

BORING LOCATION PLAN

NOTE:

THE LOCATIONS OF THE BORINGS WERE RECORDED IN THE FIELD BY TIERRA, INC. USING GARMIN ETREX HAND-HELD GPS EQUIPMENT WITH A REPORTED ACCURACY OF 10 FEET. THE GPS COORDINATES RECORDED BY TIERRA WERE UTILIZED IN CONJUNCTION WITH MICROSTATION DESIGN FILES TO OBTAIN STATION, OFFSET, AND ELEVATION. THEREFORE, THE LOCATIONS OF THE BORINGS SHOULD BE CONSIDERED APPROXIMATE.

ENVIRONMENTAL CLASSIFICATION:

SUBSTRUCTURE CONCRETE: MODERATELY AGGRESSIVE (pH=5.7, RESISTIVITY=1,800 OHM-CM)
 SUBSTRUCTURE STEEL: EXTREMELY AGGRESSIVE (pH=5.7)

TEST RESULTS:

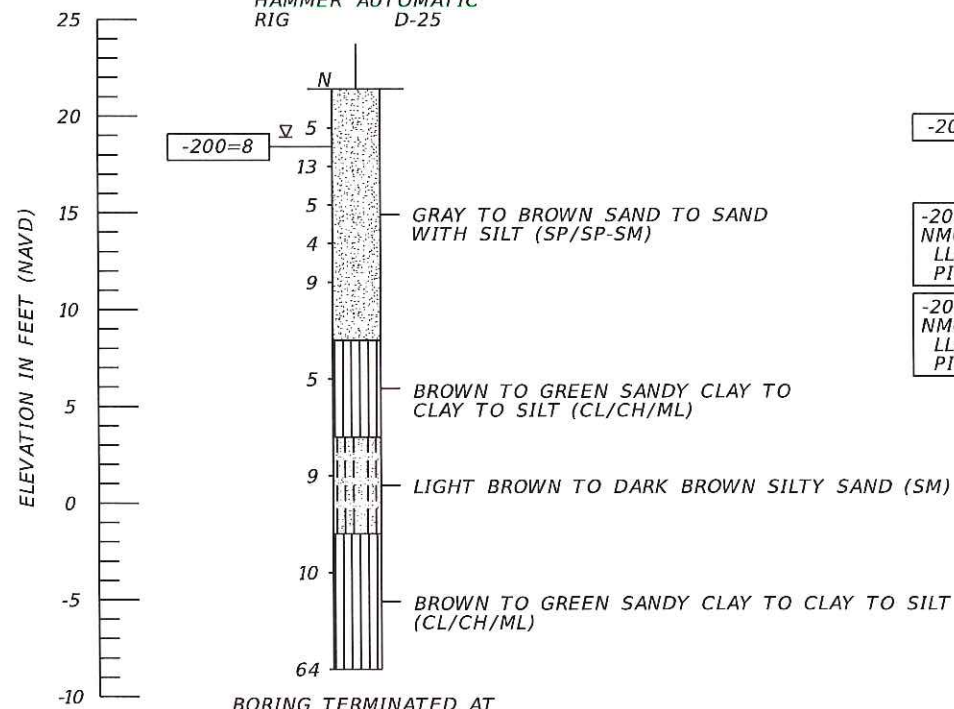
RESISTIVITY 1,800 TO 14,000 OHM-CM
 CHLORIDES 30 TO 105 PPM
 SULFATES <4.8 TO 204.1 PPM
 pH 5.7 TO 7.8

LEGEND

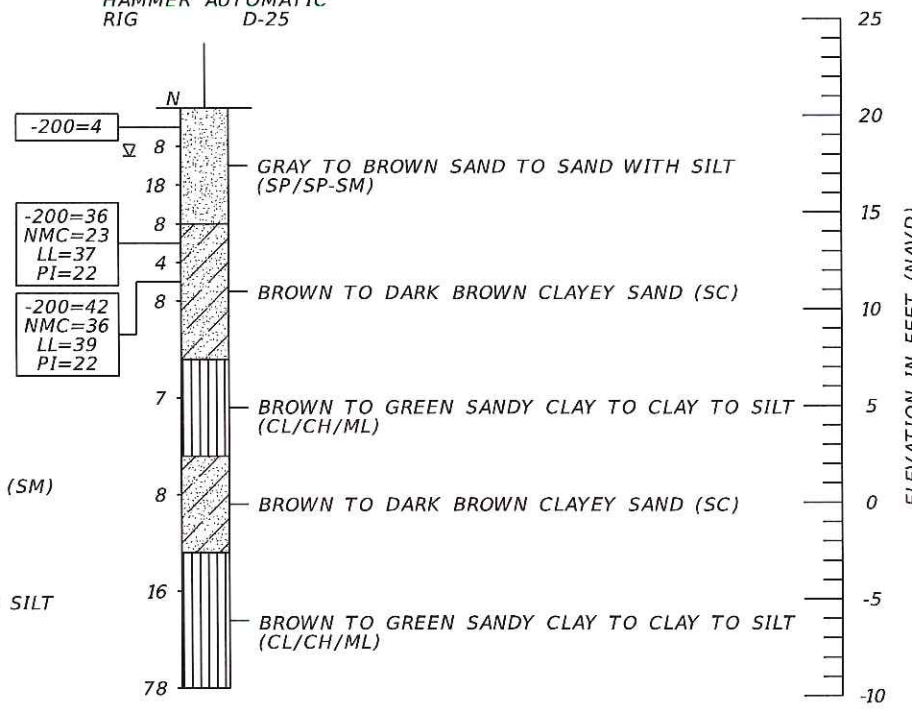
- GRAY TO BROWN SAND TO SAND WITH SILT (SP/SP-SM)
- LIGHT BROWN TO DARK BROWN SILTY SAND (SM)
- BROWN TO DARK BROWN CLAYEY SAND (SC)
- BROWN TO GREEN SANDY CLAY TO CLAY TO SILT (CL/CH/ML)
- SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.
- N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED).
- HA HAND AUGERED TO VERIFY UTILITY CLEARANCE
- 200 PERCENT PASSING #200 SIEVE
- NMC NATURAL MOISTURE CONTENT (%)
- LL LIQUID LIMIT (%)
- PI PLASTICITY INDEX (%)
- NAVD NORTH AMERICAN VERTICAL DATUM OF 1988
- APPROXIMATE SPT BORING LOCATION
- GROUNDWATER LEVEL ENCOUNTERED DURING FIELD EXPLORATIONS
- GNA GROUNDWATER NOT APPARENT DUE TO THE INTRODUCTION OF DRILLING FLUID.
- BASELINE SURVEY OF RYE ROAD

BOR # PED-3
 STA. 145+01
 REF. SURVEY
 OFF. 7' LT.
 ELEV. 21.4
 DATE 2/27/2017
 DRILLER J. SHAW
 HAMMER AUTOMATIC RIG D-25

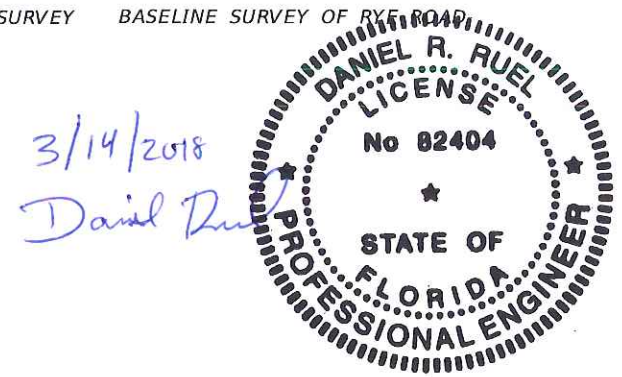
BOR # PED-4
 STA. 145+71
 REF. SURVEY
 OFF. 26' LT.
 ELEV. 20.4
 DATE 2/27/2017
 DRILLER J. SHAW
 HAMMER AUTOMATIC RIG D-25



BORING TERMINATED AT ELEVATION -8.6 FT (NAVD)
 LATITUDE: N 27.48995
 LONGITUDE: W 82.39482



BORING TERMINATED AT ELEVATION -9.6 FT (NAVD)
 LATITUDE: N 27.49006
 LONGITUDE: W 82.39467



| | SAFETY HAMMER | AUTOMATIC HAMMER |
|-------------------------------------|-------------------------|-------------------------|
| GRANULAR MATERIALS-RELATIVE DENSITY | SPT N-VALUE (BLOWS/FT.) | SPT N-VALUE (BLOWS/FT.) |
| VERY LOOSE | LESS THAN 4 | LESS THAN 3 |
| LOOSE | 4 to 10 | 3 to 8 |
| MEDIUM DENSE | 10 to 30 | 8 to 24 |
| DENSE | 30 to 50 | 24 to 40 |
| VERY DENSE | GREATER THAN 50 | GREATER THAN 40 |
| SILTS AND CLAYS CONSISTENCY | SPT N-VALUE (BLOWS/FT.) | SPT N-VALUE (BLOWS/FT.) |
| VERY SOFT | LESS THAN 2 | LESS THAN 1 |
| SOFT | 2 to 4 | 1 to 3 |
| FIRM | 4 to 8 | 3 to 6 |
| STIFF | 8 to 15 | 6 to 12 |
| VERY STIFF | 15 to 30 | 12 to 24 |
| HARD | GREATER THAN 30 | GREATER THAN 24 |

PEDESTRIAN BRIDGE

| | | | | | |
|----------------|-----------------------------------|--------------------|--------------------------------|----------------------------|---------------|
| SCALE AS NOTED | TIERRA, INC. | DATE 3/2017 | DESIGN ENGINEER DANIEL R. RUEL | REPORT OF CORE BORINGS (2) | SHEET NO. P-8 |
| DESIGNED BY SW | 7351 TEMPLE TERRACE HIGHWAY | PROJECT NO. 225338 | FL. LICENSE NO. 82404 | | |
| DRAWN BY SW | TAMPA, FLORIDA 33637 | | | | |
| CHECKED BY DRR | CERTIFICATE OF AUTHORIZATION 6486 | | | | |
| No. REVISIONS | DATE BY | | | | |

GENERAL CONSTRUCTION NOTES:

- LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS AND SERVE AS NOTICE TO THE CONTRACTOR THAT UNDERGROUND UTILITIES EXIST. THE CONTRACTOR WILL VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR WILL PROBE AREAS SUSPECT OF HAVING EXISTING UTILITIES AND WILL UNCOVER ALL UTILITIES VIA "POT HOLE" METHOD TO ENSURE THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES. CONTRACTOR WILL OBTAIN OWNER'S PERMISSION TO PERFORM "POT HOLE" PRIOR TO THE COMMENCEMENT OF WORK IN THESE AREAS. THE OWNER WILL LOCATE, TO THE BEST OF THEIR KNOWLEDGE, WHEN REQUESTED AS STATED IN ITEM 2 BELOW, WITHIN 2'-6" OF EITHER SIDE OF THE CENTER LINE OF THE UTILITY. THE CONTRACTOR WILL KEEP A RECORD OF THIS LOCATION FOR FUTURE WORK IN THE SAME AREA FOR HIMSELF OR HIS SUB CONTRACTORS. THE CONTRACTOR WILL NOTIFY THE OWNER'S PROJECT MANAGER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
- THE CONTRACTOR WILL PROVIDE A MINIMUM OF 48 HOURS AND A MAXIMUM OF FIVE (5) DAYS NOTICE (EXCLUDING SATURDAY, SUNDAY, AND LEGAL HOLIDAYS) TO THE SUNSHINE STATE ONE CALL SYSTEMS AT 1-800-432-4770 OR (811) AND ALL AFFECTED UTILITY COMPANIES IN ORDER TO REQUEST MARKING OF THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR WILL NOTIFY THE PARTICIPATING UTILITY COMPANIES BY CALLING THE UTILITY NOTIFICATION CENTER (1-800-432-4770) OR (811). NOT ALL UTILITY COMPANIES ARE MEMBERS OF SUNSHINE STATE ONE CALL. THE CONTRACTOR WILL BE REQUIRED TO NOTIFY ALL AFFECTED UTILITIES WHICH ARE NOT MEMBERS OF SUNSHINE STATE ONE CALL. ANY AND ALL DAMAGE TO EXISTING UTILITIES WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE ANY AND ALL EXISTING UTILITIES ON THIS PROJECT. (SEE NOTES 1 AND 2 ABOVE) FIELD CONDITIONS MAY NECESSITATE SLIGHT ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, EXISTING UTILITIES & STORM FACILITIES, AS DIRECTED BY THE ENGINEER. ANY AND ALL DAMAGE TO EXISTING UTILITIES AS A RESULT OF THE CONTRACTOR'S ACTIVITIES, WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS 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.
- LOCATIONS AND DIMENSIONS OF EXISTING RIGHTS-OF-WAY AND EASEMENTS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR WILL VERIFY ALL THE LIMITS OF RIGHTS-OF-WAY AND EASEMENTS IN ORDER TO AVOID ENCRoACHMENTS.
- CONTRACTOR TO NOTE LIMITS OF PROJECT AND/OR EASEMENTS SHOWN ON PLANS. THE CONTRACTOR IS REQUIRED TO STAKE LOCATION OF R/W AND EASEMENTS PRIOR TO ANY CONSTRUCTION ACTIVITIES TO ESTABLISH PROJECT LIMITS. STAKING MUST BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITIES TO CONFIRM THAT ALL WORK IS PERFORMED WITHIN THE SPECIFIED LIMITS. ALL WORK, INCLUDING MOBILIZATION OF EQUIPMENT WILL BE PERFORMED WITHIN LIMITS OF THE R/W AND EASEMENTS. CONTRACTOR WILL BE RESPONSIBLE FOR DAMAGES AND WILL RESTORE AND REPLACE ANY DAMAGED OR DISTURBED AREAS OUTSIDE THE LIMITS AT NO COST TO THE OWNER.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COMPLETE STAKE-OUT OF THE PROJECT, I.E., LINE, GRADE, SLOPE STAKE, UTILITY RELOCATION'S OR ANY OTHER STAKE-OUT THAT MAY BE REQUIRED TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ANY AND ALL EXPENSES INCURRED FOR THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID ITEM MOBILIZATION, DEMOBILIZATION, BONDS AND PERMITS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.
- ALL REFERENCE POINTS AND MONUMENTS ESTABLISHED FOR THIS PROJECT SHOWN ON PLANS OR FOUND, WILL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT WILL BE PROTECTED WITH A CAST IRON VALVE BOX.
- THE CONTRACTOR WILL BE RESPONSIBLE TO CONSTRUCT HORIZONTAL AND VERTICAL TRANSITION OF PIPELINE BY DEFLECTION OF PIPE JOINTS USING NOT MORE THAN 75% OF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER. SHOP DRAWINGS WILL BE FURNISHED TO THE ENGINEER FOR APPROVAL OF ALL PIPE CONNECTIONS, TRANSITIONS AND SPECIAL FITTINGS PRIOR TO FABRICATION AND DELIVERY TO JOB SITE.
- MINIMUM VERTICAL AND HORIZONTAL CLEARANCES WILL BE MAINTAINED BETWEEN POTABLE WATER, RECLAIMED WATER, SANITARY MAINS AND STORM SEWERS AS DETAILED IN THESE PLANS AND DESCRIBED IN THE TECHNICAL SPECIFICATIONS FOR THIS PROJECT.
- UNLESS OTHERWISE NOTED ON THE DRAWINGS A MINIMUM OF 48" HORIZONTAL COVER WILL BE MAINTAINED ABOVE ALL BURIED PIPES. A MINIMUM OF 12" VERTICAL CLEARANCE WILL BE MAINTAINED BETWEEN BURIED GAS LINES AND ALL OTHER UTILITIES.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR TEMPORARY SUPPORT OF ADJACENT UTILITY POLES AND COORDINATION OF SUCH WITH UTILITY COMPANIES. DEFLECT PIPES, WITHIN LIMITS SPECIFIED IN THE CONTRACT DOCUMENTS, AROUND UTILITY POLES WHEN POSSIBLE.
- TEES, CROSSES, BENDS (HORIZONTAL AND VERTICAL), PLUGS AND OTHER APPURTENANCES WILL BE INSTALLED WITH RESTRAINED JOINTS UNLESS OTHERWISE NOTED.
- THE CONTRACTOR WILL EXPOSE AND RESTRAIN EXISTING PIPE FACILITIES AND THEIR APPURTENANCES AT THOSE LOCATIONS WHERE MODIFICATIONS, CONNECTIONS, TAPS, ETC. ARE MADE TO EXISTING FACILITIES. RESTRAINED LENGTHS WILL BE MADE AT THE VALUES INDICATED IN RESTRAINED LENGTH TABLE INCLUDED IN THESE PLANS.
- CONTRACTOR WILL PROVIDE TEMPORARY THRUST RESTRAINT, BRACING, TESTING PLUGS AND OTHER DEVICES NECESSARY TO SUCCESSFULLY COMPLETE PRESSURE TESTING OF PIPING SYSTEMS.
- ALL TRENCH BACKFILL UNDER PAVEMENT BEGINNING ONE (1) FOOT ABOVE THE TOP OF PIPE AND UP TO THE STABILIZED SUBGRADE, WILL BE COMPACTED AS INDICATED IN THE CONTRACT SPECIFICATIONS. IN THE EVENT THAT DEWATERING IS REQUIRED, THE MATERIALS AND EQUIPMENT REQUIRED FOR DEWATERING WILL REMAIN IN PLACE AND FULLY OPERATIONAL UNTIL ALL DENSITY TESTS HAVE PASSED AND BEEN APPROVED BY THE OWNER. DEWATERING MATERIALS AND EQUIPMENT WILL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- IF UNSATISFACTORY MATERIAL FOR ADEQUATE BEARING IS ENCOUNTERED AT THE NORMAL SUBGRADE, THE UNSATISFACTORY MATERIAL WILL BE REMOVED, DISPOSED OF OFFSITE AND REPLACED WITH SUITABLE BACKFILL MATERIAL AS SPECIFIED.
- ALL EXCAVATIONS WILL BE REQUIRED TO CONFORM TO THE PROVISIONS OF PART IV OF CHAPTER 553.60, F.S. ALSO KNOWN AS THE "TRENCH SAFETY ACT", TO PROTECT EXISTING PAVEMENT, STRUCTURES, FOUNDATIONS, AND CONSTRUCTION PERSONNEL DURING CONSTRUCTION OF THE PROJECT.

- CONTRACTOR TO VERIFY LOCATION, DEPTH, AND TYPE OF PIPE AT ALL PROPOSED POTENTIAL CROSSING CONFLICTS AND CONNECTIONS TO EXISTING SYSTEMS BEFORE ORDERING MATERIAL.
- CONTRACTOR TO COMPLY WITH ALL REQUIREMENTS OF MANATEE COUNTY, F.D.O.T., F.D.E.P., D.O.H., SBCC, NFPA, OSHA, SWFWMD, AND ALL OTHER REGULATORY AGENCIES. CONTRACTOR TO COMPLY WITH MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS, MAY 2011.
- CONTRACTOR IS TO MAINTAIN A SET OF PLANS WITH FIELD CHANGES MARKED THEREON IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND DELIVER THESE TO THE OWNER'S PROJECT MANAGER WITH THE AS-BUILT SURVEY. FINAL PAYMENT WILL NOT BE MADE UNTIL THIS REQUIREMENT IS SATISFIED. THE PLANS WILL BE UPDATED DAILY AND AVAILABLE FOR THE OWNER'S ENGINEER'S REVIEW.
- CONTRACTOR TO INCLUDE COST FOR OBTAINING ALL PERMITS, LICENSES AND INSURANCE REQUIRED FOR THIS PROJECT IN HIS BID.
- CONTRACTOR WILL RESTORE/REPLACE ALL DISTURBED VEGETATED (I.E. ROADWAY, SIDEWALK, SOD, GRASS, SHRUBS) AREAS TO ORIGINAL OR BETTER CONDITION USING MATERIALS OF LIKE KIND.
- CONTRACTOR WILL REPLACE ALL PAVING, STABILIZED EARTH, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, ETC. WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED OR DISTURBED DURING CONSTRUCTION.
- CONTRACTOR WILL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EXCESS DIRT, DEBRIS AND OTHER MATERIALS, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST. DEBRIS AND OTHER MATERIAL WILL BE DISPOSED OF OFF-SITE.
- THE CONTRACTOR WILL SUBMIT AN ADEQUATE EROSION CONTROL PLAN TO THE ENGINEER OF RECORD AND RECEIVE AN APPROVED PLAN FROM THE OWNER'S REPRESENTATIVE PRIOR TO PRE-CONSTRUCTION MEETING.
- CONTROL AND PREVENT EROSION AND THE TRANSPORT OF SEDIMENT TO SURFACE DRAINS AND DRAINAGE DITCHES. DISCHARGE OF STORM WATER CONTRIBUTING TO A VIOLATION OF WATER QUALITY STANDARDS IN THE WATERS OF THE STATE WILL NOT BE ALLOWED. IN THE EVENT THAT EROSION CONTROLS ARE NECESSARY, SILT BARRIERS OR OTHER APPROVED CONTROL DEVICES WILL BE USED IN ACCORDANCE WITH APPLICABLE PERMITS (I.E. NPDES), PERMITTING AGENCIES (I.E. FDEP, SWFWMD), AND THE CONTRACT SPECIFICATIONS.
- IN THE EVENT THAT THE EROSION PREVENTION AND CONTROL DEVICES SHOWN IN THE EROSION CONTROL PLAN, PROVIDED BY THE CONTRACTOR, PROVE NOT TO BE EFFECTIVE, ALTERNATE METHODS FOR MAINTAINING STATE WATER QUALITY STANDARDS FOR DISCHARGE FROM THE CONSTRUCTION SITE WILL BE REQUIRED. ALL ALTERNATE EROSION PREVENTION AND CONTROL DEVICES MUST BE APPROVED BY THE OWNER'S ENGINEER PRIOR TO PLACEMENT.
- ALL SURFACE WATER DISCHARGE FROM THE CONSTRUCTION SITE, INCLUDING DEWATERING DISCHARGE, WILL MEET STATE WATER QUALITY STANDARDS PRIOR TO REACHING ANY WATERS OF THE STATE INCLUDING WETLANDS.
- CONTRACTOR WILL MAINTAIN UNINTERRUPTED WASTEWATER FLOW AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR WILL COORDINATE BY-PASS PUMPING WITH THE OWNER IF CONTRACTOR INTENDS TO BY-PASS. OWNER'S REPRESENTATIVE WILL BE PRESENT AT BY-PASS PUMPING START-UP AND SHUT DOWN.
- IF CONTRACTOR INTENDS TO BY-PASS, CONTRACTOR WILL SUBMIT A BY-PASS PLAN TO THE ENGINEER PRIOR TO AWARD OF CONTRACT. BY-PASS PLAN WILL BE SUBMITTED TO ENGINEER NO MORE THAN 10 DAYS AFTER NOTIFICATION OF INTENTION TO BY-PASS. PUMP INFORMATION, PIPE ALIGNMENT, FLOW, AND NAME AND RESUME OF CONTRACTOR PERSONNEL WORKING ON OR MONITORING BY-PASS PUMPING WILL BE INCLUDED IN BY-PASS PLAN REPORT. ALL COST FOR BYPASS WILL BE BORNE BY THE CONTRACTOR AND WILL INCLUDE TRANSPORT BY TANKER TRUCK IF REQUIRED. OWNER WILL REJECT BIDS NOT IN CONJUNCTION WITH SPECIFICATIONS.
- IF CONTRACTOR INTENDS TO BY-PASS, CONTRACTOR WILL HAVE BACK-UP PUMP PRESENT ONSITE AND HOOKED UP (CONNECTED) TO BY-PASS SYSTEM WITH PRIMARY PUMPS.
- CONTRACTOR WILL NOTIFY THE OWNER 72 HOURS PRIOR TO START OF BY-PASS PUMPING.
- CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION IN ACCORDANCE WITH MANATEE COUNTY PUBLIC WORKS DEPARTMENT AND FDOT DESIGN STANDARDS INDEX 600 SERIES, FDOT STANDARD SPECIFICATIONS. CONSTRUCTION AND MOT PLAN WILL PROVIDE CONDITIONS FOR HOLIDAYS. CONSTRUCTION THAT WILL REQUIRE LANE CLOSURE WILL BE PERFORMED BETWEEN THE HOURS OF 7 PM AND 6 AM OR 10 AM TO 3 PM. THE CONTRACTOR WILL SUBMIT TO THE OWNER THE FDOT CERTIFIED MOT PLAN AND CONSTRUCTION SCHEDULE AT THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR TO PROVIDE ALL WARNING SIGNALS, SIGNS, LIGHTS AND FLAG PERSONS AS REQUIRED BY THE FLORIDA D.O.T. IN THE MANUAL ON "TRAFFIC CONTROL AND SAFE PRACTICES".
- ALL PIPE FITTINGS AND APPURTENANCES USED TO PROVIDE CONNECTIONS TO THE EXISTING SEWER SYSTEM OR USED TO PROVIDE DEAD END FUTURE CONNECTIONS WILL BE RESTRAINED.
- CONTRACTOR MUST MAINTAIN AT LEAST ONE OPEN ACCESS POINT TO EACH PARCEL AT ALL TIMES.
- CONTRACTOR WILL NOT LEAVE OPEN PITS OR TRENCHES EXPOSED AT END OF EACH CONSTRUCTION DAY. ANY PIT OR TRENCH MUST BE COVERED OR FILLED.
- ALL EXISTING GATE VALVES, PLUG VALVES, METERS, PIPES, ETC. ARE TO REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED IN PLANS.
- NEW OR RELOCATED, UNDERGROUND FORCE MAINS WILL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF ANY EXISTING WATER MAIN. NEW OR RELOCATED, UNDERGROUND FORCE MAINS CROSSING ANY EXISTING WATER MAINS WILL BE LAID SO THE OUTSIDE OF THE FORCE MAIN IS AT LEAST 12 INCHES ABOVE, BELOW THE OUTSIDE OF THE OTHER PIPELINE/UTILITY. HOWEVER, IT IS PREFERABLE TO LAY THE FORCE MAIN BELOW THE EXISTING WATER MAIN.

AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF FORCE MAIN PIPE WILL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE/UTILITY SO THE FORCE MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE/UTILITY. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES WILL BE ARRANGED SO THAT ALL WASTE WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN WATER MAINS, AND IN ACCORDANCE WITH THE DETAILS IN THESE PLANS.

- DUE TO GAS LINE PRESSURE, NO WORK OR STAGING OF WORK SHALL BE DONE WITHIN 10 FEET OF THE GAS MAIN WITHOUT THE NOTIFICATION OF TECO FIELD REPRESENTATIVE, 48 HOURS NOTICE IS REQUIRED.
- CONTRACTOR SHALL FURNISH AND INSTALL PUMP STATION LANDSCAPING AND IRRIGATION IN ACCORDANCE WITH COUNTY STANDARDS, SECTION 1.13.11.

SURVEY NOTES:

- BEARINGS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT.
- ELEVATIONS SHOWN FOR MASTER PUMP STATION ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD). ELEVATIONS SHOWN FOR WATER MAIN RELOCATION (W-101) ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD).
- THE COMBINED SCALE FACTOR FROM THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD) TO NORTH AMERICAN DATUM OF 1988 (NAVD) IS 1.000438695.
- TOPOGRAPHIC SURVEY IS A COMBINATION OF SURVEY PROVIDED FROM MANATEE COUNTY AND DATA COLLECTED BY MCKIM & CREED IN FEBRUARY 2014. MANATEE COUNTY SURVEY LIMITS: STA. 10+00.00 TO STA. 54+50.00.

