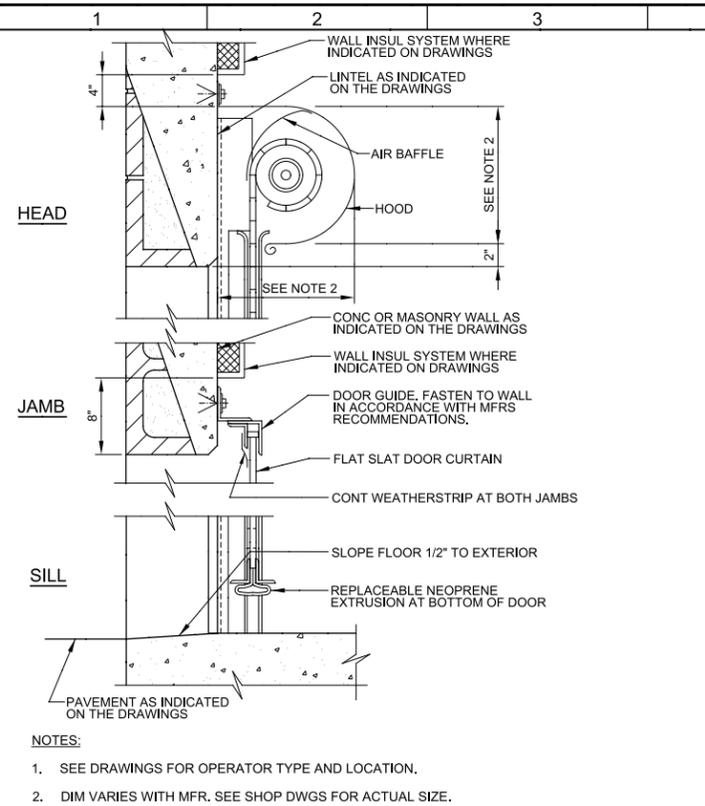


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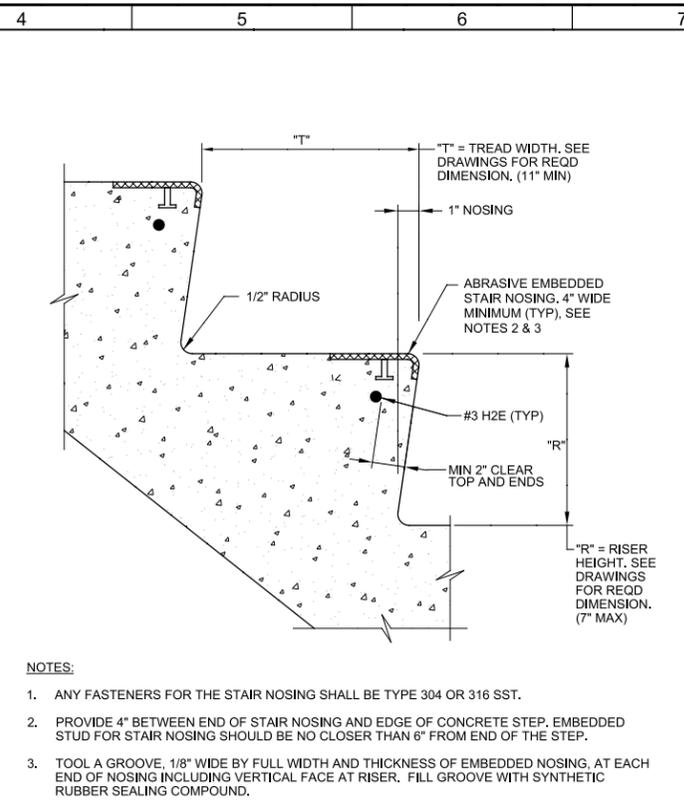
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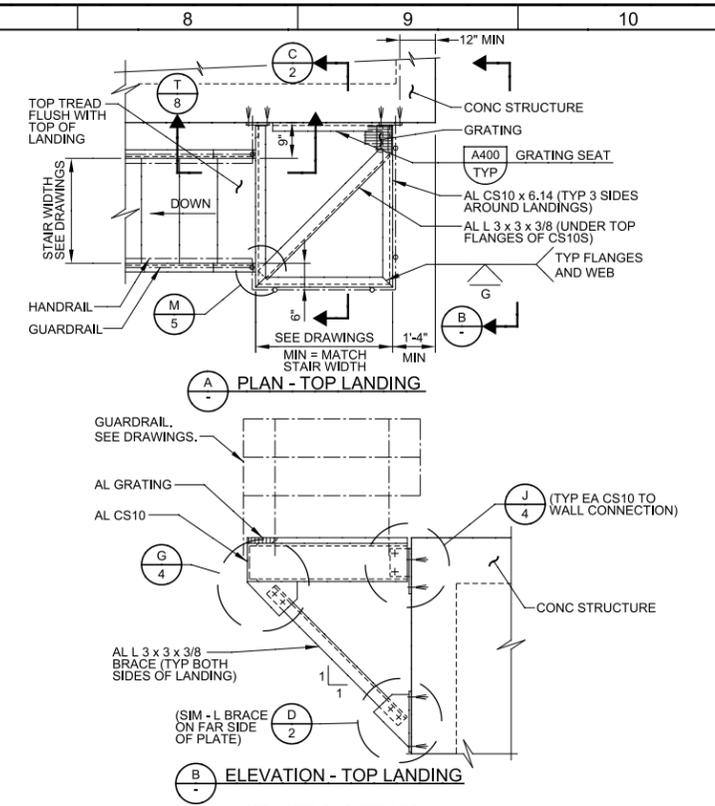
LAST SAVED BY: psanchez



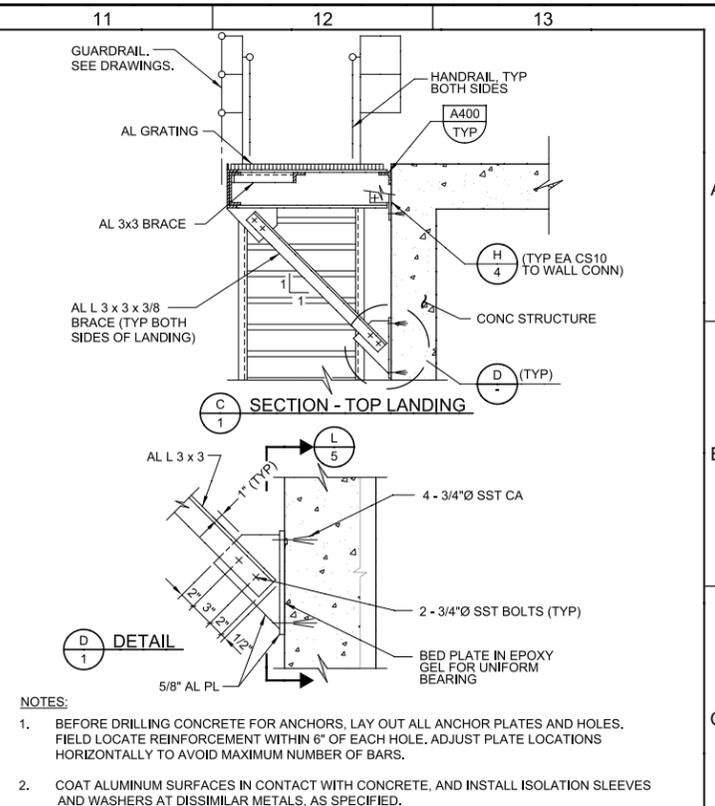
A128 COILING METAL DOOR
TYP



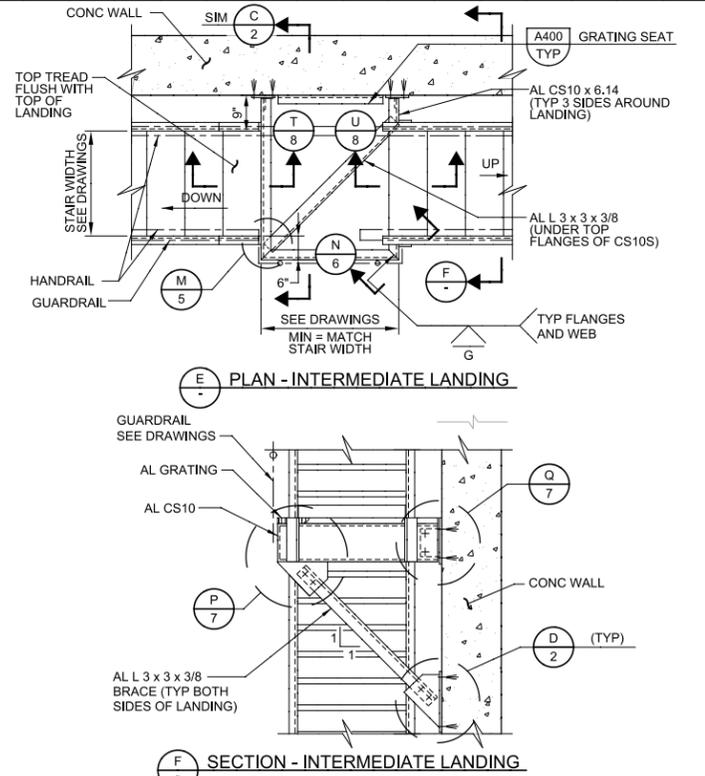
A204 CONCRETE STEP
TYP



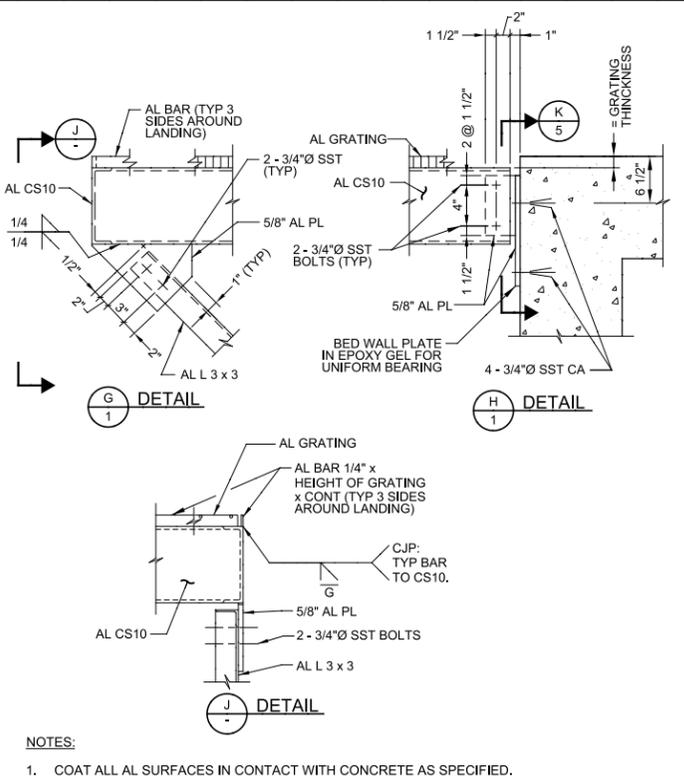
A220 ALUMINUM STAIR LANDINGS
TYP



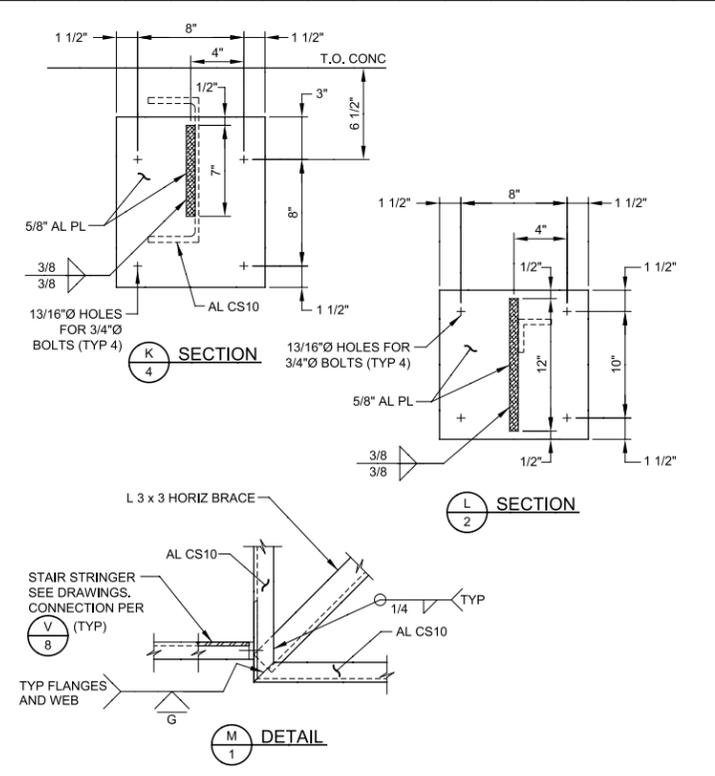
A220 ALUMINUM STAIR LANDINGS
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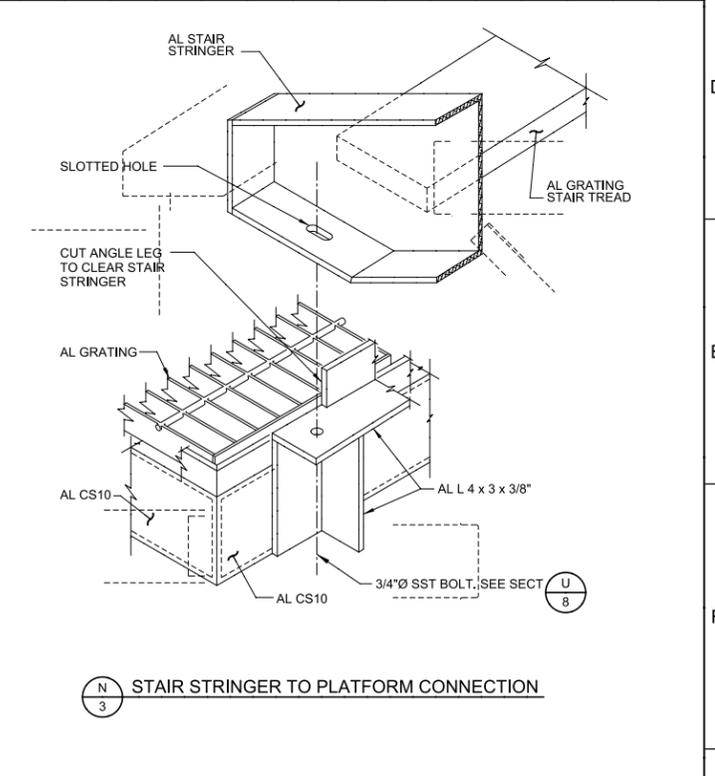
A220 ALUMINUM STAIR LANDINGS
TYP



A220 ALUMINUM STAIR LANDINGS
TYP

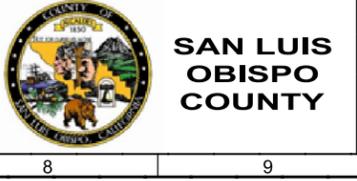
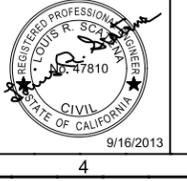


A220 ALUMINUM STAIR LANDINGS
TYP



A220 ALUMINUM STAIR LANDINGS
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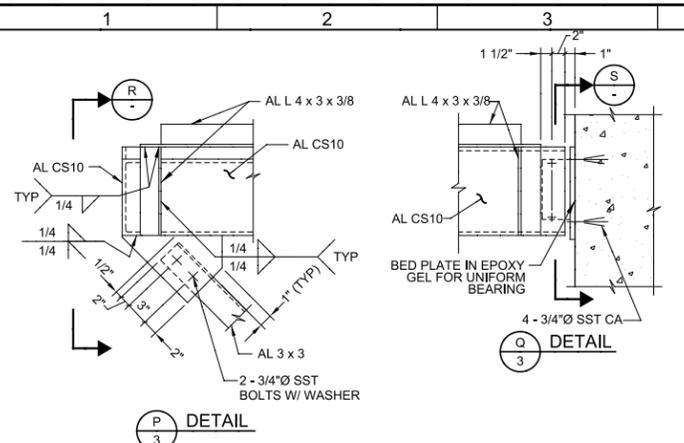
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Plot Date: 17-SEP-2013 11:01:47 AM

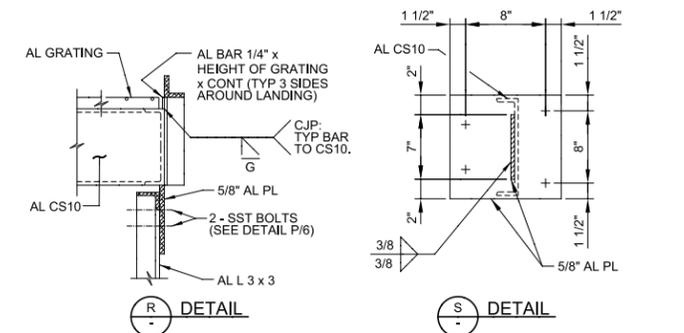
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LAST SAVED BY: psanchez

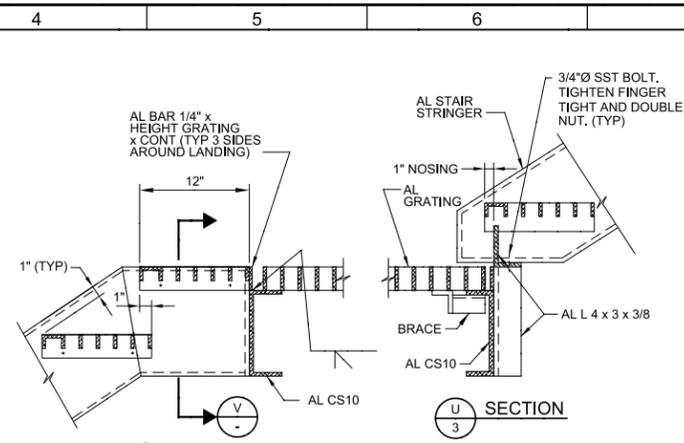


DETAIL P

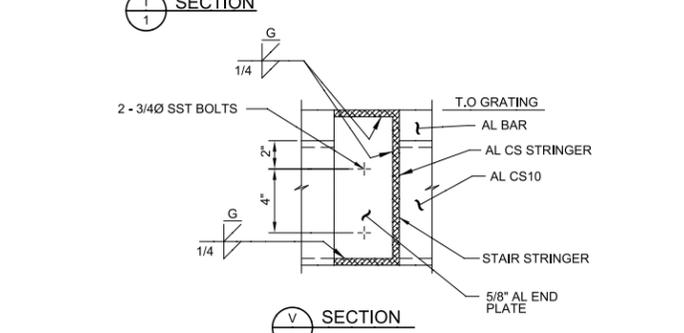


DETAIL R

A220 ALUMINUM STAIR LANDINGS TYP NS SHEET 7 OF 8 09/04/13

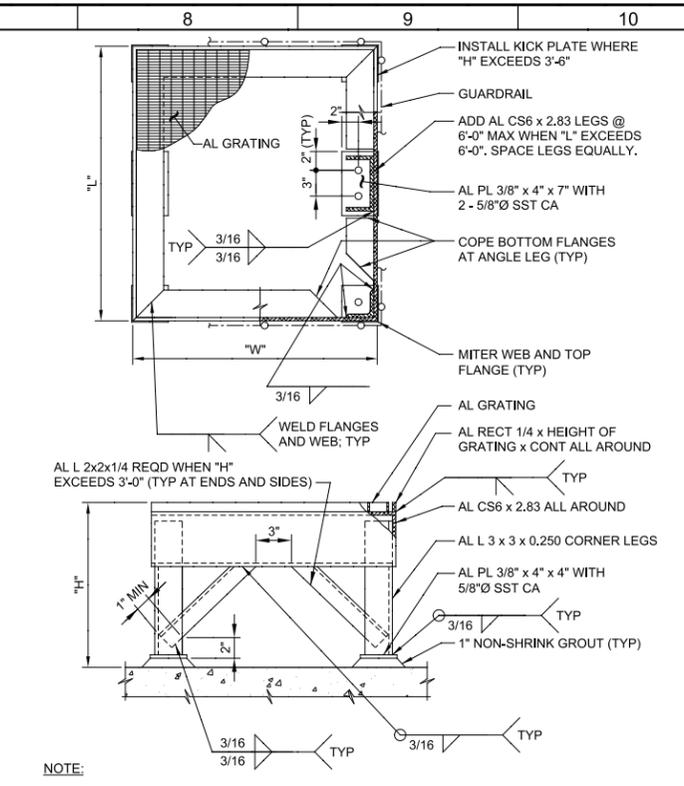


SECTION T

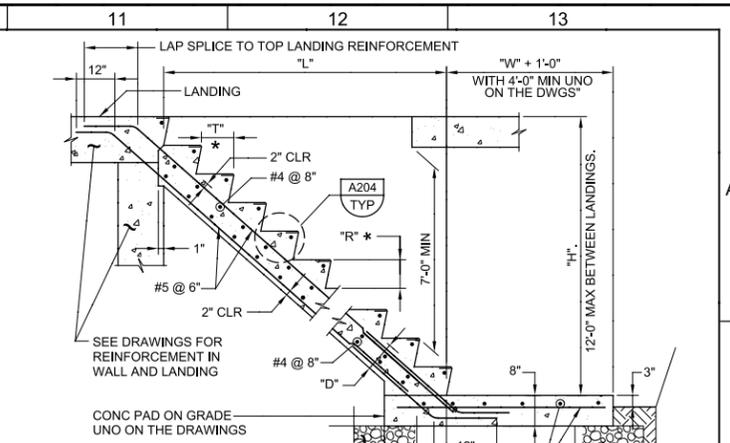


SECTION V

A220 ALUMINUM STAIR LANDINGS TYP NS SHEET 8 OF 8 09/04/13

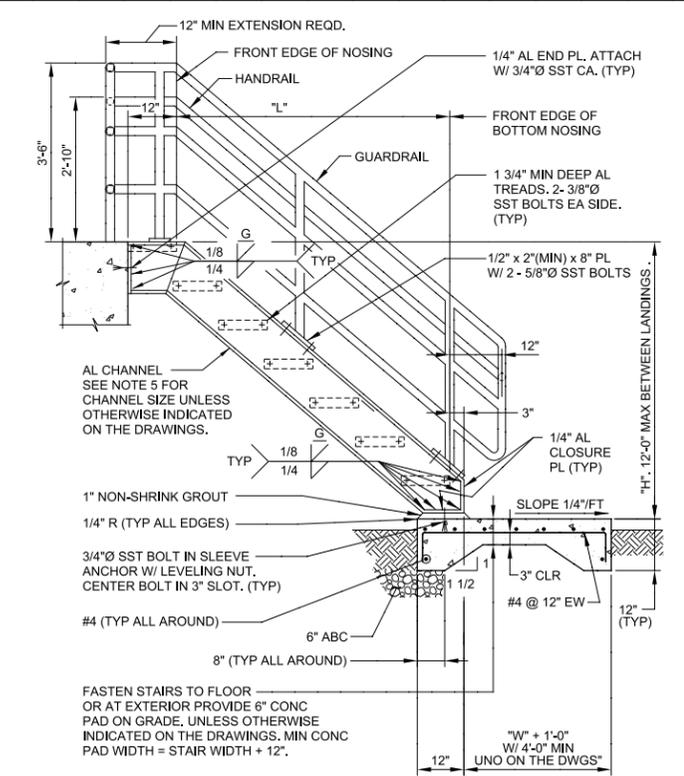


A230 ALUMINUM PLATFORM TYP N SHEET 09/04/13

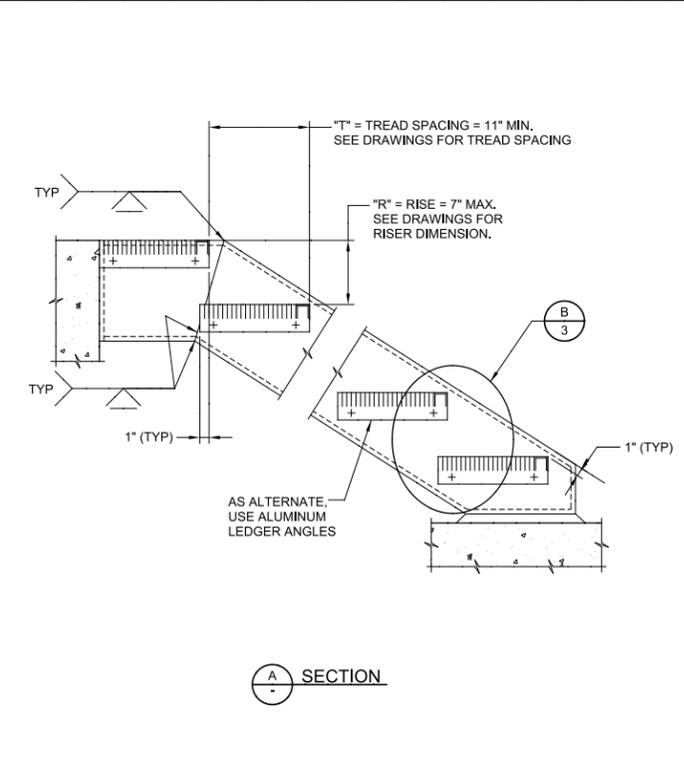


A233 CONCRETE STAIR TYP NS SHEET 07/31/08

- NOTES:
- ALL STAIRS SHALL HAVE HANDRAILS ON EACH SIDE. SEE DWGS FOR SPECIFIC GUARDRAIL TYPE AND MATL TO BE PROVIDED.
 - SEE TABLE FOR "D". SEE DWGS FOR DIMS "H", "L", "R", "T" AND "W".
 - SEE A340 TYP FOR GUARDRAIL NOTES.
 - MIN ALLOWABLE STAIR WIDTH = 36" CL TO CL OF GUARDRAIL.
 - * T = 11" MIN, R = 7" MAX.
- | SPAN "L" | "D" |
|-------------------------|-----|
| 0' TO 10' | 10" |
| GREATER THAN 10' TO 12' | 12" |
| GREATER THAN 12' TO 14' | 16" |
| GREATER THAN 14' TO 16' | 18" |
| GREATER THAN 16' TO 18' | 20" |

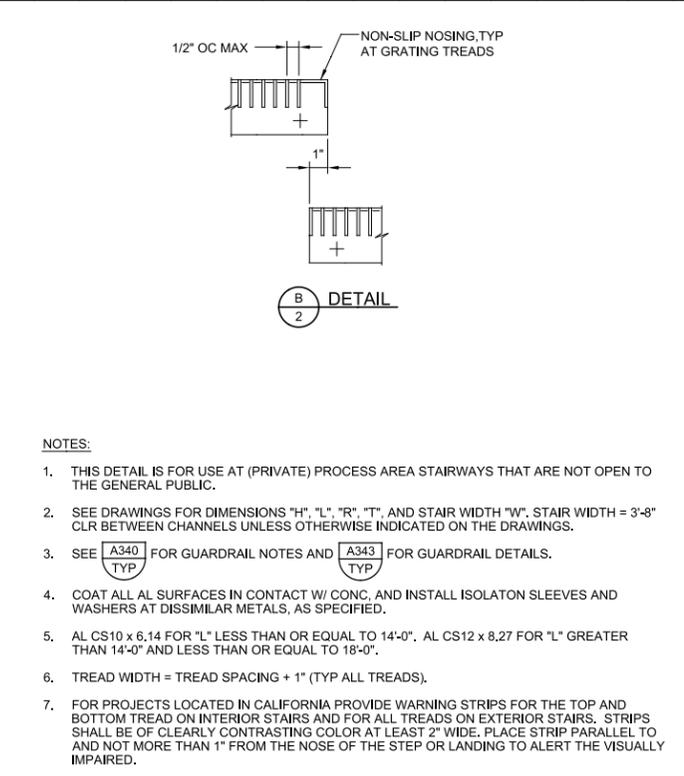


A235 ALUMINUM STAIRWAY WITH FLUSH TOP TREAD AND THREE RAIL GUARDRAIL TYP NS SHEET 1 OF 3 08/31/13



SECTION A

A235 ALUMINUM STAIRWAY WITH FLUSH TOP TREAD AND THREE RAIL GUARDRAIL TYP NS SHEET 2 OF 3 08/31/13



DETAIL B

A235 ALUMINUM STAIRWAY WITH FLUSH TOP TREAD AND THREE RAIL GUARDRAIL TYP NS SHEET 3 OF 3 08/31/13

- NOTES:
- THIS DETAIL IS FOR USE AT (PRIVATE) PROCESS AREA STAIRWAYS THAT ARE NOT OPEN TO THE GENERAL PUBLIC.
 - SEE DRAWINGS FOR DIMENSIONS "H", "L", "R", "T", AND STAIR WIDTH "W". STAIR WIDTH = 3'-8" CLR BETWEEN CHANNELS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - SEE A340 TYP FOR GUARDRAIL NOTES AND A343 TYP FOR GUARDRAIL DETAILS.
 - COAT ALL AL SURFACES IN CONTACT W/ CONC, AND INSTALL ISOLATON SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.
 - AL CS10 x 6.14 FOR "L" LESS THAN OR EQUAL TO 14'-0". AL CS12 x 8.27 FOR "L" GREATER THAN 14'-0" AND LESS THAN OR EQUAL TO 18'-0".
 - TREAD WIDTH = TREAD SPACING + 1" (TYP ALL TREADS).
 - FOR PROJECTS LOCATED IN CALIFORNIA PROVIDE WARNING STRIPS FOR THE TOP AND BOTTOM TREAD ON INTERIOR STAIRS AND FOR ALL TREADS ON EXTERIOR STAIRS. STRIPS SHALL BE OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE. PLACE STRIP PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED.

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DATE	SEPT 2013



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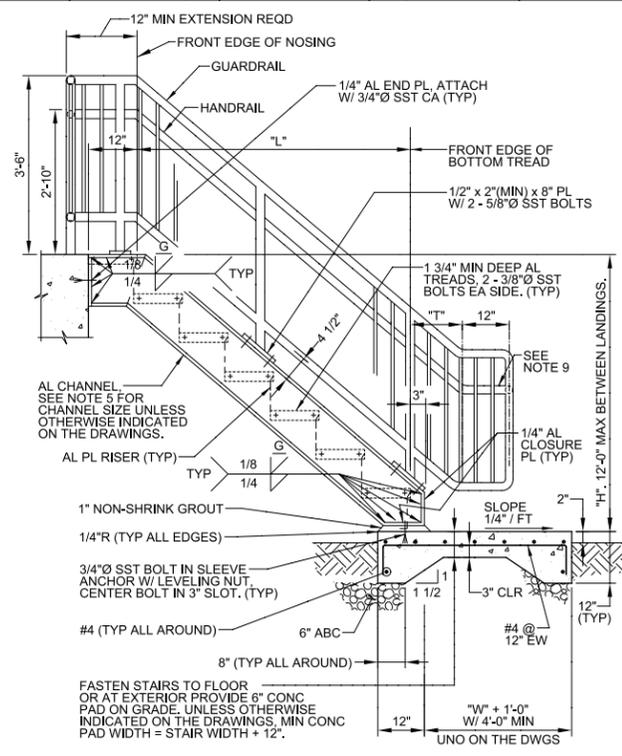
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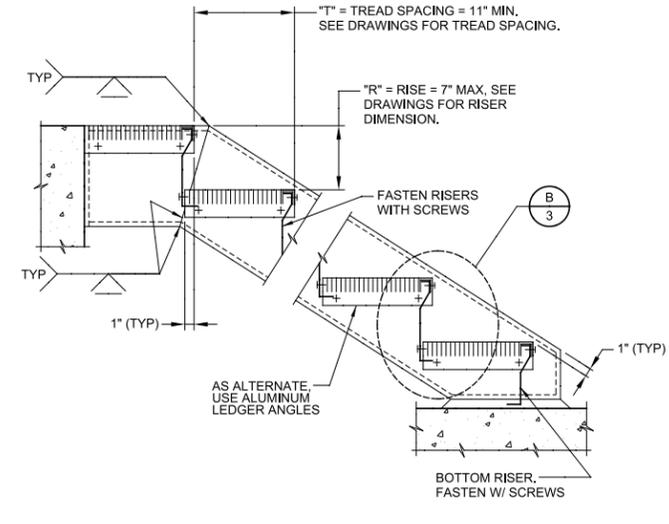
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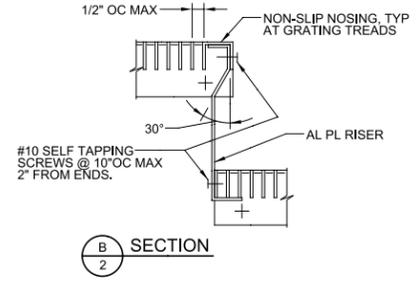
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A236 ALUMINUM STAIRWAY WITH FLUSH TOP TREAD, SOLID RISER AND PICKET TYPE GUARDRAIL
TYP NS SHEET 1 OF 3 08/31/13

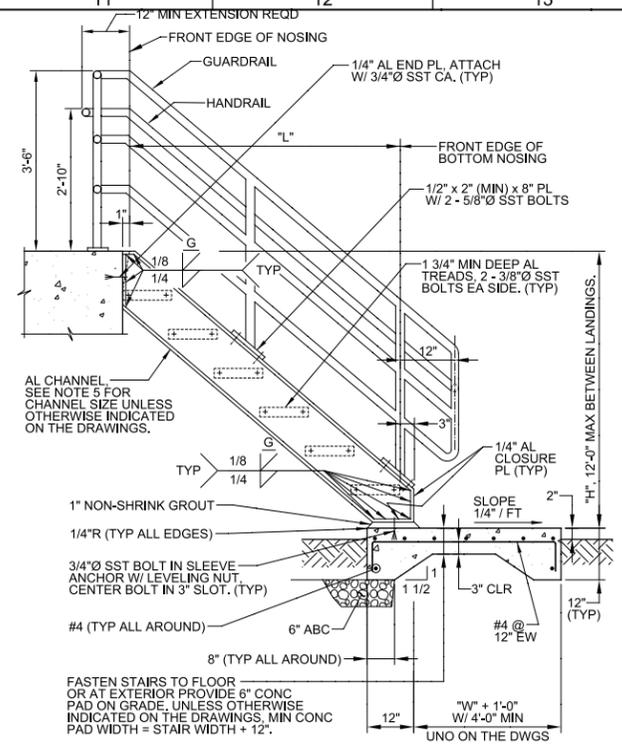


A236 ALUMINUM STAIRWAY WITH FLUSH TOP TREAD, SOLID RISER AND PICKET TYPE GUARDRAIL
TYP NS SHEET 2 OF 3 08/31/13

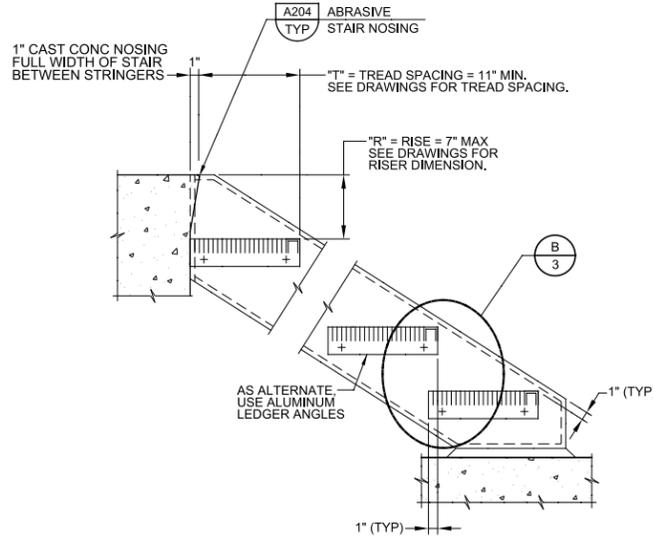


- NOTES:**
- THIS DETAIL IS FOR USE AT STAIRWAYS THAT WILL BE USED BY THE GENERAL PUBLIC.
 - SEE DWGS FOR DIMENSIONS "H", "L", "R", "T", AND STAIR WIDTH "W". STAIR WIDTH = 3'-8" CLR BETWEEN CHANNELS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - SEE **A340** TYP FOR GUARDRAIL NOTES.
 - COAT ALL AL SURFACES IN CONTACT W/ CONC, AND INSTALL ISOLATON SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.
 - AL CS10 x 6.14 FOR "L" LESS THAN OR EQUAL TO 14'-0". AL CS12 x 8.27 FOR "L" GREATER THAN 14'-0" AND LESS THAN OR EQUAL TO 18'-0".
 - TREAD WIDTH = TREAD SPACING + 1" (TYP ALL TREADS).
 - RISERS SHALL BE 3/16" ALUMINUM PLATE. LENGTH TO MATCH TREAD.
 - PICKET TYPE GUARDRAIL IS REQUIRED @ STAIRS ACCESSIBLE TO THE PUBLIC. SEE **A345** TYP.
 - PROVIDE ADA HANDRAIL EXTENSION AS SHOWN AT BOTH SIDES OF STAIR UNLESS HANDRAIL IS CONTINUOUS AS AT SWITCHBACK STAIRS.
 - FOR PROJECTS LOCATED IN CALIFORNIA, PROVIDE WARNING STRIPS FOR THE TOP AND BOTTOM TREAD ON INTERIOR STAIRS AND FOR ALL TREADS ON EXTERIOR STAIRS. STRIPS SHALL BE OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE. PLACE STRIP PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED.

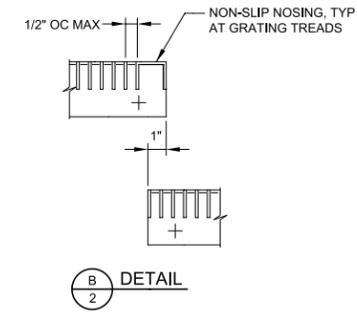
A236 ALUMINUM STAIRWAY WITH FLUSH TOP TREAD, SOLID RISER AND PICKET TYPE GUARDRAIL
TYP NS SHEET 3 OF 3 08/31/13



A238 ALUMINUM STAIRWAY WITH THREE RAIL GUARDRAIL
TYP NS SHEET 1 OF 3 08/31/13



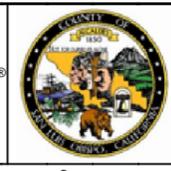
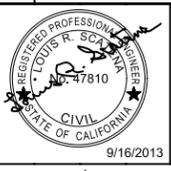
A238 ALUMINUM STAIRWAY WITH THREE RAIL GUARDRAIL
TYP NS SHEET 2 OF 3 08/31/13



- NOTES:**
- THIS DETAIL IS FOR USE AT (PRIVATE) PROCESS AREA STAIRWAYS THAT ARE NOT OPEN TO THE GENERAL PUBLIC.
 - SEE DWGS FOR DIMENSIONS "H", "L", "R", "T" AND STAIR WIDTH "W". STAIR WIDTH = 3'-8" CLR BETWEEN CHANNELS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - SEE **A340** TYP FOR GUARDRAIL NOTES AND **A343** TYP FOR GUARDRAIL DETAILS.
 - COAT ALL AL SURFACES IN CONTACT W/ CONC, AND INSTALL ISOLATON SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.
 - AL CS10 x 6.14 FOR "L" LESS THAN OR EQUAL TO 14'-0". AL CS12 x 8.27 FOR "L" GREATER THAN 14'-0" AND LESS THAN OR EQUAL TO 18'-0".
 - TREAD WIDTH = TREAD SPACING + 1" (TYP ALL TREADS).
 - FOR PROJECTS LOCATED IN CALIFORNIA, PROVIDE WARNING STRIPS FOR THE TOP AND BOTTOM TREAD ON INTERIOR STAIRS, AND FOR ALL TREADS ON EXTERIOR STAIRS. STRIPS SHALL BE OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE. PLACE STRIP PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED.

A238 ALUMINUM STAIRWAY WITH THREE RAIL GUARDRAIL
TYP NS SHEET 3 OF 3 08/31/13

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DATE	SEPT 2013		
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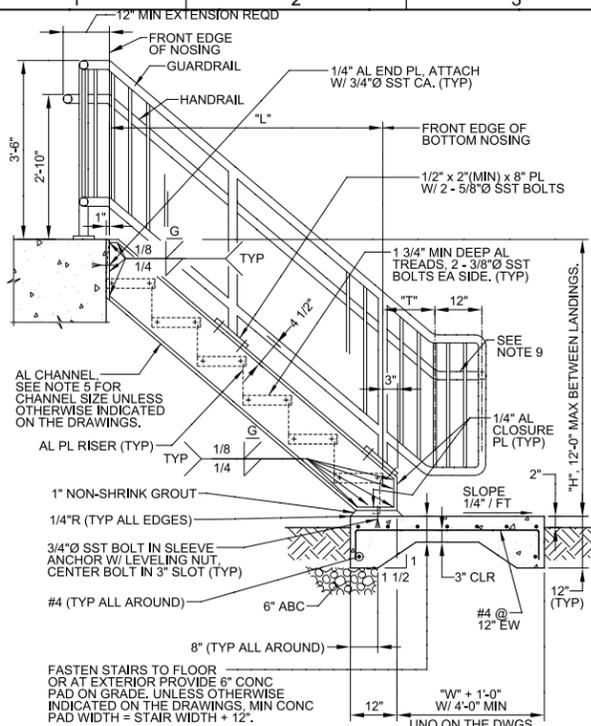
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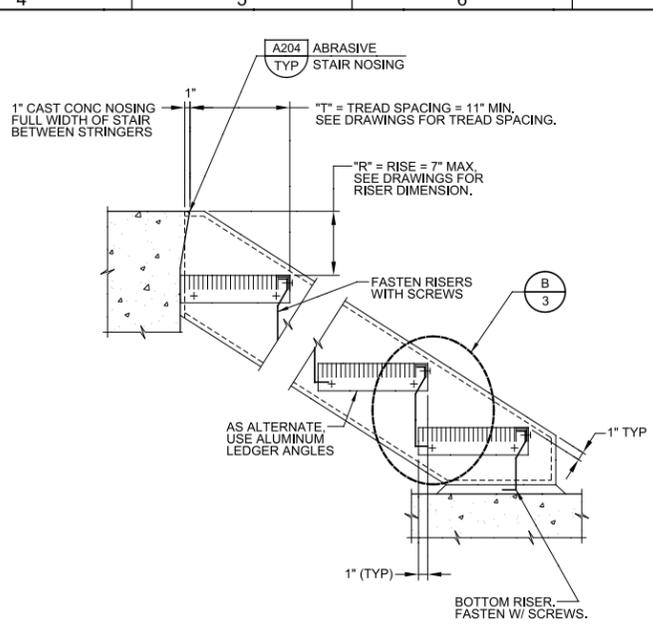
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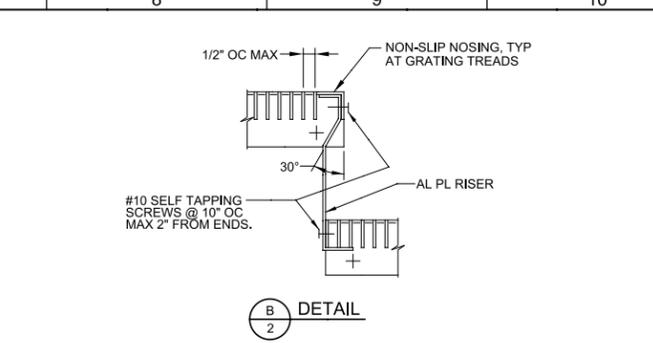
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A239 ALUMINUM STAIRWAY WITH SOLID RISER AND PICKET TYPE GUARDRAIL
TYP NS SHEET 1 OF 3 08/31/13

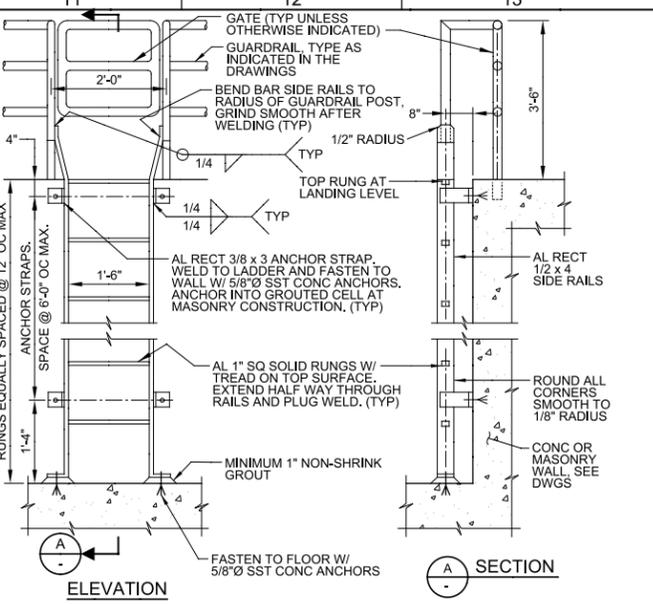


A239 ALUMINUM STAIRWAY WITH SOLID RISER AND PICKET TYPE GUARDRAIL
TYP NS SHEET 2 OF 3 08/31/13



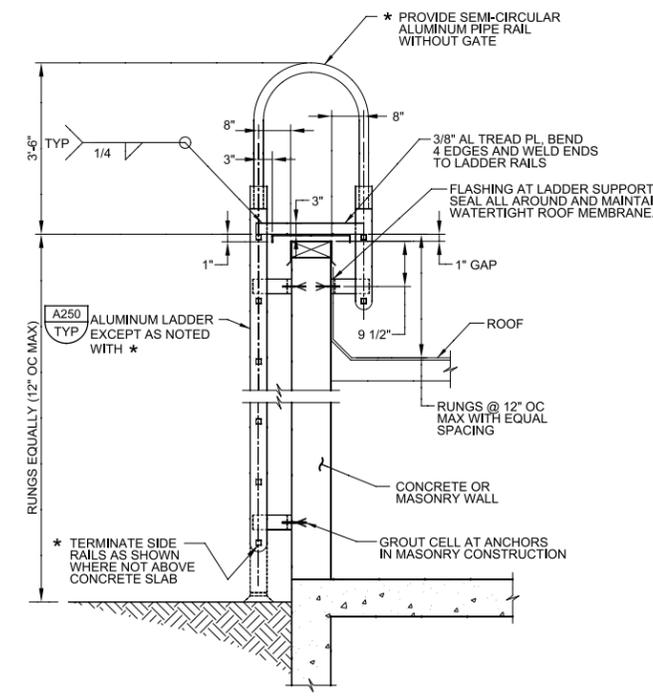
- NOTES:**
- THIS DETAIL IS FOR USE AT STAIRWAYS THAT WILL BE USED BY THE GENERAL PUBLIC.
 - SEE DWGS FOR DIMENSIONS "H", "L", "R", "T", AND STAIR WIDTH "W". STAIR WIDTH = 3'-8" CLR BETWEEN CHANNELS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - SEE **A340** TYP FOR GUARDRAIL NOTES.
 - COAT ALL AL SURFACES IN CONTACT W/ CONC, AND INSTALL ISOLATON SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.
 - AL CS10 x 6.14 FOR "L" LESS THAN OR EQUAL TO 14'-0". AL CS12 x 8.27 FOR "L" GREATER THAN 14'-0" AND LESS THAN OR EQUAL TO 18'-0".
 - TREAD WIDTH = TREAD SPACING + 1" (TYP ALL TREADS).
 - RISERS SHALL BE 3/16" ALUMINUM PLATE. LENGTH TO MATCH TREAD.
 - PICKET TYPE GUARDRAIL IS REQUIRED @ STAIRS ACCESSIBLE TO THE PUBLIC. SEE **A345** TYP.
 - PROVIDE ADA HANDRAIL EXTENSION AS SHOWN AT BOTH SIDES OF STAIR UNLESS HANDRAIL IS CONTINUOUS, AS AT SWITCHBACK STAIR.
 - FOR PROJECTS LOCATED IN CALIFORNIA, PROVIDE WARNING STRIPS FOR THE TOP AND BOTTOM TREAD ON INTERIOR STAIRS, AND FOR ALL TREADS ON EXTERIOR STAIRS. STRIPS SHALL BE OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE. PLACE STRIP PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED.

A239 ALUMINUM STAIRWAY WITH SOLID RISER AND PICKET TYPE GUARDRAIL
TYP NS SHEET 3 OF 3 08/31/13

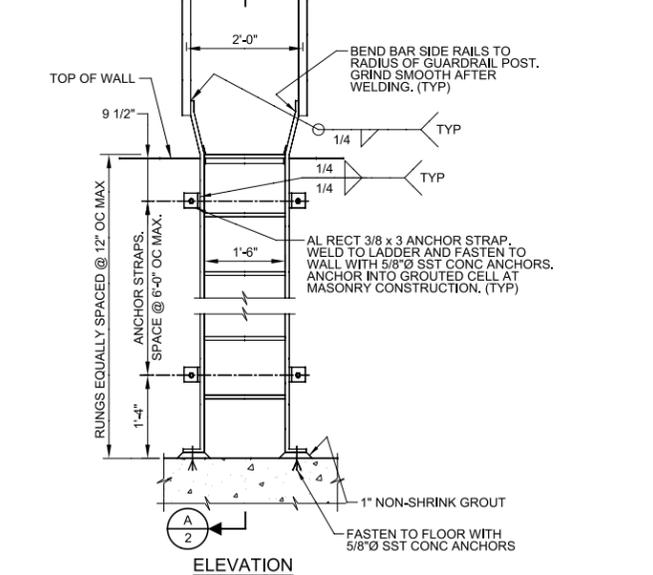


- NOTES:**
- INSTALL FALL PREVENTION SYSTEM OR SAFETY CAGE WHERE HEIGHT OF LADDER EXCEEDS 20'-0". SEE DETAIL **A254** TYP FOR SAFETY CAGE.
 - MINIMUM CLEARANCE TO ANY OBSTRUCTION ADJACENT TO LADDER: 2'-6" ON CLIMBING SIDE (2'-3" AT SMOOTH WALL), 1'-3" EACH SIDE OF CENTER LINE, ON EACH SIDE OF LADDER.
 - COAT ALL AL SURFACES IN CONTACT W/ CONC AND MAONRY, AND INSTALL ISOLATON SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.
 - WHERE GUARDRAIL IS SST, BOLT PIPE TO RAIL W/ 2 - 1/2" Ø SST BOLTS.

A250 ALUMINUM LADDER FASTENED TO WALL
TYP S 08/30/13

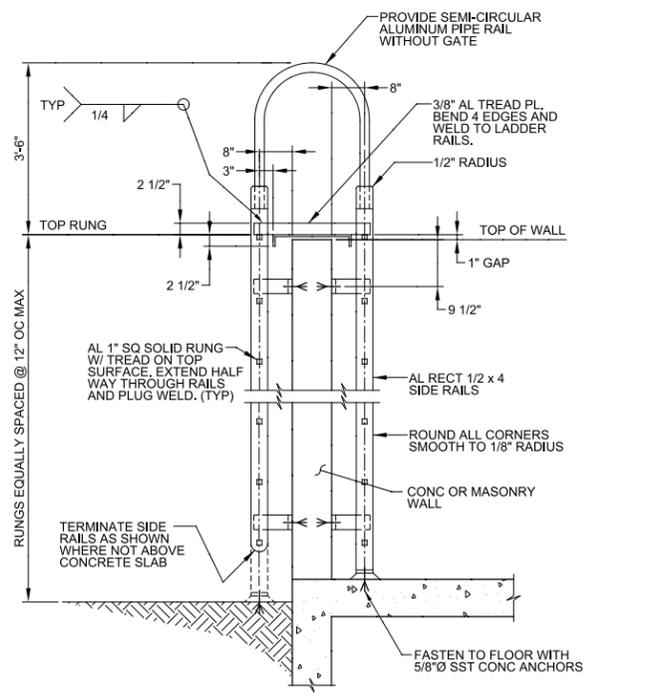


A252 ALUMINUM LADDER OVER PARAPET
TYP 07/26/13



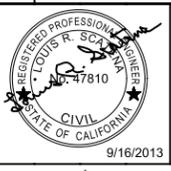
- NOTES:**
- INSTALL FALL PREVENTION SYSTEM OR SAFETY CAGE WHERE HEIGHT OF LADDER EXCEEDS 20'-0". SEE DETAIL **A245** TYP FOR SAFETY CAGE.
 - MINIMUM CLEARANCE TO ANY OBSTRUCTION ADJACENT TO LADDER: 2'-6" ON CLIMBING SIDE (2'-3" AT SMOOTH WALL), 1'-3" EACH SIDE OF CENTER LINE ON EACH SIDE OF LADDER.
 - COAT ALL AL SURFACES IN CONTACT W/ CONC AND MASONRY, AND INSTALL ISOLATON SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.

A253 ALUMINUM LADDER OVER WALL
TYP SHEET 1 OF 2 08/31/13



A253 ALUMINUM LADDER OVER WALL
TYP SHEET 2 OF 2 08/31/13

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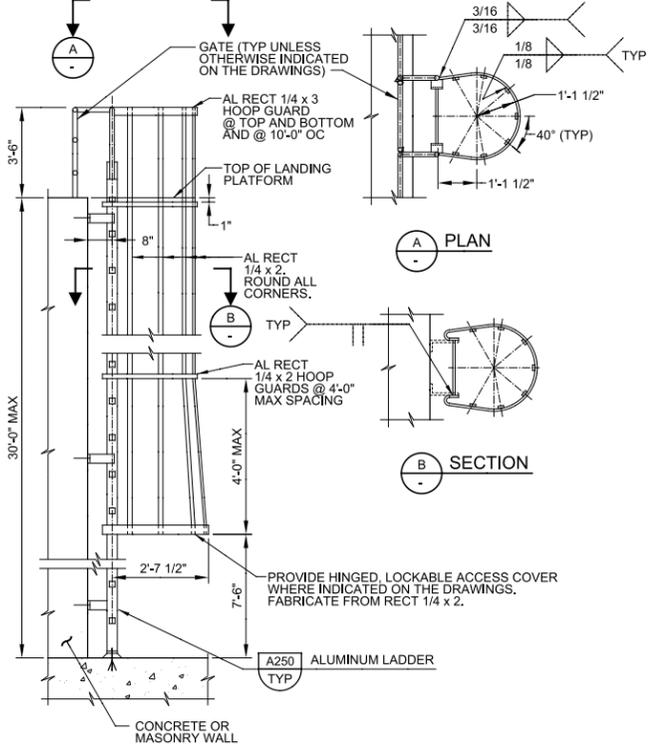
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

Plot Date: 17-SEP-2013 11:02:20 AM

User: NGriffith

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 2:1

LAST SAVED BY: psanchez



A254 ALUMINUM CAGED LADDER FASTENED TO WALL
TYP

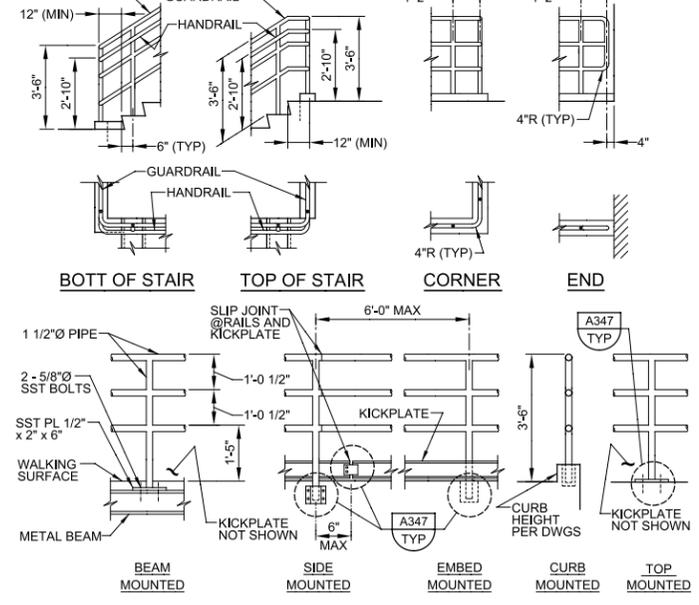
08/30/13

NOTES:

1. GUARDRAIL SHALL BE PROVIDED AT STAIRS AND OPEN SIDED WALKING SURFACES WHEN THEY ARE ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION.
2. ROOFS (WHERE EQUIPMENT IS LOCATED LESS THAN 10' FROM ROOF EDGE) ELEVATED GREATER THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION SHALL BE PROVIDED WITH A 42" HIGH GUARDRAIL FORMING A PROTECTIVE BARRIER. A PARAPET WALL 42" OR MORE IN HEIGHT MAY BE THE GUARDRAIL AT ROOF LOCATIONS.
3. SEE DRAWINGS OR SPECIFICATIONS FOR GUARDRAIL MATERIAL TYPE(S).
4. HANDRAIL SHALL BE PROVIDED AT BOTH SIDES OF EVERY STAIR HAVING TWO OR MORE RISERS.
5. HANDRAIL SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIR.
6. HANDRAIL EXTENSIONS SHALL BE PROVIDED AT BOTH SIDES OF STAIRS AND AT TOP AND BOTTOM. HANDRAIL EXTENSION ON STAIR MOUNTED GUARDRAIL MAY BE OMITTED WHERE IT IS PERPENDICULAR TO AND IMPEDES EXIT FLOW.
7. INSIDE HANDRAIL ON SWITCHBACK STAIRS SHALL BE CONTINUOUS.
8. WALL MOUNTED HANDRAILS SHALL BE SINGLE RAILS WITH TOP OF RAIL AT 2'-10" HEIGHT ABOVE LANDINGS OR TREAD NOSINGS, MATCHING RAILING ON OPPOSITE SIDE.
9. ALL GUARDRAIL SHALL BE FIXED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. PLACE CENTER OF EMBEDDED POSTS 4" FROM EDGE OF CONCRETE AND 6" FROM FRONT EDGE OF CONCRETE STAIR NOSINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
11. PLACE GUARDRAIL POSTS OPPOSITE EACH OTHER WHERE RAILINGS ARE PARALLEL.
12. FOR GUARDRAIL POSTS MOUNTED TO BEAM OR STAIR CHANNEL, PROVIDE MANUFACTURERS REINFORCED CONNECTION FROM POST TO PLATE. PLATE AND REINFORCED INSERTS SHALL BE ALUMINUM OR STAINLESS STEEL.
13. PROVIDE SLIP JOINTS AT 24" MAX CENTERS FOR EXPANSION OF RAIL AND KICKPLATE. LOCATE RAIL SLIP JOINTS AT FACE OF POST. GAP AT TIME OF INSTALLATION SHALL BE BASED ON TEMPERATURE OF GUARDRAIL (3/8" GAP AT 25°F, 0" GAP AT 100°F). AT CONCRETE EXPANSION JOINTS, PROVIDE MINIMUM OF 1" GAP IN SLIP JOINTS BUT NOT LESS THAN WIDTH OF CONCRETE EXPANSION JOINT. INSERT SLEEVES SHALL BE LONG ENOUGH TO ALLOW FOR THE FULL RANGE OF MOVEMENT.
14. MATERIAL FOR SLIP JOINT PLATE AND KICKPLATE CHANNEL SHALL BE OF THE SAME MATERIAL AS THE GUARDRAIL.
15. ALL JOINTS FOR STAINLESS STEEL GUARDRAIL AND HANDRAIL SHALL BE COPED, WELDED, AND GROUND SMOOTH.
16. PROVIDE KICKPLATE AT ALL LOCATIONS EXCEPT AT SLOPING GUARDRAIL ON STAIRS AND WHERE GUARDRAIL IS MOUNTED ON A 4" MIN CURB. KICKPLATE MAY BE EXTRUDED OR BENT PLATE AND SHALL BE ATTACHED WITH SST BOLTS IN 5/16" x 3/4" SLOTTED HOLES. BOLT KICKPLATE TO POST WITH BOTTOM 1/4" CLEAR FROM FLOOR. FOR SIDE MOUNTED GUARDRAIL, PROVIDE STANDARD SPACER BLOCK BETWEEN POST AND KICKPLATE TO MAINTAIN 1/4" MAX CLEAR SPACING. HAND TIGHTEN AND CENTER PUNCH BOLT THREADS TO LOCK. SPLICES SHALL ACCOMMODATE TEMPERATURE EXPANSION PER NOTE 12.
17. COAT ALL SURFACES OF ALUMINUM THAT COME IN CONTACT WITH CONCRETE AS SPECIFIED. PLACE NEOPRENE GASKET BETWEEN ALUMINUM AND STEEL.

A340 GUARDRAIL/HANDRAIL NOTES
TYP

08/01/05



GUARDRAIL ELEVATION

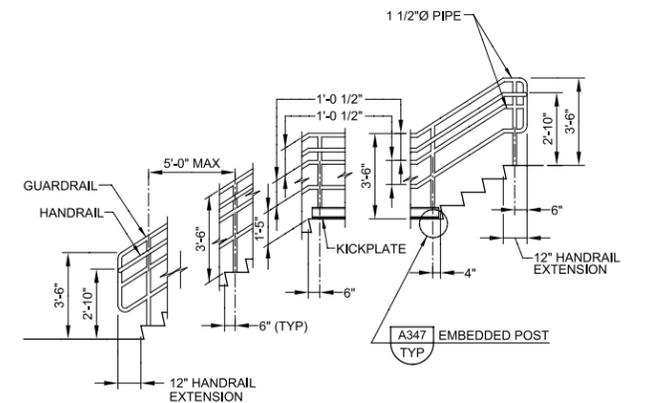
NOTES:

1. THIS DETAIL IS APPLICABLE AT PRIVATE STAIRS IN F, H, AND S OCCUPANCIES WHERE OPERATOR ONLY ACCESSIBILITY IS REQUIRED. DETAILS AND INSTALLATION SHALL COMPLY WITH THE BUILDING CODE.
2. FOR ADDITIONAL REQUIREMENTS, SEE SPECIFICATIONS AND **A340 TYP**.
3. VARIOUS POST MOUNTING DETAILS ARE ILLUSTRATED. SEE DRAWINGS FOR SPECIFIC MOUNTING REQUIREMENTS.

A343 THREE RAIL GUARDRAIL (PRIVATE USE)
TYP

SHEET 1 OF 3

03/01/06



STAIR GUARDRAIL/HANDRAIL ELEVATION

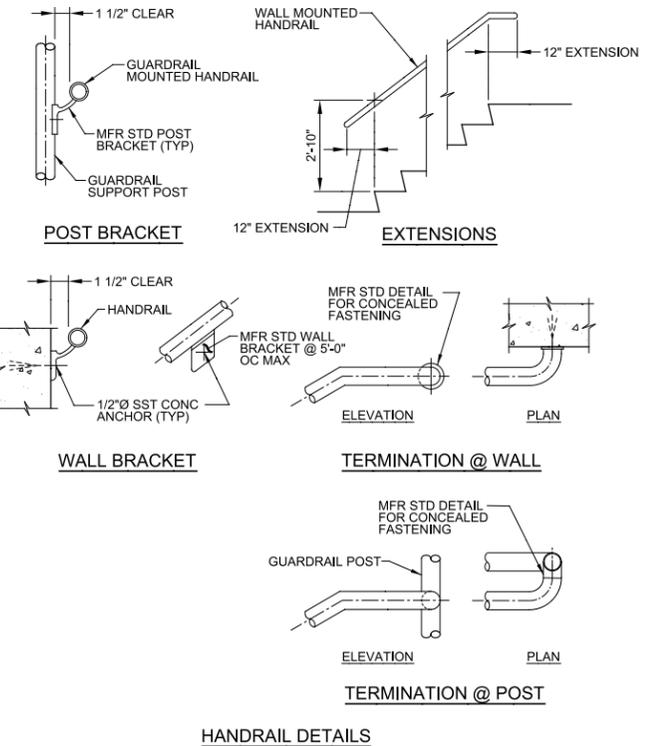
NOTES:

1. SEE SPECIFICATIONS AND **A340 TYP** FOR ADDITIONAL REQUIREMENTS.
2. HANDRAIL EXTENSIONS ARE REQUIRED ON BOTH SIDES OF STAIR. THEY ARE NOT REQUIRED WHERE HANDRAIL IS CONTINUOUS.

A343 THREE RAIL GUARDRAIL (PRIVATE USE)
TYP

SHEET 2 OF 3

03/01/06



A343 THREE RAIL GUARDRAIL (PRIVATE USE)
TYP

SHEET 3 OF 3

03/01/06

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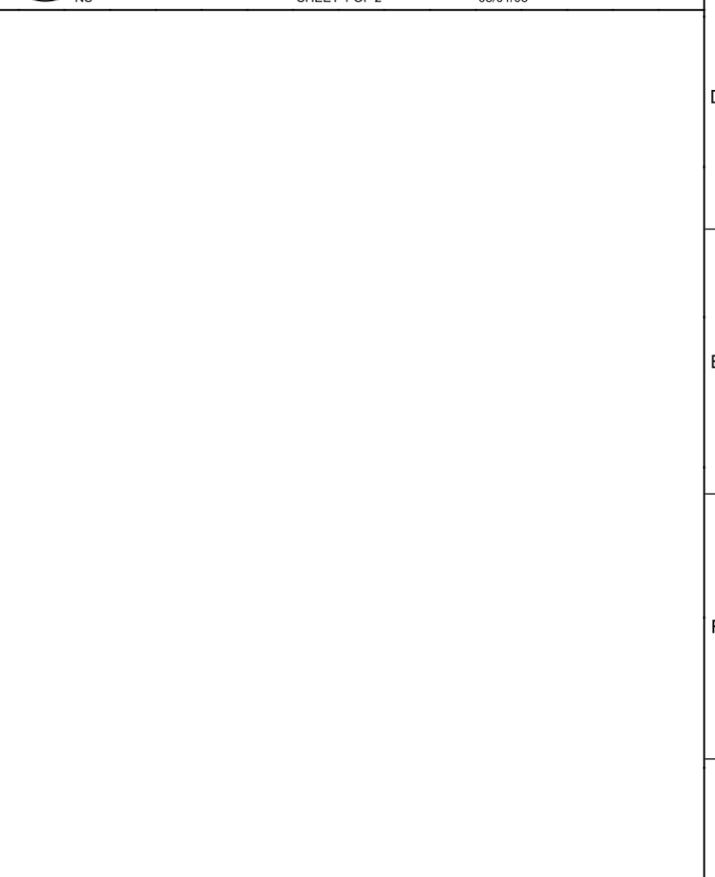
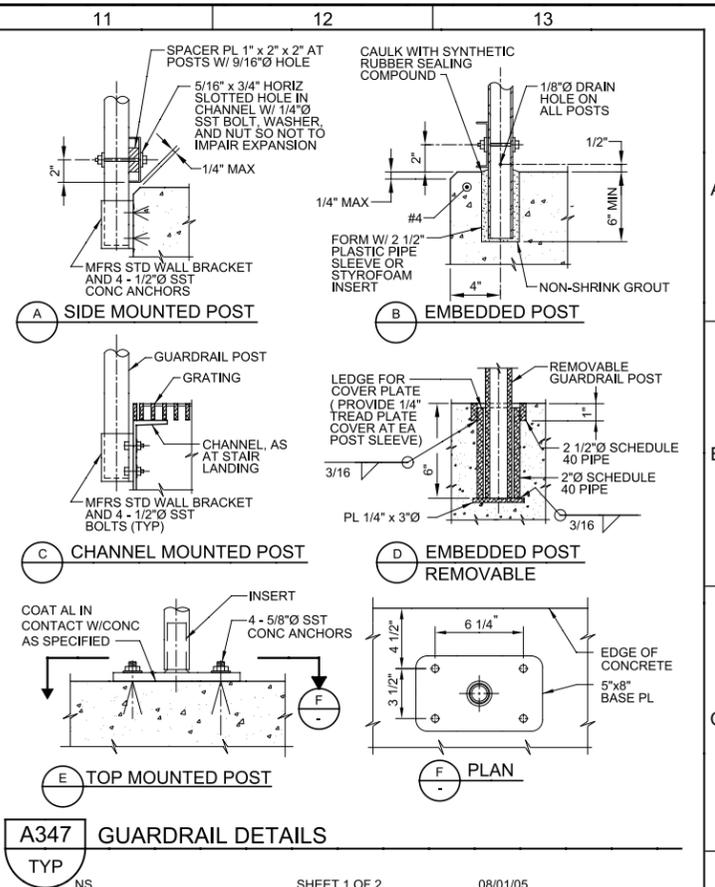
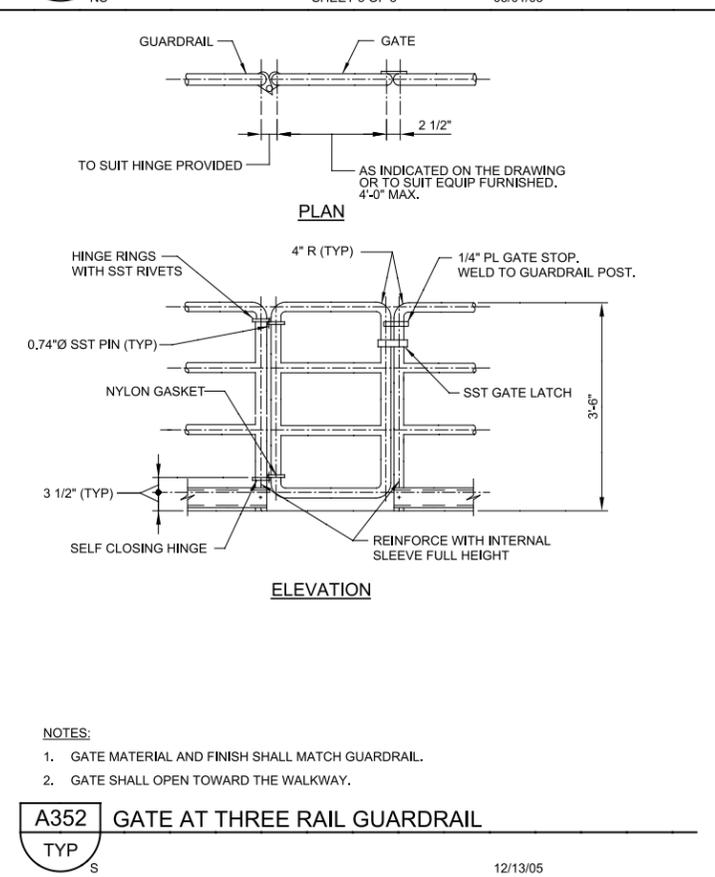
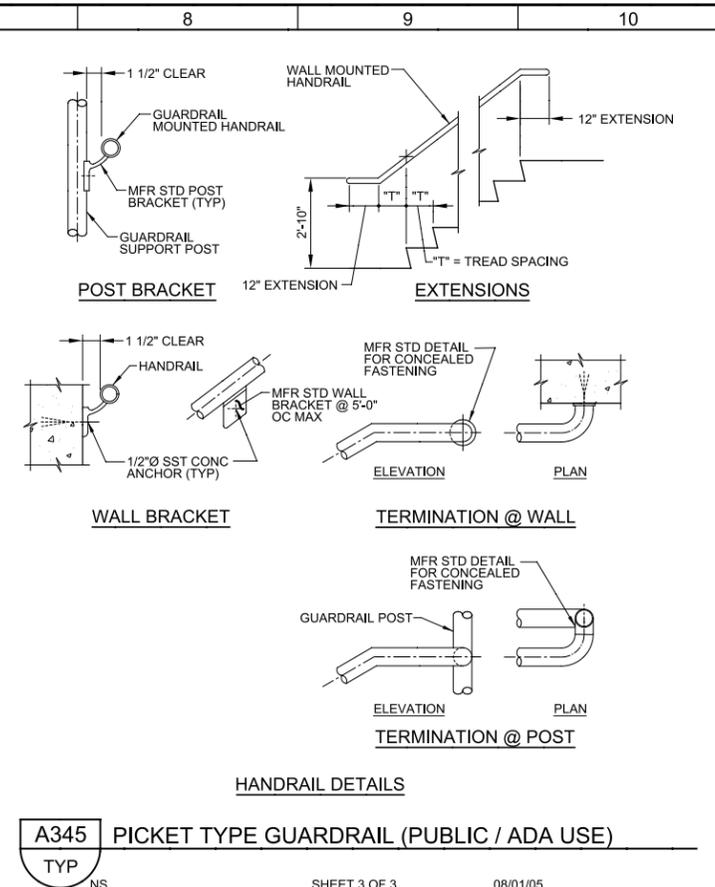
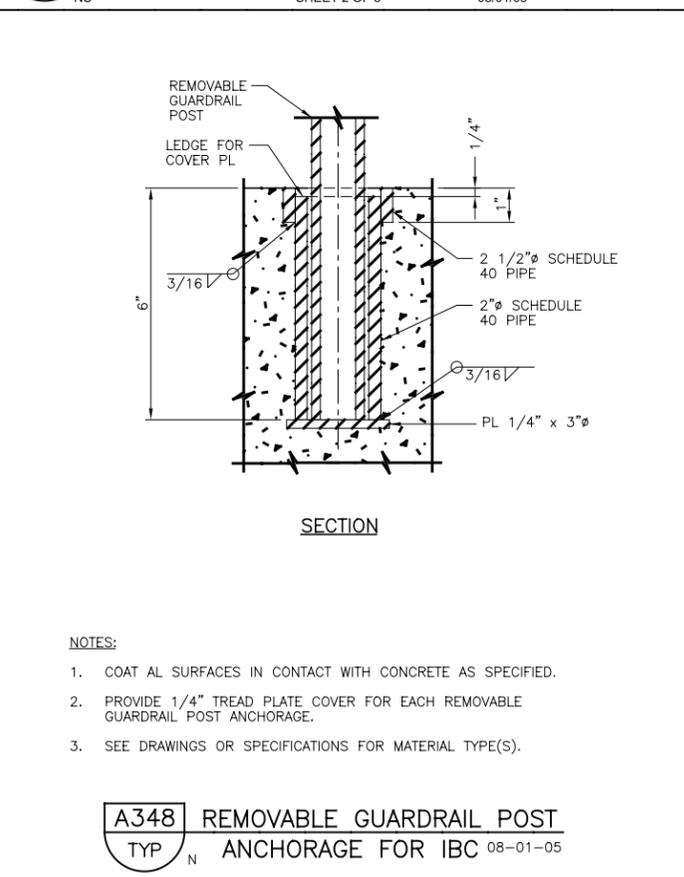
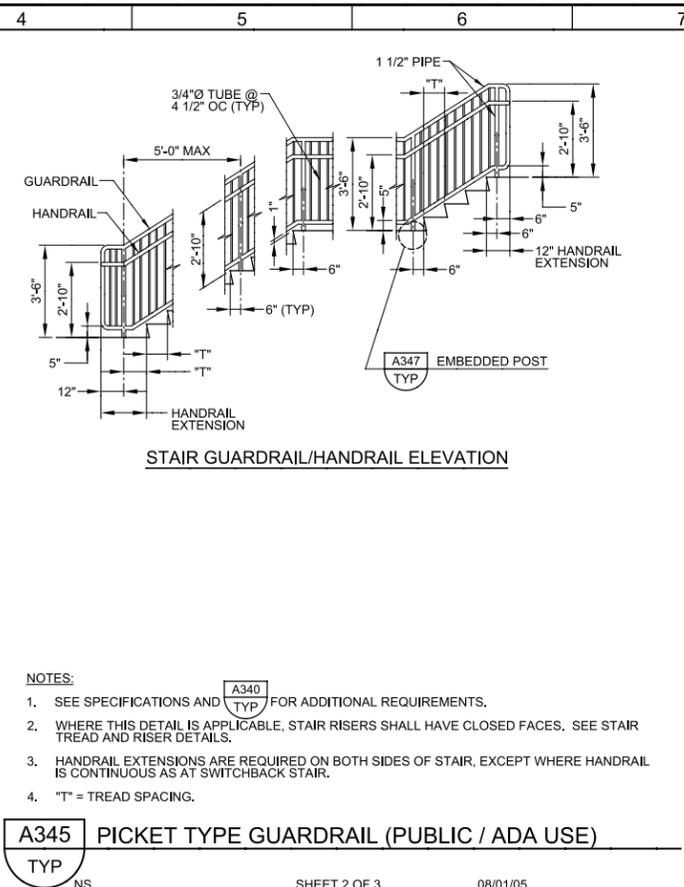
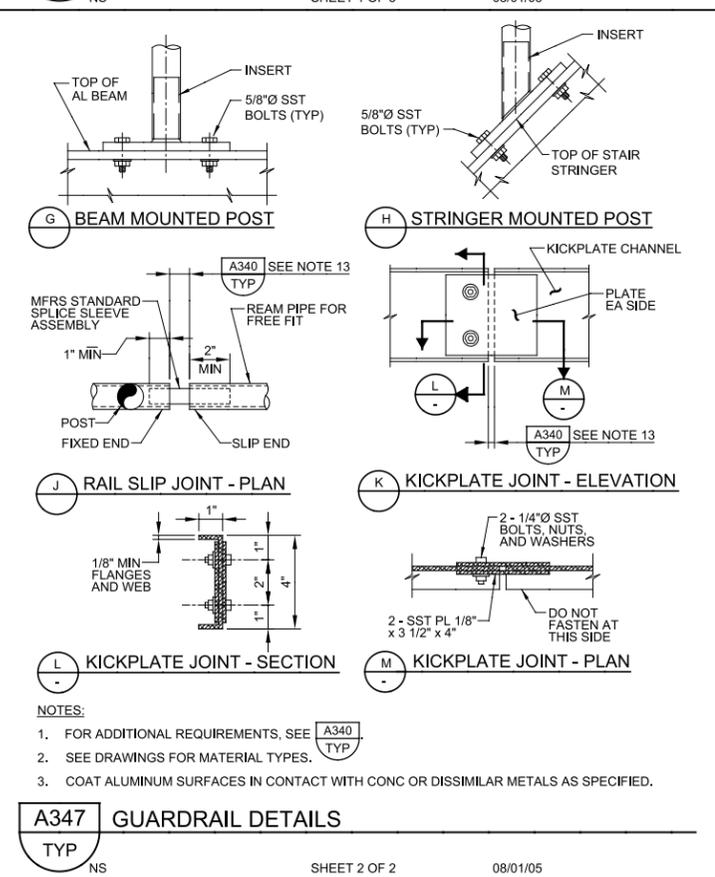
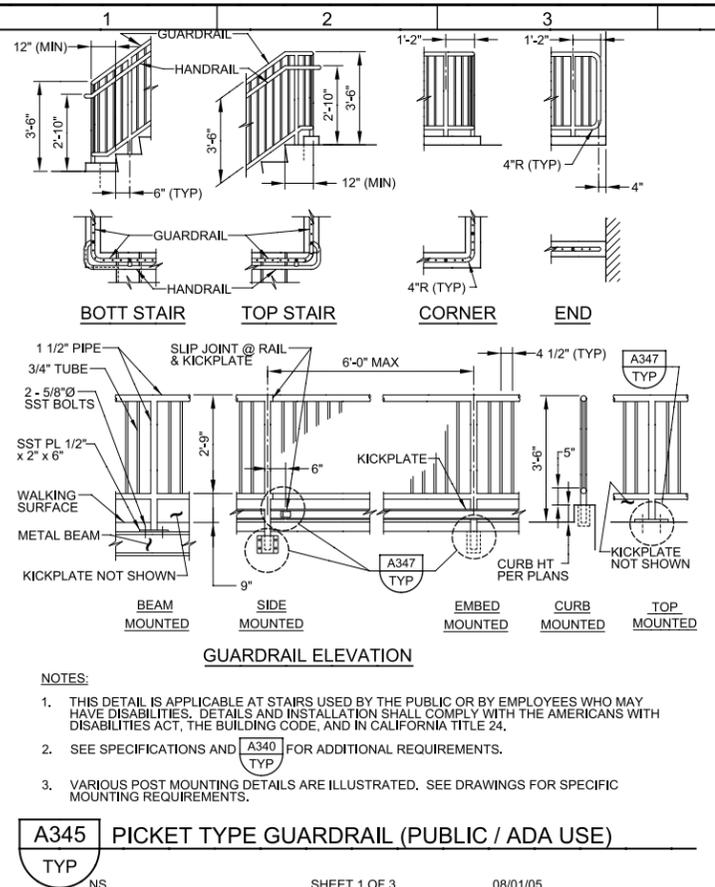
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JOB NO. 8930A.11
DRAWING NO. **AT05**
SHEET NO. OF 549

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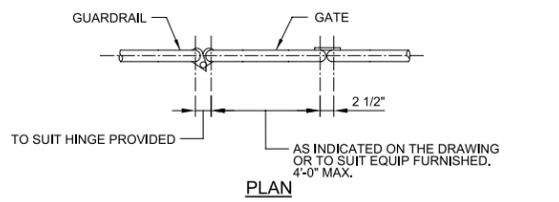


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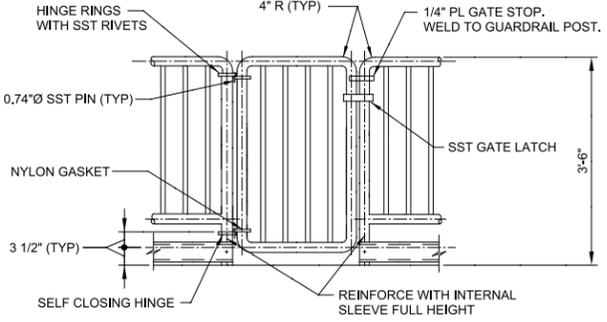
VERIFY SCALES
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 SHEET NO. OF 549

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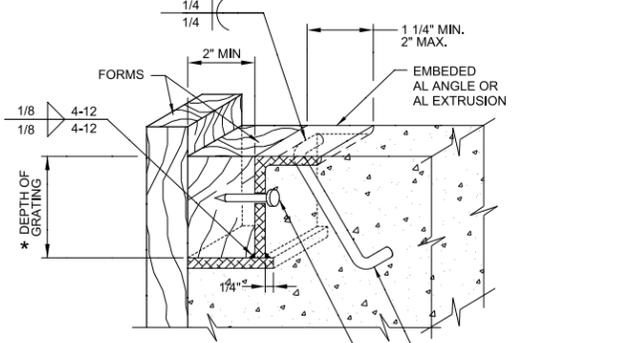
PLAN



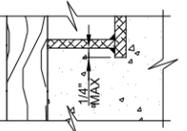
ELEVATION

- NOTES:
- GATE MATERIAL AND FINISH SHALL MATCH GUARDRAIL.
 - GATE SHALL OPEN TOWARD THE WALKWAY.

