For the Construction of

WESTERN AREA WWTP PHASE 1 EXPANSION

HUNTSVILLE, ALABAMA

COH PROJECT NO. 71-22-SF01

Garver Project No. 21W10220

VOLUME 3 OF 5
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<td>D24 0529-001</td>
<td>DUCT HANGER SUPPORT DETAIL</td>
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<td>D24 0529-002</td>
<td>DUCT HANGER SUPPORT DETAIL</td>
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<td>D24 0529-003</td>
<td>DUCT SUPPORTS DETAILS</td>
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<td>D24 0529-005</td>
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<tr>
<td>D24 0900-016</td>
<td>WALL MOUNTED VERTICAL DUCT SUPPORT</td>
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<td>D24 2318-001</td>
<td>TYPICAL CONDENSATE DRAIN DETAIL</td>
</tr>
<tr>
<td>D24 2318-004</td>
<td>CONDENSATE DRAIN DETAIL</td>
</tr>
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FOR CLEAR COVER OF 2", F'c=4,000PSI, & GRADE 60 STEEL

<table>
<thead>
<tr>
<th>BAR SIZE</th>
<th>DIAMETER (db) (INCHES)</th>
<th>DEVELOPMENT LENGTH (I_d) (INCHES)</th>
<th>&quot;TOP&quot; BARS</th>
<th>REINFORCING BARS IN TENSION</th>
<th>&quot;TOP&quot; BARS</th>
<th>REINFORCING BARS IN COMPRESSION</th>
<th>HOOKED BARS SHALL NOT BE USED IN COMPRESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>#3</td>
<td>0.375</td>
<td>12</td>
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<td>15</td>
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<tr>
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<td>42</td>
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<tr>
<td>#8</td>
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REINFORCING BARS IN COMPRESSION

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<tr>
<th>BAR SIZE</th>
<th>DIAMETER (db) (INCHES)</th>
<th>DEVELOPMENT LENGTH (I_d) (INCHES)</th>
<th>&quot;TOP&quot; BARS</th>
<th>REINFORCING BARS IN TENSION</th>
<th>&quot;TOP&quot; BARS</th>
<th>REINFORCING BARS IN COMPRESSION</th>
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<tbody>
<tr>
<td>#3</td>
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<td>12</td>
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<tr>
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<td>42</td>
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</tbody>
</table>

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 I_d, HAVE CLEAR COVER NOT LESS THAN d_b, AND STIRRUPS OR TIES THROUGHOUT I_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 I_d = DEVELOPMENT LENGTH.

3. ALL LAP SPLICES SHALL BE CLASS B UNO.
ABOVE GRADE CONCRETE WALLS

BASE SLAB & FTG's POURED AGAINST EARTH

BELOW GRADE WALLS

SUSPENDED SLAB

COLUMN, PIER, & BEAM

NOTES:

1. SEE PLANS FOR PROPER REBAR ORIENTATION.
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.
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
NOTE:
FILL CHIPPED OUT AREA
WITH NON SHRINK GROUT
1/4" intentionally roughened joint
6" ribbed waterstop
Class B
Lap splice
Foundation reinforcement
Compacted fill material

SEE PLANS
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.
6" RIBBED WATERSTOP CENTERED IN WALL

CLASS B LAP SPlice, UNO. REFER TO SPECIFIC DRAWINGS.

WALL REINFORCEMENT VARIES, SEE PLANS

1/4" INTENTIONALLY ROUGHENED JOINT

FOUNDATION REINFORCEMENT, SEE PLANS.

ACI STANDARD HOOK

DATE: JOB NO.: 21W10220

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

WALL JOINT TO FOUNDATION JOINT

DIVISION
D03

SECTION - DETAIL NO.
3000-201

DATE: 6/14/2022
6" RIBBED WATERSTOP CENTERED IN JOINT

WALL REINFORCEMENT VARIES, SEE PLANS

WALL REINFORCEMENT CONTINUES THRU JOINT AS INDICATED

*SPULCES IN HORIZONTAL BARS IN CIRCULAR STRUCTURES SHALL BE STAGGERED AS SHOWN IN DETAIL 3000-303
SIKAFLEX SEALANT SHALL BE APPLIED FULL LENGTH OF JOINT

STEEL CONTINUOUS THROUGH JOINT

1/4" WIDTH

1/2" DEPTH
NOTES:

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

Splice shall not line up vertically in walls more frequently than every third bar.

Length of splice or 3'-0" whichever is greater.

DATE: 6/14/2022

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

TYPICAL SPLICE DETAIL
AT CIRCULAR BASIN WALLS

DIVISION
D03
SECTION - DETAIL NO.
3000-303
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".
TYPICAL 3/4" CHAMFER REQUIRED @ ALL ABOVE GROUND CORNERS

SEE STRUCTURE DRAWING FOR REINF. REQUIRED

STANDARD CHAMFER AT CONCRETE

WESTERN AREA WWTP
HUNTSVILLE, AL
PHASE 1 EXPANSION

21W10220 6/14/2022

JOB NO.: 21W10220
DATE: 6/14/2022

3000-602
APPLIES HORIZONTAL OR VERTICAL JOINT

9" BULB-TYPE WATERSTOP (BOND TO WATERSTOP IN BASE SLAB)

1/2" X 3'-0" LONG SMOOTH EPOXY COATED DOWELS, SPACING TO MATCH HORIZ. REINF. IN WALL
NOTES:
1. Reinforcing shall be as detailed on plans.
2. See mechanical details for weir plate details.
LAP SPLICE, TYP
CLASS B
DOWEL BARS WITH STD 90° HOOK, MATCH SIZE & SPACING OF HORIZ. WALL REINF.
DOWEL BAR SPLICER AT CONTRACTORS OPTION
CORNER BAR TO MATCH SIZE AND SPACING OF HORIZ. WALL REINF.
1/4" ROUGHENED JOINT PER ACI 350-6 11.7.9 OR 2x6 KEYWAY
4" WATERSTOP

NOTE:
WALL THICKNESS AND REINFORCEMENT LOCATIONS MAY VARY. SEE PLANS AND SECTIONS FOR THESE REQUIREMENTS.
4" WATERSTOP

DOWEL BARS WITH 90°
STD HOOK, MATCH
SIZE & SPACING OF
HORZ. WALL REINF.

1/4" ROUGHENED
JOINT PER ACI 350-6
11.7.9 OR 2x6 KEYWAY

DOWEL BAR SPICER USED AT
CONTRACTORS OPTION.

NOTE:
WALL THICKNESS AND REINFORCEMENT
LOCATIONS MAY VARY. SEE PLANS AND
SECTIONS FOR THESE REQUIREMENT.
ELEVATION SECTION

(2) #5 EACH SIDE OF OPENING BEND AND LAP AS SHOWN

SEE PLANS WALL THICKNESS

1'-0" COLLAR

#5 @ 12" O.C.

SEEP RING AT WALL COLLAR

1'-0"

AROUND PIPE, TYP.

PIPE OD + 2'-0" SQ

MATERIAL OF WALL PIPE TO MATCH CONNECTING PIPE.

(2) #5 HOOPS PIPE OD + 4"

(2) #5 HOOPS PIPE OD + 4"

SECTION

(2) #5 HOOPS PIPE OD + 4"

ELEVATION
TYPICAL PIPE SUPPORT
PEDESTAL ON CONCRETE

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

DATE: 6/14/2022
JOB NO.: 21W10220

DIVISION
D03
SECTION - DETAIL NO.
3000-801

2" CLR TYP
#4 TIES @ 8"OC
#5 DOWELS @ 8"
#5 @ 12" OC TOP & BOTTOM

34"
10"

1' - 0"

TOP OF SLAB

#5 TIES EACH FACE

2" CLR TYP
#4 STIRRUPS @ 8"
#5 DOWELS @ 8" EACH FACE

6" PIPE D.D.

PIPE SEE PLANS

SEE PLANS

SEE SECTION

SIDE VIEW

FRONT VIEW
NOTES:
1. PRESSURE RELIEF VALVE SHALL BE TROY VALVE A2550-RS OR APPROVED EQUAL.
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 D03 FOR STAIR HANDRAIL.
TO POURING NEW CONCRETE

1/4" AMPLITUDE, CLEAN PRIOR THICKNESS, SEE PLANS OR SLAB ON GRADE, FOR MECHANICALLY ROUGHEN EXISTING SUSPENDED SLAB SEE EQUIPMENT BASE LEAVE ROUGH & CLEAN SHRINK GROUT, TYP SEE NOTE 8 1 1/2" FLUID NON- 2" MIN ALL AROUND EQUIPMENT BASE

LEAVE ROUGH & CLEAN

SHRINK GROUT, TYP

SEE NOTE 8

CONSTRUCTION JOINT, LEAVE ROUGH & CLEAN SEE ANCHOR BOLT - BLOCKOUT DETAIL

MINIMUM ANCHOR BOLT DIMENSIONS, SEE NOTES & ANCHOR BOLT DETAILS

MIN 4 PER BASE

TOOL EDGE (3/4")

ANCHOR BOLT DETAIL

MIN 4 PER BASE

TOOLED EDGE (3/4")

ANCHOR BOLT DETAIL

MIN 4 PER BASE

TOOL EDGE (3/4")

ANCHOR BOLT DETAIL

MIN 4 PER BASE

TOOLED EDGE (3/4")

ANCHOR BOLT DETAIL

MIN 4 PER BASE

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ANCHOR BOLT DETAIL

MIN 4 PER BASE

TOOL EDGE (3/4")

ANCHOR BOLT DETAIL

MIN 4 PER BASE

TOOL EDGE (3/4")

ANCHOR BOLT DETAIL

MIN 4 PER BASE
ANCHOR BOLT, SIZE AS SHOWN OR AS REQ'D BY MFR.

