WILDWOOD
FLORIDA
EST 1877

UTILITY PLANS FOR

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS

CITY OF WILDWOOD, FLORIDA

SECTION 5
TOWNSHIP 19 SOUTH, RANGE 23 EAST

OCTOBER 2023

SHEET LIST TABLE

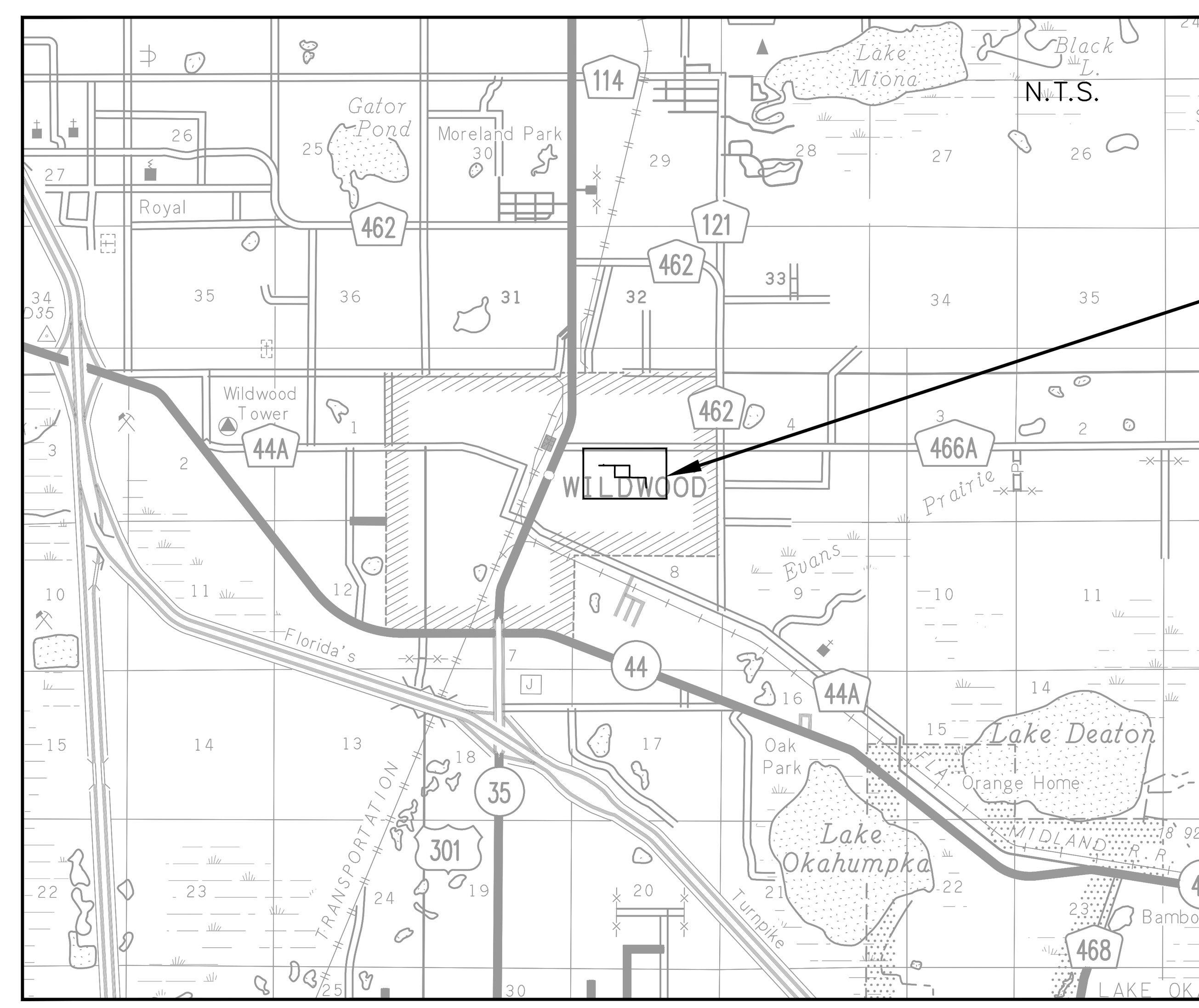
GENERAL NOTES

CONSTRUCTION SCHEDULE:
FALL/WINTER 2023

EASEMENTS:
ALL KNOWN EASEMENTS ARE DESIGNATED ON THE PLANS.

DRAINAGE:
THE EXISTING STORMWATER DRAINAGE SYSTEM SHALL REMAIN FUNCTIONAL AND BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION.

CONSTRUCTION:
ALL CONSTRUCTION COVERED BY THESE PLANS SHALL COMPLY WITH THE MATERIAL REQUIREMENTS AND QUALITY CONTROL STANDARDS CONTAINED IN THE CITY OF WILDWOOD LAND DEVELOPMENT CODE.



LOCATION MAP

PROJECT OWNER AND CONSULTANTS

OWNER:
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CIVIL ENGINEERING CONSULTANT:
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BID SET

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.

No.	REVISIONS	DATE	BY
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LICENSED PROFESSIONAL
JAMES E. CLAYTON
FLORIDA LICENSE NUMBER
90813
DATE: ____

KHA PROJECT 142173504
DATE OCTOBER 2023
SCALE AS SHOWN
DESIGNED BY PHS
DRAWN BY RDC
CHECKED BY JEC

COVER SHEET

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER
01

GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH ALL RELATIVE CITY OF WILDWOOD DEVELOPMENT CODE GUIDELINES AND FDEP REGULATIONS, EXCEPT AS MODIFIED HEREIN.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE REQUIRED FOR THE WORK.
3. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION MEETING WITH THE CITY OF WILDWOOD TWO WEEKS PRIOR TO COMMENCING OF CONSTRUCTION. CONTRACTOR SHALL INFORM THE OWNER, COMPANY REPRESENTATIVE, UTILITY AUTHORITY AND INTERESTED COUNTY AGENCIES AT LEAST 48 HOURS PRIOR TO THE SCHEDULED INSPECTION.
4. THE LOCATION OF UTILITIES SHOWN ON THE DRAWINGS ARE FROM A SURVEY PERFORMED BY CLYMER, FARNER, BARLEY, INC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM, IN THE FIELD, THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. SHOULD CONDITIONS VARY FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER REPRESENTATIVE PRIOR TO CONTINUING CONSTRUCTION.
5. CONTRACTOR SHALL LOCATE, VERIFY AND IDENTIFY ALL EXISTING UNDERGROUND UTILITIES SHOWN, OR NOT SHOWN, ON THE PLANS PRIOR TO ANY EXCAVATING ACTIVITIES.
6. CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT EXISTING AND NEWLY CONSTRUCTED UTILITIES DURING THE CONSTRUCTION. SHOULD ANY UTILITY LINE OR COMPONENT BECOME DAMAGED OR REQUIRE RELOCATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RESPONSIBLE UTILITY COMPANY, THE OWNER REPRESENTATIVE AND THE RESPONSIBLE CITY OF WILDWOOD REPRESENTATIVE.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY HIS OPERATIONS.
8. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH OTHER WORK WHICH MAY BE ONGOING ADJACENT TO, OR AFFECTING, THIS CONSTRUCTION. CONTRACTOR SHALL COOPERATE WITH OTHER CONTRACTORS AND ALL AFFECTED UTILITY COMPANIES. CONTRACTOR SHALL COORDINATE WITH SUMTER COUNTY TO DETERMINE PERMISSIBLE WORKING HOURS.
9. CONTRACTOR SHALL NOTIFY ALL APPLICABLE UTILITY COMPANIES 48 HOURS PRIOR TO THE INITIATING OF ANY EXCAVATION ACTIVITIES, OR AS SPECIFIED BY THE UTLITY COMPANY AND ANY PERMITS REQUIRED FOR THE WORK.
10. CONTRACTOR SHALL PROTECT EXISTING UTILITIES, SURVEY MARKERS, MONUMENTS, ETC. DURING CONSTRUCTION. CONTRACTOR SHALL RESTORE/REPLACE ANY DAMAGE DURING CONSTRUCTION ACTIVITIES.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL/DISPOSAL OF ANY UNSUITABLE MATERIAL FROM THE CONSTRUCTION OPERATION, FURNISHING AND COMPACTING SUITABLE REPLACEMENT BACKFILL MATERIAL. DISPOSAL OF UNSUITABLE MATERIAL SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
12. CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE EROSION AND TURBIDITY CONTROLS IN ACCORDANCE WITH FDEP DURING AND FOLLOWING CONSTRUCTION, UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED TO AVOID ADVERSE ENVIRONMENTAL IMPACTS TO OFF-SITE PROPERTY AND DRAINAGE SYSTEMS.
13. CONSTRUCTION WARNING SIGNS SHALL BE MOUNTED AND ERECTED BEFORE CONSTRUCTION CAN COMMENCE. THESE, AND ALL TRAFFIC CONTROL DEVICES, SHALL FOLLOW THE STANDARDS SET FORTH BY THE MANUAL OF UNIFORM TRAFFIC DEVICES (MUTCD) AND FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD INDEX.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARLY IDENTIFYING THE AREA OF CONSTRUCTION AND SAFELY ROUTING ALL VEHICULAR AND PEDESTRIAN TRAFFIC AROUND THE CONSTRUCTED AREA. THE CONSTRUCTION AREA SHALL BE CLEARLY MARKED AT ALL TIMES.
15. CONTRACTOR SHALL SOD RIGHT OF WAY DISTURBED BY THE CONSTRUCTION ACCORDING TO LOCAL REGULATIONS.
16. CONTRACTOR SHALL SOD ALL AREAS DISTURBED BY THE CONSTRUCTION ACTIVITY UNLESS OTHERWISE NOTED ON THE PLANS
17. CONTRACTOR SHALL MAINTAIN "AS-BUILT" INFORMATION ON A REGULAR BASIS. CONTRACTOR SHALL EMPLOY THE SERVICES OF A SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO DETERMINE ALL "AS-BUILT" INFORMATION. WITHIN 14 DAYS OF THE COMPLETION OF THE WORK, CONTRACTOR SHALL PROVIDE SIGNED AND SEALED COPIES AND THE DIGITAL CAD FILE OF THE "AS-BUILT" DRAWINGS AND SUPPORTING SURVEY RECORDS TO THE COMPANY REPRESENTATIVE. CAD FILES SHALL BE IN THE AUTOCAD FORMAT.
18. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PRODUCE, SUBMIT, AND OBTAIN APPROVAL OF THE REPRODUCIBLE AS-BUILT DRAWINGS FOR ANY JURISDICTIONAL AGENCIES AS MAY BE REQUIRED.
19. CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF 48 HOURS NOTICE OF ALL MEETINGS OR TESTING MEASURES REQUIRED TO BE WITNESSED BY THE CONSTRUCTION ACTIVITIES RELATED TO THE WORK.
20. CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF THREE (3) BUSINESS DAYS NOTICE FOR ANY FINAL INSPECTION.
21. CONTRACTOR SHALL INSTALL AND MAINTAIN TREE PROTECTION BARRICADES PER FDOT STANDARD INDEX 544 AS NOTED ON THE PLANS.
22. CONTRACTOR SHALL COORDINATE THE RELOCATION OF EXISTING MAILBOXES WITH THE MAIL CARRIER AND THE PROPERTY OWNER.
23. THE VERTICAL DATUM FOR THE PROJECT IS IN NAVD 88, FROM A SURVEY BY CLYMER FARNER BARLEY, INC., DATED JULY 26, 2023.
24. CONTRACTOR TO SCHEDULE A PRE-CONSTRUCTION MEETING TWO WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

UTILITY NOTES:

1. MATERIALS FOR THE RECLAIMED WATER SYSTEM ARE SPECIFIED AS FOLLOWS:
   A. DUCTILE IRON PIPE SHALL CONFORM TO ANSI/ASTM C150/A21.50-81 CLASS 51 OR GREATER. FITTINGS SHALL CONFORM TO AWWA/ANSI C110/A21.10-82 OR AWWA/ANSI C153/A21.53, 350 PSI MINIMUM PRESSURE RATING. FITTINGS SHALL BE COATED ON THE INSIDE WITH CEMENT MORTAR LINING PER AWWA C205, A CERAMIC EPOXY LINING, AND A BITUMINOUS COATING ON THE OUTSIDE UNLESS SPECIFIED OTHERWISE. JOINTS SHALL CONFORM TO ANSI/AWWA C111/A21.11-80. NO JOINT DEFLECTION SHALL EXCEED 75% OF MAXIMUM DEFLECTION RECOMMENDED BY THE PIPE MANUFACTURER.
   B. POLYVINYL CHLORIDE (PVC), PRESSURE PIPE 4"-60" SHALL MEET AWWA C900 CLASS 150, DR 18, CRITERIA AND HAVE A WORKING PRESSURE OF 150 PSI. ALL PIPE SHALL BE PURPLE IN COLOR. PIPE JOINTS SHALL BE MADE WITH INTEGRAL BELL AND SPIGOT PIPE ENDS. NO JOINT DEFLECTION SHALL EXCEED 75% OF MAXIMUM DEFLECTION RECOMMENDED BY THE PIPE MANUFACTURER. THE GASKET SHALL MEET THE REQUIREMENTS OF ASTM F-477.
   C. FUSIBLE POLYVINYL CHLORIDE (PVC) PIPE SHALL BE MANUFACTURED UNDER THE TRADE NAMES FUSIBLE C-900® FOR UNDERGROUND SOLUTIONS, INC.
   D. HIGH DENSITY POLYETHYLENE PIPE, (HDPE), SHALL MEET ASTM F-714 AND ASTM D3550 (PE 4710) CRITERIA, SHALL HAVE A DIMENSION RATIO OF 11 UNLESS OTHERWISE NOTED. ALL JOINTS SHALL BE FIELD-WELDED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION. PIPE SHALL BE IPS SIZED.
   E. VALVES: VALVES TWO INCHES THROUGH 16 INCHES SHALL BE MUELLER (OR APPROVED ALTERNATIVE) RESILIENT SEAT GATE VALVE, MODIFIED WEDGE DISC TYPE, SUITABLE FOR DIRECT EARTH BURIAL, SUITABLE FOR MECHANICAL JOINT AND TO COMPLY WITH AWWA SPECIFICATIONS. VALVES DEEPER THAN FIVE FEET (5') WILL REQUIRE VALVE NUT EXTENSIONS, MUST BE WELDED AND ONE-PIECE.
   F. VALVE BOXES (PROVIDED FOR ALL VALVES INSTALLED UNDERGROUND): CAST IRON, WITH A MINIMUM INTERIOR DIAMETER OF 5 INCHES, ADJUSTABLE TO FIT THE DEPTH OF EARTH COVER OVER THE VALVES, DESIGNED TO PREVENT THE TRANSMISSION OF SURFACE LOADS DIRECTLY TO THE VALVE PIPING. PROVIDE COVERS MARKED "SEWER" CONSTRUCTED AS TO PREVENT TIPPING OR RATTLING.
   G. MECHANICAL JOINT RESTRAINT, FOR PVC PIPE, SHALL BE INCORPORATED INTO THE DESIGN OF THE FOLLOWER GLAND. THE RESTRAINT MECHANISM SHALL CONSIST OF A PLURALITY OF INDIVIDUALLY ACTUATED GRIPPING SURFACES TO MAXIMIZE RESTRAINT CAPABILITY. GLANDS SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536-80. THE GLAND SHALL BE SUCH THAT IT CAN REPLACE THE STANDARDIZED MECHANICAL JOINT GLAND AND CAN BE USED WITH THE STANDARDIZED MECHANICAL JOINT BELL CONFORMING TO ANSI/AWWA C111/A21.11 AND ANSI/AWWA C153/A21.53 OF LATEST REVISION. TWIST OFF NUTS, SIZED SAME AS TEE-HEAD BOLTS, SHALL BE USED TO INSURE PROPER ACTUATING OF RESTRAINING DEVICES. THE RESTRAINING GLAND SHALL HAVE A PRESSURE RATING EQUAL TO THAT OF THE PIPE ON WHICH IT IS USED. THE RESTRAINING GLANDS SHALL HAVE BEEN TESTED TO UNI-B-13-92, BE LISTED BY UNDERWRITERS LABORATORIES, AND BE APPROVED BY FACTORY MUTUAL. THE RESTRAINT SHALL BE THE EBAA IRON SERIES 2000PV OR APPROVED EQUAL.
   H. RESTRAINT RINGS FOR C-900 PVC PIPE BELLS SHALL BE MADE OF DUCTILE IRON COMPONENTS. ALL DUCTILE IRON SHALL CONFORM TO ASTM A536. A SPLIT RING SHALL BE USED BEHIND THE BELL AND A SERRATED RESTRAINT RING SHALL BE USED TO GRIP THE PIPE. A SUFFICIENT NUMBER OF BOLTS SHALL BE USED TO CONNECT THE BELL RING AND THE PIPE RING. THE COMBINATION SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 150 PSI. THE RESTRAINT SHALL BE THE SERIES 1500 AS PRODUCED BY THE EBAA IRON, INC. OR APPROVED EQUAL.
2. PIPE LAYING: INSTALL THE PIPING SYSTEMS COMPLETE, TESTED AND READY FOR OPERATION. CLEAN EACH PIPE AND FITTING AND INSPECT FOR DEFECTS. DEFECTIVE PORTIONS OF PIPE WILL BE CUT OFF AT LEAST 12 INCHES BEYOND VISIBLE CRACKS OR DEFECTS. LAY PIPE STRAIGHT AND LEVEL, WITH CHANGES IN GRADE AND/OR ALIGNMENT MADE WITHIN PIPE MANUFACTURER'S TOLERANCES. ANY PIPE THAT IS NOT IN TRUE ALIGNMENT OR WHICH SHOWS ANY SETTLEMENT AFTER LAYING WILL BE REMOVED AND RE-LAID BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION. SECURELY CLOSE ALL OPEN ENDS OF PIPES AND FITTINGS WITH A WATERTIGHT PLUG WHEN WORK IS NOT IN PROGRESS. USE CARE TO PREVENT FLOATATION. LAY PIPE DIRECTLY ON THE TRENCH BOTTOM. SHAPE THE BOTTOM OF THE TRENCH TO PROVIDE FIRM SUPPORT FOR THE PIPE ALONG ITS ENTIRE LENGTH. EXCAVATE SUITABLE HOLES FOR JOINTS TO ALLOW THE MAKING AND ASSEMBLING OF THE JOINTS. PIPING SHALL BE MARKED IN ACCORDANCE WITH LOCAL CODES AND REGULATIONS.
3. THE BACKFILLING OPERATION SHALL BE IN ACCORDANCE WITH SECTION 125.8 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
4. PIPE DEPTH AND PROTECTION: THE STANDARD MINIMUM COVER FOR SANITARY SEWER AND WATER SYSTEMS SHALL BE 3 FEET FROM THE TOP OF THE PIPE TO FINISH GRADE. SHOULD THIS DESIGN NOT BE FEASIBLE, DUCTILE IRON PIPE, CLASS 52, SHALL BE SUBSTITUTED. WHERE WATERWAYS, CANALS, DITCHES OR OTHER CUTS ARE CROSSED, DUCTILE IRON PIPE OR OTHER APPROVED METHODS SHALL BE CONSTRUCTED. WHERE A WATER MAIN CROSSES EITHER ABOVE OR BELOW AN EXISTING OR PROPOSED SANITARY HAZARD (STORM, SANITARY OR REUSE PIPE) WITH LESS THAN 12 INCHES OF CLEARANCE, THEN EITHER THE WATER MAIN OR THE SANITARY HAZARD SHALL BE (1) A SOLID LENGTH OF CLASS 52 DIP FOR 18 FEET CENTERED ON THE POINT OF CROSSING OR (2) ENCASED IN CONCRETE CENTERED ON THE POINT OF CROSSING. THE MINIMUM HORIZONTAL SEPARATION BETWEEN A WATER MAIN AND A SANITARY HAZARD SHALL BE 10 FEET. WHERE A SEPARATION OF 10 FEET BETWEEN A WATER MAIN AND A SANITARY HAZARD CAN NOT BE MAINTAINED, THEN EITHER THE WATER MAIN OR THE SANITARY HAZARD SHALL BE (1) CLASS 52 DIP OR (2) ENCASED IN CONCRETE.
5. AIR RELEASE: WHERE THE WATER MAIN PROFILE IS SUCH THAT AIR POCKETS OR ENTRAPMENT COULD OCCUR, METHODS FOR AIR RELEASE SHALL BE PROVIDED. AIR VENTING CAPABILITIES SHALL BE PROVIDED FOR WATER MAINS BY APPROPRIATELY PLACING AIR RELEASE VALVES. LOCATION OF AIR RELEASE VALVES ON PLANS IS APPROXIMATE. AIR RELEASE VALVES SHALL BE INSTALLED IN THE HIGH POINT IN THE FIELD AS DETERMINED BY THE CONTRACTOR'S SURVEYOR. CONTRACTOR SHALL VERIFY PROPOSED INSTALLATION LOCATIONS WITH ENGINEER PRIOR TO INSTALLATION.
6. JOINT RESTRAINING: PRESSURE PIPING FITTINGS AND OTHER ITEMS REQUIRING RESTRAINT, SHALL BE BRACED WITH "MEGALUGS" OR OTHER RESTRAINING ASSEMBLIES, AS SHOWN ON DETAIL SHEET. SAID RESTRAINING DEVICES SHALL BE DESIGNED FOR THE MAXIMUM PRESSURE CONDITION (TESTING) AND THE SAFE BEARING LOADS FOR HORIZONTAL THRUST.
7. VALVES: CAREFULLY INSPECT, OPEN WIDE, THEN TIGHTLY CLOSE EACH VALVE. TEST THE VARIOUS NUTS AND BOLTS FOR TIGHTNESS. TAKE SPECIAL CARE TO PREVENT JOINT MATERIALS, STONES, OR OTHER SUBSTANCES FROM BECOMING LODGED IN THE VALVE SEAT. SET VALVES, UNLESS OTHERWISE SHOWN, WITH THEIR STEMS VERTICALLY ABOVE THE CENTERLINE OF THE PIPE. ADJUST ALL VALVES FOR PROPER OPERATION. DEFECTIVE VALVES WILL BE REMOVED AND REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
8. VALVES BOXES: CAREFULLY CENTER VALVES BOXES OVER THE OPERATING NUTS OF THE VALVES SO AS TO PERMIT A VALVE KEY TO BE EASILY FITTED TO THE OPERATING UNIT. SET THE TOPS OF THE BOXES FLUSH WITH FINISHED GRADE, MAKING ALLOWANCE FOR SETTLEMENT OF THE SURROUNDING BACKFILL OR SURFACE. INSTALL VALVE BOXES SO THAT THEY DO NOT TRANSMIT SURFACE LOADS DIRECTLY TO EITHER THE PIPING OR VALVE. TAKE CARE TO PREVENT EARTH AND OTHER MATERIAL FROM ENTERING THE VALVE BOXES. DIG OUT AND ADJUST TO FINISH GRADE ANY VALVE BOX THAT IS OUT OF ALIGNMENT OR IS NOT FLUSH WITH THE FINISHED SURFACE, AND WHEN REQUIRED, PROVIDE A CONCRETE SUPPORT RING.
9. TESTING:
   A. THE CONTRACTOR SHALL PERFORM HYDROSTATIC TESTING OF ALL WATER SYSTEMS, AS SET FORTH IN THE FOLLOWING, AND SHALL CONDUCT SAID TESTS IN THE PRESENCE OF REPRESENTATIVES FROM THE CITY OF WILDWOOD AND THE ENGINEER, WITH 3 DAYS ADVANCE NOTICE PROVIDED. ALL JOINTS WILL REMAIN UNCOVERED UNTIL THE TESTING IS COMPLETE UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER. THE ENGINEER AND A REPRESENTATIVE FROM THE ENGINEER AND THE CITY OF WILDWOOD SHALL BE PRESENT DURING TESTING.
   B. PIPING AND APPURTENANCES TO BE TESTED SHALL BE WITHIN SECTIONS BETWEEN VALVES, UNLESS ALTERNATIVE METHODS HAVE RECEIVED PRIOR APPROVAL FROM THE CITY OF WILDWOOD. TESTING SHALL NOT PROCEED UNTIL ALL RESTRAINING DEVICES ARE INSTALLED. ALL PIPING SHALL BE THOROUGHLY CLEANED AND FLUSHED PRIOR TO TESTING TO CLEAR THE LINES OF ALL FOREIGN MATTER. WHILE THE PIPING IS BEING FILLED WITH WATER, CARE SHALL BE EXERCISED TO PERMIT THE ESCAPE OF AIR FROM EXTREMITIES OF THE TEST SECTION, WITH ADDITIONAL RELEASE COCKS PROVIDED IF REQUIRED.
   C. HYDROSTATIC TESTING SHALL BE PERFORMED AT 150 PSI. MAINTAIN THE TEST PRESSURE FOR AT LEAST 2 HOURS AND UNTIL ALL EXPOSED PORTIONS OF THE PIPE HAVE BEEN INSPECTED FOR WATER-TIGHTNESS. TESTING SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS AS SET FORTH IN SECTION 13 OF AWWA STANDARD C600. THE ALLOWABLE RATE OF LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR DETERMINED BY THE FOLLOWING FORMULA:

$$L = \frac{SD \times (P)^{1/2}}{133{,}200}$$

      L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR

      S = LENGTH OF PIPE TESTED, IN FEET

      D = NOMINAL DIAMETER OF THE PIPE IN INCHES

      P = AVERAGE TEST PRESSURE MAINTAINED DURING THE LEAKAGE TEST IN POUNDS PER SQUARE INCH GUAGE
   D. THE TESTING PROCEDURE SHALL INCLUDE THE CONTINUED APPLICATION OF THE SPECIFIED PRESSURE TO THE TEST SYSTEM, FOR THE 2 HOUR PERIOD, BY WAY OF A PUMP TAKING SUPPLY FROM A CONTAINER SUITABLE FOR MEASURING WATER LOSS. THE AMOUNT OF LOSS SHALL BE DETERMINED BY MEASURING THE VOLUME DISPLACED FROM SAID CONTAINER.
   E. SHOULD THE TEST FAIL, NECESSARY REPAIRS SHALL BE ACCOMPLISHED BY THE CONTRACTOR AND THE TEST REPEATED UNTIL WITHIN THE ESTABLISHED LIMITS. THE CONTRACTOR SHALL FURNISH THE NECESSARY LABOR, WATER, PUMPS, GAUGES AND ALL OTHER ITEMS REQUIRED TO CONDUCT THE REQUIRED WATER DISTRIBUTION SYSTEM TESTING AND PERFORM NECESSARY REPAIRS. THE CONTRACTOR SHALL BE BILLED FOR ANY AND ALL RE-TESTS.
10. DETECTABLE BURIED WARNING TAPE AND COPPER LOCATION WIRE:
   A. DETECTABLE BURIED PIPE WARNING TAPE SHALL BE 2 INCHES MINIMUM WIDTH, LONG LASTING PLASTIC WITH METALIZED FOIL CORE SPECIFICALLY DESIGNED FOR NON-METALLIC PIPES AND SHALL BE PLACED OVER ALL PVC WATER LINES AND FITTINGS. METALIZED CORE SHALL BE DETECTABLE TO DEPTHS OF UP TO 6 FEET BY USE OF COMMERCIALLY AVAILABLE PIPE LOCATION EQUIPMENT. TAPE SHALL BE FURNISHED IN MANUFACTURER'S STANDARD COLOR AND ROLL LENGTH AND SHALL BE IMPRINTED CONTINUOUSLY WITH THE FOLLOWING WORDS UNLESS OTHERWISE APPROVED: CAUTION BURIED FORCE MAIN BELOW.
   B. IN ADDITION TO THE INSTALLATION OF THE DETECTABLE BURIED WARNING TAPE OVER ALL PVC SEWER LINES, THE CONTRACTOR SHALL INSTALL A 10 GAUGE INSULATED COPPER WIRE DIRECTLY ON TOP OF ALL PVC SEWER LINES AND TAPED EVERY TEN FEET FOR LOCATION PURPOSES. THE WIRE SHALL BE CONTINUOUS AND ALL CONNECTIONS TAPED. THREE FEET OF EXCESS WIRE SHALL BE LEFT IN ALL VALVE BOXES.
11. ALL DIRECTIONAL DRILLING CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 555 OF THE FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) AND THE SPECIFICATIONS SECTION 15400.
12. SEPARATION REQUIREMENTS:
   A. THE LOCATION OF PUBLIC WATER SYSTEM MAINS SHOULD BE IN ACCORDANCE WITH F.A.C. RULE 62-55.314.

