

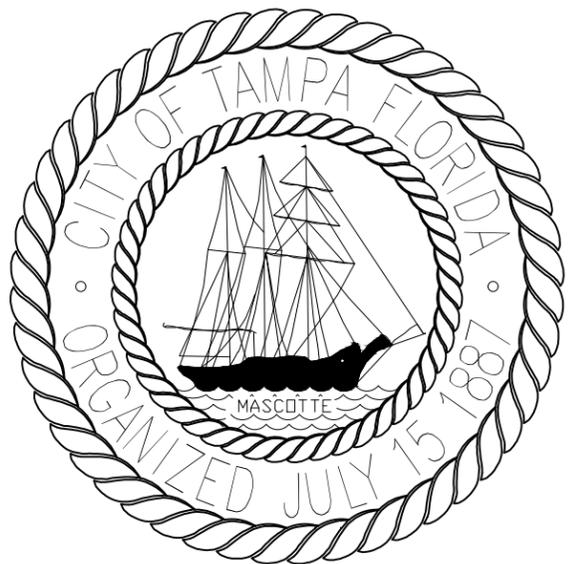
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# CITY of TAMPA

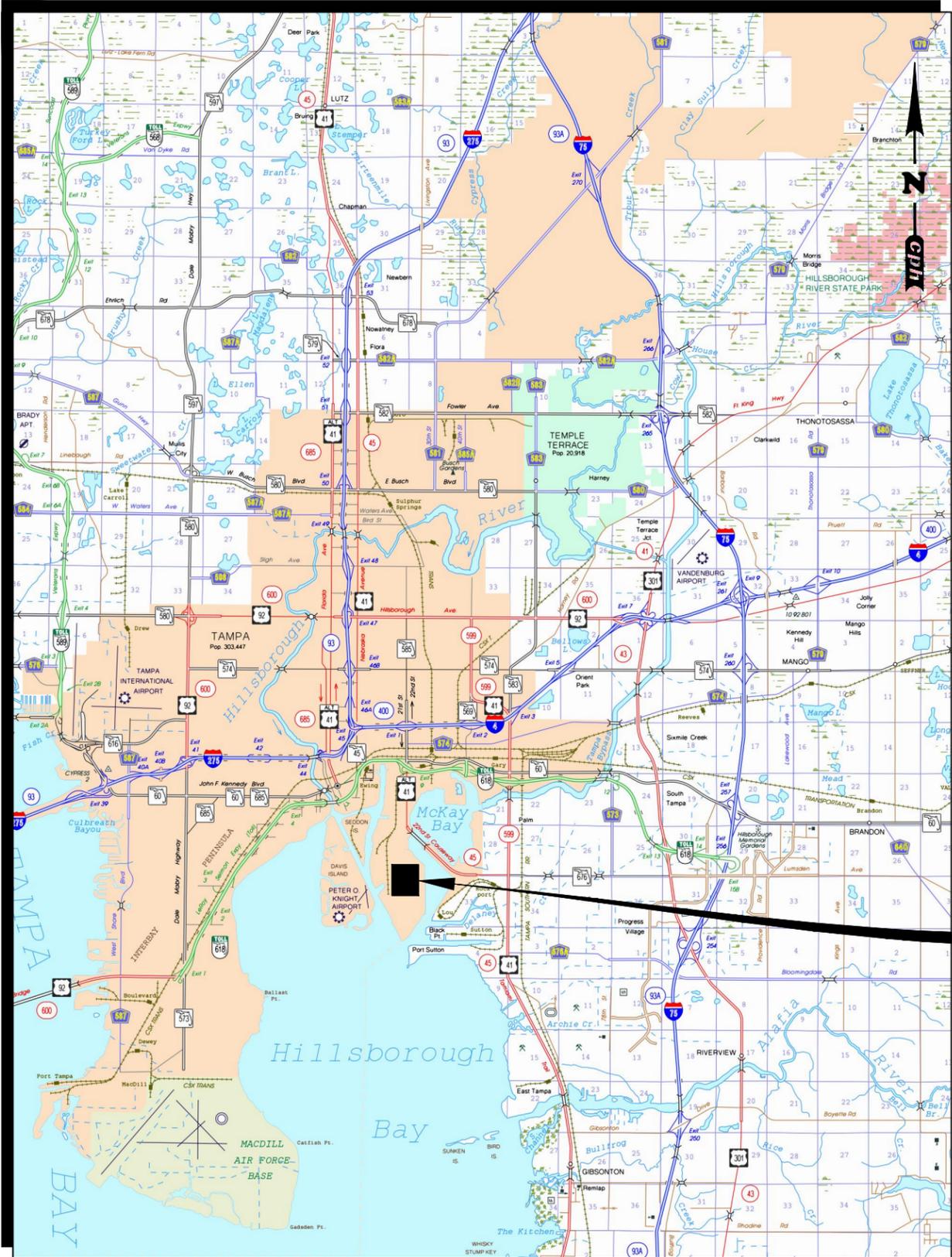


## WASTEWATER DEPARTMENT

PLANS FOR

**HOWARD F. CURREN AWTP PRIMARY SEDIMENTATION  
TANKS 5-8 SLUDGE & DEWATERING PUMP STATION  
REHABILITATION**

CONTRACT NO. 13-C-00038



PROJECT  
LOCATION

LOCATION MAP

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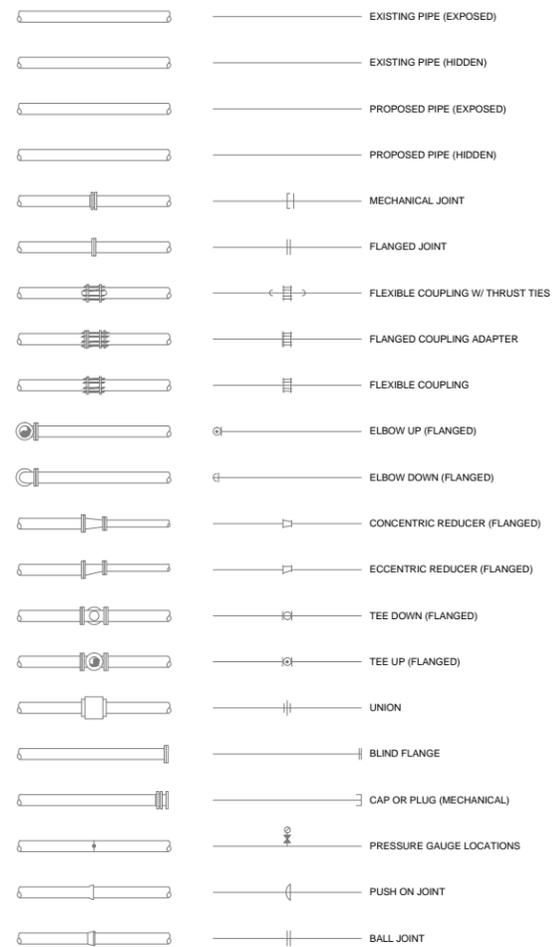
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REG-# 69051

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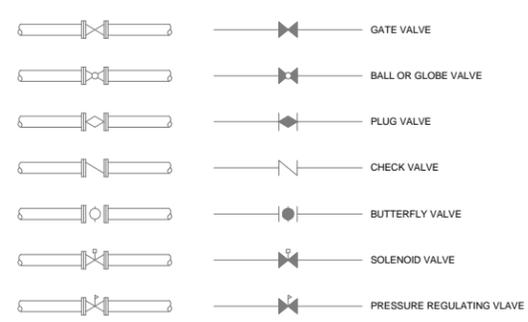
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WASTEWATER DEPARTMENT

Sheet No.  
**1**

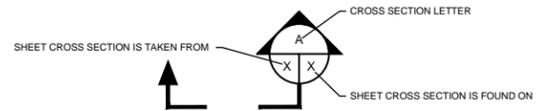
**PIPING SYMBOLS**



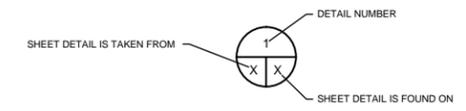
**VALVE SYMBOLS**



**SECTION SYMBOLS**



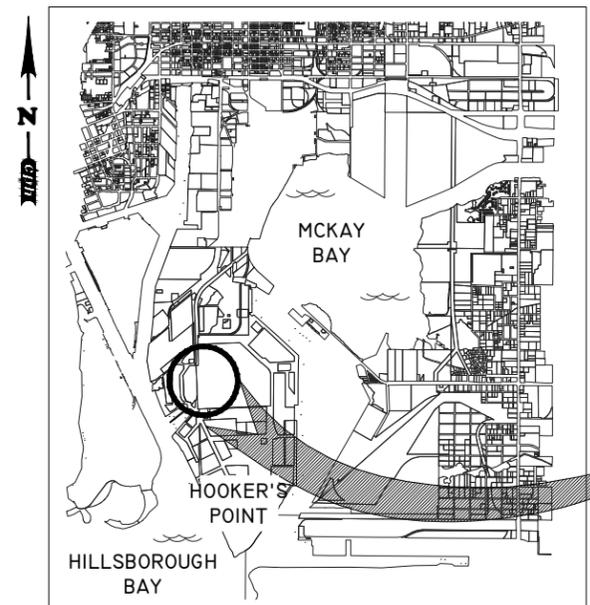
**DETAIL SYMBOLS**



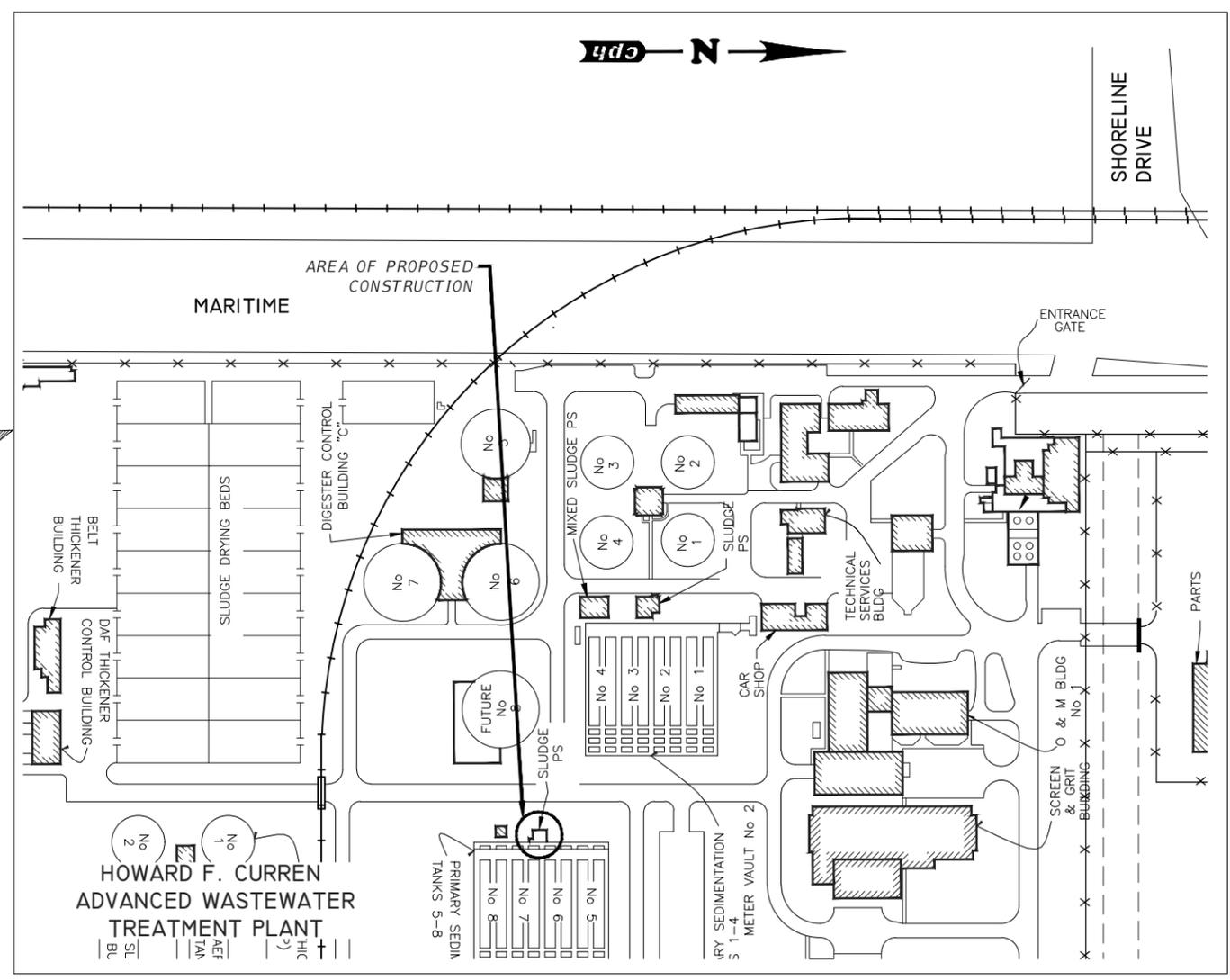
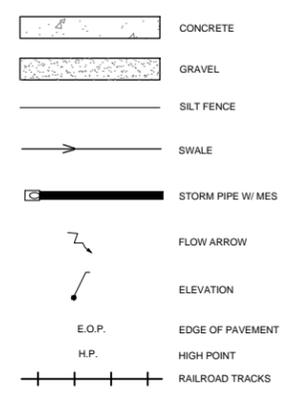
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3,4	GENERAL NOTES
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8	PUMP STATION PIPING SECTIONS
9,10	MISCELLANEOUS DETAILS
S101	PUMP STATION STRUCTURAL PLANS
S201	PUMP STATION STRUCTURAL SECTIONS

