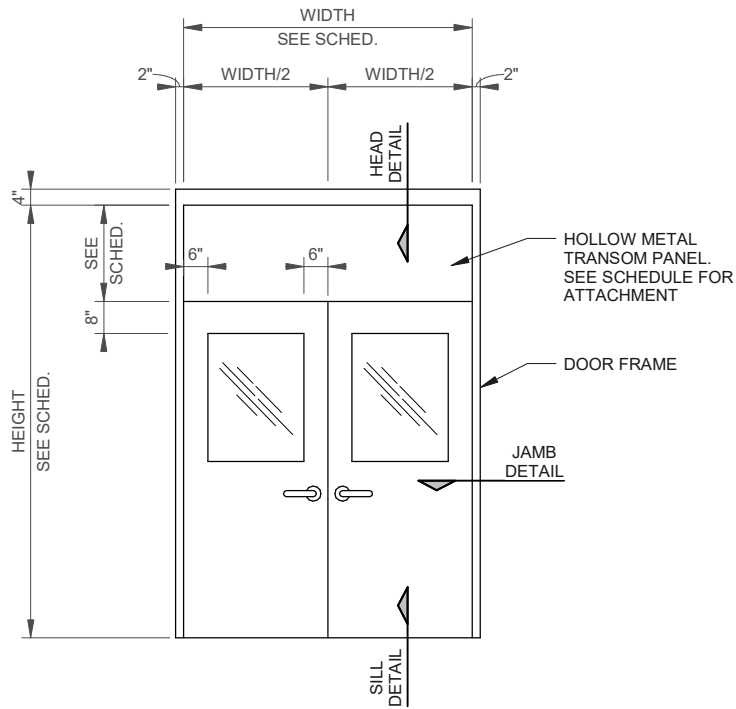
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

DOUBLE FLUSH DOORS

DIVISION
D08
 SECTION - DETAIL NO.
1613-100D

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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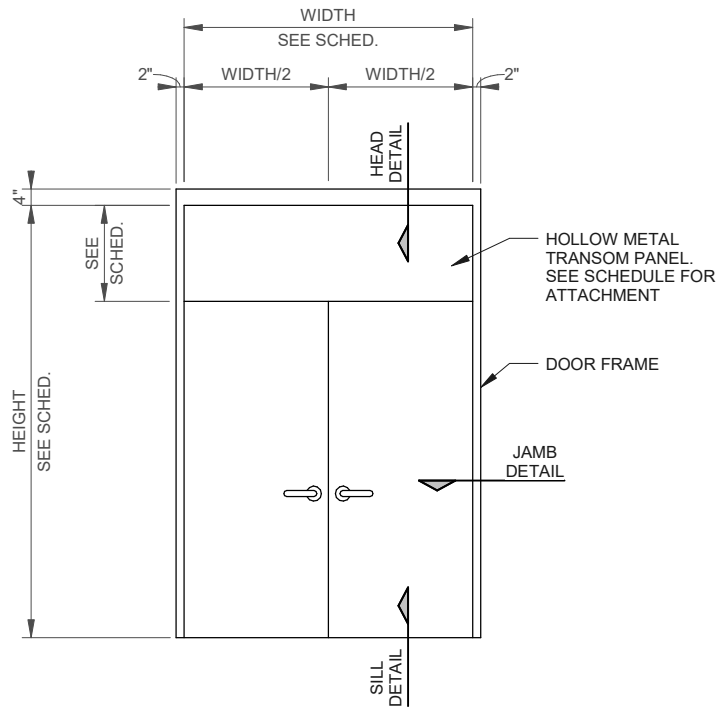
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**DOUBLE FLUSH DOORS WITH
PARTIAL VISION PANELS
GLAZED GLASS HINED
TRANSOM PANEL**

DIVISION
D08
SECTION - DETAIL NO.
1613-100E

JOB NO.: 19W10160

DATE: 10/09/2023



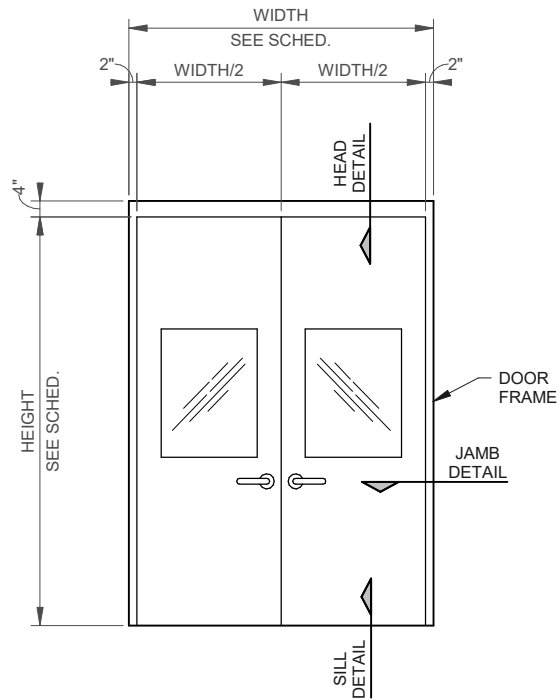
REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYP DOUBLE FLUSH TRANSOM
 DOOR TYPE

DIVISION
D08
 SECTION - DETAIL NO.
1613-100F



REV	DATE	DESCRIPTION	BY
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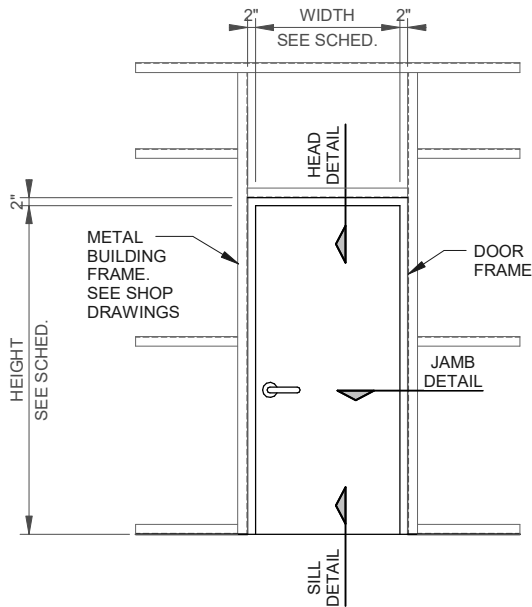
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

DOUBLE FLUSH DOORS WITH
 PARTIAL VISION PANELS
 GLAZED GLASS

DIVISION
D08
 SECTION - DETAIL NO.
1613-100G

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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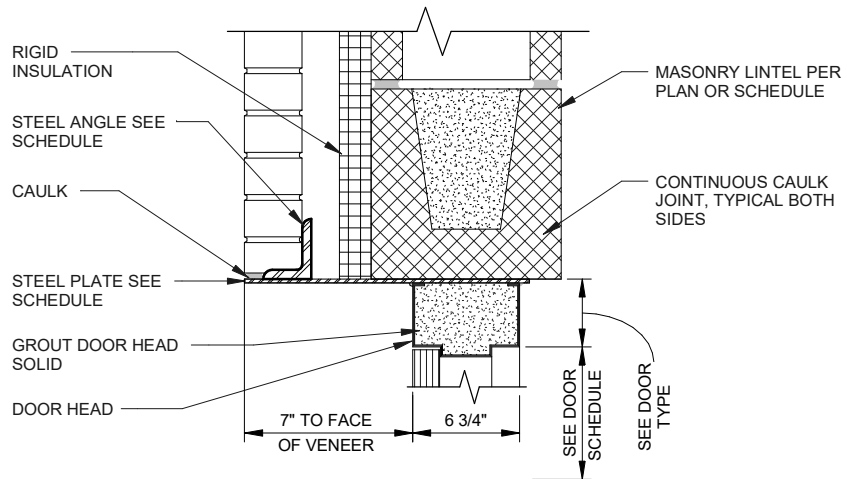
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

SINGLE FLUSH DOOR

DIVISION
D08
 SECTION - DETAIL NO.
1613-100J

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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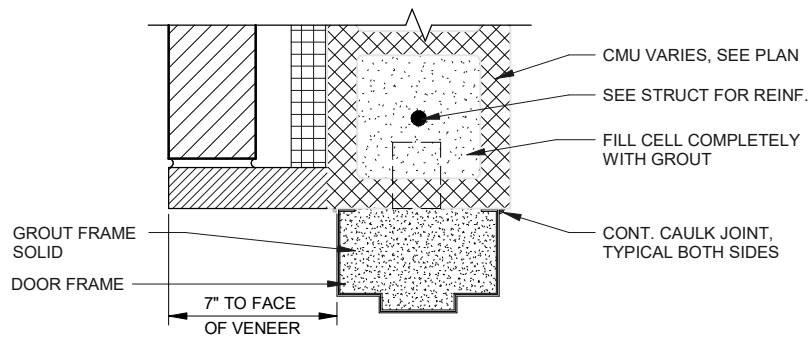
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL PERSONEL DOOR @
 MASONRY WALL w/ VENEER

DIVISION
D08
 SECTION - DETAIL NO.
1613-201

JOB NO.: 19W10160

DATE: 10/09/2023



NOTE:
 1. 8" CMU SHOWN, 12" CMU SIMILAR

REV	DATE	DESCRIPTION	BY
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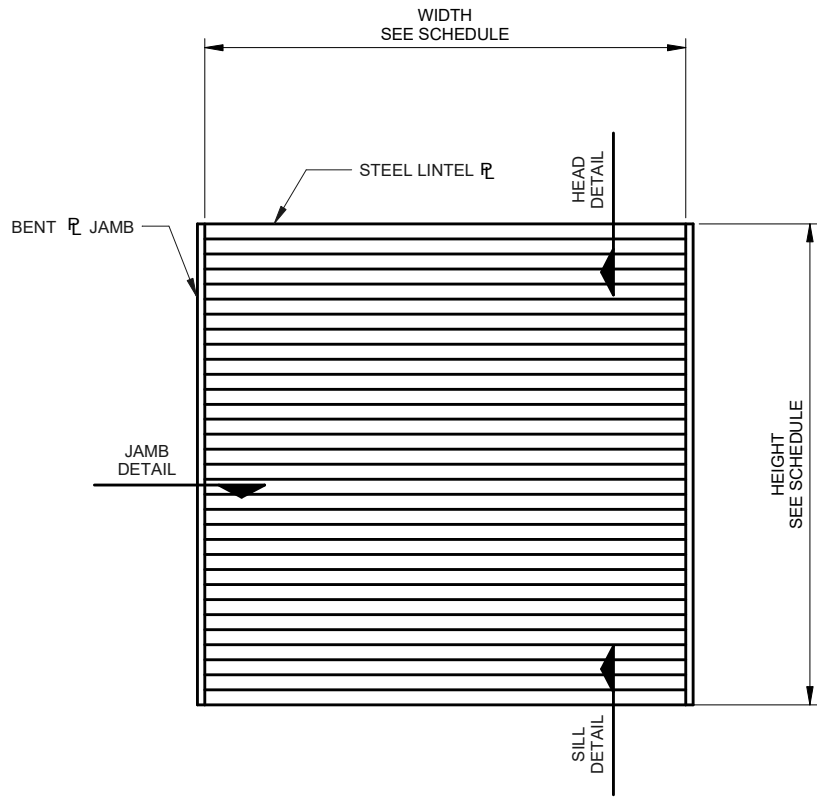
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL DOOR JAMB @
 EXTERIOR MASONRY WALL

DIVISION
D08
 SECTION - DETAIL NO.
1613-204


JOB NO.: 19W10160

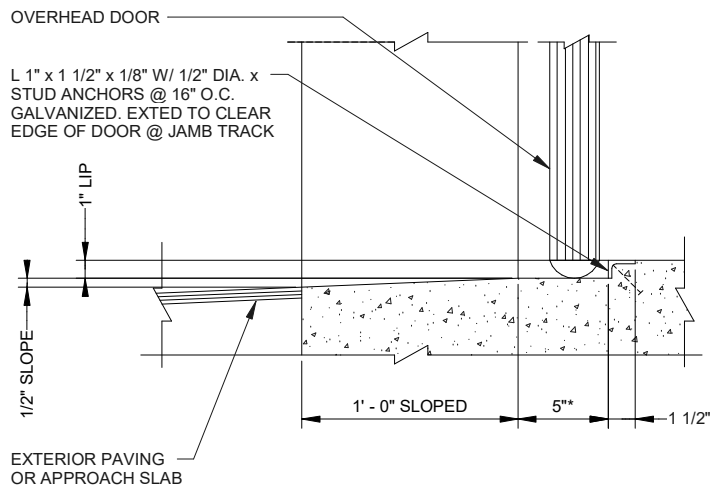
DATE: 10/09/2023



OVERHEAD COILING DOOR

REV	DATE	DESCRIPTION	BY
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	HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY TUSCALOOSA, AL PHASE II IMPROVEMENTS	TYP OVERHEAD DOOR TYPE	DIVISION D08
	JOB NO.: 19W10160		SECTION - DETAIL NO. 3323-100C
		DATE: 10/09/2023	



NOTE:

- * = DIMENSION SHALL BE VERIFIED WITH DOOR SUPPLIED.