LEGEND:

- ARV = AIR RELEASE VALVE
- AVE. = AVENUE
- BFP = BACKFLOW PREVENTER
- BGV = BELOW GRADE VAULT
- BLS = BELOW SURFACE
- BOS. = BOTTOM OF STRUCTURE
- (C) = CALCULATED
- C&G = CURB AND GUTTER
- C.L.F. = CHAIN LINK FENCE
- CIR. = CIRCLE
- CONC. = COMMISSIONER'S BOOK
- CONC. = CONCRETE
- CONST. = CONSTRUCT
- DI = DUCTILE IRON
- DIP = DUCTILE IRON PIPE
- DWY. = DRIVEWAY
- E. = EASTING
- EJ = EXPANSION JOINT
- EOP = EDGE OF PAVEMENT
- ERCP = ELLIPTICAL REINFORCED CONCRETE PIPE
- EXIST. = EXISTING
- (F) = FIELD
- FCM = FOUND CONCRETE MONUMENT
- FIN. = FINISHED
- FIP = FOUND IRON PIPE
- FIR = FOUND IRON ROD
- FLG'D = FLANGED
- FM = FORCE MAIN
- F.N&D. = FOUND NAIL AND DISK
- FPVC = FUSIBLE POLYVINYL CHLORIDE PIPE
- HDD = HORIZONTAL DIRECTIONAL DRILL
- HDPE = HIGH DENSITY POLYETHYLENE PIPE
- INV. = INVERT
- LB = LICENSED BUSINESS
- LF = LINEAR FEET
- LP = LIGHT POLE
- MBX = MAILBOX
- HDD = MITERED END SECTION
- M.H. = MANHOLE
- MIN. = MINIMUM
- MJ = MECHANICAL JOINT
- MW = WATER METER
- N. = NORTHING
- O.R. = OFFICIAL RECORD BOOK
- (P) = PER PLAT
- P.B. = PLAT BOOK
- PG. = PAGE
- PP = POWER POLE
- PLS = PROFESSIONAL LAND SURVEYOR
- PROP. = PROPOSED
- PSM = PROFESSIONAL SURVEYOR AND MAPPER
- PVC = POLYVINYL CHLORIDE
- RCP = REINFORCED CONCRETE PIPE
- RJ = RESTRAINED JOINT
- R/W = RIGHT-OF-WAY
- SMD = SET MAG NAIL AND DISK LB6992
- SRVC = SERVICE BOX
- SST = 316 STAINLESS STEEL
- STA = STATION
- S/W = SIDEWALK
- TELE = TELEPHONE/COMMUNICATIONS
- TRAV = TRAVERSE
- UNK. = UNKNOWN
- VCS = VALVE CAP SANITARY
- VH = VERIFIED VERTICAL & HORIZONTAL UTILITIES
- WPB = WIRE PULL BOX

LINE TYPE LEGEND:

- FM — EXISTING FORCE MAIN
- EB — EXISTING BURIED ELECTRIC
- EG — EXISTING GAS MAIN
- CABV — EXISTING CABLE TELEVISION
- BFD — EXISTING BURIED FIBER OPTIC
- BT — EXISTING BURIED TELEPHONE
- WM — EXISTING WATER MAIN
- SWS — EXISTING SANITARY SEWER
- SD — EXISTING STORM DRAIN
- RW — RIGHT-OF-WAY
- FM — PROPOSED FM
- WM — PROPOSED WM
- WLL — WETLAND LINE
- PFC — PROPOSED FENCE
- CL — CENTER LINE
- ////// PIPE REMOVAL

SYMBOLS LEGEND:

- ⊕ = POWER POLE
- ⊖ = MITERED END SECTION
- ⊕ = SANITARY VALVE
- ⊕ = WATER VALVE
- ⊕ = MAILBOX
- ⊕ = SIGN
- ⊕ = TREE
- ⊕ = OAK TREE (UNLESS OTHERWISE NOTED)
- ⊕ = PALM TREE
- ⊕ = PINE TREE
- ⊕ = UNKNOWN TREE (UNLESS OTHERWISE NOTED)
- ⊕ = VVH LOCATION
- ⊕ = PROPOSED WATER VALVE
- ⊕ = PROPOSED CHECK VALVE
- ⊕ = WH NUMBER
- ⊕ = WH LOCATION
- ⊕ = NORTH
- ⊕ = INDICATES DIRECTION OF NORTH
- ⊕ = NUMBER SPECIFIC TO DETAIL
- ⊕ = DETAIL SYMBOL
- ⊕ = SHEET NUMBER WHERE DETAIL CAN BE LOCATED
- ⊕ = DETAIL NAME
- ⊕ = DETAIL
- ⊕ = SCALE
- ⊕ = SHEET NUMBER WHERE DETAIL CAN BE REFERENCED
- ⊕ = LETTER SPECIFIC TO CROSS SECTION
- ⊕ = CROSS SECTION INDICATOR
- ⊕ = SHEET NUMBER WHERE CROSS SECTION CAN BE LOCATED
- ⊕ = INDICATES DIRECTION OF CROSS SECTION VIEW

UTILITY CONTACT TABLE:

| | | |
|--------------------------|-----------------------|------------------------|
| FPL (SERVICE) | NYLES PETERSON | 941-723-4425 |
| FPL (DISTRIBUTION) | GREG COKER | 941-723-4430 |
| TECO GAS | DAN SHANAHAN | 941-342-4006 |
| FLORIDA GAS TRANSMISSION | JOE SANCHEZ | 407-838-7171 |
| MANATEE COUNTY TRAFFIC | MUKUNDA GOPALAKRISHNA | 941-749-3500 EXT. 7813 |
| FRONTIER | DENISE HUTTON | 941-906-6722 |
| PEACE RIVER CO-OP | JAMIE FONES | 863-767-4654 |

NOTE:

1. CONTRACTOR TO COORDINATE WITH NYLES PETERSON (FPL) CONCERNING THE SERVICE CONNECTION TO THE PROPOSED RYE ROAD MASTER PUMP STATION AND THE 6" HDPE (DR11) HORIZONTAL DIRECTIONAL BORE (TO BE FURNISHED AND INSTALLED BY CONTRACTOR).



HDR ENGINEERING, INC.
2601 CATTLEMEN ROAD, STE 400
SARASOTA, FL 34232
CA 4213

| | |
|--------------------|-----------------|
| DESIGNER | JTT |
| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |



HEATHER L. MANGIAMELI, P.E.
P.E. LICENSE NUMBER 68385

RYE ROAD MASTER PUMP STATION DESIGN

GENERAL NOTES & LEGEND

FILENAME | G-102.DWG
SCALE | NONE

SHEET | G-102

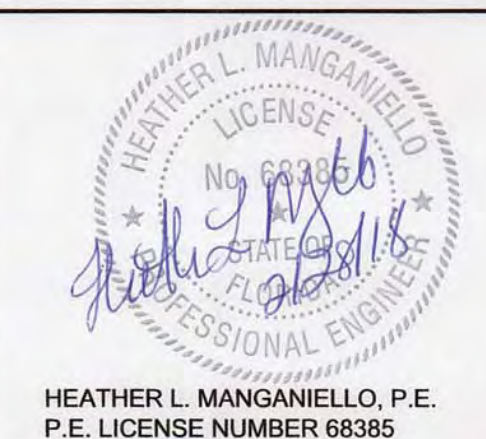
| ITEM NO. | DESCRIPTION | UNIT | QUANTITY |
|-------------------------------------|---|------|----------|
| 1 | MOBILIZATION, DEMOBILIZATION, BONDS, AND PERMITS | LS | 1 |
| 2 | MAINTENANCE OF TRAFFIC AND PEDESTRIAN SAFETY | LS | 1 |
| 3 | EROSION AND SEDIMENTATION CONTROL | LS | 1 |
| 4 | CLEANUP AND MISCELLANEOUS WORK | LS | 1 |
| PS-355 REHABILITATION | | | |
| 5 | HYDROMATIC PUMP AND APPURTENANCES REPLACEMENT | LS | 1 |
| 6 | ENCLOSURE GATE REPLACEMENT | EA | 1 |
| 7 | VALVE VAULT RECOAT | LS | 1 |
| 8 | CLEARING AND GRUBING OF FENCE LINE | LS | 1 |
| 9 | GENERATOR AND FUEL TANK REHABILITATION | LS | 1 |
| 10 | ABOVE GRADE WATER MAIN/MASTER METER ASSEMBLY REPAINT | LS | 1 |
| 11 | BACKFLOW PREVENTER AND HOSE BIB REPLACEMENT | LS | 1 |
| 12 | 6-INCH, C900 PVC, RJ | LF | 51 |
| 13 | 6-INCH DIP FITTINGS, WASTEWATER | EA | 4 |
| RYE ROAD MASTER PUMP STATION | | | |
| 14 | PUMP AND APPURTENANCES | EA | 3 |
| 15 | WET WELL AND STATION APPURTENANCES | LS | 1 |
| 16 | MANHOLES, LINED | EA | 2 |
| 17 | 12-INCH, DIP, FLANGE | LF | 14 |
| 18 | 6-INCH, C900 PVC, RJ | LF | 20 |
| 19 | 12-INCH, C900 PVC, RJ | LF | 117 |
| 20 | 24-INCH, C905 PVC, GRAVITY SANITARY | LF | 124 |
| 21 | 8-INCH GATE VALVES | EA | 3 |
| 22 | 12-INCH GATE VALVES | EA | 4 |
| 23 | 8-INCH CHECK VALVES | EA | 3 |
| 24 | FLOW METER | EA | 1 |
| 25 | LEVEL TRANSDUCER | EA | 1 |
| 26 | 6-INCH DIP FITTINGS, WASTEWATER | EA | 8 |
| 27 | 12-INCH DIP FITTINGS, WASTEWATER | EA | 13 |
| 28 | 24-INCH DIP FITTINGS, WASTEWATER | EA | 1 |
| 29 | ASPHALT DRIVEWAY | SF | 3,816 |
| 30 | WATER SERVICE | LS | 1 |
| 31 | GATES AND FENCING | LS | 1 |
| 32 | NO. 57 STONE | CY | 54 |
| 33 | SITE GRADING, LANDSCAPING, IRRIGATION [ALLOWANCE] | LS | 1 |
| 34 | ELECTRICAL BUILDING, PREMANUFACTURED, AND APPURTENANCES | LS | 1 |
| 35 | DEWATERING [ALLOWANCE] | LS | 1 |
| 36 | CONCRETE SLABS | LS | 1 |
| ELECTRICAL | | | |
| 37 | SERVICE ENTRANCE DISCONNECT, 480V, 3PH, 600A, NEMA 4X | EA | 1 |
| 38 | ATS, 480V, 3-PHASE, 600A | EA | 1 |

| ITEM NO. | DESCRIPTION | UNIT | QUANTITY |
|-------------------------------------|--|------|----------|
| 39 | GENERATOR, 480V, 3-PHASE, 350KW | EA | 1 |
| 40 | GENERATOR, CONNECTION CABINET | EA | 1 |
| 41 | POWER PANEL, 480/277V, 600A, 42KAIC, NEMA 3R | EA | 1 |
| 42 | VFD, 480V, 3PH, 125HP | EA | 3 |
| 43 | DISCONNECT SWITCH, 480V, 3PH, 200A | EA | 1 |
| 44 | PUMP CONTROL PANEL, ANTENNA | EA | 1 |
| 45 | PUMP LOCAL CONTROL PANEL | EA | 1 |
| 46 | CABLE, CONDUIT | LS | 1 |
| 47 | LIGHT, POLE | LS | 1 |
| 48 | BACKFLOW PREVENTER AND HOSE BIB REPLACEMENT | EA | 7 |
| RYE ROAD MASTER PUMP STATION | | | |
| 49 | EXISTING WATER MAIN REMOVAL | LF | 261 |
| 50 | 12-INCH, HDPE, HDD | LF | 203 |
| 51 | 12-INCH, C900 PVC, RJ | LF | 2 |
| 52 | 10-INCH, C900 PVC, RJ | LF | 43 |
| 53 | 10-INCH DIP FITTINGS, POTABLE WATER | EA | 4 |
| 54 | 12-INCH DIP FITTINGS, POTABLE WATER | EA | 4 |
| 55 | 10-INCH, GATE VALVE, CUT IN | EA | 1 |



| ISSUE | DATE | DESCRIPTION |
|-------|------------|----------------------------|
| 3 | 02/2018 | FINAL |
| 2 | 09/01/2017 | FINAL FOR REVIEW SUBMITTAL |
| 1 | 04/04/2017 | 75% SUBMITTAL |

| | |
|--|-----------------|
| PROJECT MANAGER JASON STARR, P.E. | |
| DESIGNER | JTT |
| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |



RYE ROAD MASTER PUMP STATION DESIGN

SUMMARY OF QUANTITIES

FILENAME | G-103.DWG
SCALE | NONE

SHEET | G-103



500 0 500 1000
SCALE: 1"=500'



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|-------|------------|----------------------------|
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| PROJECT NUMBER | 10019929/225338 |

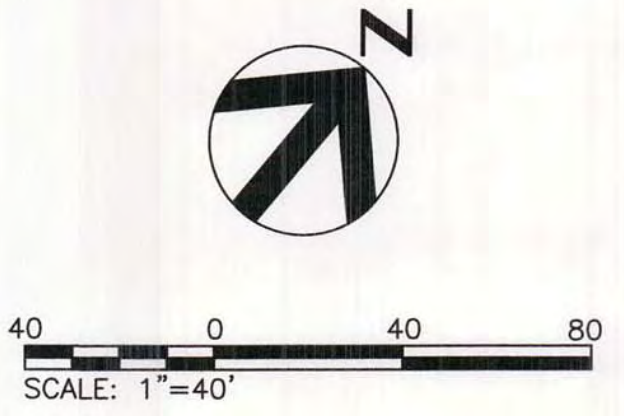
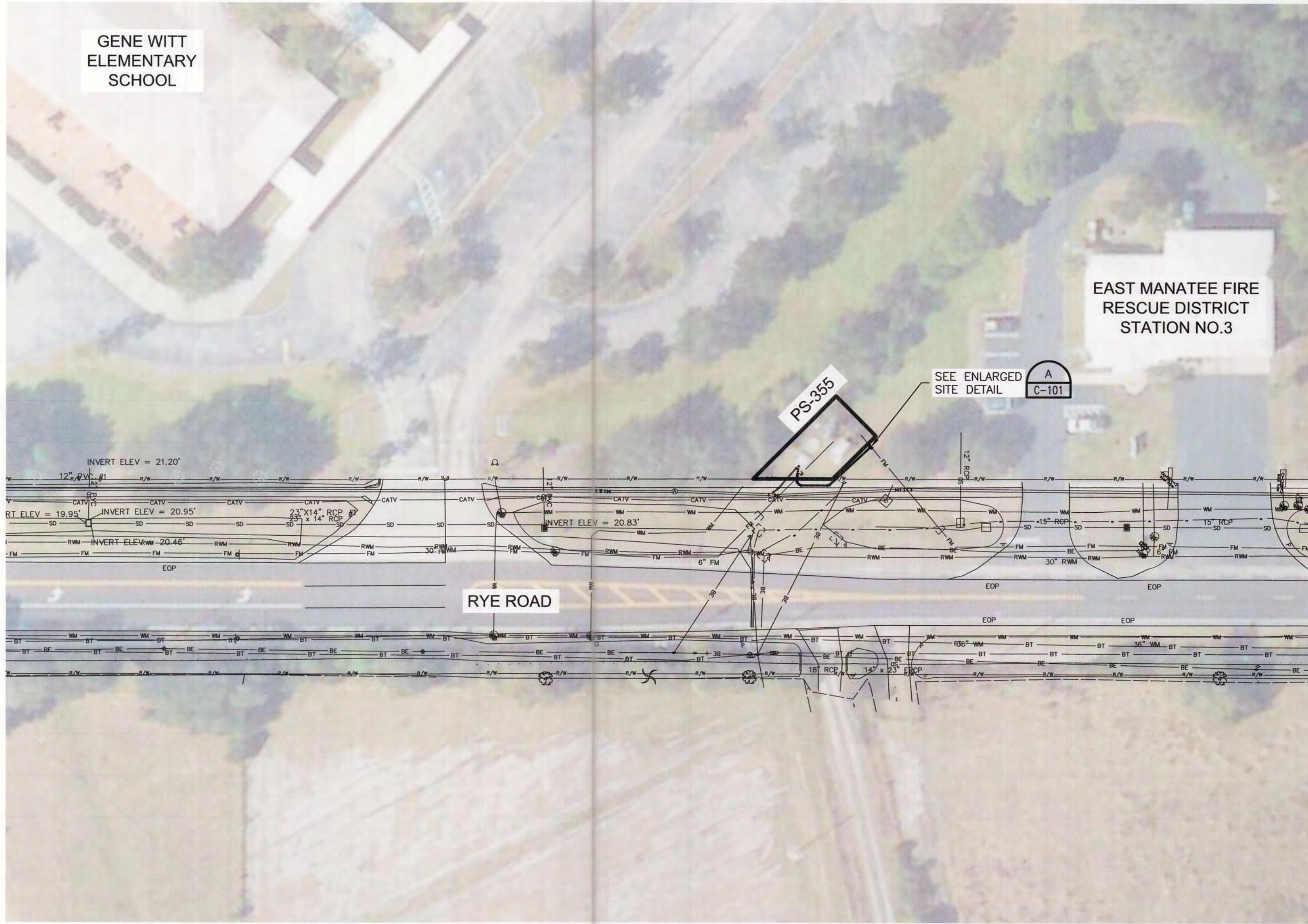


RYE ROAD MASTER PUMP STATION DESIGN

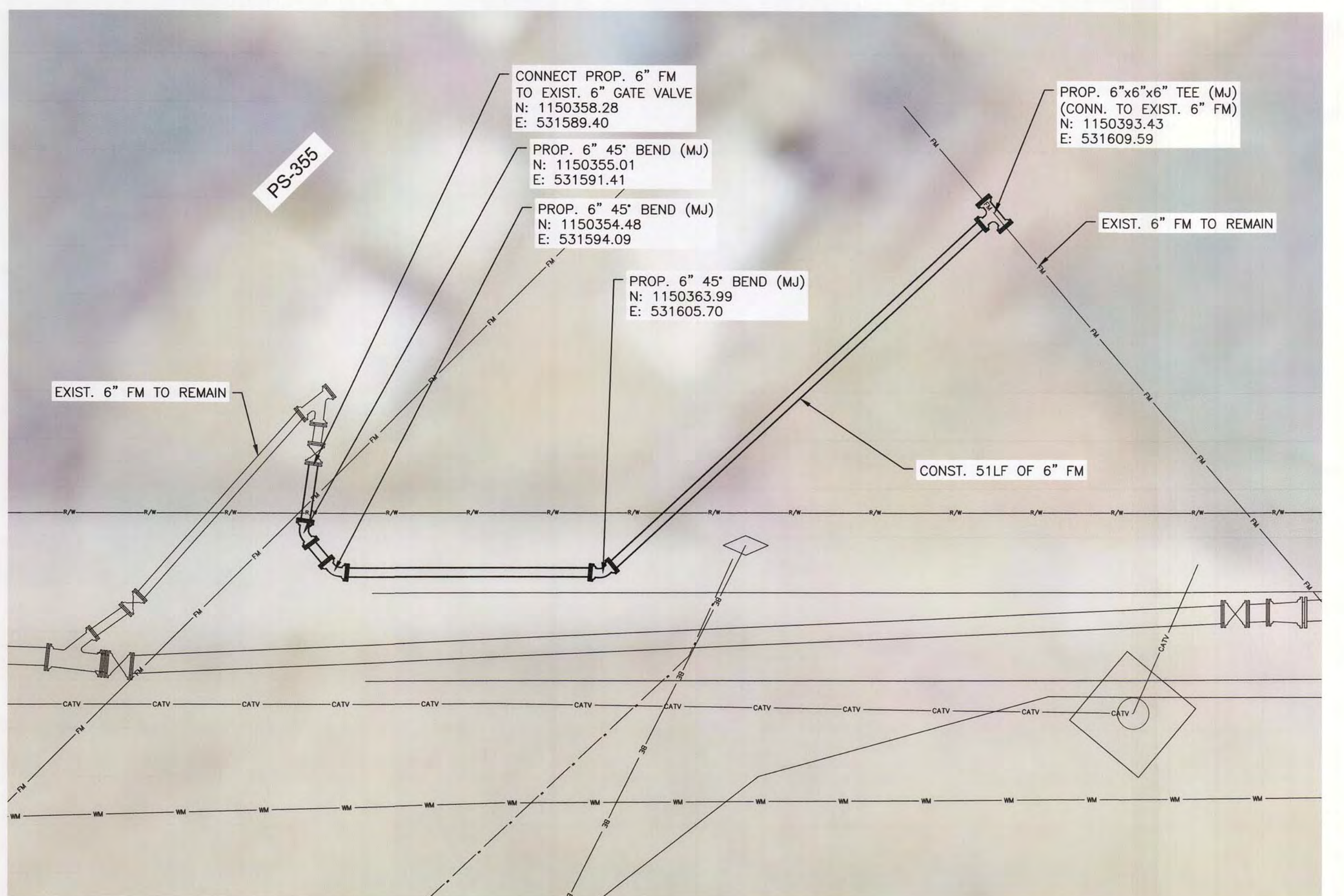
DRAWING KEY SHEET

FILENAME | G-104.DWG
SCALE | 1"=500'

SHEET
G-104



NOTE:
1) REFER TO SHEETS C-102 & C-103 FOR PUMP STATION 355 REHABILITATION PHOTOGRAPHS.

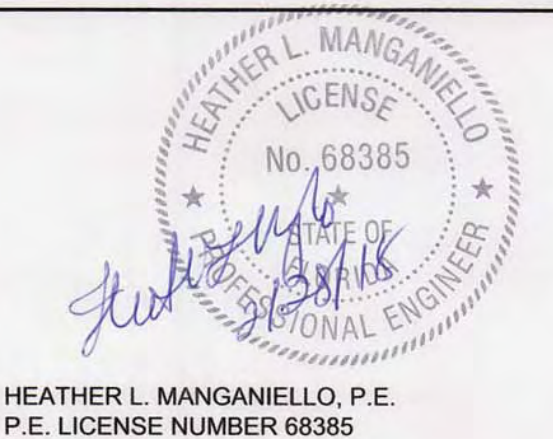


ENLARGED SITE DETAIL A C-101
SCALE: 1" = 5'



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| DESIGNER | JTT |
| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |



RYE ROAD MASTER PUMP STATION DESIGN

PUMP STATION 355 SITE LOCATION

FILENAME | C-101.DWG
SCALE | 1"=40'

SHEET
C-101



REPLACE EXISTING PUMPS, DISCHARGE ELBOWS, GUIDE RAILS AND APPURTENANCES AND INSTALL PUMP BASE MOUNTING PLATE

SCALE: NONE

NOTES:

- 1) PROPOSED TWO (2) PUMPS TO BE HYDROMATIC S4N, 5 HP, 6.70" IMPELLER.
- 2) CONTRACTOR TO ORDER PUMPS, DISCHARGE ELBOW, PUMP BASE MOUNTING PLATE, GUIDE RAILS, MOUNTING BRACKETS, RAIL SUPPORTS AND APPURTENANCES FROM BARNEY'S PUMPS.
- 3) CONTRACTOR TO COORDINATE WITH BARNEY'S PUMPS AND COUNTY WITH RESPECT TO ITEM LEAD TIMES, STATION SHUTDOWN, STATION TESTING AND STARTUP.
- 4) CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A WASTEWATER BYPASS PLAN, PROVIDING ALL NECESSARY VACUUM TRUCKS AND TEMPORARY BYPASS PUMPING AND PIPING.



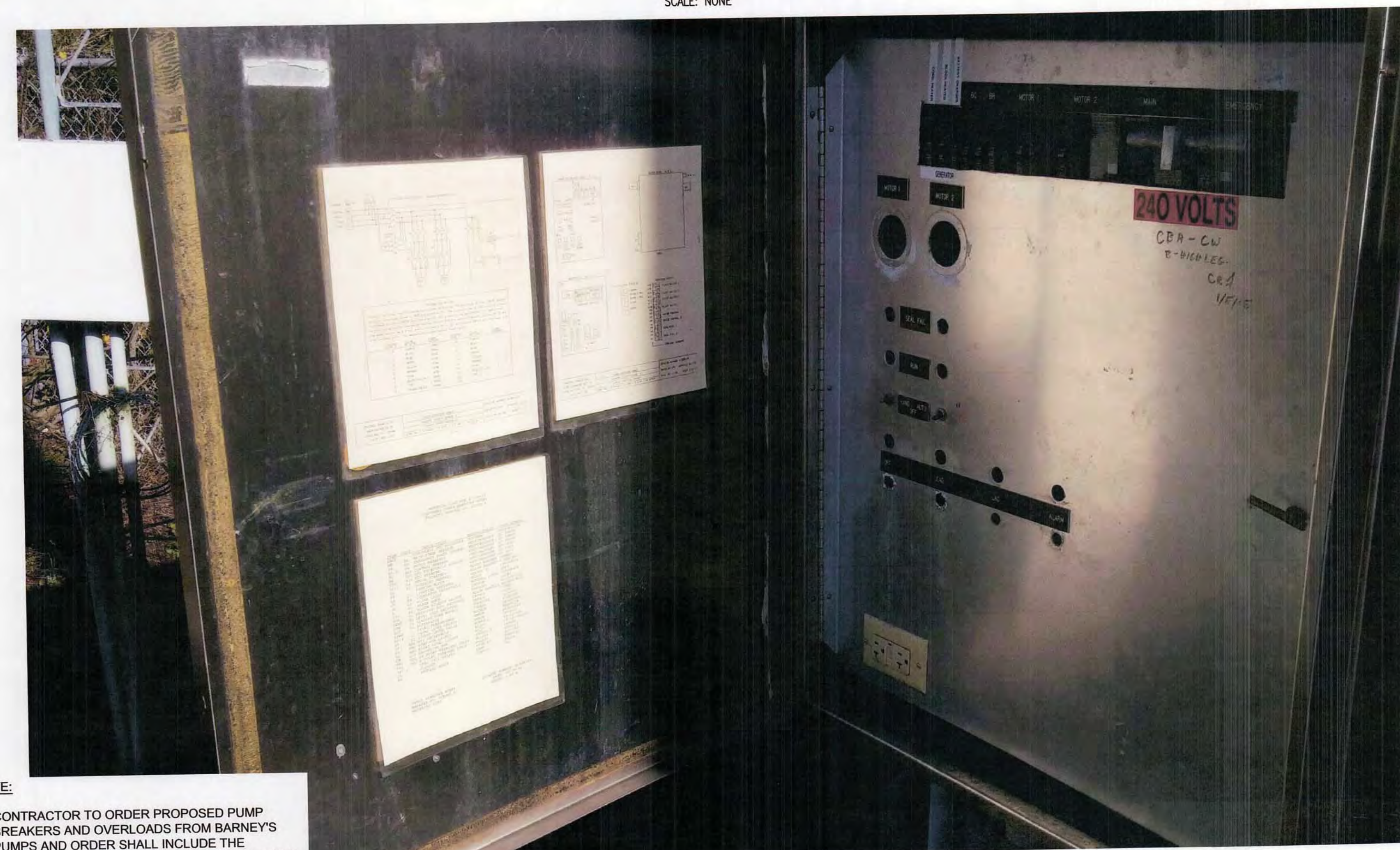
VALVE VAULT (RECOAT)

SCALE: NONE



DE-VEGETATE FENCE LINE

SCALE: NONE



NOTE:

1. CONTRACTOR TO ORDER PROPOSED PUMP BREAKERS AND OVERLOADS FROM BARNEY'S PUMPS AND ORDER SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE EXISTING PUMP BREAKERS AND OVERLOADS AND FURNISH AND INSTALLATION OF NEW PUMP BREAKERS AND OVERLOADS.