STEEL SLEEVE

GROUT

d + 1", MIN INSIDE DIA

MALLEABLE IRON, SIZE AS SHOWN OR AS REQ'D BY MFR.

BAR DIA

MIN

4d

16d

MIN

MFR REC'D OR 8d

TOP OF FDN.

ANCHOR BOLT DETAIL

MACHINERY ANCHOR BOLT DETAIL

FILL W/ NON-SHRINK GROUT

FLUID NON-SHRINK GROUT

TOP OF EQUIPMENT PAD

SEE TYP EQUIPMENT ANCHOR BOLT DETAIL

ANCHOR BOLT BLOCKOUT

BOLT BEND AS REQ'D. BY MFR.

ANCHOR BOLT BLOCKOUT

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.

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

ANCHOR BOLT DETAIL

DATE: 6/14/2022

JOB NO.: 21W10220

DIVISION D03

SECTION - DETAIL NO. 3000-1001
TREATMENT PLANT NO. 1 (EAST)  

SECTION

TREATMENT PLANT NO. 2 (WEST)

LOCATION

<table>
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<tr>
<th>LOCATION</th>
<th>L</th>
<th>W</th>
<th>T</th>
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<tbody>
<tr>
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<td>10' - 6&quot;</td>
<td>3' - 0&quot;</td>
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<tr>
<td>TREATMENT PLANT NO. 2 (WEST)</td>
<td>27' - 0&quot;</td>
<td>13' - 6&quot;</td>
<td>3' - 3&quot;</td>
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NOTES:

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

METAL ROOF DECK
CONT SEALANT AND BACKER ROD, EA SIDE
SEE STRUCT FOR DETAIL
SEE STRUCT DWGS FOR BOND BEAM LOCATIONS AND REINFORCING, TYP
INTERIOR CMU WALL
FILL VOID WITH COMPRESSED MINERAL WOOL INSULATION (SAFING)
AS PART OF AN APPROVED FIRE-RATED ASSEMBLY
METAL ROOF DECK
SEE STRUCTURAL FOR DETAIL MIN 20 GAGE BENT PLATE OR ANGLE
SEE STRUCT DWGS FOR BOND BEAM LOCATIONS AND REINFORCING, TYP
INTERIOR CMU WALL SEE LIFE SAFETY PLANS AND WALL TYPES FOR LOCATIONS OF FIRE-RATED PARTITIONS
NOTES:
1. EXTEND BASE FLASHING 6" HIGHER THAN MORTAR BLOCK MATERIAL
2. SEE STRUCT DWGS FOR LOCATION OF CURBS.
WALL THICKNESS

CMU LINTEL BEAM SCHEDULE
TYPES & REINFORCING

| WALL THICKNESS | CLEAR OPENING TO 3'-4" | CLEAR OPENING 3'-6" TO 6'-4" | CLEAR OPENING 6'-6" TO 8'-4"
<table>
<thead>
<tr>
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<tr>
<td>8&quot;</td>
<td>LB1 2 - #5 BOT</td>
<td>LB2 2 - #5 T&amp;B</td>
<td>LB2 2 - #6 T&amp;B</td>
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NOTES:
1. EXTEND LINTEL BEAM 8" BEYOND OPENING EACH END.
2. SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.

TYPICAL CMU LINTEL BEAMS

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

DATE: 6/14/2022
NOTE:
SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.
VERTICAL REINF @ 3 CELLS, TYP

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.
DOWEL @ EACH VERTICAL BAR
SAME DIAMETER AS VERTICAL BAR AT ENDS
2'-0" MAX TYP. SPACING
DOWEL BARS TO MATCH VERTICAL BARS @ (3) CELLS
VERTICAL BARS @ (3) CELLS, CENTERED IN CELL, FILL CELL WITH GROUT. LAP 64 BAR DIAMETERS MIN.
MATCH BAR SIZE OF TYPICAL BARS.

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.
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.
NOTE:
SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW CMU NOTES.
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.
NOTES:

1. AT ADJACENT OPENINGS WITH LESS THAN 6'-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.
CONTROL JOINT
CONTINUE BOND BEAM RENF THRU CJ
6" #4 HOOKED DOWEL AT EACH VERTICAL BAR, EXTEND 6" INTO BOND BEAM
6" 24" ROOF DIAPHRAGM BOND BEAM
CONTINUOUS BOND BEAM WITH (2) #5 MINIMUM IN ADDITION TO LINTEL AT THE TOP OF ALL OPENINGS LARGER THAN 1'-4"

INTERRUPT LADDER REINF. AT CJ
HORIZONTAL JOINT REINF. @ 16" O.C. USE 9 GAUGE TRUSS TYPE WELDED WIRE MASONRY REINF. UNO

TYPICAL CONTROL JOINT
OPENING WITH LINTEL BOND BEAM COMBINATION
TYPICAL WALL PIER

FOUNDATION DOWEL
TIES * "" IN MORTAR JOINTS (IN ALL PIER LESS THAN 3'-0" IN WIDTH)
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.
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, TYYP

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

INTERRUPT LADDER REINF. AT CJ

TOP OF SLAB

SEE PLAN

1'-6"

MIN.
GROUTED CELL FULL HEIGHT OF WALL

CONTROL JOINT RAKE AND CAULK
CONT HORIZ JOINT REINF. @ 16" O.C. VERT

VERTICAL REINF. @ (2) CELLS, CENTERED IN CELL, MATCH BAR SIZE OF TYPICAL CMU WALL

VERTICAL REINF. @ 16" O.C. VERT

GROUTED CELL FULL HEIGHT OF WALL

1 1/2"x1/4"x30" STRAP ANCHORS WITH 3" RIGHT ANGLE BENDS AT EACH END, @48" O.C. MAX. VERTICALLY

CONT HORIZ JOINT REINF. @ 16" O.C. VERT DISCONTINUE AT WALL INTERSECTION

VERTICAL REINF. @ (2) CELLS, CENTERED IN CELL

NOTE:
SEE STRUCTURAL DRAWINGS FOR REINFORCED HOLLOW HMU NOTES.
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.
ALUMINUM GRATING LANDING PLATFORM

STAINLESS STEEL ANGEL AS REQUIRED BY GRTG. MFG. (4 x 4 x 1/4" MIN) WITH 5/8" DIA. 6" STAINLESS STEEL EPOXY ANCHORS AT 18" O.C. MAX (U.N.O)

NOTE:
COLUMN SUPPORT SIMILAR

SIDE VIEW

DATE: 6/14/2022

WESTERN AREA WWTP
PHASE 1 EXPANSION

D05
SECTION - DETAIL NO.

DIVISION

5000-200

GRATING LANDING PLATFORM SECTION

NOTE:
COLUMN SUPPORT SIMILAR
NOTE:
1) PROVIDE ANGLES TO REINFORCE ALL OPENINGS IN METAL ROOF DECK WHOSE DIMENSION 'A' IS 6" TO 12"
2) OMIT ANGLE WHEN IT IS PARALLEL TO AND CLOSER THAN 1'-0" TO A STRUCTURAL MEMBER

EXTEND ANGLE A MINIMUM OF TWO RIBS BEYOND OPENING

RECTANGULAR OR CIRCULAR OPENING SEE ARCH. OR MECH. DWGS. FOR SIZE AND LOCATIONS

L 2 x 1 1/2 x 3/16 LLV FIELD WELDED TO EACH RIB AT UNDERSIDE OF METAL DECK-TYPICAL
NOTE: DECK SUPPLIER TO PROVIDE 1 1/2" HIGH, 20 GAGE CHANNEL CLOSURE ALONG NON-BEARING SIDES OF DECK.

L3 1/2 x 3 1/2 x 5/16" (COPE VERT LEG EACH END)

L3 1/2 x 3 1/2 x 5/16" (COPE VERT LEG EACH END)

DIM BTWN JST

TOP CHORDS

3/16 TYP
NOTES:
1. CLEARANCES AT SIDES FOR EQUIPMENT SPRING MOUNTED AS DETAILS C & D SHALL BE IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATION
2. IF EQUIPMENT IS MOUNTED ON NEOPRENE PADS, ANCHOR BOLTS SHALL BE ISOLATED FROM EQUIPMENT BY A NEOPRENE SLEEVE AND WASHER.
3. SEE SPECIFICATIONS SECTION 05900.
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.
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.
WESTERN AREA WWTP
HUNTSVILLE, AL

LADDER RUNG DETAIL

PHASE 1 EXPANSION

DATE: 6/14/2022

5000-803
ADJUSTABLE EXTENSION FOR FALL PREVENTION SYSTEM BY MFG.

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

WESTERN AREA WWTP
HUNTSVILLE, AL
PHASE 1 EXPANSION
STANDARD LADDER DETAILS

DATE: 6/14/2022
JOB NO.: 21W10220
DIVISION: D05
SECTION: DETAIL NO. 5000-805
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.

7/16" Ø HOLES FOR 3/8" S.S. HILTI ADHESIVE ANCHORS OR APPROVED EQUAL

3/8" S.S. SET SCREWS

S.S. SHIM
1/4", 3/8" OR 1/2" ALUMINUM CHECKER PLATE

ALUMINUM BAR 2" x 3/16" (FAR SIDE)

ALUMINUM HINGE 4" x 4" x 1/8" (TRIM TO SUIT)

1/4", 3/8" OR 1/2" ALUMINUM CHECKER PLATE

SECTION 1

ALUMINUM CHECKED PLATE

LONGITUDINAL BAR (FAR SIDE)

ALUMINUM HINGE (SEE DETAIL)

BAR RIB (FAR SIDE)

1/2" R

1/4", 3/8" OR 1/2" ALUMINUM CHECKER PLATE

TYPICAL SUPPORT AT JOINT

CUT OUT IN CHECKED PLATE

NOTE: ADD NEOPRENE GASKETS AT OR AROUND OPENINGS.