REV	DATE	DESCRIPTION	BY
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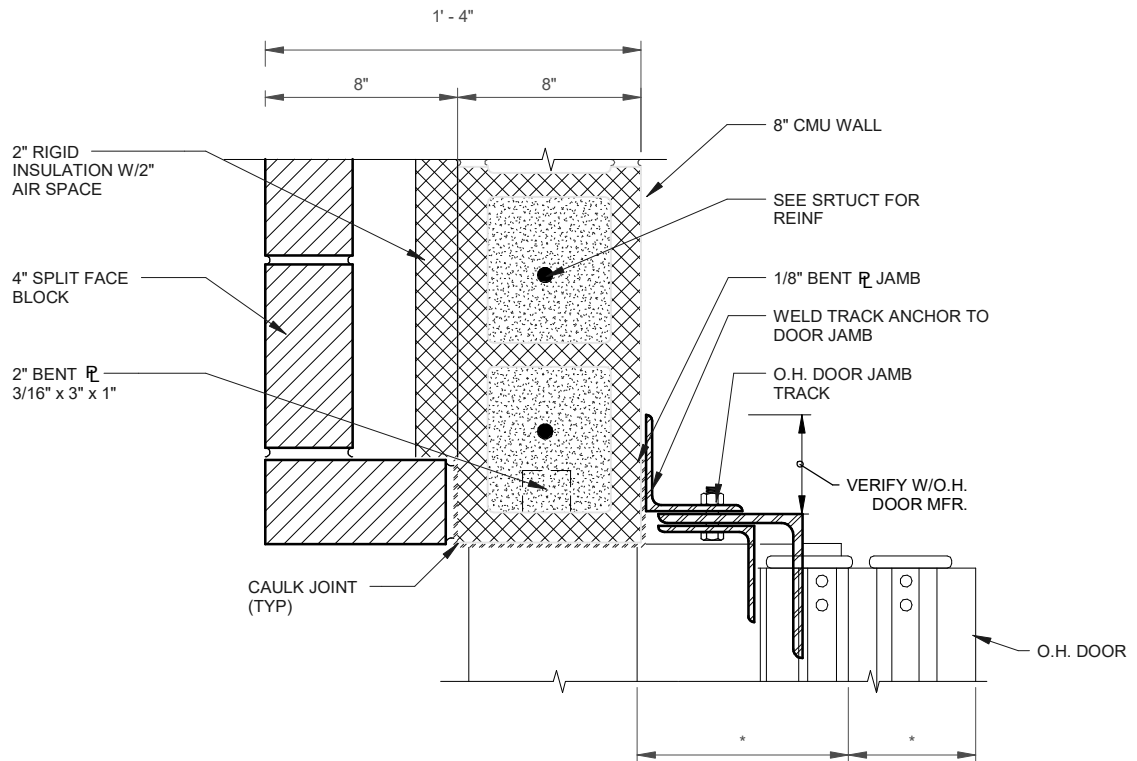
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYP SILL EXT OVERHEAD
DOOR DETAILS

DIVISION
D08
SECTION - DETAIL NO.
3323-306

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. * - VERIFY ALL DIMENSIONS WITH DOOR SUPPLIED.
2. 8" CMU SHOWN, 12" CMU SIMILAR

REV	DATE	DESCRIPTION	BY
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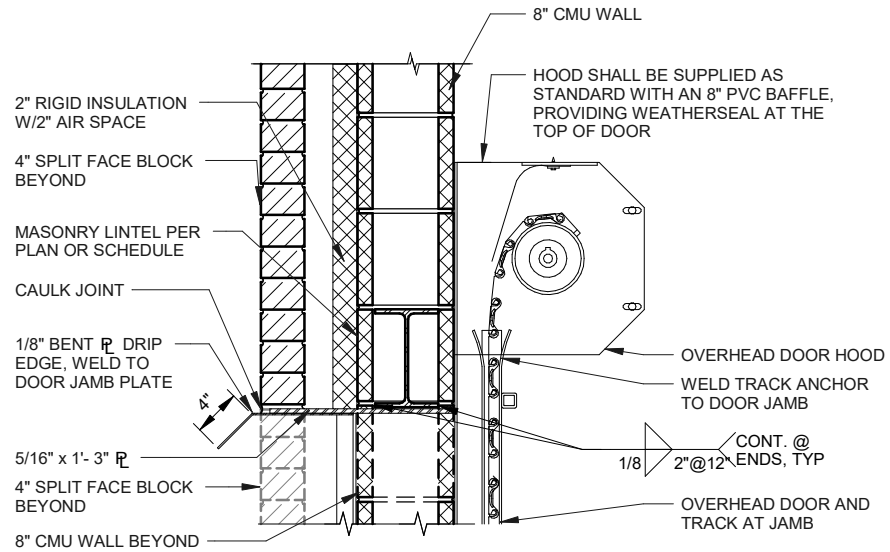
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL DOOR JAMB @
EXTERIOR CMU

DIVISION
D08
SECTION - DETAIL NO.
3323-307

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. 8" CMU SHOWN, 12" CMU SIMILAR
2. END BEARING SHALL BE 8" EACH END, UNO.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

OVERHEAD DOOR HEAD
DETAIL @ EXTERIOR
MASONRY WALL

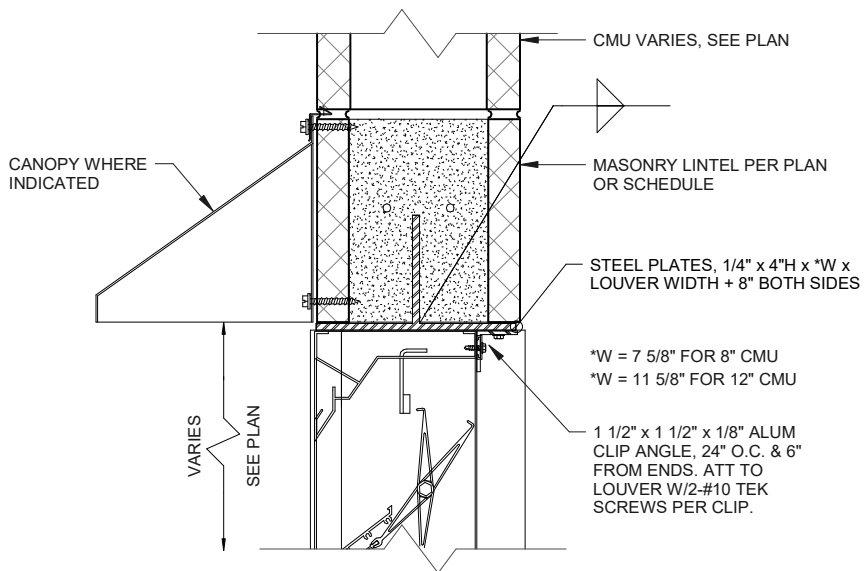
DIVISION

D08

SECTION - DETAIL NO.

3323-308

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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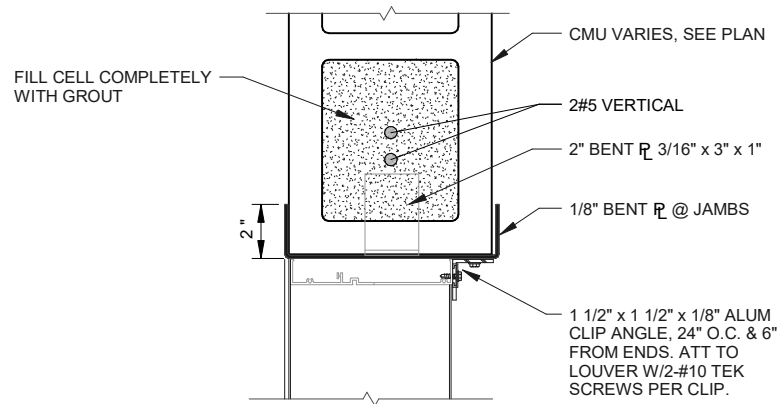
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYP HEAD EXT LOUVER
DETAIL

DIVISION
D08
SECTION - DETAIL NO.
9000-800

JOB NO.: 19W10160

DATE: 10/09/2023



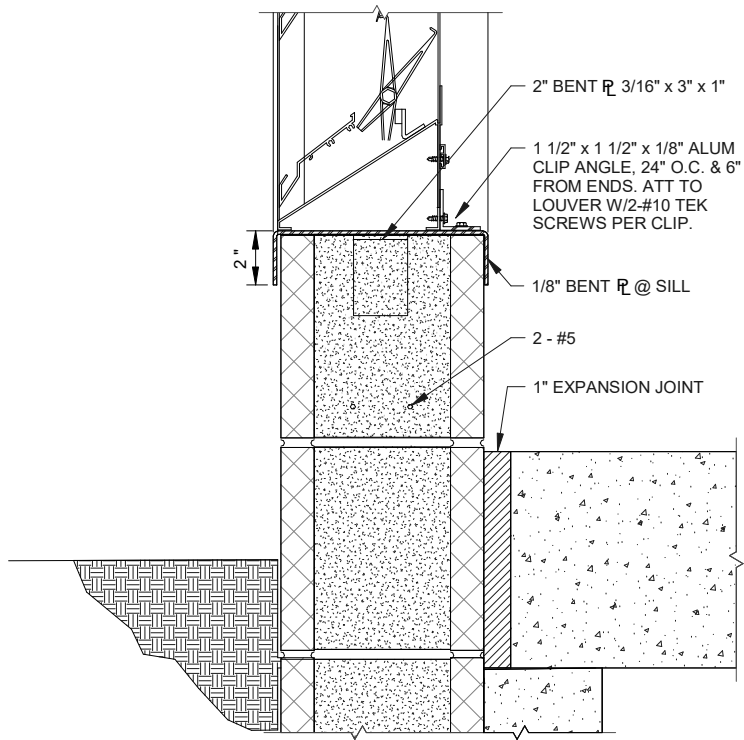
REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL LOUVER JAMB
 DETAIL

DIVISION
D08
 SECTION - DETAIL NO.
9000-803



REV	DATE	DESCRIPTION	BY
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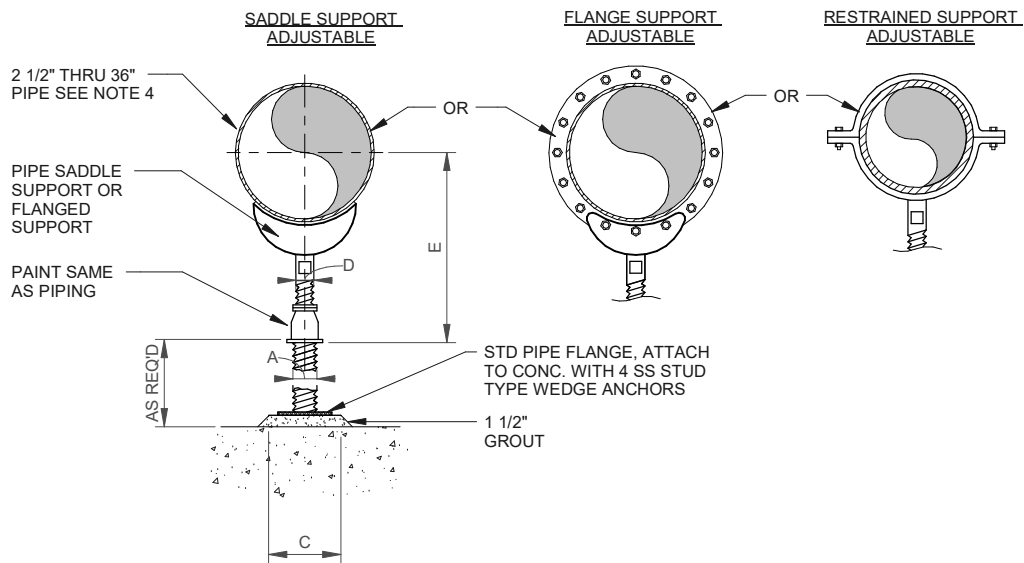
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYP SILL EXT LOUVER DETAIL

DIVISION
D08
 SECTION - DETAIL NO.
9000-806

JOB NO.: 19W10160

DATE: 10/09/2023



DIMENSION TABLE						
PIPE SIZE	A	B	C	D	E	
					MIN	MAX
2-1/2"	2-1/2"	3-1/2"	6"	1-1/2"	8"	13"
3"	2-1/2"	3-3/4"	8"	1-1/2"	8-1/4"	13-1/4"
3-1/2"	2-1/2"	4"	8"	1-1/2"	8-1/2"	13-1/2"
4"	3"	4-1/4"	8"	2-1/2"	9-1/4"	14"
5"	3"	4-7/8"	8"	2-1/2"	10"	14-3/4"
6"	3"	5-1/2"	10"	2-1/2"	10-1/2"	15-1/4"
8"	3"	6-7/8"	10"	2-1/2"	11-3/4"	15-1/2"
10"	3"	8-1/2"	14"	2-1/2"	13-1/2"	18-1/4"
12"	3"	9-15/16"	18"	2-1/2"	15"	19-3/4"
14"	4"	10-15/16"	18"	3"	16-1/4"	20-3/4"
16"	4"	12-3/8"	20"	3"	17-3/4"	22-1/4"
18"	6"	13-7/8"	22"	3-1/2"	19-1/2"	24"
20"	6"	15-3/8"	22"	3-1/2"	21"	25-1/2"
24"	6"	17-15/16"	24"	4"	23-3/4"	28-1/4"
30"	6"	21-5/16"	30"	4"	27"	31-1/2"
32"	6"	22-1/2"	30"	4"	28-1/4"	32-3/4"
36"	6"	24-1/2"	30"	4"	30-1/4"	34-3/4"

NOTES:

1. PROVIDE HALF ROUND RIGID INSULATION AND INSULATION PROTECTION SHIELD WHERE PIPING IS INSULATED.
2. PROVIDE NEOPRENE WAFFLE INSULATION PAD, SIMILAR TO MASON TYPE "W" OR KORFUND 40, UNDER SUPPORT FOOT WHEN PIPING IS ISOLATED OR SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.
3. FOR BASE, HEIGHT AND FLANGE DIMENSIONS, SEE TABLE.
4. USE 2 1/2" SUPPORTS FOR PIPES LESS THAN 2 1/2" DIAMETER.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

ADJUSTABLE FLOOR MOUNTED PIPE SUPPORT

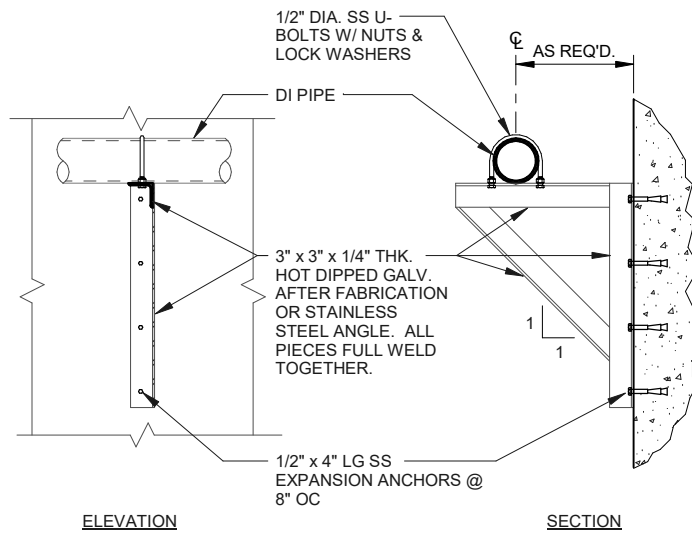
DIVISION

D22

SECTION - DETAIL NO.