REPLACE EXISTING PUMP BREAKERS AND OVERLOADS

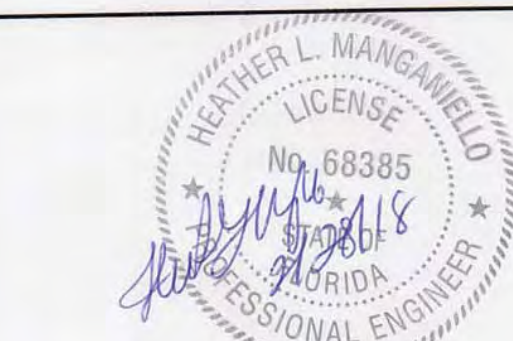
SCALE: NONE



HDR ENGINEERING, INC
2601 CATTLEMEN ROAD, STE 400
SARASOTA, FL 34232
CA 4213

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| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |



HEATHER L. MANGANIELLO, P.E.
P.E. LICENSE NUMBER 68385

RYE ROAD MASTER PUMP STATION DESIGN

PUMP STATION 355 REHABILITATION PHOTOS (1)

FILENAME | C-102.DWG
SCALE | NONE

SHEET
C-102



GENERATOR AND FUEL TANK REHABILITATION

SCALE: NONE



REPLACE EXISTING DOUBLE SWING GATE

SCALE: NONE



WATER MAIN/BACKFLOW PREVENTER ASSEMBLY ABOVE GRADE (REPAINT)

SCALE: NONE



NOTE:
1) SEE DETAIL US-17

REPLACE 3/4-INCH REDUCED PRESSURE (RPZ) BFP AND SPIGOT

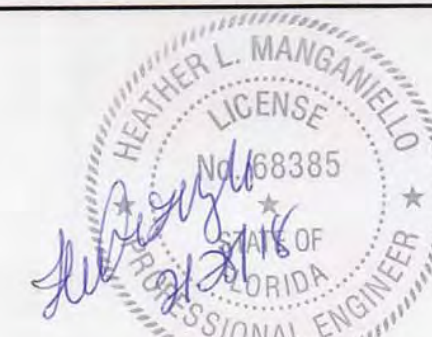
SCALE: NONE



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SARASOTA, FL 34232
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| PROJECT MANAGER | JASON STARR, P.E. |
| DESIGNER | JTT |
| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |



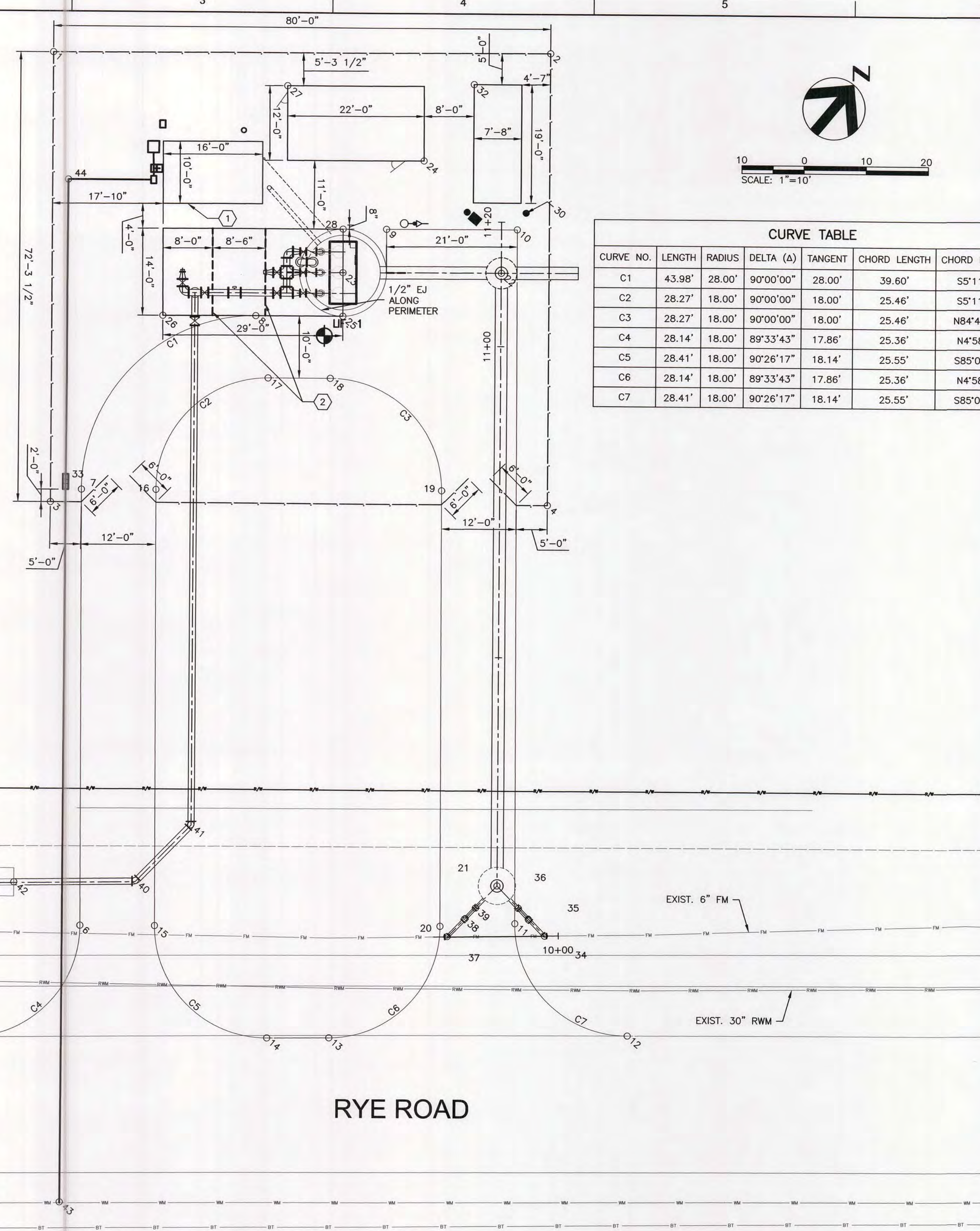
HEATHER L. MANGANIELLO, P.E.
P.E. LICENSE NUMBER 68385

RYE ROAD MASTER PUMP STATION DESIGN

PUMP STATION 355 REHABILITATION PHOTOS (2)

FILENAME | C-103.DWG
SCALE | NONE

SHEET
C-103



| CURVE NO. | LENGTH | RADIUS | DELTA (Δ) | TANGENT | CHORD LENGTH | CHORD DIRECTION |
|-----------|--------|--------|-----------|---------|--------------|-----------------|
| C1 | 43.98' | 28.00' | 90°00'00" | 28.00' | 39.60' | S5°11'30"W |
| C2 | 28.27' | 18.00' | 90°00'00" | 18.00' | 25.46' | S5°11'30"W |
| C3 | 28.27' | 18.00' | 90°00'00" | 18.00' | 25.46' | N84°48'30"W |
| C4 | 28.14' | 18.00' | 89°33'43" | 17.86' | 25.36' | N4°58'21"E |
| C5 | 28.41' | 18.00' | 90°26'17" | 18.14' | 25.55' | S85°01'39"E |
| C6 | 28.14' | 18.00' | 89°33'43" | 17.86' | 25.36' | N4°58'21"E |
| C7 | 28.41' | 18.00' | 90°26'17" | 18.14' | 25.55' | S85°01'39"E |

| POINT NO. | NORTHING | EASTING | DESCRIPTION |
|-----------|-------------|------------|-------------------|
| 1 | 1151847.916 | 533201.808 | FENCE CORNER |
| 2 | 1151899.135 | 533263.263 | FENCE CORNER |
| 3 | 1151792.208 | 533247.900 | FENCE CORNER |
| 4 | 1151843.206 | 533309.538 | FENCE CORNER |
| 5 | 1151717.861 | 533293.097 | ASPHALT DRIVE |
| 6 | 1151743.124 | 533295.295 | ASPHALT DRIVE |
| 7 | 1151796.953 | 533250.454 | ASPHALT DRIVE |
| 8 | 1151836.378 | 533254.024 | ASPHALT DRIVE |
| 9 | 1151860.588 | 533261.206 | ASPHALT DRIVE |
| 10 | 1151874.033 | 533277.338 | ASPHALT DRIVE |
| 11 | 1151788.364 | 533348.735 | ASPHALT DRIVE |
| 12 | 1151786.149 | 533374.192 | ASPHALT DRIVE |
| 13 | 1151755.046 | 533337.630 | ASPHALT DRIVE |
| 14 | 1151748.585 | 533329.997 | ASPHALT DRIVE |
| 15 | 1151750.800 | 533304.541 | ASPHALT DRIVE |
| 16 | 1151804.636 | 533259.672 | ASPHALT DRIVE |
| 17 | 1151829.977 | 533261.963 | ASPHALT DRIVE |
| 18 | 1151836.390 | 533269.657 | ASPHALT DRIVE |
| 19 | 1151834.086 | 533295.009 | ASPHALT DRIVE |
| 20 | 1151780.308 | 533339.828 | ASPHALT DRIVE |
| 21 | 1151791.177 | 533342.639 | PROP. MANHOLE |
| 22 | 1151867.046 | 533279.863 | PROP. MANHOLE |
| 23 | 1151850.729 | 533260.310 | WETWELL |
| 24 | 1151872.866 | 533258.756 | TOP OF CONC. SLAB |
| 25 | 1151845.352 | 533264.792 | TOP OF CONC. SLAB |
| 26 | 1151826.785 | 533242.514 | TOP OF CONC. SLAB |
| 27 | 1151867.999 | 533234.173 | TOP OF CONC. SLAB |
| 28 | 1151856.107 | 533255.828 | TOP OF CONC. SLAB |
| 32 | 1151887.439 | 533257.041 | NW GEN SLAB |
| 33 | 1151796.249 | 533247.726 | BFP/HOSE BIB |
| 34 | 1151789.904 | 533353.676 | 6" - 45 BEND |
| 35 | 1151790.269 | 533350.049 | 6" - 45 BEND |
| 36 | 1151790.609 | 533347.603 | 6" - 45 BEND |
| 37 | 1151779.767 | 533341.721 | 6" - 45 BEND |
| 38 | 1151783.750 | 533342.065 | 6" - 45 BEND |
| 39 | 1151786.218 | 533342.278 | 6" - 45 BEND |
| 40 | 1151754.372 | 533297.523 | 12" - 45 BEND |
| 41 | 1151766.976 | 533298.625 | 12" - 45 BEND |
| 42 | 1151741.612 | 533282.657 | 12" - 45 BEND |
| 43 | 1151706.908 | 533321.344 | 2" SERVICE SADDLE |
| 44 | 1151833.792 | 533216.799 | 2" 90° BEND |

- GENERAL NOTES:**
- FOR ADDITIONAL REINFORCED PAD INFORMATION SEE SHEET C-202.
- KEY NOTES:**
- PER TIERRA GEOTECHNICAL REPORT, MAY 17, 2016, TO EXISTING GRADE AT THE BORING LOCATION WAS 23.9 FT (NAVD88), 24.85 FT (NGVD29). CONTRACTOR TO FIELD VERIFY EXISTING GRADE. ALL TOPS OF SLABS ARE TO BE 6-INCHES ABOVE FINISHED GRADE. CONTRACTOR TO SURVEY PROPOSED LIFT STATION SITE AND PROVIDE 2% SLOPE MINIMUM FROM APPROXIMATE TOP OF WET WELL SLAB (TOP SLAB) (HIGH POINT) TOWARD SITE LIMITS, BLENDING IN WITH EXISTING GRADE AT SITE LIMITS/FENCE LINE.
 - TOOLED JOINTS 2" DEEP AT MID LENGTH.
 - (2) TOOLED JOINTS 2" DEEP SPACED AS SHOWN AT 90 DEGREES.

N: 1151841.01
 E: 533264.53
 EL. AT EXISTING GRADE = 23.9 (NAVD)

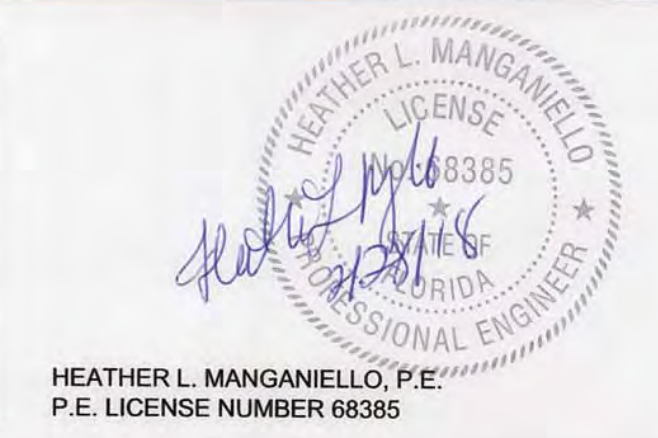
| | SAFETY HAMMER | AUTOMATIC HAMMER |
|---|----------------------------|----------------------------|
| GRANULAR MATERIALS- RELATIVE DENSITY | SPT N-VALUE (BLOWS/FT.) | SPT N-VALUE (BLOWS/FT.) |
| VERY LOOSE | LESS THAN 4 | LESS THAN 3 |
| LOOSE | 4 to 10 | 3 to 8 |
| MEDIUM DENSE | 10 to 30 | 8 to 24 |
| DENSE | 30 to 50 | 24 to 40 |
| VERY DENSE | GREATER THAN 50 | GREATER THAN 40 |
| SILTS AND CLAYS CONSISTENCY | SPT N-VALUE (BLOWS/FT.) | SPT N-VALUE (BLOWS/FT.) |
| VERY SOFT | LESS THAN 2 | LESS THAN 1 |
| SOFT | 2 to 4 | 1 to 3 |
| FIRM | 4 to 8 | 3 to 6 |
| STIFF | 8 to 15 | 6 to 12 |
| VERY STIFF | 15 to 30 | 12 to 24 |
| HARD | GREATER THAN 30 | GREATER THAN 24 |

PLAN VIEW
SCALE: 1"=10'



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| DESIGNER | JTT |
| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |



RYE ROAD MASTER PUMP STATION DESIGN

RYE ROAD PUMP STATION SITE PLAN (1)

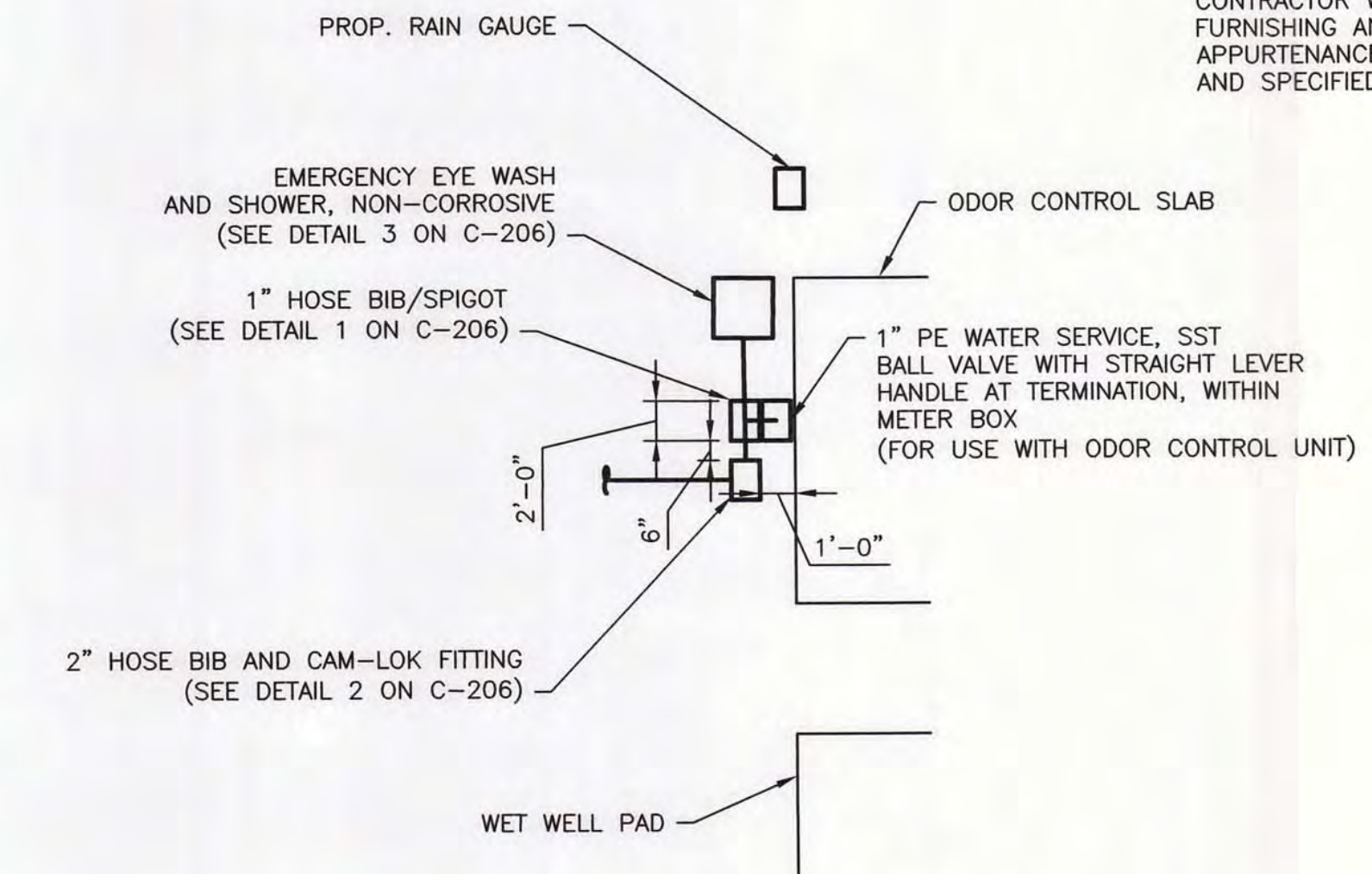
FILENAME: C-201.DWG
 SCALE: 1"=10'

SHEET
C-201

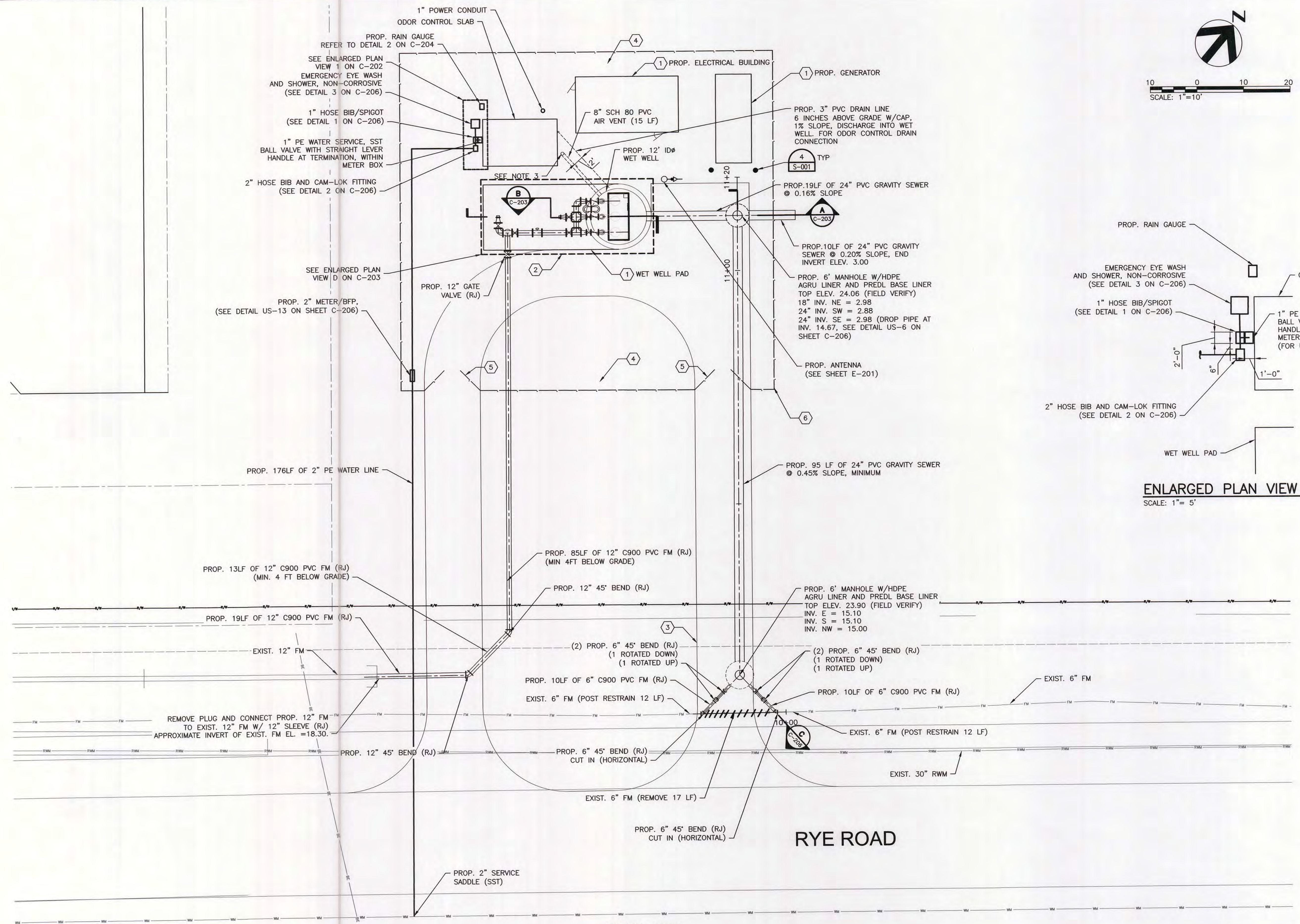


10 0 10 20
SCALE: 1"=10'

- NOTES:**
- 1) SEE DETAILS SHEET C-204 FOR ACCESS/EGRES AND LANDSCAPING REQUIREMENTS. CONTRACTOR TO COORDINATE WITH THE COUNTY REGARDING LANDSCAPING AND IRRIGATION LAYOUT.
 - 2) SEE SHEET C-205 FOR FENCE AND GATE DETAILS.
 - 3) 8" SCH 80 PVC WITH A 12" VERTICAL SECTION ABOVE GRADE W/ 8" PVC CAP.
 - 4) CONTRACTOR TO COORDINATE WITH EVOQUA (VAUGHAN HARSHMAN) AT (941)928-0453. EVOQUA WILL BE FURNISHING AND INSTALLING THE ODOR CONTROL UNIT AND CONTROLS. CONTRACTOR WILL BE FURNISHING AND INSTALLING APPURTENANCES AS SHOWN AND SPECIFIED.



- KEY NOTES:**
- 1) PIPING/WETWELL PAD: 29'0" X 14'0", ELECTRICAL BUILDING PAD 12'0" X 22'0", ODOR CONTROL SLAB 16'0" X 10'0" AND GENERATOR PAD: 19'0" X 7'6". SEE PAD SCHEDULE (DETAIL 5) SHEET S-001.
 - 2) ENLARGED PLAN VIEW PROVIDED AS DETAIL D ON SHEET C-203.
 - 3) DRIVEWAY TO BE ASPHALT, FOLLOW MANATEE COUNTY STANDARDS.
 - 4) AREA WITHIN FENCE LINE TO BE NO. 57 STONE, 3-INCH DEPTH (MINIMUM).
 - 5) DOUBLE SWING GATE, SEE DETAIL UG-19 ON SHEET C-205.
 - 6) SECURITY FENCE WITH PRIVACY SLATS, SEE DETAIL US-19 ON SHEET C-205.



RYE ROAD



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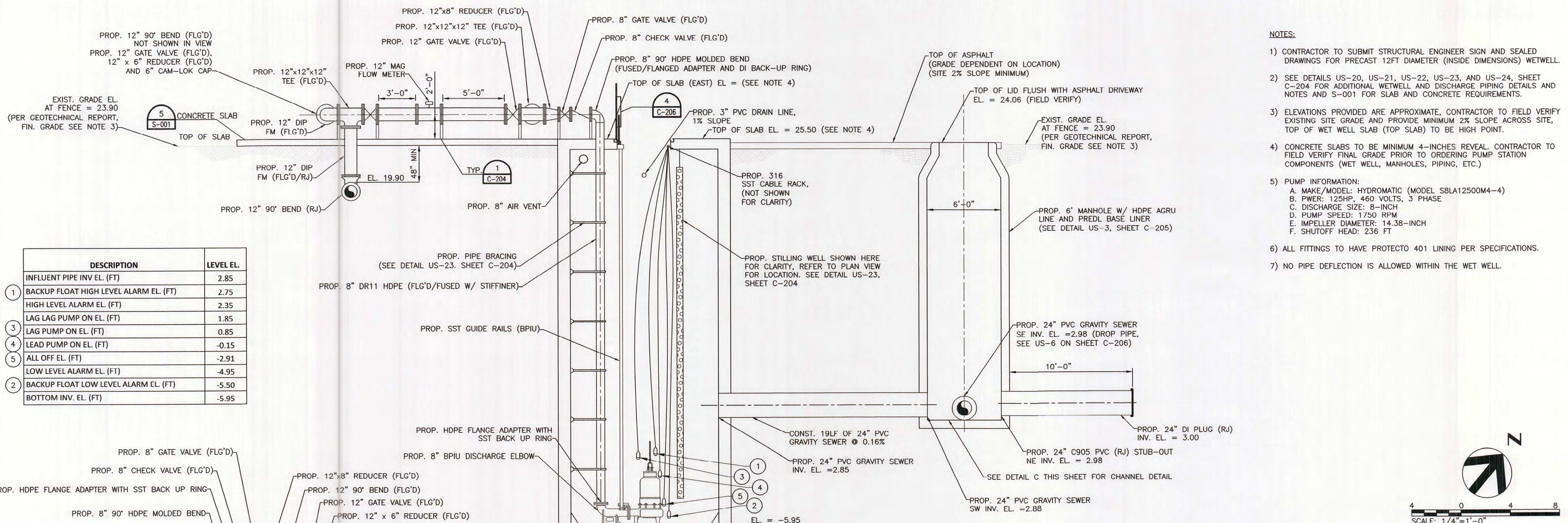
| PROJECT MANAGER | JASON STARR, P.E. |
|--------------------|-------------------|
| DESIGNER | JTT |
| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |



RYE ROAD MASTER PUMP STATION DESIGN

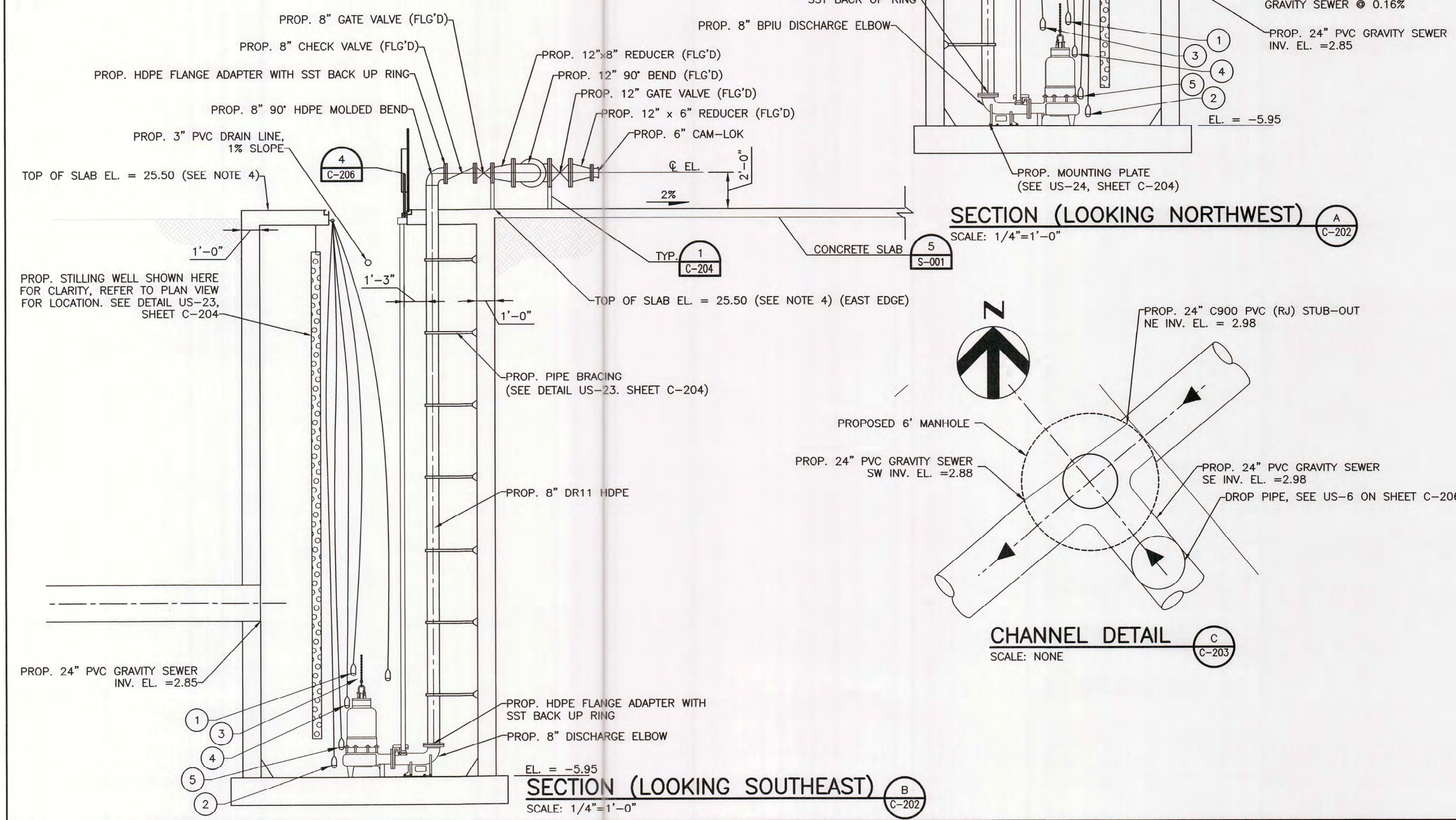
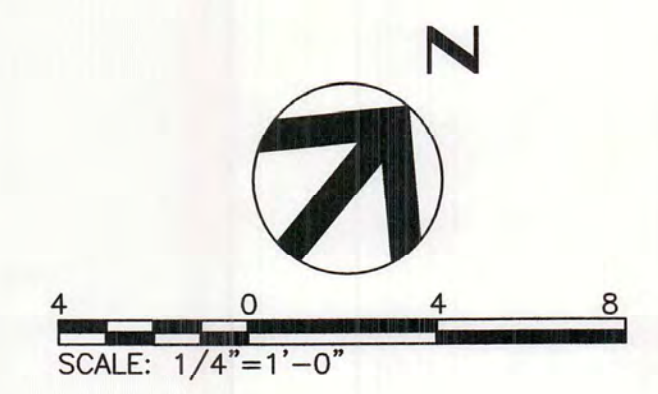
RYE ROAD PUMP STATION SITE PLAN (2)

