

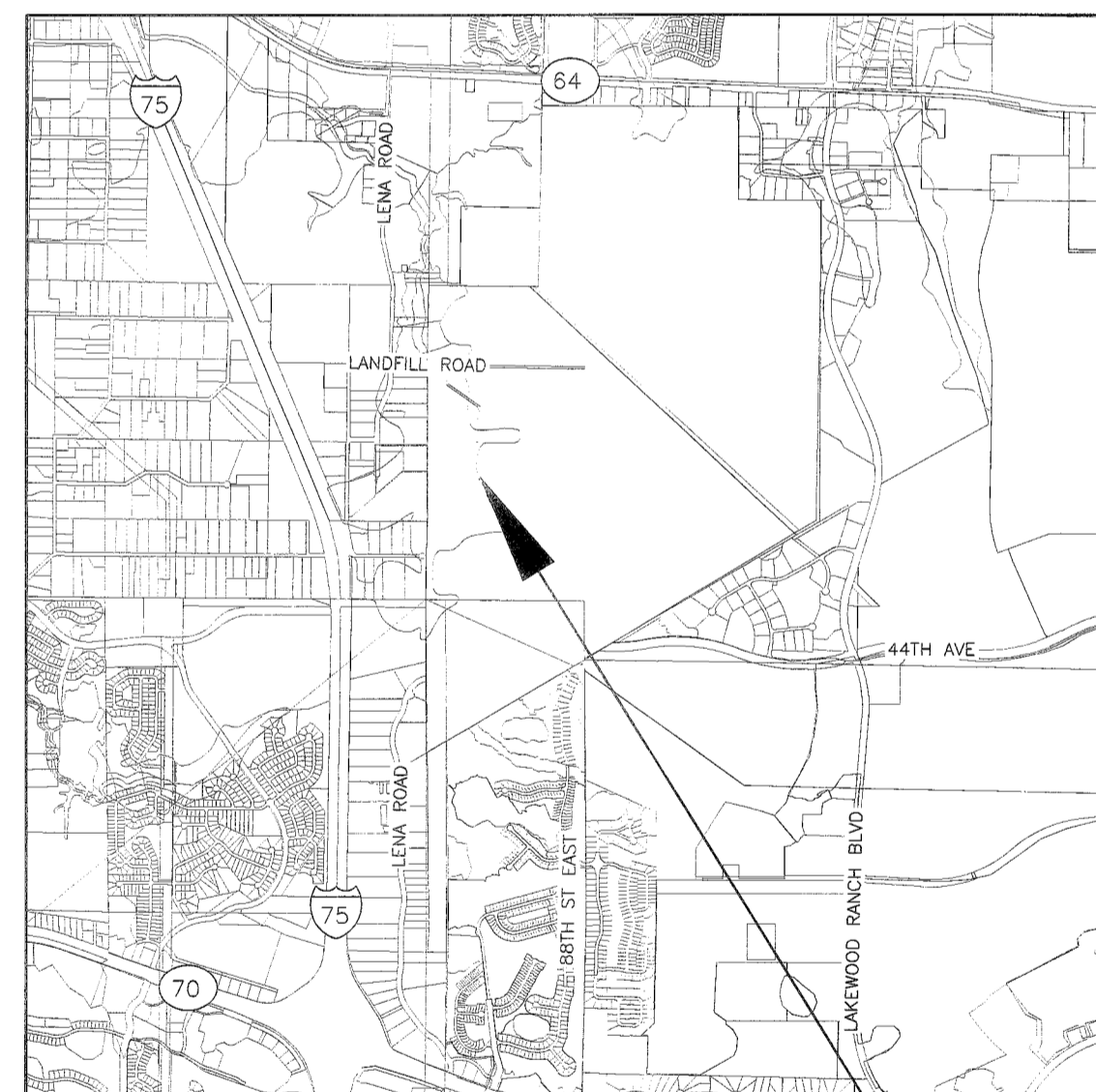
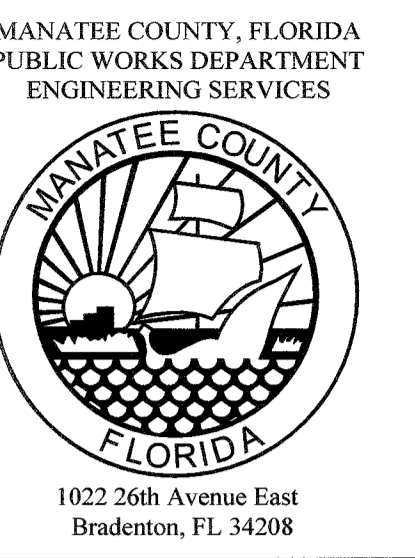
MANATEE COUNTY, FLORIDA SOUTHEAST WATER RECLAMATION FACILITY SLUDGE HOLDING TANK IMPROVEMENTS

6041981

OCTOBER 2013

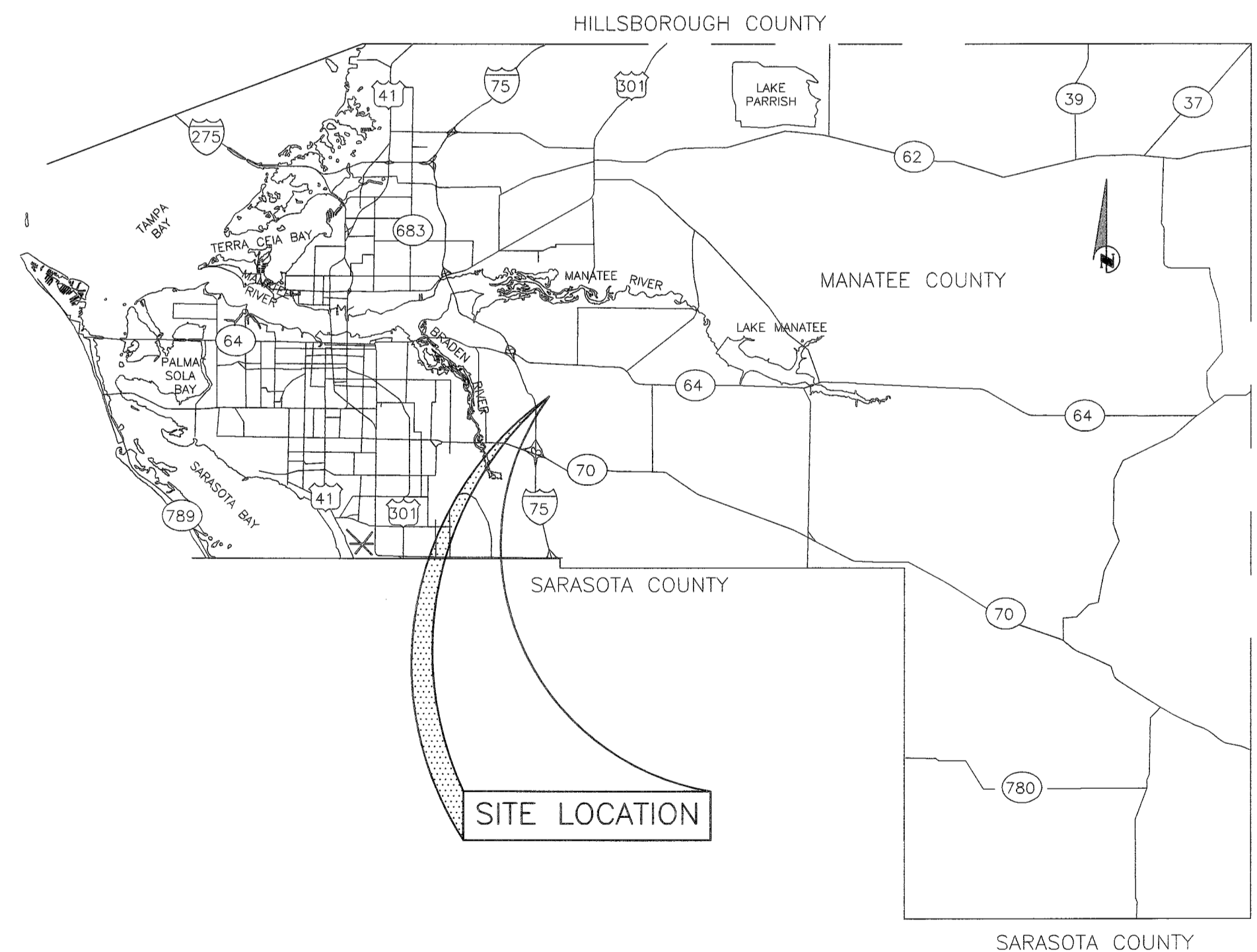
100% SUBMITTAL

**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
COVER SHEET**



VICINITY MAP
N.T.S.

PROJECT SITE



SITE LOCATION

PROJECT DESCRIPTION

- ADD ONE (1) 2-METER GRAVITY BELT THICKENER AND DISCHARGE PUMP
- ADD ONE (1) SLUDGE TRANSFER PUMP
- REPLACE POLYMER FEED SYSTEM
- REPLACE DIFFUSERS IN EXISTING SLUDGE HOLDING TANKS

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| NO. | REVISION DESCRIPTION | BY | DATE |
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| PROJECT # | 177310544 | |
| SURVEY # | 000 | |
| SEC./TWN./RGE | 1/35S/18E | |
| SCALE | AS SHOWN | |
| | BY | DATE |
| SURVEYED | GFY | 04/26/13 |
| DESIGNED | DRY | 05/23/13 |
| DRAWN | SRP | 05/23/13 |
| CHECKED | RJH | 05/23/13 |

ROBERT J. HALBACH
FLORIDA P.E. # 40139

Robert J. Halbach
11-7-13
Signature & Date

SHEET G-1



Know what's below
Call before you dig



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GENERAL

1. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE PROJECT MANAGEMENT DIVISION. THE PROJECT MANAGER IS: EYRA CASH AND CAN BE REACHED AT (941) 708-7450 EXT. 7344
2. SITE VISITS ARE MANDATORY FOR ALL BIDDERS. THESE SITE VISITS CAN BE ARRANGED THROUGH THE PROJECT MANAGER .
3. ALL CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF MANATEE COUNTY UTILITY AND TRANSPORTATION STANDARDS AND/OR FOOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" UNLESS OTHERWISE INDICATED ON THE PLANS.
4. VERTICAL CONTROL FOR THIS PROJECT WAS ESTABLISHED BY A MINIMUM OF TWO REFERENCE BENCHMARKS DESCRIBED ON THE "THE NATIONAL GEODETIC VERTICAL DATUM OF 1929". (NGVD '29).
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL CONDITIONS AND REQUIREMENTS OF ALL PERMITS AND ALL GOVERNING FEDERAL, STATE, AND LOCAL AGENCIES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS THAT ARE NOT PROVIDED IN THE BID DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.
6. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATION THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
7. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
8. AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA AT 1-800-432-4770 OR THE NATIONAL 811 ONE CALL NUMBER WHEN APPLICABLE FOR UTILITY LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITIES FOR THE POSSIBLE RELOCATION OR THE TEMPORARY MOVEMENT OF ANY EXISTING UTILITIES WITHIN THE RIGHTS-OF-WAY.
9. NO WORK, EXCEPT FOR EMERGENCY TYPE, SHALL BE PERFORMED AFTER 7:00 PM AND BEFORE 7:00 AM. FOR ADDITIONAL PROJECT RESTRAINTS, REFER TO SECTION 01310 OF THE SPECIFICATIONS.

SAFETY

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR * **CONSTRUCTION SITE SAFETY** COMPLIANCE WITH THE FLORIDA TRENCH SAFETY ACT, 90-96, LAWS OF FLORIDA EFFECTIVE OCTOBER 1, 1990 AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS, 29 CFR 1926.650, SUBPART P, AS AMENDED. THE CONTRACTOR SHALL INCLUDE IN THE TOTAL BID PRICE ALL COSTS FOR COMPLIANCE WITH THESE REGULATIONS.
11. THE CONTRACTOR SHALL USE SHEET PILING, SHEETING, BRACING, ETC., AS REQUIRED IN ALL EXCAVATION AREAS AND CONFORM TO ALL OSHA REQUIREMENTS.
12. THE CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND UTILITIES, POWER LINES, ETC.
13. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THIS EXCLUSION DOES NOT ALLEVIATE THE CONTRACTOR FOR PROVIDING A CONTINUOUS SAFE WORKSPACE.

ENVIRONMENTAL

14. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION ALL SEDIMENT AND EROSION CONTROL (SEC) DEVICES (E.G., BARRIERS, SEDIMENT TRAPS/BASINS, VEGETATIVE BUFFERS, ETC.) AS SPECIFIED IN THE FINAL APPROVED PLANS FOR THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SEC DEVICES UTILIZED DURING THE PROJECT, AS WELL AS INSTALLATION & MAINTENANCE OF ANY ADDITIONAL MEASURES DEEMED NECESSARY DURING PROJECT IMPLEMENTATION, TO PREVENT EROSION AND OFF-SITE SEDIMENT MIGRATION. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL SEC DEVICES UPON CONCLUSION OF THE PROJECT, AND UPON ADEQUATE STABILIZATION OF DISTURBED SOILS.

- *15. **NOT USED**
- *16. **NOT USED**

17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY STORM WATER, EROSION, AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE FDEP "FLORIDA STORM WATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL". IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT TO SURFACE DRAINS AND TO DITCHES DURING CONSTRUCTION.
18. STOCKPILES SHALL BE PROTECTED AT ALL TIMES BY ON-SITE DRAINAGE CONTROLS WHICH PREVENT EROSION OF THE STOCKPILED MATERIAL. CONTROL OF DUST FROM SUCH STOCKPILES IS REQUIRED, DEPENDING UPON THEIR LOCATION AND THE EXPECTED LENGTH OF TIME THE STOCKPILES WILL BE PRESENT. IN NO CASE SHALL ANY STOCKPILED MATERIAL REMAIN AFTER THIRTY (30) CALENDAR DAYS.
19. STORM WATER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC., WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS, AND WHICH MUST BE APPROVED BY THE ENGINEER BEFORE INSTALLATION. THIS WILL BE MAINTAINED TO PREVENT DEGRADATION OF THE WATERS OF THE COUNTY AND STATE.
20. SEDIMENT BASINS AND TRAPS, PERIMETER BERMS, SEDIMENT BARRIERS, VEGETATIVE BUFFERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AND/OR PREVENT THE TRANSPORT OF SEDIMENT ONTO ADJACENT PROPERTIES, OR INTO EXISTING BODIES OF WATER, MUST BE INSTALLED, CONSTRUCTED, OR IN THE CASE OF VEGETATIVE BUFFERS, PROTECTED FROM DISTURBANCE, AS A FIRST STEP IN THE LAND ALTERATION PROCESS. SUCH SYSTEMS SHALL BE FULLY OPERATIVE BEFORE ANY OTHER DISTURBANCE OF THE SITE BEGINS. EARTHEN STRUCTURES INCLUDING BUT NOT LIMITED TO BERMS, EARTH FILTERS, DAMS OR DIKES SHALL BE STABILIZED AND PROTECTED FROM DRAINAGE DAMAGE OR EROSION WITHIN ONE (1) WEEK OF INSTALLATION.
21. ALL SWALES, DITCHES, AND CHANNELS LEADING FROM THE SITE SHALL BE PROTECTED FROM SILTATION AND EROSION DURING CONSTRUCTION AND BE SODDED WITHIN THREE (3) DAYS OF EXCAVATION.
22. SOIL DISPLACED BY CONSTRUCTION WILL BE REMOVED. EROSION CONTROL SHALL BE IMPLEMENTED IN AREAS WHICH ARE CONSIDERED ENVIRONMENTALLY SENSITIVE. EROSION CONTROL SYSTEMS SHALL BE REQUIRED FOR ALL WORK WITHIN JURISDICTIONAL AREAS. THESE SYSTEMS MAY INCLUDE STAKED HAY BALES, SILT SCREENS, FILTER FABRIC, AND TURBIDITY SCREENS.
23. ALL EROSION AND POLLUTION CONTROL DEVICES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH RAINFALL AND SHALL BE CLEANED OUT AND/OR REPAIRED AS REQUIRED.
24. THE CONTRACTOR SHALL NOT ENTER UPON OR IN ANY WAY ALTER WETLAND AREAS THAT MAY BE ON OR NEAR THE CONSTRUCTION SITE. ALL WORK IN THE VICINITY OF OPEN WATER AND/OR WETLANDS IS TO BE PERFORMED IN COMPLIANCE WITH THE ENVIRONMENTAL REGULATIONS AND/OR PERMITS FOR THE SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES RESULTING FROM HIS VIOLATION OF ANY REGULATIONS OR PERMIT CONDITIONS.
25. FOR MORE INFORMATION, SEE THE EROSION CONTROL DETAIL SHEET INCLUDED IN THE PLANS.

RIGHT-OF-WAY

26. ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY/FDOT RIGHT-OF-WAY AND/OR EASEMENTS SHOWN ON THE DRAWINGS.
27. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO REFERENCE AND RESTORE PROPERTY CORNER MONUMENTS, PINS, AND LANDMARKS THAT MAY BE DISTURBED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
28. THE CONTRACTOR, PRIOR TO CONSTRUCTION AND RESTRICTING ANY TRAFFIC, MUST OBTAIN A RIGHTS-OF-WAY USE PERMIT AND A TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FROM OTHER GOVERNMENTAL AGENCIES HAVING RELEVANT JURISDICTION. ALL MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION "MANUAL OF TRAFFIC CONTROL AND SAFE PRACTICES". A TRAFFIC CONTROL PLAN SHALL BE SUPPLIED BY THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED STORM WATER STRUCTURES, PIPING, ENTRANCE PIPE AND HEADWALLS WHETHER SHOWN ON THE PLANS OR NOT. THE HEADWALLS SHALL BE REPLACED IN ACCORDANCE WITH F.D.O.T. STANDARDS.

30. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH IN THE FIELD THE RIGHT-OF-WAY LINES, BASE LINES, BENCH MARKS (ELEV.), CENTER LINES, AND STATIONING AS REQUIRED TO CONSTRUCT THIS PROJECT.

- *31. **NOT USED**
- *32. **NOT USED**

UTILITIES

33. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THERE MAY BE OTHER IMPROVEMENTS, UTILITIES, ETC. WHICH ARE WITHIN THE PROJECT AREA AND WHICH HAVE NOT BEEN LOCATED OR IDENTIFIED, MAY NOT BE IN THE EXACT LOCATION SHOWN OR RELOCATED SINCE THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES STRUCTURES AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) THAT MAY EFFECT HIS WORK. ALL EXISTING UTILITIES TO BE EXTENDED, CROSSED OR CONNECTION POINTS SHALL BE EXPOSED PRIOR TO CONSTRUCTION TO VERIFY LOCATION AND ELEVATION. ANY DISCREPANCIES OR CONFLICTS FOUND SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION.
34. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, WATER AND SEWER LINES, STORM DRAINS, UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, MAIL BOXES, FENCES, TREES, LANDSCAPING, AND ANY OTHER IMPROVEMENT OR FACILITY IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DAMAGED ITEM DUE TO HIS CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER THAN PRE-CONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
35. THE CONTRACTOR SHALL USE APPROPRIATE TECHNIQUES, AS APPROVED, RECOMMENDED OR OFFERED BY FLORIDA POWER AND LIGHT TO PREVENT UNDERMINING OF POWER POLES DURING CONSTRUCTION. IF HOLDING OF POWER POLES IS RECOMMENDED OR REQUIRED BY THE UTILITY, THE CONTRACTOR SHALL COORDINATE THIS ACTIVITY WITH THE UTILITY AND BEAR ALL RELATED COSTS.
36. ANY TEMPORARY SHUTDOWNS FOR MODIFICATIONS OF EXISTING UTILITY SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE COORDINATED WITH AND APPROVED BY THE MANATEE COUNTY UTILITY OPERATIONS DEPARTMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IT IS NOTED THAT TEMPORARY SHUTDOWNS MAY BE RESTRICTED TO CERTAIN HOURS AT ANY TIME OF THE DAY OR NIGHT AND WILL BE COMPLETED AT NO ADDITIONAL COST TO THE OWNER.
37. FOR WORK BEING DONE ON EXISTING SANITARY SEWER LINES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE FLOW OF ALL SEWAGE DURING CONSTRUCTION, WHICH MAY REQUIRE BY-PASS PUMPING AND/OR PUMPER TRUCKS. THE CONTRACTOR SHALL SUBMIT A DETAILED BY-PASS PUMPING PLAN PER SECTION 02720.

RESTORATION

38. ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS SHOWN OTHERWISE.
39. ALL DISTURBED GRASSED AREAS SHALL BE SODDED OR SEEDDED UNLESS OTHERWISE INDICATED. THE TYPE OF SOD USED TO REPLACE OWNER MAINTAINED AREAS IN RIGHT-OF-WAY SHALL BE COORDINATED WITH THE PROPERTY OWNER.
40. ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PURPOSES AND NOT REQUIRED FOR THE OPERATION OF THE PIPELINE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR, PRIOR TO FINAL ACCEPTANCE, AT NO ADDITIONAL COST TO THE OWNER.
41. ASPHALT DRIVES THAT ARE CUT SHALL BE RESTORED PER SECTION 02513.
42. CONCRETE DRIVEWAYS OR SIDEWALKS THAT ARE CUT SHALL BE RESTORED TO MATCH EXISTING ACCORDING TO THE CURRENT EDITIONS OF THE F.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE DESIGN, SECTION 522, AND SECTION 310 OF THE F.D.O.T. DESIGN STANDARDS.
43. WHENEVER A PERMANENT ROADWAY SURFACE IS NOT PLACED IMMEDIATELY AFTER BACKFILLING AND COMPACTION OF THE NEWLY INSTALLED PIPE LINE IN AREAS WHERE TRAFFIC MUST PASS, THE CONTRACTOR SHALL INSTALL A TEMPORARY SURFACE CONSISTING OF NINE INCHES OF COMPACTED LIME ROCK BASE AND A COAT OF ASPHALT EMULSION. PERMANENT ROADWAY REPAIR SHALL BE PERFORMED A MAXIMUM OF TWENTY-ONE CALENDAR DAYS AFTER THE INITIAL OPEN CUTTING.
44. RESTORATION OF CURBS, DRIVEWAYS, SIDEWALKS, AND PLACEMENT OF SOD SHALL BE COMPLETED WITHIN FORTY-FIVE CALENDAR DAYS OF INITIAL DISTURBANCE, OR TWENTY-ONE CALENDAR DAYS OF SUBSTANTIAL COMPLETION, WHICHEVER OCCURS FIRST.

CONSTRUCTION

45. THE EXHAUST SYSTEM OF ALL GASOLINE AND DIESEL ENGINES SHALL BE EQUIPPED WITH MUFFLERS THAT MEET THE EQUIPMENT MANUFACTURER'S REQUIREMENTS FOR NOISE SUPPRESSION. THE CONTRACTOR SHALL INSTALL NOISE ABATEMENT Baffles POSITIONED TO BREAK LINE-OF-SITE FROM THE NOISE SOURCE TO AFFECTED RESIDENCES, AS APPROVED BY THE ENGINEER.
46. NO MATERIAL SHALL BE STOCKPILED IN ROADWAYS. ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE DAILY. ROADS SHALL BE SWEEPED DAILY AS PART OF DAILY CLEAN UP.
47. THE CONTRACTOR IS TO CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT BY WATERING OR OTHER METHODS AS REQUIRED.
48. INGRESS AND EGRESS TO ALL THE PROPERTIES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED AT ALL TIMES.
49. PRIOR APPROVAL WILL BE REQUIRED FOR REMOVAL OF ANY TREE WITHIN THE CONSTRUCTION AREA.
50. THE CONTRACTOR SHALL PROVIDE ALL DEWATERING EQUIPMENT NECESSARY TO KEEP ALL EXCAVATIONS DRY. DEWATERING IS REQUIRED TO 18" BELOW TRENCH BOTTOM.
51. ALL PIPING AND FITTINGS USED ON THIS PROJECT SHALL BE AS NOTED ON THE PLANS AND IN THE CONTRACT DOCUMENT AND SHALL BE INSTALLED TO THE LINES AND GRADES SHOWN ON THE PLANS AND PROFILES.
52. ALL PIPE SHALL BE COLOR CODED TO CONFORM TO MANATEE COUNTY STANDARDS.
53. ALL PIPE AND FITTINGS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER AND ALL PIPE JOINTS SHALL BE RESTRAINED WHERE REQUIRED.
54. ALL FITTINGS FOR PRESSURE CLASS-RATED PIPE SHALL BE RESTRAINED DUCTILE IRON. RESTRAINED LENGTHS OF PIPE SHALL ADHERE TO THE REQUIREMENTS AS SHOWN ON THE DETAIL SHEETS.
55. WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S MAXIMUM ALLOWABLE RECOMMENDED DEFLECTION.
56. ALL PIPE LENGTHS ARE PLUS OR MINUS AND MAY BE ADJUSTED IN THE FIELD AS REQUIRED. PIPE MEASUREMENTS ARE TO CENTER OF STRUCTURES OR FITTINGS.
57. ALL ROCKS OR STONES LARGER THAN SIX INCH DIAMETER SHALL BE REMOVED FROM THE BACKFILL MATERIAL. BACKFILL MATERIAL PLACED WITHIN ONE FOOT OF PIPING AND APPURTENANCES SHALL NOT CONTAIN ANY STONES LARGER THAN TWO INCH DIAMETER.
58. ONLY MANATEE COUNTY UTILITY OPERATIONS STAFF ARE AUTHORIZED TO OPERATE VALVES ON COUNTY OWNED AND MAINTAINED UTILITY SYSTEMS.
59. ALL PENETRATION OF EXISTING STRUCTURES SHALL BE BY THE MECHANICAL ROTARY CORE BORING METHOD.
60. ALL CONCRETE PENETRATED OR DISTURBED SHALL BE COATED WITH TWO COATS OF EPOXY.

- *61. **NOT USED**

- *62. ALL NEW PIPE LINES SHALL BE FLUSHED AND PRESSURE TESTED PRIOR TO THE INS TO EXISTING FACILITIES. THE CONTRACTOR WILL BE ALLOWED TO USE TEMPORARY PLUGS FOR PRESSURE TESTING.

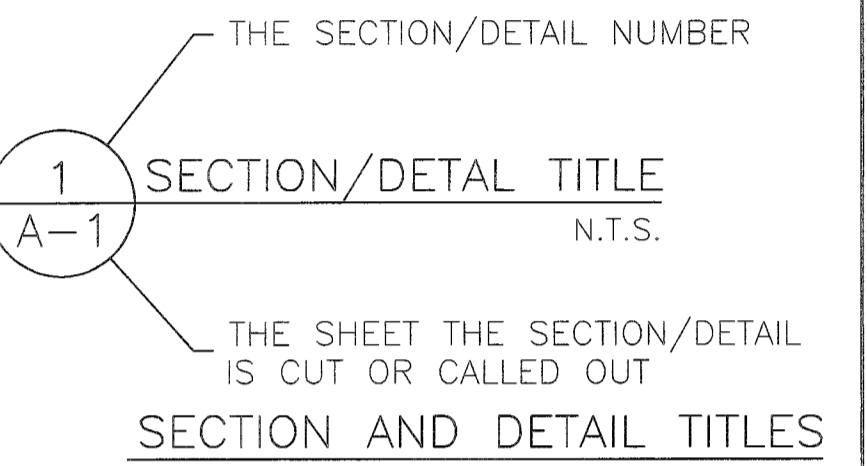
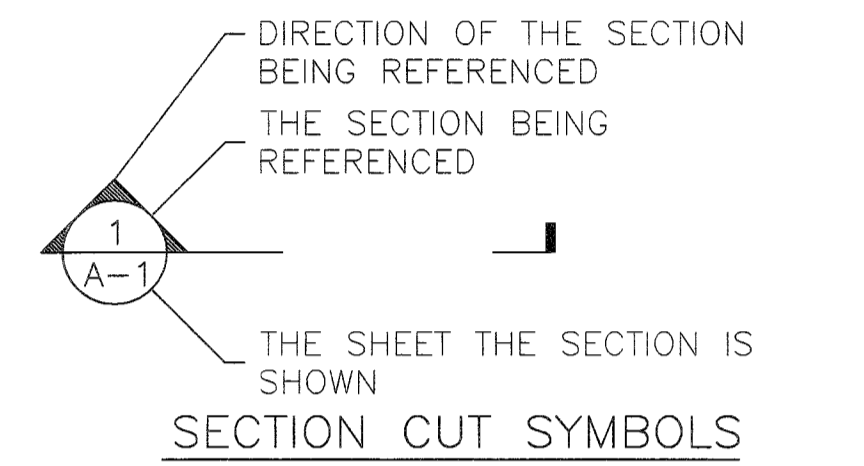
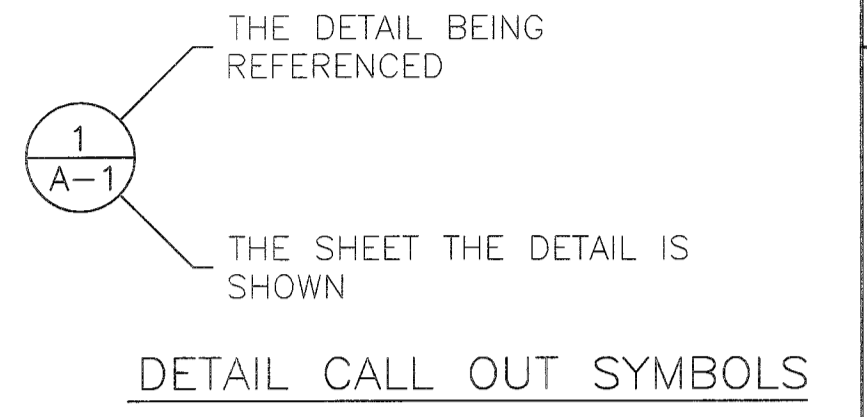
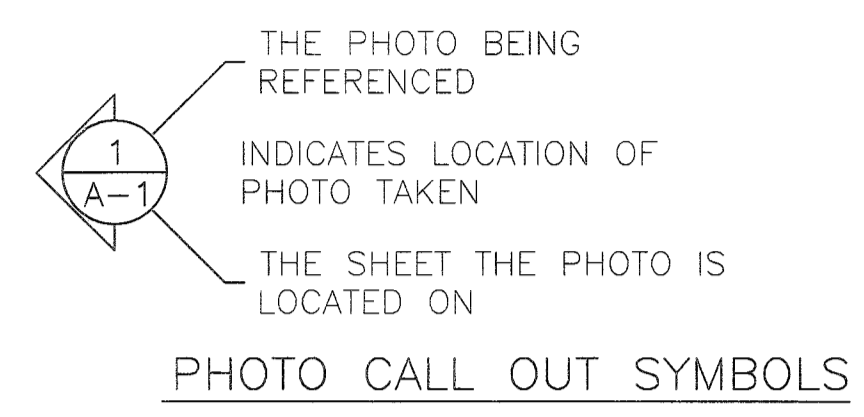
63. ALL TEST POINT PIPING SHALL BE CUT LOOSE FROM THE CORPORATION STOP AND COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE. A CORPORATION STOP PLUG SHALL BE INSTALLED AND THE CORPORATION STOP SHALL REMAIN IN PLACE.
64. ALL EXISTING MAINS THAT ARE BEING REPLACED SHALL BE ABANDONED IN PLACE * **UNLESS OTHERWISE NOTED ON PLANS** UPON ACCEPTANCE AND ACTIVATION OF THE NEW MAINS. ABANDONED MAINS SHALL BE CUT, FILLED WITH GROUT, AND CAPPED. REFER TO SECTION 02064 OF THE SPECIFICATIONS FOR GROUTING OF ABANDONED PIPE.

65. WATER MAINS CROSSING OVER OR UNDER SANITARY SEWERS, FORCE MAINS, AND RECLAIMED WATER LINES SHALL BE LAID PER CURRENT EDITION OF "10 STATE STANDARDS" AND MANATEE COUNTY UTILITY STANDARDS UNLESS NOTED OTHERWISE ON THE PLANS.

66. FIELD CONDITIONS MAY NECESSITATE MINOR ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, AS ORDERED BY THE ENGINEER.

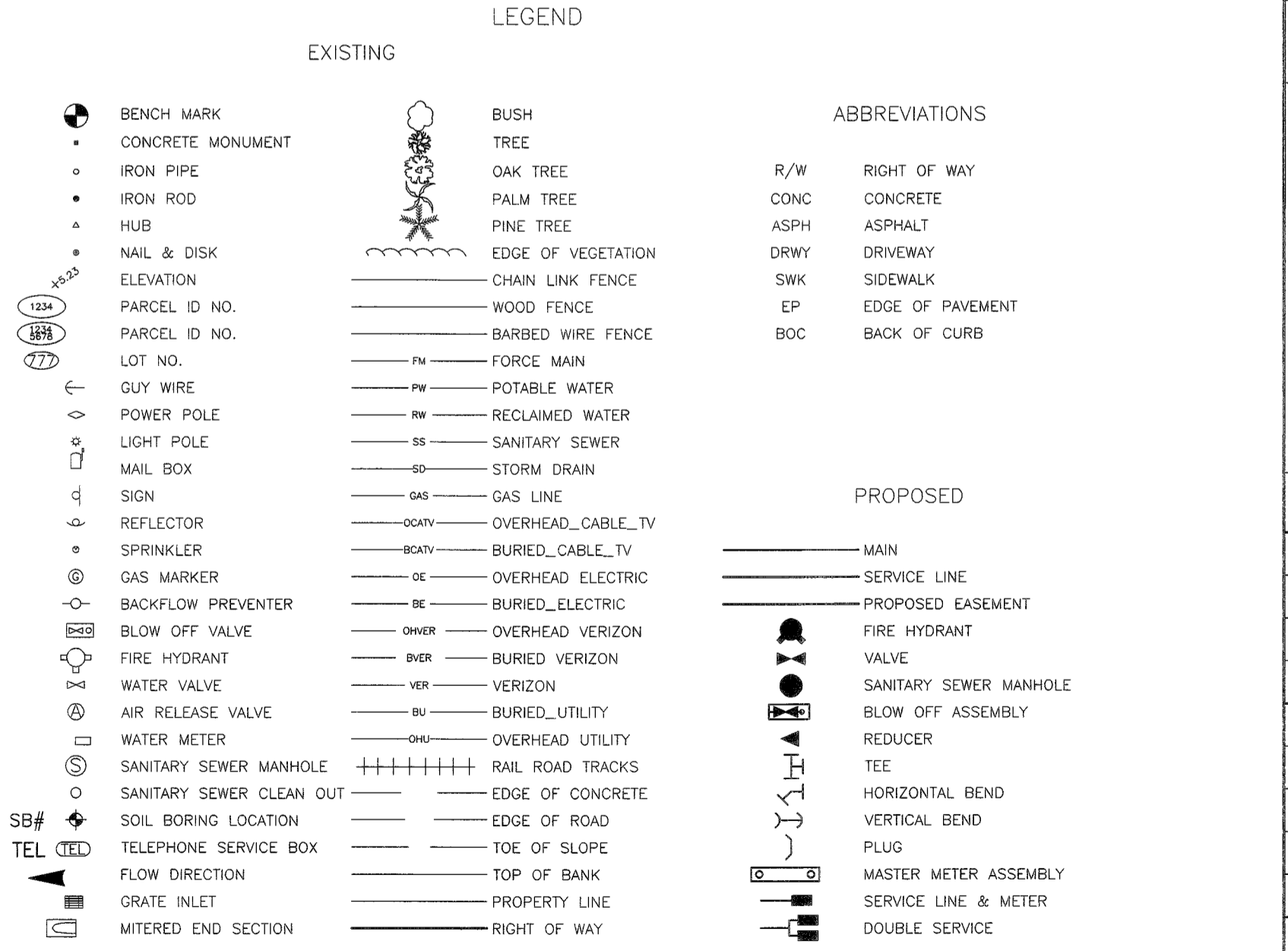
67. CONTRACTOR SHALL PROVIDE RECORD DRAWINGS IN ACCORDANCE WITH SECTION 14 IN THE CURRENT MANATEE COUNTY UTILITY STANDARDS AT NO COST TO THE OWNER. RECORD DRAWINGS SHALL BE SIGNED & SEALED BY A SURVEYOR CURRENTLY LICENSED BY THE STATE OF FLORIDA. ALL RECORD DRAWING INFORMATION REQUIREMENTS IN SECTION 14 SHALL BE STRICTLY ENFORCED. A COPY OF SECTION 14 WILL BE PROVIDED UPON REQUEST.

- *68. EXISTING SLUDGE HANDLING FACILITIES MUST REMAIN IN SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE A WRITTEN CONSTRUCTION SEQUENCE FOR APPROVAL BEFORE STARTING CONSTRUCTION.