**STANDARD ABBREVIATIONS**

AL. or ALUM.	ALUMINUM	MAX	MAXIMUM
ASPH. BLDG.	ASPHALT BUILDING	MANF. MAT.	MANUFACTURER MATERIAL
BT	BURIED TELEPHONE	NG	NATURAL GRADE
BM	BENCH MARK	NPL	NON-POTABLE WATER
Ba.V.	BALL VALVE	NWL	NORMAL WATER LEVEL
B.V.	BUTTERFLY VALVE	NTS	NOT TO SCALE
CIP or CI	CAST IRON PIPE	OC	ON CENTER
CONC.	CONCRETE	OHE	OVERHEAD ELECTRIC
CONT.	CONTINUED	PL	PLATE
CMU	CONCRETE MASONRY UNIT	PW	POTABLE WATER
CONST.	CONSTRUCTION	PS	PUMP STATION
C.V.	CHECK VALVE	PROP.	PROPOSED
DIP or DI	DUCTILE IRON PIPE	PVMT.	PAVEMENT
DIA.	DIAMETER	PP	POWER POLE
DOT	DEPT. OF TRANSPORTATION	PT	PRESSURE TREATED
DR. OR DW.	DRIVE or DRIVEWAY	P.V.	PLUG VALVE
EQUIP.	EQUIPMENT	PVC	POLYVINYL CHLORIDE
ED	EQUIPMENT DRAIN	PAV.	PAVING
ESMT	EASEMENT	PE	PLAIN END
EFF.	EFFLUENT	RCP	REINFORCED CONCRETE PIPE
EXP.	EXPANSION	RW	REUSE WATER
ELEV. or EL.	ELEVATION	RT.	RIGHT
EXIST.	EXISTING	R	RADIUS
ELEC.	ELECTRICAL	RED.	REDUCER
EF	EACH FACE	REIN.	REINFORCED
EXT.	EXTENDED	REQD	REQUIRED
EW	EACH WAY	R/W	RIGHT-OF-WAY
FD	FLOOR DRAIN	R/W	RIGHT-OF-WAY
F&I	FURNISH & INSTALL	STA.	STATION
FM	FORCE MAIN	SPEC.	SPECIFICATION
FLG.	FLANGED	SW (S/W)	SIDEWALK
FLEX.	FLEXIBLE	SWD	SIDE WATER DEPTH
GM	GAS MAIN	SO.	SQUARE
GPM	GALLONS PER MINUTE	SS	STAINLESS STEEL
GS	GALVANIZED STEEL	STN. STL.	STAINLESS STEEL
GSP	GALVANIZED STEEL PIPE	SAN.	SANITARY
GALV.	GALVANIZED	T	TELEPHONE CABLE
G.V.	GATE VALVE	TBM	TEMPORARY BENCHMARK
HB	HOSE BIB	TOF	TOP OF FLOOR
HORIZ.	HORIZONTAL	TYP.	TYPICAL
HP	HIGH PRESSURE	TRANS.	TRANSFORMER
HPAC	HIGH PRESSURE AIR COPPER	UE	UNDERGROUND ELECTRIC
HPAG	HIGH PRESSURE AIR GALVANIZED	UG	UNDERGROUND
HWL	HIGH WATER LEVEL	UT	UNDERGROUND TELEPHONE
I.P.	IRON PIPE	VCP	VITRIFIED CLAY PIPE
INF.	INFLENT	VERT.	VERTICAL
INV.	INVERT	WL	WATER LINE
ID	IDENTIFICATION	WM	WATER MAIN



**GENERAL LEGEND**



**LOCATION MAP**  
N.T.S.

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WILLIAM W. WOOD, P.E.  
REG-# 69051

LEGEND INDEX  
LOCATION MAP

CITY of TAMPA  
WASTEWATER DEPARTMENT

Sheet No.  
**2**

**GENERAL PROJECT DATA**

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE REHABILITATION FOR THE EXISTING DEWATERING AND SLUDGE PUMP STATIONS ASSOCIATED WITH PRIMARY SEDIMENTATION BASINS 5-8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY REMOVING ALL APPURTENANCES TO REPLACE THE EXISTING DEWATERING PUMPS, DISCHARGE PIPING FOR BOTH PUMP STATIONS, AND TOP SLAB AS SHOWN IN THE PLANS. THE CITY HAS ALREADY PURCHASED THE DEWATERING PUMPS AND OTHER COMPONENTS LISTED BELOW. THE SLUDGE PUMPS ARE TO BE PROPERLY REMOVED AND REINSTALLED FOLLOWING IMPROVEMENTS. ONCE PREPARED, THE CONTRACTOR SHALL CAST IN PLACE A NEW CONCRETE TOP SLAB AND INSTALL COATING SYSTEM AS ILLUSTRATED IN THE PLANS. FOLLOWING PROPOSED IMPROVEMENTS THE CONTRACTOR SHALL RECONNECT ALL ELECTRICAL COMPONENTS AND APPURTENANCES NEEDED TO PROPERLY REHABILITATE BOTH PUMP STATIONS. CONSTRUCTION CAN ONLY OCCUR BETWEEN DECEMBER AND MAY.

EQUIPMENT LIST PROVIDED BY THE CITY OF TAMPA

1. (2) FLYGT SUBMERSIBLE PUMP MODEL CP3201
  2. (2) STANDARD 8"X10" BASE ELBOW
  3. ANCHORS\*
  4. RAILS \*
  5. LIFT CHAINS \*
  6. BRACKETS \*
  7. (2) 12" CHECK VALVES
  8. (2) 6" CHECK VALVES
  9. (1) 12"X6" TEE
  10. (1) 6" TEE, FLG.
  11. (2) 12" DEZURIK PLUG VALVES WITH HAND WHEEL
  12. (4) 6" DEZURIK PLUG VALVES
- \* - FOR NEW PUMPS ONLY

CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND INSTALL ALL OTHER REQUIRED COMPONENTS NOT INCLUDED IN THIS LIST, INCLUDING ALL HARDWARE FOR ITEMS DETAILED ABOVE.

OWNER/OPERATOR

CITY OF TAMPA WILL OWN AND OPERATE THE SANITARY SEWER PUMP STATION BEING REHABILITATED. THE CONTRACTOR SHALL BE EXPECTED TO MEET ALL REQUIREMENTS OF THE UTILITY AND JURISDICTIONAL AGENCIES.

FOR IDENTIFICATION OF CONTRACTUAL AGREEMENTS, THE ENGINEERING PLANS SHALL BE DATED AS JULY 2013, ANY REVISIONS THEREAFTER WILL BE NOTES AND DATED ON THE AFFECTED DRAWING(S).

AS-BUILTS

AS-BUILTS SHALL BE PROVIDED BY THE CONTRACTOR TO THE CITY OF TAMPA'S PROJECT REPRESENTATIVE TWO WEEKS PRIOR TO FINAL INSPECTION. CONTRACTOR SHALL SUPPLY MEASURED RED-LINED DRAWINGS PRIOR TO FINAL INSPECTION.

QUALITY CONTROL TESTING REQUIREMENTS

ALL TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR, CITY AND THE ENGINEER. TESTING REQUIREMENTS ARE TO BE IN ACCORDANCE WITH THE OWNER/OPERATOR'S SPECIFICATIONS AND REQUIREMENTS. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS.

SHOP DRAWINGS

SHOP DRAWINGS AND CERTIFICATIONS FOR ALL WASTEWATER SYSTEM MATERIALS, AND ALL STRUCTURES, ARE REQUIRED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE OWNER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.

NOTICE OF APPLICABILITY

WHEREVER STATE, COUNTY, CITY, OR LOCAL STANDARD SPECIFICATIONS DIFFER FROM THOSE CONTAINED HEREIN: THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND UTILITY FOR CLARIFICATION. TYPICALLY THE MORE STRINGENT SHALL GOVERN.

**GENERAL CONSTRUCTION REQUIREMENTS**

OSHA STANDARD SAFETY EQUIPMENT SUCH AS SAFETY HARNESS, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC. SHALL BE UTILIZED WHERE THE WORK DICTATES THEIR USE.

DURING THE REHABILITATION PROCESS, THE STRUCTURE SHALL BE ADEQUATELY VENTILATED AND HYDROGEN SULFIDE LEVELS SHALL BE CONTINUOUSLY MONITORED. THE CONTRACTOR MAY ALSO UTILIZE FORCED AIR.

THE CONTRACTOR SHALL MAINTAIN UNINTERRUPTED VEHICLE ACCESS FOR PLANT OPERATIONS AND PLANT SUPPLIERS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND SHALL SCHEDULE ALL WORK TO FACILITATE CONTINUOUS UNINTERRUPTED PLANT OPERATION.

LAYOUT AND CONTROL

SURVEY USED FOR THIS PROJECT WAS PROVIDED BY THE CITY OF TAMPA. THE CONTRACTOR SHALL COORDINATE WITH THE CITY TO LOCATE BENCHMARKS USED. THE SURVEY DATUM IS NGVD 1929.

EROSION AND SEDIMENT CONTROL

EROSION AND SILTATION CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THESE MEASURES ARE TO BE INSPECTED BY THE CONTRACTOR ON A REGULAR BASIS AND ARE TO BE MAINTAINED OR REPAIRED ON A IMMEDIATE BASIS AS REQUIRED. LOCAL AND STATE JURISDICTIONAL AGENCIES SHALL BE REFERRED TO AND IMPLEMENTED DURING ALL CONSTRUCTION.

1. STOCKPILING MATERIAL  
NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY
2. EXPOSED AREA LIMITATION  
THE SURFACE OF OPEN, RAW ERODABLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE CONTROLLED, SO THAT THIS OPERATION WILL NOT SIGNIFICANTLY AFFECT OFFSITE DEPOSIT OF SEDIMENT.
3. INLET PROTECTION  
INLETS AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT LADEN STORMWATER RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
4. MAINTENANCE  
ALL FEATURES OF THE PROJECT SHALL BE CONSTRUCTED TO PREVENT EROSION AND SEDIMENT AND SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION PROPERLY WITHOUT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT.

TEMPORARY SILT FENCES AND STAKED SILT BARRIERS, SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS, SEC. 104.6, 104.7 AND SEC. 985.

DEMOLITION

WORK CAN NOT START UNTIL ALL APPROVED EQUIPMENT AND MATERIALS ARE ON SITE. EXISTING PUMP STATIONS WILL BE TAKEN OUT-OF-SERVICE BY CITY OF TAMPA OPERATIONS STAFF. PRIOR TO COMMENCING ANY DEMOLITION WORK, CONTRACTOR SHALL COORDINATE WITH THE CITY STAFF TO MAKE CERTAIN STATION IS OUT-OF-SERVICE. THIS CAN ONLY OCCUR BETWEEN DECEMBER-MAY.

CONTRACTOR SHALL PROVIDE PROTECTION FOR EQUIPMENT TO BE REMOVED AND REINSTALLED AS PART OF THIS PUMP STATION REHABILITATION.

CONTRACTOR SHALL PROPERLY REMOVE ALL COMPONENTS TO BE REPLACED OR REINSTALLED TO NOT CAUSE ANY UNNECESSARY DAMAGE TO EQUIPMENT OR PUMP STATION. ANY DAMAGE CAUSED BY THE REMOVAL SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPLACE OR REPAIR.

AFTER WET WELLS ARE DEWATERED, THE CONTRACTOR SHALL CLEAN WET WELLS OF ALL DEBRIS. DEBRIS MAY BE DISPOSED OF IN EXISTING SLUDGE DRYING BEDS ON SITE, WITH COORDINATION FROM CITY OPERATIONS STAFF.

CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING, SPRINKLER SYSTEM PIPING AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER.

THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, SUPERVISION, AND EQUIPMENT REQUIRED FOR THE ORDERLY DEMOLITION AND REMOVAL OF EXISTING STRUCTURES, UTILITIES, AND EQUIPMENT AS SHOWN ON THE DRAWINGS.

ALL UNDERGROUND STRUCTURES AND PIPING TO BE REMOVED MUST BE COMPLETELY REMOVED AND OVER EXCAVATED BY A MINIMUM OF 12" BENEATH THE STRUCTURES. CONTRACTOR SHALL USE APPROVED BACKFILL MATERIAL FOR FILLING THESE AREAS AND COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION.

THE CONTRACTOR SHALL COORDINATE WITH OPERATIONS STAFF FOR ALL EQUIPMENT TO BE SALVAGED.

THE CONTRACTOR SHALL REMOVE ANY UNUSED CONDUITS AND PROPERLY PLUG HOLES WITH A SUITABLE GROUT MATERIAL.

THE CONTRACTOR SHALL PROPERLY REMOVE AND PATCH ALL DETERIORATING CONCRETE AND UNSUITABLE MATERIALS ON ALL SURFACES TO BE COATED. METHODS OF REPAIR SHALL REQUIRE APPROVAL OF ENGINEER / OWNER.

THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL RUBBISH, RUBBLE, AND DEBRIS. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS GOVERNING DISPOSAL OF WASTES AND DEBRIS.

MATERIALS STORAGE / DEBRIS REMOVAL

ALL MATERIALS EXCAVATED SHALL BE UTILIZED TO BRING THE SITE TO FINAL GRADES. IF ADDITIONAL FILL MATERIAL IS NECESSARY THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING IN ADDITIONAL MATERIAL TO FINAL GRADE. THE SITE MATERIALS SHALL BE STOCKPILED SEPARATELY AS TO USABLE (NONORGANIC) FILL STOCKPILES AND ORGANIC (MUCK) STOCKPILES IF MUCH IS ENCOUNTERED. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNSUITABLE FILL MATERIALS FROM THE SITE. ALL CLAY ENCOUNTERED SHALL BE EXCAVATED OUT AND REPLACED WITH CLEAN GRANULAR FILL MATERIALS.

CLEANUP

WORK SITE CLEANUP AND PROPERTY RESTORATION SHALL FOLLOW BEHIND CONSTRUCTION OPERATIONS WITHOUT DELAY.

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REG-# 69051

GENERAL NOTES

CITY of TAMPA

WASTEWATER DEPARTMENT

Sheet No.  
3

**SANITARY SEWER PUMP STATION**

MATERIALS

DISCHARGE PIPES SHALL BE REPLACED WITH SDR 11, GREEN STRIPE, DIPS OD. HDPE, JOINTS AND FITTINGS SHALL BE BUTT FUSED OR FLANGED WITH 316 SS BACKUP RINGS. ELECTRO FUSED COUPLINGS SHALL BE USED ONLY AT LOCATIONS SHOWN ON THE PLANS OR APPROVED BY THE ENGINEER.

CHECK VALVES SHALL BE APCO AS SUPPLIED BY THE CITY.

ALL HARDWARE, UNLESS NOTED OTHERWISE, SHALL BE 316 STAINLESS STEEL. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED WITH PROTECTO 401 EPOXY. PLUG VALVES SHALL BE DEZURIK, 100% FULL PORT ECCENTRIC PLUG VALVES (PEF), OR APPROVED EQUAL.

ALL METAL PIPE, FITTINGS, SUPPORTS, VALVES ETC. SHALL RECEIVE AN EXTERIOR ASPHALTIC COATING AS IDENTIFIED IN THE SPECIFICATIONS.

ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE SPECIFIED, SHALL BE CLASS "B" 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE CITY FOR ALL PROPOSED ITEMS. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (EASILY READABLE) HARD COPIES AND PDF SUBMITTALS ARE BOTH REQUIRED. NO FAXED SHEETS OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTAL REVIEW.

ALL EXPOSED CONCRETE SURFACES IN WET WELL SHALL BE COATED WITH A MINIMUM OF 125 MILS OF APPROVED STRUCTURAL COATING SYSTEM. CONTRACTOR SHALL CLEAN THE EXISTING WET WELL PRIOR TO APPLICATION OF THE COATING SYSTEM BY PRESSURE WASHING WITH A MINIMUM 10,000 PSI OR OTHER METHOD AS REQUIRED BY THE APPROVED MATERIAL'S MANUFACTURER. CLEANING SHALL CONSIST OF 100% CONTAINMENT AND REMOVING ALL DEBRIS FROM WET WELL. (REFER TO SPECIFICATIONS).

TESTING OF THE NEW DISCHARGE PIPES WILL BE ACCOMPLISHED BY OPERATING PUMPS FOR THE REQUIRED 24-HOUR DURATION AND OBSERVING FOR ANY LEAKS. ANY MANUAL PUMP OPERATION OR SWITCHING OF PUMPS MUST BE PERFORMED BY CITY PERSONNEL.

PUMP STATION MATERIALS AND CONSTRUCTION SHALL COMPLY WITH UTILITY DETAIL DRAWINGS. PUMP STATION START-UP, DRAWDOWN TESTING TO DEMONSTRATE PUMP DELIVERY, AND COMPLETE ELECTRICAL TESTING FOR CONTROL PANEL SHALL BE WITNESSED BY THE UTILITY AND ENGINEER.

CONSTRUCTION METHODS

INSTALLATION OF PUMPS, PIPING, COATING SYSTEMS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

PIPE EMBEDMENT

ALL PIPE MUST BE BEDDED TRUE TO LINE AND GRADE WITH UNIFORM AND CONTINUOUS LONGITUDINAL SUPPORT FROM A FIRM BASE. BLOCKING MAY NOT BE USED TO BRING THE PIPE TO GRADE. PIPE BED SHALL BE UNDISTURBED EARTH AND IN THE EVENT OF OVER-EXCAVATION, THE CONTRACTOR SHALL REPLACE OVER EXCAVATION WITH GRANULAR BACKFILL, AS NOTED BELOW, AND COMPACTED TO A DRY DENSITY NOT LESS THAT THE PERCENTAGES INDICATED UNDER COMPACTION.

TRENCH OR EXCAVATION BOTTOM STABILIZATION MATERIAL SHALL BE SAND. SAND SHALL BE WELL GRADED, ORGANIC FREE, DURABLE, GRANULAR MATERIAL AND 95% SHALL PASS A NO. 4 SIEVE. NOT MORE THAN 10% SHALL PASS A NO. 200 SIEVE.

COMPACTION

ALL OTHER FILL AREAS ARE TO BE COMPACTED TO AT LEAST 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. FILL MATERIALS AND LIFTS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.

**CONTRACTOR COORDINATION**

CONTRACTOR SHALL COORDINATE HIS WORK WITH OWNER. THE FOLLOWING IS A MINIMUM COORDINATION SEQUENCE FOR THE WET WELL REHABILITATION:

1. DEMOLITION AND REMOVAL OF EXISTING PIPE AND EQUIPMENT.
2. REMOVE CONDUITS AND PROPERLY PLUG HOLES WITH A SUITABLE GROUT MATERIAL. PROPERLY GROUT AND SEAL ALL EXISTING WALL PENETRATIONS THAT WILL NOT REMAIN IN SERVICE. PROTECT ALL PENETRATIONS THAT WILL REMAIN IN SERVICE.
3. PRESSURE WASH AND CLEAN PUMP STATION. FOR AREAS OR SURFACES THAT REQUIRE EQUIPMENT TO BE MOUNTED, THE CONTRACTOR SHALL PROPERLY REMOVE ALL DETERIORATING CONCRETE PRIOR TO ANY INSTALLATION WORK. ALSO, THE CONTRACTOR SHALL RECONSTRUCT THOSE AREAS NECESSARY TO INSURE PROPER MOUNTING OR INSTALLATION OF EQUIPMENT, FIXTURES, FITTINGS, ETC. THE SURFACES SHALL BE CLEANED TO INSURE PROPER BONDING OF THE EXISTING SURFACE TO NEW COATING SYSTEM.
4. INSTALL NEW BENCH AS PER PUMP MANUFACTURER'S REQUIREMENTS, SEE DETAILS IN PLAN.
5. INSTALL ALL NECESSARY PIPING, FITTINGS AND WALL PENETRATIONS THAT WILL BE REQUIRED.
6. INSTALL NEW WET WELL TOP.
7. CONTRACTOR WILL DE-MOBILIZE FROM THE WET WELL AREA ONLY TO ALLOW THE COATING APPLICATION CONTRACTOR TO MOBILIZE INTO WET WELL. THE GENERAL CONTRACTOR WILL NOT DEMOBILIZE OR SUSPEND WORK IN OTHER AREAS OF THE PROJECT DURING THIS TIME PERIOD.
8. CONTRACTOR WILL INSTALL ALL REMAINING PIPE, FITTINGS, MOUNTING BRACKETS, PUMP DISCHARGE / BASE ELBOWS, AND APPURTENANCES.
9. COATINGS APPLICATION CONTRACTOR WILL THEN RETURN TO TOUCH-UP AND APPLY ADDITIONAL LINER MATERIAL TO INSURE THAT ALL SURFACES HAVE BEEN COATED PROPERLY.

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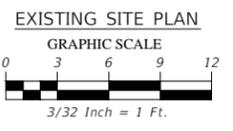
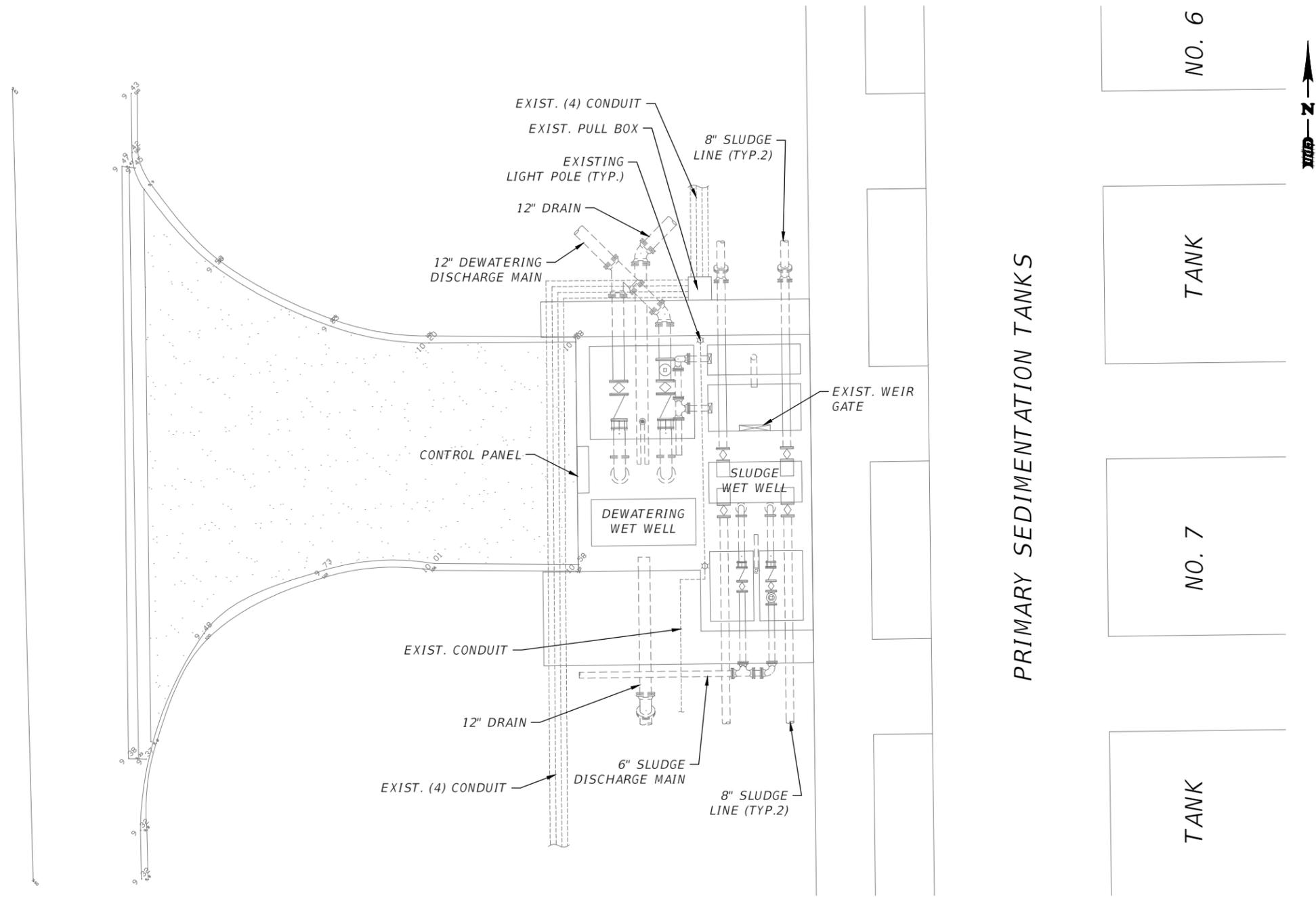
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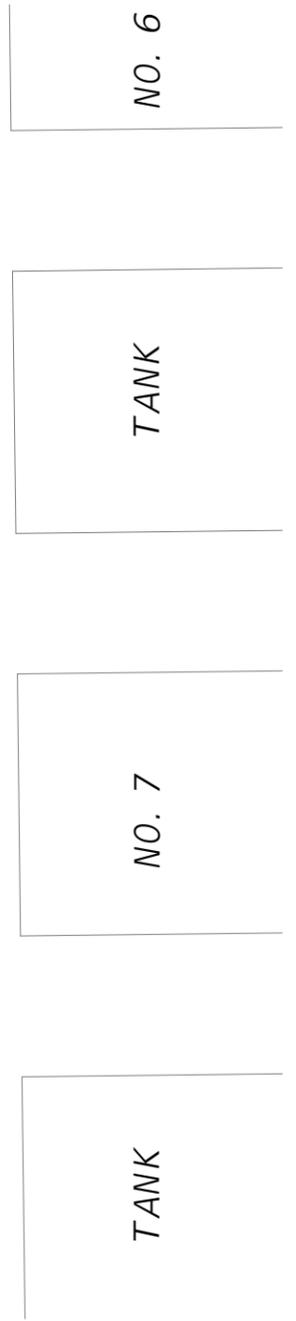
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PRIMARY SEDIMENTATION TANKS



