# CONSTRUCTION DOCUMENT PLANS FOR WEST ORANGE SOCCER FIELD SANITARY FORCE MAIN AND LIFT STATIONS

PLANS PREPARED FOR ORANGE COUNTY, FLORIDA



|     |          |                                    | REVISIONS  |
|-----|----------|------------------------------------|--|
|     |          |                                    |  |
| NO. | DATE     | DESCRIPTION                        | SHEETS REVISED   |
|     | 24.24.45 |                                    |  |
| 1   | 01/21/15 | CITY OF WINTER GARDEN DRC COMMENTS | C-001, C-002, C-003, C-005, C-006, C-007, C-102, C-200 |
|     |          |                                    |  |
|     |          |                                    |  |
|     |          |                                    |  |
|     |          |                                    |  |
|     |          |                                    |  |

OWNER REPRESENTATIVE:

ORANGE COUNTY CAPITAL PROJECTS

400 E. SOUTH STREET, 5TH FLOOR

ORLANDO, FL 32808

TEL: (407) 836-0050

## UTILITY COMPANIES

BOARD OF COUNTY COMMISSIONERS

ORANGE COUNTY MAYOR

DISTRICT 1 COMMISSIONER

DISTRICT 2 COMMISSIONER

DISTRICT 3 COMMISSIONER

DISTRICT 4 COMMISSIONER

DISTRICT 5 COMMISSIONER

DISTRICT 6 COMMISSIONER

TERESA JACOBS

S. SCOTT BOYD

BRYAN NELSON

PETE CLARKE

JENNIFER THOMPSON

TED B. EDWARDS

VICTORIA P. SIPLIN

CITY OF OCOEE, ENGR./UTIL. DEPT. (407) 905-3100 WWW.OCOEE.ORG (407) 905-3321 WWW.DUKE-ENERGY.COM DUKE ENERGY LAKE APOPKA NATURAL GAS DISTRICT (407) 656-2734 WWW.LANGD.ORG CENTURYLINK (407) 814-5344 WWW.CENTURYLINK.COM CITY OF WINTER GARDEN (407) 656-4100 WWW.CWGDN.COM ORLANDO ORANGE COUNTY EXPRESSWAY AUTH. (407) 806-4178

SUNSHINE STATE ONE CALL of FLORIDA TEL. 811 or (800) 432-4770 WWW.CALLSUNSHINE.COM

# PROFESSIONAL TEAM

SURVEYOR: SOUTHEASTERN SURVEYING 6500 ALL AMERICAN BOULEVARD ORLANDO, FL 32810-4350 TEL: (407) 292-8580 EMAIL: info@southeasternsurveying.com

CIVIL ENGINEERS: BENTLEY ARCHITECTS + ENGINEERS, INC. 665 WEST WARREN AVENUE LONGWOOD, FLORIDA 32750 TEL: (407) 331-6116 FAX: (407) 331-4566

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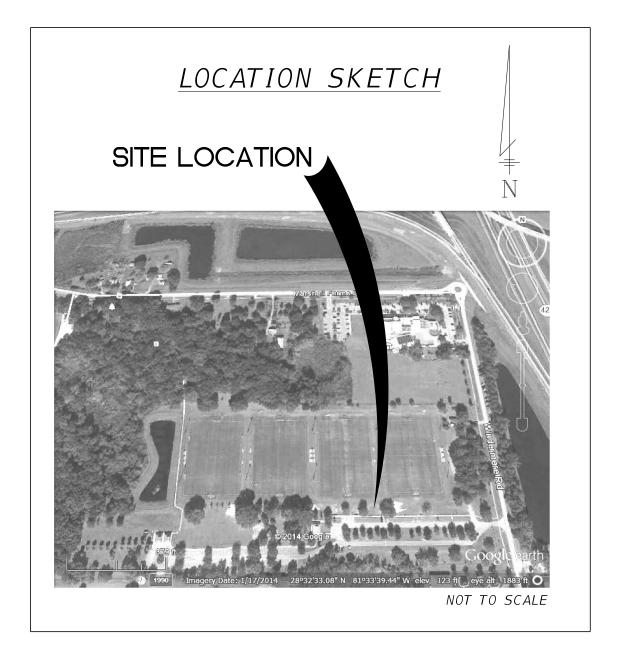
C-006

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# PARCEL IDENTIFICATION NUMBER 25-22-27-0000-00-029

# LEGAL DESCRIPTION

OBTAINED FROM ORANGE COUNTY PROPERTY APPRAISER

FIRM NAME: <u>Bentley Architects + Engineers, Inc.</u>

NAME, TITLE, LICENSE TYPE AND NUMBER: <u>Molly deVivero, P.E. Florida P.E. 64860</u>

AREA OF RESPONSIBILITY: \_\_Civil/Site Engineering

# PROJECT INTENT AND GENERAL DESCRIPTION

THE INTENT OF THIS PROJECT IS TO CONSTRUCT TWO PRIVATE GRINDER DUPLEX PUMP STATIONS AND PRIVATE FORCE MAIN TO TAKE THE PLACE OF THE ON-SITE SEPTIC SYSTEM. THE PRIVATE FORCE MAIN IS TO TIE TO THE CITY OF WINTER GARDEN GRAVITY SEWER SYSTEM VIA A NEW PRIVATE MANHOLE AT THE RIGHT-OF-WAY LINE OF WINDERMERE ROAD AND A GRAVITY SANITARY SEWER LATERAL CONNECTION TO THE EXISTING CITY GRAVITY SEWER MANHOLE ON THE WEST SIDE OF WINDERMERE ROAD. ALL ON SITE UTILITIES, INCLUDING LIFT STATIONS AND FORCE MAIN, ARE TO BE PRIVATELY OWNED AND MAINTAINED BY ORANGE COUNTY.

### BAE DISCLAIMER

WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTORS, SUBCONTRACTORS AND OWNERS SHALL VERIFY, AND BE RESPONSIBLE FOR, ALL DIMENSIONS AND CONDITIONS ON THE JOB, AND BENTLEY ARCHITECTS + ENGINEERS, INC. MUST BE NOTIFIED OF ANY VARIATION FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DRAWING DETAILS MUST BE SUBMITTED TO BENTLEY ARCHITECTS + ENGINEERS, INC. FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION.