A353 GATE AT PICKET GUARDRAIL
TYP
N 12/13/05

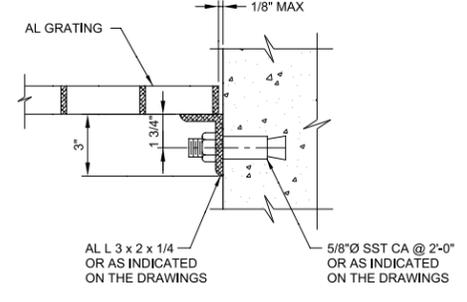


GRATING REBATE



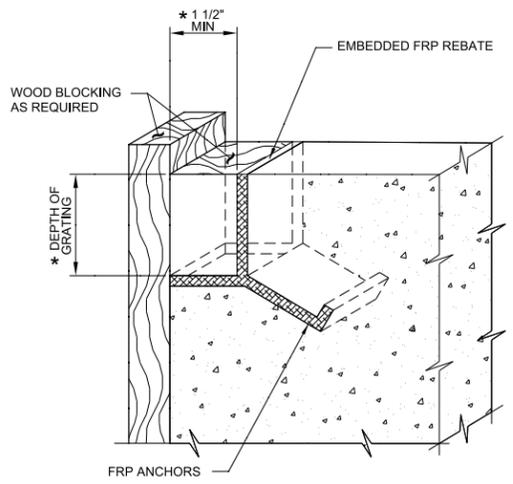
- NOTES:
- FOR AL GRATING, SEE SPECIFICATIONS.
 - REBATE ANGLE SHALL BE CONTINUOUS AROUND ENTIRE OPENING.
 - ANGLE AND BEARING PLATE SHALL BE 1/4" MIN THICK.
 - REBATE MAY BE EXTRUDED, SUBJECT TO ENGINEER'S ACCEPTANCE.
 - COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.
 - * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER.

A400 ALUMINUM GRATING REBATE AND SEAT
TYP
NS SHEET 1 OF 2 06/06/13



GRATING SEAT

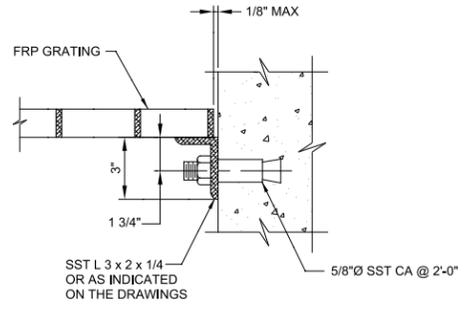
A400 ALUMINUM GRATING REBATE AND SEAT
TYP
NS SHEET 2 OF 2 06/06/13



GRATING REBATE

- NOTES:
- FOR FRP GRATING, SEE SPECIFICATIONS.
 - REBATE ANGLE SHALL BE CONTINUOUS AROUND ENTIRE OPENING.
 - REBATE ANGLE SHALL BE 1/4" MINIMUM THICKNESS.
 - REBATE MAY BE EXTRUDED.
 - * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER.

A401 FRP GRATING REBATE AND SEAT
TYP
S SHEET 1 OF 2 07/31/08



GRATING SEAT

A401 FRP GRATING REBATE AND SEAT
TYP
S SHEET 2 OF 2 07/13/08

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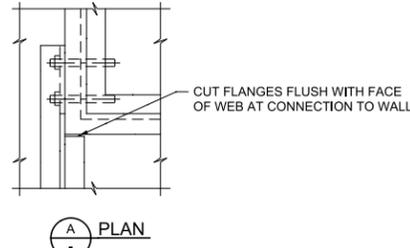
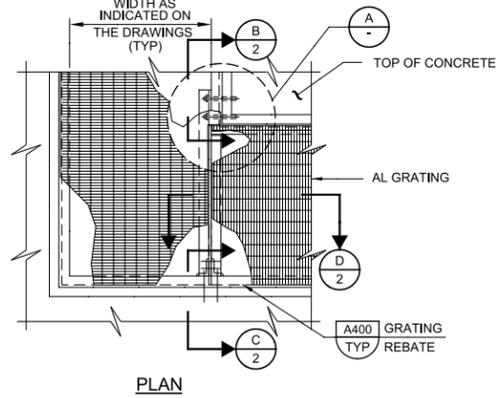
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DRAWING NO. AT07
SHEET NO. OF 549

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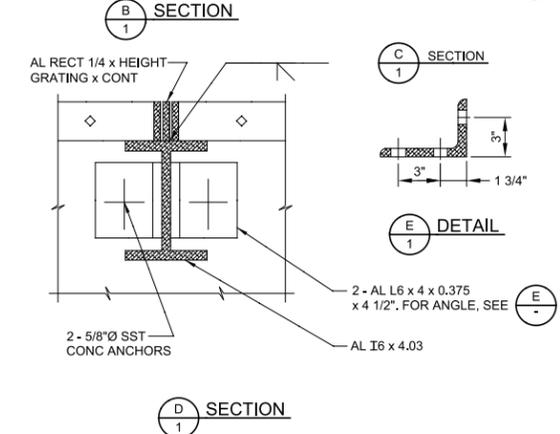
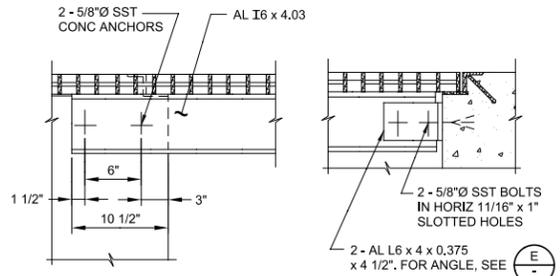
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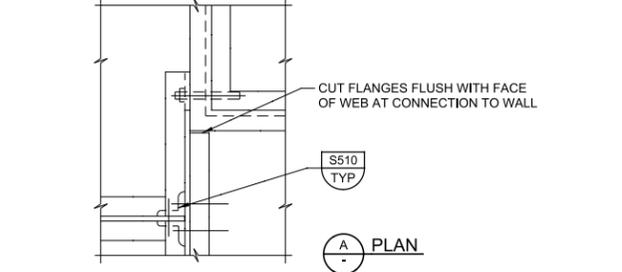
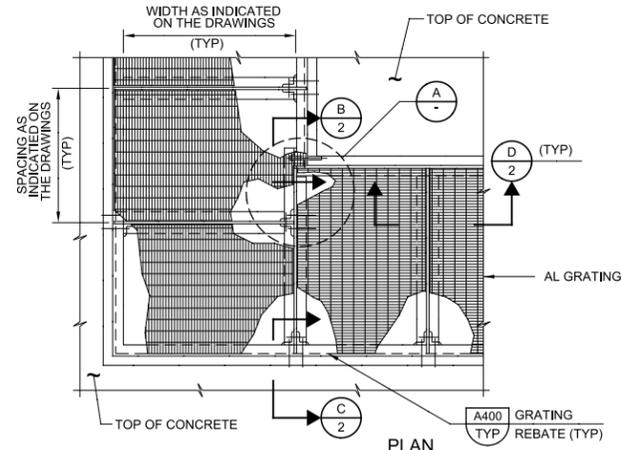


NOTES:
1. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.

A408 TYP SUPPORTS FOR ALUMINUM GRATING, SHORT SPAN
SHEET 1 OF 2 03/16/09

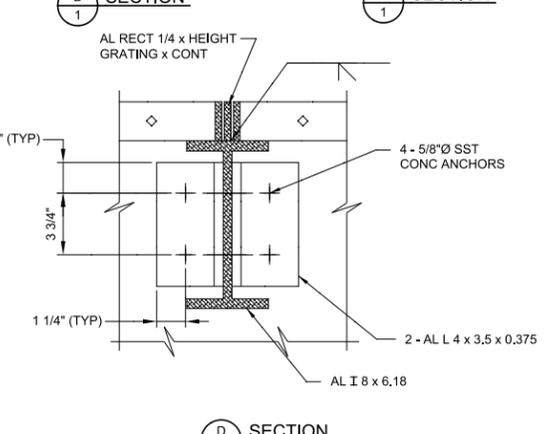
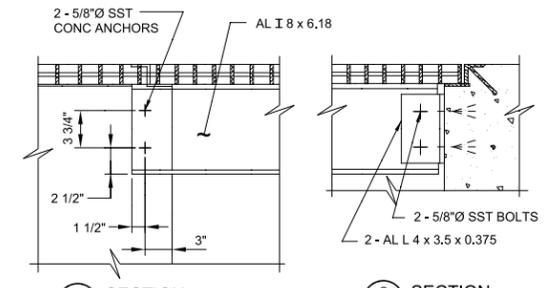


A408 TYP SUPPORTS FOR ALUMINUM GRATING, SHORT SPAN
SHEET 2 OF 2 03/16/09

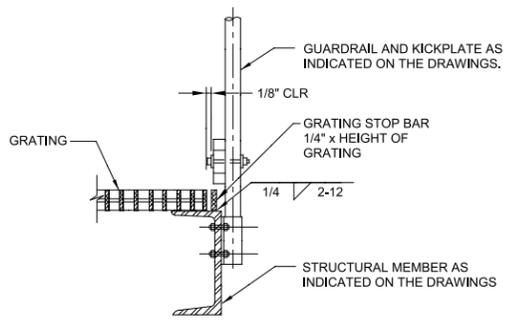


NOTE:
1. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.

A409 TYP SUPPORTS FOR ALUMINUM GRATING, LONG SPAN
SHEET 1 OF 2 03/16/09

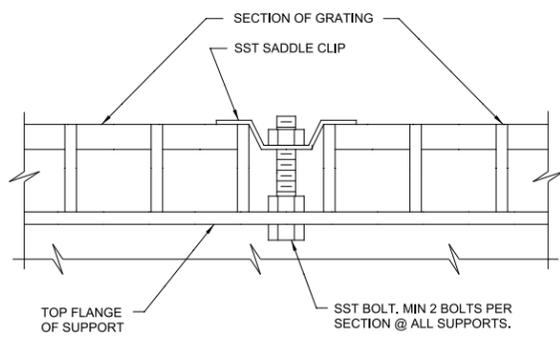


A409 TYP SUPPORTS FOR ALUMINUM GRATING, LONG SPAN
SHEET 2 OF 2 03/16/09



NOTES:
1. GRATING STOP SHALL BE INSTALLED ON ALL GRATING PLATFORMS AND LANDINGS SHALL BE CONTINUOUS ON ALL SIDES OF PLATFORMS NOT OTHERWISE COVERED BY A REBATE, SEAT, OR OTHER SIMILAR DETAIL. GRATING STOPS SHALL BE DISCONTINUOUS AT STAIRS BUT SHALL SERVE TO HOLD LANDING PANEL AT STAIRWAYS IN PLACE.
2. GRATING STOP SHALL BE OF THE SAME MATERIAL AS THE STRUCTURAL MEMBER.

A412 TYP GRATING STOP
07/31/08

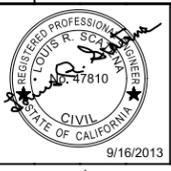


NOTES:
1. GRATING FASTENERS SHALL BE INSTALLED WHERE INDICATED ON THE DRAWINGS.
2. GRATING FASTENERS SHALL BE INSTALLED AT EACH CORNER OF EACH PANEL AND AT SPACING NOT TO EXCEED 8'-0".

A414 TYP GRATING FASTENERS
08/01/05

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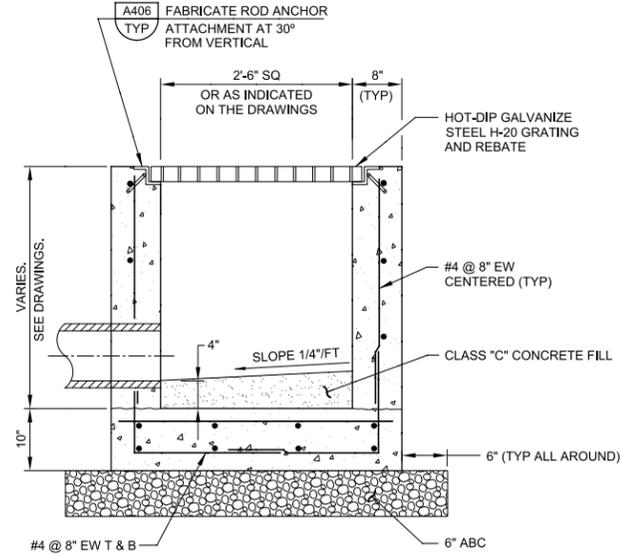
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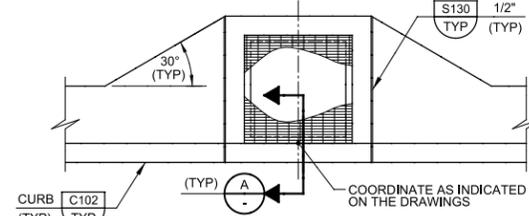
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LAST SAVED BY: psanchez

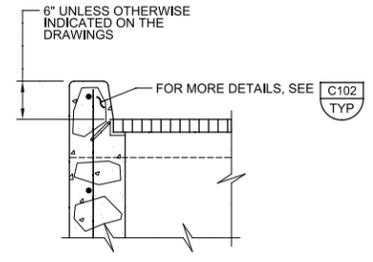


C002 CATCH BASIN
TYP

SHEET 1 OF 4 05/03/13



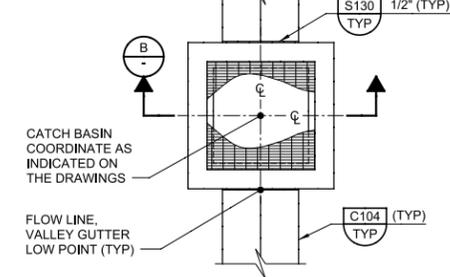
TYPE 1 - CATCH BASIN AT CURB AND GUTTER



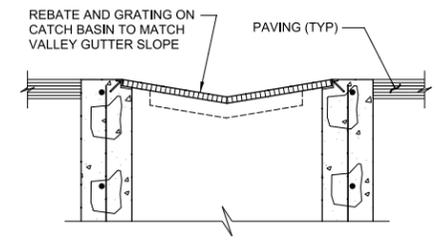
A SECTION

C002 CATCH BASIN
TYP

SHEET 2 OF 4 05/03/13



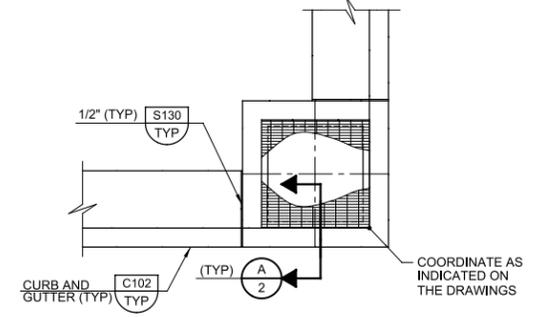
TYPE 2 - CATCH BASIN AT VALLEY GUTTER



B SECTION

C002 CATCH BASIN
TYP

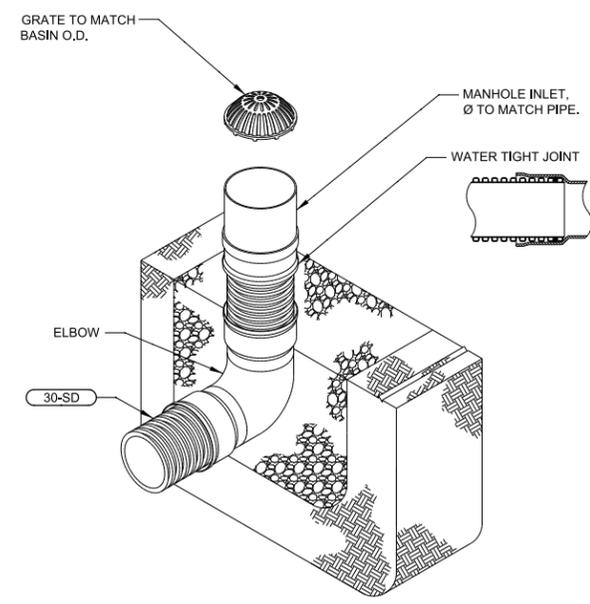
SHEET 3 OF 4 05/03/13



TYPE 3 - CATCH BASIN AT CURB AND GUTTER CORNER

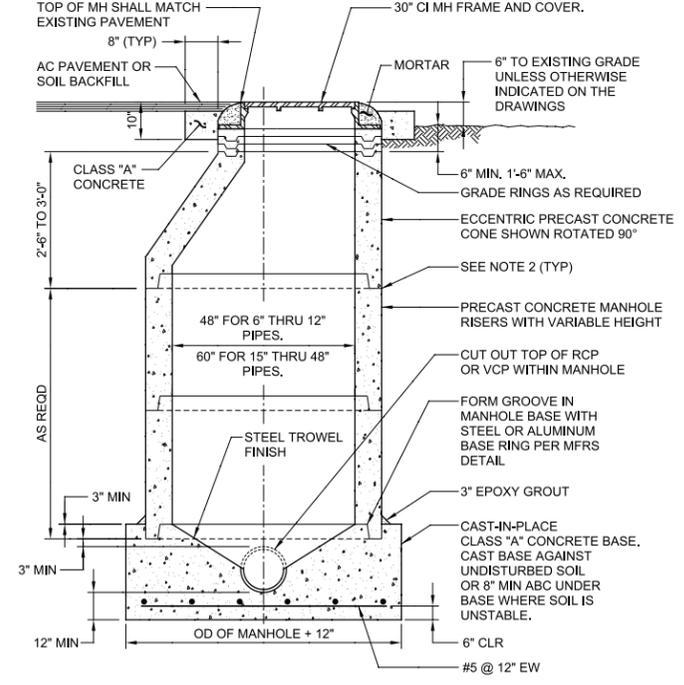
C002 CATCH BASIN
TYP

SHEET 4 OF 4 05/03/13



C003 INLINE DRAIN WITH DOME GRATE
TYP

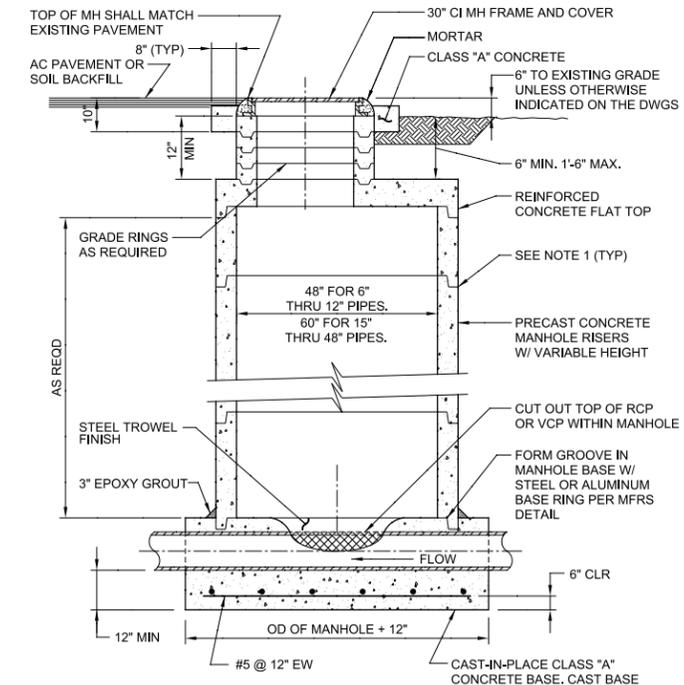
08/22/08



C010 MANHOLE
TYP

05/16/09

- NOTES:**
- LOCATE MANHOLE COVER ON DOWNSTREAM SIDE OF MANHOLE. SET MANHOLE FRAME IN GROUT.
 - SEAL JOINTS WITH PRECAST CONCRETE JOINT SEALANT.



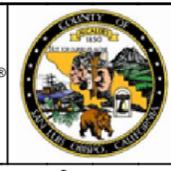
C016 MINIMUM COVER CONDITION MANHOLE
TYP

05/16/09

- NOTE:**
- SEAL JOINTS WITH PRECAST CONCRETE JOINT SEALANT.

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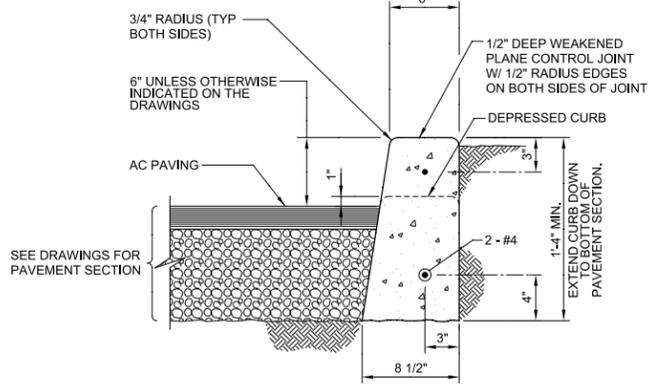
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SHEET NO. OF 549

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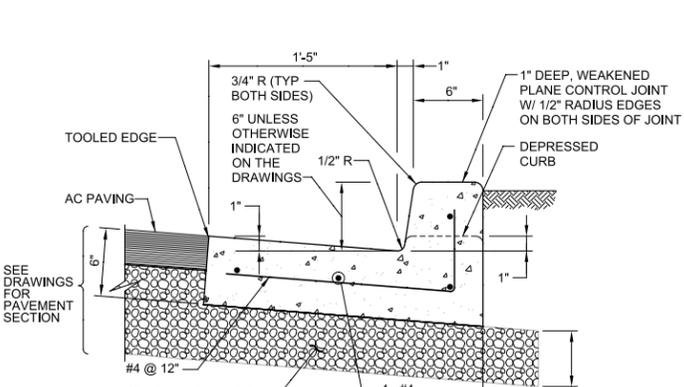
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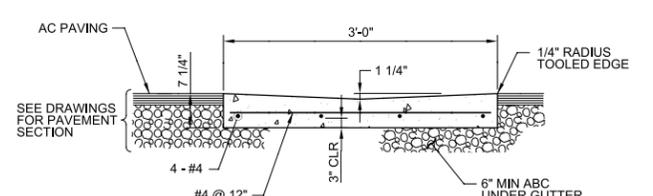
C101 YARD CURBING FOR EXPANSIVE SOIL
TYP 07/01/13

- NOTES:**
1. FINISH CURB ON TOP, 8" DOWN FRONT FACE, AND 2" DOWN BACK.
 2. PROVIDE EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, POINTS OF CURVATURE, BOTH SIDES OF DRIVEWAYS AND WALKWAYS, CURB RETURNS, STRUCTURES, AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE WITH 1/4" RADIUS CONCRETE EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS FIBER EXPANSION JOINT MATERIAL.
 3. DO NOT PASS REINFORCING BARS THROUGH EXPANSION JOINTS.
 4. PROVIDE WEAKENED PLANE CONTROL JOINTS AT 15 FEET OC MAXIMUM.
 5. DEPRESS CURB AT DRIVEWAYS, ROADWAYS, SIDEWALKS FOR HANDICAPPED ACCESS, AND WHERE INDICATED ON THE DRAWINGS.

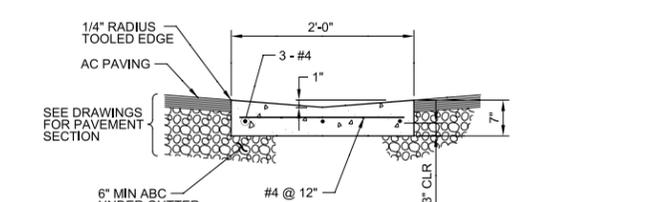


C102 YARD CURB AND GUTTER
TYP 01/23/13

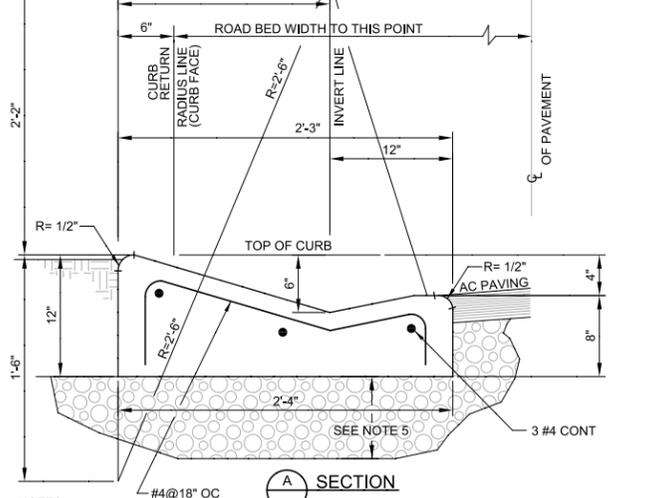
- NOTES:**
1. FINISH CURB ON TOP, DOWN FRONT FACE AND ACROSS GUTTER TO PAVING, AND 2" DOWN BACK.
 2. PROVIDE EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, POINTS OF CURVATURE, BOTH SIDES OF DRIVEWAYS AND WALKWAYS, CURB RETURNS, STRUCTURES, AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE WITH 1/4" RADIUS CONCRETE EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS FIBER EXPANSION JOINT MATERIAL.
 3. DO NOT PASS REINFORCING BARS THROUGH EXPANSION JOINTS.
 4. PROVIDE WEAKENED PLANE CONTROL JOINTS AT 15 FEET OC MAXIMUM.
 5. DEPRESS CURB AT DRIVEWAYS, ROADWAYS, SIDEWALKS FOR HANDICAPPED ACCESS, AND WHERE INDICATED ON THE DRAWINGS.



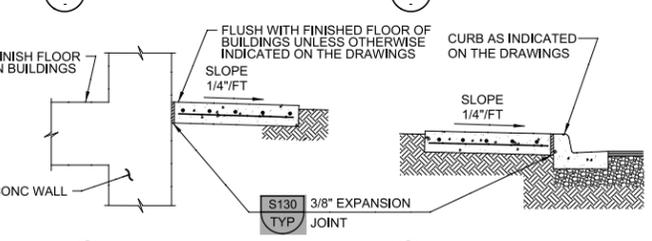
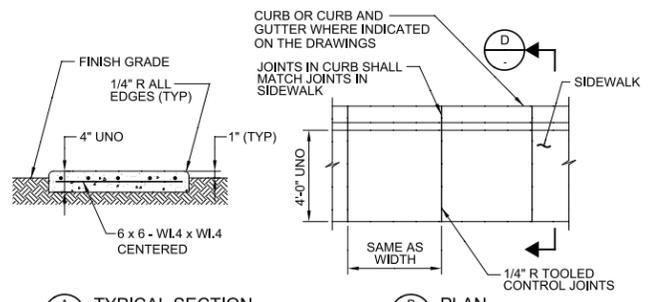
C104 CROSS GUTTER AND VALLEY GUTTER
TYP 07/25/13



- NOTES:**
1. PROVIDE EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, POINTS OF CURVATURE, INTERSECTIONS, AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE WITH 1/4" RADIUS CONCRETE EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS FIBER EXPANSION JOINT MATERIAL.
 2. DO NOT PASS REINFORCING BARS THROUGH EXPANSION JOINTS.
 3. PROVIDE WEAKENED PLANE CONTROL JOINTS AT 15 FEET OC MAXIMUM.

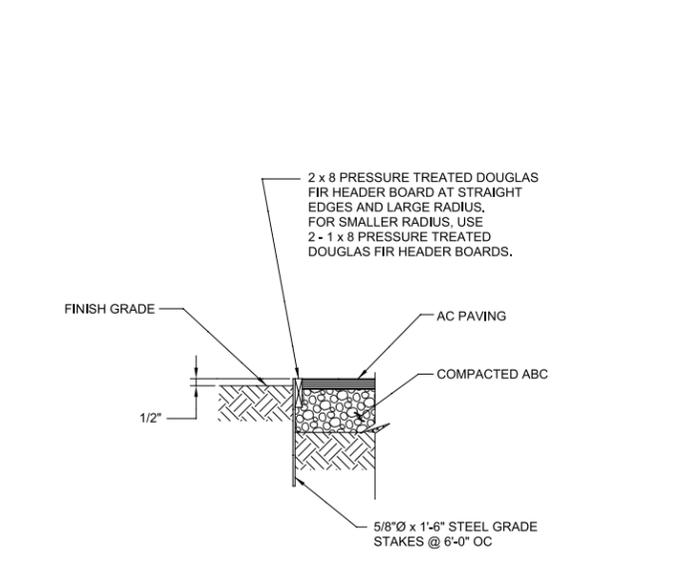


- NOTES:**
1. CONCRETE SHALL BE CLASS 520-C-2500 P.C.C. CURED WITH WHITE PIGMENTED COMPOUND.
 2. ALL EXPOSED CORNERS SHALL BE FINISHED WITH 1/2" RADIUS.
 3. FINISH SHALL BE FINE BROOM.
 4. ALL CURB AND GUTTER SHALL HAVE A MINIMUM OF 6" COMPACTED ABC.
 5. WHEN CURB & GUTTER IS PLACED BY AN EXTRUSION MACHINE, FINISH WORK SHALL PROVIDE AN ACCEPTABLE FINISH AND WEAKENED PLAN JOINTS MAY BE SAW CUT.
 6. EXPANSION JOINTS SHALL BE PLACED AT END OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, BOTH SIDES OF DRIVEWAYS AND WALKWAYS, CURB RETURNS, STRUCTURES, AND AT MAXIMUM DISTANCE OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" THICK W/ 1/4" RADIUS EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS EXPANSION JOINT MATERIAL.
 7. REINFORCING STEEL SHALL NOT PASS THROUGH EXPANSION JOINTS.
 8. WEAKENED PLAN JOINTS SHALL BE INSTALLED AT 15 FEET OC.



- NOTES:**
1. PROVIDE 3/4" EXPANSION JOINTS IN ACCORDANCE WITH DETAIL S130/TYP AT ENDS OF CONCRETE PLACEMENT, POINTS OF CURVATURE, AT INTERSECTIONS, AT STRUCTURES, AND AT MAXIMUM SPACING NOT TO EXCEED 60 FEET.
 2. PROVIDE WEAKENED PLANE CONTROL JOINTS AT 15 FEET OC MAXIMUM.
 3. ELEVATIONS AS INDICATED ON THE DRAWINGS.

C120 SIDEWALK
TYP 07/25/13



C130 WOOD HEADER
TYP 08/01/05

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SEPT 2013

SAN LUIS OBISPO COUNTY

SAN LUIS OBISPO COUNTY
LOS OSOS WATER RECYCLING FACILITY PROJECT
CIVIL
TYPICAL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

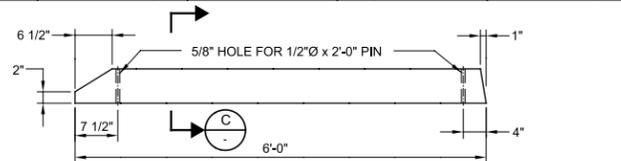
JOB NO. 8930A.11
DRAWING NO. CT02
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:03:35 AM

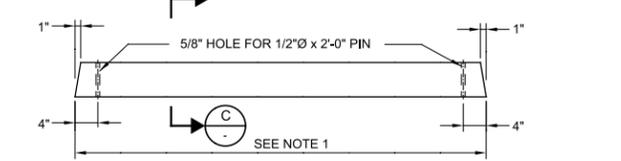
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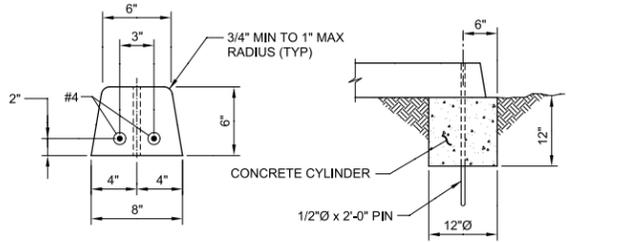
LAST SAVED BY: psanchez



A TYPE A SAFETY CURB



B TYPE B1, B2, AND B3 SAFETY CURB



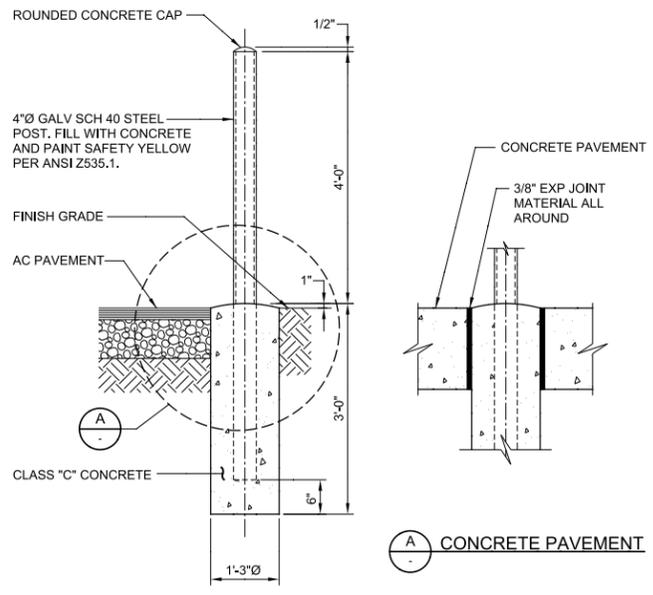
C SECTION

D DETAIL - INSTALLATION ON SOIL

NOTE:
1. TYPE B-1 = 3'-0"; TYPE B-2 = 4'-0"; AND TYPE B-3 = 6'-0".

C140 PRECAST SAFETY CURB
TYP

08/01/05

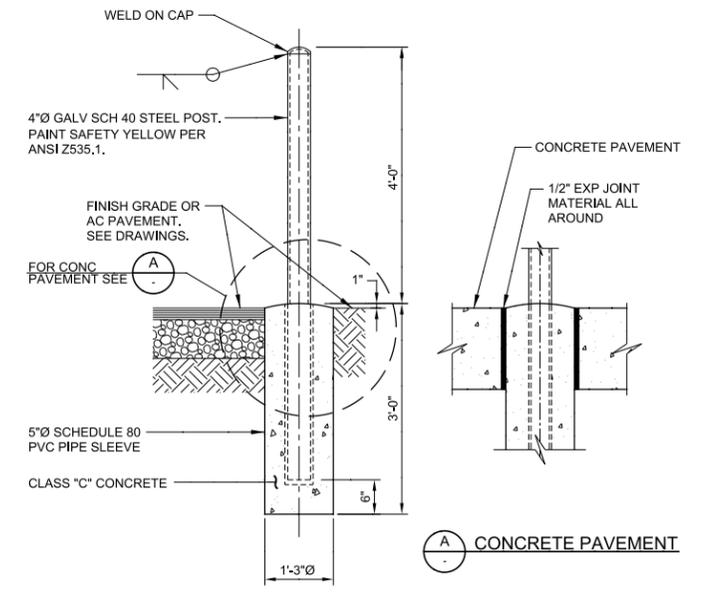


A CONCRETE PAVEMENT

AC PAVEMENT AND FINISH GRADE

C160 GUARD POST
TYP

08/01/05



A CONCRETE PAVEMENT

AC PAVEMENT AND FINISH GRADE

C161 REMOVABLE GUARD POST
TYP

06/25/13

REV	DATE	BY	DESCRIPTION

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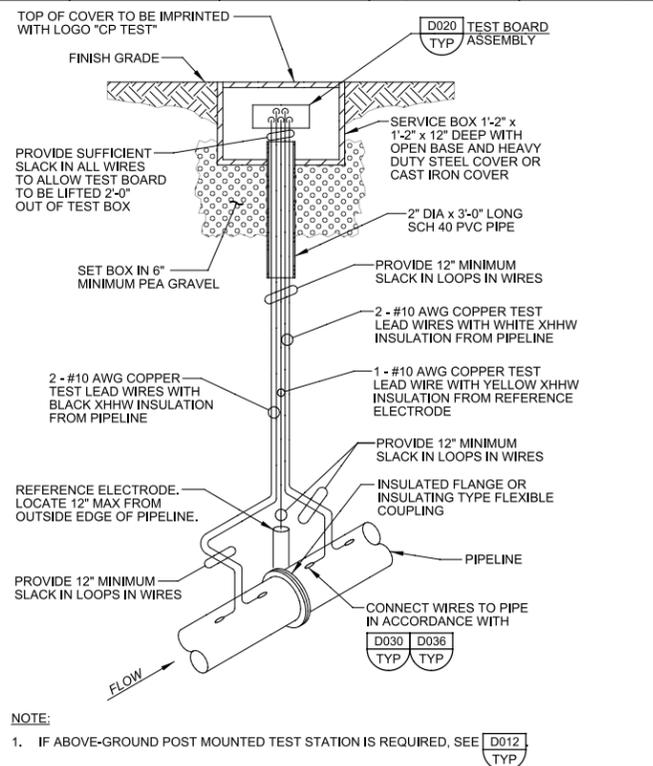
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DRAWING NO. CT03
SHEET NO. OF 549

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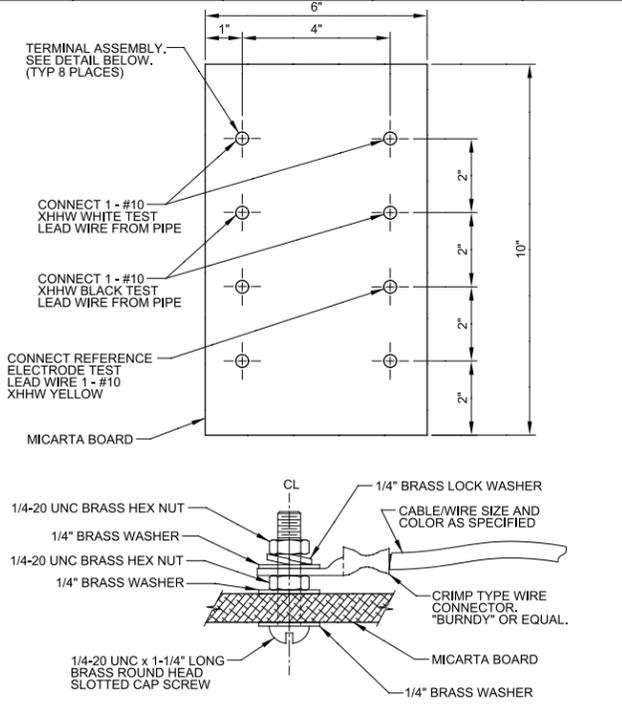
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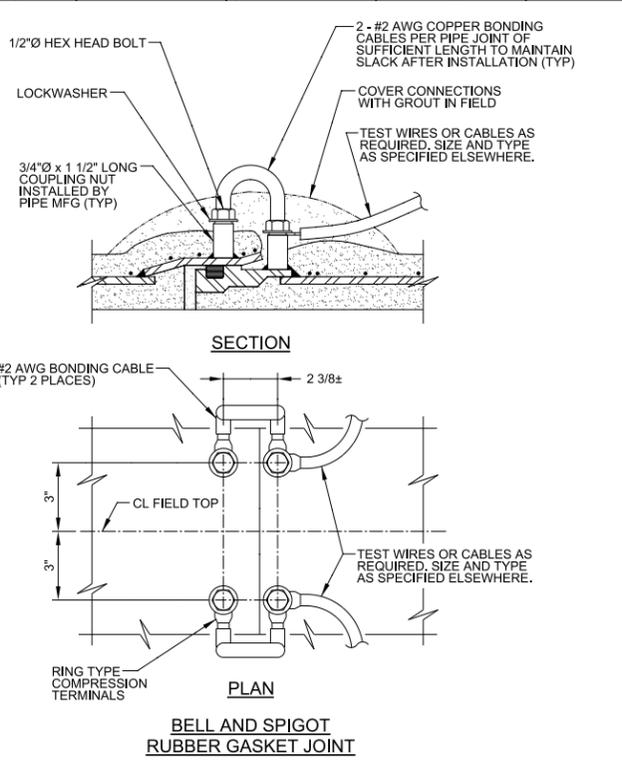
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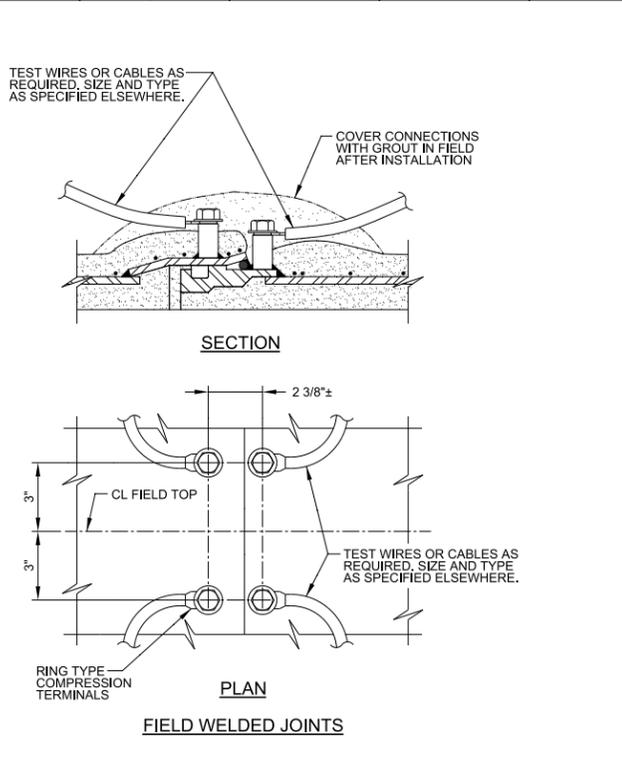
D002 CORROSION MONITORING TEST STATION - TYPE "I"
TYP
08/01/05



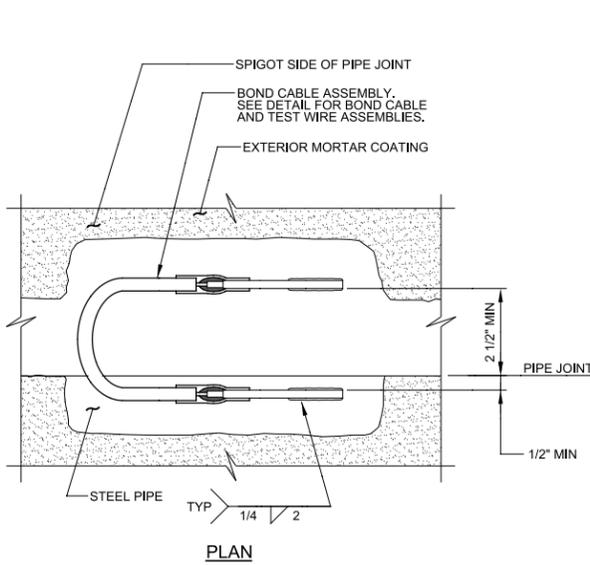
D021 TEST BOARD FOR TYPE "I" TEST STATION
TYP
08/01/05



D030 PIPE JOINT BONDING AND TEST LEAD CONNECTIONS FOR CCP
TYP
SHEET 1 OF 2
08/01/05

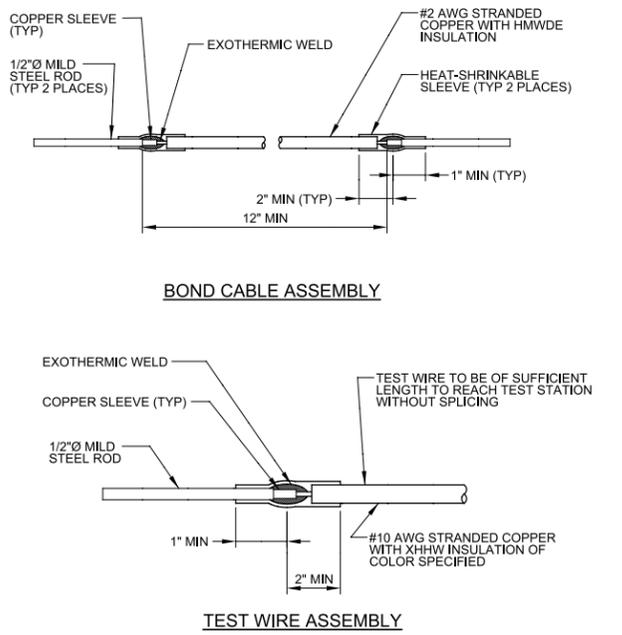


D030 PIPE JOINT BONDING AND TEST LEAD CONNECTIONS FOR CCP
TYP
SHEET 2 OF 2
08/01/05

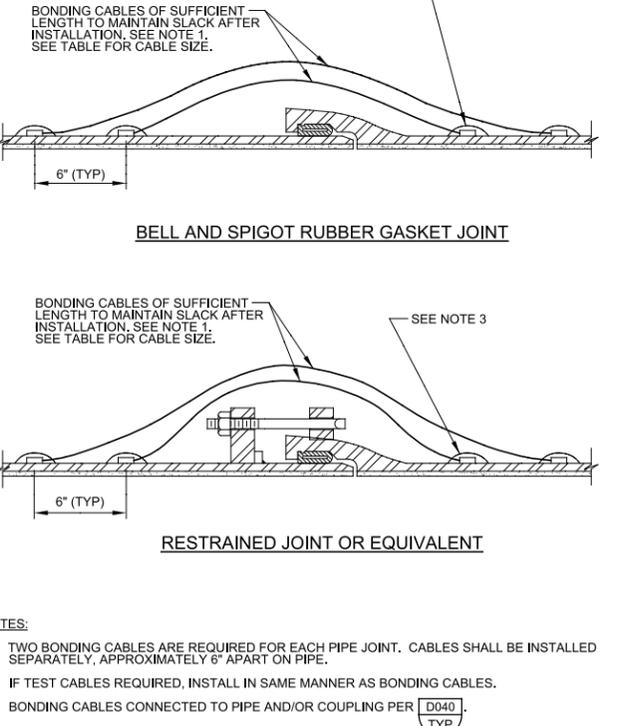


NOTES:
1. REMOVE SUFFICIENT AMOUNT OF MORTAR COATING TO WELD ROD TO STEEL PIPE SURFACE.
2. REPAIR AREA WITH ADEQUATE THICKNESS OF NEW MORTAR COATING.
3. TEST LEAD WIRES SHALL BE INSTALLED IN SAME MANNER.

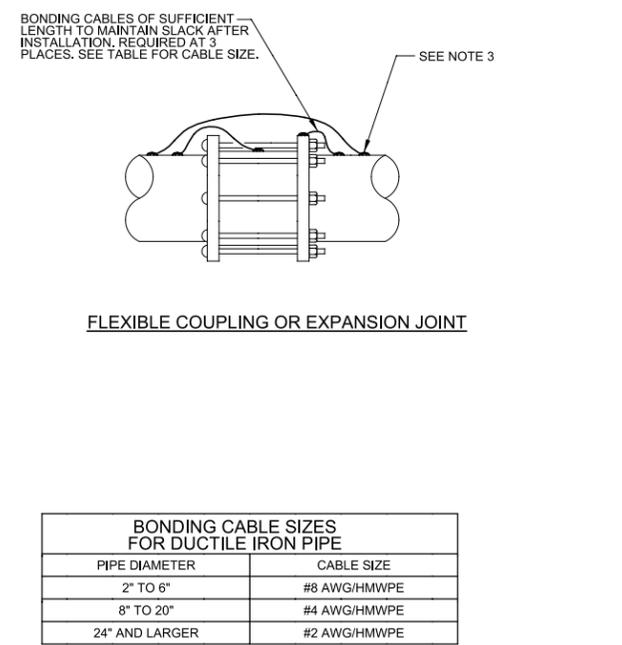
D032 PIPE JOINT BONDING AND TEST LEAD CONNECTIONS FOR MORTAR LINED AND COATED STEEL PIPE
TYP
SHEET 1 OF 2
12/14/05



D032 PIPE JOINT BONDING AND TEST LEAD CONNECTIONS FOR MORTAR LINED AND COATED STEEL PIPE
TYP
SHEET 2 OF 2
12/14/05



D036 BONDING OF DUCTILE IRON PIPE JOINTS AND FITTINGS
TYP
SHEET 1 OF 2
08/01/05



D036 BONDING OF DUCTILE IRON PIPE JOINTS AND FITTINGS
TYP
SHEET 2 OF 2
08/01/05

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TYPICAL DETAILS

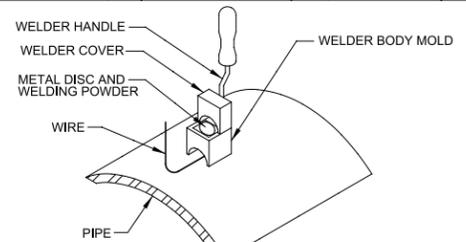
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BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. DT01
0 1"	SHEET NO. OF 549
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

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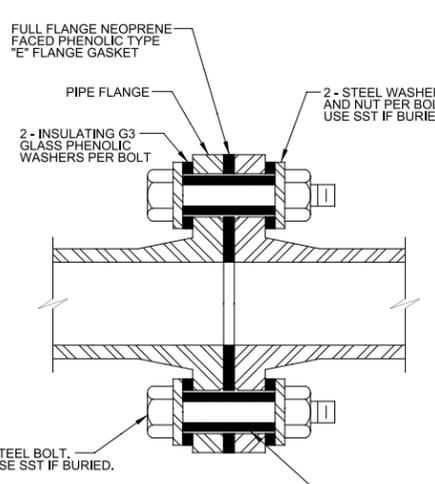
ISOMETRIC

INSTALLATION STEPS

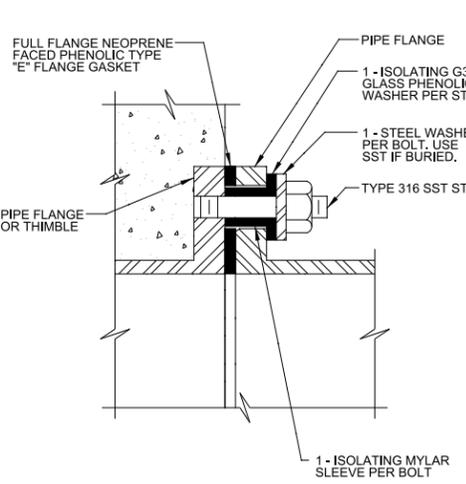
- FILE CONNECTION AREA (3" x 3") TO BARE SHINY METAL AND CLEAN.
- STRIP INSULATION FROM WIRE. INSTALL COPPER SLEEVE AS REQUIRED.
- HOLD WELDER FIRMLY WITH OPENING AWAY FROM FACE AND IGNITE WITH FLINT GUN. WEAR GLOVES TO PROTECT HANDS.
- REMOVE SLAG FROM CONNECTION AND PEEN WELD FOR SOUNDNESS.
- FOR CONNECTION TO MORTAR COATED STEEL PIPE, COVER CONNECTION WITH COAL TAR MASTIC BEFORE REPAIRING MORTAR COATING.
- FOR CONNECTIONS TO DUCTILE IRON PIPE, COVER CONNECTION WITH THERMIT WELD CAP, MAKING CERTAIN THAT ALL COPPER IS COVERED. COAT ENTIRE WELD AREA WITH COAL TAR MASTIC.

NOTE:
1. PLACE METAL DISC IN BOTTOM OF MOLD BEFORE POURING WELDING POWDER INTO MOLD.

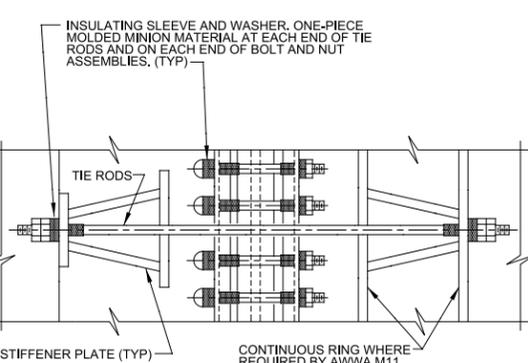
D040 EXOTHERMIC WELDING PROCEDURES CABLE TO PIPE CONNECTIONS
TYP
08/01/05



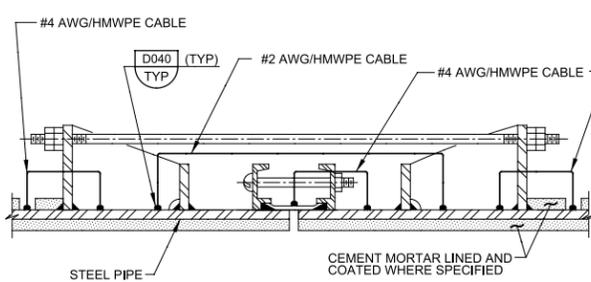
D062 PIPE FLANGE INSULATION
TYP
08/01/05



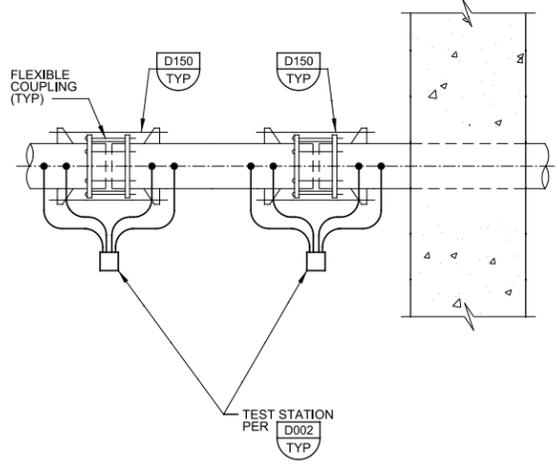
D064 PIPE FLANGE INSULATION
TYP
08/01/05



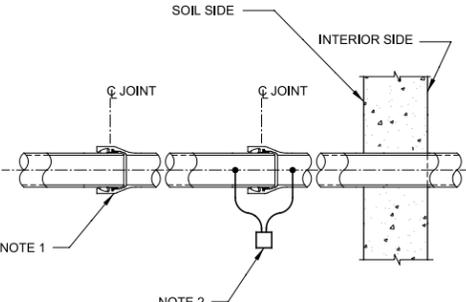
D150 INSULATING OF RESTRAINED FLEXIBLE COUPLING
TYP
08/01/05



D200 BONDING OF RESTRAINED FLEXIBLE COUPLING
TYP
08/01/05

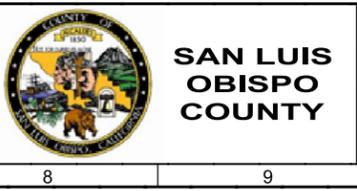
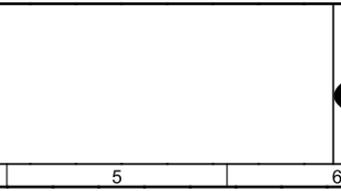


D301 CORROSION MONITORING FACILITIES FOR RESTRAINED STEEL PIPE FLEXIBLE CONNECTION AT WALL PENETRATION
TYP
10/12/11



D302 RESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION
TYP
10/13/11

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SAN LUIS OBISPO COUNTY
LOS OSOS WATER RECYCLING FACILITY PROJECT
CORROSION
TYPICAL DETAILS

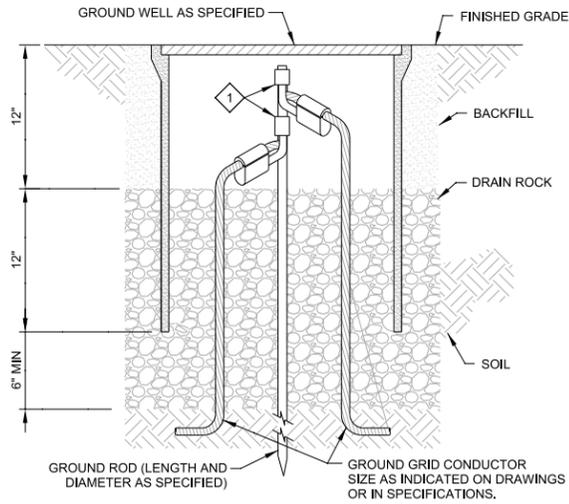
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BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. DT02
0 1"	SHEET NO. OF 549
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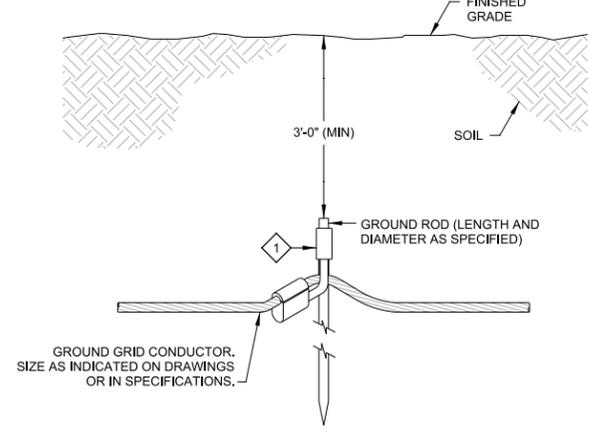
LAST SAVED BY: psanchez



KEY NOTES:

1 GROUND ROD TO GROUND GRID CROSS CONNECTOR, SIZE FOR ROD AND CABLE PER CONNECTOR MANUFACTURERS GUIDELINES.

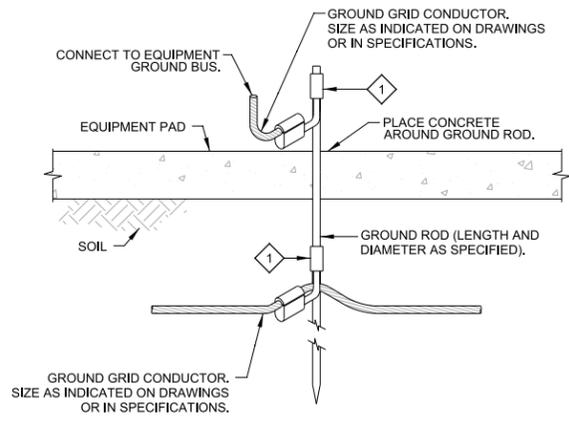
EG001
TYP
GROUND ROD AND GROUNDWELL
COMPRESSION CONNECTION



KEY NOTES:

1 GROUND ROD TO GROUND GRID CROSS CONNECTOR, SIZE FOR ROD AND CABLE PER CONNECTOR MANUFACTURERS GUIDELINES.

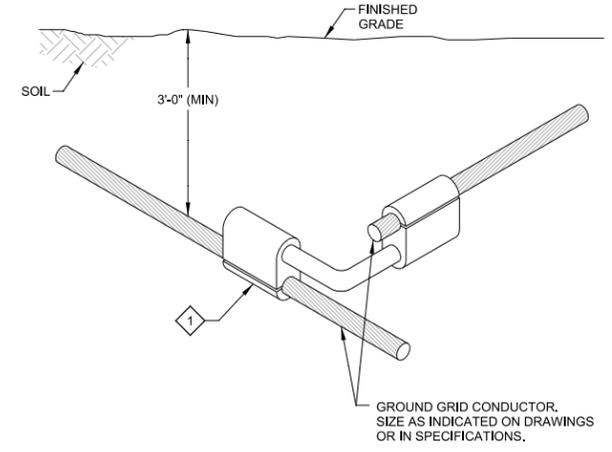
EG002
TYP
GROUND ROD
COMPRESSION CONNECTION



KEY NOTES:

1 GROUND ROD TO GROUND GRID CROSS CONNECTOR, SIZE FOR ROD AND CABLE PER CONNECTOR MANUFACTURERS GUIDELINES.

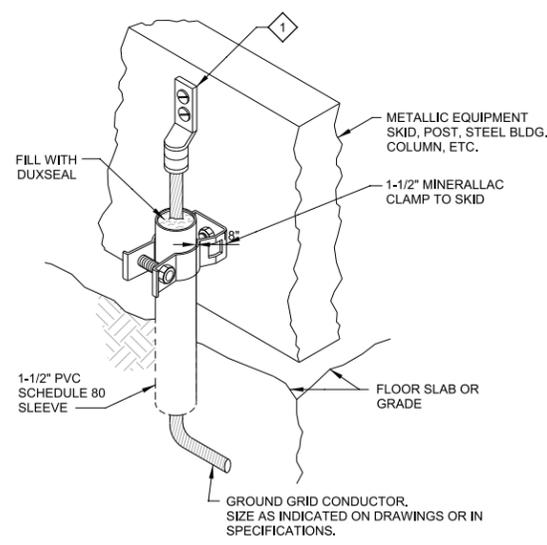
EG004
TYP
GROUND ROD IN EQUIPMENT PAD
COMPRESSION CONNECTION



KEY NOTES:

1 GROUND GRID CROSS CONNECTOR, SIZE FOR CABLE PER CONNECTOR MANUFACTURERS GUIDELINES.

EG101
TYP
COPPER GROUNDING CABLE CONNECTION
COMPRESSION CONNECTION



NOTES:

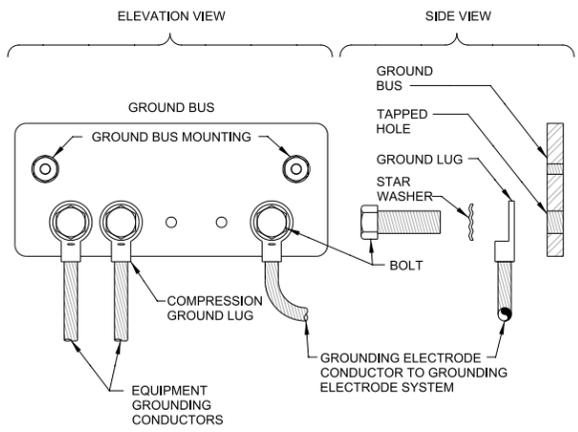
1. CLEAN ALL PAINTED SURFACES TO BARE METAL BEFORE BOLTING ON THE GROUND LUG.

2. NOTE: BOLT GROUND LUG ONLY TO EQUIPMENT SKIDS OR STRUCTURE, NOT TO EQUIPMENT OR TANK SHELLS.

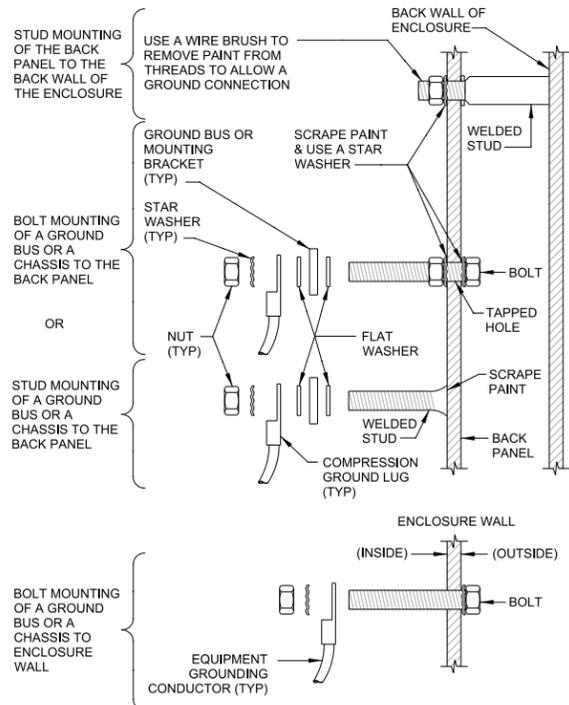
KEY NOTES:

1 HEAVY DUTY COMPRESSION TERMINAL.

EG201
TYP
EQUIPMENT SKID GROUNDING
COMPRESSION CONNECTION



EG204
TYP
GROUND BUS CONNECTIONS



EG205
TYP
ENCLOSURE GROUNDING DETAILS

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DATE	SEPT 2013

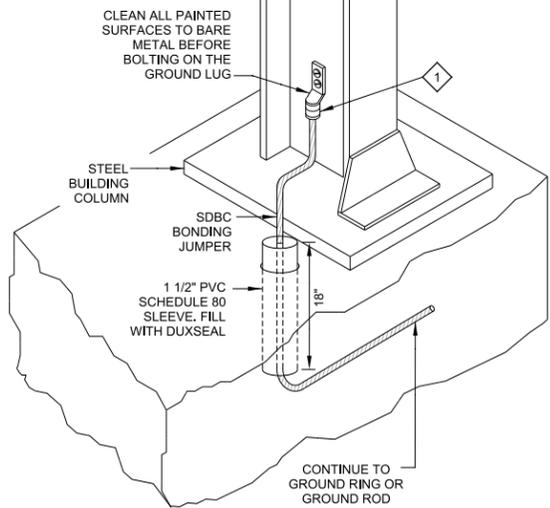


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LOS OSOS WATER RECYCLING FACILITY PROJECT
ELECTRICAL
TYPICAL DETAILS

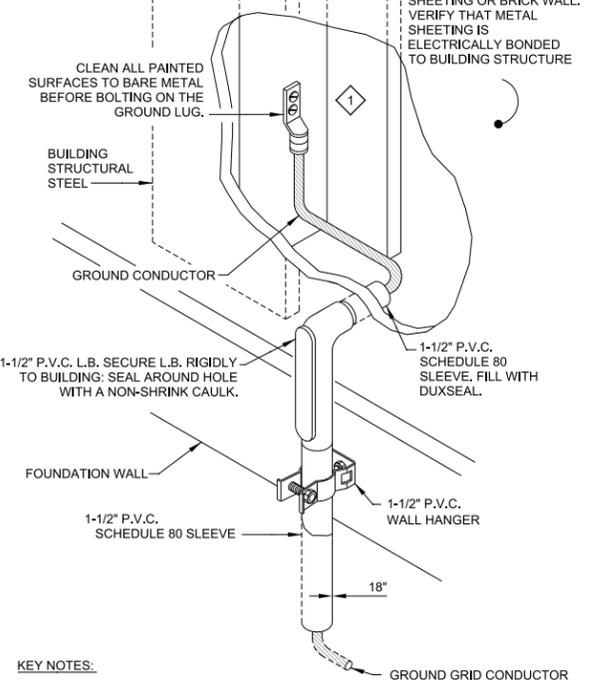
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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JOB NO. 8930A.11
DRAWING NO. ET01
SHEET NO. OF 549



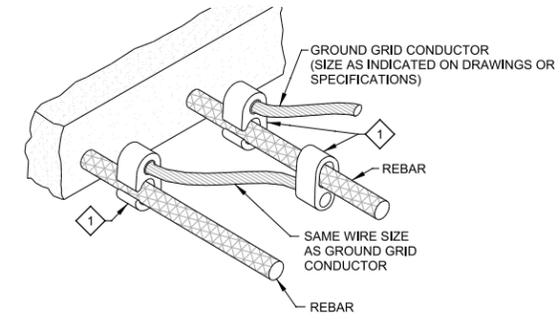
KEY NOTES:
 1 HEAVY DUTY COMPRESSION TERMINAL

EG301 BUILDING STRUCTURE GROUNDING
 TYP COMPRESSION CONNECTION



KEY NOTES:
 1 HEAVY DUTY COMPRESSION TERMINAL

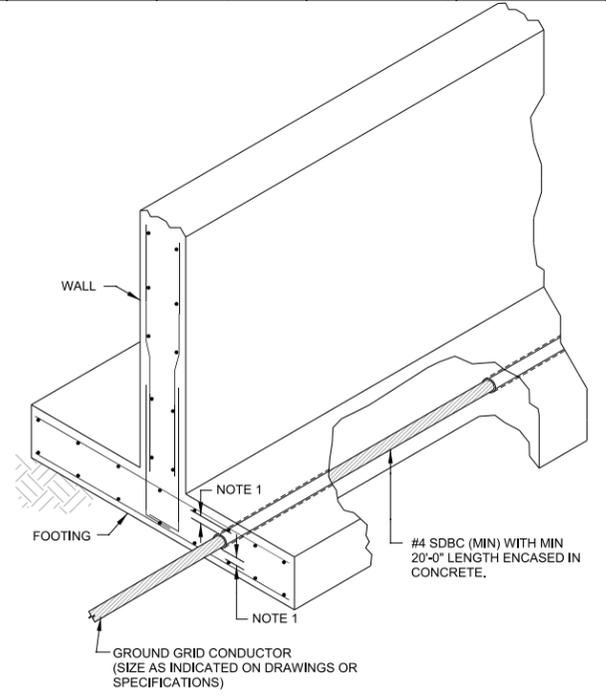
EG302 BUILDING STRUCTURE GROUNDING
 TYP COMPRESSION CONNECTION



NOTES:
 1. CLEAN RUST AND PROTECTIVE COATING FROM REBAR BEFORE CONNECTOR INSTALLATION TO PROVIDE GROUND CONNECTION. PRECRIMPING IS NOT REQUIRED.

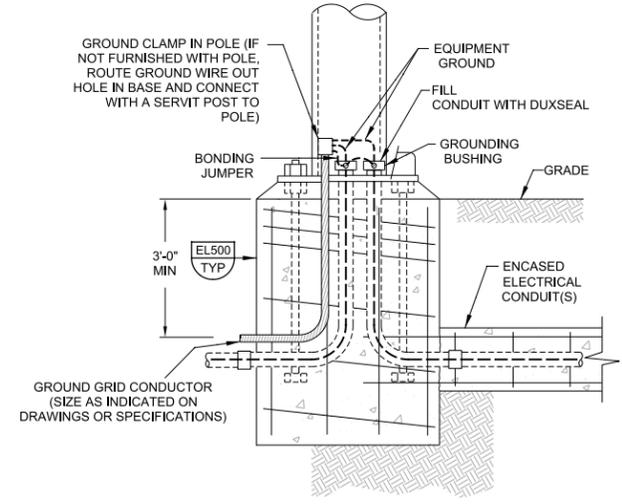
KEY NOTES:
 1 TAP/LAP SPLICE CONNECTOR

EG303 REBAR TO CABLE GROUNDING
 TYP COMPRESSION CONNECTION



NOTES:
 1. GROUND GRID CONDUCTOR TO BE FULLY ENCASED IN CONCRETE. PROVIDE MIN 1 1/2 inch CLEAR BETWEEN CONDUCTOR & REINFORCEMENT, OR BETWEEN CONDUCTOR AND FACE OF CONCRETE.