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 Tampa, FL 33609 Ph: 813.288.0233  
 Licenses:  
 Eng. C.O.A. No. 3215  
 Survey L.B. No. 7143  
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 REG-# 69051

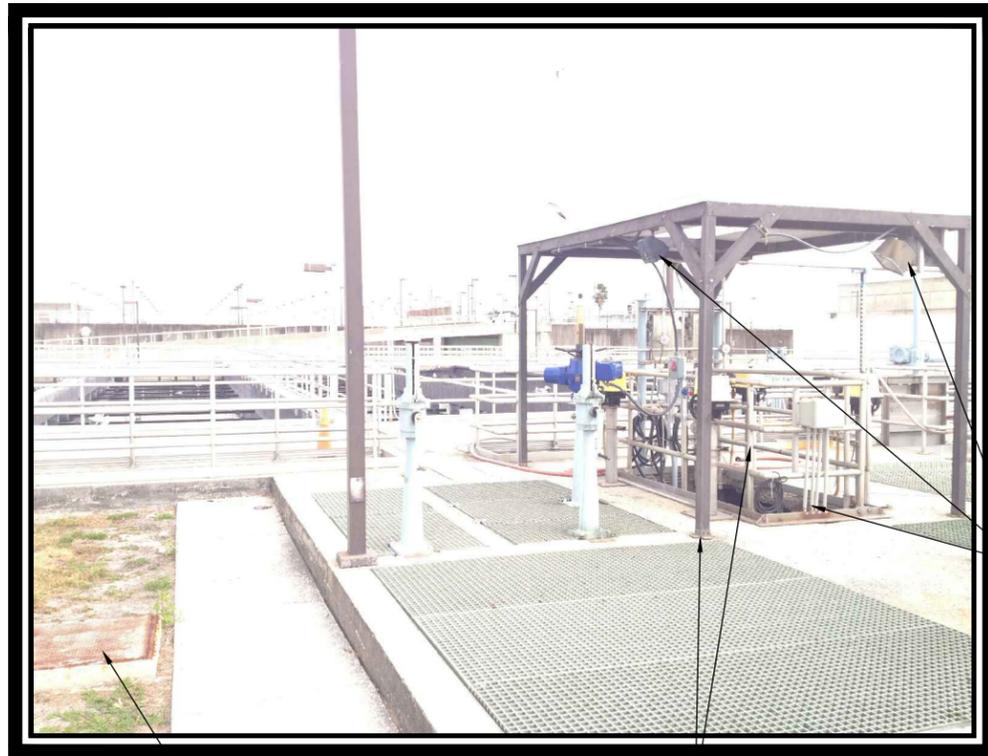
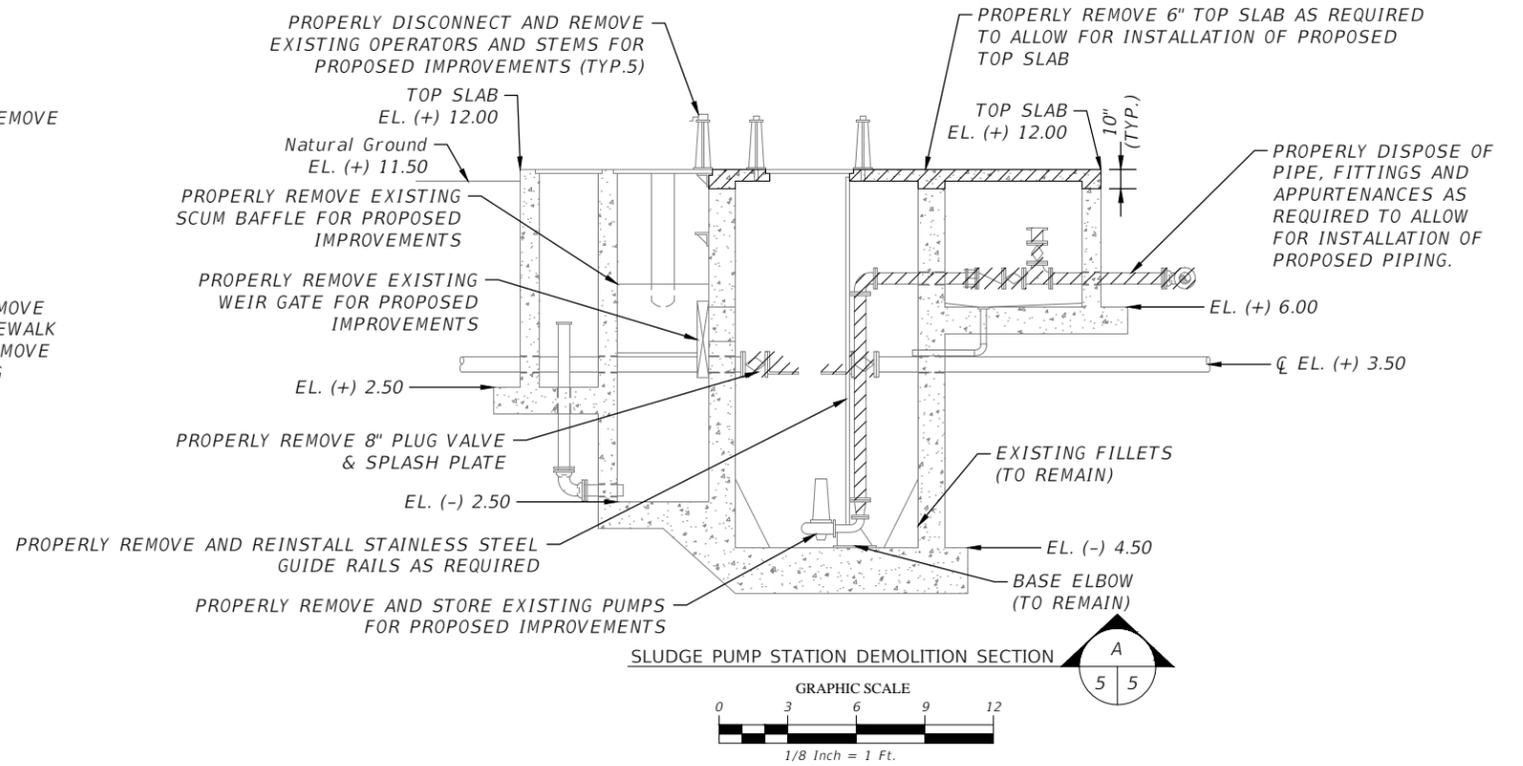
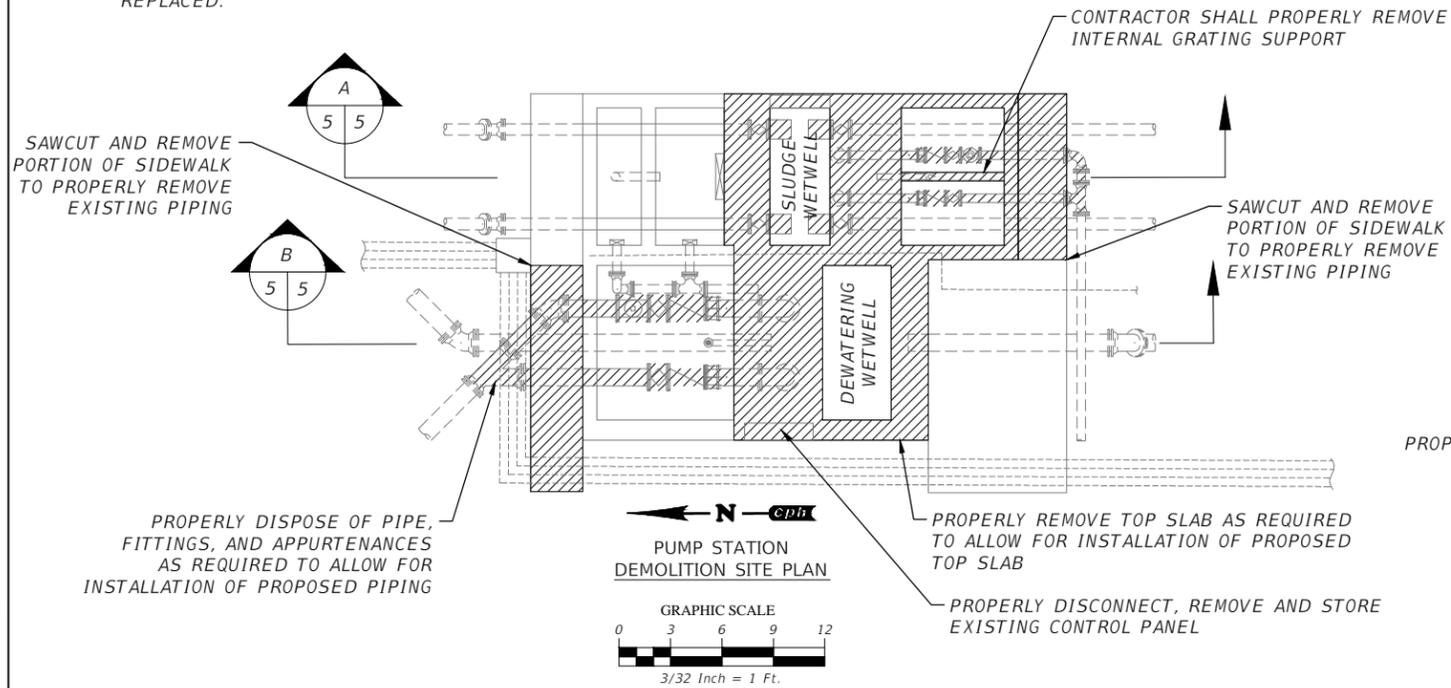
EXISTING SITE PLAN

CITY of TAMPA  
 WASTEWATER DEPARTMENT

Sheet No.  
**5**

NOTES:

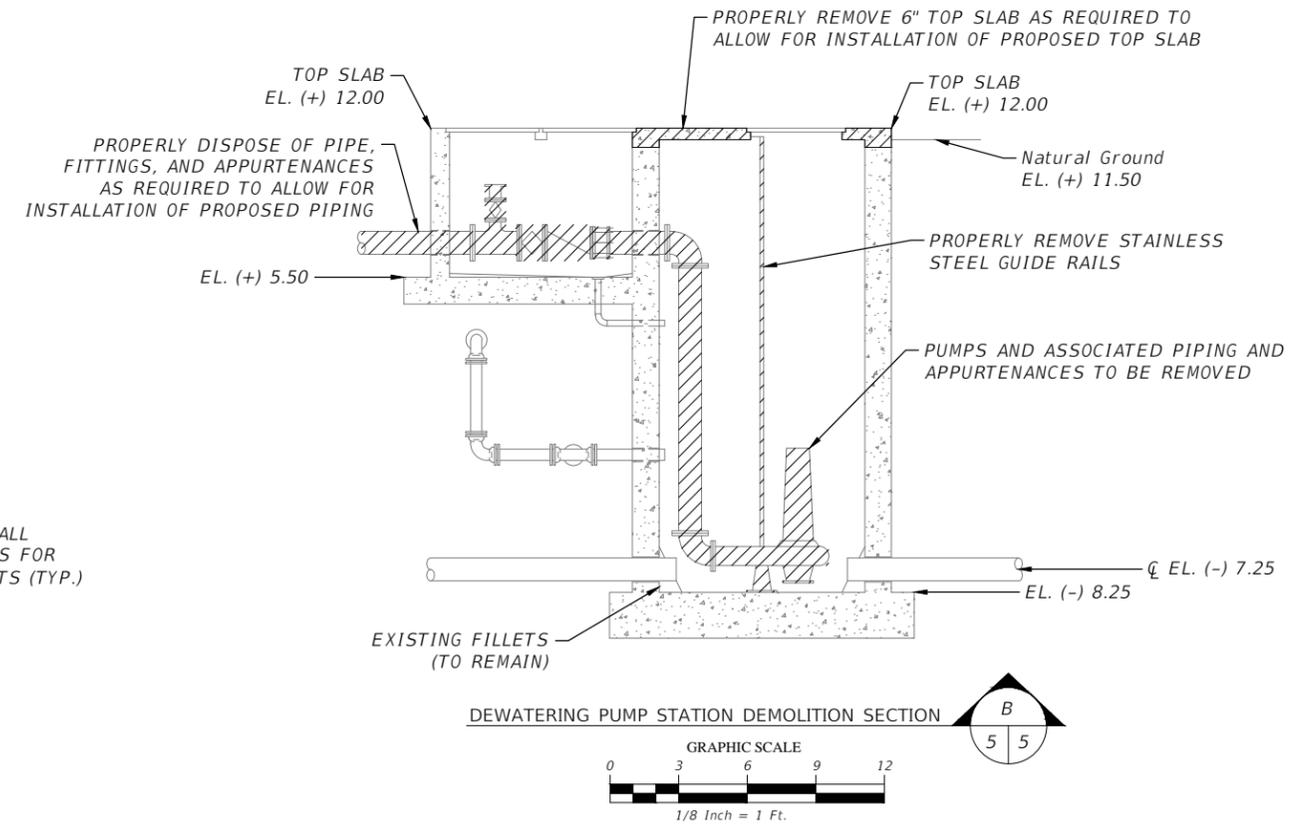
1. ALL EQUIPMENT AND COMPONENTS TO BE REINSTALLED AFTER PROPOSED IMPROVEMENTS SHALL BE PROPERLY STORED TO PROTECT AGAINST THE ELEMENTS.
2. CONTRACTOR SHALL PROVIDE PROTECTION DURING REHABILITATION FOR INTERNAL PIPING NOT BEING REPLACED.