0529-001

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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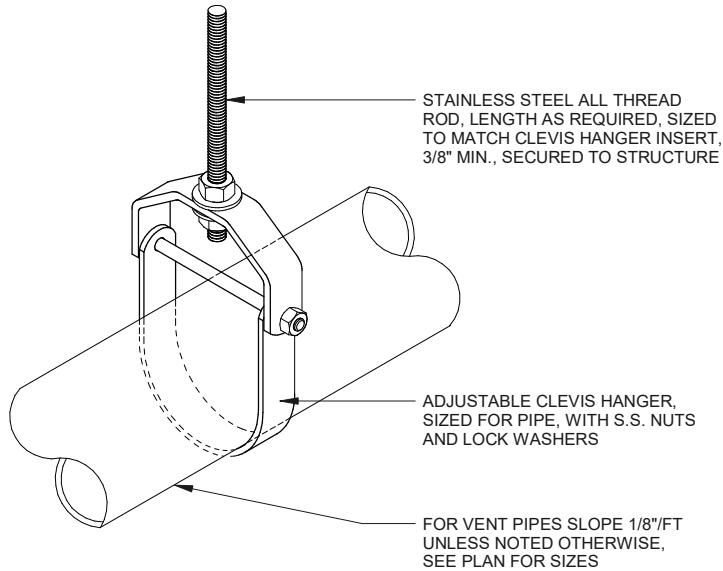
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

FABRICATED WALL MOUNTED
PIPE SUPPORT

DIVISION
D22
SECTION - DETAIL NO.
0529-002

JOB NO.: 19W10160

DATE: 10/09/2023



ALL THREAD MINIMUM SUPPORT ROD SIZE							
PIPE SIZE	≤ 6"	8"	10"-12"	14"	16"-18"	20"	24"
ALL-THREAD SIZE	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"

STEEL AND DUCTILE IRON SUPPORT SPACING (MAXIMUM)							
PIPE SIZE	≤ 1"	1 1/2" - 2 1/2"	3"-4"	6"-8"	10"-12"	14"-18"	20"-24"
SPACING (FEET)	6	8	10	12	14	16	18

STAINLESS STEEL SUPPORT SPACING				
PIPE SIZE	1"-6"	8"-12"	14"-16"	18"-24"
SPACING (FEET)	8	10	12	14

NOTES:

- FOR COPPER PIPING, MAXIMUM SUPPORT SPACING 2 FEET LESS PER SIZE. SIZE SHOWN IN ABOVE TABLE, WITH 1" AND SMALLER PIPE SUPPORTED EVERY 5'-0".
- FOR PVC PIPE, REDUCED SUPPORT SPACING PER MANUFACTURER RECOMMENDATION FOR FLOW TEMPERATURE IN PIPE.
- FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.
- UTILIZE PURLIN BEAM CLAMPS FOR ATTACHMENT TO STRUCTURE.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

PIPE HANGER

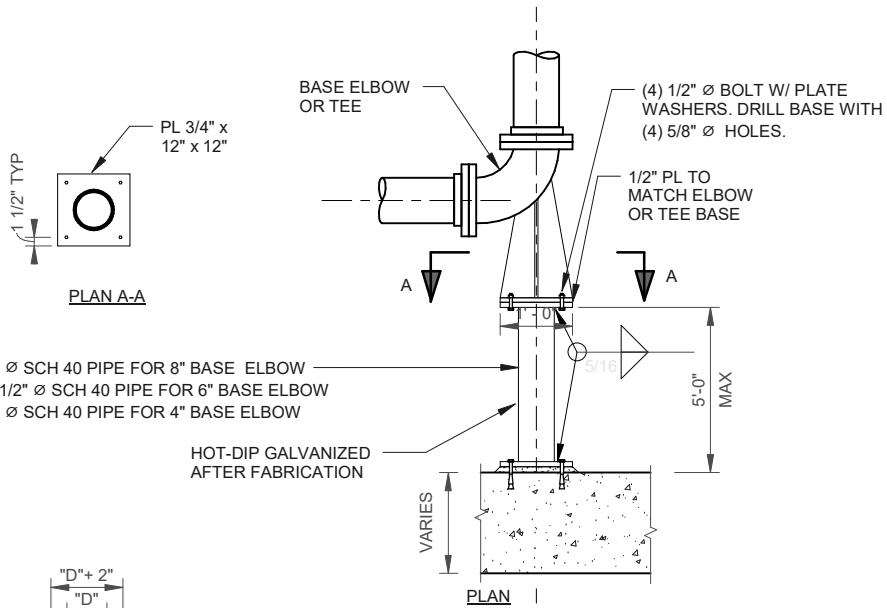
DIVISION

D22

SECTION - DETAIL NO.

0529-008

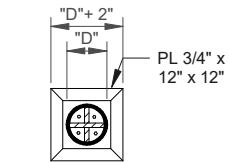
DATE: 10/09/2023



4" Ø SCH 40 PIPE FOR 8" BASE ELBOW
 2 1/2" Ø SCH 40 PIPE FOR 6" BASE ELBOW
 2" Ø SCH 40 PIPE FOR 4" BASE ELBOW

HOT-DIP GALVANIZED
 AFTER FABRICATION

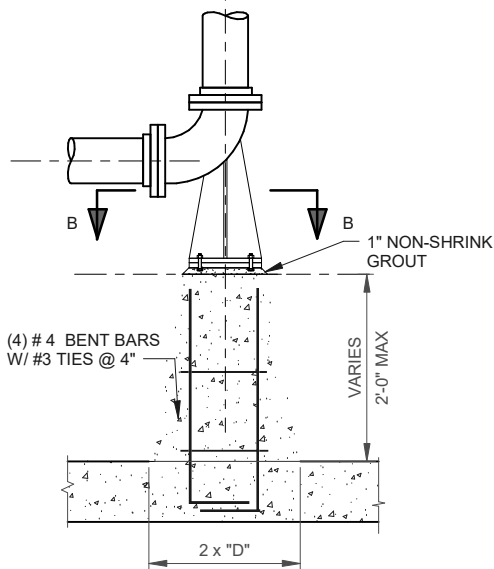
PLAN



PLAN B-B

NOTES:

1. HOT-DIP GALVANIZED SUPPORT AFTER FABRICATION.
2. PROVIDE STAINLESS STEEL SUPPORT WHERE CALLED OUT AT STAINLESS STEEL ON DRAWINGS.



(4) # 4 BENT BARS
 W/ #3 TIES @ 4"

VARIES
 2'-0" MAX

2 x "D"

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

JOB NO.: 19W10160

ELBOW PIPE SUPPORT

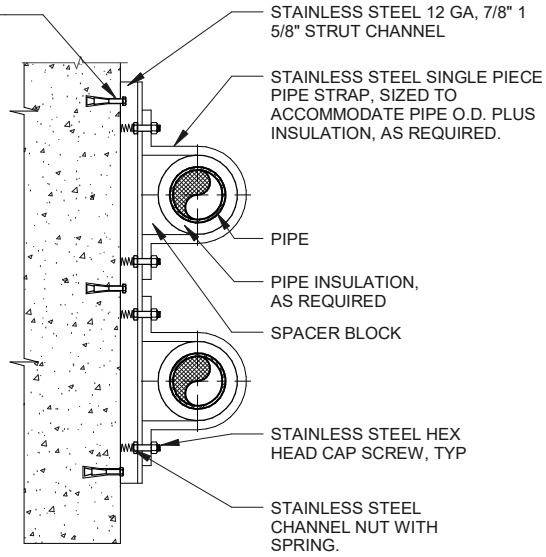
DIVISION
D22

SECTION - DETAIL NO.

0529-010

DATE: 10/09/2023

1/2" Ø X 4" EXPANSION ANCHOR BOLT, 304SS 2" FROM EACH END AND 16" SPACING



STAINLESS STEEL STRUT CHANNEL PIPE SUPPORT

REV	DATE	DESCRIPTION	BY
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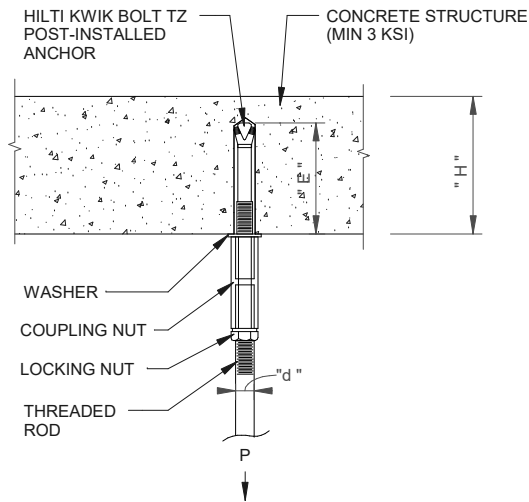
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

STAINLESS STEEL STRUT
CHANNEL PIPE SUPPORT

DIVISION
D22
SECTION - DETAIL NO.
0529-017

JOB NO.: 19W10160

DATE: 10/09/2023



ROD DIAMETER (d)	MIN. CONCRETE THICKNESS (H)	EMBEDMENT (E)	MAXIMUM LOAD (P)
3/8"	4"	2 5/16"	500lb
1/2"	6"	3 1/4"	1000lb
5/8"	6"	4 7/16"	1500lb
3/4"	8"	5 9/16"	2000lb

NOTES:

1. INSTALL ANCHORS PER THE MANUFACTURERS INSTRUCTIONS BY QUALIFIED PERSONNEL.
2. ANCHOR MUST BE FULLY TORQUED PER THE MANUFACTURES REQUIREMENTS. TORQUE CAN BE DIRECTLY APPLIED USING THE COUPLING NUT; OR THE TORQUE CAN BE APPLIED WITH THE STANDARD NUT AND THEN A COUPLING NUT ADDED. PROJECTING THREAD LENGTH OF ANCHOR MUST BE LONG ENOUGH FOR COUPLING NUT TO FULLY ENGAGE THREADS.
3. THREADS OF ANCHOR AND HANGING ROD MUST ENGAGE THE COUPLING NUT A MINIMUM OF 1.5 TIMES THE DIAMETER.
4. EXISTING REINFORCING IN THE CONCRETE STRUCTURE MAY INTERFERE WITH SPECIFIC ANCHOR LOCATIONS. CONTRACTOR SHALL LOCATE THE POSITION OF THE REINFORCEMENT USING ELECTROMAGNETIC, GPR, OR X-RAY. NOTIFY ENGINEER IF RELOCATION OF ANCHORS IS NECESSARY TO AVOID INTERFERENCE.
5. MAINTAIN A MINIMUM EDGE DISTANCE EQUAL TO 1.5 TIMES THE EMBEDMENT.
6. MATERIAL OF ANCHOR, NUTS, AND WASHERS TO MATCH TYPE OF ROD MATERIAL SPECIFIED.
7. DIAMETER OF ANCHOR TO MATCH DIAMETER OF HANGING ROD.

REV	DATE	DESCRIPTION	BY
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

**HANGING ROD ANCHOR -
EXPANSION ANCHOR**

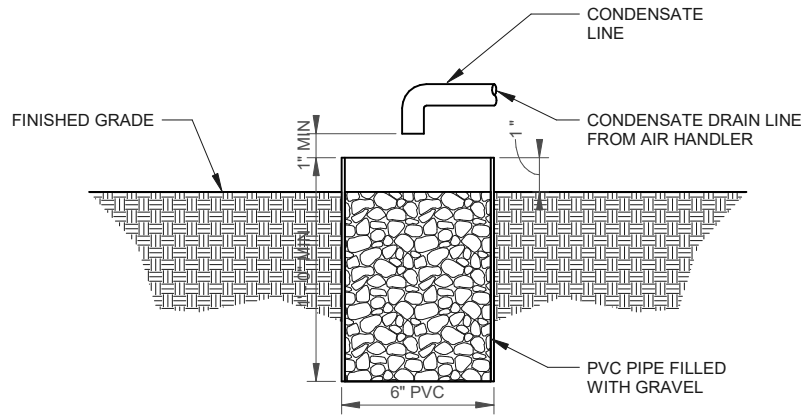
DIVISION

D22

SECTION - DETAIL NO.

0529-027

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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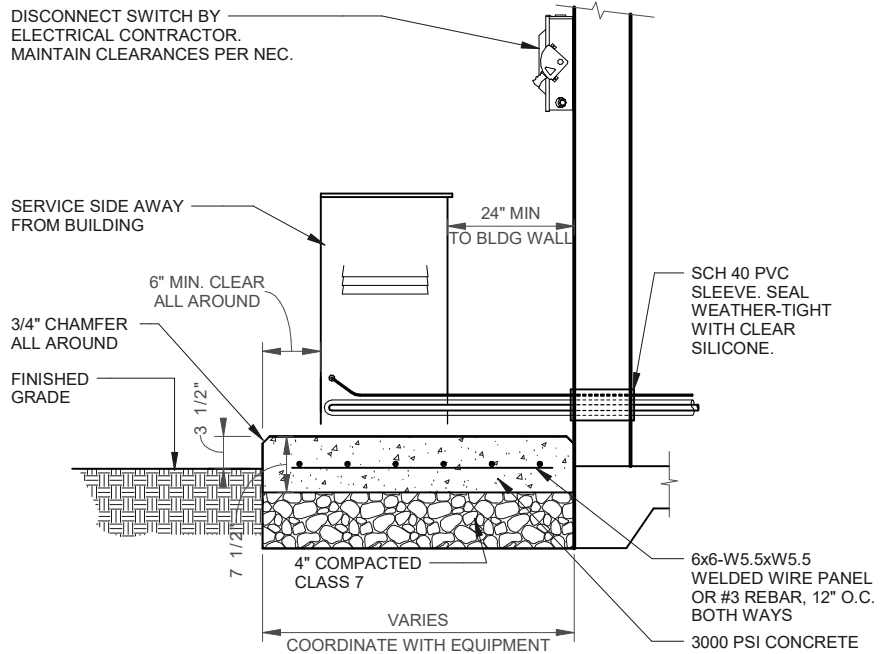
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

CONDENSATE DRAIN DETAIL

DIVISION
D23
SECTION - DETAIL NO.
2318-004

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. MAINTAIN CLEARANCES AS RECOMMENDED BY EQUIPMENT MANUFACTURER.