No.	REVISIONS	DATE	BY
1	NOT FOR CONSTRUCTION	-	-

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LICENSED PROFESSIONAL
JAMES E. CLAYTON
FLORIDA LICENSE NUMBER 90813
DATE: ____

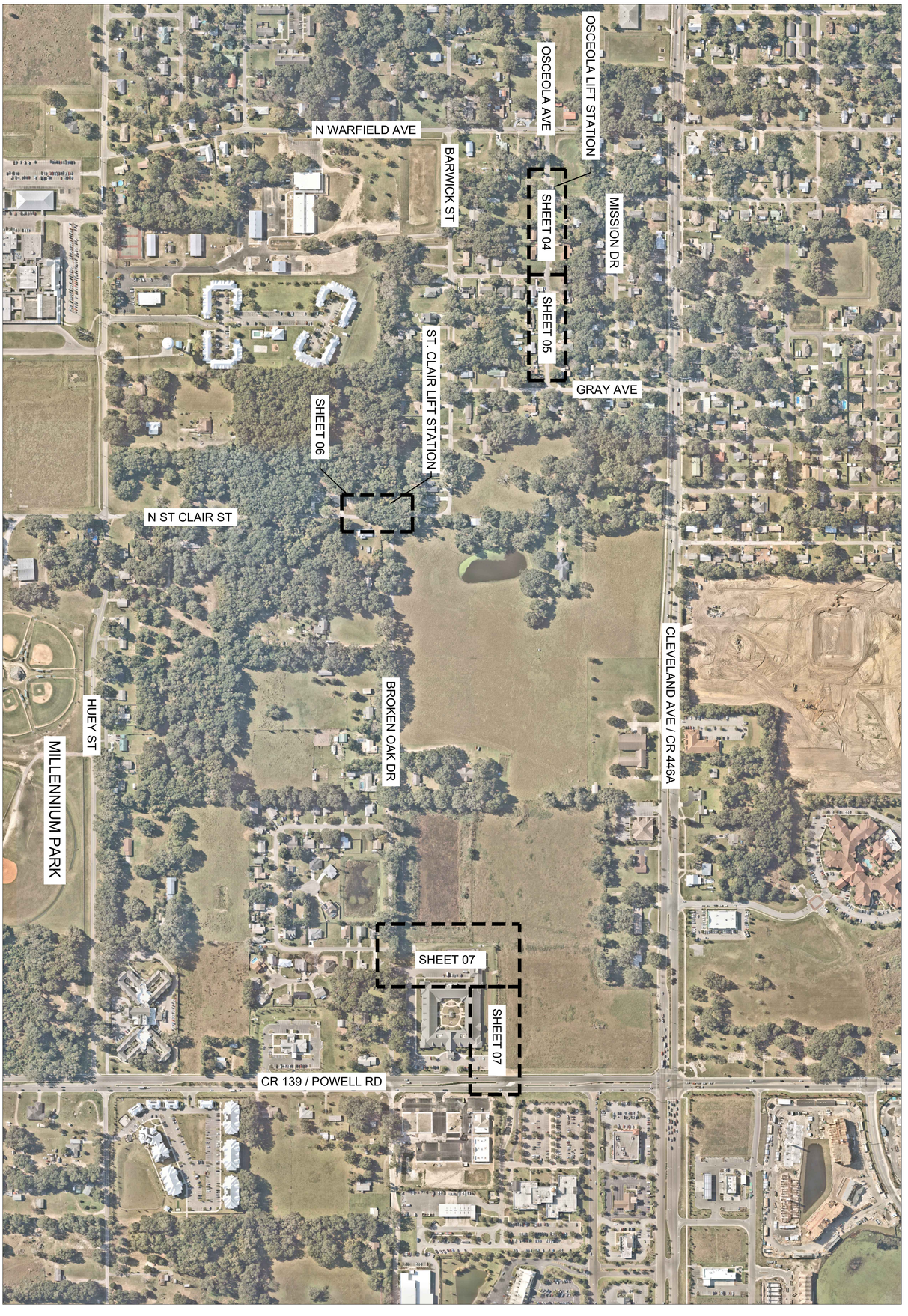
KHA PROJECT 142173504
DATE OCTOBER 2023
SCALE AS SHOWN
DESIGNED BY PHS
DRAWN BY RDC
CHECKED BY JEC

GENERAL NOTES

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD

CITY OF WILDWOOD FLORIDA

SHEET NUMBER
02



GRAPHIC SCALE IN FEET
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NORTH

SHEET NUMBER 03

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS

PREPARED FOR

CITY OF WILDWOOD

CITY OF WILDWOOD FLORIDA

KEY MAP

KHA PROJECT	142173504
DATE	OCTOBER 2023
SCALE	AS SHOWN
DESIGNED BY	PHS
DRAWN BY	RDC
CHECKED BY	JEC

LICENSED PROFESSIONAL

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DATE: _____

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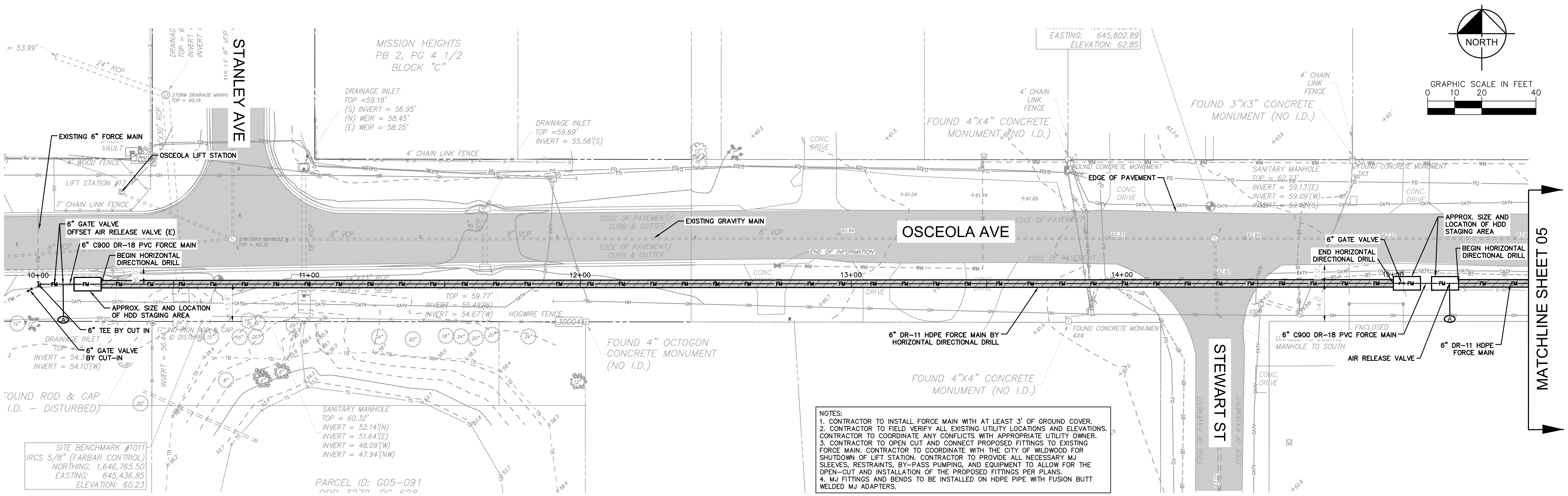
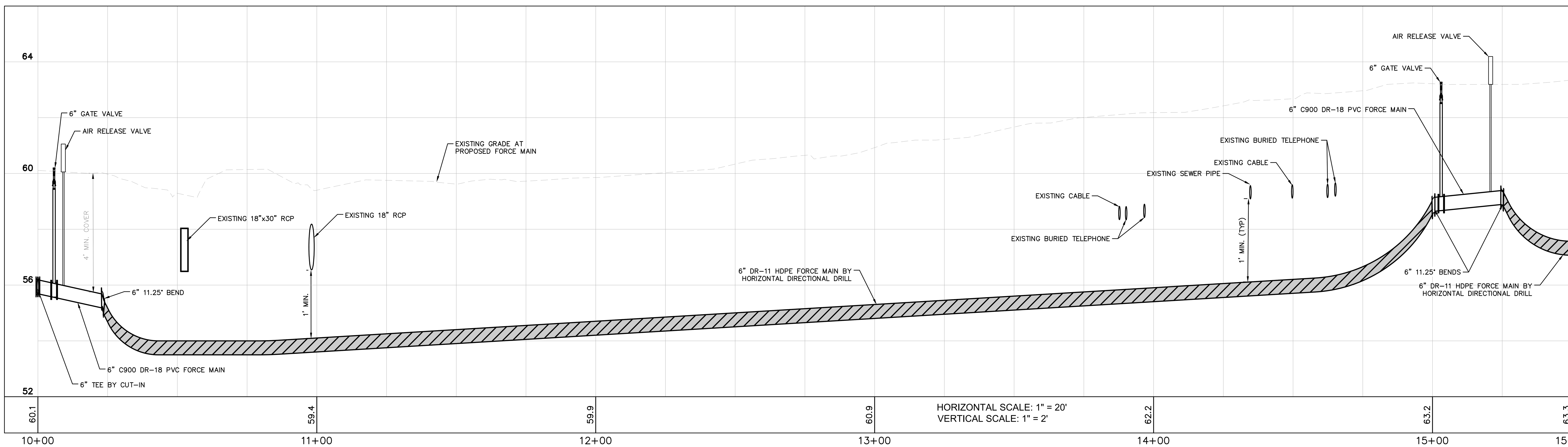


NOTES:

1. CONTRACTOR TO INSTALL FORCE MAIN WITH AT LEAST 3' OF GROUND COVER.
2. CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS. CONTRACTOR TO COORDINATE ANY CONFLICTS WITH APPROPRIATE UTILITY OWNER.
3. CONTRACTOR TO OPEN CUT AND CONNECT PROPOSED FITTINGS TO EXISTING FORCE MAIN. CONTRACTOR TO COORDINATE WITH THE CITY OF WILDWOOD FOR SHUTDOWN OF LIFT STATION. CONTRACTOR TO PROVIDE ALL NECESSARY MJ SLEEVES, RESTRAINTS, BY-PASS PUMPING, AND EQUIPMENT TO ALLOW FOR THE OPEN-CUT AND INSTALLATION OF THE PROPOSED FITTINGS PER PLANS.
4. MJ FITTINGS AND BENDS TO BE INSTALLED ON HDPE PIPE WITH FUSION BUTT WELDED MJ ADAPTERS.



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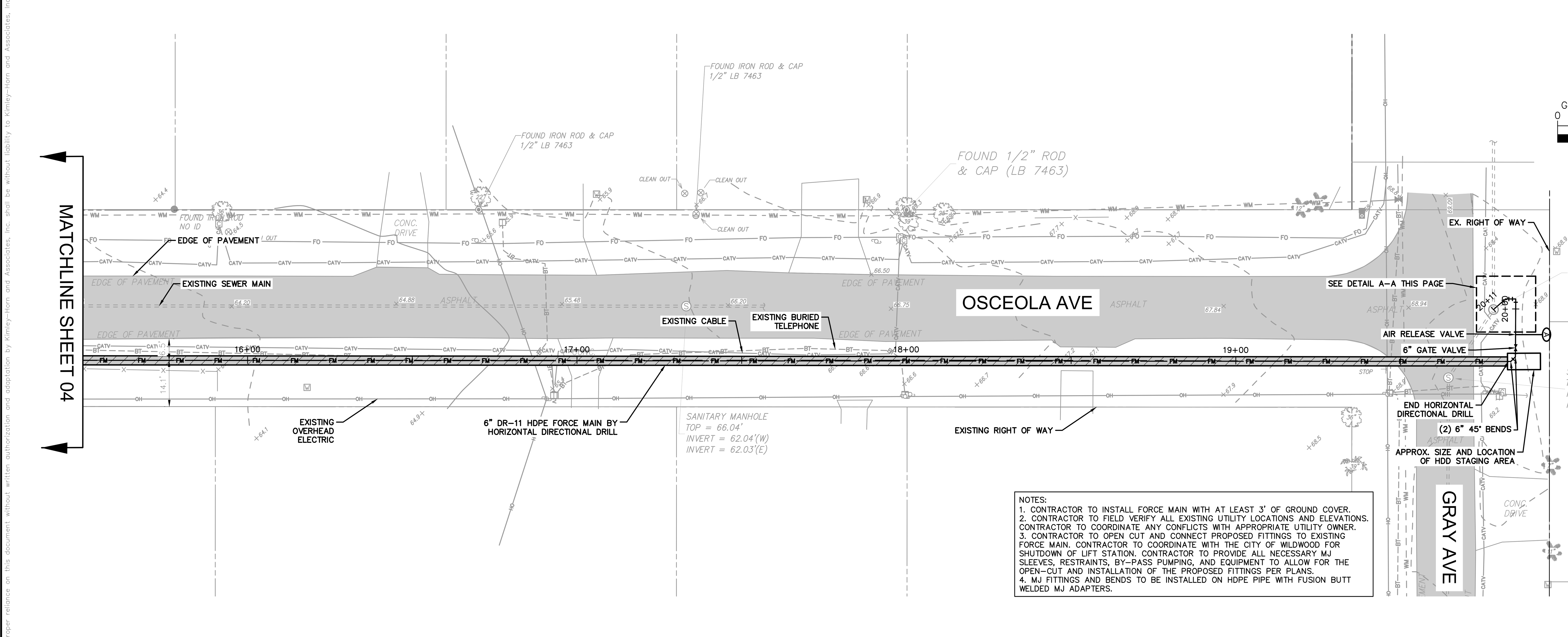
OSCEOLA AVE PLAN & PROFILE

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER
04



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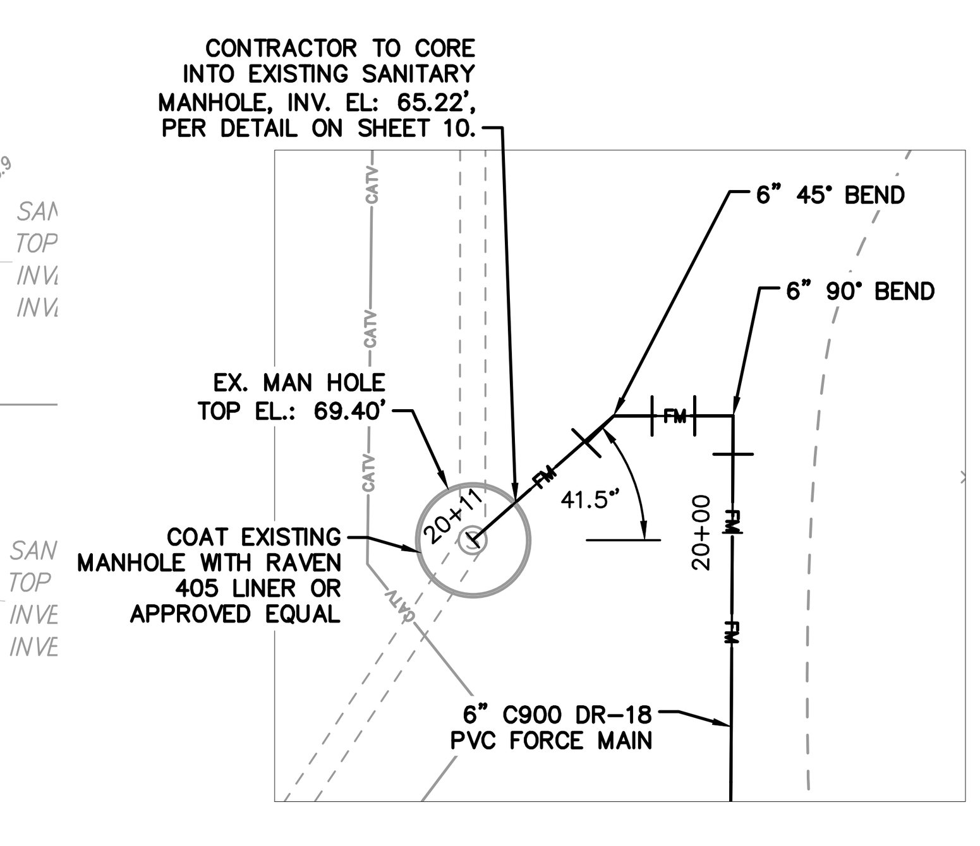
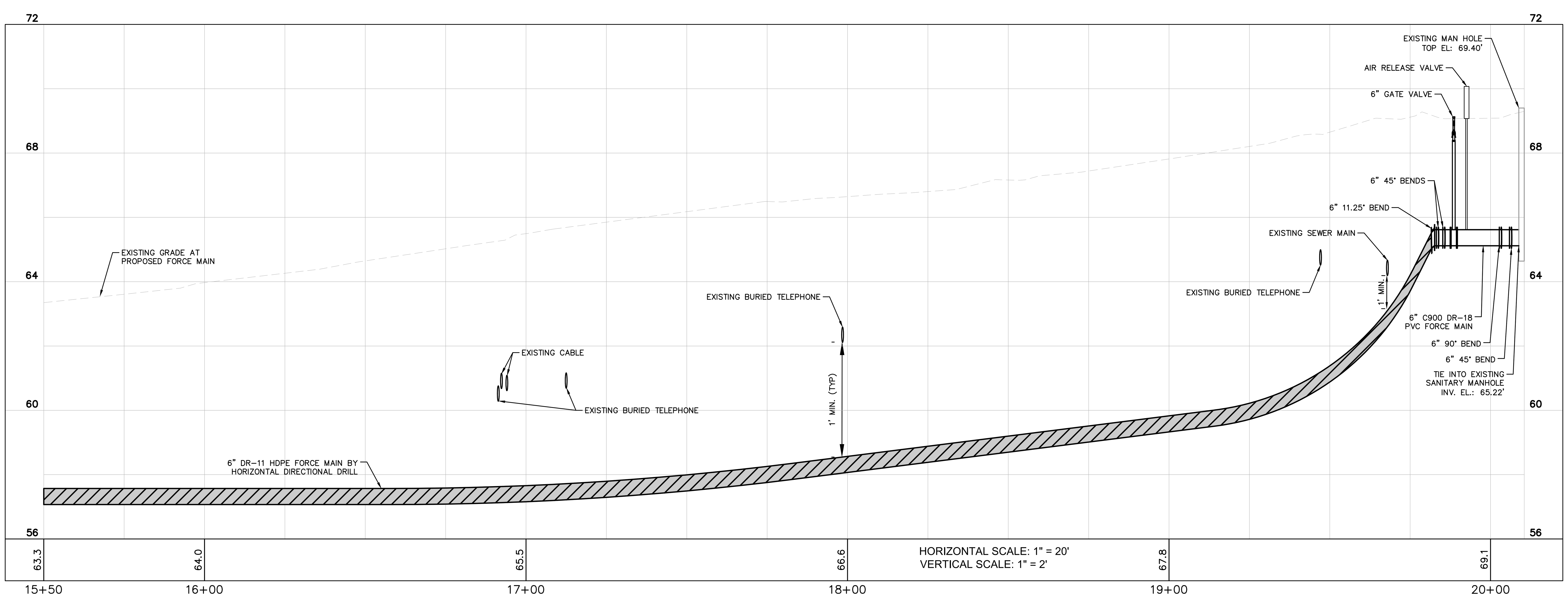
1. CONTRACTOR TO INSTALL FORCE MAIN WITH AT LEAST 3' OF GROUND COVER.
2. CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS. CONTRACTOR TO COORDINATE ANY CONFLICTS WITH APPROPRIATE UTILITY OWNER.
3. CONTRACTOR TO OPEN CUT AND CONNECT PROPOSED FITTINGS TO EXISTING FORCE MAIN. CONTRACTOR TO COORDINATE WITH THE CITY OF WILDWOOD FOR SHUTDOWN OF LIFT STATION. CONTRACTOR TO PROVIDE ALL NECESSARY MJ SLEEVES, RESTRAINTS, BY-PASS PUMPING, AND EQUIPMENT TO ALLOW FOR THE OPEN-CUT AND INSTALLATION OF THE PROPOSED FITTINGS PER PLANS.
4. MJ FITTINGS AND BENDS TO BE INSTALLED ON HDPE PIPE WITH FUSION BUTT WELDED MJ ADAPTERS.



DETAIL A-A
(SCALE: 1" = 5')



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WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

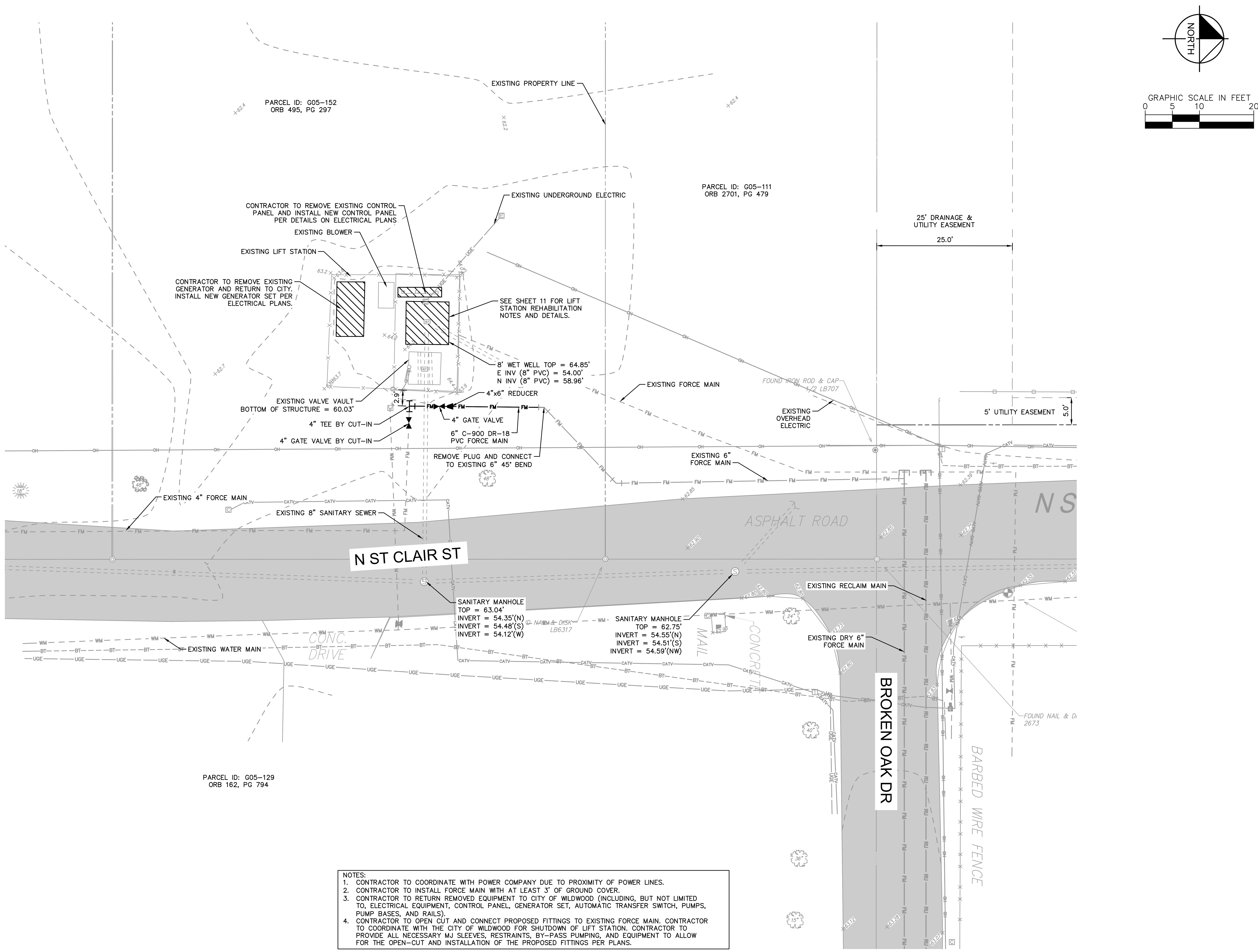
LICENSED PROFESSIONAL
JAMES E. CLAYTON
FLORIDA LICENSE NUMBER
90813
DATE: ____

KHA PROJECT 142173504
DATE OCTOBER 2023
SCALE AS SHOWN
DESIGNED BY PHS
DRAWN BY RDC
CHECKED BY JEC

OSCEOLA AVE PLAN & PROFILE

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER
05


NORTH
GRAPHIC SCALE IN FEET
0 5 10 20
EXISTING PROPERTY LINE
PARCEL ID: G05-152
ORB 495, PG 297
PARCEL ID: G05-111
ORB 2701, PG 479
EXISTING UNDERGROUND ELECTRIC
CONTRACTOR TO REMOVE EXISTING CONTROL PANEL AND INSTALL NEW CONTROL PANEL PER DETAILS ON ELECTRICAL PLANS
EXISTING BLOWER
EXISTING LIFT STATION
CONTRACTOR TO REMOVE EXISTING GENERATOR AND RETURN TO CITY. INSTALL NEW GENERATOR SET PER ELECTRICAL PLANS.
SEE SHEET 11 FOR LIFT STATION REHABILITATION NOTES AND DETAILS.
8' WET WELL TOP = 64.85'
E INV (8" PVC) = 54.00'
N INV (8" PVC) = 58.96'
4"x6" REDUCER
4" GATE VALVE
6" C-900 DR-18 PVC FORCE MAIN
REMOVE PLUG AND CONNECT TO EXISTING 6" 45° BEND
EXISTING VALVE VAULT
BOTTOM OF STRUCTURE = 60.03'
4" TEE BY CUT-IN
4" GATE VALVE BY CUT-IN
EXISTING FORCE MAIN
25' DRAINAGE & UTILITY EASEMENT
25.0'
5' UTILITY EASEMENT
5.0'
FOUND IRON ROD & CAP 1/2 LB707
EXISTING OVERHEAD ELECTRIC
EXISTING 6" FORCE MAIN
EXISTING 4" FORCE MAIN
EXISTING 8" SANITARY SEWER
ASPHALT ROAD
N ST CLAIR ST
N S
SANITARY MANHOLE
TOP = 63.04'
INVERT = 54.35'(N)
INVERT = 54.48'(S)
INVERT = 54.12'(W)
SANITARY MANHOLE
TOP = 62.75'
INVERT = 54.55'(N)
INVERT = 54.51'(S)
INVERT = 54.59'(NW)
EXISTING RECLAIM MAIN
EXISTING DRY 6" FORCE MAIN
EXISTING WATER MAIN
CONC. DRIVE
MAIL
BROKEN OAK DR
BARBED WIRE FENCE
FOUND NAIL & DISK 2673
PARCEL ID: G05-129
ORB 162, PG 794

NOTES:

1. CONTRACTOR TO COORDINATE WITH POWER COMPANY DUE TO PROXIMITY OF POWER LINES.
2. CONTRACTOR TO INSTALL FORCE MAIN WITH AT LEAST 3' OF GROUND COVER.
3. CONTRACTOR TO RETURN REMOVED EQUIPMENT TO CITY OF WILDWOOD (INCLUDING, BUT NOT LIMITED TO, ELECTRICAL EQUIPMENT, CONTROL PANEL, GENERATOR SET, AUTOMATIC TRANSFER SWITCH, PUMPS, PUMP BASES, AND RAILS).
4. CONTRACTOR TO OPEN CUT AND CONNECT PROPOSED FITTINGS TO EXISTING FORCE MAIN. CONTRACTOR TO COORDINATE WITH THE CITY OF WILDWOOD FOR SHUTDOWN OF LIFT STATION. CONTRACTOR TO PROVIDE ALL NECESSARY MJ SLEEVES, RESTRAINTS, BY-PASS PUMPING, AND EQUIPMENT TO ALLOW FOR THE OPEN-CUT AND INSTALLATION OF THE PROPOSED FITTINGS PER PLANS.