CONTRACTOR SHALL PROTECT PULL BOX & CONDUITS DURING CONSTRUCTION

PROPERLY REMOVE AND DISCONNECT CANOPY, HANDRAIL AND ALL APPURTENANCES FOR PROPOSED IMPROVEMENTS

PROPERLY DISCONNECT ALL ELECTRICAL COMPONENTS FOR PROPOSED IMPROVEMENTS (TYP.)



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REG.# 69051

PUMP STATION  
DEMOLITION SITE PLAN

CITY of TAMPA  
WASTEWATER DEPARTMENT

Sheet No.  
**6**

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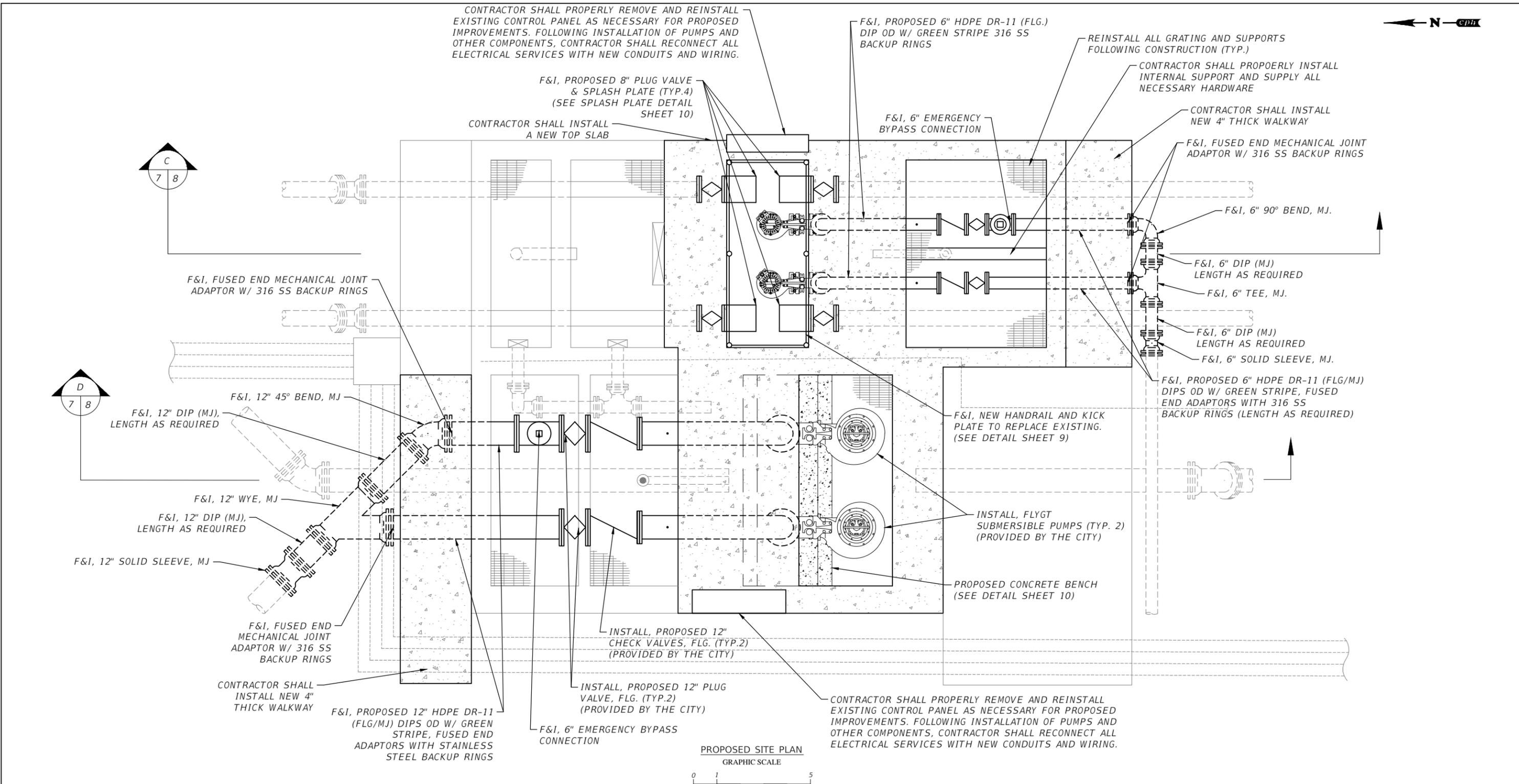
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**NOTE:**  
 FOLLOWING IMPROVEMENTS, CONTRACTOR SHALL REINSTALL CANOPY AND PROVIDE NECESSARY HARDWARE TO SECURE TO CONCRETE SLAB. RECONNECT ALL ELECTRICAL LIGHTS AND RECEPTACLES.

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 REG-# 69051

**PUMP STATION PIPING PLAN**

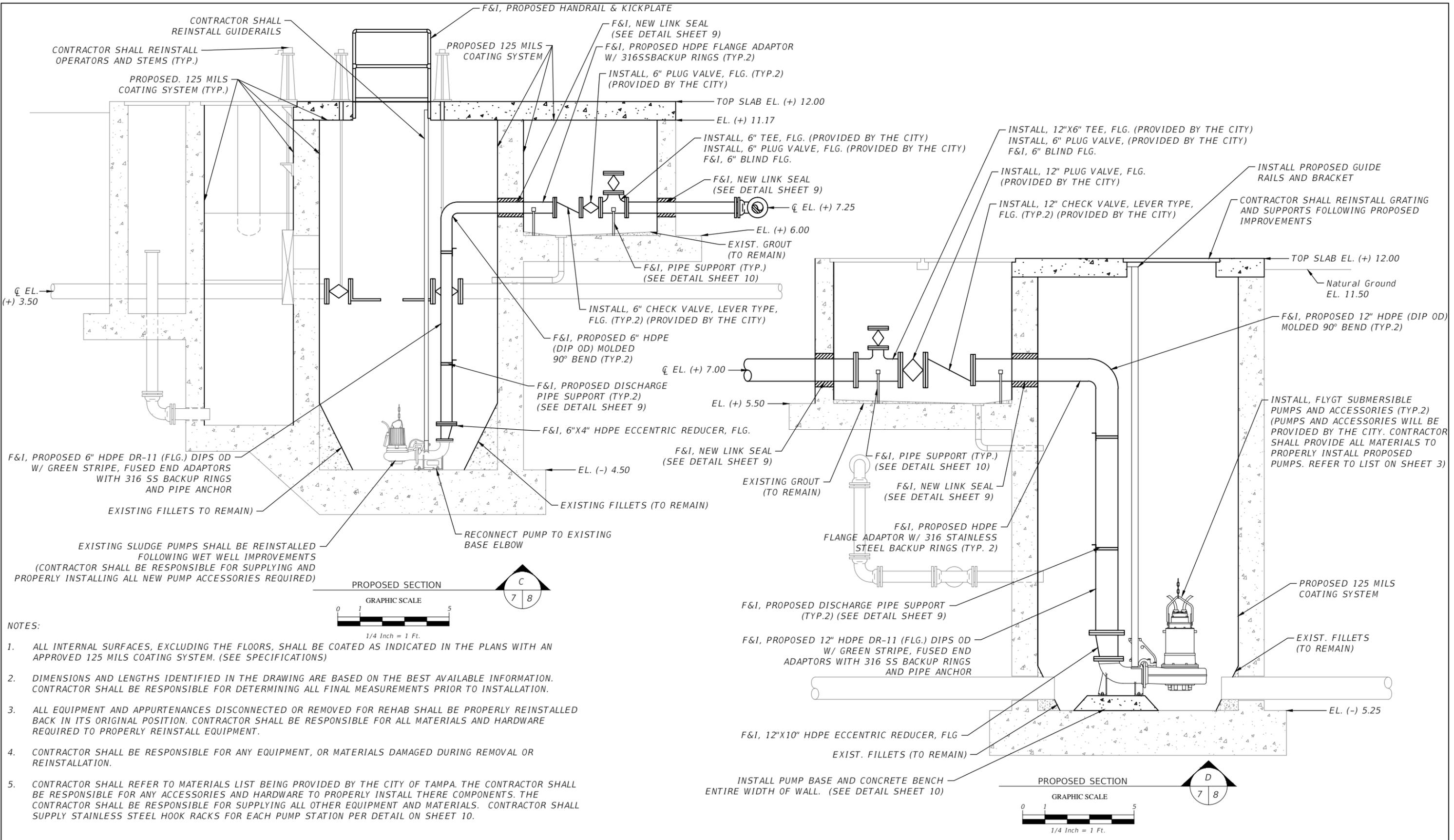
**CITY of TAMPA**  
 WASTEWATER DEPARTMENT

Sheet No.  
**7**

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- NOTES:
1. ALL INTERNAL SURFACES, EXCLUDING THE FLOORS, SHALL BE COATED AS INDICATED IN THE PLANS WITH AN APPROVED 125 MILS COATING SYSTEM. (SEE SPECIFICATIONS)
  2. DIMENSIONS AND LENGTHS IDENTIFIED IN THE DRAWING ARE BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL FINAL MEASUREMENTS PRIOR TO INSTALLATION.
  3. ALL EQUIPMENT AND APPURTENANCES DISCONNECTED OR REMOVED FOR REHAB SHALL BE PROPERLY REINSTALLED BACK IN ITS ORIGINAL POSITION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND HARDWARE REQUIRED TO PROPERLY REINSTALL EQUIPMENT.
  4. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EQUIPMENT, OR MATERIALS DAMAGED DURING REMOVAL OR REINSTALLATION.
  5. CONTRACTOR SHALL REFER TO MATERIALS LIST BEING PROVIDED BY THE CITY OF TAMPA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ACCESSORIES AND HARDWARE TO PROPERLY INSTALL THESE COMPONENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL OTHER EQUIPMENT AND MATERIALS. CONTRACTOR SHALL SUPPLY STAINLESS STEEL HOOK RACKS FOR EACH PUMP STATION PER DETAIL ON SHEET 10.

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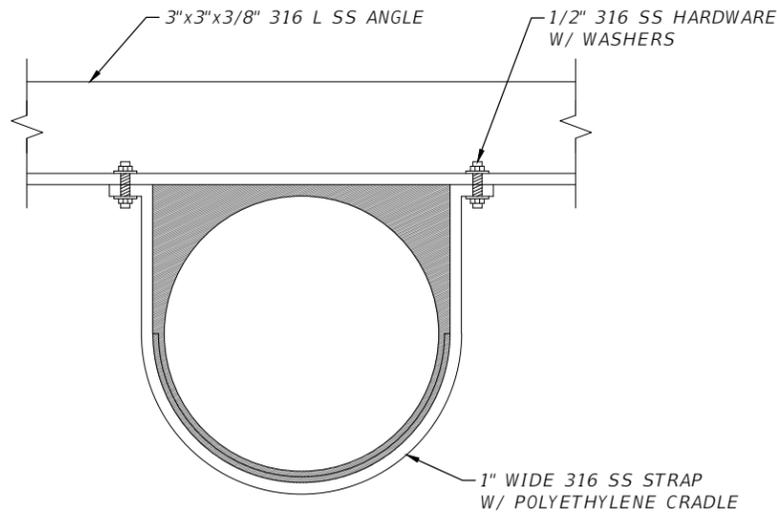
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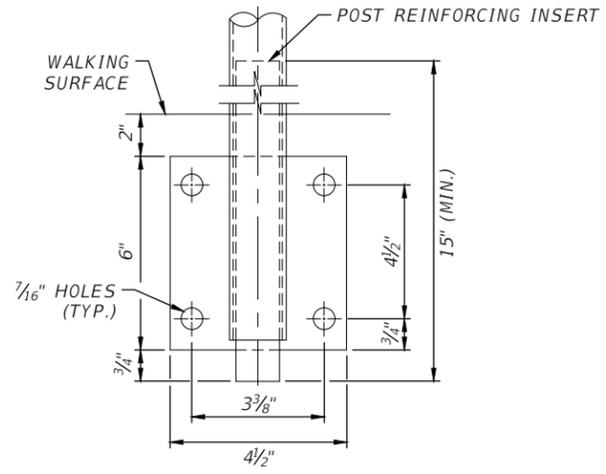
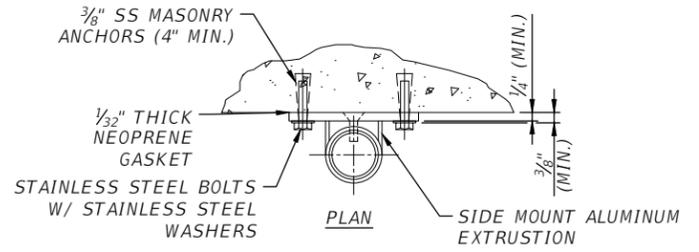
**PUMP STATION PIPING SECTIONS**