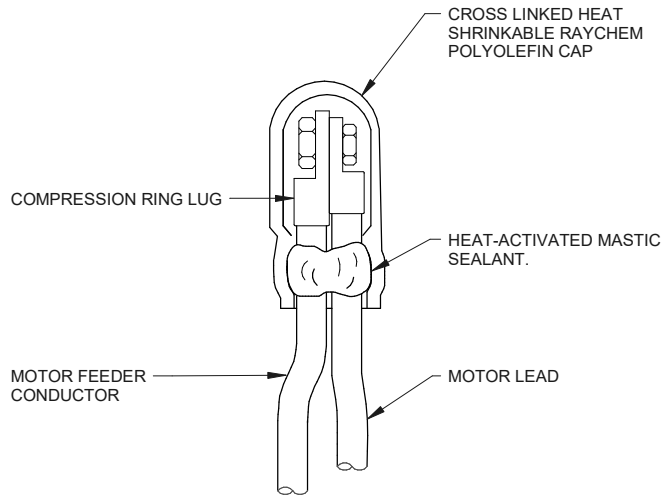
REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL CONDENSING/HEAT PUMP UNIT DETAIL

DIVISION
D23
 SECTION - DETAIL NO.
8127-002



REV	DATE	DESCRIPTION	BY
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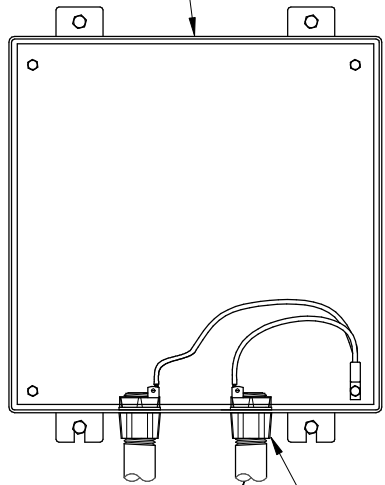


HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

TYPICAL MOTOR LEAD DETAIL

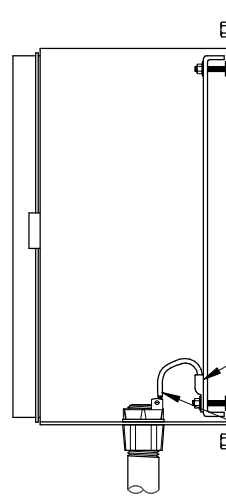
DIVISION
D26
 SECTION - DETAIL NO.
0515-001

ENCLOSURE
CROSS SECTION
(TYPICAL)



CONDUITS
(TYPICAL)

MYERS SCRUI-TITE WITH GROUND HUB
OR PERMA-COTE STG-2 WITH THROAT
LINERS. (SIZE PER CONDUIT)



GROUND LUG.

BACK PLANE OR
MOUNTING SCREW

GROUND
CONDUCTOR

NOTES:

1. ALL SERVICE, FEEDER AND CONTROL CONDUITS SHALL BE GROUNDED ON BOTH ENDS.

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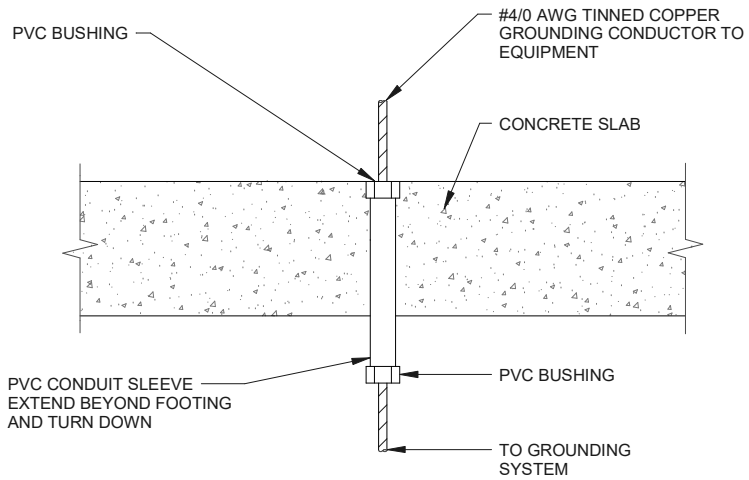
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

CONDUIT GROUNDING DETAIL

DIVISION
D26
SECTION - DETAIL NO.
0526-006

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. EXTEND PVC CONDUIT TO TOP OF BASE, OR PEDESTAL FOR BASE, FOR PEDESTAL MOUNTED EQUIPMENT. SUPPORT AT (2) PLACES(MIN).
2. SEAL ALL SLEEVES TO PREVENT WATER PENETRATION.

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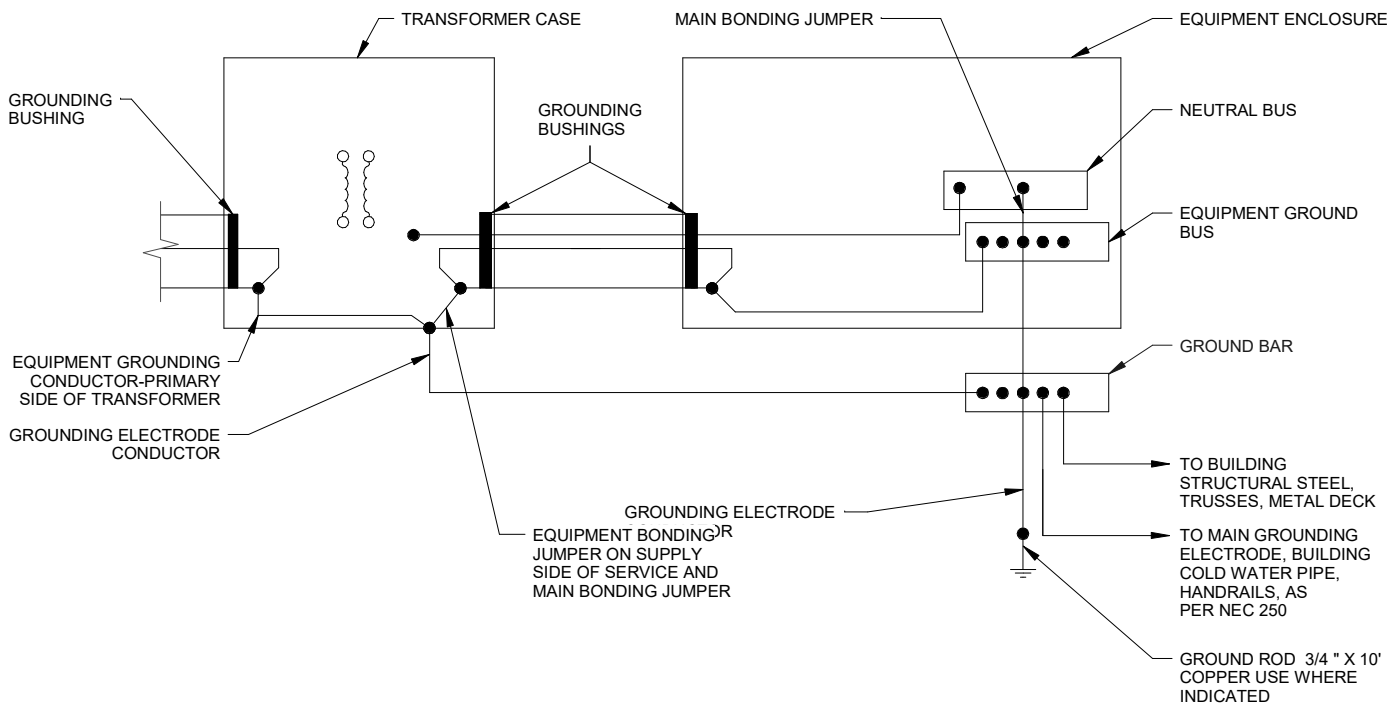
**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**GROUNDING CONDUIT SLEEVE
DETAIL**

DIVISION
D26
SECTION - DETAIL NO.
0526-009

JOB NO.: 19W10160

DATE: 10/09/2023



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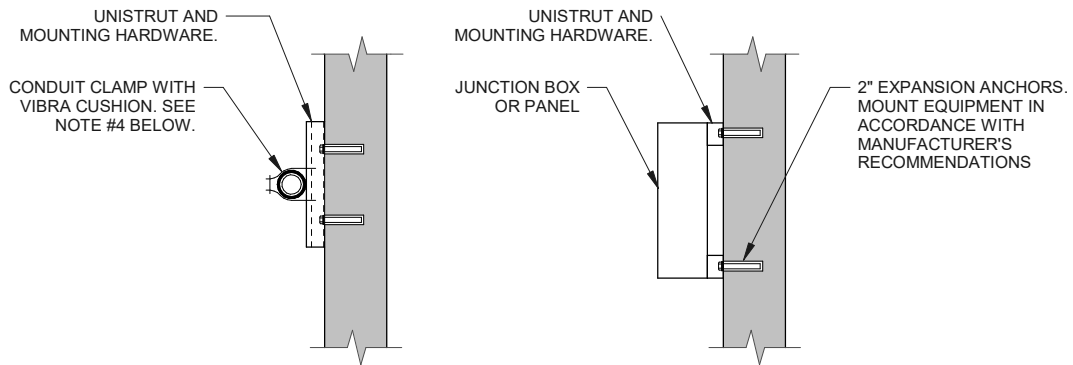
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

JOB NO.: 19W10160

DRY TYPE DISTRIBUTION TRANSFORMER GROUNDING DETAIL

DIVISION
D26
 SECTION - DETAIL NO.
0526-010

DATE: 10/09/2023



NOTES:

1. UNISTRUT AND MOUNTING HARDWARE MATERIAL AS CALLED OUT IN ELECTRICAL PLAN SHEETS AND SPECIFICATIONS.
2. SINGLE CONDUIT SHOWN. SIMILAR FOR MULTIPLE CONDUITS.
3. SIMILAR FOR ALL ELECTRICAL ENCLOSURES AND PANELS.
4. VIBRA CUSHION ONLY REQUIRED WHERE NEEDED TO PREVENT METAL TO METAL CONTACT OF DISSIMILAR METAL TYPES OR WHERE EXCESSIVE VIBRATION MAY OCCUR.

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TUSCALOOSA, AL
PHASE II IMPROVEMENTS

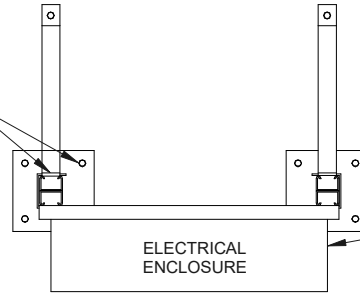
CONDUIT AND JUNCTION BOX
SUPPORT DETAIL

DIVISION
D26
SECTION - DETAIL NO.
0529-001


JOB NO.: 19W10160

DATE: 10/09/2023

STAINLESS STEEL MOUNTING BRACKET, FOUR HOLE, DOUBLE POST, SECURE TO FRAME WITH STAINLESS STEEL BOLTS, LOCK WASHERS, WASHERS AND LOCKNUTS, SECURE TO CONCRETE PAD WITH 4" MIN. STAINLESS STEEL WEDGE ANCHOR BOLTS (TYPICAL).

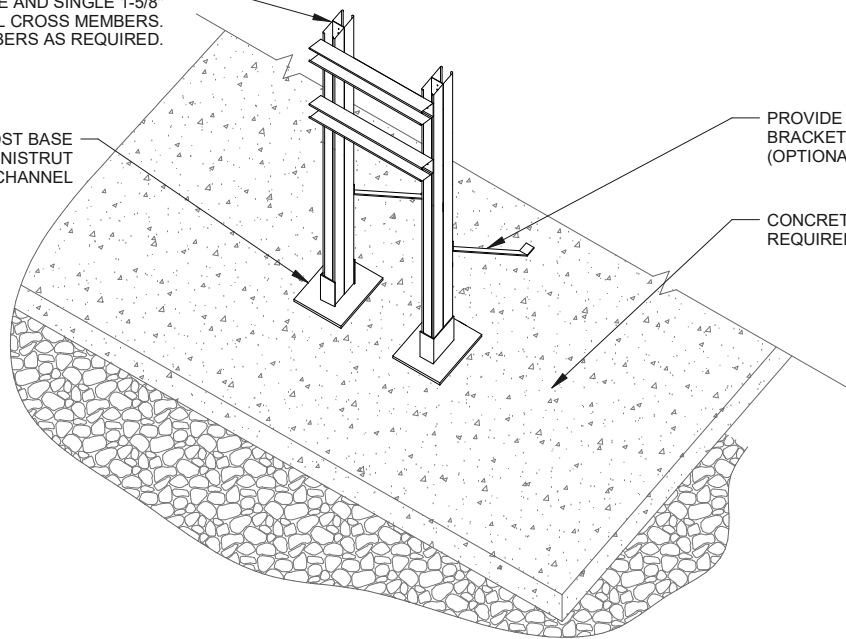


CONTROL PANEL SUNSHIELD AS REQUIRED. SEE DETAIL:  0529-013

 TYP. UNISTRUT STAND DETAIL (TOP VIEW)
0529-014 SCALE: NONE

DOUBLE BACKED 1-5/8" STAINLESS STEEL UNISTRUT FRAME AND SINGLE 1-5/8" STAINLESS STEEL CROSS MEMBERS. CROSS MEMBERS AS REQUIRED.

SQUARED POST BASE FOR UNISTRUT DOUBLE CHANNEL



PROVIDE KNEE BRACING BRACKET, 1/4" THICK. (OPTIONAL)

CONCRETE PAD AS REQUIRED.

NOTES:

1. ALL BOLTS, NUTS, WASHERS, ANCHORS, PLATES, AND OTHER MOUNTING STEMS SHALL BE CORROSION RESISTANT, STAINLESS STEEL.
2. UTILIZE 5/16" STAINLESS STEEL WEDGE ANCHORS AS REQUIRED.
3. OMIT PAD WHERE NOT SHOWN.