1/8 TYP

3/8" S.S. HEX NUTS

NOTE: ADD NEOPRENE GASKETS AT OR AROUND OPENINGS.

1/2" TYP

EXTRUDED ALUMINUM FRAME DETERMINED BY FLOOR PLATE THICKNESS

FRAME (COMPLETE FRAME NOT SHOWN FOR CLARITY)

HINGE (SEE DETAIL)

BAR RIB (FAR SIDE)

LIFT HANDLE (SEE DETAIL)

LONGITUDINAL BAR (FAR SIDE)

TYPICAL SUPPORT AT JOINT

HINGE DETAIL WHERE INDICATED ON PLANS

LIFT HANDLE DETAIL

NOTE: ADD NEOPRENE GASKETS AT OR AROUND OPENINGS.

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

WESTERN AREA WWTP
HUNTSVILLE, AL
PHASE 1 EXPANSION

DIVISION D05
SECTION - DETAIL NO. 5000-900

DATE: 6/14/2022

JOB NO.: 21W10220

FLOOR OPENING COVER PLATE
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.
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.
AL WIDE FLANGE
SEE PLANS
L 3-1/2" x 3-1/2" x 1/4" x 7" LONG AL ANGLE
AL WIDE FLANGE
SEE PLANS

WESTERN AREA WWTP
HUNTSVILLE, AL
PHASE 1 EXPANSION

BEAM TO WALL
CONNECTION DETAIL

DATE: JOB NO.:
DIVISION
SECTION - DETAIL NO.
JOB NO.: 21W10220
D05
DATE: 6/14/2022
5000-907
AL WIDE FLANGE
SEE PLANS

1/4" GAP

1 1/2"

L 3-1/2" x 3-1/2" x 1/4" MIN
x 7" LONG AL ANGLE W/ (2)
5/8" DIA. SS BOLTS

(2) 5/8" DIA. SS HILTI KWIK BOLT
III ANCHORS W/ 4 3/4" MIN EMBED
OR APPROVED EQUAL

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

BEAM TO WALL
CONNECTION DETAIL

DATE: 6/14/2022

DIVISION
D05
SECTION - DETAIL NO.
5000-908
NOTES

1. CONCRETE ANCHORS TO BE LOCATED IN ONE OF THE CONFIGURATIONS SHOWN IN FIGURE 1.
GAP 1/2"

AL CHANNEL
SEE PLANS

L 3-1/2" x 4" x 1/4" MIN
x 7" LONG AL ANGLE W/
11/16" x 1 9/16" LONG SLOT
W/ (2) 5/8" DIA. SS BOLTS

(2) 5/8" DIA. SS HILTI KWIK
BOLT TZ ANCHORS W/
4-3/4" MIN EMBED. OR
APPROVED EQUAL
L3 1/2x3 1/2x1/4 MIN x 0'-6" LONG
AL ANGLE

(4) 5/8" Ø BOLTS

AL CHANNELS
SEE PLANS FOR SIZE

COPED CONNECTION

L3 1/2x3 1/2x1/4 MIN x 0'-6" LONG
AL ANGLE

(4) 5/8" Ø BOLTS

AL CHANNELS
SEE PLANS FOR SIZE
STEEL CHANNEL SEE PLANS

L 3 1/2x3 1/2x1/4 x 0.7" LONG GALV. STEEL ANGLE
W/ 5/8"∅ EXPANSION ANCHORS
W/ 43/4" MIN. EMBED
& (2) 5/8"∅ STEEL BOLTS
(2) 5/8" Ø SS EXPANSION ANCHORS W/ 3/4" MIN EMBED

L 3 1/2x3 1/2x1/4 MIN X 0' 7"
LONG GALV. STEEL ANGLE
W/ (2) 5/8" Ø STEEL BOLTS
CONCRETE WALL

ALUMINUM CHANNEL
SEE PLANS FOR SIZE

USE (2) 3/4" SS
HILTI KWIK BOLTS TZ ANCHORS
W/ (3) 13/16" x 1 7/8"
LONG SLOT HOLES,
W/ 4 3/4" MIN EMBED
OR APPROVED EQUAL

ALUMINUM CHANNEL
SEE PLANS FOR SIZE

SECTION A-A

NOTES:
1. ALUMINUM GRATING NOT SHOWN FOR CLARITY.
2. WHEN BOLTING, IF REBAR IS HIT, MOVE TO EMPTY SLOT.
**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
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 FOR TOP-MOUNTED GUARDRAIL.
5. TOE BOARD SHALL CONFORM TO OSHA STANDARDS AND AS SHOWN IN DETAIL 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-MADE 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.
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.
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.
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.
NOTES:
1. MEMBER SIZES SHOWN ARE MINIMUM ACCEPTABLE UNLESS INDICATED OR INDIVIDUALLY DETAILED OTHERWISE.
2. ALL OTHER REQUIREMENTS PER SPECIFICATIONS
3. METALLIC SURFACES IN CONTACT WITH CONCRETE, GROUT OR DISIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR INSULATORS OR OTHER APPROVED MATERIAL.
UNO
5' - 6" SQ
#4 @ 12" O.C.
BOTH WAYS, T&B

T/LANDING
SEE PLAN

GALV. STEEL L-4 X 4 X 3/8
X 9" (MIN.) (F.S.) WITH
(2) 1/2" O. S.S. WEDGE
ANCHORS & (2) 1/2" O. S.S.
MACHINE BOLTS, TYP.
BOTH STRINGER

NOTES:
1. MEMBER SIZES SHOWN ARE MINIMUM ACCEPTABLE UNLESS INDICATED
OR INDIVIDUALLY DETAILED OTHERWISE.
2. ALL OTHER REQUIREMENTS PER SPECIFICATIONS
3. METALLIC SURFACES IN CONTACT WITH CONCRETE, GROUT OR
DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT,
MYLAR INSULATORS OR OTHER APPROVED MATERIAL.
MASONRY WALL
GROUT SUPPORT SCREEN 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 WITH 1/2" MINIMUM OF GROUT BETWEEN ANCHOR BOLT AND BLOCK.

OPENING DIAMETER = "D" = 3

7 1/2"

1"

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

ANCHOR BOLT SEE DRAWING FOR SIZE AND LOCATION

MASONRY WALL
GROUT SUPPORT SCREEN IF WALL PARTIALLY GROUTED
SHOP INSTALLED S.S. SET SCREW

TFCo CAST ALUMINUM TEE FITTING #TF-1 ATTACHED TO RAIL WITH 5/16" DIA S.S. CAP SCREW AND THREADED INSERT
HANDRAIL POST

TFCO EXTRUDED ALUMINUM TOEBOARD SHIPPED IN 20'-0" LENGTHS

S.S. 1/4" DIA RHMB

ALUMINUM CLAMP #TPC-1

4 7/16"
A5' - 0" MAX SPACING BETWEEN BRACKETS

TO NOSING LINE

WALL RAIL ELEVATION

SECTION A - A

1 1/2" DIA. SCH. 40 ALUMINUM PIPE

1/4" DIA. S.S. ROUND HEAD MACHINE SCREW

5/16" DIA. S.S. SOCKET HEAD CAP SCREW

ADJUSTABLE WALL FITTING #AWF

(3) 3/8" DIA. x 3" S.S. HILTI KWIKBOLT II EXPANSION ANCHORS (1 5/8" MIN EMBEDMENT)
NOTES:

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

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

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

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

1/4" Ø SCREW

STEEL CLAMP

HANDRAIL POST

GALV. STEEL TOEBOARD SHIPPED IN 20' LENGTHS

1/4"

4.716"
NOTES:

1. DIMENSION "X", EDGE DISTANCE SHALL COMPLY WITH FASTENER CALCULATIONS.
LOCATE SET SCREWS IN BASE FLANGE AT 90° FROM CENTLINE OF HANDRAIL RUN AN ON SIDE AWAY FROM WALKING SURFACE.

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

3/8" Ø SET SCREWS

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

SLAB OR CURB EDGE

DATE: JOB NO.:

WESTERN AREA WWTP
HUNTSVILLE, AL
PHASE 1 EXPANSION

21W10220 6/14/2022
D05
5213-118

BASE FLANGE DETAIL
CONCRETE STAIR

DIVISION
SECTION - DETAIL NO.
DATE: 6/14/2022
GUARDRAILS SHALL BE TOP MOUNTED OR SIDE MOUNTED AS SHOWN ON PLANS

METHOD A
TYPICAL SIDE MOUNT RAILING

METHOD B
TYPICAL SIDE MOUNT RAILING

GUARDRAILS SHALL BE TOP MOUNTED OR SIDE MOUNTED AS SHOWN ON PLANS
TOP OF SLAB OR WALL

ALUMINUM STRIATED BANDING BAR
3/16" DIA S.S. ROUND HEAD MACHINE SCREW
AL. GRATING SEE PLANS

HOLD DOWN CLIP
PROVIDE 1/4" x 1" NEOPRENE GASKET CONT. AT PERIMETER OF AL PLANK ONLY
EXTRUDED AL FRAME

BENT ALUMINUM BAR 7" LONG x 1" WIDE x 1/4" THICK, SHOP WELDED TO FRAME @ 24" O.C.