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LICENSED PROFESSIONAL
JAMES E. CLAYTON
FLORIDA LICENSE NUMBER
90813
DATE:

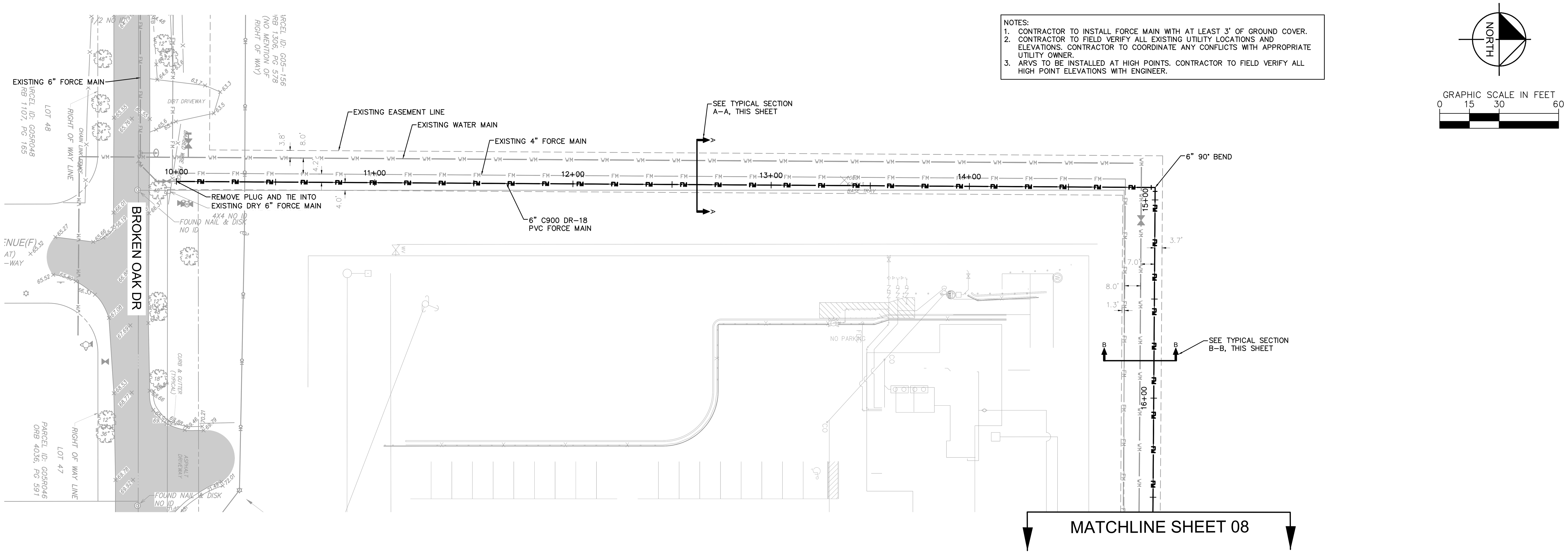
KHA PROJECT	142173504
DATE	OCTOBER 2023
SCALE	AS SHOWN
DESIGNED BY	PHS
DRAWN BY	RDC
CHECKED BY	JEC

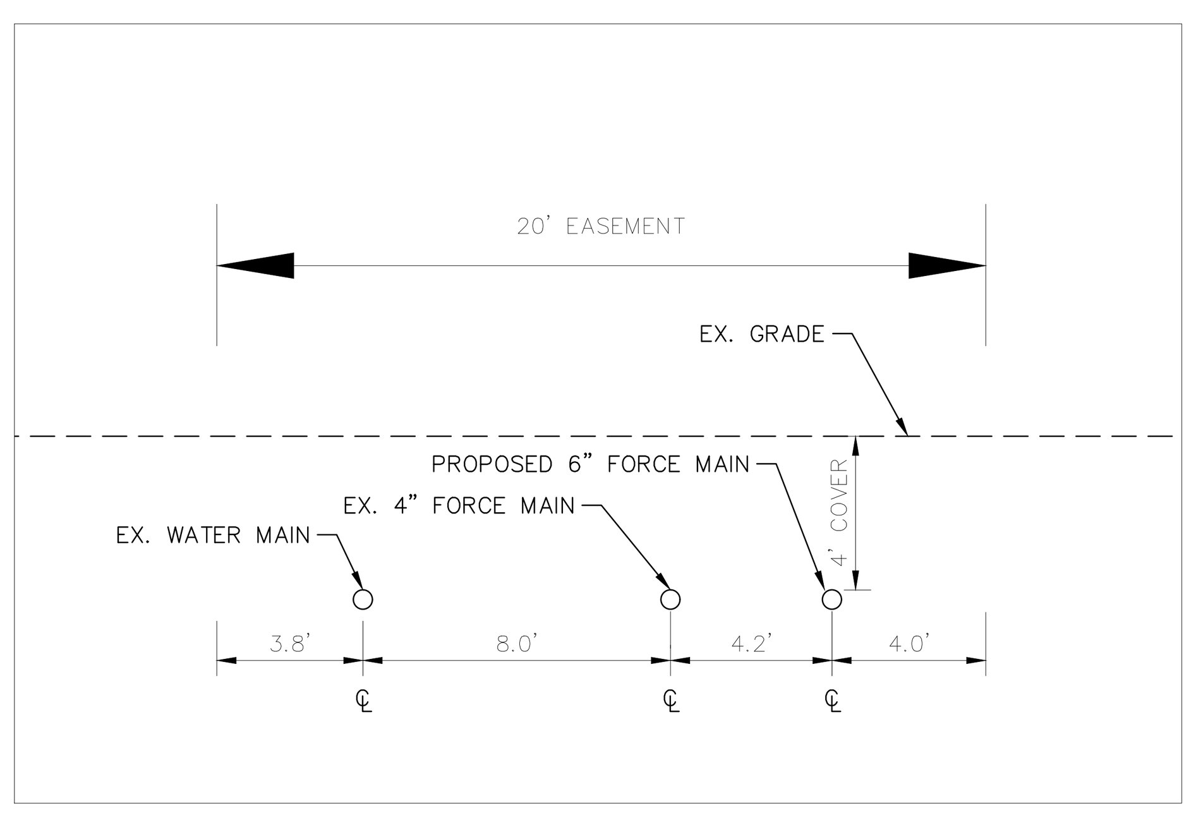
ST CLAIR LIFT STATION PLAN

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

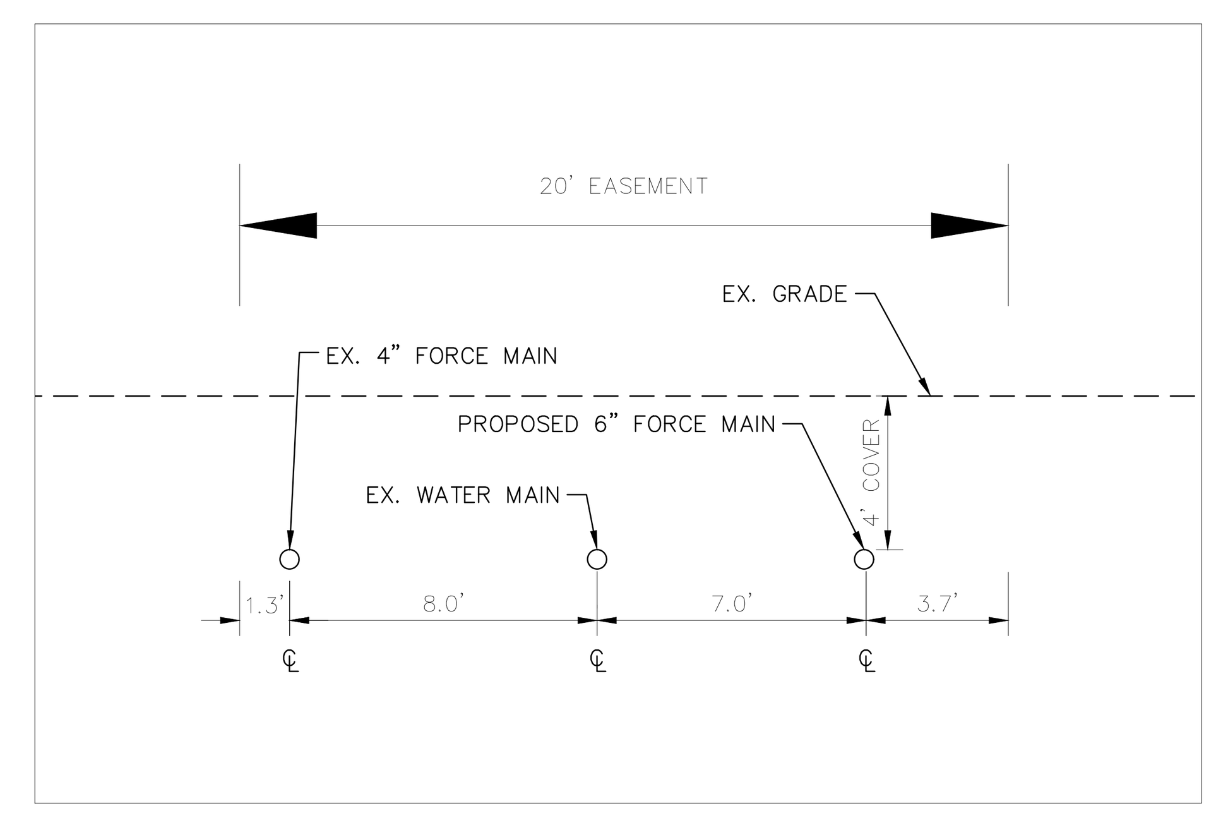
SHEET NUMBER
06

NOTES:
1. CONTRACTOR TO INSTALL FORCE MAIN WITH AT LEAST 3' OF GROUND COVER.
2. CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS. CONTRACTOR TO COORDINATE ANY CONFLICTS WITH APPROPRIATE UTILITY OWNER.
3. ARVS TO BE INSTALLED AT HIGH POINTS. CONTRACTOR TO FIELD VERIFY ALL HIGH POINT ELEVATIONS WITH ENGINEER.





SECTION A-A
(SCALE: 1" = 5')



SECTION B-B
(SCALE: 1" = 5')

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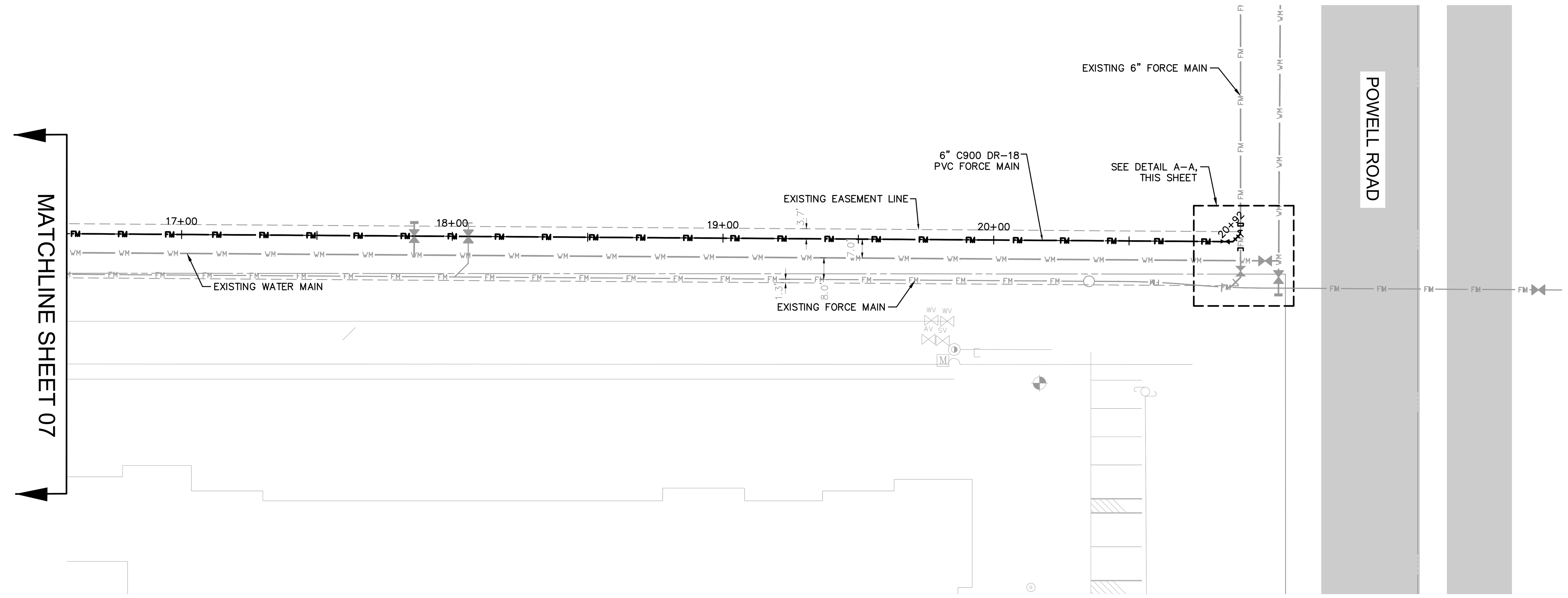
JAMES E. CLAYTON
FLORIDA LICENSE NUMBER
90813
DATE:

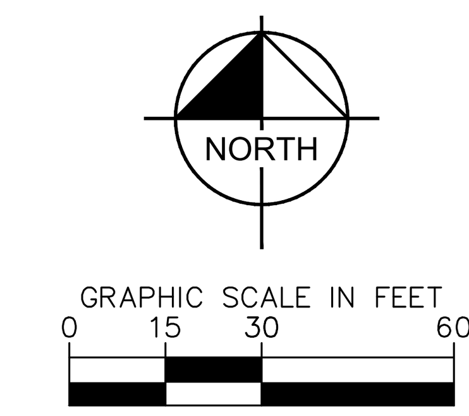
KHA PROJECT 142173504
DATE OCTOBER 2023
SCALE AS SHOWN
DESIGNED BY PHS
DRAWN BY RDC
CHECKED BY JEC

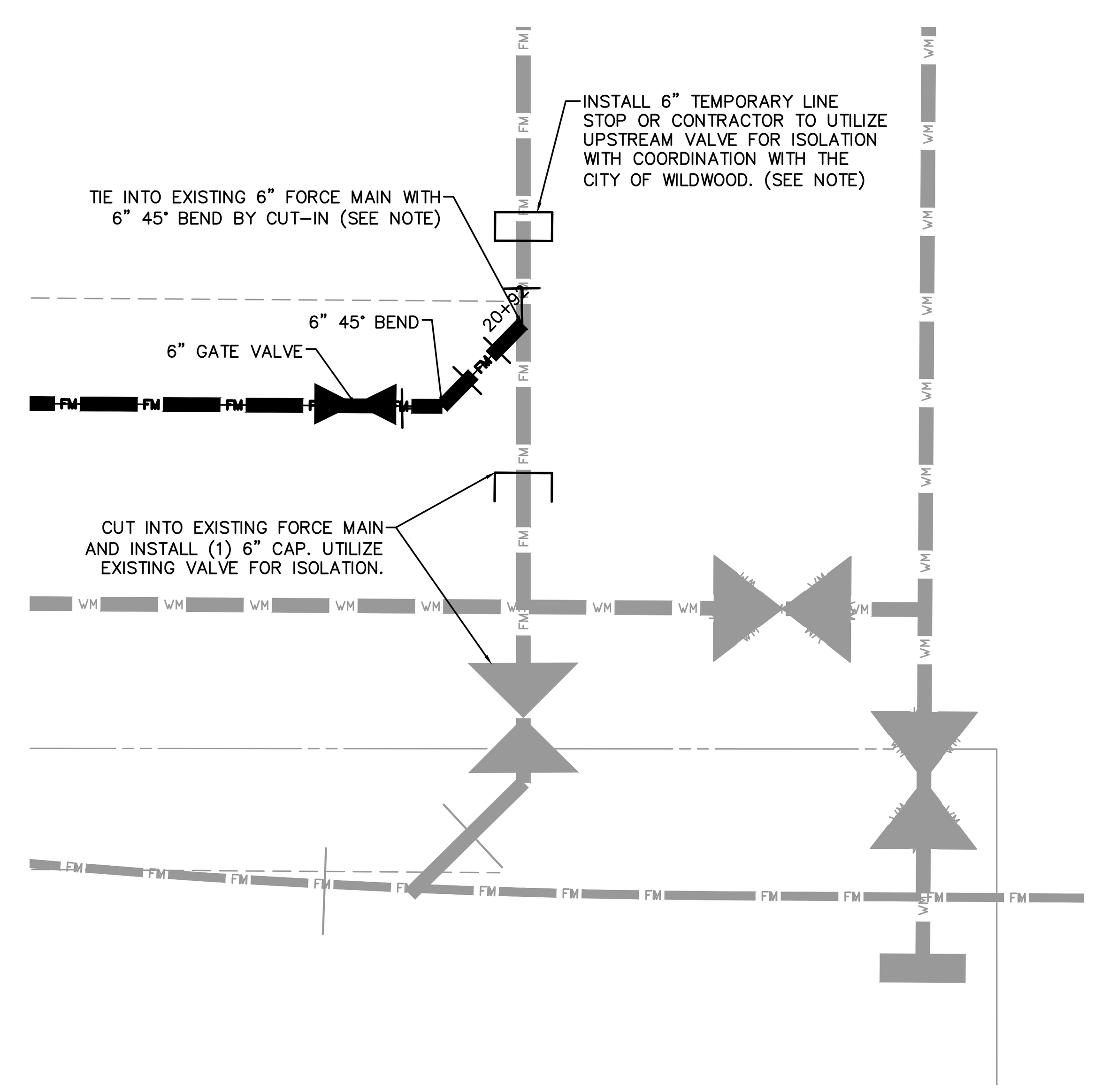
BROKEN OAK DR PLAN & PROFILE

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER
07







DETAIL A-A

(SCALE: 1" = 5')

NOTES:

CONTRACTOR TO OPEN CUT AND CONNECT PROPOSED FITTINGS TO EXISTING FORCE MAIN. CONTRACTOR TO COORDINATE WITH THE CITY OF WILDWOOD FOR SHUTDOWN OF LIFT STATION. CONTRACTOR TO PROVIDE ALL NECESSARY MJ SLEEVES, RESTRAINTS, BY-PASS PUMPING, AND EQUIPMENT TO ALLOW FOR THE OPEN-CUT AND INSTALLATION OF THE PROPOSED FITTINGS PER PLANS.

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BROKEN OAK DR PLAN & PROFILE

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD

CITY OF WILDWOOD FLORIDA

SHEET NUMBER
08

WASTEWATER COLLECTION SYSTEM

SCOPE

THE WORK UNDER THIS SECTION INCLUDES THE FURNISHING, INSTALLING AND/OR LAYING, JOINTING, AND TESTING OF ALL SEWER LINES, MANHOLES, FITTINGS AND APPURTENANCES, INCLUDING NECESSARY SERVICE CONNECTIONS, REQUIRED FOR A COMPLETE SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. THE WORK SHALL ALSO INCLUDE SUCH CONNECTIONS, RECONNECTIONS, TEMPORARY SERVICE, AND ALL OTHER PROVISIONS IN REGARD TO EXISTING SEWER OPERATIONS AND MODIFICATIONS AS IS REQUIRED TO PERFORM THE NEW WORK.

GENERAL

ALL MATERIAL SHALL BE FREE FROM DEFECTS IMPAIRING STRENGTH AND DURABILITY AND BE OF THE BEST COMMERCIAL QUALITY FOR THE PURPOSE SPECIFIED. IT SHALL HAVE STRUCTURAL PROPERTIES SUFFICIENT TO SAFELY SUSTAIN OR WITHSTAND STRAINS AND STRESSES TO WHICH IT IS NORMALLY SUBJECTED AND BE TRUE TO DETAIL.

POLYVINYLCHLORIDE (PVC) PIPE & FITTINGS

PIPE AND FITTINGS FOR GRAVITY SEWER CONSTRUCTION SHALL BE MANUFACTURED FROM VIRGIN MATERIAL AND SHALL MEET THE REQUIREMENTS OF ASTM D3034 – LATEST. THE PIPE SHALL BE SDR 35 OR GREATER FOR DEPTHS LESS THAN 15'. THE PIPE SHALL BE SDR 26 FOR DEPTHS GREATER THAN 15'. ALL JOINTS SHALL BE COMPRESSION TYPE JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 – LATEST.

MANHOLES

MANHOLES SHALL BE THE SIZE AND DEPTH SHOWN ON THE DRAWINGS AND SHALL BE PRECAST REINFORCED CONCRETE BARRELS AND CONES COATED AS SPECIFIED.

PRECAST CONCRETE SECTIONS SHALL CONFORM TO THE ASTM SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS DESIGNATION C478 – LATEST, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

CEMENT SHALL MEET THE REQUIREMENTS OF ASTM C150 – LATEST, SPECIFICATIONS FOR PORTLAND CEMENT, TYPE II. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. MINIMUM WALL THICKNESS SHALL BE 5", OR 1/12 THE INSIDE DIAMETER AS SHOWN, WHICHEVER IS GREATER. RINGS SHALL BE CUSTOM MADE WITH OPENINGS TO MEET INDICATED PIPE ALIGNMENT CONDITIONS AND INVERT ELEVATIONS.

JOINT CONTACT SURFACES SHALL BE FORMED WITH MACHINED CASTINGS; THEY SHALL BE EXACTLY PARALLEL WITH A 2: 1 SLOPE AND NOMINAL 1/16" CLEARANCE WITH THE TONGUE EQUIPPED WITH A PROPER RECESS FOR THE INSTALLATION OF AN O–RING RUBBER GASKET, CONFORMING TO ASTM C443 –LATEST, JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKET OR RAMNEK PRE MOLDED PLASTIC JOINT SEALER WITH JOINTS PRE–PRIMED.

WITH THE EXCEPTION OF JOINT CONTACT SURFACES, AND THE INTERIOR SURFACES OF ALL OPENINGS TO RECEIVE THE SEWER PIPE AND A 1" ANNULAR RING AROUND THE EXTERIOR AND INTERIOR OF SAID OPENINGS, THE INTERIOR AND EXTERIOR SURFACES OF EACH MANHOLE SHALL BE GIVEN TWO COATS OF COAL–TAR EPOXY. TOTAL MINIMUM DRY FILM THICKNESS SHALL BE 12 MILS. EACH COAT SHALL BE APPLIED AT THE RATE OF ONE GALLON PER 100 S.F. THE WATERPROOFING MATERIALS SHALL BE APPLIED BY BRUSH OR SPRAY AND IN ACCORDANCE WITH THE INSTRUCTIONS OF THE MANUFACTURER. TIME SHALL BE ALLOWED BETWEEN COATS TO PERMIT SUFFICIENT DRYING SO THAT THE APPLICATION OF THE SECOND COAT HAS NO EFFECT ON THE FIRST COAT. THE COAL–TAR EPOXY SHALL BE APPLIED AT THE PLACE OF FABRICATION. ADDITIONAL COATING OR TOUCH UP WILL BE REQUIRED AFTER MANHOLE INSTALLATION IF SO DIRECTED BY THE ENGINEER.

EXISTING OR NEW MANHOLES RECEIVING TURBULENT WATER WILL REQUIRE AN AGRU SURE GRIP HDPE LINER OR APPROVED EQUAL.

MANHOLE FRAMES AND COVERS

FRAMES AND COVERS SHALL BE CAST IRON OF THE TYPE AND SIZE SHOWN ON THE DRAWINGS. CASTINGS SHALL BE MADE OF GOOD QUALITY, STRONG, TOUGH, EVEN GRAINED CAST IRON, AND SHALL BE SMOOTH, FREE FROM SCALE, LUMPS, BLISTERS, SANDHOLES AND DEFECTS OF ANY NATURE WHICH SHOULD RENDER THEM UNFIT FOR THE SERVICE FOR WHICH THEY ARE INTENDED. THEY SHALL BE THOROUGHLY CLEANED AND SUBJECTED TO A CAREFUL HAMMER INSPECTION. CASTINGS SHALL MEET THE REQUIREMENTS OF ASTM A48 – LATEST, SPECIFICATIONS FOR GRAY IRON CASTINGS, CLASS NO. 30, OR GRADE 65–45–12, DUCTILE IRON MEETING THE REQUIREMENTS OF ASTM A536 – LATEST, STANDARD SPECIFICATION FOR DUCTILE IRON CASTINGS. IN EITHER CASE, MANHOLE FRAME AND COVER SHALL BE DESIGNED TO WITHSTAND AN HS20–44 LOADING DEFINED IN THE AASHTO SPECIFICATIONS. FRAMES AND COVERS SHALL BE MACHINED OR GROUND AT TOUCHING SURFACES SO AS TO SEAT FIRMLY AND PREVENT ROCKING.

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EXCAVATION AND BACKFILL

EXCAVATION AND BACKFILL CONSISTS OF EXCAVATING FOR SANITARY SEWER, AND ALL OTHER PIPELINES, MANHOLES, AND SIMILAR STRUCTURES WITH THE FOLLOWING AMENDMENTS TO SECTION 125 OF F.D.O.T. STANDARD SPECIFICATIONS.

WHEN SOIL BORINGS ARE PROVIDED BY THE ENGINEER OR OWNER, THEY SHALL BE CONSIDERED AS SUPPLEMENTAL INFORMATION AND SHALL NOT BE CONSIDERED AS DEFINITIVE OF THE SUBSOIL CONDITIONS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ASSESSING SUBSOIL CONDITIONS FOR THE ENTIRE PROJECT.

SECT. 125.8 BACKFILLING – THE REQUIREMENTS SPECIFIED SHALL ALSO INCLUDE THE SANITARY SEWER, MANHOLES, FORCE MAIN AND RELATED FACILITIES.

SECT. 125.8.3.3 COMPACTION – THE BACKFILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 12" LAYERS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T–99.