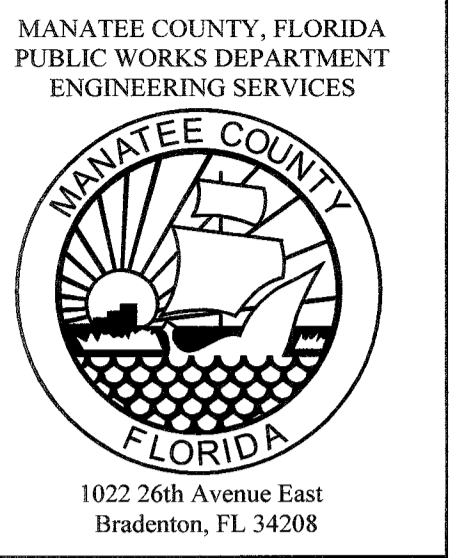


CONTACTS

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| MANATEE COUNTY PUBLIC WORKS DEPT. INFRASTRUCTURE ENGINEERING WAYNE TROXLER, P.E. 1022 26TH AVENUE EAST BRADENTON, FL 34208 (941) 708-7450 EXT. 7650 FAX: (941) 708-7431 | FLORIDA POWER & LIGHT DISTRIBUTION GREG COKER 1253 12TH AVENUE EAST PALMETTO, FL 34221 (941) 723-4430 FAX: (941) 723-4444 EMERGENCY: 1-800-4-OUTAGE Greg.Coker@fpl.com | SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT SARASOTA SERVICE OFFICE DARYL R. FLATT, P.E. 6750 FRUITVILLE ROAD SARASOTA, FL 34240 (941) 377-3722 FAX: (941) 373-7660 | DEPARTMENT OF ENVIRONMENTAL PROTECTION STEPHANIE BARIOS 13051 N. TELECOM PKWY TEMPLE TERRACE, FL 33637 PHONE: (813) 632-7600, EXT. 408 FAX: (813) 632-7662 |
| TECO/PEOPLES GAS CO. DAN SHANAHAN 8261 VICO COURT SARASOTA, FL 34240 (941) 342-4030 FAX: (941) 342-4011 EMERGENCY: 1-877-832-6911 dshanahan@tecoenergy.com | FLORIDA POWER & LIGHT TRANSMISSION PETER H. WASHIO 700 UNIVERSE BLVD, TS4/JW JUNO BEACH, FL 33408 Peter.H.Washio@fpl.com | FLORIDA GAS TRANSMISSION SAFETY HARBOR TEAM 7804 ANDERSON RD. TAMPA, FL 33634 CHRIS LEE (813) 466-3327 CELL : (727) 639-7512 christopher.lee@sug.com | PEACE RIVER ELECTRIC COOPERATIVE, INC. P.O. BOX 1310 WACHULA, FL 33873 KENDELL COKER (863) 767-4660 kendell.coker@preco.coop |
| SUNSHINE STATE ONE CALL OF FLORIDA 1-(800) 432-4770 | MANATEE COUNTY HEALTH DEPT. HANS C. ROSE 410 6TH AVENUE EAST BRADENTON, FL 34208 (941) 748-0747 EXT. 1342 FAX: (941) 750-9364 hons_rose@doh.state.fl.us | BRIGHT HOUSE NETWORKS TOM WRIGHT 5413 E. STATE ROAD 64 BRADENTON, FL 34208-5535 (941) 748-3816 EXT. 21348 tom.wright@mybriighthouse.com | MANATEE COUNTY PUBLIC WORKS DEPT. TRAFFIC ENGINEERING MICHAEL O'REILLY, P.E. (941) 749-3500 EXT. 7859 FAX: (941) 749-3571 |
| VERIZON FLORIDA INC. WAYNE SUMNER 1701 RINGLING BLVD. SARASOTA, FL 34236 (941) 330-9203 WAYNE.SUMNER@verizon.com | | | |



* INDICATES REVISION TO STANDARD MANATEE COUNTY NOTES



**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
GENERAL NOTES & LEGEND**

| NO. | REVISION DESCRIPTION | BY | DATE |
|-----|----------------------|----|------|
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|---------------|--------------|
| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | NONE |
| SURVEYED | GFY 04/26/13 |
| DESIGNED | DRY 05/23/13 |
| DRAWN | SRP 05/23/13 |
| CHECKED | RJH 05/23/13 |

ROBERT J. HALBACH
 FLORIDA P.E. # 40139

 Signature & Date
 SHEET G-2

100% SUBMITTAL

STANTEC CONSULTING SERVICES INC.
 5172 STATION WAY, SARASOTA, FLORIDA 34233
 TEL 941.365.5500 - FAX 941.366.1922
 FLORIDA CERTIFICATE NO. 27103 - WWW.STANTEC.COM

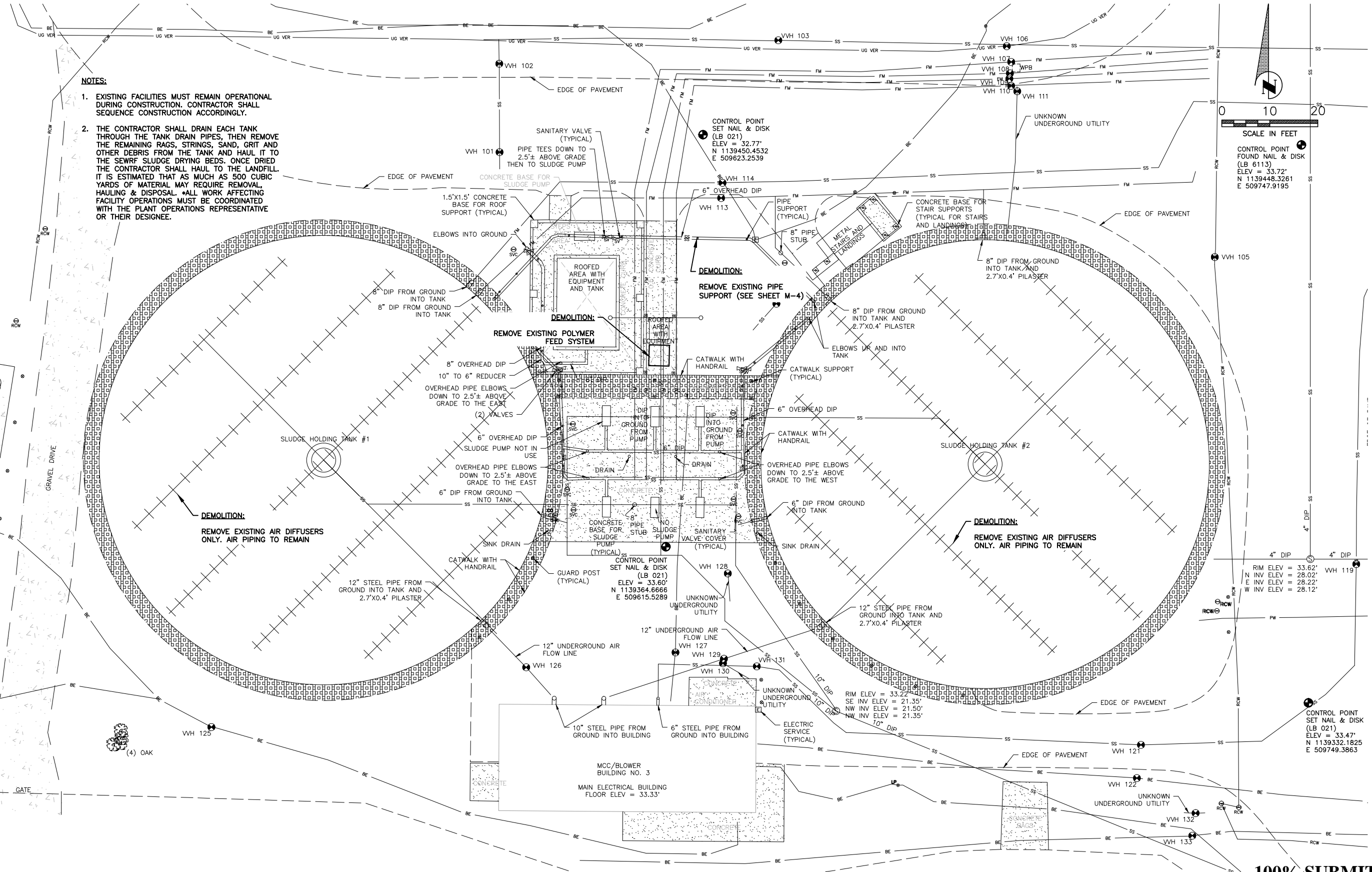
**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
EXISTING SITE AND DEMOLITION PLAN**

| NO. | REVISION DESCRIPTION | BY | DATE |
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|---------------|--------------|
| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | 1"=10' |
| SURVEYED | GFY 04/26/13 |
| DESIGNED | DRY 05/23/13 |
| DRAWN | SRP 05/23/13 |
| CHECKED | RJH 05/23/13 |

ROBERT J. HALBACH
FLORIDA P.E. # 40139

Signature & Date
SHEET C-1



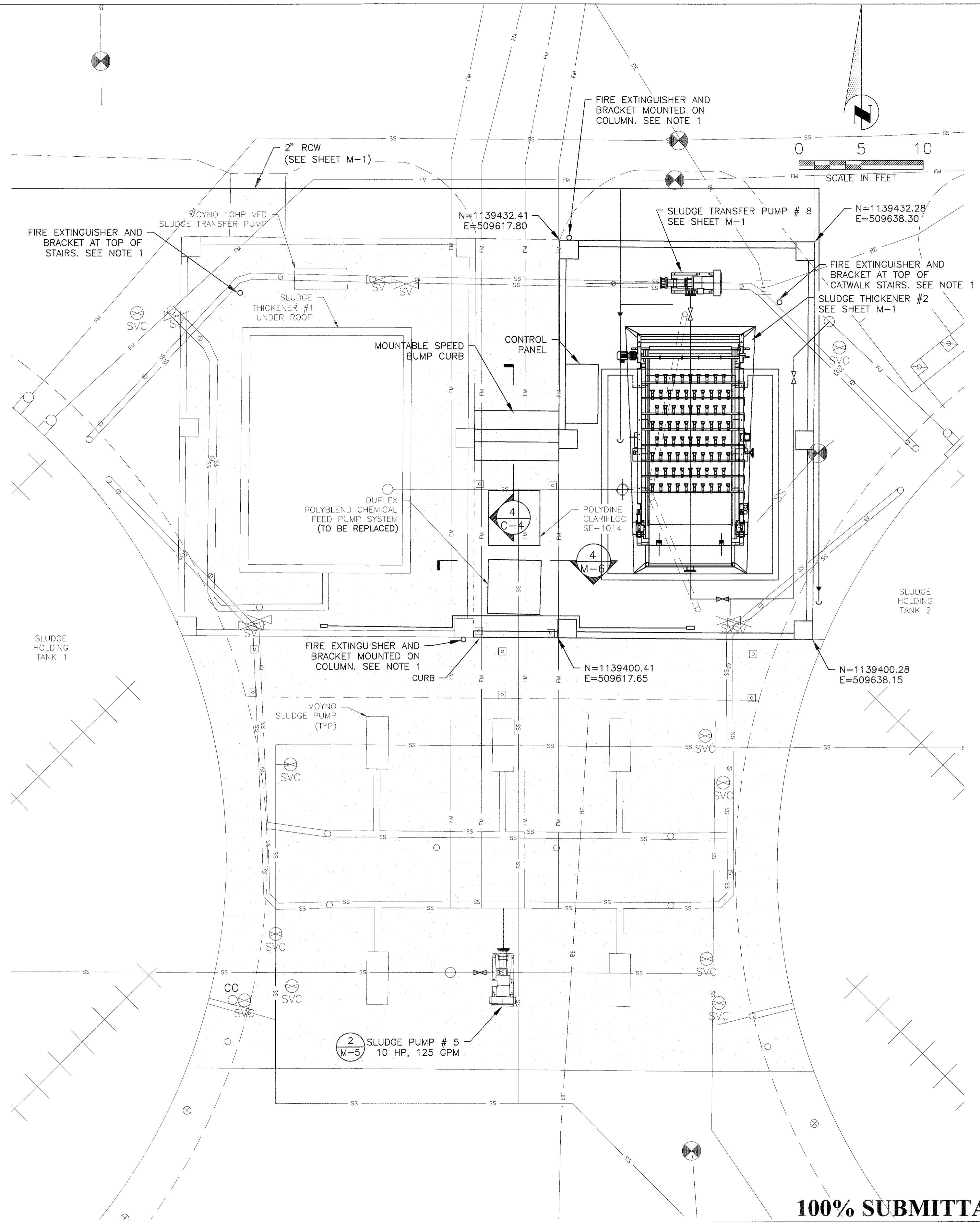
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100% SUBMITTAL



STANTEC CONSULTING SERVICES INC.
5172 STATION WAY, SARASOTA, FLORIDA 34233
TEL. 941.365.5500 - FAX. 941.366.1922
FLORIDA CERTIFICATE NO. 27103 - WWW.STANTEC.COM

I:\1723\Active\172310244\water\design\001\drawing\active\sheet\10544co-001-005.dwg, Layout1, 11/7/2013 8:59 AM, P:\p\m\scott.t\05_44co-001-005.dwg, RCP, full bleed, D (36.00 x 24.00 inches)



NOTE:
 1. FIRE EXTINGUISHERS SHALL BE 10-LB. DRY CHEMICAL TYPE, CLASS A:B:C. FIRE EXTINGUISHERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 10. TOP OF FIRE EXTINGUISHER SHALL BE NOT MORE THAN 5 FEET ABOVE FINISHED FLOOR/GRATING. BOTTOM OF FIRE EXTINGUISHER SHALL BE NOT LESS THAN 4 INCHES ABOVE FINISHED FLOOR/GRATING.

100% SUBMITTAL

Stantec
 STANTEC CONSULTING SERVICES INC.
 5172 STATION WAY, SARASOTA, FLORIDA 34233
 TEL. 941.365.5500 - FAX. 941.366.1922
 FLORIDA CERTIFICATE NO. 27103 - WWW.STANTEC.COM

MANATEE COUNTY, FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES

1022 26th Avenue East
 Bradenton, FL 34208

**SOUTHEAST WATER RECLAMATION FACILITY
 SLUDGE HOLDING TANK IMPROVEMENTS
 PROPOSED SITE PLAN**

| NO. | REVISION DESCRIPTION | BY | DATE |
|-----|----------------------|----|------|
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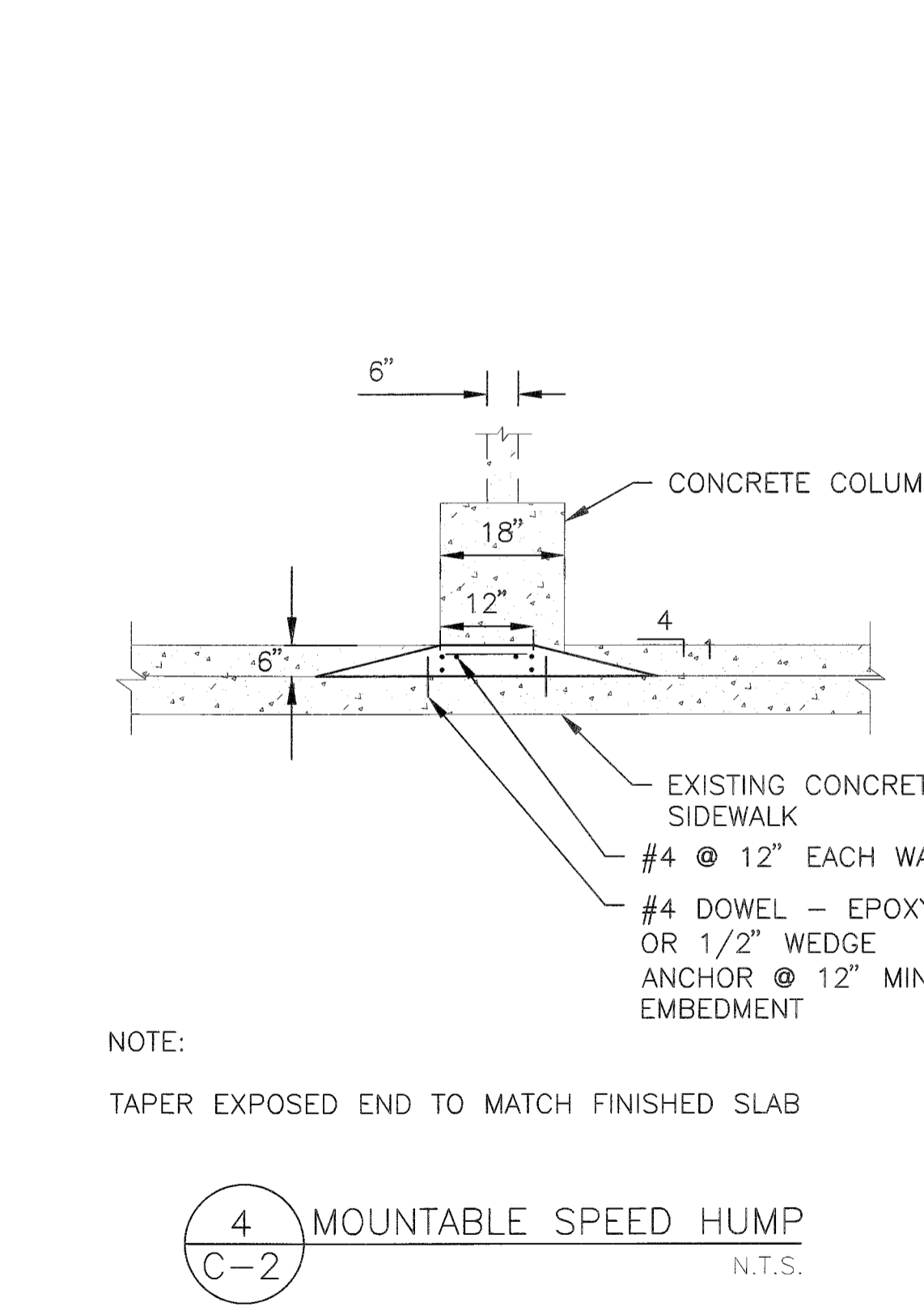
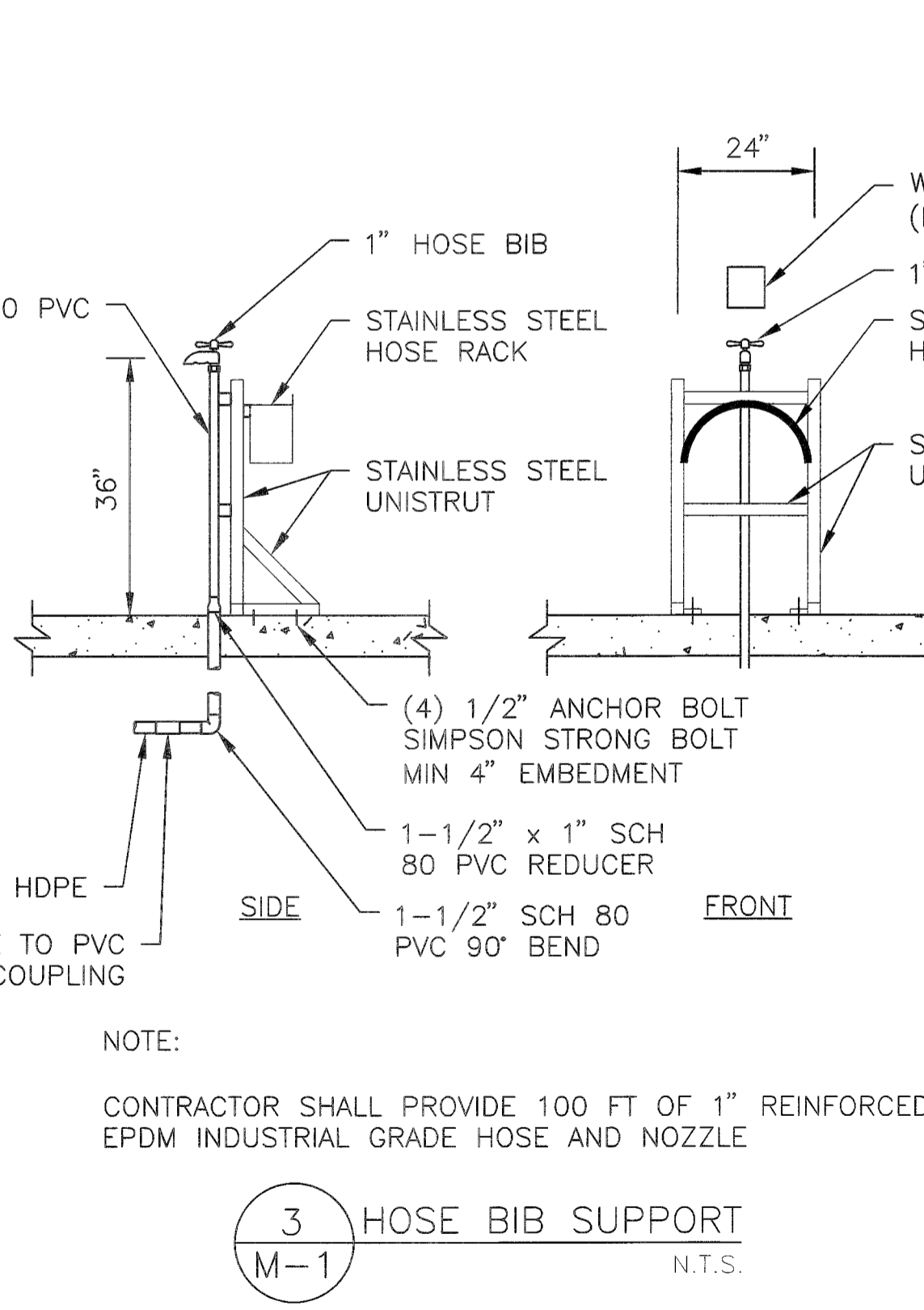
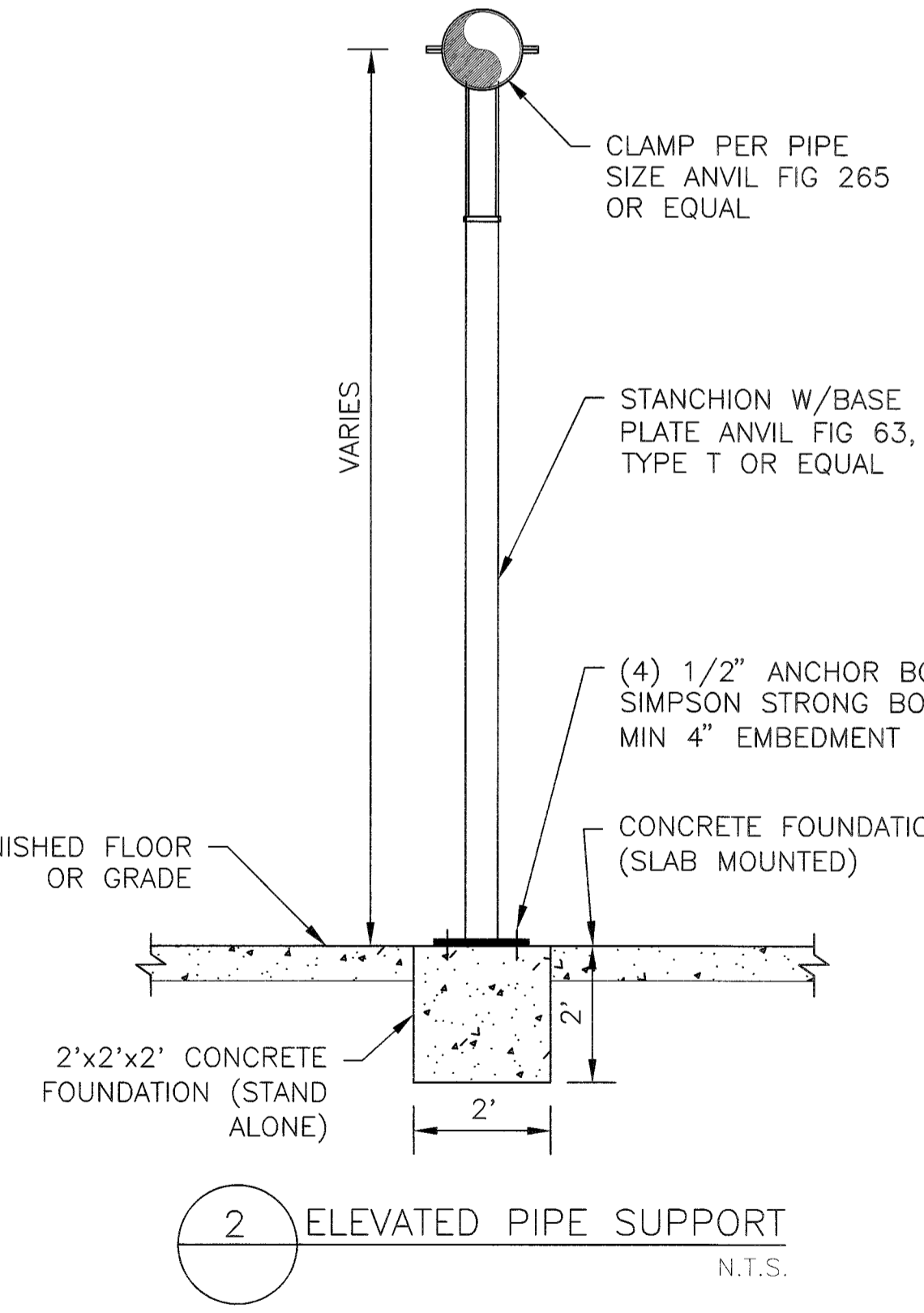
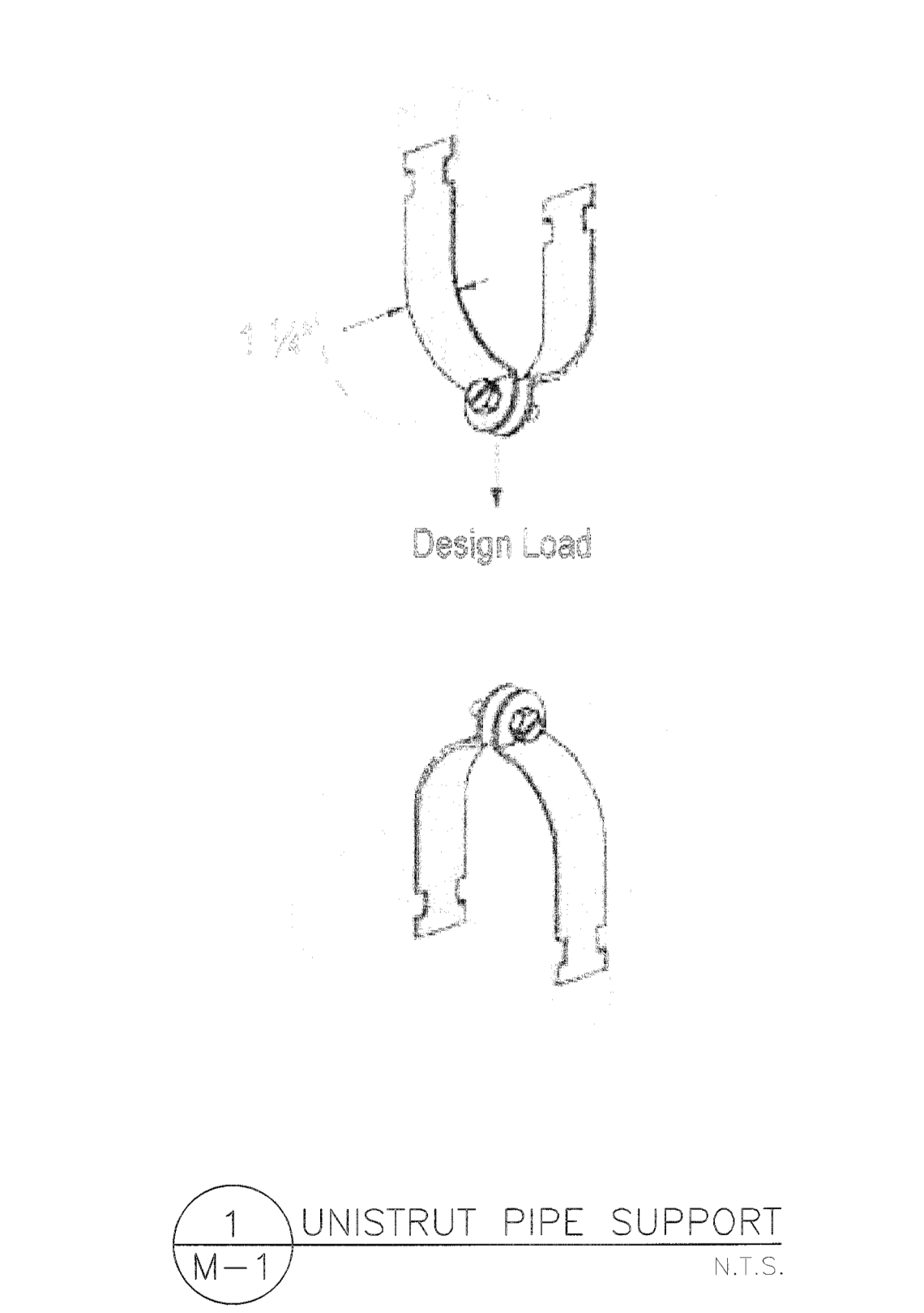
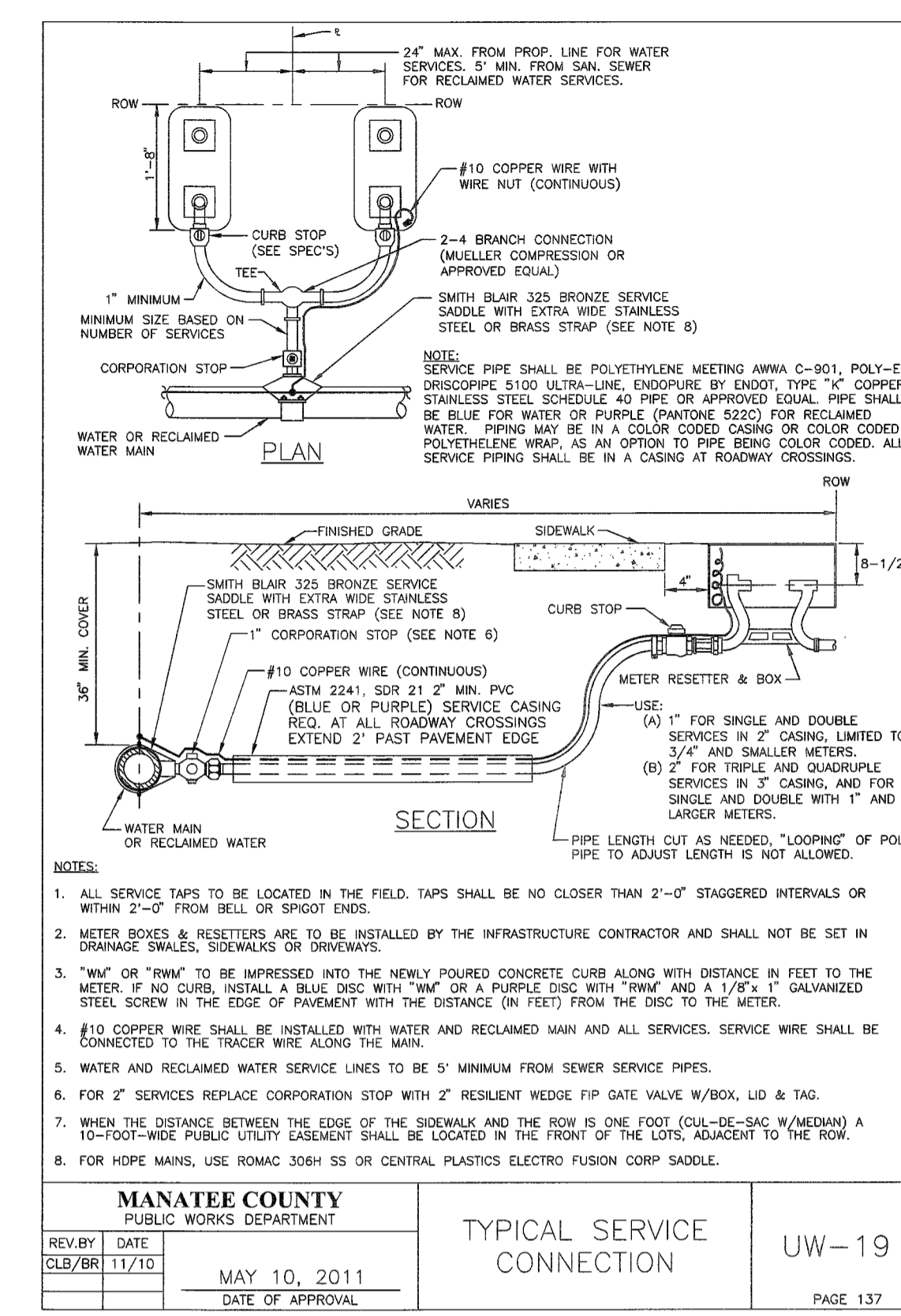
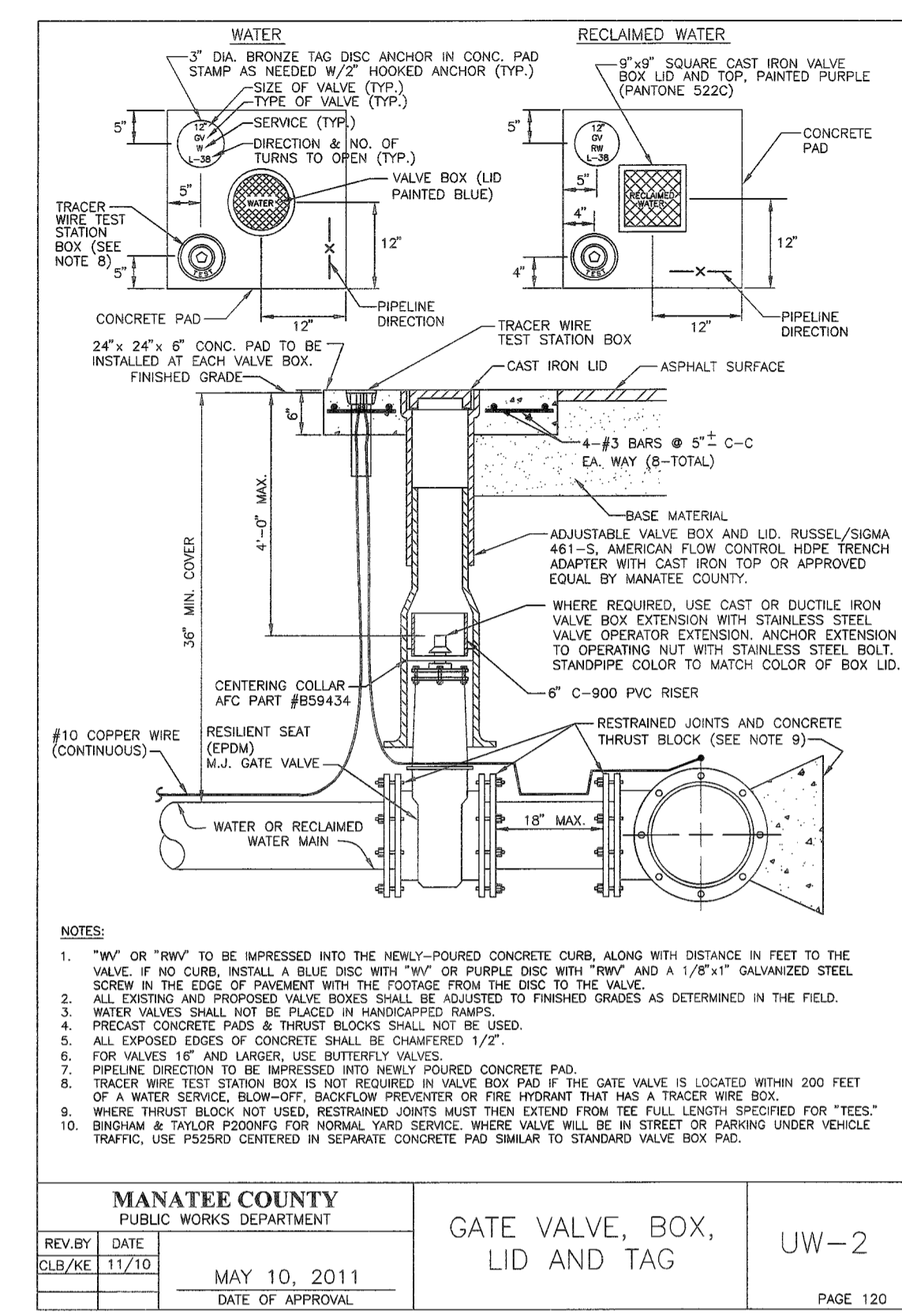
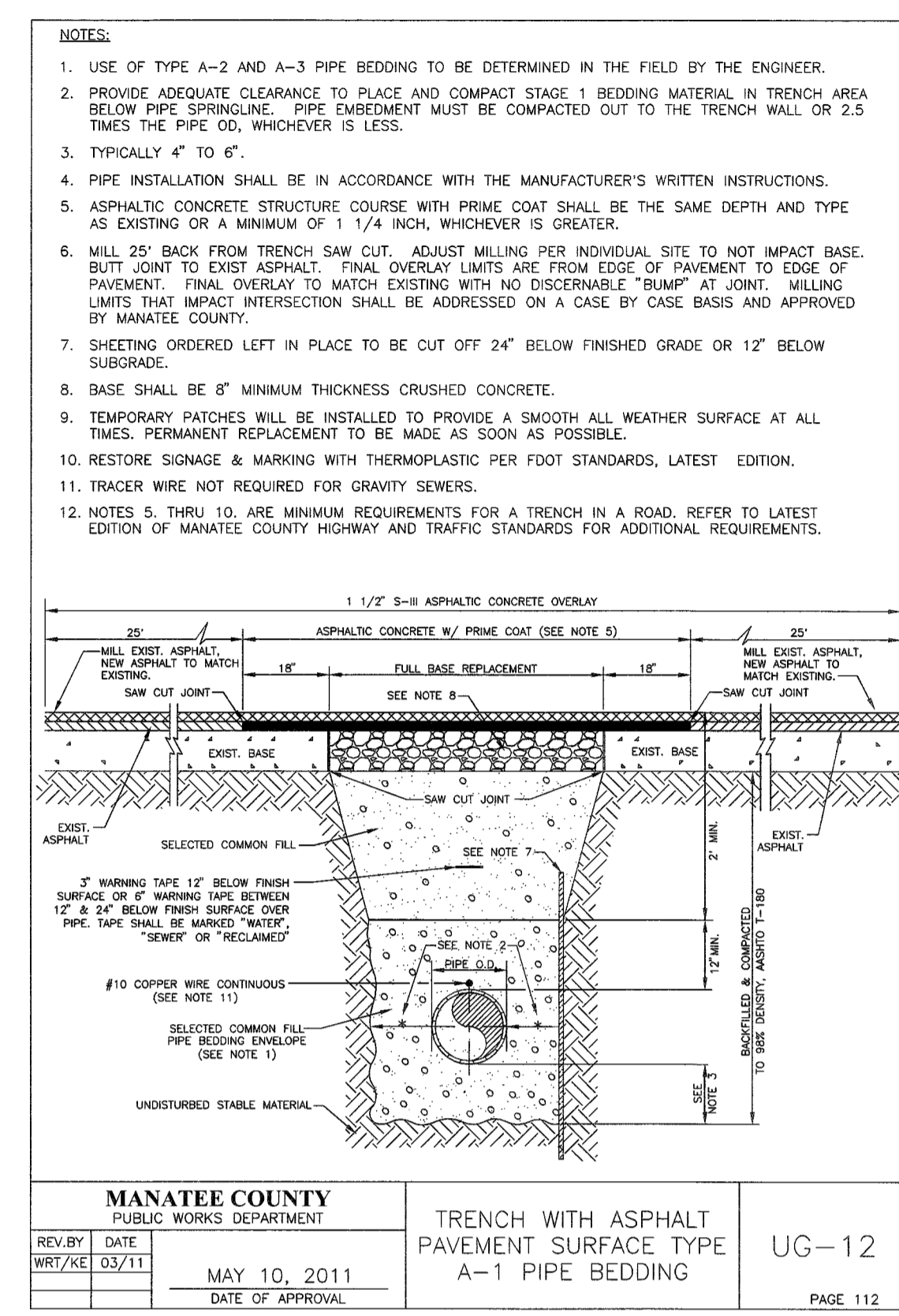
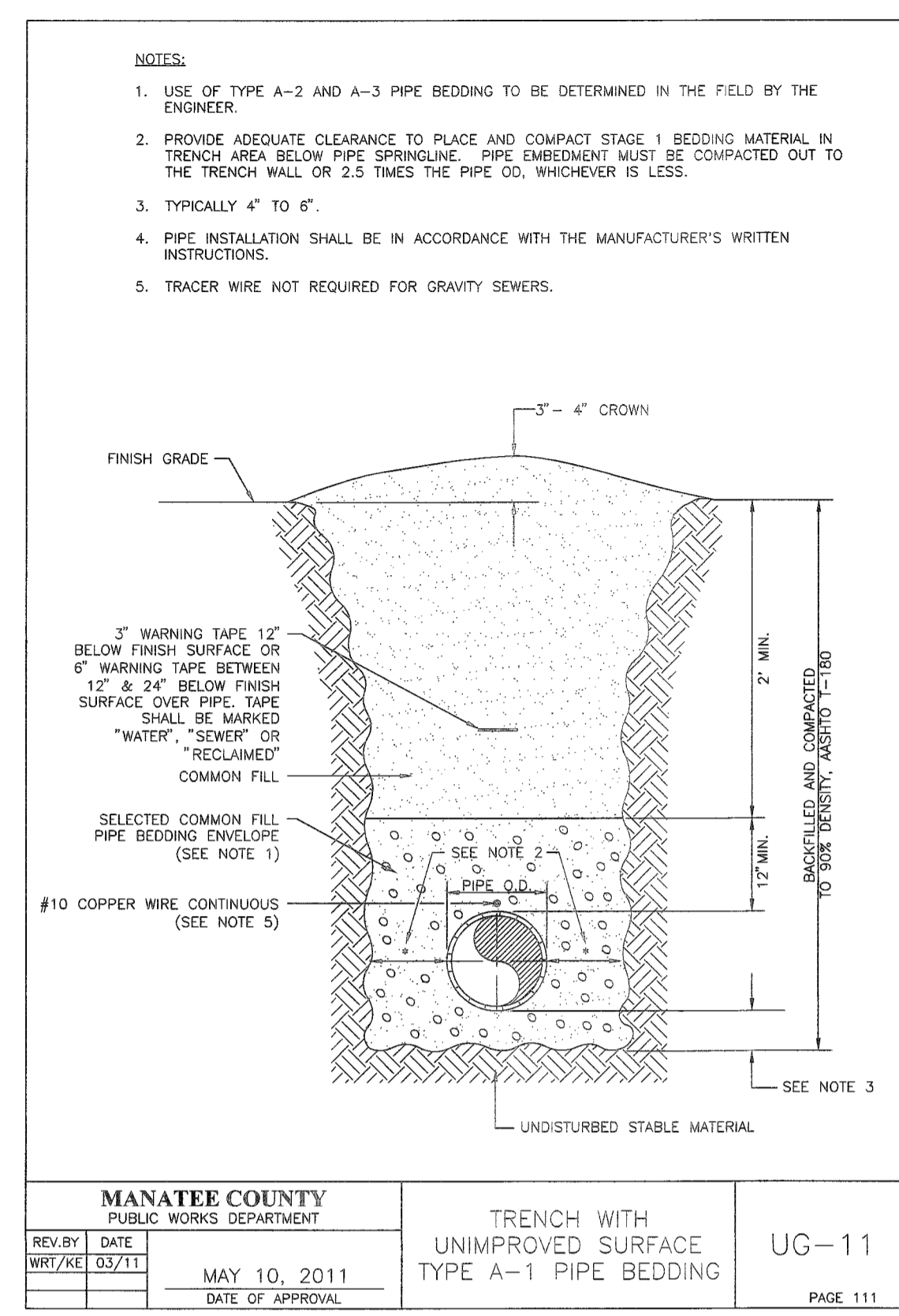
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|---------------|--------------|
| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | 1" = 5' |
| SURVEYED | GFY 04/26/13 |
| DESIGNED | DRY 05/23/13 |
| DRAWN | SRP 05/23/13 |
| CHECKED | RJH 05/23/13 |