SLAB/TOP OF WALL

ALUMINUM STRIATED BANDING BAR
3/16" DIA S.S. ROUND HEAD MACHINE SCREW
AL. GRATING SEE PLANS

PROVIDE 1/4" x 1" NEOPRENE GASKET CONT. AT PERIMETER OF AL PLANK ONLY

MIN L 3 x 3 x 1/4 ALUMINUM ANGLE CONT.
MIN CONNECTOR SHALL BE 1/2" DIA S.S. HILTI KB3 WITH 4" MIN EMBED OR APPROVED EQUAL. SPACE @ 24" O.C. MAX CONNECTORS SHALL BE DESIGNED FOR ACTUAL LOADINGS

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 5000-902 FOR GRATING NOTES.
3/16" DIA. S.S. ROUND HEAD MACHINE SCREW

3/8" ALUMINUM I-BAR

HOLD DOWN CLIP AT 16" O.C. MAX. SPACING. MINIMUM OF 2 CLIPS PER PANEL

BEAM AT END OF GRATING PANELS

GRATING CONTINUOUS OVER BEAM, TYPICAL

BEAM AS DESIGNED BY MANUFACTURER OR AS INDICATED

NOTES:

1. ALUMINUM GRATING SHOWN. FIBER-REINFORCED PLASTIC (FRP) GRATING AND ALUMINUM PLANK SIMILAR.

2. REFER TO D05/5000-902 FOR GRATING NOTES.
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.
NOTES:

1. REFER TO D05/5000-902 FOR GRATING NOTES
NOTES:
1. SEE DRAWINGS FOR REQUIRED ROOF SLOPE.
1x8 ALUMINUM WRAPPED TRIM

15/32" A/C PLYWOOD CEILING W/FUrrING STRIPS

1x8 ALUMINUM WRAPPED TRIM

GROUT FILLED CELLS, SEE DETAIL THIS SHEET

NON-VENTED ALUMINUM SOFFIT W/ VENTED SECTIONS 2'-0"O.C.

12

1'-6"

SHOP FABRICATED WOOD TRUSSES AT 2'-0"O.C.

R-30 FIBERGLASS INSULATION BETWEEN ROOF TRUSSES

GUTTER, COLOR AND MATERIAL TO MATCH ROOF PANELS

TREATED FASCIA

GUTTER STRAP

GROUT FILLED CELLS, SEE DETAIL THIS SHEET

DATE: 6/14/2022

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

5000-503

EAVE DETAIL

DIVISION
D07

SECTION - DETAIL NO.
5000-503
WALL MATERIALS INDICATED ON THE DRAWINGS

2 - 1/4"∅ SST CONC ANCHORS @ CONC OR MASONRY WALLS (TYP)

1 1/2" x 0.062 AL DOWNSPOUT HANGER @ 4'-0" OC

3" x 4" DOWNSPOUT FORMED FROM 0.032 AL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FINISH PER PAINTING SCHEDULE.

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.
NOTE:
1. 8" CMU SHOWN, 12" CMU SIMILAR
NOTE:
1. 8" CMU SHOWN, 12" CMU SIMILAR
HOOD SHALL BE SUPPLIED AS STANDARD WITH AN 8" PVC BAFFLE: PROVIDING WEATHERSEAL AT THE TOP OF DOOR

OVERHEAD DOOR AND TRACK AT JAMB

1/8" BENT JAMB

OVERHEAD DOOR HOOD

MASONRY BLOCK BEYOND

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

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

L 1" x 1 1/2" x 1/8" W/ 1/2" DIA. x
STUD ANCHORS @ 16" O.C.
GALVANIZED. EXTEND TO CLEAR
EDGE OF DOOR @ JAMB TRACK

1 1/2" SLOPE

EXTERIOR PAVING
OR APPROACH SLAB

1' - 0" SLOPED

5"

1 1/2"

NOTE:

1. *= DIMENSION SHALL BE VERIFIED WITH DOOR SUPPLIED.
FLANGE SUPPORT
ADJUSTABLE
OR
RESTRAINED SUPPORT
ADJUSTABLE

PIPE SADDLE SUPPORT OR FLANGED SUPPORT
PAINT SAME AS PIPING

STD PIPE FLANGE, ATTACH TO CONC. WITH 4 SS STUD TYPE WEDGE ANCHORS
1 1/2" GROUT

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.

DIMENSION TABLE

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<thead>
<tr>
<th>PIPE SIZE</th>
<th>A</th>
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3. FOR BASE, HEIGHT AND FLANGE DIMENSIONS, SEE TABLE.
4. USE 2 1/2" SUPPORTS FOR PIPES LESS THAN 2 1/2" DIAMETER.
CONCRETE ANCHORS, SIZE AND NUMBER AS REQUIRED

SPACER BLOCK AS REQUIRED

PIPE SIZE 4" MAX

SHORT CLIP

NOTE:
FOR VERTICAL PIPES ONLY
Plan A/A

Plan B/B

**Notes:**

1. **Hot-Dip Galvanized Support After Fabrication.**
2. **Provide Stainless Steel Support Where Called Out at Stainless Steel on Drawings.**
NOTES:

1. PIPE SUPPORT IS TO BE USED FOR PIPE SIZES BETWEEN 4" $\phi$ AND 24" $\phi$.

2. MAXIMUM ALLOWABLE VERTICAL LOAD = 1500 POUNDS.

3. ALL SUPPORT MATERIALS SHALL BE 316 SST UNLESS NOTED OTHERWISE ON THE DRAWINGS.

4. ANCHORS TO BE SIMPSON STRONG BOLT 2 OR APPROVED EQUAL.
5'-0" SPACING

36" MAX

24" MIN

WATER SURFACE

WATER PIPE SIZE AS SHOWN ON PLAN

1/2" UNION

45° BEND

5'-0" OC MIN OR AS SHOWN ON DRAWINGS

CLARIFIER BEAM

SST PIPE STRAPS

SST UNISTRUT

SST BEAM CLAMPS

TYPE 3 SPRAY NOZZLE @ 5'-0" OC MIN OR AS SHOWN ON DRAWINGS

DATE: JOB NO.: STRUCTURE - DETAIL NO.

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

CLARIFIER WALKWAY WATER PIPING SUPPORT

DIVISION D22
SECTION - DETAIL NO. 0529-030

JOB NO.: 21W10220
DATE: 6/14/2022
NOTES:
1. HANGER CLAMP SHALL BE USED IF MINIMUM EDGE SPACING CAN NOT BE ACHIEVED.
2. SEE DETAIL 0529-003 FOR BRACED HANGER SUPPORT AS REQUIRED.
3. MAXIMUM HANGAR SPACING SHALL BE 10FT.
NOTES:
1. MAXIMUM HANGER SPACING SHALL BE 10 FT.
2. SEE DETAIL D23 FOR BRACED HANGER SUPPORT, AS REQUIRED 0529-003
3. VERIFY LOCATION OF REINFORCING STRANDS PRIOR TO DRILLING INTO EXISTING DOUBLE TEES.
1. ROUND DUCT SUPPORTS SHALL BE SIMILAR.

2. SPACING OF DUCT SUPPORTS SHALL BE AS FOLLOWS:
   A. TRANSVERSE BRACING 30' O.C. MAX
   B. LONGITUDINAL BRACING 60' O.C. MAX
   C. TRANSVERSE BRACING SHALL BE INSTALLED @ EACH DUCT BEND AND EACH END OF A DUCT RUN REGARDLESS OF LENGTH.
   D. WALLS, INCLUDING GYP-BARD NON-BEARING PARTITIONS, WHICH HAVE DUCTS RUNNING THROUGH THEM MAY REPLACE A TYPICAL TRANSVERSE BRACE.

3. SEE SPEC. SECTION 05900
SIDE ELEVATION

NOTES:

1. Maximum hanger spacing shall be 10 ft.

2. All material unless otherwise noted, to be hot-dipped galvanized in accordance with ASTM A123, ASTM A153, and ASTM F2329.
HANGING ROD ANCHOR - EXPANSION ANCHOR

NOTES:
1. INSTALL ANCHORS PER THE MANUFACTURERS INSTRUCTIONS BY QUALIFIED PERSONNEL.
2. ANCHOR MUST BE FULLY TORQUED PER THE MANUFACTURES REQUIREMENTS. T CAN BE DIRECTLY APPLIED USING THE COUPLING NUT. OR THE TORQUE CAN BE A WITH THE STANDARD NUT AND THEN A COUPLING NUT ADDED. PROJECTING THR LENGTH OF ANCHOR MUST BE LONG ENOUGH FOR COUPLING NUT TO FULLY ENG THREADS.
3. THREADS OF ANCHOR AND HANGING ROD MUST ENGAGE THE COUPLING NUT A M O 1.5 TIMES THE DIAMETER.
4. EXISTING REINFORCING IN THE CONCRETE STRUCTURE MAY INTERFERE WITH SP ANCHOR LOCATIONS. CONTRACTOR SHALL LOCATE THE POSITION OF THE REINFORCEMENT USING ELECTROMAGNETIC, GPR, OR X-RAY. NOTIFY ENGINEER RELLOCATION 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.
WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

DATE: 6/14/2022

D23
SECTION - DETAIL NO.
0900-016

WALL MOUNTED VERTICAL DUCT SUPPORT
NOTES:
1. SEE DRAWINGS AND SPECS FOR SIZE, MATERIAL, SLOPE, AND POINT OF DISCHARGE.

TRAP SIZING PARAMETERS:
- **K** = 1/2 INCH MINIMUM
- **H** = 1 INCH PLUS THE TOTAL FAN STATIC PRESSURE
- **L** = H + K + PIPE DIAMETER

TRAP UNDER POSITIVE PRESSURE

NOTES:
1. SEE DRAWINGS AND SPECS FOR SIZE, MATERIAL, SLOPE, AND POINT OF DISCHARGE.