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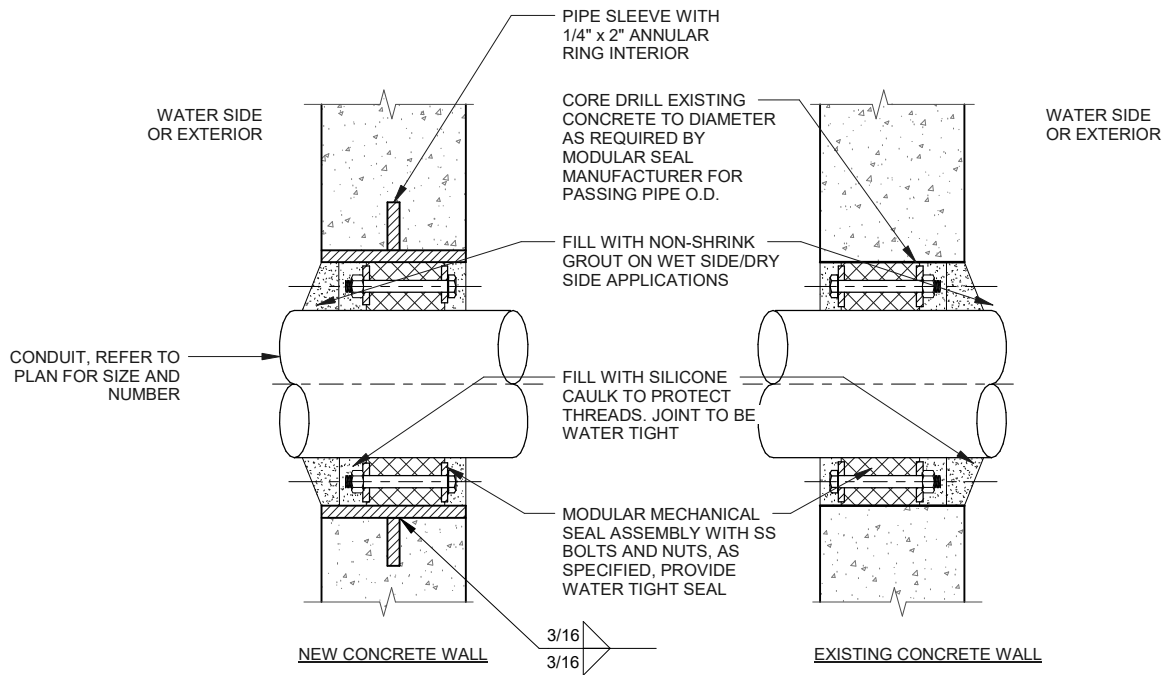
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TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL UNISTRUT STAND DETAIL

DIVISION
D26
SECTION - DETAIL NO.
0529-014

JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. WHERE EXISTING CONCRETE STRUCTURE IS TO BE CORE DRILLED, THE CONTRACTOR SHALL ULTRASONIC TEST OR X-RAY THE AREA FOR EMBEDDED ITEMS BEFORE CORE DRILLING CAN PROCEED. IF EMBEDDED ITEMS ARE FOUND, NOTIFY THE ENGINEER IMMEDIATELY.
2. FOR NEW CONSTRUCTION, SLEEVES SHALL BE CAST INTO WALL. BLOCKOUTS AND SUBSEQUENT GROUTED IN SLEEVES WILL NOT BE PERMITTED UNLESS A KEYPED WATERSTOP JOINT IS PROVIDED.
3. 6" DIAMETER SLEEVES AND SMALLER SHALL BE SCHEDULE 40 STEEL PIPE.
4. SLEEVES LARGER THAN 6" DIAMETER SHALL BE 1/4" THICK STEEL PIPE.
5. IN WALLS THICKER THAN 12", LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF THE WALL SLEEVE.
6. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

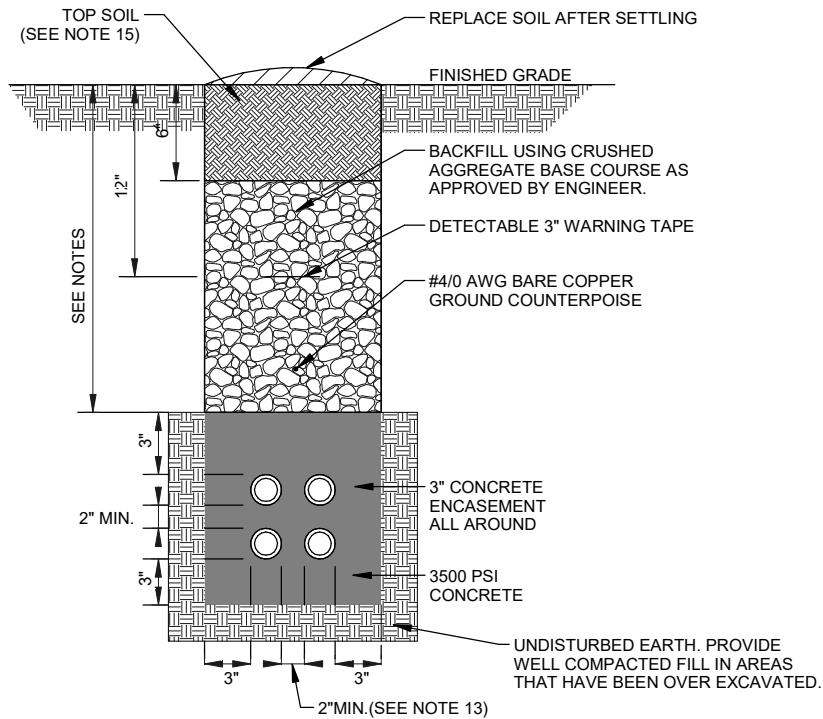
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**HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY**
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

**CONDUIT WALL PENETRATION
SEAL DETAIL**

DIVISION
D26
SECTION - DETAIL NO.
0533-017



NOTES:

1. CONTRACTOR SHALL STAKE THE DUCT INSTALLATION IN PLAN AND ELEVATION FOR NEW ELECTRICAL DUCTS TO AVOID EXISTING UTILITIES, STAKING PLAN SHALL BE APPROVED BY OWNER AND ENGINEER PRIOR TO WORK.
2. CONTRACTOR SHALL ADJUST THE DEPTH OF THE ELECTRICAL DUCTS AS REQUIRED TO MAINTAIN THE MINIMUM COVER REQUIREMENT INDICATED AND AVOID EXISTING UTILITIES.
3. SIMILAR CONSTRUCTION FOR OTHER DUCT SIZES. SEE ELECTRICAL PLAN SHEETS FOR QUANTITY AND SIZES.
4. INSTALL DUCT CONDUIT SUPPORTS AT 5'-0" O.C. MAXIMUM SPACING. UTILIZE LOCKING COLLARS OR HOLD DOWN BARS WITH ANCHORS TO PREVENT DUCT FLOTATION. (TYPICAL ALL DUCTS).
5. OFFSETS AND BENDS OVER 10 DEGREES AND ELBOWS IN PVC CONDUIT RUNS SHALL BE GALVANIZED RIGID STEEL.
6. NO PVC SHALL EMERGE FROM THE GROUND OR CONCRETE SLAB OR ENCASEMENT, PVC SHALL CONVERT TO PVC COATED GALVANIZED RIGID STEEL CONDUIT PRIOR TO ITS EMERGENCE UNLESS NOTED OTHERWISE.
7. SPARE PVC COATED GALVANIZED RIGID STEEL CONDUITS SHALL STUB UP 6" ABOVE FINISHED GRADE OR CONCRETE PAD SURFACE AND BE CAPPED WATERTIGHT.
8. INSTALL GROUND RODS AT ENDS OF ELECTRICAL DUCT AND CONNECT TO GROUND RING.
9. INSTALL CONDUCTORS AND CABLES AS NOTED ON DRAWINGS. INSTALL PULL ROPE IN ALL SPARE DUCTS.
10. MINIMUM COVER REQUIREMENT FOR DUCT BANKS UNDER ROADS, DRIVEWAYS AND PARKING LOTS SHALL BE 24".
11. MINIMUM COVER REQUIREMENTS FOR ELECTRICAL SECONDARY SERVICE DUCT BANKS SHALL BE 30".
12. MINIMUM COVER REQUIREMENTS FOR MEDIUM VOLTAGE DUCT BANKS SHALL BE 36".
13. VERTICAL AND HORIZONTAL DISTANCES BETWEEN CONDUITS SHALL BE 3" MINIMUM FOR DUCTS CONTAINING CIRCUITS OVER 600 VOLTS.
14. DUCT BANKS TO EXTEND BELOW FLOOR SLABS.
15. FOR DUCT BANKS INSTALLED IN EXISTING ASPHALT OR CONCRETE DRIVES, COVER WITH MATCHING MATERIAL TYPE AND THICKNESS.

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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

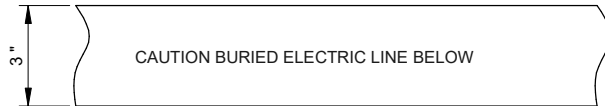
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

CONCRETE ENCASED ELECTRICAL DUCT DETAIL

DIVISION
D26
 SECTION - DETAIL NO.
0543-012

DATE: 10/09/2023



NOTES:

1. POWER MARKING TAPES SHALL BE DETECTABLE TYPE CONSTRUCTION WITH RED BACKGROUND AND BLACK LETTERING.
2. COMMUNICATION MARKING TAPES SHALL BE DETECTABLE TYPE CONSTRUCTION WITH ORANGE BACKGROUND AND BLACK LETTERING, "TELEPHONE LINE" OR "FIBER OPTIC LINE" RESPECTIVELY.
3. TAPE SHALL BE DETECTABLE, DURABLE, HIGHLY VISIBLE, RESISTANT TO ELEMENTS, MEETING AND/OR EXCEEDING ALL INDUSTRY STANDARDS.

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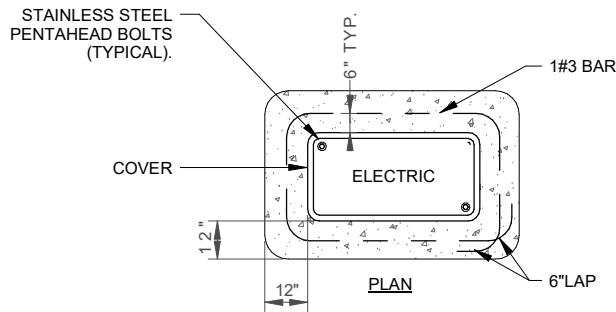
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

UNDERGROUND DETECTABLE
 WARNING TAPE DETAIL

DIVISION
D26
 SECTION - DETAIL NO.
0543-013

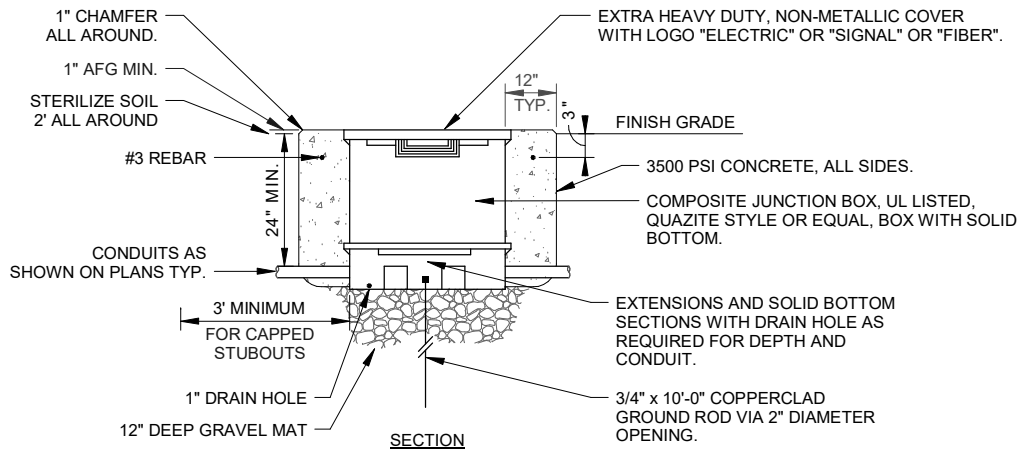
JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. UL LISTED PULLBOX AND EXTRA HEAVY-DUTY COVER SHALL BE DESIGNED FOR A TEST LOAD OF 33,750 LBS AND A DESIGN LOAD OF 22,500 LBS.
2. PROVIDE PULLBOX WITH 2-2"Ø STUBOUTS IN EACH FACE, CAPPED WATERTIGHT.
3. PULLBOX INTERIOR DIMENSIONS SHALL BE 30"L x 17"W x 28"D OR AS REQUIRED FOR NUMBER OF CONDUITS.
4. PROVIDE MINIMUM 3' SLACK CABLE LOOP FOR EACH CABLE.
5. COLOR CODE, TAG AND IDENTIFY ALL CABLES IN UL LISTED PULLBOX.
6. EXACT LOCATION OF EACH UL LISTED PULLBOX SHALL BE APPROVED BY THE OWNER AND ENGINEER.



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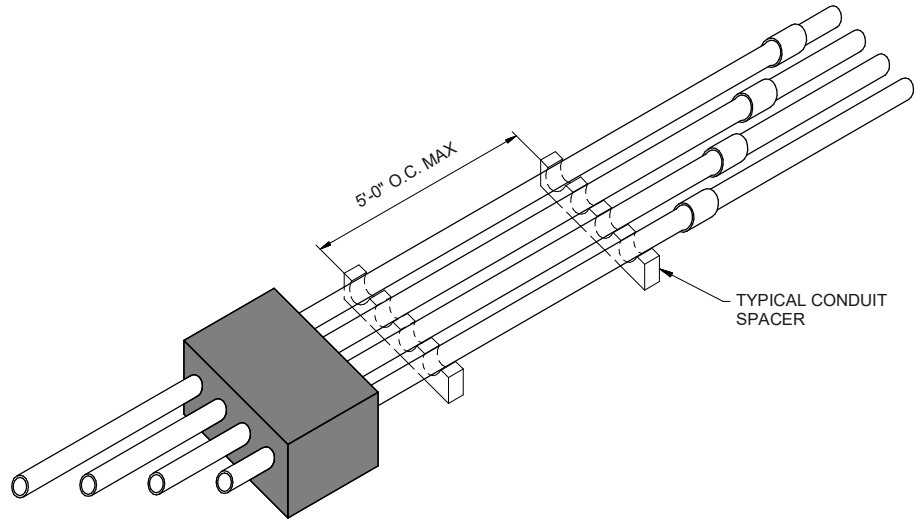


HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL
PHASE II IMPROVEMENTS

ELECTRICAL PULLBOX DETAIL

DIVISION D26
SECTION - DETAIL NO. 0543-014



NOTES:

1. CONDUIT SPACER TO BE 6" MIN FROM CONDUIT COUPLINGS.
2. TYPICAL DUCTBANK COUPLINGS SHALL BE SPACED AT 6" MIN. INTERVALS.