FILENAME | C-202.DWG | SHEET
SCALE | 1"=10' | C-202

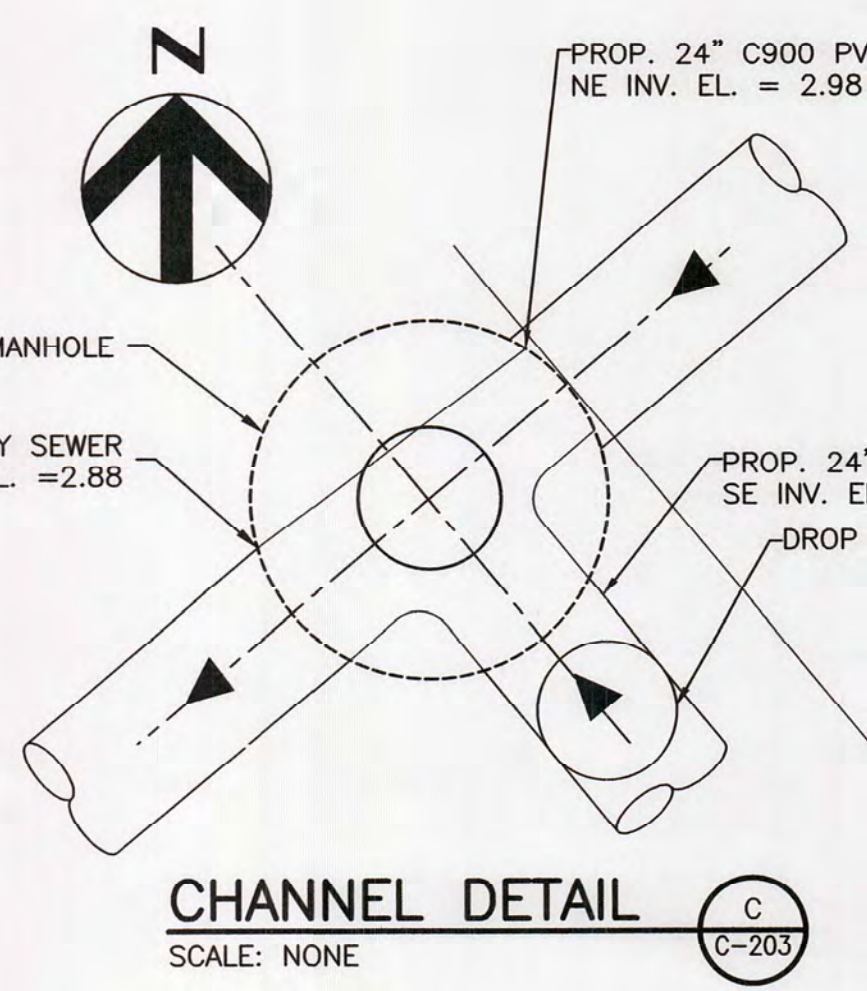


| DESCRIPTION | LEVEL EL. |
|--|-----------|
| INFLUENT PIPE INV EL. (FT) | 2.85 |
| 1 BACKUP FLOAT HIGH LEVEL ALARM EL. (FT) | 2.75 |
| HIGH LEVEL ALARM EL. (FT) | 2.35 |
| LAG LAG PUMP ON EL. (FT) | 1.85 |
| 3 LAG PUMP ON EL. (FT) | 0.85 |
| 4 LEAD PUMP ON EL. (FT) | -0.15 |
| 5 ALL OFF EL. (FT) | -2.91 |
| LOW LEVEL ALARM EL. (FT) | -4.95 |
| 2 BACKUP FLOAT LOW LEVEL ALARM EL. (FT) | -5.50 |
| BOTTOM INV. EL. (FT) | -5.95 |

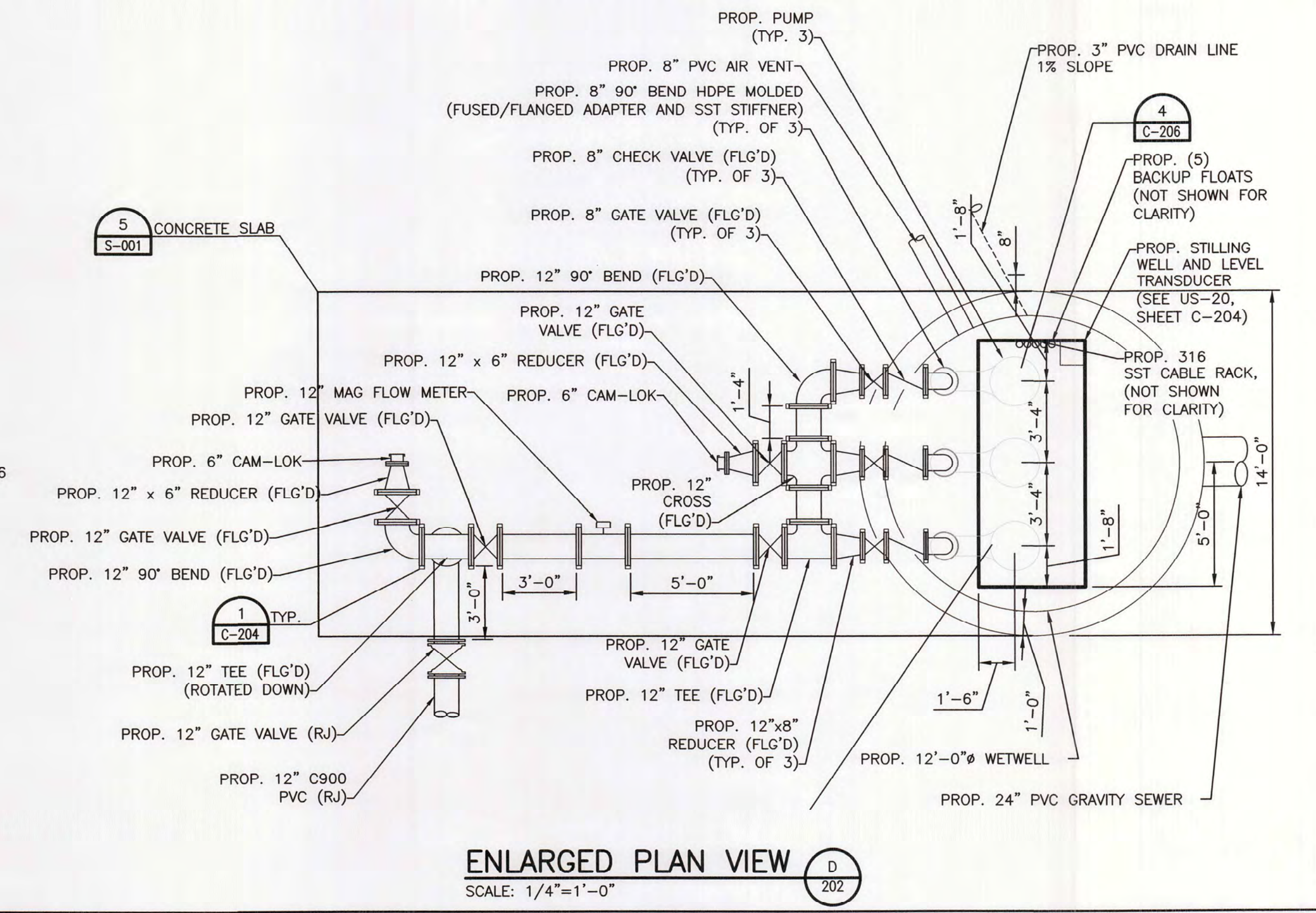
- NOTES:**
- CONTRACTOR TO SUBMIT STRUCTURAL ENGINEER SIGN AND SEALED DRAWINGS FOR PRECAST 12FT DIAMETER (INSIDE DIMENSIONS) WETWELL.
 - SEE DETAILS US-20, US-21, US-22, US-23, AND US-24, SHEET C-204 FOR ADDITIONAL WETWELL AND DISCHARGE PIPING DETAILS AND NOTES AND S-001 FOR SLAB AND CONCRETE REQUIREMENTS.
 - ELEVATIONS PROVIDED ARE APPROXIMATE, CONTRACTOR TO FIELD VERIFY EXISTING SITE GRADE AND PROVIDE MINIMUM 2% SLOPE ACROSS SITE, TOP OF WET WELL SLAB (TOP SLAB) TO BE HIGH POINT.
 - CONCRETE SLABS TO BE MINIMUM 4-INCHES REVEAL. CONTRACTOR TO FIELD VERIFY FINAL GRADE PRIOR TO ORDERING PUMP STATION COMPONENTS (WET WELL, MANHOLES, PIPING, ETC.)
 - PUMP INFORMATION:
 - A. MAKE/MODEL: HYDROMATIC (MODEL SBLA12500M4-4)
 - B. PWR: 125HP, 460 VOLTS, 3 PHASE
 - C. DISCHARGE SIZE: 8-INCH
 - D. PUMP SPEED: 1750 RPM
 - E. IMPELLER DIAMETER: 14.38-INCH
 - F. SHUTOFF HEAD: 236 FT
 - ALL FITTINGS TO HAVE PROTECTO 401 LINING PER SPECIFICATIONS.
 - NO PIPE DEFLECTION IS ALLOWED WITHIN THE WET WELL.



SECTION (LOOKING NORTHWEST)
SCALE: 1/4"=1'-0"



CHANNEL DETAIL
SCALE: NONE

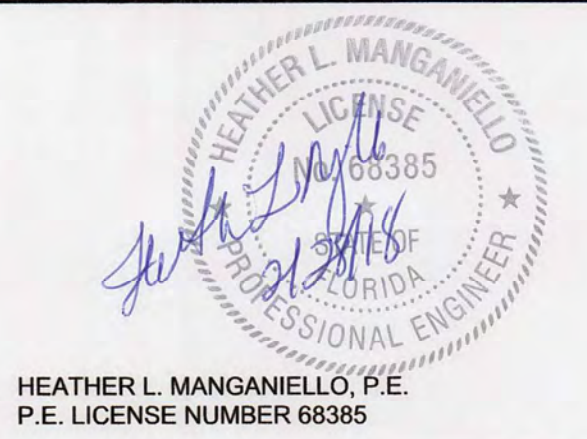


ENLARGED PLAN VIEW
SCALE: 1/4"=1'-0"



| ISSUE | DATE | DESCRIPTION |
|-------|------------|----------------------------|
| 3 | 02/2018 | FINAL |
| 2 | 09/01/2017 | FINAL FOR REVIEW SUBMITTAL |
| 1 | 04/04/2017 | 75% SUBMITTAL |

| PROJECT MANAGER JASON STARR, P.E. | |
|-----------------------------------|-----------------|
| DESIGNER | JTT |
| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |

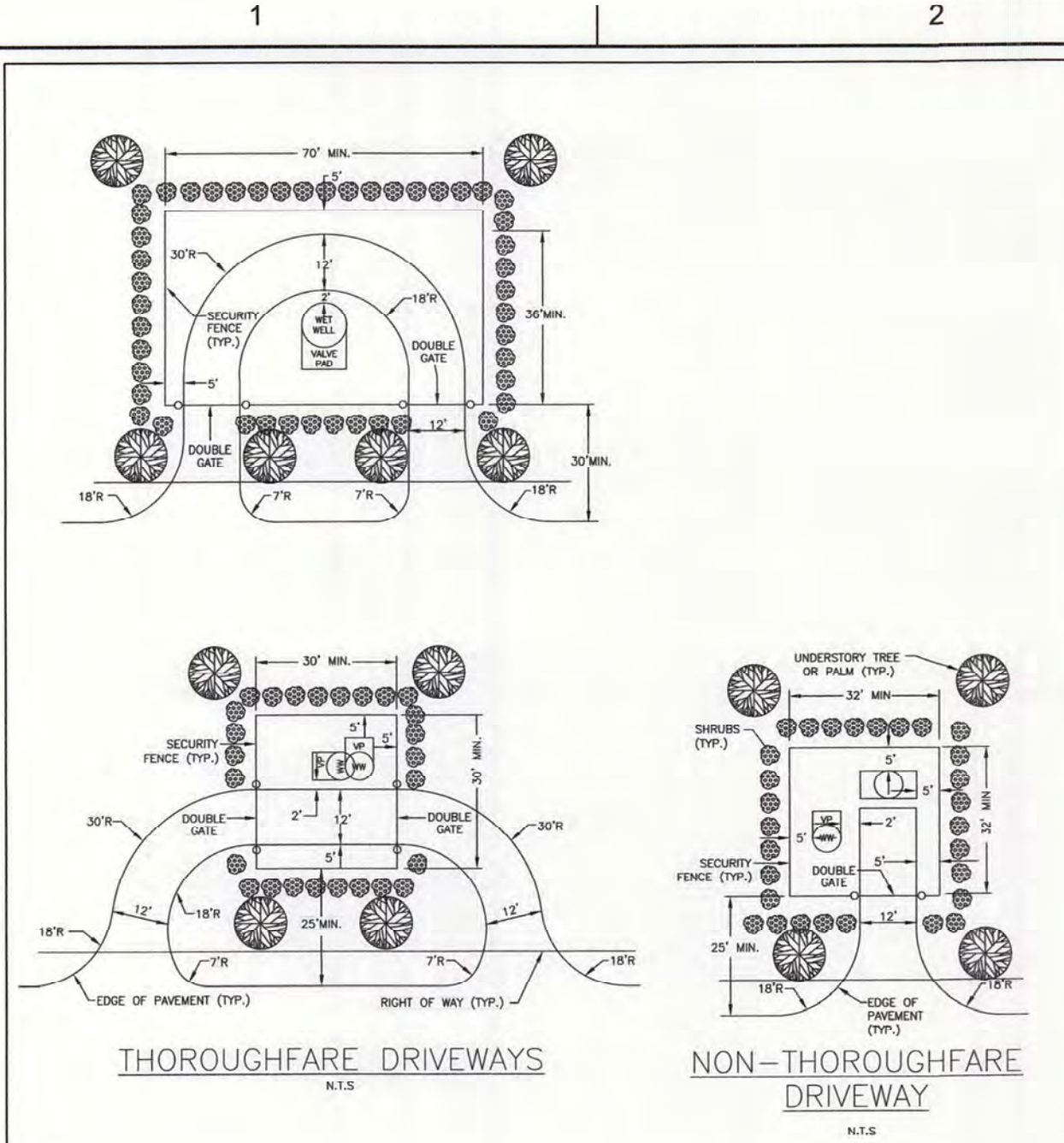


RYE ROAD MASTER PUMP STATION DESIGN

RYE ROAD PUMP STATION PLAN, SECTIONS AND DETAIL

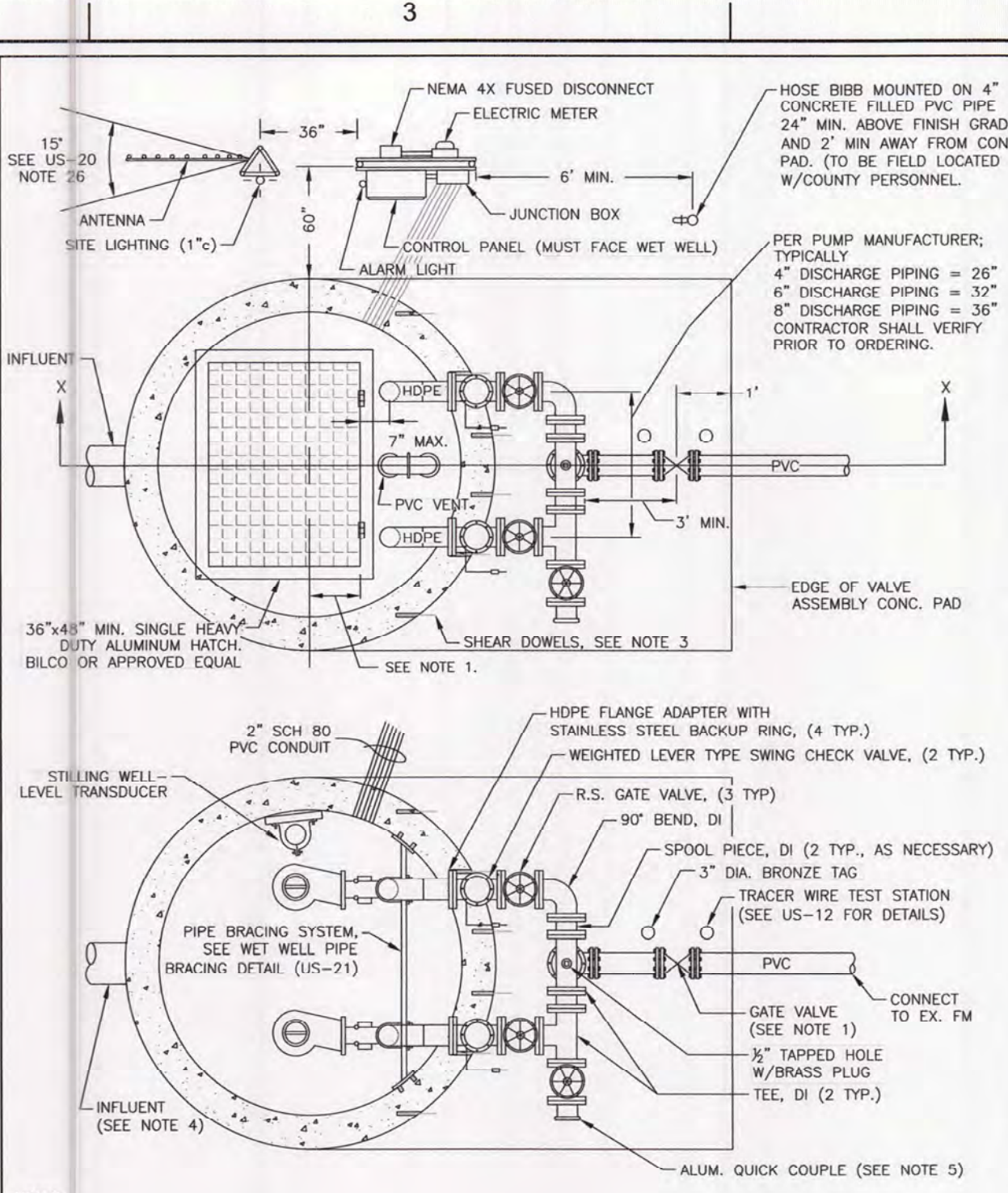
FILENAME C-203.DWG
SCALE AS NOTED

SHEET
C-203



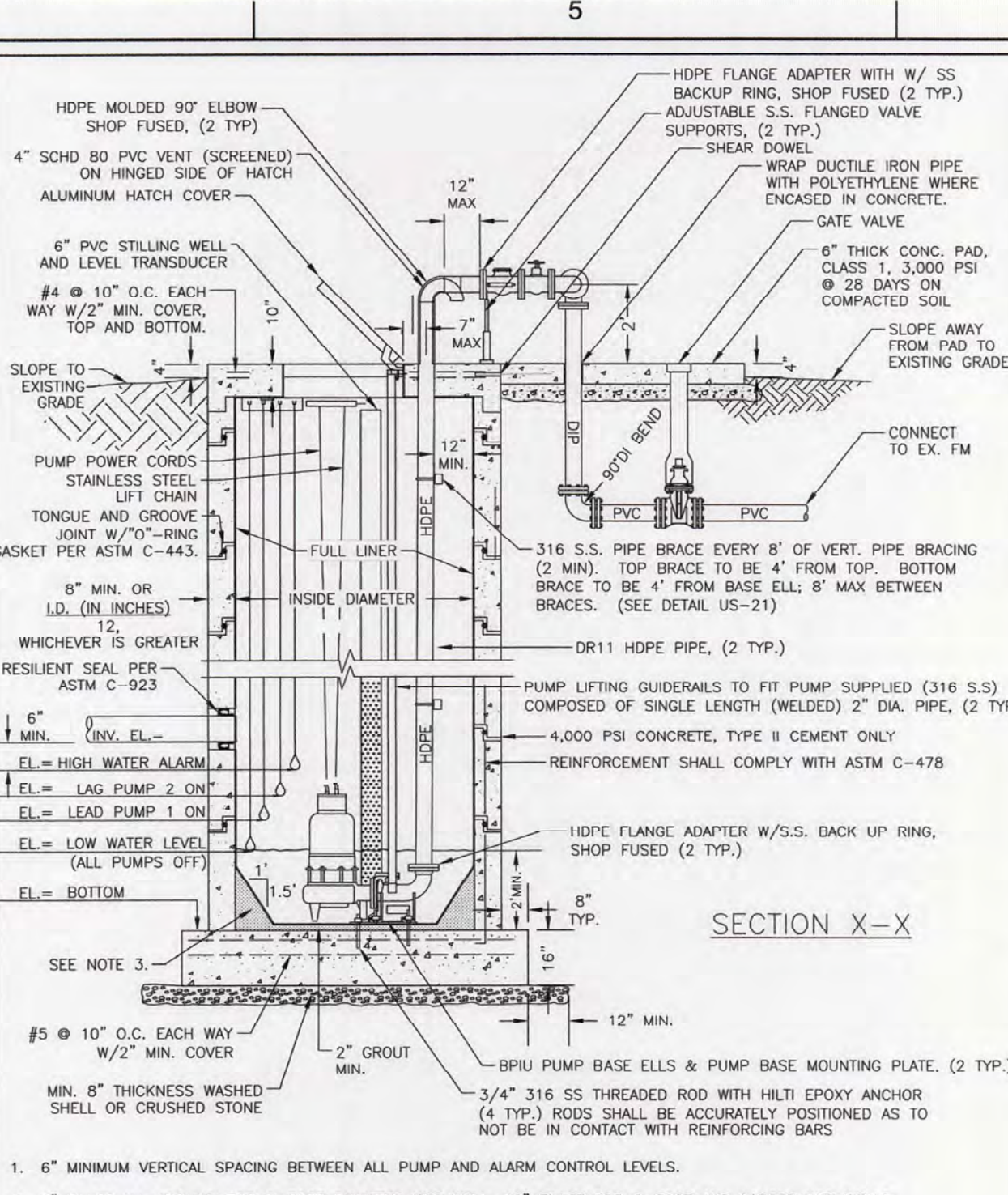
- NOTES:**
- A MINIMUM SETBACK OF 5 FT SHALL BE PROVIDED BETWEEN LIFT STATION STRUCTURES/EQUIPMENT/VALVE ASSEMBLY AND THE FENCE.
 - DRIVEWAY SHALL EXTEND UP TO OR BE EVEN WITH THE FURTHEST POINT OF THE WELL OR VALVE PAD.
 - LIFT STATION EASEMENT SHALL EXTEND A MINIMUM OF 15 FT BEYOND ALL FOUR SIDES OF THE LIFT STATION SECURITY FENCE.
 - OPTIONS FOR PLACEMENT OF WW & VALVE ASSEMBLY (IF NEEDED) ARE INDICATED FOR CLARITY.
 - A MINIMUM SETBACK OF 5 FT SHALL BE PROVIDED BETWEEN THE SHRUBS' BASE STEM AND THE LIFT STATION SECURITY FENCE.
 - A MINIMUM SETBACK OF 10 FT SHALL BE PROVIDED BETWEEN THE TRUNK OF SMALL TREES AND THE LIFT STATION SECURITY FENCE.
 - SPECIFIC LANDSCAPING REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 1.13.11 OF MANATEE COUNTY UTILITY STANDARDS MANUAL.
 - DRIVEWAY MATERIALS SHALL BE IN ACCORDANCE WITH MANATEE COUNTY HIGHWAY & TRAFFIC STANDARDS MANUAL FOR THE ENTIRE LENGTH OF THE DRIVEWAY.
 - DRIVEWAY WILL BE INSTALLED AT GRADE OF SHELL SURROUNDING WET WELL & VALVE ASSEMBLY.

| | | | |
|---|------|---|-------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | MINIMUM ACCESS/EGRESS AND LANDSCAPING REQUIREMENTS FOR PUMP STATIONS | US-18 |
| REV. BY | DATE | DATE OF APPROVAL | |



- NOTES:**
- FOR 6" DIA. WET WELLS, THE HINGED SIDE OF THE HATCH OPENING SHALL BE OFFSET 12" FROM CENTERLINE.
 - A FLOW METER SHALL BE INSTALLED UPSTREAM OF GATE VALVE FOR ALL LIFT STATIONS THAT RE-PUMP SEWAGE FROM OTHER LIFT STATIONS.
 - REBAR (6 TYP.) SHALL BE EPOXY EMBEDDED INTO THE WET WELL TOP 3-4 INCHES DEEP AND CAST 3-4 FEET INTO THE VALVE ASSEMBLY PAD TO ENSURE THE TOPS OF THE WET WELL AND VALVE ASSEMBLY PAD WILL REMAIN FLUSH.
 - THE INFLUENT GRAVITY SEWER SHALL BE ALIGNED SO THAT FLOW DROPS BETWEEN THE PUMPS AS SHOWN ABOVE.
 - COURT COUPLE SHALL BE PLACED ON THE SIDE CLOSEST TO THE LIFT STATION DRIVEWAY.
 - CONCRETE SHALL BE TYPE 1 WITH 4,000 PSI 28-DAY COMPRESSIVE STRENGTH.
 - FOR SECTION X-X SEE SEWAGE PUMP STATION, SECTION VIEW ON DETAIL US-21.

| | | | |
|---|------|----------------------------------|-------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | SEWAGE PUMP STATION PLAN VIEW | US-20 |
| REV. BY | DATE | DATE OF APPROVAL | |

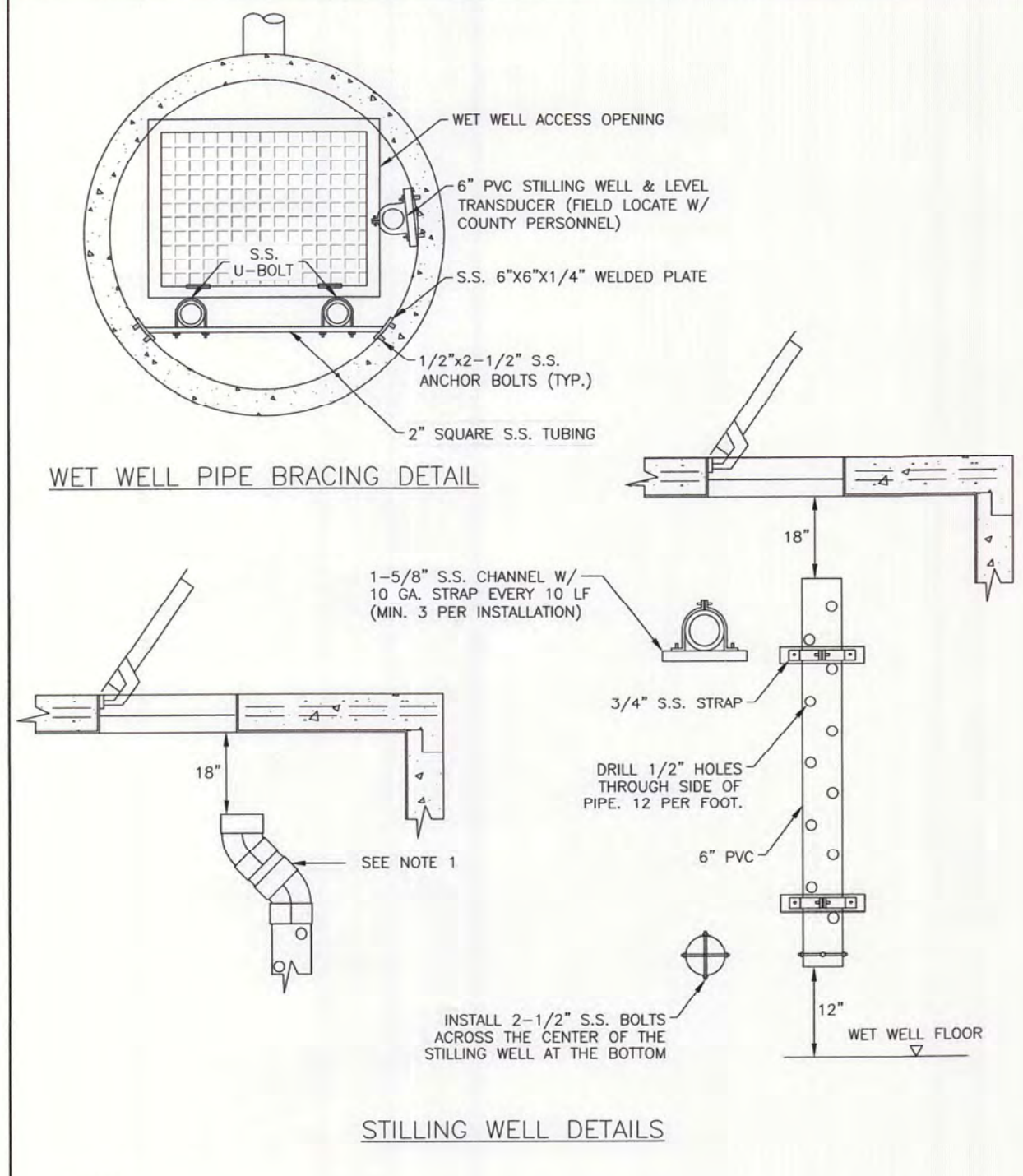


- NOTES:**
- 6" MINIMUM VERTICAL SPACING BETWEEN ALL PUMP AND ALARM CONTROL LEVELS.
 - 6" FILLET ALL AROUND FOR 6-FOOT DIAMETER WET WELL. 12" FILLET FOR 8-FOOT AND LARGER WET WELLS.
 - THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL BE NOT MORE THAN 1/4" UNDER A TEN FOOT (10') STRAIGHTEDGE, NOT MORE THAN 1/8" ON A FIVE FOOT (5') TRANSVERSE SECTION. THE EDGE OF THE CONCRETE PAD SHALL BE CAREFULLY FINISHED WITH A ROUNDING TOOL HAVING A RADIUS OF 1/2".
 - EXPANSION JOINTS: EXPANSION JOINTS BETWEEN THE CONC. PAD AND THE WET WELL SHALL BE 1/2" MATERIAL AND SHALL MEET THE REQUIREMENTS OF ASHTO M153 OR ASHTO M213.
 - THIS DETAIL SHALL APPLY TO LIFT STATIONS WITH 4" OR GREATER FORCE MAINS. LIFT STATIONS WITH FORCE MAINS LESS THAN 4" REFER TO DETAIL US-26.