ROBERT J. HALBACH
 FLORIDA P.E. # 40139

Robert J. Halbach
 11/7/13
 Signature & Date

SHEET C-2

SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
CIVIL DETAILS



| NO. | REVISION DESCRIPTION | BY | DATE |
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|---------------|--------------|
| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | NONE |
| BY | DATE |
| SURVEYED | GFY 04/26/13 |
| DESIGNED | DRY 05/23/13 |
| DRAWN | SRP 05/23/13 |
| CHECKED | RJH 05/23/13 |

ROBERT J. HALBACH
FLORIDA P.E. # 40139

Robert J. Halbach
11-7-13
Signature & Date

SHEET C-4

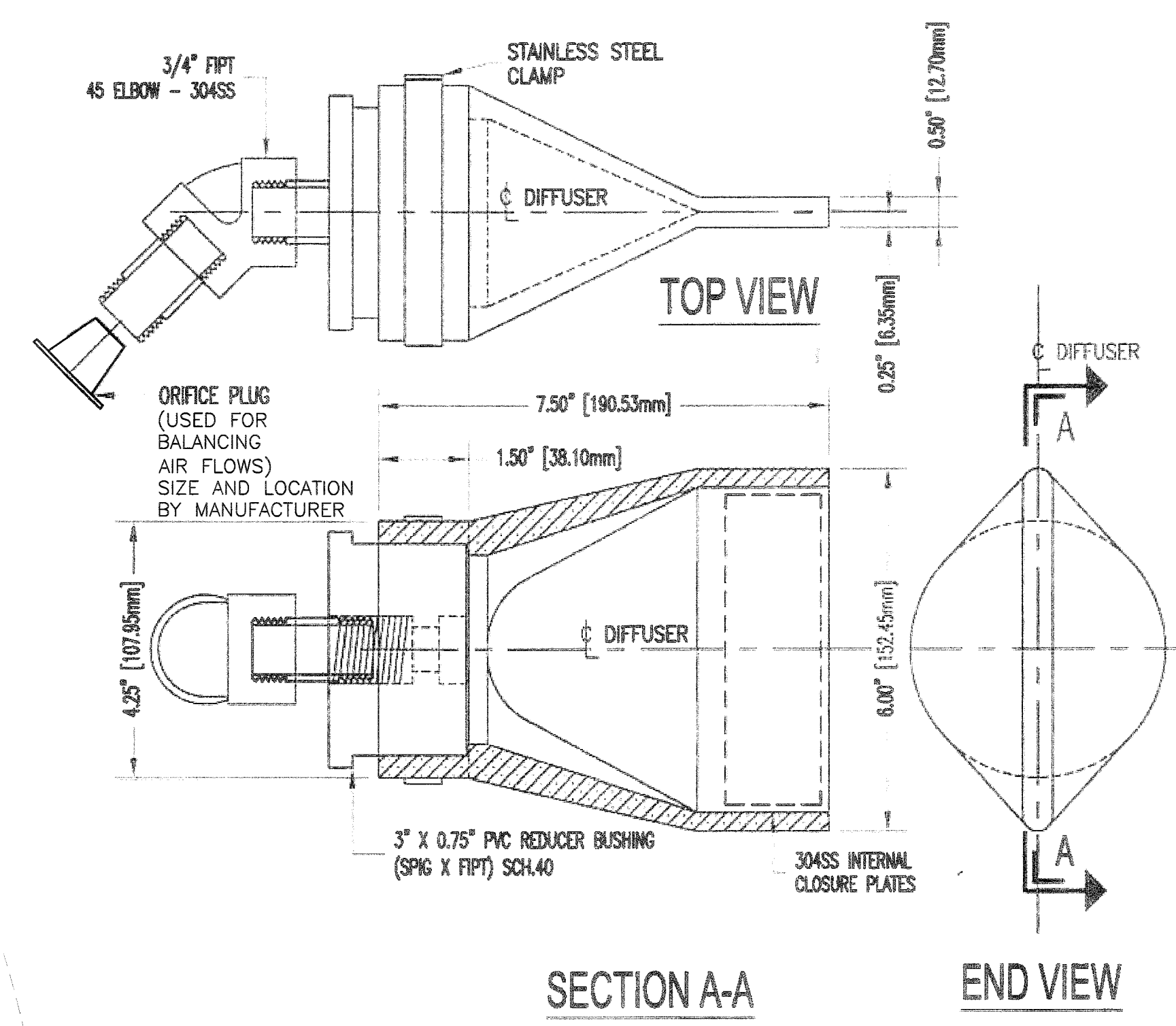
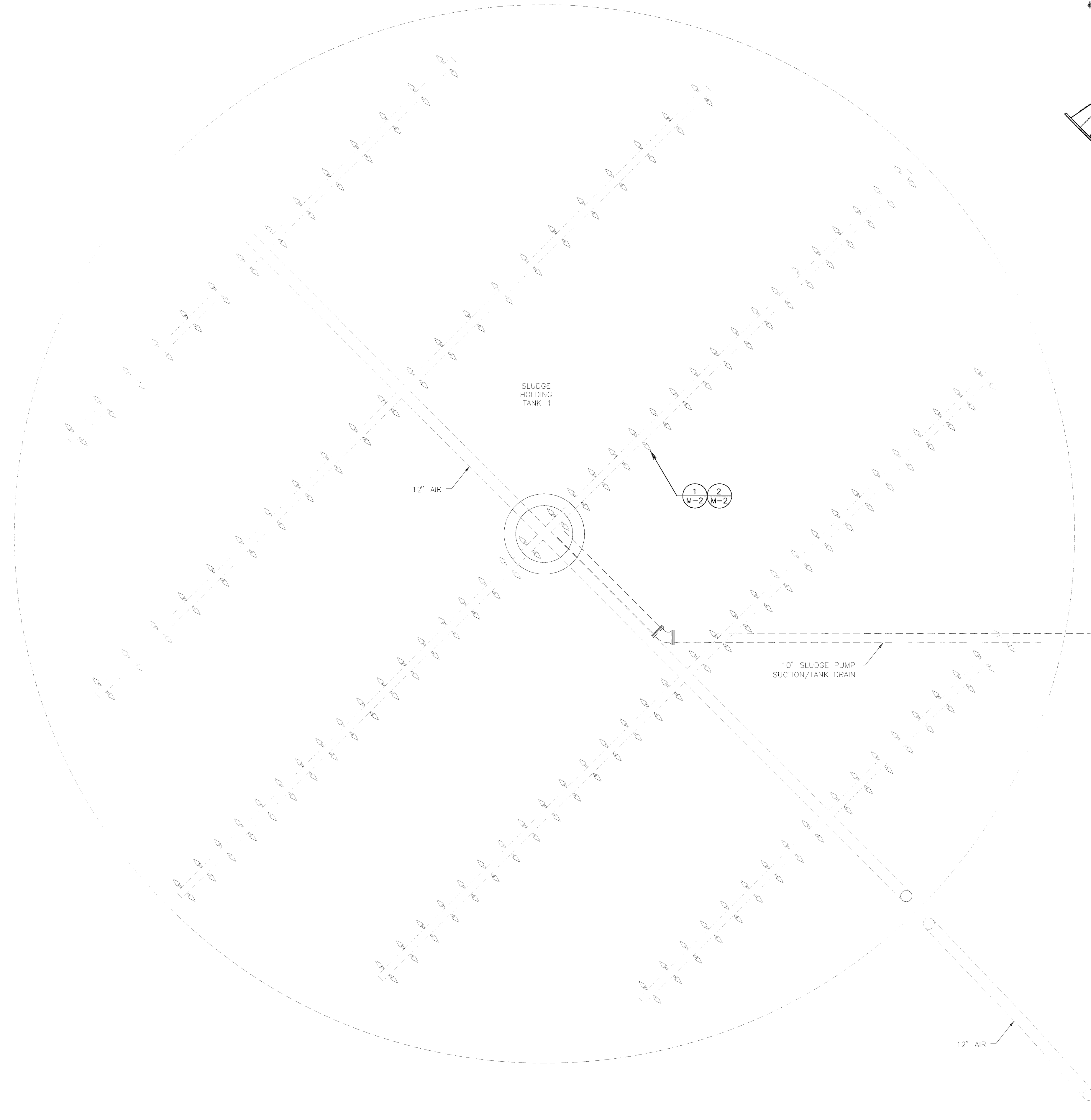
100% SUBMITTAL



STANTEC CONSULTING SERVICES INC.
5172 STATION WAY, SARASOTA, FLORIDA 34233
TEL 941.365.5500 - FAX 941.366.1922
FLORIDA CERTIFICATE NO. 27103 - WWW.STANTEC.COM

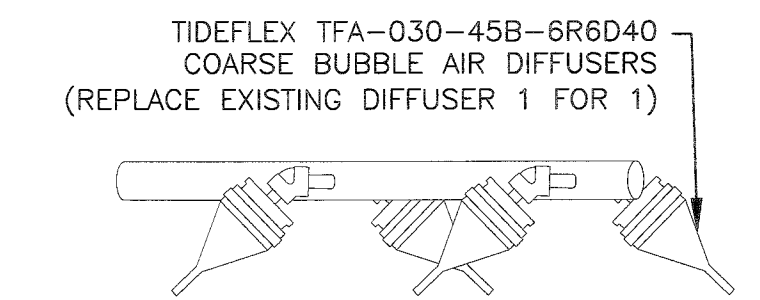
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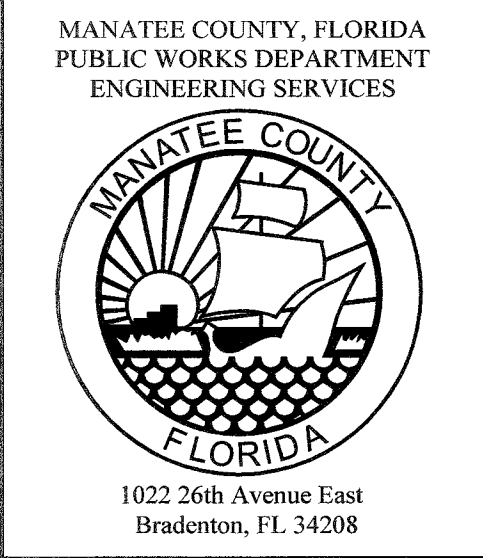
1 AIR DIFFUSERS
M-2

SIZE AND LOCATION
BY MANUFACTURER



2 AIR DIFFUSER REPLACEMENT
M-2

TOTAL DIFFUSERS =
240/TANK x 2 TANKS



**SOUTHEAST WATER RECLAMATION FACILITY
 SLUDGE HOLDING TANK IMPROVEMENTS
 AIR DIFFUSER PLAN**

| NO. | REVISION DESCRIPTION | BY | DATE |
|-----|----------------------|----|------|
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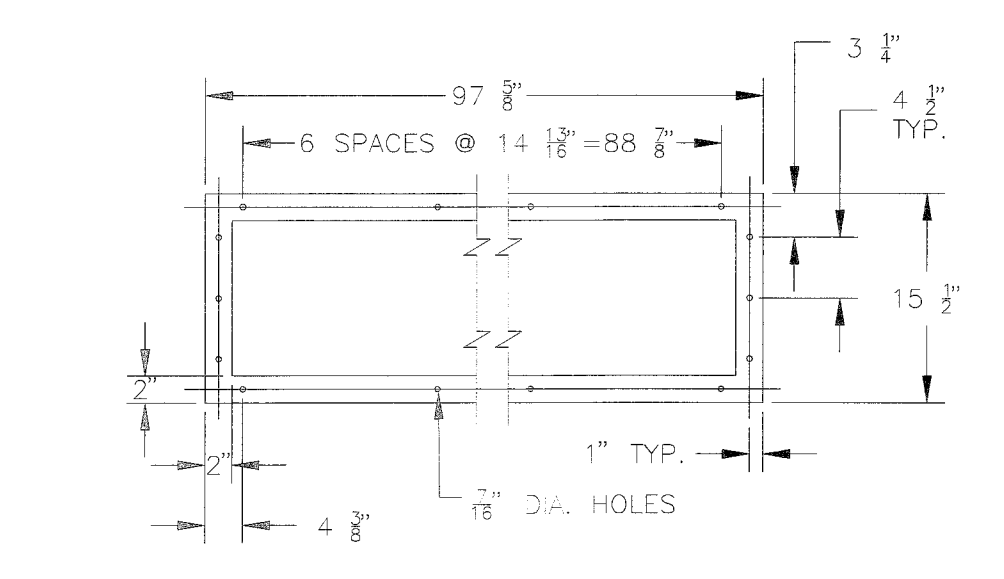
ROBERT J. HALBACH
 FLORIDA P.E. # 40139

 Signature & Date
 11-2-13

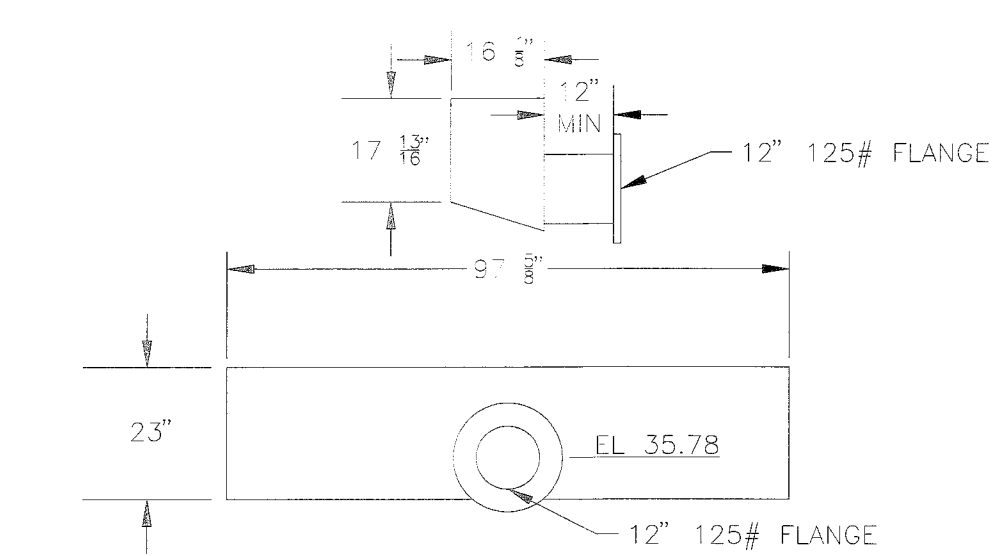
100% SUBMITTAL

 STANTEC CONSULTING SERVICES INC.
 5172 STATION WAY, SARASOTA, FLORIDA 34233
 TEL. 941.365.5500 - FAX. 941.366.1922
 FLORIDA CERTIFICATE NO. 27103 - WWW.STANTEC.COM

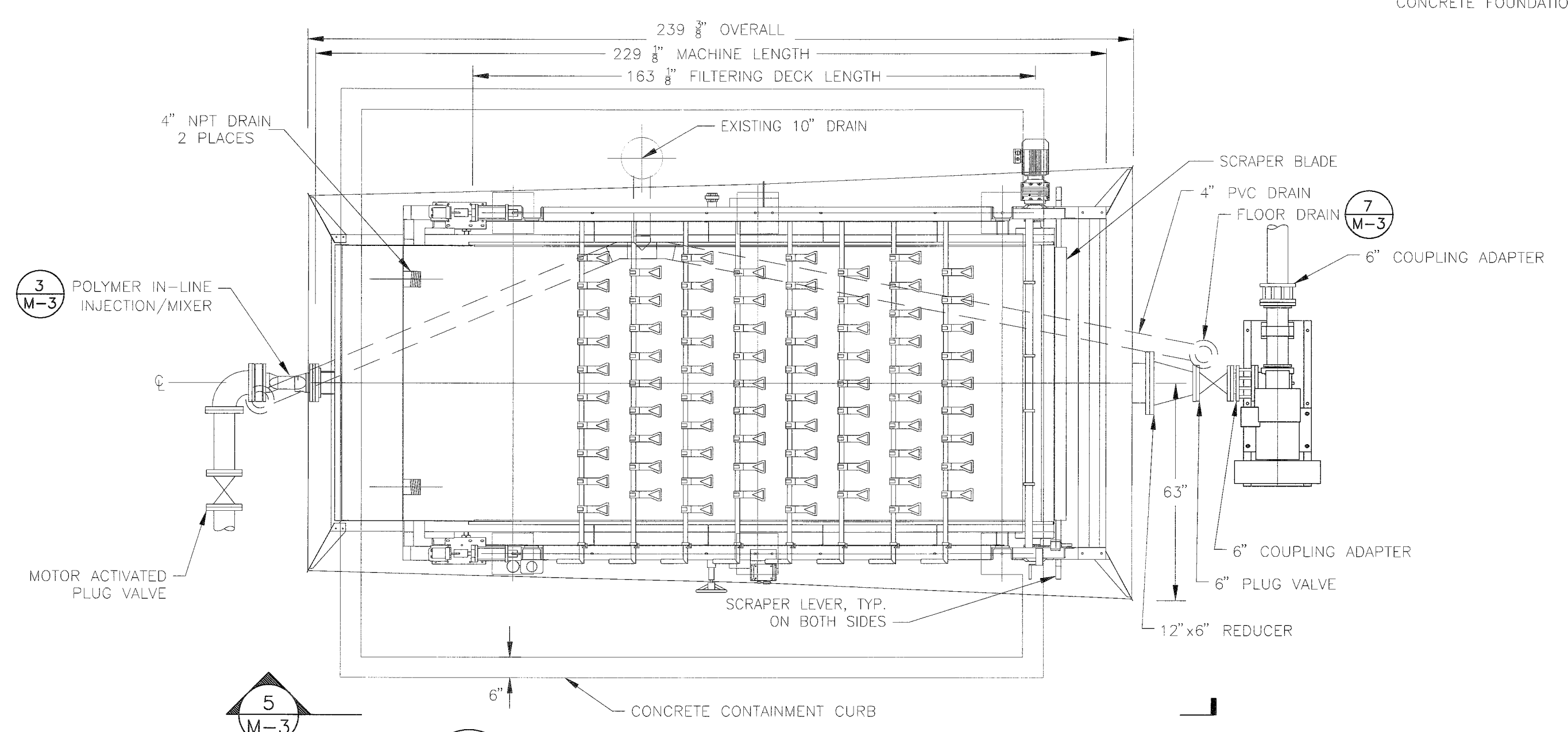
**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
GRAVITY BELT THICKENER PLAN**



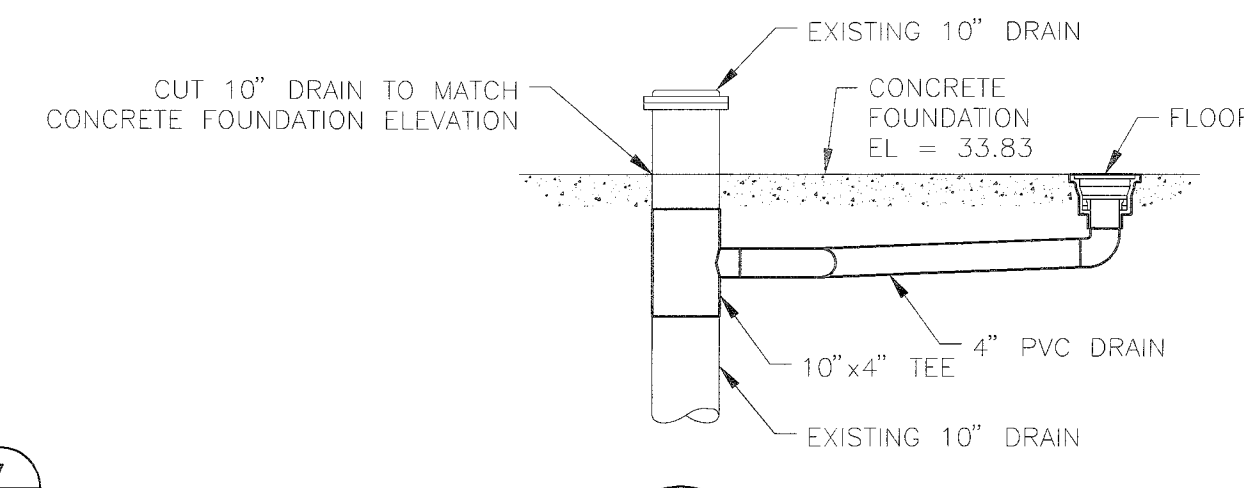
1 DISCHARGE FLANGE DETAIL
M-3 SEE NOTE 1 3/8" = 1'-0"



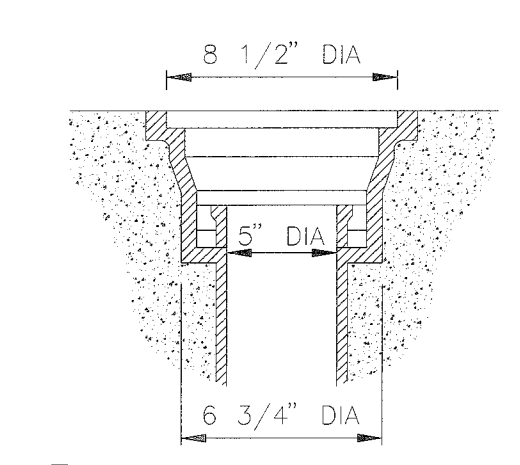
2 THICKENER DISCHARGE CHUTE
M-3 SEE NOTE 1 3/8" = 1'-0"



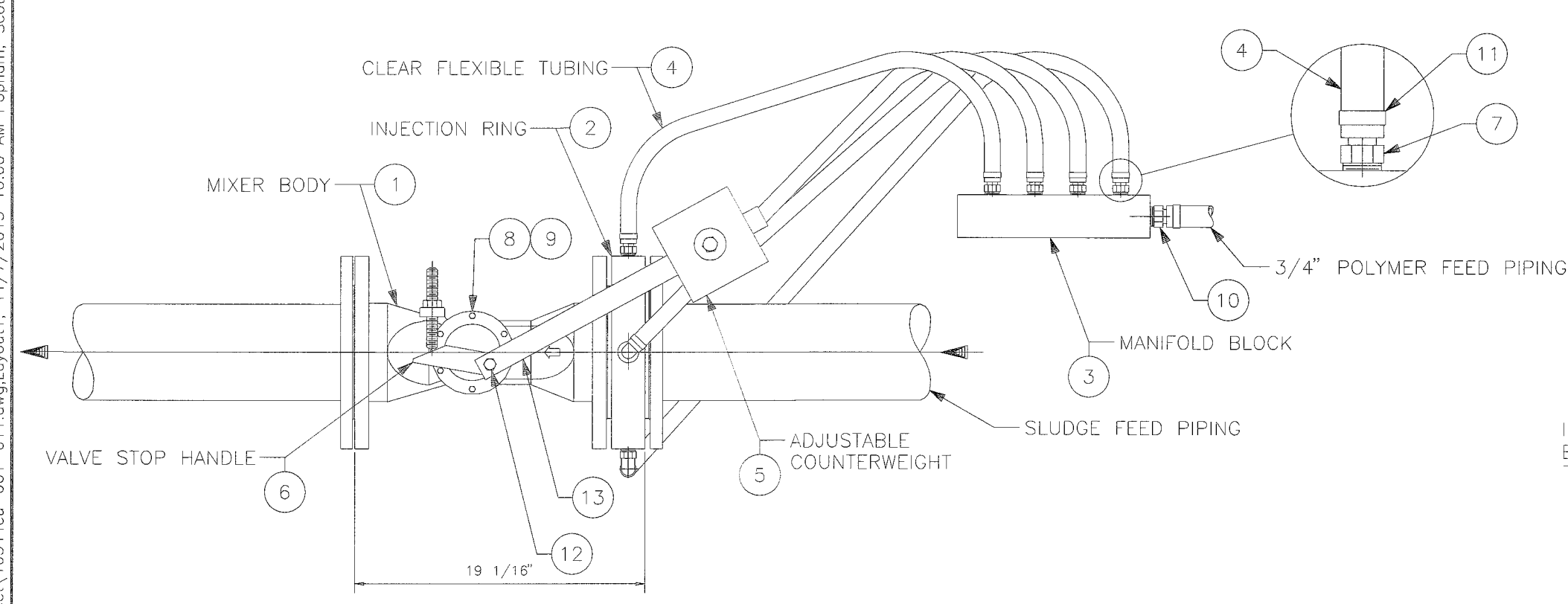
4 GRAVITY BELT THICKENER PLAN
M-1 SEE NOTE 1 3/8" = 1'-0"



6 4\"/>

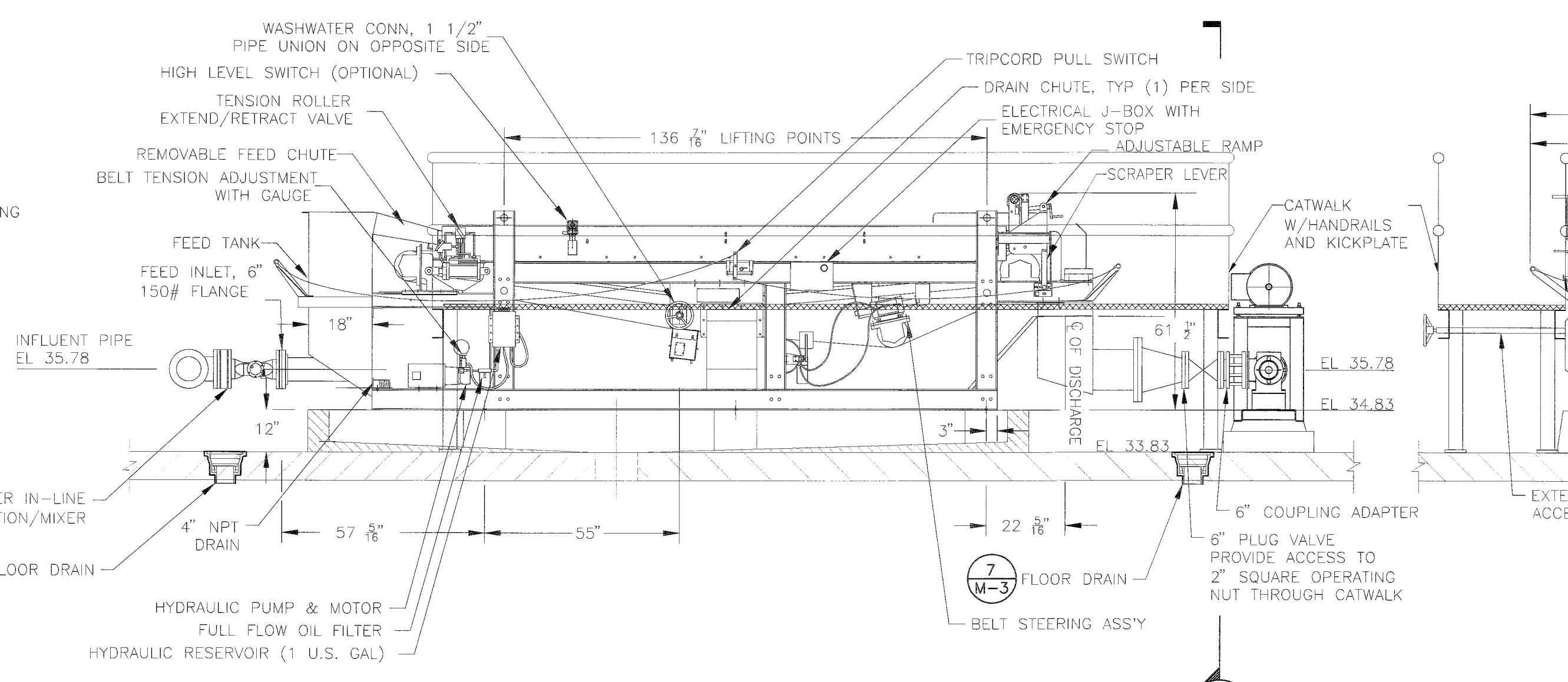


7 FLOOR DRAIN
M-3 N.T.S.

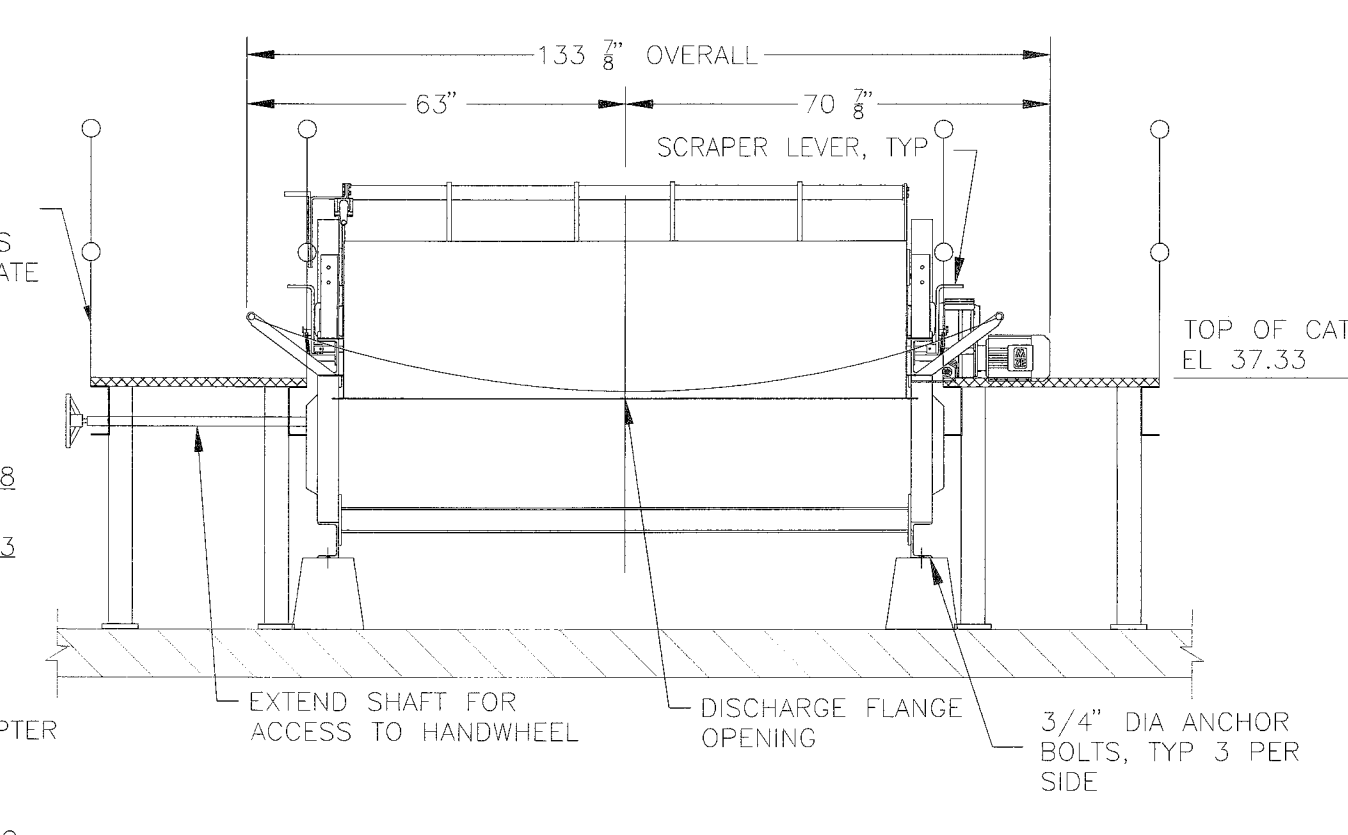


| STAINLESS STEEL MIXER PART NO. | NO. | QTY. | DESCRIPTION |
|--------------------------------|-----|------|--------------------------------|
| 015753 | 1 | 1 | MIXER BODY |
| 009510 | 2 | 1 | INJECTION RING |
| 008961 | 3 | 1 | POLYMER MANIFOLD BLOCK |
| 007039 | 4 | A/R | CLEAR FLEXIBLE TUBING, 3/4\"/> |
| 007004 | 5 | 1 | COUNTER WEIGHT |
| 028874 | 6 | 1 | VALVE STOP HANDLE |
| 008960 | 7 | 8 | BARBED HOSE CONNECTOR, 3/8\"/> |
| 015752 | 8 | 1 | COVER PLATE |
| 006453 | 9 | 1 | GASKET |
| 006763 | 10 | 1 | BARBED HOSE CONNECTOR, 3/4\"/> |
| 007952 | 11 | 9 | SS HOSE CLAMP, 1/2\"/> |
| 021398 | 12 | 1 | VALVE FLAP |
| 100448 | 13 | 1 | COUNTER WEIGHT ARM |

3 POLYMER IN-LINE INJECTION/MIXER
M-3 N.T.S.



5 SECTION
M-3 SEE NOTE 1 3/8" = 1'-0"



8 SECTION
M-3 SEE NOTE 1 3/8" = 1'-0"

NOTE:
MIXER MAY BE MOUNTED IN A HORIZONTAL OR VERTICAL ATTITUDE. ARRANGE THE WEIGHT ARM TO PROVIDE THE NECESSARY CLOSING FORCE. THE FLOW THROUGH THE MIXER MUST ENTER THROUGH THE INJECTION RING. IF MOUNTED VERTICALLY THE FLOW SHOULD BE UPWARD.