EG304 GROUNDING CONNECTION TO
 TYP FOOTING (UFER)



EG402 LIGHT POLE GROUNDING
 TYP INTERIOR

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REV	DATE BY DESCRIPTION
1	
2	
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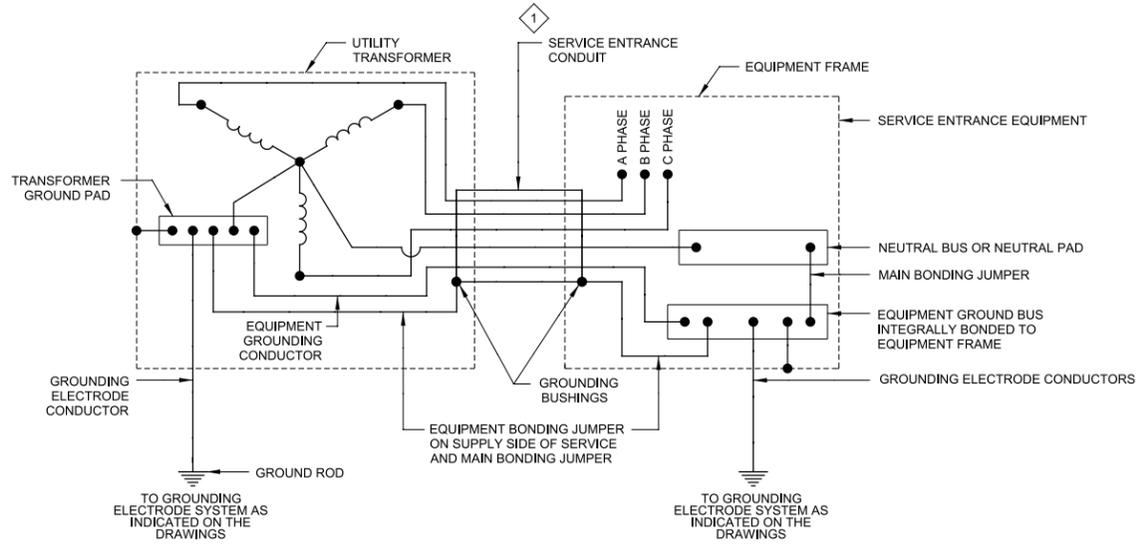
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Plot Date: 17-SEP-2013 11:04:31 AM

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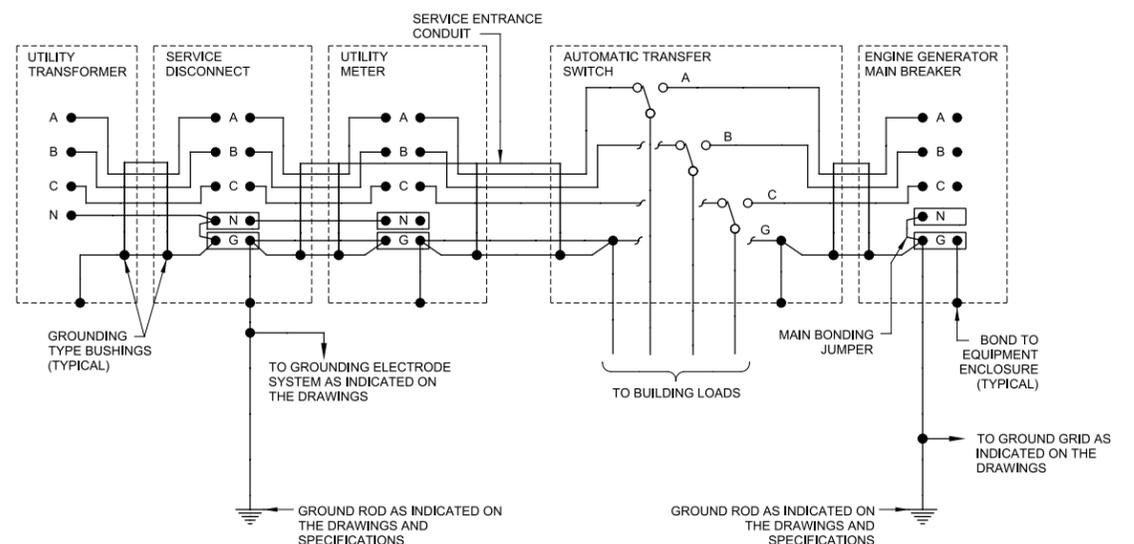
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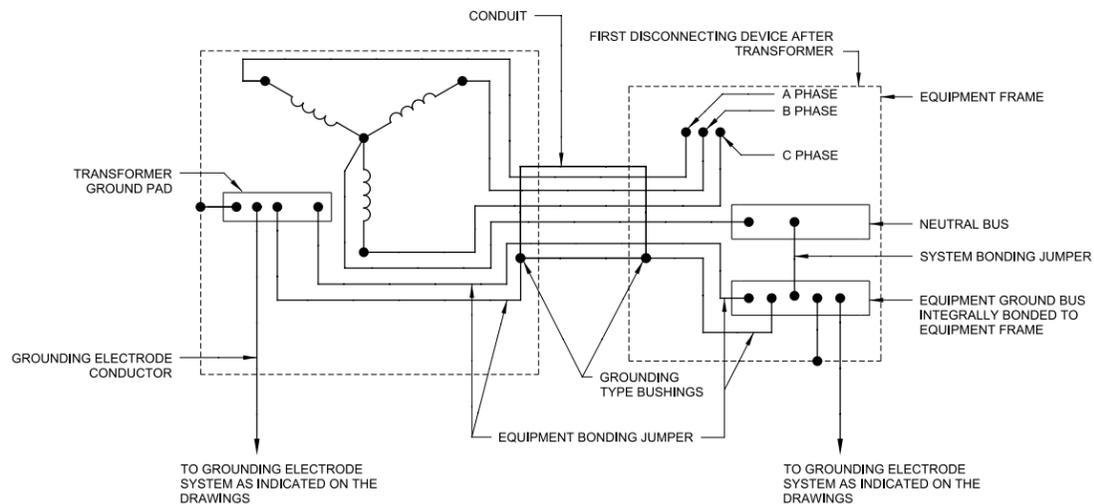


KEY NOTES:
 1 UTILITY METERING NOT SHOWN FOR CLARITY.

EG501 3-PHASE, 3 OR 4-WIRE UTILITY TRANSFORMER
 TYP SECONDARY, SOLIDLY GROUNDDED DETAIL



EG505 SECONDARY POWER, 3-PHASE, 4-WIRE,
 TYP SERVICE ENTRANCE COLD SEQUENCE METERING GROUNDING DETAIL



EG511 TRANSFORMER (NON-UTILITY) 3-PHASE, 4-WIRE
 TYP SECONDARY POWER GROUNDING DETAIL

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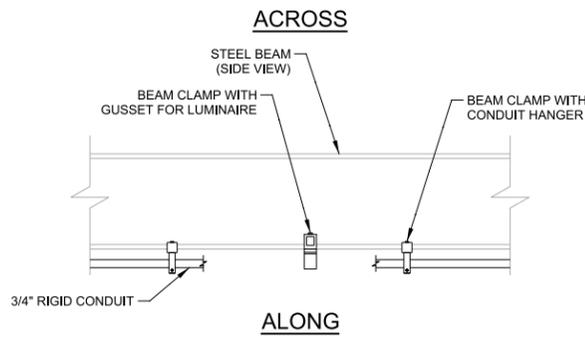
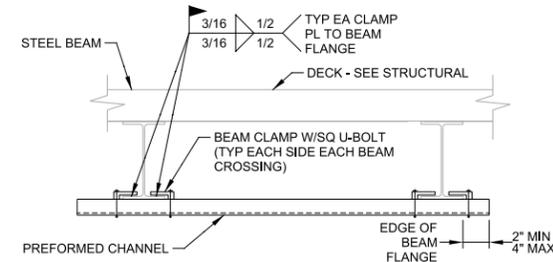
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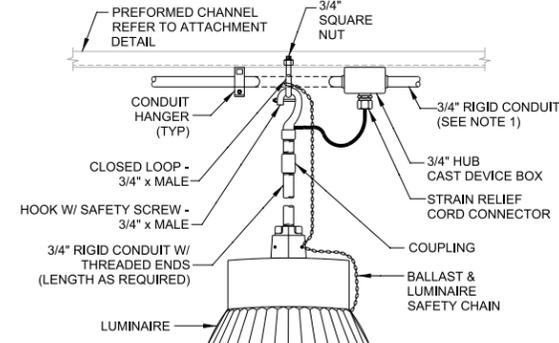
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LAST SAVED BY: psanchez

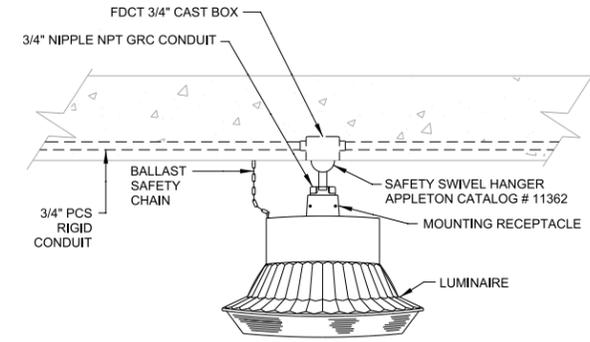


EL030 ATTACHMENT TO STEEL BEAMS
TYP

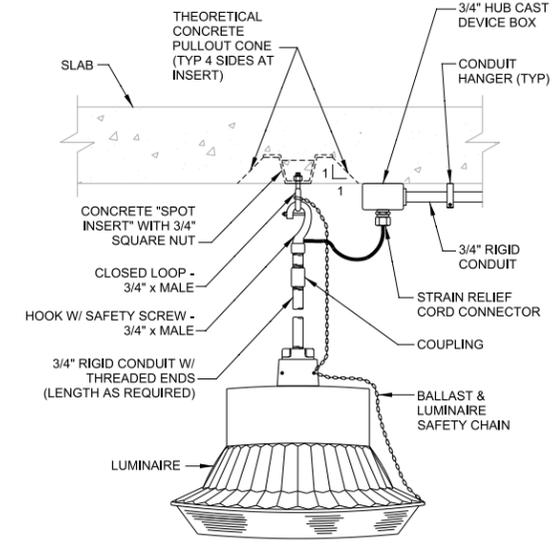


NOTES:
1. AT LUMINAIRE ATTACHMENT, PROVIDE CONDUIT BEND AROUND LUMINAIRE CLOSED LOOP ASSEMBLY.

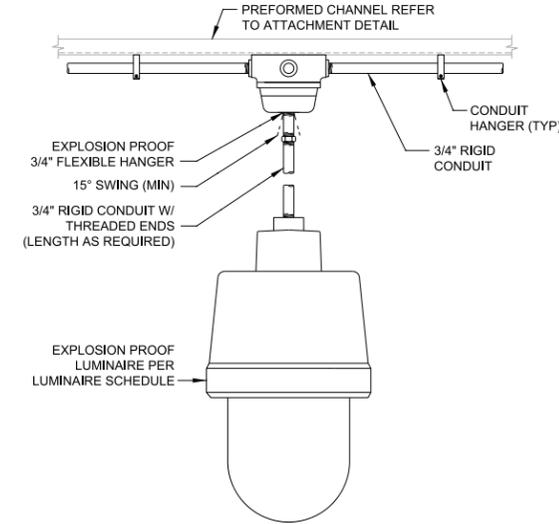
EL100 PENDANT LUMINAIRE MOUNTING
TYP



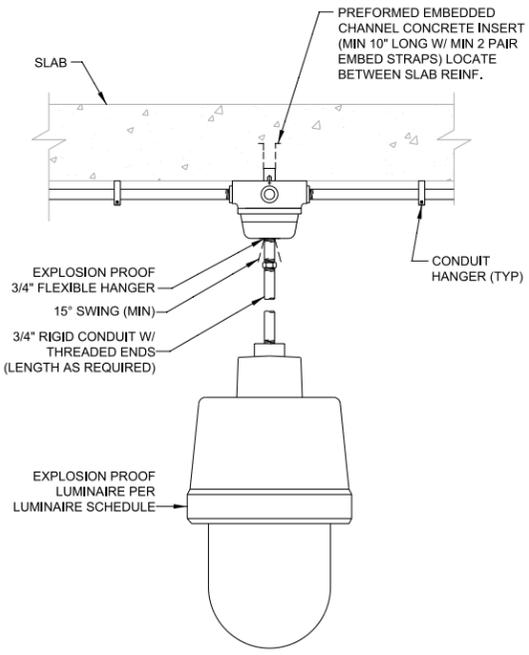
EL106 HID LUMINAIRE MOUNTING TO CONCRETE ROOF
TYP



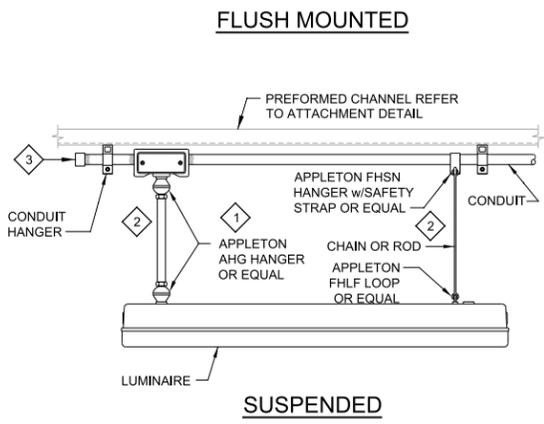
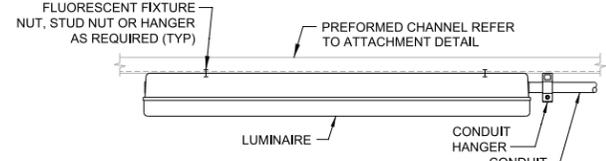
EL113 HID LUMINAIRE MOUNTING BELOW CONCRETE SLAB
TYP



EL150 EXPLOSION PROOF PENDANT LUMINAIRE MOUNTING
TYP



EL162 EXPLOSION PROOF HID LUMINAIRE MOUNTING BELOW CONCRETE SLAB
TYP



KEY NOTES:
1 USE MEYERS HUB IN WET AND/OR CORROSIVE AREAS.
2 LENGTH AS REQUIRED FOR INDICATED MOUNTING HEIGHT.
3 CAP END CONDUIT AS REQUIRED.

EL200 FLUORESCENT LUMINAIRE MOUNTING
TYP

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DATE	SEPT 2013
REV	DATE BY DESCRIPTION
1	
2	
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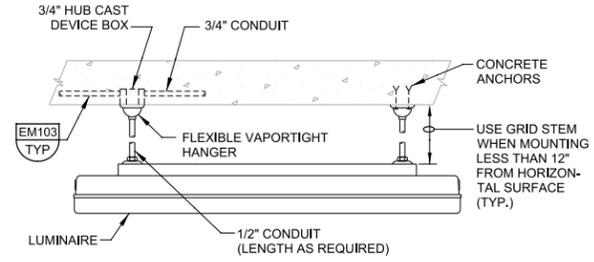
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SHEET NO. OF 549

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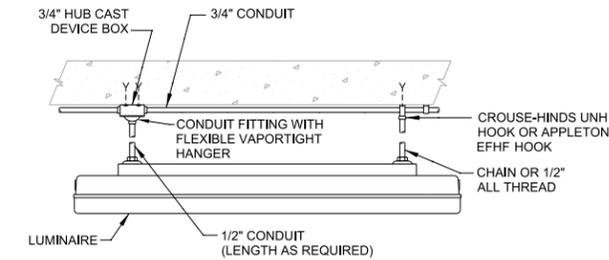
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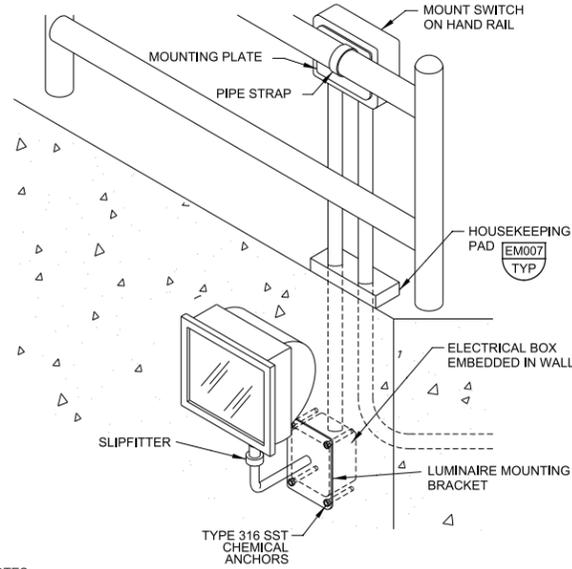


FOR CONCEALED CONDUIT



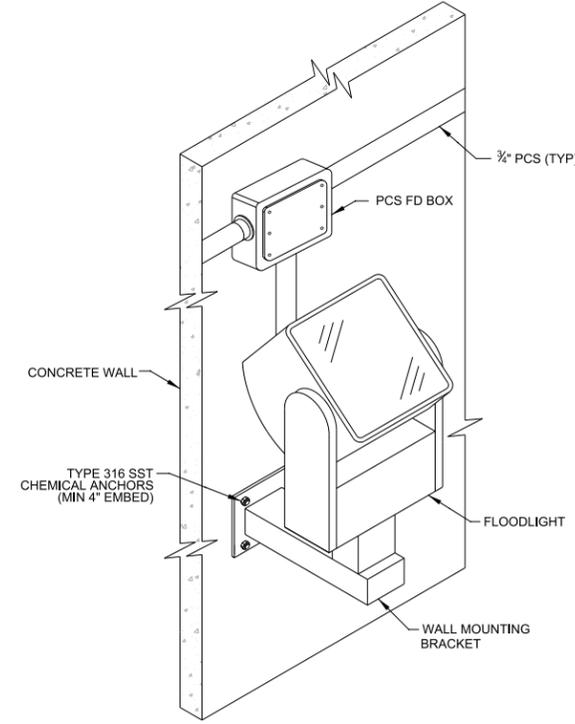
FOR EXPOSED CONDUIT

EL203 TYP S FLUORESCENT LUMINAIRE MOUNTING TO CONCRETE ROOF

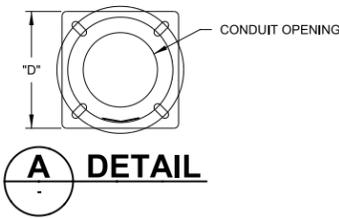


NOTES:
1. USE ONLY FOR LOCATIONS ABOVE NORMAL OPERATING WATER LEVEL.

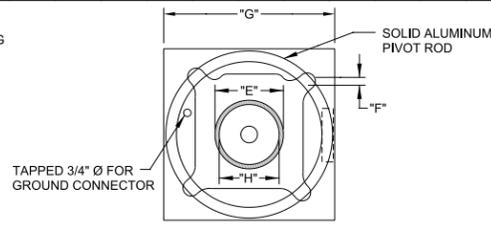
EL302 TYP S FLOODLIGHT LUMINAIRE MOUNTING TO BASIN WALL



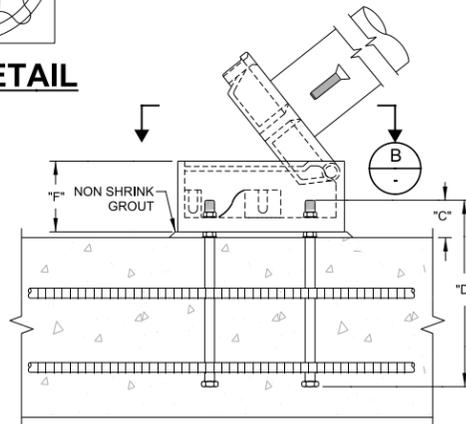
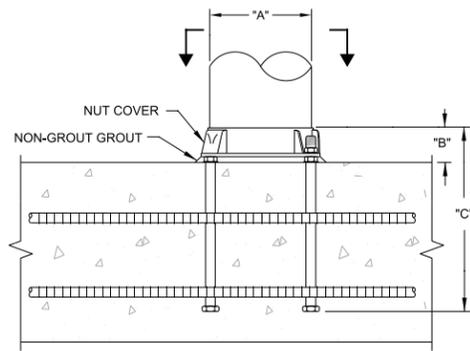
EL303 TYP S FLOODLIGHT LUMINAIRE MOUNTING TO CONCRETE WALL



A DETAIL



B DETAIL



"A" POLE DIAMETER	"B" BOLT PROJECTION	"C" BOLT SIZE	"D" BASE SIZE
4"	3 1/4"	3/4"-15"	8 1/2"
5"	3 1/4"	3/4"-15"	9"
6"	3 1/4"	3/4"-25"	10"

"E" BOLT PROJECTION	"F" POLE HEIGHT	"G" BOLT SIZE	"H" CONDUIT OPENING	"I" CONDUIT PROJECTION	"J" WIDTH
3"	8'-16"	3/4"-15"	3 1/2"	1 1/2"	10"
3"	10'-20"	3/4"-15"	4 1/2"	1 1/2"	10"
3"	12'-20"	3/4"-15"	4 1/2"	1 1/2"	10"
3"	20'	3/4"-25"	5 1/2"	1 1/2"	10"
3"	16'-20"	3/4"-25"	5 1/2"	1 1/2"	10"

EL502 TYP S ANCHOR BASE FOR LIGHT POLE MOUNTED ON SLAB

REV	DATE	BY	DESCRIPTION

DESIGNED	
DRAWN	
CHECKED	
DATE	SEPT 2013



SAN LUIS OBISPO COUNTY

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LOS OSOS WATER RECYCLING FACILITY PROJECT

ELECTRICAL
TYPICAL DETAILS

VERIFY SCALES
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0 1"
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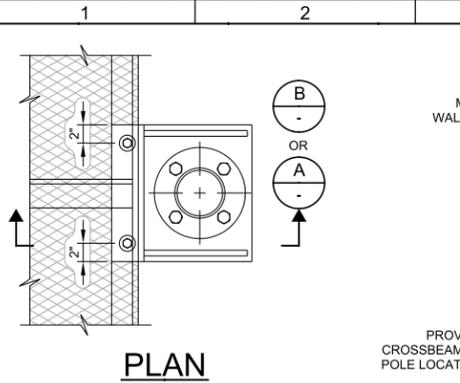
JOB NO. 8930A.11
DRAWING NO. ET05
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:05:00 AM

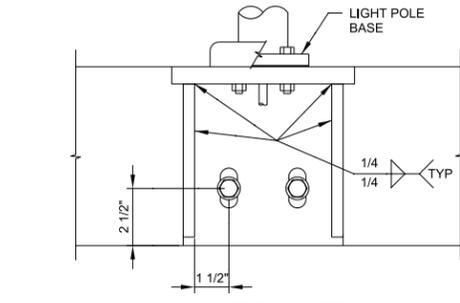
User: NGriffith

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 2:1

LAST SAVED BY: psanchez

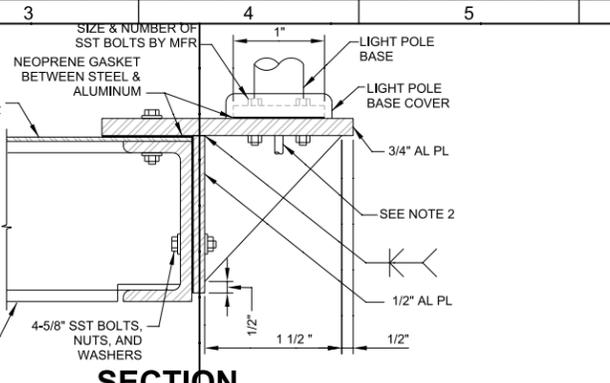


PLAN

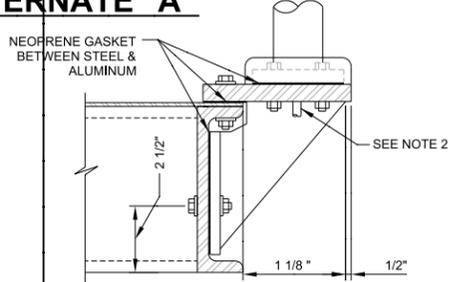


FRONT

EL504 LIGHTING POLE BRACKET ON METAL WALKWAY TYP S

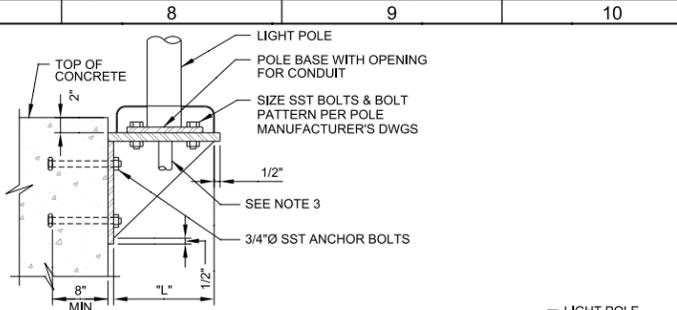


SECTION A ALTERNATE "A"

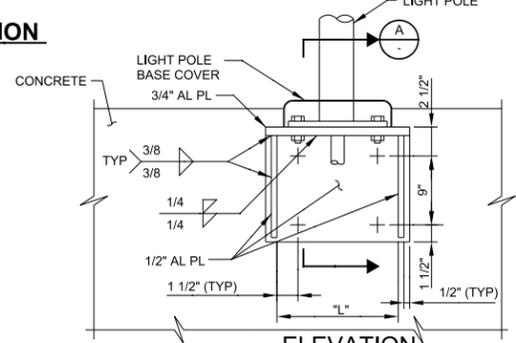


SECTION B ALTERNATE "B"

NOTE:
 1. FOR ADDITIONAL INFORMATION, SEE ALTERNATE "A".
 2. CONDUIT, SEE ELECTRICAL DRAWINGS FOR CONDUIT ROUTING, PROVIDE HOLE IN BRACKET TOP PLATE WITH HOLE DIAMETER EQUAL TO CONDUIT.



SECTION A

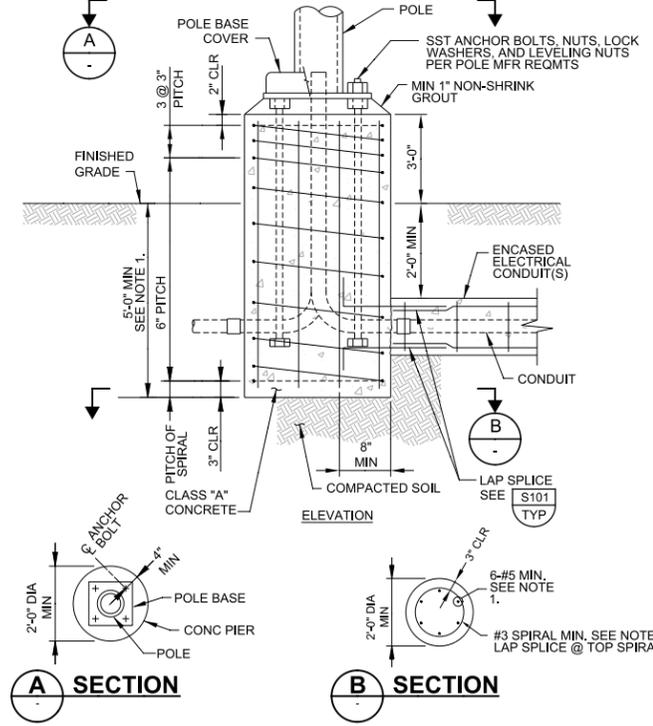


ELEVATION

NOTES:
 1. COAT AL SURFACES IN CONTACT WITH CONCRETE PER SPECIFICATIONS.
 2. "L" = LARGER OF OD OF LIGHT POLE BASE + 2", OD OF LIGHT POLE BASE COVER + 1", OR 12".
 3. CONDUIT, SEE ELECTRICAL DRAWINGS FOR CONDUIT ROUTING, PROVIDE HOLE IN BRACKET TOP PLATE WITH HOLE DIAMETER EQUAL TO CONDUIT OD + 1/2".

EL505 LIGHT POLE BRACKET ON CONCRETE TYP R

09/13/13

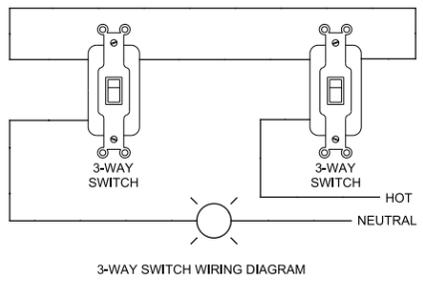


SECTION A

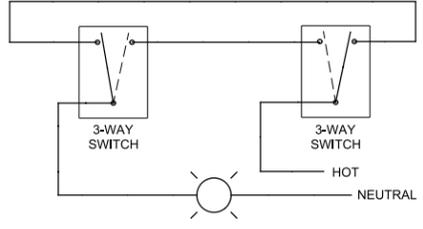
SECTION B

NOTES:
 1. USE MINIMUM DIMENSIONS AND REINFORCEMENT SHOWN UNLESS OTHERWISE NOTED.

EL506 POLE FOUNDATION TRAFFIC AREAS TYP S



3-WAY SWITCH WIRING DIAGRAM



EL700 3-WAY SWITCH ONE-LINE DIAGRAM TYP S

REV	DATE	BY	DESCRIPTION

DESIGNED
 DRAWN
 CHECKED
 DATE
 SEPT 2013



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VERIFY SCALES
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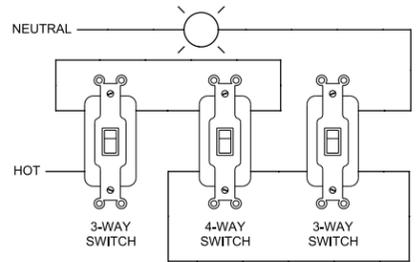
JOB NO. 8930A.11
 DRAWING NO. ET06
 SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:05:11 AM

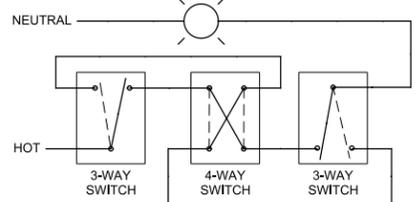
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Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 2:1

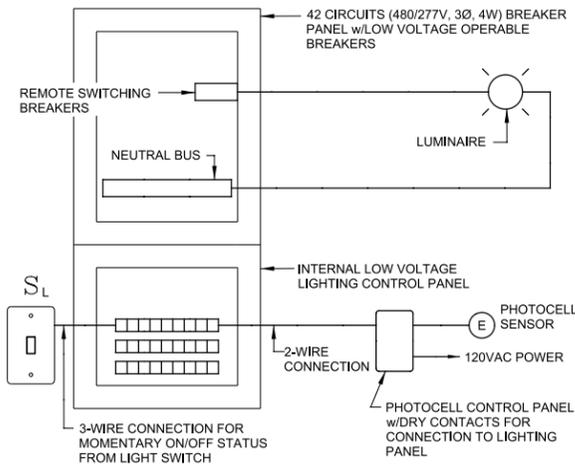
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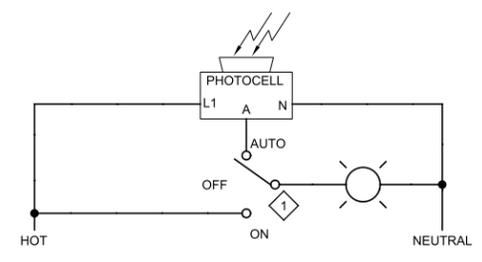
4-WAY SWITCH WIRING DIAGRAM



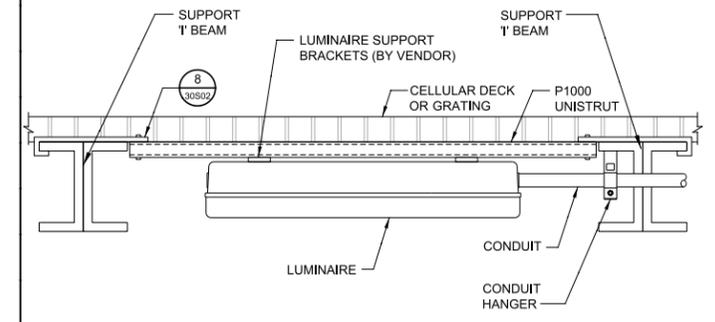
EL701 4-WAY SWITCH ONE-LINE DIAGRAM
TYP S



EL702 TYPICAL LIGHTING CONTROL SYSTEM
TYP S



KEY NOTES:
1 REFER TO THE SPECIFICATIONS FOR SWITCH REQUIREMENTS.
EL703 PHOTO-ELECTRIC EYE CONTROL
TYP S



EL900 FLOURESCENT LUMINAIRE SUSPENDED DIRECTLY UNDER CELLAR DECK OR GRATING
TYP R
09/13/13

REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED
IRV
DRAWN
PS
CHECKED
RAM
DATE
SEPT 2013



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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

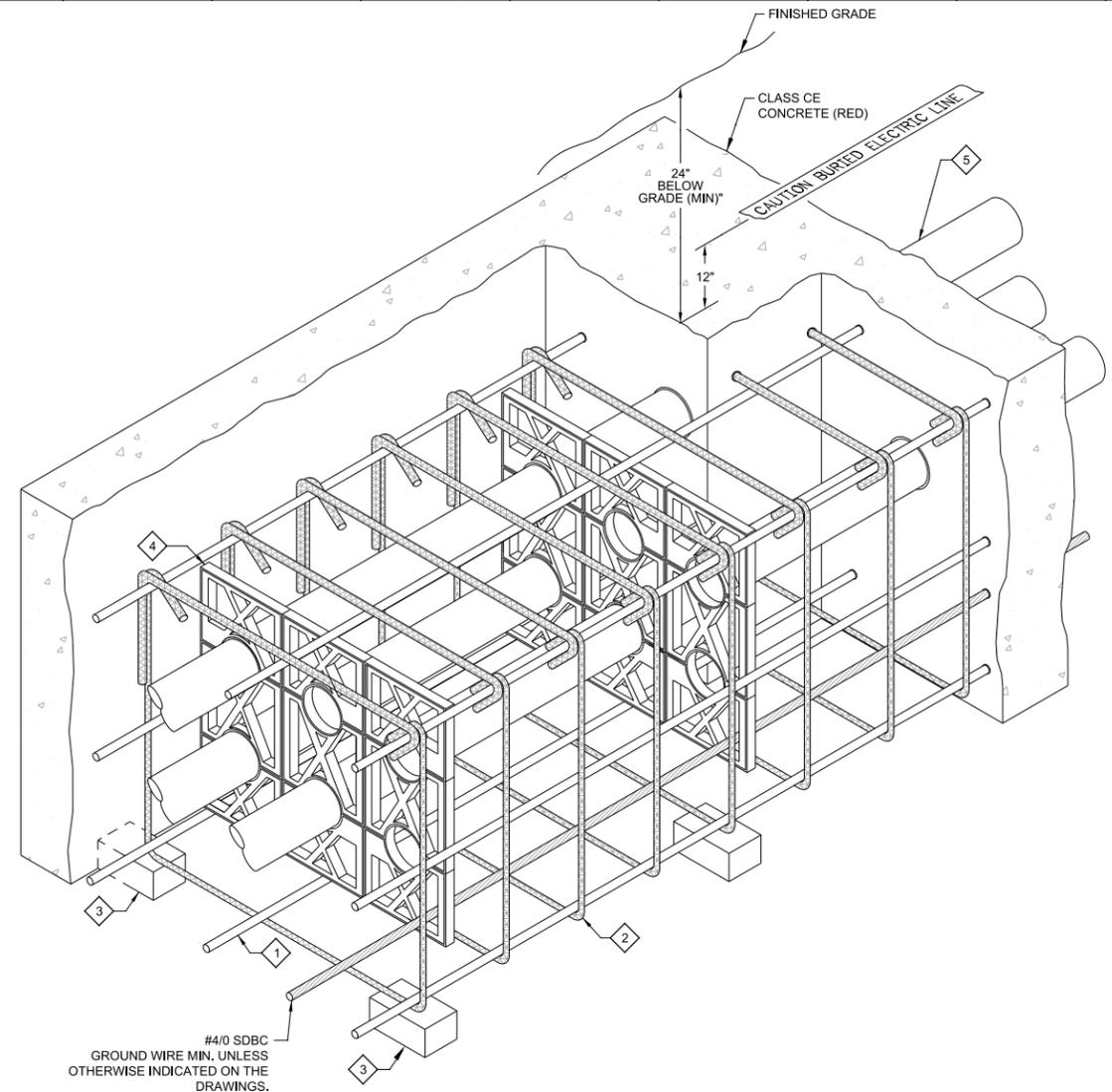
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8930A.11
DRAWING NO.
ET07
SHEET NO.
OF 549

Plot Date: 17-SEP-2013 11:05:20 AM

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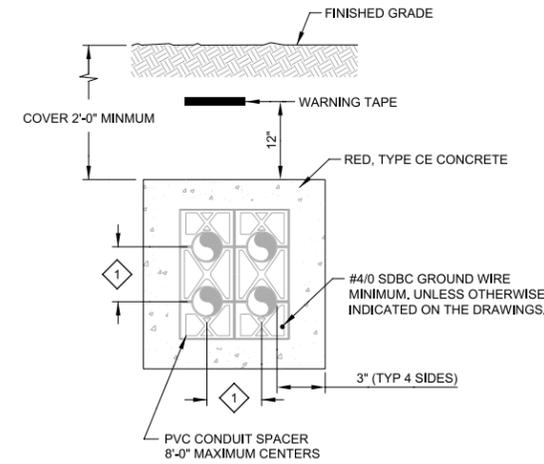
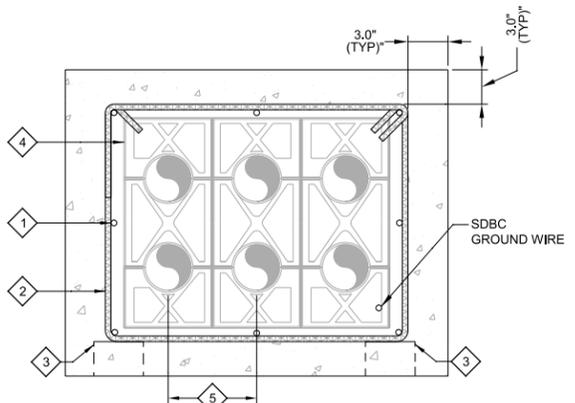
LAST SAVED BY: psanchez



#4/0 SDBC
GROUND WIRE MIN. UNLESS
OTHERWISE INDICATED ON THE
DRAWINGS.

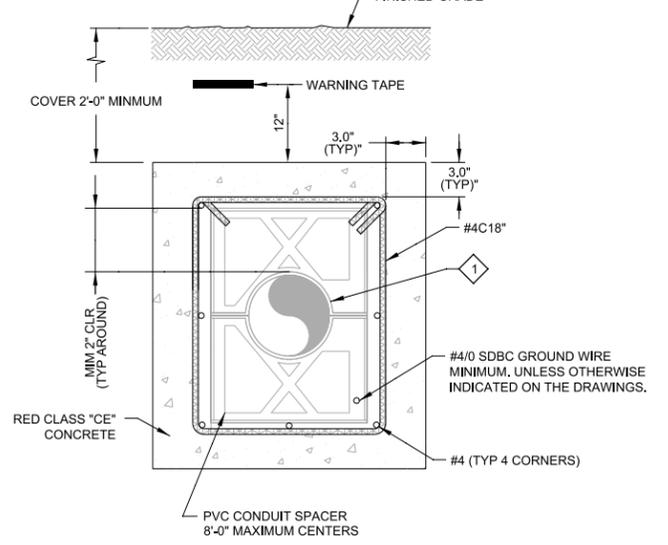
- NOTES:**
- DIMENSIONS SHOWN ARE MINIMUM.
 - ADJUST SIZE OF DUCT BANK BASED UPON THESE GUIDELINES AND THE DUCT BANK SPECIFICATION TO ACCOMMODATE ACTUAL NUMBER OF CONDUITS WITHIN DUCT BANK. REFER TO DUCT BANK SECTIONS, AND CONDUIT SCHEDULE FOR NUMBER AND SIZE OF CONDUITS.
 - MAKE PROVISIONS TO PREVENT CONDUIT FLOTATION DURING CONCRETE PLACEMENT & CURING.
- KEY NOTES:**
- #4 REINFORCING STEEL 12" MAXIMUM ON CENTER AROUND ENTIRE PERIMETER OF DUCT BANK.
 - #4 REINFORCING STEEL STIRRUPS MAXIMUM 24" ON CENTER ALONG LENGTH OF DUCT BANK.
 - MINIMUM OF TWO PRECAST CONCRETE BAR SUPPORTS PLACED UNDER A STIRRUP AT EACH PVC CONDUIT SPACER ALONG LENGTH OF DUCT BANK.
 - PVC CONDUIT SPACERS ON 8'-0" CENTERS (MAXIMUM) LOCATE 12" FROM STIRRUPS.
 - REFER TO DUCT BANK SECTIONS AND CONDUIT SCHEDULES FOR CONDUIT REQUIREMENTS.

EM001 REINFORCED CONCRETE DUCT BANK
TYP



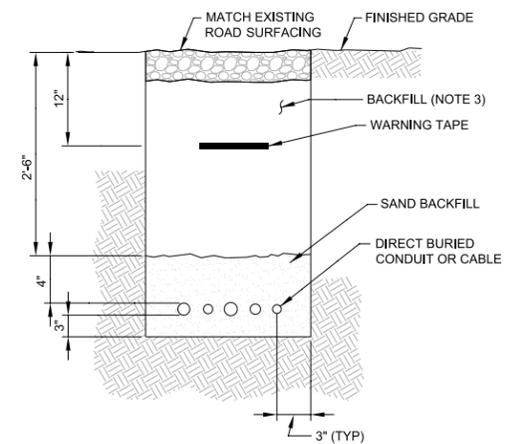
- NOTES:**
- DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - THIS ENCASMENT ONLY, WHERE SPECIFICALLY INDICATED ON THE DRAWINGS.
 - STAKE DOWN DUCT BANK PRIOR TO POURING CONCRETE TO PREVENT CONDUITS FROM FLOATING. AT A MINIMUM, PROVIDE STAKES ON EACH SIDE OF EVERY CONDUIT SPACER.
- KEY NOTES:**
- REFER TO DUCTBANK AND CONDUIT SCHEDULE FOR CONDUIT REQUIREMENTS.

EM010 UNREINFORCED ENCASMENT
FOR ELECTRICAL CONDUITS
TYP



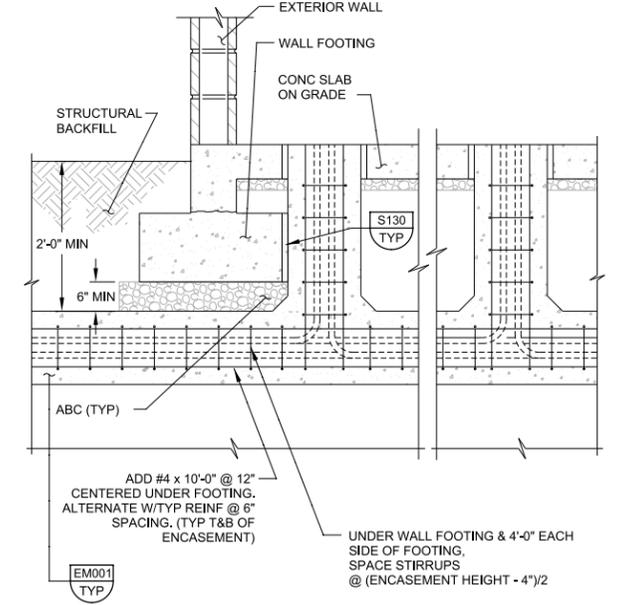
- KEY NOTES:**
- REFER TO DUCTBANK SECTIONS FOR CONDUIT REQUIREMENTS.

EM011 REINFORCED CONCRETE DUCKBANK
WITH SINGLE CONDUIT
TYP



- NOTES:**
- ALL DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - REFER TO SPECIFICATION 16133 FOR TRENCH BACKFILL REQUIREMENTS.
 - IF BAY MUD IS ENCOUNTERED, EXCAVATE AND OFF HAUL BAY MUD AND BACKFILL TO UNDERSIDE OF ROAD SURFACING WITH LIGHTWEIGHT MATERIAL PER SPECIFICATION 02056.

EM015 DIRECT BURIED CONDUIT OR CABLE
TYP



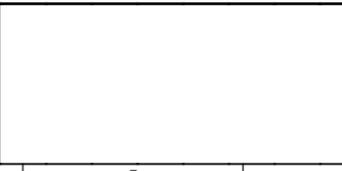
ADD #4 x 10'-0" @ 12" CENTERED UNDER FOOTING. ALTERNATE W/TYP REINF @ 6" SPACING. (TYP T&B OF ENCASMENT)

UNDER WALL FOOTING & 4'-0" EACH SIDE OF FOOTING, SPACE STIRRUPS @ (ENCASMENT HEIGHT - 4")/2

EM030 ENCASED ELECTRICAL CONDUITS
LOCATED UNDER STRUCTURES
(EXTERIOR)
TYP

REV	DATE	BY	DESCRIPTION

DESIGNED IRV	
DRAWN PS	
CHECKED RAM	
DATE SEPT 2013	



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**ELECTRICAL
TYPICAL DETAILS**

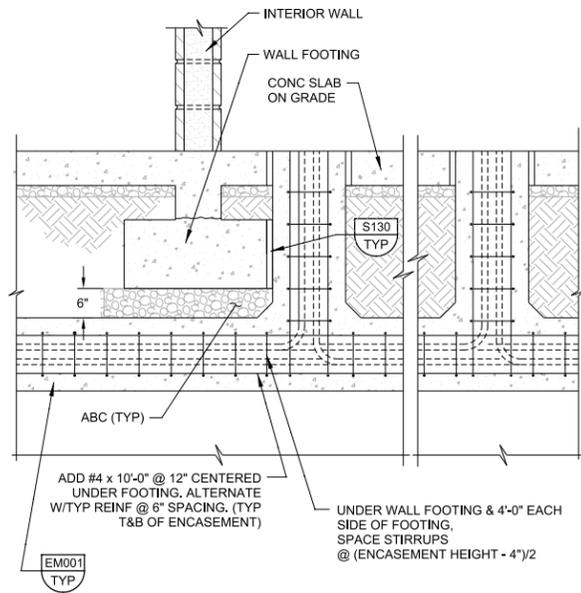
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING	JOB NO. 8930A.11
0 1"	DRAWING NO. ET08
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:05:31 AM

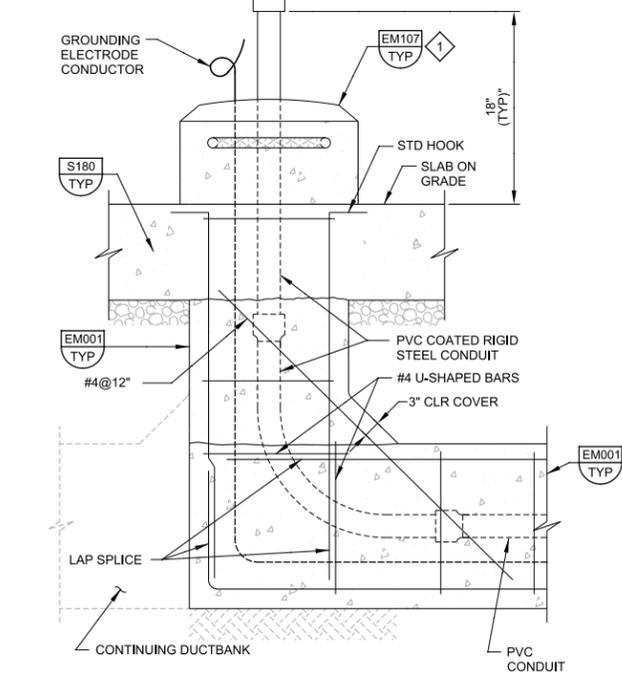
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Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 2:1

LAST SAVED BY: psanchez

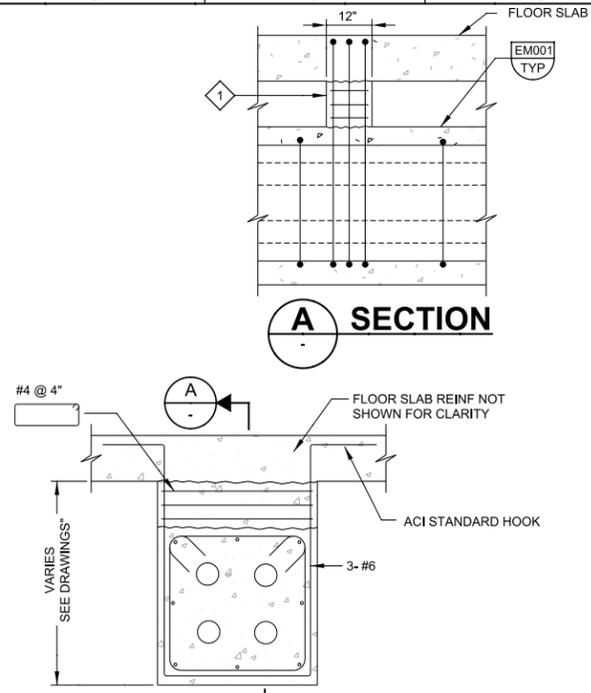


EM031
TYP
ENCASED ELECTRICAL CONDUITS
LOCATED UNDER STRUCTURES
(INTERIOR)



KEY NOTES:
1 PROVIDE CONDUIT HOUSE KEEPING CURB AT ALL LOCATIONS WHERE THE CONDUIT IS NOT PROTECTED BY AN EQUIPMENT PAD.

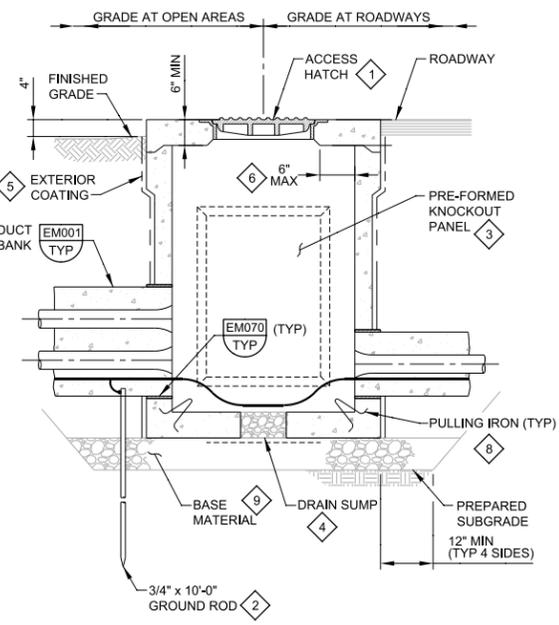
EM033
TYP
RISER FROM DUCTBANK
SLAB ON GRADE



KEY NOTES:
1 MAXIMUM SPACING BETWEEN ENCASEMENT SUPPORTS UNDER SLABS IS 10'-0".

EM041
TYP
DUCTBANK SUPPORTED
UNDER SLABS FOR PILE SUPPORTED
STRUCTURES

09/13/13



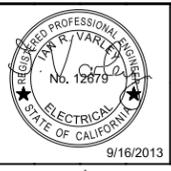
NOTES:
1. PROVIDE MINIMUM INTERIOR DIMENSIONS AS SHOWN IN THE ELECTRICAL HANDHOLE AND MANHOLE SCHEDULE (MAXIMUM INTERIOR DIMENSIONS: 48" WIDE x 48" LONG x 48" DEEP)
2. BOND ALL METALLIC ITEMS INSIDE HANDHOLE TO GROUND ROD USING #4 AWG BARE COPPER CABLE.
3. SEE DRAWINGS FOR ORIENTATION, NUMBER, AND SIZE OF DUCT BANKS AT EACH HANDHOLE.

KEY NOTES:
1 PROVIDE 36" Ø EMBEDDED TOP FLANGE FRAME AND MANHOLE COVER.
2 BOND DUCT BANK AND INTERIOR GROUND CABLE TO GROUND ROD LOCATED OUTSIDE OF DUCT BANK. REFER TO SECTION 16060 FOR CONNECTION REQUIREMENTS.
3 INSTALL DUCT BANKS ONLY THROUGH CAST-IN OPENINGS OR PREFORMED KNOCKOUT PANELS. PROVIDE KNOCKOUTS ON EACH WALL AROUND HANDHOLE.
4 PROVIDE MINIMUM 4 INCH DIAMETER, GRAVEL FILLED PENETRATION THROUGH FLOOR OF HANDHOLE. SET SUMP OPENING OVER MINIMUM 18" SQUARE FILTER FABRIC TO ISOLATE GRAVEL FROM BASE MATERIAL BELOW.
5 COAT EXTERIOR WALLS BELOW GRADE WITH BITUMINOUS DAMPPROOFING.
6 MAXIMUM TOP SLAB OVERHANG IS TYPICAL AROUND 4 SIDES OF HANDHOLE.
7 GROUNDING CABLE CONNECTION AS SPECIFIED IN SECTION 16060.
8 PROVIDE ONE PULLING IRON ON EACH WALL OF HANDHOLE.
9 BASE MATERIAL: PROVIDE MIN 12" COMPACTED AGGREGATE BASE COURSE.

EM058
TYP
ELECTRICAL HANDHOLE:
PRECAST CONCRETE W/ MANHOLE COVER

REV	DATE	BY	DESCRIPTION

DESIGNED IRV	
DRAWN PS	
CHECKED RAM	
DATE SEPT 2013	



**SAN LUIS
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COUNTY**

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LOS OSOS WATER RECYCLING FACILITY PROJECT

**ELECTRICAL
TYPICAL DETAILS**

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JOB NO.
8930A.11
DRAWING NO.
ET09
SHEET NO.
OF 549

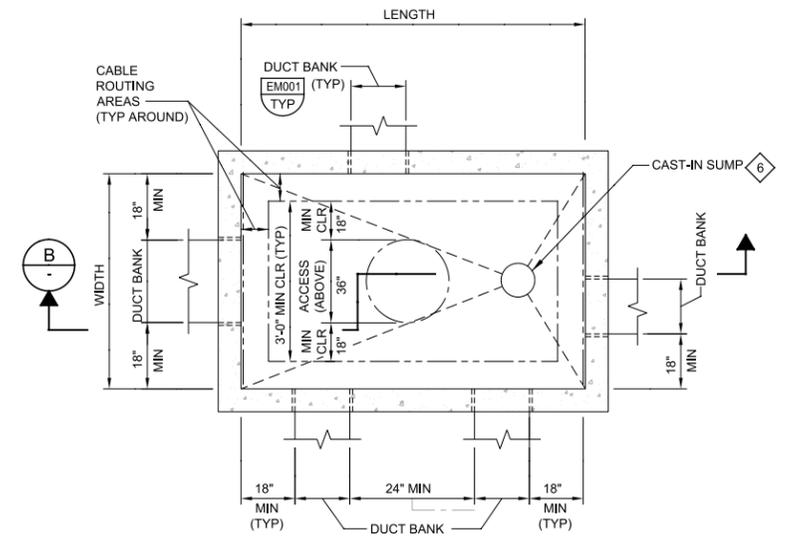
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 LAST SAVED BY: psanchez

NOTES:

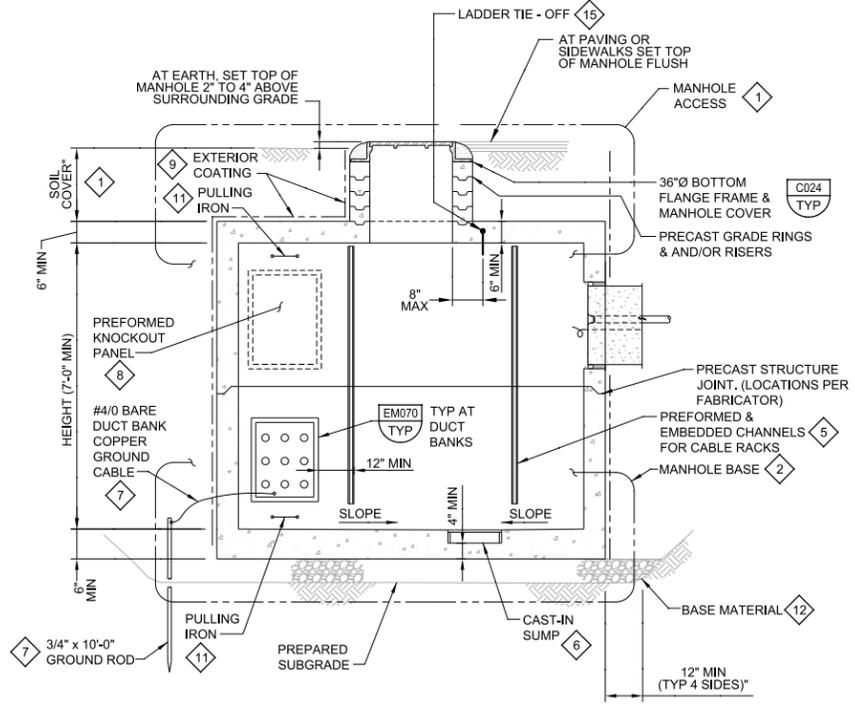
1. PROVIDE MINIMUM INTERIOR DIMENSIONS AS SHOWN IN THE ELECTRICAL HANDHOLE AND MANHOLE SCHEDULE.
2. PROVIDE MANHOLE ALTERNATES (TOP OR BASE) AS SHOWN IN THE HANDHOLE AND MANHOLE SCHEDULE.
3. BOND ALL METALLIC ITEMS INSIDE MANHOLE TO GROUND ROD USING #4 AWG BARE COPPER CABLE.
4. SEE DRAWINGS FOR ORIENTATION, NUMBER, AND SIZE OF DUCT BANKS AND PENETRATIONS AT EACH MANHOLE.
5. RACK MEDIUM VOLTAGE CABLES USING PORCELAIN INSULATOR CLAMPS SEE TYPICAL DETAIL EM076.

KEY NOTES:

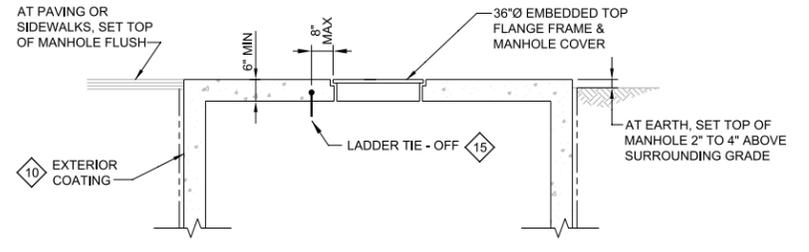
- 1 MANHOLE ACCESS FOR BURIED MANHOLE SHOWN IN SECTION B. FOR MANHOLES WITH EXPOSED TOP SLAB, SEE SECTION C (ALTERNATE 1).
- 2 STANDARD MANHOLE BASE SHOWN. FOR MANHOLES WITH DEEPER SUMP OR CONCRETE BALLAST TO RESIST FLOTATION, SEE SECTION D (ALTERNATE 2).
- 3 NOT USED.
- 4 NOT USED.
- 5 SPACE EMBEDDED CHANNELS TO CLEAR DUCT BANK KNOCKOUTS AND MAXIMUM 24" ON CENTER AROUND PERIMETER OF MANHOLE.
- 6 MINIMUM 12" DIAMETER x MIN 2" DEEP SUMP WITH REMOVABLE SLOTTED COVER. LOCATE SUMP OUTSIDE VERTICAL ACCESS CORRIDOR BELOW MANHOLE COVER.
- 7 BOND DUCT BANK AND INTERIOR GROUND CABLE TO GROUND ROD. SEE SPECIFICATIONS FOR CONNECTION REQUIREMENTS.
- 8 INSTALL DUCT BANKS ONLY THROUGH CAST-IN OPENINGS OR PREFORMED KNOCKOUT PANELS. PROVIDE KNOCKOUTS ON EACH WALL AROUND MANHOLE.
- 9 BURIED MANHOLE: COAT EXTERIOR WALLS AND BURIED TOP SLAB OF MANHOLE WITH BITUMINOUS DAMPPROOFING.
- 10 EXPOSED TOP SLAB: COAT EXTERIOR WALLS OF MANHOLE WITH BITUMINOUS DAMP PROOFING. LEAVE EXPOSED TOP SLAB UNCOATED.
- 11 PROVIDE ONE PULLING IRON ON EACH WALL ABOVE OR BELOW EACH DUCT BANK PENETRATION.
- 12 BASE MATERIAL: PROVIDE MIN 12" COMPACTED AGGREGATE BASE COURSE.
- 13 MINIMUM 24" DIAMETER SUMP WITH REMOVABLE SLOTTED COVER. LOCATE SUMP OUTSIDE VERTICAL CORRIDOR BELOW MANHOLE COVER.
- 14 SEE SPECIFICATIONS FOR CAST-IN-PLACE CONCRETE FULL MIXING, PLACING, FINISHING AND CURING REQUIREMENTS.
- 15 AT ONE SIDE OF MANHOLE ACCESS, PROVIDE LADDER TIE - OFF PER DETAIL E.



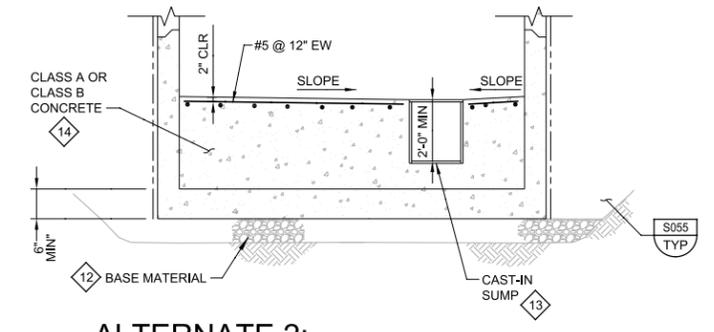
A PLAN - LAYOUT



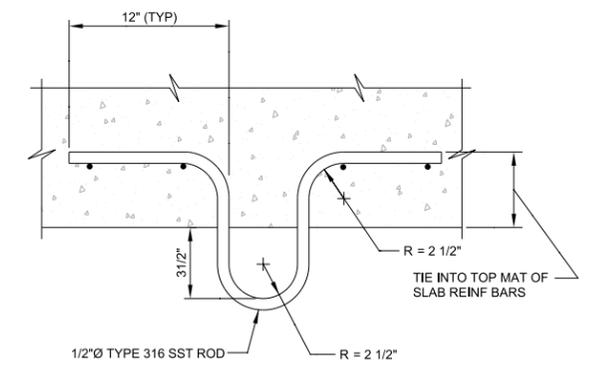
B SECTION



**ALTERNATE 1:
SECTION - EXPOSED TOP SLAB**



**ALTERNATE 2:
SECTION - BASE WITH SUMP OR BALLAST**

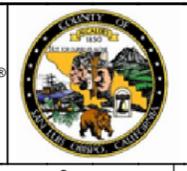


E LADDER TIE-OFF

EM062 ELECTRICAL MANHOLE:
TYP PRECAST CONCRETE

REV	DATE	BY	DESCRIPTION

DESIGNED	
DRAWN	
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DATE SEPT 2013	



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 0 1"
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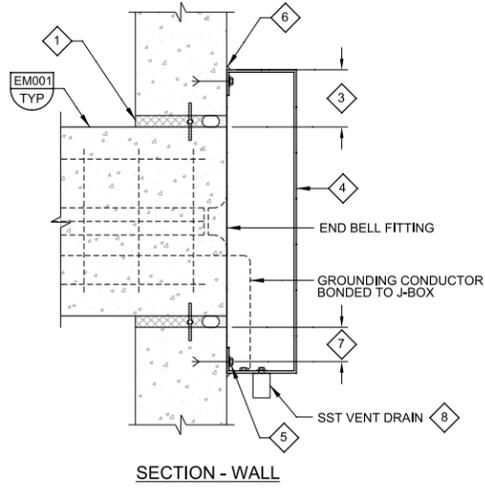
JOB NO. 8930A.11
 DRAWING NO. ET10
 SHEET NO. OF 549

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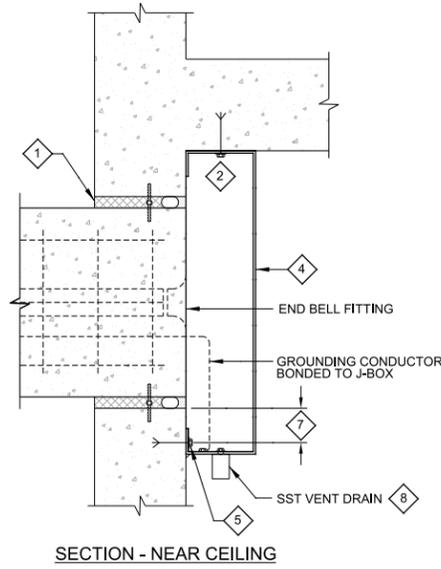
User: NGriffith

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 2:1

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SECTION - WALL

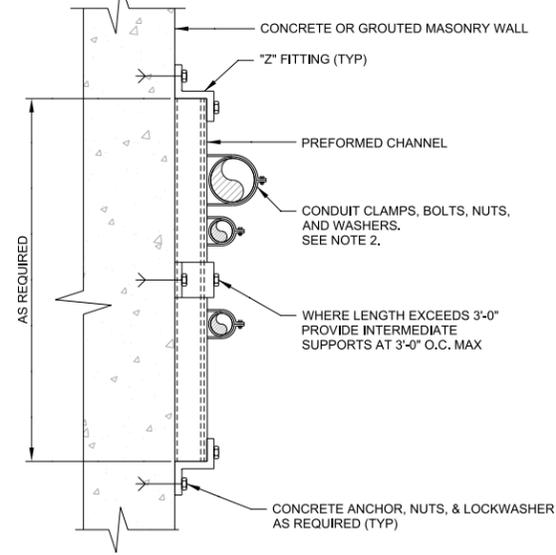


SECTION - NEAR CEILING

KEY NOTES:

- 1 EM070 OR EM071 AS INDICATED ON THE DRAWINGS.
- 2 WHERE SPACE ABOVE DUCT BANK OPENING DOES NOT ALLOW FOR 3 INCH SPACING BETWEEN BOLTS AND OPENING, EXTEND BOX TO CEILING AND ANCHOR TO CEILING.
- 3 5" MINIMUM OVERLAP BOX TO DUCT BANK (TYPICAL AROUND).
- 4 J-BOX WITH OPEN BACK SIZE PER N.E.C., NEMA TYPE PER AREA CLASSIFICATION.
- 5 3/8" SST CONCRETE ANCHOR (TYPICAL) ON 6" CENTERS, MINIMUM 4" EMBED.
- 6 CAULK JOINT BETWEEN BOX AND CONCRETE (TYPICAL ALL SIDES).
- 7 3" MINIMUM DISTANCE BETWEEN CENTER LINE OF ANCHOR BOLTS AND DUCT BANK OPENING. THIS WILL DETERMINE MINIMUM SIZE OF J-BOX.
- 8 WHERE DUCT BANK IS FLAT OR SLOPES TOWARD STRUCTURE, PROVIDE SST NEMA 4X J-BOX AND SST VENT DRAIN.

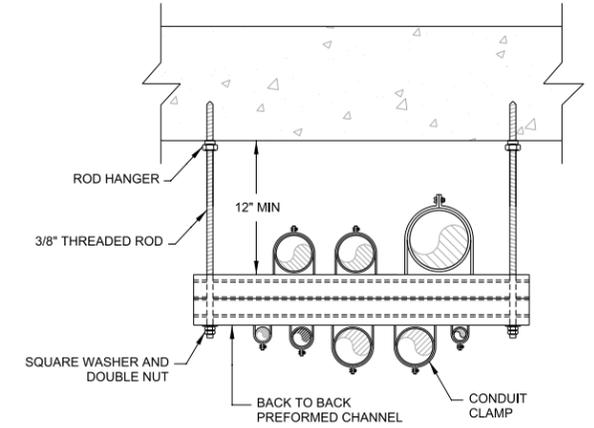
EM075 JUNCTION BOX/PULL BOX AT DUCT BANK ENTRY INTO STRUCTURE



NOTES:

- 1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
- 2. MATERIAL FOR PREFORMED CHANNEL, FITTINGS, AND CLAMPS SHALL BE PER THE SPECIFICATIONS.
- 3. SUPPORTS TO BE SPACED IN ACCORDANCE WITH NEC REQUIREMENTS FOR THE SMALLEST CONDUIT ATTACHED.

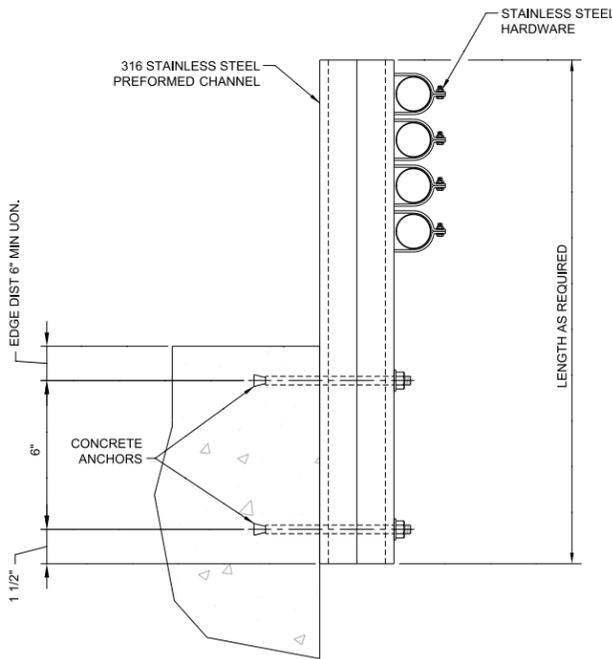
EM101 CONDUIT SUPPORT



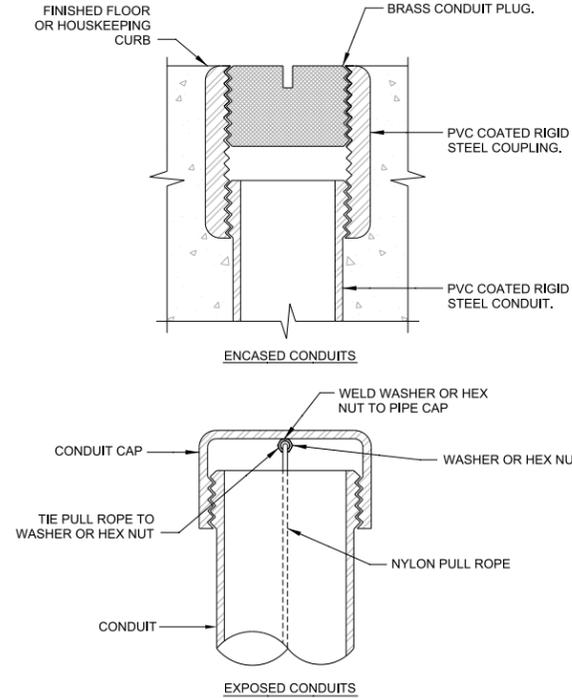
NOTES:

- 1. FILL UPPER LAYER BEFORE HANGING RACEWAY FROM UNDERSIDE.
- 2. MATERIAL FOR PREFORMED CHANNEL, FITTINGS, AND CLAMPS SHALL BE PER THE SPECIFICATIONS.

EM102 CONDUIT TRAPEZE EXISTING STRUCTURES



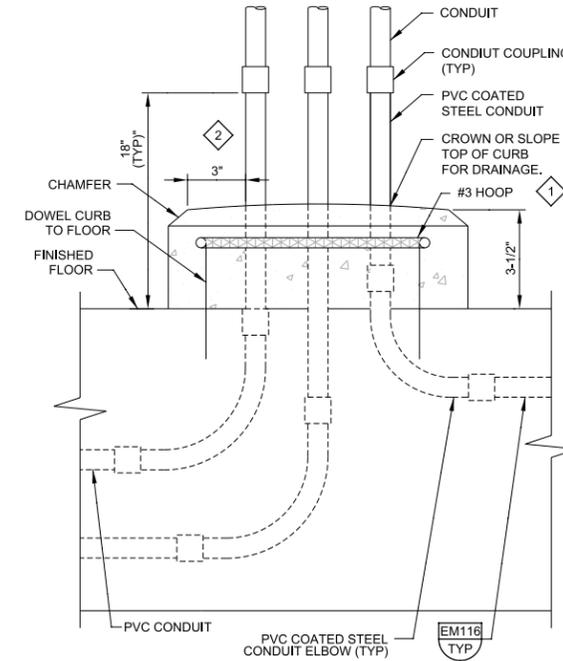
EM103 CONDUIT SUPPORT



NOTES:

- 1. PROVIDE 2" MIN CLEAR BETWEEN ADJACENT CONDUITS

EM105 SPARE CONDUIT DETAIL



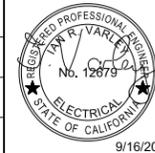
KEY NOTES:

- 1. COORDINATE REINFORCING STEEL REQUIREMENTS WITH THE GENERAL CONTRACTOR.
- 2. TYPICAL BOTH SIDES, FRONT AND REAR.

EM107 CONDUIT HOUSEKEEPING CURB

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DESIGNED	
DRAWN	
CHECKED	
DATE	SEPT 2013



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VERIFY SCALES
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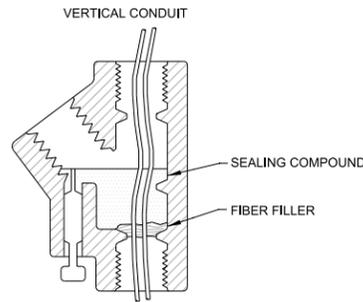
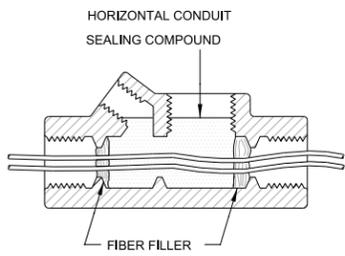
JOB NO. 8930A.11
 DRAWING NO. ET11
 SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:06:00 AM

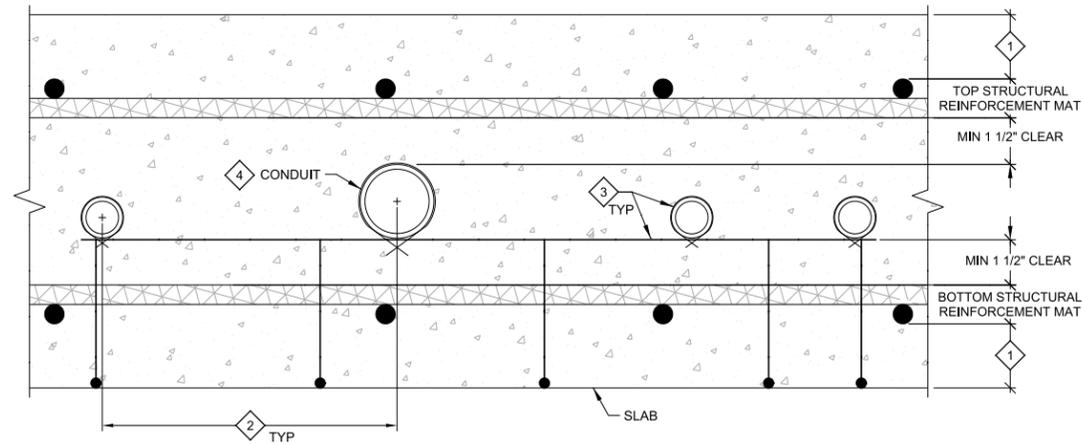
User: NGriffith

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 2:1

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EM108 CONDUIT SEAL
DAMMING AND POURING DETAIL
TYP S



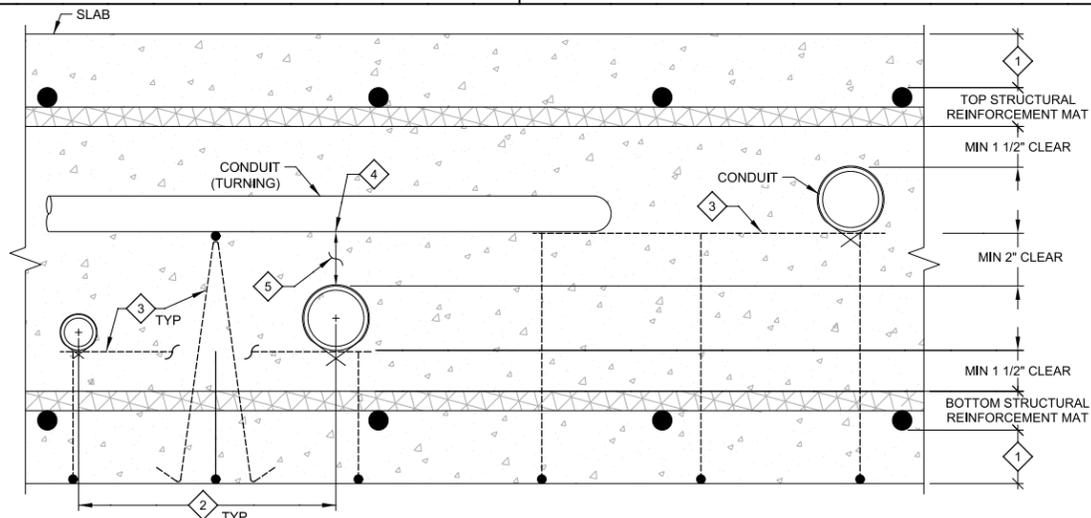
NOTES:

1. MOVE CONDUITS TO AVOID CONFLICTS WITH WATERSTOPS. WHERE HORIZONTAL & VERTICAL CLEARANCES CANNOT BE MAINTAINED, CONTACT ENGINEER FOR INSTRUCTIONS BEFORE PLACING CONCRETE.