BENTLEY

C-001

<u>COWG - WASTEWATER SYSTEM NOTES:</u>

- ALL UTILITY SYSTEMS AND IMPROVEMENTS CONSTRUCTED IN THE CITY OF WINTER GARDEN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MANUAL OF STANDARDS AND SPECIFICATIONS FOR UTILITY CONSTRUCTION FOR THE CITY OF WINTER GARDEN, TO BE REFERENCED AS MSS/CWG. THE LATEST EDITION AT THE TIME PERMITS ARE APPROVED SHALL BE EFFECTIVE FOR THE DURATION OF THE SUBJECT WORK OR PROJECT DEVELOPMENT
- THE CITY OF WINTER GARDEN GENERAL NOTES AND DETAILS ARE PROVIDED FOR THE CONVENIENCE OF FIELD PERSONNEL. THEY DO NOT INCLUDE ALL REQUIREMENTS OF THE MSS/CWG. THE CONTRACTOR SHALL REFER TO THE FULL TEXT OF THE MSS/CWG FOR FURTHER DETAIL AND CLARITY WHEN NEEDED. THE WEBSITE FOR THE MSS/CWG IS: http://www.cwgdn.com/files/forms/pubserv/Utility%20Specifications.pdf
- ANY REQUEST FOR VARIANCE OR NONCOMPLIANCE FROM THE MSS/CWG NOTED ABOVE MUST BE APPROVED BY THE CITY ENGINEER OR UTILITIES DIRECTOR.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN CLOSE PROXIMITY TO WATER, WASTEWATER, RECLAIMED WATER, AND OTHER UTILITY SYSTEMS. THE CONTRACTOR SHALL COORDINATE UTILITY LOCATIONS WITH RESPECTIVE UTILITY OWNERS AND CALL "SUNSHINE ONE CALL", 1-800-432-4770 A MINIMUM OF 72 HOURS IN ADVANCE.
- CONTRACTOR'S DAMAGE OF WINTER GARDEN UTILITY SYSTEM: THE CONTRACTOR SHALL IMMEDIATELY NOTIFY AND REPORT DAMAGE TO THE CITY OF WINTER GARDEN UTILITY DIVISION, (NO MESSAGE)
- IMMEDIATE REPAIR OF DAMAGED UTILITY SYSTEM: THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY DAMAGE TO THE CITY OF WINTER GARDEN UTILITY SYSTEM AS REQUIRED BY THE UTILITY OWNER AT CONTRACTOR'S COST. IN CASE OF UNRESPONSIVE ACTION BY THE CONTRACTOR, THE CITY RESERVES THE RIGHT TO REPAIR DAMAGE. THE CONTRACTOR SHALL REIMBURSE THE CITY OF WINTER GARDEN OF
- ADVANCE NOTIFICATION OF CONSTRUCTION: THE CONTRACTOR SHALL NOTIFY THE CITY OF WINTER GARDEN, UTILITY DIVISION, PH # 407-656-4100, AT LEAST SEVEN (7) CALENDAR DAYS PRIOR TO
- ADVANCE NOTIFICATION OF UTILITY CONNECTION: THE CONTRACTOR SHALL NOTIFY THE CITY OF WINTER GARDEN AT LEAST SEVEN CALENDAR DAYS IN ADVANCE TO SCHEDULE CONNECTIONS TO UTILITY
- UTILITY VALVE OPERATION: ONLY CITY OF WINTER GARDEN UTILITY PERSONNEL SHALL OPERATE VALVES AND HYDRANTS. THE CONTRACTOR, WHEN NEEDED, SHALL CALL THE CITY TO REQUEST VALVE OPERATIONS AT LEAST TWO (2) DAYS IN ADVANCE OF CONSTRUCTION WORK.
- 10. OPERATIONS INVOLVING WATER OR WASTEWATER FACILITIES INCLUDING PUMPING STATIONS: THE CONTRACTOR SHALL COORDINATE AT LEAST TWO (2) WEEKS IN ADVANCE OF ANY CONSTRUCTION OPERATION THAT MAY REQUIRE THE DISCONTINUATION OF SERVICE OR OPERATION OF A FACILITY. THE CITY WILL PROVIDE PERSONNEL TO OPERATE THE CITY FACILITIES.
- 11. REQUIRED TESTING BY CONTRACTOR: THE CONTRACTOR SHALL NOTIFY THE CITY OF WINTER GARDEN AT LEAST TWO (2) DAYS PRIOR TO SAMPLING ACTIVITIES FOR PURPOSE OF TESTING AS REQUIRED BY THE CITY. THE CONTRACTOR SHALL NOT TEST OR SAMPLE WITHOUT OBSERVATION BY CITY INSPECTION PERSONNEL.
- 12. TEMPORARY OR CONSTRUCTION WATER SERVICE CONNECTIONS PROVIDED BY FIRE HYDRANT CONNECTION: THE CITY WILL PROVIDE METER ON FIRE HYDRANT. THE CONTRACTOR SHALL PROVIDE NON-REFUNDABLE ACCOUNT INITIATION FEE, A REFUNDABLE SECURITY DEPOSIT FOR THE METER APPARATUS, AND PAY ALL COST FOR WATER USED.
- 13. ALL AS-BUILT MEASUREMENTS & ELEVATIONS ARE TO BE MADE BY A LICENSED LAND SURVEYOR.
- SANITARY SEWER MAINS AND SERVICES SHALL BE PVC SDR-26 (MINIMUM). FITTINGS SHALL BE SDR-26. DUCTILE IRON IS NOT APPROVED FOR SANITARY SEWERS.
- 2. ALL SERVICES SHALL BE 6" (MINIMUM) DIAMETER AND TERMINATE AT THE PROPERTY LINE WITH 6" CLEAN OUT (36" TO 48" DEEP AT LOT LINE).
- MAGNETIC TAPE MUST BE PLACED 2' ABOVE THE TOP OF PIPE FOR THE ENTIRE LENGTH OF ALL MAINS
- 4. ALL SANITARY MANHOLES SHALL BE PAINTED INSIDE AND OUT WITH "BITUMASTIC SUPER SERVICE BLACK", BY KOPPERS OR APPROVED EQUAL. MANHOLES RECEIVING FLOW FROM FORCE MAINS SHALL BE LINED WITH FIBERGLASS OR HDPE AT THE PRECASTER'S FACILITY.
- ALL PIPE CONNECTIONS TO PRE-CAST MANHOLES SHALL BE MADE USING A FLEXIBLE EPDM RUBBER BOOT AND STAINLESS STEEL STRAP OR CAST IN BOOT BY A-LOK, Z-LOK, OR EQUAL.
- 6. CONNECTIONS MADE TO EXISTING MANHOLES SHALL BE CORE BORED WITH A MINIMUM 6" BORE AND CONNECTION SEALED WITH FLEXIBLE BOOT AND STAINLESS STEEL CLAMP.
- DEAD END MANHOLES SHALL HAVE A MINIMUM OF 5 FEET OF COVER FROM FINISHED GRADE TO OUTLET
- ALL PRECAST SEWER MANHOLES SHALL HAVE A 4 FOOT MINIMUM HIGH BARREL. CONE SECTIONS SHALL BE 3 FOOT MINIMUM. CONCRETE DONUTS FOR EXTENDING ARE ACCEPTABLE TO RAISE MANHOLES UP TO
- THE CONTRACTOR SHALL PROVIDE AND INSTALL BALLCENTRIC PLUG VALVES IN CITY-OWNED FORCE MAINS AT 1000-FOOT MAXIMUM SPACING BETWEEN VALVES. VALVES SHALL BE LOCATED AT ALL TEES
- 10. THE CONTRACTOR SHALL CUT AN "S" INTO CONCRETE CURB LOCATED INSIDE OF A PAINTED GREEN SQUARE BOX IN FRONT OF EACH SERVICE LOCATION.
- 11. THE CONTRACTOR SHALL PROVIDE TV INSPECTION OF ALL SANITARY SEWER MAINS AFTER SYSTEM IS COMPLETED, THOROUGHLY CLEANED, DRAINED, AND FULLY VISIBLE. TV INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATIONS. FAULTY INSPECTION DUE TO POOR CONDITIONS WILL REQUIRE REINSPECTION BY CONTRACTOR. NOTE: THIS REQUIREMENT IS ONLY APPLICABLE TO THE NEW GRAVITY LINE.
- 12. THE CONTRACTOR SHALL PROVIDE A (WARRANTY) TV INSPECTION AT THE TWO-YEAR IN-SERVICE MILESTONE FOR EACH SYSTEM. [NOT APPLICABLE FOR THIS PROJECT.]
- 13. THE CONTRACTOR SHALL PROVIDE SANITARY SEWER TESTING, EXFILTRATION, OR AIR, AS DESCRIBED BELOW AND SUBMIT CERTIFIED RESULTS TO THE CITY ENGINEER. DEFLECTION TESTING TESTING IS REQUIRED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM.
  - TESTING REQUIREMENTS SPECIFY: NO PIPE SHALL EXCEED A DEFLECTION OF 5% USING RIGID BALL AND MANDREL FOR THE DEFLECTION TEST WITH A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING ON THE ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH
  - THE PIPE IS MANUFACTURED PERFORMING THE TEST WITHOUT MECHANICAL PULLING DEVICES LEAKAGE TESTING LEAKAGE REQUIREMENTS SPECIFY:
    - THE LEAKAGE EXFILTRATION OR INFILTRATION DOES NOT EXCEED 200 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM
      - AIR TESTS, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828 FOR CLAY PIPE, ASTM C-924 FOR CONCRETE PIPE, ASTM F-1417 FOR PLASTIC