NOTE:
1. ALL DIMENSIONS AND ELEVATIONS ARE BASED ON THIS SPECIFIC GRAVITY BELT PRESS MANUFACTURER. CONTRACTOR SHALL NOT RELY ON THESE DIMENSIONS, BUT MUST CONFIRM AND ADJUST ACCORDINGLY TO ACTUAL FABRICATION DRAWINGS PROVIDED BY MANUFACTURER.

| NO. | REVISION DESCRIPTION | BY | DATE |
|-----|----------------------|----|------|
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| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | AS SHOWN |
| SURVEYED | GFY 04/26/13 |
| DESIGNED | DRY 05/23/13 |
| DRAWN | SRP 05/23/13 |
| CHECKED | RJH 05/23/13 |

100% SUBMITTAL



STANTEC CONSULTING SERVICES INC.
5172 STATION WAY, SARASOTA, FLORIDA 34233
TEL. 941.365.5500 - FAX. 941.366.1922
FLORIDA CERTIFICATE NO. 27103 - WWW.STANTEC.COM

ROBERT J. HALBACH
FLORIDA P.E. # 40139

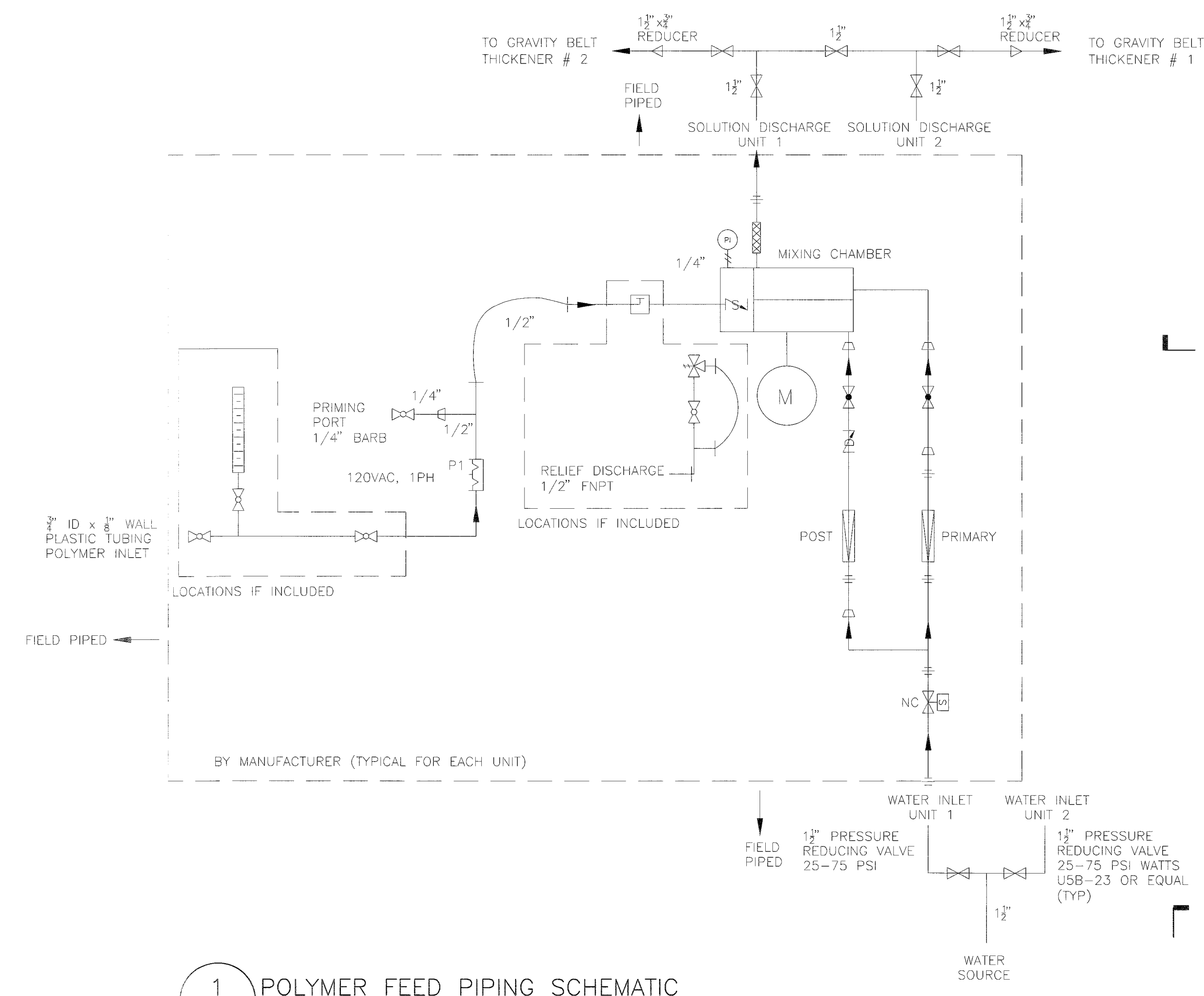
Robert J. Halbach
11-7-13
Signature & Date

SHEET M-3

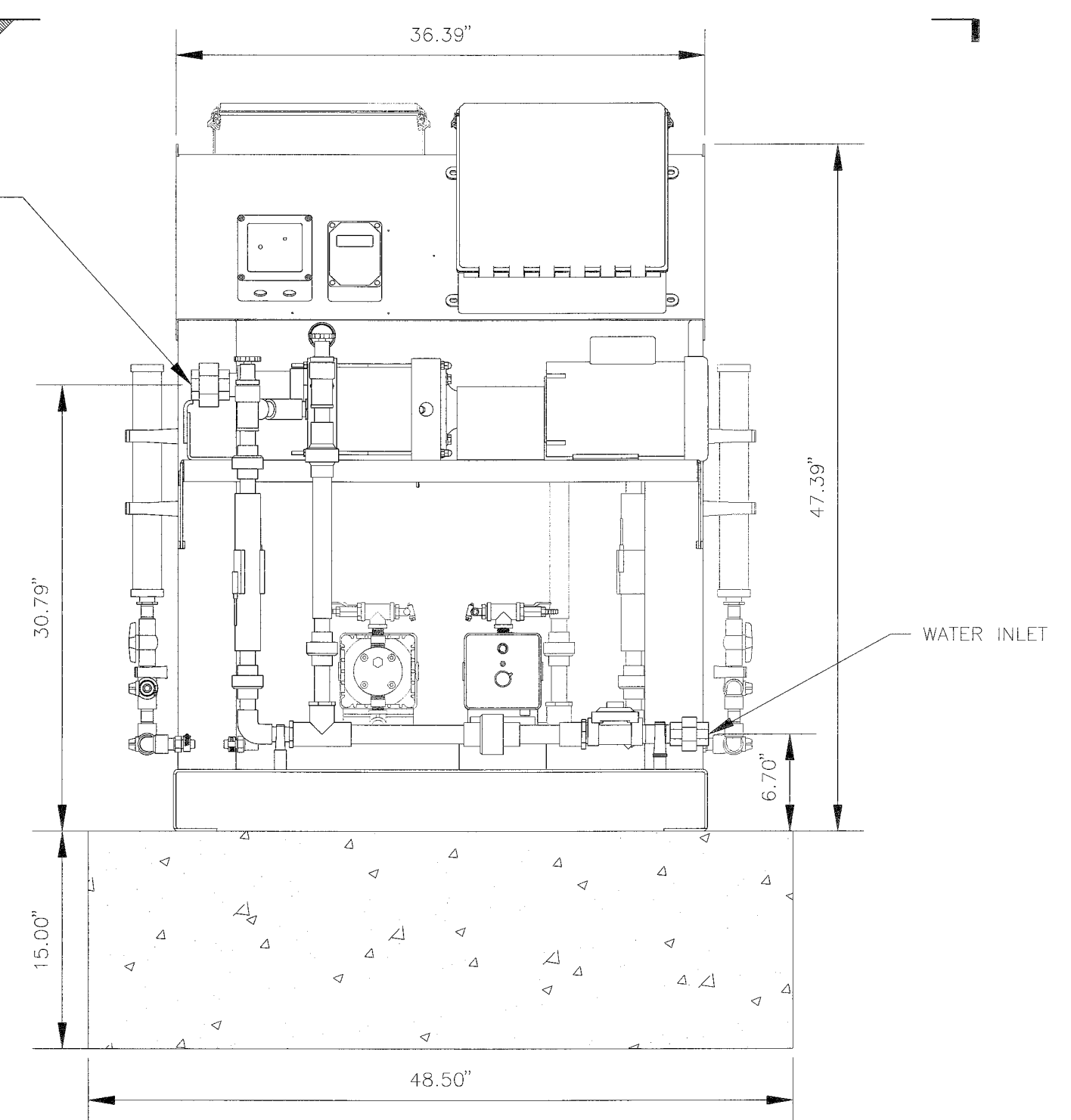
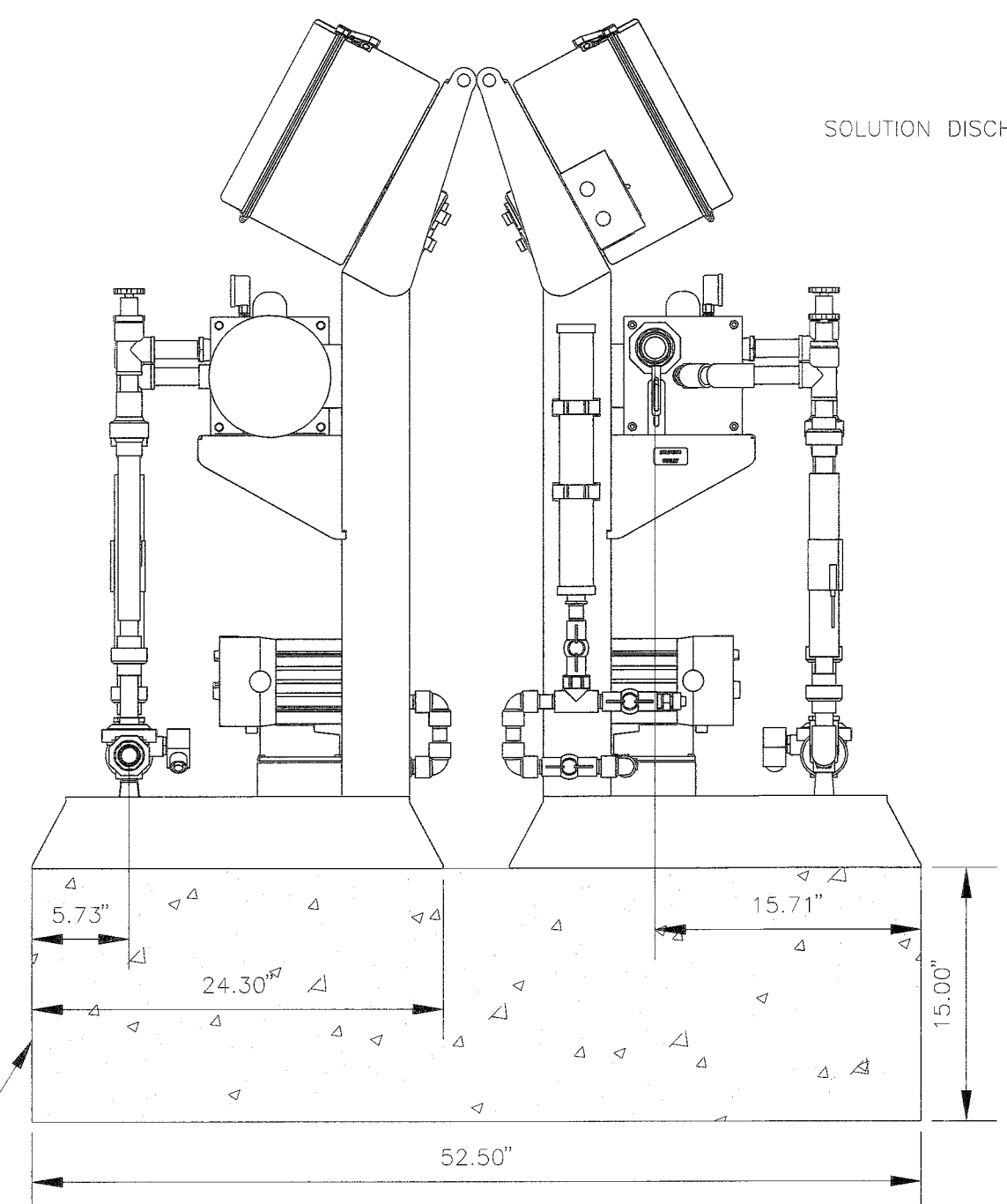
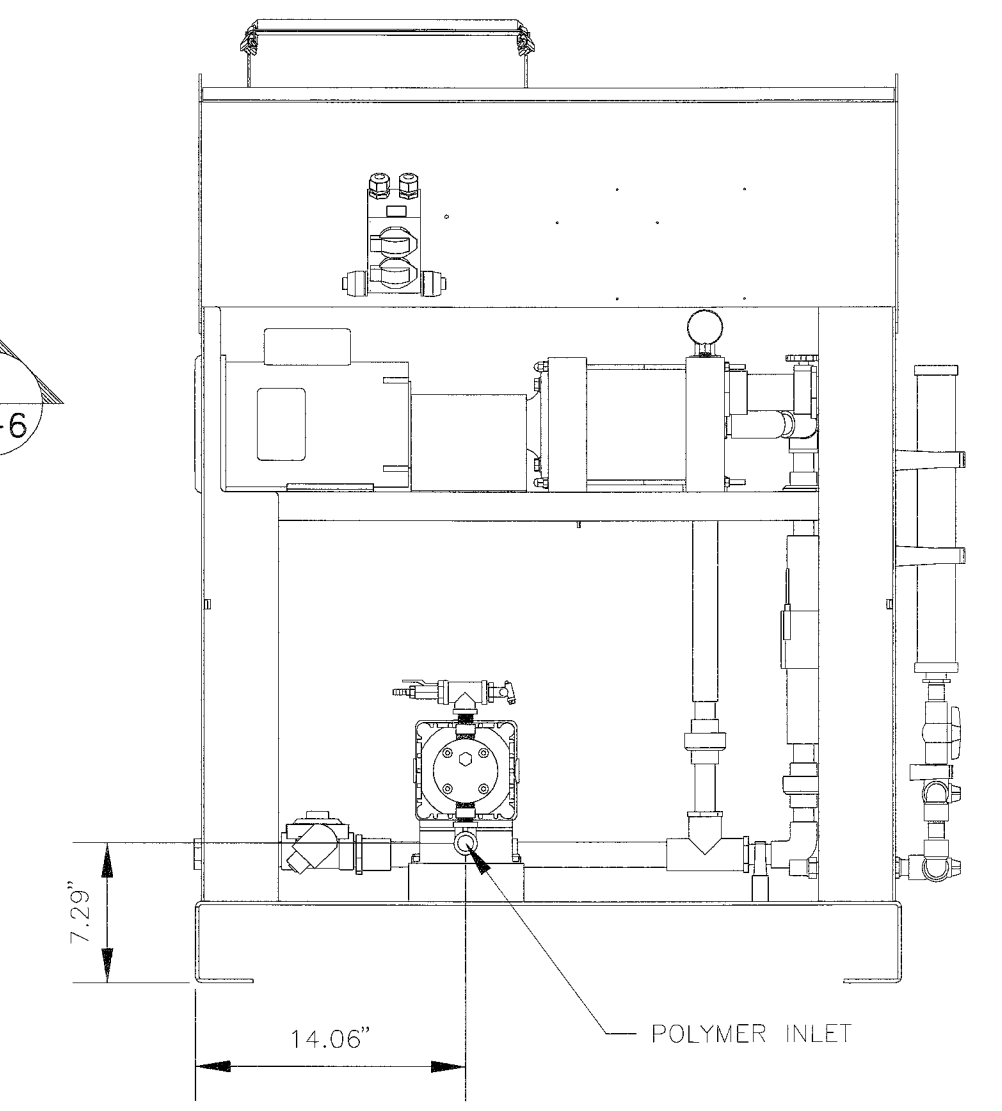
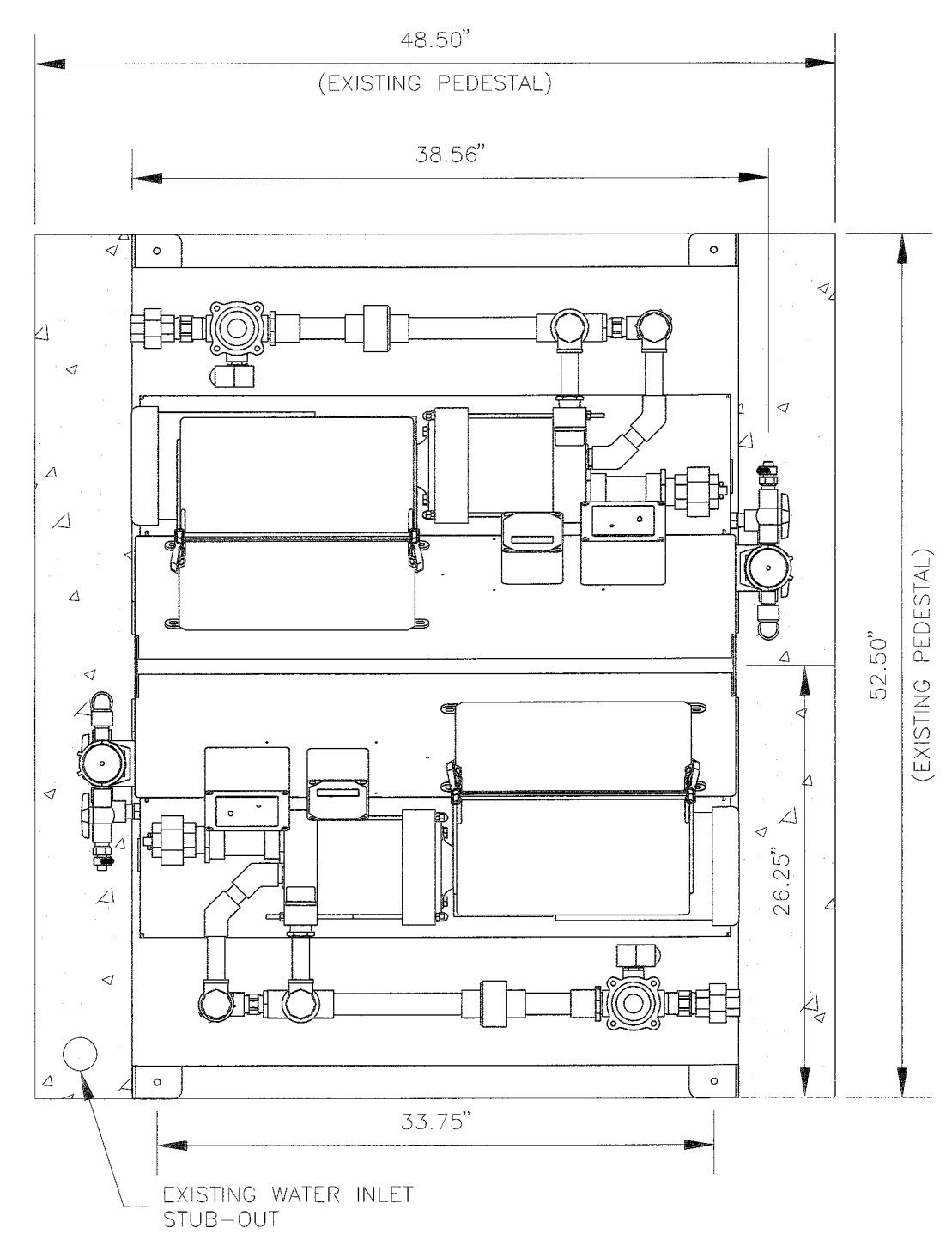
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SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
POLYMER FEED SYSTEM DETAILS

| LEGEND | DESCRIPTION |
|--------|---------------------------|
| | GLOBE VALVE |
| | BALL VALVE |
| | PRESSURE GAUGE |
| | DIAPHRAGM PUMP |
| | POPPET SPRING CHECK VALVE |
| | DIAPHRAGM CHECK VALVE |
| | SOLENOID VALVE |
| | UNION |
| | REDUCER |
| | STATIC MIXER |
| | MIXING CHAMBER |
| | PRESSURE RELIEF VALVE |
| | FLOW METER |
| | FLOW SWITCH |
| | CALIBRATION COLUMN |
| | THERMAL FLOW SWITCH |



- NOTES:
- AT LEAST ONE POLYMER FEED UNIT SHALL REMAIN IN SERVICE AT ALL TIMES.
 - POLYMER FEED BASES SHALL BE FACTORY ADJUSTED TO FIT ON EXISTING CONCRETE PEDESTAL. FIELD CUTTING IS NOT ACCEPTABLE.
 - PIPING IS SHOWN SCHEMATICALLY. FIELD PIPING AND VALVES SHALL BE REPLACED/NEW FROM WATER INLET STUB-OUT TO SKID PIPING AND FROM SKID SOLUTION DISCHARGE TO GRAVITY BELT THICKENER MANIFOLD BLOCKS.



100% SUBMITTAL



STANTEC CONSULTING SERVICES INC.
5172 STATION WAY, SARASOTA, FLORIDA 34233
TEL. 941.365.5500 - FAX. 941.366.1922
FLORIDA CERTIFICATE NO. 27103 - WWW.STANTEC.COM

ROBERT J. HALBACH
FLORIDA P.E. # 40139




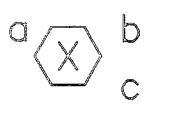


Robert Halbach
11-23-13
Signature & Date

SHEET M-6


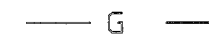




I:\1723\Ariana\172310544\water\design\001\drawing\active\sheet\0544cp-001-014.dwg, Lyrsoft, 11/7/2013 10:01 AM Popnam, Scott, 1:05 ARCH Full Bleed D (36.00 x 24.00 inches)

**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
ELECTRICAL-LEGEND**



IDENTIFICATION SYMBOLS

-  EQUIPMENT IDENTIFICATION
-  CONDUIT IDENTIFICATION
-  EQUIPMENT/INSTRUMENT LOCATOR
-  LUMINAIRE IDENTIFICATION
a = DEVICE SWITCHED FROM
b = CIRCUIT DESIGNATION
c = MOUNTING HEIGHT IN FEET TO BOTTOM OF FIXTURE
-  INDICATES KEYNOTE 1
(PERTAINS ONLY TO SHEET WHERE NOTE IS FOUND)
-  EQUIPMENT ENCLOSURE



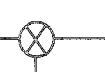





GROUNDING

-  LIGHTNING PROTECTION AIR TERMINAL;
STREAMER RETARDING TYPE.
-  GROUND CONDUCTOR FOR LIGHTNING PROTECTION
-  UNDERGROUND GROUND GRID
UNLESS OTHERWISE NOTED #4/0 SDBC
-  GROUND ROD
-  GROUND ROD AND GROUND WELL
-  COMPRESSION OR EXOTHERMIC
GROUNDING CONNECTION











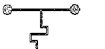






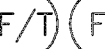























LUMINAIRES

-  FLUORESCENT FIXTURE
-  HID FIXTURE POLE MOUNTED























CONTROL -- ELEMENTARY SYMBOLS

-  FUSE
-  CONTROL POWER TRANSFORMER
-  REMOTE TERMINAL BLOCK POINT
-  COPPERWELD GRD. ROD
-  HAND OFF REMOTE CONTROL STATION
-  HAND OFF AUTO CONTROL STATION
-  TWISTED SHIELDED PAIRS
-  OFF REMOTE SWITCH

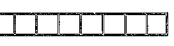

CONTROL -- ELEMENTARY SYMBOLS

-  NORMALLY OPEN CONTACT
-  NORMALLY CLOSED CONTACT
-  LIMIT SWITCH, NORMALLY OPEN
-  LIMIT SWITCH, NORMALLY CLOSED
-  PRESSURE SWITCH, NORMALLY OPEN
-  PRESSURE SWITCH, NORMALLY CLOSED
-  FLOAT SWITCH, NORMALLY OPEN
-  FLOAT SWITCH, NORMALLY CLOSED
-  FLOW SWITCH, NORMALLY OPEN
-  FLOW SWITCH, NORMALLY CLOSED
-  TEMPERATURE SWITCH, NORMALLY OPEN
-  TEMPERATURE SWITCH, NORMALLY CLOSED
-  NORMALLY OPEN, TIMED TO CLOSE CONTACT
-  NORMALLY CLOSED, TIMED TO CLOSE CONTACT
-  NORMALLY CLOSED, TIMED TO OPEN CONTACT
-  NORMALLY OPEN, TIMED TO OPEN CONTACT
-  ANALYZER INDICATOR TRANSMITTER
-  ALARM RELAY
-  CONTROL RELAY
-  FLOW INDICATOR TRANSMITTER (TOTALIZER)
-  FLOW SWITCH HIGH/LOW
-  LIQUID LEVEL SWITCH
-  LEVEL INDICATOR TRANSMITTER
-  LIMIT SWITCH OR LEVEL SWITCH
-  MOTOR STARTER
-  MOTOR SWITCH MANUAL
-  PRESSURE GAUGE
-  PRESSURE SWITCH
-  TIMING RELAY
-  SURGE SUPPRESSION DEVICE
-  SOLENOID VALVE
-  VIBRATION SWITCH
-  TORQUE SWITCH
-  DIFFERENTIAL PRESSURE SWITCH HIGH
-  ALARM INDICATING LIGHT
-  RUN INDICATING LIGHT
-  MOMENTARY CONTACT PUSHBUTTON
-  MOMENTARY BREAK PUSHBUTTON OR RESET
-  KEYED SWITCH
-  MAINTAINED CONTACT ON-OFF SWITCH
-  START/STOP (S/S) CONTROL SWITCH
MAINTAINED CONTACT











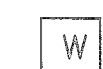
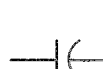









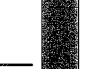



ELECTRICAL PLAN SYMBOLS

-  WALL OUTLET BOX AND 20 AMP SINGLE POLE SWITCH ('a' INDICATES SWITCHES) 48" TO CENTERLINE.
-  WALL OUTLET BOX AND 20 AMP 3-WAY SWITCH ('a' INDICATES SWITCHES) 48" TO CTR LINE.
-  WALL OUTLET BOX AND EXHAUST FAN SPEED CONTROLLER/SWITCH CONNECTIONS.
-  MANUAL MOTOR STARTING SWITCH WITH OVERLOADS AND PILOT LIGHT. NEMA 4X TYPICAL
-  WALL OUTLET BOX AND 20 AMP SWITCH WITH PILOT LIGHT.
-  WALL OUTLET BOX AND 20 AMP SWITCH WITH WEATHERPROOF COVER OR ENCLOSURE.
-  WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE 18" TO CENTERLINE
-  WALL OUTLET BOX AND 20 AMP DUPLEX RECEPT MOUNTED 48" AFF OR ABOVE COUNTER OR AS NOTED.
-  WALL OUTLET BOX AND 20 AMP GFCI DUPLEX RECEPTACLE AT 18" TO CENTERLINE. WP INDICATES WEATHERPROOF COVER PLATE.
-  WALL OUTLET BOX AND 20 AMP GFCI RECEPTACLE MOUNTED 48" AFF OR ABOVE COUNTER, OR AS NOTED.
-  WALL OUTLET BOX AND DOUBLE 20 AMP DUPLEX RECEPTACLES 18" TO CENTERLINE
-  WALL OUTLET BOX AND SPECIAL PURPOSE RECEPTACLE AS NOTED OR COORDINATE.
-  FLUSH MOUNTED JUNCTION BOX (SURFACE IN MECH/ELEC SPACES OR ABOVE CEILINGS).
-  BRANCH CIRCUIT PANELBOARD AS NOTED; SEE PANEL SCHEDULES
-  TRANSFORMER, SIZE AS INDICATED
-  DISCONNECT SWITCH SIZE PER EQUIPMENT NAME PLATE OR AS NOTED; FOR DISCONNECTS SERVING MOTOR LOADS OF 10HP OR GREATER AND FOR ALL MOTOR LOADS SERVED THROUGH VARIABLE FREQUENCY DRIVES; PROVIDE SURGE SUPPRESSION DEVICE EQUAL TO SQ.-D. SP3650 OR EQUAL AT DISCONNECT.
-  COMBINATION MAGNETIC MOTOR STARTER PROVIDED BY ELECTRICAL U.N.O.
-  MOTOR CONNECTION
-  MOTOR OPERATED VALVE CONNECTION
-  EXPOSED CONDUIT
-  UNDERGROUND/EMBEDDED CONDUIT
-  EXISTING CONDUIT OR ITEM

SYSTEM SYMBOL LEGEND

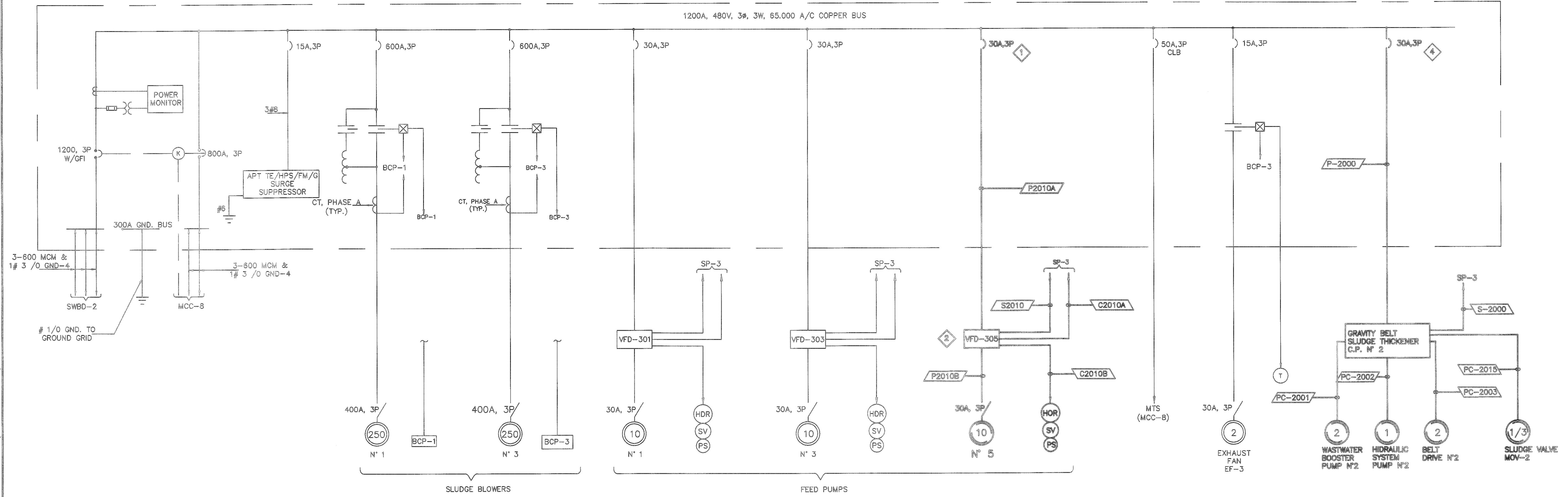
-  SYSTEMS BACKBOARD AS NOTED
-  SYSTEMS CABINET AS NOTED OR MARKED.

ELECTRICAL ONE LINE SYMBOLS

-  VOLTMETER
-  POWER FACTOR METER
-  KILOWATT METER
-  AMMETER
-  THREE PHASE VOLT SWITCH
-  THREE PHASE AMP SWITCH
-  CURRENT TRANSMITTER
-  KILOWATT TRANSMITTER
-  POWER FACTOR TRANSMITTER
-  LOCAL CONTROL PANEL
-  GROUND FAULT INTERRUPTER
-  WATT HOUR METER
-  CAPACITOR
-  DRAW-OUT CIRCUIT BREAKER
-  MOULDED CASE CIRCUIT BREAKER
-  TYPICAL STARTER CONTROL. SEE SWITCHGEAR CONTROL DIAGRAMS FOR EXACT TYPE.
-  ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER.
-  SERVICE OR EQUIPMENT GROUND.
-  NON-FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED.
-  NON-FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS.
-  LIGHTING PANELBOARD
-  POWER PANELBOARD
-  KIRK KEY INTERLOCK
-  CURRENT TRANSFORMERS
-  POTENTIAL TRANSFORMERS

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SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
EXISTING MCC-7 ADDITIONS



EXISTING MCC-7 SINGLE LINE DIAGRAM - ADDITIONS
SCALE: N.T.S.
FILE:

| | | | | | |
|-----------------------------------|--|---|--|------------------------------------|---|
| USABLE SPACE | 3Ø, SIZE 6 RVNR SLUDGE BLOWER NO. 3 | REPLAY/TIMERS SLUDGE BLOWER NO. 3 | 3Ø, SIZE 6 RVNR SLUDGE BLOWER NO. 1 | USABLE SPACE | 15A, 3Ø SURGE SUPPRESSOR 4HPS/FM/G |
| 3Ø, SIZE 1 EXHAUST FAN EF-3 | | REPLAY/TIMERS SLUDGE BLOWER NO. 1 | | PM | 1200A 3Ø MAIN BREAKER |
| USABLE SPACE | | USABLE SPACE | | 800A 3Ø TIE BREAKER TO MCC-8 | |
| 30A, 3Ø GRAVITY 32 T CP2 | 30A, 3Ø VFD301 SFP-1 | | | | |
| 30A, 3Ø VFD303 SFP-3 | 30A, 3Ø VFD305 SFP-5 | | | | |
| 50A, 3Ø MTS (L-3) | 30A, 3Ø VFD307 GDP-1 | | | | |

EXISTING MCC-7 FRONT VIEW - ADDITIONS
SCALE: N.T.S.
FILE:

- KEY NOTES**
- 1 USE SPARE BREAKER TO POWER SLUDGE FEED PUMP No5 AND PROVIDE NEW TAG.
 - 2 PROVIDE NEW VFD-5.
 - 3 PROVIDE NEW CONTROL DEVICES.
 - 4 USE SPARE BREAKER TO POWER SLUDGE THICKENER No2 AND PROVIDE NEW TAG.

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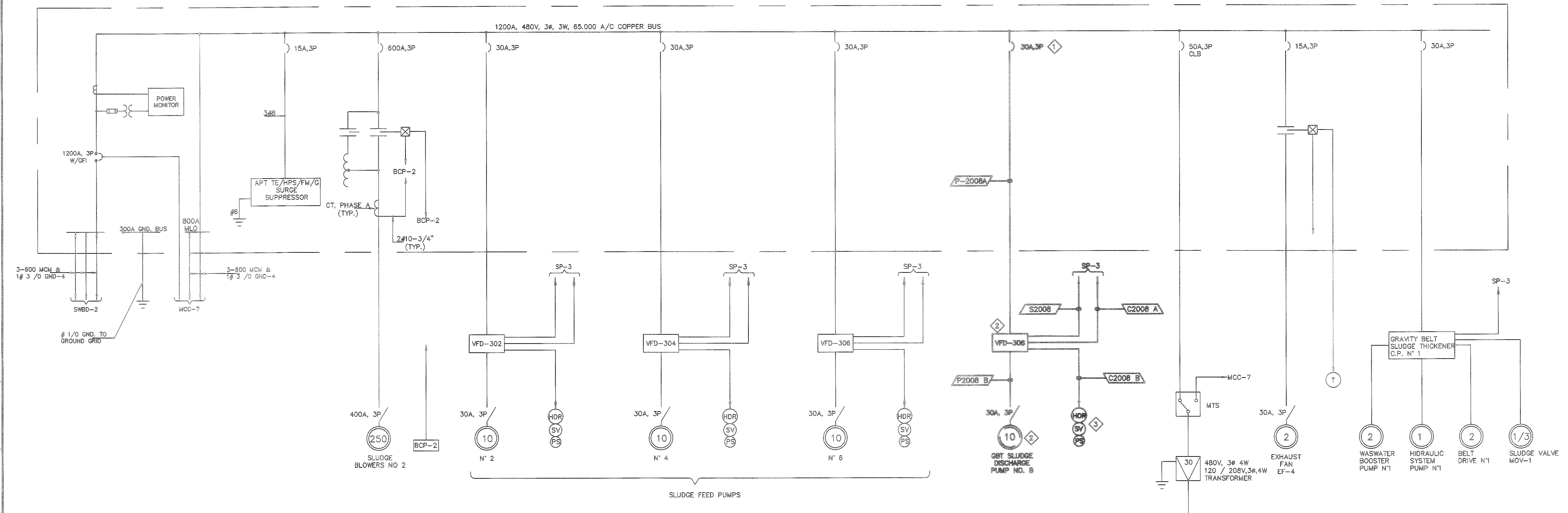
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| SURVEY # | |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | N.T.S. |
| SURVEYED | BY DATE |
| DESIGNED | MAG 09/2013 |
| DRAWN | MV 09/2013 |
| CHECKED | CLA 09/2013 |

MARIO A. GAMBOA
FLORIDA P.E. # 44675
No. 44675
Date 11-01-13
Signature

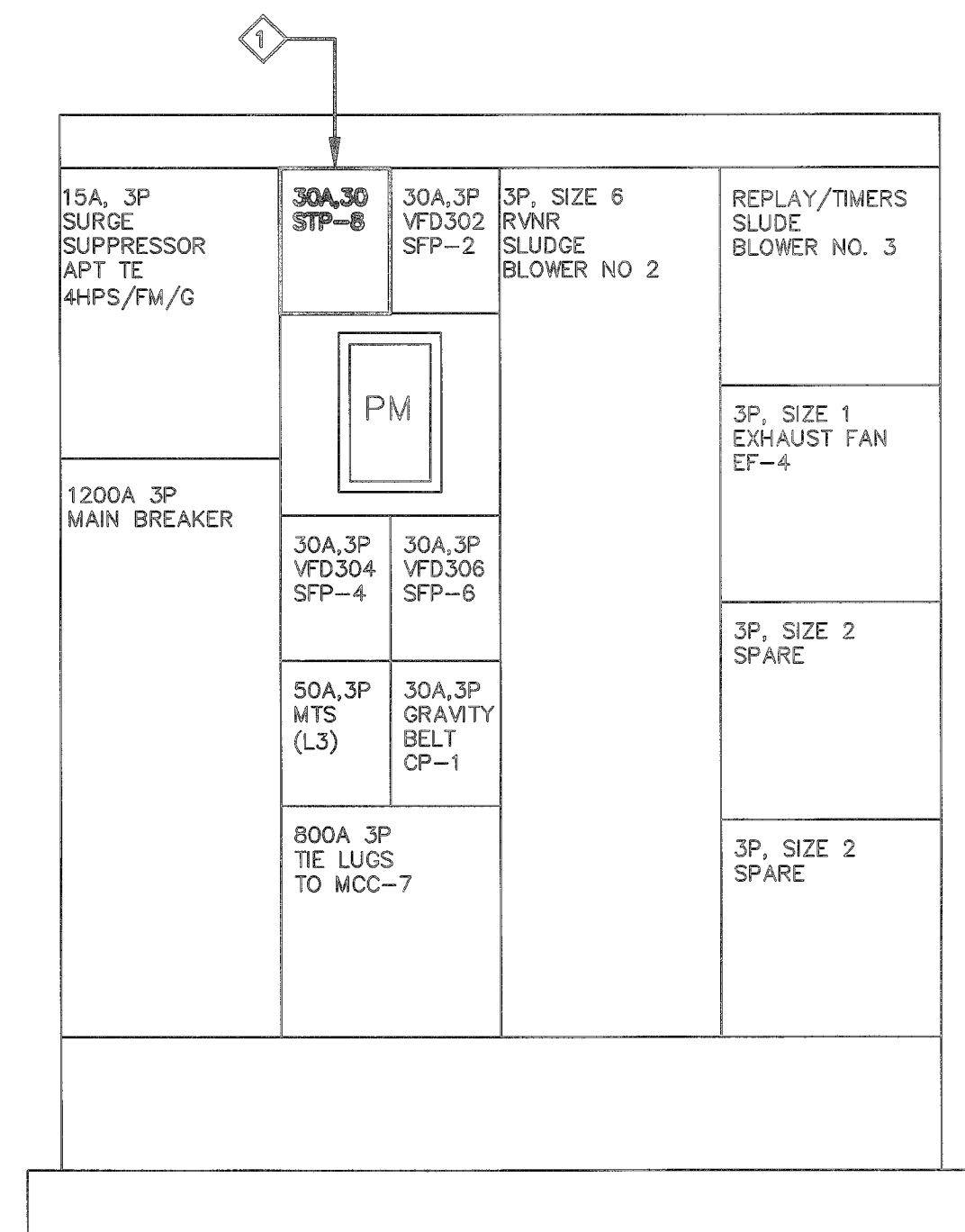
Gamboa
Engineers
17433 SW 65 CT
SOUTHWEST RANCHES, FL 3331
TEL. (854) 533-1121

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STANTEC CONSULTING SERVICES INC.
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**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
EXISTING MCC-8 ADDITIONS**



EXISTING MCC-8 SINGLE LINE DIAGRAM-ADDITIONS
SCALE: N.S.T.
FILE:



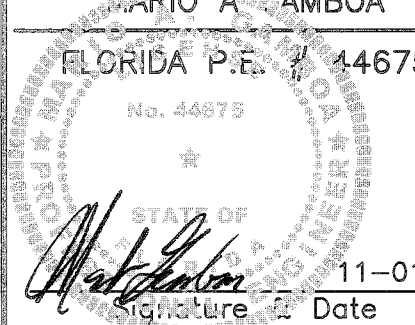
EXISTING MCC-8 FRONT VIEW-ADDITIONS
SCALE: N.S.T.
FILE:

- KEY NOTES:**
- 1 USE SPARE BREAKER TO POWER SLUDGE TRANSFER PUMP N°2
 - 2 PROVIDE NEW VFD-8
 - 3 PROVIDE NEW CONTROL DEVICES

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| CHECKED | CLA 09/2013 |

MANITO CAMBOA
FLORIDA P.E. # 44675
No. 44675



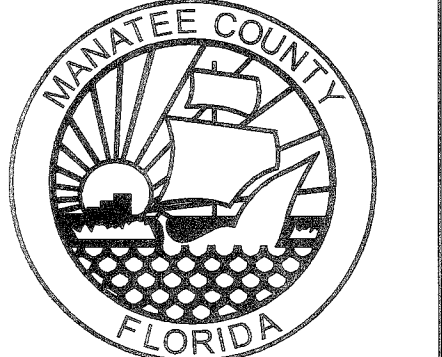
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**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
SLUDGE THICKENER No.2
POWER AND CONTROL**

KEY NOTES:

- 1 PROVIDE NEW FLEXIBLE CONDUIT TERMINATIONS AND WIRING FOR NEW POLYMER SKID1 AND SKID2 EQUIPMENT TO REPLACE EXISTING. SEE DWG E-10
- 2 CONCRETE PULL BOX, SIZE 48"Lx48"Wx36D.
- 3 EXIST. PULL BOX SHALL BE REMOVED VERIFY IF SPARE CONDUITS ARE ROUTED TO ELECTRIC ROOM
- 4 SAW-CUT CONCRETE PAD FOR NEW CONDUITS TRENCH AND PATCH CONCRETE TO MATCH EXISTING FINISH
- 5 VERIFY LOCATION OF THICKENER'S MISCELLANEOUS EQUIPMENT FOR REQUIRED POWER WIRING AND CONTROLS
- 6 NUMEROUS CONTROL CONDUITS AND WIRING BETWEEN THICKENER AND CONTROL PANEL TCP-2 SHALL BE PROVIDED BY EQUIPMENT VENDOR
- 7 POT HOLE TO UNCOVER PIPING UTILITIES PRIOR TO MACHINE TRENCHING