| | | | |
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| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | SEWAGE PUMP STATION SECTION VIEW | US-21 |
| REV. BY | DATE | DATE OF APPROVAL | |

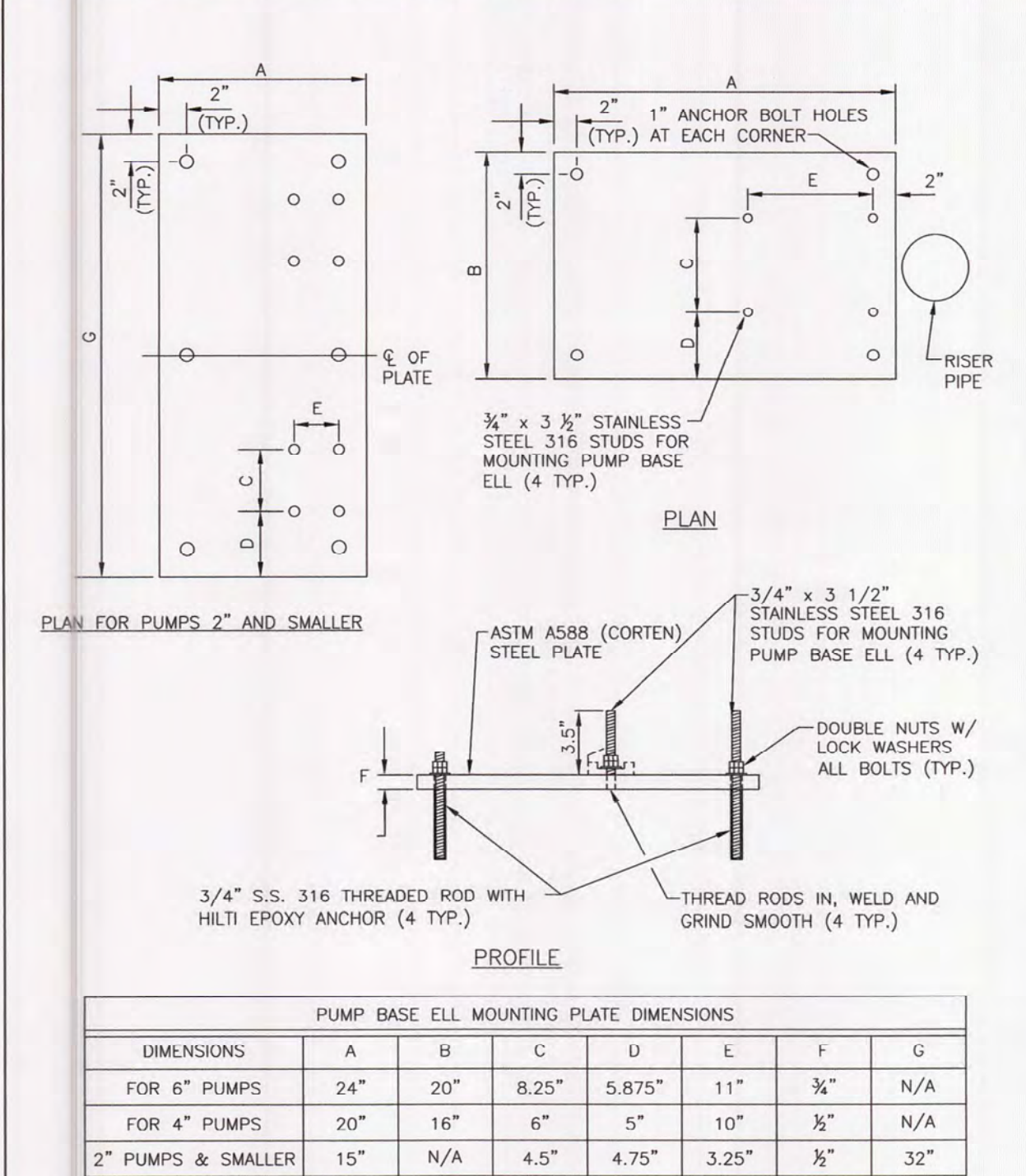
- GENERAL LIFT STATION NOTES:**
- ALL ACCESS COVERS SHALL BE ALUMINUM, WITH 316 STAINLESS STEEL HARDWARE AND RATED FOR 300 P.S.F. LOADING. ALL ACCESS COVERS SHALL BE EQUIPPED WITH A LOCKING STAPLE OR BAR FOR USE WITH A PADLOCK. PADLOCKS FOR WETWELL FENCE GATE AND CONTROL PANELS OF PUBLICLY OWNED & MAINTAINED LIFT STATIONS SHALL BE FURNISHED BY THE MANATEE COUNTY UTILITIES DEPARTMENT, UPON ACCEPTANCE.
 - INSTALL WET WELL VENT ON THE HINGED SIDE OF THE WET WELL HATCH COVER, BETWEEN DISCHARGE PIPING AND MATCH ALUMINUM HATCH COVER.
 - GROUND SHALL BE SLOPED AWAY FROM SLAB TO NATURAL DRAINAGE IN ALL DIRECTIONS. A 4-INCH REVEAL SHALL BE PROVIDED AROUND THE STRUCTURES. SITE SHALL INCLUDE A WEED BARRIER FABRIC THAT IS COVERED WITH WASHED SHELL OR ROCK WITH LIFT STATION FENCING. SPECIALLY TYPICALLY APPLIED WEED BARRIER FABRIC THAT IS COVERED WITH SHREDDED WOOD TYPE MULCH UNDER THE SHRUBS AND UP TO OUTSIDE OF THE FENCE. WEED BARRIER FABRIC THAT IS COVERED WITH SHREDDED WOOD-TYPE MULCH SHALL BE LOCATED UNDER THE TREES FOR A MINIMUM DISTANCE OF 3 FEET FROM THE TREE. SOODING OR SHREDDED WOOD-TYPE MULCH SHALL BE INSTALLED ON THE REMAINDER OF THE SITE TO THE EDGE OF THE EASEMENT.
 - FORCE MAIN PIPING AND FITTINGS FROM THE PUMP BASE ELLOW IN THE WETWELL UP TO THE CHECK VALVE IN THE ABOVE GROUND VALVE ASSEMBLY, SHALL BE DR11 HDPE. THE HDPE FITTINGS SHALL BE MOLDED FITTINGS. ALL CONNECTIONS TO IRON BODIED FLANGE FITTINGS IN THE WETWELL (PUMP BASE ELLS) AND TO THE CHECK VALVES SHALL BE MADE USING HDPE FLANGE ADAPTERS WITH 316 STAINLESS STEEL BACKUP RINGS. ALL HDPE CONNECTIONS SHALL BE THERMAL FUSED. ALL PIPING DOWNSTREAM OF THE VALVE ASSEMBLY TO THE ISOLATION VALVE SHALL BE DUCTILE IRON PIPE (CL-53).
 - ALL PIPING BELOW GROUND SHALL BE COLOR CODED IN ACCORDANCE WITH THESE STANDARDS. GREEN-RAW SEWAGE.
 - ANCHORS & LIFTING DEVICES SHALL NOT PENETRATE THE WALLS OF THE WET WELL.
 - ALL INTERIOR SURFACES OF WET WELL SHALL BE LINED. SEE STANDARD PRE-CAST SANITARY SEWER MANHOLE FOR TURBULENT FLOW DETAIL.
 - ALL METAL APPURTENANCES INCLUDING BOLTS, NUTS AND WASHERS SHALL BE 316 STAINLESS STEEL. ALL STAINLESS STEEL BOLTS SHALL BE TREATED WITH NEVER-SEIZE PRIOR TO ASSEMBLY.
 - VERTICAL HDPE PUMP DISCHARGE PIPE IN THE WET WELL SHALL BE BRACED PER DETAIL US-21. THE PIPE SHALL BE CLAMPED TO A SINGLE LENGTH OF 2" 316 SS TUBING INSTALLED HORIZONTALLY. THE TUBE SHALL HAVE 4"x6"x2" PLATES WELDED TO EACH END AND ATTACH TO THE WALL BY 316 SS ANCHORS. THE PIPE SHALL BE CLAMPED TO THE TUBING W/316 SS U-BOLTS.
 - CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT FLOTATION.
 - TOP OF WET WELL AND VALVE ASSEMBLY SLAB SHALL BE AT THE SAME ELEVATION.
 - THE EXTERIOR SURFACES OF THE CONCRETE WET WELL AND VALVE ASSEMBLY PAD EXPOSED ABOVE GRADE SHALL BE COATED WITH A LEAST TWO COATS OF H&C SILICONE ACRYLIC CONCRETE STAIN, PATO GREEN, MANUFACTURED BY FLR PAINTS, INC. ABOVE GROUND VALVE ASSEMBLY & PIPING SHALL BE PAINTED, RUSTOLEUM 7538 HUNTER GREEN. CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID OVER-SPRAY ONTO THE VALVE ASSEMBLY CONCRETE PAD.
 - FOR 5/8" WATER METER, PROVIDE POTABLE WATER SERVICE CONNECTION WITH 3/4" BRASS HOSE BIB. PROVIDE WATTS 909 BACKFLOW PREVENTER (OR EQUIVALENT). ALL WATER SERVICE PIPING FROM WATER METER TO BE TYPE "C" COPPER OR BRASS; 3/4" MIN. DIAMETER FOR 5/8" METER AND 2" MIN. DIAMETER PIPING FOR 2" METER.
 - LANDSCAPING SHALL BE IRRIGATED WITH NON-POTABLE WATER. A RAIN SENSOR SHALL BE FURNISHED AND INSTALLED.
 - HOSE BIB TO BE A MINIMUM OF 6 FEET FROM THE ELECTRICAL CONTROL PANEL, 24" ABOVE THE SURROUNDING FINISH GRADE, AND ANCHORED TO A 4" PVC CONCRETE FILLED PIPE. EXACT LOCATION TO BE DETERMINED IN THE FIELD W/COUNTY PERSONNEL.
 - WATER METER ASSEMBLY TO BE INSTALLED BY CONTRACTOR AS PART OF WATER SERVICE CONNECTION WITH FEES PAID BY THE DEVELOPER.
 - BASE AND FIRST WALL SECTION OF WET WELL SHALL BE MONOLITHIC.
 - EVERY EFFORT SHALL BE MADE BY THE CONTRACTOR TO CONSTRUCT WATERTIGHT STRUCTURES WITH NO VISIBLE LEAKS. COMPLETED STRUCTURES THAT ARE NOT WATERTIGHT AND/OR DO NOT MEET THE REQUIREMENTS OF ASTM C-443 WILL BE REJECTED.
 - FLEXIBLE GASKET CONTRACTORS SHALL MEET THE REQUIREMENTS OF ASTM C-923 LATEST REVISION.
 - ALL GATE VALVES SHALL BE RESILIENT SEAT IN ACCORDANCE WITH THESE STANDARDS.
 - ELECTRICAL SERVICE SHALL BE 3 PHASE MINIMUM, UNLESS THE ELECTRICAL UTILITY PROVIDES CORRESPONDENCE STATING THAT 3 PHASE SERVICE IS UNAVAILABLE.
 - ELECTRICAL CONDUIT SHALL BE RUN BY THE SHORTEST ROUTE POSSIBLE FROM THE ELECTRICAL SOURCE TO THE CONTROL PANEL AND FROM THE CONTROL PANEL TO THE LIFT STATION WET WELL.
 - A FLOW METER AND EMERGENCY BACKUP PUMP SHALL BE REQUIRED FOR ALL LIFT STATIONS THAT MEET THE CRITERIA LISTED IN SECTION 1.13.14.
 - THE CONTROL PANEL, HOSE BIB, EMERGENCY BACKUP PUMP, FUEL STORAGE TANK AND ANTENNA SHALL NOT BE LOCATED BETWEEN THE WETWELL, VALVE ASSEMBLY AND THE DRIVEWAY. THE PUMP SHALL NOT BE LOCATED WITHIN 25 FEET OF THE EDGE OF THE LIFT STATION EASEMENT AT THE ROW LINE.
 - THE ANTENNA FOR THE RADIO TELEMETRY UNIT REQUIRES DIRECT LINE-OF-SIGHT SIGNALING CAPABILITY TO THE UTILITIES DEPARTMENT'S OFFICE THAT WILL RECEIVE THE SIGNALING. THERE SHALL BE AN UNOBSTRUCTED HORIZONTAL ANGLE OF FIFTEEN (15) DEGREES FROM THE ANTENNA MAST (7.5 DEGREES ON BOTH SIDES OF THE DIRECT LINE-OF-SIGHT AZIMUTH). NO TREE SHALL BE PLANTED WITHIN THE DESIGNATED UNOBSTRUCTED ANGLE FOR A TWENTY (20) FEET HORIZONTAL DISTANCE EXTENDING FROM THE MAST. LANDSCAPE OUTER PLANTINGS 4' TO 6' TO BE FIELD ADJUSTED IN ACCORDANCE WITH THE LOCATION OF THE CONSTRUCTED TELEMETRY ANTENNA. THE ANTENNA TOWER/MAST SHALL BE TO THE LEFT OF THE CONTROL PANEL.

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| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | PUMP STATION NOTES | US-22 |
| REV. BY | DATE | DATE OF APPROVAL | |



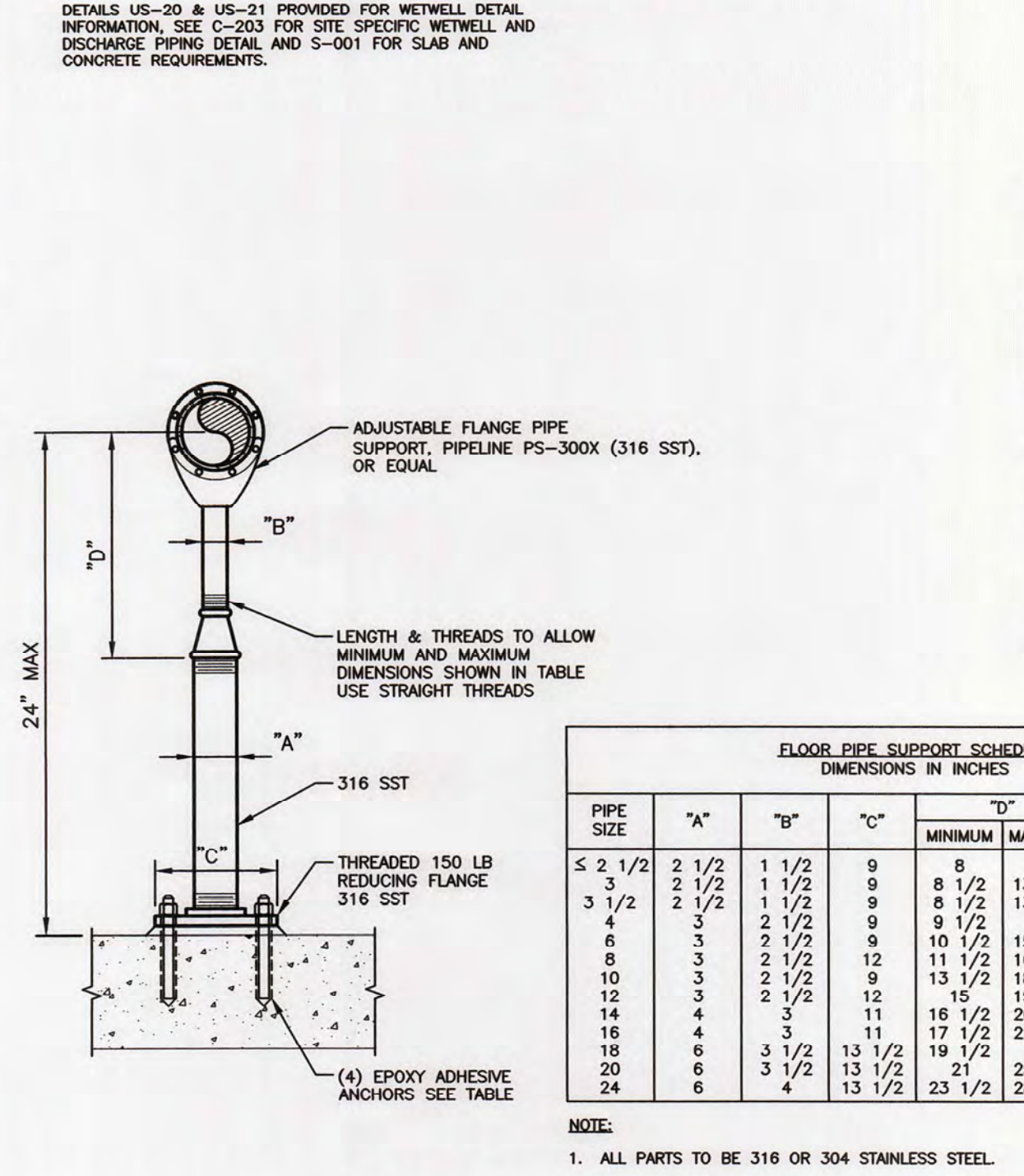
- NOTES:**
- FOR LARGER LIFT STATIONS, PROVISIONS SHALL BE MADE TO MAKE THE TOP OF THE STILLING WELL VISIBLE AND ACCESSIBLE FROM THE HATCH OPENING, I.E. 45° FITTINGS, ETC.
 - REFER TO STANDARD DETAILS US-18, US-19 & US-20 FOR PUMP STATION DETAILS.
 - NYLON LOCK NUTS SHALL BE USED AT ALL TIMES IN THE WET WELL, EXCEPT BASE ELLS & PIPE BRACING ANCHOR BOLTS.

| | | | |
|---|------|--|-------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | PUMP STATION PIPE BRACING, & STILLING WELL DETAILS | US-23 |
| REV. BY | DATE | DATE OF APPROVAL | |



- NOTES:**
- INSTALL DOUBLE NUTS ON ALL EIGHT (8) THREADED RODS.
 - THE PLATE EDGES AND ALL HOLES SHALL BE GROUND SMOOTH TO REMOVE ALL BURRS.
 - DIMENSIONS "C" & "E" ARE FOR BARNEY'S PUMPS, INC. BASE ELLS.
 - FOR PUMPS WITH A 2-INCH DISCHARGE OR LESS, A SINGLE BASE PLATE SHALL BE INSTALLED UNDER BOTH GRINDER PUMPS.

| | | | |
|---|------|---------------------------------|-------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | PUMP BASE ELL MOUNTING PLATE | US-24 |
| REV. BY | DATE | DATE OF APPROVAL | |



ADJUSTABLE FLANGE PIPE SUPPORT
SCALE: NONE

| PIPE SIZE | "A" | | | "B" | | | "C" | | | "D" | | | ANCHORS | |
|-----------|---------|---------|---------|---------|---------|------|---------|---------|-----|---------|---------|-----|---------|--|
| | MINIMUM | MAXIMUM | DIA | MINIMUM | MAXIMUM | DIA | MINIMUM | MAXIMUM | DIA | MINIMUM | MAXIMUM | DIA | EMBED | |
| ≤ 2 1/2" | 2 1/2" | 1 1/2" | 9 | 8 | 13 | 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 3" | 2 1/2" | 1 1/2" | 9 | 8 1/2" | 13 1/2" | 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 3 1/2" | 2 1/2" | 1 1/2" | 9 | 9 1/2" | 14 | 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 4" | 3" | 2 1/2" | 9 | 10 1/2" | 15 1/2" | 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 6" | 3" | 2 1/2" | 12 | 11 1/2" | 16 1/2" | 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 10" | 3" | 2 1/2" | 9 | 13 1/2" | 18 1/2" | 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 12" | 3" | 2 1/2" | 11 | 16 1/2" | 20 1/2" | 3/4" | 6 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | |
| 18" | 4" | 3" | 11 | 17 1/2" | 22 1/2" | 3/4" | 6 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | |
| 24" | 6" | 3 1/2" | 13 1/2" | 19 1/2" | 24" | 3/4" | 6 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | |
| 24" | 6" | 3 1/2" | 13 1/2" | 23 1/2" | 28 1/2" | 3/4" | 6 5/8" | 5 | 5 | 5 | 5 | 5 | 5 | |

- NOTE:**
1. ALL PARTS TO BE 316 OR 304 STAINLESS STEEL.

| NO. | PART/ASSEMBLY | MATERIAL | QUANTITY REQUIRED |
|-----|----------------------------------|---|-------------------|
| 1 | TIPPING BUCKET RAIN GAUGE | ALUMINUM | AS REQUIRED |
| 2 | PLATE | ALUMINUM | 1 |
| 3 | SUPPORT POST 2" RIGID CONDUIT | 2" RIGID ALUMINUM OR SCH 80 PVC - 8' LONG | 1 |
| 4 | CONDUIT | 1/2" 316 SST OR ALUMINUM RIGID CONDUIT | AS REQUIRED |
| 5 | CONDUIT CLAMPS | PIGGY BACK | 3 |
| 6 | CONDUIT BOX | ALUMINUM | 1 |
| 7 | CONCRETE | 1' 6" X 2' DEEP 3500 PSI, 1.6 CF | AS REQUIRED |

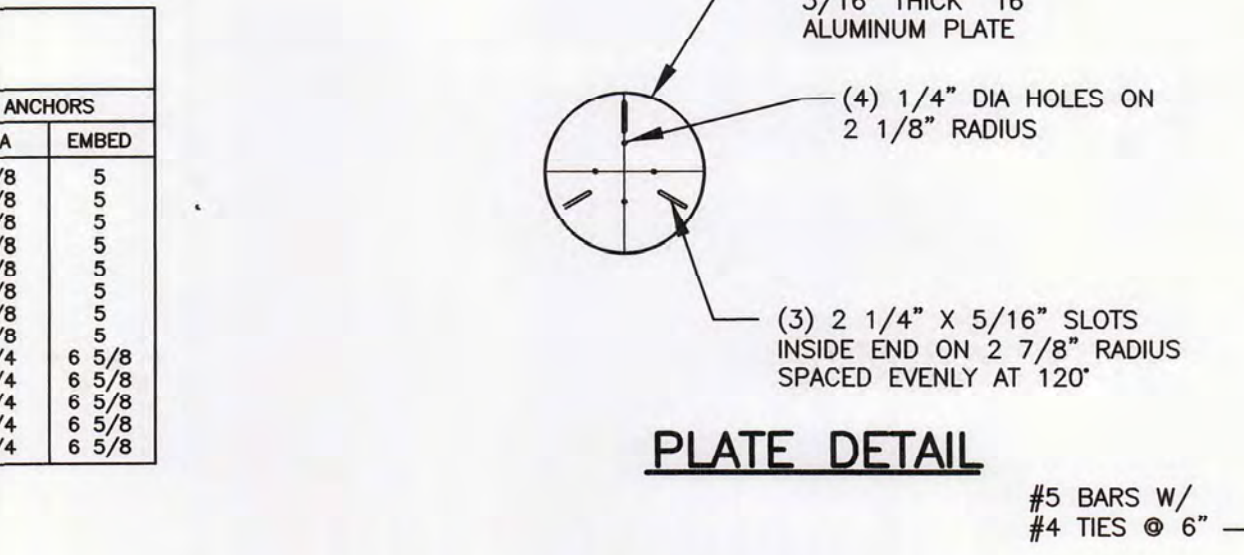
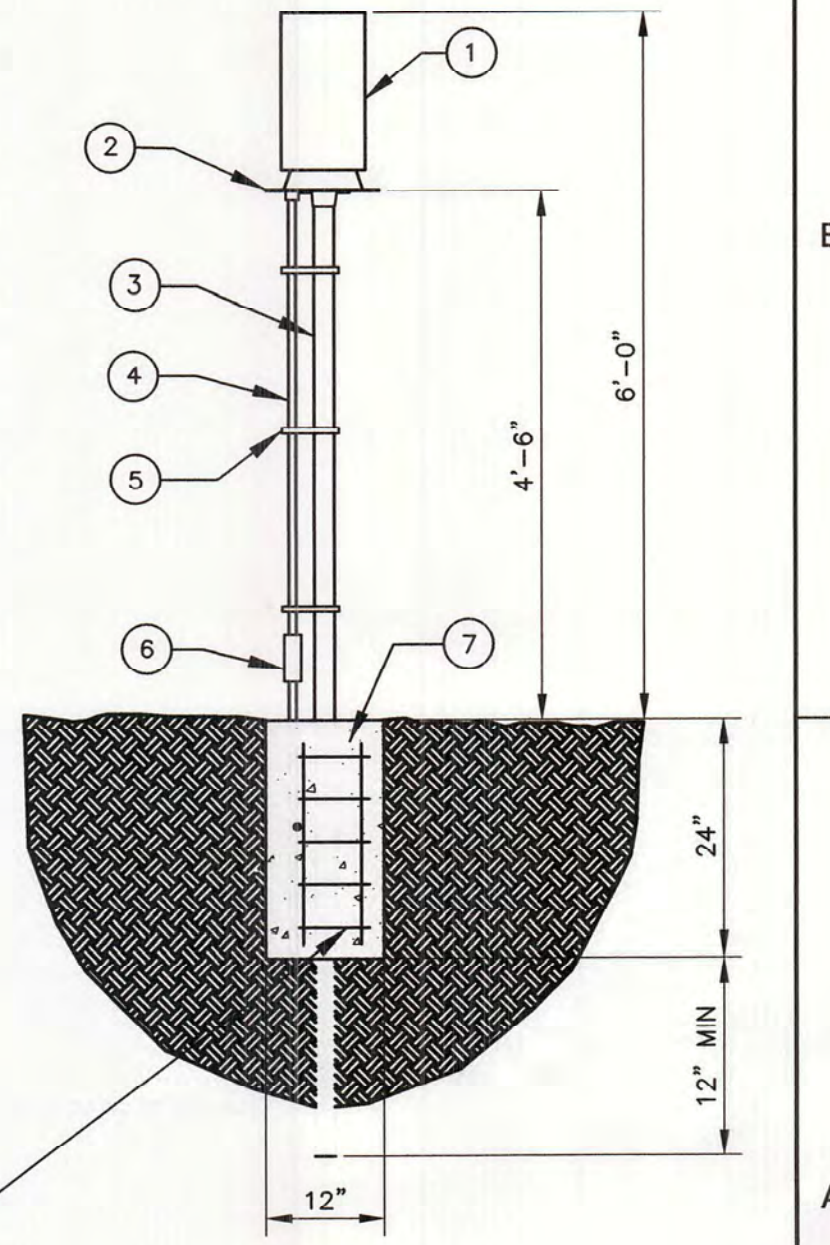


PLATE DETAIL
SCALE: NONE



RAIN GAUGE ELEVATION
SCALE: NONE



| 3 | 02/2018 | FINAL |
|-------|------------|----------------------------|
| 2 | 09/01/2017 | FINAL FOR REVIEW SUBMITTAL |
| 1 | 04/04/2017 | 75% SUBMITTAL |
| ISSUE | DATE | DESCRIPTION |