EXFILTRATION OR INFILTRATION TESTS BE PERFORMED WITH A MINIMUM POSITIVE

- 14. GRAVITY SEWERS DEPTHS SHALL NOT EXCEED 18 FEET.
- 15. THE DESIGN ENGINEER SHALL PROVIDE A MINIMUM OF ONE FOOT OF FREEBOARD BETWEEN THE LOWEST FINISHED FLOOR ELEVATION AND THE TOP ELEVATION OF THE WET WELL

PIPE, AND FOR OTHER MATERIALS APPROPRIATE TEST PROCEDURES

- 16. ALL PENETRATIONS INTO CONCRETE STRUCTURES SHALL BE PRE-CAST OR CORE-DRILLED
- 17. WARRANTY ALL MATERIALS & EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR SHALL BE WARRANTED FOR A PERIOD OF FIVE YEARS FROM THE DATE OF SUBSTANTIAL COMPLETION THEREOF AGAINST DEFECTIVE MATERIALS, DESIGN, AND WORKMANSHIP. UPON RECEIPT OF NOTICE FROM THE CITY OF FAILURE OF ANY PART OF THE WARRANTED EQUIPMENT OR MATERIALS DURING THE WARRANTY PERIOD, THE AFFECTED PART, PARTS, OR MATERIALS SHALL BE PROMPTLY REPLACED BY
  THE CONTRACTOR WITH NEW PARTS OR MATERIALS AT NO EXPENSE TO THE CITY. IN THE EVENT THE
  CONTRACTOR FAILS TO MAKE THE NECESSARY REPLACEMENT OR REPAIRS IMMEDIATELY AFTER NOTIFICATION, THE CITY MAY ACCOMPLISH THE WORK AT THE EXPENSE OF THE CONTRACTOR

CLOSED CIRCUIT TELEVISION (CCTV) INSPECTION OF SEWER LINES

1. ALL NEW SANITARY SEWER LINES, PRIVATE OR CITY MAINTAINED, IN THE CITY OF WINTER GARDEN'S SERVICE AREA SHALL BE INSPECTED BY CLOSED CIRCUIT TV INSPECTION BY THE CONTRACTOR WITH A CITY INSPECTOR PRESENT PRIOR TO BEING ACCEPTED BY THE CITY.

REQUIREMENTS PRIOR TO INSPECTION RELEASE:

- ALL ELEMENTS OF THE SEWER SYSTEM MUST BE INSTALLED AND BE COMPLETELY FINISHED, INCLUDING MAIN SEWER LINES, LATERALS, CLEAN OUTS, AND MANHOLES PRIOR TO CCTV INSPECTION.
- ALL SEWER LINES SHALL BE COMPLETELY CLEANED OUT OF ALL DEBRIS, SAND, WATER, ETC. PRIOR TO THE CCTV INSPECTION. ANY OBJECT OR MATTER THAT PREVENTS CCTV INSPECTION FROM VIEWING CONDITION OF PIPELINE IS CONSIDERED AN OBSTRUCTION REQUIRING ADDITIONAL CLEANING. WHEN CCTV IS OBSTRUCTED, INSPECTION SHALL BE TERMINATED, THE CONTRACTOR SHALL CLEAN THE SEWER SYSTEM COMPLETELY, AND RESCHEDULE CCTV RE-INSPECTION WITH THE CITY.
- 3. A HYDRAULIC SEWER CLEANER SHALL NOT BE USED DURING THE CCTV INSPECTION. IF LINES ARE FOUND TO BE OBSCURED BY WATER OR DEBRIS DURING THE CCTV INSPECTION, THE INSPECTION SHALL BE TERMINATED AND RESCHEDULED TO A TIME WHEN SEWER CLEANING IS COMPLETE.
- 4. WHEN A SEWER LINE IS UNDER A PAVED AREA, THE AREA SHALL BE COMPACTED AND PRIMED BEFORE THE SYSTEM SHALL BE RELEASED FOR TV INSPECTION.