SEE DWG C-2 FOR
SLUDGE HOLDING TANK No 2

SEE DWG C-2 FOR
SLUDGE HOLDING TANK No 1

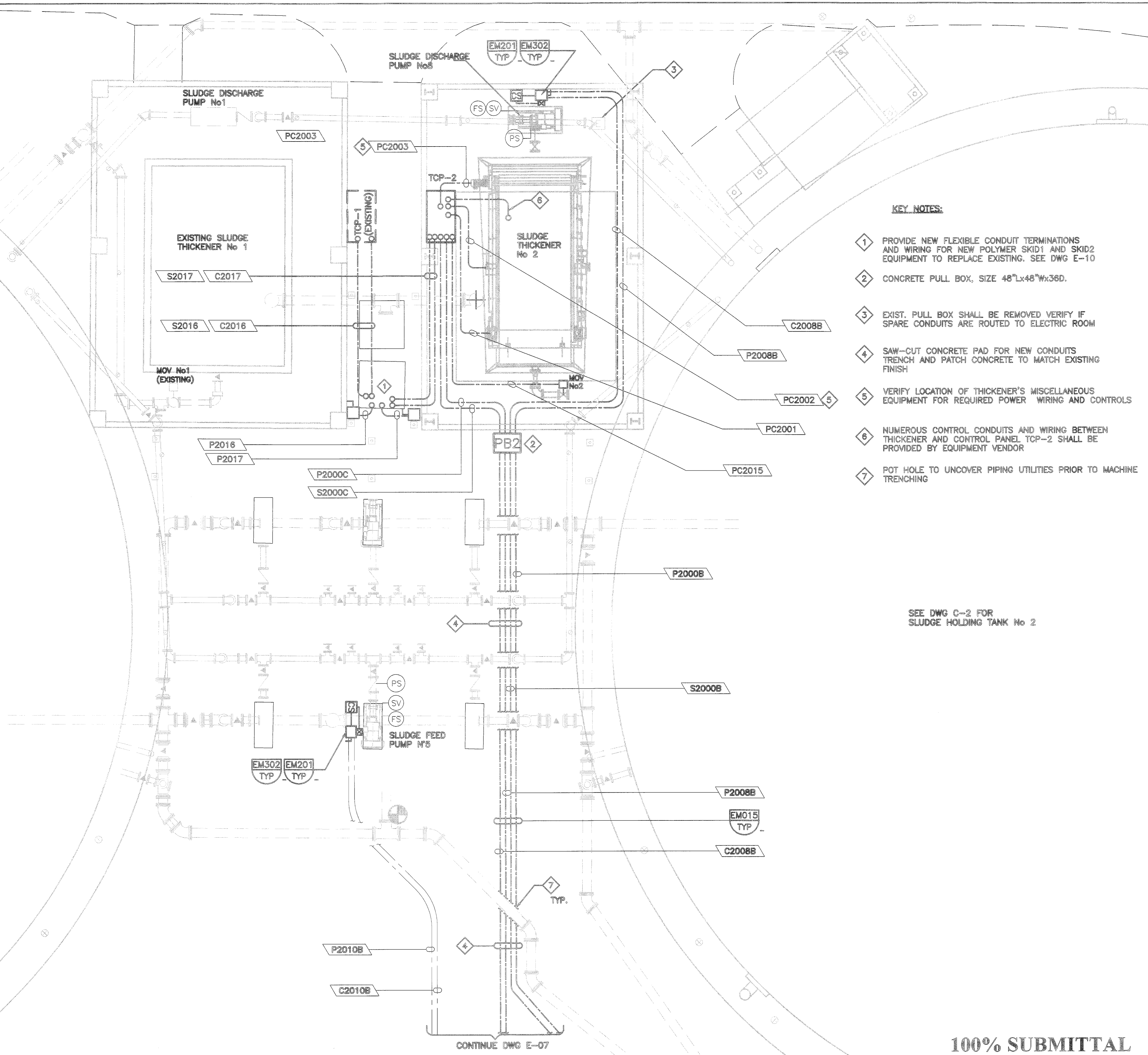
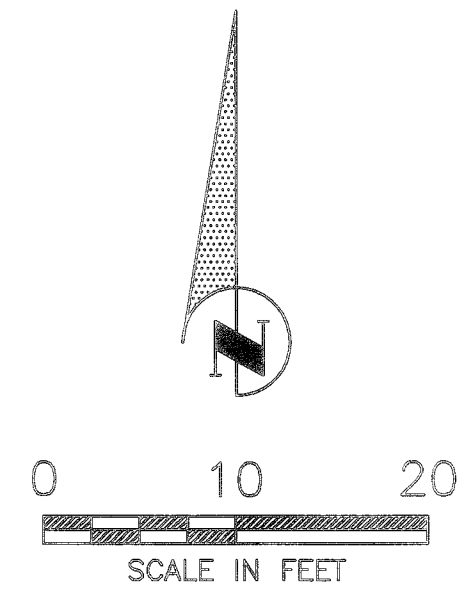
CONTINUE DWG E-07

A SLUDGE THICKENER No.2 POWER/CONTROL PLAN
SCALE: 1" = 10'
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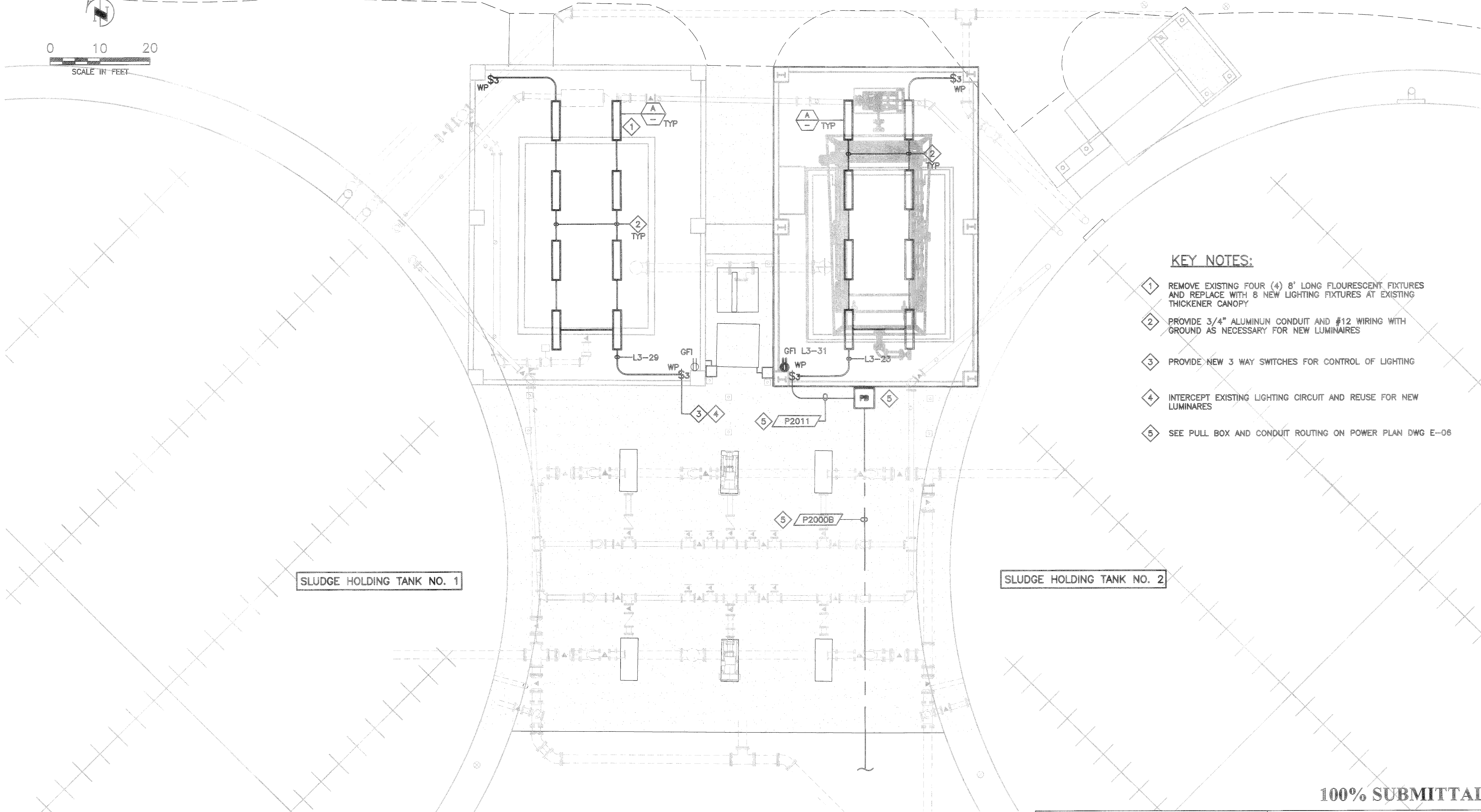
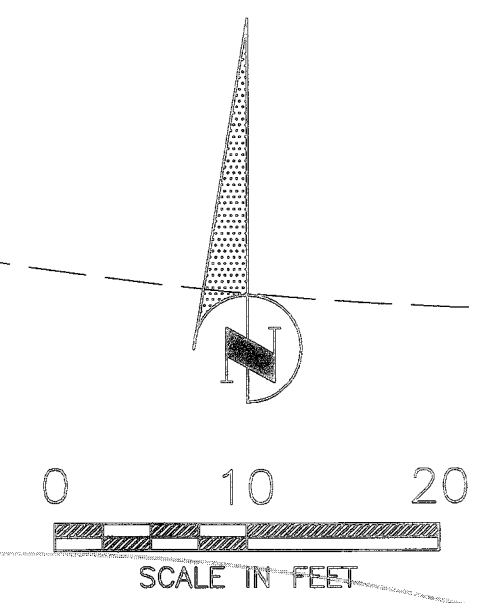
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MARIO A. CAMBOA
FLORIDA P.E. # 44675
No. 44675
Signature Date
11-01-13



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**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
THICKENER No.2 CANOPY LIGHTING PLAN**



- KEY NOTES:**
- 1 REMOVE EXISTING FOUR (4) 8' LONG FLOURESCENT FIXTURES AND REPLACE WITH 8 NEW LIGHTING FIXTURES AT EXISTING THICKENER CANOPY
 - 2 PROVIDE 3/4" ALUMINUM CONDUIT AND #12 WIRING WITH GROUND AS NECESSARY FOR NEW LUMINAIRES
 - 3 PROVIDE NEW 3 WAY SWITCHES FOR CONTROL OF LIGHTING
 - 4 INTERCEPT EXISTING LIGHTING CIRCUIT AND REUSE FOR NEW LUMINAIRES
 - 5 SEE PULL BOX AND CONDUIT ROUTING ON POWER PLAN DWG E-06

SLUDGE HOLDING TANK NO. 1

SLUDGE HOLDING TANK NO. 2

THICKENER No.2 CANOPY LIGHTING PLAN
SCALE: 1" = 10'
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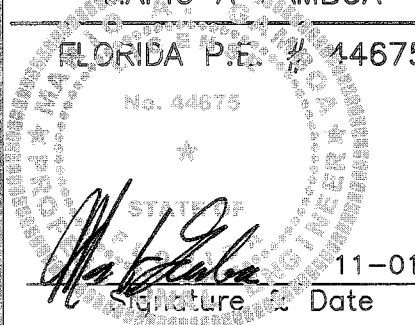
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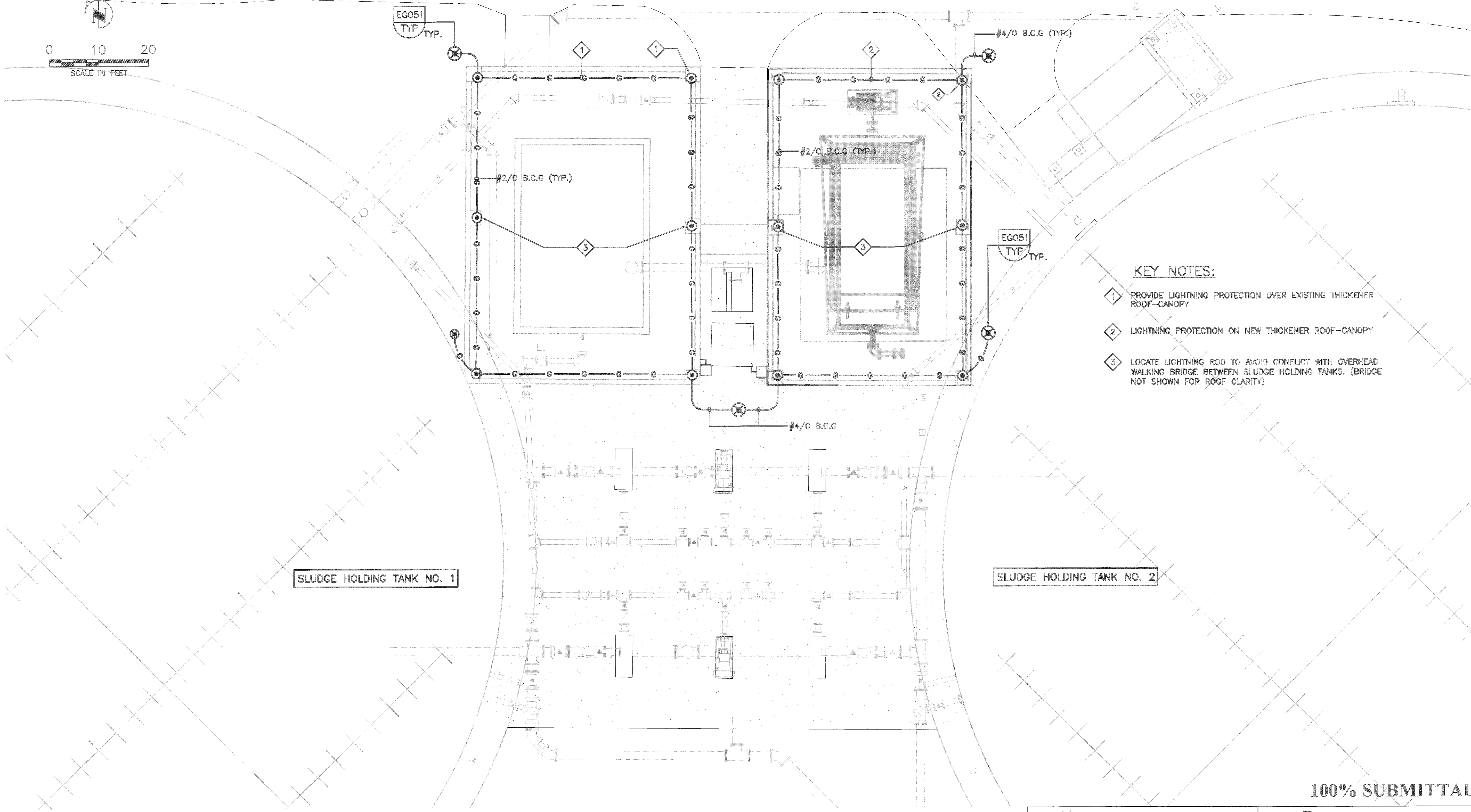
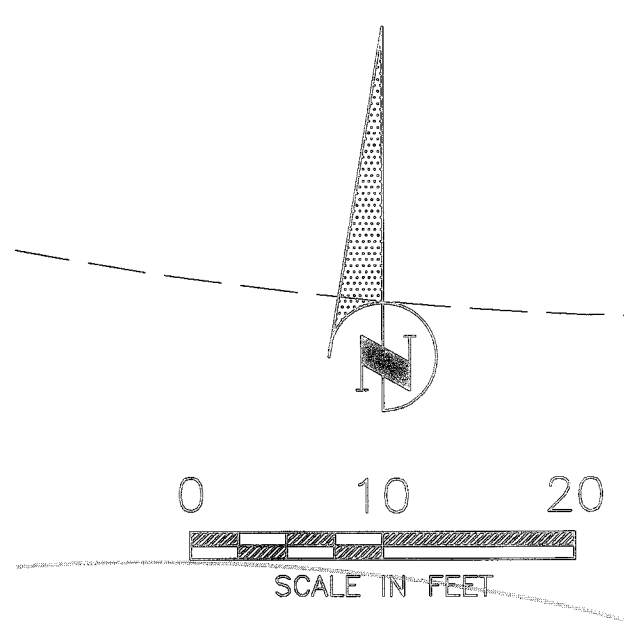
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MARIO A. CAMBOA
FLORIDA P.E. # 44675
No. 44675

Signature Date
11-01-13
SHEET E-08

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**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
LIGHTNING PROTECTION PLAN**



KEY NOTES:

- 1 PROVIDE LIGHTNING PROTECTION OVER EXISTING THICKENER ROOF-CANOPY
- 2 LIGHTNING PROTECTION ON NEW THICKENER ROOF-CANOPY
- 3 LOCATE LIGHTNING ROD TO AVOID CONFLICT WITH OVERHEAD WALKING BRIDGE BETWEEN SLUDGE HOLDING TANKS. (BRIDGE NOT SHOWN FOR ROOF CLARITY)

SLUDGE HOLDING TANK NO. 1

SLUDGE HOLDING TANK NO. 2

A THICKENER No.2 CANOPY LIGHTNING PROTECTION PLAN
SCALE: 1" = 10'
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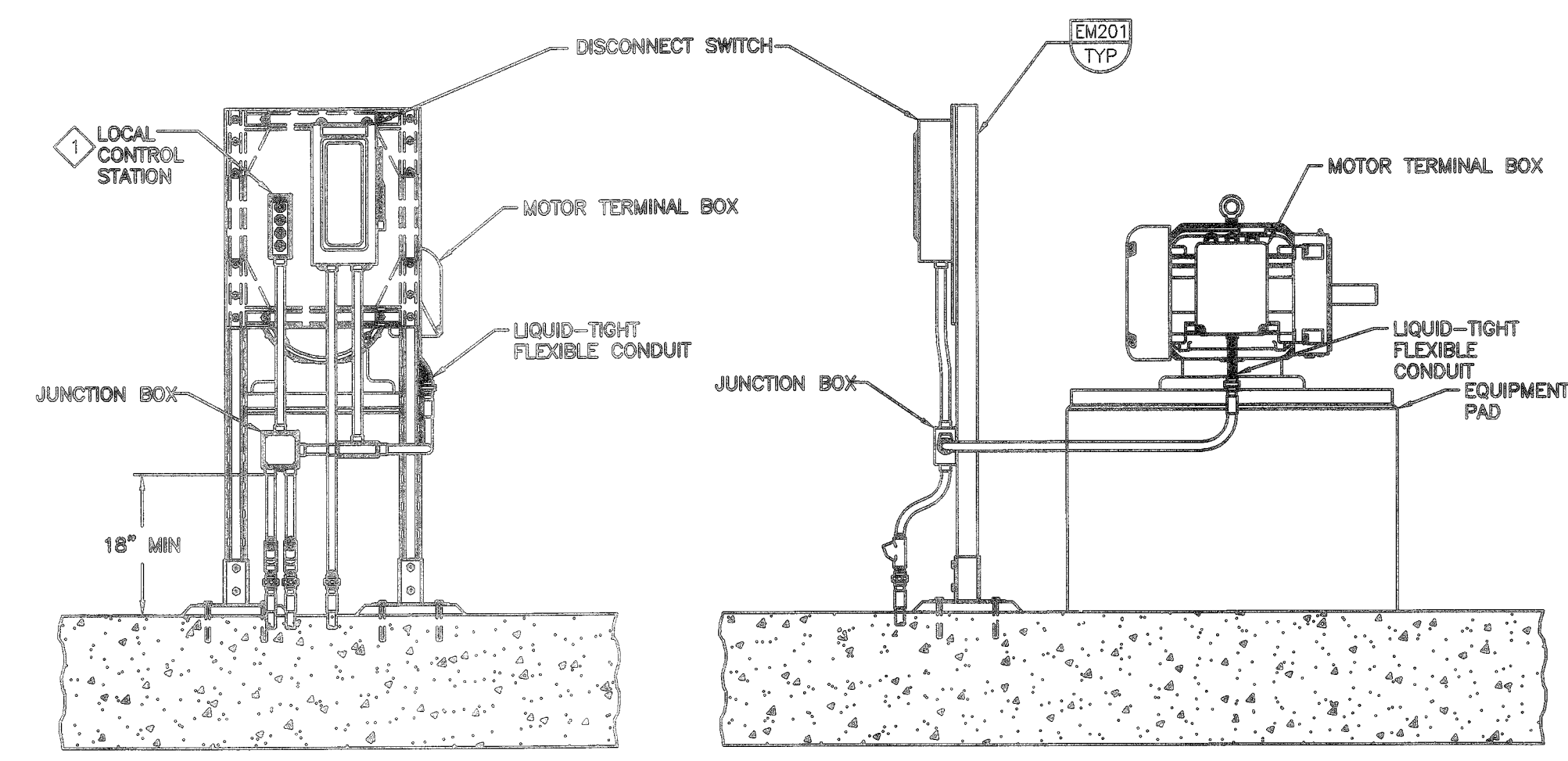
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MARIO CAMBOA
FLORIDA P.E. # 44675
No. 44675
Mario Camboa
Date 11-01-13
SHEET E-09

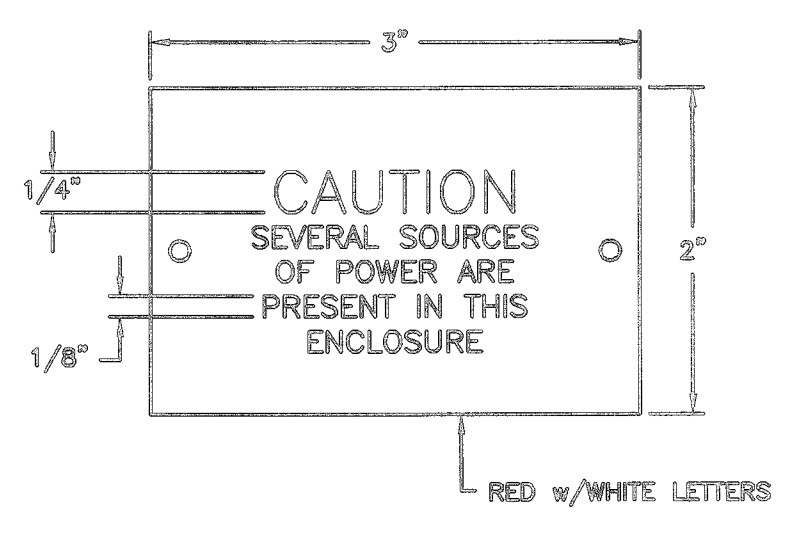
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SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
ELECTRICAL TYPICAL DETAILS

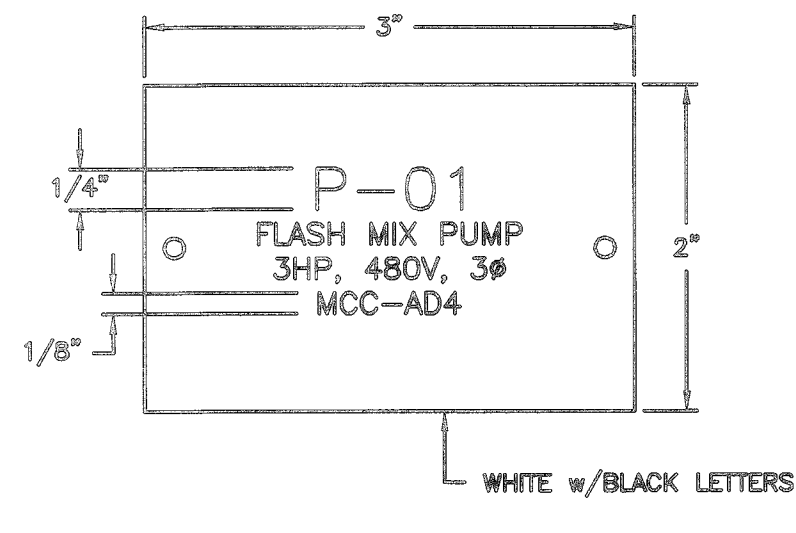


KEY NOTE:
① SIZE AS REQUIRED WITH CONTROLS INDICATED ON THE CONTRACT DOCUMENTS.

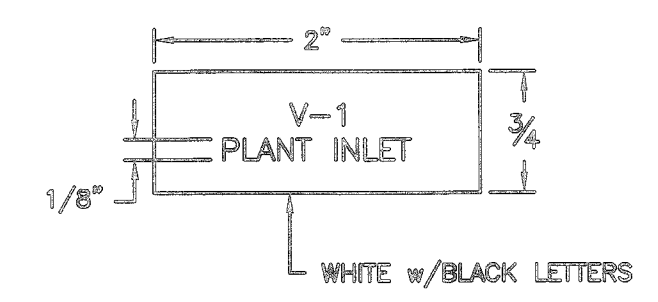
EM302 TYPICAL MOTOR INSTALLATION WITH DISCONNECT SWITCH
TYP S



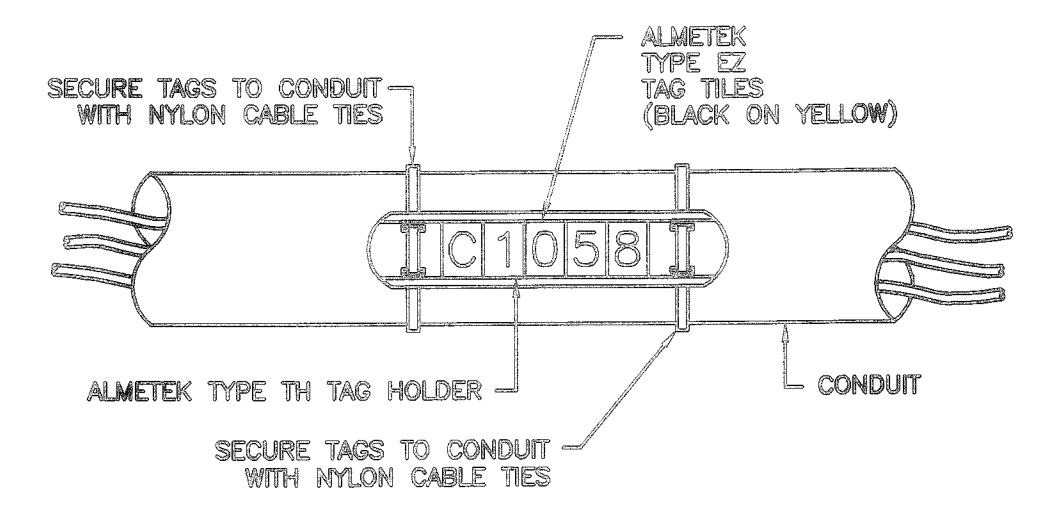
EN002 TYPICAL CAUTION NAMEPLATE
TYP S



EN003 TYPICAL DISCONNECT SWITCH NAMEPLATE
TYP S

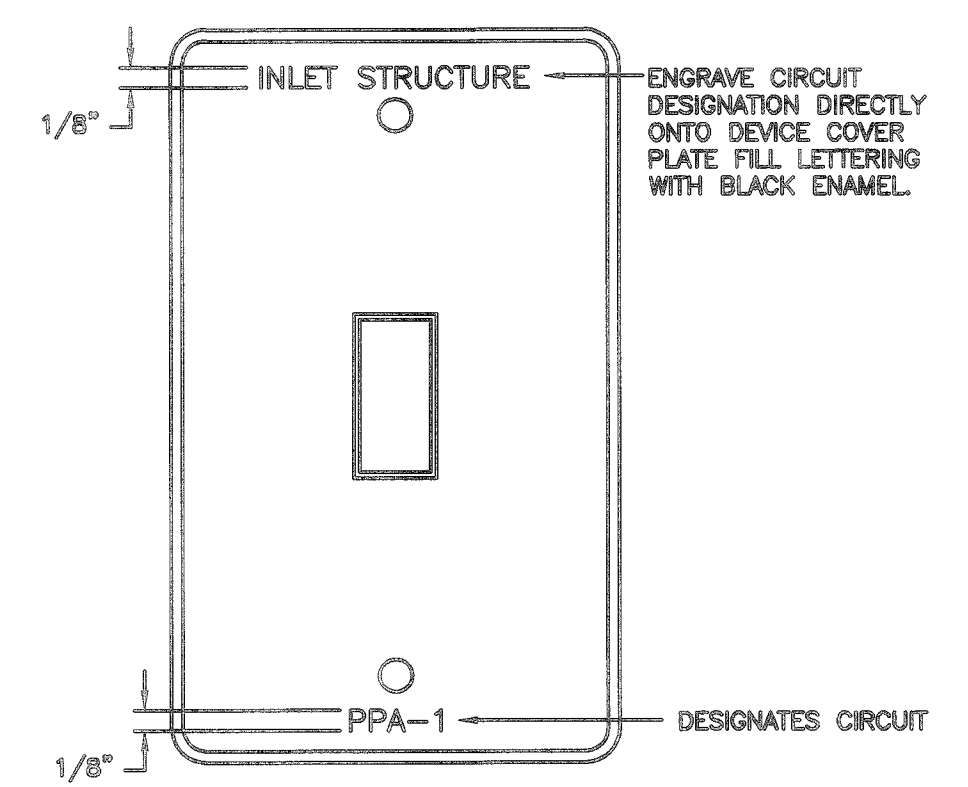


EN004 TYPICAL CONTROL DEVICE NAMEPLATE
TYP S



NOTES:
1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. MATERIAL FOR PREFORMED CHANNEL, FITTINGS, AND CLAMPS SHALL BE AS SPECIFIED IN SECTION 16070.
3. SUPPORTS TO BE SPACED IN ACCORDANCE WITH NEC REQUIREMENTS FOR THE SMALLEST CONDUIT ATTACHED.

EN006 TYPICAL CONDUIT MARKING SYSTEM
TYP S



EN008 TYPICAL NAMEPLATE FOR LUMINAIRE SWITCH COVERS
TYP S

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CONDUIT SCHEDULE

9/27/13

SEWRF - SLUDGE HOLDING TANKS IMPROVEMENTS MANATEE COUNTY

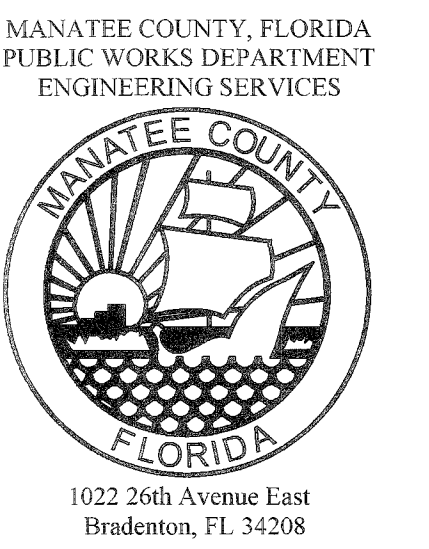
| CONDUIT | | CONDUCTORS | | | | GROUND | | | | |
|---------|----------------------|------------|----|------------|------------------|--------|------|--------|---|---------------------|
| NUMBER | DWG | SIZE | # | SIZE | TYPE | # | SIZE | TYPE | DESCRIPTION | CONNECTING SEGMENTS |
| P-2000A | E-03 E-07 | 2" | 3 | #8 | XHHW-2 | 1 | #10 | XHHW-2 | FR: MCC-7 TO: PB-1 3 #8 >> | |
| P-2000B | E-06 E-07 | 2" | 3 | #8 | XHHW-2 | 1 | #10 | XHHW-2 | FR: PB-1 TO: PB-2 3 #8 >> POWER FOR CTL PANEL TCP-2 4 #12 >> GBT LIGHTS AND RECEPTACLE | |
| P2000C | E-06 | 2" | 3 | #8 | XHHW-2 | 1 | #10 | XHHW-2 | FR: GBT No.2 CONTROL PANEL TCP-2 TO: PB-2 3 #8 >> | |
| E2000A | E-07 | 1" | 1 | PULL | ROPE | | | | FR: SCADA PNL SP-3 TO: PULL BOX PB-1 1 PULL >> SPARE EMPTY | |
| S2000A | E-03 E-07 | 2" | 1 | CAT6 | | | | | FR: SCADA PNL SP-3 TO: SPB-1 1 CAT6 >> | |
| S2000B | E-06 E-07 | 2" | 1 | CAT6 | | | | | FR: SPB-1 TO: PB-2 1 CAT6 >> | |
| S2000C | E-06 | 2" | 1 | CAT6 | | | | | FR: PB-2 TO: GBT No.2 CONTROL PANEL TCP-2 1 CAT6 >> | |
| PC-2001 | E-06 | 1" | 3 | #12 #14 | XHHW-2 XHHW-2 | 1 | #12 | XHHW-2 | FR: GBT No.2 CONTROL PANEL TCP-2 TO: WASTEWATER BOOSTER PUMP No. 2 3 #12 >> 2 #14 >> | |
| PC-2002 | E-06 | 1" | 3 | #12 #14 | XHHW-2 XHHW-2 | 1 | #12 | XHHW-2 | FR: GBT No.2 CONTROL PANEL TCP-2 TO: HIDRAULIC SYSTEM PUMP No. 2 3 #12 >> 2 #14 >> | |
| PC-2003 | E-06 | 1" | 3 | #12 #14 | XHHW-2 XHHW-2 | 1 | #12 | XHHW-2 | FR: GBT No.2 CONTROL PANEL TCP-2 TO: BELT DRIVE No. 2 3 #12 >> 2 #14 >> | |
| C-2004 | E-06 | 0.75" | 4 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: GBT No.2 CONTROL PANEL TCP-2 TO: GBT No. 2 MISCELLANEOUS DEVICES 4 #14 >> COORDINATE WITH GBT VENDOR | |
| C-2005 | E-06 | 0.75" | 4 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: GBT No.2 CONTROL PANEL TCP-2 TO: GBT No. 2 MISCELLANEOUS DEVICES 4 #14 >> COORDINATE WITH GBT VENDOR | |
| C-2006 | E-06 | 0.75" | 4 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: GBT No.2 CONTROL PANEL TCP-2 TO: GBT No. 2 MISCELLANEOUS DEVICES 4 #14 >> COORDINATE WITH GBT VENDOR | |
| P2008A | E-04 E-07 | 1" | 3 | #8 | XHHW-2 | 1 | #10 | XHHW-2 | FR: MCC-8 TO: VFD-308 3 #8 >> VFD-8 POWER | |
| P2008B | E-04 E-06 E-07 | 1" | 3 | #8 | XHHW-2 | 1 | #10 | XHHW-2 | FR: VFD-308 TO: SLUDGE DISCHARGE PUMP No.8 SWITCH 3 #8 >> VIA PULL BOX PB-2 | |
| P2008 | E-04 E-06 | 1" | 3 | #8 #14 | XHHW-2 XHHW-2 | 1 | #10 | XHHW-2 | FR: DISCHARGE PUMP No.2 SWITCH TO: DISCHARGE PUMP No.8 3 #8 >> POWER 2 #14 >> MOTOR OVERTEMP | |
| S2008 | E-04 | 1" | 2 | 2/CS-#16 | | 1 | #14 | XHHW-2 | FR: VFD-308 TO: SCADA PNL SP-3 2 2/CS-#16 >> | |
| C2008A | E-04 | 1" | 12 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: VFD-308 TO: SCADA PNL SP-3 12 #14 >> MISCELLANEOUS CONTROL WIRING | |
| C2008B | E-04 E-07 | 1" | 10 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: VFD-308 TO: DISCHARGE PUMP No.8 CTL STATION 4 #14 >> START-STOP 2 #14 >> MOTOR OVERTEMP 4 #14 >> SEAL WATER SOLENOID & FLOW SW VIA PULL BOX PB-2 | |
| C2008C | E-04 E-06 | 0.75" | 2 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: DISCHARGE PUMP No.8 CTL STATION TO: SEAL WATER SOLENOID 2 #14 >> | |

CONDUIT SCHEDULE

9/27/13

SEWRF - SLUDGE HOLDING TANKS IMPROVEMENTS MANATEE COUNTY

| CONDUIT | | CONDUCTORS | | | | GROUND | | | | |
|----------|----------------------|------------|----|------------|------------------|--------|------|--------|--|---------------------|
| NUMBER | DWG | SIZE | # | SIZE | TYPE | # | SIZE | TYPE | DESCRIPTION | CONNECTING SEGMENTS |
| C2008D | E-04 E-06 | 0.75" | 2 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: DISCHARGE PUMP No.8 CTL STATION TO: SEAL WATER FLOW SW 2 #14 >> | |
| P-2009 | E-07 | 0.75" | 4 | #12 | XHHW-2 | 1 | #12 | XHHW-2 | FR: PANEL L-3 TO: PULL BOX PB-1 4 #12 >> GBT LIGHTS AND RECEPTACLE | |
| P2010A | E-03 E-07 | 1" | 3 | #8 | XHHW-2 | 1 | #10 | XHHW-2 | FR: VFD-305 TO: VFD-305 3 #8 >> | |
| P2010B | E-03 E-06 E-07 | 1" | 3 | #8 | XHHW-2 | 1 | #10 | XHHW-2 | FR: VFD-305 TO: FEED PUMP No.5 SWITCH 3 #8 >> | |
| P2010C | E-03 E-06 | 1" | 3 | #8 #14 | XHHW-2 XHHW-2 | 1 | #10 | XHHW-2 | FR: FEED PUMP No.5 SWITCH TO: FEED PUMP No. 5 3 #8 >> POWER 2 #14 >> MOTOR OVERTEMP | |
| S2010 | E-03 | 1" | 2 | 2/CS-#16 | | | | | FR: VFD-305 TO: SCADA PNL SP-3 2 2/CS-#16 >> | |
| C2010A | E-03 | 1" | 12 | #14 | XHHW-2 | | | | FR: VFD-305 TO: SCADA PNL SP-3 12 #14 >> CONTROL WIRING | |
| C2010B | E-03 E-06 E-07 | 1" | 10 | #14 | XHHW-2 | | | | FR: VFD-305 TO: FEED PUMP No. 5 CTL STATION 4 #14 >> START-STOP 2 #14 >> MOTOR OVERTEMP 4 #14 >> SEAL WATER SOLENOID & FLOW SW VIA PORTION OF EXIST CONDUIT | |
| C2010C | E-06 | 0.75" | 2 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: FEED PUMP No.5 CTL STATION TO: SEAL WATER SOLENOID 2 #14 >> | |
| C2010D | E-06 | 0.75" | 2 | #14 | XHHW-2 | 1 | #14 | XHHW-2 | FR: FEED PUMP No.5 CTL STATION TO: SEAL WATER FLOW SW 2 #14 >> | |
| P2011 | E-08 | 0.75" | 4 | #12 | XHHW-2 | 1 | #12 | XHHW-2 | FR: PULL BOX PB-2 TO: GBT No.2 RECEPTACLE OUTLET 4 #12 >> | |
| PC2015 | E-03 E-06 | 1" | 3 | #12 #14 | XHHW-2 XHHW-2 | 1 | #12 | XHHW-2 | FR: THICKENER CTL PANEL TCP-2 TO: SLUDGE VALVE MOV-2 3 #12 >> POWER 4 #14 >> OPEN & CLOSE CONTROL 6 #14 >> OPEN, CLOSE & FAIL STATUS | |
| P-2016 A | E-06 | 0.75" | 3 | #12 | XHHW-2 | 1 | #12 | XHHW-2 | FR: EXIST POLYMER J. BOX TO: POLYMER SKID No. 1 DISCONNECT SWITCH 3 #12 >> INTERCEPT EXIST POWER CIRCUIT | |
| P-2016 B | E-06 | 0.75" | 3 | #12 | XHHW-2 | 1 | #12 | XHHW-2 | FR: POLYMER SKID No. 1 DISCONNECT SWITCH TO: POLYMER SKID No. 1 TERMINAL BOX 3 #12 >> | |
| C-2016 | E-06 | 0.75" | 2 | #12 #14 | XHHW-2 XHHW-2 | 1 | #14 | XHHW-2 | FR: GBT CONTROL PANEL TCP-1 TO: POLYMER SKID No. 1 2 #12 >> VIA EXISTING CONDUIT 8 #14 >> VERIFY WITH POLYMER VENDOR | |
| S-2016 | E-06 | 0.75" | 2 | 2/CS-#16 | | | | | FR: GBT CONTROL PANEL TCP-1 TO: POLYMER SKID No. 1 2 2/CS-#16 >> SPEED CTL SIGNALS VIA EXISTING CONDUIT | |
| P-2017 A | E-06 | 0.75" | 3 | #12 | XHHW-2 | 1 | #12 | XHHW-2 | FR: EXIST POLYMER J. BOX TO: POLYMER SKID No. 2 DISCONNECT SWITCH 3 #12 >> INTERCEPT EXIST POWER CIRCUIT | |
| P-2017 B | E-06 | 0.75" | 3 | #12 | XHHW-2 | 1 | #12 | XHHW-2 | FR: POLYMER SKID No. 2 DISCONNECT SWITCH TO: POLYMER SKID No. 2 TERMINAL BOX 3 #12 >> | |
| C-2017 | E-06 | 0.75" | 2 | #12 #14 | XHHW-2 XHHW-2 | 1 | #12 | XHHW-2 | FR: GBT CONTROL PANEL TCP-2 TO: POLYMER SKID No. 2 2 #12 >> 8 #14 >> VERIFY WITH POLYMER VENDOR | |
| S-2017 | E-06 | 0.75" | 2 | 2/CS-#16 | | 1 | #14 | XHHW-2 | FR: GBT CONTROL PANEL TCP-2 TO: POLYMER SKID No. 2 2 2/CS-#16 >> SPEED CTL SIGNALS | |