WHERE PAVEMENT IS TO BE CONSTRUCTED OVER THE PIPE OR WITHIN 4' THEREOF, THE BACKFILL FOR THE THIRD STAGE (MIN. 4' BELOW FINISH GRADE) SHALL BE PLACED IN THE MANNER REQUIRED FOR THE FIRST AND SECOND STAGES AND COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T–180. WHERE THE CONSTRUCTION IS OUTSIDE THESE LIMITS, THE THIRD STAGE SHALL BE COMPACTED TO A FIRMNESS APPROXIMATELY EQUAL TO THAT OF THE ADJACENT SOIL AND NO TESTING WILL BE REQUIRED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TESTING OF THE BACKFILL COMPACTION. THE TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY. DENSITY TESTS SHALL BE TAKEN ON EACH 12" LAYER AT INTERVALS NOT TO EXCEED 300 L.F. AND AT EACH TRANSVERSE SECTION OF PIPELINE.

PIPE LAYING

PIPE LAYING SHALL BE DONE ONLY AFTER A CAREFUL INSPECTION OF EACH PIECE HAS BEEN CONDUCTED AND DEFECTIVE PIPE DISCARDED AND REPLACED IMMEDIATELY. THE PIPE GRADE MAY BE ESTABLISHED BY USE OF LASER BEAM EQUIPMENT, OR BY USE OF BATTER BOARDS PLACED AT NOT GREATER THAN 25' INTERVALS.

THE LAYING OF PIPE SHALL COMMENCE AT THE LOWEST POINT, WITH THE SPIGOT ENDS POINTED THE DIRECTION OF FLOW, AND PROCEED UPWARD IN GRADIENT WITH THE ENDS ABUTTING AND TRUE TO LINE AND GRADE.

UNDER NO CIRCUMSTANCES SHALL PIPE BE LAID IN WATER, AND NO PIPE SHALL BE LAID WHEN THE TRENCH CONDITIONS OR WEATHER IS UNSUITABLE FOR WORKING IN DRY CONDITIONS. AT ALL TIMES WHEN WORK IS NOT IN PROGRESS, ALL OPEN ENDS OF PIPE AND FITTINGS SHALL BE SECURELY CLOSED SO THAT NO TRENCH WATER, EARTH, OR OTHER SUBSTANCE CAN ENTER THE PIPE. ANY TRENCH DEWATERING (WELL POINT, ETC.) REQUIRED FOR PROPER ALIGNMENT OF PIPE SHALL BE DONE BY THE CONTRACTOR AT HIS OWN EXPENSE, AND NO PIPE SHALL BE LAID IN THE DEWATERED TRENCH UNTIL APPROVAL IS MADE BY THE ENGINEER.

OPENINGS SUCH AS STUBS, WYES, TEES OR OTHER SERVICES ALONG THE LINES SHALL BE SECURELY CLOSED BY MEANS OF AN APPROVED STOPPER THAT FITS INTO THE BELL OF THE PIPE AND IS RECOMMENDED BY THE PIPE MANUFACTURER. THIS STOPPER SHALL BE JOINTED IN SUCH A MANNER THAT IT MAY BE REMOVED AT SOME FUTURE TIME WITHOUT INJURY TO THE PIPE ITSELF. AT THE CLOSE OF EACH DAY'S WORK, AND AT OTHER TIMES WHEN PIPE IS NOT BEING LAID, THE END OF THE PIPE SHALL BE TEMPORARILY CLOSED WITH A CLOSE–FITTING STOPPER APPROVED BY THE ENGINEER.

ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT THE ENTRANCE OF MUD, SAND OR OTHER OBSTRUCTING MATERIAL INTO THE PIPELINES. AS THE WORK PROGRESSES, THE INTERIOR OF THE SEWER SHALL BE CLEANED OF ALL DIRT, JOINTING MATERIAL, AND SUPERFLUOUS MATERIALS OF EVERY DESCRIPTION. THE CONTRACTOR SHALL FLUSH ALL SEWER LINES CONSTRUCTED UNDER THIS CONTRACT WITH CLEAN WATER, PRIOR TO FINAL INSPECTION TO ASSURE COMPLETE REMOVAL OF ALL DEBRIS AND FOREIGN MATERIAL, AND TO THE SATISFACTION OF THE ENGINEER.

SEWER SERVICE CONNECTION

TYPES OF SERVICE CONNECTIONS SHALL BE SHOWN ON THE DRAWINGS. ALTHOUGH THE GENERAL LOCATION OF CONNECTIONS MAY BE SHOWN ON THE DRAWINGS, THE ACTUAL LOCATION SHALL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO APPROVAL BY THE ENGINEER. EACH SERVICE CONNECTION SHALL BE ACCURATELY RECORDED BY STATIONING ON THE AS–BUILT DRAWINGS AND SHALL BE FURNISHED TO THE ENGINEER.

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SERVICE LINES SHALL BE CONNECTED TO THE SEWER LINES BY MEANS OF A WYE FITTING WITH A BRANCH AS SHOWN ON THE STANDARD DRAWINGS. IN THE ABSENCE OF AN EXISTING WYE, CONNECTIONS OF NEW SERVICES TO EXISTING MAINS SHALL BE MADE BY INSTALLING A SADDLE TYPE FITTING OF THE SAME MANUFACTURER AS THE PIPE. THE BRANCH OF THE WYE FITTING WILL BE ELEVATED AS DIRECTED DEPENDING ON THE DEPTH OF THE SEWER AND THE ELEVATION OF THE PROPERTY TO BE SERVED. EIGHT BENDS WILL BE USED TO CONNECT SERVICE LINE AT THE WYE BRANCH.

SERVICE LINES SHALL EXTEND FROM THE SEWER TO THE PROPERTY LINE AND BE PLUGGED, UNLESS OTHERWISE SHOWN. ALL SERVICE LINES SHALL BE 4" IN DIAMETER UNLESS A DOUBLE SERVICE. MARKERS SHALL BE INSTALLED AT THE END OF EACH SERVICE OR OPPOSITE WYES AND THEIR LOCATIONS RECORDED.

INSTALLATION OF PLUGGED WYES WHERE INDICATED ON THE DRAWINGS WILL BE MADE AS DIRECTED. PLUGS SHALL BE OF THE TYPE AND SIZE REQUIRED TO MATCH THE PIPE AND SHALL BE WATER–TIGHT AND REMOVABLE WITHOUT BREAKING THE PIPE.

AN EMS SANITARY MARKER #1253 (GREEN) MANUFACTURED BY AUTOMATION PRODUCTS COMPANY, AUSTIN, TEXAS, SHALL BE INSTALLED OVER EACH SANITARY SEWER SERVICE LATERAL, IF SO REQUIRED BY THE CONSTRUCTION DETAILS OF THE DRAWINGS. THE CONSTRUCTION DETAILS SHALL INDICATE IF THESE MARKERS ARE REQUIRED, AND, IF SO, THE REQUIRED LOCATION AND DEPTH.

FIELD TESTING

ALL WORK CONSTRUCTED SHALL BE SUBJECT TO VISUAL INSPECTION FOR FAULTS OR DEFECTS AND ANY SUCH DEVIATION OR OMISSION SHALL BE CORRECTED AT ONCE. ALL TESTS SHALL BE MADE BY THE CONTRACTOR WHO SHALL PROVIDE NECESSARY EQUIPMENT FOR TESTING AND LAMPING THE SYSTEM IN THE PRESENCE OF, AND UNDER THE SUPERVISION AND INSTRUCTION OF THE ENGINEER. ALL COSTS FOR TESTING DEFINED BELOW SHALL BE BORNE BY THE CONTRACTOR. LAMP TESTS SHALL BE OBSERVED FIRST HAND BY THE ENGINEER. UPON COMPLETION, EACH SECTION OF SEWER LINE SHALL SHOW A FULL CIRCLE OF LIGHT WHEN LAMPED BETWEEN MANHOLES.

FOLLOWING PLACEMENT OF 1' OF TAMPED BACKFILL COVER, THE PIPE SHALL BE SIGHTED BETWEEN SUCCESSIVE MANHOLES TO INSURE PROPER GRADE AND ALIGNMENT. A FULL PIPE CIRCLE SHALL BE OBSERVED. DEFECTS NOTED SHALL BE IMMEDIATELY DUG UP AND CORRECTED AFTER WHICH BACKFILLING MAY PROCEED TO THE TOP OF THE TRENCH. THE CONTRACTOR IS REQUIRED TO MAINTAIN THIS CONDITION, ENSURING AGAINST DISPLACEMENT, FLOTATION, ETC., SO THAT FINAL INSPECTION OF COMPLETED SECTIONS WILL BE FACILITATED.

IF, IN THE OPINION OF THE ENGINEER, INFILTRATION APPEARS EXCESSIVE, THE CONTRACTOR SHALL VIDEO THE SECTIONS IN QUESTION.

FOLLOWING COMPLETION OF THE BACKFILL COVER, THE COMPLETE SEWER LINE SHALL BE TESTED UTILIZING A LOW–PRESSURE AIR TEST. ALL TEST REQUIREMENTS AND PROCEDURES SHALL BE IN STRICT ACCORDANCE WITH UNI–BELL PVC PIPE ASSOCIATION UNI–B–6–90 "RECOMMENDED PRACTICE FOR LOW–PRESSURE AIR TESTING OF INSTALLED SEWER PIPE". THE CONTRACTOR SHALL FURNISH SUITABLE TEMPORARY TESTING PLUGS OR CAPS, PRESSURE GAUGES, AIR PUMPS, ETC. AND ANY OTHER NECESSARY EQUIPMENT AND ALL LABOR REQUIRED, WITHOUT ADDITIONAL COMPENSATION. THE ENGINEER SHALL CALCULATE THE MINIMUM TIME REQUIRED FOR EACH TEST ON EACH SECTION OF LINE AND SHALL SO ADVISE THE CONTRACTOR PRIOR TO THE TEST. IF THE SECTION OF PIPE FAILS TO PASS THE TESTS, THE CONTRACTOR SHALL DO EVERYTHING NECESSARY TO LOCATE, UNCOVER (EVEN TO THE EXTENT OF UNCOVERING THE ENTIRE SECTION) AND REPAIR OR REPLACE THE DEFECTIVE PIPE FITTING, JOINT OR OTHER APPURTENANCE, AND RETEST THE REPAIRED SECTION WITHOUT ADDITIONAL COMPENSATION. UPON SATISFACTORY COMPLETION OF THE TESTS, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY TEST PLUGS OR CAPS AND OTHER EQUIPMENT AND SHALL RESTORE THE PIPE TO A CONDITION READY FOR SERVICE. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF AN AUTHORIZED REPRESENTATIVE OF THE ENGINEER.

ALL SANITARY SEWER AIR TESTING SHALL BE COMPLETED A MINIMUM OF 30 DAYS PRIOR TO THE PROJECT SUBSTANTIAL COMPLETION DATE.

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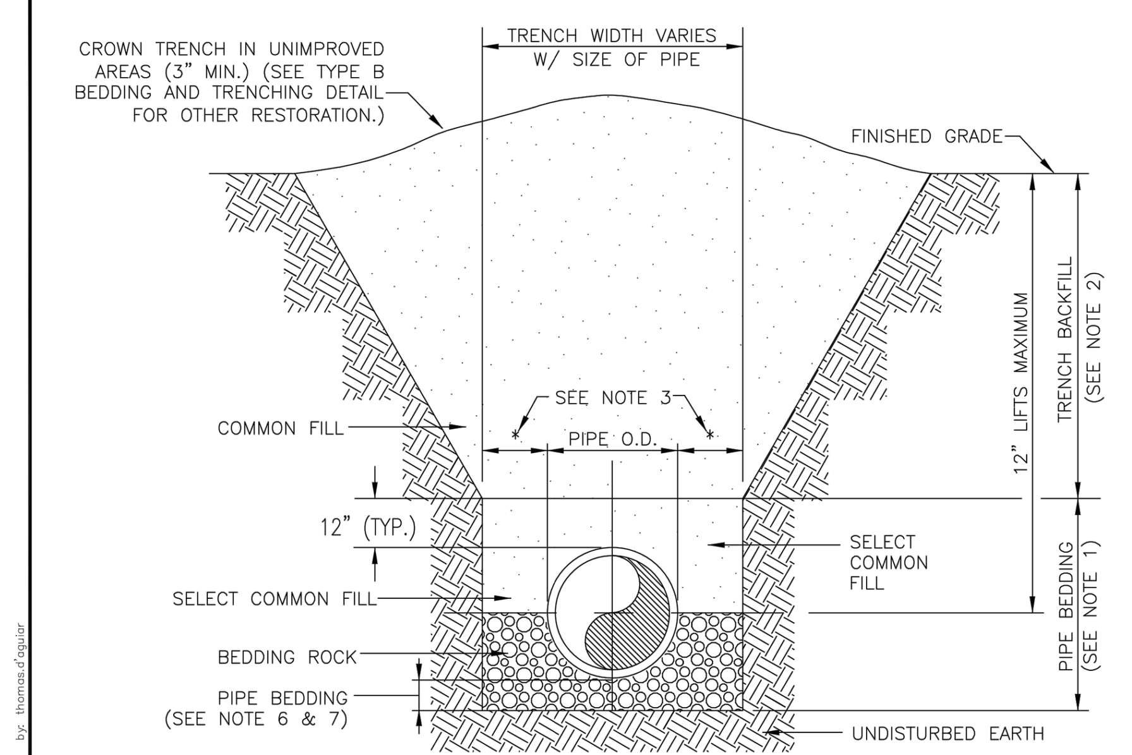

NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER ROADWAYS) OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
3. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
4. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
5. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
6. WHEN REQUIRED BY THE ENGINEER, GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15", AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
7. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. THE REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

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THE CONTRACTOR IS ADVISED THAT THE OWNER RESERVES THE RIGHT TO USE WHATEVER ADDITIONAL INSPECTION AND TESTING METHODS IT DEEMS APPROPRIATE TO VERIFY THE CONDITION AND ACCEPTABILITY OF THE WORK. THE CONTRACTOR SHALL REPAIR ALL DEFECTS IN THE WORK MADE APPARENT BY ANY AND ALL INSPECTIONS AND TESTS EVEN IF THE WORK OR PARTS OF THE WORK MAY HAVE PASSED OTHER TESTS AND INSPECTIONS. SAID REPAIRS SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE OWNER SHALL WITHHOLD FROM PAYMENT DUE THE CONTRACTOR AN AMOUNT EQUAL TO THE COST OF PROVIDING SUCH ADDITIONAL TESTS OR INSPECTIONS. IF PAYMENT DUE CONTRACTOR IS INSUFFICIENT TO COVER SAID COST, THE CONTRACTOR SHALL PAY THE DIFFERENCE TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK.

MANHOLE INSTALLATION

PRECAST CONCRETE MANHOLES SHALL HAVE EACH SECTION SET SO AS TO BE VERTICAL AND IN TRUE ALIGNMENT. JOINT SURFACES OF THE SECTIONS SHALL BE SEALED WITH PRE MOLDED PLASTIC JOINT SEALER EQUAL TO "RAMNEK", OR HAVE AN O–RING GASKET INSTALLED IN THE PREFORMED RECESS. ALL HOLES IN THE SECTIONS REQUIRED FOR HANDLING AND THE ANNULAR SPACE BETWEEN THE WALLS OF THE MANHOLE AND THE ENTERING PIPES SHALL BE THOROUGHLY PLUGGED WITH NON–SHRINKING GROUT AND SHALL BE FINISHED SMOOTH, AND SHALL BE WATER–TIGHT.

FOR GRADE ADJUSTMENT IN SETTING THE MANHOLE FRAME, PRECAST GRADE ADJUSTMENT RINGS SHALL BE USED ON TOP OF MANHOLE SLABS AND PRECAST CONCRETE MANHOLE CONES IN ACCORDANCE WITH THE DRAWINGS. PRECAST ADJUSTMENT RINGS SHALL BE CONSTRUCTED OF CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. MORTAR FOR JOINTS SHALL BE ONE PART CEMENT AND TWO PARTS SAND; LIME SHALL NOT BE USED. REINFORCEMENT SHALL BE PROVIDED AS NECESSARY TO PREVENT BREAKAGE DURING HANDLING. EACH ADJUSTMENT RING SHALL BE LAID IN A FULL BED AND JOINT OF MORTAR WITHOUT REQUIRING SUBSEQUENT GROUTING, FLUSHING, OR FILLING, AND SHALL BE THOROUGHLY BONDED AS DIRECTED.

MANHOLE FRAMES AND COVERS SHALL BE SET TO CONFORM ACCURATELY TO THE FINISHED PAVEMENT SURFACE. ALL ADJUSTMENTS REQUIRED FOR GRADE SHALL BE DONE WITH PRECAST GRADE ADJUSTMENT RINGS. TO ASSURE A SUFFICIENT BOND BETWEEN THE MANHOLE COVERS AND THE SURROUNDING ASPHALT SURFACE, THE MANHOLE COVER SHALL NOT BE SET UNTIL ALL BASE CONSTRUCTION HAS BEEN COMPLETED. THE MANHOLES SHALL BE PROTECTED DURING THE ROADWAY CONSTRUCTION BY COVERING WITH SUFFICIENT MATERIAL TO PREVENT THE ROADWAY MATERIAL FROM ENTERING THE MANHOLE AND TO SUPPORT THE CONSTRUCTION MACHINERY REQUIRED. IMMEDIATELY BEFORE THE PLACEMENT OF THE FINAL ASPHALT SURFACE COURSE, THE MANHOLE SHALL BE UNCOVERED AND THE RING AND COVER SO PLACED TO ACCURATELY MEET THE FINISH PAVEMENT GRADE. THE MANHOLE FRAME SHALL BE SET ON THIS CONCRETE SECTION IN A RING OF MORTAR AT LEAST 1" THICK AND SHAPED TO SHED WATER AWAY FROM THE FRAME. ADDITIONAL MORTAR SHALL BE ADDED TO EXTEND TO THE OUTER EDGE OF THE ADJUSTMENT RINGS AND SHALL BE FINISHED SMOOTH. THE AREA EXCAVATED IN THE IIMEROCK BASE COURSE TO ALLOW FOR ADJUSTMENT OF THE MANHOLE RING AND COVER TO GRADE SHALL BE BACKFILLED WITH LIMEROCK AND COMPACTED TO THE SAME DENSITY AS THE LIME ROCK BASE COURSE.

ALL MANHOLE COVERS SHALL BE CLEANED TO REMOVE ASPHALT AND DEBRIS, THEN PAINTED WITH BLACK RUST–INHIBITING PAINT. IF THE MANHOLE IS LOCATED IN A PAVED AREA, CLEANING AND PAINTING SHALL OCCUR AFTER THE FINAL ASPHALT SURFACE IS PLACED.

FLOW CHANNELS IN MANHOLE BASE SHALL BE FORMED OF 2500 PSI CONCRETE AND/OR BRICK RUBBLE AND MORTAR WHILE THE MANHOLES ARE UNDER CONSTRUCTION. CUT OFF PIPES AT INSIDE FACE OF THE MANHOLE AND CONSTRUCT THE INVERT TO THE SHAPE AND SIZES OF PIPE INDICATED. ALL INVERTS SHALL FOLLOW THE GRADES OF THE PIPE ENTERING THE MANHOLES. CHANGES IN DIRECTION OF THE SEWER AND ENTERING BRANCH OR BRANCHES SHALL BE LAID OUT IN SMOOTH CURVES OF THE LONGEST POSSIBLE RADIUS WHICH IS TANGENT TO THE CENTERLINES OF ADJOINING PIPELINES.

CONNECTIONS TO EXISTING STRUCTURES

WHERE SHOWN ON THE DRAWINGS STUB LINES SHALL BE PROVIDED FOR THE CONNECTION OF FUTURE SEWER LINES TO MANHOLES. THE END OF EACH STUB LINE SHALL BE PROVIDED WITH A BELL END WHICH SHALL BE CLOSED BY AN APPROVED STOPPER AS SPECIFIED HEREINBEFORE. EACH STUB LINE SHALL BE ACCURATELY REFERENCED TO THE CENTER OF THE MANHOLE, AND THE ACTUAL INVERT ELEVATION OF EACH OF THE STUB LINE SHALL BE ACCURATELY RECORDED ON THE AS–BUILT DRAWINGS.

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A FLEXIBLE PIPE TO MANHOLE CONNECTOR SHALL BE EMPLOYED IN THE CONNECTION OF THE SANITARY SEWER PIPE TO PRECAST MANHOLES. THE CONNECTOR SHALL BE THE SALE ELEMENT RELIED ON TO ASSURE A FLEXIBLE WATER–TIGHT SEAL OF THE PIPE TO THE MANHOLE. NO ADHESIVES OR LUBRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTOR INTO THE MANHOLE. THE RUBBER FOR THE CONNECTOR SHALL COMPLY WITH ASTM C443 AND ASTM C923 AND CONSIST OF EPDM AND ELASTOMERS DESIGNED TO BE RESISTANT TO OZONE, WEATHER ELEMENTS, AND CHEMICALS, INCLUDING ACIDS, ALKALIS, ANIMAL AND VEGETABLE FATS, OILS AND PETROLEUM PRODUCTS FROM SPILLS. ALL STAINLESS STEEL ELEMENT OF THE CONNECTOR SHALL BE TOTALLY NONMAGNETIC SERIES 304 STAINLESS, EXCLUDING THE WORM SCREW FOR TIGHTENING THE STEEL BAND AROUND THE PIPE WHICH SHALL BE SERIES 305 STAINLESS. THE WORM SCREW FOR TIGHTENING THE STEEL BAND SHALL BE TORQUED BY A BREAKAWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET FOR 60"/LBS. THE CONNECTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE CONNECTOR MANUFACTURER.

WHERE SHOWN ON THE DRAWINGS NEW LINES SHALL BE CONNECTED INTO EXISTING MANHOLES OR STRUCTURES. UNLESS STUBS OF CORRECT SIZE ARE FOUND TO EXIST, THE CONTRACTOR SHALL CUT SUITABLE OPENINGS INTO THE EXISTING STRUCTURE (WALL AND FLOOR SLAB AS REQUIRED) OR REMOVE THE EXISTING PIPE TO ACCOMMODATE THE PIPELINES AS INDICATED ON THE DRAWINGS AND AS HEREIN SPECIFIED. THE PORTION OF EACH EXISTING STRUCTURE REMOVED FOR NEW INSTALLATION SHALL BE CONFINED TO THE SMALLEST OPENING POSSIBLE, CONSISTENT WITH THE WORK TO BE DONE.

AFTER THE PIPE IS INSTALLED, CONTRACTOR SHALL CAREFULLY CLOSE UP THE OPENINGS AROUND THE PIPE TO MAKE A WATER–TIGHT JOINT USING "CONSTRUCTION GROUT" OR "SET GROUT" AS MANUFACTURED BY MASTER BUILDERS, INC., "NS GROUT" AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR APPROVED EQUAL, AND REPAIR THE EXISTING MANHOLE INVERT IN A MANNER SATISFACTORY TO THE ENGINEER. THE FLOOR SHALL BE REFORMED AND FINISHED TO PROVIDE FLOW CHANNELS AS SPECIFIED FOR NEW MANHOLES. ALL SUCH WORK SHALL BE DONE WITH THE PROPER TOOLS, AND BY CAREFUL WORKMEN COMPETENT TO DO SUCH WORK.

ADJUSTING EXISTING STRUCTURES

EXISTING MANHOLES, WITHIN THE LIMITS OF THE PROPOSED WORK, THAT DO NOT CONFORM TO THE FINISHED GRADE DESIGNATED ON THE DRAWINGS FOR SUCH STRUCTURES, SHALL BE CUT DOWN OR EXTENDED, AND MADE TO CONFORM TO THE GRADE OF THE NEW PAVEMENT, OR TO THE DESIGNATED GRADE OF THE STRUCTURE IF OUTSIDE OF THE PROPOSED PAVEMENT AREA. THE MATERIALS AND CONSTRUCTION METHODS FOR THIS WORK SHALL CONFORM TO THE REQUIREMENTS SPECIFIED ABOVE.

MISCELLANEOUS CONCRETE IN SEWER TRENCH

WHERE DIRECTED BY THE ENGINEER AND WHERE THE DEPTH OF PIPE TRENCH IS 10' AND OVER, CONCRETE ENCASEMENT SHALL ALSO BE PLACED AROUND SERVICE WYES TO THE DIMENSIONS SHOWN ON THE DRAWINGS.

PAVEMENT REPLACEMENT

WHERE EXISTING PAVEMENT, CURB, CURB AND GUTTER, SIDEWALK OR DRIVEWAY PAVING IS REMOVED ONLY FOR THE PURPOSE OF CONSTRUCTING, REPLACING, OR REMOVING SEWER PIPE, SERVICE LATERALS, MANHOLES, ETC., SUCH PAVEMENT, ETC., SHALL BE REPLACED AND RESTORED TO AS GOOD CONDITION, AS DETERMINED BY THE ENGINEER AS BEFORE REMOVAL. THE REPLACED PAVEMENT SHALL BE OF THE SAME OR SIMILAR TYPE AS THAT REMOVED, EXCEPT WHERE PERMISSION IS GIVEN BY THE ENGINEER FOR THE USE OF ANOTHER TYPE. ROUGH CUTS FOR PAVEMENT CURB AND GUTTER, SIDEWALK, DRIVEWAYS, ETC. SHALL BE TRIMMED BACK WITH A STRAIGHT SAW CUT IN A MANNER SO AS TO PRODUCE AS NEAR AS PRACTICAL A CUT OF UNIFORM WIDTH HAVING PARALLEL SIDES. SPECIFIC REQUIREMENTS FOR THE REPLACEMENT OF PAVEMENT ON PUBLIC ROADWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL GOVERNMENTAL ENTITY HAVING JURISDICTION AND IN ACCORDANCE WITH THE DETAILS AS SHOWN ON THE CONSTRUCTION DRAWINGS.

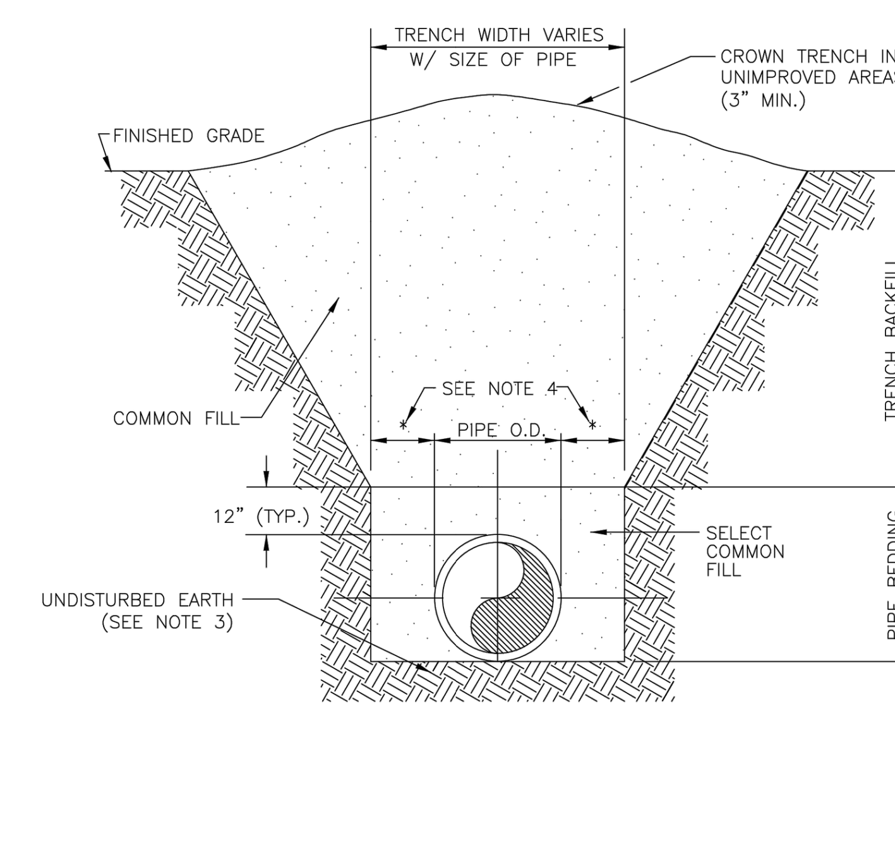
CLEARANCE REQUIREMENTS

MINIMUM SEPARATION REQUIREMENTS ARE SPECIFIED UNDER POTABLE WATER.