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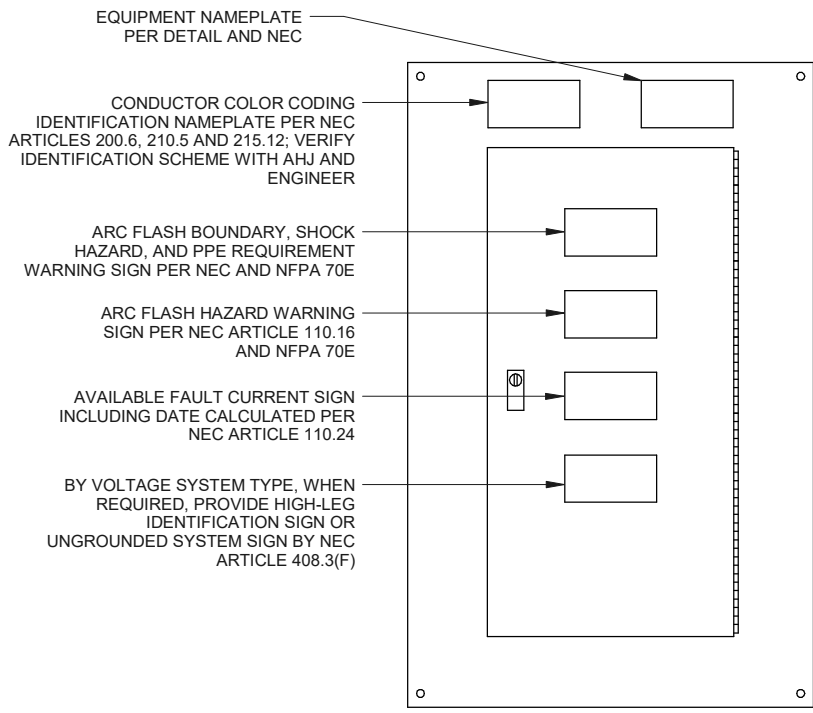
HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

TYPICAL DUCTBANK SPACING
AND COUPLNG DETAIL

DIVISION
D26
SECTION - DETAIL NO.
0543-015

JOB NO.: 19W10160

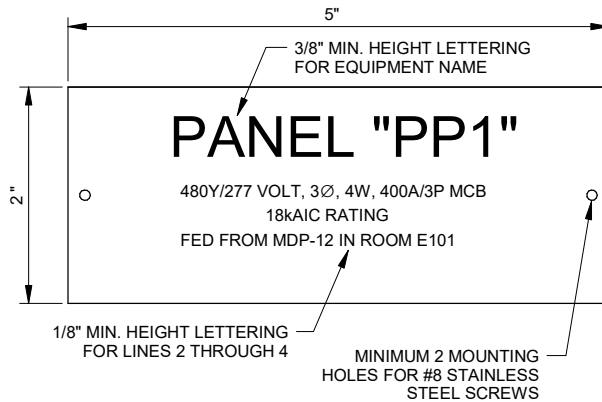
DATE: 10/09/2023



PANEL FRONT VIEW

NOTE:

1. INSTALL ALL NAMEPLATES AND WARNING SIGNS IN ACCORDANCE WITH NEC AND NFPA 70E REQUIREMENTS.
2. INSTALL NAMEPLATES AND WARNING SIGNS ON ALL ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO, SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, SWITCHES, CONTROL PANELS AND MOTOR CONTROL CENTERS.
3. EXTERIOR EQUIPMENT SHALL HAVE WEATHER-RESISTANT, NON-FADING NAMEPLATES AND SIGNAGE.
4. INSTALL CIRCUIT DIRECTORY AND/OR CIRCUIT IDENTIFICATION FOR PROPER FIELD IDENTIFICATION.
5. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



EQUIPMENT NAMEPLATE NOTES:

1. INSTALL 2-PLEX ACRYLIC, WHITE ON BLACK CORE, 5"x2" TILE, TEXT LINES AS INDICATED, CUSTOM ENGRAVED NAME PLATES.
2. MOUNT WITH STAINLESS STEEL SCREWS.
3. SEAL SCREW HOLES WITH SILICONE RUBBER.
4. NAMEPLATE INFORMATION SHALL INCLUDE:
 - A. IDENTIFICATION NAME.
 - B. VOLTAGE SYSTEM, AND AMPACITY RATING AND TYPE.
 - C. EQUIPMENT AIC RATING.
 - D. FEEDER SOURCE OF SUPPLY DESCRIPTION.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER
RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

TYPICAL ENGRAVED
NAMEPLATE DETAIL

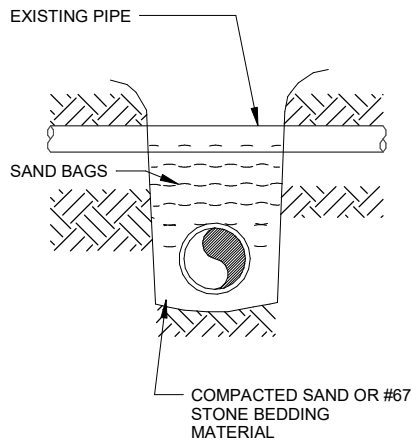
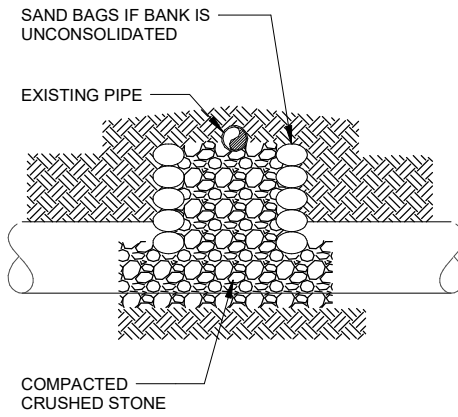
DIVISION

D26

SECTION - DETAIL NO.

0553-002

DATE: 10/09/2023



TYPICAL METHOD OF PROTECTING UTILITIES OR OTHER PIPE CROSSINGS WHERE NOT LOCATED UNDER PAVING

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

EXISTING UTILITY PROTECTION

DIVISION
D31
 SECTION - DETAIL NO.
2316-001

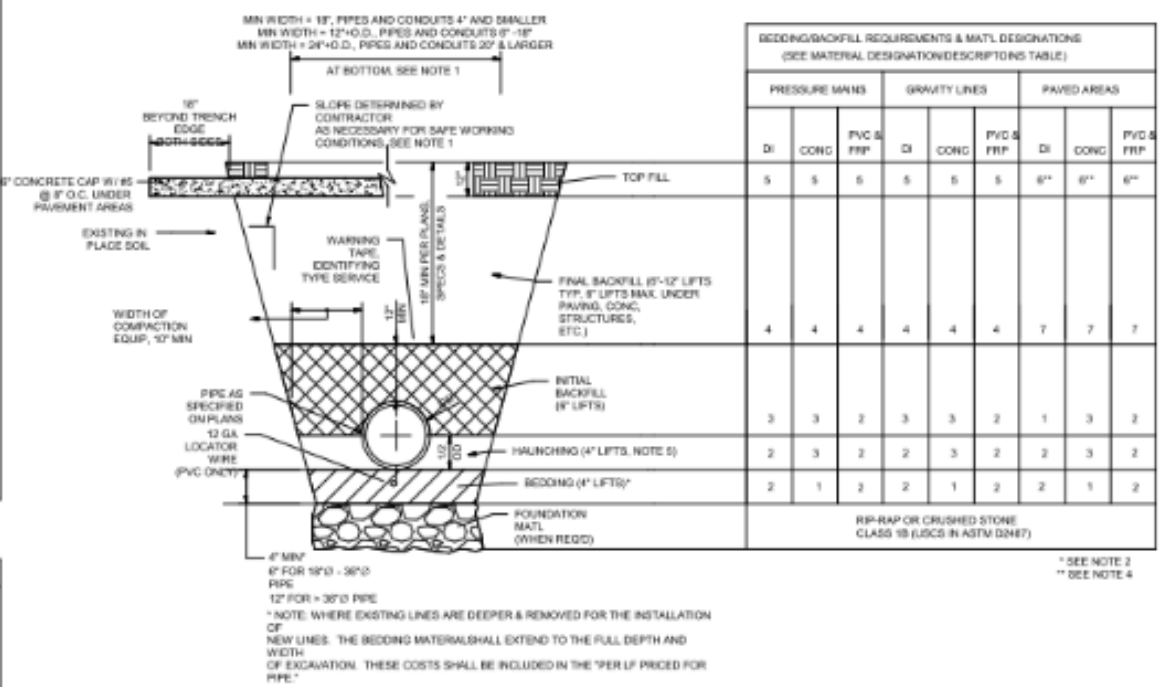
JOB NO.: 19W10160

DATE: 10/09/2023

- NOTES**
1. SLOPE, BENCHING, SHORING, ETC. AS DETERMINED AND DESIGNED BY THE CONTRACTOR. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE OSHA REGULATIONS FOR "OPEN TRENCH EXCAVATIONS".
 2. BEDDING REQ'D FOR ALL GRAVITY LINES, ALL PVC LINES AND ALL CONCRETE LINES. BEDDING REQUIRED IN ALL AREAS OF ROCK EXCAVATION OR UNSUITABLE SOILS. BELL HOLES REQ'D FOR PIPES > 4" DIA. FOR DUCTILE IRON PRESSURE MAINS, SELECT EARTH MAY BE USED FOR BEDDING IN AREAS OF ROCK EXCAVATION.
 3. ALL MATERIALS SHALL BE COMPACTED TO MINIMUM 95% MODIFIED PROCTOR DENSITY AT 2% OPTIMUM MOISTURE CONTENT. MATERIALS UNDER PAVING, CONCRETE, STRUCTURES, ETC. SHALL BE COMPACTED TO TO MIN 98% 100% MODIFIED PROCTOR. MECHANICAL COMPACTION SHALL BE BY VIBRATORY SHEEPSFOOT OR OTHER EQUIP. SPECIFICALLY DESIGNED FOR THE COMPACTION OF EARTH. COMPACTION EQUIP. SHALL BE ON-SITE PRIOR TO BEGINNING OF WORK. MECHANICAL COMPACTION SHALL BE COMPLETED IN LOOSE LIFTS AS SHOWN ON THE DETAIL.
 4. TEMPORARY COMPACTED PUG MIX BACKFILL REQ'D UNTIL PAVEMENT PLACEMENT IS COMPLETE. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THIS PUGMIX TO KEEP IT FLUSH WITH THE ADJACENT PAVING, ETC. UNTIL THE FINAL PAVING IS PLACED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ASPHALT OR CONCRETE PATCHES WHEN NEEDED FOR PUBLIC SAFETY AND/OR CONVENIENCE.
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING AND UTILIZE APPROPRIATE MEANS AND METHODS OF CONSTRUCTION TO ENSURE THAT THE ENTIRE AREAS UNDER THE HAUNCHES OF THE PIPE ARE FILLED WITH THE REQUIRED MATERIALS AND COMPACTED APPROPRIATELY.
 6. ADDITIONAL AND/OR SPECIAL REQUIREMENTS MAY BE REQ'D BY THE PLANS, SPECIFICATIONS AND/OR CONTRACT DOCUMENTS.
 7. TO THE EXTENT POSSIBLE, AS DETERMINED BY THE CONTRACTOR, TRENCH WALL SHORING METHODS SHALL BE USED IN PAVED AREAS TO MINIMIZE PAVING REPAIR REQUIREMENTS.

MATERIAL DESIGNATION/DESCRIPTION TABLE

DESIGNATION	DESCRIPTION
1	CRUSHED STONE, ASTM-448 NO. 57 GRADATION
2	CRUSHED STONE, ASTM-448 NO. 57 GRADATION
3	SELECT EXCAVATED MATL. REASONABLY DRY (WITHIN LIMITS REQ'D FOR COMPACTION) NO STONES > 1" DIA.
4	EXCAVATED MATL. REASONABLY DRY (WITHIN LIMITS REQ'D FOR COMPACTION) NO STONES > 1 1/2" DIA.
5	SELECT TOPSOIL MATL. TO SUPPORT VEGETATION, NO STONES OR ROCK ALLOWED
6	PAVEMENT MATCHING EXISTING PAVEMENT OR AS SPECIFIED ON THE PLANS
7	CRUSHED STONE, ASTM-448 NO. 57 GRADATION



HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

BEDDING BACKFILL FOR TRENCHES_AL

DIVISION D31
SECTION - DETAIL NO. 2323-001_AL



JOB NO.: 19W10160

DATE: 10/09/2023

MINIMUM RESTRAINED LENGTH (ft) FOR A TEST PRESSURE OF 100 PSIG						
NOMINAL PIPE SIZE (INCHES)	FITTING TYPE					
	90 DEGREE	WYE OR 45 DEGREE	22-1/2 DEGREE	11-1/4 DEGREE	TEE BRANCH	TERMINAL PLUG
6	23	18	18	18	39	59
8	30	18	18	18	51	76
10	36	18	18	18	61	92
12	41	18	18	18	71	107
20	62	26	18	18	110	164
24	72	30	18	18	128	192
30	85	35	18	18	152	228
36	96	40	18	18	175	262
48	118	48	23	18	214	322
54	131	54	26	18	348	344

NOTES:

1. RESTRAIN ALL DUCTILE IRON FITTINGS.
2. TABULATED VALUES ARE FOR 100 PSIG TEST PRESSURE. FOR VALUES AT PRESSURES OTHER THAN 100 PSIG, MULTIPLY TABLE VALUES BY THE RATIO OF ACTUAL TEST PRESSURE TO 100 PSIG. TEST PRESSURES FOR EACH SERVICE ARE DEFINED IN THE PIPING SCHEDULE.
3. WHERE LISTED VALUES, OR CALCULATED VALUES (SEE ABOVE), ARE LESS THAN ON STANDARD FULL PIPE SEGMENT (18 FEET), RESTRAIN THE FITTING ONLY.
4. RESTRAINT LENGTHS APPLY TO PIPE RUNS ON EACH SIDE OF A CHANGE IN DIRECTION.
5. WHERE THE PIPING LAYOUT HAS RESTRAINED JOINT LENGTHS FOR TWO OR MORE FITTINGS TO OVERLAP, THRUST RESTRAIN ALL PIPING BETWEEN THE OTHER FITTINGS, ASSUME 1/2 OF THE RESTRAINED PIPE LENGTH BETWEEN THE TWO FITTINGS RESTRAINS EACH OF THE FITTINGS AND ADD ADDITIONAL RESTRAINED JOINT LENGTH TO THE OUTER LEGS OF THE OUTER FITTINGS TO EQUAL THE TOTAL REQUIRED FOR ALL FITTINGS.
6. THRUST RESTRAINT TABLE REFERS TO NEW PIPING.