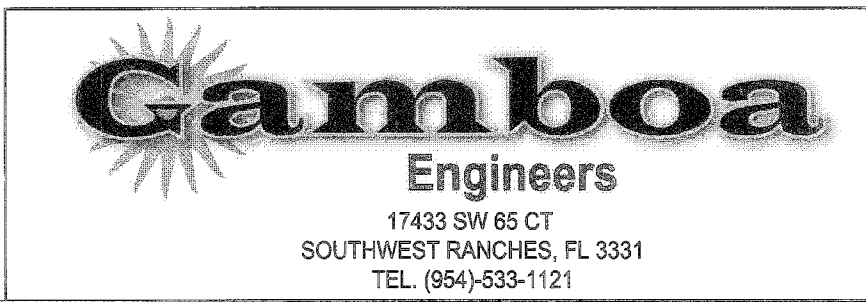
SOUTHEAST WATER RECLAMATION FACILITY
 SLUDGE HOLDING TANK IMPROVEMENTS
 CONDUIT SCHEDULE

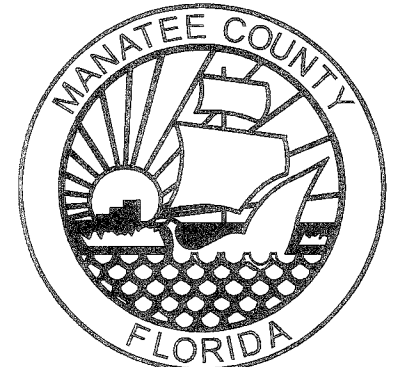
| NO. | REVISION DESCRIPTION | BY | DATE |
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| PROJECT # | 177310544 |
| SURVEY # | ### |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | N.T.S. |
| SURVEYED | |
| DESIGNED | MAG 09/2013 |
| DRAWN | MV 09/2013 |
| CHECKED | CLA 09/2013 |

MARIO CAMBOA
 FLORIDA P.E. # 44675
 No. 44675
 11-01-13
 Date

100% SUBMITTAL





**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
PROCESS AND INSTRUMENTATION
LEGEND II**

VALVE AND PIPING SYMBOLS

| | | | |
|--|------------------------------------|--|---------------------------------|
| | GLOBE VALVE | | BASKET TYPE STRAINER |
| | GATE VALVE | | Y-TYPE STRAINER |
| | BUTTERFLY VALVE | | DUPLIX STRAINER |
| | CHECK VALVE - SWING | | SLEEVE COUPLING (SC) |
| | CHECK VALVE - FLAPPER | | FLOOR DRAIN |
| | PLUG VALVE | | EQUIPMENT DRAIN |
| | 3-WAY VALVE | | CLEANOUT (CO) |
| | ANGLE VALVE | | REMOVABLE PLUG |
| | RELIEF OR SAFETY VALVE | | REMOVABLE CAP |
| | DIAPHRAGM VALVE | | BLIND FLANGE |
| | BALL VALVE | | EXHAUST TO ATMOSPHERE (INSIDE) |
| | PRESSURE REGULATING VALVE | | EXHAUST TO ATMOSPHERE (OUTSIDE) |
| | KNIFE GATE VALVE | | REDUCER |
| | BACKFLOW PREVENTER | | UNION |
| | FLEXIBLE HOSE | | QUICK DISCONNECT COUPLING |
| | ROTAMETER | | GAUGE SEAL |
| | DRYER | | SILENCER |
| | HEAT EXCHANGE | | EXPANSION JOINT |
| | LUBRICATOR | | AIR RELIEF VALVE |
| | FILTER | | PULSATION DAMPENER |
| | FLUSHING PORT | | |
| | POLYMER INJECTION PORT W/ REDUCERS | | |

VALVE OPERATOR SYMBOLS

| | | | |
|--|-----------------|--|---------------------------|
| | SOLENOID | | DIAPHRAGM WITH POSITIONER |
| | MOTOR, ELECTRIC | | HANDWHEEL OR LEVER |
| | DIAPHRAGM | | CHAINWHEEL |

PRIMARY ELEMENT SYMBOLS - FLOW

| | | | |
|--|-------------------------|--|---------------------------------|
| | ORIFICE PLATE | | TURBINE OR PROPELLER TYPE METER |
| | PILOT TUBE | | MAGNETIC FLOW METER |
| | VENTURI TUBE FLOW METER | | STATIC MIXER |
| | TOTALIZING FLOWMETER | | SLIDE GATE |
| | CALIBRATION TUBE | | PROBE |
| | FLUME | | FLOAT SWITCH |
| | WEIR | | LEVEL RADAR |
| | | | FLOW SWITCH |

GENERAL INSTRUMENT SYMBOLS

| | | | | |
|--|--------------|--|---------------|-------------------------------------|
| | ONE VARIABLE | | TWO VARIABLES | |
| | | | | FIELD MOUNTED |
| | | | | PANEL MOUNTED |
| | | | | INTERLOCK |
| | | | | PROGRAMMABLE LOGIC CONTROLLER (PLC) |
| | | | | HUMAN MACHINE INTERFACE (HMI) |
| | | | | SCADA SCREEN |

LINE SYMBOLS

| | |
|--|---|
| | WATER STREAMS |
| | SOLIDS STREAMS |
| | SECONDARY WATER STREAMS |
| | PNEUMATIC SIGNAL / COMPRESSED AIR LINE |
| | CHEMICAL FEED LINE |
| | ELECTRIC / CONTROL SIGNAL |
| | CAPILLARY TUBING (FILLED SYSTEM) |
| | HYDRAULIC SIGNAL |
| | ELECTROMAGNETIC OR SONIC SIGNAL NO WIRING OR TUBING |
| | SOFTWARE (SIGNAL) INTERFACE |

EQUIPMENT SYMBOLS

| | |
|--|-------------------------|
| | CENTRIFUGAL PUMP |
| | PNEUMATIC PUMP |
| | SCREW CONVEYOR |
| | METERING PUMP |
| | PISTON PUMP |
| | BLOWER |
| | KNOCKOUT TANK |
| | AIR COMPRESSOR (AC) |
| | MIXER |
| | PROGRESSIVE CAVITY PUMP |
| | SUBMERSIBLE PUMP |

PROCESS LINE ABBREVIATIONS

| | |
|-----|---------------------------|
| AIR | AIR, ATMOSPHERIC PRESSURE |
| BW | BACKWASH |
| CA | COMPRESSED AIR |
| CGA | CHLORINE CONTAMINATED AIR |
| CGW | CONTAMINATED GROUNDWATER |
| D | DRAIN |
| EFF | EFFLUENT |
| EXH | EXHAUST |
| FLT | FILTRATE |
| FTW | FILTER-TO-WASTE |
| NPW | NON-POTABLE WATER |
| OZE | OZONE GAS |
| P | PRODUCT |
| PW | POTABLE WATER |
| RW | RAW WATER |
| S | SANITARY |
| SL | SLUDGE |
| SN | SUPERNATANT |
| SP | SAMPLE PORT |
| SS | STORM SEWER |
| TF | TOTAL FLUIDS |
| TW | TREATED WATER |
| V | VENT |
| VAP | VAPOR |

PIPING MATERIAL IDENTIFICATION

| | |
|------|--------------------------------|
| CPVC | CHLORINATED POLYVINYL CHLORIDE |
| CSP | CARBON STEEL PIPE |
| COP | COPPER |
| CMP | CORRUGATED METAL PIPE |
| CIP | CAST IRON PIPE |
| DIP | DUCTILE IRON PIPE |
| FRP | FIBERGLASS REINFORCED PIPE |
| GSP | GALVANIZED STEEL PIPE |
| HDPE | HIGH DENSITY POLYETHYLENE PIPE |
| PE | POLYETHYLENE PIPE |
| PP | POLYPROPYLENE PIPE |
| PVC | POLYVINYL CHLORIDE PIPE |
| RCP | REINFORCED CONCRETE PIPE |
| RUB | RUBBER |
| SS | STAINLESS STEEL PIPE |
| VCP | VITRIFIED CLAY PIPE |

EQUIPMENT NOTATION ABBREVIATIONS

| | | | |
|-----|-------------------------------------|-----|---------------------------------------|
| AC | AIR COMPRESSOR | L | LAUNDRY |
| AH | ANNULAR | MX | MIXER |
| ARV | AIR RELIEF VALVE | P | PUMP |
| B | BLOWER | PCV | PRESSURE CONTROL VALVE |
| BFP | BELT FILTER PRESS | PD | PULSATION DAMPENER |
| BP | BOOSTER PUMP | RM | ROTAMETER |
| BPD | BACKFLOW PREVENTION DEVICE | S | STORAGE |
| C | CATALYST | SC | SCALE |
| CC | CALIBRATION COLUMN | SIL | SILENCER |
| CH | CHLORINATOR | SM | STATIC MIXER |
| CV | CHECK VALVE | SP | SAMPLE PUMP |
| D | DIFFUSERS | SV | SOLENOID VALVE |
| FC | FILTER CELL | SW | STILLING WELL |
| FE | FLOW ELEMENT, ORIFICE PLATE | T | TANK |
| FM | FLOW METER | V | VIBRATOR |
| FD | RESTRICTION ORIFICE TO CUT PRESSURE | VR | AUTOMATIC SWITCHOVER VACUUM REGULATOR |
| FV | FLOW VALVE | W | W / TRAP & FILTER |
| GC | GRIT CLASSIFIER | WP | ADJUSTABLE WEIR PLATE |
| GT | GRAVITY THICKENER | WW | WETWELL |
| H | HYDROCYCLONE | | |
| HP | HOPPER | | |
| HV | HAND VALVE | | |
| IN | INJECTOR | | |

FUNCTION ABBREVIATIONS

| | |
|-----------------|--|
| < | LOW SELECT |
| > | HIGH SELECT |
| A | ANALOG |
| ALT | ALTERNATE |
| BFC | BALLASTED FLOCCULATION / CLARIFICATION |
| BRG | BEARING |
| Cl ₂ | CHLORINE RESIDUAL |
| CS | CONTROL STATION |
| D | DIGITAL |
| DO | DISSOLVED OXYGEN |
| dP | DIFFERENTIAL PRESSURE |
| I | INTERNAL INDICATOR |
| FC | FAIL CLOSED |
| ES | EMERGENCY SHUTDOWN |
| FI | FAIL INDETERMINATE |
| FL | FAIL LOCKED |
| FO | FAIL OPEN |
| HMI | HUMAN MACHINE INTERFACE |
| I/I | CURRENT-TO-CURRENT |

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| DATE | | | | | |
| BY | | | | | |
| REVISION DESCRIPTION | | | | | |
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| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | N/A |
| SURVEYED | |
| DESIGNED | MAG 09/2013 |
| DRAWN | JB 09/2013 |
| CHECKED | CLA 09/2013 |

MANITO CAMBOA
FLORIDA P.E. # 44675
No. 44675
11-01-13
Date

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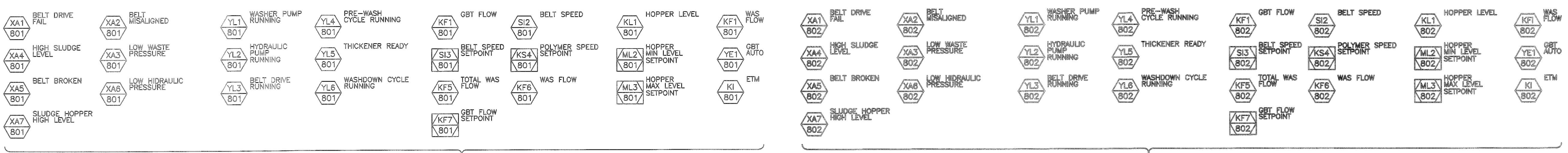
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PLC & SCADA SCREEN

OPERATOR INTERFACE / CONTROL DEVICES - GBT PLC

FIELD

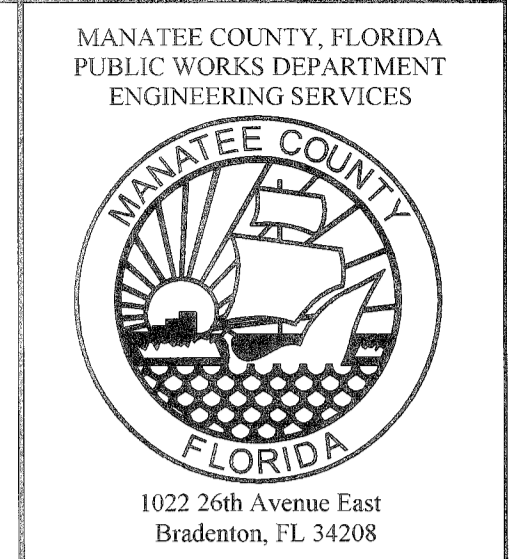
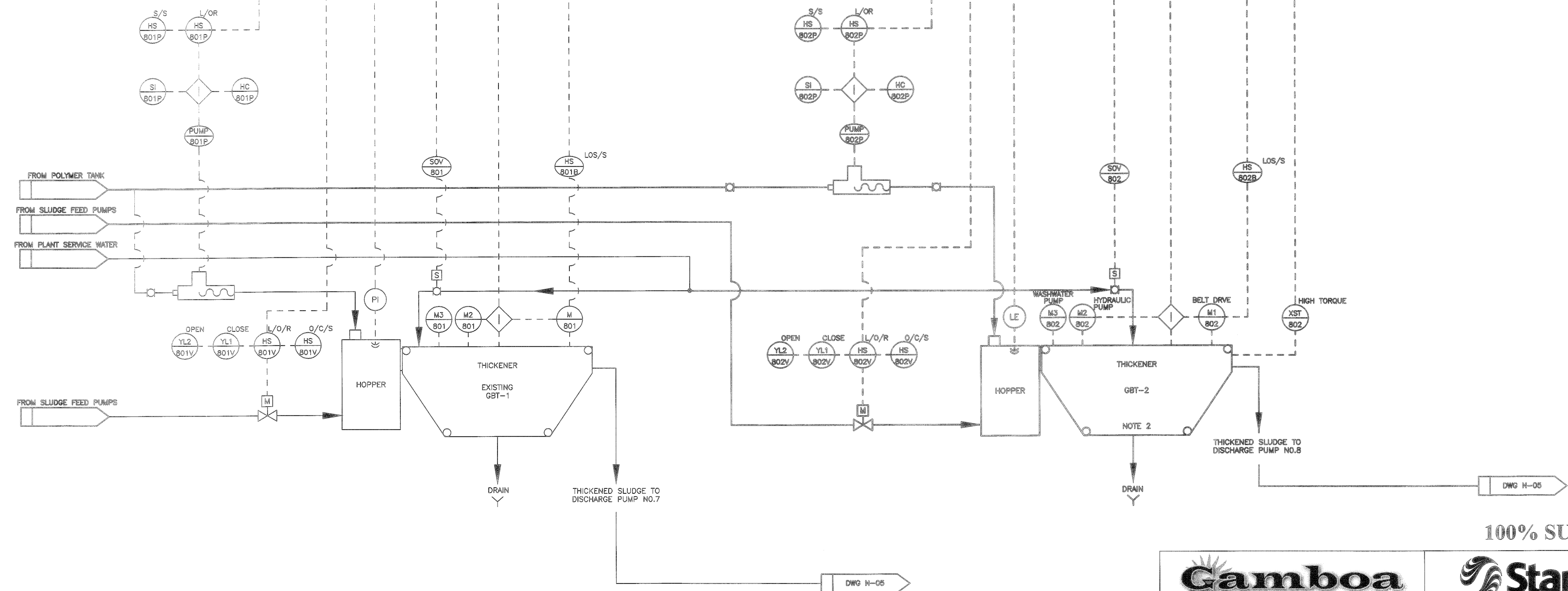
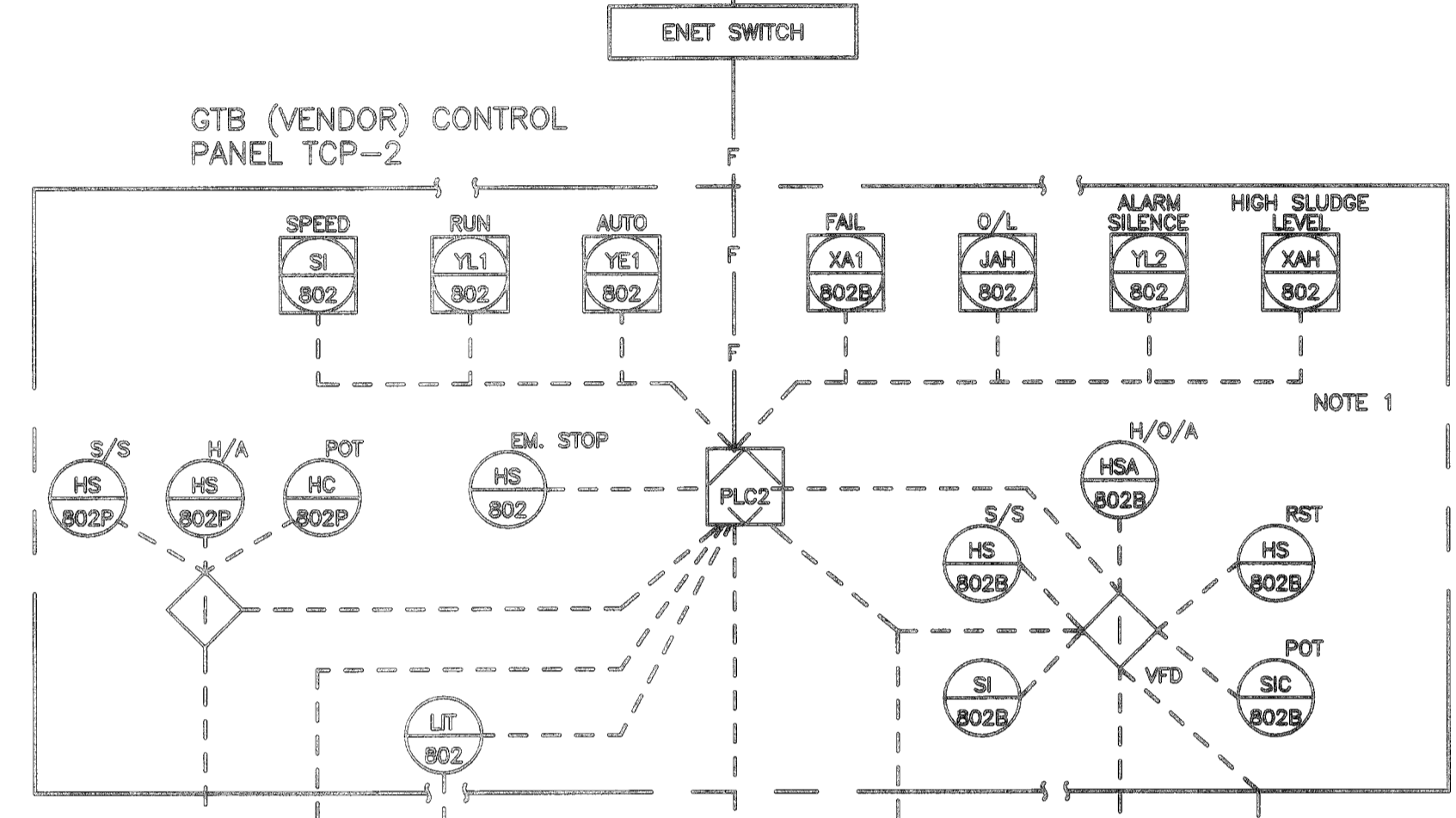
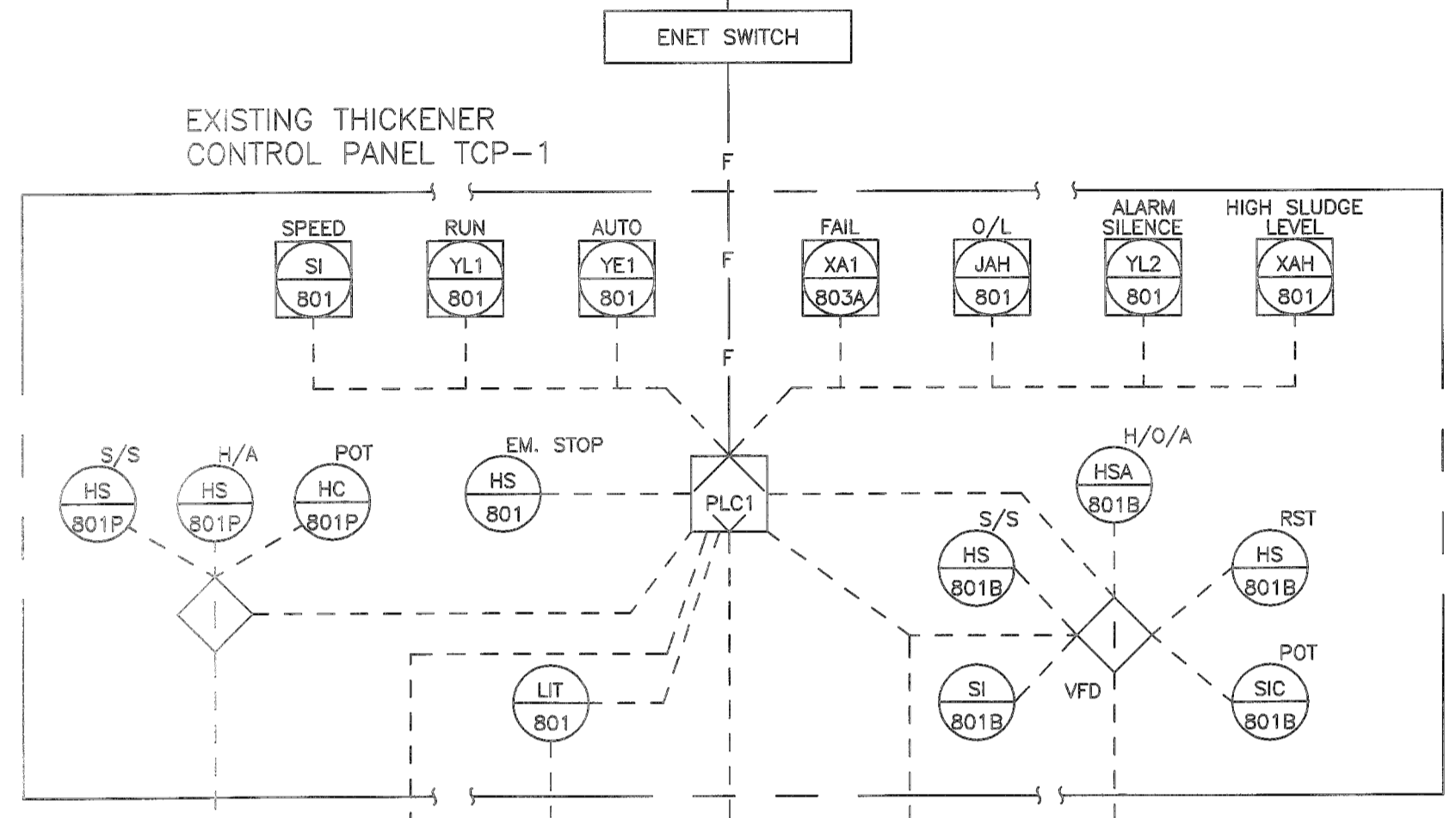


GENERAL NOTES:

- ALL EQUIPMENT AND INSTRUMENT TAGS ON THIS DRAWING SHALL HAVE PREFIX "THICK".
- SEE EQUIPMENT SPECIFICATIONS SECTION 11230 FOR ADDITIONAL REQUIREMENTS.
- THIS P&ID IS GENERIC FOR MULTIPLE GBT MANUFACTURERS. THE TOTAL QUANTITY OF REQUIRED CONTROLS WILL VARY ACCORDING TO THE MANUFACTURER. THE MANUFACTURER SHALL SUBMIT, WITH EQUIPMENT SHOP DRAWINGS, A COMPLETE P&ID FOR THE PERTINENT TYPE OF GBT EQUIPMENT AND SHOW ALL INTERCONNECTIONS WITH RELATED EQUIPMENT.

SHEET NOTES:

- ALL CONTROL DEVICES AND INDICATING LIGHTS IN TCP-2 ARE SHOWN ON PANEL FRONT VIEW AND SCHEDULE DWG N-06.



**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
PROCESS AND INSTRUMENTATION
THICKENER NO. 2 DIAGRAM**

| NO. | REVISION DESCRIPTION | BY | DATE |
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| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | N/A |
| SURVEYED | BY DATE |
| DESIGNED | MAG 09/2013 |
| DRAWN | JB 09/2013 |
| CHECKED | CLA 09/2013 |

MARIO CAMBOA
FLORIDA P.E. # 44675
No. 44675
11-01-13
Date

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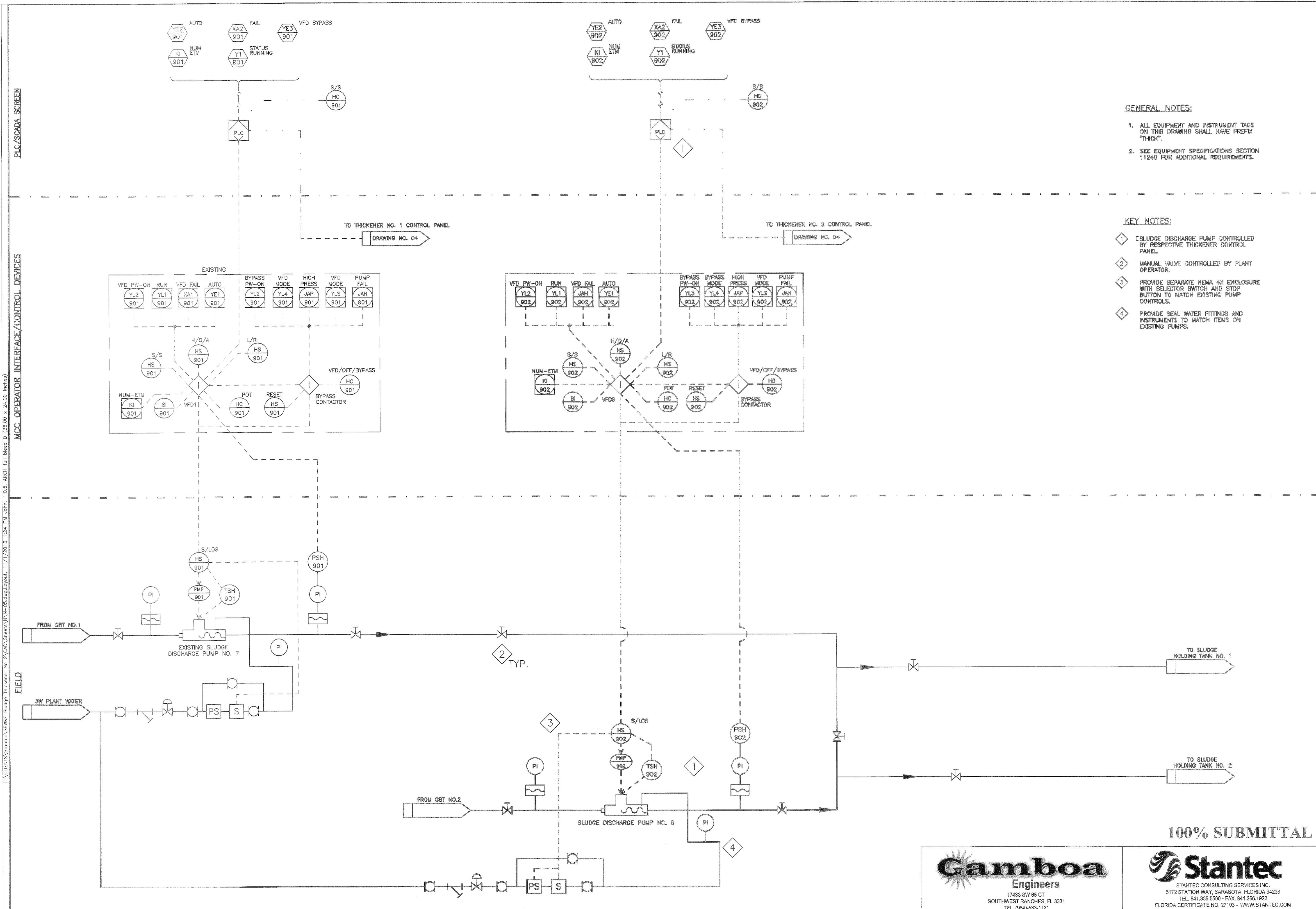
**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
PROCESS AND INSTRUMENTATION
SLUDGE TRANSFER PUMPS & FLOW METER DIAGRAM**

GENERAL NOTES:

- ALL EQUIPMENT AND INSTRUMENT TAGS ON THIS DRAWING SHALL HAVE PREFIX "THICK".
- SEE EQUIPMENT SPECIFICATIONS SECTION 11240 FOR ADDITIONAL REQUIREMENTS.

KEY NOTES:

- SLUDGE DISCHARGE PUMP CONTROLLED BY RESPECTIVE THICKENER CONTROL PANEL.
- MANUAL VALVE CONTROLLED BY PLANT OPERATOR.
- PROVIDE SEPARATE NEMA 4X ENCLOSURE WITH SELECTOR SWITCH AND STOP BUTTON TO MATCH EXISTING PUMP CONTROLS.
- PROVIDE SEAL WATER FITTINGS AND INSTRUMENTS TO MATCH ITEMS ON EXISTING PUMPS.



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| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | N/A |
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| DESIGNED | MAG 10/2013 |
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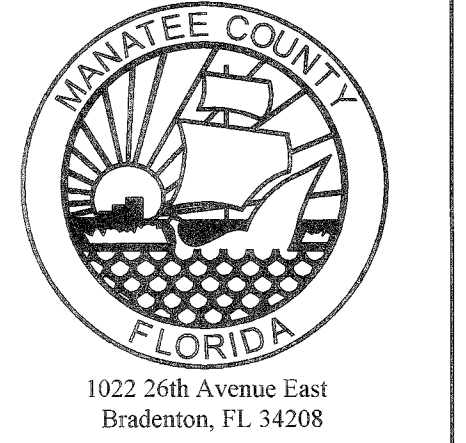
MARIO CAMBOA
FLORIDA P.E. # 44675
No. 44675
Date 11-01-13
SHEET N-05

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MCC OPERATOR INTERFACE/CONTROL DEVICES
 PLC/SCADA SCREEN

FIELD
 IN:\CLIENTS\Stantec\SEWP\Sludge Thickener No 2\CAD\Sheets\N-05.dwg, Layout: 11/7/2013 1:24 PM, John, 1:0.5, ACH, full bleed D (36.00 x 24.00 inches)



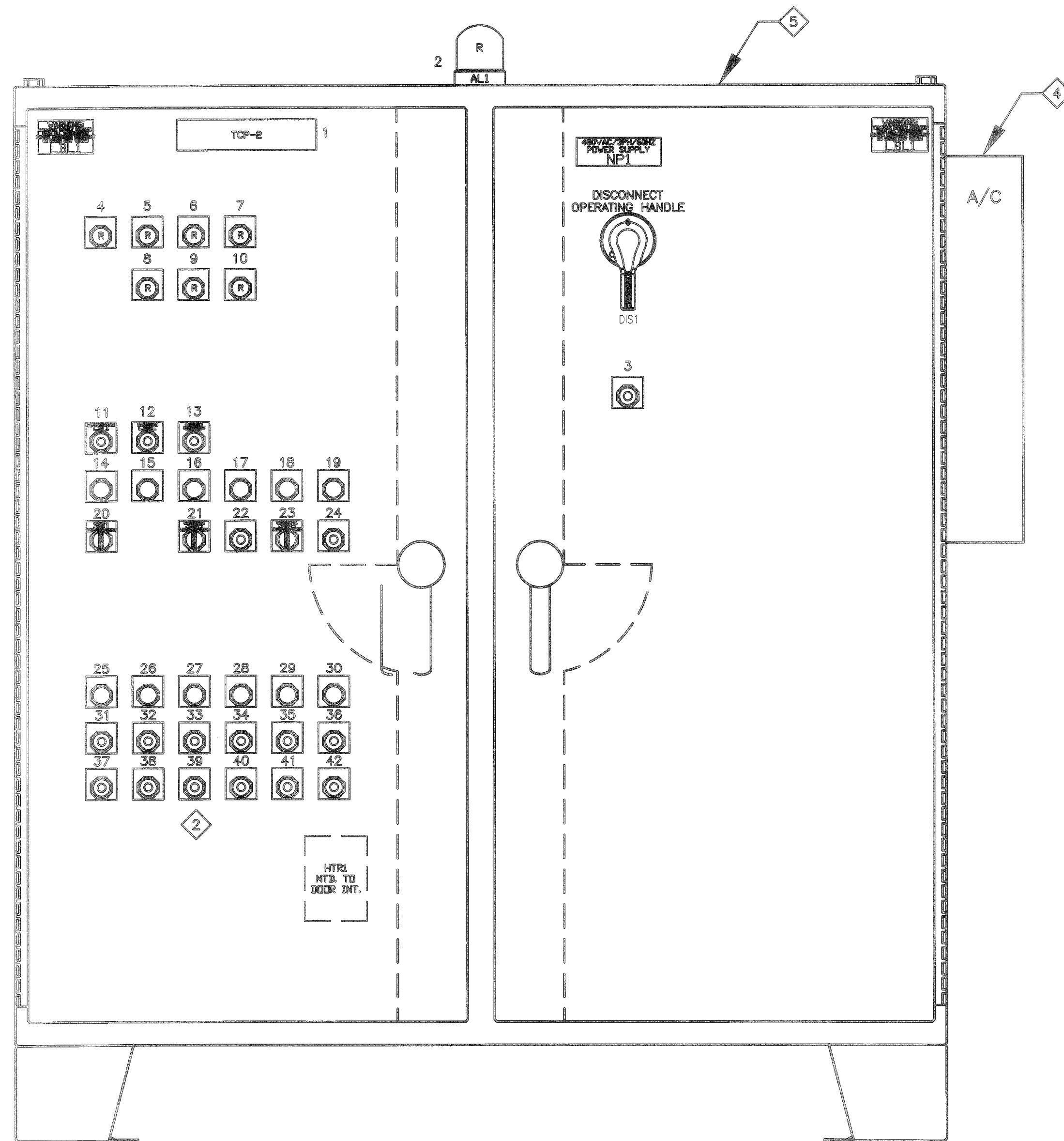
**SOUTHEAST WATER RECLAMATION FACILITY
SLUDGE HOLDING TANK IMPROVEMENTS
PROCESS AND INSTRUMENTATION
THICKENER CONTROL PANEL TCP-2**

KEY NOTES:

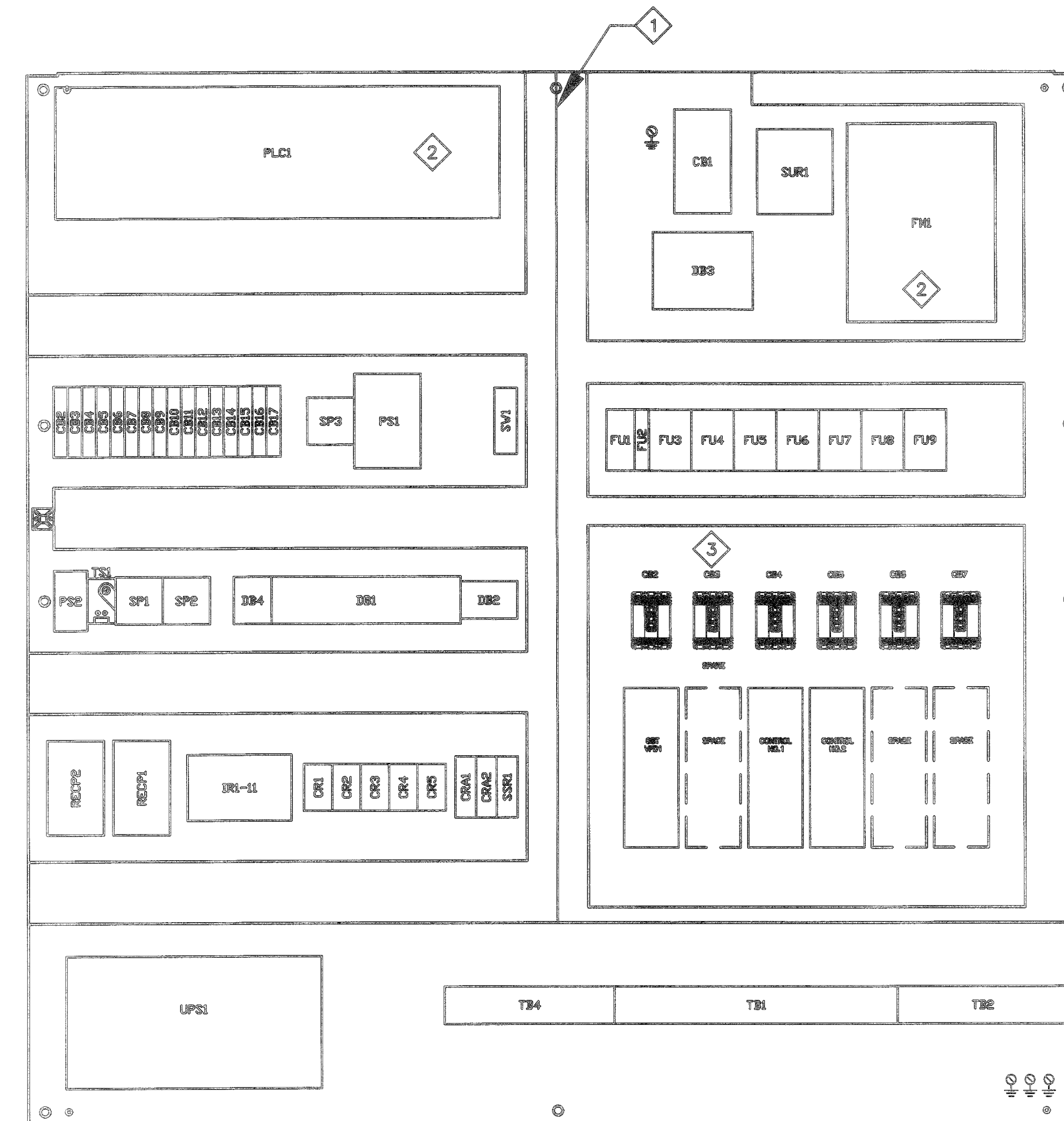
- 1 THE CONTROL PANEL SHALL BE PROVIDED WITH STEEL BARRIER FOR HIGH VOLTAGE ISOLATION FROM LOW VOLTAGE.
- 2 THE CONTROL PANEL FRONT VIEW AND CONCEPTUAL LAYOUT SHOWS BASIC COMPONENTS. HOWEVER, THE PANEL SHALL BE CUSTOM MADE AND IT SHALL INCLUDE ALL NECESSARY EQUIPMENT IN ACCORDANCE WITH REQUIREMENTS SPECIFIED IN SECTION 11230 AND ACCORDING TO THE MANUFACTURER OF THICKENER EQUIPMENT.
- 3 SPARE BREAKER. SAME RATING AS CB2
- 4 PROVIDE AIR CONDITIONING UNIT.
- 5 CONTROL PANEL ENCLOSURE SHALL BE 316 S.S. MATERIAL, NEMA 4X WITH EXTERIOR PAINTED "WHITE".