GENERAL DESIGN

1. MANHOLES SHALL BE LOCATED IN THE CENTERLINE OR "CROWN" OF THE STREET TO MINIMIZE INFILTRATION.
2. MANHOLE PIPING SHALL MATCH CROWN TO CROWN. INVERTS OVER 2 FEET FROM THE BOTTOM OF MANHOLES SHALL REQUIRE AN EXTERNAL DROP CONNECTION.
3. SANITARY LATERALS SHALL BE INSTALLED AT 90 DEGREES WITH THE RIGHT–OF–WAY TO THE GREATEST EXTENT POSSIBLE.
4. UNLESS OTHERWISE APPROVED, NO LATERALS SHALL CONNECT DIRECTLY TO A MANHOLE.
5. ALL MANHOLES SHALL BE WATER TIGHT WITH A COLD TAR EXTERIOR COATING.

CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330–1330 | SCALE: NONE | LATEST REVISION: 06–19–17 | CITY OF WILDWOOD SEWER DETAIL | WASTEWATER COLLECTION SPECIFICATIONS | DETAIL NUMBER: S-01, 5 OF 5



NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER ROADWAYS) OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. FINAL RESTORATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES.

CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330–1330 | SCALE: NONE | LATEST REVISION: 11–10–14 | CITY OF WILDWOOD WATER DETAIL | TYPE B BEDDING AND TRENCHING DETAIL | DETAIL NUMBER: W-04, 1 OF 1

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62–555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN; 3 FT. MINIMUM	WATER MAIN; 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM	ALTERNATE 3 FT. MINIMUM; WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN; 10 FT. PREFERRED; 3 FT. MINIMUM	WATER MAIN; 12 INCHES PREFERRED; 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM; WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN; 10 FT. PREFERRED; 6 FT. MINIMUM (3)	WATER MAIN; 12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 6 FT. MINIMUM; WATER MAIN
ON–SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM		

NOTES

1. WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
2. RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62–610, F.A.C.
3. 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
4. RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62–610, F.A.C.

CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330–1330 | SCALE: NONE | LATEST REVISION: 11–10–14 | CITY OF WILDWOOD WATER DETAIL | SEPARATION OF WATER MAINS | DETAIL NUMBER: W-05, 1 OF 1

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LICENSED PROFESSIONAL
JAMES E. CLAYTON
FLORIDA LICENSE NUMBER 90813
DATE: ____

KHA PROJECT 142173504 | DATE OCTOBER 2023 | SCALE AS SHOWN | DESIGNED BY PHS | DRAWN BY RDC | CHECKED BY JEC

UTILITY DETAILS

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER 09

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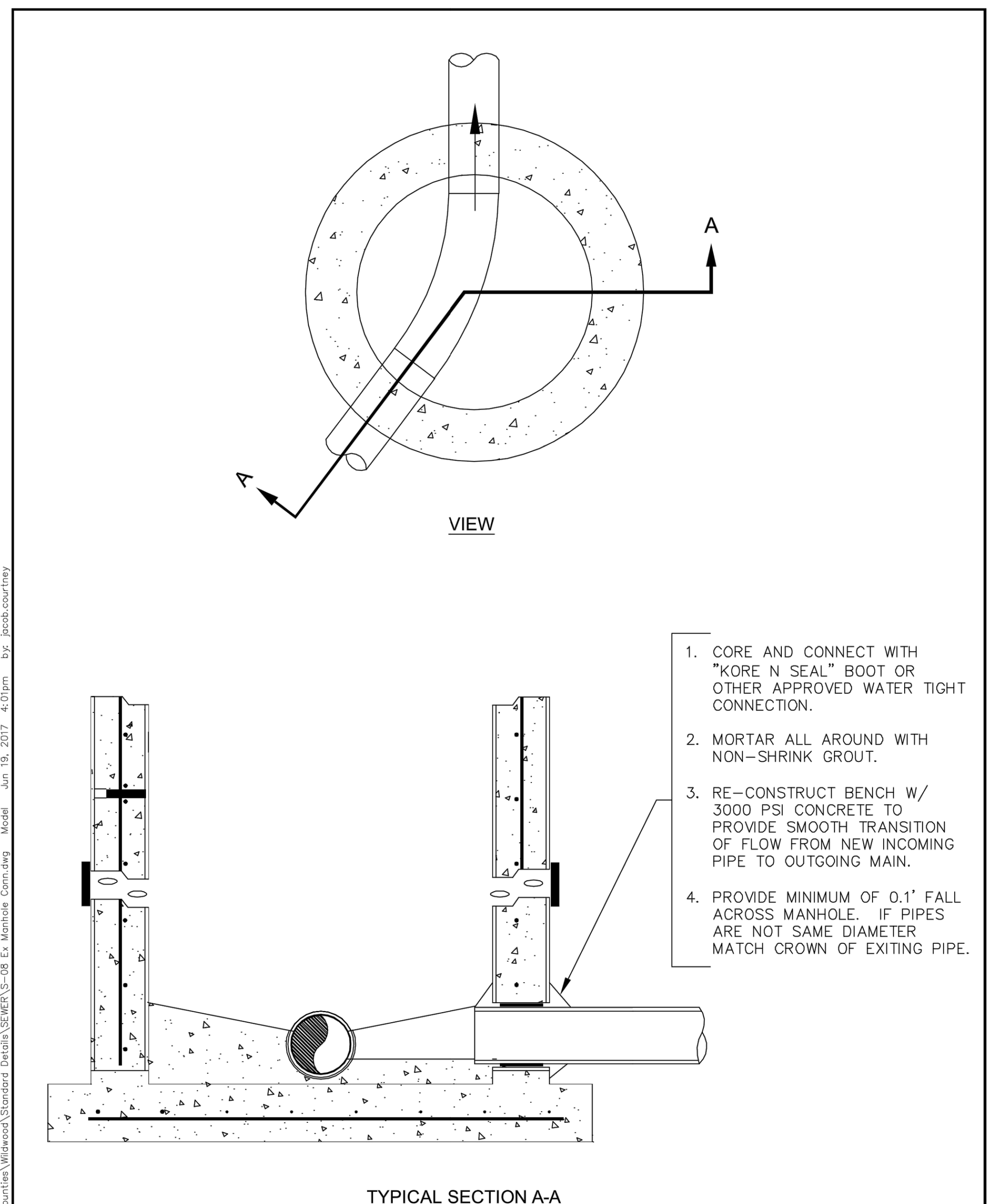
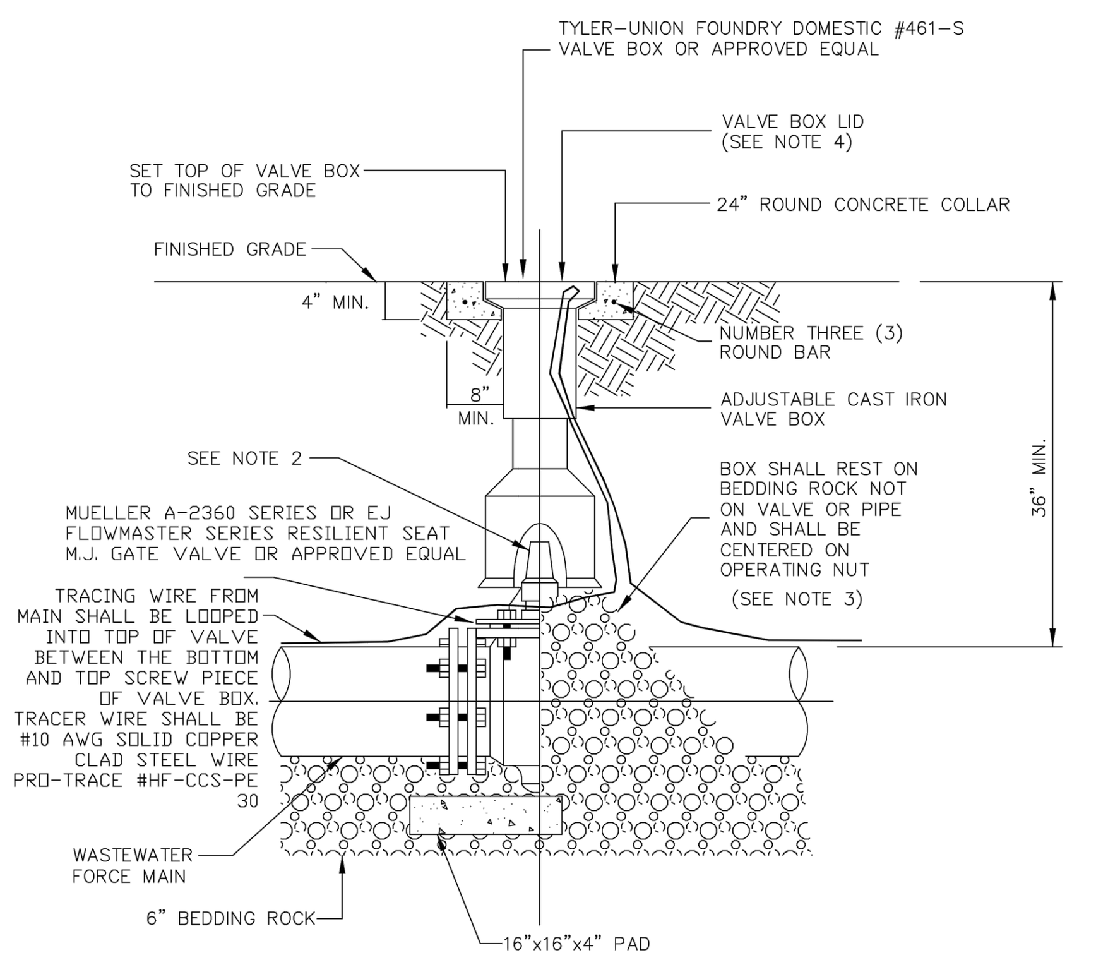


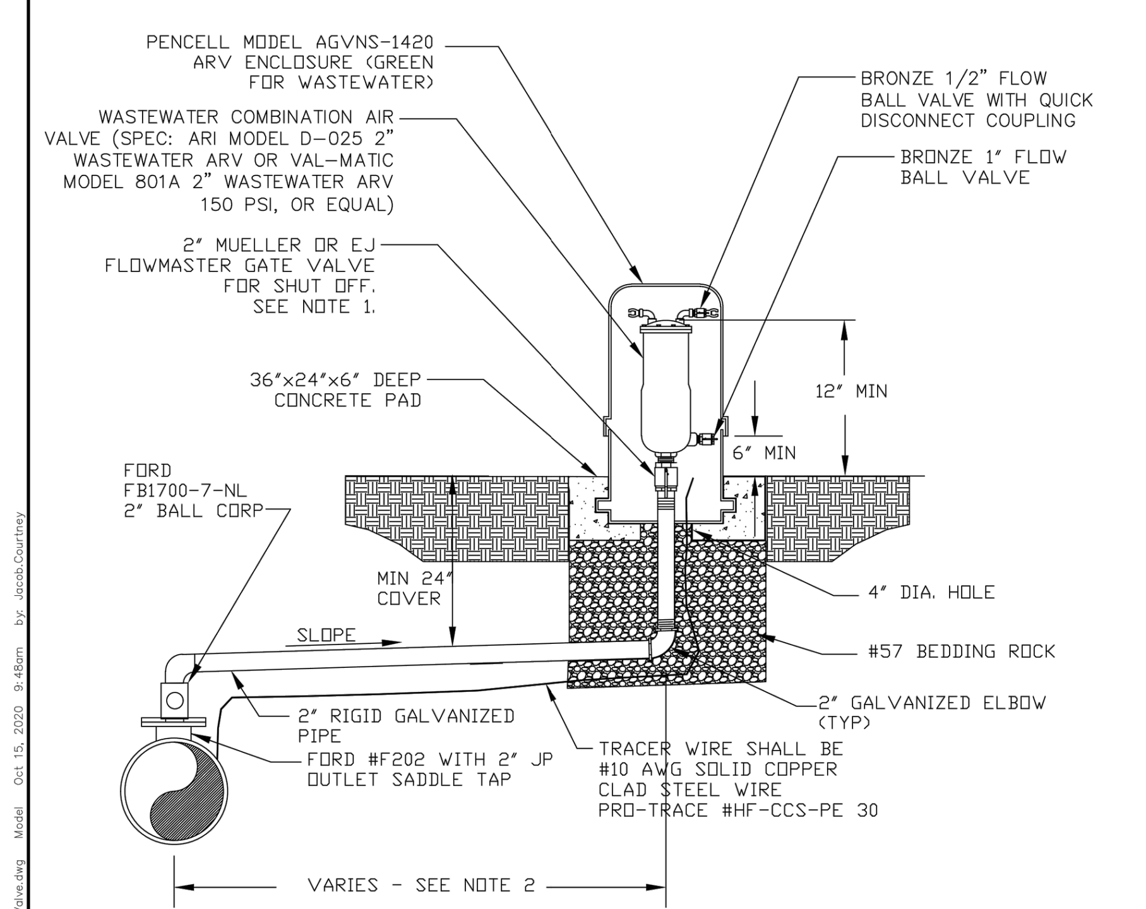
CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE LATEST REVISION 11-10-14	CITY OF WILDWOOD SEWER DETAIL CONNECTION TO EXISTING MANHOLE	DETAIL NUMBER S-08 1 OF 1



NOTES

1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.
3. WHEN VALVE BOX IS TO BE INSTALLED IN ROADWAY OR OTHER TRAFFIC AREAS SET VALVE BOX ON FIVE (5) SOLID BRICKS.
4. VALVE BOX LID TO BE LETTERED WITH THE WORD "SEWER".

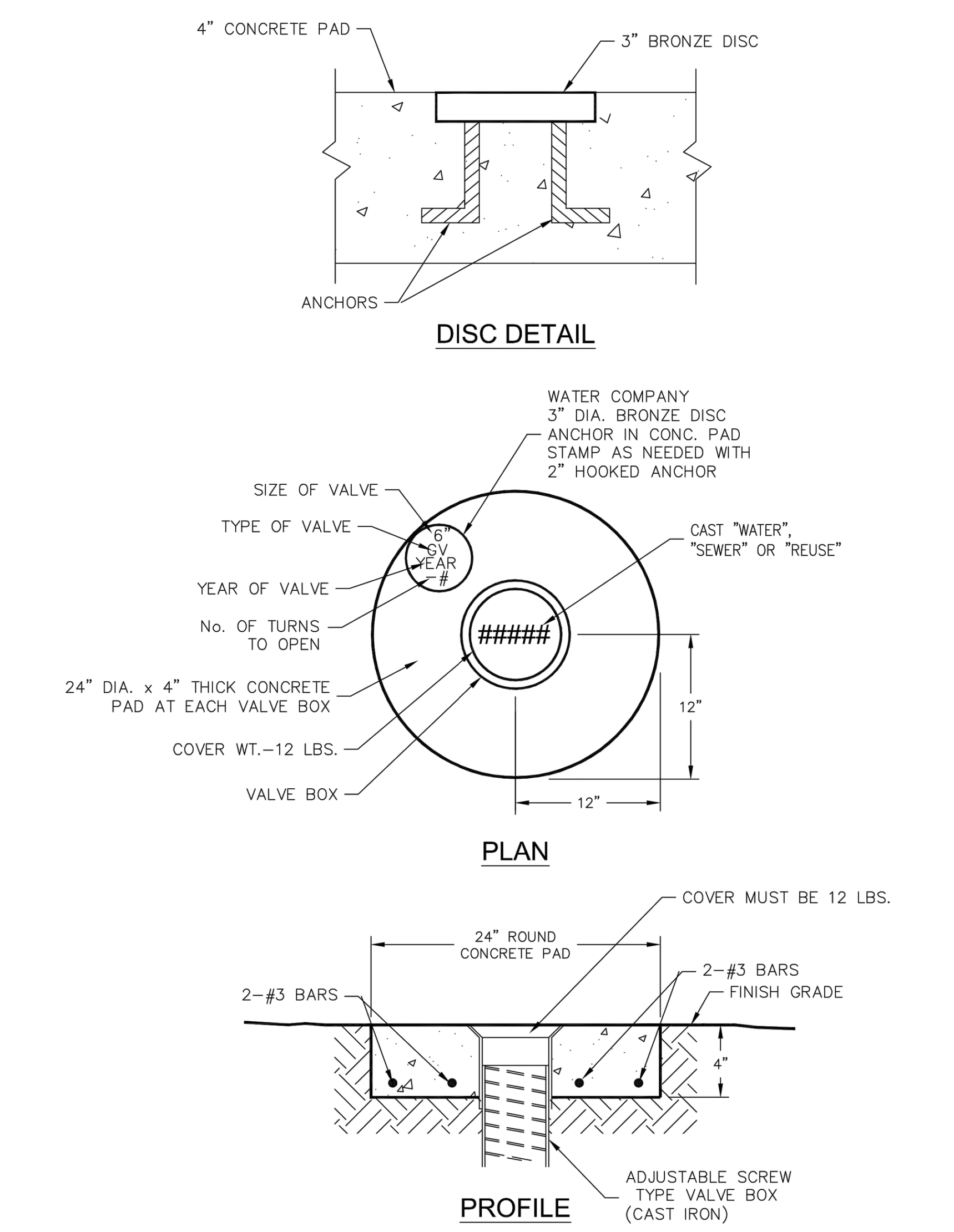
CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE LATEST REVISION 06-02-20	CITY OF WILDWOOD SEWER DETAIL GATE VALVE AND BOX DETAIL	DETAIL NUMBER S-12 1 OF 1



NOTES:

1. FOR WASTEWATER USE ONLY.
2. OFFSET DISTANCE TO BE FIELD DETERMINED AND AS CLOSE TO THE RIGHT OF WAY AS POSSIBLE.
3. ADJUST HORIZONTAL POSITION OF SIDEWALK, AS REQUIRED TO AVOID ARV ENCLOSURE.
4. LOCATE ARV ENCLOSURE WITHIN 6' OF RIGHT OF WAY.

CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE LATEST REVISION 06-02-20	CITY OF WILDWOOD WASTEWATER DETAIL 2" AUTOMATIC COMBINATION AIR VALVE	DETAIL NUMBER S-13A 1 OF 1



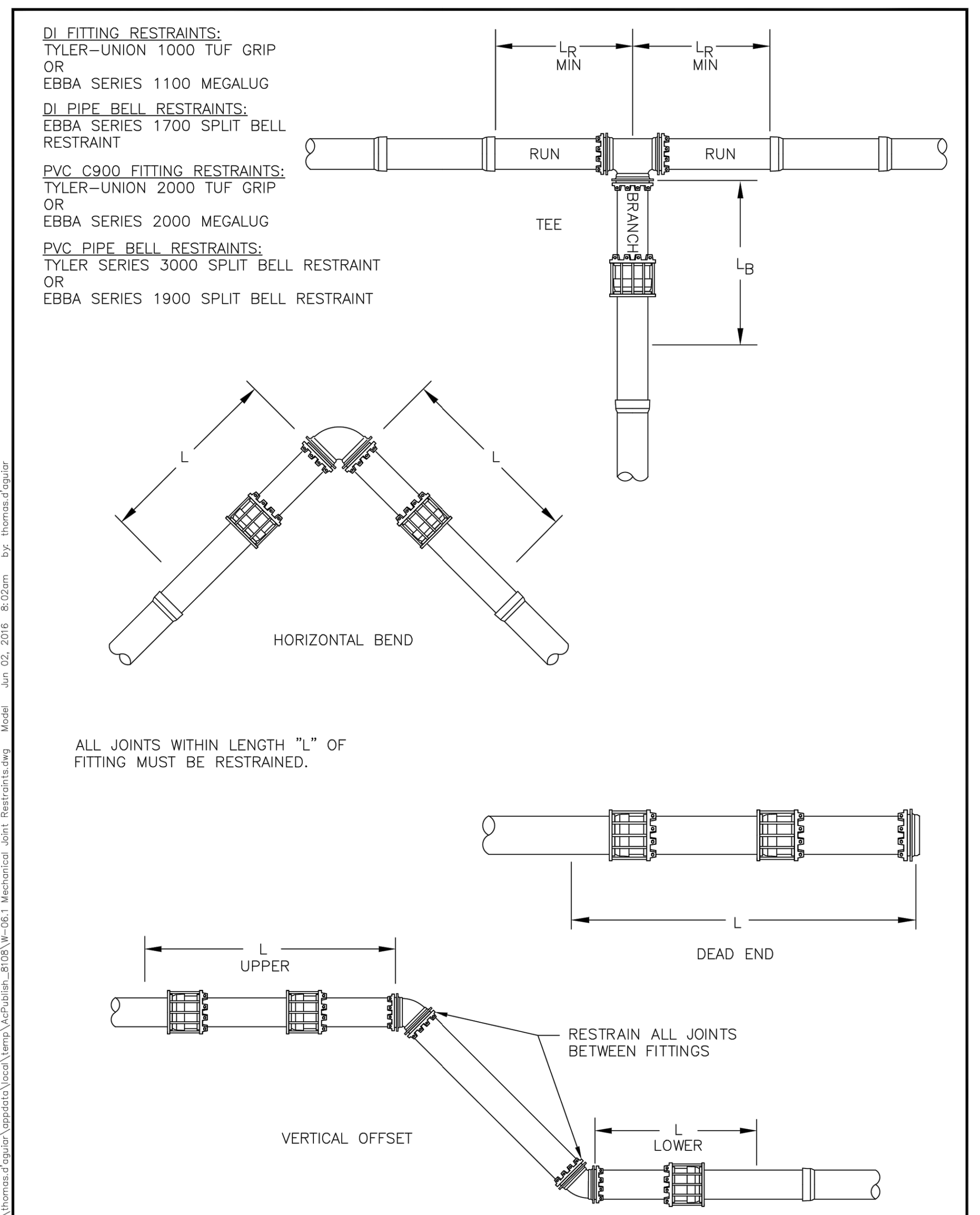
CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE LATEST REVISION 11-10-14	CITY OF WILDWOOD WATER DETAIL CONCRETE VALVE PAD	DETAIL NUMBER W-13 1 OF 1

DI FITTING RESTRAINTS:
TYLER-UNION 1000 TUF GRIP
OR
EBBA SERIES 1100 MEGALUG

DI PIPE BELL RESTRAINTS:
EBBA SERIES 1700 SPLIT BELL RESTRAINT

PVC C900 FITTING RESTRAINTS:
TYLER-UNION 2000 TUF GRIP
OR
EBBA SERIES 2000 MEGALUG

PVC PIPE BELL RESTRAINTS:
TYLER SERIES 3000 SPLIT BELL RESTRAINT
OR
EBBA SERIES 1900 SPLIT BELL RESTRAINT



CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE LATEST REVISION 11-10-14	CITY OF WILDWOOD WATER DETAIL MECHANICAL JOINT RESTRAINTS	DETAIL NUMBER W-06 1 OF 2

MINIMUM LENGTH OF PIPE "L" (FEET) TO BE RESTRAINED

(SOURCES: EBBA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE								
		4"	6"	8"	10"	12"	14"	16"	20"	24"
90° HORIZ. BEND		17	24	31	37	43	49	55	66	76
45° HORIZ. BEND		7	10	13	15	18	20	23	28	32
22.5° HORIZ. BEND		3	5	6	7	9	10	11	13	15
11.25° HORIZ. BEND		2	2	3	4	5	5	6	7	8
45° VERT. OFFSET	UPPER BEND	16	22	29	34	41	46	52	64	74
	LOWER BEND	7	10	13	15	18	20	23	28	32
22.5° VERT. OFFSET	UPPER BEND	7	12	15	17	20	22	25	31	36
	LOWER BEND	3	5	6	7	9	10	11	13	15
11.25° VERT. OFFSET	UPPER BEND	4	5	7	8	11	12	14	16	18
	LOWER BEND	2	2	3	4	4	5	7	7	8
PLUG (DEAD END)		38	53	69	83	98	112	129	153	179
VALVE		38	53	69	83	98	112	129	153	179
TEE (BRANCH REST.)	4"X *	19	–	–	–	–	–	–	–	–
	6"X *	10	35	–	–	–	–	–	–	–
	8"X *	1	28	51	–	–	–	–	–	–
	10"X *	1	28	46	64	–	–	–	–	–
	12"X *	1	15	40	60	79	–	–	–	–
	14"X *	1	8	35	56	75	92	–	–	–
	16"X *	1	1	29	51	71	90	106	–	–
	20"X *	1	1	18	42	64	85	101	133	–
	24"X *	1	1	5	32	55	77	95	128	158
REDUCER (LARGER PIPE RESTRAINT)	6"X *	27	–	–	–	–	–	–	–	–
	8"X *	50	29	–	–	–	–	–	–	–
	10"X *	68	51	28	–	–	–	–	–	–
	12"X *	85	71	52	48	–	–	–	–	–
	14"X *	101	89	73	69	29	–	–	–	–
	16"X *	117	106	92	89	54	29	–	–	–
	20"X *	146	138	126	113	96	77	54	–	–
	24"X *	173	166	157	146	132	98	77	54	–

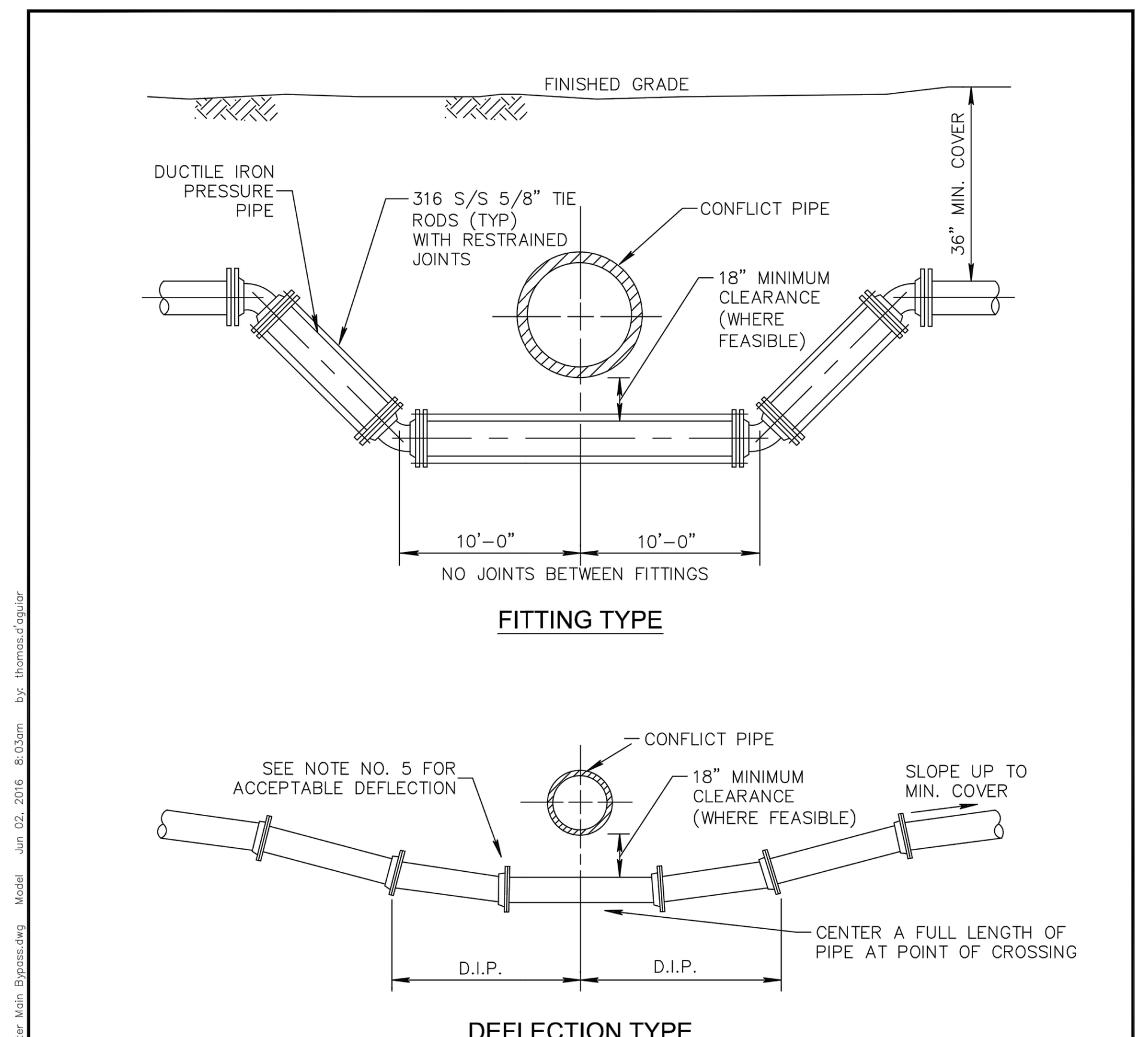
NOTES:

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:

   SOIL TYPE – SP; TRENCH TYPE – 3; TEST PRESSURE – 150 PSI
   SAFETY FACTOR – 1.5; DEPTH OF BURY – 3'; VERTICAL OFFSET – 3'

2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS FOR VALVES APPLY TO PIPE ON BOTH SIDES OF VALVES.
5. THIS TABLE IS FOR SP SOILS. THE ENGINEER IS TO BE NOTIFIED IF OTHER TYPE SOILS ARE ENCOUNTERED.
6. ALL PIPES SHALL BE RESTRAINED PER THE LENGTHS AS CALLED FOR IN THE ABOVE REFERENCED TABLE. THE COSTS FOR THESE RESTRAINED JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE.
7. ANY CALL OUTS AS NOTED ON THE PLANS FOR "TUF GRIP" RESTRAINTS OR "MEGALUGS" ARE IN ADDITION TO THOSE AS NOTED AND CALLED FOR IN THE ABOVE TABLE.