KEY NOTES:

- 1 FOR REQUIRED TOP AND BOTTOM COVER OVER REINFORCEMENT SEE DETAIL. **S101** TYP
- 2 MINIMUM ON CENTER HORIZONTAL SPACING OF PARALLEL CONDUITS = 4X OUTSIDE DIAMETER OF THE LARGER CONDUIT.
- 3 SUPPORT CONDUITS ON ADDED REINFORCEMENT CHAIRS OR BOLSTERS. TIE CONDUITS TO SUPPORTS & ANCHOR TO PREVENT FLOTATION.
- 4 CENTER LARGEST DIAMETER CONDUIT BETWEEN TOP AND BOTTOM REINFORCEMENT MATS.

EM115 EMBEDDED CONDUIT IN CONCRETE SLAB
SINGLE RUN
TYP S



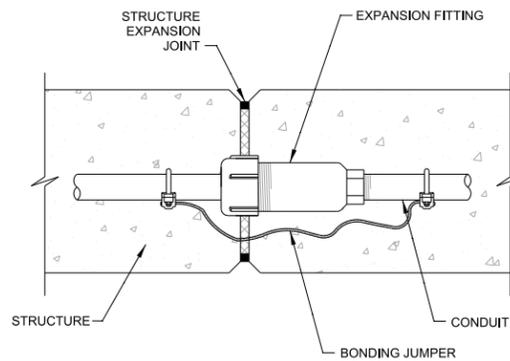
NOTES:

1. MOVE CONDUITS TO AVOID CONFLICTS WITH WATERSTOPS. WHERE HORIZONTAL & VERTICAL CLEARANCES CANNOT BE MAINTAINED, CONTACT ENGINEER FOR INSTRUCTIONS BEFORE PLACING CONCRETE.

KEY NOTES:

- 1 FOR REQUIRED TOP AND BOTTOM COVER OVER REINFORCEMENT SEE DETAIL. **S101** TYP
- 2 MINIMUM ON CENTER HORIZONTAL SPACING OF PARALLEL CONDUITS = 4X OUTSIDE DIAMETER OF THE LARGER CONDUIT.
- 3 SUPPORT CONDUITS ON ADDED REINFORCEMENT CHAIRS OR BOLSTERS. TIE CONDUITS TO SUPPORTS & ANCHOR TO PREVENT FLOTATION.
- 4 WHERE CONDUITS CROSS, PROVIDE MIN HORIZONTAL SPACING BETWEEN PARALLEL CONDUITS NOT LESS THAN DIAMETER OF THE LARGER CONDUIT IN THE SAME HORIZONTAL PLAN.
- 5 SUPPORT CONDUITS AT CROSSING TO PREVENT SAG & MAINTAIN CLEARANCE SHOWN.
- 6 WHERE MORE THAN 2 RUNS ARE STACKED, PROVIDE HORIZONTAL & VERTICAL SPACING SHOWN BETWEEN EACH PAIR.

EM117 EMBEDDED CONDUIT IN CONCRETE SLAB
CROSSING RUNS
TYP S



NOTES:

1. WHERE SEVERAL CONDUITS ARE INSTALLED, FITTINGS MAY BE STAGGERED. BUT, IN NO CASE SHALL FITTINGS BE MORE THAN 5'-0" FROM STRUCTURE'S EXPANSION JOINT.
2. FOR PVC COATED CONDUIT, USE PVC COATED EXPANSION FITTING BY CONDUIT MANUFACTURER.

EM125 EXPOSED CONDUIT
EXPANSION FITTING
TYP S

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VERIFY SCALES
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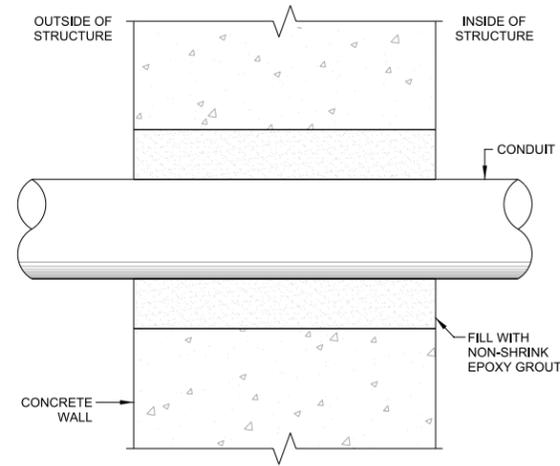
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SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:06:11 AM

User: NGriffith

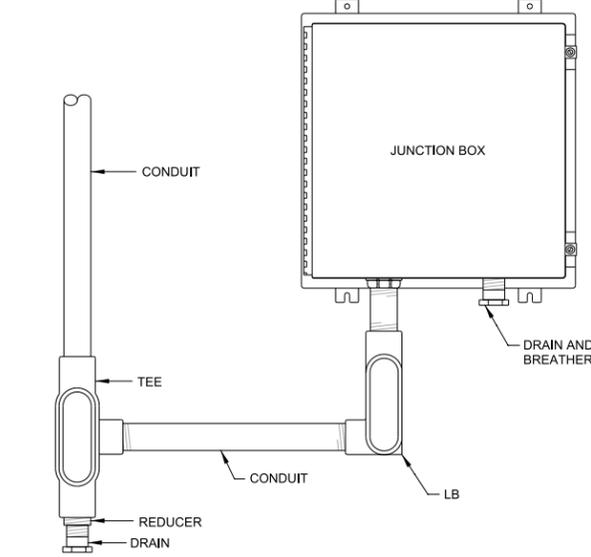
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LAST SAVED BY: psanchez



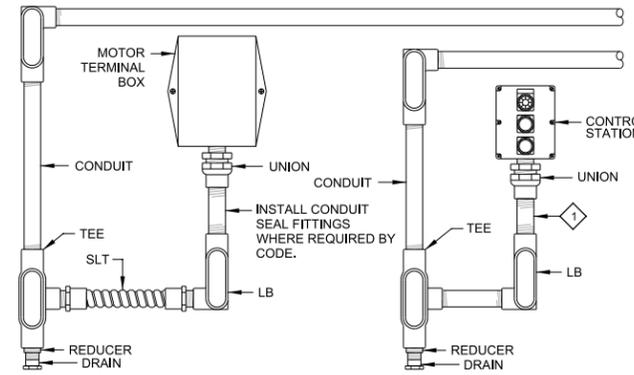
- NOTES:
1. ROUGHEN SURFACE OF OPENING AND APPLY EPOXY CEMENT BONDING AGENT IMMEDIATELY PRIOR TO GROUTING.

EM138 TYP S
CORE HOLE CONDUIT WALL PENETRATION



- NOTES:
1. SUPPORTS NOT SHOWN FOR CLARITY.

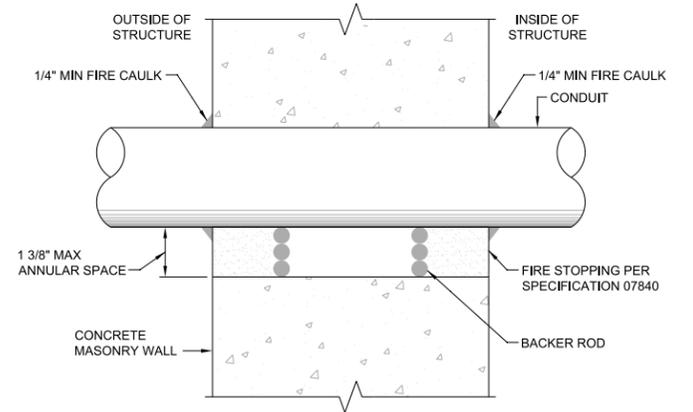
EM140 TYP S
CONDUIT & ENCLOSURE CONNECTION DRAIN DETAIL



- NOTES:
1. SUPPORTS NOT SHOWN FOR CLARITY.

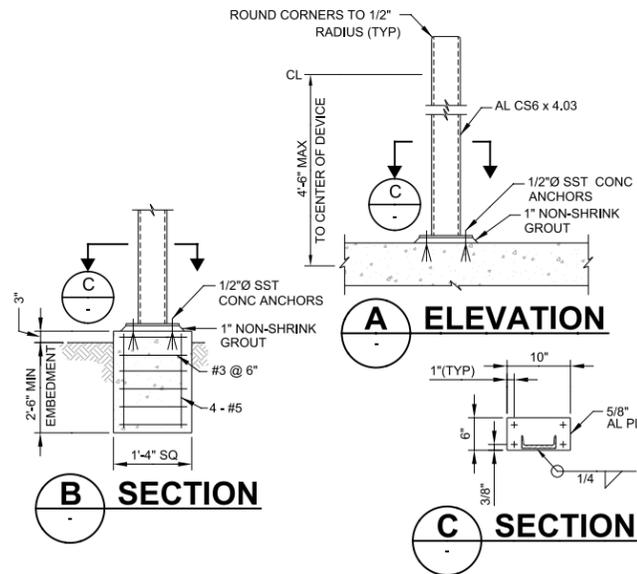
- KEY NOTES:
1. PROVIDE CONDUIT SEAL IF HERMETICALLY SEALED SWITCHES ARE NOT USED, OR IF NOTED ON DRAWING.

EM141 TYP S
CLASS I, DIV. 2, GROUP D MOTOR CONNECTION SEPARATE POWER AND CONTROL DETAIL



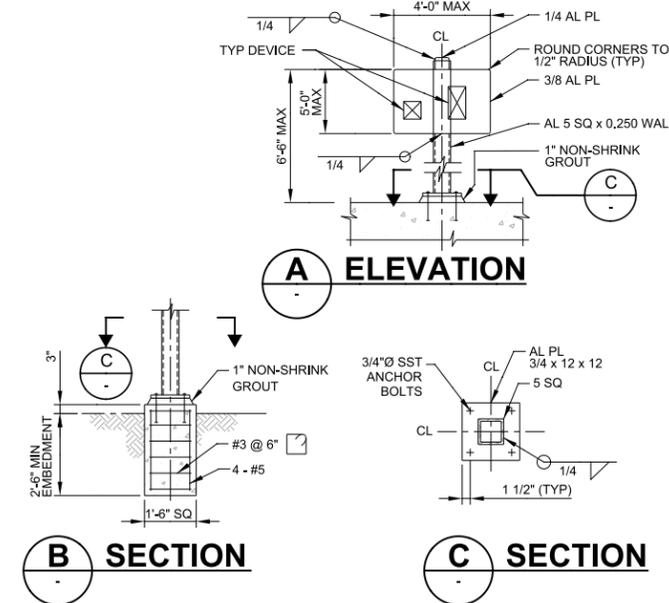
- NOTES:
1. ROUGHEN SURFACE OF OPENING AND APPLY EPOXY CEMENT BONDING AGENT IMMEDIATELY PRIOR TO GROUTING.

EM148 TYP S
CONDUIT PENETRATION FIRE RATED WALL



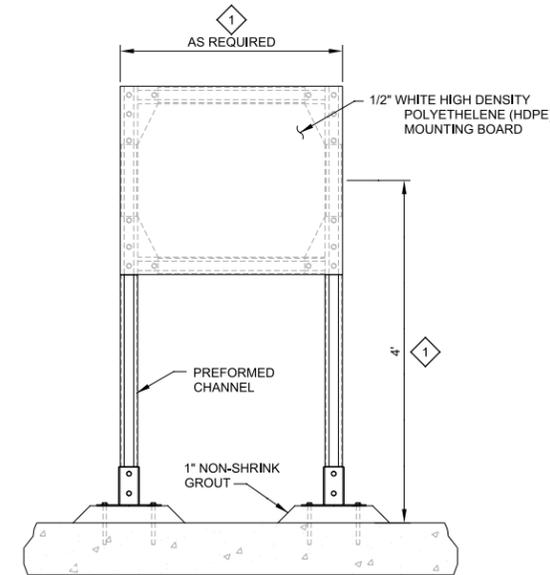
- NOTES:
1. WHERE SEPARATE FOUNDATION IS REQUIRED, SEE SECTION B.
 2. COAT ALUMINUM SURFACES IN CONTACT W/ CONCRETE PER SPECIFICATIONS.
 3. USE STAINLESS STEEL FASTENERS FOR MOUNTING DEVICES.
 4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 100 POUNDS.

EM201 TYP S
DEVICE SUPPORT AND MOUNTING



- NOTES:
1. WHERE SEPARATE FOUNDATION IS REQUIRED, SEE SECTION B.
 2. COAT ALUMINUM SURFACES IN CONTACT W/ CONCRETE PER SPECIFICATIONS.
 3. USE STAINLESS STEEL FASTENERS FOR MOUNTING DEVICES.
 4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 300 POUNDS.

EM202 TYP S
DEVICE SUPPORT AND MOUNTING



- KEY NOTES:
1. PROVIDE CROSS BRACING AND SUPPORT LEGS EVERY 3 FEET.

EM210 TYP S
EQUIPMENT MOUNTING STAND

REV	DATE	BY	DESCRIPTION

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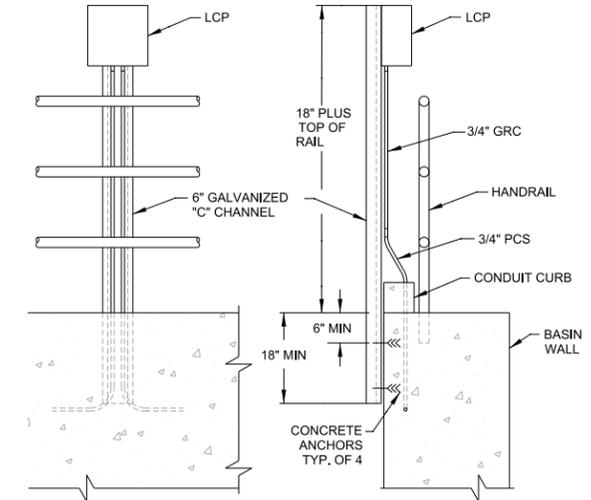
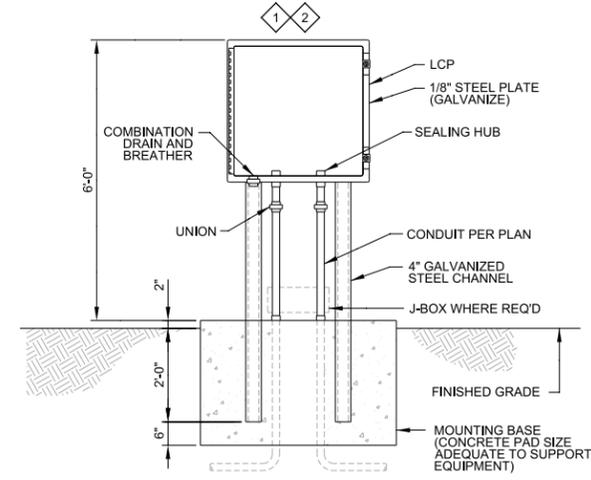
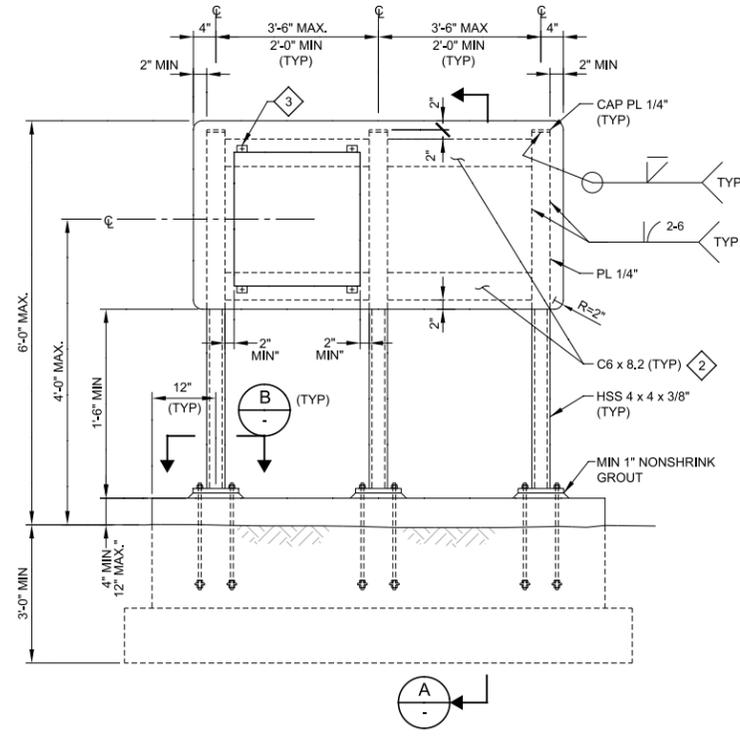
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

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User: NGriffith

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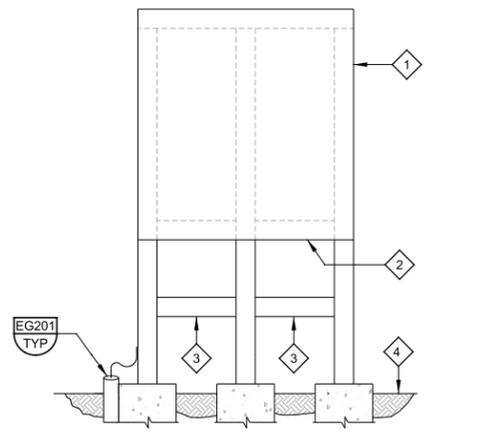
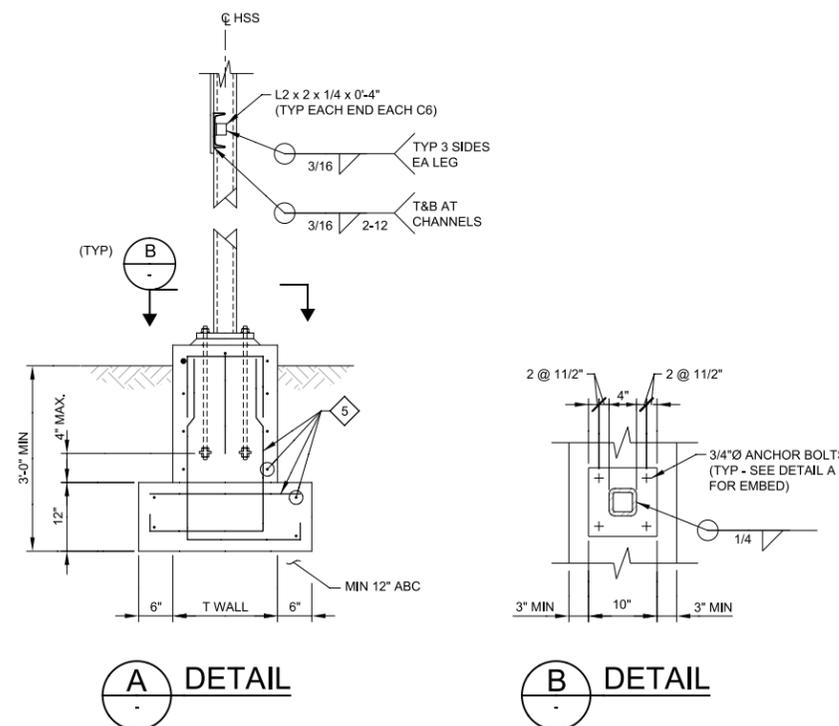
LAST SAVED BY: psanchez



NOTES:
 1. PROVIDE CONDUIT SEALS AS INDICATED ON THE DRAWINGS.
KEY NOTES:
 1 LOCAL CONTROL PANEL SHALL MEET ENVIRONMENTAL CONDITIONS
 2 TAG NUMBER OF LCP PER PLAN DRAWINGS

EM218 LOCAL CONTROL PANEL
 TYP INSTALLATION

EM220 RAIL MOUNTED LCP DETAIL
 TYP



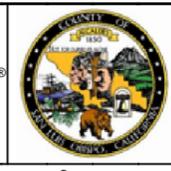
KEY NOTES:
 1 FABRICATE SUPPORT STRUCTURE OF SUFFICIENT SIZE TO SAFELY AND ADEQUATELY ACCOMMODATE ALL INDICATED ELECTRICAL EQUIPMENT. UTILIZE 4\"/>

EM230 ELECTRICAL EQUIPMENT
 TYP SUPPORT STRUCTURE

- KEY NOTES:**
- 1 ALL HOT DIP GALVANIZED STEEL CONSTRUCTION, UNLESS NOTED OTHERWISE.
 - 2 PROVIDE HORIZONTAL CHANNEL STIFFENER AT TOP AND BOTTOM AS SHOWN, ADD INTERMEDIATE CHANNELS AT MOUNTING LOCATIONS WHERE EQUIPMENT WEIGHT EXCEEDS 200 LB.
 - 3 MOUNT CABINETS/EQUIPMENT TO PLATE. FOR EQUIPMENT WEIGHTS EXCEEDING 200 LBS, MOUNTING BOLTS TO EXTEND THROUGH PLATE AND HORIZONTAL CHANNELS ON BACK, PER NOTE 2.
 - 4 SEE S101/TYP FOR CONCRETE COVER AND REINFORCEMENT NOTES.
 - 5 ALL REINFORCEMENT #4 @ 8\"/>

EM216 EQUIPMENT MOUNTING STAND
 TYP

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ELECTRICAL TYPICAL DETAILS

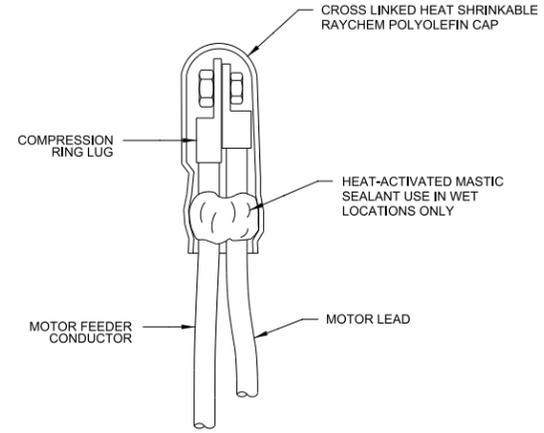
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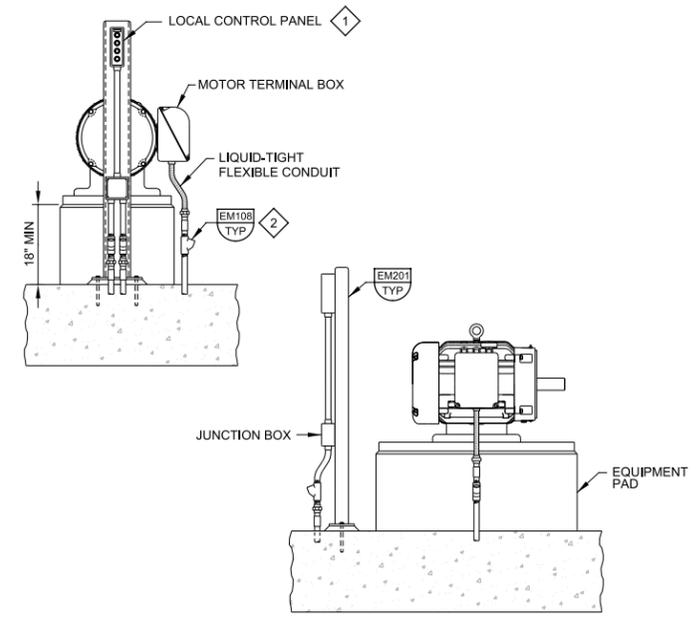
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LAST SAVED BY: psanchez

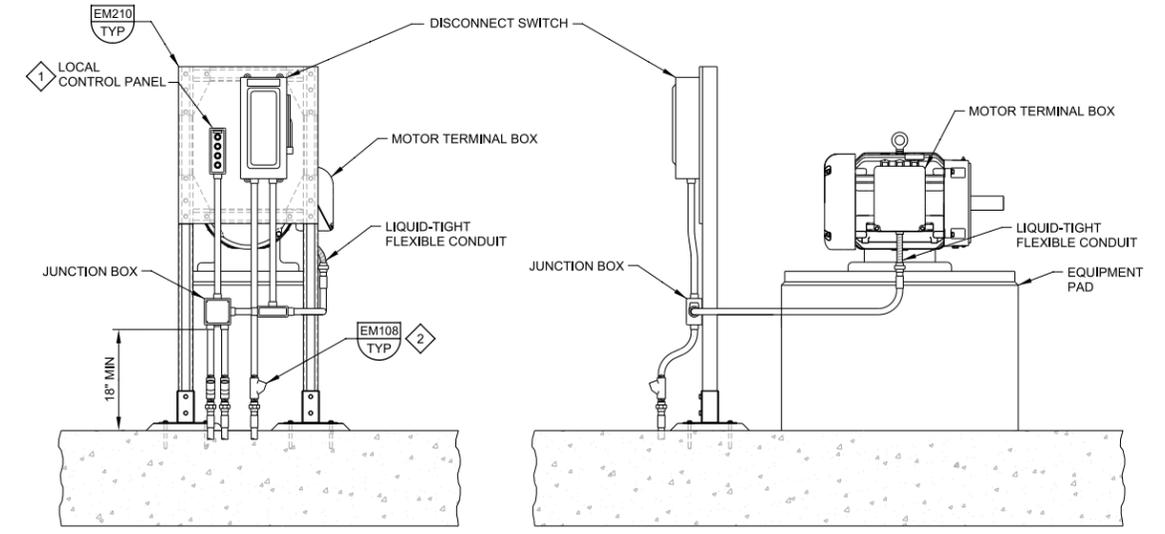


EM300 TYPICAL MOTOR LEAD TERMINATION
TYP S



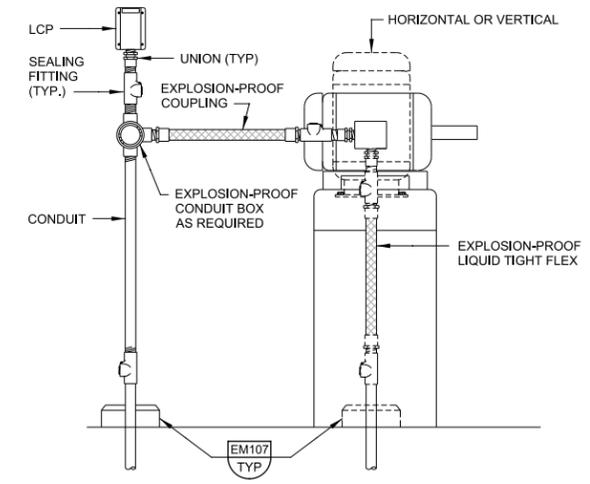
KEY NOTES:
 1 SIZE AS REQUIRED WITH CONTROLS INDICATED ON THE CONTRACT DOCUMENTS.
 2 CONDUIT SEALS WHERE REQUIRED FOR THE AREA CLASSIFICATION. REFER TO THE SPECIFICATIONS.

EM301 TYPICAL MOTOR INSTALLATION
TYP S



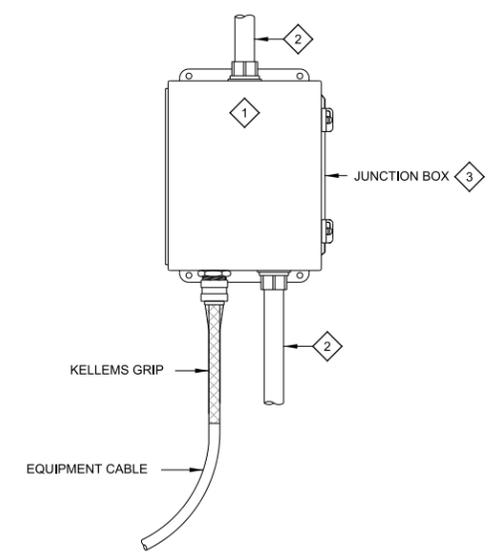
KEY NOTES:
 1 SIZE AS REQUIRED WITH CONTROLS INDICATED ON THE CONTRACT DOCUMENTS.
 2 CONDUIT SEALS WHERE REQUIRED FOR THE AREA CLASSIFICATION. REFER TO THE SPECIFICATIONS.

EM302 TYPICAL MOTOR INSTALLATION WITH DISCONNECT SWITCH
TYP S



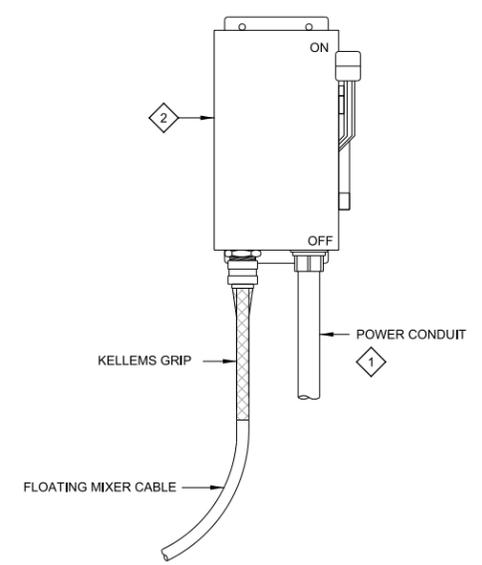
NOTES:
 1. SUPPORTS NOT SHOWN FOR CLARITY.

EM305 VERTICAL OR HORIZONTAL MOTOR CONNECTION DETAIL CLASS I, DIV. 1
TYP S



KEY NOTES:
 1 PROVIDE TERMINAL STRIPS TO TRANSITION FROM THE EQUIPMENT CABLE TO FIELD WIRING.
 2 POWER AND CONTROL CONDUITS. REFER TO THE ELECTRICAL DRAWINGS, CONDUIT AND CABLE SCHEDULE FOR DETAILS.
 3 REFER TO SPECIFICATIONS AND PLANS FOR NEMA TYPE.

EM315 SUBMERSIBLE EQUIPMENT CABLE CONNECTION DETAIL
TYP S

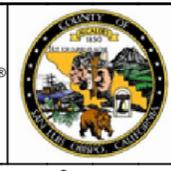
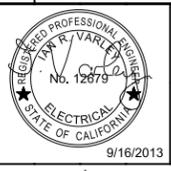


KEY NOTES:
 1 REFER TO ELECTRICAL PLAN DRAWINGS FOR ROUTING.
 2 REFER TO DRAWINGS FOR DISCONNECT TYPE.

EM316 FLOATING MIXER CABLE CONNECTION
TYP S

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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

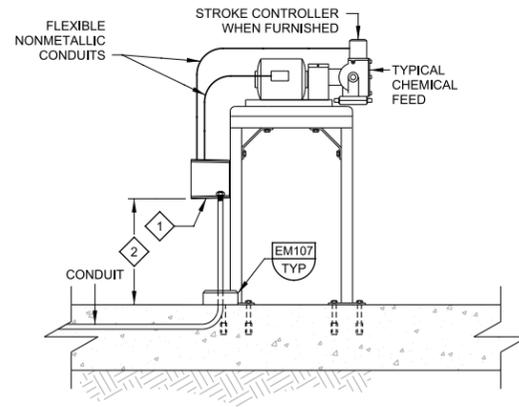
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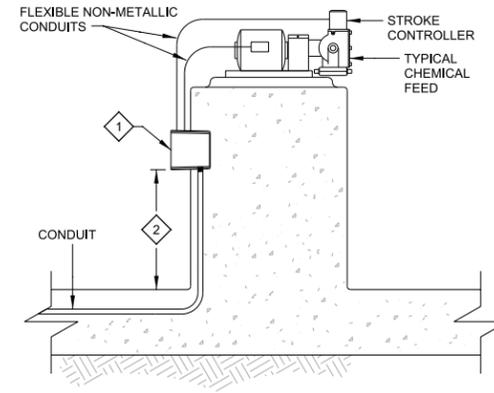
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 2:1

LAST SAVED BY: psanchez



- KEY NOTES:
- 1 NONMETALLIC MOLDED JUNCTION BOX WITH GASKETED SCREW DOWN COVER. MOUNT TO PREFORMED CHANNEL LEGS.
 - 2 MIN HEIGHT MUST BE ABOVE CONTAINMENT CURB. NO ELECTRICAL FITTINGS ALLOWED BELOW CONTAINMENT WALL.

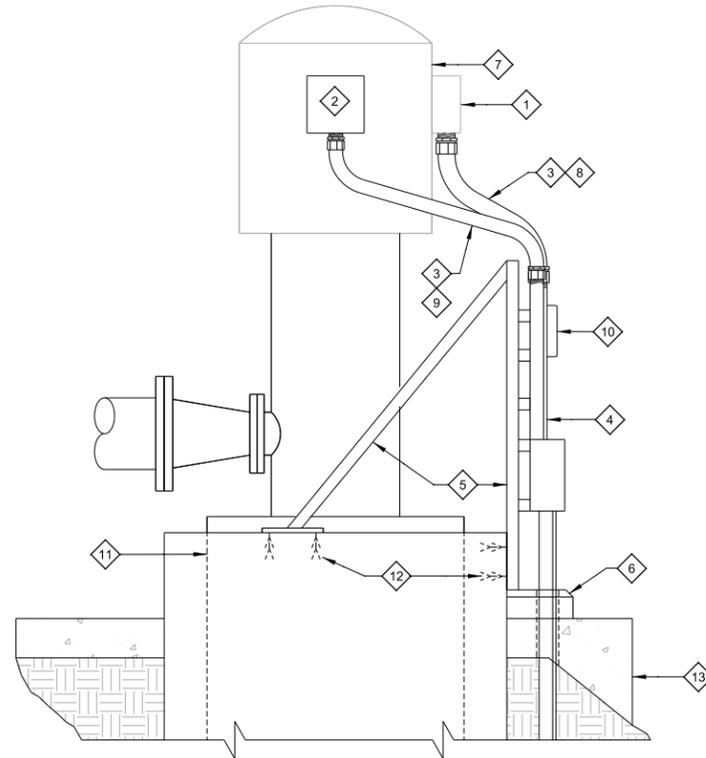
EM350
TYP
S
**CHEMICAL FEED
PUMP CONDUIT INSTALLATION**



- KEY NOTES:
- 1 NONMETALLIC MOLDED JUNCTION BOX WITH GASKETED SCREW DOWN COVER
 - 2 MIN HEIGHT MUST BE ABOVE CONTAINMENT CURB. NO ELECTRICAL FITTINGS ALLOWED BELOW CONTAINMENT WALL.

EM351
TYP
S
**CHEMICAL FEED
PUMP CONDUIT INSTALLATION**

- KEY NOTES:
- 1 PUMP JUNCTION BOX
 - 2 POWER PUMP JUNCTION BOX SIGNAL - RTD
 - 3 LIQUIDTIGHT FLEXIBLE CONDUIT
 - 4 CONDUIT
 - 5 GALVANIZED PREFORMED CHANNEL
 - 6 CONCRETE PAD
 - 7 PUMP HOUSING
 - 8 POWER CONDUIT
 - 9 SIGNAL - RTD CONDUIT
 - 10 LOCAL CONTROL PANEL
 - 11 PUMP CAN
 - 12 FASTEN PREFORMED CHANNEL INTO PUMP CONCRETE CURB WITH LAG BOLTS ANCHORS.
 - 13 PCS CONDUIT SIZE AS PER PLANS



EM371
TYP
S
**LOCAL CONTROL STATION AND
CONDUIT TERMINATION AT MOTOR**

REV	DATE	BY	DESCRIPTION

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DRAWN
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DATE
SEPT 2013



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OBISPO
COUNTY**

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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
8930A.11
DRAWING NO.
ET16
SHEET NO.
OF 549

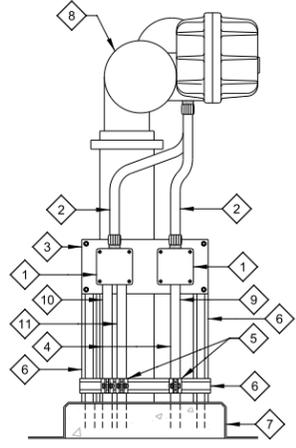
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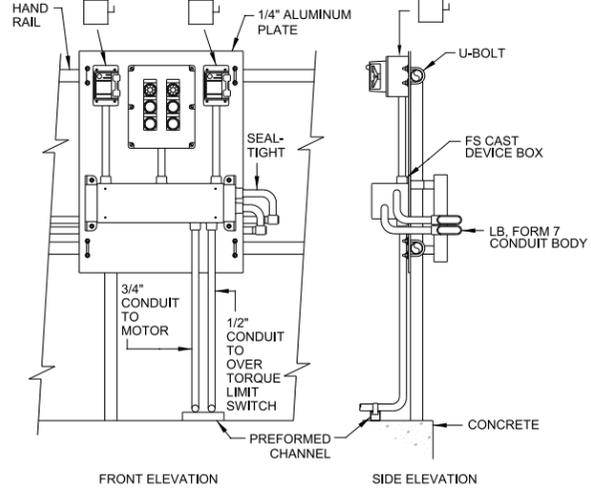
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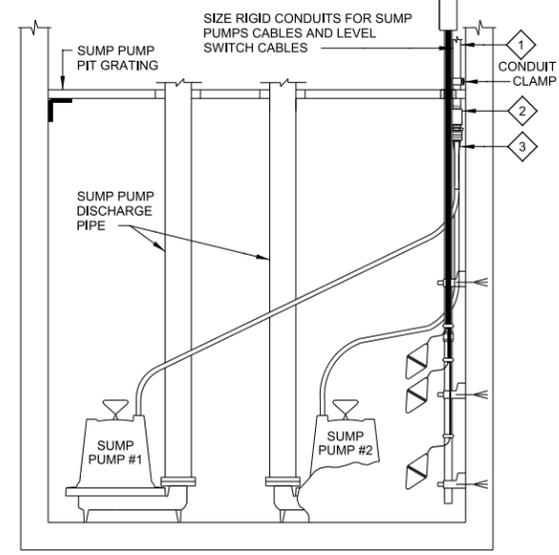
- KEY NOTES:
- 1 NONMETALLIC MOLDED JUNCTION BOX WITH GASKETED SCREW DOWN
 - 2 LIQUIDTIGHT FLEXIBLE CONDUIT, SIZE PER PLANS
 - 3 GALVANIZED STEEL MOUNTING PLATE, SIZE TO SUIT, GRC, SIZE PER PLANS
 - 4 CONDUIT CLAMP
 - 5 GALVANIZED PREFORMED CHANNEL
 - 6 CONCRETE PAD WITH EPOXY FLOOR COVERING
 - 7 VALVE OPERATOR
 - 8 POWER CONDUIT
 - 9 SIGNAL CONDUIT (WHEN NEEDED)
 - 10 CONTROL CONDUIT



EM404 MOTOR OPERATED VALVE
TYP INSTALLATION DETAIL

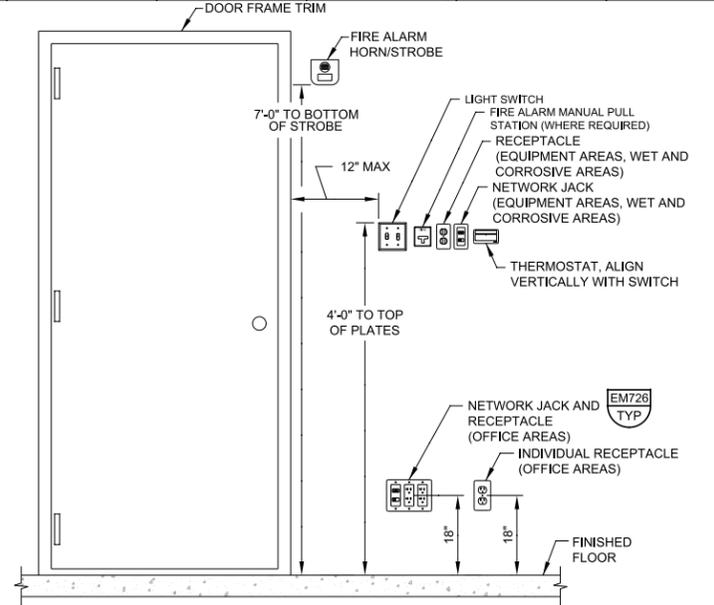


EM450 TYPICAL CLARIFIER MOTOR
TYP DISCONNECT MOUNTING



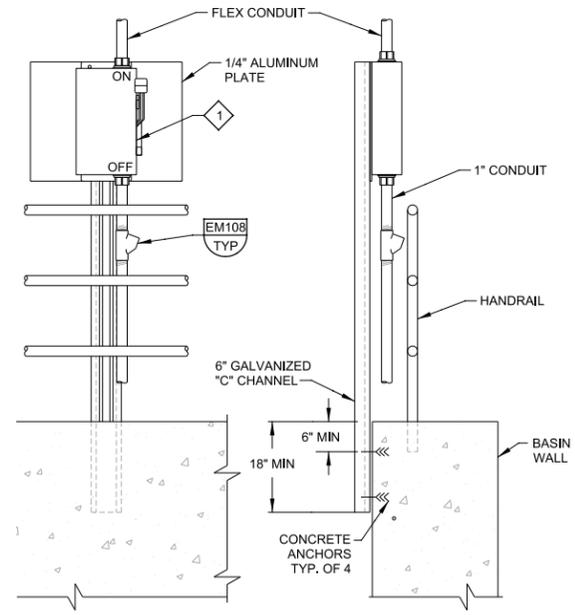
- KEY NOTES:
- 1 CONDUITS TO SUMP PUMP CONTROL PANEL
 - 2 CONDUIT COUPLING
 - 3 KELLEMS DELUXE CORD GRIP STRAIGHT MALE THREAD

EM460 TYPICAL SUMP PUMP LAYOUT



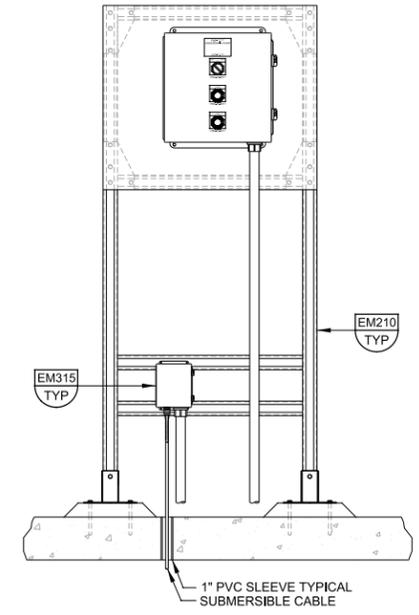
- NOTES:
- ALL SWITCHES AND RECEPTACLES SHALL BE EMBEDDED IN THE WALL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

EM725 TYP OUTLET BOX MOUNTING



- KEY NOTES:
- 1 REFER TO DRAWINGS FOR DISCONNECT TYPE.

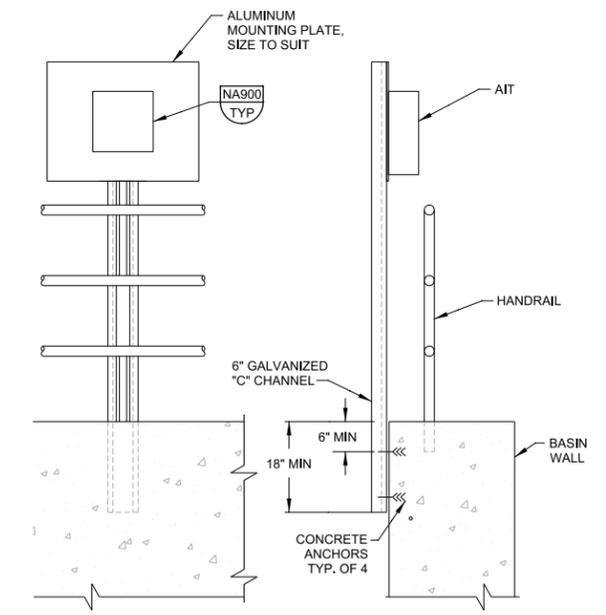
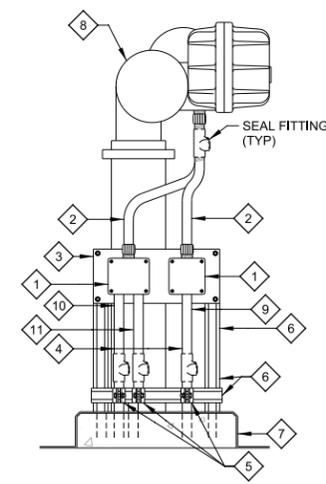
EM900 TYP RAIL MOUNTED DISCONNECT SWITCH
R INSTALLATION DETAIL



EM901 TYP SUBMERSIBLE EQUIPMENT
R CONTROL PANEL INSTALLATION

- KEY NOTES:
- 1 NEMA 7 JUNCTION BOX
 - 2 EXPLOSION-PROOF LIQUID TIGHT FLEX
 - 3 GALVANIZED STEEL MOUNTING PLATE, SIZE TO SUIT, GRC, SIZE PER PLANS
 - 4 CONDUIT CLAMP
 - 5 GALVANIZED PREFORMED CHANNEL
 - 6 CONCRETE PAD WITH EPOXY FLOOR COVERING
 - 7 VALVE OPERATOR
 - 8 POWER CONDUIT
 - 9 SIGNAL CONDUIT (WHEN NEEDED)
 - 10 CONTROL CONDUIT

EM902 TYP MOTOR OPERATED VALVE
R INSTALLATION DETAIL IN CLASS I, DIV. 1



EM903 TYP RAIL MOUNTED AIT DETAIL
R

DESIGNED	
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CHECKED	
DATE	SEPT 2013
REV	DATE BY DESCRIPTION
1	
2	
3	



SAN LUIS OBISPO COUNTY

SAN LUIS OBISPO COUNTY
LOS OSOS WATER RECYCLING FACILITY PROJECT
ELECTRICAL
TYPICAL DETAILS

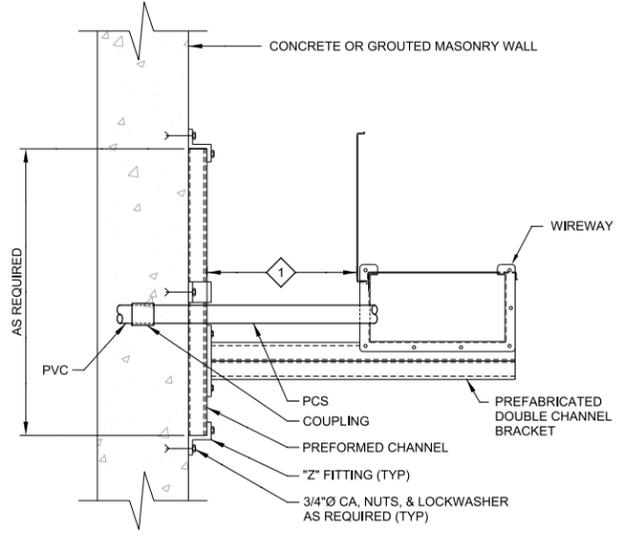
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

Plot Date: 17-SEP-2013 11:07:02 AM

User: NGriffith

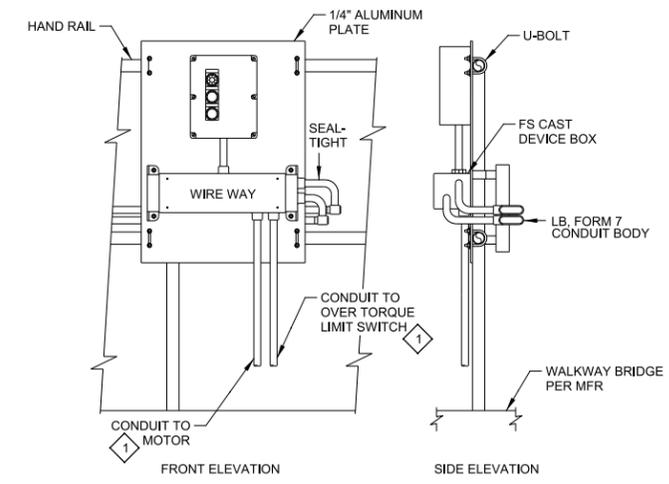
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LAST SAVED BY: psanchez



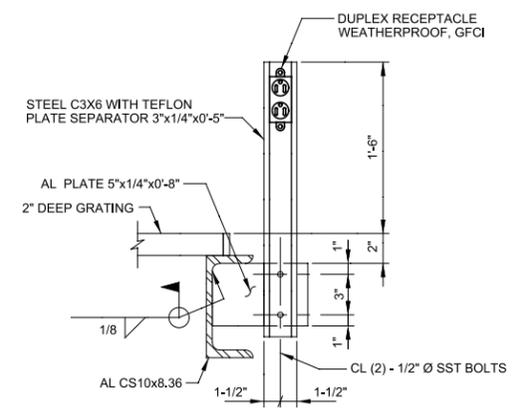
- NOTES:**
1. MATERIAL FOR PREFORMED CHANNEL, FITTING, AND CLAMPS SHALL BE AS SPECIFIED IN SECTION 16070.
 2. SUPPORTS TO BE SPACED IN ACCORDANCE WITH NEC REQUIREMENTS
 3. PROVIDE BOLTS WASHERS AND PREFORMED CHANNEL SPRING NUTS AS REQUIRED TO SECURE THE WIREWAY TO THE CHANNEL.
- KEY NOTES:**
1. SPACE AS REQUIRED TO ALLOW WIREWAY COVER TO OPEN 90 DEGREES.

EM904 WIREWAY SUPPORT
TYP R 09/13/13

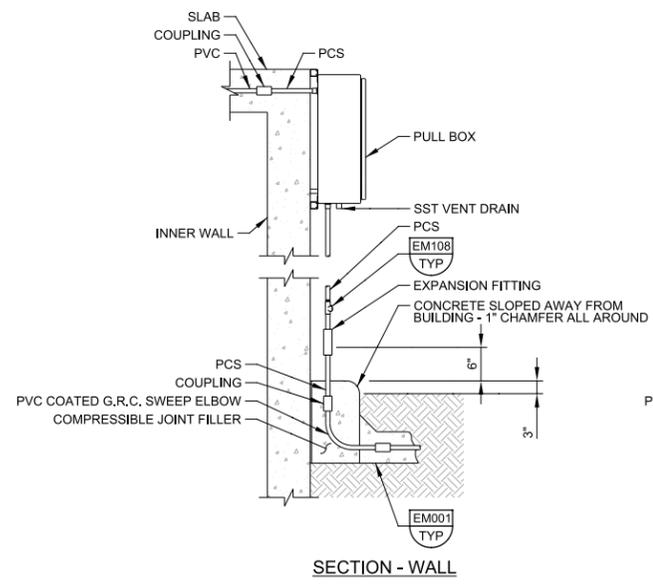


- KEY NOTES:**
1. REFER TO CONDUIT SCHEDULE FOR CONDUIT SIZE.

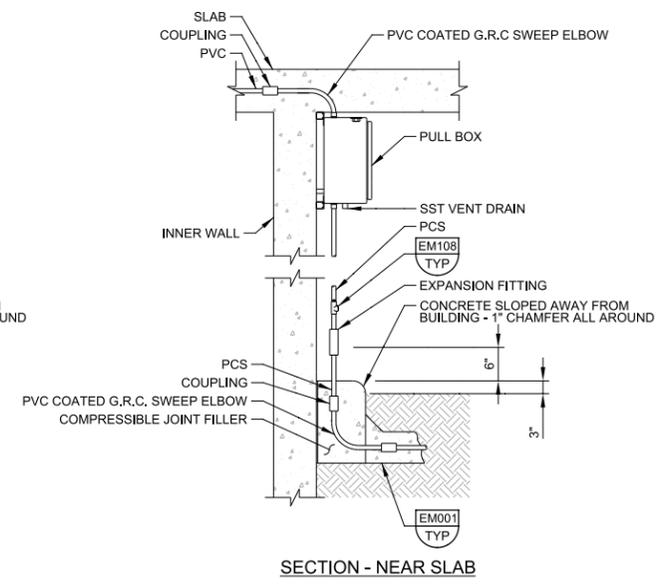
EM905 CLARIFIER LCP MOUNTING
TYP R 09/13/13



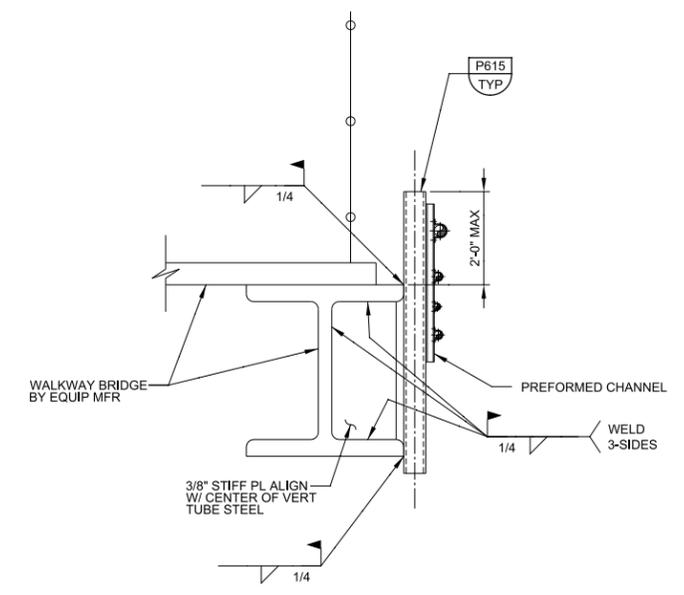
EM906 DUPLEX RECEPTACLE MOUNTED ON GRATING FRAME
TYP R 09/13/13



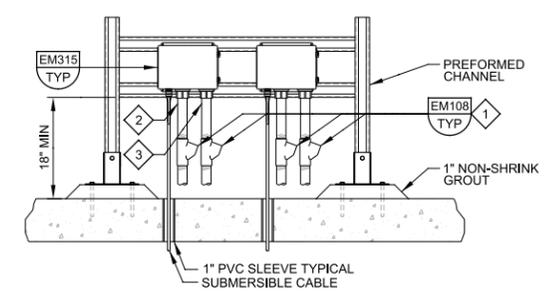
EM907 PULL BOX MOUNTING ON WALL
TYP R 09/16/13



EM907 PULL BOX MOUNTING ON WALL
TYP R 09/16/13



EM908 CONDUIT SUPPORT ON WALKWAY BRIDGE
TYP N 08/22/08



- NOTES:**
1. REFER TO THE SPECIFICATIONS FOR MATERIAL AND ENCLOSURE REQUIREMENTS.
- KEY NOTES:**
1. CONDUIT SEALS WHERE REQUIRED FOR THE AREA CLASSIFICATION. REFER TO THE SPECIFICATIONS
 2. POWER CONDUIT
 3. CONTROL CONDUIT

EM909 TERMINAL JUNCTION BOX INSTALLATION
TYP R 09/13/13

REV	DATE	BY	DESCRIPTION

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IRV
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CHECKED
RAM
DATE
SEPT 2013



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ELECTRICAL TYPICAL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

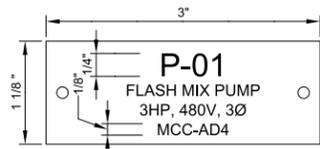
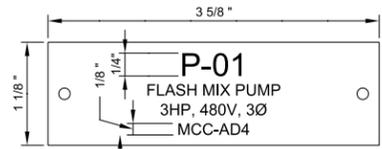
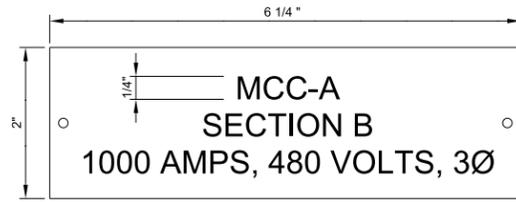
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8930A.11
DRAWING NO.
ET18
SHEET NO.
OF 549

Plot Date: 17-SEP-2013 11:07:12 AM

User: NGriffith

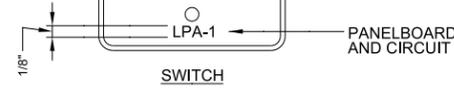
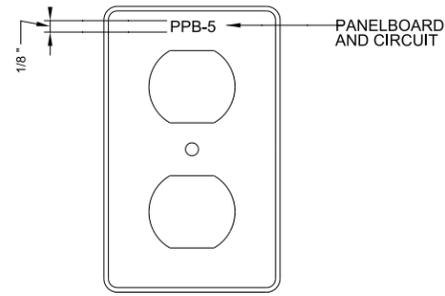
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LAST SAVED BY: psanchez



- NOTES:
- REFER TO THE SPECIFICATIONS FOR MATERIALS AND COLOR SCHEMES.
 - NAMEPLATE DIMENSIONS ARE APPROXIMATE.

EN001 TYPICAL ELECTRICAL EQUIPMENT NAMEPLATES



- NOTES:
- ENGRAVE CIRCUIT DESIGNATION DIRECTLY ONTO DEVICE COVER PLATE. FILL LETTERING WITH BLACK ENAMEL.

EN002 TYPICAL PLATE IDENTIFICATION

REV	DATE	BY	DESCRIPTION

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DATE
SEPT 2013



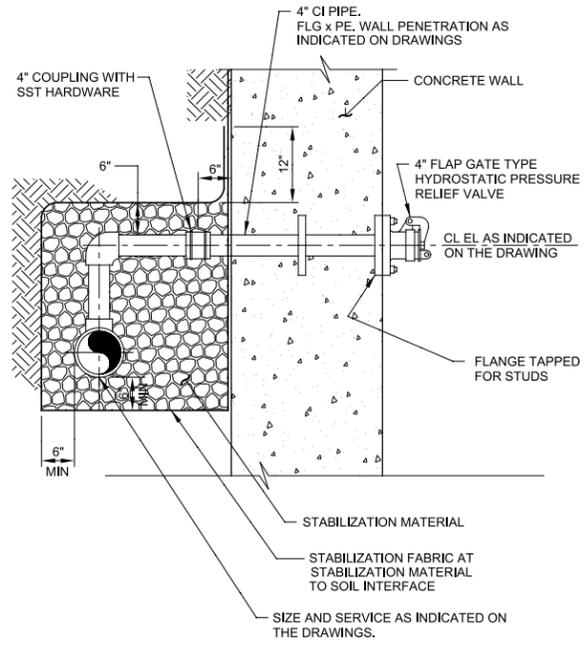
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ELECTRICAL
TYPICAL DETAILS

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

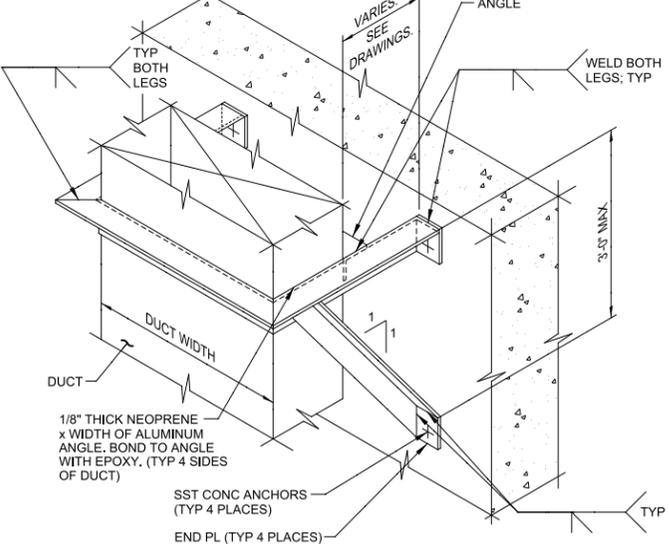
JOB NO.
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DRAWING NO.
ET19
SHEET NO.
OF 549

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 User: NGriffith
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 LAST SAVED BY: psanchez



- NOTES:**
- PRESSURE RELIEF VALVE SHALL BE INSTALLED AT SPACING AND LOCATIONS INDICATED ON THE DRAWINGS.
 - FLANGE BOLTS SHALL BE SST.

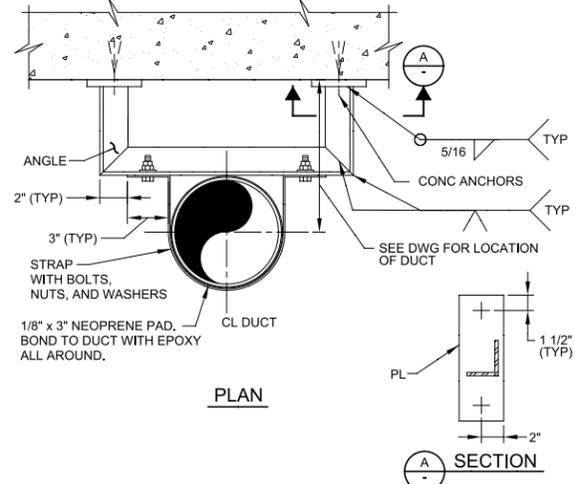
F006 FLUSH MOUNTED FRENCH DRAIN PRESSURE RELIEF VALVE SYSTEM
TYP NS 07/31/08



AIR DUCT HANGER AND SUPPORT SCHEDULE	
DUCT WIDTH	SPACING WHEN NOT INDICATED ON THE DRAWINGS
LESS THAN 18"	8'-0" OC MAX
18" THRU 40"	8'-0" OC MAX
GREATER THAN 40"	4'-0" OC MAX

- NOTE:**
- DUCT WIDTH SHALL BE THE LONG DIMENSION OF RECTANGULAR DUCT OR THE OUTSIDE DIAMETER OF ROUND DUCT.

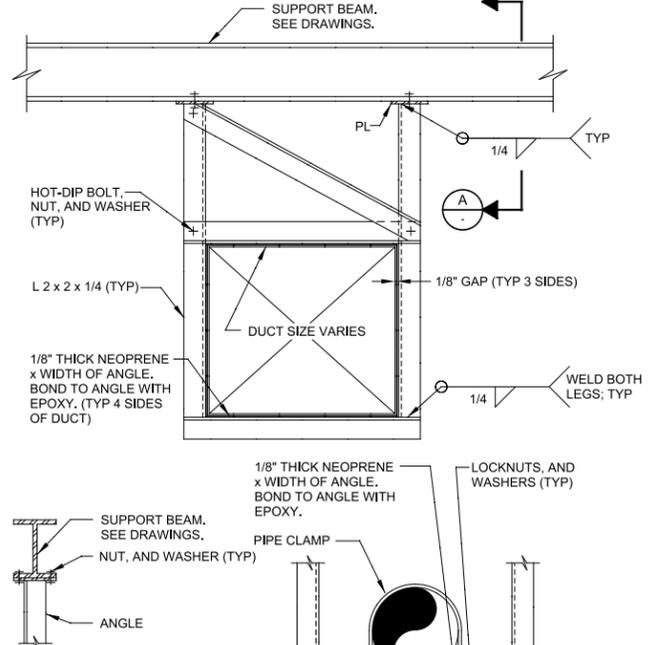
H106 VERTICAL RECTANGULAR DUCT SUPPORT - WALL BRACKET OUTSIDE
TYP 08/01/05



AIR DUCT HANGER AND SUPPORT SCHEDULE	
DUCT DIA	SPACING WHEN NOT INDICATED ON THE DRAWINGS
LESS THAN 18"	8'-0" OC MAX
18" THRU 40"	8'-0" OC MAX
GREATER THAN 40"	4'-0" OC MAX

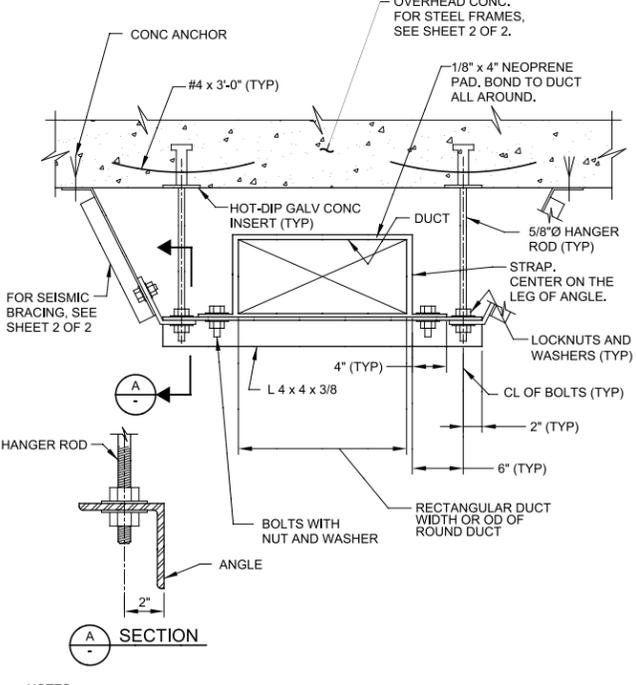
- NOTES:**
- ALL METAL SHAPES SHALL BE TYPE 304 SST UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - ALL BOLTS, NUTS, WASHERS, AND CONNECTIONS SHALL BE TYPE 304 SST.
 - SEE DRAWINGS FOR THE SIZE OF DUCT.

H107 VERTICAL ROUND DUCT SUPPORT - WALL BRACKET INSIDE
TYP 08/01/05



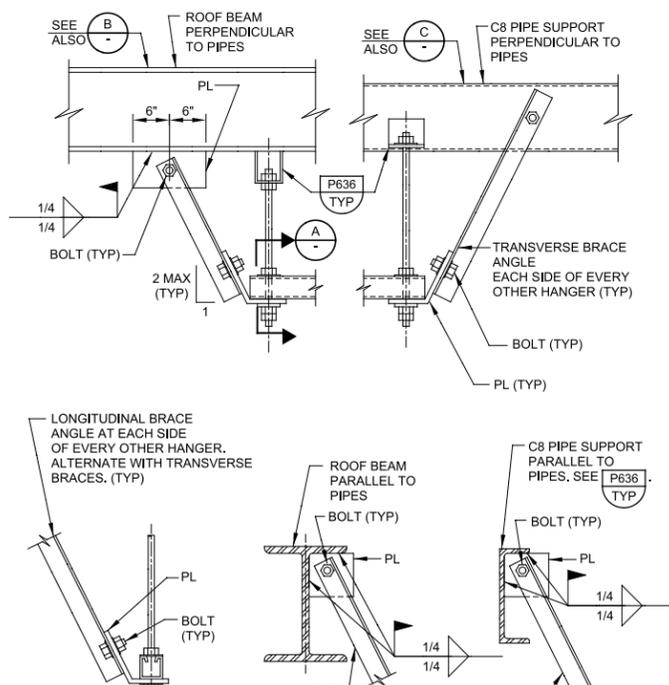
- NOTE:**
- FOR FLEXIBLE CONNECTOR, TYPE FL-3 ONLY.

H121 RECTANGULAR DUCT SUPPORT - FRAMED BRACKET FROM STEEL BEAMS ABOVE
TYP 07/31/08



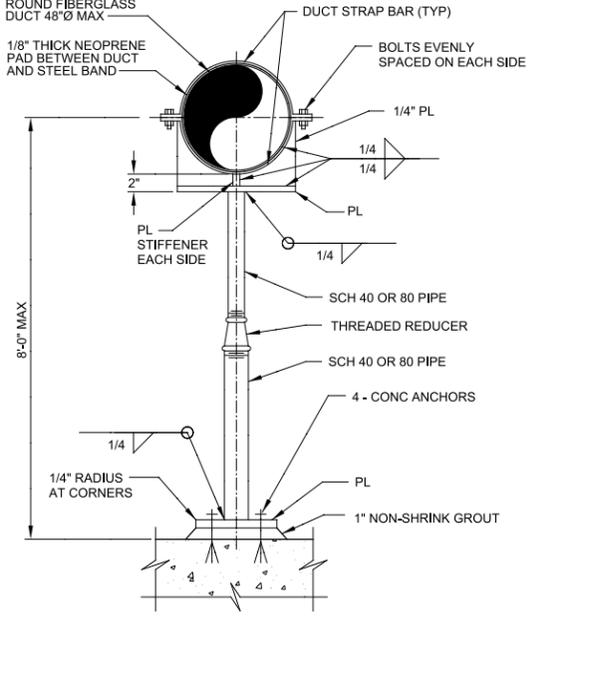
- NOTES:**
- ALL METAL SHALL BE HOT-DIP GALV STEEL UNLESS OTHERWISE INDICATED ON THE DWGS.
 - SEE DRAWINGS FOR THE SIZE OF DUCT.
 - TO APPLY TO ALL RECTANGULAR DUCTS & ALL ROUND DUCTS 18" AND LARGER.

H124 RECTANGULAR DUCT SUPPORT - TRAPEZE FROM SLAB ABOVE
TYP SHEET 1 OF 2 07/31/08



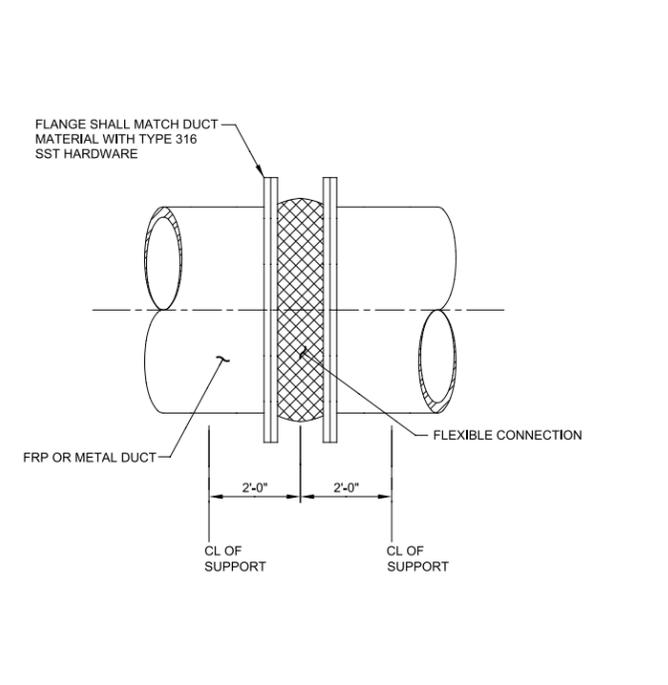
- NOTES:**
- DUCT SUPPORT SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
 - MAXIMUM VERTICAL LOAD = 1000 POUNDS.

H124 RECTANGULAR DUCT SUPPORT - TRAPEZE FROM SLAB ABOVE
TYP SHEET 2 OF 2 07/31/08



- NOTES:**
- DUCT SUPPORT SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
 - MAXIMUM VERTICAL LOAD = 1000 POUNDS.

H146 ROUND DUCT SUPPORT - CANTILEVER ADJUSTABLE PIPE ON SLAB BELOW
TYP N 08/01/05

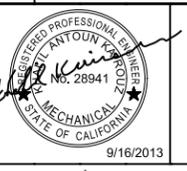


- NOTE:**
- FOR FLEXIBLE CONNECTOR, TYPE FL-3 ONLY.