**CITY of TAMPA**  
 WASTEWATER DEPARTMENT

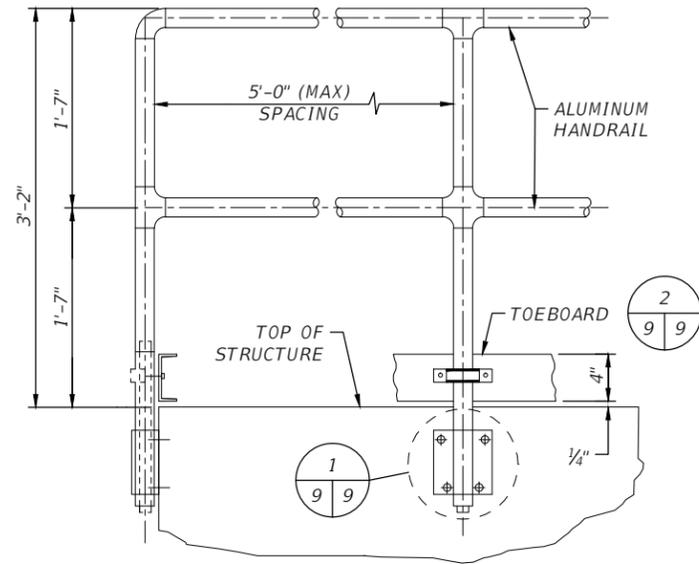
Sheet No.  
**8**



**PIPE STRAP SUPPORT**  
N.T.S.



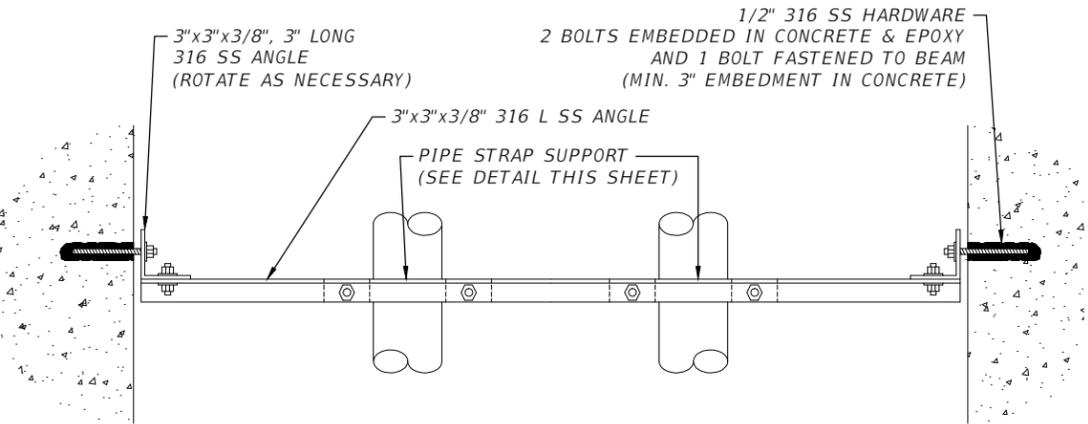
NOTE:  
USE 3/8" MACHINE BOLTS AND HARDWARE FOR METAL BRIDGE MOUNTING.  
**SIDE MOUNT HANDRAIL DETAIL**  
N.T.S.



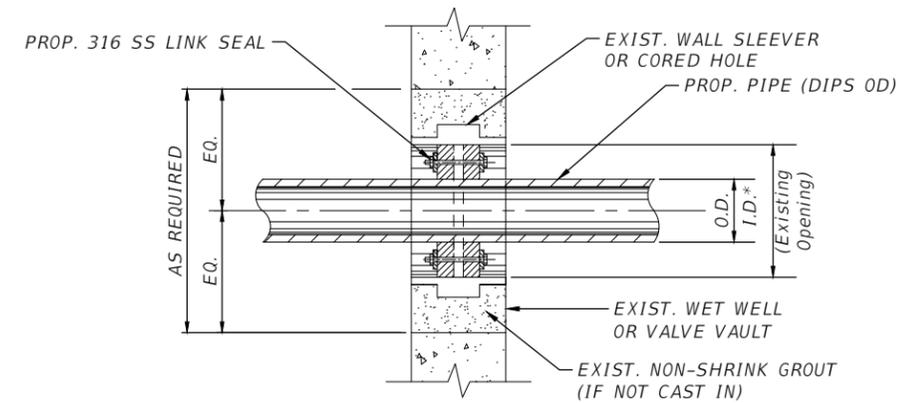
**HANDRAIL DETAIL**  
N.T.S.

**HANDRAIL NOTES:**

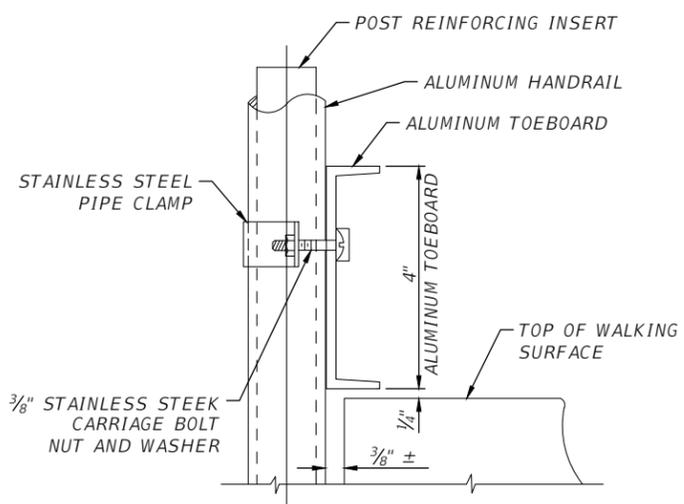
- HANDRAIL, POST, BRACKETS AND MOUNTINGS SHALL BE DESIGNED TO CARRY MINIMUM LOADS OF 50 LBS/FT OSHA AND SOUTHERN BUILDING CODE LOADING REQUIREMENTS.
- ALL HANDRAILS SHALL BE 38" HIGH ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE ON THE PLANS.
- FURNISH AND INSTALL H.J. THELEN CO. OSHA TYPE ALUMINUM TOE BOARDS ON ALUMINUM POSTS WHERE NOTED ON PLANS OR REQUIRED BY CODE.
- THERE SHALL BE GASKET TYPE BOND BREAK IN ANY CASE WHERE TWO DIFFERENT METALS OR METAL AND CONCRETE ARE FASTENED TOGETHER.
- HANDRAILS SHALL BE 1-1/2" INSIDE DIAMETER SCHEDULE 40 ANODIZED ALUMINUM OR 2" NOMINAL OUTSIDE DIAMETER.



**PIPE SUPPORT ASSEMBLY**  
N.T.S.



**LINK SEAL DETAIL**  
N.T.S.



**ALUMINUM TOEBOARD DETAIL**  
N.T.S.

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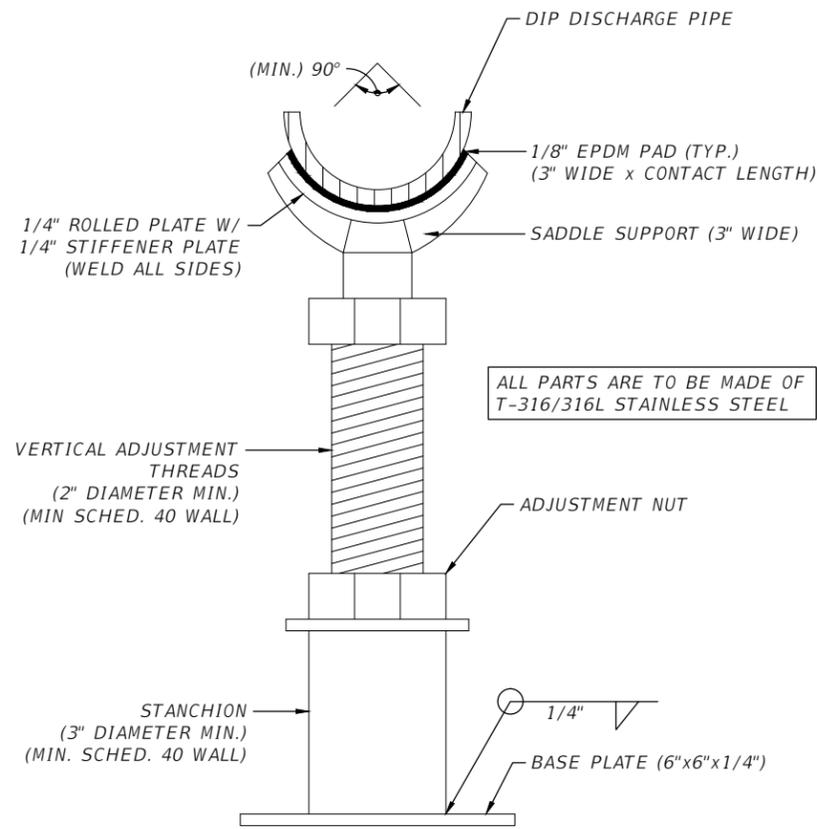
MISCELLANEOUS DETAILS (1)  
**CITY of TAMPA**  
WASTEWATER DEPARTMENT

Sheet No.  
**9**

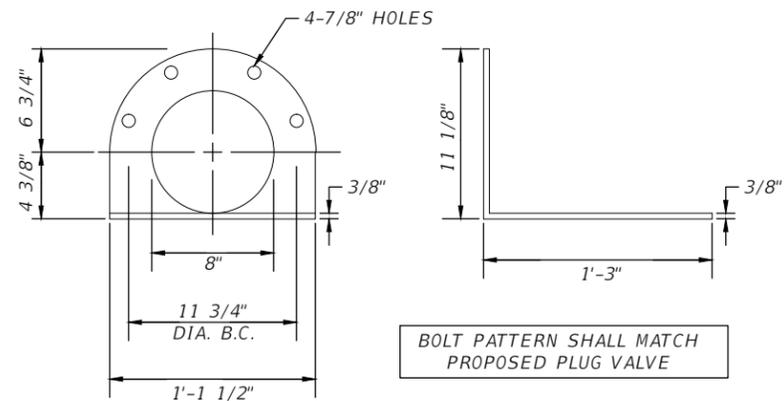
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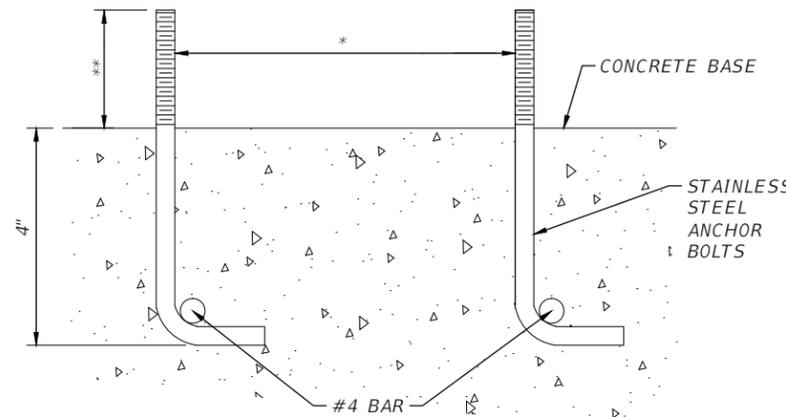
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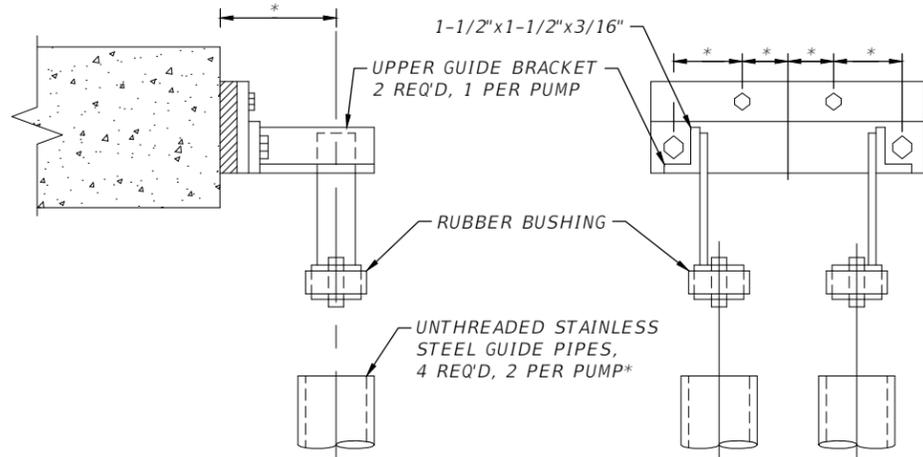
**SECTION VIEW - STAINLESS STEEL STANCHION SADDLE SUPPORT**  
N.T.S.