TRAP SIZING PARAMETERS:
- **K** = 1 INCH FOR EACH INCH OF NEGATIVE PRESSURE* + 1 INCH
- **H** = 1/2 K
- **L** = H + K + PIPE DIAMETER

NEGATIVE PRESSURE* = TOTAL FAN STATIC PRESSURE

TRAP UNDER NEGATIVE PRESSURE
PVC PIPE FILLED WITH GRAVEL
CONDENSATE DRAIN LINE
FROM AIR HANDLER
CONDENSATE LINE
FINISHED GRADE

1" MIN 1' - 0"
6" PVC

WESTERN AREA WWTP
PHASE 1 EXPANSION

CONDENSATE DRAIN DETAIL

DATE: 6/14/2022

DIVISION D23
SECTION - DETAIL NO. 2318-004
CROSS LINKED HEAT SHRINKABLE RAYCHEM POLYOLEFIN CAP

COMPRESSION RING LUG

HEAT-ACTIVATED MASTIC SEALANT.

MOTOR FEEDER CONDUCTOR

MOTOR LEAD
NOTES:

1. ALL SERVICE, FEEDER AND CONTROL CONDUITS SHALL BE GROUNDED ON BOTH ENDS.
NOTE:
GROUND PLATES MAY BE USED IN LIEU OF GROUND RODS IF THE TERRAIN IS DEEMED UNSUITABLE FOR RODS. ACCESS WELLS WILL STILL BE REQUIRED FOR EACH PLATE AND SHALL HAVE A SUITABLE DIAMETER FOR THE INSTALLED PLATE.
GROUNDING BUSHING

TRANSFORMER CASE

NEUTRAL BONDING JUMPER

EQUIPMENT ENCLOSURE

GROUND GRID

EQUIPMENT GROUNDING CONDUCTOR-PRIMARY SIDE OF TRANSFORMER

GROUNDING ELECTRODE CONDUCTOR

GROUNDING ELECTRODE CONDUCTOR

GROUNDED BUS

NEUTRAL BUS

TO BUILDING STRUCTURAL STEEL, TRUSSES, METAL DECK

TO MAIN GROUNDING ELECTRODE, BUILDING COLD WATER PIPE, HANDRAILS, AS PER NEC 250

GROUND ROD 3/4" X 10' COPPER USE WHERE INDICATED

EQUIPMENT GROUNDING CONDUCTOR

EQUIPMENT BONDING JUMPER ON SUPPLY SIDE OF SERVICE AND MAIN BONDING JUMPER

EQUIPMENT GROUNDING DETAIL
NOTES:
1. ALL GROUNDING WORK SHALL BE PERFORMED IN ACCORDANCE WITH NEC ARTICLE 250 - GROUNDING.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL GROUNDING INFORMATION AND REQUIREMENTS.

GROUND BAR MOUNTING DETAIL

SERVICE EQUIPMENT NEUTRAL BAR

MAIN BONDING JUMPER SIZED PER NEC.

SERVICE EQUIPMENT GROUND BAR

GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS TO MAIN GROUNDING ELECTRODE. SIZE PER ONE LINE DIAGRAM.

1/4" X 4" X 20" (MIN.) COPPER GROUND BAR EQUIPPED WITH INSULATORS. PROVIDE ADDITIONAL LENGTH AS REQUIRED TO ACCOMMODATE SIZE AND QUANTITY CONDUCTORS.

SIZE CONDUCTORS AS SHOWN ON THE ONE LINE DIAGRAM AND AS REQUIRED BY NEC.

TO TELEPHONE BACKBOARD

EXOTHERMIC WELD, TYP.

BUILDING STRUCTURE

EXOTHERMIC WELD, TYP.

TO LIGHTNING PROTECTION SYSTEM

INTERSYSTEM BONDING JUMPER

TEST WELL

BOLTED CONNECTION INSIDE TEST WELLS

3/4" X 10" COPPER CLAD GROUND RODS, TYP.

MAIN WATER SERVICE PIPE OR OTHER METAL PIPING. ALL CONNECTIONS TO PIPING SHALL OCCUR WITHIN 5’ FROM WHERE THE PIPING ENTERS THE BUILDING.

BONDING JUMPER AROUND WATER METER Sized IN ACCORDANCE WITH NEC ARTICLE 250.104, MINIMUM

STEEL BRACKETS

2500V INSULATORS

ALL EXOTHERMIC WELDS SHALL BE MADE TO EDGE OF COPPER BUS BAR WITH APPROPRIATE MOLD. TYPE LQ AND LJ BY ERICO OR EQUAL.

TWO HOLE COMPRESSION LUG WITH TAMPER RESISTANT BOLTS.
UNISTRUT AND MOUNTING HARDWARE.

CONDUIT CLAMP WITH VIBRA CUSHION

JUNCTION BOX OR PANEL

2" EXPANSION ANCHORS. MOUNT EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

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.
9/16" DIA HOLE (TYP.)

WELD ALL AROUND.

4" ALUMINUM SQUARE TUBE WITH 1/4" WALL

1/2" THICK ALUMINUM PLATE

DATE: 21W10220

PHASE 1 EXPANSION

WESTERN AREA WWTP

HUNTSVILLE, AL

TYPICAL RACK BASEPLATE DETAIL

DIVISION D26

SECTION - DETAIL NO. 0529-009

DATE: 6/14/2022
BASEPLATE. SEE DETAIL
CONTROL PANEL, DISCONNECT SWITCH OR JUNCTION BOX, WITH NAMEPLATE. SECURE TO FRAME WITH STAINLESS STEEL MACHINE SCREWS, LOCK WASHERS, WASHERS AND LOCKNUTS. BOND TO GROUND RING PER DETAILS.

BOND TO GROUND RING SYSTEM PER DETAILS.

PROVIDE VERTICAL SUPPORTS MAXIMUM 3'-0" O.C. SPACING

CONDUITS AS REQUIRED PER PLAN

CONCRETE PLACING

NOTES:

1. ALL BOLTS, NUTS, WASHERS, ANCHORS, PLATES, AND OTHER MOUNTING STEMS SHALL BE CORROSION RESISTANT, STAINLESS STEEL.
2. BOND ELECTRICAL EQUIPMENT SUPPORT FRAME TO COUNTERPOISE AND GROUND RINGS USING 1/4" WALL. BOND TO GROUND RING SYSTEM PER DETAILS.
3. OMIT PAD WHERE NOT SHOWN.
NOTES:
1. ALL EXPOSED EDGES TO BE GROUND SMOOTH AND BURR FREE.
2. MOUNT HOOD BETWEEN INSTRUMENT AND MOUNTING BRACKET.
   DRILL HOLES IN HOOD AS PER MOUNTING HOLES FOR INSTRUMENTS.
TYPICAL UNISTRUT STAND DETAIL

ELECTRICAL ENCLOSURE

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

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

SQUARED POST BASE FOR UNISTRUT DOUBLE CHANNEL

STAINLESS STEEL MOUNTING BRACKET, FOUR HOLES, 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 D26-0529-013

CONCRETE PAD AS REQUIRED.

NOTE:
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.
RAILING

NOTES:
1. WALKWAY AND RAILING IS TYPICAL AND FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY WITH STRUCTURAL PLANS AND SECTIONS BEFORE INSTALLING ANY CONDUIT OR ELECTRICAL EQUIPMENT AND ADJUST ACCORDINGLY.

CONDUITS AS REQUIRED BY PLAN TYPICAL

STAINLESS STEEL CONDUIT CLAMP AND HARDWARE, TYPICAL

UNISTRUT P254* SERIES DOUBLE-BACKED STAINLESS STEEL CHANNEL BRACKET, WELD OR BOLT TO WALKWAY FRAME. 5'-0" O.C. MAX. SPACING, LENGTH AS REQUIRED FOR CONDUITS TO BE TOP MOUNTED

STEEL WALKWAY
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.

6. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
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 GRSC.

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 ELECTRICAL PRIMARY SERVICE 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.
CAUTION BURIED ELECTRIC LINE BELOW

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.
ELECTRIC EXTENSIONS AND SOLID BOTTOM SECTIONS WITH DRAIN HOLE AS REQUIRED FOR DEPTH AND CONDUIT.

STAINLESS STEEL PENTADETH BOLTS (TYPICAL).

COMPOSITE JUNCTION BOX, UL LISTED, QUAZITE STYLE OR EQUAL, BOX WITH SOLID BOTTOM.

CONDUITS AS SHOWN ON PLANS TYP.

FINISH GRADE

3500 PSI CONCRETE, ALL SIDES.

COMPOSITE JUNCTION BOX, UL LISTED, QUAZITE STYLE OR EQUAL, BOX WITH SOLID BOTTOM.

EXTRA HEAVY DUTY, NON-METALLIC COVER WITH LOGO "ELECTRIC" OR "SIGNAL" OR "FIBER".

#3 REBAR

12" DEEP GRAVEL MAT

3" AF/G MIN.

STERILIZE SOIL 2" ALL AROUND

1" CHAMFER ALL AROUND

1" DRAIN HOLE

SECTION

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"C 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.
NOTES:
1. CONDUIT SPACER TO BE 6" MIN FROM CONDUIT COUPLINGS.
2. TYPICAL DUCTBANK COUPLINGS SHALL BE SPACED AT 6" MIN. INTERVALS.
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.
**MAGMETER SECTION**

- Furnish and install concrete pad. See detail D26 0529-011
- Conduit to new flowmeter transmitter
- New flowmeter transmitter
- Bond magmeter ground rings to ground rod
- Typical "Sealtite" flex or equal
- New flowmeter transducer
- Drain tree
- Scale: Not to scale
- New flowmeter transmitter
- For mounting and installation see detail D26 0529-011
- 3/4" C with 3-#12
- 1" C with 2-2 PR shielded signal cables
- To lighting panel and PLC
- Ground rod
MCC AND SWITCHGEAR MOUNTING

1" CLR. (MIN)

1/2" DIA MIN SS EPOXY ADHESIVE ANCHOR

4" C 5.4 (TYP) LEVELING CHANNELS

1/2" DIAMETER x 6" WELDED STUDS @ 18" OC MAX

FINISHED FLOOR

WALL

FRONT

REAR

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

DATE: 6/14/2022

DIVISION D26
SECTION - DETAIL NO. 2716-013
NEW FLOOR MOUNTED ELECTRICAL EQUIPMENT

NOTES:

1. PROVIDE SIMILAR HOUSEKEEPING PADS FOR ALL NEW, FLOOR MOUNTED, ELECTRICAL EQUIPMENT INCLUDING SWITCHES, PANELBOARDS AND Transformers.