H232 TYPE FL-3 FLEXIBLE CONNECTION FOR FRP OR METAL DUCTS
TYP N 02/13/09

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SGS
DATE
SEPT 2013



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LOS OSOS WATER RECYCLING FACILITY PROJECT
FOUNDATION - HVAC
TYPICAL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

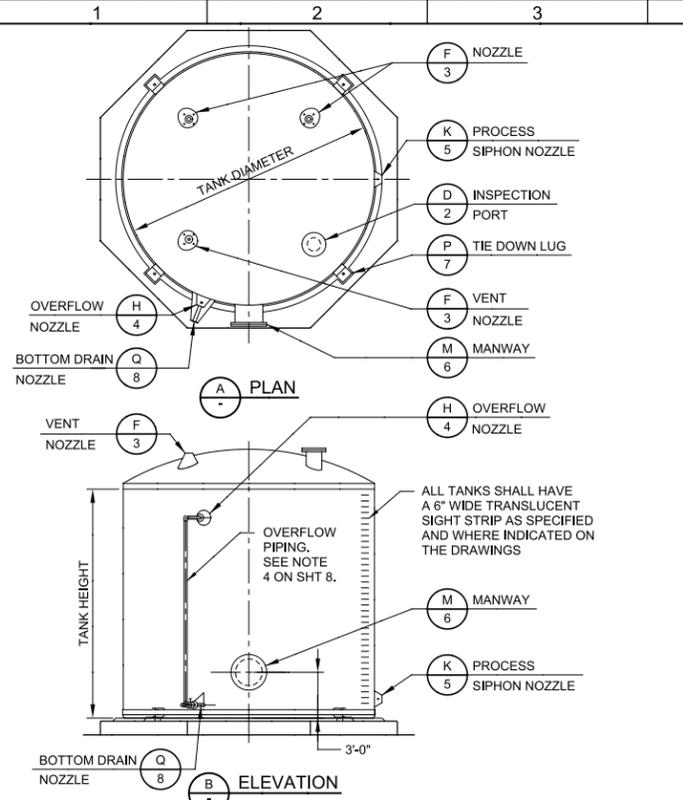
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8930A.11
DRAWING NO.
FHT01
SHEET NO.
OF 549

Plot Date: 17-SEP-2013 11:07:21 AM

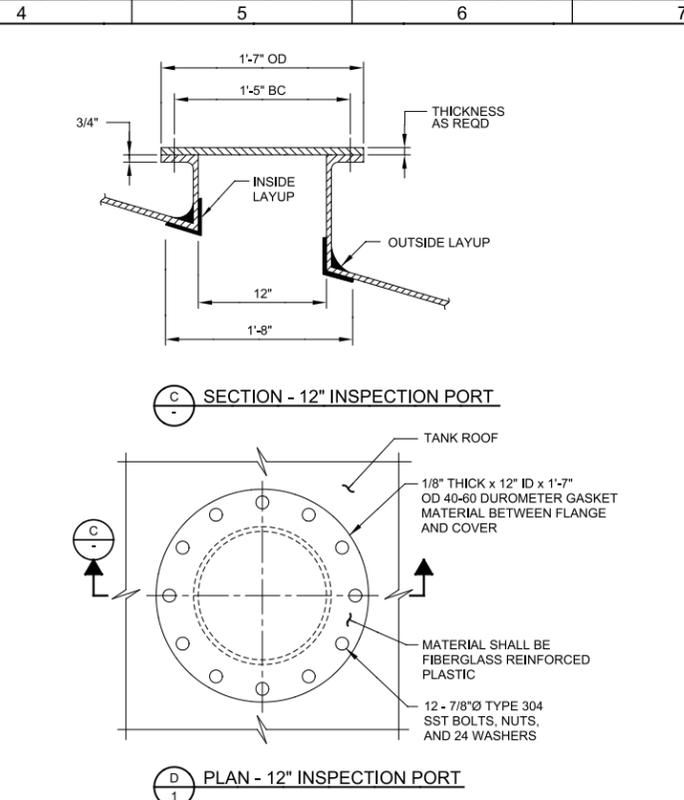
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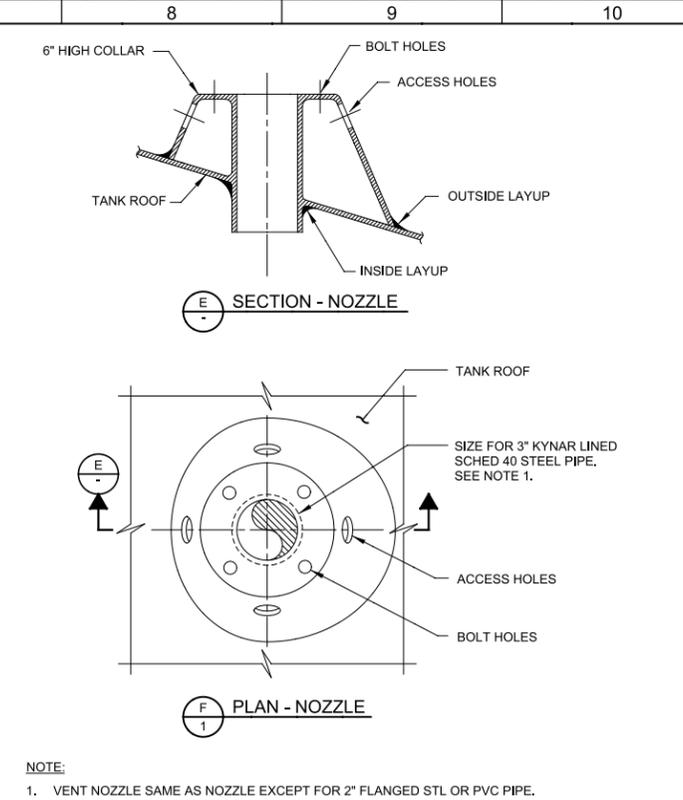
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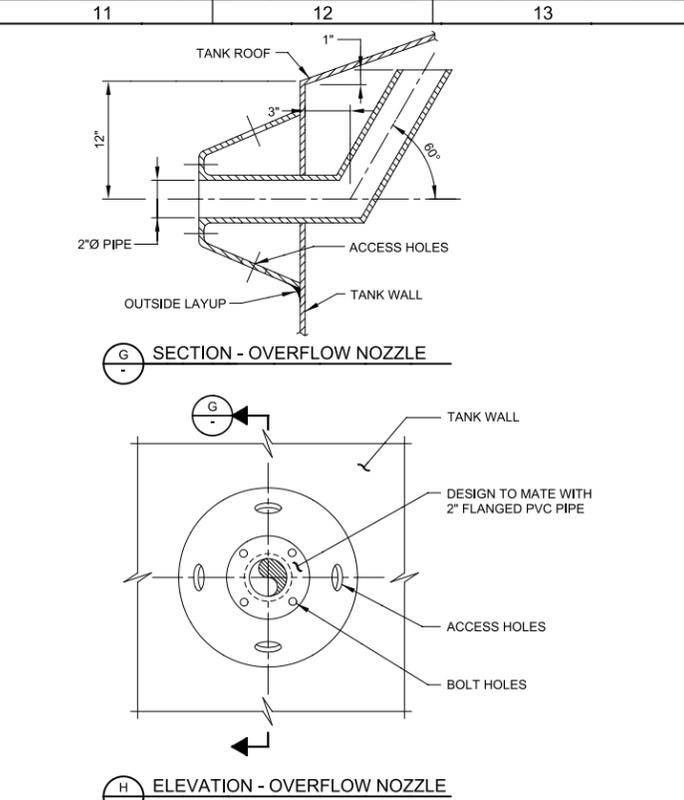
M002 FIBERGLASS TANK
TYP
SHEET 1 OF 8 08/01/05



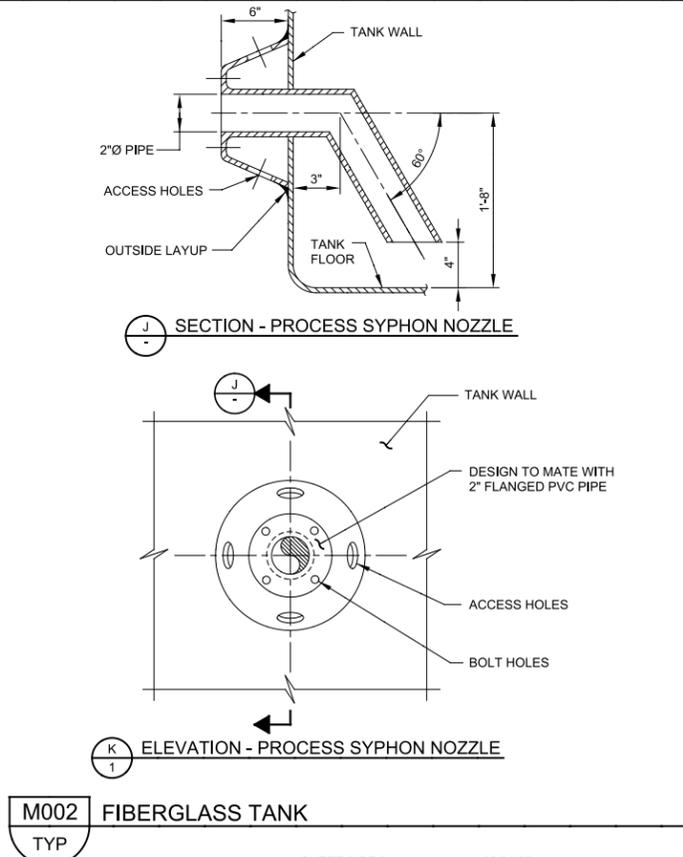
M002 FIBERGLASS TANK
TYP
SHEET 2 OF 8 08/01/05



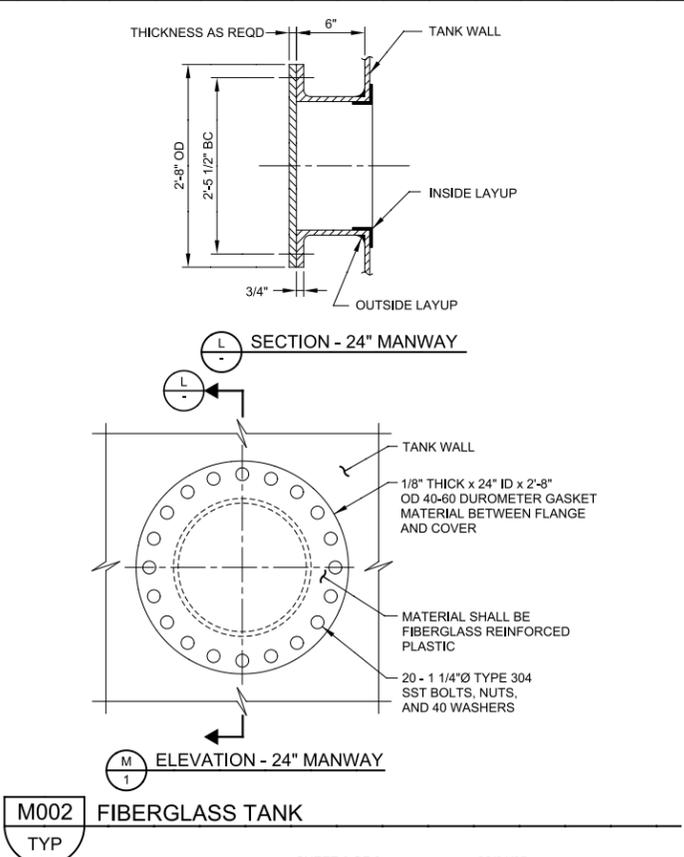
M002 FIBERGLASS TANK
TYP
SHEET 3 OF 8 08/01/05



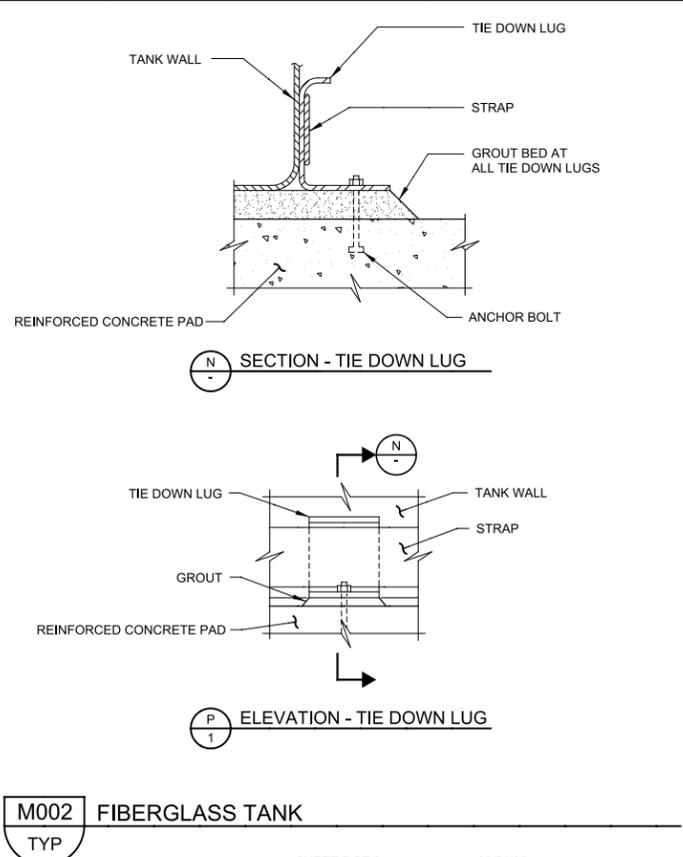
M002 FIBERGLASS TANK
TYP
SHEET 4 OF 8 08/01/05



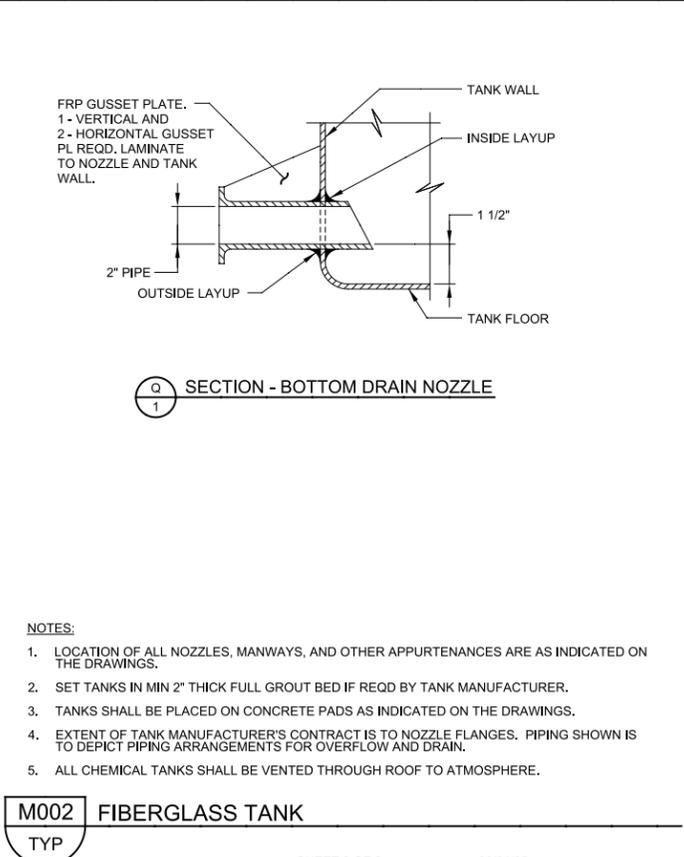
M002 FIBERGLASS TANK
TYP
SHEET 5 OF 8 08/01/05



M002 FIBERGLASS TANK
TYP
SHEET 6 OF 8 08/01/05



M002 FIBERGLASS TANK
TYP
SHEET 7 OF 8 08/01/05



M002 FIBERGLASS TANK
TYP
SHEET 8 OF 8 08/01/05

- NOTES:
1. LOCATION OF ALL NOZZLES, MANWAYS, AND OTHER APPURTENANCES ARE AS INDICATED ON THE DRAWINGS.
 2. SET TANKS IN MIN 2" THICK FULL GROUT BED IF REQ'D BY TANK MANUFACTURER.
 3. TANKS SHALL BE PLACED ON CONCRETE PADS AS INDICATED ON THE DRAWINGS.
 4. EXTENT OF TANK MANUFACTURER'S CONTRACT IS TO NOZZLE FLANGES. PIPING SHOWN IS TO DEPICT PIPING ARRANGEMENTS FOR OVERFLOW AND DRAIN.
 5. ALL CHEMICAL TANKS SHALL BE VENTED THROUGH ROOF TO ATMOSPHERE.

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DATE	SEPT 2013



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MECHANICAL
TYPICAL DETAILS

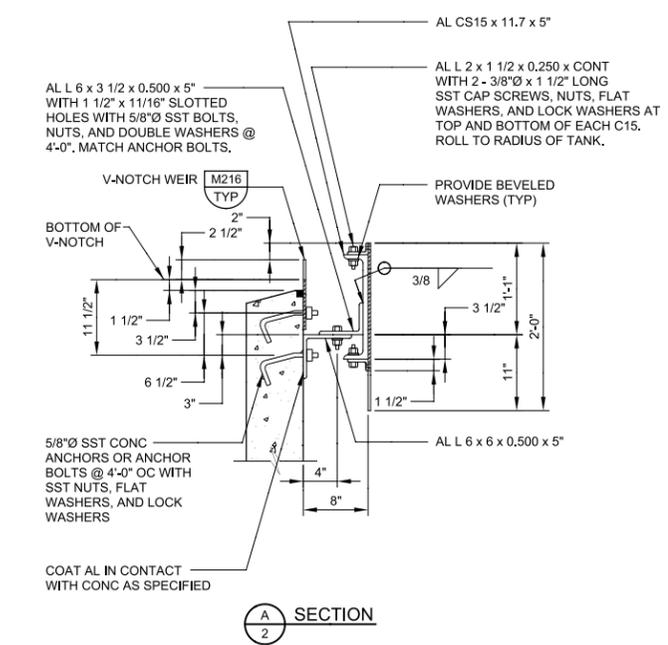
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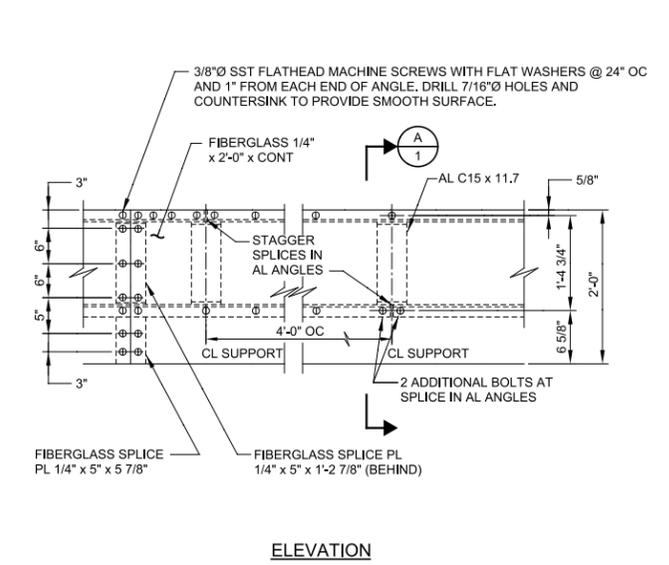
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NOTE:
1. DEEPEN BAFFLE AT SCUM BOX AS INDICATED ON THE DRAWINGS.

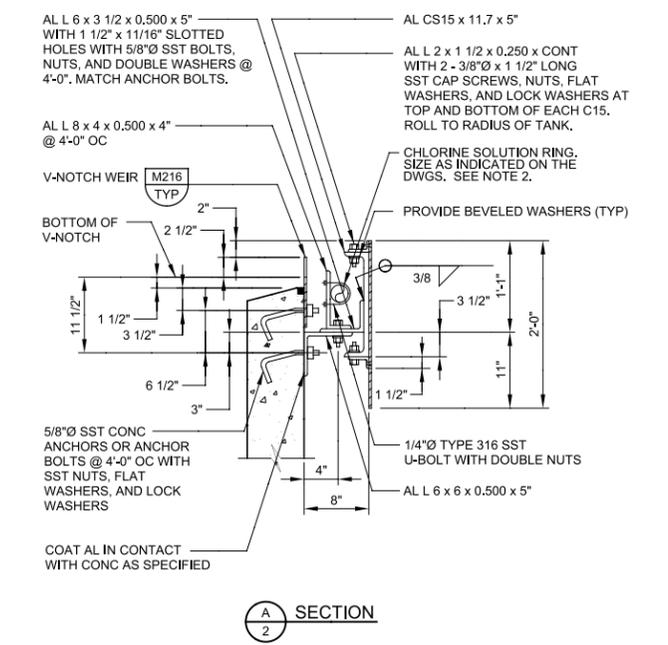
M210 SCUM BAFFLE SUPPORT
TYP

SHEET 1 OF 2 08/01/05



M210 SCUM BAFFLE SUPPORT
TYP

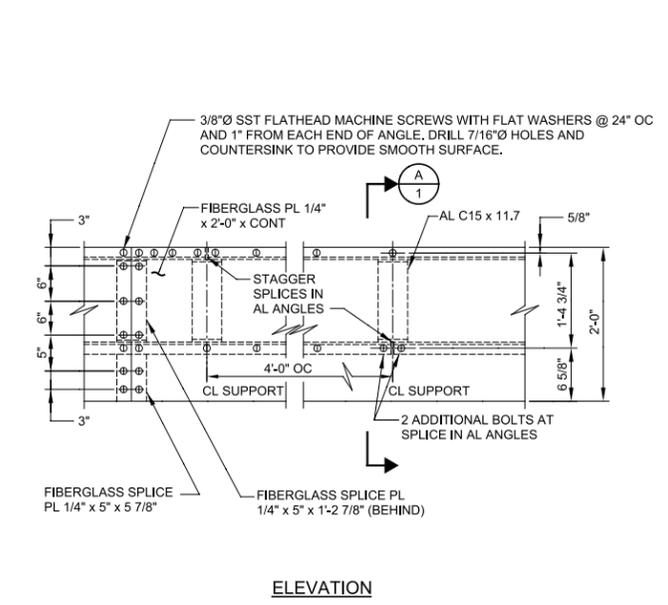
SHEET 2 OF 2 08/01/05



NOTES:
1. DEEPEN BAFFLE AT SCUM BOX AS INDICATED ON THE DRAWINGS.
2. PVC PIPE UTILIZED FOR CHLORINE SOLUTION RING SHALL BE "PRE-RADIUSED" BY PIPE SUPPLIER. RING SHALL BE ASSEMBLED WITHOUT FLEXURAL STRESS ON PIPE JOINTS.

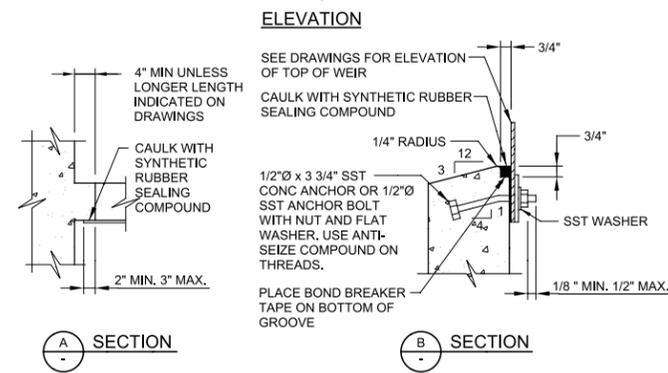
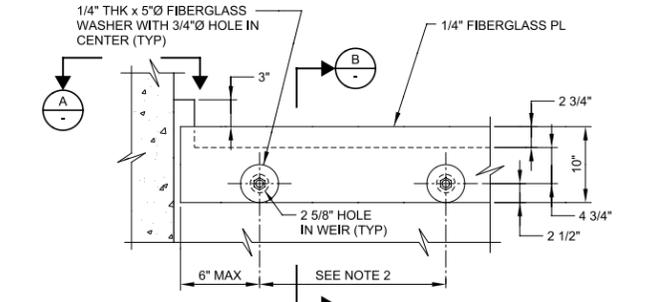
M212 SCUM BAFFLE SUPPORT WITH CHLORINE PIPE RING
TYP

SHEET 1 OF 2 03/01/10



M212 SCUM BAFFLE SUPPORT WITH CHLORINE PIPE RING
TYP

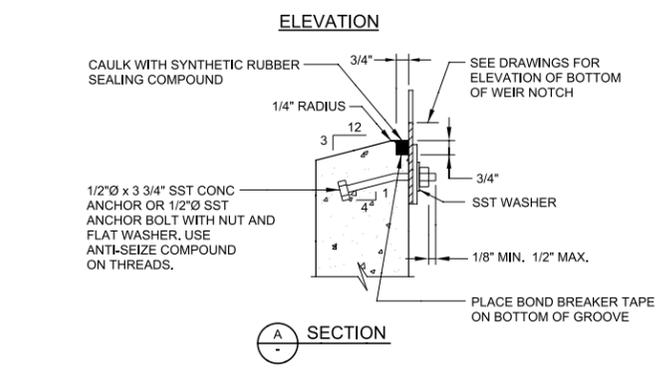
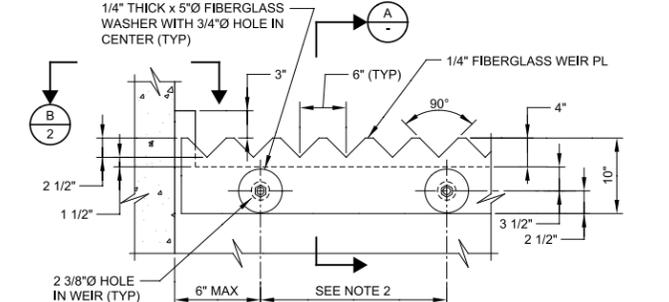
SHEET 2 OF 2 03/01/10



NOTES:
1. ALL EDGES, VOIDS, AND SPLICES SHALL BE SEALED WATERTIGHT WITH SYNTHETIC RUBBER SEALING COMPOUND.
2. ANCHOR BOLT SPACING = 12\"/>

M214 PLAIN WEIR
TYP

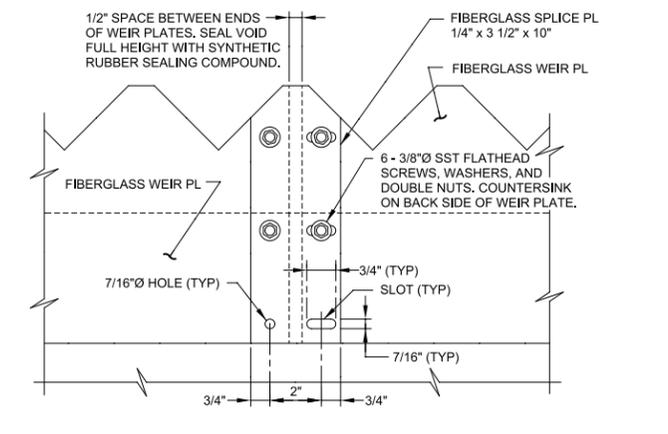
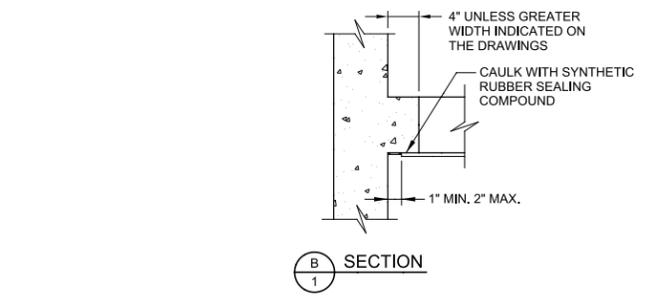
04/30/07



NOTES:
1. ALL EDGES, VOIDS, AND SPLICES SHALL BE SEALED WATER TIGHT WITH SYNTHETIC RUBBER SEALING COMPOUND.
2. ANCHOR BOLT SPACING = 12\"/>

M216 V-NOTCHED WEIR
TYP

SHEET 1 OF 2 09/12/12



M216 V-NOTCHED WEIR
TYP

SHEET 2 OF 2 09/12/12

DESIGNED	
DRAWN	
CHECKED	
DATE	SEPT 2013



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LOS OSOS WATER RECYCLING FACILITY PROJECT
MECHANICAL
TYPICAL DETAILS

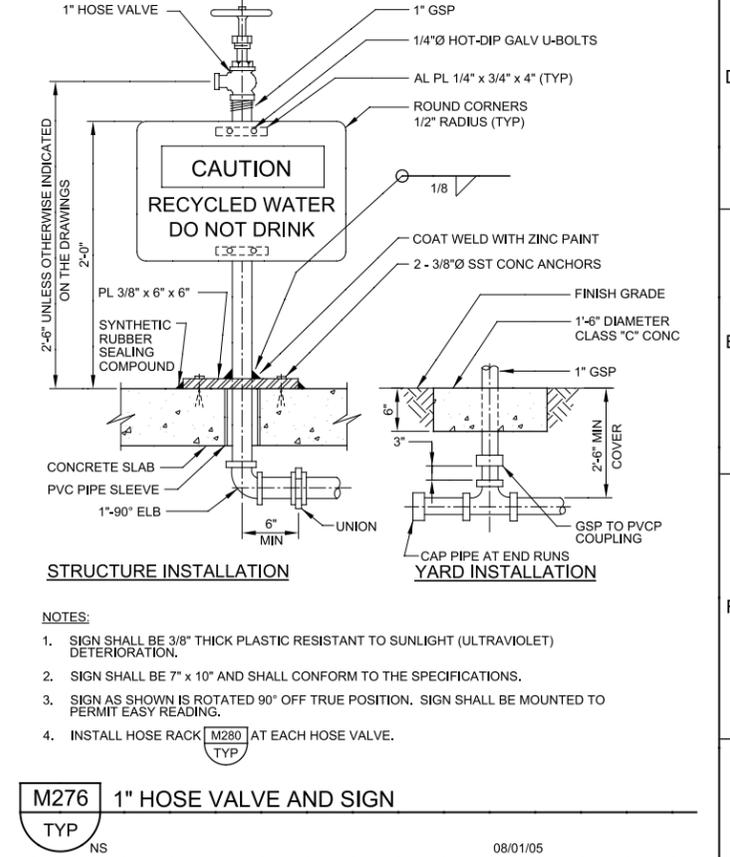
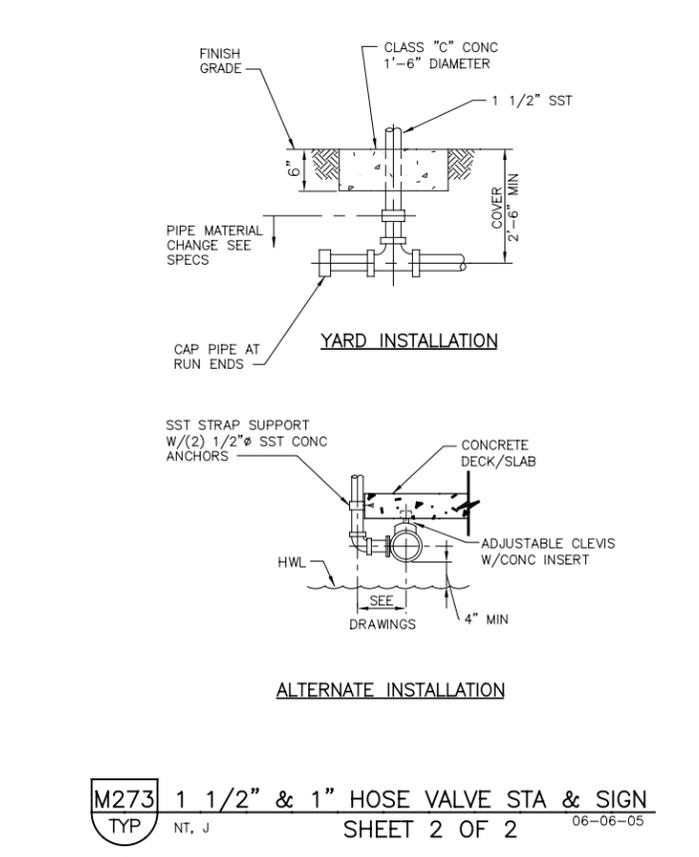
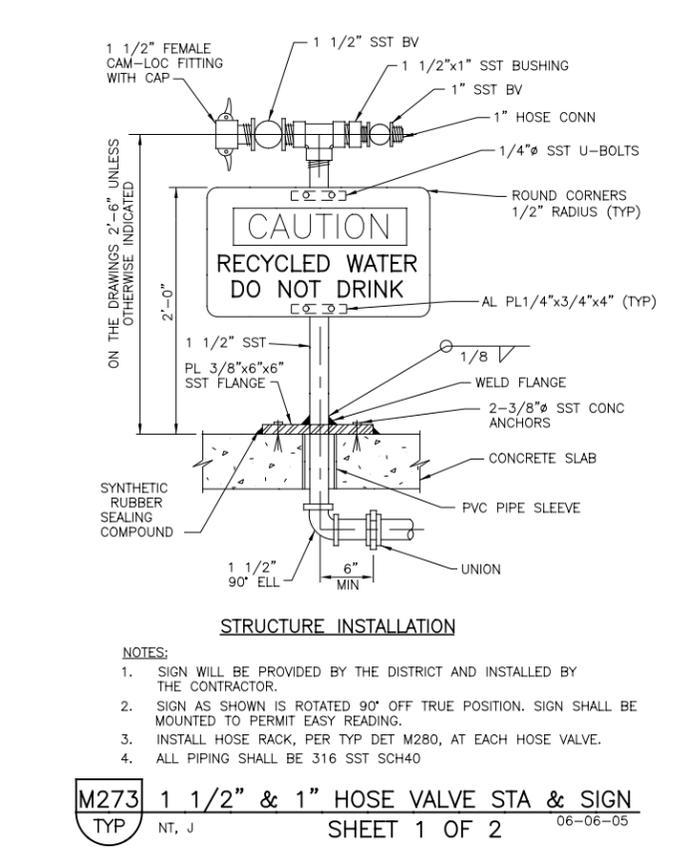
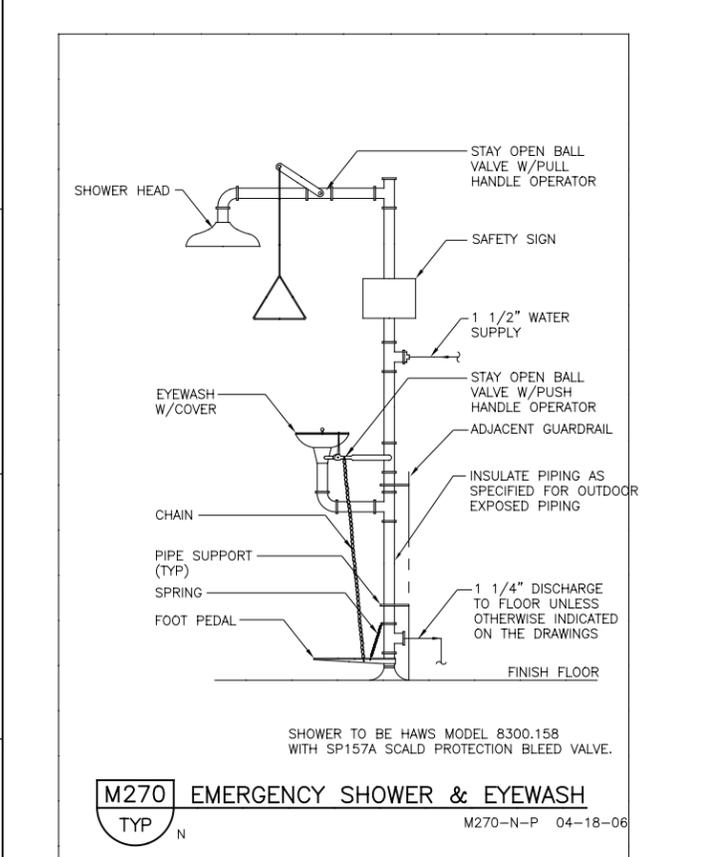
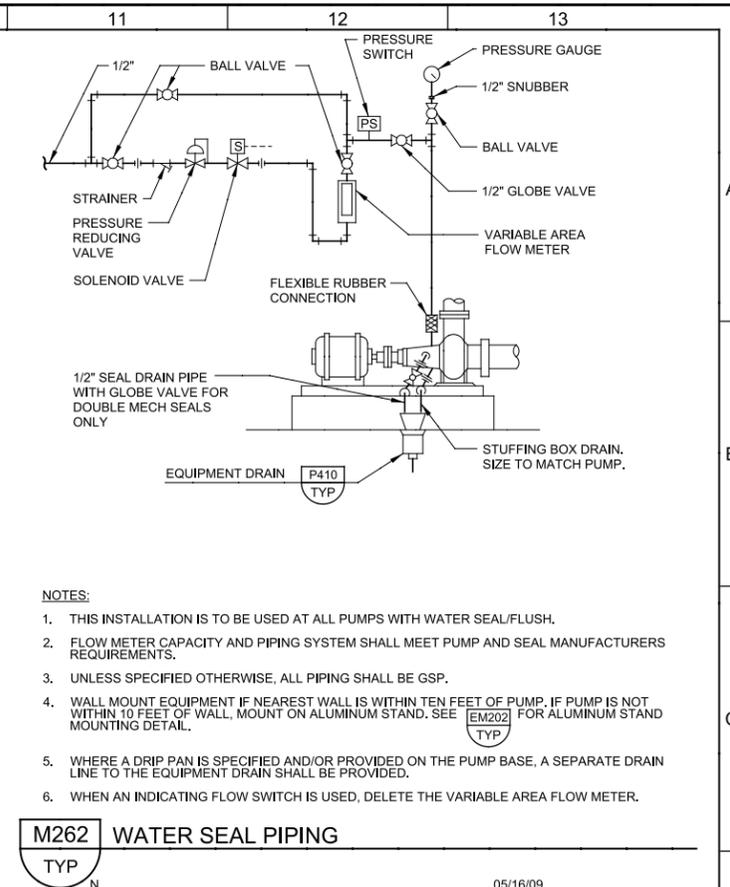
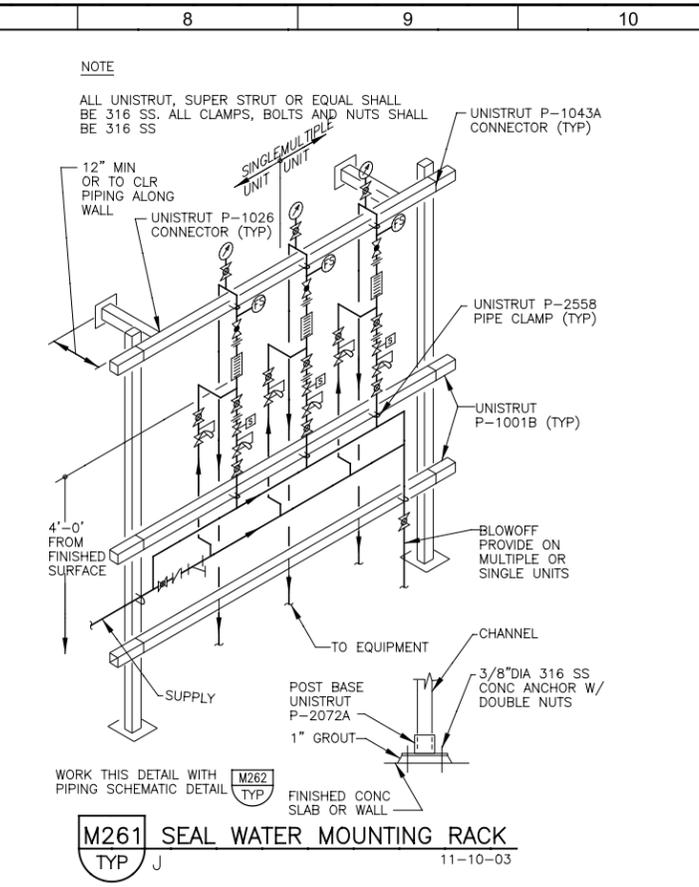
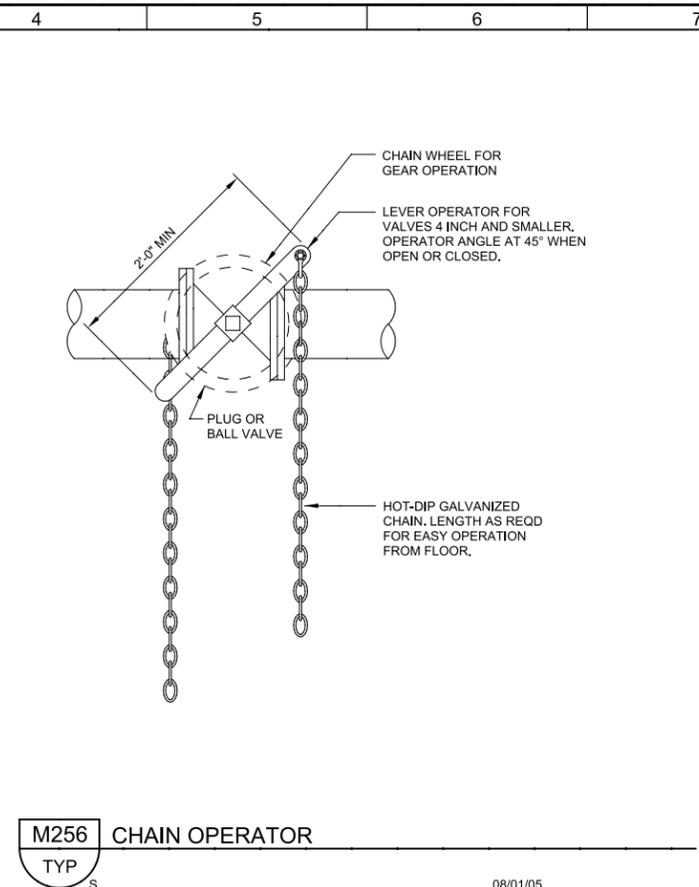
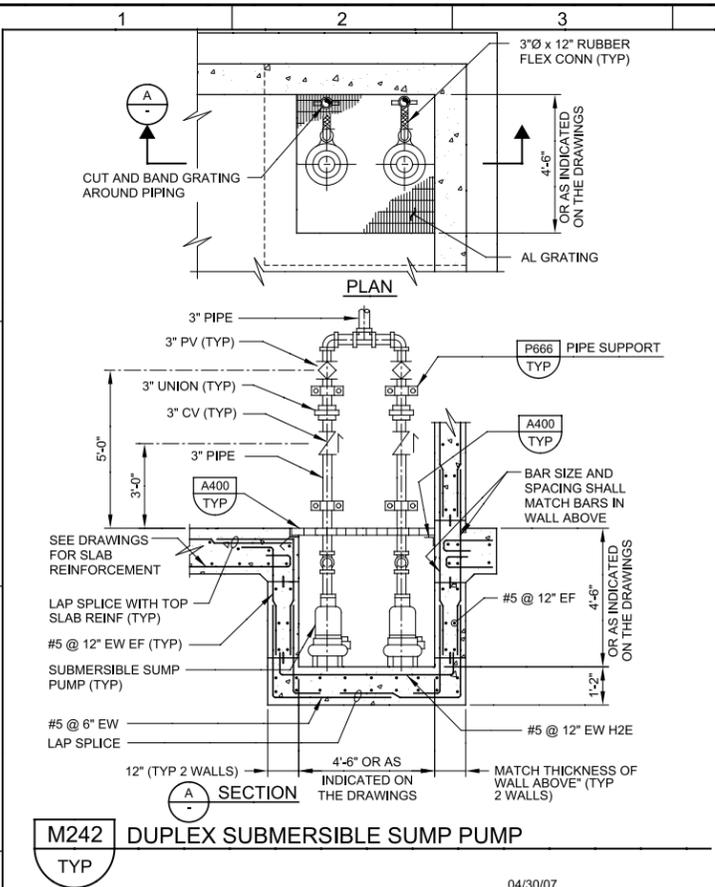
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LAST SAVED BY: psanchez



DESIGNED	HGK
DRAWN	PS
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carollo



SAN LUIS OBISPO COUNTY

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LOS OSOS WATER RECYCLING FACILITY PROJECT

MECHANICAL TYPICAL DETAILS

VERIFY SCALES
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0 1"
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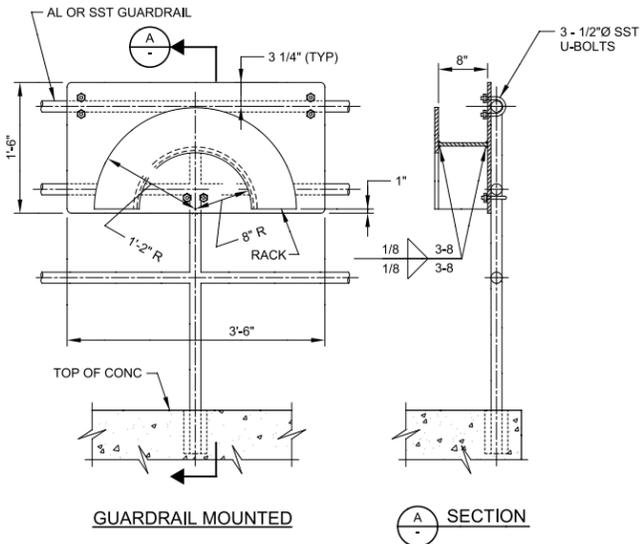
JOB NO. 8930A.11
DRAWING NO. MT03
SHEET NO. OF 549

Pldt Date: 17-SEP-2013 11:07:52 AM

User: NGriffith

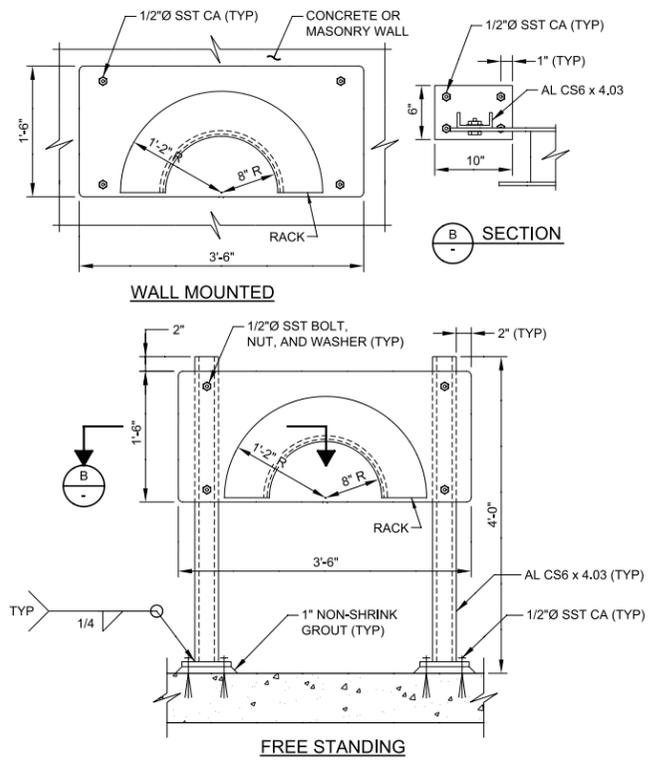
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LAST SAVED BY: psanchez



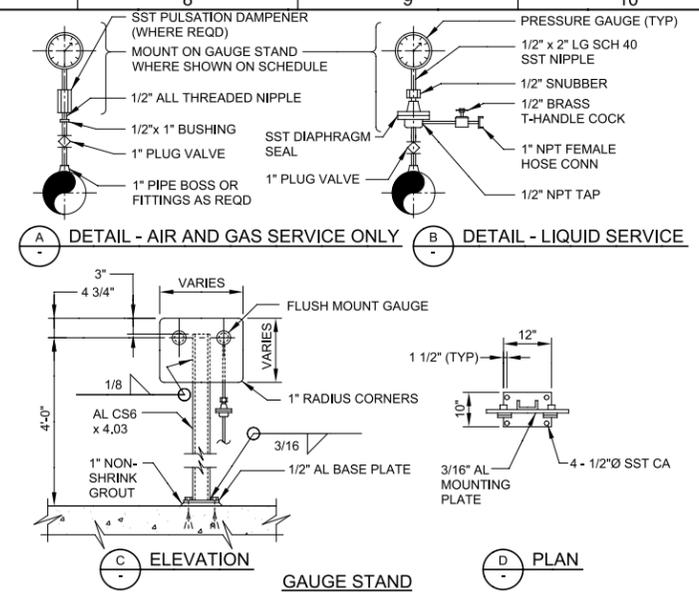
M280 HOSE RACK
TYP

SHEET 1 OF 2 09/30/07



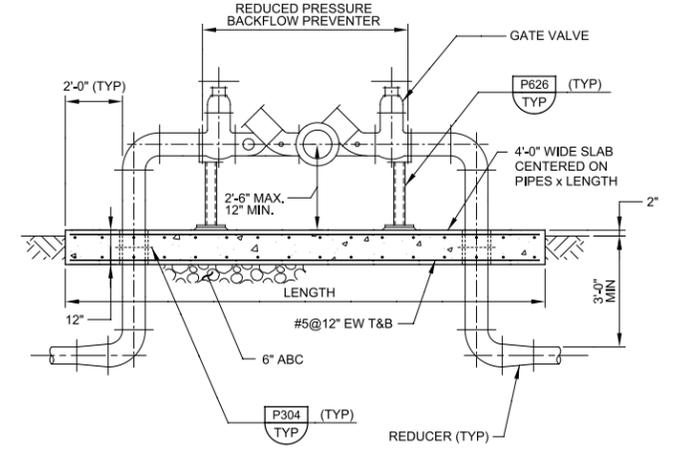
M280 HOSE RACK
TYP

SHEET 2 OF 2 09/30/07



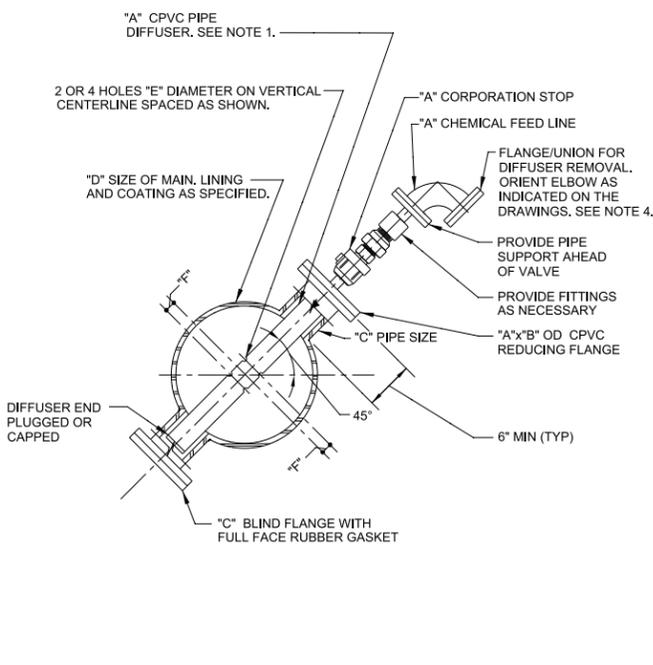
M294 PRESSURE GAUGE DETAILS
TYP

08/01/05



M310 REDUCED PRESSURE DOUBLE BACKFLOW PREVENTER
TYP

08/01/05



M322 IN-LINE CHEMICAL DIFFUSER - 2 OR 4 ORIFICE
TYP

SHEET 1 OF 2 03/16/09

REFERENCE DRAWING	CHEMICAL	GPH	NO. OF ORIFICES	DIMENSIONS IN INCHES						NOTES
				"A"	"B"	"C"	"D"	"E"	"F"	
SHEET 60M01	SHS	0.06	2	1"	2"	2"	2"	0.25"	1"	1, 2
SHEET 40M01	SHS	10	4	1"	2"	2"	18"	0.25"	6"	1, 2

- Notes:
 1. PROVIDE SCHEDULE 80 FOR PIPES UNDER 54" DIAMETER AND SCHEDULE 120 FOR PIPES GREATER THAN OR EQUAL TO 54" DIAMETER.
 2. ORIFICES SHALL BE PERPENDICULAR TO FLOW.
 3. SEE DRAWINGS FOR PIPING ORIENTATION.
 4. PROVIDE REDUCERS AND FITTINGS REQUIRED TO CONNECT DIFFUSER ASSEMBLY TO CHEMICAL PIPE.

M322 IN-LINE CHEMICAL DIFFUSER - 2 OR 4 ORIFICE
TYP

SHEET 2 OF 2 03/16/09



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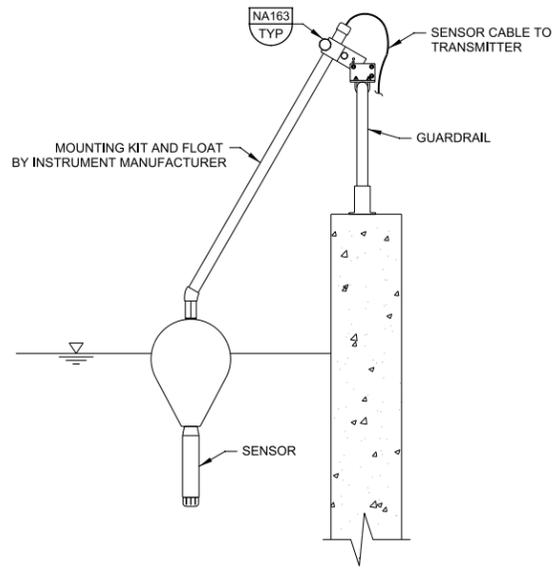
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DRAWING NO. MT04
SHEET NO. OF 549

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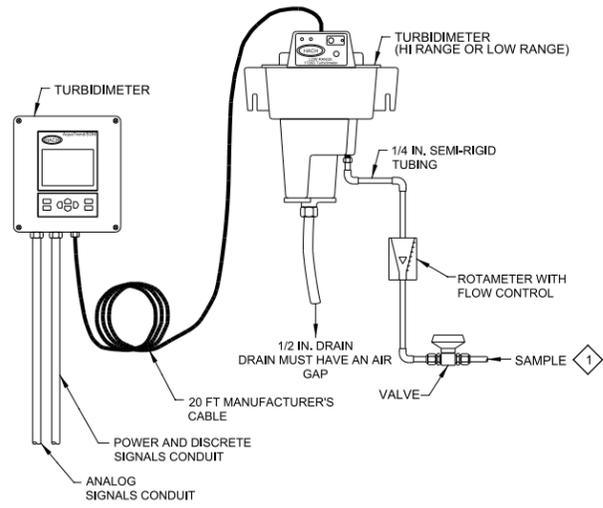
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LAST SAVED BY: psanchez

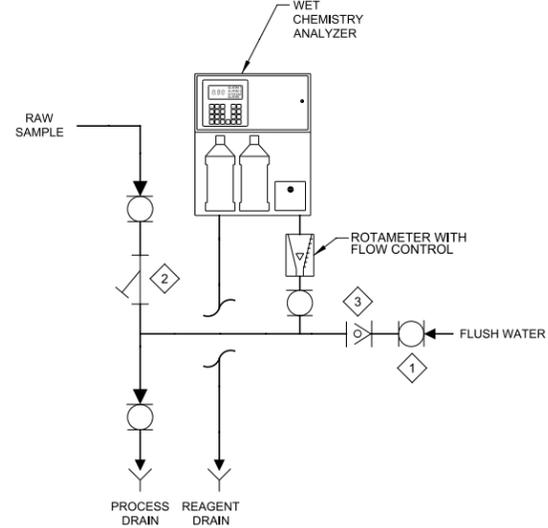


NA011
TYP
DISSOLVED OXYGEN PROBE
FLOAT MOUNT INSTALLATION



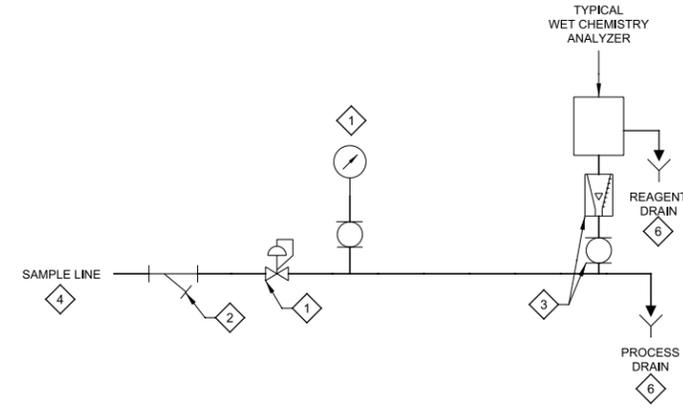
- KEY NOTES:**
- 1 VERIFY FLOW RATE FALLS WITHIN THE MANUFACTURER'S SUGGESTED RANGE WITHOUT THE PRESENCE OF ANY AIR BUBBLES.
 - 2 SAMPLE MUST BE TAKEN FROM MIDSTREAM FLOW.

NA030
TYP
TYPICAL HACH 1720E
TURBIDIMETER INSTALLATION DETAIL



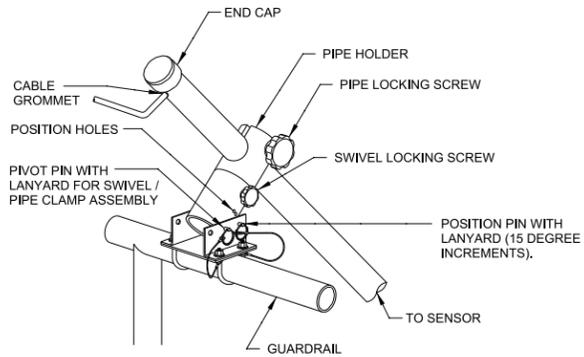
- KEY NOTES:**
- 1 FLUSH WATER LINE REQUIRED ON RAW WATER SAMPLE SYSTEMS. PROVIDE ISOLATION BALL VALVE.
 - 2 STRAINERS REQUIRED ON ALL RAW WATER INSTALLATIONS.
 - 3 CHECK VALVE.

NA042
TYP
WET CHEMISTRY ANALYZER
INSTALLATION DETAIL



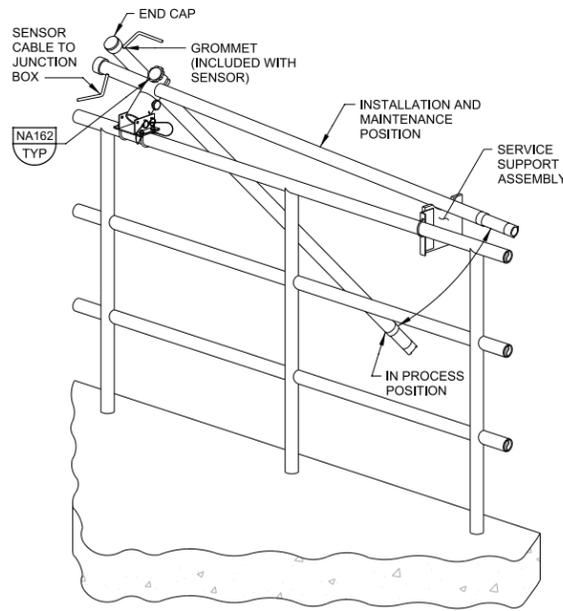
- KEY NOTES:**
- 1 PRESSURE CONTROL VALVE AND GAUGE ARE REQUIRED AT PRESSURE EXCEEDING 40 PSI.
 - 2 PROVIDE STRAINER ON ALL RAW WATER SAMPLE PANELS.
 - 3 PROVIDE ISOLATION VALVE AND ROTAMETER WITH FLOW CONTROL FOR EACH INSTRUMENT.
 - 4 MINIMIZE SAMPLE LINE LENGTH TO KEEP SAMPLE FLOW LAG TO A MINIMUM.
 - 5 INSTALL PROBES AND TEES IN SUCH A MANNER THAT IT WILL REMAIN SUBMERGED UNDER ALL CONDITIONS.
 - 6 PROVIDE AIR GAPS FOR ALL DRAINS.

NA090
TYP
SAMPLE PANEL PLUMBING DETAIL

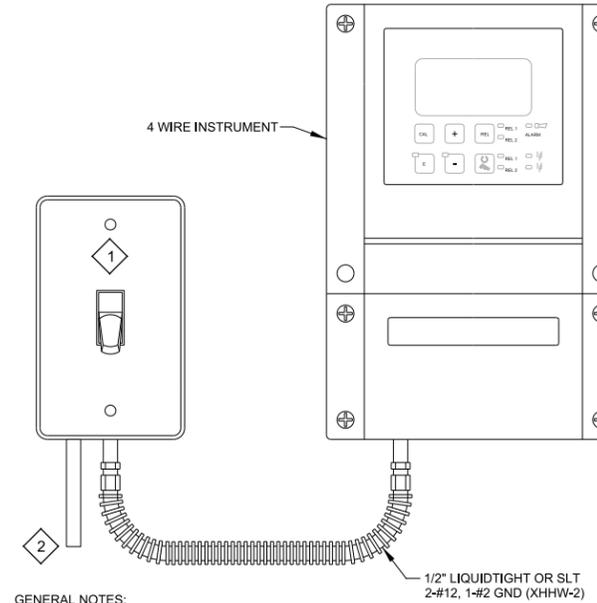


- NOTES:**
1. MOUNT THE SWIVEL / PIVOT / PIPE CLAMP ASSEMBLY TO A GUARDRAIL OR HORIZONTAL PIPE AS INDICATED ON THE PLAN DRAWINGS.
 2. MOUNT THE HARDWARE SERVICE SUPPORT ASSEMBLY TO A GUARDRAIL IN A LOCATION THAT IS APPROXIMATELY 5 FT. FROM THE SWIVEL / PIVOT / PIPE CLAMP ASSEMBLY.
 3. WHEN USING WITH FLOATATION HARDWARE, REMOVE THIS PIN FROM BRACKET TO PERMIT FREE PIVOTING.

NA162
TYP
IN-BASIN ANALYZER PROBE MOUNTING DETAIL



NA163
TYP
SWIVEL MOUNT FOR IN-BASIN
ANALYZER PROBES



- GENERAL NOTES:**
1. 120VAC, 1 POLE INSTRUMENT DISCONNECT. REFER TO SPECIFICATION 16050 FOR ENCLOSURE REQUIREMENTS.
- KEY NOTES:**
- 1 REFER TO SPECIFICATIONS 16050 AND 16140 FOR ENCLOSURE RATINGS.
 - 2 ELECTRICAL CONDUIT AND WIRE. REFER TO DRAWINGS FOR SIZE AND TYPE.

NA900
TYP
INSTRUMENT DISCONNECT

1/30/13

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LOS OSOS WATER RECYCLING FACILITY PROJECT
INSTRUMENTATION
TYPICAL DETAILS

VERIFY SCALES
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0 1"
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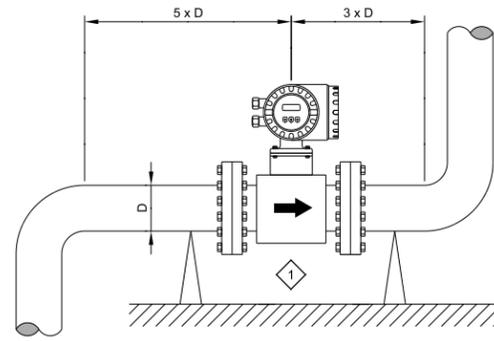
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DRAWING NO. NT01
SHEET NO. OF 549

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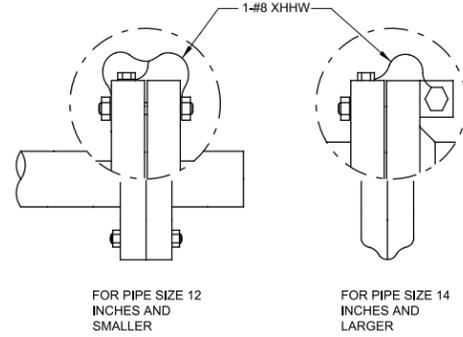
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LAST SAVED BY: psanchez



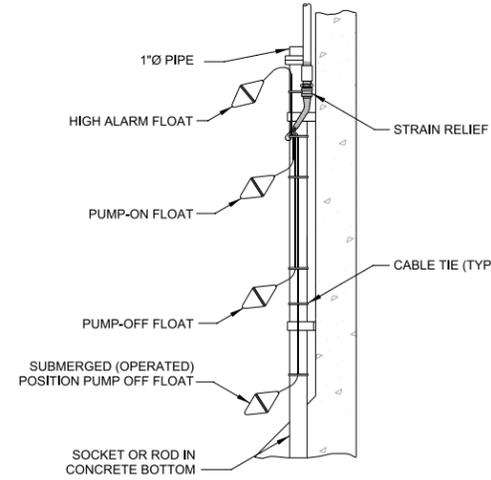
- NOTES:**
1. FOLLOW MANUFACTURER'S RECOMMENDED MAXIMUM TORQUE SETTING. DO NOT OVER-TORQUE FLANGE BOLTS. OVERTIGHTENING THE FASTENERS WILL DEFORM SEALING FACES OR DAMAGE THE LINE.
 2. ALWAYS TIGHTEN FLANGE BOLTS UNIFORMLY AND IN DIAGONALLY OPPOSITE SEQUENCE.
 3. MOUNT METER SO THAT IT REMAINS FULLY FLOODED.
 4. INSTALL METER SUCH THAT THERE ARE NO PIPE BENDS FOR 5 PIPE DIAMETERS UPSTREAM AND 3 PIPE DIAMETERS DOWNSTREAM OF THE METER.
- KEY NOTES:**
- ⚠ PIPE SUPPORTS BY MECHANICAL CONTRACTOR. NO SUPPORTS SHALL BE INSTALLED AT THE METER HANGING.

NF130 MAGNETIC FLOW MOUNTING DETAIL
TYP S



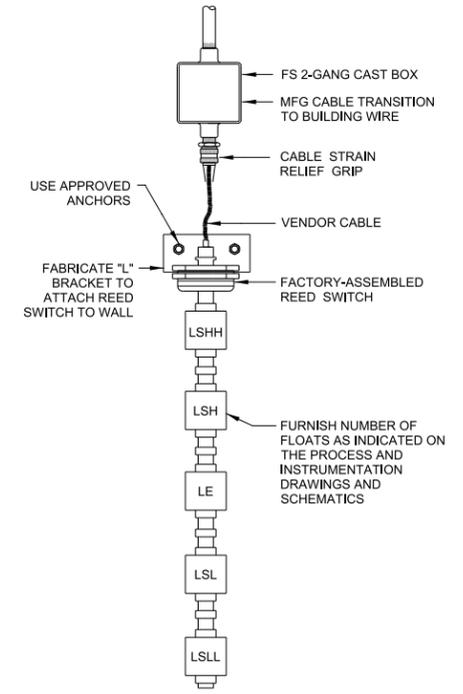
- NOTES:**
1. PIPE SIZE 12 INCHES AND SMALLER:
A. THE GROUND CABLE IS IN DIRECT CONTACT WITH THE CONDUCTIVE FLANGE COATING AND IS SECURED BY THE FLANGE BOLTS.
 2. PIPE SIZES 14 INCHES AND LARGER:
A. CONNECT GROUND CABLE DIRECTLY TO THE METAL TRANSPORT BRACKET.

NF137 GROUND RING CONNECTING DETAIL
TYP J

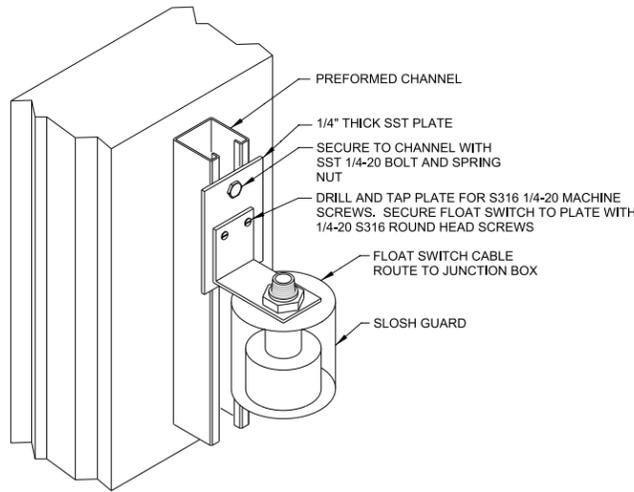


- NOTES:**
1. NUMBER OF FLOATS SHALL BE AS SHOWN ON SCHEMATICS AND P&IDS.
 2. FLOATS SHOWN IN FREE HANGING POSITION.

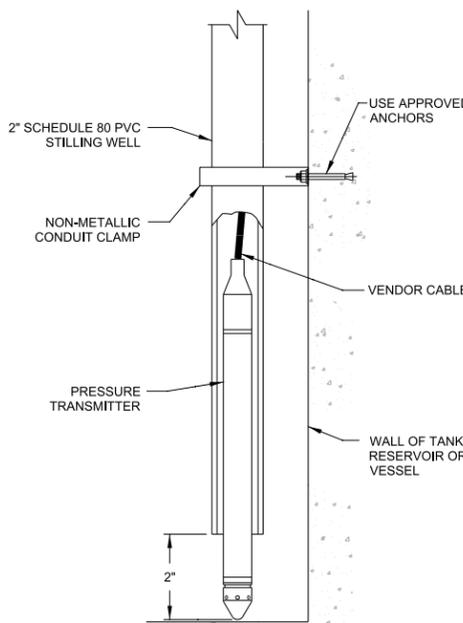
NL100 FLOAT SWITCH INSTALLATION
TYP S



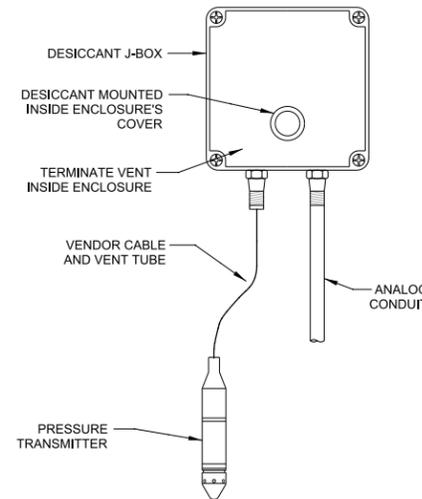
NL102 REED FLOAT SWITCH MOUNTING DETAIL
TYP S



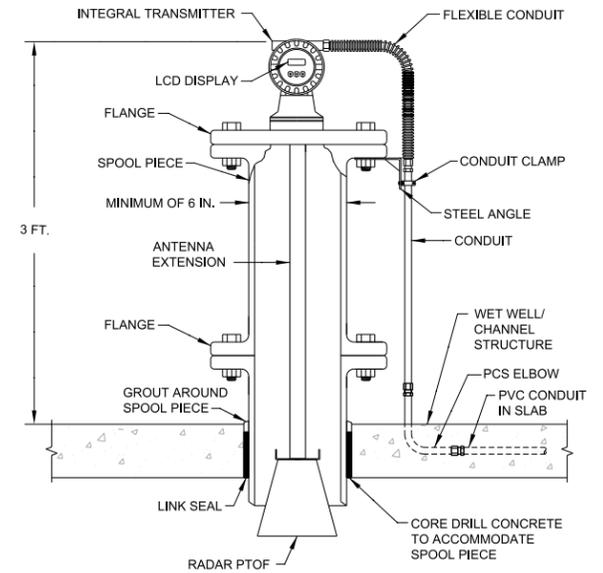
NL106 HIGH LEVEL SWITCH MOUNTING DETAIL
TYP S



NL131 DROP-IN PRESSURE TRANSMITTER MOUNTING DETAIL
TYP S



NL132 DROP-IN PRESSURE TRANSMITTER DESICCANT J-BOX DETAIL
TYP S



- NOTES:**
1. LENGTH OF ANTENNA EXTENSION AND SPOOL PIECE SHALL BE AS REQUIRED TO INSTALL LCD DISPLAY, 5 FEET FROM THE FINISHED FLOOR.

NL153 RADAR PTOF INSTRUMENT MOUNTING DETAIL
TYP S

REV	DATE	BY	DESCRIPTION

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DATE SEPT 2013	

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LOS OSOS WATER RECYCLING FACILITY PROJECT

INSTRUMENTATION TYPICAL DETAILS

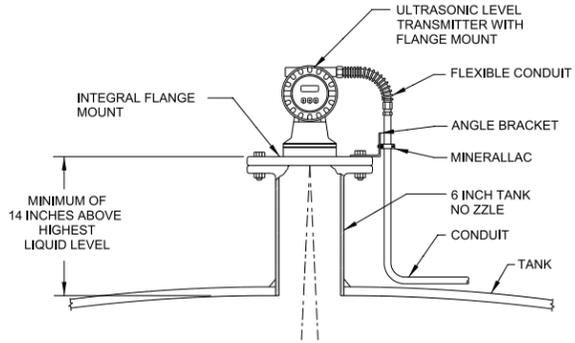
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	JOB NO. 8930A.11 DRAWING NO. NT02 SHEET NO. OF 549
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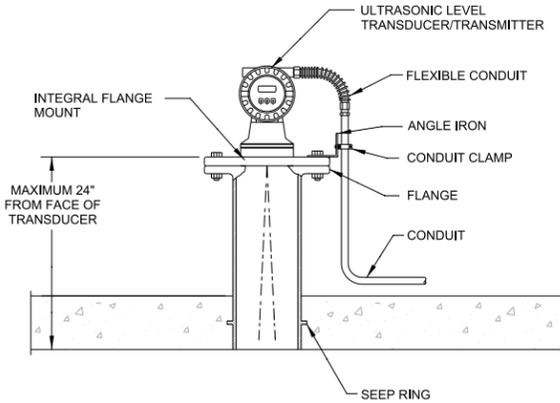
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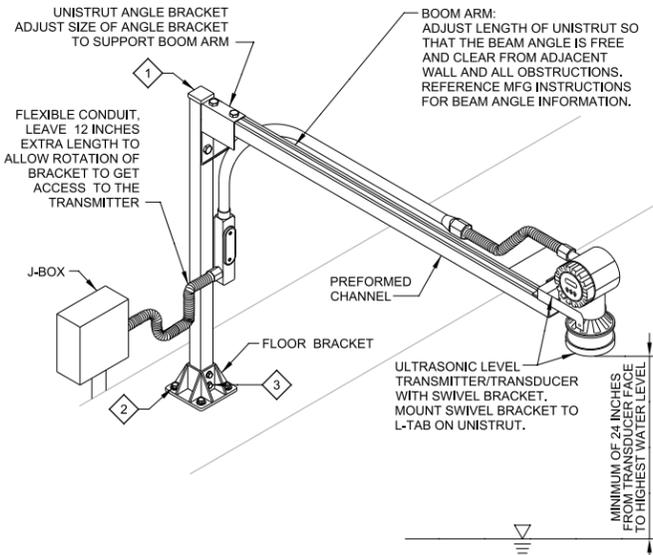
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NL170 ULTRASONIC LEVEL TRANSMITTER
TANK MOUNTING DETAIL
TYP S

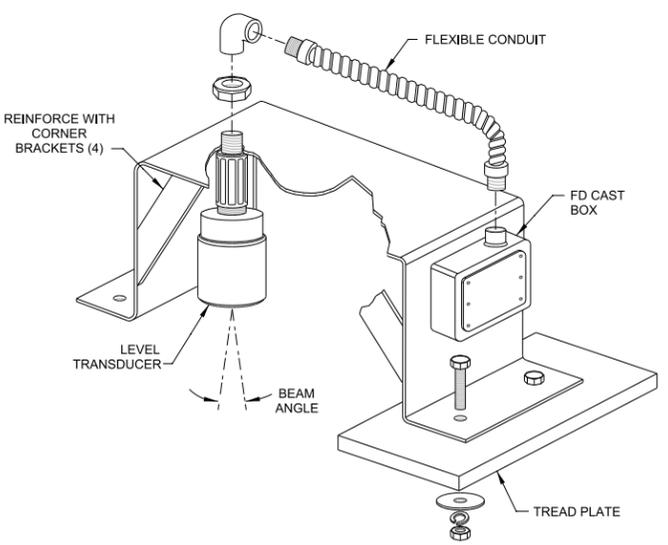


NL171 ULTRASONIC LEVEL TRANSMITTER
MOUNTING DETAIL
TYP S



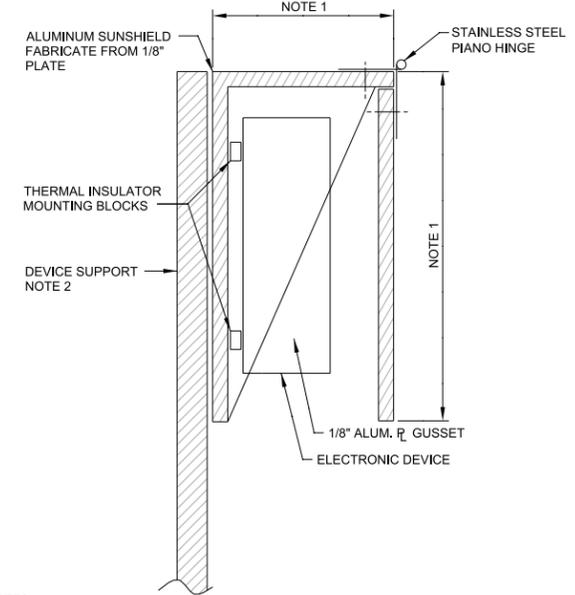
KEY NOTES:
 1 CONTRACTOR SHALL FURNISH END CAPS AND CHANNEL CAPS ON ALL EXPOSED PREFORMED CHANNEL.
 2 USE APPROVED CONCRETE ANCHOR AND FASTENERS.
 3 TO ACCESS TRANSDUCER/TRANSMITTER REMOVE BOLTS FROM FLOOR BRACKET.

NL180 ULTRASONIC LEVEL TRANSDUCER/TRANSMITTER
FLUME OR BASIN MOUNTING DETAIL
TYP S



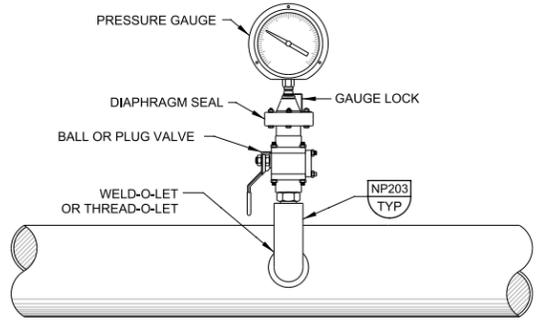
NL182 ULTRASONIC LEVEL TRANSDUCER
MOUNTING DETAIL
TYP J

1/30/13

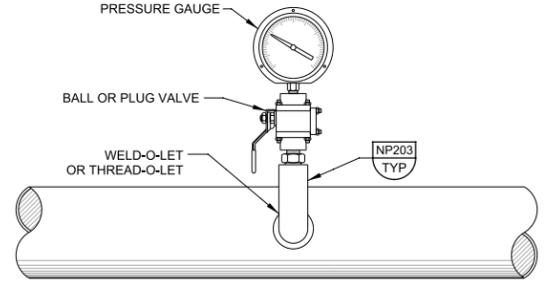


NOTES:
 1. SUNSHIELD DIMENSIONS SHALL EXCEED THOSE OF THE ELECTRONIC DEVICE BY 2" ON ALL SIDES.
 2. WHEN WALL MOUNTED, USE 4 STAINLESS STEEL ANCHOR BOLTS. WHEN MOUNTED ON HANDRAIL, USE STAINLESS STEEL U-BOLTS, NUTS & WASHERS.