REV	DATE	DESCRIPTION	BY
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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

BURIED DUCTILE IRON PIPE THRUST RESTRAINT TABLE

DIVISION

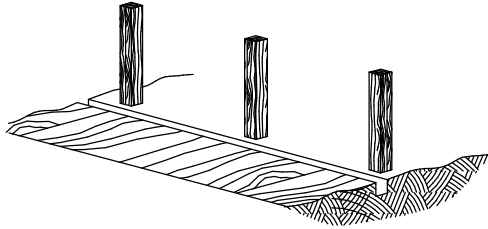
D31

SECTION - DETAIL NO.

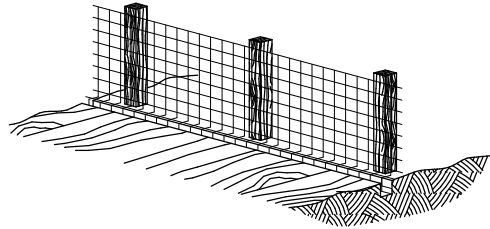
2339-006

DATE: 10/09/2023

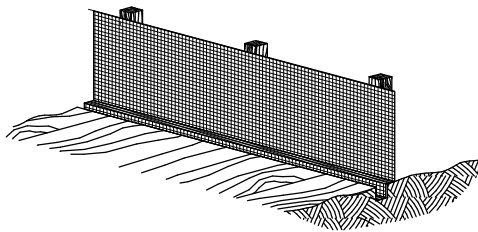
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POST.



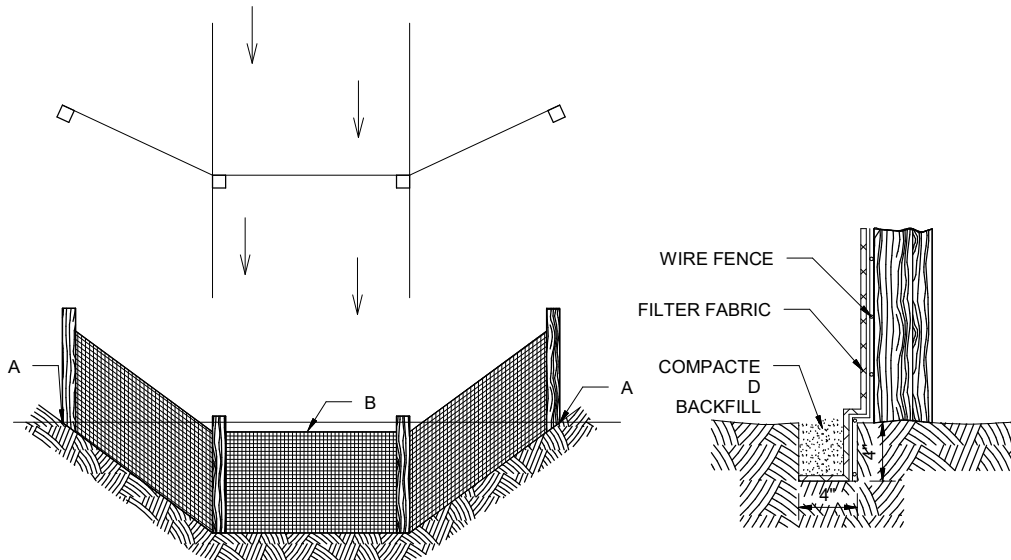
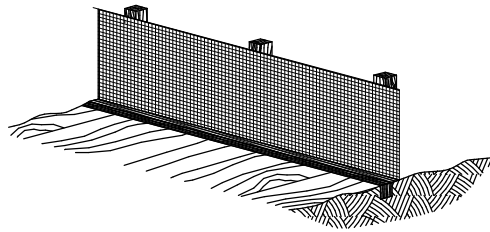
2. STAPLE WIRE FENCING TO THE POSTS.



3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



NOTE:

POINTS "A" SHOULD BE HIGHER THAN POINT "B". PROPER PLACEMENT OF A FILTER BARRIER IN A DRAINAGE WAY

EXTENSION OF WIRE FENCE AND FILTER FABRIC INTO TRENCH

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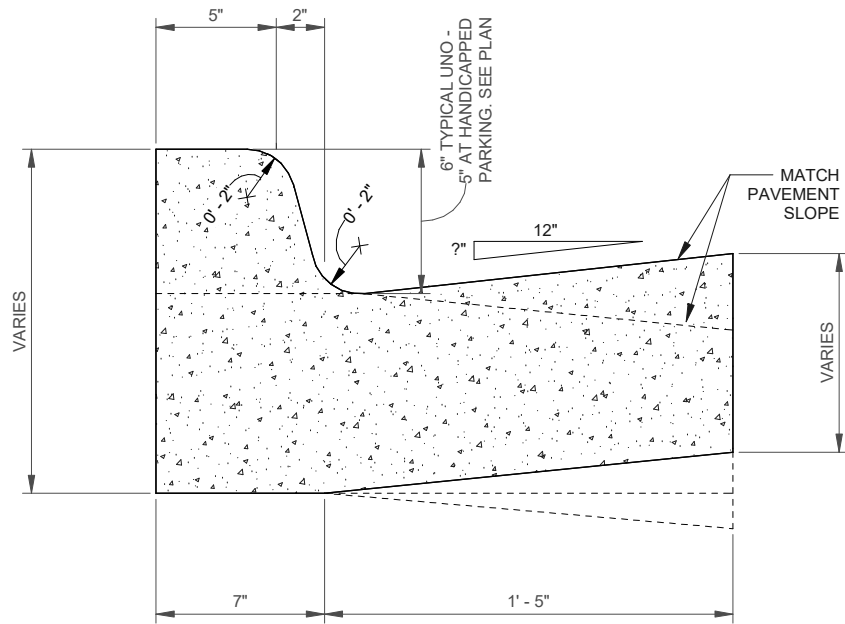
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

JOB NO.: 19W10160

SLIT FENCE

DIVISION
D31
 SECTION - DETAIL NO.
3200-001

DATE: 10/09/2023



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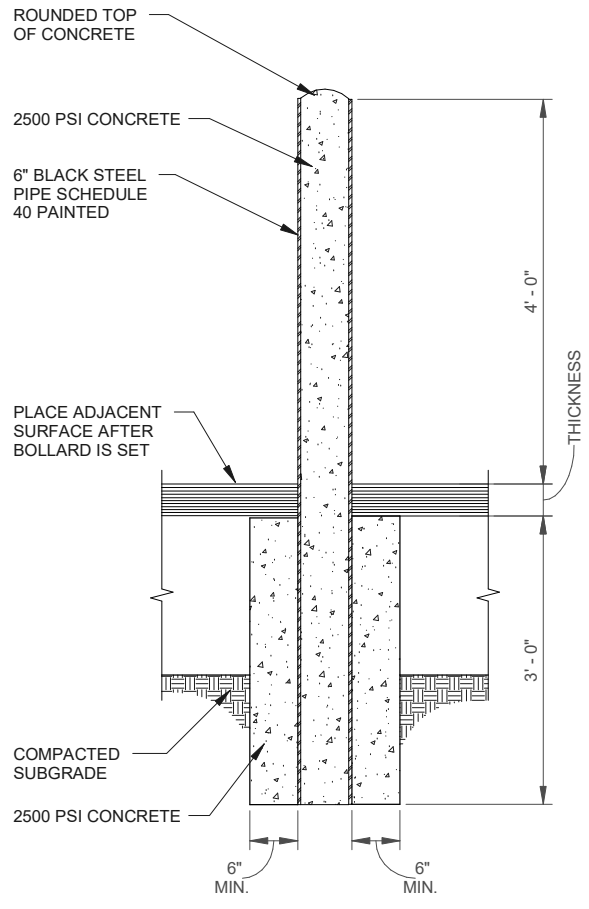
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 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

INTEGRAL CURB AND GUTTER

DIVISION
D32
 SECTION - DETAIL NO.
0000-004

JOB NO.: 19W10160

DATE: 10/09/2023



REV	DATE	DESCRIPTION	BY
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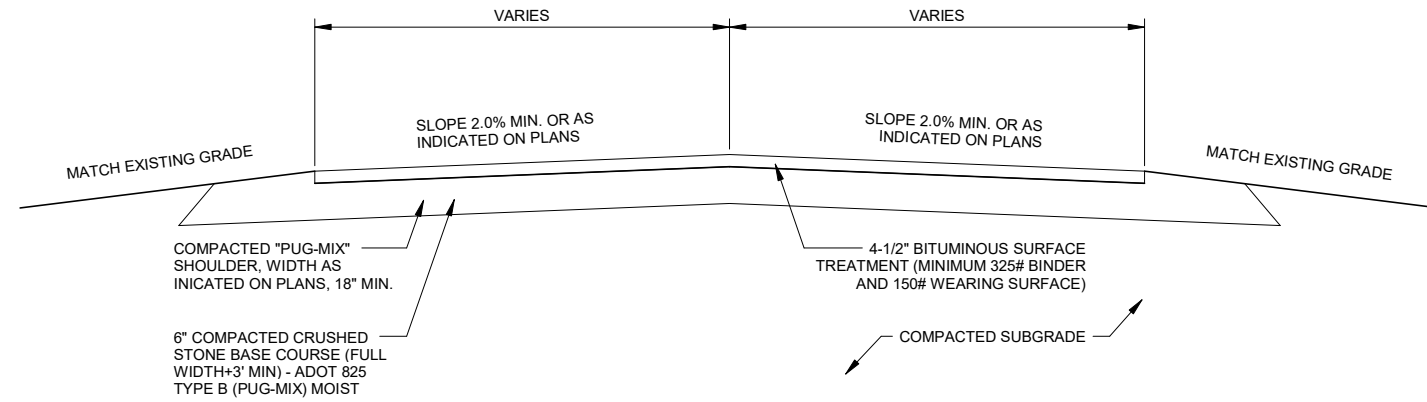
HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS
 JOB NO.: 19W10160

TYPICAL BOLLARD

DIVISION
D32
 SECTION - DETAIL NO.
0000-009
 DATE: 10/09/2023

NOTE:

1. TYPICAL PAVING SECTION SHOWN WITH CROWN AND SLOPING SHOULDERS. PROVIDE DIFFERENT SLOPE ARRANGEMENTS WHERE REQUIRED FOR DRAINAGE AND/OR GRADING PLANS.



HILLIARD N. FLETCHER WATER RESOURCE
RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

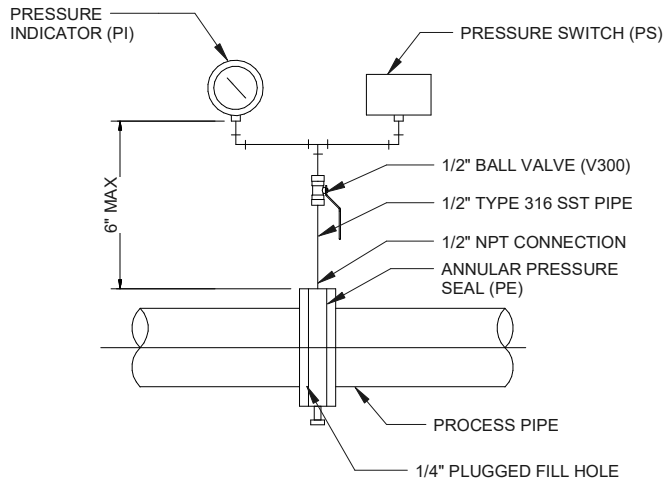
TYPICAL SECTION
- ASPHALT
PAVEMENT AL

DIVISION
D32
SECTION - DETAIL NO.
1216-001-AL

JOB NO.: 19W10160

DATE: 10/09/2023





NOTES:
 INDICATOR AND SWITCH INSTALLATION SHOWN. FOR SINGLE
 INSTRUMENT INSTALLATIONS, MOUNT DEVICE DIRECTLY TO SEAL.

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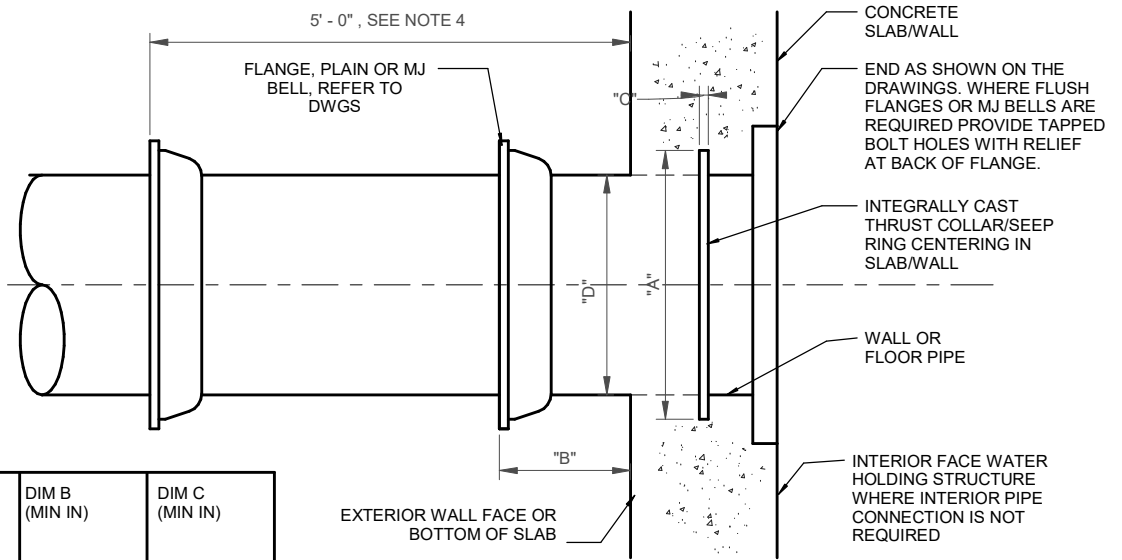
HILLIARD N. FLETCHER WATER
 RESOURCE RECOVERY FACILITY
 TUSCALOOSA, AL
 PHASE II IMPROVEMENTS