**SPLASH PLATE**  
N.T.S.

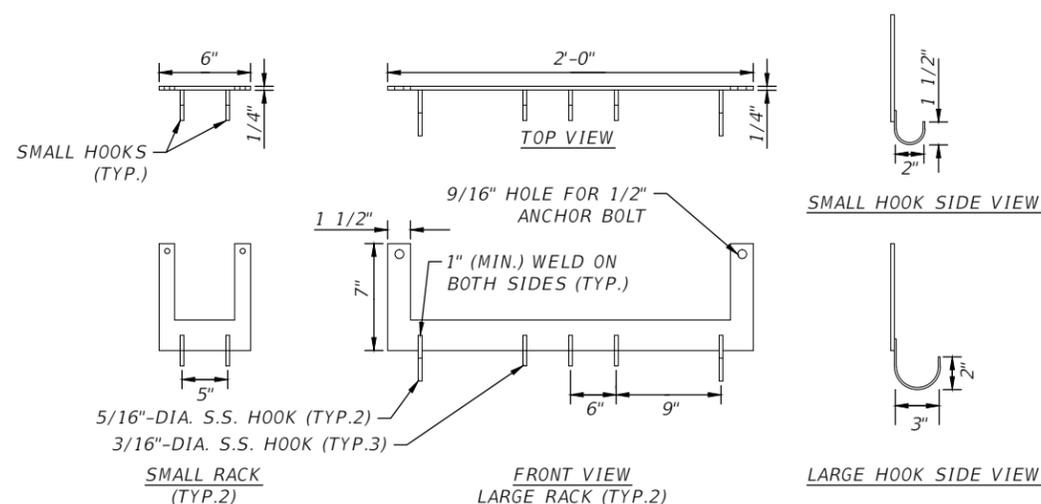


**ANCHOR BOLT DETAIL**  
N.T.S.

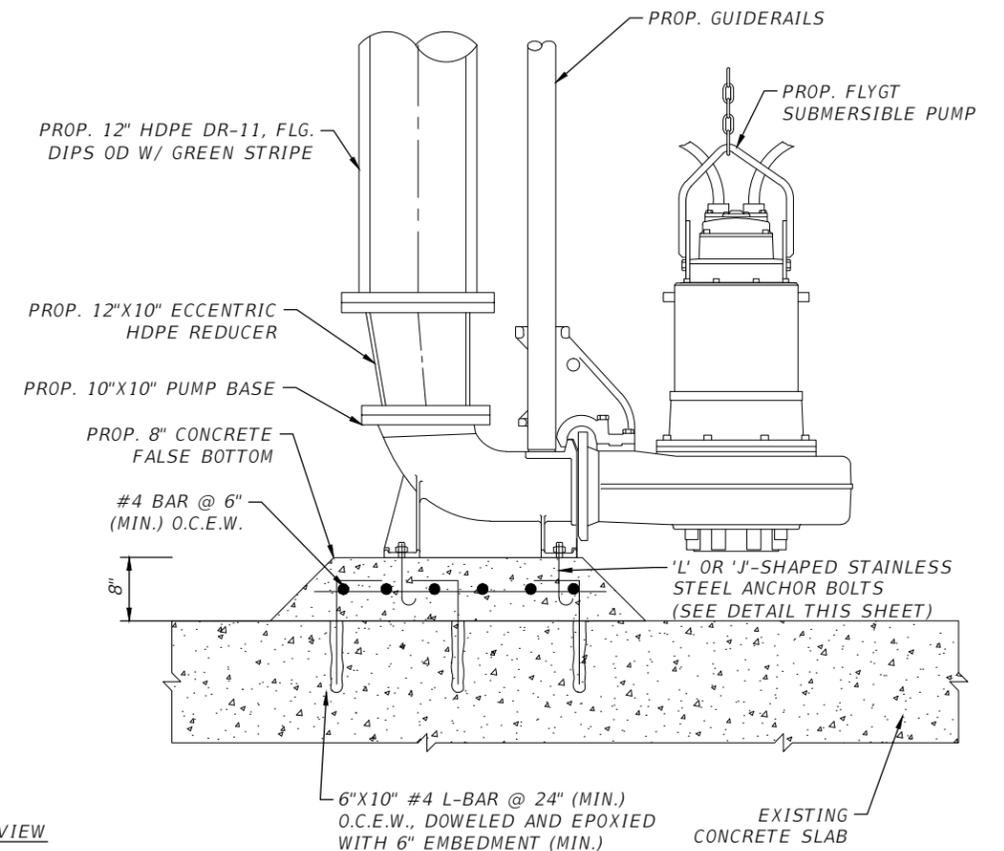


\* PER PUMP MANUFACTURER'S RECOMMENDATION.  
\* CITY TO PROVIDE FOR DEWATERING PUMPS.

**GUIDE BRACKET DETAIL**  
N.T.S.



**PROP. STAINLESS STEEL HOOK RACKS**  
N.T.S.



**PROP. PUMP ASSEMBLY & ANCHORAGE DETAIL**  
N.T.S.

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REG-# 69051

MISCELLANEOUS DETAILS (2)

CITY of TAMPA  
WASTEWATER DEPARTMENT

Sheet No.  
**10**

**GENERAL CONDITIONS:**

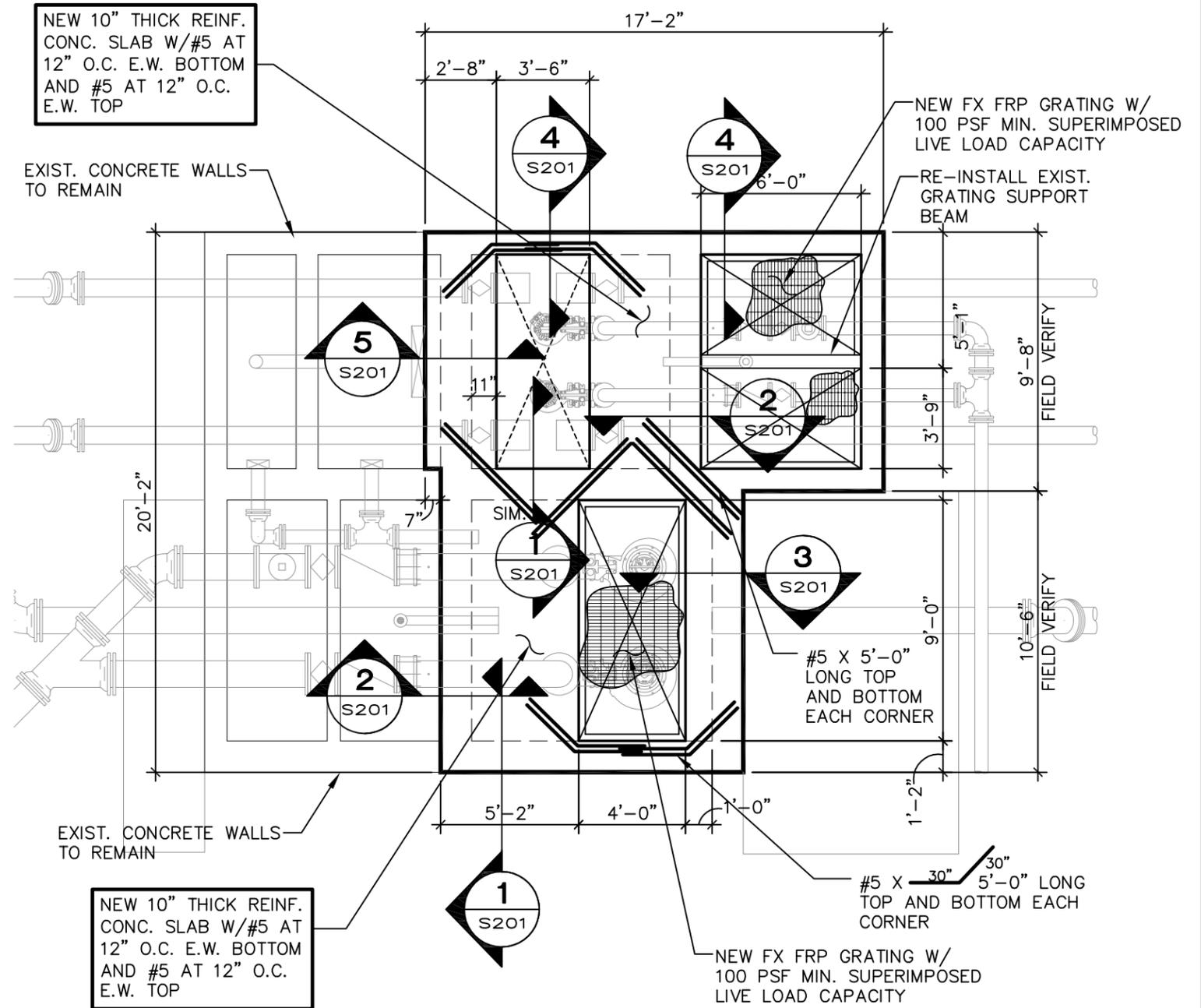
- THE FOLLOWING NOTES SHALL APPLY TO ALL STRUCTURAL DRAWINGS.
- ALL DESIGN AND CONSTRUCTION SHALL BE BASED ON AND IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2010 EDITION AND ASCE7-10.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS AND NOTIFY THE ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- IF MATERIAL QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS OR SPECIFICATIONS ARE NOT IN AGREEMENT WITH THESE NOTES, THE BETTER QUALITY AND/OR QUANTITY, STRENGTH OR NOTED SHALL BE PROVIDED.
- IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY WHATEVER BRACING, GUYS, TIE-DOWNS OR SHORING MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
- IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PROCEDURES. THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION OR FOR RELATED SAFETY PROCEDURES.
- THE STRUCTURAL DRAWINGS ARE ONE DISCIPLINE OF THE CONTRACT DOCUMENTS AND DO NOT BY THEMSELVES CONTAIN ALL THE INFORMATION REQUIRED TO PROPERLY COMPLETE THE PROJECT STRUCTURE. THE GENERAL CONTRACTOR SHALL REFER TO OTHER DRAWINGS AND COORDINATE THE INFORMATION INDICATED IN THESE CONSTRUCTION DOCUMENTS WITH THE STRUCTURAL DRAWINGS TO PROPERLY CONSTRUCT THE PROJECT.
- ALL DETAILS, SECTIONS AND NOTES INDICATED ON THE CONSTRUCTION DOCUMENTS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE SHOWN.
- DESIGN LOADS:
  - DESIGN LIVE LOAD:
    - TOP CONCRETE SLAB = 250 PSF
  - DESIGN WIND LOAD:
    - ULTIMATE DESIGN WIND SPEED (3 SECOND GUST),  $V_{ult} = 160$  MPH. NOMINAL DESIGN WIND SPEED (3 SECOND GUST),  $V_{asd} = 124$  MPH.
    - WIND IMPORTANCE FACTOR,  $I = 1.15$
    - RISK CATEGORY: III
    - WIND EXPOSURE CATEGORY: C
    - MAXIMUM COMPONENT AND CLADDING PRESSURE = 55 PSF ( $V_{asd}$ )
    - INTERNAL PRESSURE COEFFICIENTS +/- 0.18
- SHOP DRAWINGS:
  - THE CONTRACTOR SHALL SUBMIT, AS REQUIRED, PRINTS OF SHOP DRAWINGS FOR ALL FABRICATED MATERIALS TO ENGINEER FOR REVIEW. REPRODUCTION OF CONTRACT DRAWINGS FOR SHOP DRAWINGS WILL NOT BE PERMITTED.
  - REVIEW OF SHOP DRAWINGS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THOSE SHOP DRAWINGS.
  - SHOP DRAWINGS REQUIRING A SPECIAL ENGINEERING DESIGN BY THE FABRICATOR SHALL BE STAMPED BY A PROFESSIONAL ENGINEER OF RECORD IN THE STATE OF THE PROJECT LOCATION BEFORE SUBMITTING FOR REVIEW BY THE ENGINEER. THESE DRAWINGS SHALL BE AVAILABLE AT THE JOB SITE DURING TIMES OF OBSERVATIONS.
- THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED:
  - CONCRETE MIX DESIGNS
  - CONCRETE REINFORCING STEEL

**CONCRETE:**

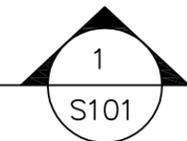
- CONCRETE MEMBERS TO HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS:
  - TOP SLAB 4000 PSI

ALL OTHER CONCRETE TO BE 4000 PSI UNLESS NOTED OTHERWISE.
- ALL CONCRETE SHALL BE READY MIX AND MEET THE FOLLOWING REQUIREMENTS:
  - CONCRETE SLUMP SHALL BE 3 TO 4 INCHES.
  - CONCRETE SHALL HAVE 2 TO 4 PERCENT AIR ENTRAINMENT.
  - ALL CONCRETE TO HAVE MAXIMUM WATER/CEMENT RATIO OF 0.48.
- CONCRETE MIX SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301 CHAPTER 3, METHOD 1 OR METHOD 3. CONTRACTOR SHALL SUBMIT BACKUP DATA PER CHAPTER 5 SECTION 5.3 OF ACI 318 LATEST EDITION.