PROJECT MANAGER JASON STARR, P.E.
DESIGNER JTT
REVIEWER MDO
SR. PROJ. ENGINEER TSH
PROJ. ENGINEER HLM
ELEC. ENGINEER KMB

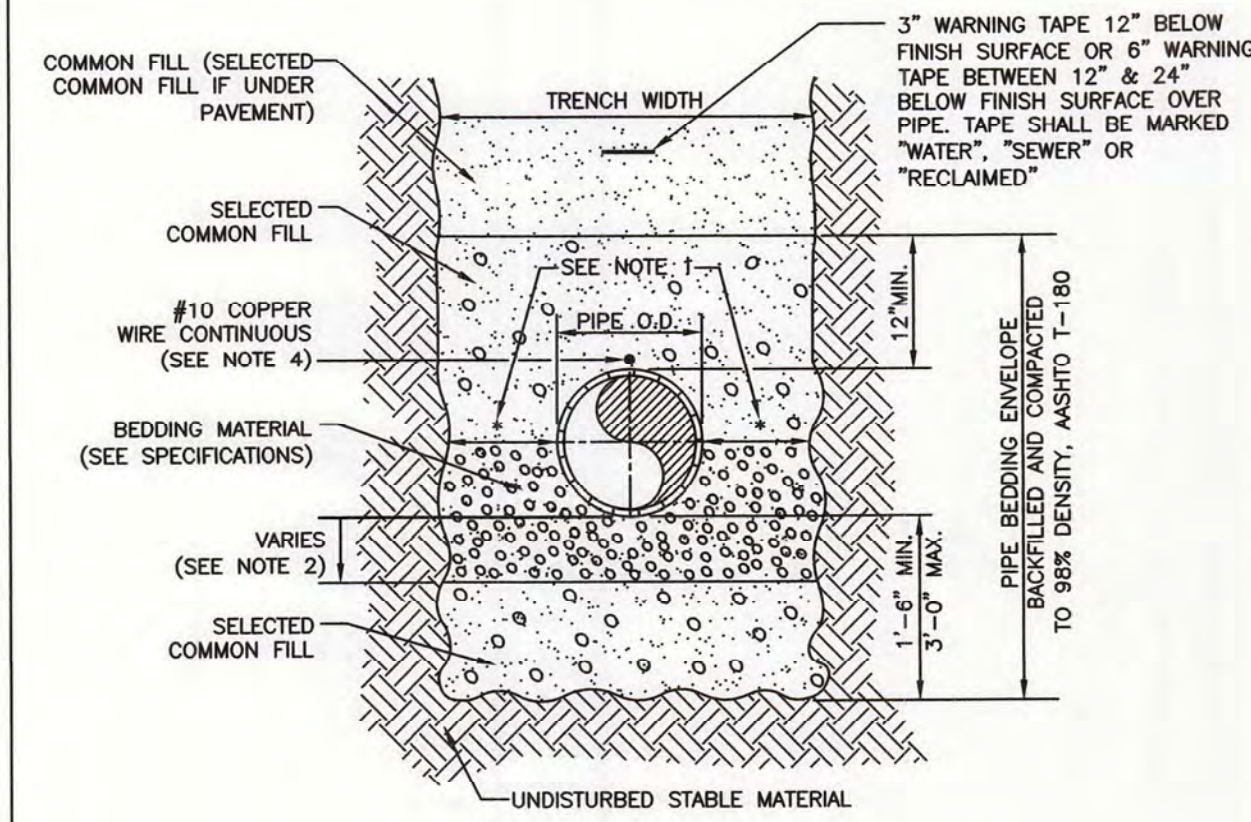
HEATHER L. MANGANIELLO
 LICENSE NUMBER 68385
 P.E. LICENSE NUMBER 68385

**RYE ROAD MASTER
PUMP STATION DESIGN**

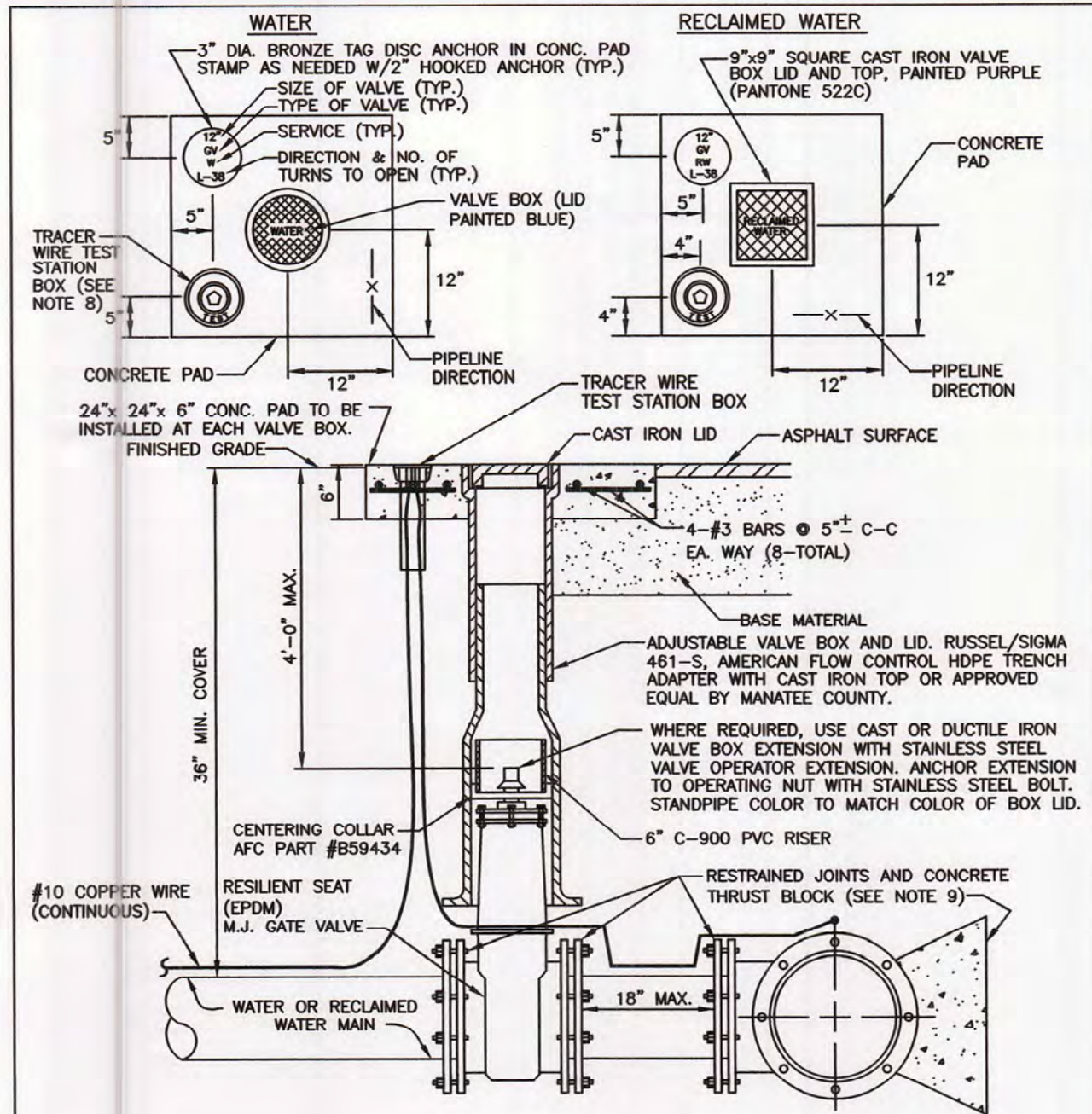
**RYE ROAD
PUMP STATION DETAILS (1)**

| | | | |
|----------|-----------|-------|-------|
| FILENAME | C-204.DWG | SHEET | C-204 |
| SCALE | NONE | | |

- NOTES:
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
 - TYPICALLY 4" TO 6".
 - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



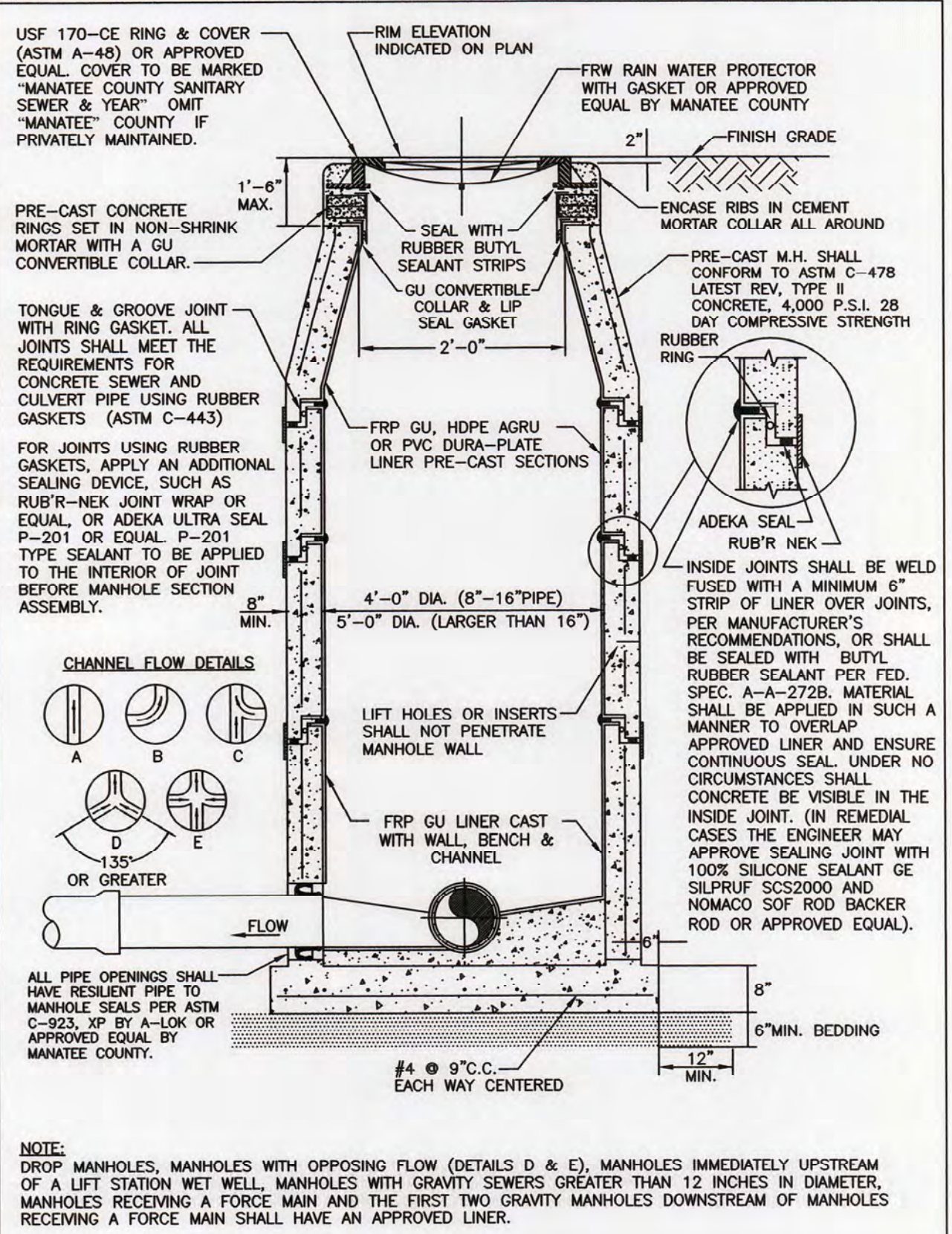
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| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | TRENCH WITH TYPE A-3 PIPE BEDDING | UG-16 |
| REV. BY CLB/BR | DATE 11/10 | MAY 10, 2011 DATE OF APPROVAL | PAGE 116 |



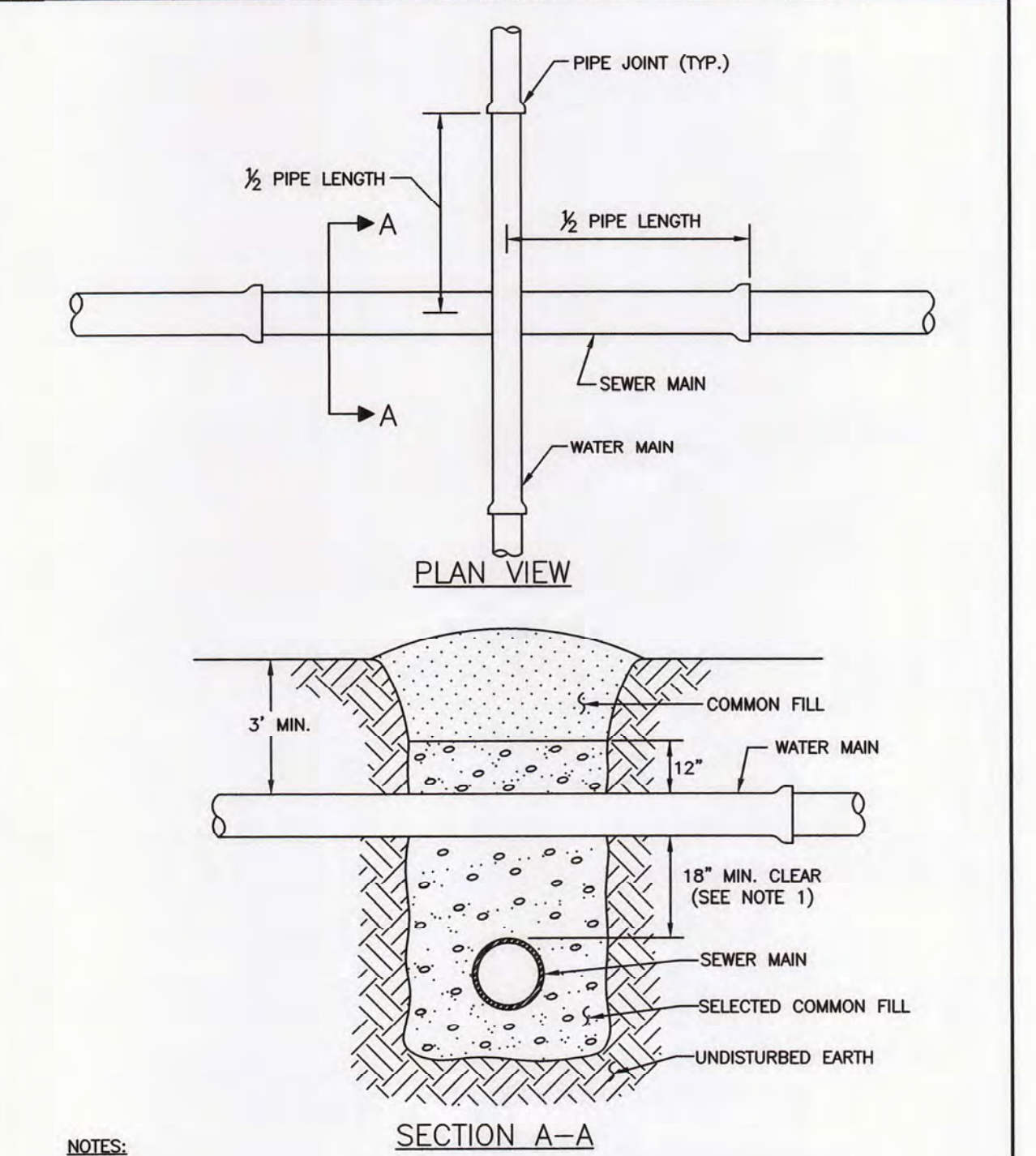
NOTES:

- "W" OR "RW" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A BLUE DISC WITH "W" OR PURPLE DISC WITH "RW" AND A 1/8"x1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE.
- ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
- WATER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.
- PRECAST CONCRETE PADS & THRUST BLOCKS SHALL NOT BE USED.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
- FOR VALVES 18" AND LARGER, USE BUTTERFLY VALVES.
- PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY POURED CONCRETE PAD.
- TRACER WIRE TEST STATION BOX IS NOT REQUIRED IN VALVE BOX PAD IF THE GATE VALVE IS LOCATED WITHIN 200 FEET OF A WATER SERVICE, BLOW-OFF, BACKFLOW PREVENTER OR FIRE HYDRANT THAT HAS A TRACER WIRE BOX.
- WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM THE FULL LENGTH SPECIFIED FOR "TEES".
- BINGHAM & TAYLOR PIPING FOR NORMAL YARD SERVICE, WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE P2280 CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

| | | | |
|---|---------------|----------------------------------|----------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | GATE VALVE, BOX, LID AND TAG | UW-2 |
| REV. BY CLB/BR | DATE 11/10 | MAY 10, 2011 DATE OF APPROVAL | PAGE 120 |



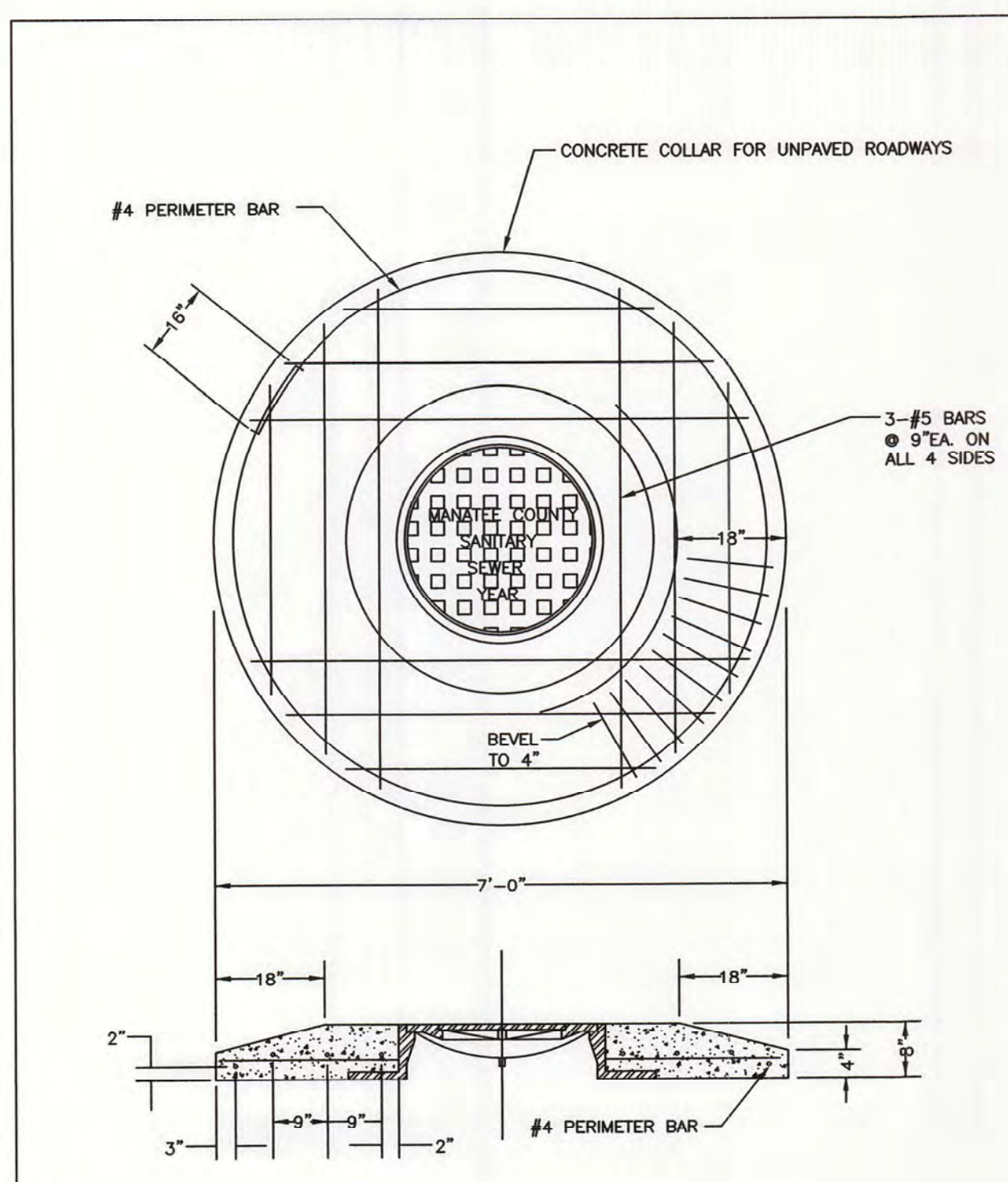
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| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | STANDARD PRE-CAST SANITARY SEWER MANHOLE FOR TURBULENT FLOW | US-3 |
| REV. BY CLB/BR | DATE 11/10 | MAY 10, 2011 DATE OF APPROVAL | PAGE 143 |



NOTES:

- CLEARANCE MAY BE REDUCED TO 6" FOR GRAVITY SEWER WHERE WATER MAIN IS DUCTILE IRON OR 3" FOR FORCE MAIN WHERE FORCE MAIN IS ENCASED A MINIMUM OF 10" EACH SIDE OF CROSSING.
- WHERE NO ENCASEMENT IS REQUIRED, PIPE SECTIONS SHALL BE FULL-LENGTH AND SHALL BE ADJUSTED HORIZONTALLY SO THAT THE CROSSING IS AT EACH PIPE SECTION'S MIDPOINT REGARDLESS OF THE VERTICAL CLEARANCE.
- REFER TO THE JACK & BORE CROSSING DETAIL FOR CASING AND SPACER REQUIREMENTS.

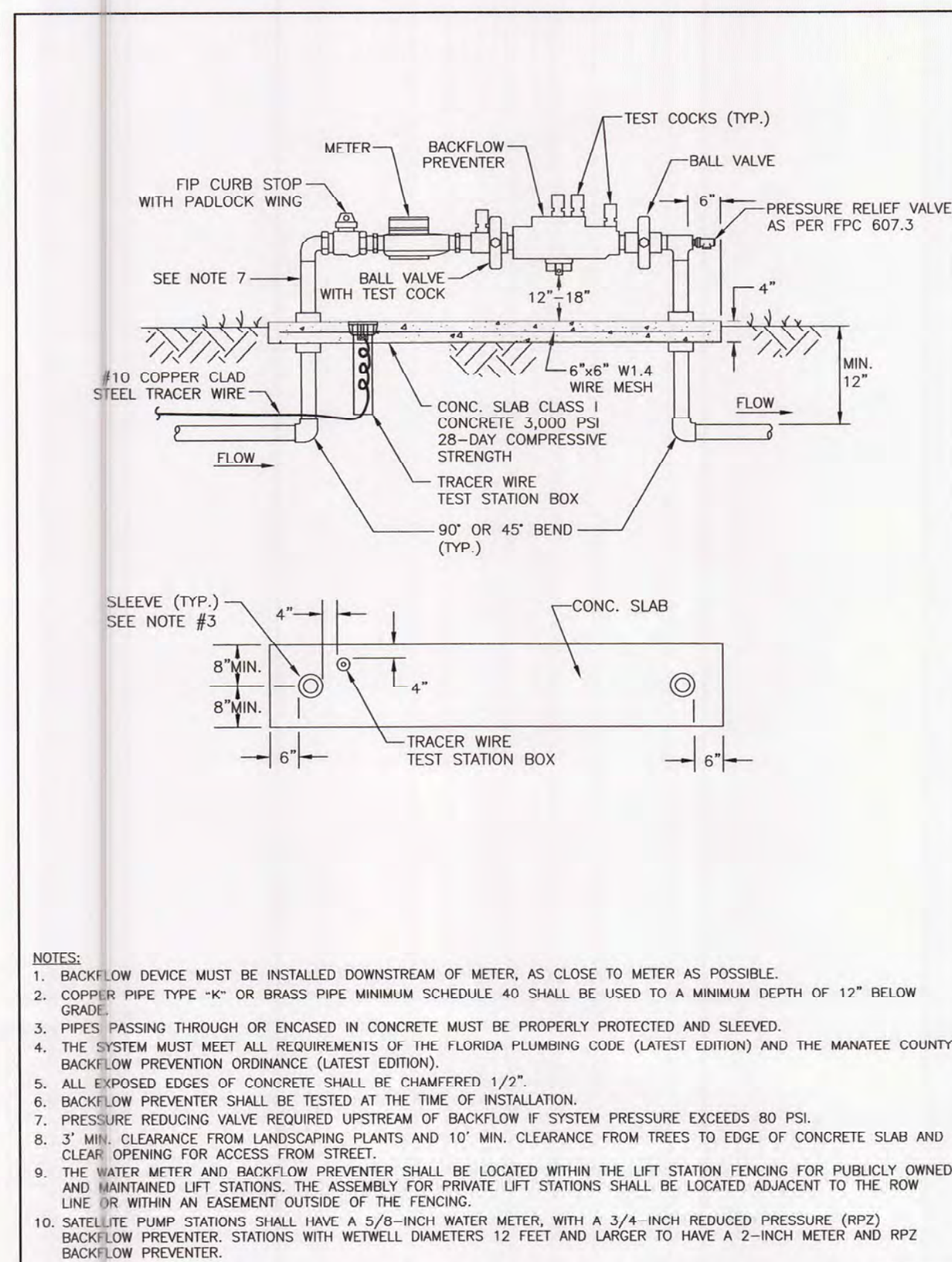
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| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | TYPICAL NEW WATER & SEWER LINE CROSSING | UG-2 |
| REV. BY CLB/BR | DATE 11/10 | MAY 10, 2011 DATE OF APPROVAL | PAGE 102 |



NOTES:

- OMIT "MANATEE COUNTY" IF PRIVATELY MAINTAINED.
- PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE 1, AND CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I.

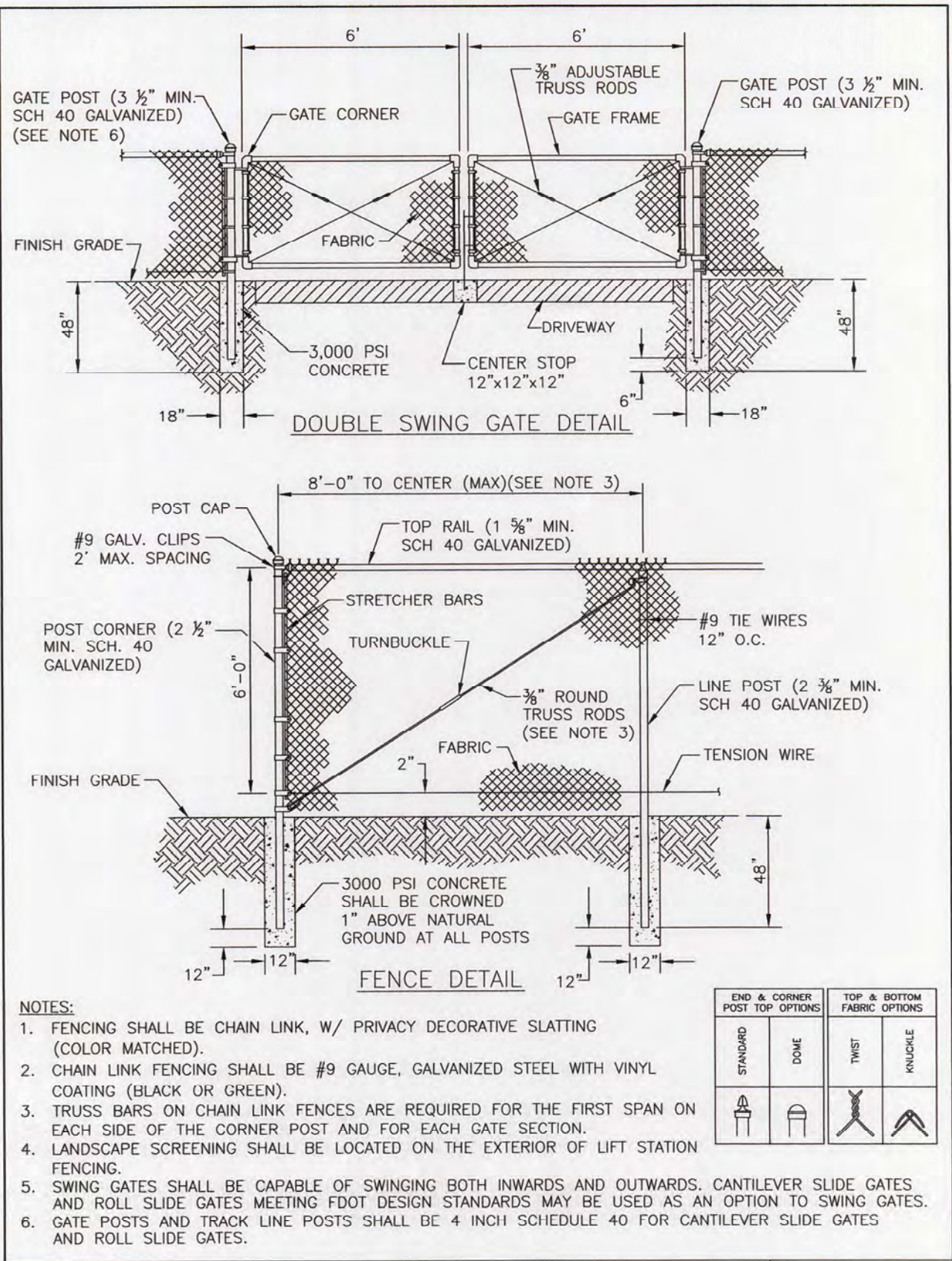
| | | | |
|---|---------------|---|----------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | MANHOLE COVER & CONCRETE COLLAR FOR UNPAVED ROADWAYS | US-11 |
| REV. BY CLB/BR | DATE 11/10 | MAY 10, 2011 DATE OF APPROVAL | PAGE 151 |



NOTES:

- BACKFLOW DEVICE MUST BE INSTALLED DOWNSTREAM OF METER, AS CLOSE TO METER AS POSSIBLE.
- COPPER PIPE TYPE "K" OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 12" BELOW GRADE.
- PIPES PASSING THROUGH OR ENCASED IN CONCRETE MUST BE PROPERLY PROTECTED AND SLEEVED.
- THE SYSTEM MUST MEET ALL REQUIREMENTS OF THE FLORIDA PLUMBING CODE (LATEST EDITION) AND THE MANATEE COUNTY BACKFLOW PREVENTION ORDINANCE (LATEST EDITION).
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
- BACKFLOW PREVENTER SHALL BE TESTED AT THE TIME OF INSTALLATION.
- THE WATER METER AND BACKFLOW PREVENTER SHALL BE LOCATED WITHIN THE LIFT STATION FENCING FOR PUBLICLY OWNED AND MAINTAINED LIFT STATIONS. THE ASSEMBLY FOR PRIVATE LIFT STATIONS SHALL BE LOCATED ADJACENT TO THE ROW LINE (R) WITHIN AN EASEMENT OUTSIDE OF THE FENCING.
- SATELLITE PUMP STATIONS SHALL HAVE A 5/8-INCH WATER METER, WITH A 3/4-INCH REDUCED PRESSURE (RP2) BACKFLOW PREVENTER. STATIONS WITH WETWELL DIAMETERS 12 FEET AND LARGER TO HAVE A 2-INCH METER AND RP2 BACKFLOW PREVENTER.