2. INSTALL STAINLESS STEEL EXPANSION ANCHORS AND SECURE ALL EQUIPMENT TO PAD.
NOTE:

HOUSE KEEPING CURB REQUIRED AT ALL INTERIOR WALL LOCATIONS FOR SINGLE AND MULTIPLE RISERS.
1/4" PLATE AS SHOWN
(4) 13/16" DIA HOLE ON 7" BOLT CIRCLE PER POLE LIGHT MFR, CONFIRM BOLT PATTERN AND DIA. PRIOR TO CONSTRUCTION

FIELD DRILL (4) 9/16" DIA HOLES @ 4" GAGE FOR (4) 1/2" A325 BOLTS AND LOCK WASHERS

NOTE:
PAINT WITH SYSTEM NO.4, EXPOSED METAL - MILDLY CORROSIVE
TYPICAL METHOD OF PROTECTING UTILITIES OR OTHER PIPE CROSSINGS WHERE NOT LOCATED UNDER PAVING

EXISTING PIPE

COMPACTED CRUSHED STONE

SAND BAGS IF BANK IS UNCONSOLIDATED

EXISTING PIPE

SAND BAGS

COMPACTED SAND OR #67 STONE BEDDING MATERIAL

TYPICAL METHOD OF PROTECTING UTILITIES OR OTHER PIPE CROSSINGS WHERE NOT LOCATED UNDER PAVING
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 RECO FOR ALL GRAVITY LINES, ALL PVC LINES AND ALL CONCRETE LINES. BEDDING REQUIRED IN ALL AREAS OF ROCK EXCAVATION OR UNSUITABLE SOILS. BELL HOLES REQUIRED 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 96%-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 THE FUX for 3 days TO KEEP IT FLUSH WITH THE ADJACENT PAVING, ETC. UNTIL THE FNX IS PLACED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ASPHALT OR CONCRETE ETC. UNTIL THE FINAL PAVING IS PLACED. CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING AND UTILIZING PATCHES WHEN NEEDED FOR PUBLIC SAFETY AND/OR CONVENIENCE.

5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE OSHA REGULATIONS FOR "OPEN TRENCH EXCAVATIONS". THESE COSTS SHALL BE INCLUDED IN THE "PER LF PRICED FOR NEW LINES. THE BEDDING MATERIALS SHALL EXTEND TO THE FULL DEPTH AND WIDTH OF EXCAVATION. THESE COSTS SHALL BE INCLUDED IN THE "PER LF PRICED FOR PIPE."

6. ADDITIONAL AND/OR SPECIAL REQUIREMENTS MAY BE REQ'D BY THE CONTRACTOR. TRENCH WALL SHORING METHODS SHALL BE USED IN PAVED AREAS TO MINIMIZE Paying REPAIR REquIREMENTS.

7. TO THE EXTENT POSSIBLE, AS DETERMINED BY THE CONTRACTOR, TRENCH WALL SHORING METHODS SHALL BE USED IN PAVED AREAS TO MINIMIZE Paying REPAIR REquIREMENTS.

NOTES:

1. MATERIAL DESIGNATION/DESCRIPTIONS TABLE

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<tr>
<th>DESIGNATION MATERIALS</th>
<th>DESCRIPTION</th>
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<tr>
<td>1</td>
<td>CRUSHED STONE, ASTM-448 No. 57 GRADATION</td>
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<td>CRUSHED STONE, ASTM-448 NO. 57 GRADATION</td>
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<tr>
<td>3</td>
<td>SELECT EXCAVATED MAT, REASONABLY DRY (WITHIN LIMITS REQD FOR COMPACTION) NO STONES &gt; 12&quot; DIA</td>
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<td>4</td>
<td>SELECT TOPSOIL, MAT TO SUPPORT VEGETATION. NO STONES OR ROCK ALLOWED</td>
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<td>5</td>
<td>PAVEMENT MATCHING EXISTING PAVEMENT OR AS SPECIFIED ON THE PLANS</td>
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WESTERN AREA WWTP
HUNTSVILLE, AL
PHASE 1 EXPANSION
BEDDING AND BACKFILL FOR TRENCHES - AL

DIVISION D31
SECTION/DETAIL NO. 2323-001_AL
JOB NO. 27W1022
DATE: 5/23/2022
MANHOLE OR OTHER STRUCTURE

PIPE

No.57 CRUSHED STONE
6" MININ STABLE SOIL
12" MININ ROCK OR UNSTABLE, SOFT SOIL

BACKFILL AS REQ'D BY TYPICAL TRENCH DETAILS FOR PIPE

SLOPES PER SITE CONDITIONS BY CONTRACTOR

BACKFILL THIS PORTION OF TRENCH WITH HAND HELD MECHANICAL TAMPER
92% STANDARD PROCTOR DENSITY

COMPACTED SOIL
IN 12" LAYERS TO 92% STANDARD PROCTOR DENSITY

BACKFILL AS REQ'D BY TYPICAL TRENCH DETAILS FOR PIPE

NOTE:
1. BACKFILL IN PAVED AREAS SHALL BE STONE
   PER DETAIL FOR TRENCHES

WESTERN AREA WWTP
HUNTSVILLE, AL
PHASE 1 EXPANSION

BEDDING BACKFILL REQ
AROUND MANHOLES AND
OTHER DRAINAGE & SANITARY STRUCTURES

DATE: 6/14/2022
DIVISION D31
SECTION - DETAIL NO. 2323-002
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<tr>
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<th>FITTING TYPE</th>
<th>90 DEGREE</th>
<th>WYE OR 45 DEGREE</th>
<th>22-1/2 DEGREE</th>
<th>11-1/4 DEGREE</th>
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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.
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
2'-0" ALUM PLATE

4" SQ. ALUM TUBING

END PLATE

SS HARDWARE, (4) AT WALLS OR (2) AT POST

FAB 3/8" ALUM PLATE

4 - #4 BARS EVENLY SPACED, EACH WAY

2'-0" x 1'-6" x 4" CONCRETE PAD

2'-0" WELD
MATCH PAVEMENT SLOPE

5" TYPICAL UNO - PARKING. SEE PLAN

5' - 5" AT HANDICAPPED PARKING.

INTEGRAL CURB AND GUTTER

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

DATE: 6/14/2022

DIVISION: D32
SECTION - DETAIL NO.: 0000-004

JOB NO.: 21W10220
MOW STRIP DETAIL

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

DATE: 6/14/2022

MOW STRIP PLAN

GRASS/EARTH

MOW STRIP

WALL

MIN SLOPE
1/4" PER FT. (TYP)

FIN GRADE FLUSH W/ TOP OF
STRIP FOR SEED LAWNS, FIN
GRADE FOR SODDED LAWNS
TO NOW OBSTRUCT DRAINAGE

2" AGGREGATE BASE
COURSE (CLT)
COMPACTED TO 90%
STND PROCTOR
ROUNDED TOP OF CONCRETE

2500 PSI CONCRETE

6" BLACK STEEL PIPE SCHEDULE 40 PAINTED

PLACE ADJACENT SURFACE AFTER BOLLARD IS SET

COMPACTED SUBGRADE

2500 PSI CONCRETE

3'-0" MIN.

4'-0"

THICKNESS

DATE: 6/14/2022
CONSTRUCTION:

- *SOFT CUT* SAW CUT JOINT 5'-0" OC MAX

**CONTRACTION JOINT (CJ):**

- 1/4" PREMOLDED EXPANSION JOINT FILLER

**EXPANSION JOINT (EJ):**

- 1/2" PREMOLDED EXPANSION JOINT FILLER

- 25'-0" OC MAX AND @ STRUCTURES, CURBS, WALLS, CHANGES IN DIRECTION, ETC

- "SOFT CUT" SAW CUT JOINT 5'-0" OC MAX

- FINISH GRADE FLUSH W/ TOP OF WALK FOR SEED LAWNS, FINISH GRADE FOR SODDED LAWNS TO NOT OBSTRUCT DRAINAGE

- 2" AGGREGATE BASE COURSE (CLT) COMPACTED TO 90% STND PROCTOR

- SAW CUT CONSTRUCTION JOINTS EVERY 5'-0" MIN 1/2" EXPANSION JOINTS EVERY 25'-0" UNLESS OTHERWISE NOTED. FILL JOINT WITH BITUMINOUS IM

- CONCRETE SIDEWALK - BROOM FINISH ACROSS DIRECTION OF TRAVEL

- 4x4 WWF

- *GRASS/EARTH*

- PAVING

- CURB OR VALLEY GUTTER PER PLANS

- 9'-0" OR AS IND

- WESTERN AREA WWTP

- PHASE 1 EXPANSION

- DATE: 6/14/2022

- D32

- SECTION - DETAIL NO.

- TYPICAL SIDEWALK

- JOB NO.: 21W10220
8" MIN. COMPACTED #57 COMPACTED BASE COURSE

#4 BARS @ 8" O.C. EW
NOTE:
1. HEATER SHALL BE A 1000W 120V SINGLE PHASE HEATER.
2. ENCLOSURE SHALL HAVE A FLIP UP LID AND FOLDABLE/REMOVABLE FRONT PANEL FOR EASE OF MAINTENANCE.
3. ENCLOSURE SHALL BE SECURELY CONNECTED TO CONCRETE PAD PER ENCLOSURE MANUFACTURER.