THE CONTROL PANEL SHALL BE PROVIDED WITH FOLLOWING DEVICES

| Nº | DESCRIPTION | Nº | DESCRIPTION | Nº | DESCRIPTION | Nº | DESCRIPTION | Nº | DESCRIPTION | Nº | DESCRIPTION |
|----|-------------------------|----|------------------------|----|----------------------|----|-------------------------------|----|-------------------------|----|------------------------|
| 1 | THICKENER CONTROL PANEL | 2 | LOW HYDRAULIC PRESSURE | 17 | PREWASH CYCLE ON | 25 | WASHWATER PUMP RUNNING | 33 | BELT DRIVE START | 41 | POLYMER PUMP STOP |
| 2 | ALARM STROBE LIGHT | 10 | SLUD HOPPER HIGH LEVEL | 18 | THICKENER READY | 26 | HYDRAULIC PUMP RUNNING | 34 | SLUDGE PUMP START | 42 | THICKENED SLG PMP STOP |
| 3 | EMERGENCY STOP | 11 | ALARM SILENCE | 19 | WASHDOWN CYCLE ON | 27 | BELT DRIVE RUNNING | 35 | POLYMER PUMP START | 43 | -- |
| 4 | BELT DRIVE FAIL | 12 | RESET | 20 | CONTROL POWER OFF-ON | 28 | SLUDGE PUMP RUNNING | 36 | THICKENED SLG PMP START | 44 | -- |
| 5 | BELT MISALIGNED | 13 | LAMP TEST | 21 | HAND-OFF-AUTO | 29 | POLYMER PUMP RUNNING | 37 | WASHWATER PUMP STOP | 45 | -- |
| 6 | LOW WATER PRESSURE | 14 | CONTROL POWER ON | 22 | AUTO START | 30 | THICKENED SLUDGE PUMP RUNNING | 38 | HYDRAULIC PUMP STOP | | |
| 7 | HIGH SLUDGE LEVEL | 15 | HAND-MODE | 23 | THICKENING OFF-ON | 31 | WASHWATER PUMP START | 39 | BELT DRIVE STOP | | |
| 8 | BELT BROKEN | 16 | AUTO-MODE | 24 | AUTO STOP | 32 | HYDRAULIC PUMP START | 40 | SLUDGE PUMP STOP | | |



A THICKENER CONTROL PANEL "TCP-2"
SCALE: NTS
FILE: Hbr4017a14



B INTERIOR PANEL - CONCEPTUAL LAYOUT
SCALE: NTS
FILE: Hbr4017a14

100% SUBMITTAL

Gamboa
Engineers
17433 SW 85 CT
SOUTHWEST RANCHES, FL 3331
TEL: (954) 533-1121

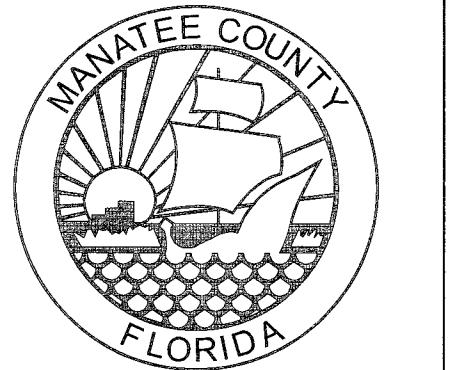
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STANTEC CONSULTING SERVICES INC.
5172 STATION WAY, SARASOTA, FLORIDA 34233
TEL: 941.365.5500 - FAX: 941.366.1922
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| PROJECT # | 177310544 |
| SURVEY # | 000 |
| SEC./TWN./RGE | 1/35S/18E |
| SCALE | N/A |
| SURVEYED | BY DATE |
| DESIGNED | MAG 09/2013 |
| DRAWN | CC 09/2013 |
| CHECKED | CLA 09/2013 |

MARIO A. CAMBOA
FLORIDA P.E. # 44675
No. 44675
11-01-13
Date
SHEET N-06

I:\CLIENTS\Stantec\SEWR\Sludge Thickener No 2\CAD\Sheet\TCP-2.dwg, 11/7/2013 1:26 PM, John, T.O.S., ARCH Full bleed D: 0.600 x 24.000



**SOUTHEAST WATER
RECLAMATION FACILITY
SLUDGE HOLDING TANK
IMPROVEMENTS
STRUCTURAL PLANS**

GENERAL NOTES

- CONTRACTOR TO NOTIFY THE ENGINEER IF THERE IS A DISCREPANCY BETWEEN THE EXISTING SITE & OR ANY OTHER PLANS ASSOCIATED WITH THIS CANOPY, INCLUDING DIMENSIONS AND MATERIALS.
- CONTRACTOR TO EXERCISE CAUTION IN ORDER TO PREVENT DAMAGE AND/OR INJURY DURING DEMOLITION AND CONSTRUCTION.
- SCALING OF DRAWING IS NOT PERMITTED. CONTACT THE EOR IF CLARIFICATIONS ARE NEEDED.
- SEE CIVIL PLAN SHEET C-1 FOR FULL EXISTING SITE PLAN INFORMATION.
- CONTRACTOR TO SUBMIT SHOP DRAWINGS TO THE EOR FOR ALL MATERIALS AND PRODUCTS USED PRIOR TO INSTALLATION.
- WELDING OF ALUMINUM WORK SHALL BE ON THE UNEXPOSED SIDE AS MUCH AS POSSIBLE IN ORDER TO PREVENT PITTING OR DISCOLORATION.
- ALL ALUMINUM FINISH EXPOSED SURFACES, EXCEPT AS SPECIFIED BELOW, SHALL HAVE MANUFACTURER'S STANDARD MILL FINISH. ALUMINUM HANDRAILS SHALL BE GIVEN AN ANODIC OXIDE TREATMENT IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION SPECIFICATION AA-C22-A41. A COATING OF METHACRYLATE LACQUER SHALL BE APPLIED TO ALL ALUMINUM SHIPMENT FROM THE FACTORY.
- WHERE ALUMINUM IS EMBEDDED IN CONCRETE, APPLY A HEAVY COAT OF APPROVED BITUMASTIC TROWELING MASTIC IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS PRIOR TO INSTALLATION.
- WHERE ALUMINUM CONTACTS MASONRY OR CONCRETE, PROVIDE A 1/32-INCH NEOPHRENE GASKET BETWEEN THE ALUMINUM AND THE CONCRETE OR MASONRY.
- WHERE ALUMINUM CONTACTS A DISSIMILAR METAL, APPLY A HEAVY BRUSH COAT OF ZINC-CHROMATE PRIMER AND PROVIDE A 1/32-INCH NEOPRENE GASKET BETWEEN THE ALUMINUM AND THE DISSIMILAR METAL.
- WHERE ALUMINUM CONTACTS WOOD, APPLY TWO COATS OF ALUMINUM METAL AND MASONRY PAINT TO THE WOOD.
- ALL ASSEMBLY FASTENERS SHALL BE STAINLESS STEEL.
- CONTRACTOR TO NOTIFY EOR IF ANY NOTES OR DETAILS IN THESE PLANS DIFFER FROM OR CONFLICT WITH THE MANATEE COUNTY INFRASTRUCTURE ENGINEERING STANDARDS.
- CANOPY DETAILED WITHIN THESE PLANS WERE DESIGNED TO REPLICATE EXISTING CANOPY WEST OF THIS CANOPY'S LOCATION. IF CONTRACTOR WISHES TO USE A PREFABRICATED SYSTEM, SHOP DRAWINGS MUST BE PROVIDED FOR EOR REVIEW PRIOR TO MATERIAL PURCHASE.
- SHOP DRAWINGS ARE REQUIRED TO BE REVIEWED BY EOR FOR ANY CHANGES TO STRUCTURAL SHEETS.

STAINLESS STEEL

- ALL STEEL TO CONFORM TO THE FOLLOWING ASTM STANDARDS:
 - BOLTS & FASTENERS: AISI TYPE 316
 - PLATES, SHEETS, WIRE: AISI TYPE 316

ALUMINUM

- ALL ALUMINUM TO BE 6061-T6.
- MISCELLANEOUS ALUMINUM SHAPES AND PLATES SHALL BE FABRICATED AS SHOWN. ANGLE FRAMES FOR HATCHES, BEAMS, GRATES, ETC., SHALL BE FURNISHED COMPLETE WITH WELDED STRAP ANCHORS ATTACHED. FURNISH ALL MISCELLANEOUS ALUMINUM SHOWN, BUT NOT OTHERWISE DETAILED. STRUCTURAL SHAPES AND EXTRUDED ITEMS SHALL CONFORM TO THE DETAIL DIMENSIONS ON THE PLANS WITHIN THE TOLERANCES PUBLISHED BY THE AMERICAN ALUMINUM ASSOCIATION.
- WELD FILLER TO BE 5356 ALLOY ALL WELDS TO BE Sw=1/4" FILLET WELDS.

DESIGN LOADS

- WIND LOADING ASCE 7-10 OPEN BUILDING
 - GENERAL:
 - V = 160 MPH
 - Category C
 - Building Type IV
- CODES UTILIZED
 - FBC 2010
 - ADM 2010
 - ACI 318-08
 - ASCE 7-10

CONCRETE

- ALL CONCRETE MATERIALS, PLACING AND HANDLING SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 318 AND ACI 301.
- STRUCTURAL CONCRETE SHALL HAVE A SLUMP OF 2"-4" AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI.
- CONCRETE COVER TO BE AS FOLLOWS:

| | BOTTOM | TOP | SIDES |
|--------------------|--------|-----|-------|
| 3.1. SLAB-ON-GRADE | 3" | 3" | 3" |
| 3.2. PEDESTALS: | 3" | 3" | 3" |
- FORM TIES AND REINFORCING BAR SUPPORTS SHALL BE OF NON-CORROSIVE MATERIAL.
- FORMED SURFACE-SMOOTH FORM FINISH PER ACI 350, EXTERIOR SLAB SURFACES SHALL HAVE A CLASS "C" LIGHT BROOM FINISH.
- ALL GROUT SHALL BE NON-SHRINK AND NON-METALLIC.
- ALL CONCRETE SHALL BE WET CURED IN ACCORDANCE WITH ACI 301 FOR A MINIMUM OF 5 DAYS.

REINFORCEMENT

- REINFORCING STEEL SHALL BE ASTM A-615, GRADE 60, WITH A MINIMUM WORKING STRESS OF 24000 PSI.
- ALL REINFORCING SHALL BE UNCOATED.
- ALL DIMENSIONS PERTAINING TO LOCATION OF REINFORCING BARS ARE TO THEIR CENTERLINE, WITH EXCEPTION TO CLEAR COVER, WHICH DESIGNATES THE CLEAR DISTANCE BETWEEN THE MEMBER AND REINFORCEMENT FACES.
- ACI STANDARD HOOKS SHALL BE USED.
- ALL LAP SPLICE LENGTHS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318 AND CRSI STANDARD PRACTICES FOR CLASS "B" SPLICES, OR ACI 350-06, WHICHEVER IS MORE STRINGENT.

FOUNDATIONS

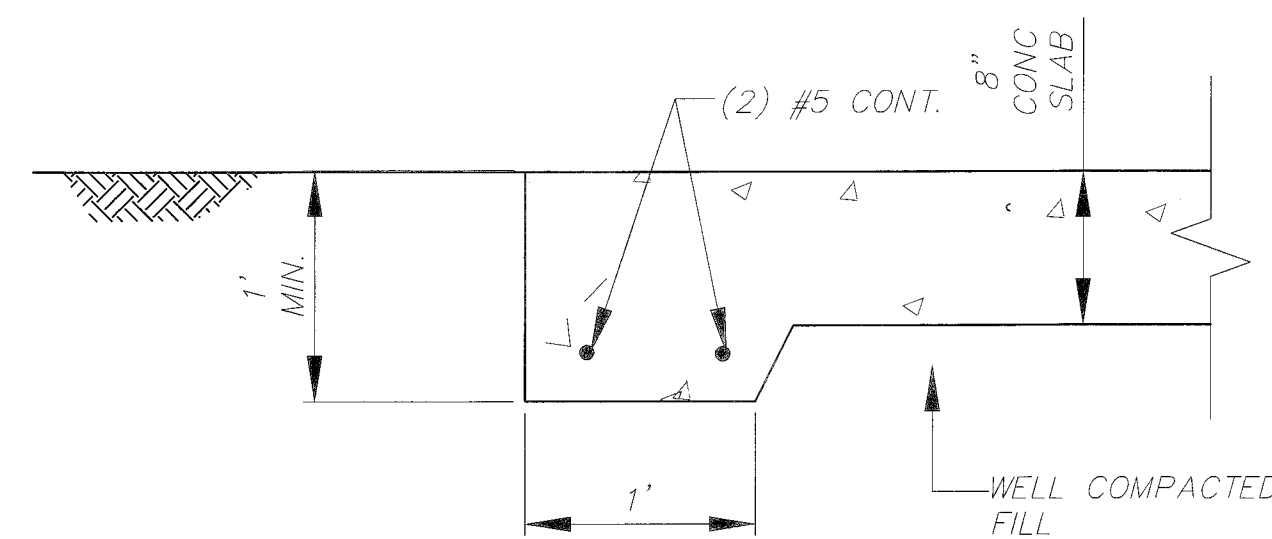
- NOTIFY THE ENGINEER IMMEDIATELY OF ANY EXISTING FOUNDATION CONDITIONS OR DETAILS THAT ARE IN CONFLICT WITH THOSE INDICATED IN THESE PLANS OR THE CLIENT-PROVIDED AS-BUILTS.
- CONTRACTOR TO FOLLOW THE RECOMMENDATIONS FOR SITE PREPARATION AS GIVEN IN THE GEOTECHNICAL REPORT.
- SOIL COMPACTION TO FOLLOW FBC 1820.3. AND PROVIDE A MINIMUM OF 2500 PSF BEARING CAPACITY.

SLAB-ON-GRADE

- SLAB-ON-GRADE TO BE OVER 6 MIL VAPOR BARRIER OVER 95% COMPACTED FILL.

FASTENER GENERAL NOTES

- ALL BOLTS TO BE SNUG TIGHT.
- DECKING TO BE FASTENED TO SUPPORT BEAMS WITH #8 SS HEX-WASHER HEAD SCREWS @ 4" WITHIN 3' OF PERIMETER & 6" OC MAX IN FIELD.
- DECKING TO BE F_y=33 KSI SS 20 GA TYPE B DECKING SPANNING 5' MAX WITHIN MINIMUM OF 2 SPANS PER SHEET. CONTRACTOR TO LAP PANELS PER MANUFACTURER'S RECOMMENDATIONS.
- FLASHING TO BE CHOSEN BY CONTRACTOR & SUBMITTED AS SHOP DRAWING.
- ALL ALUMINUM WELDS TO BE INSTALLED PER AWS D1.2 & MANATEE COUNTY STANDARDS.



A TYPICAL THICKENED SLAB EDGE SECTION
SCALE: 1/4"=1'

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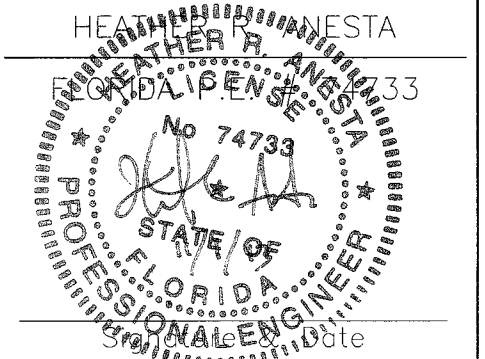
PROJECT # 177310544

SURVEY # ###

SEC./TWN./RGE 1/35S/18E

SCALE

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| DESIGNED | HRA | 09/27/13 |
| DRAWN | SMG | 09/27/13 |
| CHECKED | DH | 09/27/13 |

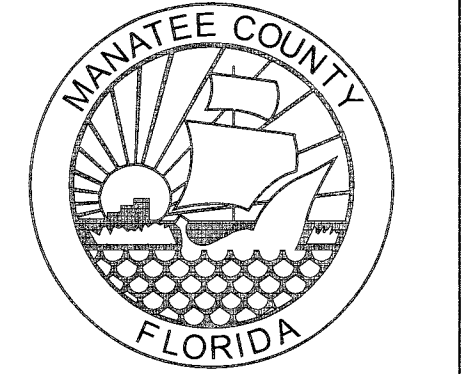


SHEET S-1

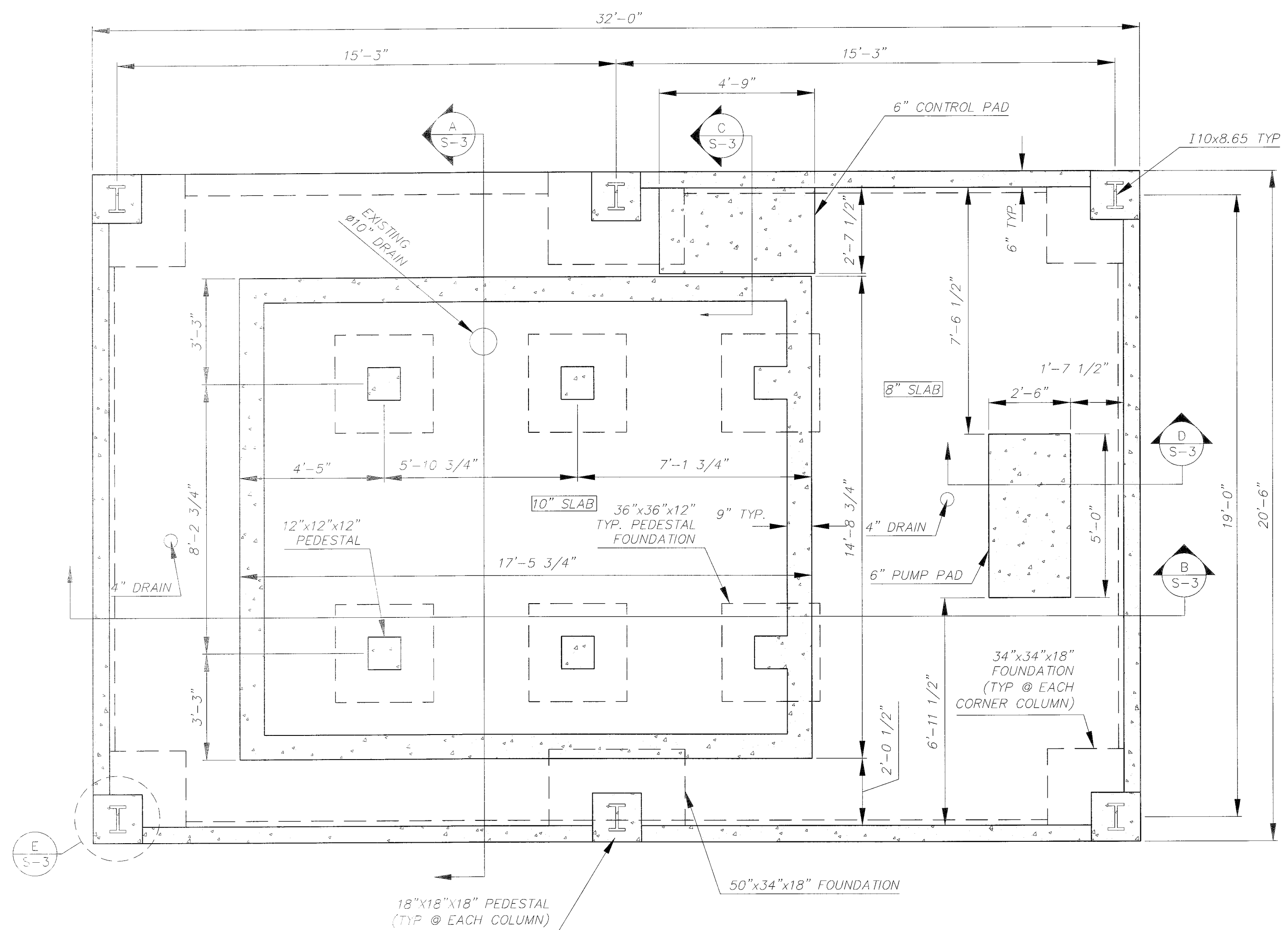
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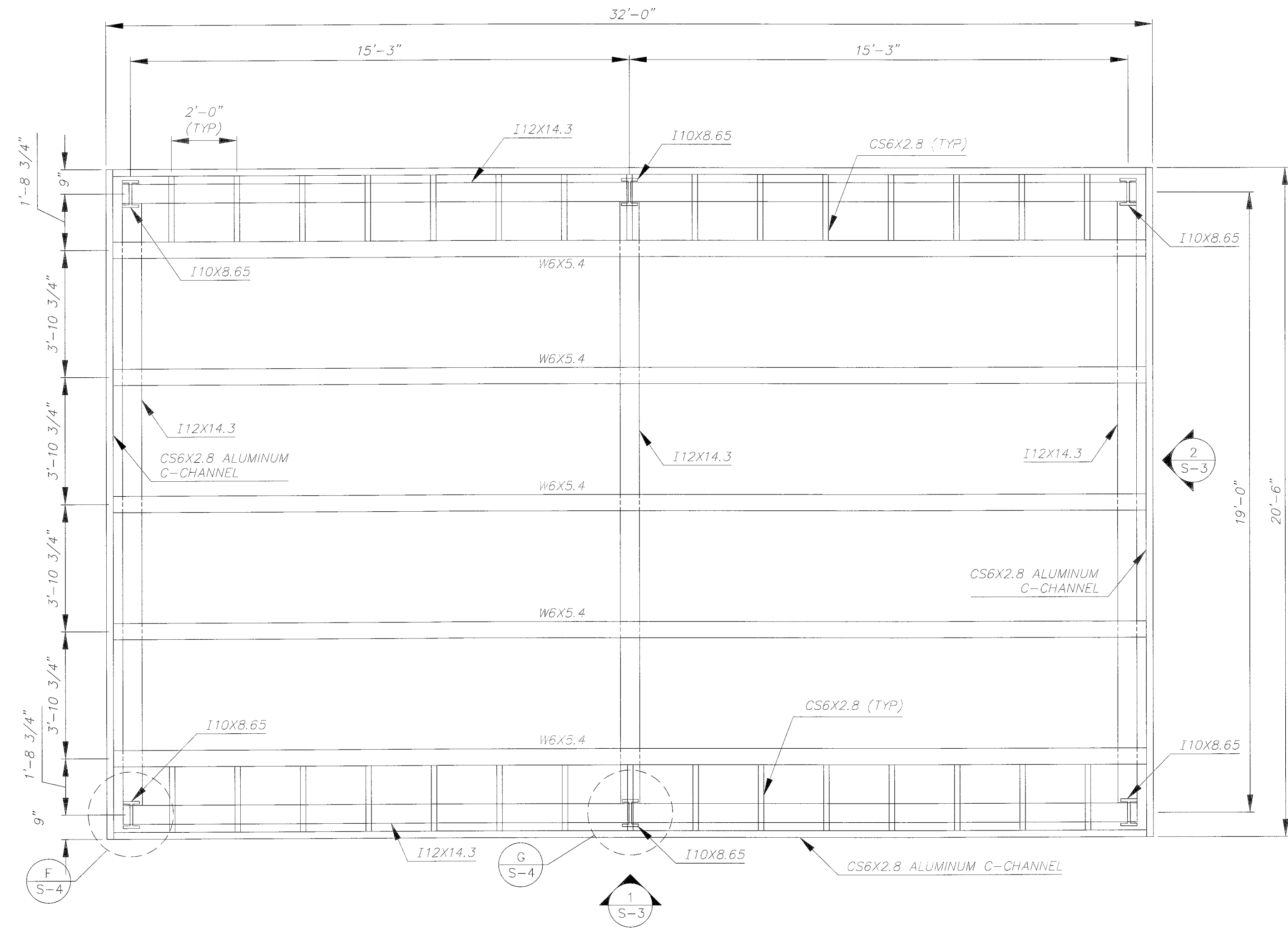


**SOUTHEAST WATER
RECLAMATION FACILITY
SLUDGE HOLDING TANK
IMPROVEMENTS
STRUCTURAL PLANS**



CANOPY & GRAVITY BELT THICKENER FOUNDATION PLAN

NORTH
SCALE: 1"=3/8"

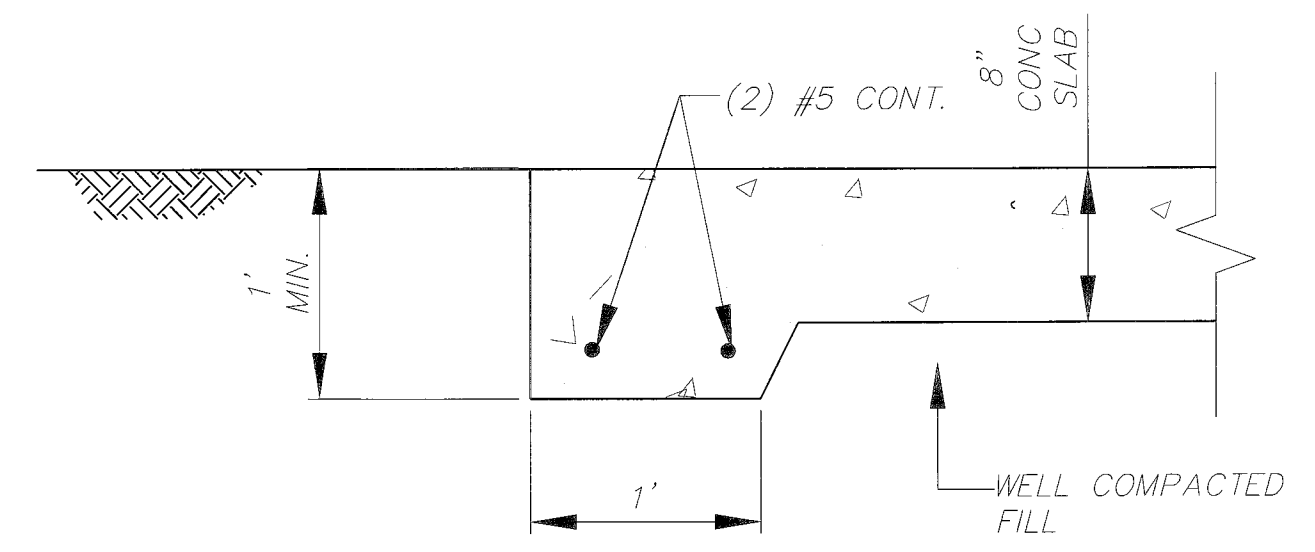


CANOPY ROOF PLAN

NORTH
SCALE: 1"=3/8"

FOUNDATION STEEL NOTES

1. SLAB STEEL
 - A. 10" SLAB: #4 @ 18" O.C., T&B
 - B. 8" SLAB: #4 @ 18" O.C., T&B
2. PEDESTAL
 - A. 36"x36"x12" PEDESTAL FOUNDATION: #4 @ 18" O.C., T&B
 - B. 34"x34"x18" PEDESTAL FOUNDATION: #4 @ 12" O.C., T&B
 - C. 50"x36"x18" PEDESTAL FOUNDATION: #4 @ 12" O.C., T&B
3. THICKENED EDGE
 - A. 8" SLAB: 12x12 W/ 2 #5 CONT.
4. SEE S-1 FOR ADDITIONAL NOTES



TYPICAL THICKENED SLAB EDGE SECTION

SCALE: 1"=1'

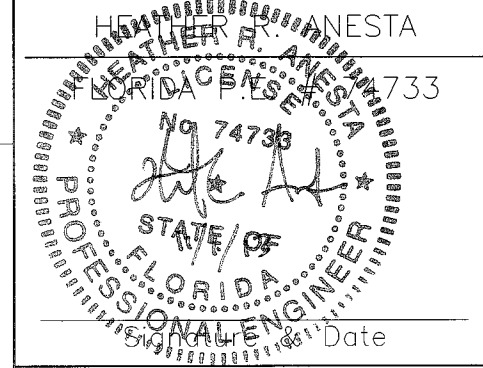
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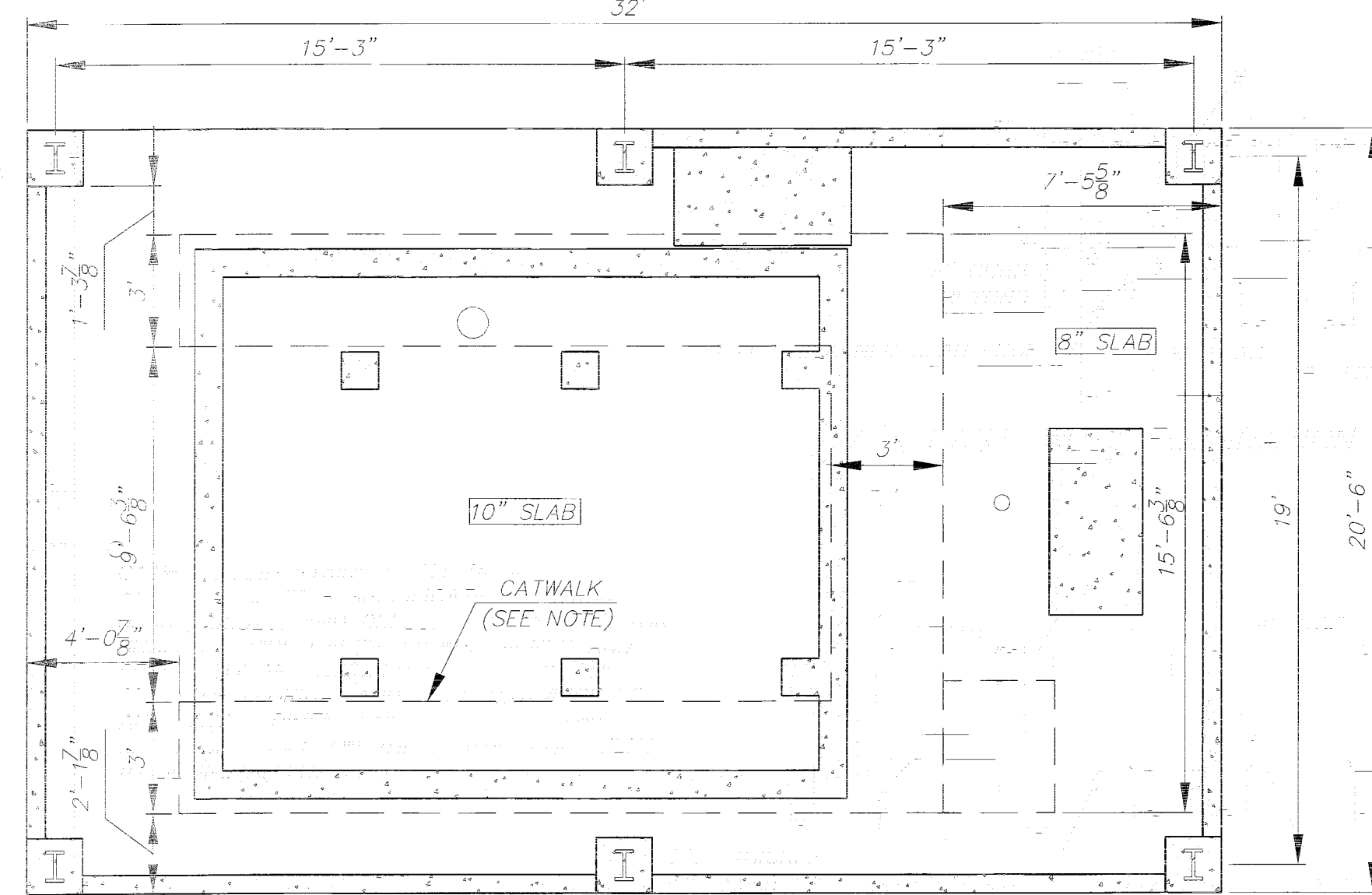


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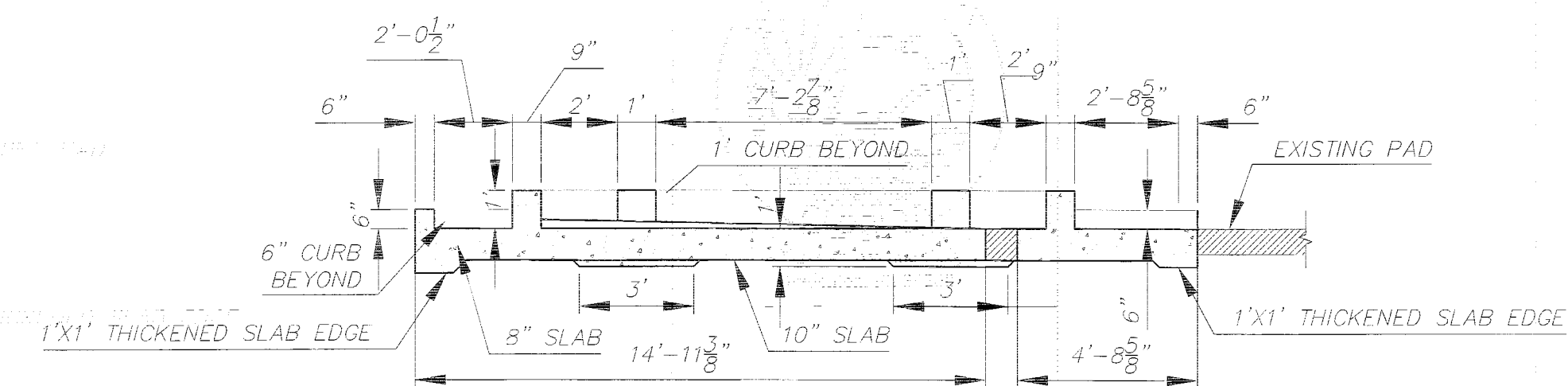
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SLUDGE HOLDING TANK
IMPROVEMENTS
STRUCTURAL PLANS



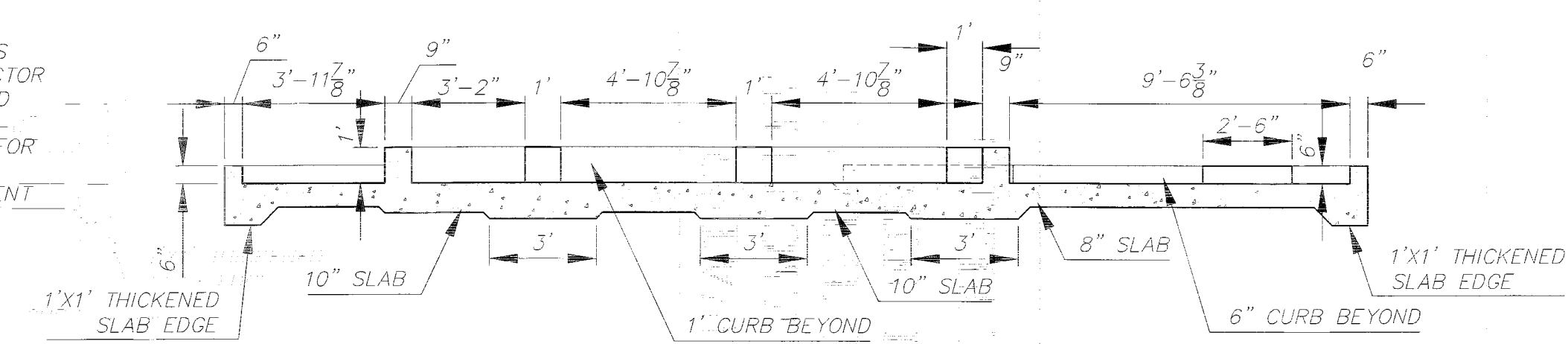
FOUNDATION PLAN W/ CATWALK
NOTE: PROVIDED FOR CLARITY

NORTH
SCALE: 1"=1/8"

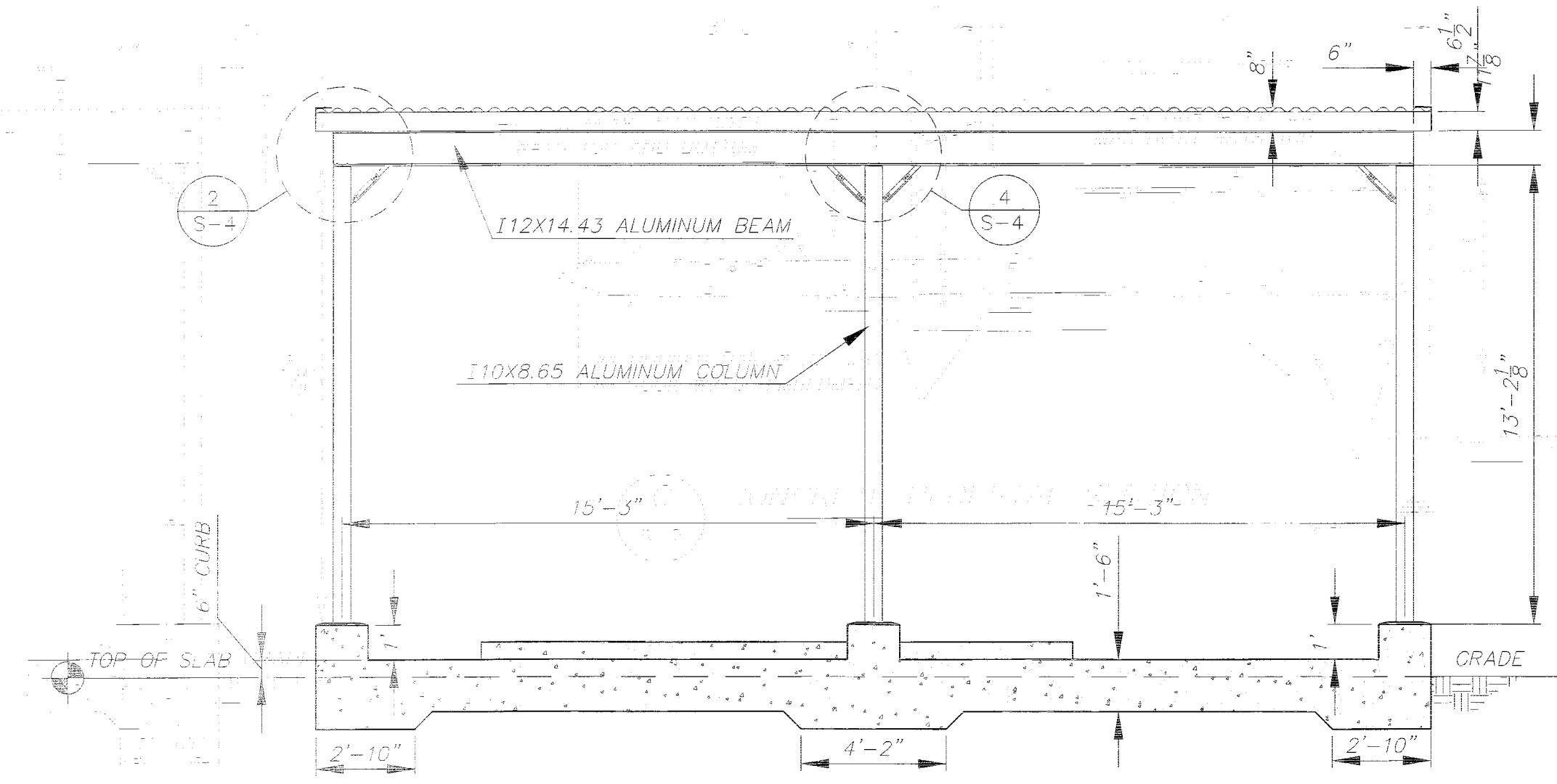
NOTE:
CATWALK AND STAIRS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTIONS 05500, 05520, AND 05530. THE CONTRACTOR SHALL PROVIDE CALCULATIONS, SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF FLORIDA, AND SHOP DRAWINGS FOR APPROVAL. DIMENSIONS AND ELEVATIONS SHALL BE BASED ON THE ACTUAL EQUIPMENT TO BE INSTALLED.