TELEVISION EQUIPMENT MINIMUM REQUIREMENTS:

- THE CLOSED CIRCUIT TV CAMERA SHALL PRODUCE A CLEAR COLOR PICTURE ON THE MONITOR AND ON THE DVD RECORDING. THE CAMERA SHALL BE ABLE TO SHOW DETAIL TO THE POINT THAT ALL JOINTS AND ANY DEFECTS MAY BE READILY SEEN AT THE TIME OF THE INSPECTION.
- 2. REFER TO APPENDIX B OF THE REFERENCED STANDARDS FOR SPECIFICATIONS OF CLOSED CIRCUIT TELEVISION INSPECTION EQUIPMENT.
- 3. THE VIDEO RECORDER SHALL PRODUCE A NO NOISE STILL PICTURE, AND PROVIDE BOTH AUDIO AND VIDEO DURING THE INSPECTION.
- 4. A MEASURING DEVICE, APPROVED BY THE CITY, TO CHECK THE GRADE OF THE PIPE DURING THE INSPECTION SHALL BE REQUIRED. GAUGE DEPTH O" TO 2" MIN. WITH 1/2" MARKINGS.
- AUDIO OF THE INSPECTION SHALL BE SIMULTANEOUSLY RECORDED ON DVD DISC. THE AUDIO SHALL CONSIST OF ORDINARY DESCRIPTION AND COMMENTARY. A TAPE WILL BE GIVEN TO THE INSPECTOR ON SITE AT THE END OF THE DAY.

#### PROCEDURE FOR TELEVISING:

- 1. THE CITY'S ENGINEERING INSPECTION DIVISION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS' NOTICE PRIOR TO THE TIME PLANNED FOR THE TV INSPECTION TO COMMENCE. A DEFINITE TIME AND DATE WILL BE AGREED UPON BY THE CONTRACTOR AND INSPECTOR AT THAT TIME
- 2. NO INSPECTION SHALL COMMENCE WITHOUT THE PRESENCE OF THE INSPECTOR, EXCEPT WHEN PRIOR ARRANGEMENTS HAVE BEEN MADE BETWEEN THE CONTRACTOR, INSPECTOR, AND THE CITY. TVINSPECTION SHALL BE PERFORMED BY THE CONTRACTOR AT THE EXPENSE OF THE CONTRACTOR.
- ALL CCTV INSPECTIONS SHALL COMMENCE UPSTREAM OF THE SYSTEM TO PREVENT FOREIGN SUBSTANCES FROM ENTERING A SECTION PREVIOUSLY TELEVISED. THE CAMERA SHALL BE STARTED FROM THE DOWNSTREAM MANHOLE AND PROCEED UPSTREAM IN A DIRECTION OPPOSING THE NORMAL FLOW IN THE LINE. THIS PROCEDURE WILL ALLOW FOR THE VIEWING OF THE SERVICE LATERALS.
- BEFORE THE CAMERA IS PLACED IN THE SEWER LINE, WATER WITH YELLOW OR ORANGE DYE SHALL BE PUT INTO THE UPSTREAM MANHOLE OF THE SECTION BEING TELEVISED. CAMERA WILL HAVE A GAUGE SHOWING 1/2" MARKS FROM 1/2" TO 2-1/2". THIS WILL ENABLE THE CAMERA TO DETECT ANY CHANGES IN GRADE THAT MAY BE PRESENT IN THE SYSTEM.
- 5. THE CCTV AND DVD RECORDER SHALL BE TURNED ON BEFORE THE CAMERA IS PLACED IN THE MANHOLE FOR INSPECTION AND SHALL NOT BE TURNED OFF UNTIL THE CAMERA IS REMOVED FROM THE MANHOLE THE CAMERA SHALL BE MOVED THROUGH THE LINE UNDER THE CONTROL OF THE CCTV CAMERA OPERATOR. THE CAMERA SHALL BE DRAWN THROUGH THE LINE AT A RATE NOT TO EXCEED THIRTY (30) FEET PER MINUTE AND SHALL STOP AT ALL SERVICE CONNECTIONS AND PIPE JOINTS IN THE
- A DVD RECORDING SHALL BE MADE OF THE ENTIRE SYSTEM BEING TELEVISED. THIS SHALL BECOME THE PROPERTY OF THE CITY UPON COMPLETION OF THE TV INSPECTION (NOT A COPY). THE TAPE(S) SHALL BE LABELED IN SUCH A MANNER THAT STATES THE PROJECT NAME, DATE OF INSPECTION, AND LINE SECTION ACCORDING TO CONSTRUCTION PLANS CONTAINED ON EACH TAPE. A WRITTEN REPORT SHALL ACCOMPANY THE DVD DISC

### REFERENCE NOTES:

THE EXISTING TOPOGRAPHIC AND UTILITY INFORMATION DEPICTED IN THE CONTRACT DOCUMENTS WAS OBTAINED FROM FIELD SURVEYS AND DOCUMENTED ON A TOPOGRAPHIC SURVEY BY SOUTHEASTERN SURVEYING, DATED 5/15/2014 AND REVISED 5/29/2014, AND IS MADE A PART OF THE CONSTRUCTION DOCUMENTS BY REFERENCE

<u>ORANGE COUNTY PRIVATE FORCE MAIN NOTES:</u>

- MAGNETIC TAPE MUST BE PLACED 2' ABOVE THE TOP OF THE PIPE FOR THE ENTIRE LENGTH OF ALL FORCE MAIN LINES.
- PRIVATE MANHOLE RECEIVING FLOW FROM PRIVATE FORCE MAIN SHALL BE LINED WITH FIBERGLASS OR HDPE AT THE PRECASTER'S FACILITY.
- 3. ALL CONNECTIONS TO PRIVATE MANHOLES SHALL CONFORM TO THE CITY OF WINTER GARDEN STANDARDS AND SPECIFICATIONS.
- 4. THE CONTRACTOR SHALL PROVIDE AND INSTALL BALLCENTRIC PLUG VALVES AT ALL TEES AND CROSSES
- IN FORCE MAIN.
- 5. HYDROSTATIC TESTS SHALL BE CONDUCTED FOR FORCE MAIN, PRESSURE PIPES, JOINTS, AND VALVES FOR ALLOWABLE LIMITS OF PRESSURE AND LEAKAGE
- 6. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
- 7. SCH 80 PVC FORCE MAIN SHALL BE IN ACCORDANCE WITH ASTM STANDARDS D1785, D2241 AND D2467