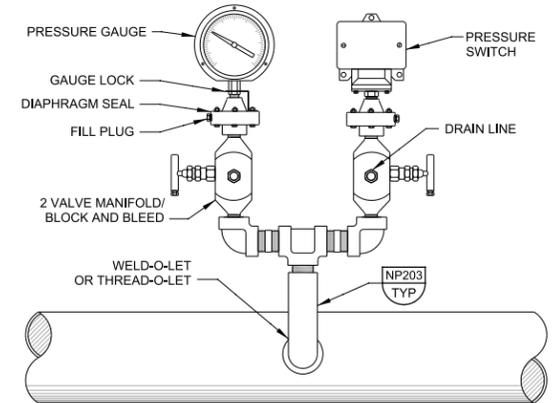
NM107 SUNSHIELD MOUNTING DETAIL
TYP S



NP104 PRESSURE GAUGE
MOUNTING DETAIL
TYP J



NP105 PRESSURE GAUGE
MOUNTING DETAIL
TYP J



NP143 PRESSURE SWITCH & GAUGE DETAIL
TYP J

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DATE	SEPT 2013



SAN LUIS OBISPO COUNTY

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LOS OSOS WATER RECYCLING FACILITY PROJECT

**INSTRUMENTATION
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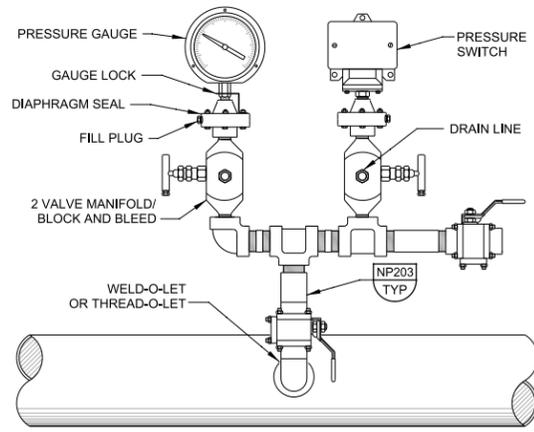
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DRAWING NO. **NT03**
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:08:33 AM

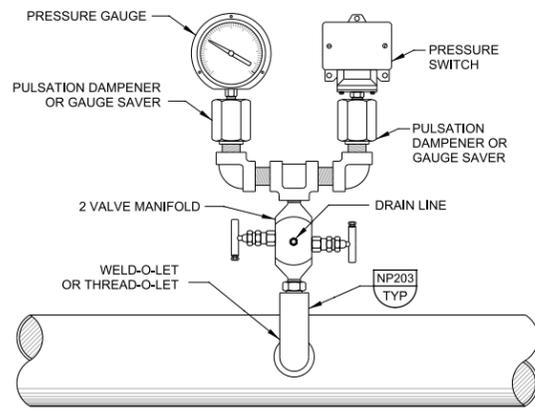
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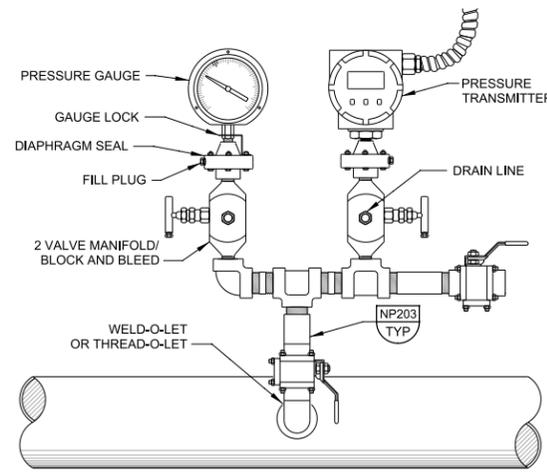
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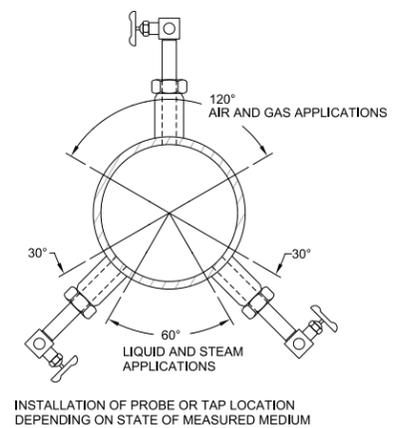
NP145 PRESSURE SWITCH & GAUGE DETAIL
TYP



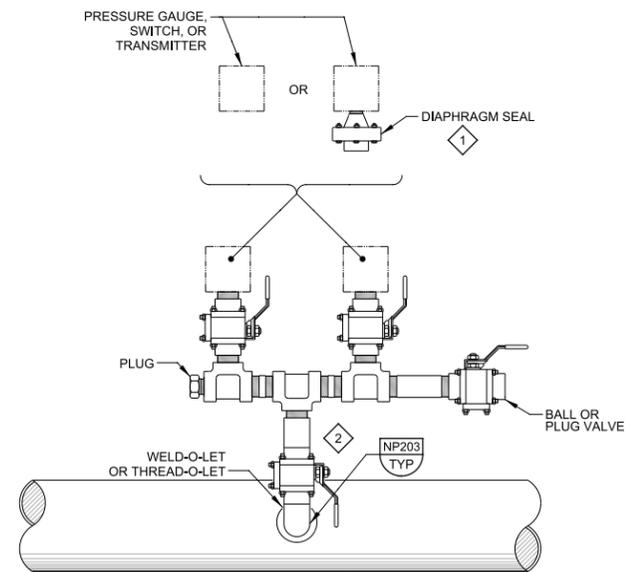
NP148 PRESSURE SWITCH & GAUGE DETAIL
TYP



NP189 PRESSURE TRANSMITTER & GAUGE DETAIL
TYP

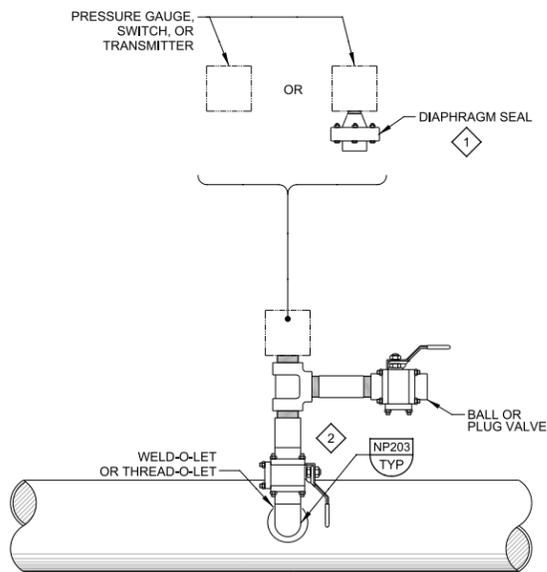


NP203 PRESSURE OR FLOW INSTRUMENT INSTALLATION
TYP



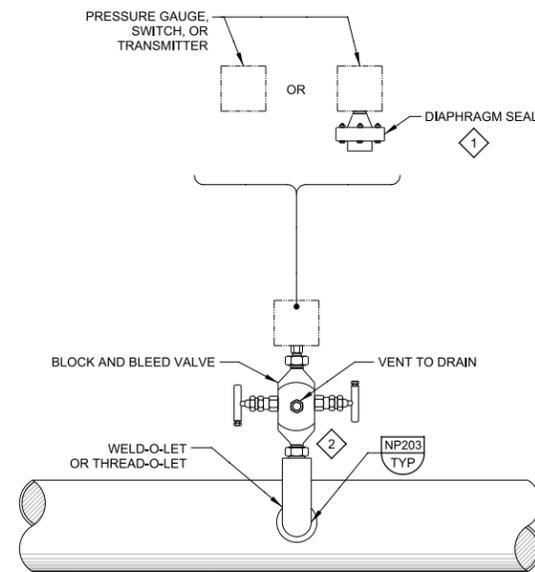
- NOTES:
- 1 USE THE INSTRUMENT DATA SHEETS IN DIVISION 17 OR DIVISIONS 40 SPECS TO IDENTIFY INDIVIDUAL REQUIREMENTS FOR DIAPHRAGM SEALS.
 - 2 ALL VALVE AND PIPE MATERIAL SHALL BE COMPATIBLE WITH PROCESS FLUID.

NP501 MULTIPLE PRESSURE INSTRUMENTS MOUNTING DETAIL
TYP



- NOTES:
- 1 USE THE INSTRUMENT DATA SHEETS IN DIVISION 17 OR DIVISIONS 40 SPECS TO IDENTIFY INDIVIDUAL REQUIREMENTS FOR DIAPHRAGM SEALS.
 - 2 ALL VALVE AND PIPE MATERIAL SHALL BE COMPATIBLE WITH PROCESS FLUID.

NP502 PRESSURE INSTRUMENT MOUNTING DETAIL
TYP



- NOTES:
- 1 USE THE INSTRUMENT DATA SHEETS IN DIVISION 17 OR DIVISIONS 40 SPECS TO IDENTIFY INDIVIDUAL REQUIREMENTS FOR DIAPHRAGM SEALS.
 - 2 ALL VALVE AND PIPE MATERIAL SHALL BE COMPATIBLE WITH PROCESS FLUID.

NP504 PRESSURE INSTRUMENT MOUNTING DETAIL
TYP

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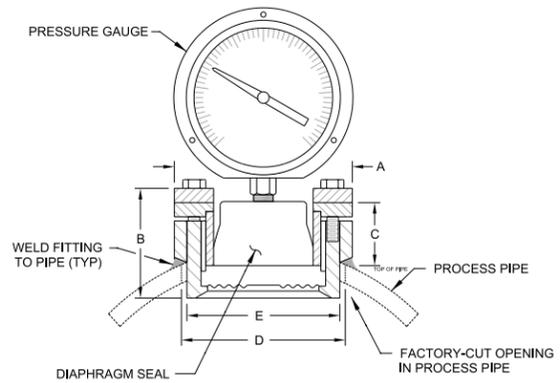
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DRAWING NO. NT04
SHEET NO. OF 549

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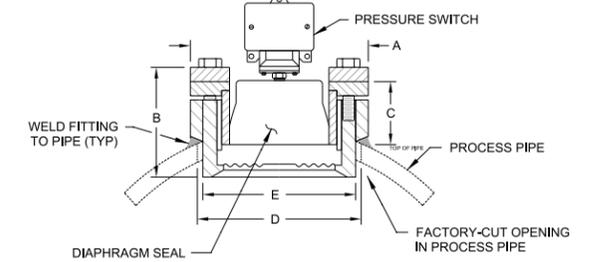
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LAST SAVED BY: psanchez



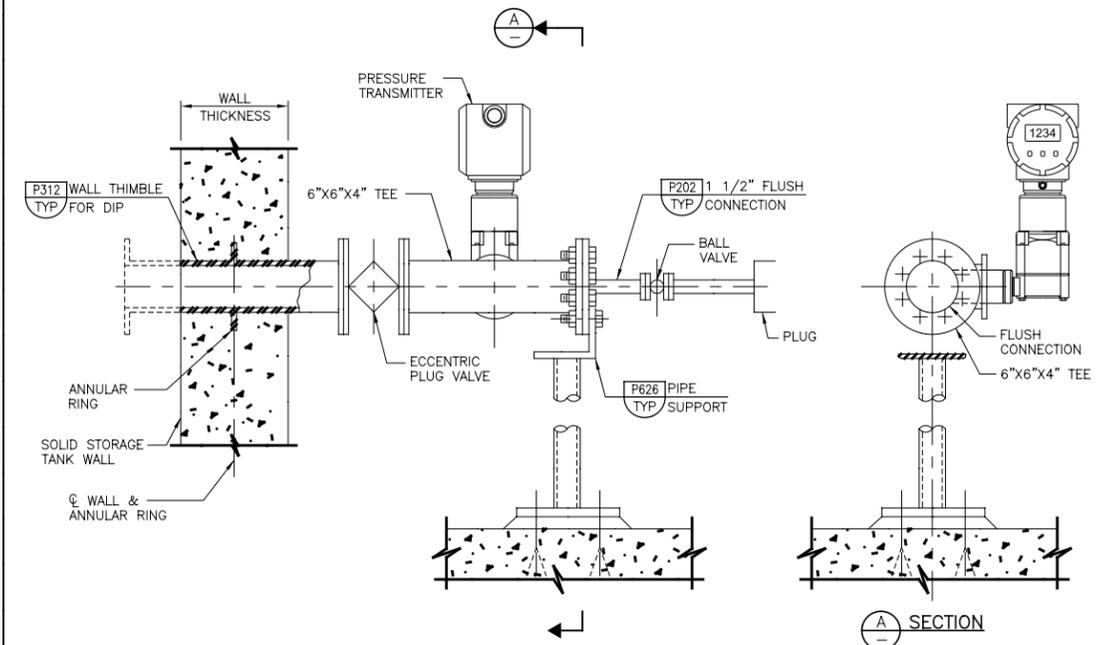
in	A	mm	in	B	mm	in	C	mm	in	D	mm	in	E	mm
3 1/2	(89)		1 15/16	(50)		1 3/16	(31)		3	(79)		2 31/32	(75)	

NP900 PRESSURE GAUGE WITH SADDLE TYPE DIAPHRAGM SEAL (PROCESS PIPE 4" & LARGER) TYP DETAIL



in	A	mm	in	B	mm	in	C	mm	in	D	mm	in	E	mm
3 1/2	(89)		1 15/16	(50)		1 3/16	(31)		3	(79)		2 31/32	(75)	

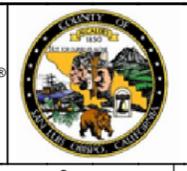
NP901 PRESSURE SWITCH WITH SADDLE TYPE DIAPHRAGM SEAL (PROCESS PIPE 4" & LARGER) TYP DETAIL



NP902 SOLID STORAGE TANK LEVEL MOUNTING DETAIL TYP N 08-05-09

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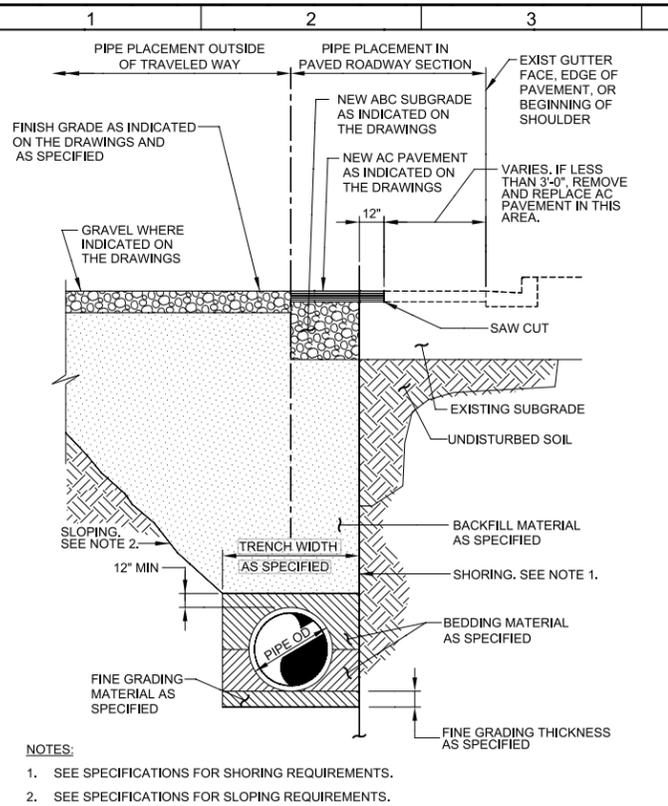
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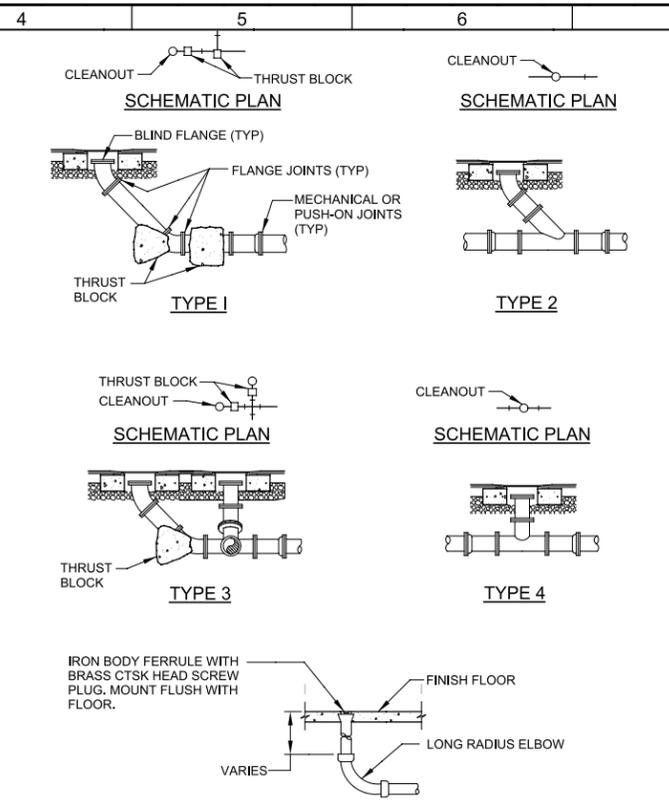
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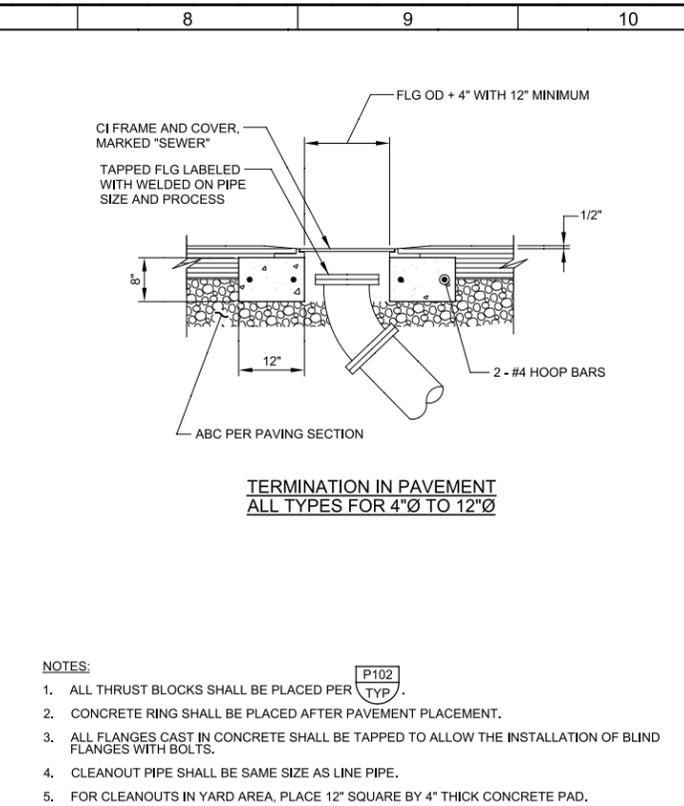
- NOTES:
- SEE SPECIFICATIONS FOR SHORING REQUIREMENTS.
 - SEE SPECIFICATIONS FOR SLOPING REQUIREMENTS.

P002 PIPE INSTALLATION AND PAVEMENT REPLACEMENT
TYP N 09/06/13



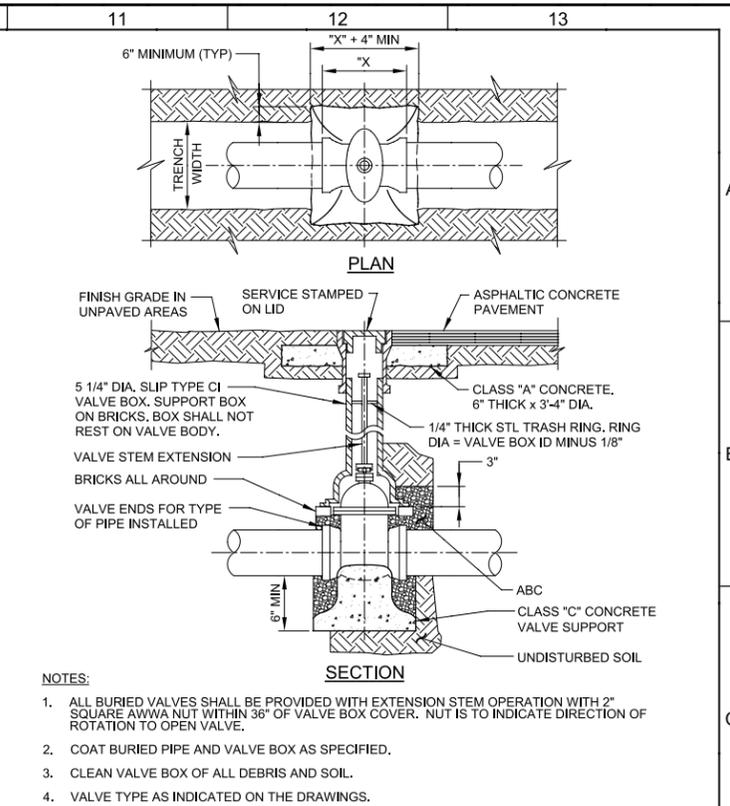
- NOTES:
- ALL THRUST BLOCKS SHALL BE PLACED PER P102 TYP.
 - CONCRETE RING SHALL BE PLACED AFTER PAVEMENT PLACEMENT.
 - ALL FLANGES CAST IN CONCRETE SHALL BE TAPPED TO ALLOW THE INSTALLATION OF BLIND FLANGES WITH BOLTS.
 - CLEANOUT PIPE SHALL BE SAME SIZE AS LINE PIPE.
 - FOR CLEANOUTS IN YARD AREA, PLACE 12" SQUARE BY 4" THICK CONCRETE PAD.

P004 CLEANOUTS
TYP S SHEET 1 OF 2 07/31/08



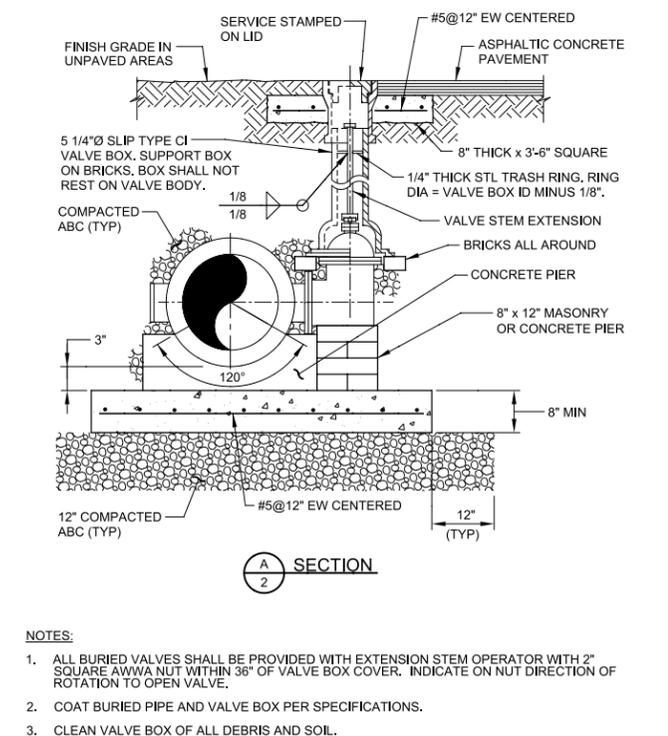
- NOTES:
- ALL THRUST BLOCKS SHALL BE PLACED PER P102 TYP.
 - CONCRETE RING SHALL BE PLACED AFTER PAVEMENT PLACEMENT.
 - ALL FLANGES CAST IN CONCRETE SHALL BE TAPPED TO ALLOW THE INSTALLATION OF BLIND FLANGES WITH BOLTS.
 - CLEANOUT PIPE SHALL BE SAME SIZE AS LINE PIPE.
 - FOR CLEANOUTS IN YARD AREA, PLACE 12" SQUARE BY 4" THICK CONCRETE PAD.

P004 CLEANOUTS
TYP S SHEET 2 OF 2 07/31/08



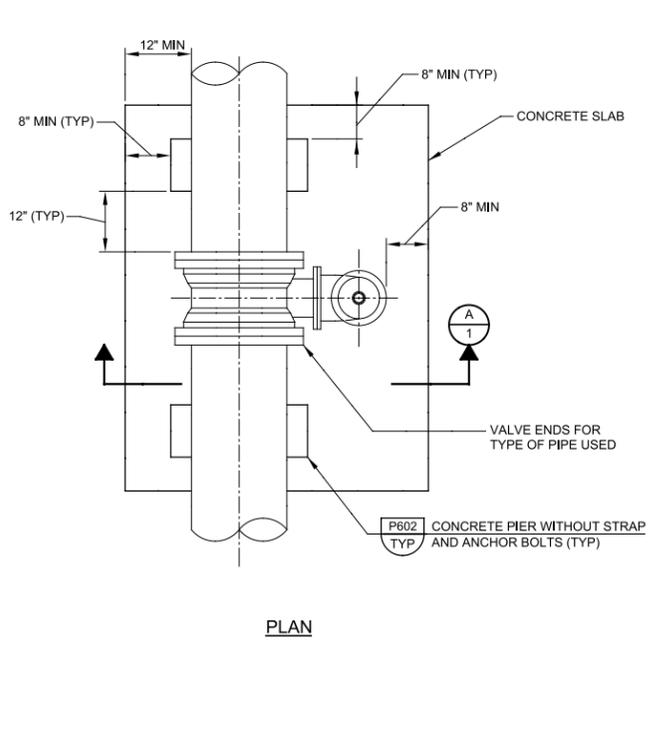
- NOTES:
- ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATION WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
 - COAT BURIED PIPE AND VALVE BOX AS SPECIFIED.
 - CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
 - VALVE TYPE AS INDICATED ON THE DRAWINGS.

P022 VALVE BOX INSTALLATION
TYP N 08/01/05



- NOTES:
- ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. INDICATE ON NUT DIRECTION OF ROTATION TO OPEN VALVE.
 - COAT BURIED PIPE AND VALVE BOX PER SPECIFICATIONS.
 - CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.

P026 BURIED BUTTERFLY VALVE
TYP S SHEET 1 OF 2 11/30/08



- NOTES:
- ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. INDICATE ON NUT DIRECTION OF ROTATION TO OPEN VALVE.
 - COAT BURIED PIPE AND VALVE BOX PER SPECIFICATIONS.
 - CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.

P026 BURIED BUTTERFLY VALVE
TYP S SHEET 2 OF 2 11/30/08

REV	DATE	BY	DESCRIPTION

DESIGNED HGK
DRAWN PS
CHECKED SGS
DATE SEPT 2013

REGISTERED PROFESSIONAL ENGINEER
CAROLLO GIL RAY
No. 52686
CIVIL
STATE OF CALIFORNIA
9/16/2013

carollo

SAN LUIS OBISPO COUNTY

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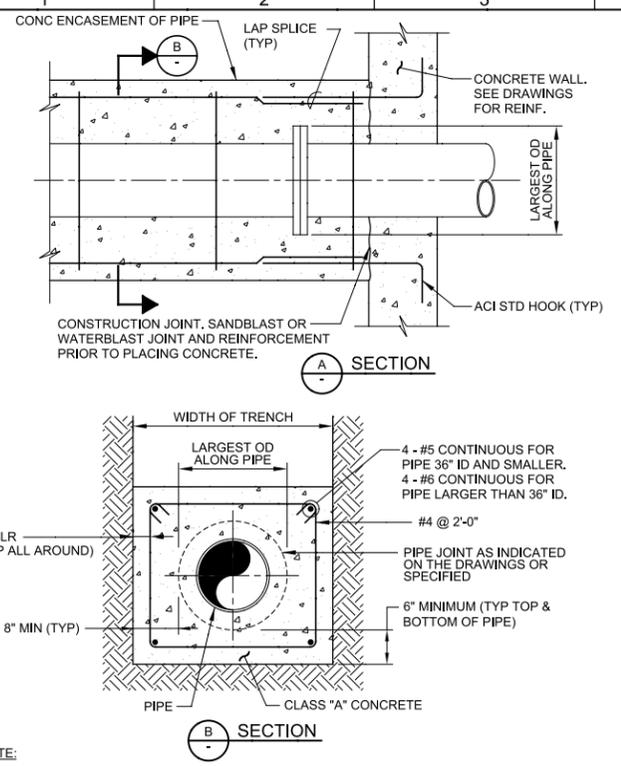
JOB NO. 8930A.11
DRAWING NO. PT01
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:09:10 AM

User: NGriffith

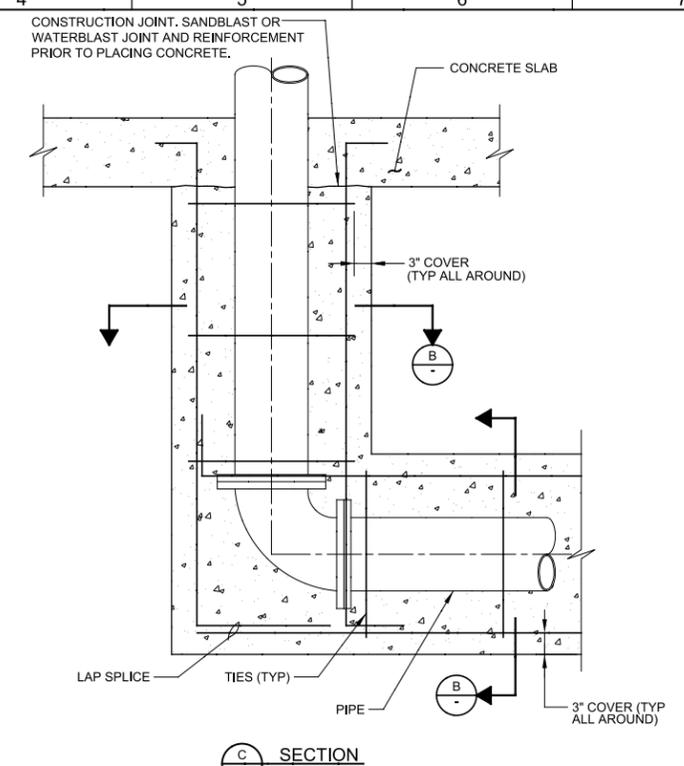
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LAST SAVED BY: psanchez



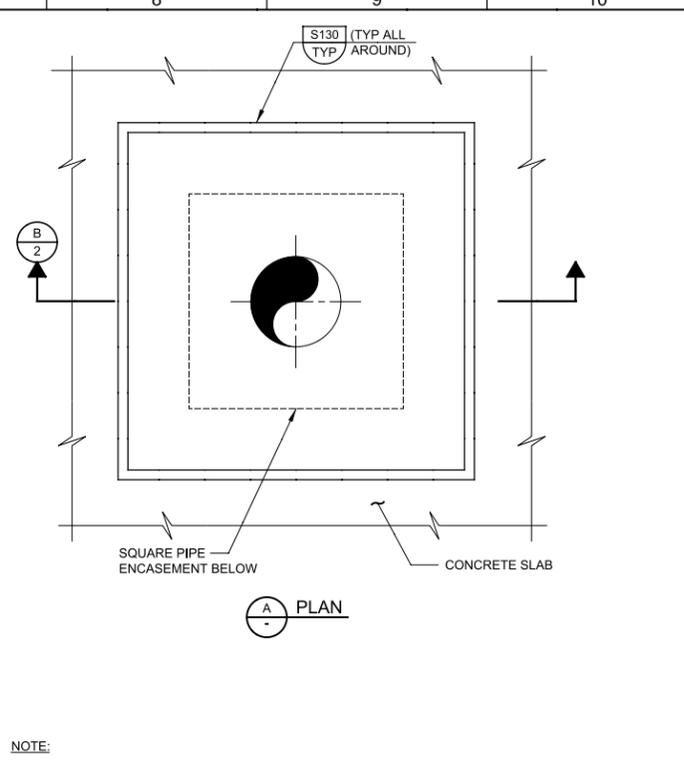
NOTE:
1. TYPE OF PIPE AND TYPE OF PIPE JOINT OR COUPLER AS INDICATED ON THE DRAWINGS.

P040 CONCRETE ENCASEMENT OF PIPE
TYP



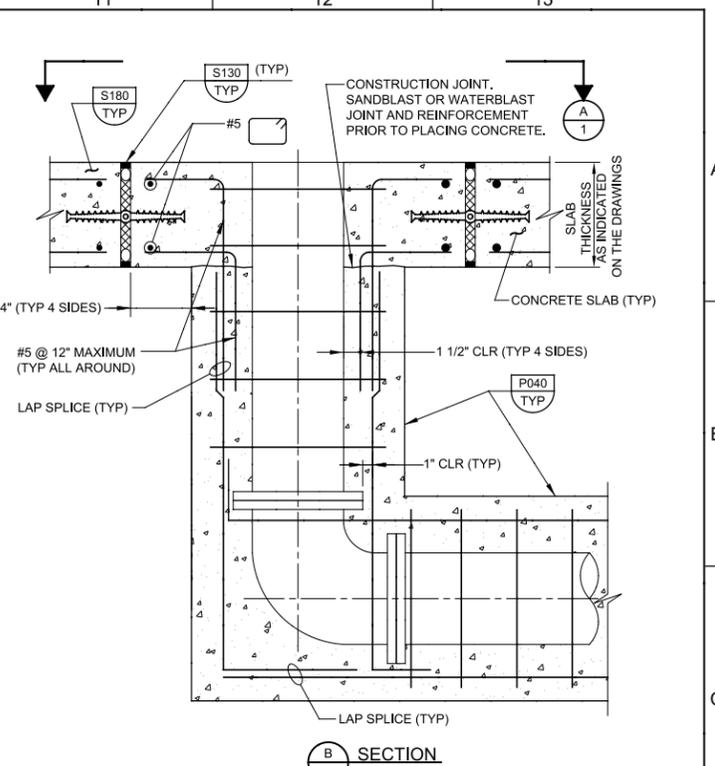
NOTE:
1. TYPE OF PIPE AND TYPE OF PIPE JOINT OR COUPLER AS INDICATED ON THE DRAWINGS.

P040 CONCRETE ENCASEMENT OF PIPE
TYP



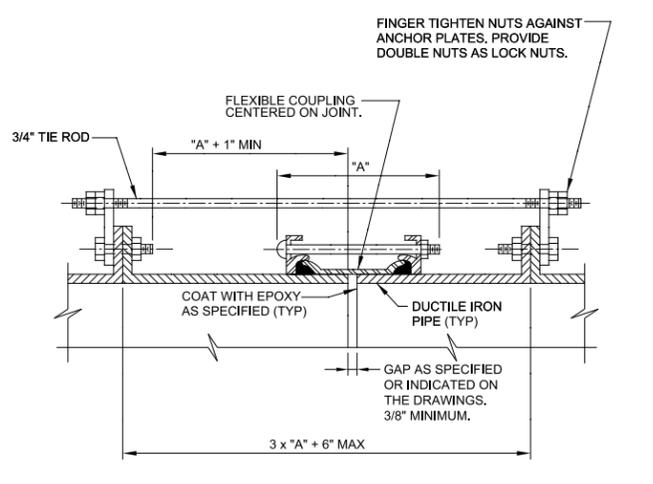
NOTE:
1. TYPE OF PIPE AND TYPE OF PIPE JOINT AS INDICATED ON THE DRAWINGS.

P041 SLAB PENETRATION FOR CONCRETE ENCASED PIPE
TYP

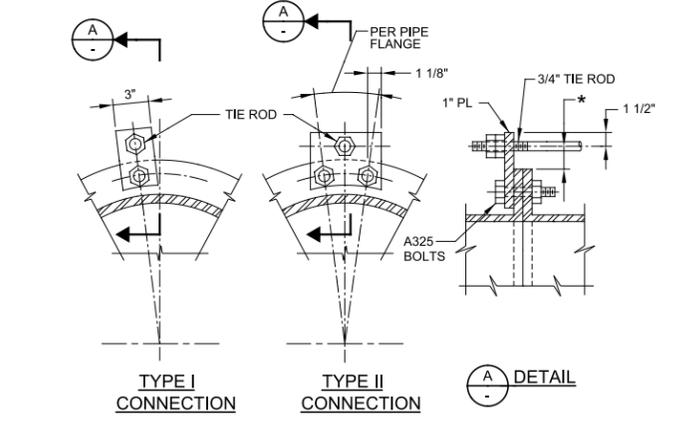


NOTE:
1. TYPE OF PIPE AND TYPE OF PIPE JOINT AS INDICATED ON THE DRAWINGS.

P041 SLAB PENETRATION FOR CONCRETE ENCASED PIPE
TYP

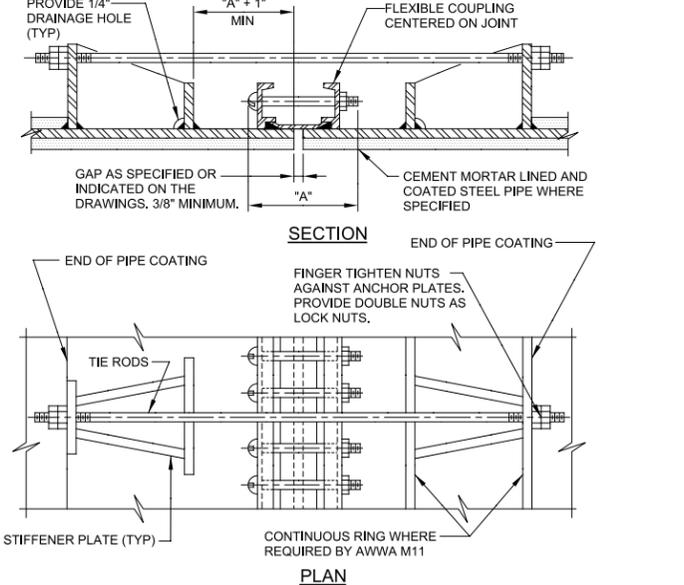


ROD SCHEDULE		
PIPE THRUST. SEE NOTE 2.	TYPE OF CONNECTION	NO. OF RODS
0-6,000#	I	2
6,001 - 12,000#	II	2
12,001 - 18,000#	II	3
18,001 - 24,000#	II	4
24,001 - 30,000#	II	5



NOTES:
1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. PIPE THRUST SHALL BE BASED ON TEST PRESSURE.
3. PIPE THRUST = $0.7854 \times D^2 \times$ TEST PRESSURE, WHERE "D" IS PIPE OD.
4. MINIMUM TIE ROD YIELD = 48,000 PSI.
5. FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER TIE ROD FOR EVERY 6,000 POUNDS INCREASE IN THRUST.
6. ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000 POUNDS.
7. GRIND ALL CORNERS SMOOTH.
8. * = AS REQUIRED TO CLEAR FLEXIBLE COUPLING. 3/4" MINIMUM AND 1 1/2" MAXIMUM.

P110 DIP FLEXIBLE COUPLING TIE DOWN
TYP



NOTES:
1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. BASE PIPE THRUST ON TEST PRESSURE.
3. PIPE THRUST = $0.7854 \times D^2 \times$ TEST PRESSURE, WHERE "D" IS PIPE "OD".
4. ANCHOR LUGS AND TIE RODS SHALL BE DESIGNED BY PIPE MANUFACTURER IN ACCORDANCE WITH AWWA M11 STEEL PIPE MANUAL.
5. GRIND ALL CORNERS SMOOTH.
6. COAT ALL EXPOSED STEEL SURFACES WITH EPOXY IN ACCORDANCE WITH SPECIFICATIONS.

P112 STEEL PIPE FLEXIBLE COUPLING TIE DOWN
TYP

REV	DATE	BY	DESCRIPTION
1			
2			
3			

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DATE	SEPT 2013



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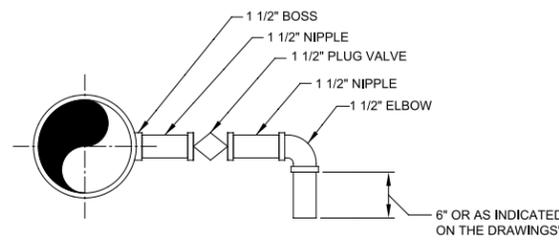
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DRAWING NO. PT02
SHEET NO. OF 549

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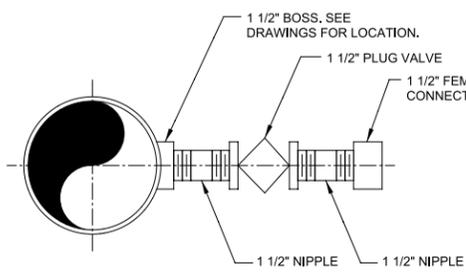
LAST SAVED BY: psanchez



NOTE:
1. SAMPLE PIPE AND FITTINGS SHALL BE SCHEDULE 40 GSP.

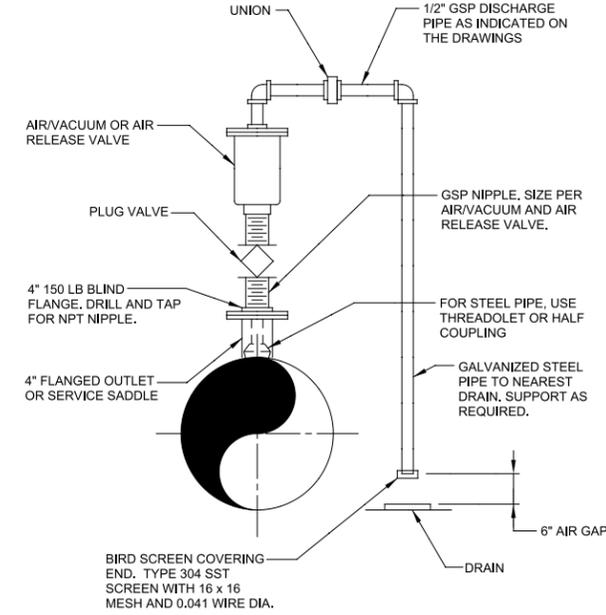
P200 SAMPLE CONNECTION
TYP

03/01/10



P202 FLUSHING CONNECTION
TYP

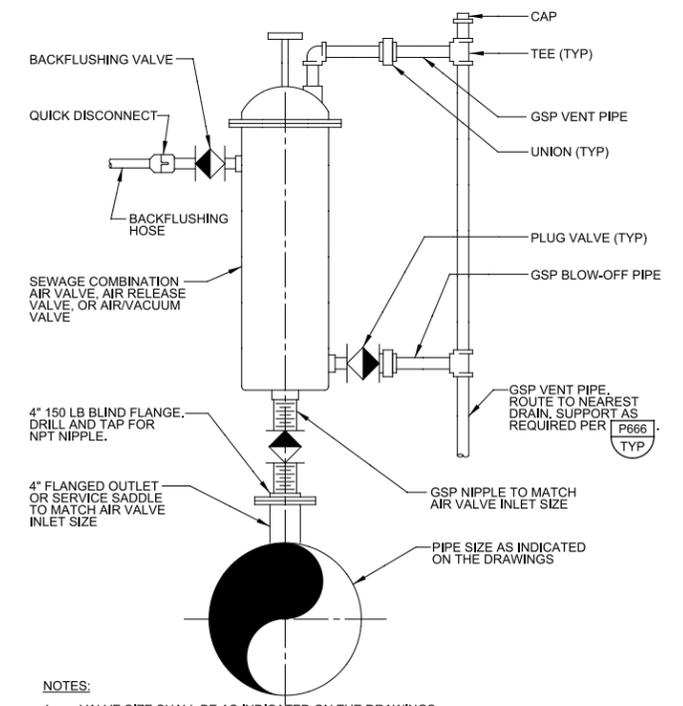
03/01/10



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

P240 AIR VACUUM AND AIR RELEASE FOR 3" AND SMALLER VALVE ASSEMBLY
TYP

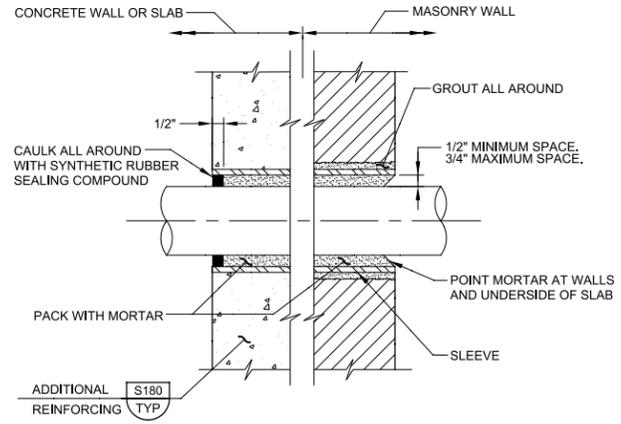
03/01/10



NOTES:
1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND PLUG VALVE SHALL MATCH VALVE INLET SIZE.
3. GSP VENT AND BLOW OFF PIPING SHALL MATCH VALVE OUTLET SIZE.

P242 SEWAGE AIR VALVE FOR 3" AND SMALLER VALVE ASSEMBLY
TYP

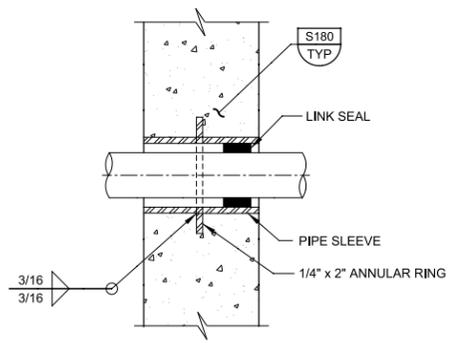
03/01/10



NOTES:
1. 6"Ø DIAMETER SLEEVES AND SMALLER SHALL BE SCHEDULE 40 STEEL PIPE OR SCHEDULE 80 PVC PIPE.
2. SLEEVES LARGER THAN 6"Ø SHALL BE 1/4" THICK STEEL PIPE.
3. STEEL SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
4. SLEEVES FOR ELECTRICAL CONDUIT SHALL BE SCHEDULE 80 PVC.

P302 SLEEVE INSTALLATION THROUGH DRY WALLS AND FLOOR SLABS
TYP

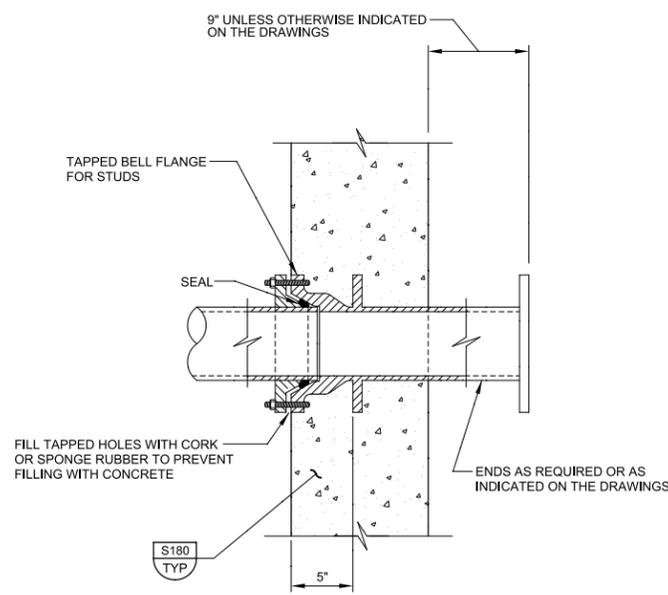
08/01/05



NOTES:
1. 6"Ø SLEEVES AND SMALLER SHALL BE SCH 40 STEEL PIPE.
2. SLEEVES LARGER THAN 6"Ø SHALL BE 1/4" THICK STEEL PIPE.
3. IN WALLS THICKER THAN 12" LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF WALL SLEEVE. SLEEVE DIAMETER SHALL BE PER LINK SEAL MANUFACTURER'S RECOMMENDATION.
4. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

P304 SLEEVE INSTALLATION THROUGH WALLS AND FLOOR SLABS
TYP

08/01/05



P306 DIP WALL PIPE
TYP

07/31/08

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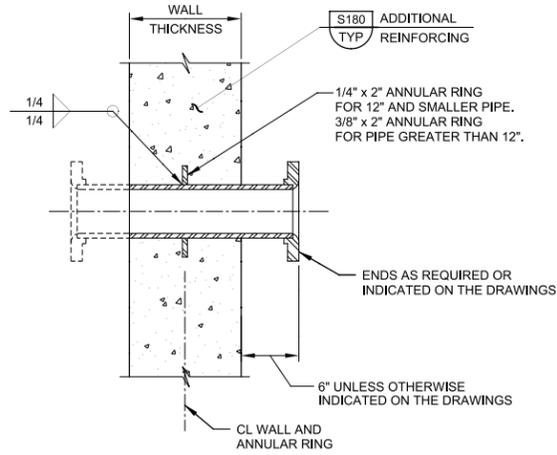
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DRAWING NO. PT03
SHEET NO. OF 549

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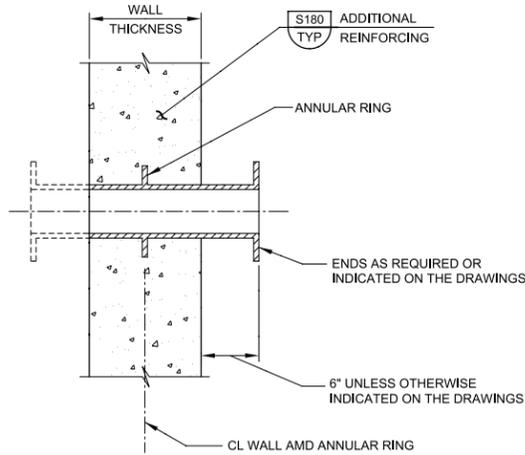
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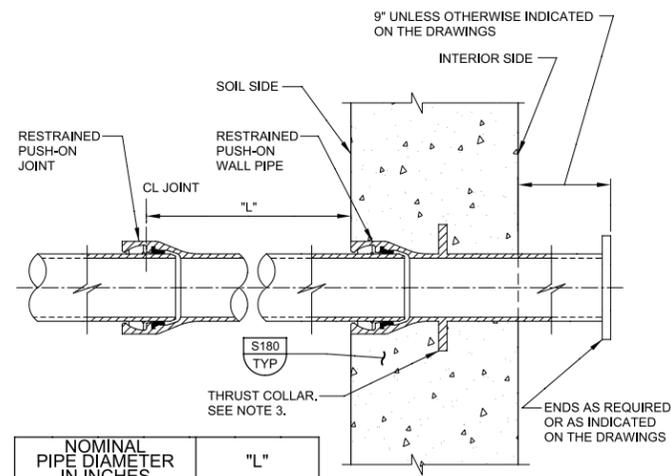
LAST SAVED BY: psanchez



P310 WALL THIMBLE FOR STEEL PIPE
TYP N 03/01/10



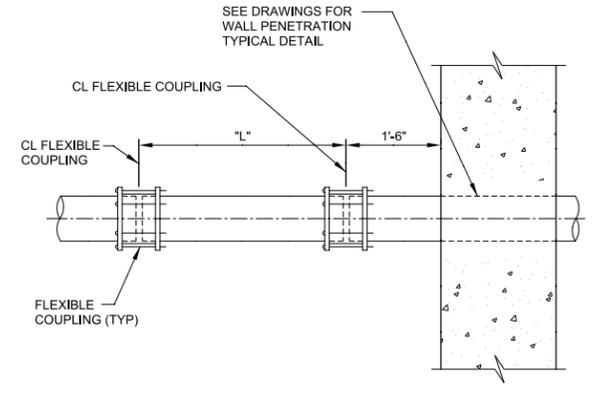
P312 WALL THIMBLE FOR DIP
TYP N 07/31/08



NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 12"	5'-0"
GREATER THAN 12"- 18"	6'-6"
GREATER THAN 18"- 24"	7'-9"
GREATER THAN 24"- 36"	12'-9"
GREATER THAN 36"	STANDARD PIPE LENGTH

- NOTES:
1. FLEXIBLE CONNECTION IS DESIGNED TO ACCOMMODATE SETTLEMENT AND EARTHQUAKE MOVEMENT.
 2. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.
 3. WALL PIPE WITH WEEP RING (THRUST COLLAR) SHALL BE CAPABLE OF RESISTING THRUST.

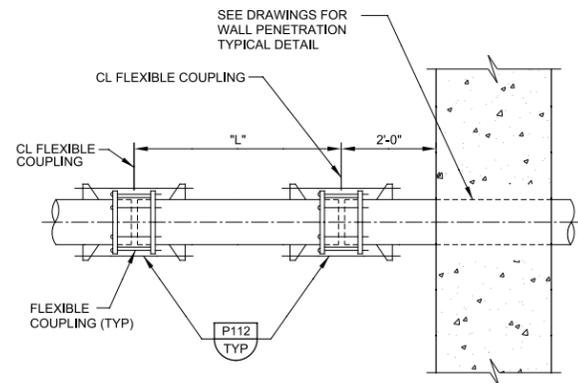
P342 RESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION
TYP N 07/31/08



NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 31"	5'-0"
GREATER THAN 31"- 42"	5'-6"
GREATER THAN 42"- 54"	6'-6"
GREATER THAN 54"- 66"	7'-9"
GREATER THAN 66"- 100"	12'-9"

- NOTE:
1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.

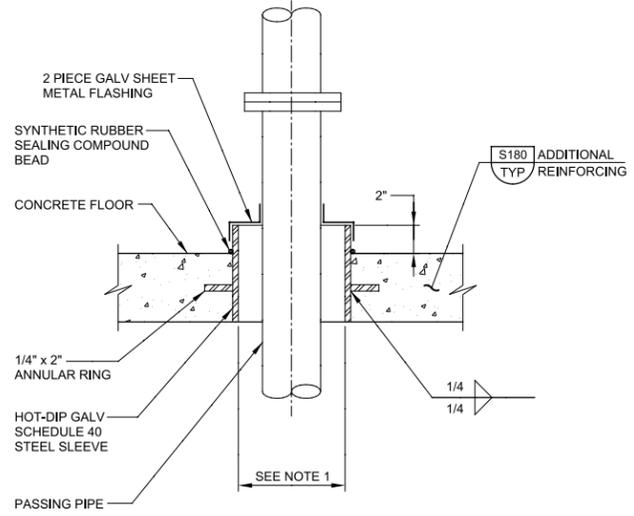
P344 UNRESTRAINED STEEL PIPE FLEXIBLE CONNECTION AT WALL PENETRATION
TYP N 08/01/05



NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 31"	5'-0"
GREATER THAN 31" - 42"	5'-6"

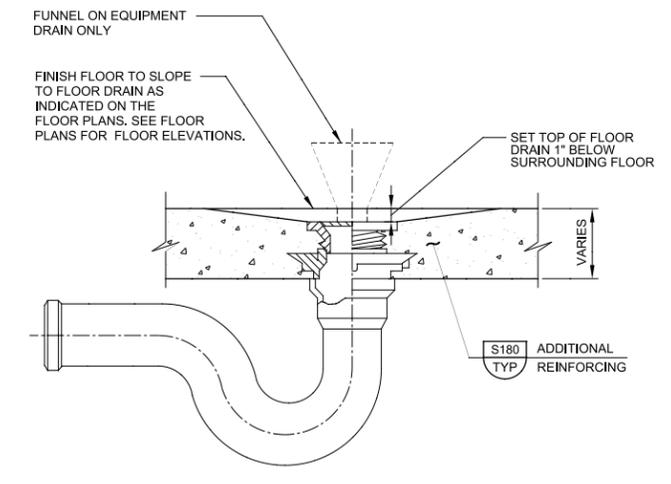
- NOTE:
1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.

P346 RESTRAINED STEEL PIPE FLEXIBLE CONNECTION AT WALL PENETRATION
TYP N 08/01/05



- NOTE:
1. INSIDE DIAMETER OF SLEEVE SHALL ACCOMMODATE COUPLING ON SHAFTING FOR PUMPS.

P404 FLOOR SLEEVE CLOSURE SEAL
TYP N 07/31/08



- NOTE:
1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

P410 FLOOR DRAIN OR EQUIPMENT DRAIN WITH TRAP
TYP S 08/01/05

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DATE
SEPT 2013



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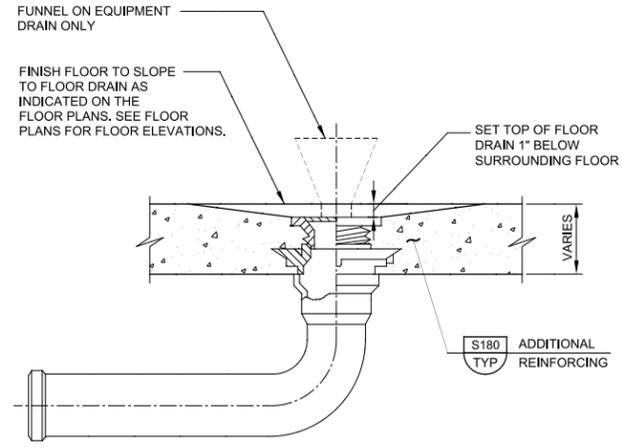
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DRAWING NO. PT04
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:09:41 AM

User: NGriffith

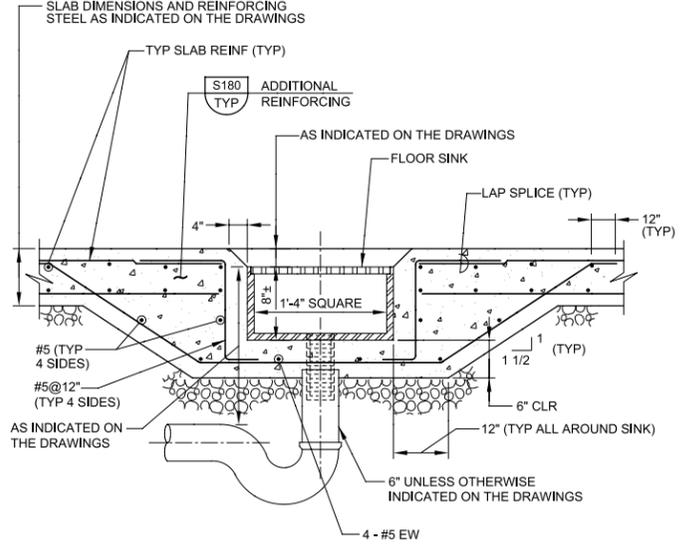
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LAST SAVED BY: psanchez

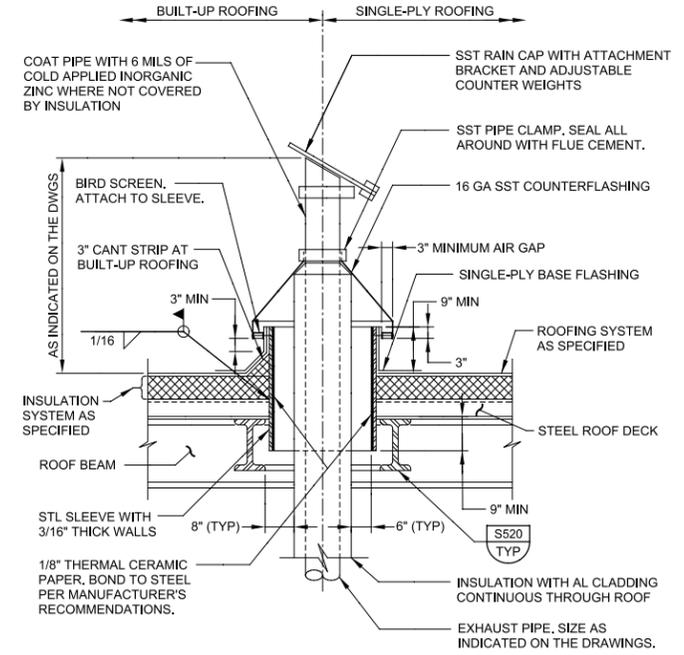


NOTE:
 1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

P412 FLOOR DRAIN OR EQUIPMENT DRAIN WITHOUT TRAP
 TYP S 08/01/05



P420 FLOOR SINK
 TYP 07/31/08



NOTE:
 1. PROVIDE 3" MINIMUM AIR GAP ALL AROUND TO PREVENT HEAT BUILD UP BELOW COUNTER FLASHING.

P502 EXHAUST PIPE PENETRATION THROUGH STEEL ROOF FOR EXHAUST TEMP ≤1000° F
 TYP N 08/01/05

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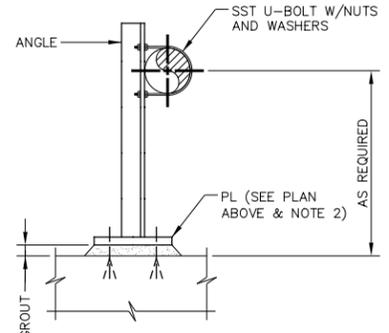
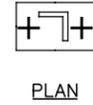
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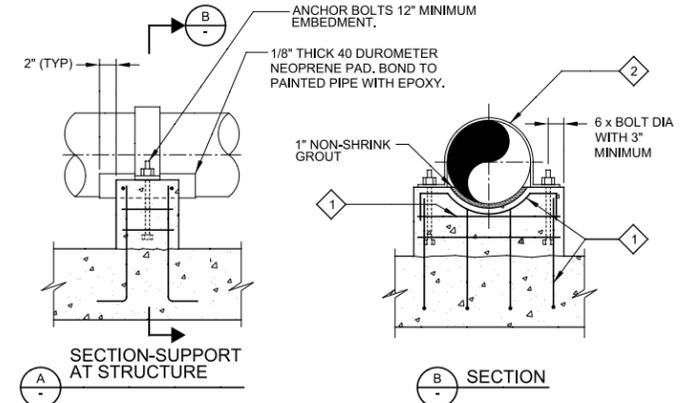
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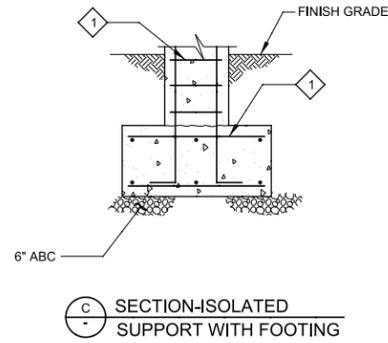
- NOTES:
- SUPPORT SHALL BE SST UNLESS INDICATED OTHERWISE ON PLANS.
 - BASE PLATE CAN ALSO BE WELDED TO STRUCTURAL STEEL MEMBERS (VERIFY WITH ENGINEER).

P600 PIPE SUPPORT
TYP R 08-20-08

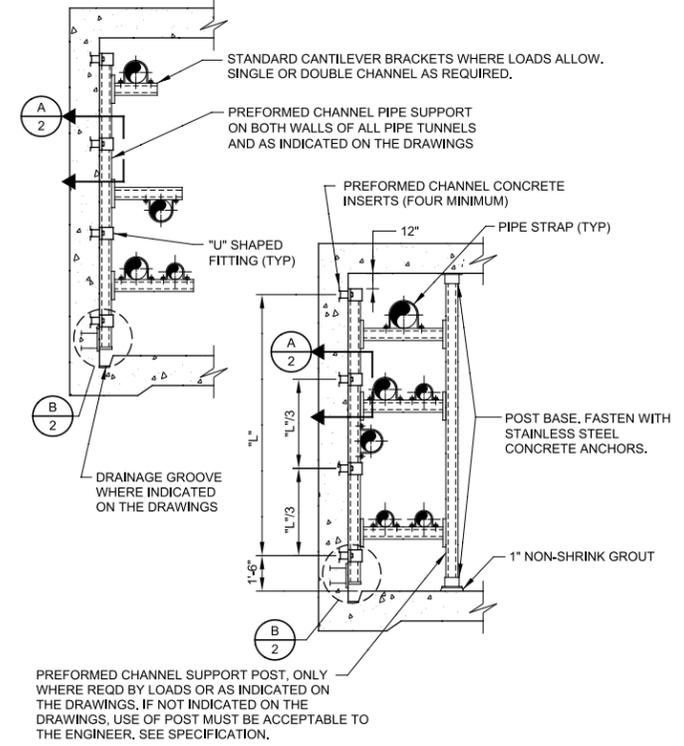


- NOTES:
- IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF THE WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE STAINLESS STEEL IN ALL OTHER AREAS. MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIPPED GAL STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- KEY NOTES:
- 1 REBAR TO BE DETERMINED BY SUPPORT DESIGNER.
 - 2 STRAP TO BE DETERMINED BY SUPPORT DESIGNER.

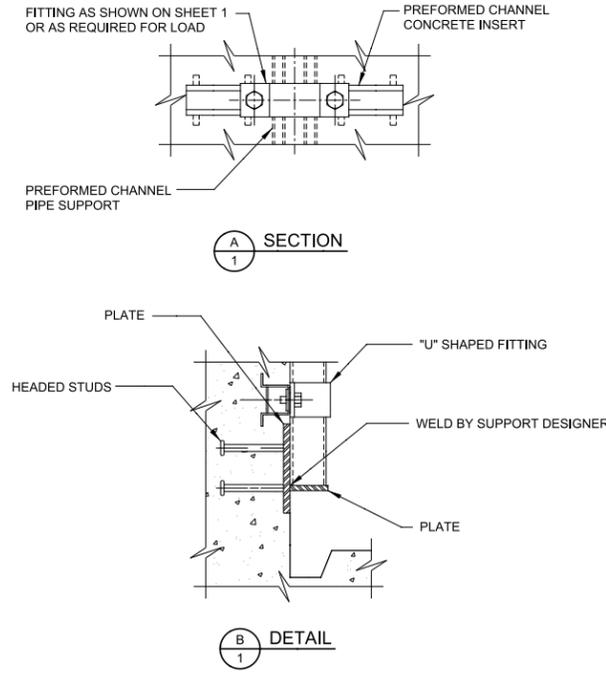
P602 CONCRETE PIPE SUPPORT
TYP N SHEET 1 OF 2 08/22/11



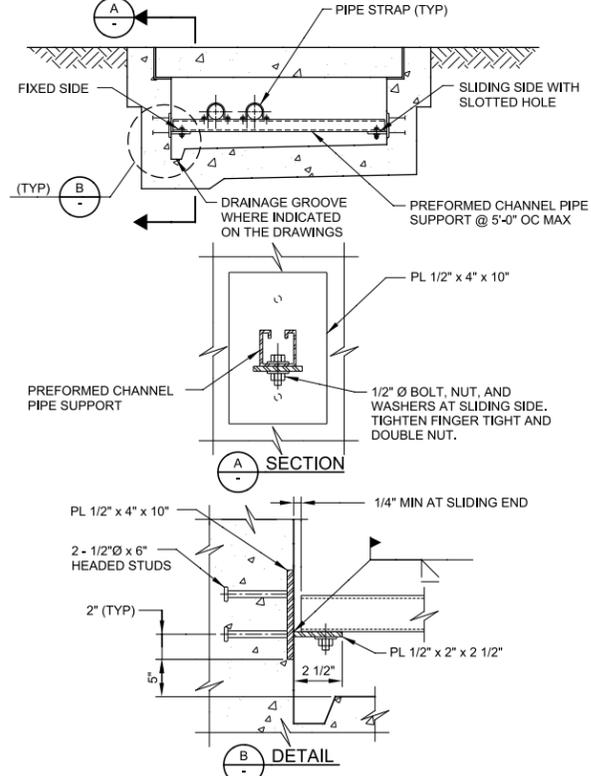
P602 CONCRETE PIPE SUPPORT
TYP N SHEET 2 OF 2 08/22/11



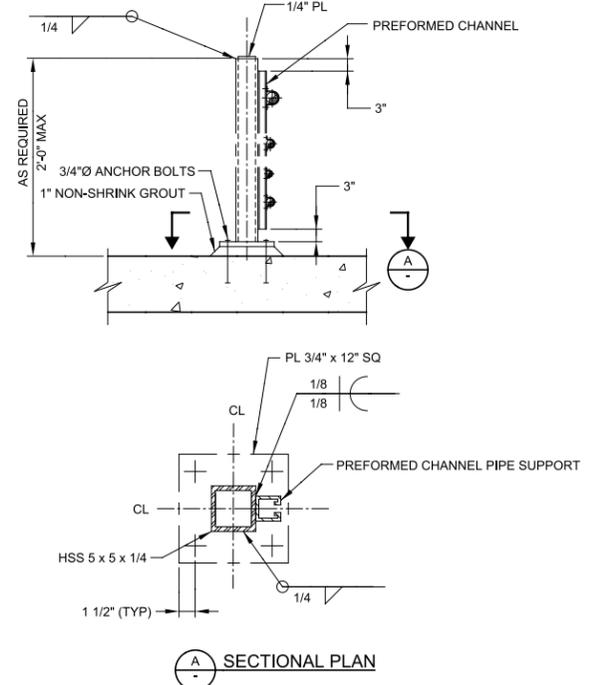
P612 WALL MOUNTED PREFORMED CHANNEL PIPE SUPPORT
TYP N SHEET 1 OF 2 08/22/11



P612 WALL MOUNTED PREFORMED CHANNEL PIPE SUPPORT
TYP N SHEET 2 OF 2 08/22/11



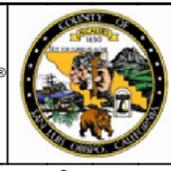
P613 PREFORMED CHANNEL PIPE SUPPORT IN PIPE OR CONDUIT TRENCH
TYP N 08/01/05



P615 PIPE SUPPORT POST WITH PREFORMED CHANNEL
TYP N 08/22/08

REV	DATE	BY	DESCRIPTION

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DATE	SEPT 2013



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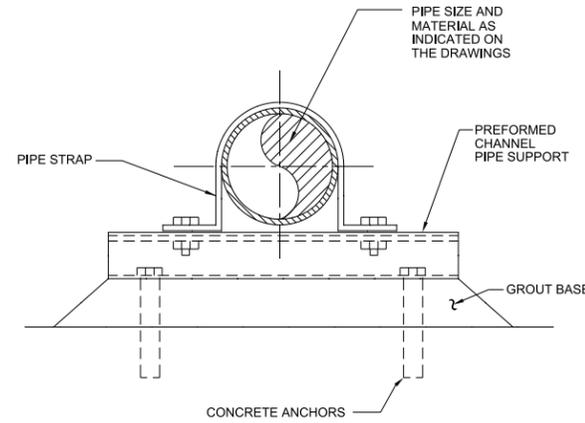
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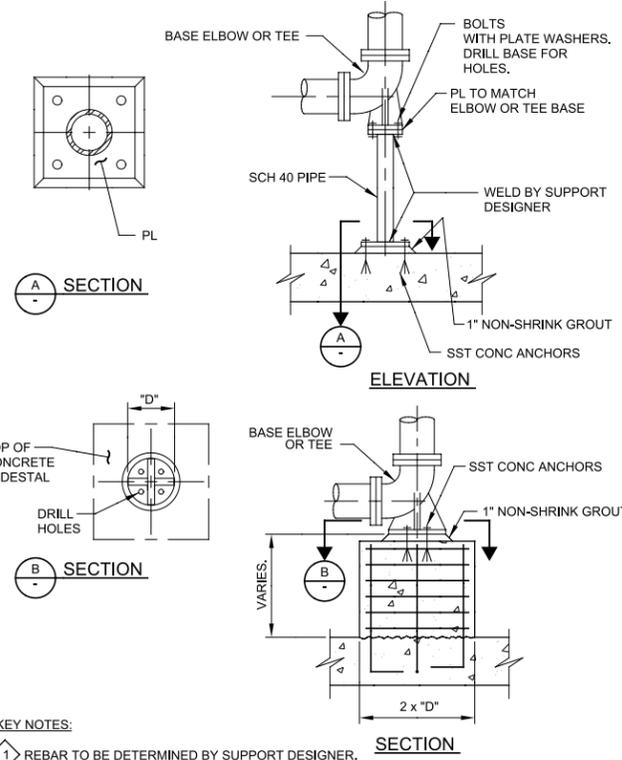
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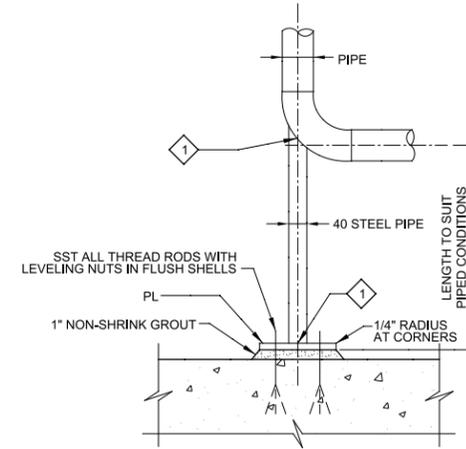
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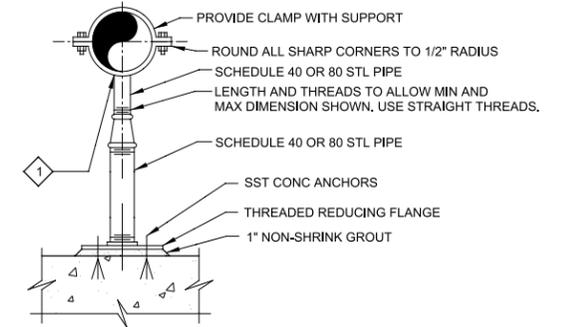
P618 FLOOR PIPE SUPPORT
TYP NS 08/23/11



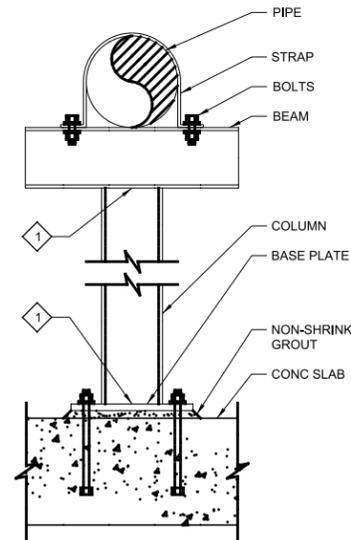
P620 ELBOW OR TEE PIPE SUPPORT
TYP NS 03/06/13



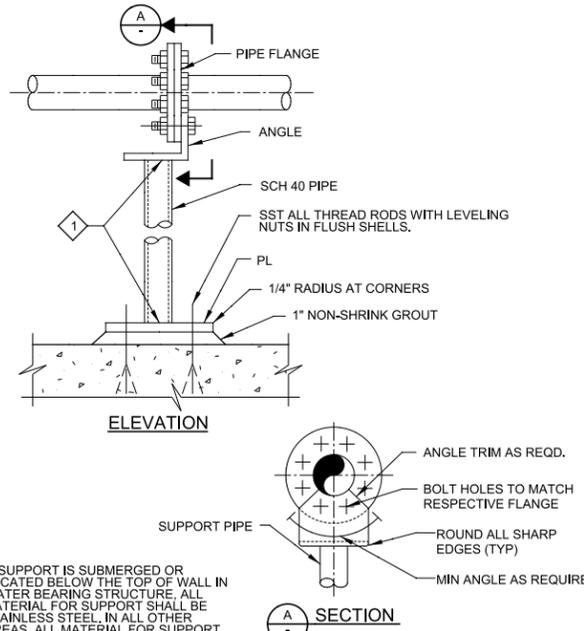
P622 STEEL PIPE SUPPORT
TYP N 08/22/11



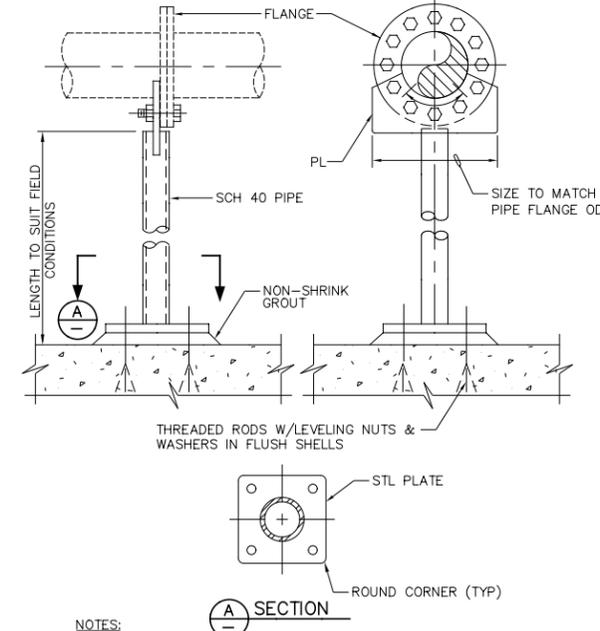
P624 ADJUSTABLE PIPE SUPPORT
TYP NS 08/22/11



P625 PIPE SUPPORT
TYP NS 08/23/11



P626 PIPE SUPPORT POST WITH PIPE FLANGE CONNECTION
TYP NS 08/22/11



P627 PIPE SUPPORT
TYP R 08-20-08

REV	DATE	BY	DESCRIPTION

DESIGNED	
DRAWN	
CHECKED	
DATE	SEPT 2013



SAN LUIS OBISPO COUNTY

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LOS OSOS WATER RECYCLING FACILITY PROJECT
PIPING
TYPICAL DETAILS

VERIFY SCALES
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0 1"
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JOB NO. 8930A.11
DRAWING NO. PT07
SHEET NO. OF 549

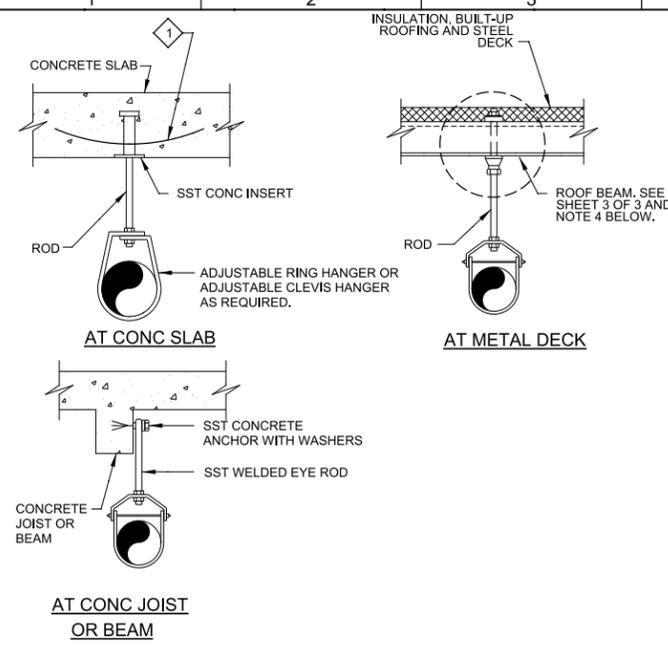
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User: NGriffith

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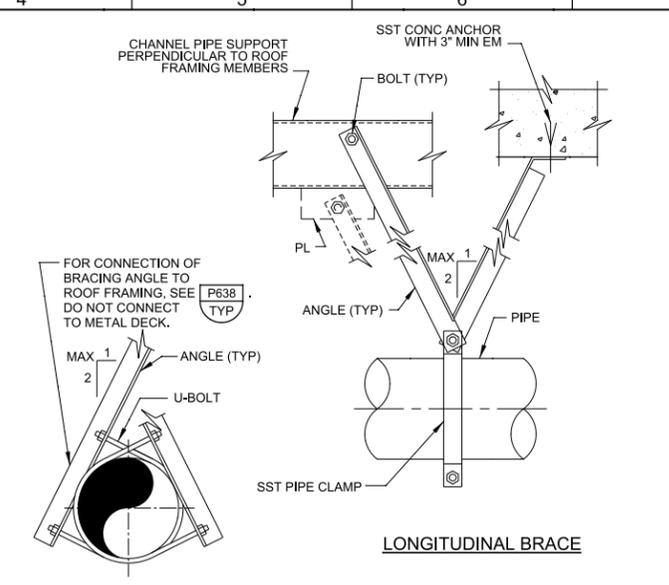
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LAST SAVED BY: psanchez



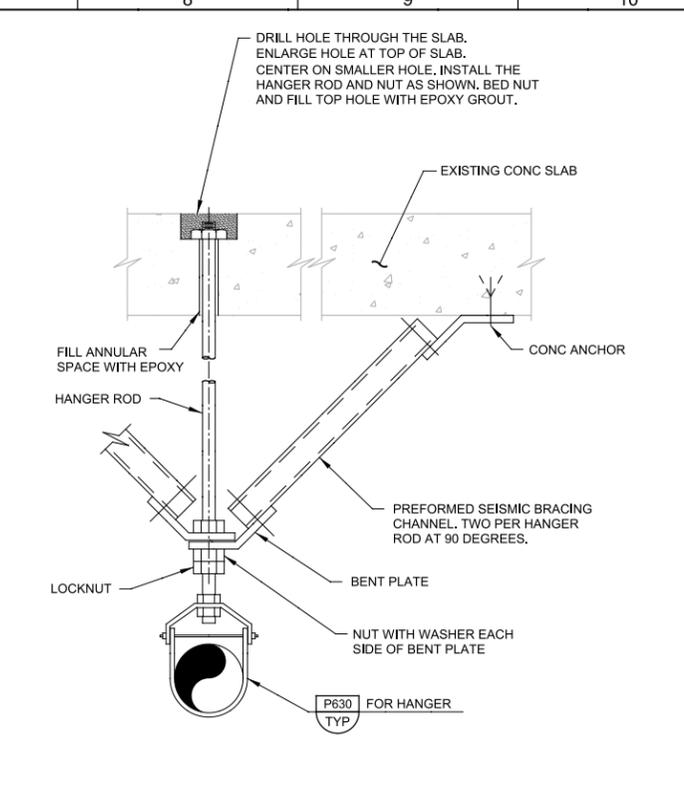
- NOTES:**
- ISOLATE ALL COPPER PIPE FROM SUPPORT WITH PVC TAPE.
 - ALL MATERIALS SHALL BE HOT-DIP GALVANIZED.
 - PROVIDE ADDITIONAL HANGER AT EACH SIDE OF ALL VALVES 4 INCHES AND LARGER.
 - INSTALL CHANNEL BETWEEN ROOF FRAMING MEMBERS AS REQUIRED TO SUPPORT PIPE HANGERS, PER TYPICAL DETAIL.