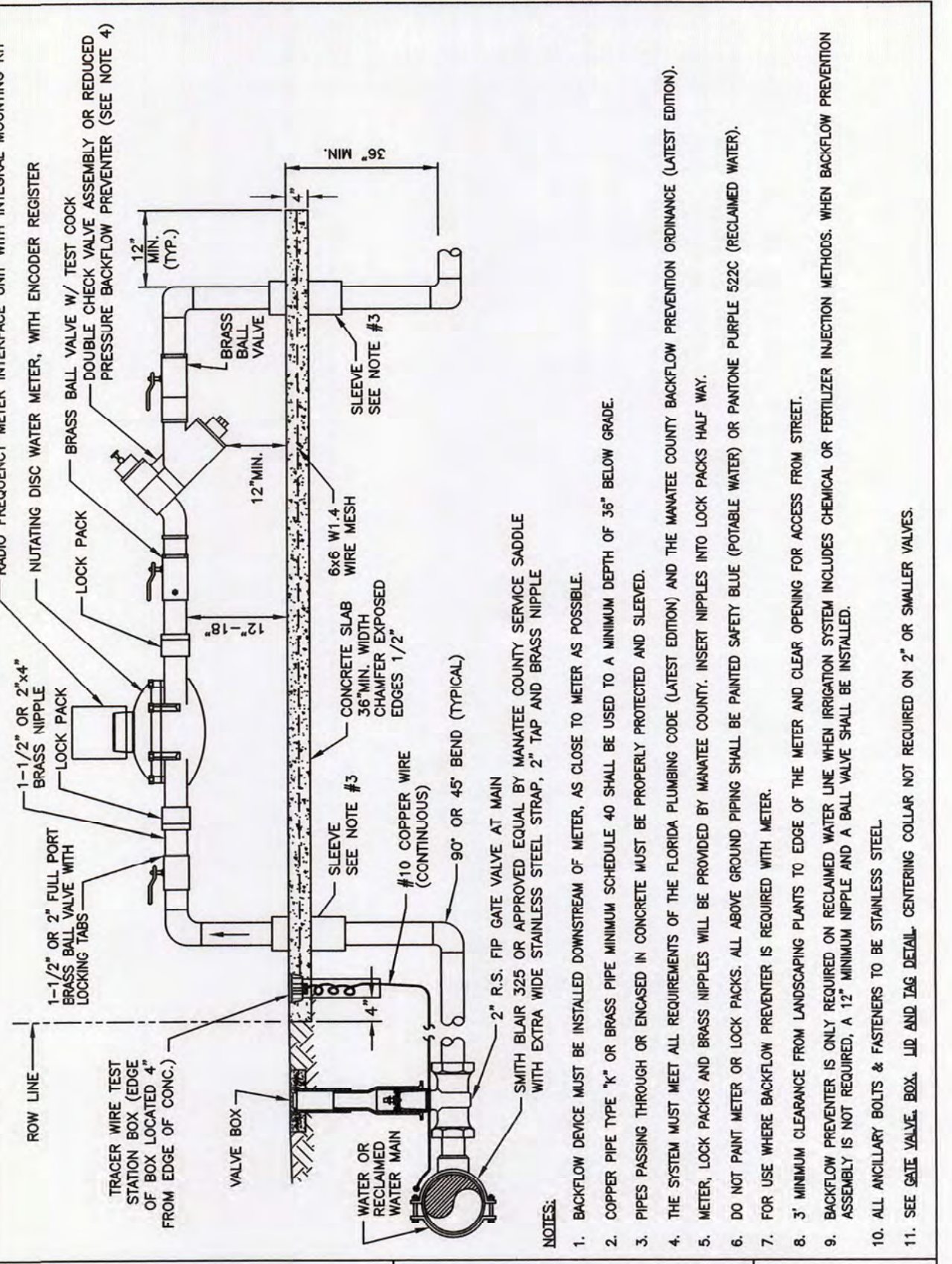
| | | | |
|---|---------------|--|----------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | WATER METER & BACKFLOW PREVENTER FOR PUMP STATIONS | US-17 |
| REV. BY CLB/BR | DATE 11/10 | MAY 10, 2011 DATE OF APPROVAL | PAGE 151 |



NOTES:

- FENCING SHALL BE CHAIN LINK, W/ PRIVACY DECORATIVE SLATTING (COLOR MATCHED).
- CHAIN LINK FENCING SHALL BE #9 GAUGE, GALVANIZED STEEL WITH VINYL COATING (BLACK OR GREEN).
- TRUSS BARS ON CHAIN LINK FENCES ARE REQUIRED FOR THE FIRST SPAN ON EACH SIDE OF THE CORNER POST AND FOR EACH GATE SECTION.
- LANDSCAPE SCREENING SHALL BE LOCATED ON THE EXTERIOR OF LIFT STATION FENCING.
- SWING GATES SHALL BE CAPABLE OF SWINGING BOTH INWARDS AND OUTWARDS. CANTILEVER SLIDE GATES AND ROLL SLIDE GATES MEETING FDOT DESIGN STANDARDS MAY BE USED AS AN OPTION TO SWING GATES.
- GATE POSTS AND TRACK LINE POSTS SHALL BE 4 INCH SCHEDULE 40 FOR CANTILEVER SLIDE GATES AND ROLL SLIDE GATES.

| | | | |
|---|---------------|----------------------------------|----------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | SECURITY FENCING | US-19 |
| REV. BY CLB/BR | DATE 11/10 | MAY 10, 2011 DATE OF APPROVAL | PAGE 151 |



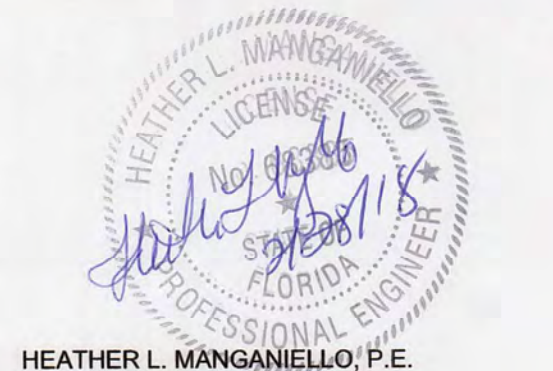
NOTES:

- BACKFLOW DEVICE MUST BE INSTALLED DOWNSTREAM OF METER, AS CLOSE TO METER AS POSSIBLE.
- COPPER PIPE TYPE "K" OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 3" BELOW GRADE.
- PIPES PASSING THROUGH OR ENCASED IN CONCRETE MUST BE PROPERLY PROTECTED AND SLEEVED.
- THE SYSTEM MUST MEET ALL REQUIREMENTS OF THE FLORIDA PLUMBING CODE (LATEST EDITION) AND THE MANATEE COUNTY BACKFLOW PREVENTION ORDINANCE (LATEST EDITION).
- METER, LOCK PADS AND BRASS NIPPLES WILL BE PROVIDED BY MANATEE COUNTY. INSERT NIPPLES INTO LOCK PADS HALF WAY.
- DO NOT PAINT METER OR LOCK PADS. ALL ABOVE GROUND PIPING SHALL BE PAINTED SHEET BLUE (PORTABLE WATER) OR PORTABLE PURPLE (RECLAIMED WATER).
- FOR USE WHERE BACKFLOW PREVENTER IS REQUIRED WITH METER.
- MINIMUM CLEARANCE FROM UNDISBURGING PLANTS TO EDGE OF THE METER AND CLEAR OPENING FOR ACCESS FROM STREET.
- BACKFLOW PREVENTER IS ONLY REQUIRED ON RECLAIMED WATER LINE WHEN IRRIGATION SYSTEM INCLUDES CHEMICAL OR FERTILIZER INJECTION METHODS. WHEN BACKFLOW PREVENTION ASSEMBLY IS NOT REQUIRED, A 1/2" MINIMUM NIPPLE AND A BALL VALVE SHALL BE INSTALLED.
- ALL ANCHOR BOLTS & FASTENERS TO BE STAINLESS STEEL.
- SEE GATE VALVE, BOX, LID AND TAG DETAIL. CENTERING COLLAR NOT REQUIRED ON 2" OR SMALLER VALVES.

| | | | |
|---|---------------|--|----------|
| MANATEE COUNTY PUBLIC WORKS DEPARTMENT | | 1 1/2" & 2" METER AND BACKFLOW PREVENTER | UW-13 |
| REV. BY CLB/BR | DATE 11/10 | MAY 10, 2011 DATE OF APPROVAL | PAGE 131 |



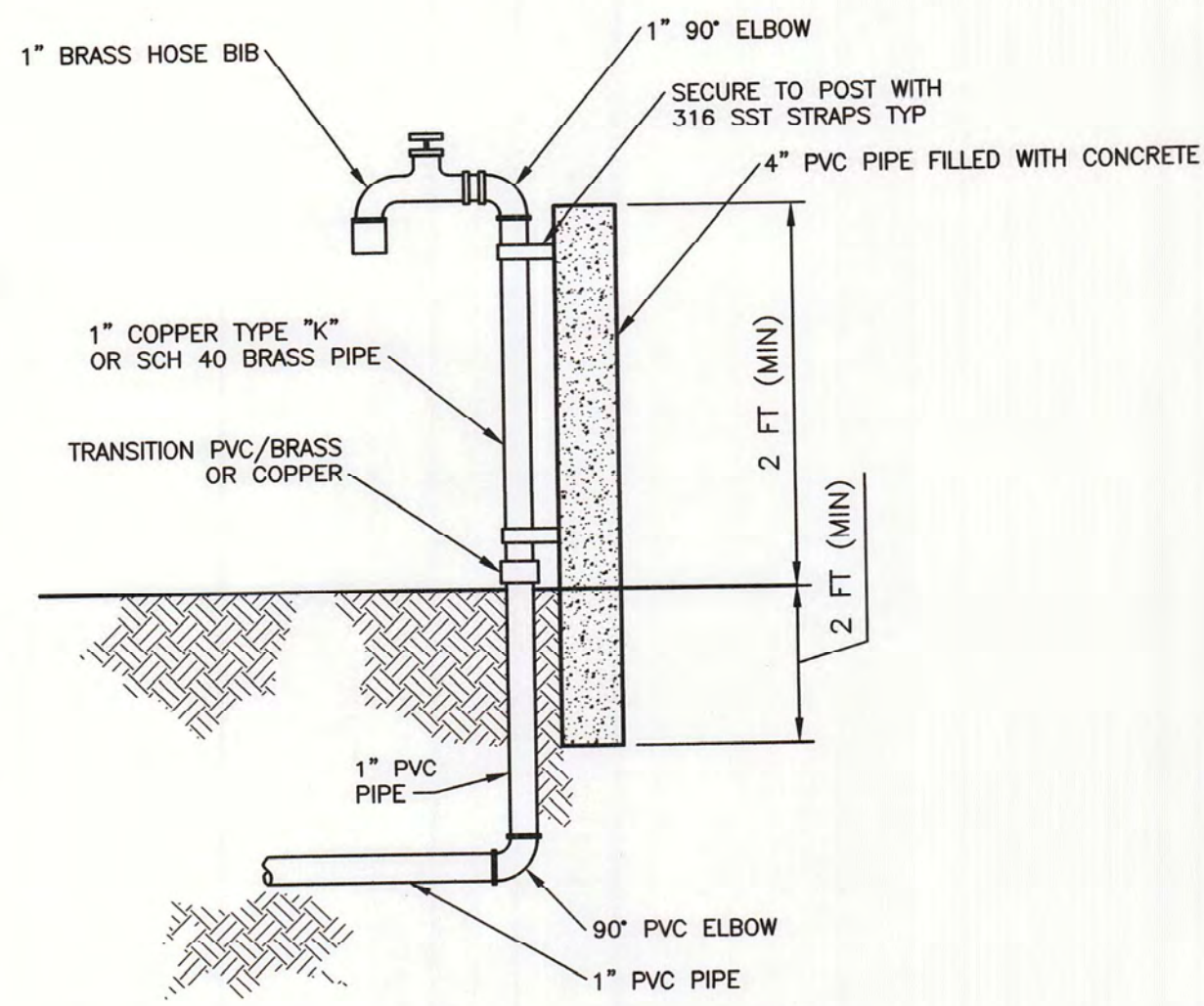
| | | |
|--------------------|-------------------|----------------------------|
| PROJECT MANAGER | JASON STARR, P.E. | |
| DESIGNER | JTT | |
| REVIEWER | MDO | |
| SR. PROJ. ENGINEER | TSH | |
| PROJ. ENGINEER | HLM | |
| ELEC. ENGINEER | KMB | |
| ISSUE | DATE | DESCRIPTION |
| 3 | 02/2018 | FINAL |
| 2 | 09/01/2017 | FINAL FOR REVIEW SUBMITTAL |
| 1 | 04/04/2017 | 75% SUBMITTAL |
| PROJECT NUMBER | 10019929/225338 | |



RYE ROAD MASTER PUMP STATION DESIGN

RYE ROAD PUMP STATION DETAILS (2)

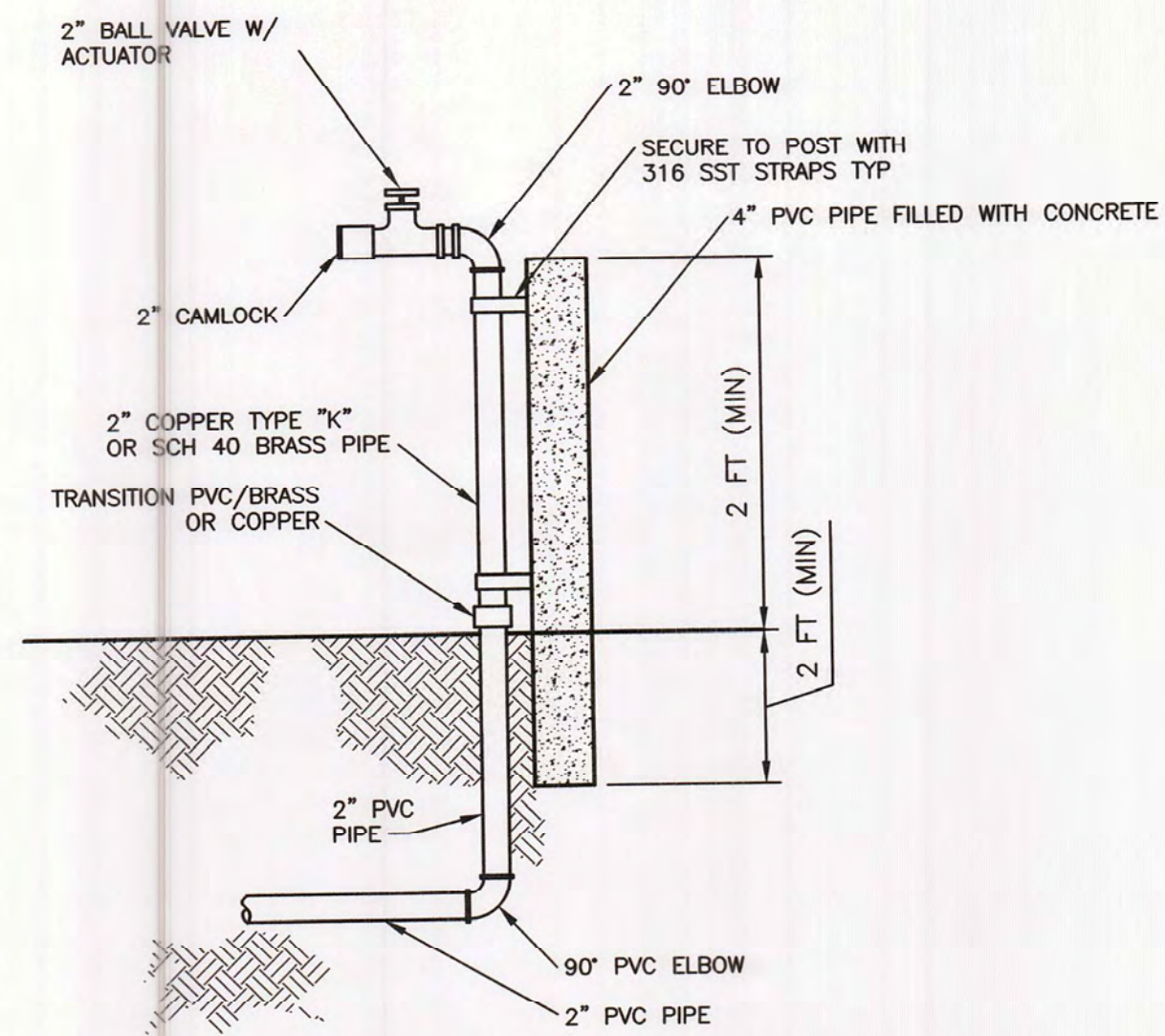
| | | | |
|----------|-----------|-------|-------|
| FILENAME | C-205.DWG | SHEET | C-205 |
| SCALE | NONE | | |



1" HOSE BIBB SERVICE CONNECTION DETAIL

SCALE: NONE

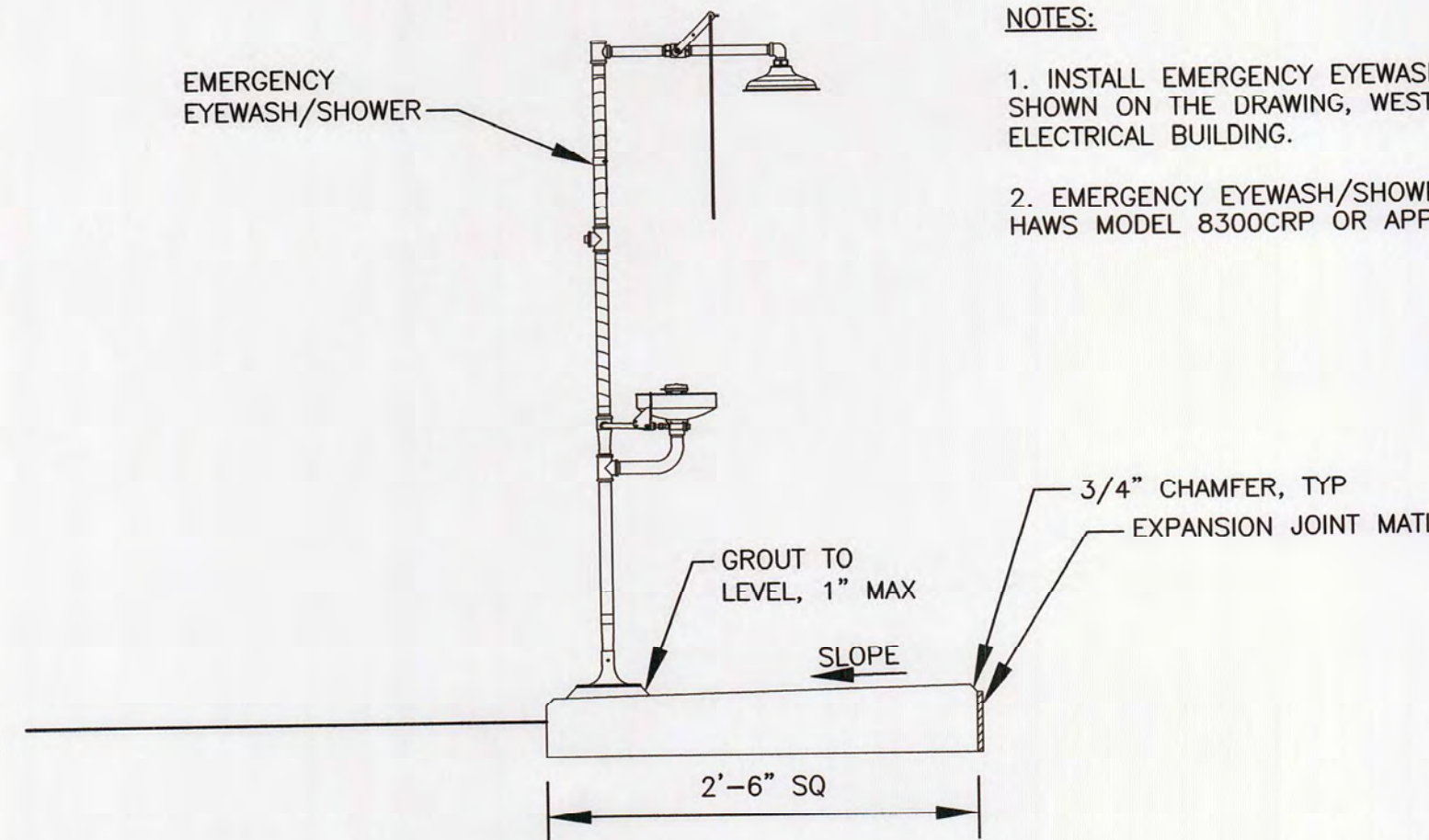
1
C-202



2" HOSE BIBB SERVICE CONNECTION DETAIL

SCALE: NONE

2
C-202



EMERGENCY EYE WASH & SHOWER STATION

SCALE: NONE

3
C-202

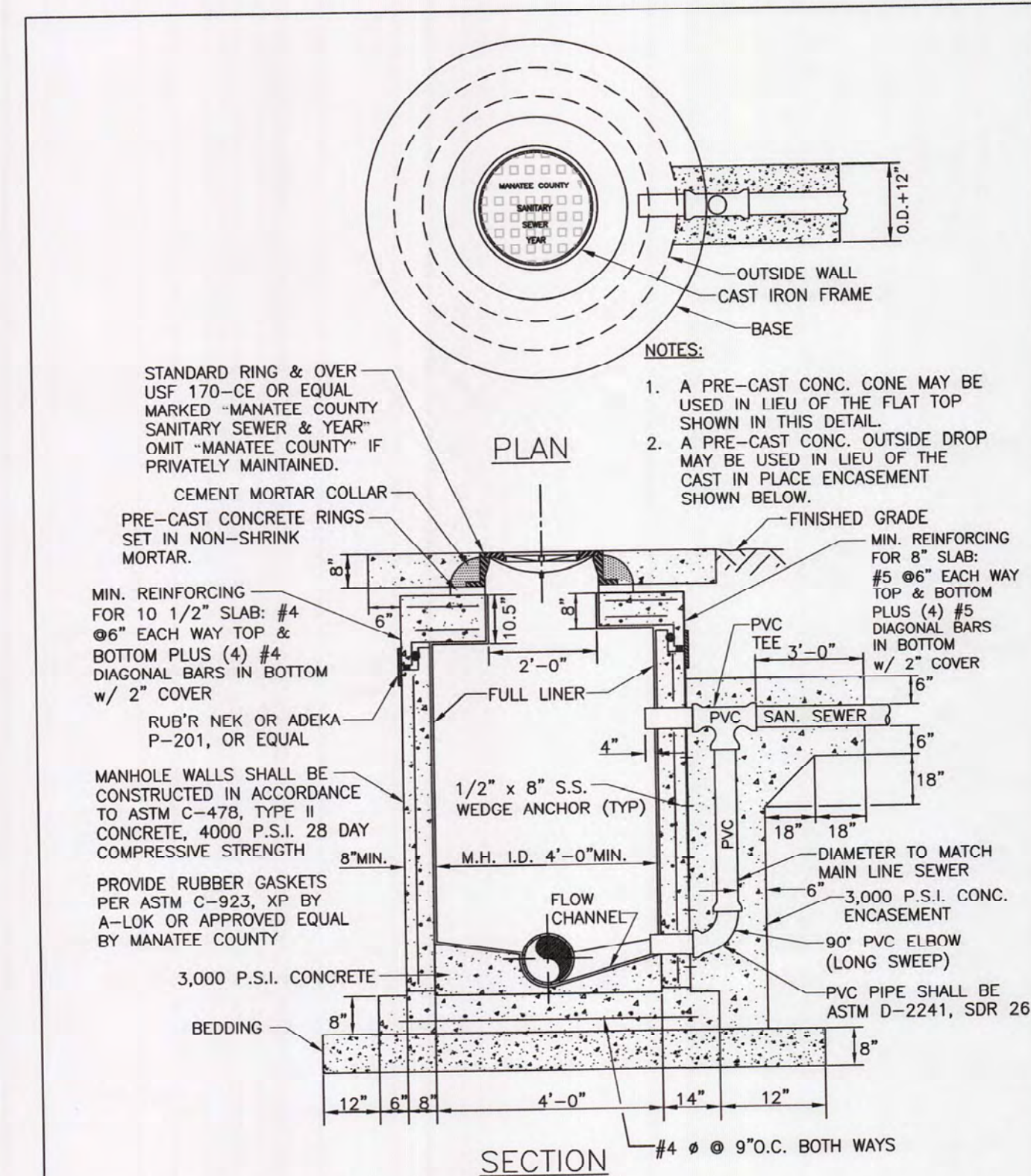
- NOTES:**
1. INSTALL EMERGENCY EYEWASH/SHOWER AS SHOWN ON THE DRAWING, WEST OF THE ELECTRICAL BUILDING.
 2. EMERGENCY EYEWASH/SHOWER TO BE HAWS MODEL 8300CRP OR APPROVED EQUAL.