WINTER GARDEN UTILITIES

## ABBREVIATION LEGEND (ALL SHEETS)

.INEAR FEET

LIMITS OF CONSTRUCTION

|                | ACRE   | <i>MSS/CWG</i> | THE MANUAL OF STANDARDS        | 1                 |
|----------------|--|----------------|--------------------------------|-------------------|
| ÁΕ             | BENTLEY ARCHITECTS + ENGINEERS, INC.           |                | AND SPECIFICATIONS, CITY OF    | 4.                |
| _DG            | BUILDING                                       |                | WINTER GARDEN                  |                   |
| _              | CENTER LINE                                    | NIC            | NOT IN CONTRACT                | 5.                |
| DNST.          | CONSTRUCT                                      | NO.            | NUMBER                         | ٦.                |
| J              | CONDENSING UNIT                                | N.T.S.         | NOT TO SCALE                   |                   |
| o₩G            | CITY OF WINTER GARDEN                          | 0 . C .        | ON CENTER                      |                   |
| / L            | CONTROL WATER LEVEL                            | OD             | OUTSIDE DIAMETER               |                   |
| CVA            | DOUBLE CHECK VALVE ASSEMBLY                    | OHE            | OVERHEAD ELECTRIC              | 6.                |
| /              | DRYWELL  | PFH            | PROPOSED FIRE HYDRANT          | 0.                |
| - •            | ELEVATION                                      | P/L            | PROPERTY LINE                  |                   |
| DR             | ENGINEER OF RECORD                             | PVC            | POLYVINYL CHLORIDE             |                   |
| )              | EDGE OF PAVEMENT                               | PWS            | <i>POTABLE WATER SERVICE</i>   |                   |
| <sup>'</sup> S | EDGE OF SLAB                                   | R              | RADIUS                         |                   |
| <i>( ,</i>     | EXISTING                                       | ROW            | RIGHT OF WAY                   | ,                 |
| 2              | FACE OF CURB                                   | RPBP           | REDUCED PRESSURE BACKFLOW PREV | $ENTER(_{\sigma}$ |
| C              | FIRE DEPARTMENT CONNECTION                     | RPZ            | REDUCED PRESSURE ZONE          | ٠, ١              |
|                | FLORIDA DEPARTMENT OF TRANSPORTATION           | SAN.           | SANITARY                       | >                 |
| DEP            | FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION | SF             | SQUARE FEET                    | ^ >               |
| =              | FINISHED FLOOR ELEVATION                       | S.S.           | SANITARY SEWER                 |                   |
| 1              | FIRE MAIN                                      | SW             | SIDEWALK                       |                   |
| /              | GATE VALVE                                     | TBR            | TO BE REMOVED                  |                   |
| 2              | HANDICAPPED                                    | TH             | TEST HOLE                      |                   |
| )              | HEAT PUMP                                      | TOS            | TOP OF SIDEWALK                |                   |
| IV .           | INVERT   | TV             | TREATMENT VOLUME               |                   |
| _              |  | TVD            | TVDICAL                        |                   |

<u>CITY OF WINTER GARDEN HORIZONTAL AND VERTICAL SEPARATION TABLE</u>

|                                  |         | HORIZ   | ONTAL      | & VER         | TICAL S | SEPARA  | TION R           | EQUIRE  | MENTS  |        |                        |
|----------------------------------|---------|---------|------------|---------------|---------|---------|------------------|---------|--------|--------|------------------------|
| PROPOSED                         | POTABLE | E WATER | RECL<br>WA | AIMED<br>TER* |         | Y SEWER | SANITAR<br>(FORC | Y SEWER | STORM  | WATER  | ACCEPTABL<br>VARIANCES |
| UTILITY                          | HORIZ.  | VERT.   | HORIZ.     | VERT.         | HORIZ.  | VERT.   | HORIZ.           | VERT.   | HORIZ. | VERT.  | 1                      |
| POTABLE                          |         |         | 3'         | 12"           | 6'      | 12"     | 6'               | 12"     | 3'     | 6" A   | SEE                    |
| WATER                            | -       |         | ,          | 12            |         | 12      | 8                | 12      | 7      | 12" B  | GENERAL                |
| RECLAIMED                        | 3'      | 12"     | 2000       |               | 3'      | 6" A    | 3'               | 12*     |        |        | NOTES: NO              |
| WATER*                           | 3       | 12      | -          | _             | 3       | 12" B   | ]                | '*      | _      | -      |                        |
| SANITARY                         | e.      | 12*     | -1         | 6" A          |         |         |                  |         |        |        | 1                      |
| SEWER<br>(GRAVITY)               | 6,      | 12"     | 3'         | 12" B         | _       | _       | _                | _       |        | CTT-DE |                        |
| SANITARY<br>SEWER<br>(FORCEMAIN) | 6'      | 12"     | 3,         | 12"           | -       | -       | -                | -       | -      | -      |                        |

#### GENERAL NOTES:

- THE TABLE REPRESENTS THE MINIMUM SEPARATION REQUIREMENTS AS DESCRIBED IN F.D.E.P. RULES OF THE FLORIDA ADMINISTRATION CODE (F.A.C.). THESE SEPARATION REQUIREMENTS SHALL APPLY BETWEEN NEWLY PROPOSED UTILITY LINES AND EXISTING OR PROPOSED UTILITY lines and existing or proposed utility lines.
- 2. \* FOR THE PURPOSE OF THIS TABLE, RECLAIMED WATER SHALL MEAN UNRESTRICTED PUBLIC ACCESS REUSE WATER AS DEFINED BY F.A.C. 162-610, CHAPTER III. OTHER TYPES OF RECLAIMED WATER ARE CONSIDERED RAW SEWAGE AND SEPARATIONS LISTED FOR SANITARY
- ALL SEPARATION DISTANCES ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE UNLESS OTHERWISE SPECIFIED. CRITERION PRODUCING GREATER CLEARANCE SHALL BE USED.
- A DENOTES POTABLE WATER ABOVE RECLAIMED WATER, SANITARY SEWER OR STORM WATER; OR RECLAIMED WATER ABOVE SANITARY SEWER.
- B Denotes potable water  $\underline{BELOW}$  reclaimed water, sanitary sewer or storm water; or reclaimed water  $\underline{BELOW}$  sanitary sewer.
- UTILITY SEPARATION VERTICAL CLEARANCE MITIGATION
- A. WHERE WATER AND GRAVITY SANITARY SEWER MAINS CROSS WITH LESS THAN REQUIRED VERTICAL CLEARANCE OR THE SEWER MAIN IS ABOVE THE WATER MAIN, THE SANITARY SEWER WILL BE 20 FEET OF EITHER:
- 1. DUCTILE IRON PIPE, CENTERED ON THE POINT OF CROSSING, OR;
- 2. CONCRETE ENCASED VITRIFIED CLAY, OR;
- 3. PVC PIPE UPGRADED TO WATER MAIN STANDARDS AND PRESSURE TESTED.
- B. WHERE WATER MAINS AND STORM SEWER PIPES CROSS WITH LESS THAN REQUIRED VERTICAL CLEARANCE, THE WATER MAIN SHALL BE 20 FEET OF DUCTILE IRON PIPE CENTERED
- C. SEPARATION REQUIREMENTS BETWEEN FORCE MAINS AND POTABLE WATER MAINS MUST BE MAINTAINED UNLESS APPROVED IN ADVANCE BY THE DEPARTMENT.
- UTILITY SEPARATION HORIZONTAL SEPARATION MITIGATION
- WHEN A WATER MAIN PARALLELS A GRAVITY SANITARY SEWER MAIN, A SEPARATION (MEASURED EDGE TO EDGE) OF AT LEAST SIX FEET SHOULD BE MAINTAINED. WHERE THIS SEPARATION IS NOT MET, ONE OF THE FOLLOWING MUST OCCUR.
- 1. THE WATER MAIN IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 6 INCHES ABOVE THE TOP OF THE SEWER, OR:
- 2. IF BOTH SANITARY SEWER AND POTABLE WATER MAINS ARE PROPOSED AND THE ABOVE (1.) IS NOT MET, THE SANITARY SEWER PIPES SHALL BE UPGRADED TO THE EQUIVALENT PIPE MATERIAL AS THE WATER MAIN AND PRESSURE TESTED.
- 3. IF THE SANITARY SEWER IS EXISTING AND THE POTABLE WATER MAIN IS PROPOSED. THE WATER MAIN SHALL, AT A MINIMUM, BE UPGRADED TO DUCTILE IRON PIPE, CONSTRUCTED IN SEPARATE TRENCHES, LAID AT A HIGHER ELEVATION THAN THE SANITARY SEWER, AND UTILIZE
- B. SEPARATION REQUIREMENTS BETWEEN FORCE MAINS AND POTABLE WATER MAINS MUST BE MAINTAINED UNLESS APPROVED IN ADVANCE BY THE DEPARTMENT.
- NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY OR STORM WATER MANHOLE OR STRUCTURE.