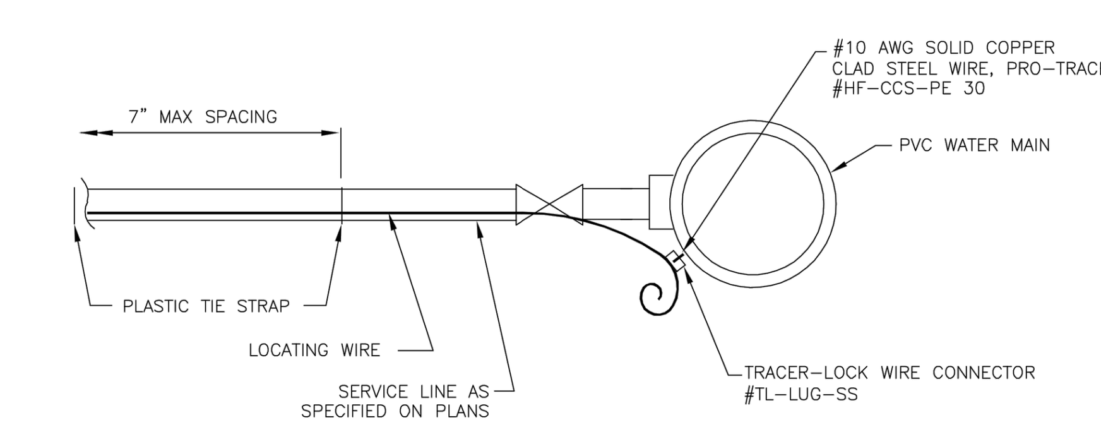
CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE LATEST REVISION 10-24-18	CITY OF WILDWOOD WATER DETAIL MECHANICAL JOINT RESTRAINTS	DETAIL NUMBER W-06 2 OF 2



NOTES

1. THERE SHALL BE IN ALL CASES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN WATER MAINS AND FORCE MAINS.
2. WHEREVER POSSIBLE WATER MAINS SHALL PASS OVER FORCE MAINS OR STORM SEWERS.
3. FITTINGS SHALL BE RESTRAINED WITH TUF GRIP OR MEGALUG RESTRAINTS
4. THE DEFLECTION TYPE CROSSING IS PREFERRED.
5. DO NOT EXCEED 75% OF MANUFACTURERS RECOMMENDED MAXIMUM JOINT DEFLECTION.
6. REFER TO TYPICAL RESTRAINING DETAIL W-06

CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE LATEST REVISION 11-13-14	CITY OF WILDWOOD WATER DETAIL WATER/ SEWER PIPE CONFLICT DETAIL	DETAIL NUMBER W-07 1 OF 1



CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE LATEST REVISION 09-12-19	CITY OF WILDWOOD WATER DETAIL LOCATING WIRE DETAIL	DETAIL NUMBER W-15 1 OF 1

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LICENSED PROFESSIONAL
JAMES E. CLAYTON
FLORIDA LICENSE NUMBER 90813
DATE:

KHA PROJECT 142173504
DATE OCTOBER 2023
SCALE AS SHOWN
DESIGNED BY PHS
DRAWN BY RDC
CHECKED BY JEC

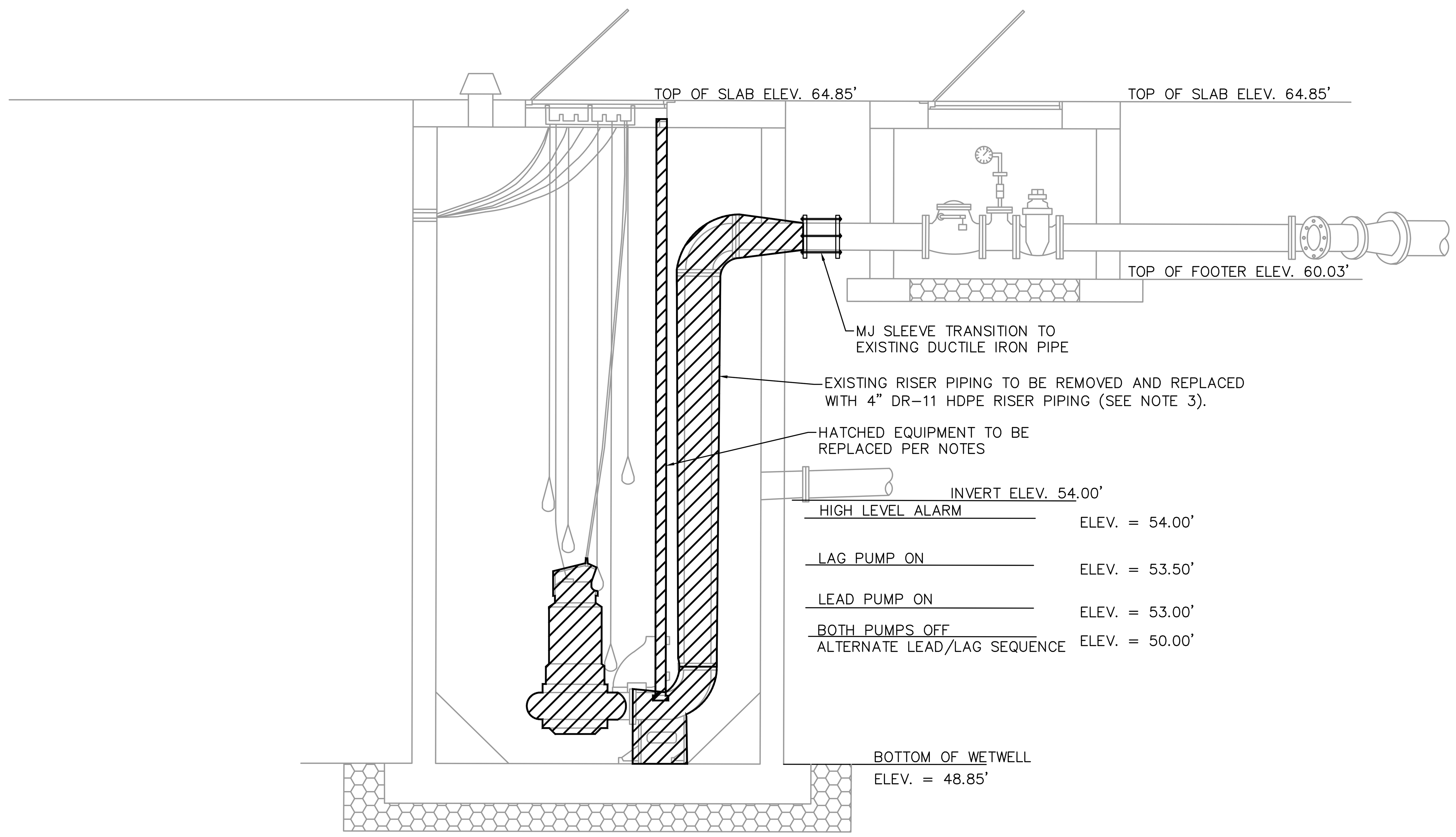
UTILITY DETAILS

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER
10

LIFT STATION NOTES:

1. PROPOSED LIFT STATION PUMPS PER PUMP SPECIFICATIONS (SEE SHEET 12). PUMP SHALL BE MANUFACTURED BY FLYGT. ONE OF THE PUMPS SHALL BE PROVIDED WITH A MIXED FLUSH VALVE.
2. FLOATS AND LEVEL TRANSDUCER TO REMAIN.
3. CONTRACTOR TO REPLACE EXISTING DUCTILE IRON RISER PIPING WITH 4" HDPE (DR-11) PIPING. TRANSITION TO EXISTING DUCTILE IRON PIPING OUTSIDE OF THE WETWELL WITH HDPE TO DUCTILE IRON MJ SLEEVE. HDPE FUSION BUTT WELDED MJ ADAPTER TO BE UTILIZED. SUPPORT RISER MINIMUM EVERY 5' WITH STAINLESS STEEL BRACKET TO WETWELL VAULT.
4. ALL EXISTING EXPOSED DUCTILE IRON PIPE (INCLUDING IN VALVE FAULTS), FITTINGS, AND VALVES SHALL BE SAND BLASTED AND COATED PER SPECIFICATION 09900.
5. ALL HARDWARE SHALL BE 316 STAINLESS STEEL.
6. INTERIOR WALLS OF THE WET WELL SHALL BE COATED WITH RAVEN 405 PER MANUFACTURERS INSTRUCTIONS OR APPROVED EQUAL.
7. CONTRACTOR TO REMOVE EXISTING HATCH AND REPLACE WITH 54" X 36" HATCH BY HALLIDAY WITH PROTECTIVE SAFETY GRATING.



REHAB SECTION

No.	REVISIONS	DATE	BY
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Kimley»Horn
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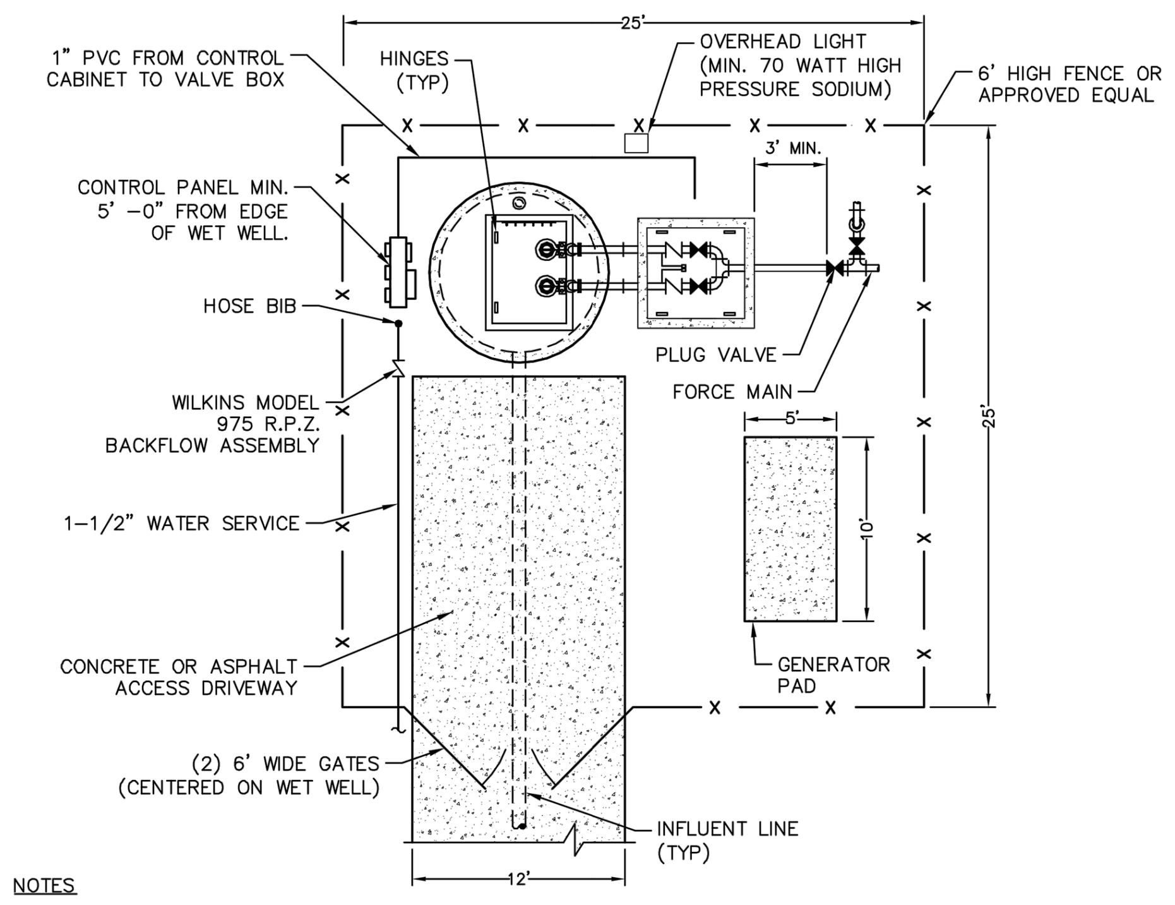
11



NOTES

ENGINEER TO DESIGN SITE PLAN USING THE ABOVE EXAMPLE. DESIGN CRITERIA "SITE PLAN LOCATION" DETAIL SHALL BE DRAWN TO SCALE WITH:

1. NORTH ARROW.
2. FENCE WITH 2-6' WIDE GATES.
3. INFLUENT LINE ENTRY LOCATION.
4. HINGE LOCATION.
5 SHOW POWER SERVICE FEED.
6. 5' -0" FROM CONTROL PANEL TO EDGE OF WET WELL.
7. EMERGENCY PUMP OUT LOCATION SHALL BE OUTSIDE OF THE VALVE BOX (SHALL BE SAME SIZE AS PUMP DISCHARGE).
8. DESIGN TO BE COORDINATED WITH DETAIL SHEET.
9. FENCED AREA TO BE COVERED WITH WEED BLOCK FABRIC AND A MINIMUM OF 3" OF 3/4" TO 1-1/4" COURSE AGGRIGATE.
10. INFLUENT MAIN SHALL BE CLEAR OF PANEL AND VAULT.
11. MIN. LOT SIZE TO BE 25' x 25'.

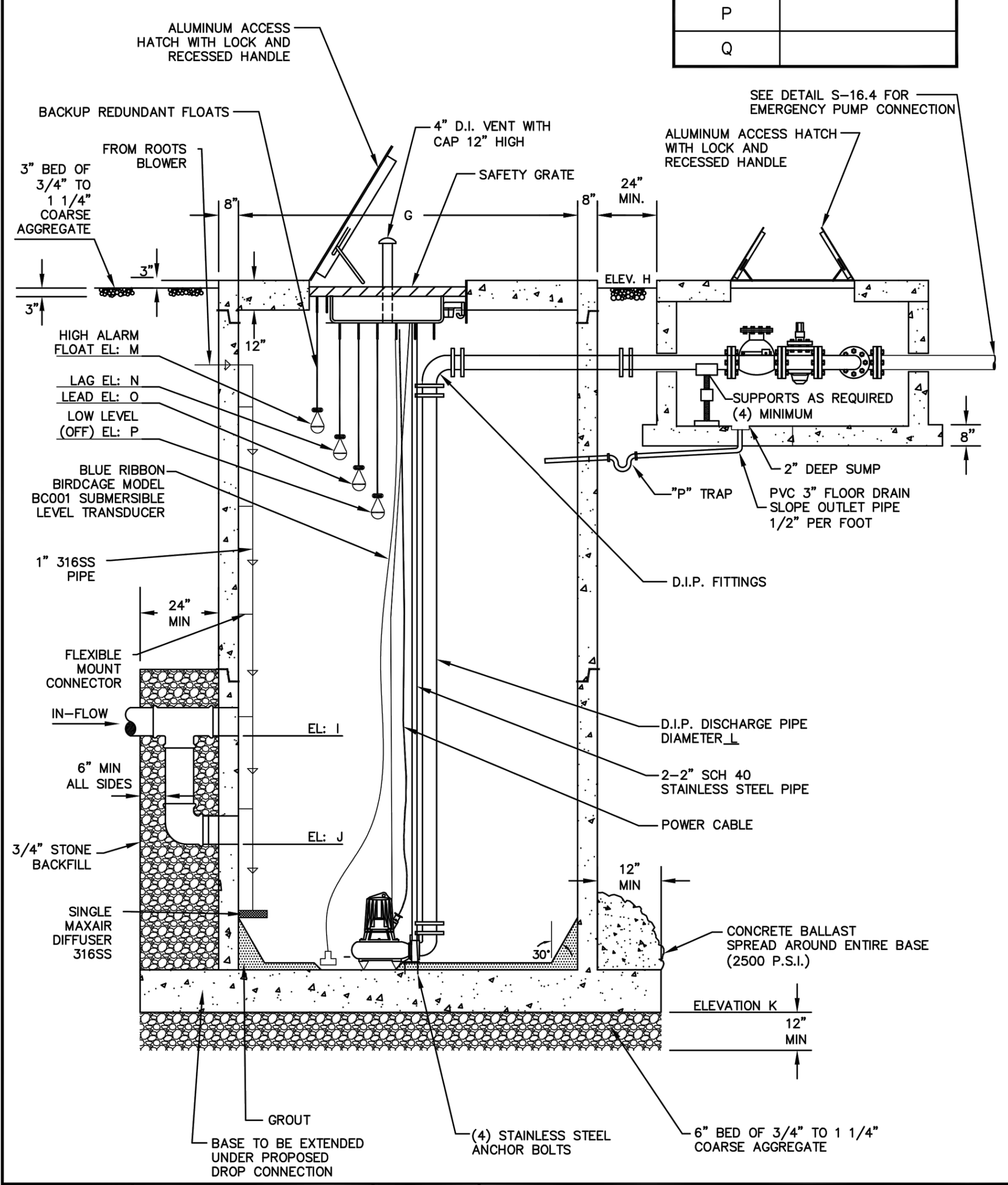
CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330-1330 | SCALE: NONE | LATEST REVISION: 07-18-17 | CITY OF WILDWOOD SEWER DETAIL | TYPICAL LIFT STATION LAYOUT DETAIL | DETAIL NUMBER: S-16, 1 OF 8

LIFT STATION DATA

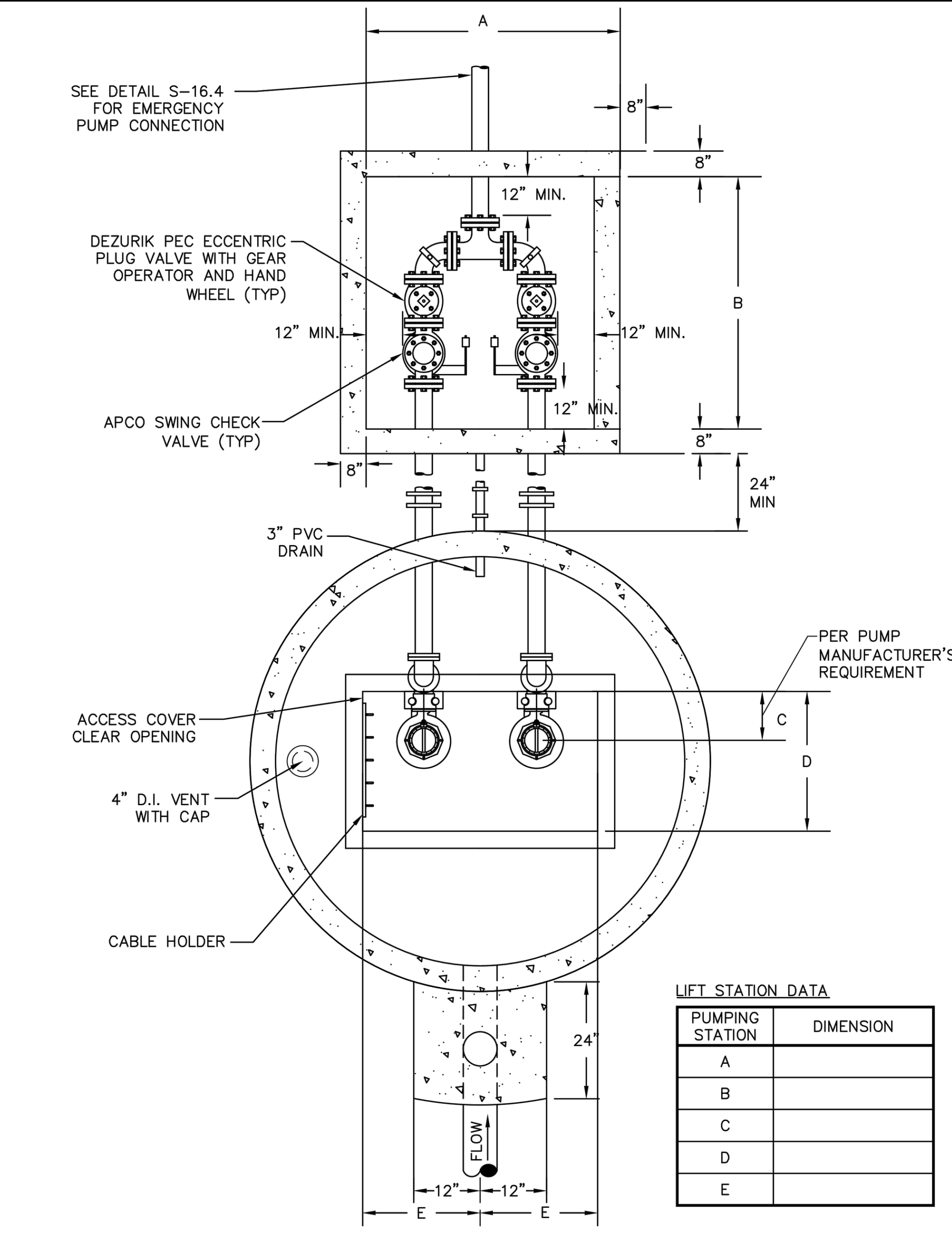
PUMPING STATION	DIMENSION/ ELEVATION
G	
H	
I	

PUMPING STATION	DIMENSION/ ELEVATION
J	
K	
L	

PUMPING STATION	DIMENSION/ ELEVATION
M	
N	
O	
P	
Q	



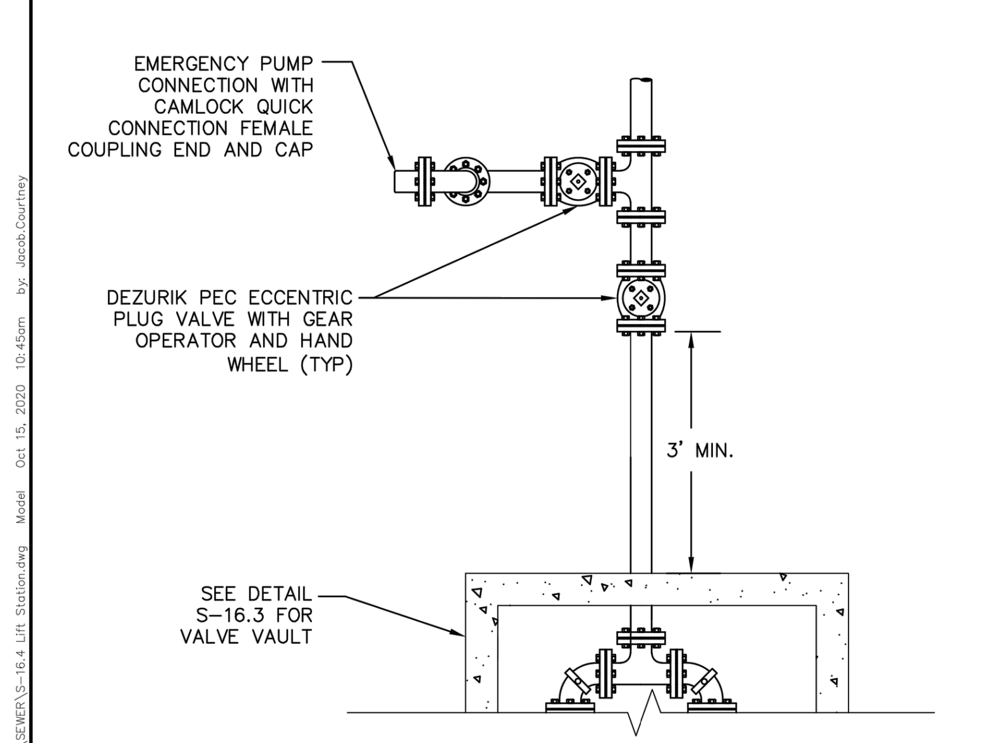
CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330-1330 | SCALE: NONE | LATEST REVISION: 01-12-21 | CITY OF WILDWOOD SEWER DETAIL | LIFT STATION SECTION VIEW | DETAIL NUMBER: S-16, 2 OF 8