PRESSURE SWITCH &
 INDICATOR W/ANNULAR SEAL
 INSTALLATION

DIVISION
D40
 SECTION - DETAIL NO.
0513-006

JOB NO.: 19W10160

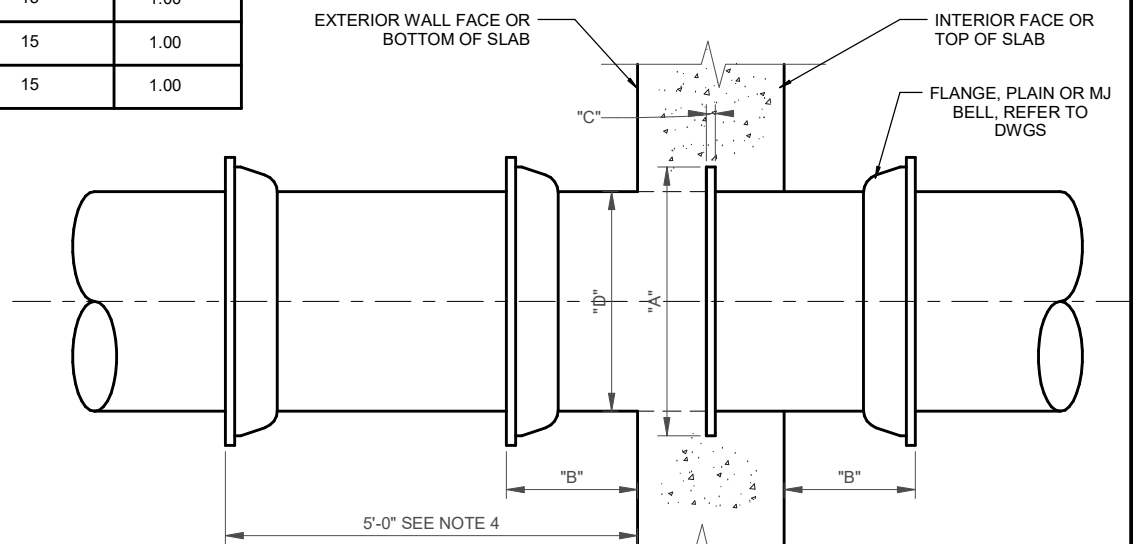
DATE: 10/09/2023



PIPE SIZE D (IN)	DIM A (MIN IN)	DIM B (MIN IN)	DIM C (MIN IN)
4	6.80	6	0.25
6	6.90	8	0.25
8	11.05	9	0.25
10	13.10	9	0.25
12	15.20	9	0.25
14	17.30	9	0.25
16	19.40	9	0.25
18	22.50	9	0.38
20	24.60	9	0.38
24	28.80	12	0.38
30	36.00	12	0.50
36	42.30	12	0.50
42	50.75	12	0.75
48	57.05	12	0.75
54	66.06	15	1.00
60	70.11	15	1.00
64	74.17	15	1.00

NOTES:

1. COAT PIPE WITH SPECIFIED PAINT SYSTEM PRIOR TO CONCRETE PLACEMENT.
2. IF BURIED, PROVIDE BURIED EXTERIOR PIPE PROVISIONS.
3. FOR STEEL PIPE, SEE DETAIL D40 FOR SPECIAL THRUST TIE 2400-008 DETAIL DIMENSIONS.
4. FOR BURIED PIPE, PROVIDE MJ BELL 5'-0" OUTSIDE OF STRUCTURE.



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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

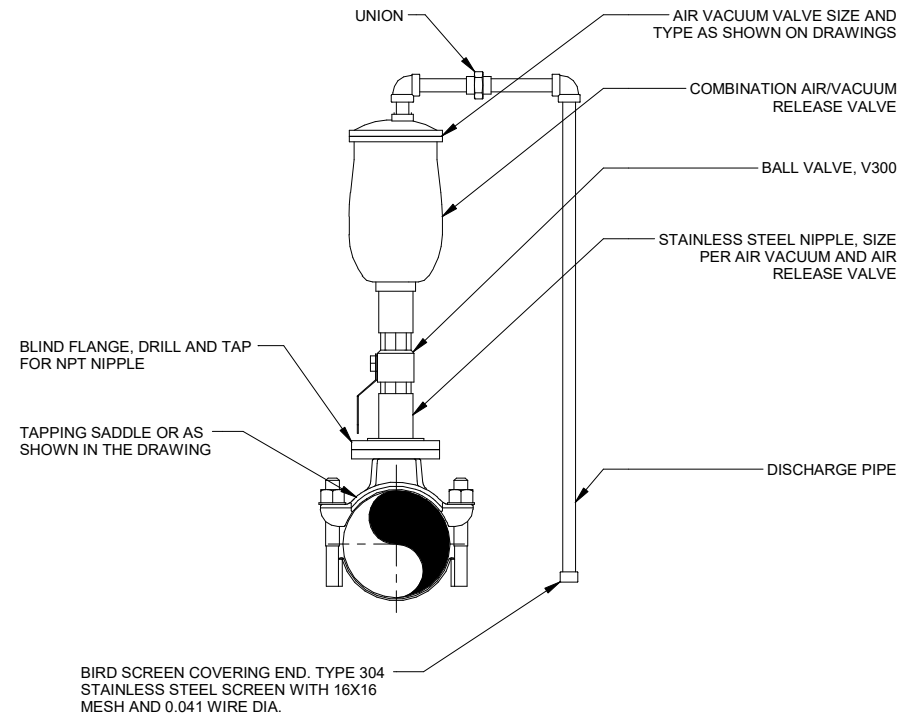
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

JOB NO.: 19W10160

DUCTILE IRON PIPE- BURIED EXTERIOR

DIVISION
D40
SECTION - DETAIL NO.
2339-003

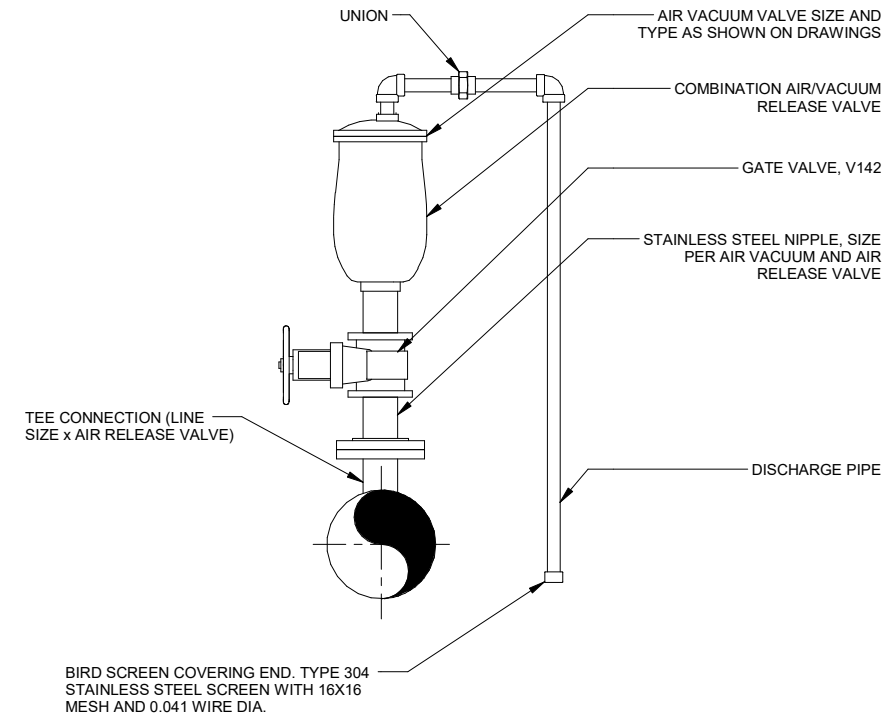
DATE: 10/09/2023



NOTES

1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND PLUG VALVE SHALL MATCH VALVE INLET SIZE.
3. DISCHARGE PIPE TO MATCH VALVE SIZE.

AIR VACUUM AND AIR RELEASE VALVE FOR 2.5" AND SMALLER



NOTES

1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND PLUG VALVE SHALL MATCH VALVE INLET SIZE.
3. DISCHARGE PIPE TO MATCH VALVE SIZE.
4. VALVE MATERIAL TO MATCH PIPE MATERIAL.

AIR VACUUM AND AIR RELEASE VALVE FOR 3" AND LARGER

HILLIARD N. FLETCHER WATER RESOURCE
RECOVERY FACILITY
TUSCALOOSA, AL
PHASE II IMPROVEMENTS

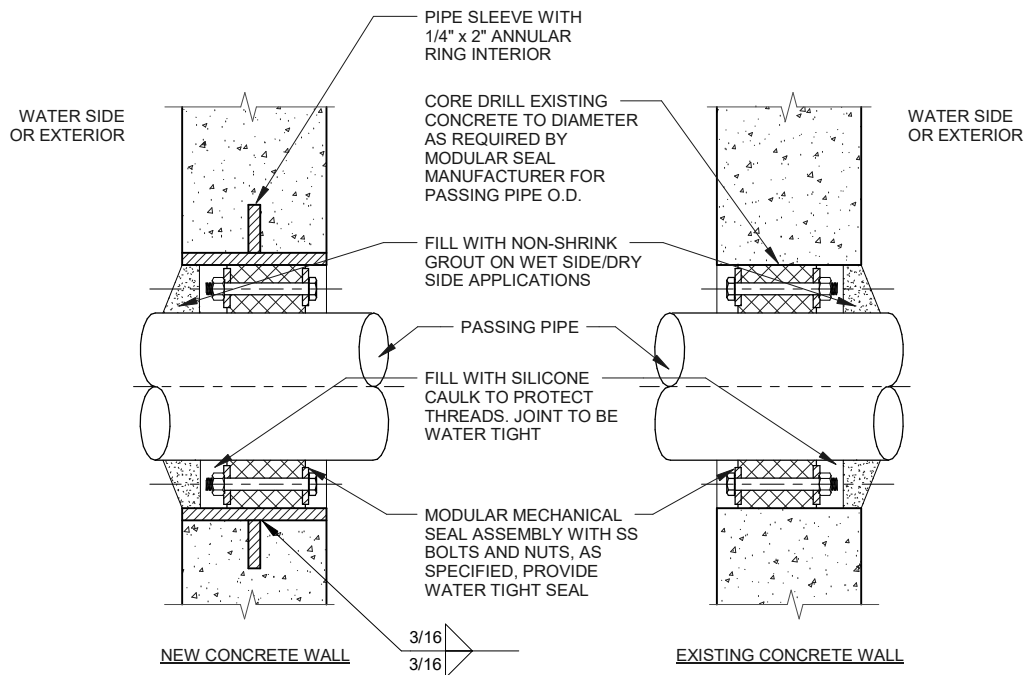
AIR VACUUM AND
AIR RELEASE
VALVE FOR
VARIOUS SIZES

DIVISION
D40
SECTION - DETAIL NO.
2343-005



JOB NO.: 19W10160

DATE: 10/09/2023



NOTES:

1. WHERE EXISTING CONCRETE STRUCTURE IS TO BE CORE DRILLED, THE CONTRACTOR SHALL ULTRASONIC TEST OR X-RAY THE AREA FOR EMBEDDED ITEMS BEFORE CORE DRILLING CAN PROCEED. IF EMBEDDED ITEMS ARE FOUND, NOTIFY THE ENGINEER IMMEDIATELY.
2. FOR NEW CONSTRUCTION, SLEEVES SHALL BE CAST INTO WALL. BLOCKOUTS AND SUBSEQUENT GROUTED IN SLEEVES WILL NOT BE PERMITTED UNLESS A KEYED WATERSTOP JOINT IS PROVIDED.
3. 6" DIAMETER SLEEVES AND SMALLER SHALL BE SCHEDULE 40 STEEL PIPE.
4. SLEEVES LARGER THAN 6" DIAMETER SHALL BE 1/4" THICK STEEL PIPE.
5. IN WALLS THICKER THAN 12", LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF THE WALL SLEEVE. SLEEVE DIAMETER SHALL BE PER LINK SEAL MANUFACTURER'S RECOMMENDATION.
6. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
7. FOR NEW CONCRETE STRUCTURE WHERE AN EXISTING PIPE WILL PENETRATE A NEW CONCRETE WALL, SLEEVES SHALL BE SPLIT WALL SLEEVES WELDED AROUND THE EXISTING PIPE AND POSITIONED IN THE FORM TO CENTER THE PIPE. SLEEVE DIAMETER AND THICKNESS SHALL BE PER MANUFACTURER'S RECOMMENDATION.

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HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY

TUSCALOOSA, AL

PHASE II IMPROVEMENTS

JOB NO.: 19W10160

PIPE WALL PENETRATION SEAL

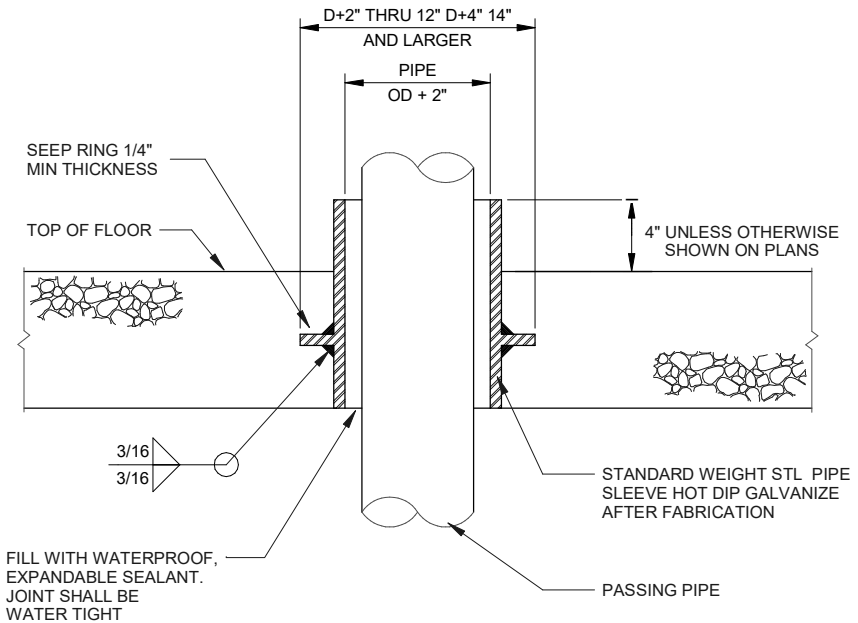
DIVISION

D40

SECTION - DETAIL NO.


2400-001

DATE: 10/09/2023



NOTE:
COAT FLOOR SLEEVE WITH SPECIFIED PAINT SYSTEM BEFORE
CONCRETE PLACEMENT.

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	HILLIARD N. FLETCHER WATER RESOURCE RECOVERY FACILITY TUSCALOOSA, AL PHASE II IMPROVEMENTS	FLOOR SLEEVE	DIVISION D40
	JOB NO.: 19W10160		SECTION - DETAIL NO. 2400-003
	DATE: 10/09/2023		