GENERAL UTILITY NOTES.

- INSTALL VALVE BOXES WITH ALL VALVES. VALVE BOXES UNDER THE PAVEMENTS SHALL HAVE TRAFFIC BEARING COVERS AND CONCRETE COLLARS.
- ALL SANITARY SEWER AND WATER LINE CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION. THIS PROJECT IS DESIGNED WITH NO PHYSICAL CONNECTIONS BETWEEN PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND A SEWER OR FORCE MAIN AND WITH NO WATER PIPES PASSING THROUGH OR COMING INTO CONTACT WITH ANY PART OF A SEWER MANHOLE.
- THE CONTRACTOR SHALL CONFORM TO THE LATEST OSHA STANDARDS RELATING TO TRENCH EXCAVATION THE CONTRACTOR SHALL CALL 811 TO NOTIFY THE LOCAL UTILITY COMPANIES TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION FOR LINE LOCATION.
- ALL CONSTRUCTION MATERIALS AND METHODS FOR FORCE MAIN SYSTEMS SHALL BE IN CONFORMANCE WITH THE CITY OF WINTER GARDEN'S MOST RECENT DESIGN STANDARDS AND APPROVED MATERIALS MANUALhttp://www.cwgdn.com/files/historic/Design%20Standards%20&%20Guidelines%20Manual.pdf ALL PRESSURIZED MAIN FITTINGS SHALL BE MECHANICAL JOINT WITH RESTRAINED JOINT GLANDS; A SUFFICIENT LENGTH OF THE PIPE CONNECTED TO THE FITTINGS SHALL BE MECHANICALLY RESTRAINED TO PROVIDE REACTION AS SPECIFIED IN THE RESTRAINED JOINT STANDARD IN THE CONSTRUCTION DETAILS. CALCULATIONS FOR THE REQUIRED RESTRAINT LENGTH MUST BE PROVIDED IF THE SPECIFIED RESTRAINT LENGTH, SOIL TYPE, OR DEPTH OF COVER, DIFFERS FROM THOSE PROVIDED ON

ALL PIPES ARE TO BE COLOR-CODED: GREEN (WASTEWATER)

(WATER) PURPLE (REUSE WATER)

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#### RECORD DRAWINGS AND AS-BUILT SUBMITTAL NOTES

- THE RECORD DRAWINGS AND AS-BUILT SURVEY DRAWINGS SHALL BE SUBMITTED TO THE OWNER AND THE ENGINEER OF RECORD WITHIN 15 DAYS OF DATE OF SUBSTANTIAL COMPLETION OF EACH PHASE OF
- FOUR COPIES OF RECORD DRAWINGS (HIGHLIGHTED CONTRACTOR REDLINES FOR INTERIM AND FINAL RECORD DRAWINGS) INDICATING CONSTRUCTED INFORMATION SHALL ALSO BE PROVIDED ALONG WITH THE AS-BUILT SURVEYS TO THE OWNER AND THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING INFORMATION ON A SET OF APPROVED PLANS CONCURRENTLY AS THE
- THE FINAL RECORD DRAWINGS SHALL INCLUDE THE FOLLOWING REQUIREMENTS: 3.a. DRAWINGS SHALL SHOW ACTUAL LOCATION OF ALL WATER AND WASTEWATER PIPING AND RELATED APPURTENANCES, BOTH ABOVE AND BELOW GROUND.
  ALL CHANGES TO PIPING LOCATION INCLUDING HORIZONTAL AND VERTICAL
  LOCATIONS OF UTILITIES AND APPURTENANCES SHALL BE CLEARLY SHOWN AND REFERENCED TO PERMANENT SURFACE IMPROVEMENTS. DRAWINGS SHALL INDICATE ACTUAL PIPE MATERIAL, CLASS, ETC. ALL LOCATIONS SHALL BE DOCUMENTED WITH DISTANCES FROM TWO ABOVE GROUND PERMANENT FIXED OBJECTS.
- DRAWINGS SHALL CLEARLY SHOW ALL FIELD CHANGES OF DIMENSION AND DETAIL INCLUDING CHANGES MADE BY FIELD ORDER OR BY CHANGE ORDER. DRAWINGS SHALL CLEARLY SHOW ALL DETAILS NOT ON ORIGINAL CONTRACT DRAWING BUT CONSTRUCTED IN THE FIELD. ALL EQUIPMENT AND PIPING RELOCATION SHALL BE CLEARLY SHOWN AND LOCATIONS DIMENSIONALLY
- DOCUMENTED. LOCATION OF ALL MANHOLES, HYDRANTS, VALVES, AND VALVE BOXES SHALL BE SHOWN. ALL VALVES SHALL BE REFERENCED FROM AT LEAST TWO AND PREFERABLY THREE PERMANENT POINTS.
- DIMENSIONS BETWEEN ALL MANHOLES SHALL BE FIELD VERIFIED AND SHOWN. THE INVERTS AND GRADE ELEVATIONS OF ALL MANHOLES SHALL BE
- FOUR (4) SIGNED AND SEALED COPIES OF AN AS-BUILT SURVEY SHALL BE SUBMITTED FOR ALL BUILDINGS, ROADWAYS, UTILITIES, SITE WORK AND DRAINAGE SYSTEMS TO THE ENGINEER OF RECORD FOR REVIEW, OBTAINING CLEARANCES AND POST-CONSTRUCTION APPROVAL. THESE DRAWINGS SHALL BE BASED ON FIELD SURVEYS AND WILL SHOW ALL PROPERTY BOUNDARIES, RIGHTS-OF-WAY, EASEMENTS, AND LOT LINES. ALL ELECATIONS FOR THE SIGNED AND SEALED SURVEYS SHALL BE PROVIDED IN THE SAME DATUM AS THE DESIGN SURVEY.
- THE AS-BUILT SURVEY SHALL BE CERTIFIED BY A FLORIDA STATE REGISTERED PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH RULES OF THE FLORIDA ADMINISTRATIVE CODE, AND SHALL DOCUMENT THE ITEMS LISTED BELOW:

  5.a. LOCATION OF ALL VALVES, VALVE BOXES, HYDRANTS, AND SERVICES.