CONCRETE PAD MIN. SIZE 38"W x 82"L x 4" THICK WITH 4x4 WWF
MANHOLE COVER AND FRAME. TOTAL WEIGHT MIN. 280 LBS.

1/2" BACKFLUSH VALVE (TYP.) WITH QUICK CONNECTING COUPLING.

APCO 400 OR EQUAL

1" BLOW-OFF VALVE

2" INLET VALVE

WATER MAIN

THREADED TAPPING SADDLE

2' - 11 1/2"
2' - 10 1/4" ROUND

3' - 2 1/2"
NOTE:

1. ALL THREADED CONNECTORS SHALL HAVE A DOUBLE WRAP OF 3-MIL TEFLOM TAPE ON THE THREADS.
TYPICAL CONCRETE BRACING FOR 45° BENDS

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TYPICAL CONCRETE BRACING FOR 90° BENDS

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</tbody>
</table>

GENERAL NOTES:
1. GENERAL DIMENSIONS SHALL BE CONSIDERED AS MINIMUM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADDITIONAL AS REQUIRED FOR PROTECTION OF STRUCTURE.
2. ALL CONCRETE FOR THRUST RESTRAINT SHALL BE REBARD AGAINST FIRM UNDISTURBED SOILS.
3. CONTRACTOR SHALL INSTALL ALL ACCESSORIES SUCH THAT THEY CAN BE REMOVED WITHOUT THE NEED FOR CONCRETE REMOVAL.
4. UNLESS NOTED OTHERWISE, ALL FITTINGS SHALL BE 15 OR 15% WITH RETRAINING FOLLOWER GLANDS. RETRAINING FOLLOWER GLANDS SHALL BE MEGA-LUG, ROMAC, OR EQUAL. RETAINER GLANDS NOT ALLOWED.
NOTES:
1. ALL MANHOLES WITH PIPE ENTERING WITH DIAMETER OF 24" DJP OR LESS SHALL BE SUPPLIED WITH KOR-N-SEAL FLEXIBLE BOOTS OR APPROVED EQUAL. LINES > 24" SHALL HAVE A LOK (OR EQ) FLEX BOOTS CAST INTO MH WALLS, GROUT CONC 2" MIN CL OPNG ONLY WHEN CALLED FOR IN PLANS
2. PRECAST SECTIONS SHALL BE REINFORCED PER ASTM C-478
3. UNLESS OTHERWISE INDICATED ON PLANS OR PROFILES, ALL MANHOLES SHALL BE 48" DIAMETER

1. CONTACTING/SEALING SURFACES OF FRAME AND COVER SHALL BE MACHINED.

2. MINIMUM WEIGHTS:
   FRAME - 180 LB
   COVER - 120 LB

3. UNLESS INDICATED ON PLANS, ALL COVERS SHALL BE NON-VENTED.

4. COVER PATTERN SHALL MATCH THE STANDARD OF THE OWNER.
MANHOLE CORING DETAILS

EXTERIOR
ADJUSTMENT BAND

SEWER PIPE

INNER BAND EXPANSION
MECHANISM

KOR-N-SEAL BOOT OR
APPROVED EQUAL

MANHOLE WALL

DO NOT FILL VOID.

SECTION

INTERIOR VIEW

FL

KOR-N-SEAL BOOT OR
APPROVED EQUAL

MANHOLE CORING DETAILS

EXISTING MANHOLE

PROVIDE FLEXIBLE RUBBER
PIPE GASKET AROUND
PROPOSED PIPE (SEE PLAN
FOR ELEVATIONS)

CORE HOLE FOR PROP. PIPE CONCRETE
& GROUT TO PROVIDE WATERTIGHT INSTALLATION

SEAL OUTSIDE PIPE
WITH CONCRETE

SEWER CONNECTION IN EXISTING MANHOLE
NOTES:
1. CONSTRUCT FLOW CHANNEL FOR ALL PIPES ENTERING MANHOLE, INCLUDING SERVICES. SLOPE CHANNELS TO MATCH PIPE INVERTS.
2. BRUSH FINISH SURFACES OF CONCRETE AND REMOVE ALL SHARP EDGES. PROVIDE AS LARGE A CURVE AS POSSIBLE IN FLOW CHANNELS.
3. CENTERLINE OF ALL PIPES ENTERING AND LEAVING MANHOLE SHALL PASS THROUGH THE CENTER OF THE MANHOLE.
4. PROVIDE 4,000 PSI CONCRETE FOR MANHOLE.
5. PROVIDE GRADE ADJUSTMENT RINGS AS REQUIRED TO ACHIEVE FINAL GRADE.
6. MANHOLE WALLS TO BE 1'-0" THICK WITH TWO (2) LAYERS OF REINFORCEMENT @ 12" OC EACH WAY, TOP AND BOTTOM. PROVIDE 2" CLEAR TOP AND BOTTOM FOR STEEL.
7. MANHOLE WALLS TO BE 1'-0" THICK WITH TWO (2) LAYERS OF REINFORCEMENT, #5 @ 15" OC EACH WAY. TOP AND BOTTOM.
8. PROVIDE 2" CLEAR TOP AND BOTTOM FOR STEEL.
9. PROVIDE 4,000 PSI CONCRETE FOR MANHOLE.
10. PROVIDE GRADE ADJUSTMENT RINGS AS REQUIRED TO ACHIEVE FINAL GRADE.

NOTES FOR DROP MANHOLES:
1. NO MANHOLE STEPS SHALL BE ALLOWED.
2. MANHOLE FRAMES SHALL BE 36" DIAM. BY EAST JORDAN IRON WORKS OR EQUAL.
3. THE CENTERLINE OF ALL PIPES ENTERING MANHOLE SHALL INTERSECT AT THE CENTER OF THE MANHOLE.
4. TOP OF MANHOLE LID SHALL BE "1" HIGHER THAN SURROUNDING AREA IN NON-PAVED AREAS AND SHALL MATCH EXISTING PAVEMENT FINISHED GRADE IN PAVED AND GRAVELLED AREAS.
5. PROVIDE 2" CLEAR TOP AND BOTTOM FOR STEEL.
6. MANHOLE WALLS TO BE 1'-0" THICK WITH TWO (2) LAYERS OF REINFORCEMENT #5 @ 15" OC EACH WAY. TOP AND BOTTOM.
7. PROVIDE 2" CLEAR TOP AND BOTTOM FOR STEEL.
8. PROVIDE 4,000 PSI CONCRETE FOR MANHOLE.
9. PROVIDE GRADE ADJUSTMENT RINGS AS REQUIRED TO ACHIEVE FINAL GRADE.
Utilize (2) 45° elbows or (1) combination "Y" & 1/8 bend as applicable, no 90° elbows

Compacted earth 6" thick x 18" square concrete pad, crowned

4" cast iron cleanout with cover for duty required

Extension same size as sewer up to 4" dia.

Grade or paving

Invert varies

Compact earth

Sewer material and size as specified

Compact earth

Utilize (2) 45° elbows or (1) combination "Y" & 1/8 bend as applicable, no 90° elbows

6" thick x 18" square concrete pad, crowned

Western Area WWTP

Phase 1 Expansion

Cleanout to Grade (COTG) Detail

Division D33

Section - Detail No. 3923-003

Date: 6/14/2022

Job No.: 21W10220
NOTES:
1. INDICATOR AND SWITCH INSTALLATION SHOWN. FOR SINGLE INSTRUMENT INSTALLATIONS, MOUNT DEVICE DIRECTLY TO SEAL.
2. INCLUDE PRESSURE INDICATOR AND SWITCH ACCORDING TO DRAWINGS
NOTES:
1. ALL PIPING SHOWN IS 316 STAINLESS STEEL TYPE K UNLESS OTHERWISE NOTED.
2. PLUG BRANCH OF TEE IF NO PRESSURE TRANSMITTER, SWITCH, OR PRESSURE GAUGE IS REQUIRED AT LOCATION.
3. INSTALL GAUGE, TRANSMITTER, AND SWITCH AS SHOWN ON PLANS.
4. PROVIDE DIAPHRAGM ONLY WHERE SHOWN ON PROCESS AND INSTRUMENTATION DIAGRAMS.
NOTE:
FOR SPECIAL THRUST TIE DETAIL DIMENSIONS, SEE DETAIL
2400-008

COAT ENTIRE ASSEMBLY FOR CORROSION PROTECTION PER SPECIFICATION

STEEL SEEP RING, 1/4" MINIMUM THICKNESS SEAL WELD AROUND, BOTH SIDES

STEEL PIPE

TAPPED FLANGE PROVIDE BOLT RELIEF AT BACK OF FLANGE, AS REQUIRED

EXTERIOR WALL FACE

INTERIOR FACE WATER HOLDING STRUCTURE WHERE INTERIOR PIPE CONNECTION IS NOT REQUIRED

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

WELDED STEEL PIPE - BURIED EXTERIOR

DIVISION D40
SECTION - DETAIL NO. 2339-002

DATE: 6/14/2022
### 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 for special thrust tie detail dimensions.
4. For buried pipe, provide MJ bell 5'-0" outside of structure.