ACCESS HATCH DETAIL

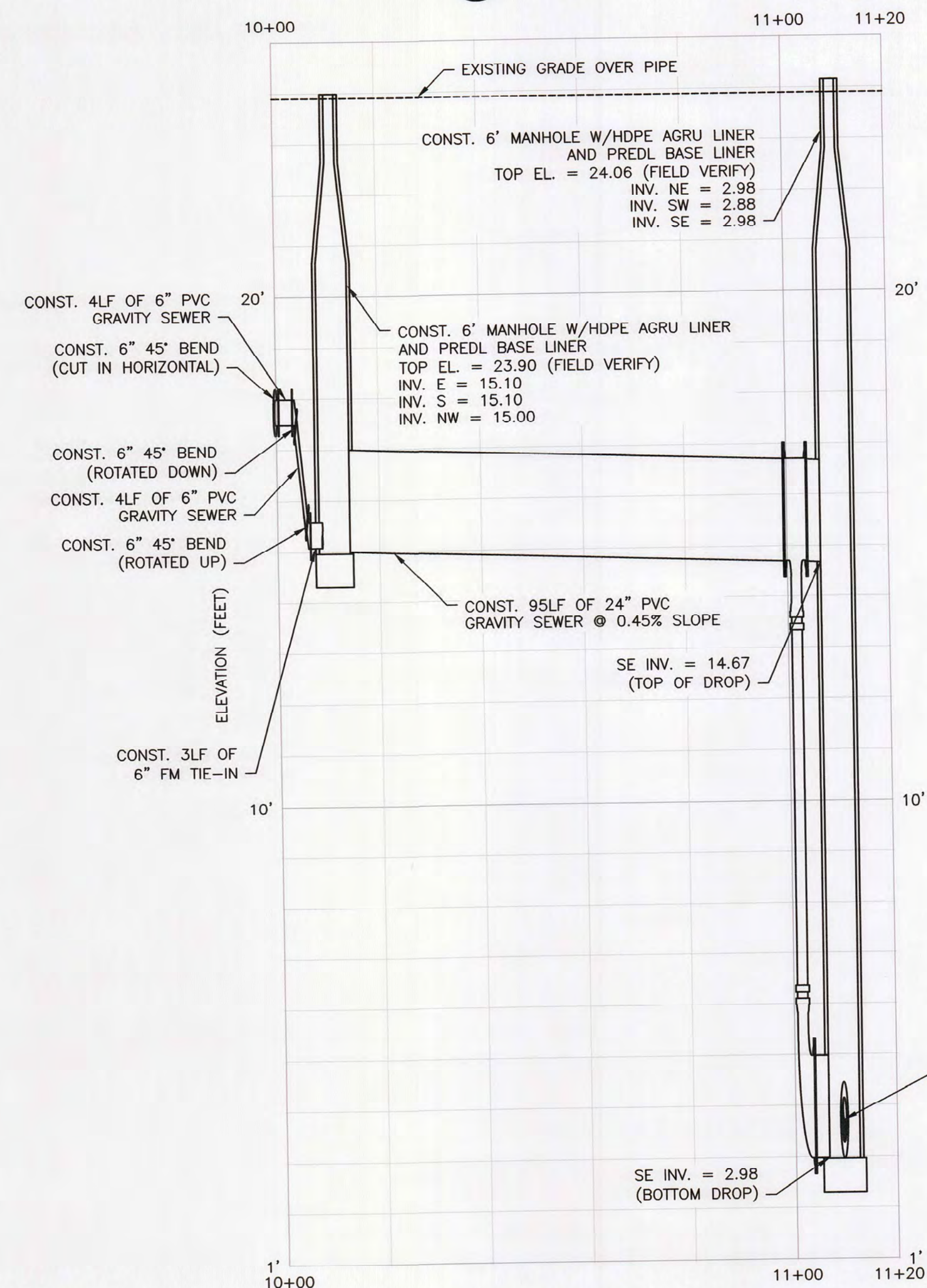
SCALE: NONE

4
C-203



- NOTES:**
1. THIS IS AN INTERCEPT MANHOLE AND MUST BE LINED WITH AN APPROVED LINER.
 2. DROP MANHOLES ARE REQUIRED WHEN THE VERTICAL DISTANCE BETWEEN THE LOWEST EXISTING MANHOLE INVERT AND THE HIGHEST PIPE INVERT IS 2'-0" OR GREATER.

| | | | | |
|-------------------------|-------|--------------------------|----------|-------------|
| MANATEE COUNTY | | GRAVITY SEWER | | US-6 |
| PUBLIC WORKS DEPARTMENT | | STANDARD DROP CONNECTION | | |
| REV BY | DATE | DATE OF APPROVAL | | |
| CLB/KE | 11/10 | MAY 10, 2011 | | |
| | | DATE OF APPROVAL | | |
| | | | PAGE 145 | |



PROFILE

SCALE: HORIZONTAL 1" = 20'
VERTICAL 1" = 2'

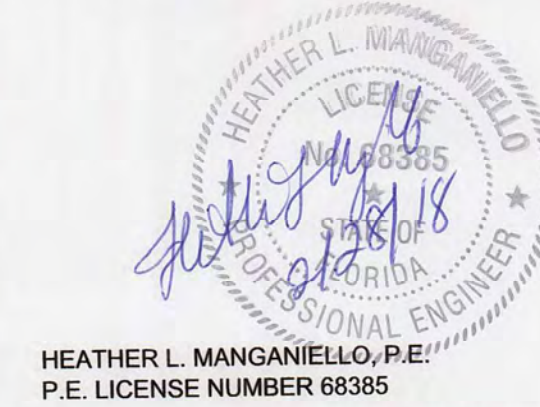
A
C-202



HDR ENGINEERING, INC.
2601 CATTLEMEN ROAD, STE 400
SARASOTA, FL 34232
CA 4213

| ISSUE | DATE | DESCRIPTION |
|-------|------------|----------------------------|
| 3 | 02/2018 | FINAL |
| 2 | 09/01/2017 | FINAL FOR REVIEW SUBMITTAL |
| 1 | 04/04/2017 | 75% SUBMITTAL |

| | |
|---------------------------|-------------------|
| PROJECT MANAGER | JASON STARR, P.E. |
| DESIGNER | JTT |
| REVIEWER | MDO |
| SR. PROJ. ENGINEER | TSH |
| PROJ. ENGINEER | HLM |
| ELEC. ENGINEER | KMB |
| PROJECT NUMBER | 10019929/225338 |



HEATHER L. MANGANELLO, P.E.
P.E. LICENSE NUMBER 68385

RYE ROAD MASTER PUMP STATION DESIGN

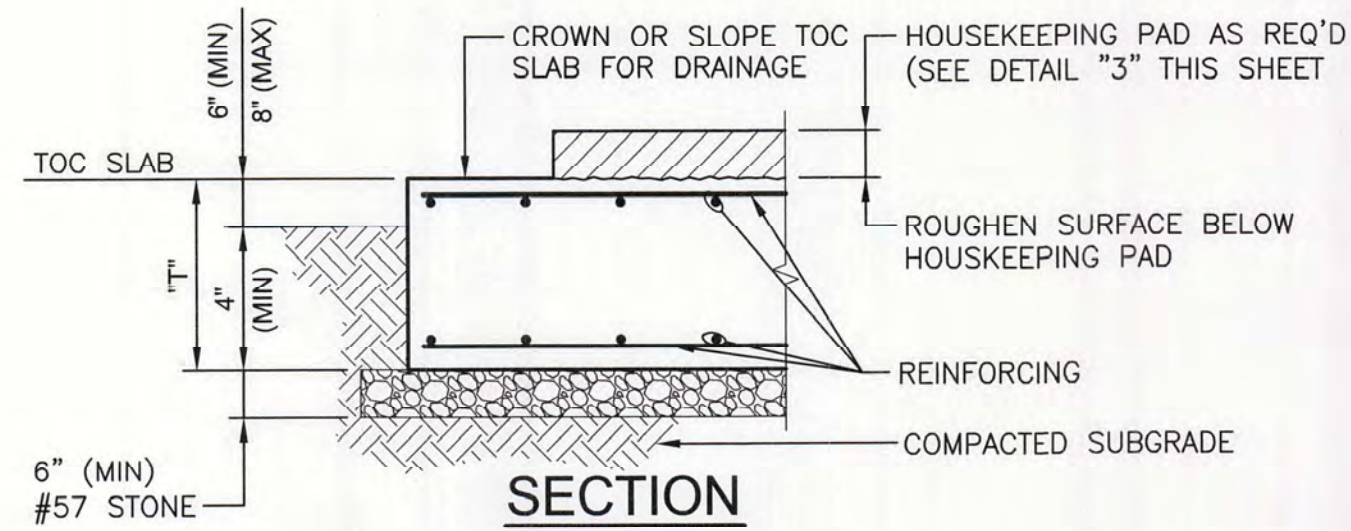
RYE ROAD PUMP STATION DETAILS (3)

FILENAME | C-206.DWG
SCALE | AS NOTED

SHEET
C-206

STRUCTURAL NOTES:

- G1 SCOPE:**
THE NOTES ON THIS SHEET AND ALL THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, UNLESS OTHERWISE SPECIFIED.
- G2 APPLICABLE SPECIFICATIONS AND CODES:**
- FLORIDA STATE BUILDING CODE 2014 EDITION (IBC 2012), INCLUDING JURISDICTIONAL AMENDMENTS.
 - ACI 318-11
 - ASCE 7-10
 - ASCE 24-14
 - AISC STEEL CONSTRUCTION MANUAL, 14th EDITION
 - AISC 360-10
- G3 DESIGN CRITERIA:**
- WIND LOADS:
 - A. RISK CATEGORY: III
 - B. BASIC WIND SPEED: 154 MPH
 - C. WIND EXPOSURE: C
 - D. IMPORTANCE FACTOR (Iw): 1.0
 - SEISMIC:
 - A. SITE CLASS: D (PRESUMPTIVE)
 - B. RISK CATEGORY: III
 - C. IMPORTANCE FACTOR (Ie): 1.25
 - D. SPECTRAL RESPONSE COEFF: SDS=0.061, SD1=0.047
 - E. SEISMIC DESIGN CATEGORY: A
 - FLOOD ZONE: FIRM MAP NUMBER 12081C0332E, MARCH 2014, CLASSIFIED AS "OTHER AREAS" ZONE "X"
- G4 GEOTECHNICAL:**
- GEOTECHNICAL REPORT: TIERRA REPORT OF GEOTECHNICAL ENGINEERIN SERVICES, RYE ROAD FUNCTIONAL IMPROVEMENTS-LIFT STATION AND WET WELL, MANATEE COUNTY FLORIDA, PROJECT NO. 6511-15-087, DATED MAY 17, 2016.
 - ALLOWABLE NET BEARING PRESSURE: 2000 PSF
- G5 SITEWORK/EXCAVATION:**
- SUBGRADE PREPARATION: PRIOR TO FILL PLACEMENT, FOUNDATION, AND SLAB-ON-GROUND CONSTRUCTION THE EXPOSED SUBGRADE SOILS SHALL BE EVALUATED BY GEOTECHNICAL ENGINEER. ALL STRUCTURE SUBGRADES SHALL BE PROOF ROLLED PRIOR TO PLACEMENT OF STONE SUBBASE. SUITABLE PROOF ROLLING EQUIPMENT SHALL BE DETERMINED BY GEOTECHNICAL ENGINEER. AREAS REQUIRING SUBGRADE REMEDIATION AS WELL METHODS FOR REMEDIATION SHALL BE DETERMINED BY GEOTECHNICAL ENGINEER.
- G6 SAFETY:**
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE DESIGN-BUILDER. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.
- G7 STANDARD DETAILS:**
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN ENGINEER APPROVAL IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION.
- G8 CONFLICTS:**
IF THERE ARE CONFLICTS BETWEEN CONTRACT DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT INTERPRETATION SHALL CONTROL.
- G9 DISSIMILAR MATERIAL COATING:** FOR DISSIMILAR MATERIAL COATING REQUIREMENTS SEE SPECIFICATION SECTION 05500 MISCELLANEOUS METALS.



| SLAB ON GRADE SCHEDULE | | | |
|------------------------|--------------|-----|--|
| DESCRIPTION | REF SHEET | "T" | REINFORCING |
| GENERATOR PAD | C-202, E-102 | 18" | #5@12" T&B EW |
| ELECTRICAL BLDG | C-202 | 12" | #5@12" T&B EW |
| WET WELL PAD | C-201, C-202 | 10" | #5@12" TOP EW; WITH ADDITIONAL #4 RADIUS BAR ALONG PERIMETER OF WET WELL |
| ODOR CONTROL PAD | C-201, C-202 | 10" | #5@12" TOP EW |

NOTE: FOR SIZE OF CONCRETE PAD SEE REFERENCE SHEET.

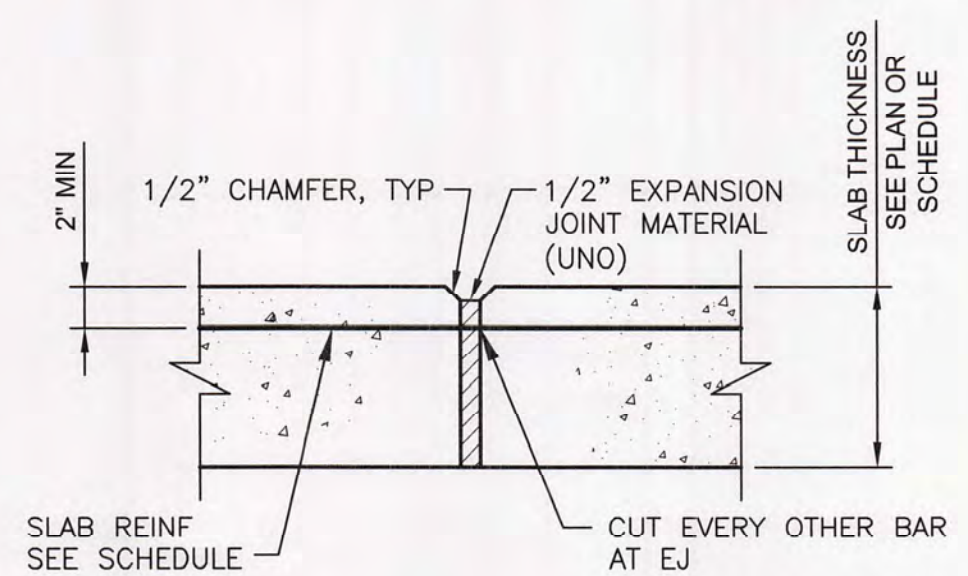
PAD SCHEDULE 5
NTS

CONCRETE

- C1 CONCRETE DESIGN PROPERTIES:**
f'c = 4,000 PSI (UNO)
Fy = 60,000 PSI
- C2 CONCRETE COVER UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR REINFORCING AS FOLLOWS:**
CONCRETE DEPOSITED AGAINST EARTH: 3"
ALL OTHER: 2"
SEE DRAWINGS FOR EXCEPTIONS.
- C3 SEE SPECIFICATIONS FOR REINFORCING PLACEMENT REQUIREMENTS.**
- C4 PROVIDE 3/4" CHAMFERS AT ALL EXPOSED EDGES AND 1/2" CHAMFERS AT JOINTS AS SHOWN. NOT ALL CHAMFERS MAY BE SHOWN ON DRAWINGS.**
- C5 FIELD ADJUST REINFORCING AT OPENINGS AND EMBEDDED ITEMS AS SPECIFIED OR AS REQUIRED BY STANDARD DETAILS.**
- C6 ANCHOR BOLTS NOT SPECIFIED BY ENGINEER SHALL BE DESIGNED BY DESIGN-BUILDER IN ACCORDANCE WITH APPLICABLE PROJECT CODE REQUIREMENTS. COORDINATE LOCATION, SIZE AND EMBEDMENT PRIOR TO CASTING CONCRETE.**
- C7 ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT WRITTEN SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER.**
- C8 EXPANSION JOINT MATERIAL SHALL MEET ASTM D1751.**

POST-INSTALLED ANCHORS

- PA1 POST-INSTALLED ANCHORS AND REBAR DOWELS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWINGS.**
- PA2 CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS AND REBAR DOWELS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.**
- PA3 MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN CRACKED AND UN-CRACKED CONCRETE ACCORDANCE WITH ACI 355.2.**
- PA4 ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN CRACKED AND UN-CRACKED CONCRETE ACCORDANCE WITH ACI 355.4.**
- PA5 ALL POST-INSTALLED ANCHORAGE SYSTEMS (MECHANICAL AND ADHESIVE) SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR REVIEW AND APPROVAL. THE FOLLOWING INFORMATION (AT A MINIMUM) SHALL BE SUBMITTED:**
- PRODUCT TECHNICAL DATA.
 - MANUFACTURE MATERIAL DATA SHEET.
 - MANUFACTURE'S PRINTED INSTALLATION INSTRUCTIONS.
 - CURRENT ICC-ES REPORT.
- PA6 TRAINING AND CERTIFICATION:**
- ALL MECHANICAL CONCRETE ANCHORS SHALL BE INSTALLED BY PERSONNEL TRAINED BY THE ANCHOR MANUFACTURER FOR ALL OF THE ANCHORING PRODUCTS SPECIFIED. CERTIFICATION OF TRAINING SHALL BE SUBMITTED TO THE ENGINEER FOR RECORD FOR REVIEW AND APPROVAL PRIOR TO THE INSTALLATION OF ANY MECHANICAL ANCHORS.
 - ALL ADHESIVE CONCRETE ANCHORS AND REBAR DOWELS SHALL BE INSTALLED BY PERSONNEL CERTIFIED IN ACCORDANCE WITH ACI-318 (SECTION D.9.9.2). CERTIFICATION OF TRAINING SHALL BE SUBMITTED TO THE ENGINEER FOR RECORD FOR REVIEW AND APPROVAL PRIOR TO THE INSTALLATION OF ANY ADHESIVE ANCHORS OR DOWELS.
- PA7 POST INSTALLED ADHESIVE ANCHORS INSTALLED IN EITHER A HORIZONTAL OR INCLINED ORIENTATION REQUIRE INSTALLER TRAINING AS REQUIRED ABOVE (PA6 2.).**

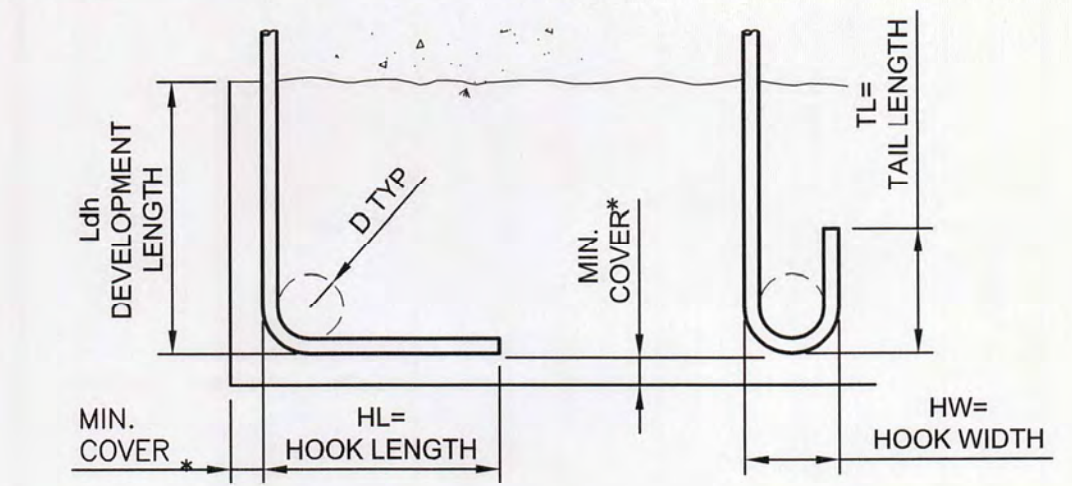


EXPANSION JOINT 6
NTS

| LAP SPLICE AND EMBEDMENT LENGTHS f'c = 4.0 ksi fy = 60 ksi | | |
|---|----------------------------|-------------------------------------|
| BAR | BAR SPACED GREATER THAN 4" | BAR SPACED LESS THAN OR EQUAL TO 4" |
| #3 | 14" | 14" |
| #4 | 19" | 19" |
| #5 | 24" | 30" |
| #6 | 29" | 43" |
| #7 | 46" | 74" |
| #8 | 60" | 96" |
| #9 | 76" | 122" |
| #10 | 97" | 155" |
| #11 | 120" | 191" |

- NOTES:**
- PROVIDE MINIMUM LAP SPLICE LENGTHS AND EMBEDMENTS PER TABLE UNLESS NOTED OTHERWISE. EMBEDMENT LENGTH EQUALS THE LAP SPLICE LENGTH UNLESS OTHERWISE NOTED.
 - BAR SPACING AT LAP SPLICE IS THE MINIMUM CLEAR DISTANCE BETWEEN LAPPED BARS PLUS ONE BAR DIAMETER.
 - ALL SPLICES TO BE CONTACT SPLICES AND WIRED TOGETHER UNLESS OTHERWISE APPROVED BY ENGINEER.
 - REQUIREMENTS FOR SPACINGS 4 INCHES OR LESS SHALL NOT APPLY TO "ADD" BARS AROUND OPENINGS.

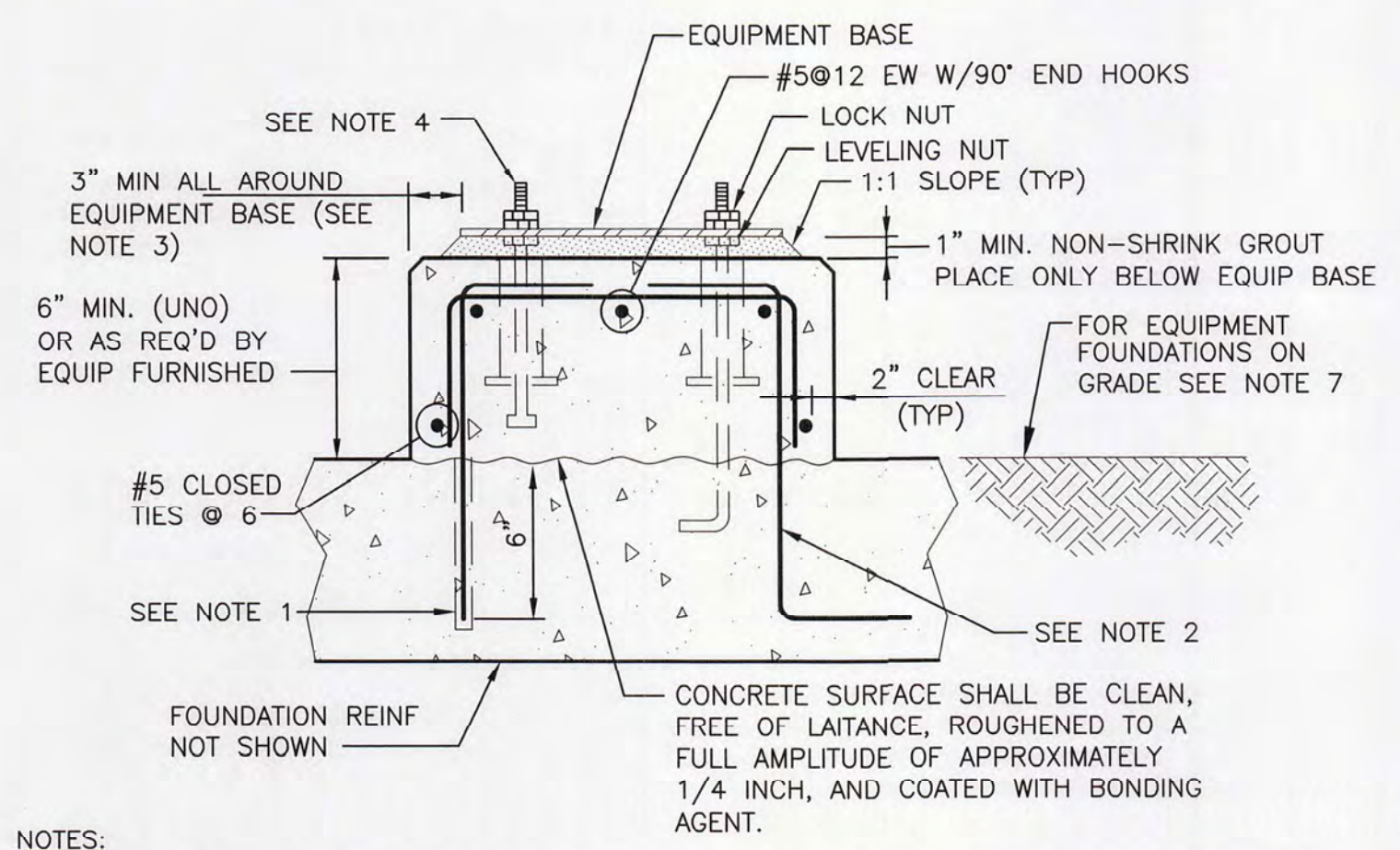
REINFORCING LAP AND EMBEDMENT SCHEDULE 1
NTS



| BAR SIZE GRADE 60 | HL | HW | TL | D | f'c=4000 psi OR GREATER |
|-------------------|--------|-----------|---------|---------|-------------------------|
| | | | | | Ldh (*) |
| #3 | 6" | 3" | 4" | 2 1/4" | 6" |
| #4 | 8" | 4" | 4 1/2" | 3" | 7" |
| #5 | 10" | 5" | 5" | 3 3/4" | 9" |
| #6 | 1'-0" | 6" | 6" | 4 1/2" | 10" |
| #7 | 1'-2" | 7" | 7" | 5 1/4" | 12" |
| #8 | 1'-4" | 8" | 8" | 6" | 14" |
| #9 | 1'-7" | 11 3/4" | 10 1/2" | 9 1/2" | 15" |
| #10 | 1'-10" | 1'-1 1/4" | 11 1/2" | 10 3/4" | 17" |
| #11 | 2'-0" | 1'-2 3/4" | 1'-1" | 12" | 19" |

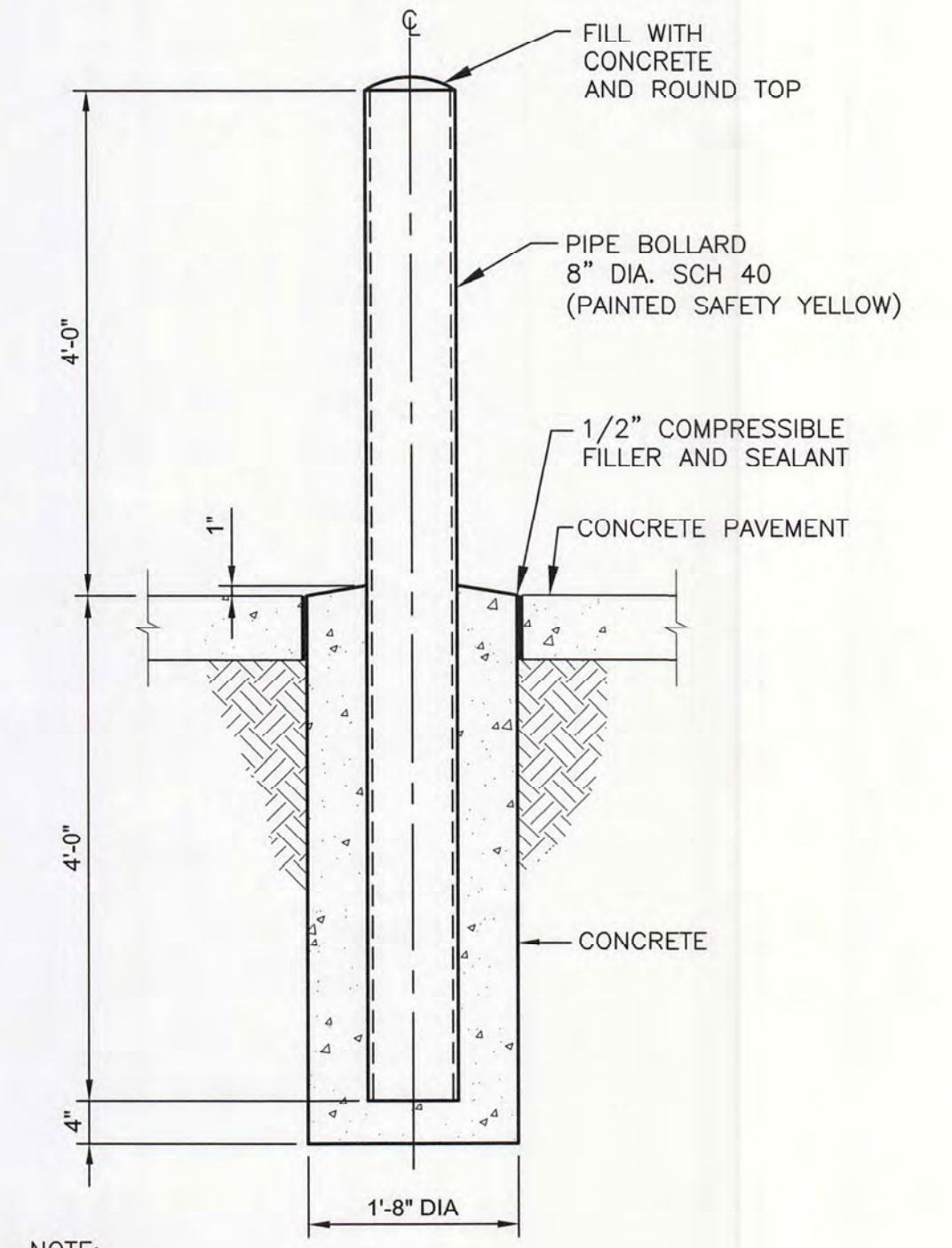
(*) COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE Ldh MUST BE RE-CALCULATED.

REINFORCING HOOK SCHEDULE 2
NTS



- NOTES:**
- FOR NEW EQUIPMENT BASES ON EXISTING SLABS, DRILL INTO EXISTING SLAB TO INDICATED DEPTH AT 12" CENTERS AROUND PERIMETER OF EQUIPMENT BASE AND SET #5 DOWEL HOOKED AS SHOWN IN ADHESIVE ANCHOR SYSTEM.
 - FOR EQUIPMENT BASES ON NEW SLABS, PROVIDE #5 DOWELS HAVING TWO HOOKED ENDS AT 12" CENTERS AROUND PERIMETER.
 - EQUIPMENT BASE DIMENSIONS SHALL BE AS INDICATED ON THE DRAWINGS OR AS DETERMINED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER.
 - THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE AS DETERMINED BY THE EQUIPMENT MANUFACTURER AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE WHILE EQUIPMENT BASE IS BEING CAST. ALL ANCHOR BOLTS SHALL BE STAINLESS STEEL.
 - PIPE SLEEVES SHALL BE USED TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. PIPE SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER OF 3" GREATER THAN BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT AFTER INSTALLATION OF GROUT.
 - EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE, TOLERANCE IS 1/16".
 - FOR EQUIPMENT PLACED ON GRADE EXTEND FOUNDATION MINIMUM OF 18" UNO BELOW GRADE; USE #5 @ 12" T&B EW. FOR ADDITIONAL REQUIREMENTS SEE SLAB ON GRADE SCHEDULE (THIS SHEET)

EQUIPMENT BASE 3
NTS



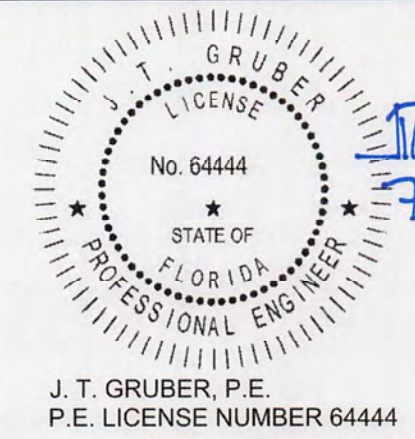
NOTE: 1. REINFORCING FOR CONCRETE SLAB NOT SHOWN.

BOLLARD 4
NTS



| ISSUE | DATE | DESCRIPTION |
|-------|------------|----------------------------|
| 3 | 02/2018 | FINAL |
| 2 | 09/08/2017 | FINAL FOR REVIEW SUBMITTAL |
| 1 | 04/04/2017 | 75% SUBMITTAL |

| PROJECT NUMBER | 10019929/225338 |
|----------------|-----------------|
|----------------|-----------------|



RYE ROAD MASTER PUMP STATION DESIGN

RYE ROAD PUMP STATION STRUCTURAL GENERAL NOTES AND STANDARD DETAILS

FILENAME | S-001.dwg
SCALE | NONE

SHEET | S-001