P630 PIPE HANGER
TYP
SHEET 1 OF 2 07/31/08

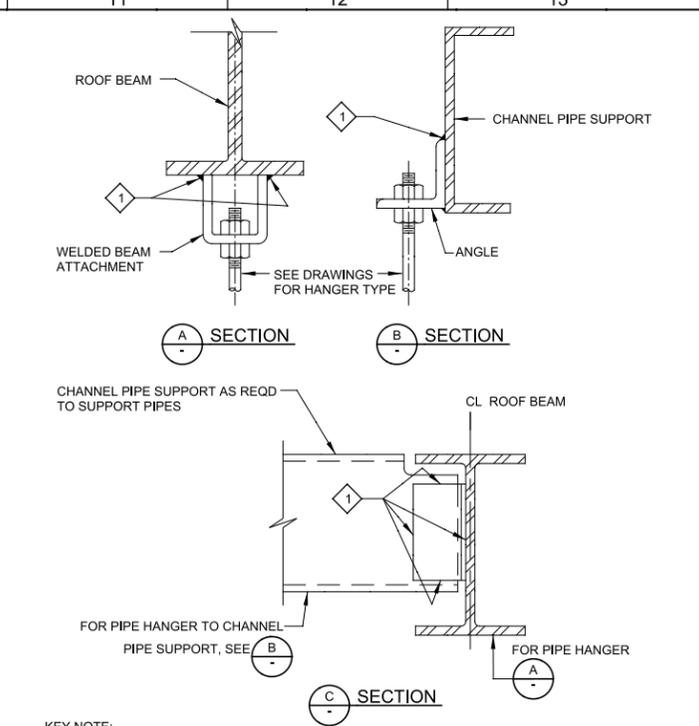


- NOTES:**
- MAXIMUM LONGITUDINAL BRACE SPACING = 20'-0".
 - MAXIMUM TRANSVERSE BRACE SPACING = 20'-0".
 - DO NOT CONNECT BRACE TO BOTTOM OF ROOF BEAM OR CHANNEL PIPE SUPPORT, EXCEPT AS SHOWN IN P638 TYP.
 - USE LONGITUDINAL AND TRANSVERSE BRACES FOR PIPES AS REQUIRED.

P630 PIPE HANGER
TYP
SHEET 2 OF 2 08/22/11

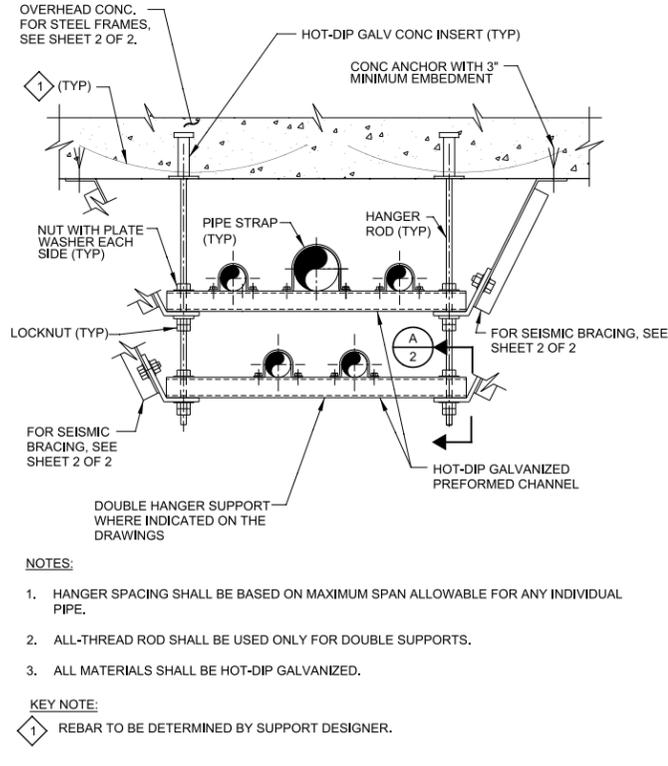


P634 PIPE HANGER WITH SEISMIC BRACE IN EXISTING CONCRETE SLAB
TYP
04/30/07

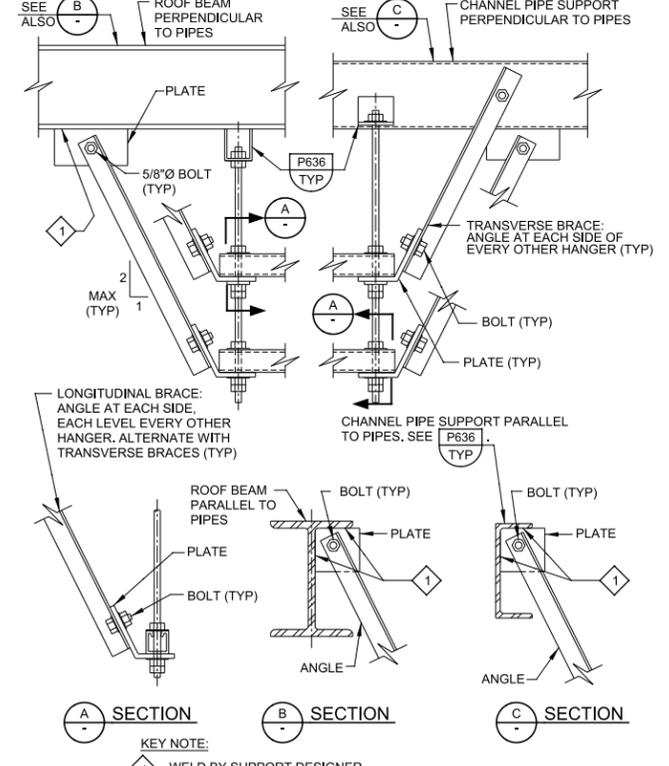


P636 PIPE HANGER SUPPORT
TYP
08/22/11

KEY NOTE:
1 WELD BY SUPPORT DESIGNER.

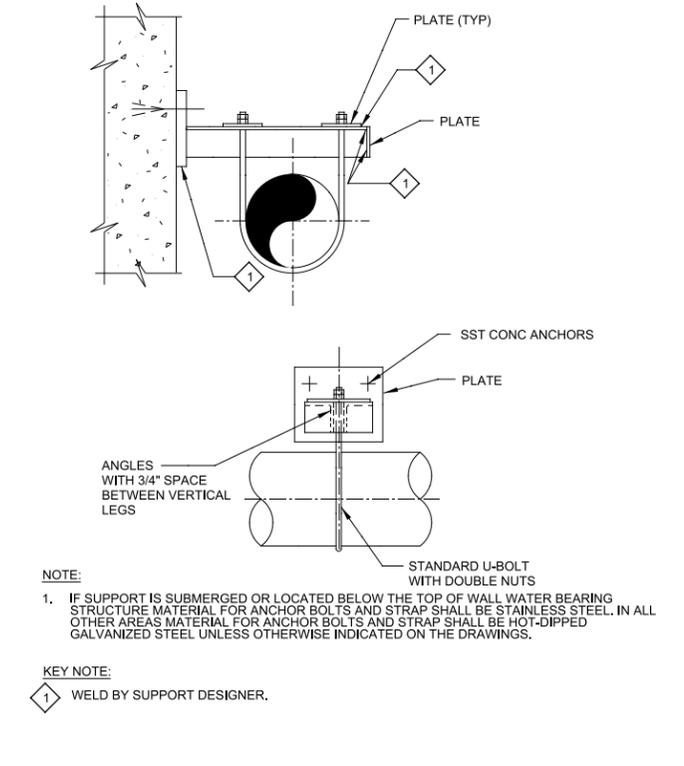


P638 DOUBLE ROD PIPE HANGER
TYP
SHEET 1 OF 2 07/31/08



P638 DOUBLE ROD PIPE HANGER
TYP
SHEET 2 OF 2 07/31/08

KEY NOTE:
1 WELD BY SUPPORT DESIGNER.



P650 PIPE SUPPORT - WALL BRACKET ABOVE
TYP
08/22/11

NOTE:
1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL WATER BEARING STRUCTURE MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIPPED GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

KEY NOTE:
1 WELD BY SUPPORT DESIGNER.

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DATE	SEPT 2013
REV	
DATE	
BY	
DESCRIPTION	

PROFESSIONAL ENGINEER
CAROLLO
No. 52686
CIVIL
STATE OF CALIFORNIA
9/16/2013

carollo

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VERIFY SCALES
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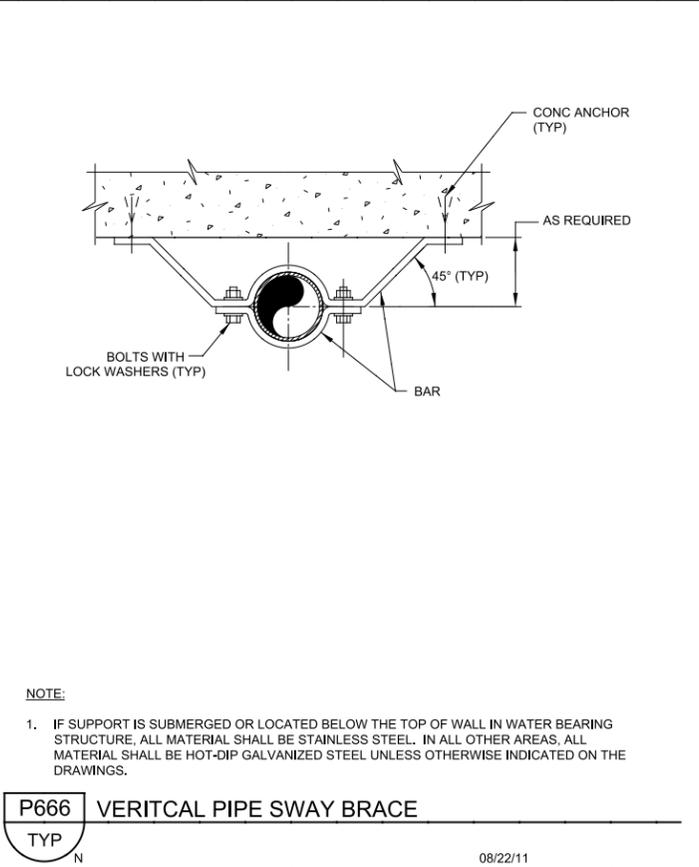
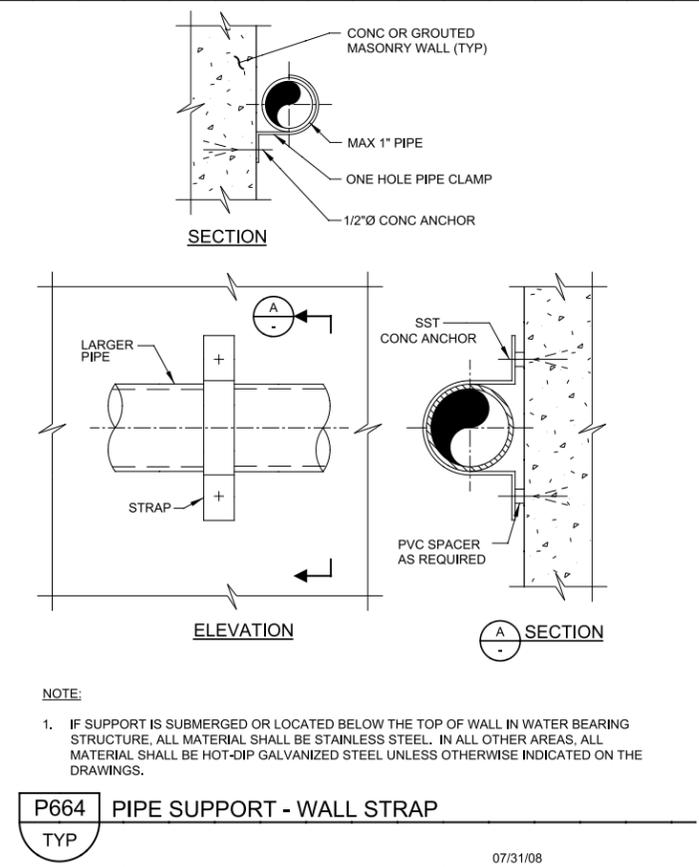
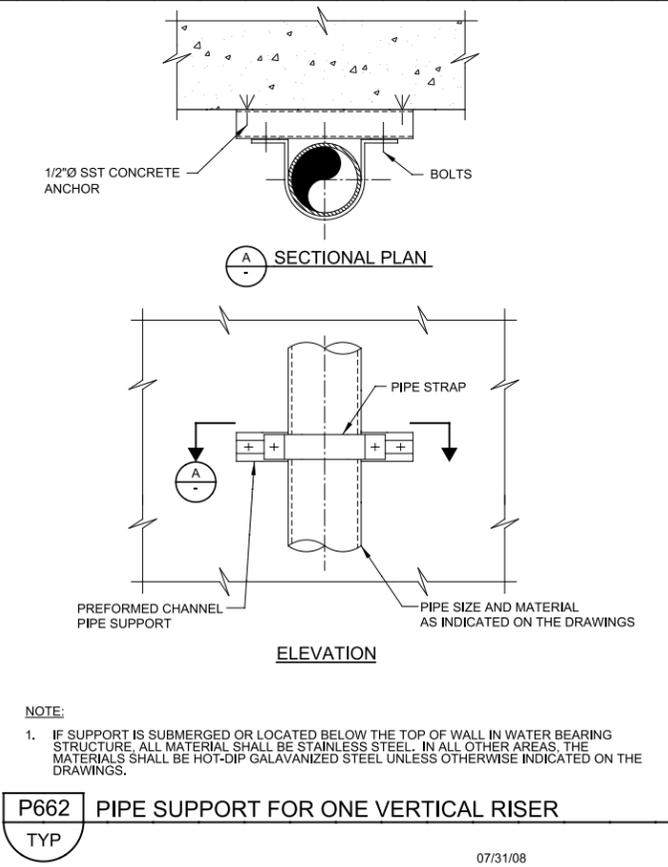
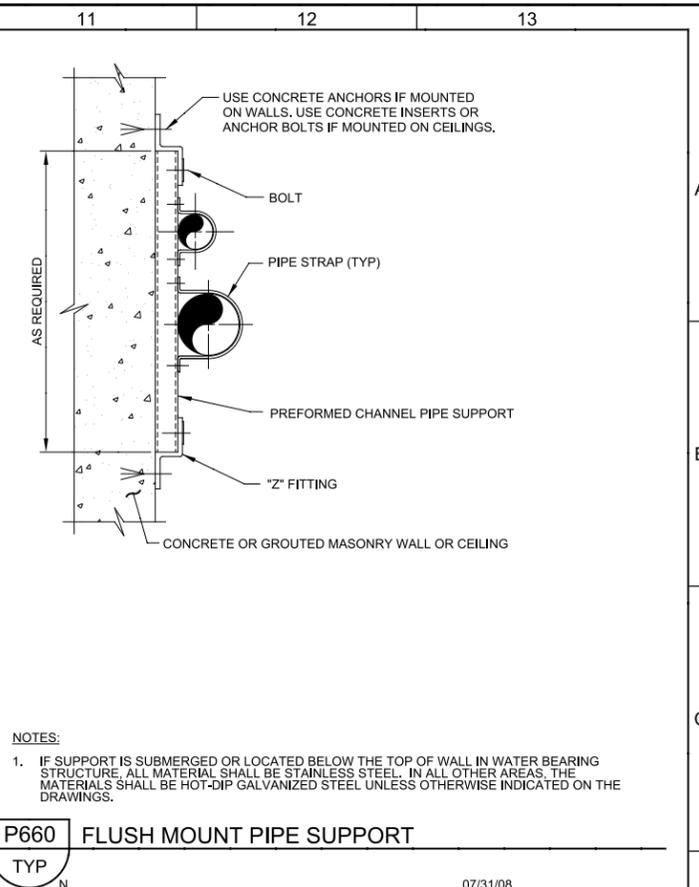
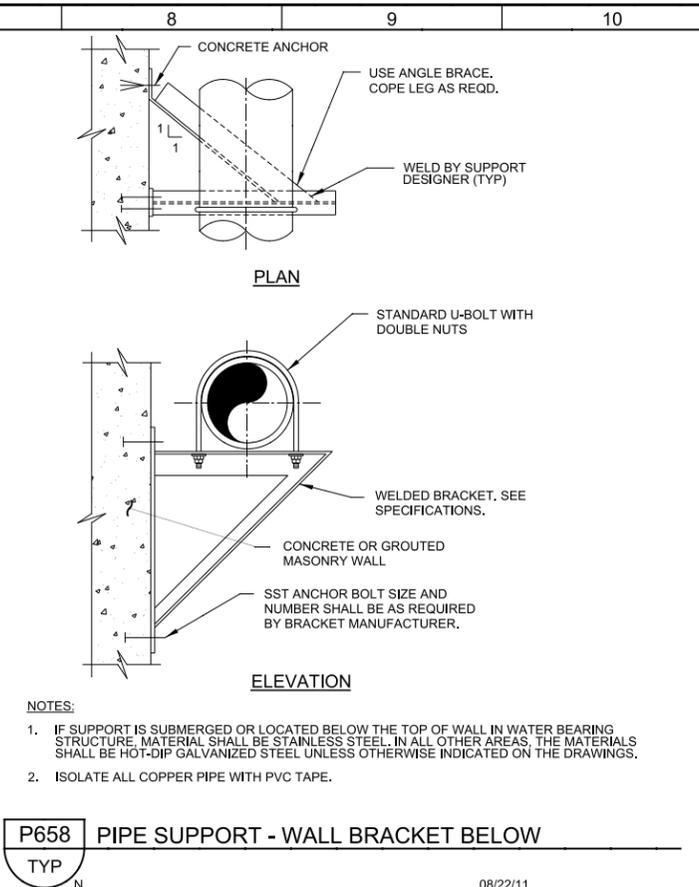
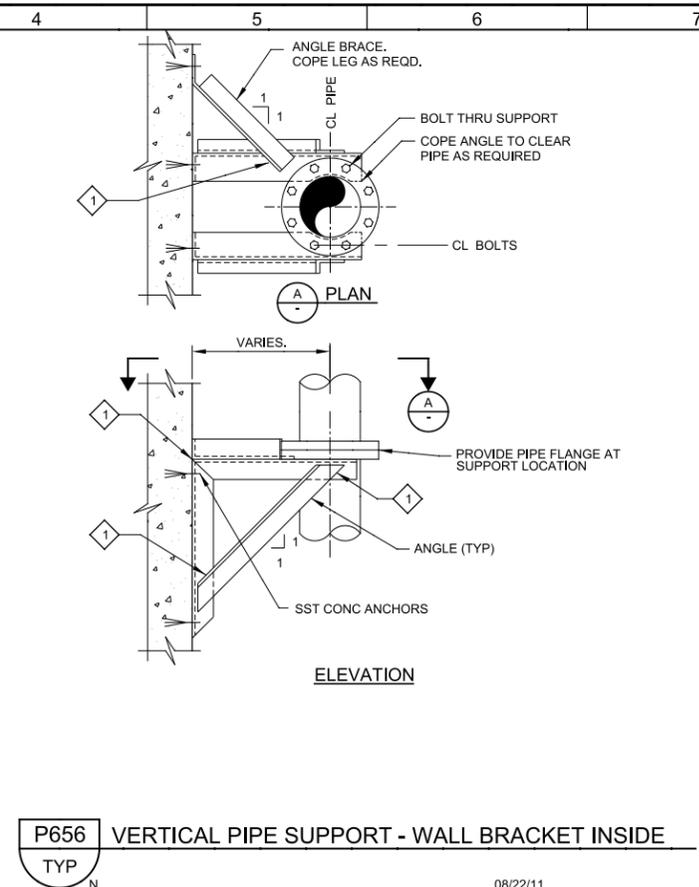
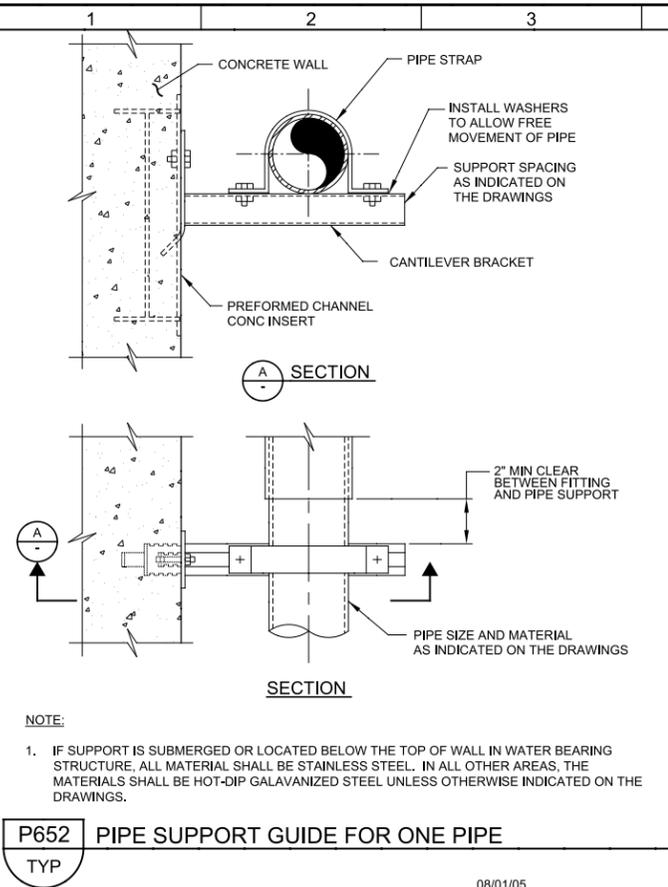
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DRAWING NO. PT08
SHEET NO. OF 549

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DRAWN PS
CHECKED SGS
DATE SEPT 2013

9/16/2013

SAN LUIS OBISPO COUNTY

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LOS OSOS WATER RECYCLING FACILITY PROJECT

VERIFY SCALES
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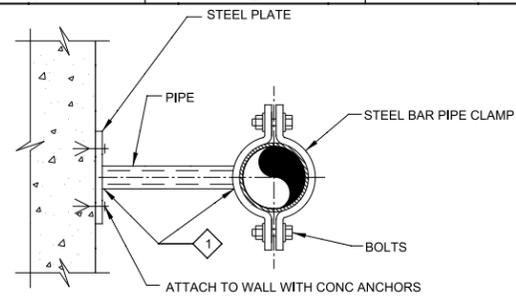
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DRAWING NO. **PT09**
SHEET NO. OF 549

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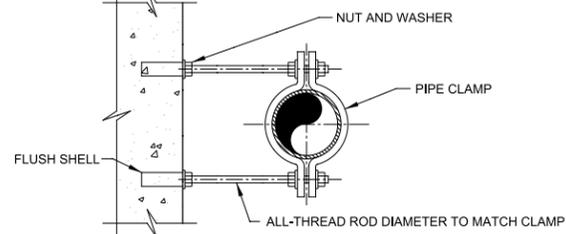
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PLAN - FOR "X" GREATER THAN 12"



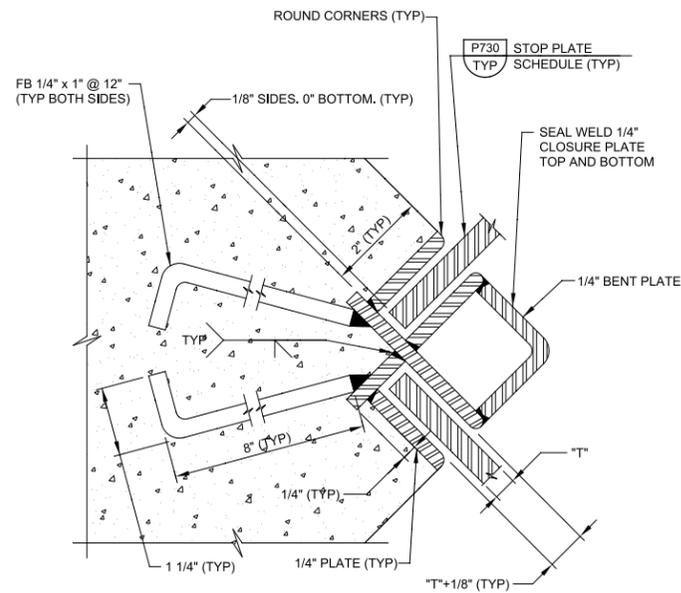
PLAN - FOR "X" LESS THAN 12"

NOTE:

- IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- SWAY BRACE SHALL NOT SUPPORT VERTICAL LOADS.

P668 VERICAL PIPE SWAY BRACE
TYP

08/22/11

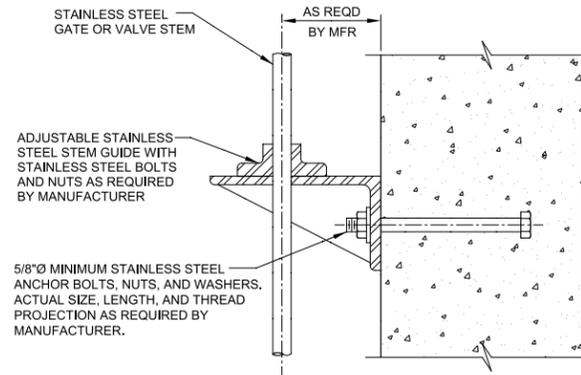


NOTES:

- ALL BARS AND PLATE SHALL BE TYPE 316L STAINLESS STEEL.
- GRIND OR CHIP ANY WELD FROM INSIDE SLOT SO STOP PLATE MOVES FREELY. STRAIGHTEN AS REQUIRED AFTER WELDING SO STOP PLATE MOVES FREELY.

P734 STOP PLATE GUIDE AT CORNER
TYP

04/30/07



P750 STEM GUIDE
TYP

08/01/05

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8930A.11
DRAWING NO.
PT10
SHEET NO.
OF 549

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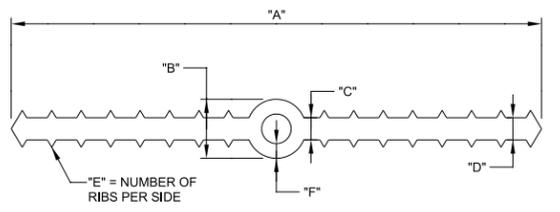
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- CONCRETE CONSTRUCTION SHALL COMPLY WITH ACI "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) AND "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI 350-06) AND COMMENTARY (ACI 350R-06)."
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE:
10" THICK OR LESS - USE #5 @ 12" EW
MORE THAN 10" THICK - USE #5 @ 12" EW EF
- WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAP SPICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. LAP SPICES SHALL CONFORM WITH NOTE 12.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS SHALL BE DOWELED. DOWELS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPICED TO THE DOWELS.
- SLABS, BEAMS AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
- STIRRUP SUPPORT BARS SHALL BE PROVIDED TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINF BARS SHALL BE AS FOLLOWS:
A. SLABS AND JOISTS:
FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS:
#7 BARS AND SMALLER.....1"
#8 BARS AND LARGER.....1 1/2"
FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR WATER, OR LOCATED OVER WATER.....2"
B. BEAMS AND COLUMNS:
FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
STIRRUPS, SPIRALS, AND TIES.....1 1/2"
PRINCIPAL REINFORCEMENT.....2"
FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR WATER, OR BEAMS LOCATED OVER WATER:
STIRRUPS AND TIES.....2"
PRINCIPAL REINFORCEMENT.....2 1/2"
C. WALLS:
FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
#7 BARS AND SMALLER.....1"
#8 BARS AND LARGER.....1 1/2"
FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR WATER.....2"

- FOOTINGS AND BASE SLABS:
FORMED VERTICAL CONCRETE SURFACES.....2"
AT UNFORMED CONCRETE SURFACES CAST AGAINST THE SOIL OR CONCRETE WORK MATS.....3"
TOP SURFACE OF FOOTINGS AND BASE SLABS.....SAME AS SLABS
- KEYWAYS AND WATERSTOP SHALL END 3" BELOW THE TOP OF WALLS, UNLESS THERE IS A SLAB ON TOP OF THE WALL, IN WHICH CASE IT SHALL END AT THE BOTTOM OF THE SLAB. IN JOINTS WHERE WATERSTOP TERMINATES AT ADJOINING SLAB OR WALL, WATERSTOP SHALL BE EMBEDDED IN ADJOINING SLAB OR WALL A MINIMUM OF 6".
- CONCRETE CURING SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS REQUIRED, MEMBRANE CURING IS NOT ALLOWED. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. THE CONTRACTOR SHALL STUDY REQUIREMENTS AND SHALL FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED. TOP OF WALLS SHALL BE KEPT VISIBLY MOIST AT ALL TIMES AND SHALL BE FLOODED NOT LESS THAN THREE TIMES DAILY.
- WATERSTOP SHALL BE PLACED IN CONSTRUCTION, AND EXPANSION JOINTS IN WATERBEARING SLABS AND WALLS UNLESS OTHERWISE INDICATED ON THE DRAWINGS, AND IN WALLS AND SLABS SUBJECTED TO GROUNDWATER, WATERSTOP IN THE WALLS SHALL BE CARRIED INTO SLABS AND SHALL BE SPICED WITH THE WATERSTOP IN THE SLABS.
- NO BACKFILL SHALL BE PLACED AGAINST WALLS UNTIL:
A. WALLS HAVE BEEN CAST FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE SPECIFIED STRENGTH
B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE HAS REACHED THE SPECIFIED STRENGTH.
- LAP SPICES:
A. WHEN MULTIPLE BARS ARE SPICED AT THE SAME SECTION, THE CLEAR BAR SPACING IS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPICE LENGTH LESS ONE BAR DIAMETER.
B. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, THE BARS AT A LAP SPICE SHALL BE IN CONTACT WITH EACH OTHER.
C. FOLLOWING TABULATED VALUES ARE CALCULATED FOR:
F_y = 60,000 PSI FOR REINFORCING BARS
F_c = 4,000 PSI FOR CONCRETE
D. TOP BARS ARE HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

- HORIZONTAL BARS IN CIRCULAR WALLS OF HYDRAULIC STRUCTURES SHALL BE SPICED WITH TOP BAR LAP SPICES. ADJACENT LAP SPICES SHALL BE STAGGERED HORIZONTALLY BY NOT LESS THAN ONE LAP LENGTH NOR 3 FEET FROM CENTER OF LAP SPICE BELOW TO ADJACENT CENTER OF LAP SPICE ABOVE, AND SHALL NOT COINCIDE IN VERTICAL ARRAYS MORE FREQUENTLY THAN EVERY THIRD BAR.

BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPICE LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54



"A"	"B"	"C"	"D"	"E"	"F"
6" WATERSTOP W/O CENTERBULB	-	3/8"	3/8" OR 7/16"	7	-
6" CENTERBULB WATERSTOP *	7/8" OR 1"	3/8"	3/8"	7 OR 8	9/32"
9" CENTERBULB WATERSTOP **	1"	3/8"	3/8"	7 OR 8	1/4"
9" CENTERBULB WATERSTOP ***	2"	3/8"	3/8"	7	1/4"

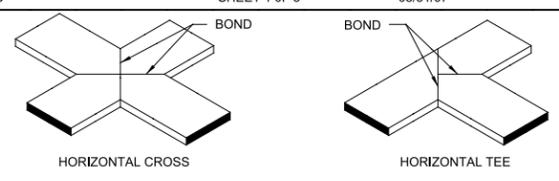
- NOTES:
- SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
 - * = FOR USE WITH ONLY.
 - ** = FOR EXPANSION JOINTS 1" AND NARROWER.
 - *** = FOR EXPANSION JOINTS WIDER THAN 1" AND AT TENSION/ COMPRESSION RING BEAM FOR DIGESTERS.

S101 REINFORCED CONCRETE NOTES
TYP

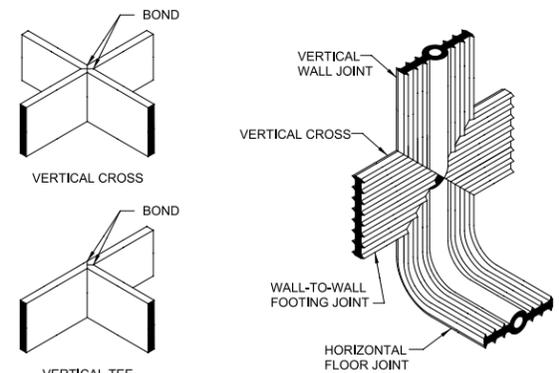
S101 REINFORCED CONCRETE NOTES
TYP

S101 REINFORCED CONCRETE NOTES
TYP

S106 PVC WATERSTOP SCHEDULE
TYP



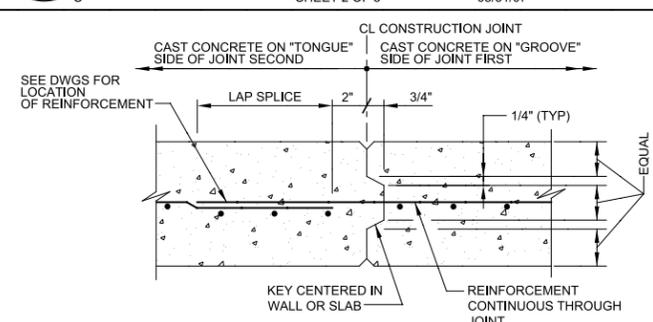
STANDARD HORIZONTAL JOINT TYPES



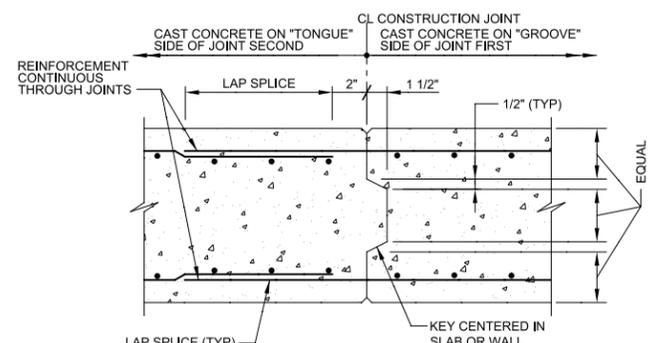
STANDARD VERTICAL JOINT TYPES

- NOTES:
- ALL WELDS SHALL BE MADE AS SPECIFIED AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - VERTICAL CROSSES AND TEES SHALL BE FACTORY PREFABRICATED BY THE MANUFACTURER.

S107 PREFABRICATED PVC WATERSTOP JOINTS
TYP

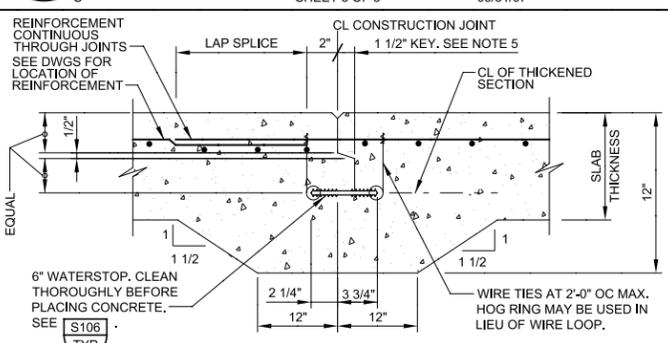


NON-WATER BEARING WALL OR SLAB

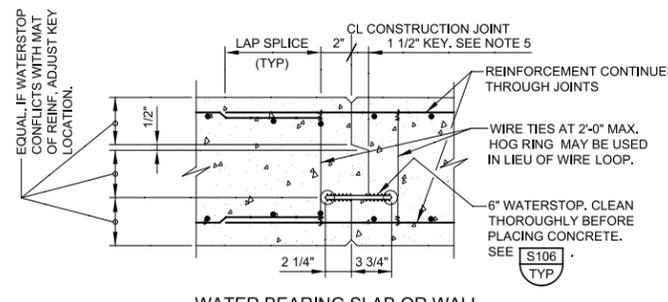


NON-WATER BEARING SLAB OR WALL

S110 CONSTRUCTION JOINT
TYP



WATER BEARING SLAB LESS THAN 12" THICK



WATER BEARING SLAB OR WALL

- NOTES:
- SANDBLAST OR WATERBLAST JOINT AND REINFORCEMENT PRIOR TO PLACING CONCRETE FOR NEXT SLAB OR WALL.
 - FOR WALLS FORM ALL JOINT EDGES WITH 1/4" CHAMFER.
 - FOR SLABS, EDGE TOP OF EXPOSED SLAB JOINT EDGES TO 1/4" RADIUS.
 - FOR UNDERSIDE OF EXPOSED SLABS, FORM JOINT EDGES WITH 1/4" CHAMFER.
 - KEYED JOINT CONSISTS OF CONCRETE TONGUE AND GROOVE. CAST "GROOVE" SIDE OF JOINT FIRST. CAST "TONGUE" SIDE OF JOINT SECOND.

S110 CONSTRUCTION JOINT
TYP

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DATE SEPT 2013

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03/16/09

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STRUCTURAL TYPICAL DETAILS

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BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

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JOB NO. 8930A.11

DRAWING NO. ST01

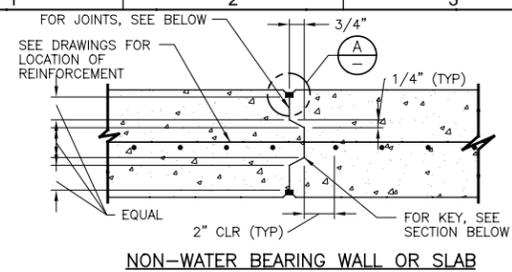
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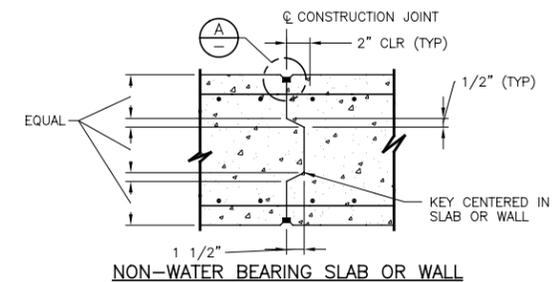
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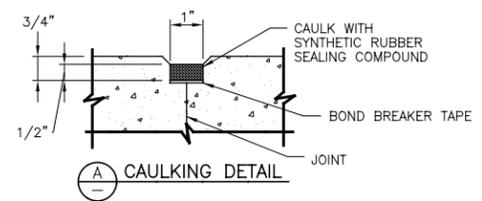
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S122 CONTRACTION JOINT WITH CAULKING

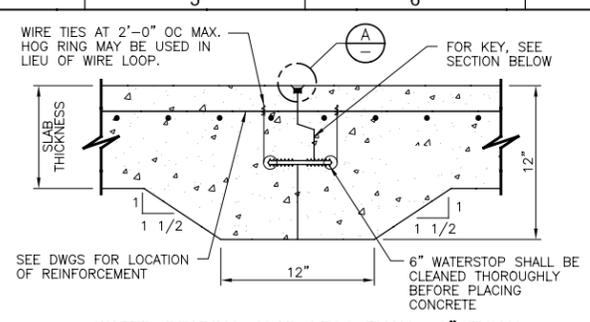


S122 CONTRACTION JOINT WITH CAULKING

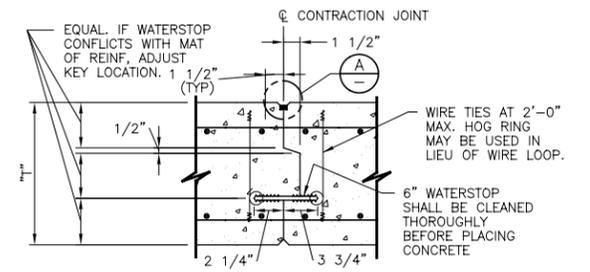


S122 CONTRACTION JOINT WITH CAULKING

S122 CONTRACTION JOINT WITH CAULKING SHEET 1 OF 2 9/10



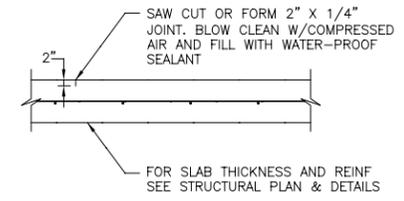
S122 CONTRACTION JOINT WITH CAULKING



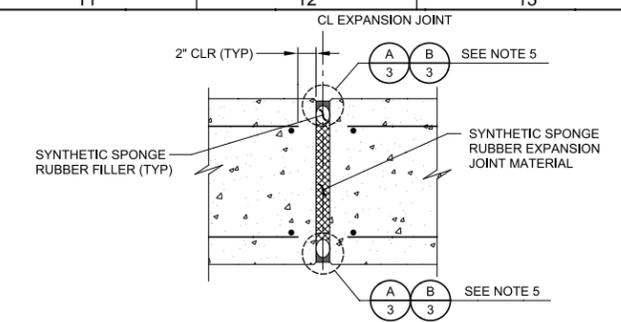
S122 CONTRACTION JOINT WITH CAULKING

- NOTES:
1. COAT CONCRETE JOINT SURFACES WITH BOND BREAKER COMPOUND.
 2. FOR WALLS, FORM ALL JOINT EDGES AT 1/4" CHAMFER.
 3. FOR SLABS, EDGE TOP OF EXPOSED SLAB JOINT EDGES AT 1/4" RADIUS.
 4. FOR UNDERSIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1/4" CHAMFER.

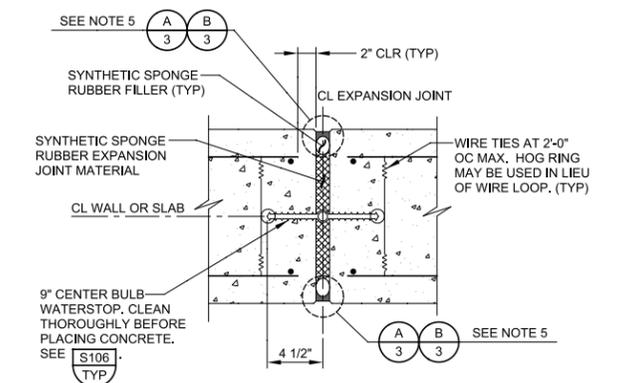
S122 CONTRACTION JOINT WITH CAULKING SHEET 2 OF 2 9/10



S123 SAW CUT SLAB 8/12/13

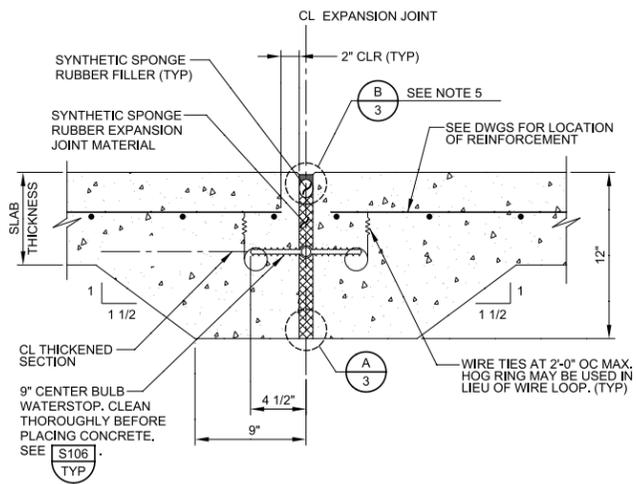


S130 EXPANSION JOINT



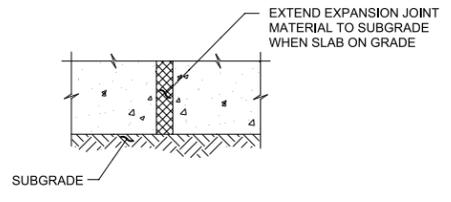
S130 EXPANSION JOINT

S130 EXPANSION JOINT SHEET 1 OF 3 03/16/09

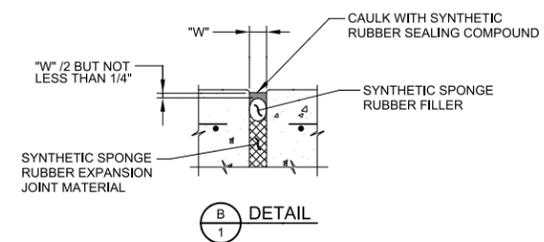


S130 EXPANSION JOINT

S130 EXPANSION JOINT SHEET 2 OF 3 03/16/09



S130 EXPANSION JOINT



S130 EXPANSION JOINT

- NOTES:
1. FOR WALLS, FORM ALL JOINT EDGES AT 1/4" CHAMFER.
 2. FOR SLABS, EDGE TOP OF EXPOSED SLAB JOINT EDGES AT 1/4" RADIUS.
 3. FOR UNDERSIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1/4" CHAMFER.
 4. "W" = 1" UNLESS OTHERWISE INDICATED ON THE DRAWINGS. MIN JOINT WIDTH = 3/8".
 5. USE (A) AT UNDERSIDE OF SLABS ON GRADE ONLY. USE (B) AT ALL OTHER LOCATIONS.

S130 EXPANSION JOINT SHEET 3 OF 3 03/16/09

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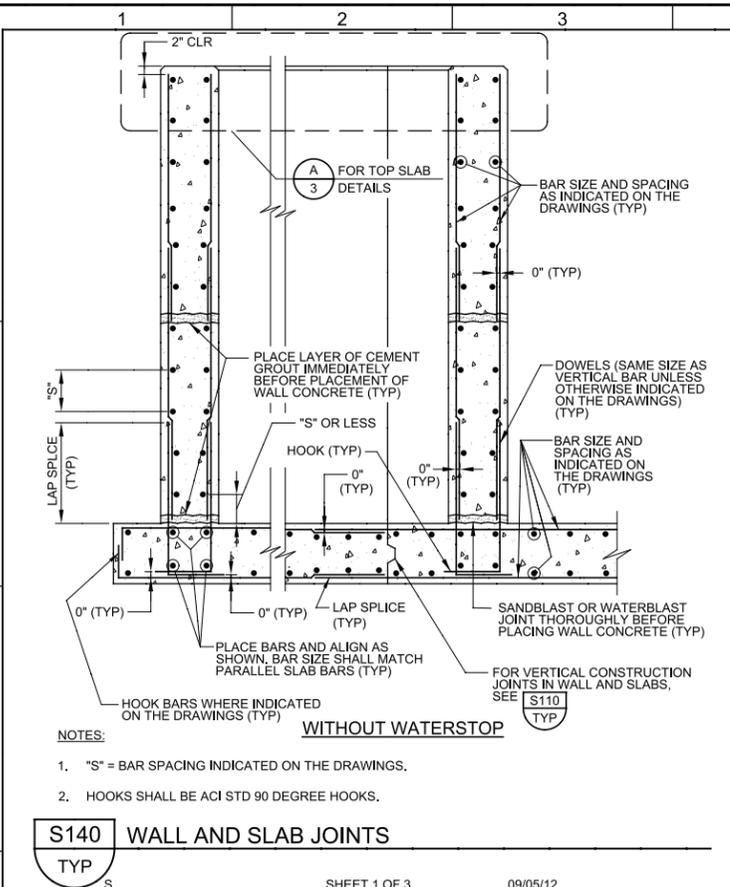
JOB NO. 8930A.11
 DRAWING NO. ST02
 SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:11:10 AM

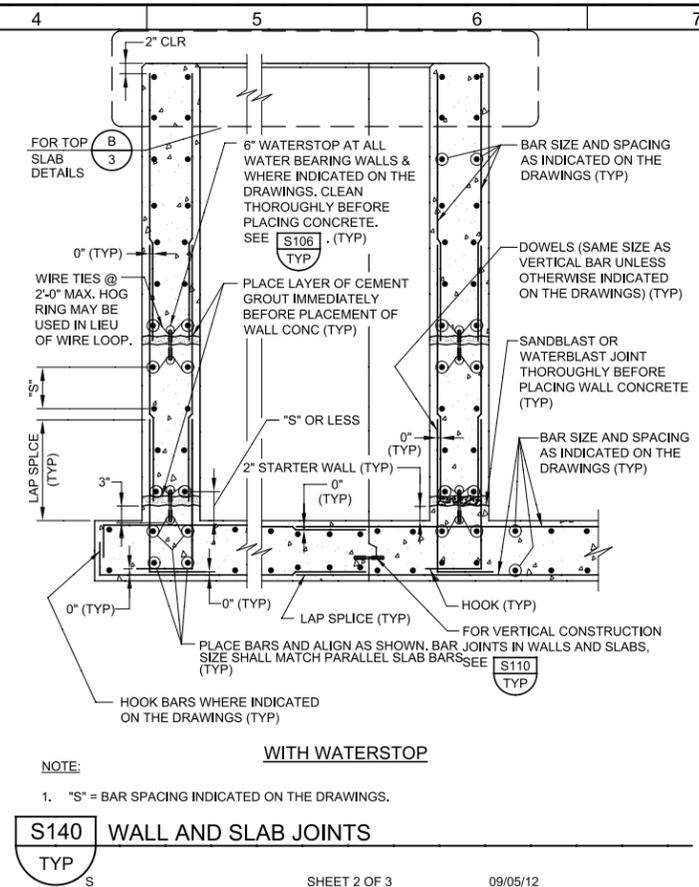
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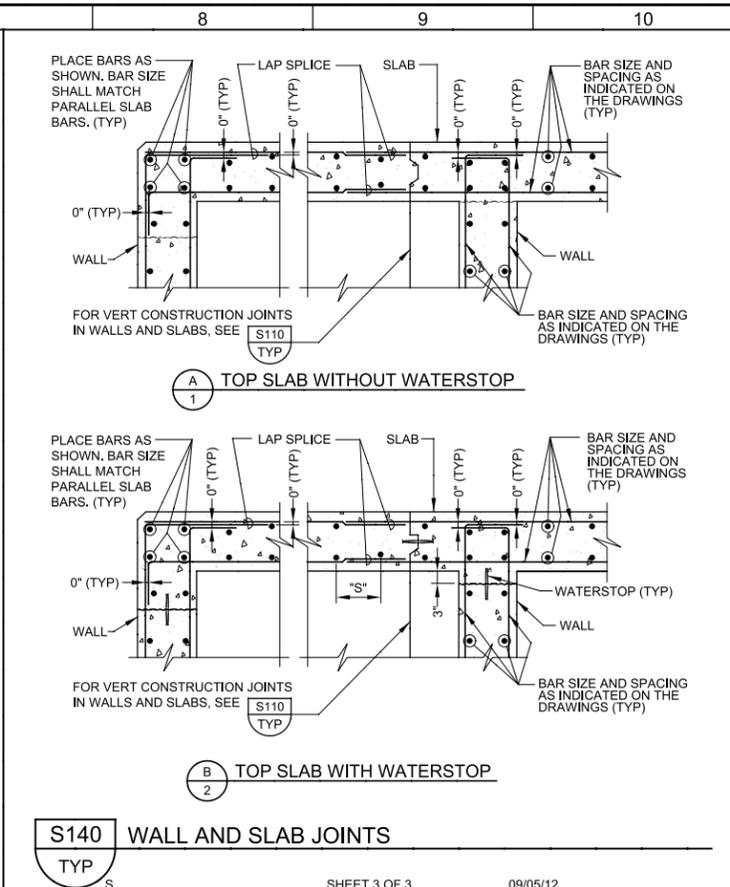
LAST SAVED BY: psanchez



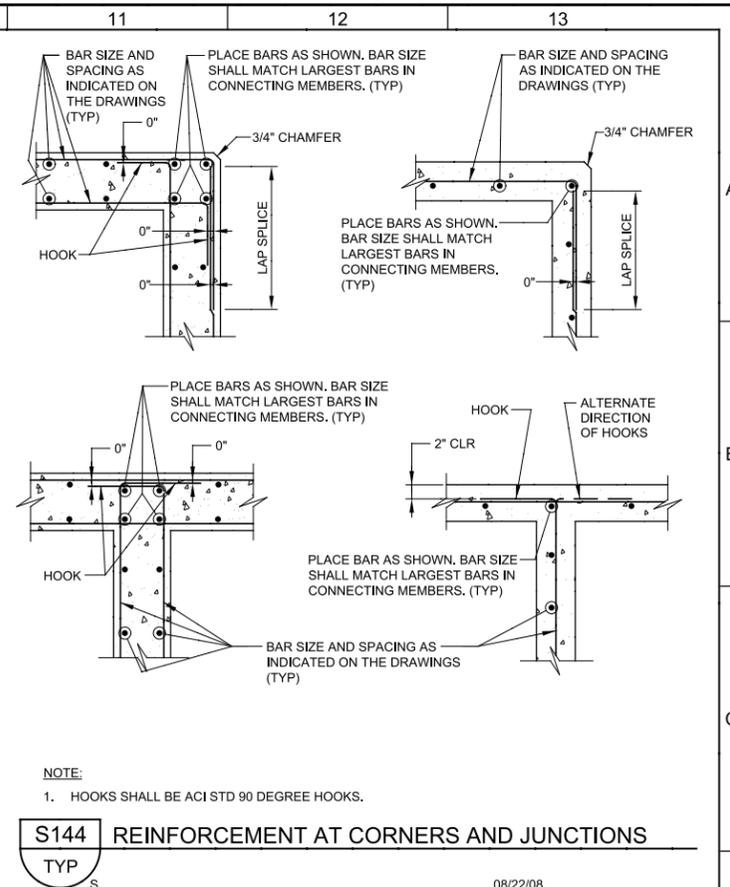
S140 WALL AND SLAB JOINTS
TYP



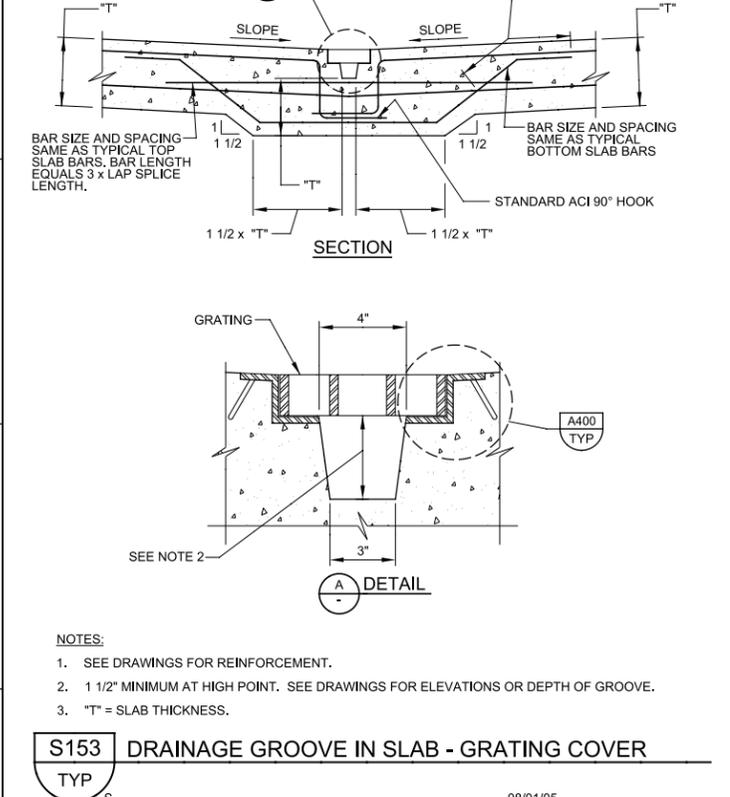
S140 WALL AND SLAB JOINTS
TYP



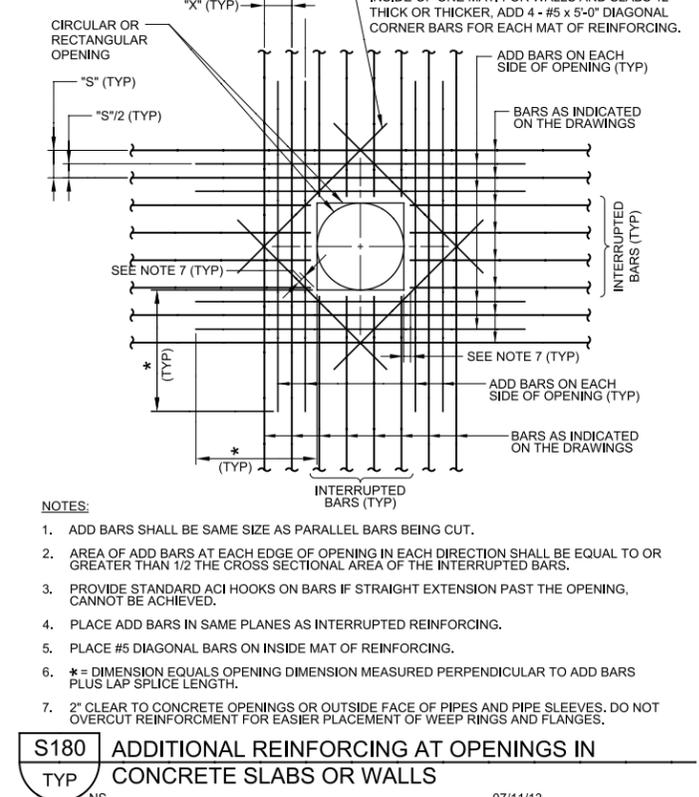
S140 WALL AND SLAB JOINTS
TYP



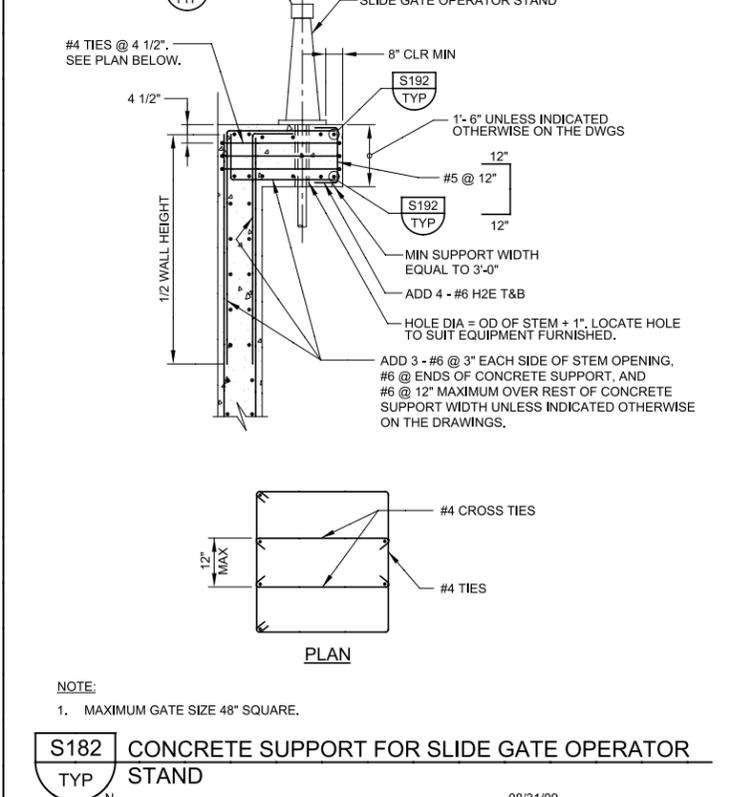
S144 REINFORCEMENT AT CORNERS AND JUNCTIONS
TYP



S153 DRAINAGE GROOVE IN SLAB - GRATING COVER
TYP

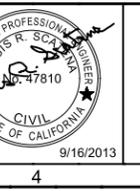


S180 ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS
TYP



S182 CONCRETE SUPPORT FOR SLIDE GATE OPERATOR STAND
TYP

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1	2	3



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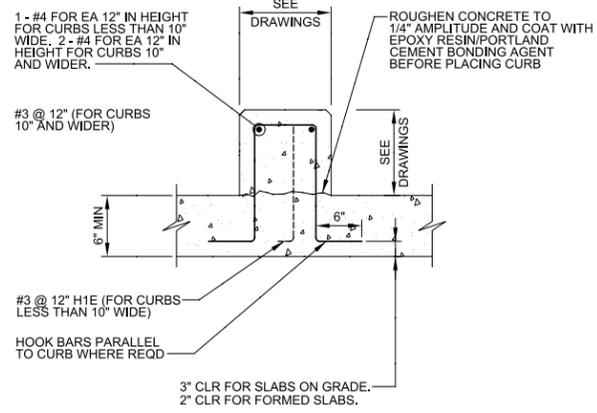
JOB NO. 8930A.11
 DRAWING NO. **ST03**
 SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:11:22 AM

User: NGriffith

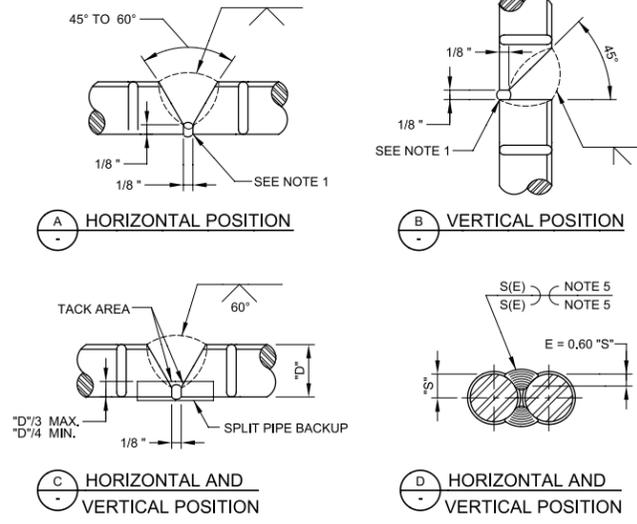
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LAST SAVED BY: psanchez



S184 CONCRETE CURB
TYP

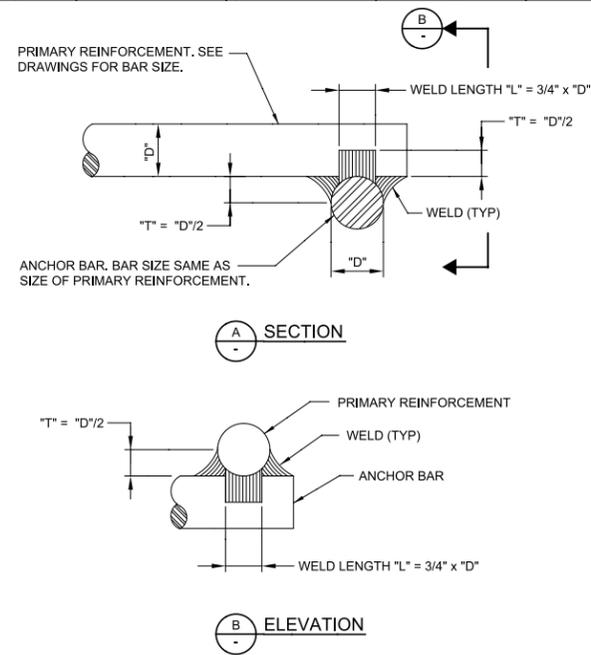
09/05/12



- NOTES:**
1. CHIP, GRIND, OR GOUGE TO SOUND METAL BEFORE WELDING OTHER SIDE.
 2. USE DETAIL A & B FOR #9 & LARGER BARS. USE DETAIL C FOR #8 & SMALLER BARS. USE DETAIL D FOR #6 & SMALLER BARS.
 3. E 70 ELECTRODE FOR GRADE 40; E 90 ELECTRODE FOR GRADE 60.
 4. SEE AWS D1.4 FOR WELDING PROCESS, PREHEAT REQUIREMENTS, AND OTHER DETAILS. SUBMIT WELDING PROCEDURE PER AWS.
 5. 1 1/2" FOR #3 AND #4 BARS, 2" FOR #5 BARS, AND 2 1/2" FOR #6 BARS.

S190 WELDED SPLICE OF REINFORCING BARS
TYP

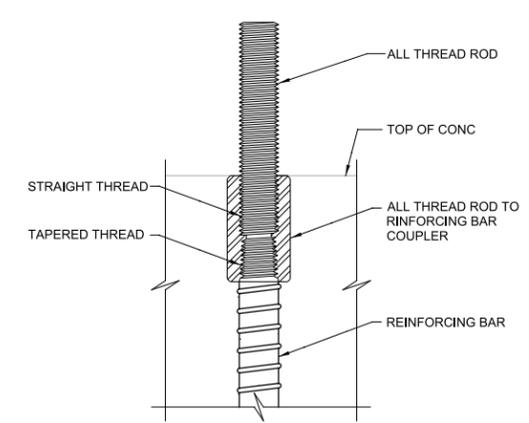
08/01/05



- NOTES:**
1. ANCHOR BAR FULL WIDTH OF PRIMARY REINFORCEMENT IN CORBEL.
 2. SEE AWS D1.4 FOR WELDING PROCESS, PREHEAT REQUIREMENTS, AND OTHER DETAILS. SUBMIT WELDING PROCEDURE PER AWS.

S192 CORBEL ANCHOR BAR WELDING
TYP

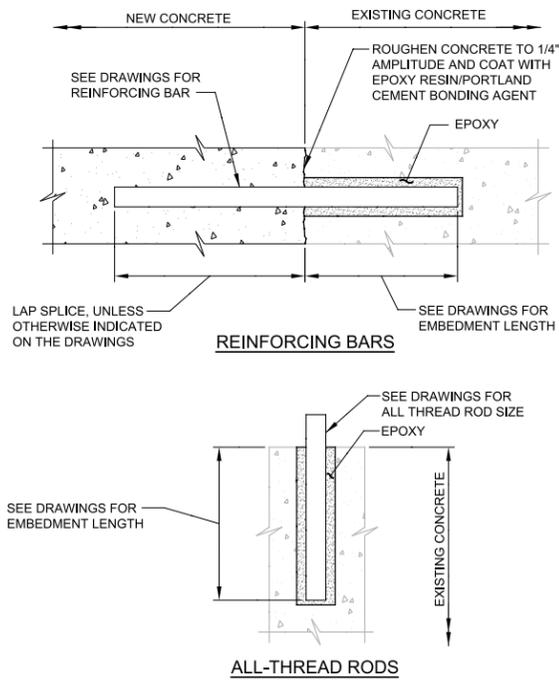
08/01/05



BAR SIZE	ALL THREAD ROD SIZE (INCHES)
#3	1/2
#4	5/8
#5	3/4
#6	7/8
#7	1
#8	1 1/8
#9	1 1/4
#10	1 1/2
#11	1 3/4

S193 ALL THREAD ROD TO REINFORCING BAR CONNECTION
TYP

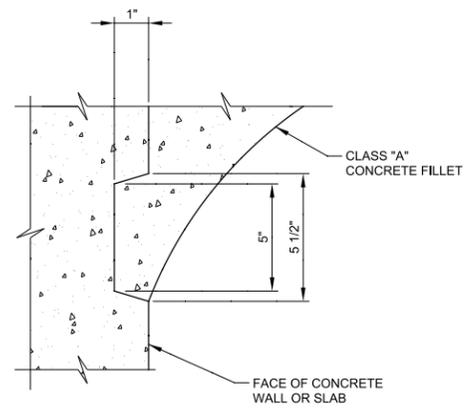
03/01/10



- NOTE:**
1. INSTALLATION OF REINFORCING BARS AND ALL-THREAD RODS AS INDICATED IN THE SPECIFICATIONS.

S194 EPOXY BONDED REINFORCING BARS OR ALL-THREAD RODS
TYP

04/30/07



S196 KEY AT CONCRETE FILLET
TYP

08/01/05

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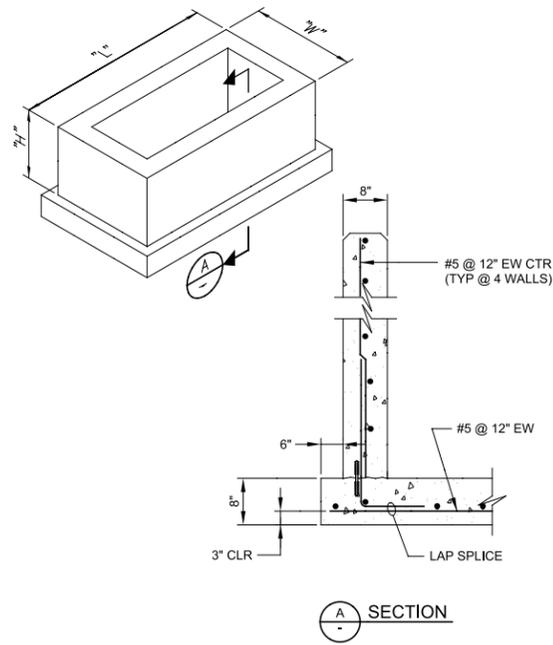
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DRAWING NO. ST04
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:11:32 AM

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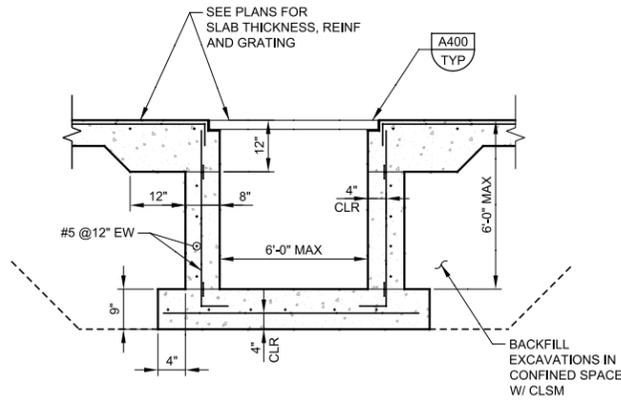
LAST SAVED BY: psanchez



- NOTES:
- "L", "W", AND "H" AS INDICATED ON THE DRAWINGS.
 - MAX DIMENSIONS: "L" = 4'-0", "H" = 4'-0", "W" = 4'-0".

S230 CONCRETE BOX REINFORCING - SINGLE MAT
TYP

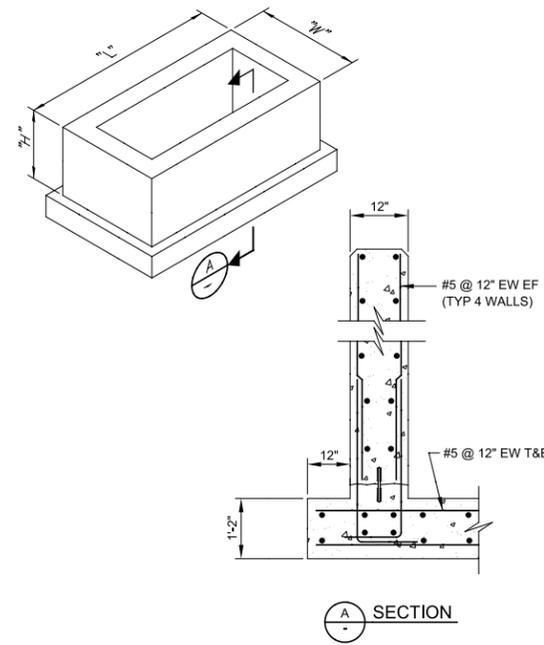
00/01/05



- NOTE:
- SEE S144/TYP FOR ADD'L REINF @ CORNERS.