### Table: Pipe Sizes and Dimensions

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<th>Dim A (MIN IN)</th>
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**Diagram Notes:**

- **Concrete Slab/Wall:**
- **Integrally Cast Thrust Collar/Seep Ring Centering in Slab/Wall:**
- **Wall or Floor Pipe:**
- **Interior Face Water Holding Structure:** Where interior pipe connection is not required.
- **Exterior Wall Face or Bottom of Slab:**

---

**Drawings Reference:**

- **2400-008**

**Summary:**

- For ductile iron pipe-buried exterior applications, refer to DWGS for details.
NOTE:

1. SOIL BENEATH CONCRETE PADS SHALL BE WELL COMPACTED (MIN 98%-100% STANDARD PROCTOR). NO SETTLEMENT ALLOWED.

NOTES:

1. TIE RODS REQUIRED FOR ALL PRESSURE PIPING

TYPICAL CLEANOUT DETAIL

DATE: 6/14/2022

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

DIVISION D40
SECTION - DETAIL NO. 2339-004
CAUTION
NON-POTABLE
DO NOT DRINK

NOTES:
1. ALL YARD HYDRANTS SHALL BE PROVIDED WITH HOSE RACK. SEE 0000-002
2. SIGN IS ROTATED FOR CLARITY, ORIENTATION SHALL BE VISIBLE FROM FRONT OF HYDRANT.

7"X10"X3/8" THICK PLASTIC RESIN UV RESISTANT SIGN WITH 1/2" ROUNDED CORNERS AND SHALL CONFORM TO SPECIFICATION. ATTACH TO VERTICAL PIPE RUN WITH (2) 1/4"Ø HOT-DIPPED GALV U-BOLTS, SIGN SHALL BE REINFORCED WITH (2) AL PL 1/4"x3/4" x 0'-4"

4"x4"x6" THICK CONCRETE SLAB

3/4" WATER PIPE

MASSONRY BLOCK

SOIL
CLEAN GRAVEL

BELOW FREEZE GRADE

GRADE

2'-0" 2'-8"

WESTERN AREA WWTP
HUNTSVILLE, AL

YARD HYDRANT

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

JOB NO.: 21W10220

DATE: 6/14/2022

DIVISION
D40

SECTION - DETAIL NO.
2339-007
<table>
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<th>FITTING TYPE</th>
<th>90 DEGREE</th>
<th>WYE OR 45 DEGREE</th>
<th>22-1/2 DEGREE</th>
<th>11-1/4 DEGREE</th>
<th>TEE BRANCH</th>
<th>TERMINAL PLUG</th>
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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 RESTRAINT 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.
NOTES:

1. ALL YARD HYDRANTS SHALL BE PROVIDED WITH HOSE RACK. SEE DETAIL 0000-002.
2. SIGN IS ROTATED FOR CLARITY, ORIENTATION SHALL BE VISIBLE FROM FRONT OF HYDRANT.
3. PROVIDE ADAPTER FITTING FOR STANDARD 3/4" HOSE CONNECTION FOR EACH HYDRANT.
NOTES

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

1/2" PVC DISCHARGE PIPE

BIRD SCREEN COVERING END. TYPE 304 STAINLESS STEEL SCREEN WITH 16x16 MESH AND 0.041 WIRE DIA.
NOTES:
1. FLOOR STAND AND OPERATOR ARE REPRESENTATIVE ONLY.
ADJUSTABLE CAST IRON STEM GUIDE WITH STAINLESS STEEL BOLTS AND NUTS AS REQUIRED BY MANUFACTURER

SST ANCHOR BOLTS WITH SST NUTS AND WASHERS. SIZE, LENGTH, AND THREAD PROJECTION AS REQUIRED BY MANUFACTURER TO EXTEND BEHIND WALL REINFORCEMENT

NOTES:
1. STEM GUIDE IS REPRESENTATIVE ONLY.
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.
NOTES:
1. SECTION APPLIES TO PIPE WITH DIAMETERS 18" AND SMALLER.
   FOR PIPES 20" AND LARGER, SEE DETAIL
2. WHEN PIPE ENCASEMENT IS CLOSER THAN 6" TO THE ABOVE SLAB, SEE DETAIL

NOTES:
1. SECTION APPLIES TO PIPE WITH DIAMETERS 20" AND LARGER.
2. FOR ENCASEMENT AT PIPE RISER, SEE
3. WHEN PIPE ENCASEMENT IS CLOSER THAN 6" TO SLAB ABOVE, TIE SLAB AND ENCASEMENT TOGETHER.

NOTES:
1. TIE PIPE ENCASEMENT TO SLAB AS SHOWN WHEN DISTANCE BETWEEN PIPE ENCASEMENT AND BOTTOM OF SLAB IS LESS THAN 6".
2. 6" PLASTIC WS IN ENCASEMENT JOINTS. WELD TO WS IN SLAB JOINTS.

PIPE ENCASEMENT AT SLAB

CONCRETE ENCASEMENT OF PIPE

CONCRETE WALL SEE DRAWINGS FOR REINF.

HYDROPHILIC STRIP TYPE WATERSTOP CONTINUOUS ALL AROUND IN ALL CONSTRUCTION JOINTS.

PIECE ENCASEMENT REINFORCEMENT

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NOTE:
* - INDICATED ITEMS TO BE PROVIDED BY CLARIFIER MANUFACTURER.
SST PIPE
STRAPS
SST UNISTRUT
SST BEAM CLAMPS
WATER PIPE SIZE
AS SHOWN ON PLAN
1/2" UNION
45° BENT
5'-0" SPACING
TYPE 3 SPRAY NOZZLE
@ 5' OC MAXIMUM
SPACING OR AS
SHOWN ON DRAWINGS
24" MIN
30" MAX
WATER
SURFACE

CLARIFIER BEAM
SST PIPE STRAPS

DATE: JOB NO.: DIVISION
21W10220 6/14/2022 D40
D40
PHASE 1 EXPANSION
SCUM SPRAY DETAIL
WESTERN AREA WWTP
HUNTSVILLE, AL
2400-019

SECTION - DETAIL NO.
JOB NO.: 21W10220
DATE: 6/14/2022
**WESTERN AREA WWTP**

**HUNTSVILLE, AL**

**PHASE 1 EXPANSION**

**DATE:** 6/14/2022

**PRECAST METER VAULTS**

**DIVISION** D40

**SECTION - DETAIL NO.** 2400-021

---

**NOTES:**

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<td>C</td>
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<td>D</td>
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**PLAN VIEW TOP**

- **36" x 36" HATCH CENTERED AGAINST NON PIPE ENTERING SIDE**

**PLAN VIEW BASE SLAB**

- **4" PLANT DRAIN**
- **18"x18" OPENING IN MANHOLE BASE FOR SUMP**

**SECTION**

- **ACCESS HATCH WITH GUTTER SEE DETAIL**
- **INTERIOR LADDER FOR ACCESS**
- **WALL PENETRATION SEE DETAIL (TYP OF 2)**
- **FLANGED COUPLING ADAPTER**
- **6' - 0" MIN HEADROOM**
- **1' - 6" MIN HEADROOM**
- **PRECAST SUMP WITH EXTENDED BASE**
- **COMPACTED GRANULAR FILL**
- **FILL WITH POLYUERA FULL DEPTH JOINT FILLER**
- **3/4" AL GRATING**
- **4" PLANT DRAIN. SEE CIVIL SHEETS FOR CONTINUATION**
- **CLAMP ON METER SEE DETAIL**

**A SECTION**

- **TOP W ACCESS HATCH**

**B SECTION**

- **6' - 0" MIN**
- **4" PLANT DRAIN. SEE CIVIL SHEETS FOR CONTINUATION**
- **FILL WITH POLYUERA FULL DEPTH JOINT FILLER**

---

**DATE:** 6/14/2022
1/8" MAX WIDTH JOINT, (TYP)

NOTCH EACH END OF PL 1-1/4"x2-1/2"

3/8" SST BOLT W/ NUT AND (2) WASHERS IN HORIZONTAL SLOTTED HOLE IN ANGLE

2-1/2" SQ HOLE

HEAD SIDE OF WEIR

CAULK

WEIR ELEVATION

ELEVATION

NOTES:

1. ALL PARTS EXCEPT FASTENERS SHALL BE ALUMINUM PER SPECIFICATIONS.
2. ALL FASTENERS SHALL BE SST PER SPECIFICATIONS.
3. 1/2" SST THREADED ROD ADHESIVE ANCHORS WITH 6" EMBEDMENT MAY BE SUBSTITUTED FOR ANCHOR BOLTS.
4. STEEL TROWEL TOP OF CONCRETE WALL TO OBTAIN SMOOTH DENSE FINISH.

WESTERN AREA WWTP
HUNTSVILLE, AL

PHASE 1 EXPANSION

STRAIGHT EDGE ALUMINUM WEIR

DATE: 6/14/2022

JOB NO.: 21W10220

SECTION - DETAIL NO. 4264-001

DIVISION D44
CAULK BETWEEN WEIR PLATE AND WALL 2 1/2" SQ. HOLE, TYP.
1/2" x 8" COATED SST WEDGE ANCHOR W/SST NUT, LOCK WASHER AND 5" SQ 1/4" FRP PL WASHER
5" ALUMINUM WEIR WASHER
1/2" x 8" COATED SST WEDGE ANCHOR W/SST NUT, LOCK WASHER AND 5" SQ 1/4" FRP PL WASHER
CAULK BETWEEN WEIR PLATE AND WALL

NOTES:
1. ALL PARTS EXCEPT FASTENERS SHALL BE ALUMINUM PER SPECIFICATIONS.
2. ALL FASTENERS SHALL BE SST PER SPECIFICATION.
3. 5/8" DIA SST THREADED ROD ADHESIVE ANCHORS WITH 5" EMBEDMENT MAY BE SUBSTITUTED FOR ANCHOR BOLTS.
4. CONTRACTOR SHALL SURVEY ELEVATION OF EXISTING V-NOTCH WEIR AND INSTALL NEW WEIR AT SAME ELEVATION. THE ELEVATIONS SHOWN ON THE WEIR DETAIL MAY REQUIRE ADJUSTMENT BASED ON SURVEY ELEVATIONS.