  LOCATION OF ANY POINT WHERE A WATER LINE CROSSES A WASTEWATER OR

  DRAINAGE LINE OR OTHER UTILITY, INCLUDING THE ELEVATION OF THE

  TOP OF PIPE AND BOTTOM OF PIPE FOR BOTH UTILITIES AT THE
- CROSSING LOCATION OF ALL UTILITY SYSTEMS INCLUDING STRUCTURE TOP ELEVATIONS, INVERTS, ELEVATIONS, PIPE SIZE, AND PIPE
- LOCATION OF ALL WATER & SANITARY SEWER SYSTEMS, INCLUDING PIPE SIZE, MATERIAL, DEPTH OF COVER, CONNECTION POINTS, AND FITTINGS. LOCATION OF ALL MANHOLES AND CLEANOUTS AND THE SERVICE END OF ALL LATERALS AND ELEVATIONS OF ALL MANHOLE AND CLEANOUT TOPS AND
- INVERTS
- RECORD DRAWING INFORMATION SHALL BE FIELD VERIFIED AND INCLUDED ON THE CERTIFIED AS-BUILT DRAWINGS, AS FOLLOWS:

  5.e.1. DETAILS OF ANY CONNECTION TO EXISTING UTILITIES AND ANY HORIZONAL AND VERTICAL PIPE ALIGNMENT OR CHANGE IN
  - DIRECTION. ALL FIELD CHANGES OF DIMENSION AND DETAIL INCLUDING

  - CHANGES MADE BY FIELD ORDER OR CHANGE ORDER.
    ALL EQUIPMENT AND PIPE RELOCATION SHALL BE FIELD
    VERIFIED AND CLEARLY SHOWN.
    ALL VALVES SHALL BE REFERENCED FROM AT LEAST TWO AND
    PREFERABLY THREE PERMANENT POINTS.
  - DIMENSIONS BETWEEN ALL MANHOLES SHALL BE FIELD VERIFIED AND SHOWN ON THE AS-BUILT SURVEY. THE INVERTS AND GRADE ELEVATIONS OF ALL MANHOLES SHALL BE SHOWN. AS-BUILT SURVEY DRAWING DIMENSIONS SHALL INCLUDE PIPE MATERIAL,
- . CLASS . ETC LOCATIONS AND DESCRIPTION OF ALL POINTS OF SAMPLING OR TESTING
- RESULTS OF ALL UTILITY TESTING SHALL BE SUBMITTED WITH THE AS-BUILTS. THE TESTING AND AS-BUILT INFORMATION SHALL BE SUBMITTED TO THE ENGINEER OF RECORD.
- CERTIFICATIONS OF COMPLETION WILL NOT BE COMPLETED UNTIL ACCEPTABLE AS-BUILT DRAWINGS ARE PROVIDED TO THE ENGINEER OF RECORD.
- THE ENGINEER OF RECORD WILL NOT PERFORM THE FINAL FORCE MAIN INSPECTION FOR CERTIFICATION COMPLETION OF CONSTRUCTION UNTIL ACCEPTABLE AS-BUILT DOCUMENTS ARE PROVIDED TO THE ENGINEER OF RECORD.
- 9. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

### FIELD QUALITY CONTROL REQUIREMENT NOTES:

- INSPECTIONS DURING CONSTRUCTION ARE REQUIRED. AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF RECORD ASSIGNED TO THE PROJECT. DURING CONSTRUCTION AND UPON COMPLETION OF THE FOLLOWING CONSTRUCTION STAGES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD THAT EACH STAGE IS READY FOR INSPECTION.
  - INITIAL INSTALLATION OF PERIMETER SILT FENCE AND PRIMARY EROSION CONTROL; INITIAL INSTALLATION OF DEWATERING SYSTEMS;
  - LIFT STATION START-UP; REMOVAL OF UNSUITABLE MATERIAL,
- UTILITY TESTING. FINAL INSPECTION
- THE ENGINEER OF RECORD SHALL REQUIRE A MINIMUM OF 2 FULL WORKING DAYS' NOTICE TO SCHEDULE INSPECTIONS. THE PURPOSE OF THESE INSPECTIONS IS TO ENSURE COMPLIANCE WITH THE APPROVED PLAN, PERMIT REQUIREMENTS AND CONSTRUCTION CONTRACT DOCUMENTS. THE ENGINEER OF RECORD ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE WORK, OR FOR ANY CONTRACTUAL CONDITIONS INVOLVING ACCEPTANCE, PAYMENT, OR GUARANTEES BETWEEN THE CONTRACTOR AND THE OWNER, BY VIRTUE OF THESE STAGE INSPECTIONS. THE ENGINEER OF RECORD ASSUMES NO RESPONSIBILITY OR COMMITMENT GUARANTEEING ACCEPTANCE OF THE WORK, OR FOR SUBSEQUENT FAILURE, BY VIRTUE OF THESE STAGE INSPECTIONS. HOWEVER, IF ANY ASPECT OF THE WORK BEING PERFORMED DOES NOT COMPLY WITH ACCEPTABLE STANDARDS, CORRECTIONS WILL BE REQUIRED AS A CONDITION FOR ACCEPTANCE. ALL REQUIRED IMPROVEMENTS SHALL BE INSTALLED, AND HAVE THE APPROVAL OF THE ENGINEER OR RECORD, OWNER, AND/OR ANY OTHER GOVERNING ENTITIES AS REQUIRED PRIOR TO ACCEPTANCE.