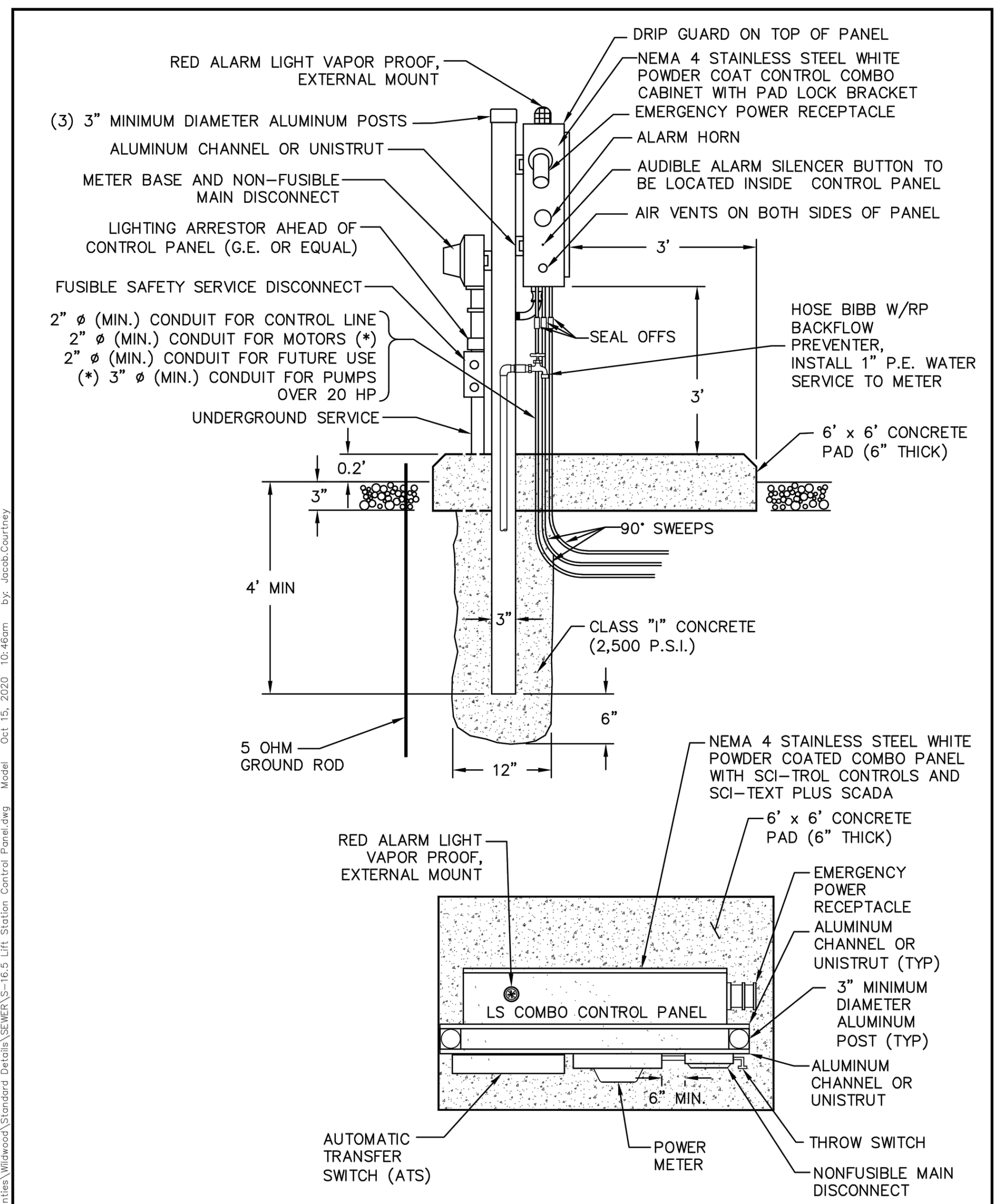
LIFT STATION DATA

PUMPING STATION	DIMENSION
A	
B	
C	
D	
E	

CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330-1330 | SCALE: NONE | LATEST REVISION: 06-20-17 | CITY OF WILDWOOD SEWER DETAIL | LIFT STATION PLAN VIEW | DETAIL NUMBER: S-16, 3 OF 8

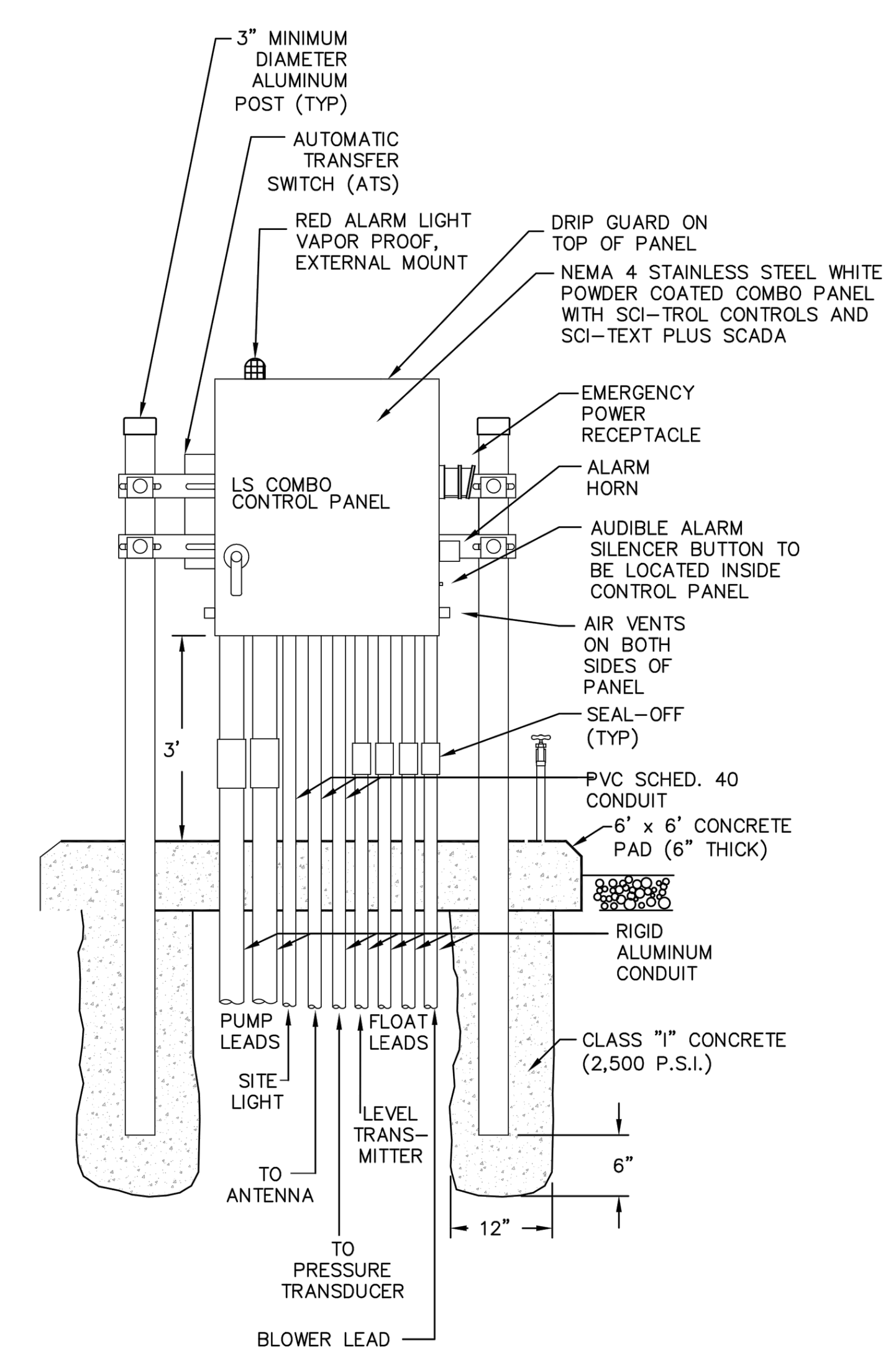


CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330-1330 | SCALE: NONE | LATEST REVISION: 06-20-17 | CITY OF WILDWOOD SEWER DETAIL | LIFT STATION PUMP OUT PLAN VIEW | DETAIL NUMBER: S-16, 4 OF 8



NOTES:
1. FOR SITES REQUIRING TOWER HEIGHTS GREATER THAN 20 FEET. SEE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330-1330 | SCALE: NONE | LATEST REVISION: 06-02-20 | CITY OF WILDWOOD SEWER DETAIL | LIFT STATION CONTROL PANEL | DETAIL NUMBER: S-16, 5 OF 8



NOTES:
1. FOR SITES REQUIRING TOWER HEIGHTS GREATER THAN 20 FEET. SEE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330-1330 | SCALE: NONE | LATEST REVISION: 01-12-21 | CITY OF WILDWOOD SEWER DETAIL | LIFT STATION CONTROL PANEL | DETAIL NUMBER: S-16, 6 OF 8

GENERAL NOTES

1. ALL EXPOSED METAL SHALL BE PAINTED WITH 2 COATS OF COAL TAR EPOXY.
2. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
3. VALVE VAULT SHALL BE SIZED BY MANUFACTURER AND SHALL PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES WITH MINIMUM CLEARANCES AS SHOWN FOR 8" DIAMETER PIPE AND SMALLER. MINIMUM CLEARANCE IS 12".
4. VALVE VAULT AND FLOW METER VAULT SHALL HAVE SEALED FLOOR AND DRAIN.
5. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON-SHRINK GROUT.
6. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.
7. WET WELL, VALVE VAULT, AND FLOW METER VAULT ACCESS HATCH SHALL BE ALUMINUM WITH 316 SS HARDWARE AND LOCK HASP; BY US FOUNDRY, HALLIDAY, OR APPROVED EQUAL.
8. WET WELL ACCESS HATCH SHALL BE EQUIPPED W/ OPT-GRATE AS MANUFACTURED BY HALLIDAY PRODUCTS OR EQUAL.
9. FLEXIBLE COUPLING SHALL BE SLEEVE TYPE.
10. ALL HARDWARE IN WET WELL AND VALVE VAULT TO BE STAINLESS STEEL.
11. LIFT STATION CONTROL PANEL WILL BE CONSTRUCTED UTILIZING SCI-TROL CONTROLS AND SCI-TEXT PLUS SCADA TELEMETRY SYSTEM AND SHALL BE CONSTRUCTED TO CONNECT TO EXISTING CITY OF WILDWOOD SYSTEM.
12. ALL INTERIOR WALLS OF THE WET WELL SHALL BE CONSTRUCTED WITH "AGRU SURE GRIP" HDPE OR APPROVED EQUAL.
13. ALL INTERIOR WALLS OF THE VALVE VAULT SHALL BE COATED WITH A MINIMUM OF TWO (2) COATS OF COAL TAR, (9 MILS. EA.).
14. WET WELL AND VALVE VAULT SHALL BE COATED WITH COAL TAR OUTSIDE. (2 COATS, 9 MILS EACH)
15. PUMPS SHALL BE FLYGT. ONE PUMP SHALL BE INSTALLED WITH A "FLYGT MIX-FLUSH" VALVE.
16. WET WELL LIQUID LEVEL CONTROLS SHALL BE "BLUE RIBBON BIRDCAGE MODEL BC001" LEVEL TRANSDUCER WITH BACK-UP REDUNDANT FLOATS
17. FENCE AROUND VALVE VAULT AND WET WELL, MINIMUM 25'x25' (CHAIN LINK OR APPROVED EQUAL).
18. 2"x6" PRESSURE TREATED WOOD AROUND OUTSIDE 1 FOOT BEYOND FENCE AND ROCK.
19. PROVIDE GROUNDING GRID AROUND PERIMETER OF STATION.
20. ALL PANELS TO BE NEMA 4X STAINLESS STEEL. PANEL TO INCLUDE CT'S FOR AMPERAGE MONITORING.
21. EMERGENCY PUMPING CAPABILITY SHALL BE PROVIDED FOR ALL PUMP STATIONS.
22. IF REQUIRED, LIFT STATIONS SHALL BE EQUIPPED WITH STANDBY POWER GENERATOR MANUFACTURED BY CATERPILLAR, KOHLER, ONEN, OR APPROVED EQUAL.
    A. AN AUTOMATIC TRANSFER SWITCH SHALL BE INSTALLED BETWEEN THE GENERATOR AND THE ELECTRIC PANEL.
    B. THE GENERATOR SHALL BE RATED AT THE MAXIMUM STATION AMPERAGE PLUS 25 PERCENT.
    C. THE GENERATOR SHALL HAVE ON SITE FUEL STORAGE SUFFICIENT TO RUN THE GENERATOR FOR A MINIMUM OF 24 HOURS.
    D. THE GENERATOR SHALL BE ENCLOSED BY A NEMA RATED WATERPROOF ENCLOSURE AND BE SOUND ATTENUATED.
    E. CONTRACTOR SHALL BE RESPONSIBLE FOR A MANUFACTURER'S START UP WITH THE CITY IN ATTENDANCE.
    F. GENERATOR SHALL BE MOUNTED ON A 28 DAY, 3,000 PSI, 6-INCH THICK, SLAB WITH A MINIMUM TWO FOOT SKIRT ON ALL FOUR SIDES.
23. OUTFLOW PIPE SHALL BE EQUIPPED WITH A ROSEMOUNT PRESSURE TRANSMITTER, MODEL 2088 WITH LOCAL DISPLAY (0-150 PSI) AND MAGFLUX MJK 7200 FLOWMETER WITH LOCAL DISPLAY. THE FLOW METER AND PRESSURE TRANSMITTER DISPLAYS SHALL BE IN THE VAULT. THE FLOW METER, PRESSURE TRANSMITTER, AND VAULT TO BE INSTALLED AS REQUIRED BY THE CITY. THE DETAIL SHOWING THE FLOW METER, PRESSURE TRANSMITTER, AND THE VAULT SHALL BE SUBMITTED AND APPROVED BY THE CITY. THE VAULT SHALL BE 4'X4' (MINIMUM) FOR 4"-6" DISCHARGE PIPING. THE VAULT SHALL BE 5'X5' (MINIMUM) FOR 8"-10" DISCHARGE PIPING.

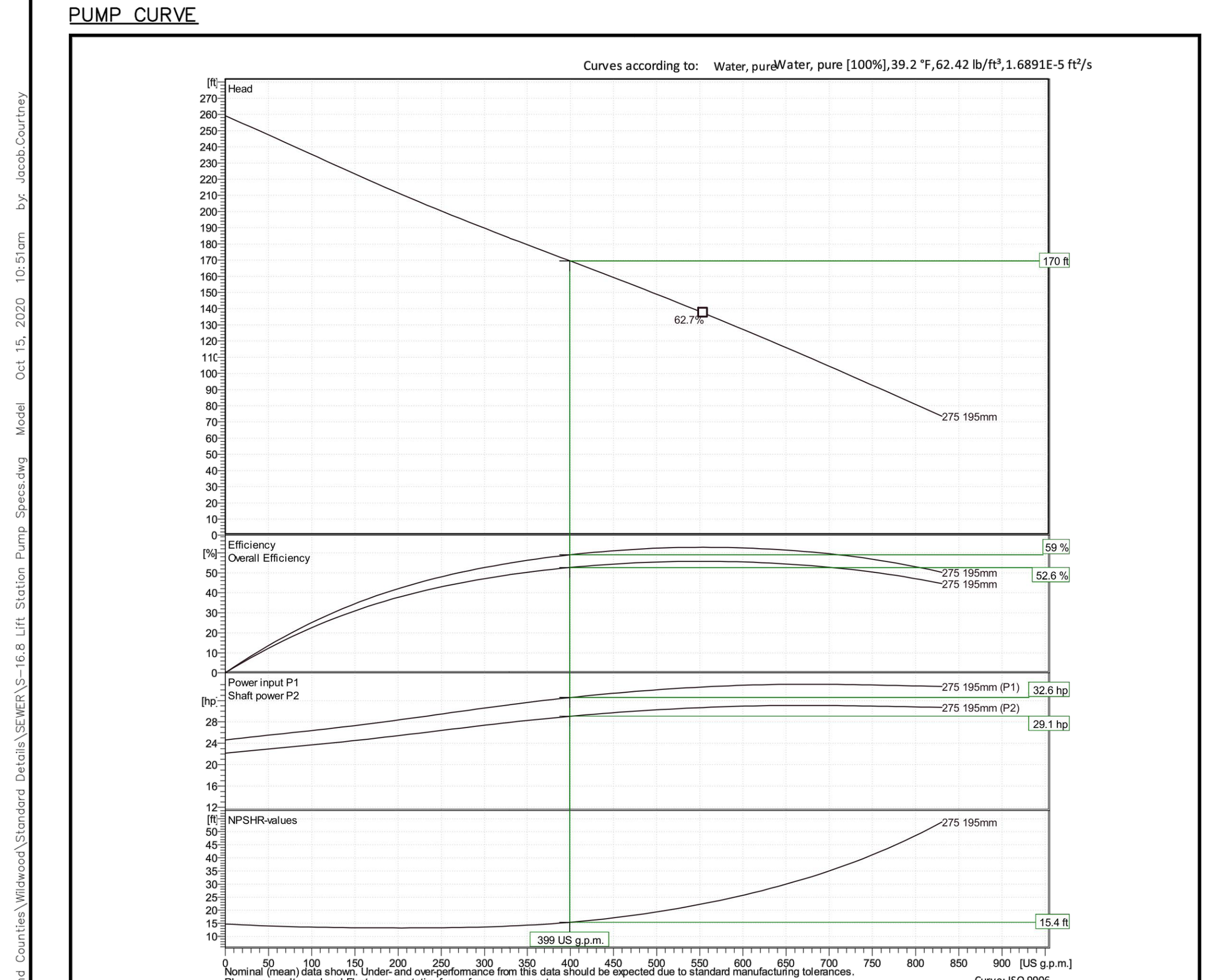
CITY OF WILDWOOD, 100 NORTH MAIN STREET, WILDWOOD, FLORIDA 34785, (352) 330-1330 | SCALE: NONE | LATEST REVISION: 06-02-20 | CITY OF WILDWOOD SEWER DETAIL | LIFT STATION GENERAL NOTES | DETAIL NUMBER: S-16, 7 OF 8

LIFT STATION PUMP SPECIFICATIONS

PUMP MANUFACTURER	FLYGT			
PUMP MODEL	NP 3171 SH 3-275			
IMPELLER SIZE	195 MM			
DESIGN POINT	399	GPM	170	HEAD
PUMP POWER AND SPEED	35	HP	3,520	RPM
ELECTRICAL DATA	3	PHASE	230	VOLTS
INTAKE PIPE DIAMETER	150 MM			
DISCHARGE PIPING DIAMETER	4"			

NOTE
DESIGN ENGINEER TO PROVIDE PUMP CURVE FOR SPECIFIED IMPELLER. CURVE TO SHOW HEAD IN FEET, FLOW RATE IN GPM, MOTOR HORSE POWER LIMITS, PUMPING EFFICIENCIES, AND ANTICIPATED SYSTEM HEAD.

PUMP CURVE



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SHEET NUMBER
12

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XREFS: xBORDER-142173504 kh-address-oca DrawingData

ELECTRICAL SYMBOLS

SINGLE LINE DIAGRAMS

- AMMETER
- VOLTMETER
- METER
- GENERATOR
- KILOWATT HOUR METER
- AMMETER SWITCH
- VOLTMETER SWITCH
- GROUND CONNECTION
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- POWER TRANSFORMER
- CONTROL TRANSFORMER
- DRAW OUT TYPE EQUIPMENT
- DRAW OUT TYPE HIGH VOLTAGE MOTOR STARTER
- PLUG-IN TYPE EQUIPMENT
- CIRCUIT BREAKER
- DISCONNECT SWITCH, 3 POLE UNLESS OTHERWISE INDICATED
- OIL FUSE CUTOUTS
- FUSE
- TRANSFER SWITCH, AUTOMATIC
- MAGNETIC MOTOR STARTER."1" INDICATES SIZE 1. RV INDICATES REDUCED VOLTAGE. 2S INDICATES 2 SPEED. R INDICATES REVERSING.
- MAGNETIC CONTACTOR
- ELECTRONIC OVER LOAD
- CONDUIT NUMBER E-###. SEE CONDUIT AND WIRING SCHEDULE FOR SIZES AND QUANTITIES OF CONDUIT AND WIRES.
- GROUND
- KIRK KEY INTERLOCKING OF EQUIPMENT
- PHASE FAILURE RELAY
- SURGE ARRESTER
- EXISTING MOTOR (# = HP)
- NEW MOTOR (# = ESTIMATED HP)
- FUTURE MOTOR (# = ESTIMATED HP)
- EYS SEAL

CONTROL WIRING DIAGRAMS

NORMALLY OPEN	NORMALLY CLOSED	DEVICE
		CONTACT
		LIMIT SWITCH
		LIMIT SWITCH HELD CLOSED
		LIMIT SWITCH HELD OPEN
		PRESSURE OR VACUUM SWITCH
		LIQUID LEVEL SWITCH
		TEMPERATURE ACTUATED SWITCH
		FLOW SWITCH (AIR, WATER, ETC.)
		PUSH BUTTON SINGLE CIRCUIT MOMENTARY CONTACT.
		PUSH BUTTON SINGLE CIRCUIT LOCK-OUT(LOCATED AT MOTOR UNLESS OTHERWISE NOTED)
		TIMED CONTACT- CONTACT ACTION RELAY ON ENERGIZATION.
		TIMED CONTACT- CONTACT ACTION RELAY ON DE-ENERGIZATION.
		ON-OFF SWITCH.
ESB		EMERGENCY STOP PUSH BUTTON (MAINTAINED CONTACT)
STOP	START	STOP -START PUSH-BUTTON STATION (MAINTAINED CONTACTS).
H		HAND-OFF-AUTO SELECTOR SWITCH SEE NOTE 3. (THREE POSITION).
A		TWO POSITION SELECTOR SWITCH SEE NOTE 3.
R		PILOT LIGHT, Y=YELLOW, R=RED, A=AMBER, SEE NOTE 3. B=BLUE, W=WHITE, G=GREEN.
		BELL
		HORN OR SIREN
CR		CONTROL RELAY
M		STARTER COIL.
TDR		TIME DELAY RELAY. (0-30 SECONDS UNLESS OTHERWISE NOTED).
OL'S		MOTOR STARTER OVERLOAD RELAY CONTACTS
		CONTROL TRANSFORMER
		MANUAL MOTOR STARTER
		SOLENOID OPERATED CONTROL VALVE
1		120 VOLT, 1 PHASE, MOTOR (UNLESS OTHERWISE NOTED)
RTM		RUNNING TIME METER. (ELAPSED TIME METER)
		SPACE HEATERS. (LOCATED AT MOTOR UNLESS OTHERWISE NOTED).
		TERMINALS IN MOTOR CONTROL CENTER/MCP
		CONTACT OR DEVICE REMOTE FROM MOTOR CONTROL CENTER/MCP
		TERMINALS IN MOTOR CONTROL CENTER/MCP
		CONTACT IN MOTOR CONTROL CENTER FOR CONNECTION TO REMOTE DEVICE/MCP
		DEVICE SIGNAL OUTPUT
		DEVICE SIGNAL INPUT

PLANS

- CONDUIT RUN CONCEALED UNDER SLAB OR BELOW GRADE. (CONCEALED IN SLAB WHERE SO NOTED OR WHERE ALLOWED PER SPECIFICATIONS).
- CONDUIT RUN EXPOSED UNLESS OTHERWISE NOTED
- EXISTING CONDUIT RUN
- GROUND WIRE
- CONDUIT UP (OUT TOP OF EQUIPMENT)
- CONDUIT DOWN (OUT BOTTOM OF EQUIPMENT)
- CONDUIT STUBBED OUT AND CAPPED
- CEILING MOUNTED LIGHTING FIXTURE
- BRACKET MOUNTED LIGHTING FIXTURE
- FLOODLIGHT
- FLUORESCENT LIGHTING FIXTURE
- POLE MOUNTED LIGHT FIXTURE
- EXIT LIGHT
- LIGHTING FIXTURES CONNECTED TO EMERGENCY CIRCUITS
- A T/100 — LIGHTING FIXTURE TYPE A, 100 WATTS, WITH 1 LAMP. SEE LIGHTING FIXTURE SCHEDULE
- $ — SINGLE POLE, SINGLE THROW TOGGLE SWITCH
- $2 — DOUBLE POLE, SINGLE THROW TOGGLE SWITCH
- $3 — THREE-WAY TOGGLE SWITCH
- $4 — FOUR-WAY TOGGLE SWITCH
- $M — MANUAL MOTOR STARTER

  (AT +48" OR AS NOTED)
- DUPLEX CONVENIENCE RECEPTACLE AT +12" OR AS NOTED
- SINGLE CONVENIENCE RECEPTACLE AT +12" OR AS NOTED
- SPECIAL PURPOSE RECEPTACLE AT +12" OR AS NOTED, RATING AS INDICATED
- JUNCTION BOX, SIZE AS REQUIRED BY CODE
- THERMOSTAT OUTLET AT +54"
- CLOCK OUTLET AT +7'-6" OR AS NOTED
- TELEPHONE OUTLET AT +12" OR AS NOTED
- HORN
- XX-### — CONTROL DEVICE
  PD = PRESSURE TRANSDUCER
  FS = FLOAT SWITCH
  L = LEVEL SWITCH
  V = CONTROL VALVE
- CONTROL STATION: PUSH-BUTTON STATION OR SELECTOR SWITCH. SEE CONTROL WIRING DIAGRAMS FOR REQUIREMENTS.
- GROUND WELL
- GROUND ROD
- DISCONNECT SWITCH. SEE SINGLE LINE DIAGRAM FOR SIZE.
- LIGHTING PANEL. SURFACE MOUNTED.
- ELECTRICAL GEAR (SWITCHBOARD, DISTRIBUTION PANEL MOTOR CONTROL CENTER, ETC.)
- EQUIPMENT BY OTHERS
- 1 — INDICATES TO REFER TO NOTE (1) ON DRAWING
- W.P. — WEATHERPROOF. PROVIDE GASKETS AS REQUIRED
- C.O. — CONDUIT ONLY
- E — PULL BOX (SIZE AS REQUIRED)
- C
- OUTPUT TERMINAL
- INPUT TERMINAL
- T — PROPOSED TRANSFORMER
- YAGI DIRECTIONAL ANTENNA
- REMOVABLE BOLLARD
- POLE MOUNTED TRANSFORMER

ELECTRICAL ABBREVIATIONS

AG	ABOVE GROUND
AMP	AMPERE
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BRK	BREAKER
CAT	CATALOG
CR	CARD READER
CIRC.	MIL CIRCULAR MILS (AWG)
C.O.	CONDUIT ONLY
CKT	CIRCUIT
CP	CONTROL PANEL
DIA	DIAMETER
DS	DOOR SWITCH
DWG	DRAWING
EA	EACH
ELECT	ELECTRICAL
ELEV	ELEVATION
EXIST	EXISTING
FLA	FULL LOAD AMPS
FUT	FUTURE
FVNR	FULL VOLTAGE, NON-REVERSING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
HP	HORSE POWER
HZ	HERTZ (CYCLES PER SECOND)
IC	INTERRUPTING CAPACITY
ID	INTERNAL DIAMETER
KV	KILOVOLTS
LCL	LONG CONTINUOUS LOAD
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LS	LEVEL SWITCH
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCP	MAIN CONTROL PANEL
MCM	THOUSAND CIRCULAR MIL (AWG)
MFR	MANUFACTURER
MIN	MINIMUM
MIS	MISCELLANEOUS
MOV	MOTOR OPERATED VALVE
MPZ	MINI POWER ZONE
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
N.O.	NORMALLY OPEN
NO.	NUMBER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PR	PAIR
PVC	POLYVINYL CHLORIDE
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RTU	REMOTE TERMINAL UNIT
SCE	SOUTHERN CALIFORNIA EDISON
SCHED	SCHEDULE
SES	SERVICE ENTRANCE SECTION
SPECS	SPECIFICATIONS
SS	SOFT STARTER
SSS	SOLID STATE STARTER
TEL	TELEPHONE
TDR	TIME DELAY RELAY
TRX	TRANSITION
TSP	TWISTED SHIELDED PAIR
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
US	ULTRASONIC SENSOR
UG	UNDER GROUND
UCP	UNIT CONTROL PANEL
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL ELECTRICAL REQUIREMENTS

1. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODE ORDINANCES AND REGULATIONS. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE, FINISHED AND SAFE MANNER, ACCORDING TO THE LATEST PUBLISHED N.E.C.A. STANDARDS OF INSTALLATION, UNDER COMPETENT SUPERVISION. INSTALL GROUNDING AS REQUIRED BY THE CODE(S).
2. VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND ALL OTHER FACTORS WHICH MAY AFFECT THE EXECUTION OF THIS WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.
3. ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, U.L. OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURER'S NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS AND BID PRICE. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING AND REVIEWED BY THE ENGINEER BEFORE ORDERING.
4. PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED UNDER DIVISION 6 AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS OR ANY OTHER CAUSES. EQUIPMENT FOUND DAMAGED OR IN OTHER THAN NEW CONDITION WILL BE REJECTED AS DEFECTIVE.
5. LEAVE THE SITE CLEAN, REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS, LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK.
6. CIRCUIT CONDUCTORS #2 AWG OR SMALLER TO BE COPPER TYPE "XHHW" FOR BELOW GRADE INSTALLATION OR COPPER TYPE THHN/THWN FOR ABOVE GRADE INSTALLATIONS. #1 AWG OR LARGER SHALL BE COPPER TYPE "XHHW-2" STRANDED COPPER. MINIMUM CONDUCTOR SIZE TO BE #12 AWG WITH #12 GND.
7. UNDERGROUND CONDUITS TO BE SCHEDULE 40 PVC. MINIMUM DEPTH 30", MINIMUM SIZE 1", UNLESS OTHERWISE SHOWN ON THE PLANS. CONDUITS AS SHOWN ARE FOR INFORMATION ONLY. EXACT CONDUIT ROUTING SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
8. OUTDOOR CONDUITS EXPOSED TO BE PVC COATED RGS, MINIMUM SIZE 3/4", UNLESS OTHERWISE NOTED ON THE PLANS. GRS CONDUIT SHALL EXTEND BELOW GRADE TO THE FIRST ELBOW. ALL GRS CONDUIT EXPOSED TO EARTH SHALL BE HALF LAPPED WRAPPED IN SCOTCHRAP 50 10 MIL TAPE OR EQUAL. EXTEND WRAP TO A HEIGHT OF 12" ABOVE GRADE. INDOOR CONDUITS SHALL BE IMC OR EMT UNLESS OTHERWISE SHOWN ON PLAN.
9. ALL SAFETY SWITCHES AND OTHER DISTRIBUTION AND CONTROL ELECTRICAL EQUIPMENT SHALL BE U.L. LISTED AND RATED FOR HEAVY DUTY SERVICE.
10. ALL ELECTRICAL EQUIPMENT, CONDUIT, WIRING, BOXES, ETC. SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING. THE SUBMITTALS SHALL BE NEATLY GROUPED AND ORGANIZED. PERTINENT INFORMATION SHALL BE HIGHLIGHTED, AND THE SPECIFIC PRODUCT SHALL BE IDENTIFIED. ALL SUBMITTALS SHALL BE COMPLETE, AND PRESENTED IN ONE PACKAGE. THE SUBMITTAL SHALL INCLUDE A COMPLETE LIST OF THE EQUIPMENT AND MATERIALS, INCLUDING THE MANUFACTURER'S NAME, PRODUCT SPECIFICATION, DESCRIPTIVE DATA, TECHNICAL LITERATURE, PERFORMANCE CHARTS, CATALOG CUTS, INSTALLATION INSTRUCTIONS, AND SPARE PART RECOMMENDATIONS FOR EACH DIFFERENT ITEM OF THE EQUIPMENT SPECIFIED.
11. IT IS THE OBLIGATION OF THE CONTRACTOR TO ORGANIZE HIS WORK, SO THAT A COMPLETE ELECTRICAL, INSTRUMENTATION, AND CONTROL SYSTEM FOR THE FACILITY WILL BE PROVIDED, AND WILL BE SUPPORTED BY ACCURATE SHOP AND RECORD DRAWINGS, AND O & M MANUALS.

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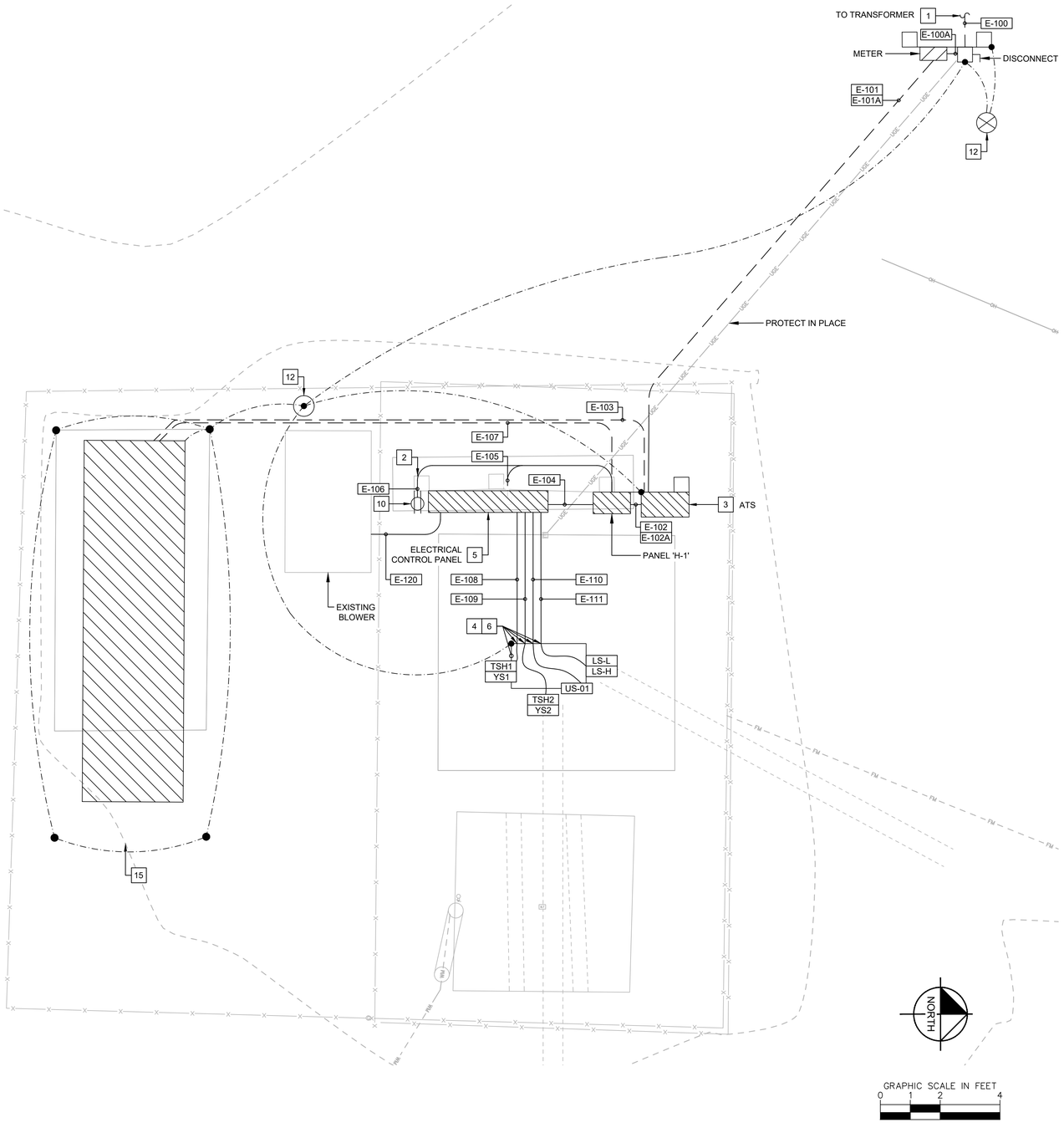
LICENSED PROFESSIONAL
ERKAN GUNGOR
FLORIDA LICENSE NUMBER
85021
DATE: ____

KHA PROJECT	142173504
DATE	OCTOBER 2023
SCALE	AS SHOWN
DESIGNED BY	YSH
DRAWN BY	JMJ
CHECKED BY	EG

ELECTRICAL
GENERAL NOTES

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER
13



ELECTRICAL NOTES

1. REMOVE EXISTING METER AND EQUIPMENT. PROTECT UNISTRUT IN PLACE. MAKE NEW CONNECTION TO UTILITY FOR SERVICE UPGRADE. INSTALL CONDUCTORS PER UTILITY REQUIREMENTS.
2. REMOVE EXISTING EQUIPMENT AND CONDUIT. EXTEND UNISTRUT MOUNTING RACK AS SHOWN ON PLANS TO MOUNT ATS NEXT TO NEW CONTROL PANEL. ALLOW ROOM FOR GENERATOR RECEPTACLE. SEE DETAIL C, SHEET 15 FOR ELECTRICAL EQUIPMENT RACK DETAILS.
3. SEE SINGLE LINE DIAGRAM ON SHEET 15, DETAIL A FOR ELECTRICAL EQUIPMENT INFORMATION. REFER TO PANEL SCHEDULE AND LOAD SUMMARY ON SHEET 15 FOR ADDITIONAL DETAIL.
4. PROVIDE 2-316 SS MOUNTING HOOKS. 1-HOOK FOR PUMP POWER MANUFACTURER CABLE, 1-HOOK FOR FLOAT SWITCH CABLES. SEE UTILITY PLAN FOR WELL PROFILE AND PENETRATION DETAIL.
5. CITY OF WILDWOOD STANDARD COMBO CONTROL PANEL BY TELEMETRY & PROCESS CONTROLS, INC. OR EQUAL. EQUIPPED BY ALLEN BRADLEY PLC AND CELLULAR MODEM AND ANTENNA. PROGRAMMING BY TLS AUTOMATION OR EQUAL. LIFT STATION CONTROL PANEL WITH EMERGENCY BREAKER MECHANICALLY INTERLOCKED WITH CONTROL PANEL MAIN BREAKER. CONTRACTOR TO STUB POWER FEEDER CONDUIT INTO PANEL, AND MAKE FINAL CONNECTION. CONTRACTOR TO MAKE FINAL CONNECTION FROM IN FIELD PUMPS TO PANEL, AS WELL AS CONTROL CABLE TO APPROPRIATE TERMINAL FOR PUMP HIGH TEMP, AND PUMP LEAK. REFER TO LOAD SUMMARY FOR EXPECTED CONTROL PANEL LOADS.
6. PROVIDE EXPLOSION PROOF EYES SEAL TYPE FITTINGS FOR ALL CONDUITS PENETRATING WET WELL PER DETAIL F ON SHEET 16.
7. EXTEND PUMP MANUFACTURER CABLE FROM PUMP CONTROL PANEL TO WET WELL. PROVIDE 3-3" GRS CONDUITS FROM PUMP CONTROL PANEL TO WELL PENETRATIONS. PROVIDE 3" ID CONDUIT PENETRATIONS IN WELL WITH WATERPROOF LINK SEAL FOR WELL PENETRATION. ROUTE MANUFACTURER CABLE TO EACH PUMP IN WELL.
8. REUSE AND RECONNECT INSTRUMENTATION IN WELL TO CONTROL PANEL THROUGH EXISTING CONDUIT. CONTRACTOR TO COMPLETE NECESSARY COMMUNICATION AND CONTROL TERMINATIONS FROM IN FIELD EQUIPMENT TO PANEL AS NECESSARY FOR A COMPLETE WORKING SYSTEM.
9. RECONNECT BLOWER TO CONTROL PANEL FOR POWER AND CONTROL.
10. INSTALL 20A WEATHERPROOF DUPLEX GFI RECEPTACLE WITH WHILE IN USE COVER.
11. SEE DETAIL A ON SHEET 16 FOR TYPICAL TRENCH DETAIL. SEE SHEET 15 DETAIL E FOR CONDUIT/CONDUCTOR INFORMATION.
12. PROVIDE 3/4" X 10' GROUND ROD IN WELL AS SHOWN IN DETAIL C, SHEET 16. CONTRACTOR TO MAKE NECESSARY BONDS AS REQUIRED BY NEC250. SEE DETAIL B ON SHEET 16 FOR TYPICAL CAD WELDS. SEE DETAIL E ON SHEET 16 FOR GROUND ROD NOT IN WELL.
13. PROVIDE 2'X1' ELECTRICAL PULLBOX PER DETAIL D ON SHEET 16.
14. RECONNECT EXISTING LIGHT TO NEW CONTROL PANEL FOR POWER.
15. PROPOSED 100KW, 125KVA, 60Hz, 120/240V, 3P, 4W, NEMA 3R, DIESEL GENERATOR WITH 54 GALLON BELLY TANK AND LEVEL TWO ACOUSTIC ENCLOSURE.

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ERKAN GUNGOR
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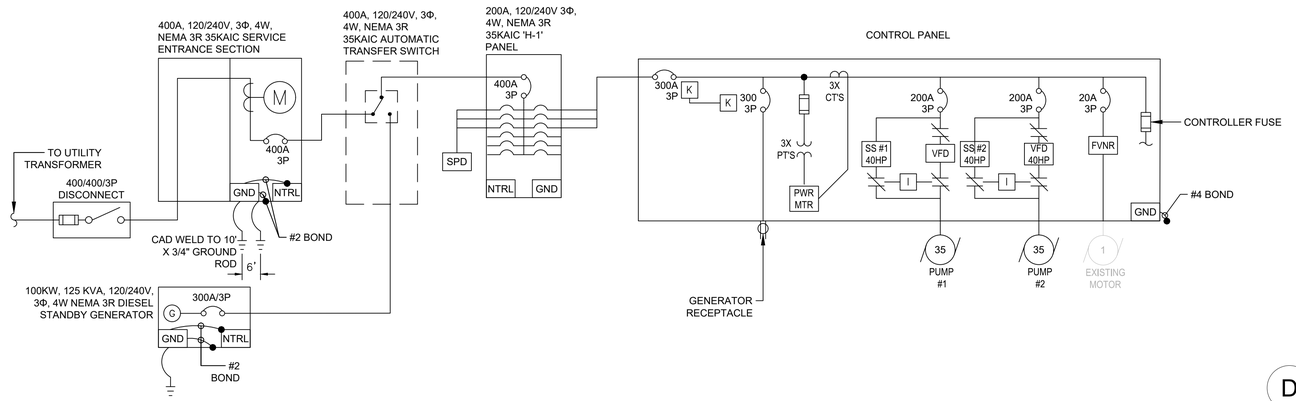
ELECTRICAL SITE PLAN

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER
14

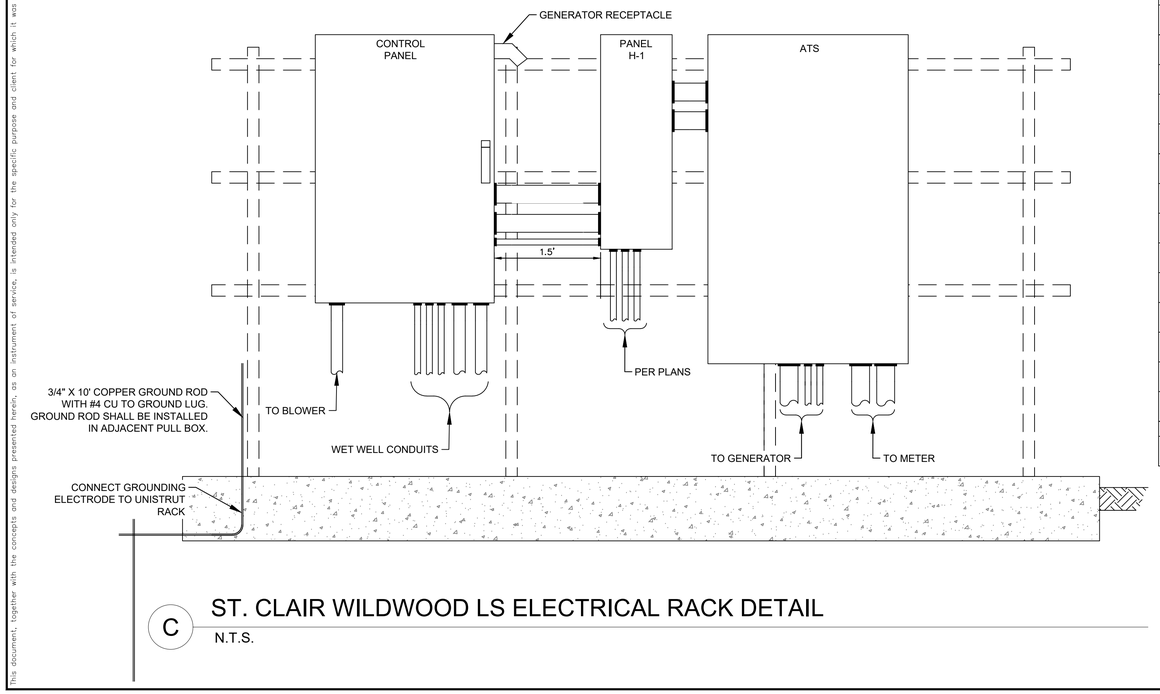


A SINGLE LINE DIAGRAM - ST. CLAIR WILDWOOD LIFT STATION

N.T.S.

CONTROL PANEL LOAD CALCULATION	
LOAD DESCRIPTION	
PROPOSED LOADS	
35HP PUMP 1	104.0 AMPS
35HP PUMP 1	104.0 AMPS
BLOWER	4.2 AMPS
CONTROLLER	0.24 AMPS
25% (PER NEC)	26.0 AMPS
TOTAL LOAD (@240V, 3 PHASE)	238.4 AMPS
TOTAL KVA	98.953 KVA
MAIN BREAKER SIZE	300 AMPS
PERCENT LOADED	79 %

B ST. CLAIR WILDWOOD LS CONTROL PANEL LOAD SUMMARY



C ST. CLAIR WILDWOOD LS ELECTRICAL RACK DETAIL

N.T.S.

PANEL: "H-1"										
VOLTAGE: 120/240			PANEL BUS: 400 AMPS							
PHASE, WIRES: 3ø, 4W			MAIN: 400 BREAKER							
SCCR (AMPS): 35,000										
SOURCE: ATS										
DESCRIPTION	KVA	CB	CKT	A	B	C	CKT	CB	KVA	DESCRIPTION
SPD			1	275			2	300	33.0	CONTROL PANEL
			3		159		4		33.0	
			5			275	6		33.0	
MAIN CONTROL	0.5	20	7	6			8	10	0.2	RECEPTACLE
SPACE			9		0		10			SPACE
GENERATOR HEATER	1.2	20	11			12	12	10	0.2	YARD LIGHT
GENERATOR BATTERY CHARGER	1.2	20	13	10			14	20	0.0	SPARE
SPACE			15		0		16			SPACE
AUTODIALER			17			0	18	20	0.0	SPARE
			TOTALS	290.5	158.6	286.5	AMPS			
LOAD CALCULATIONS:			SUBTOTAL (KVA): 102							
			+25% PER NEC (KVA): 26							
			TOTAL (KVA): 128 @ 480V, 3Ø = 307.5 AMPS							

D PANEL SCHEDULE 'H-1'

N.T.S.

CONDUIT SCHEDULE						
CONDUIT TAG	CONDUIT TYPE	CONDUIT SIZE	FROM	TO	CONDUCTOR (EACH CONDUIT)	COMMENTS
E-100	OH PER UTILITY	4"	UTILITY TRANSFORMER	MAIN DISCONNECT	PER UTILITY	CONDUIT BY CONTRACTOR CONDUCTOR BY UTILITY
E-100A	RGS	4"	MAIN DISCONNECT	METER	PER UTILITY	CONDUIT BY CONTRACTOR CONDUCTOR BY UTILITY
E-101	RGS/SCHED 40 UG	2.5"	METER	ATS	(4) #3/0 AWG + (1) #3 GND	SITE POWER
E-101A	RGS/SCHED 40 UG	2.5"	METER	ATS	(4) #3/0 AWG + (1) #3 GND	SITE POWER
E-102	SCHED 40 UG/RGS	2.5"	ATS	HP-1	(4) #3/0 AWG + (1) #3 GND	CONTROL PANEL POWER
E-102A	SCHED 40 UG/RGS	2.5"	ATS	HP-1	(4) #3/0 AWG + (1) #3 GND	CONTROL PANEL POWER
E-103	RGS/SCHED 40 UG	3"	ATS	GENERATOR	(4) #350 AWG + (1) #4 GND	BACKUP POWER
E-104	RGS	3"	HP-1	CONTROL PANEL	(4) #350 AWG + (1) #4 GND	STEP DOWN MINI POWER ZONE
E-105	RGS/SCHED 40 UG	1"	HP-1	SITE LIGHTING	(2) #12 AWG + (1) #12 GND	SITE LIGHTING
E-106	RGS	1"	HP-1	RECEPTACLE	(2) #12 AWG + (1) #12 GND	CANOPY LIGHTING
E-107	RGS/SCHED 40 UG	1"	HP-1	GENERATOR	(4) #10 AWG + (1) #10 GND	GENERATOR BATTERY CHARGER AND BLOCK HEATER
E-108	RGS/PVC COATED RGS	3"	CONTROL PANEL	PUMP #1	MANUFACTURER CABLE	GENERATOR BATTERY CHARGER AND BLOCK HEATER
E-109	RGS/PVC COATED RGS	3"	CONTROL PANEL	PUMP #2	MANUFACTURER CABLE	GENERATOR BATTERY CHARGER AND BLOCK HEATER
E-110	RGS/PVC COATED RGS	2"	CONTROL PANEL	FLOATS	(2) PR #16 AWG	LS-HH, LS-LL
E-111	RGS/PVC COATED RGS	2"	CONTROL PANEL	ULTRASONIC SENSOR	(1) #14 AWG TSP	OR PER MANUFACTURER SPECIFICATIONS

E CONDUIT AND CONDUCTOR SCHEDULE

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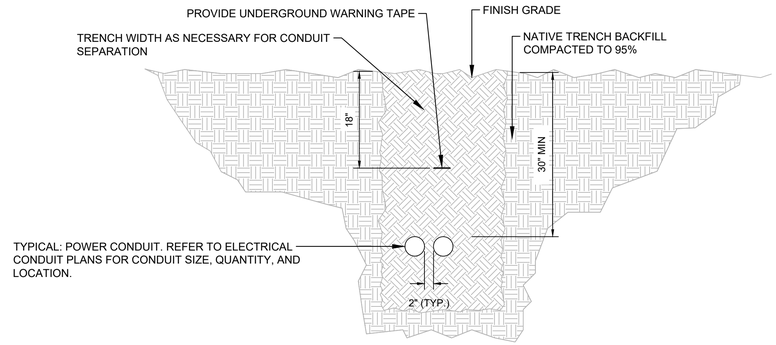
KHA PROJECT	DESIGNED BY	DRAWN BY	CHECKED BY
142173504	YSH	JMJ	EG
DATE: OCTOBER 2023			
SCALE: AS SHOWN			

ELECTRICAL DETAILS

OSCEOLA FORCE MAIN AND ST CLAIR LIFT STATION IMPROVEMENTS
PREPARED FOR
CITY OF WILDWOOD
CITY OF WILDWOOD FLORIDA

SHEET NUMBER
15



A TRENCH DETAIL

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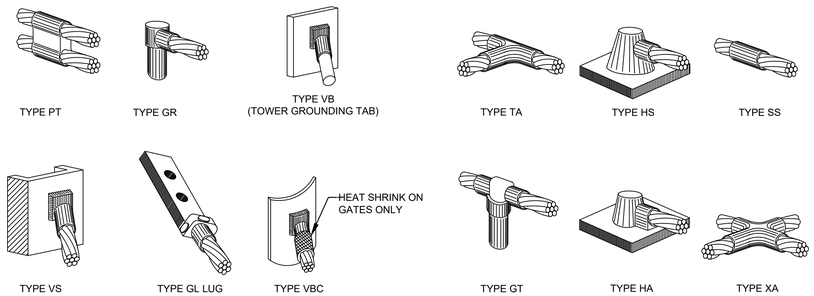
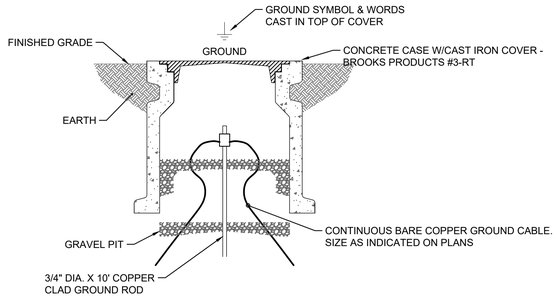


NOTES:

1. CADWELD "TYPES" SHOWN ABOVE ARE EXAMPLES. PROVIDE APPROPRIATE TYPES AS REQUIRED.

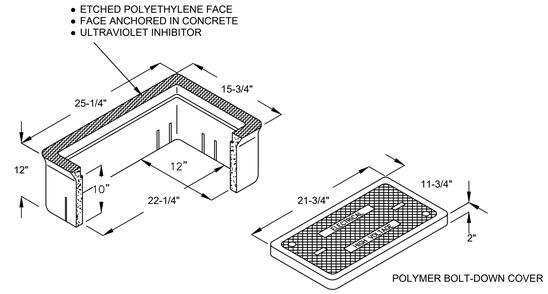
B TYPICAL CAD WELDS

N.T.S.



C GROUNDING ROD AND WELL DETAIL

N.T.S.



D ELECTRICAL PULLBOX DETAIL

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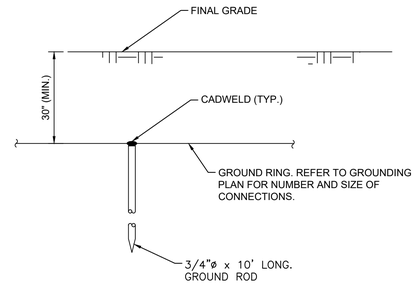
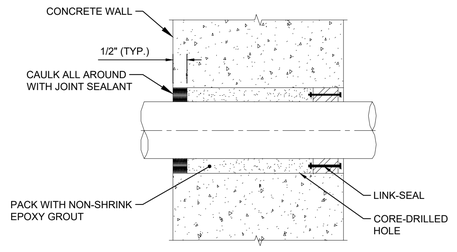


E GROUND ROD DETAIL

N.T.S.



NOTES:

1. JOINT SEALANT SHALL BE TWO COMPONENT, POLYURETHANE ELASTOMERIC SEALANT, SIKAFLEX-2C NS, AS MANUCATURED BY SIKA, OR EQUAL. PROVIDE BACKER ROD OR TAPE AT BACK OF JOINT SEALANT.

2. LINK-SEAL SHALL BE LOCATED ON SIDE OF WALL/SLAB THAT WILL BE PERMANENTLY ACCESSIBLE. LINK-SEAL SHALL BE FOR CORROSIVE SERVICE WITH EPDM RUBBER AND STAINLESS STEEL BOLTS AND NUTS, AS MANUFACTURED BY THUNDERLINE CORP., OR EQUAL. SLEEVE DIAMETER SHALL BE PER MANUFACTURERS RECOMMENDATION.

F WELL PENETRATION DETAIL

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