- ALL REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A-615 GRADE 60. SUBMIT ALL REINFORCING STEEL SUBMIT ALL SHOP DRAWINGS FOR APPROVAL PRIOR TO ANY FABRICATION.
- CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS REQUIRED BY ACI SPECIFICATIONS.
- WELDED WIRE FABRIC SHALL CONFORM WITH ASTM A 185. WELDED WIRE FABRIC SHALL BE LAPPED AT LEAST 12 INCHES UNLESS NOTED OTHERWISE.
- LAP ALL BARS MINIMUM 48 DIAMETERS UNLESS OTHERWISE NOTED ON DRAWINGS.
- PROVIDE ACI STANDARD HOOKS UNLESS NOTED OTHERWISE ON DRAWINGS.
- ALL CONCRETE WORK SHALL CONFORM TO ACI 318 LATEST EDITION "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE STRUCTURES", AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS."
- ALL CONCRETE DETAILS SHALL CONFORM TO ACI 315 LATEST EDITION "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES OF SLEEVES, OPENINGS, EMBEDDED ITEMS, SLAB RECESSES, SLOPES, ECT. THESE ITEMS SHALL BE COORDINATED WITH OTHER TRADES AND INSTALLED PRIOR TO CONCRETE PLACEMENT.
- CONTRACTOR SHALL VERIFY ANCHOR BOLT SIZES AND LOCATIONS PRIOR TO CONCRETE PLACEMENT.
- BAR LENGTHS PROVIDED ON DRAWINGS DO NOT INCLUDE HOOK LENGTH. HOOKS SHALL BE PROVIDED AT TOP BARS AT BEAM ENDS AND SLAB EDGES.
- CONTRACTOR SHALL PROVIDE CHAIRS, BOLSTERS, SPACERS, ECT. AS REQUIRED TO SECURELY SUPPORT REINFORCEMENT. SUPPORT ITEMS ON EXPOSED CONCRETE SHALL BE PLASTIC SUPPORT REINFORCEMENT. TIPPED OR STAINLESS STEEL. IN HIGHLY CORROSIVE ENVIRONMENTS, SUPPORT ITEM SHALL BE PLASTIC.
- CONSTRUCTION JOINTS IN STRUCTURAL SLABS AND BEAMS SHALL BE AT MID-SPAN AND KEY JOINTED WITH REINFORCING CONTINUOUS ACROSS JOINT AND ADDITIONAL SHEAR FRICTION REINFORCING. CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- A COPY OF THE "FIELD REFERENCE MANUAL" ACI SP-15 LATEST EDITION SHALL BE KEPT BY THE CONTRACTOR ON SITE.
- ONE COPY OF ALL THE CONCRETE TEST RESULTS SHALL BE SUBMITTED BY THE TESTING AGENCY DIRECTLY TO THE ENGINEER OF RECORD.



PUMP STATION STRUCTURAL PLAN  
SCALE: 3/16" = 1'-0"



**HIGGENBOTHAM**  
Engineering, Inc.  
Structural Engineers  
3222 Corrine Drive, Suite F  
Orlando, Florida 32803  
Phone: 407 286 1787  
Fax: 407 286 2281  
FLORIDA C.A. NO. 26850

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Harold

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HAROLD G. HIGGENBOTHAM  
PROFESSIONAL ENGINEER  
FL. NO. 56467

PUMP STATION STRUCTURAL PLANS

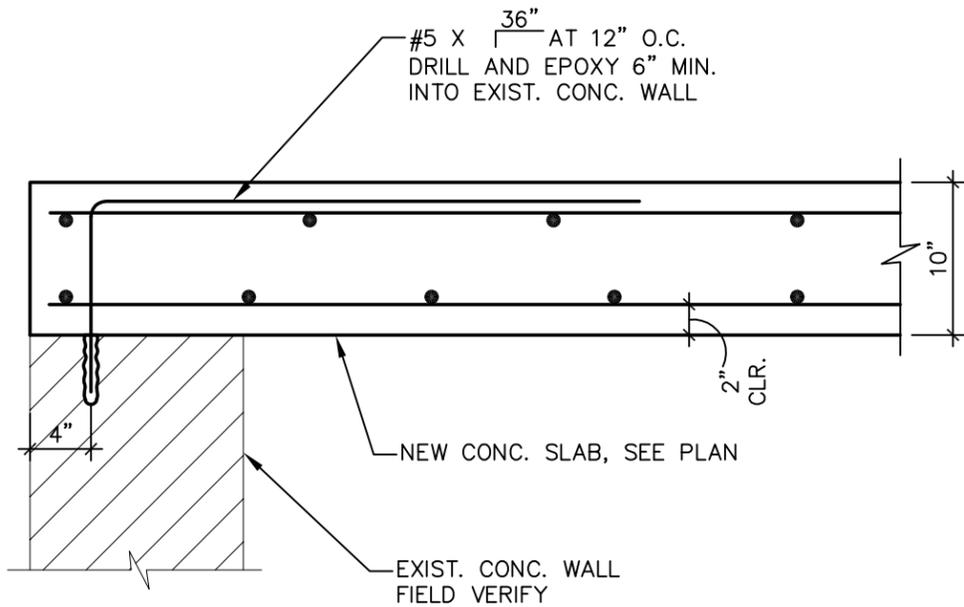
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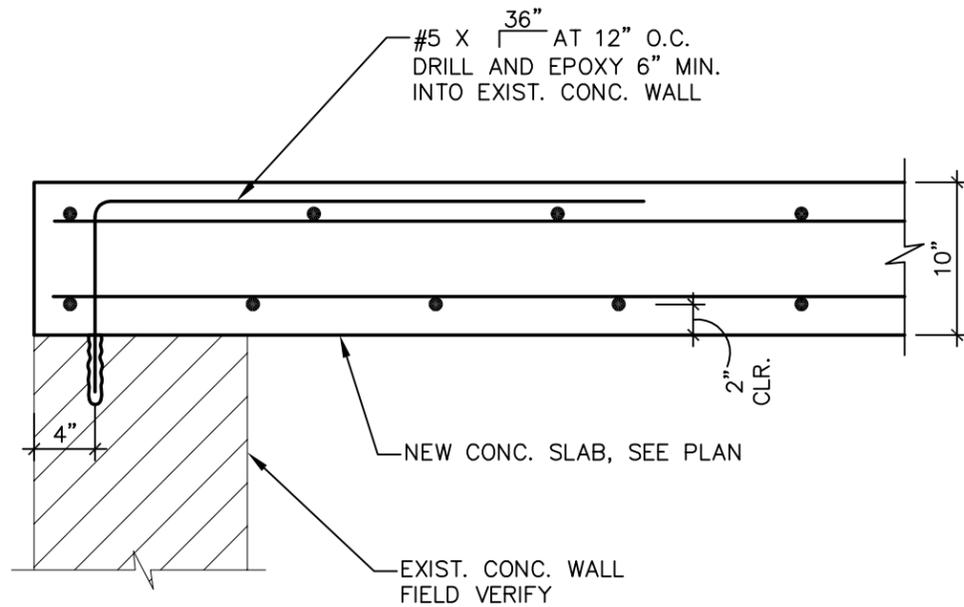
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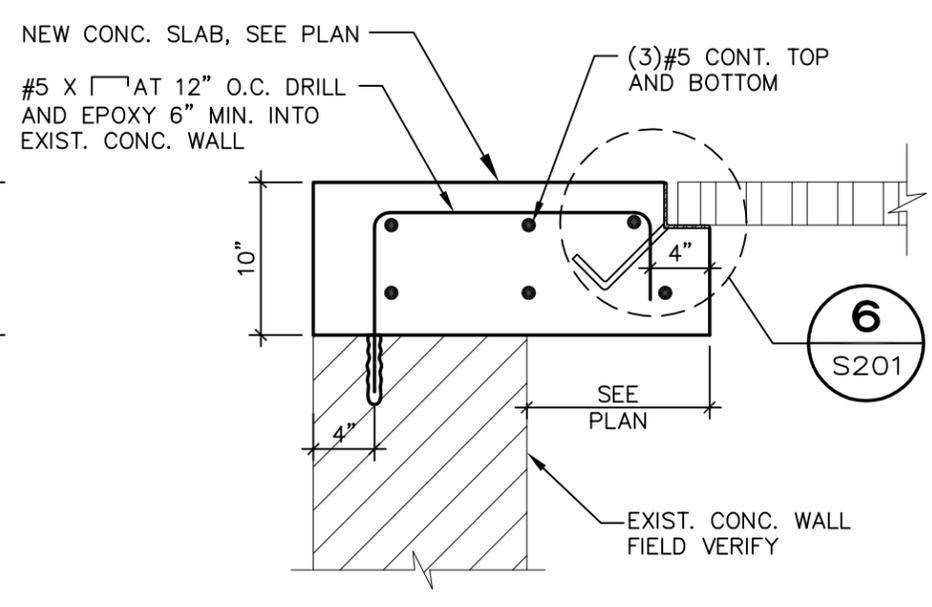
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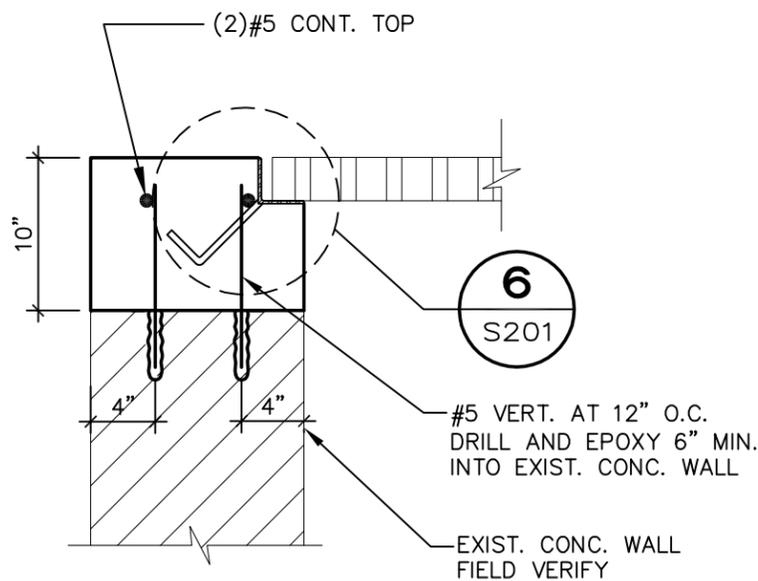
**SECTION 1**  
1" = 1'-0"  
S201



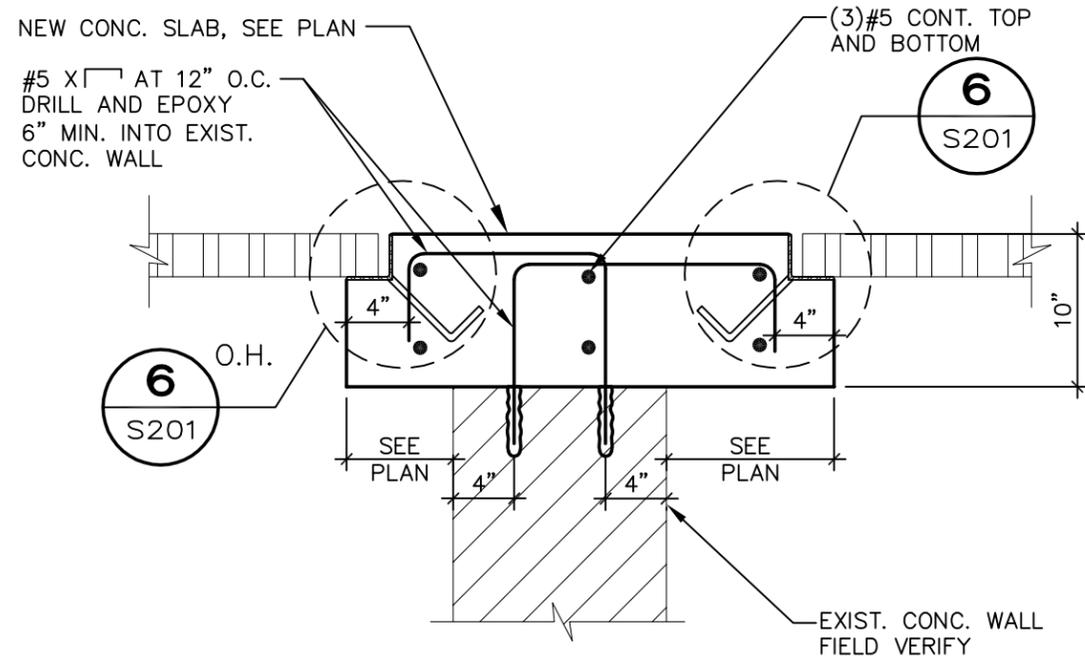
**SECTION 2**  
1" = 1'-0"  
S201



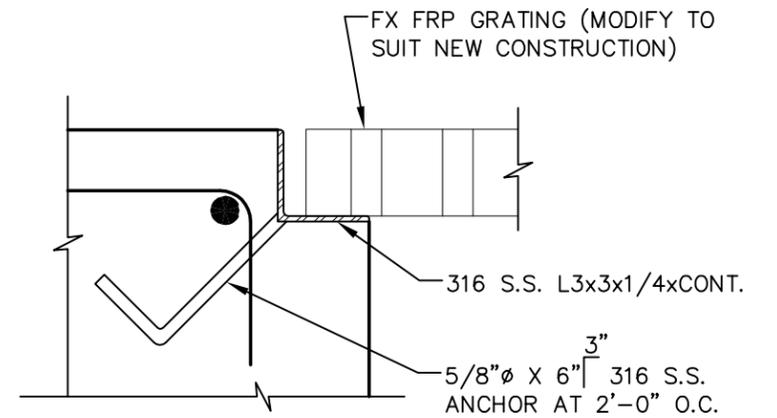
**SECTION 3**  
1" = 1'-0"  
S201



**SECTION 4**  
1" = 1'-0"  
S201



**SECTION 5**  
1" = 1'-0"  
S201



**TYP. GRATING SECTION**  
**SECTION 6**  
3" = 1'-0"  
S201

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Designed by:	HGH	Date:	06/2013
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PUMP STATION STRUCTURAL SECTIONS

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

Sheet No.  
S201