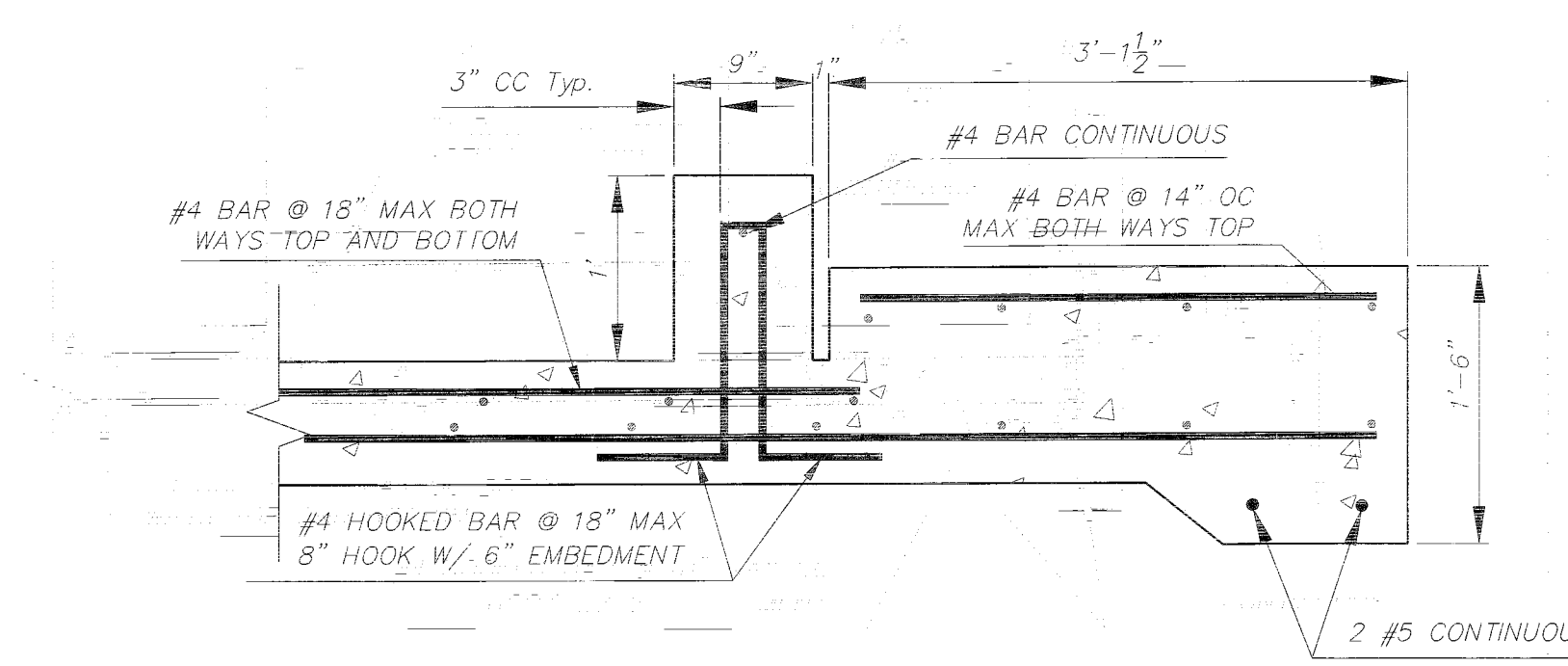
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SCALE: 1"=1/8"



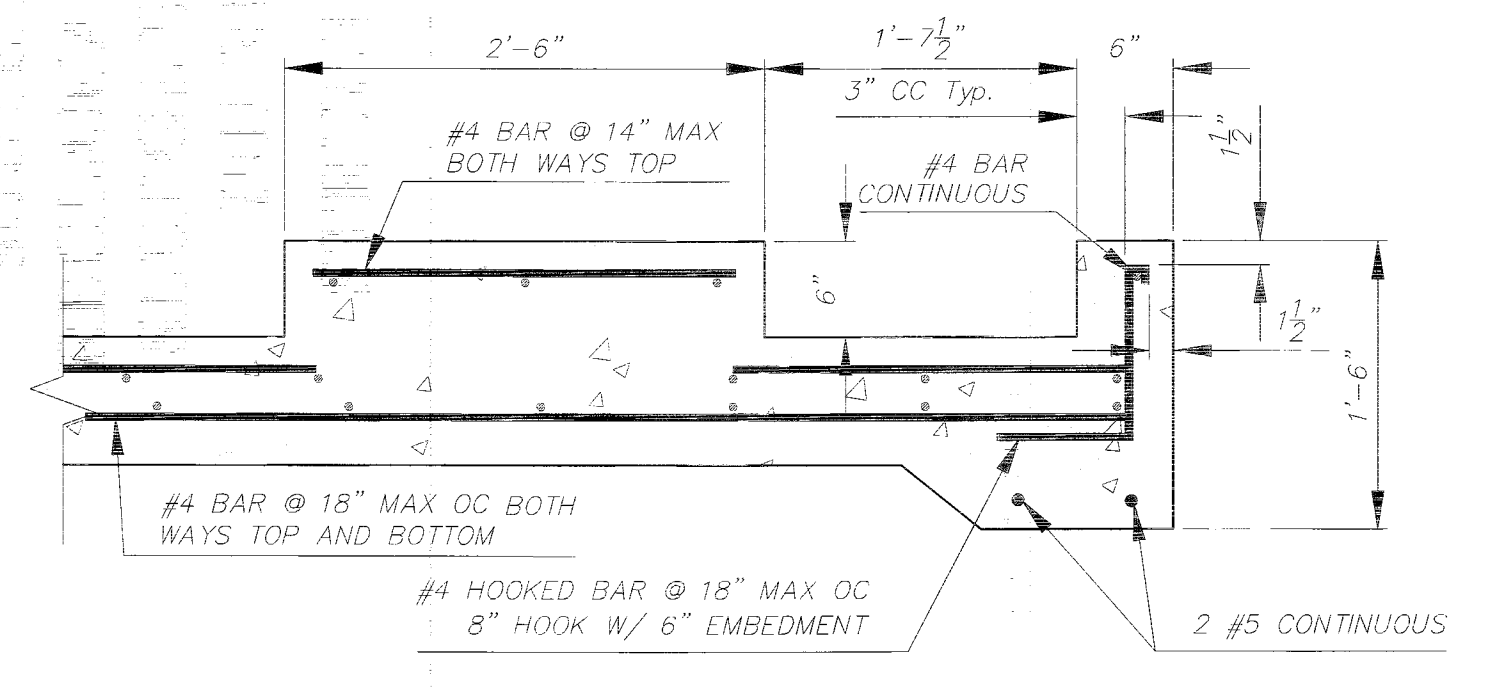
(B) NORTH-SOUTH FOUNDATION SECTION
SCALE: 1"=1/8"



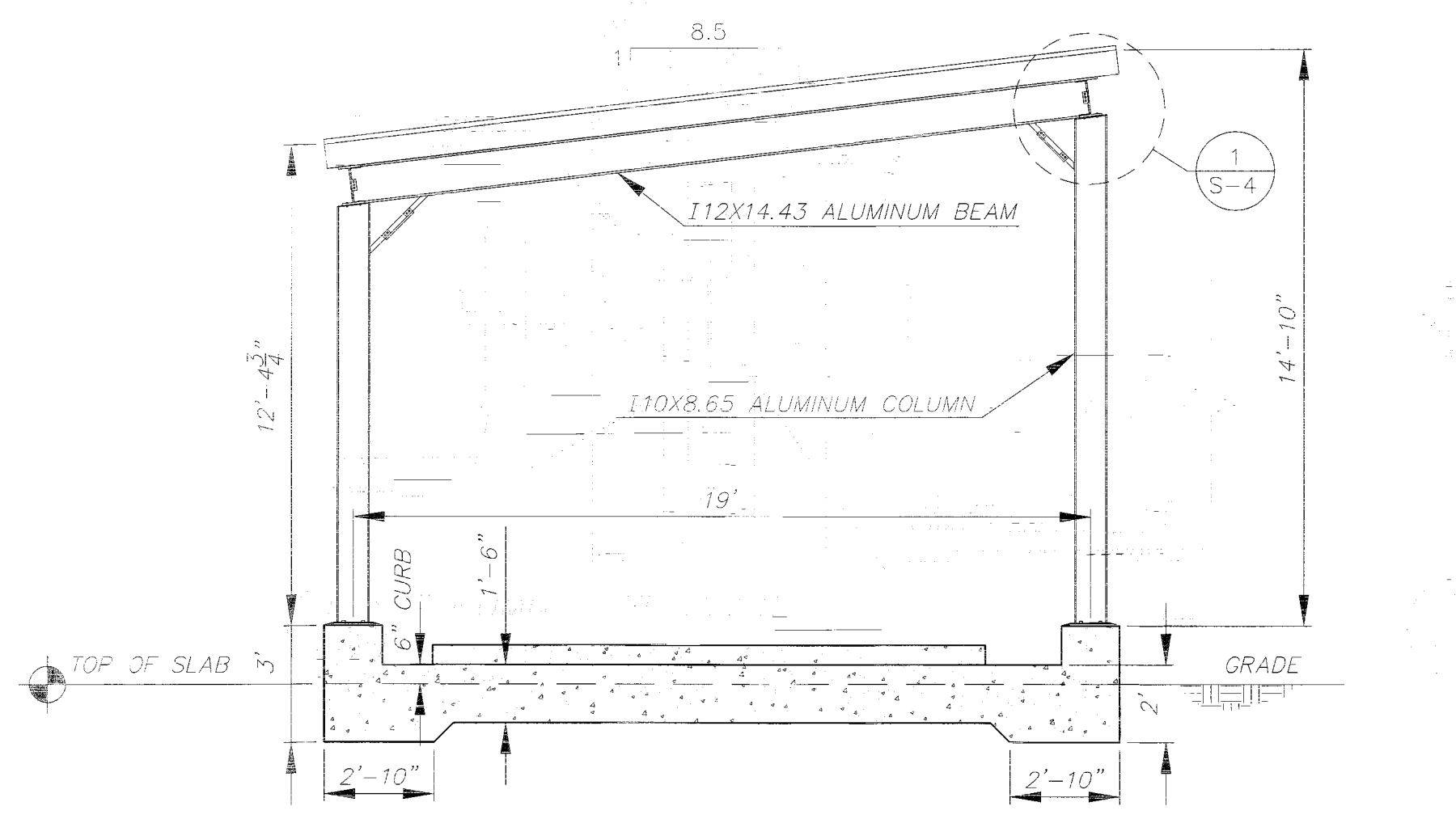
(1) EAST ELEVATION
SCALE: 1"=1/8"



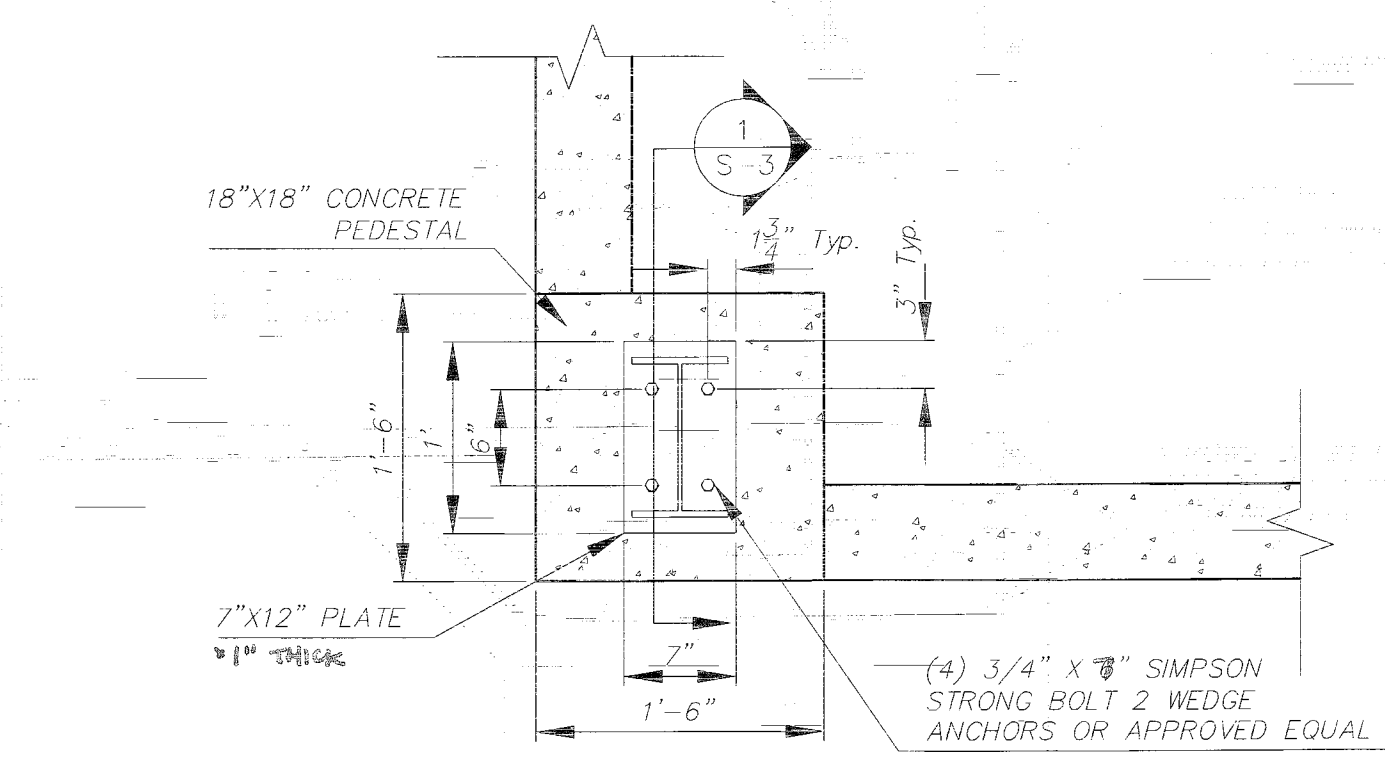
(C) CONCRETE PEDESTAL SECTION
SCALE: 1"=1"



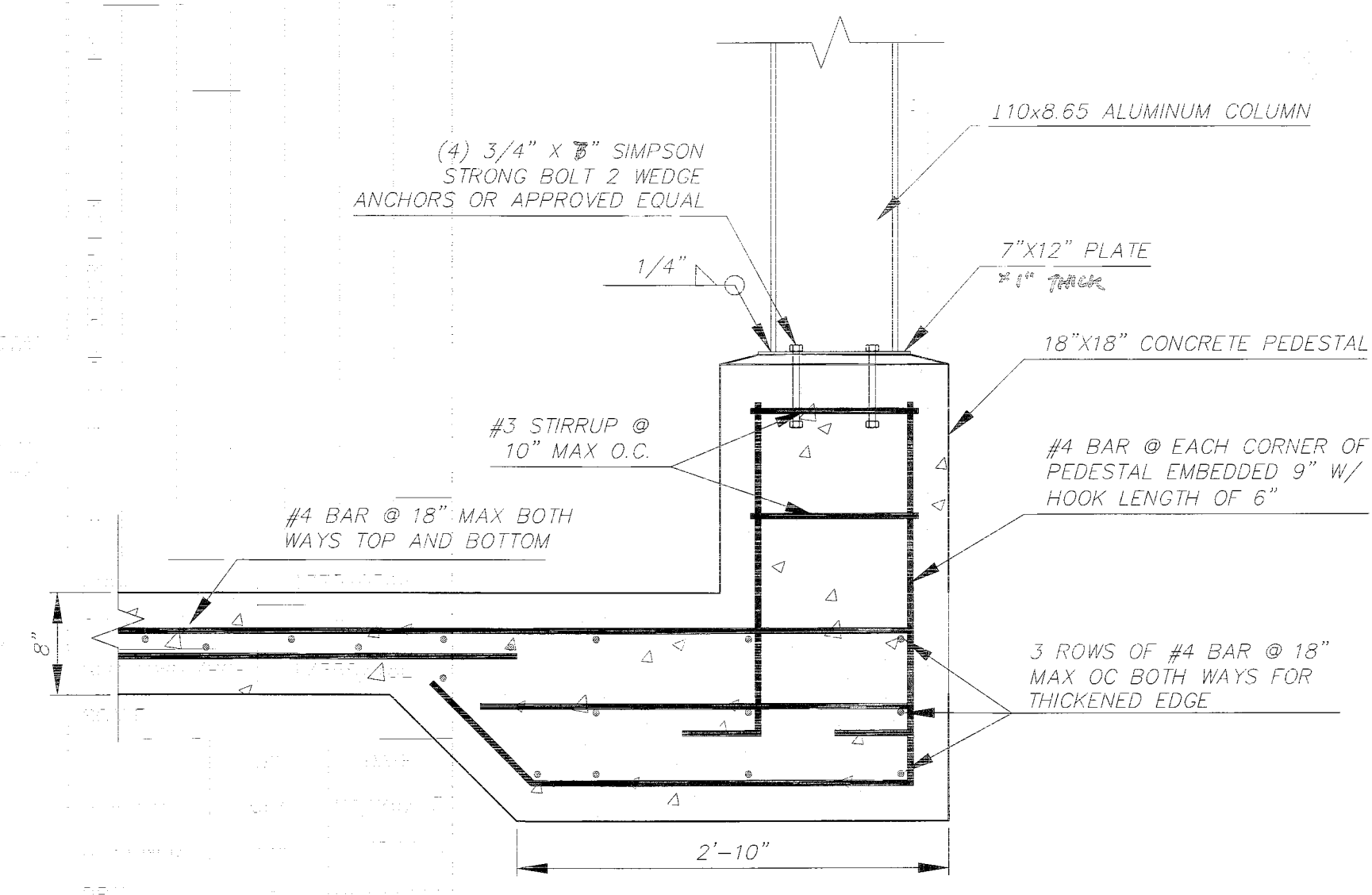
(D) CONCRETE PEDESTAL SECTION
SCALE: 1"=1"



(2) SOUTH ELEVATION
SCALE: 1"=1/8"



(E) COLUMN BASE PLATE
SCALE: 1"=1"



(1) COLUMN BASE PLATE ELEVATION
SCALE: 1"=1"

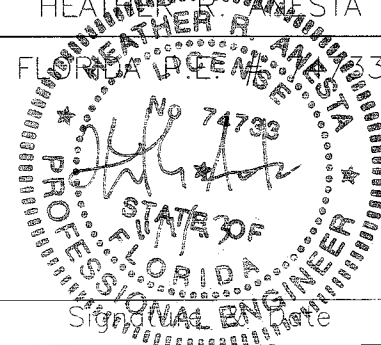
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| CHECKED | DH 09/27/13 |

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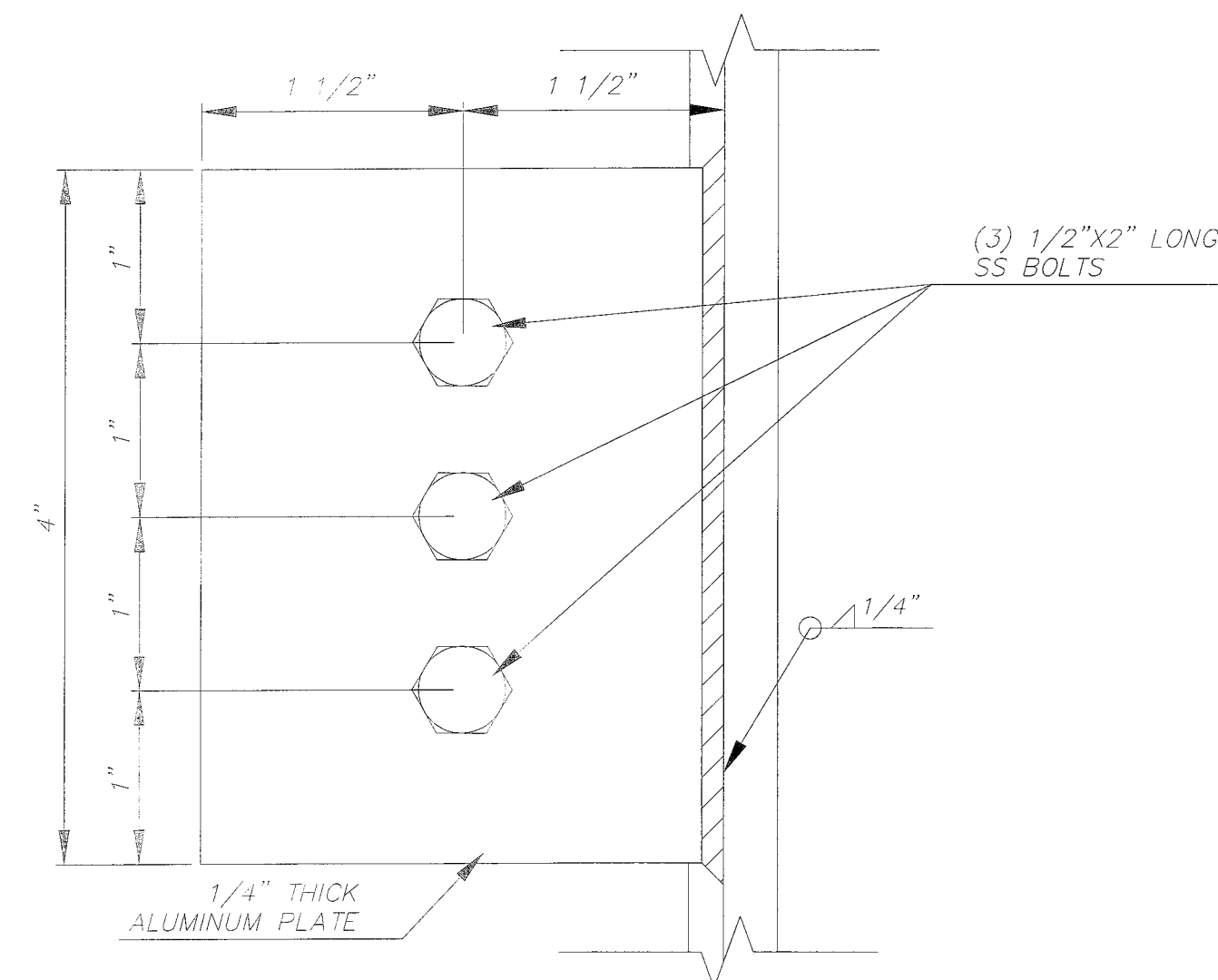


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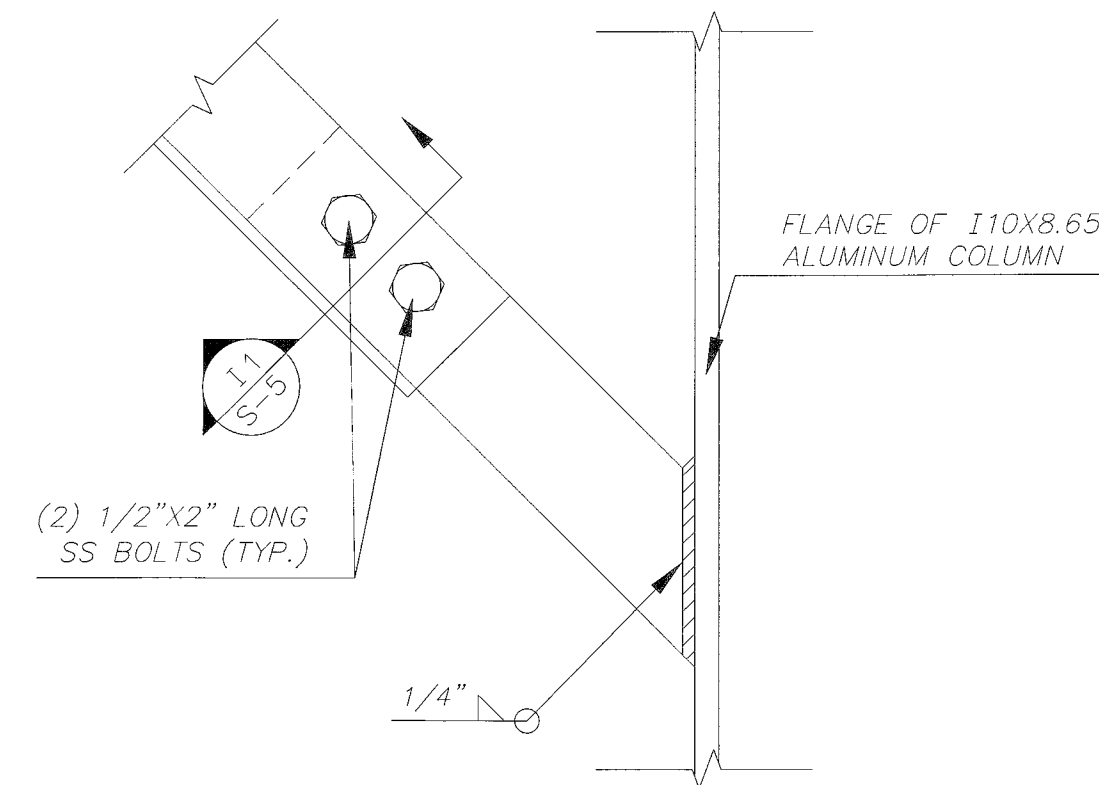


HEATHER R. ANASTA
FLORIDA LICENSE NO. 74739
PROFESSIONAL ENGINEER
SHEET S-3

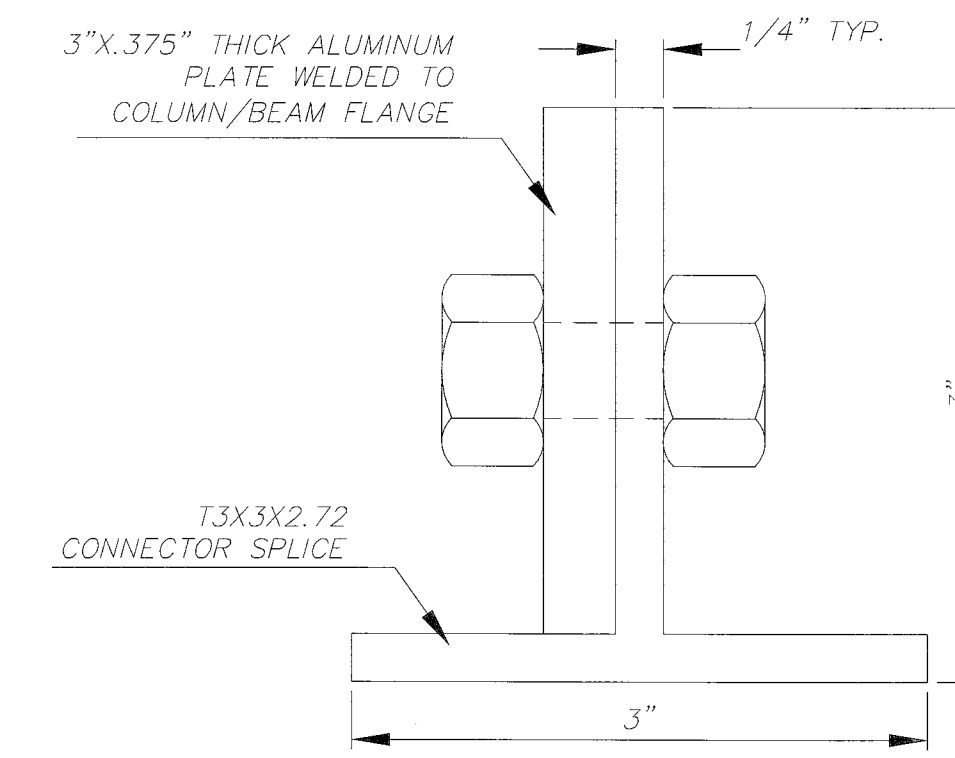
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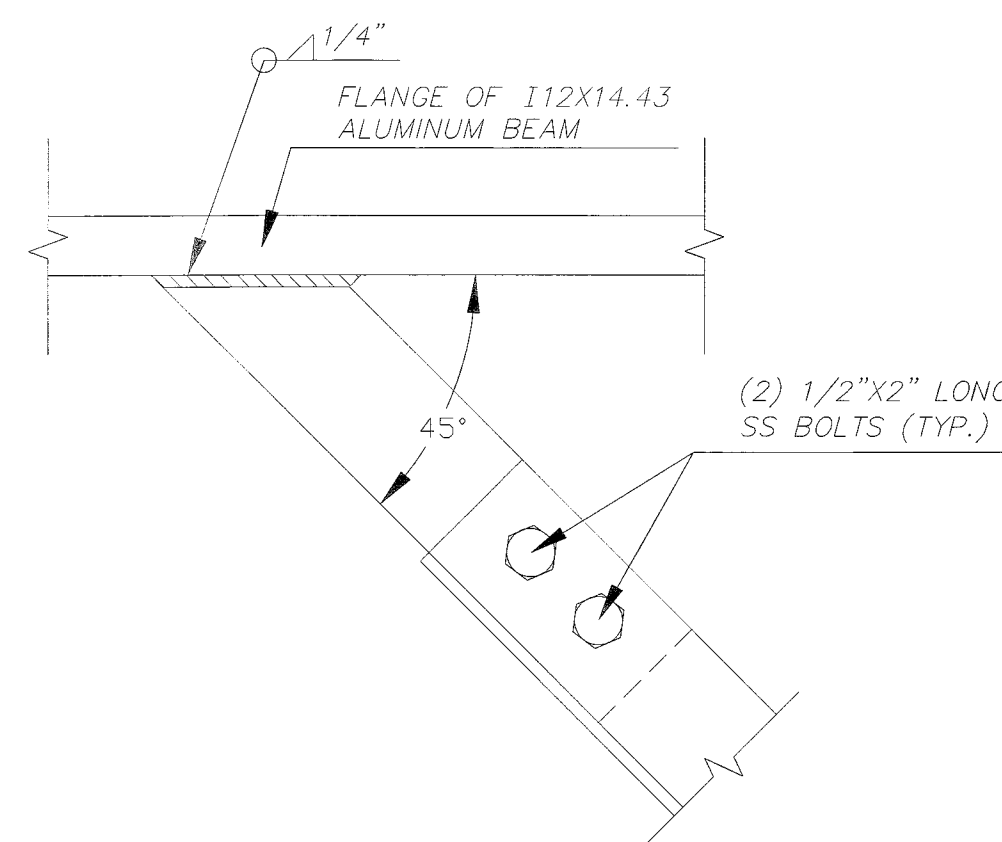
H
S-4 PLATE WELDED TO WEB OF BEAM NTS



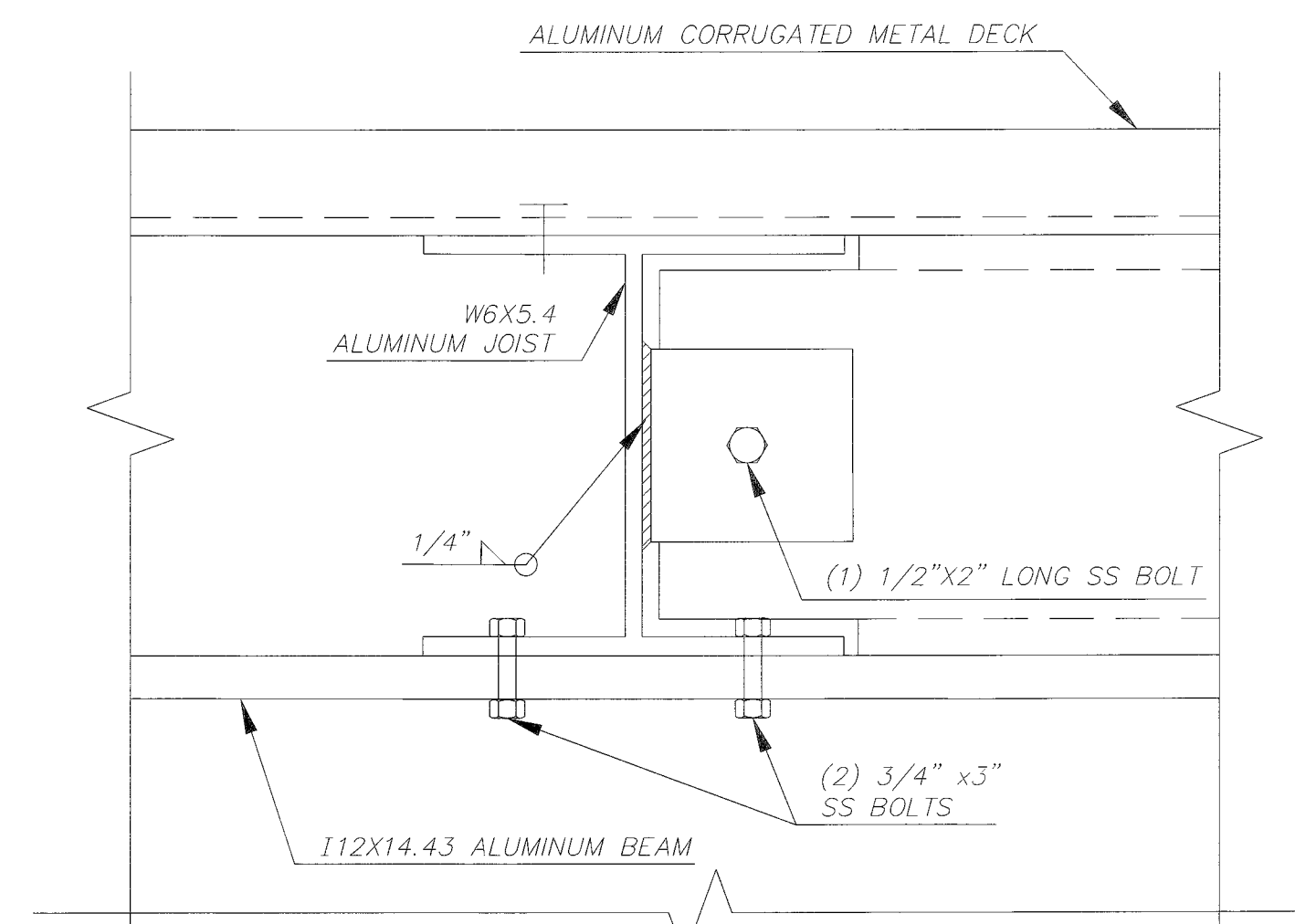
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S-4 PLATE WELDED TO FLANGE OF COLUMN NTS



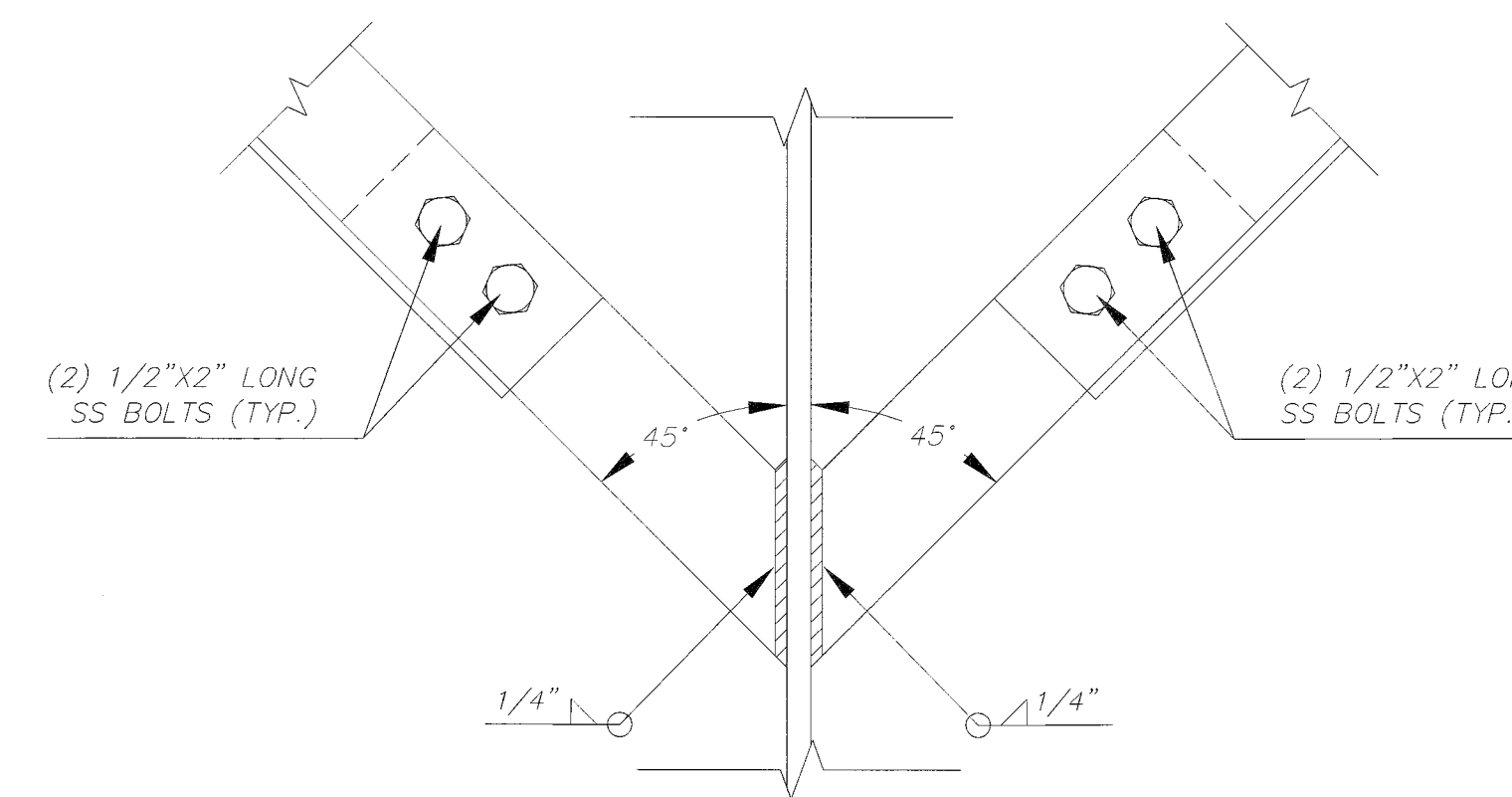
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S-5 BRACING SECTION NTS



J
S-4 PLATE WELDED TO FLANGE OF BEAM NTS



K
S-4 BRACING SECTION NTS

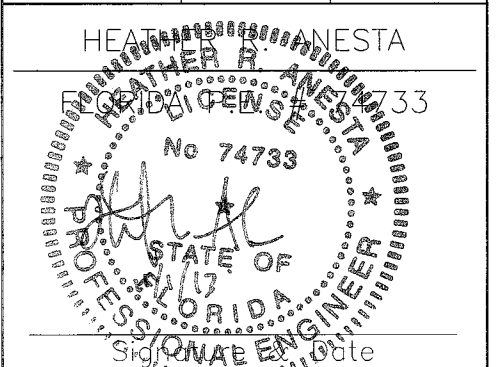


L
S-4 PLATES WELDED TO WEB OF COLUMN NTS

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