S231 SUMP DETAIL
TYP

09-12-13



- NOTES:
- "L", "W", AND "H" AS INDICATED ON THE DRAWINGS.
 - MAX DIMENSIONS: "L" = 7'-0", "H" = 7'-0", "W" = 7'-0".

S232 CONCRETE BOX REINFORCING - DOUBLE MAT
TYP

08/01/05

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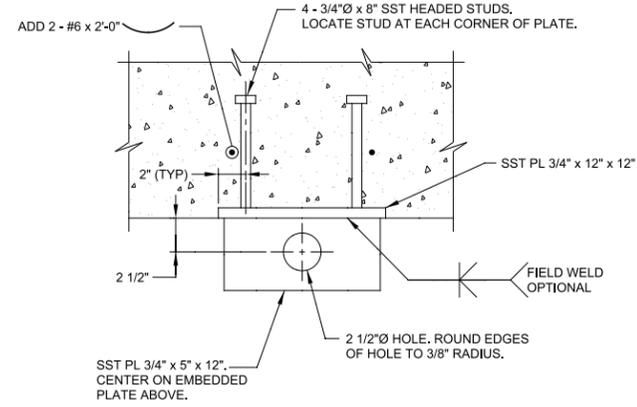
JOB NO.
8930A.11
DRAWING NO.
ST05
SHEET NO.
OF 549

Pldt Date: 17-SEP-2013 11:11:41 AM

User: NGriffith

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PldtScale: 2:1

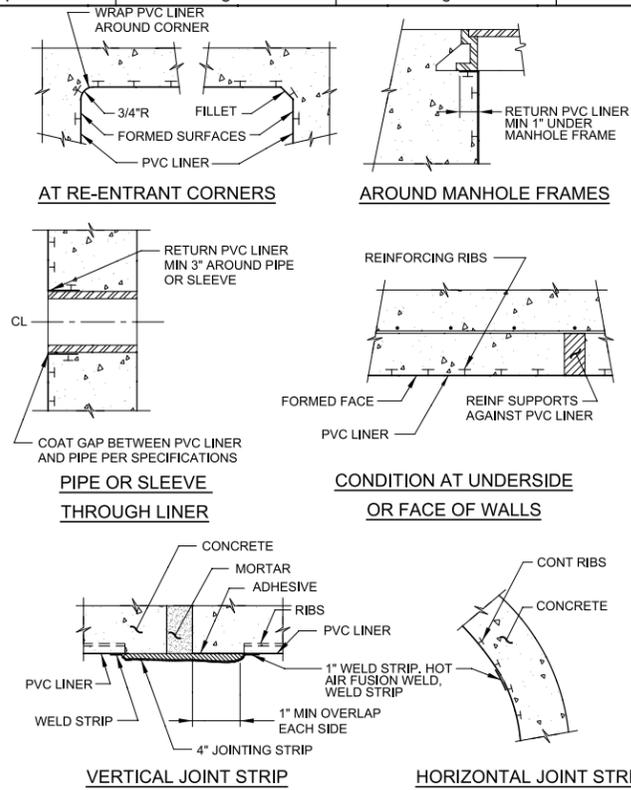
LAST SAVED BY: psanchez



NOTE:
1. VERTICAL LOAD LIMIT EQUALS 4000 POUNDS.

S252 LIFTING EYE
TYP

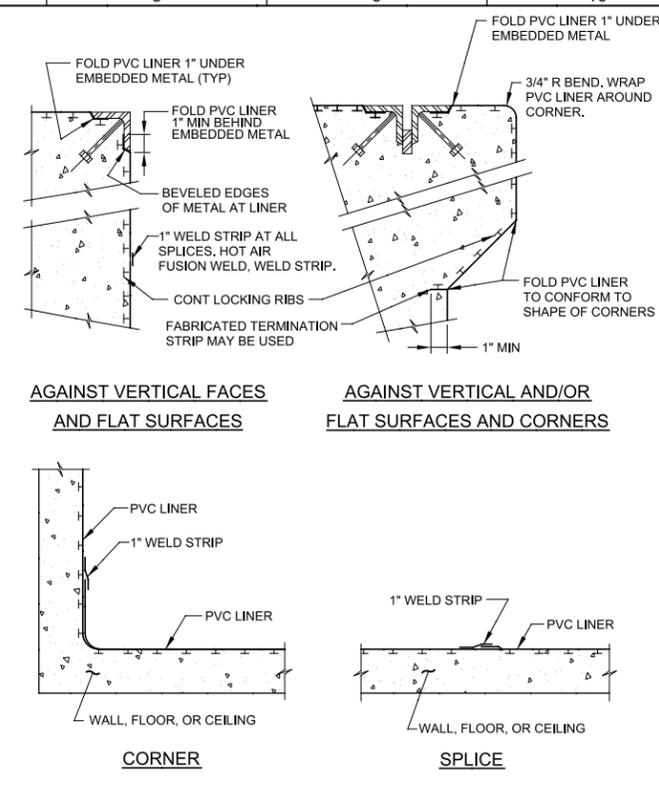
08/01/05



S270 PVC LINER
TYP

SHEET 1 OF 3

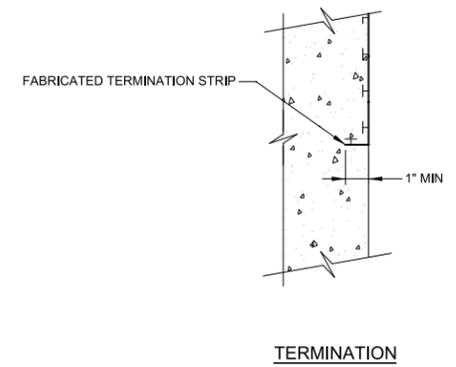
05/16/09



S270 PVC LINER
TYP

SHEET 2 OF 3

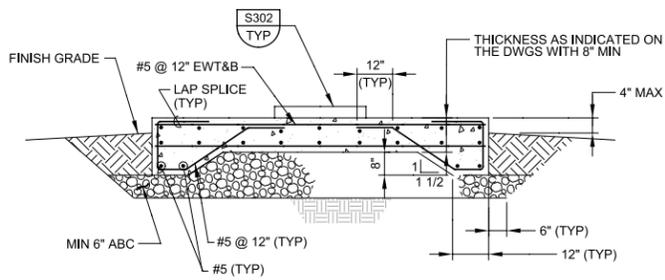
05/16/09



S270 PVC LINER
TYP

SHEET 3 OF 3

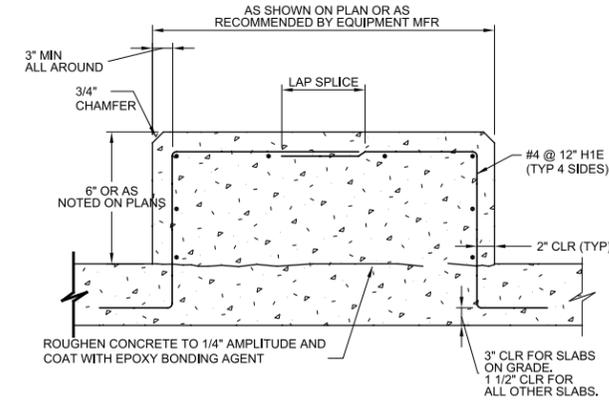
05/16/09



NOTE:
1. DIMENSION AS REQUIRED TO SUIT EQUIPMENT OR AS INDICATED ON THE DRAWINGS.

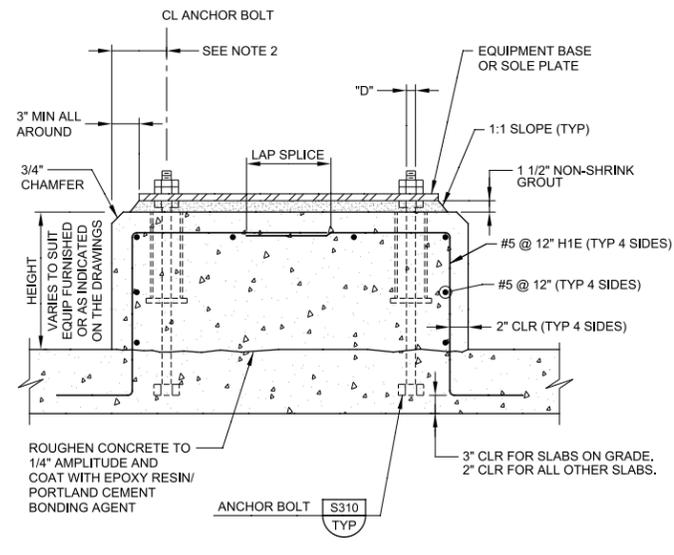
S300 EQUIPMENT SLAB
TYP

07/31/08



S301 EQUIPMENT BASE
TYP

6799E/07-08-06



NOTES:
1. "D" = DIAMETER OF ANCHOR BOLT.
2. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
3. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS FOR SLAB OR BEAM.

S302 EQUIPMENT BASE
TYP

04/30/07

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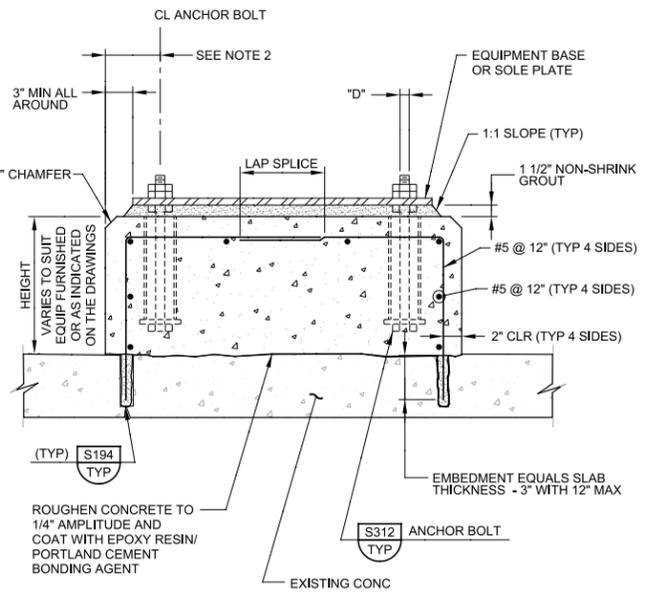
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DRAWING NO. ST06
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:11:53 AM

User: NGriffith

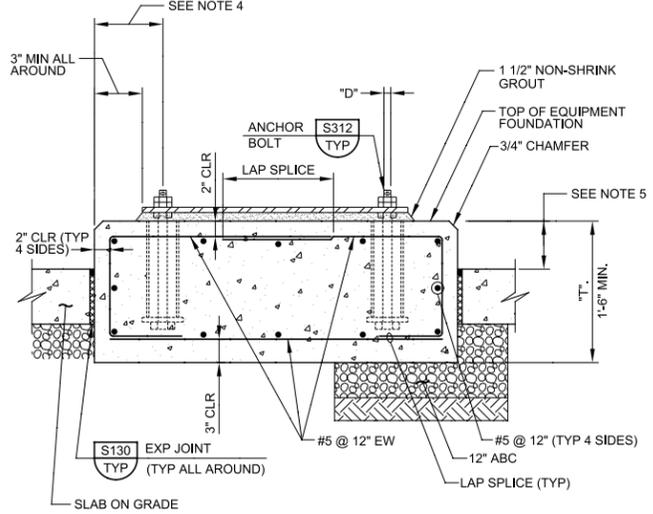
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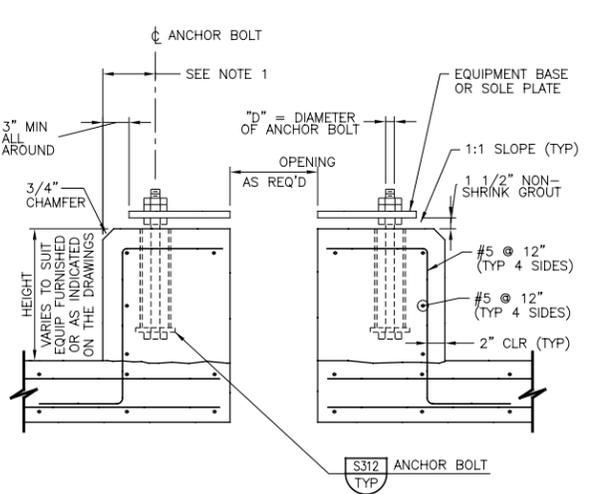
- NOTES:
- "D" = DIAMETER OF ANCHOR BOLT.
 - THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".

S304 EQUIPMENT BASE ON EXISTING CONCRETE SLAB
TYP N 07/31/08



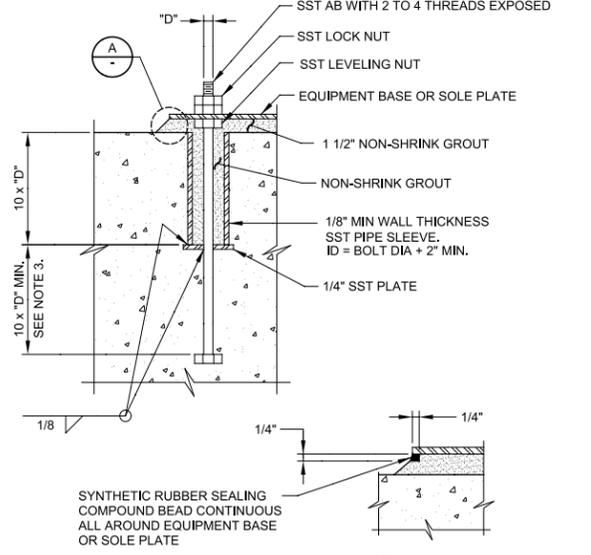
- NOTES:
- "D" = DIAMETER OF ANCHOR BOLT.
 - "T" = FOUNDATION THICKNESS.
 - PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
 - THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
 - HEIGHT VARIES TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS.

S306 ISOLATED EQUIPMENT FOUNDATION
TYP N 07/01/13



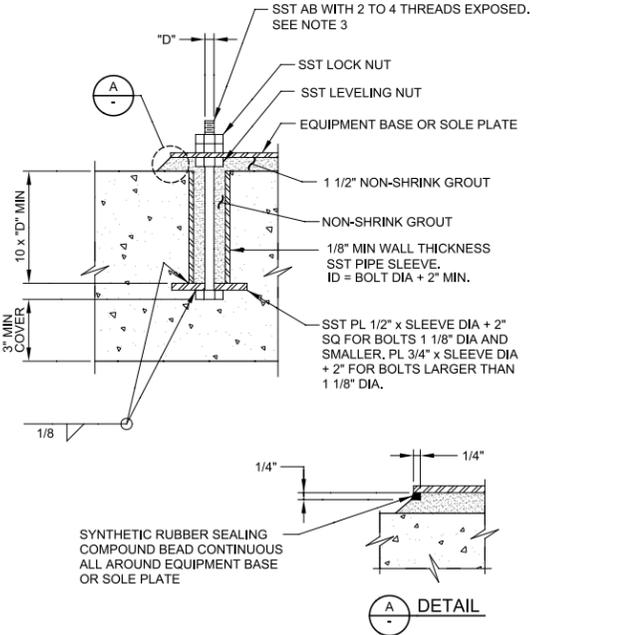
- NOTE:
- THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL BE AS REQ'D BY EQUIP MFR BUT NOT BE LESS THAN 12".

S308 EQUIPMENT PAD
TYP N 09-28-10



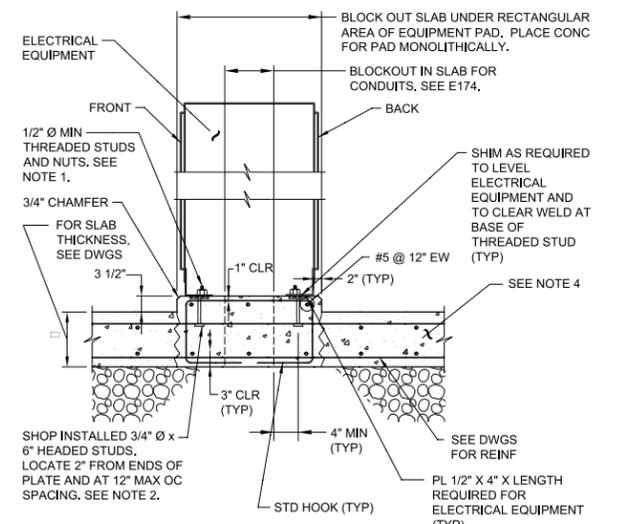
- NOTES:
- "D" = DIAMETER OF ANCHOR BOLT.
 - ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS, IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
 - WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS OF SLAB OR BEAM.
 - PREFABRICATED PLASTIC ANCHOR BOLT SLEEVE OPTIONAL.
 - DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD. SMOOTH RODS THREADED AT THE ENDS MAY BE USED IF ACCEPTABLE TO THE ENGINEER. DO NOT WELD NUTS TO THE THREADED RODS.

S310 ANCHOR BOLT - EMBED AND SLEEVE
TYP N 07/31/08



- NOTES:
- "D" = DIAMETER OF ANCHOR BOLT.
 - ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
 - DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD.

S312 ANCHOR BOLT - IN SLEEVE
TYP N 07/31/08



- NOTES:
- FIELD INSTALL THREADED STUDS, LOCATE STUDS TO SUIT EQUIPMENT. THREADED STUD DIA AS REQUIRED FOR ELECTRICAL EQUIPMENT.
 - THE SPACING OF HEADED STUDS ON THE PLATE SHALL BE REDUCED AS REQUIRED TO PREVENT OVERSTRESS OF THE PLATE AND HEADED STUDS DUE TO SEISMIC LOAD FROM THE ELECTRICAL EQUIPMENT SUPPLIED.
 - THE INSTALLED PLATE SHALL NOT DEVIATE FROM A STRAIGHT LINE BY MORE THAN 1/8" IN 10 FEET.
 - PLACE CONCRETE FOR ELECTRICAL EQUIPMENT CONCRETE PAD AFTER REST OF SLAB HAS BEEN PLACED, ADJUST SLAB REINFORCEMENT AS REQUIRED FOR HEADED STUD PLACEMENT.

S332 ELECTRICAL EQUIPMENT PAD AND ANCHORAGE
TYP NR 02-05-10

- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL WALLS SHALL BE REINFORCED WITH A MINIMUM OF #5 VERTICAL REINFORCING BARS AT 2'-8" AND #5 HORIZONTAL REINFORCING BARS AT 4'-0". SEE NOTE 2 FOR ADDITIONAL REINFORCING BARS ADJACENT TO WALL OPENINGS.
- A VERTICAL BAR SHALL BE PLACED AT ALL WALL CORNERS AND WALL INTERSECTIONS, AND A VERTICAL BAR SHALL BE PLACED IN EACH OF THE FIRST TWO CELLS AT EACH JAMB OF ALL WALL OPENINGS. THE BAR SIZE SHALL BE #5 MINIMUM, BUT NOT SMALLER THAN THE TYPICAL VERTICAL WALL REINFORCING BARS.
- LAP SPLICES:
 - UNLESS OTHERWISE INDICATED ON THE DRAWINGS, THE BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
 - FOLLOWING TABULATED VALUES ARE CALCULATED FOR:
F_y = 60,000 PSI FOR REINFORCING BARS
F'_m = 1,500 PSI FOR MASONRY
 - BAR LAP SPICED NOT SPECIFIED ON THE DRAWINGS OR IN THE FOLLOWING TABLE SHALL NOT BE LESS THAN 72 BAR DIAMETERS.
 - THE MASONRY SIDE COVER OVER THE REINFORCING BARS SHALL NOT BE LESS THAN 2 INCHES TO THE EXTERIOR FACE OF THE BAR.

BAR SIZE	LAP SPLICE LENGTH (INCHES)			
	8" CMU CENTERED IN WALL	8" CMU BAR @ FACE OF WALL	12" CMU BAR CENTERED OF WALL	8" CMU BAR @ FACE OF WALL
#4	21"	26"	21"	26"
#5	26"	40"	26"	40"
#6	42"	72"	40"	74"
#7	58"	100"	46"	100"

* SIDE COVER TO BAR SHALL NOT BE LESS THAN 2".

S400 MASONRY NOTES
TYP S 08/01/05

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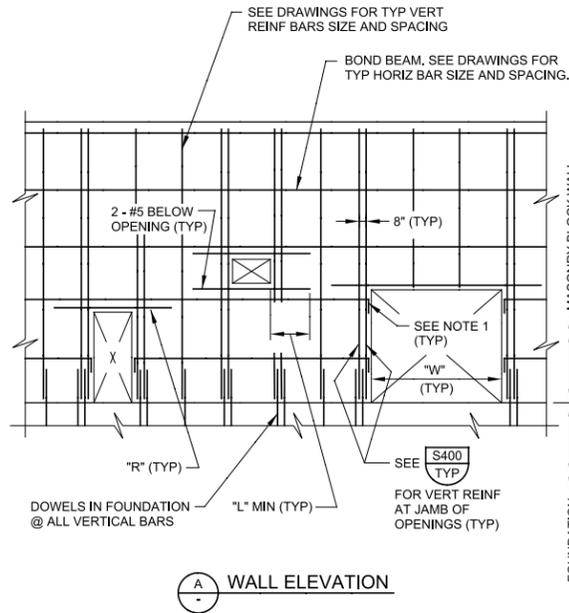
JOB NO. 8930A.11
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SHEET NO. OF 549

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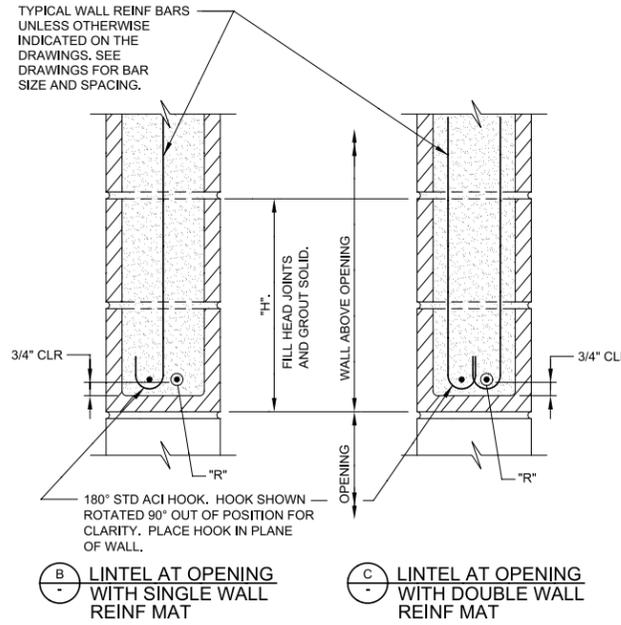
LAST SAVED BY: psanchez



- NOTES:
1. ACI STANDARD 90° HOOK ON HORIZONTAL BARS AT OPENINGS.
 2. FOR ADDITIONAL REINFORCING, SEE DRAWINGS.
 3. DO NOT PLACE VERTICAL CONDUITS IN CELLS WITH VERTICAL REINFORCING BARS.

S410 REINFORCED MASONRY WALL

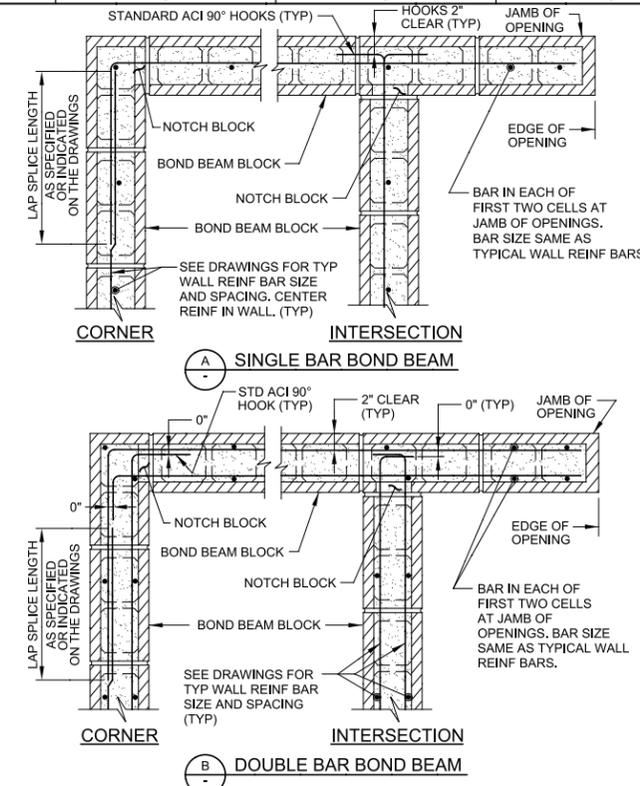
TYP NS SHEET 1 OF 2 07/31/08



LINTEL REINFORCEMENT SCHEDULE				
"W"	"R"	"L"	"H"	
LESS THAN 5'-0"	2 - #5	2'-6"	16"	
GREATER THAN 5'-0" TO 7'-0"	2 - #6	3'-0"	32"	
GREATER THAN 7'-0" TO 12'-0"	2 - #7	3'-6"	40"	

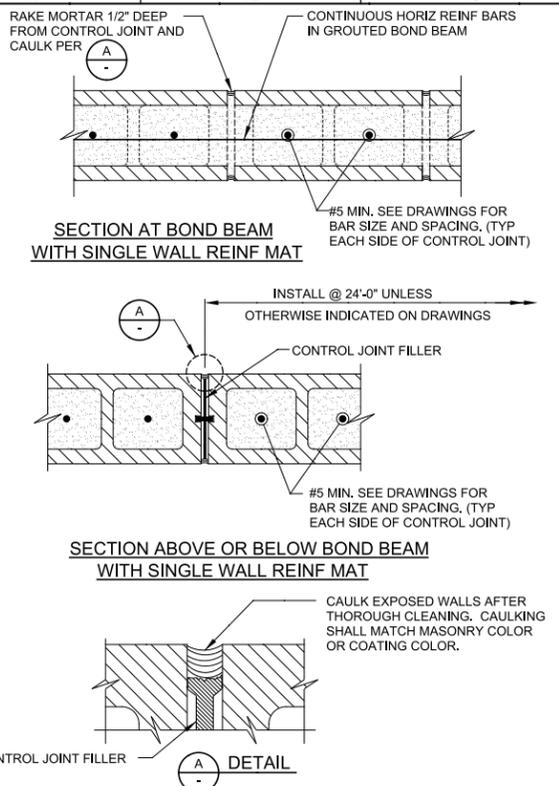
S410 REINFORCED MASONRY WALL

TYP NS SHEET 2 OF 2 07/31/08



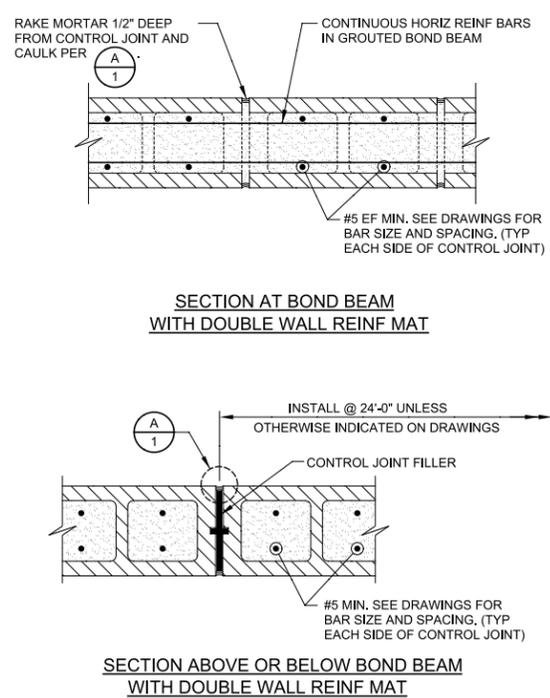
S412 REINFORCING AT MASONRY BOND BEAM

TYP S 08/01/05



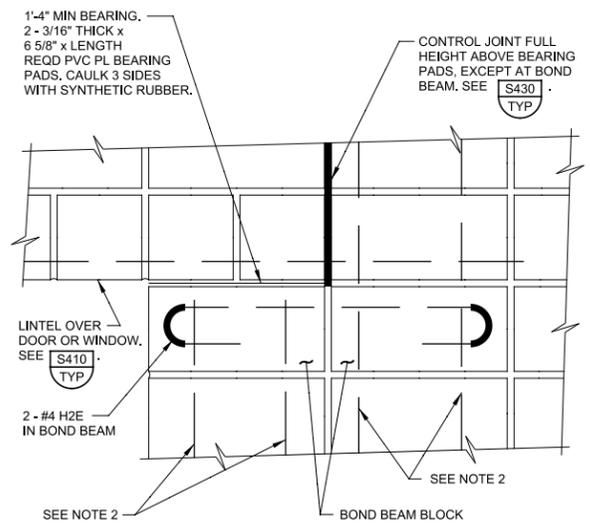
S430 MASONRY CONTROL JOINT

TYP S SHEET 1 OF 2 08/01/05



S430 MASONRY CONTROL JOINT

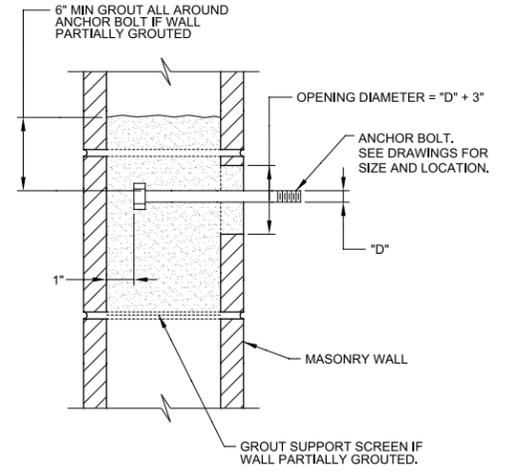
TYP S SHEET 2 OF 2 08/01/05



- NOTES:
1. ALL BLOCKS BELOW LINTEL BEARING PADS SHALL BE GROUTED SOLID FULL HEIGHT. PROVIDE SMOOTH BEARING SURFACE UNDER PADS.
 2. THE BAR SIZE SHALL BE NUMBER 5 MINIMUM, BUT NOT SMALLER THAN THE TYPICAL VERTICAL WALL REINFORCING BARS.

S433 CONTROL JOINT AT LINTEL

TYP NS 08/01/05



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

S440 ANCHOR BOLTS IN MASONRY

TYP S 08/01/05



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STRUCTURAL
TYPICAL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

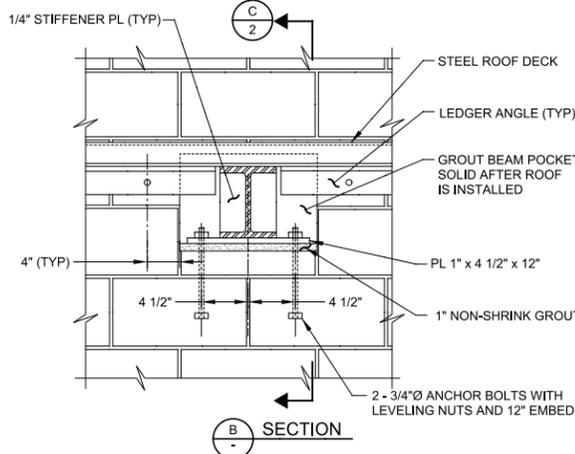
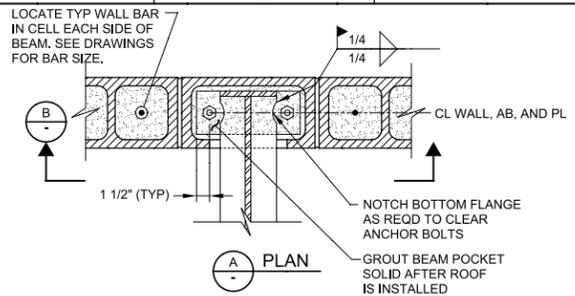
JOB NO. 8930A.11
DRAWING NO. ST08
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:12:17 AM

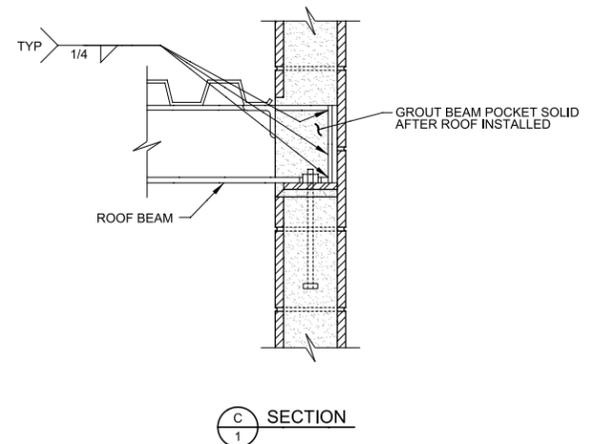
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Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 2:1

LAST SAVED BY: psanchez

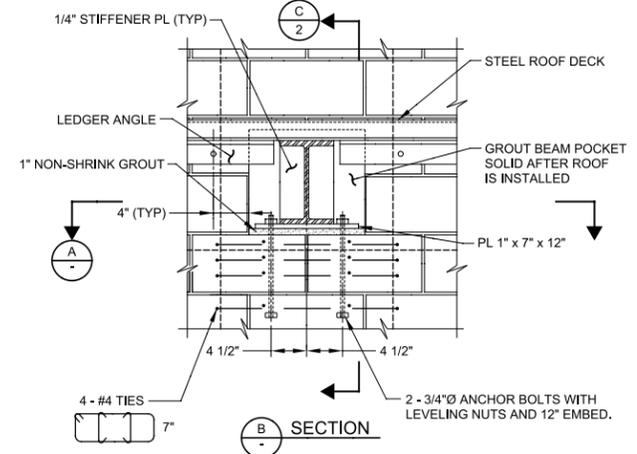
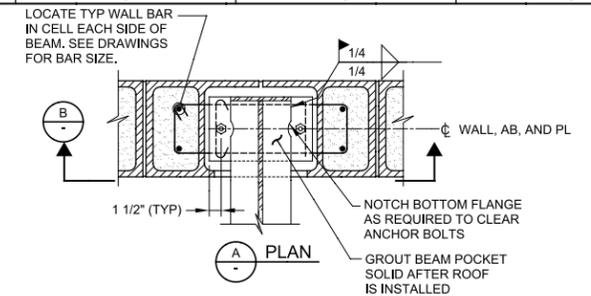


S450 8" CMU WALL ROOF BEAM TO EXTERIOR WALL CONNECTION
TYP NS SHEET 1 OF 2 07/31/08

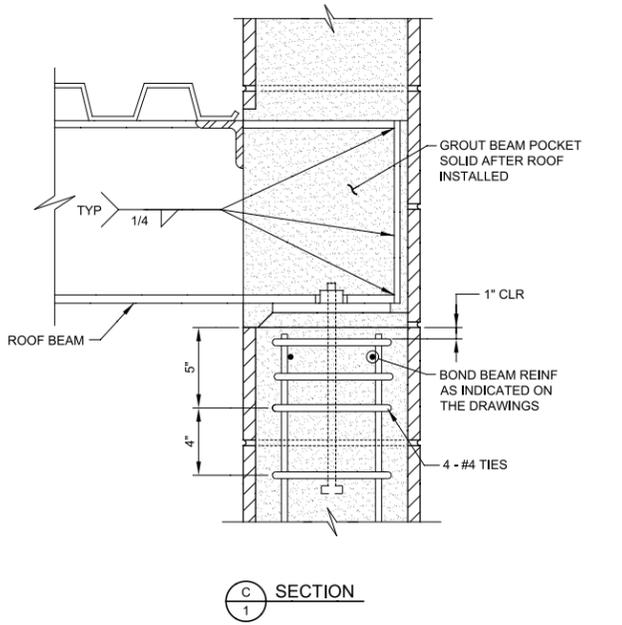


NOTE:
1. GROUT WALL SOLID FULL HEIGHT OVER 4'-0" WIDTH CENTERED ON BEAM, WHERE OPENING OCCURS BELOW THE BEAM, FILL HEAD JOINTS AND GROUT SOLID FOR FULL HEIGHT ABOVE OPENING.

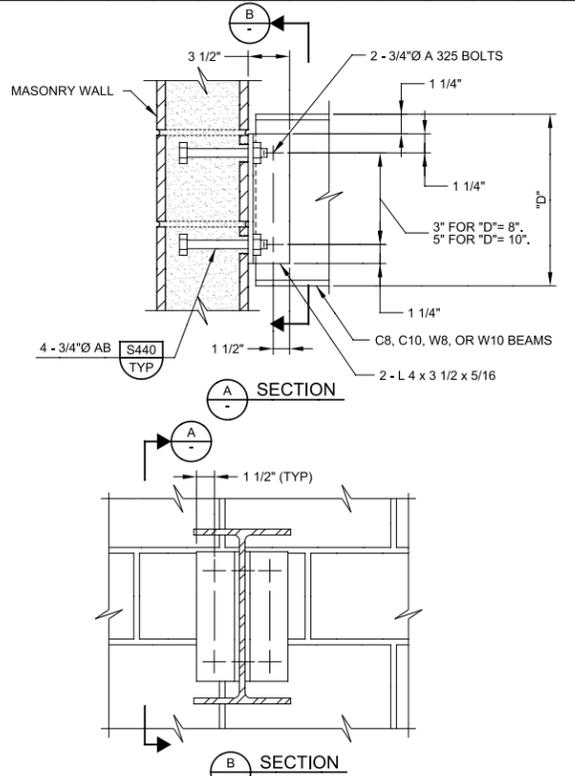
S450 8" CMU WALL ROOF BEAM TO EXTERIOR WALL CONNECTION
TYP NS SHEET 2 OF 2 07/31/08



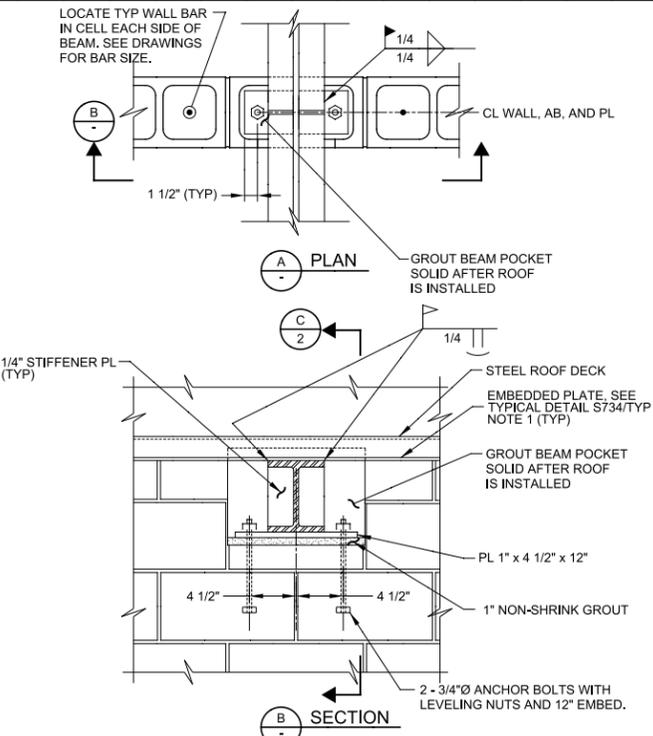
S451 12" CMU WALL ROOF BEAM TO EXTERIOR WALL CONNECTION
TYP NS SHEET 1 OF 2 08/23/11



S451 12" CMU WALL ROOF BEAM TO EXTERIOR WALL CONNECTION
TYP NS SHEET 2 OF 2 08/23/11

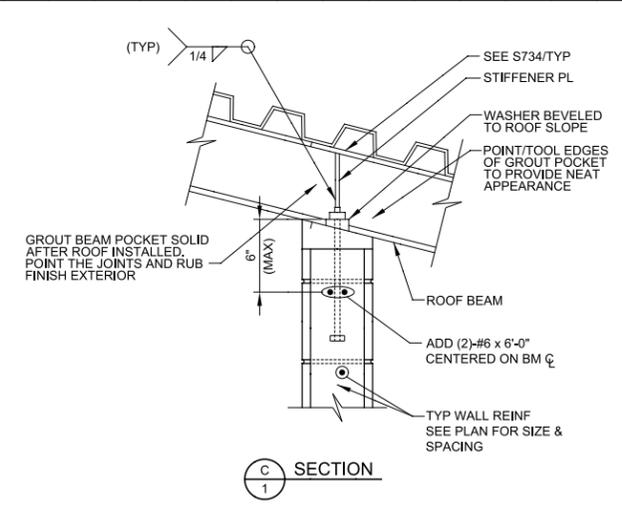


S452 BEAM TO MASONRY WALL CONNECTION
TYP N 08/01/05



NOTE:
1. ATTACH EMBEDDED PLATES TO ROOF BEAM SO EACH END STUD IS WITHIN 12" OF BEAM CENTERLINE.

S453 ROOF BEAM TO 8" CMU EXTERIOR WALL CONNECTION
TYP R SHEET 1 OF 2 09-12-13

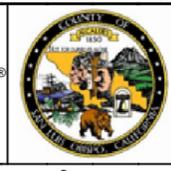
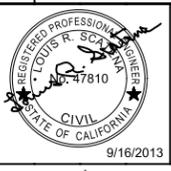


NOTE:
1. BEAM POCKETS NEED NOT BE POINTED & RUBBED IF COVERED W/ ARCH SIDING.

S453 ROOF BEAM TO 8" CMU EXTERIOR WALL CONNECTION
TYP R SHEET 2 OF 2 09-12-13

REV	DATE	BY	DESCRIPTION

DESIGNED	LRs
DRAWN	PS
CHECKED	WTT
DATE	SEPT 2013



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STRUCTURAL TYPICAL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

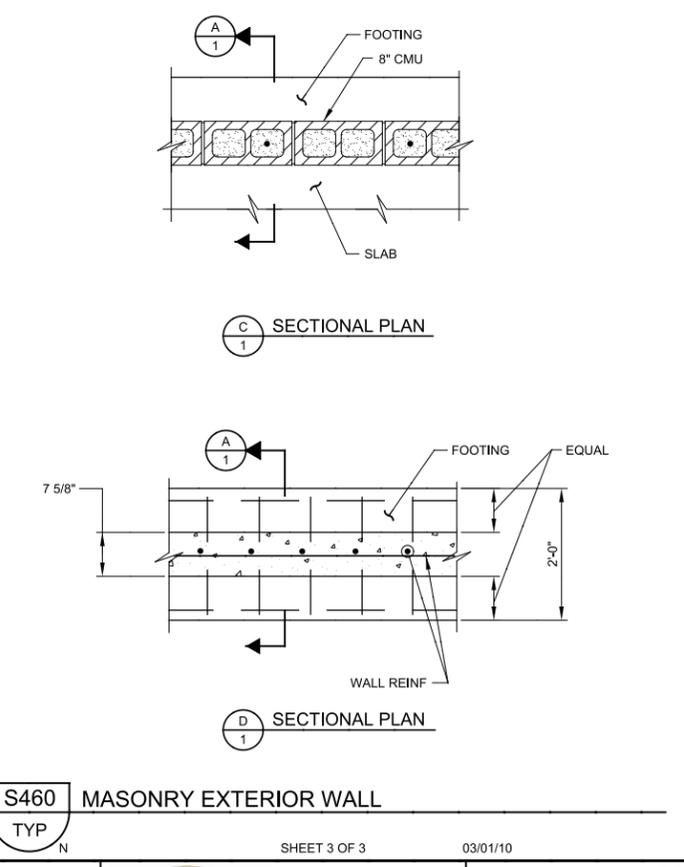
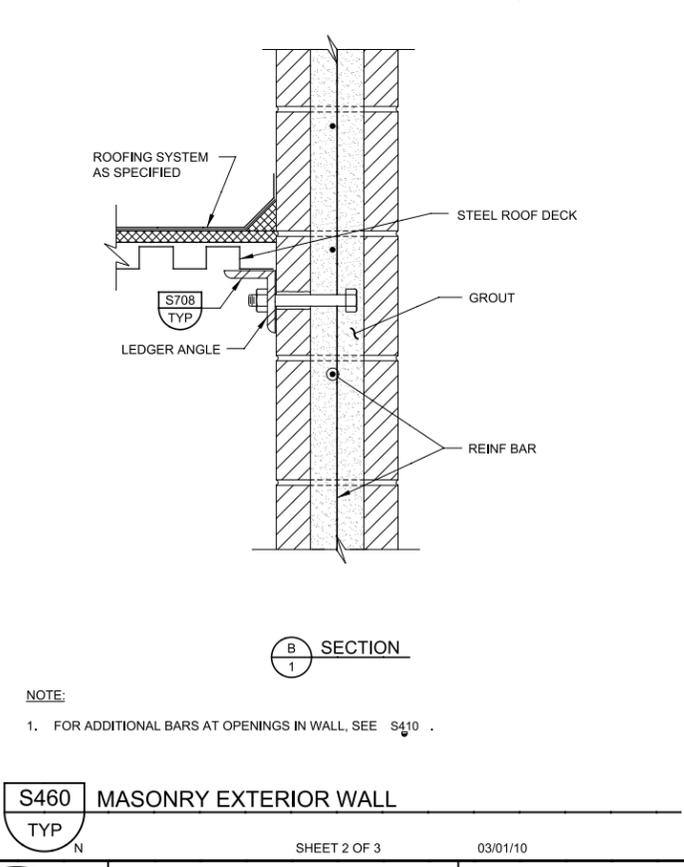
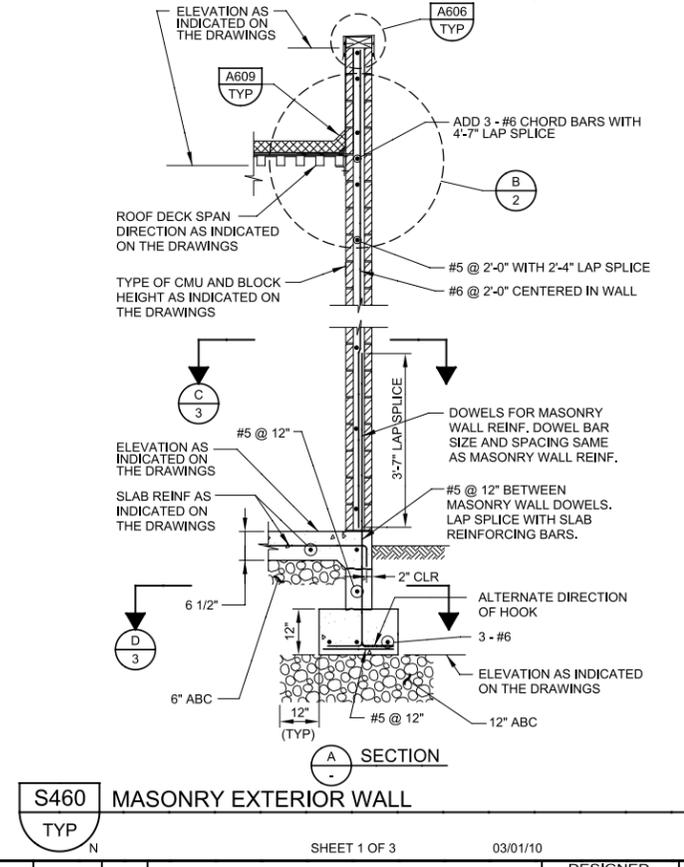
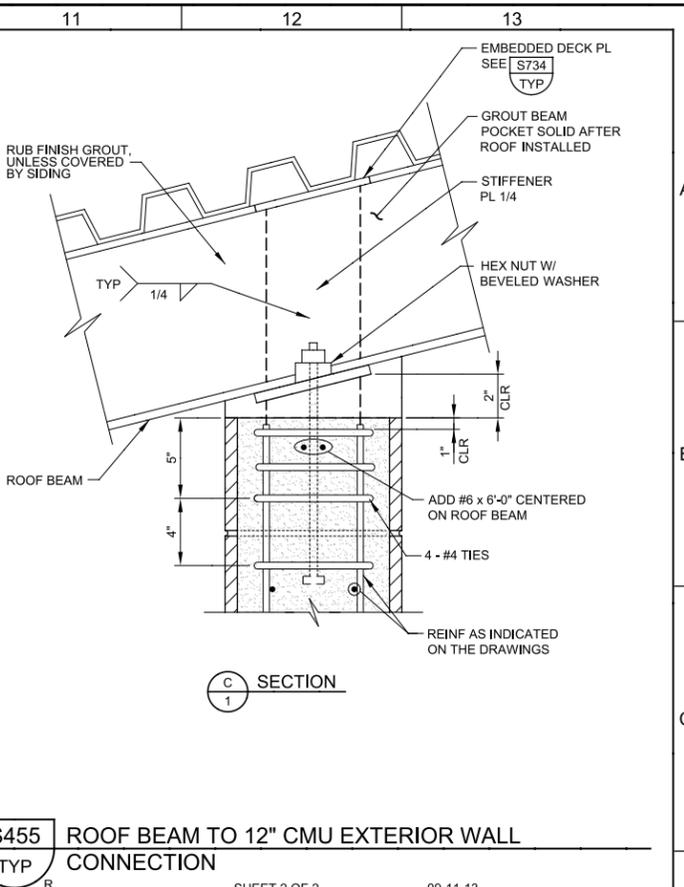
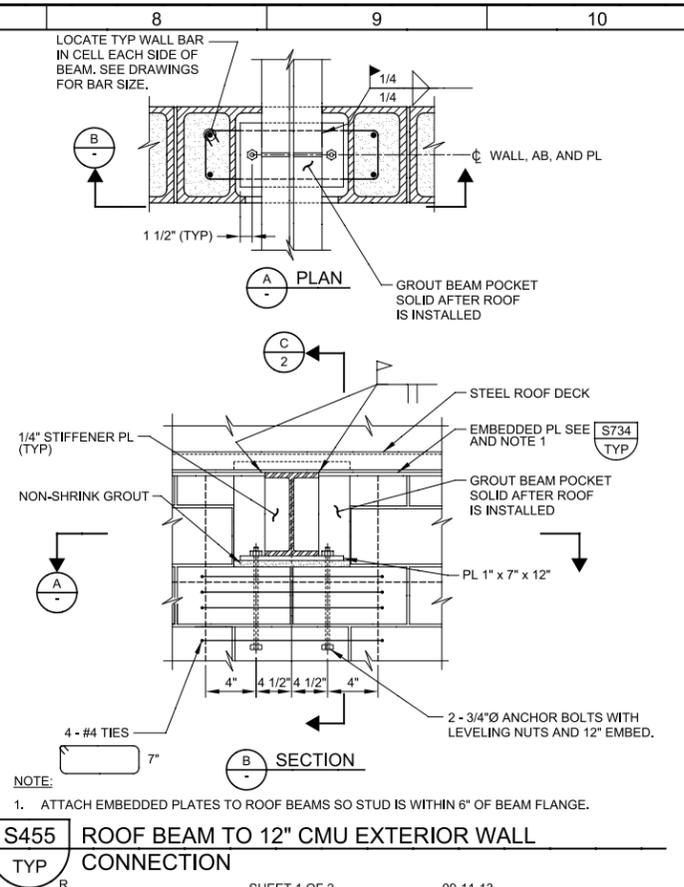
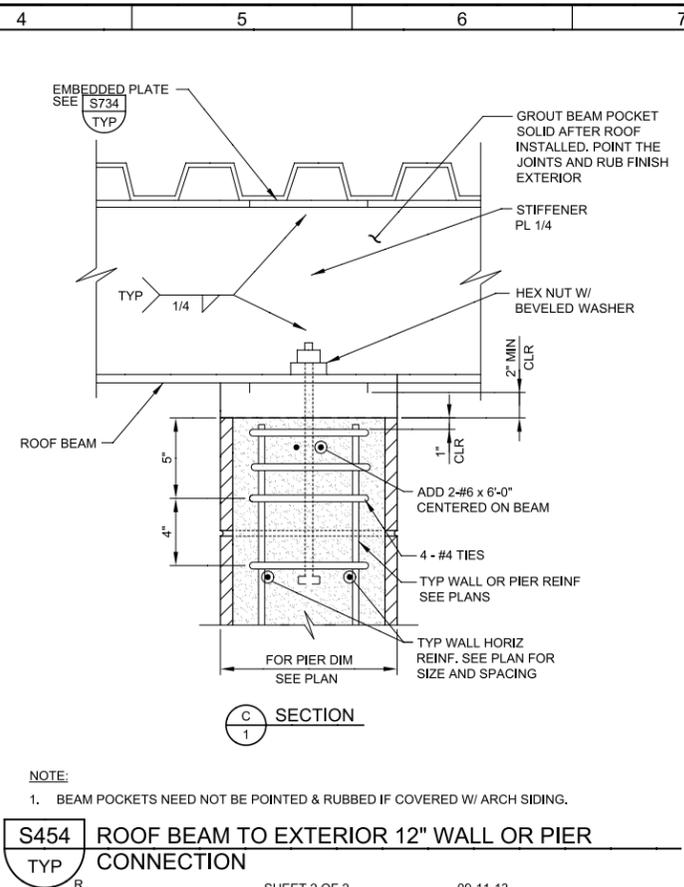
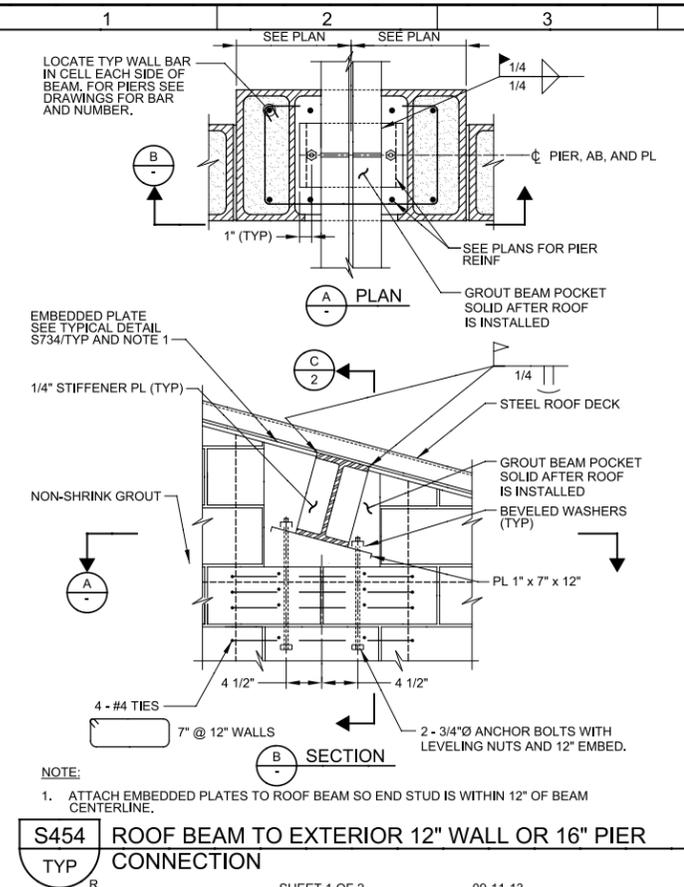
JOB NO. 8930A.11
DRAWING NO. ST09
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:12:29 AM

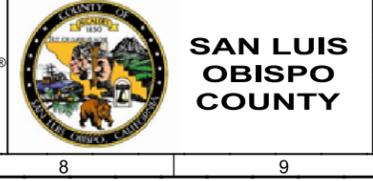
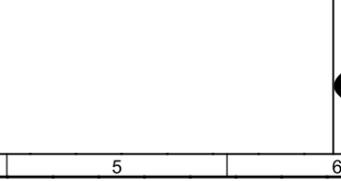
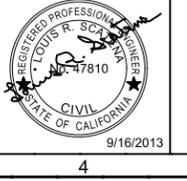
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DESIGNED	
DRAWN	
CHECKED	
DATE	SEPT 2013
REV	DATE BY DESCRIPTION
1	
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3	



SAN LUIS OBISPO COUNTY
LOS OSOS WATER RECYCLING FACILITY PROJECT
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TYPICAL DETAILS

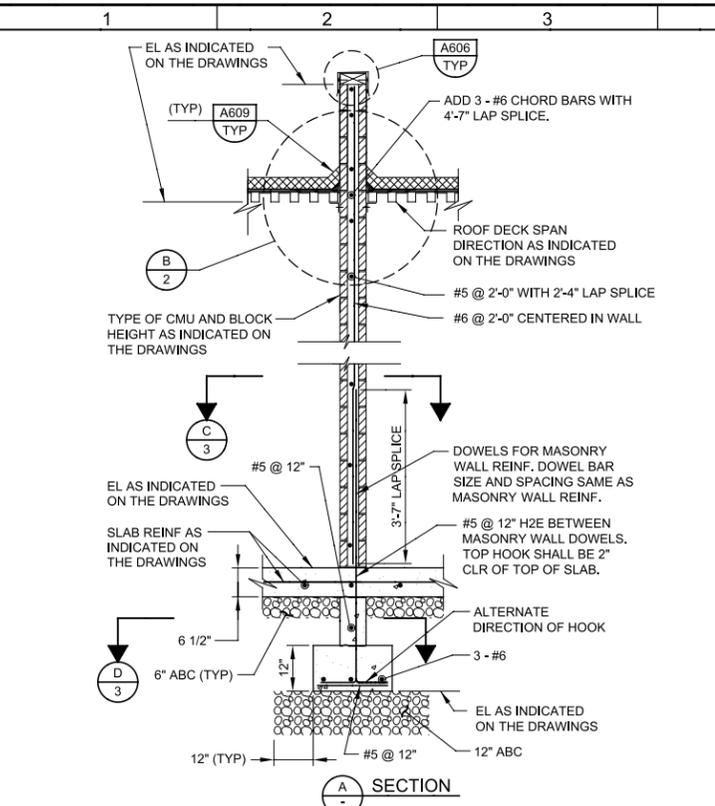
VERIFY SCALES	JOB NO. 8930A.11
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. ST10
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

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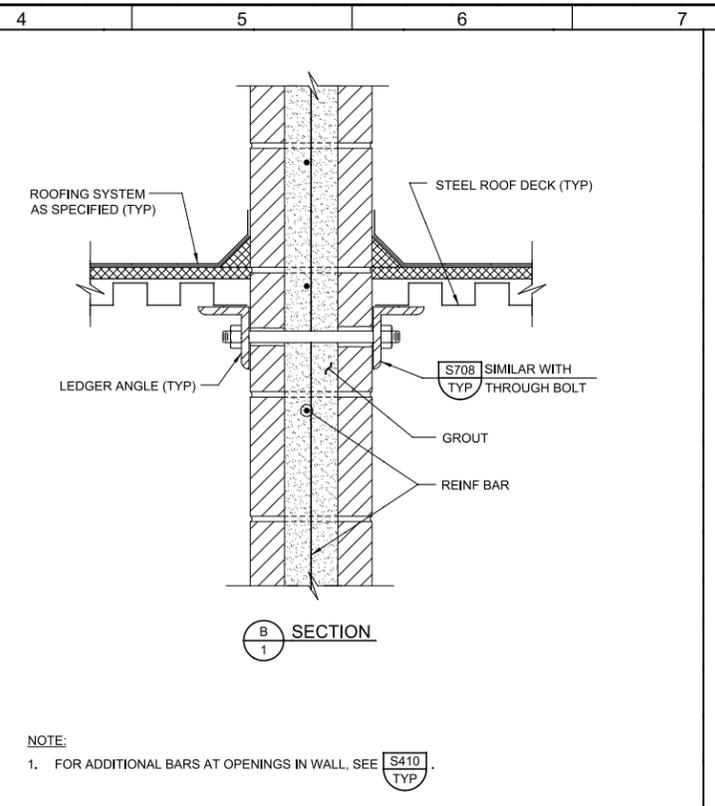
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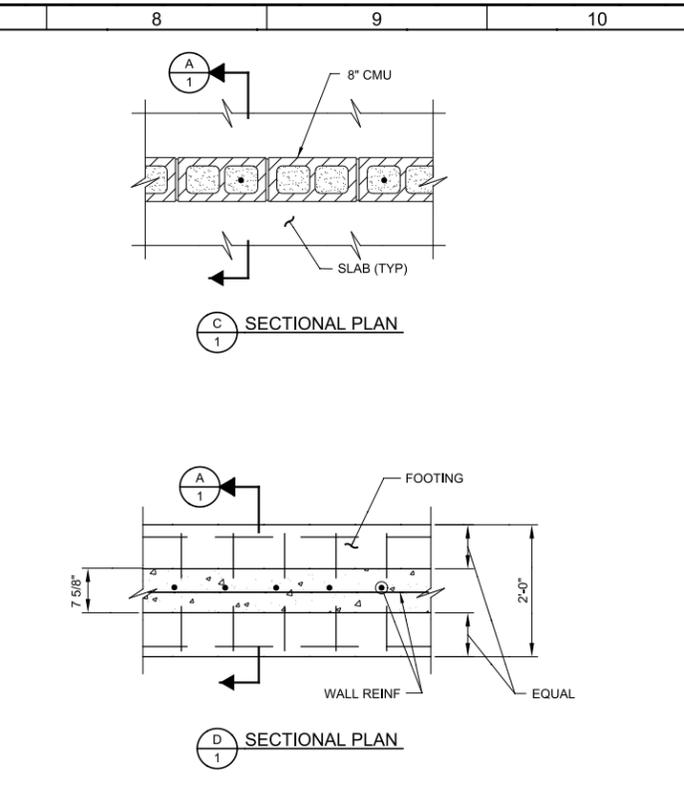
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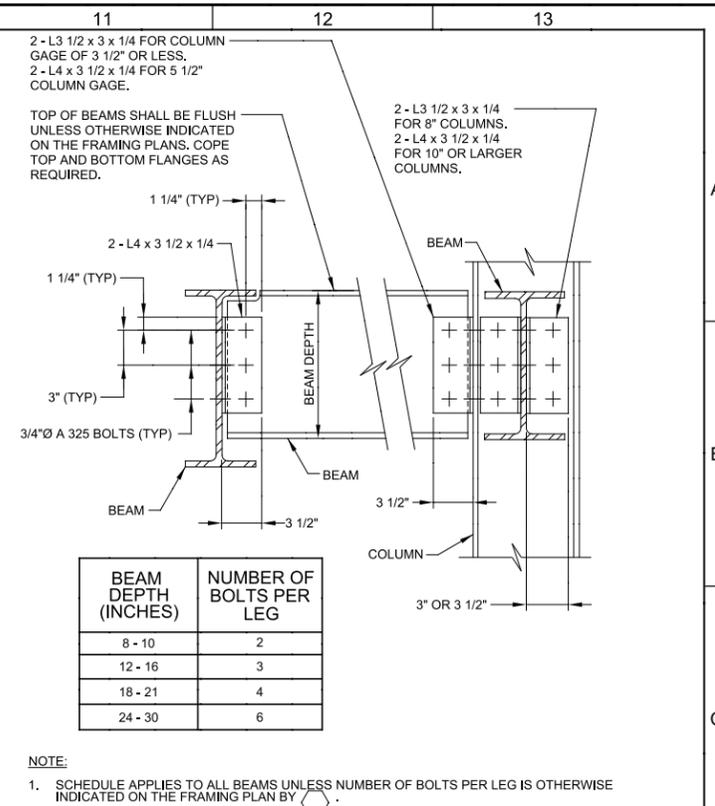
S462 MASONRY INTERIOR WALL
TYP
SHEET 1 OF 3 03/01/10



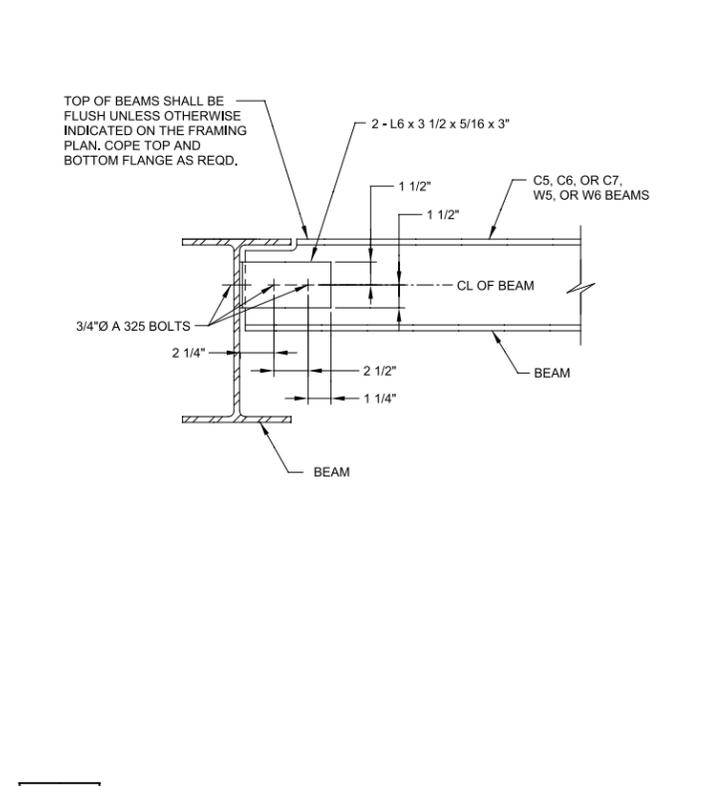
S462 MASONRY INTERIOR WALL
TYP
SHEET 2 OF 3 03/01/10



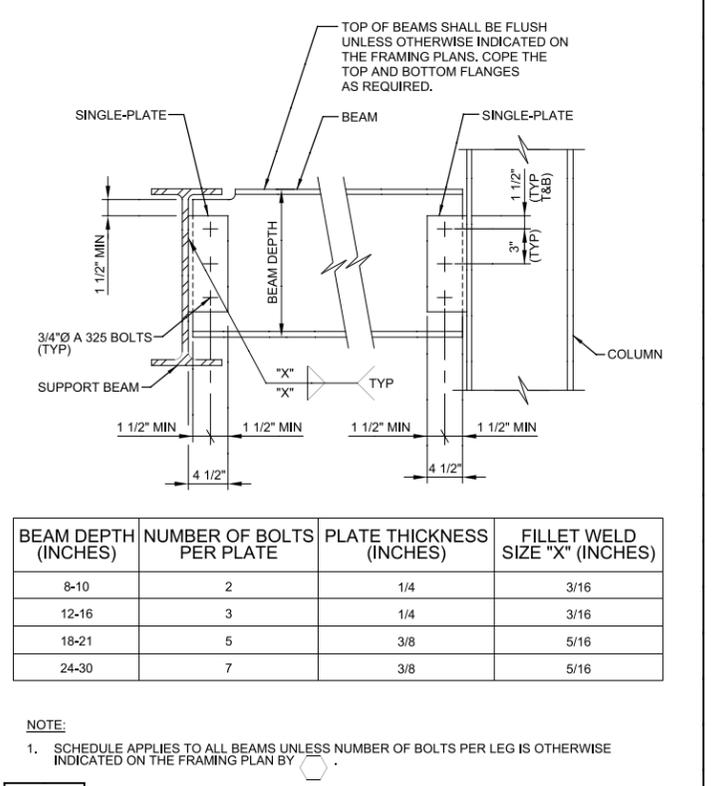
S462 MASONRY INTERIOR WALL
TYP
SHEET 3 OF 3 03/01/10



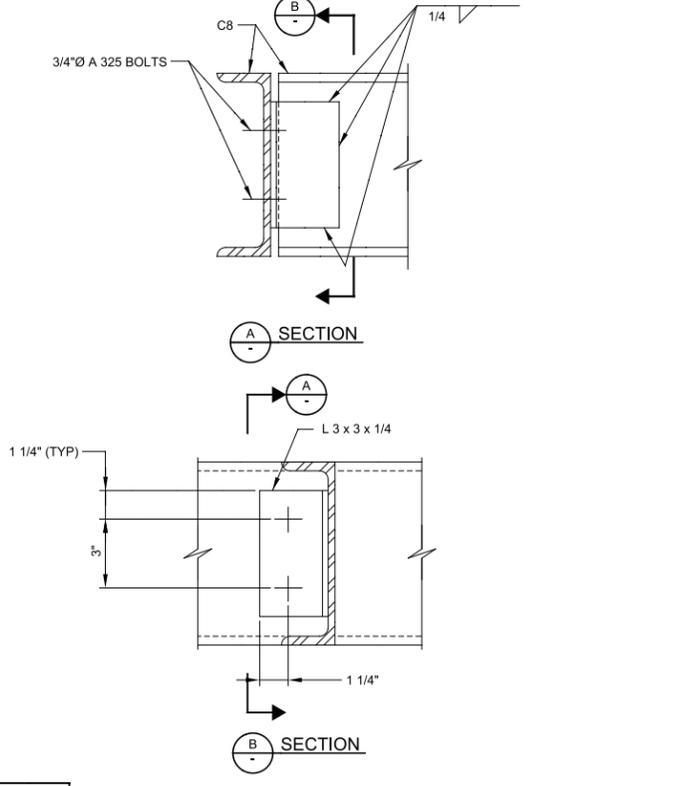
S502 STEEL DOUBLE ANGLE BOLTED CONNECTION
TYP VERTICAL BOLT LINES
4/30/07



S504 STEEL DOUBLE ANGLE BOLTED CONNECTION
TYP HORIZONTAL BOLT LINES
08/01/05

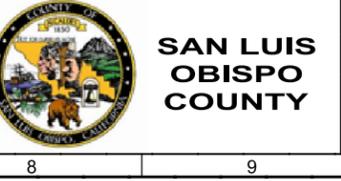
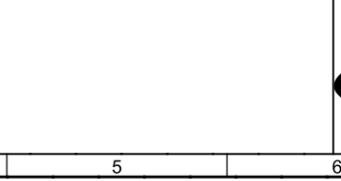
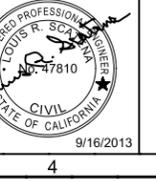


S506 STEEL SINGLE PLATE SHEAR CONNECTION
TYP 3/4" DIA BOLTS; ASTM A36 PLATES
08/01/05



S508 STEEL BOLTED CONNECTION
TYP
08/01/05

REV	DATE	BY	DESCRIPTION
1			
2			
3			



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TYPICAL DETAILS

VERIFY SCALES
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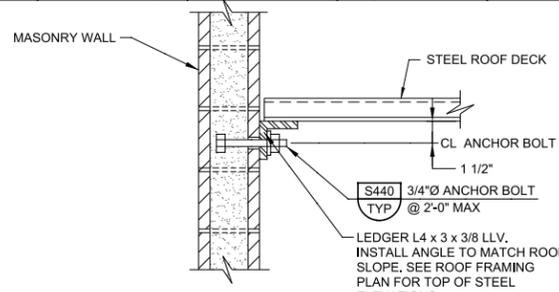
JOB NO. 8930A.11
DRAWING NO. ST11
SHEET NO. OF 549

Plot Date: 17-SEP-2013 11:13:02 AM

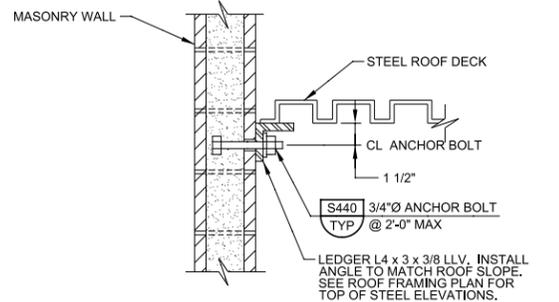
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LAST SAVED BY: psanchez



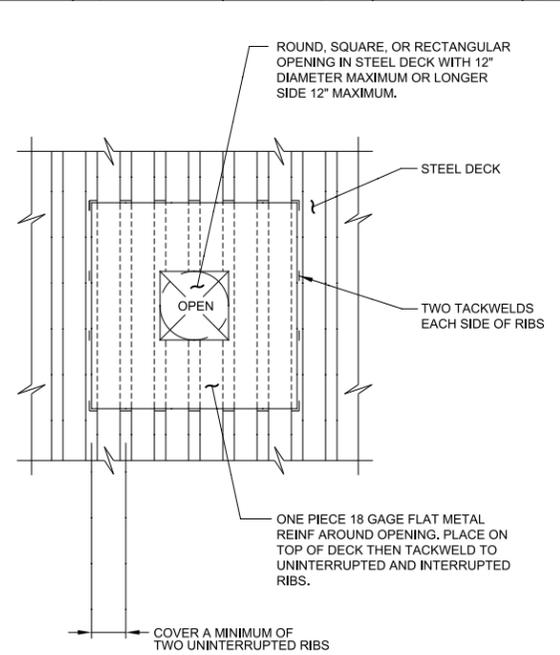
ROOF DECK RIBS PERPENDICULAR TO WALL



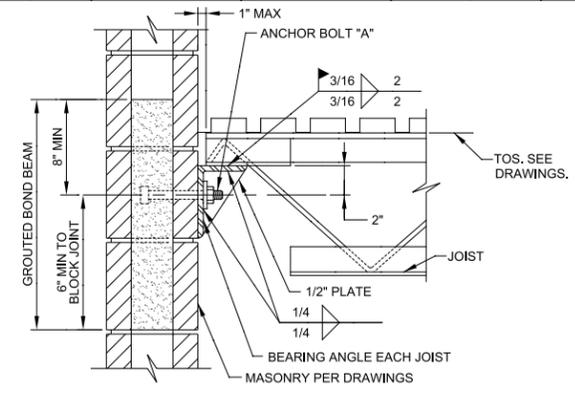
ROOF DECK RIBS PARALLEL TO WALL

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

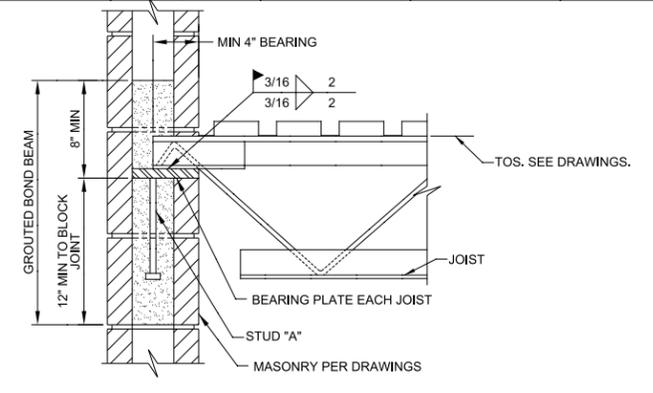
S708 ROOF DECK TO WALL CONNECTION
TYP
08/31/09



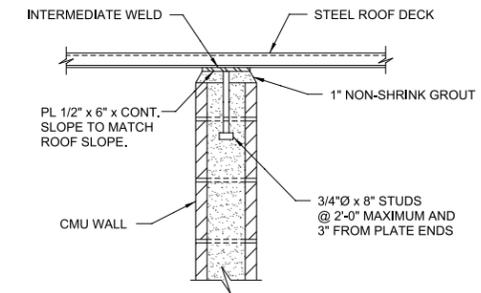
S720 STEEL DECK ROOF OPENING
TYP
07/15/08



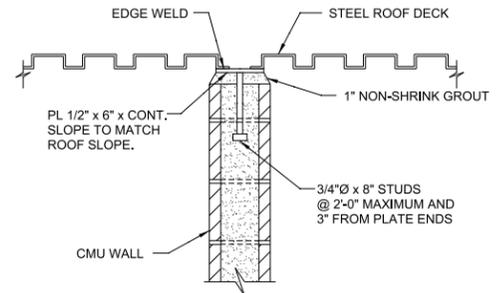
S730 JOIST SUPPORT CONNECTION
TYP
08/01/05



S732 JOIST SUPPORT CONNECTION FOR MASONRY WALL
TYP
08/01/05



RIBS PERPENDICULAR TO WALL

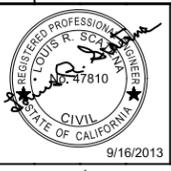


RIBS PARALLEL TO WALL

S734 ROOF DECK ON INTERIOR MASONRY WALL
TYP
08/01/05

REV	DATE	BY	DESCRIPTION

DESIGNED	LRS
DRAWN	PS
CHECKED	WTT
DATE	SEPT 2013



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STRUCTURAL TYPICAL DETAILS

VERIFY SCALES
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JOB NO. 8930A.11
DRAWING NO. **ST13**
SHEET NO. OF 549