#### GRADING AND DRAINAGE NOTES:

- GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CONFORM WITH ALL LINES, SLOPES, DIMENSIONS AND ELEVATIONS INDICATED IN THE CONTRACT DOCUMENTS, PLANS AND SPECIFICATIONS. PROVIDE A SMOOTH TRANSITION BETWEEN ADJACENT EXISTING GRADES AND NEW GRADES, CUT OUT SOFT SPOTS, FILL LOW SPOTS, AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED SURFACE TOLERANCES.
- THE EXISTING TOPOGRAPHIC AND UTILITY INFORMATION DEPICTED IN THE CONTRACT DOCUMENTS WAS OBTAINED FROM FIELD SURVEYS AND DOCUMENTED ON A TOPOGRAPHIC SURVEY BY SOUTHEASTERN SURVEYING, DATED 5/2014 AND REVISED 5/29/2014, AND IS MADE A PART OF THE CONSTRUCTION DOCUMENTS BY
- 3. THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND IN-HAND BEFORE BEGINNING ANY CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL REQUIRED PERMITS FOR DEMOLITION OR CLEARING FROM RESPONSIBLE REGULATORY AGENCIES AND FULLY ACKNOWLEDGE AND COMPLY WITH BECREVERIES PROGRAM CONTRACTOR DEMOLITION OR CLEARING WORK. ALL PERMITTING COSTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL LOCATE AND VERIFY (HORIZONTALLY AND VERTICALLY) ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND FOR NOTIFYING VARIOUS UTILITY COMPANIES TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION, TEMPORARY DISTRIBUTION SERVICE, OR CLARIFICATION OF ACTIVITY REGARDING SAID
- THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THESE PLANS OR NOT. ANY DELAY OR INCONVENIENCE OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO
- THE LOCATION OF ALL EXISTING UTILITIES, STORM DRAINAGE SYSTEMS, AND TOPOGRAPHIC FEATURES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR INACCURACY. SHOULD A DISCREPANCY ARISE BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, WHICH WOULD APPRECIABLY AFFECT THE EXECUTION OF THESE PLANS, THE CONTRACTOR WILL HALT CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL NOT EXCAVATE, REMOVE OR OTHERWISE DISTURB ANY MATERIAL, STRUCTURE OR PART OF A STRUCTURE WHICH IS LOCATED OUTSIDE THE PROJECT LIMITS, LINE OF GRADE OR GRADING SECTIONS, ESTABLISHED FOR THIS PROJECT, EXCEPT WHERE SUCH EXCAVATIONS OR REMOVAL IS PROVIDED FOR IN THE CONTRACT DOCUMENTS, PLANS OR SPECIFICATIONS.
- NO WORK SHALL BE DONE IN THE VICINITY OF SOCCER/MULTIPURPOSE FIELDS. CONTRACTOR SHALL NOT TRENCH OR DISTURB BERMUDA GRASS FIELDS. WHEN WORKING NEAR BERMUDA GRASS FIELDS, CONTRACTOR
- 9. ALL WORK AND ALL MATERIALS FURNISHED SHALL BE IN CONFORMITY WITH THE LINES, GRADES, GRADING SECTIONS, CROSS SECTIONS, DIMENSIONS, MATERIAL REQUIREMENTS, AND/OR TESTING REQUIREMENTS THAT ARE SPECIFIED IN THE CONTRACT DOCUMENTS.
- 10. ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, ORDINANCES, AND REGULATIONS.
- DURING CONSTRUCTION, NO DIRECT DISCHARGE OF STORM WATER RUNOFF TO DOWNSTREAM RECEIVING WATER BODIES OR WETLANDS SHALL BE ALLOWED. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER QUALITY, AND SHALL ROUTE DISCHARGE WATER IN SUCH A MANNER TO ADEQUATELY REMOVE TURBIDITY AND SILT PRIOR TO RUNOFF FROM THE SITE.
- 12. THE CONTRACTOR SHALL CONFORM TO THE LATEST OSHA STANDARDS FOR ALL WORK RELATED TO THIS PROJECT
- 13. ALL UNSUITABLE MATERIAL, IDENTIFIED OR NOT, SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR, IN STRICT ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.
- 14. COMPACT ALL UTILITIES TRENCHES TO 98% OF THE PROCTOR MAXIMUM DENSITY.
- 15. PROVIDE A MINIMUM OF 3 FT COVER FOR ALL UTILITIES UNLESS OTHERWISE NOTED.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, WATER QUALITY, OR SHOALING PROBLEMS THAT RESULT FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT.
- 17. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

#### SITE SECURITY NOTES:

- REFER TO PROJECT SPECIFICATIONS FOR SITE SECURITY AND USE OF PREMISES REQUIREMENTS.
- TRENCHES AND OTHER EXCAVATION AREAS, NOT SECURED BEHIND LOCKED CONSTRUCTION FENCING, SHALL BE BACKFILLED AT THE END OF EACH WORK DAY AND WHEN CONSTRUCTION PERSONNEL LEAVE THE SITE DURING THE DAY. AT NO TIME SHALL TRENCHES OR EXCAVATIONS REMAIN OPEN WHEN NOT UNDER THE OBSERVATION

#### **GENERAL PROJECT NOTES:**

- ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THESE PLANS, REFERENCED LOCAL AND STATE
- THE DUPLICATION OF NOTES HEREIN IS INTENTIONAL AND IS FOR USE BY VARIOUS DISCIPLINES. HOWEVER NOT ALL APPLICABLE NOTES MAY BE LISTED UNDER ANY ONE AREA OF WORK OR DISCIPLINES. THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL SUB-CONTRACTORS ARE PROVIDED WITH ALL THE NECESSARY PLAN SHEETS AND INFORMATION APPLICABLE TO THEIR AREA OF WORK.
- THE CONTRACTOR SHALL ACQUIRE THE NECESSARY RIGHT-OF-WAY PERMIT(S) AND PROVIDE FOR THE SAFETY AND MAINTENANCE OF TRAFFIC DURING CONSTRUCTION FOR WORK WITHIN THE RIGHTS-OF-WAY.
- THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND IN-HAND BEFORE BEGINNING ANY CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL REQUIRED PERMITS FROM RESPONSIBLE REGULATORY AGENCIES AND FULLY ACKNOWLEDGE AND COMPLY WITH ALL REQUIREMENTS PRIOR TO COMMENCING DEMOLITION WORK. ALL PERMITTING COSTS ARE THE RESPONSIBILITY OF THE
- 7. THE LOCATION OF ALL EXISTING UTILITIES, STORM DRAINAGE SYSTEMS, AND TOPOGRAPHIC FEATURES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR INACCURACY. SHOULD A DISCREPANCY ARISE BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, WHICH WOULD APPRECIABLY AFFECT THE EXECUTION OF THESE PLANS, THE CONTRACTOR WILL HALT CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL INSPECTION CRITERIA AND SCHEDULES, AND FOR SIGNING SAID INSPECTIONS.
- THE CONTRACTOR SHALL NOT EXCAVATE, REMOVE OR OTHERWISE DISTURB ANY MATERIAL, STRUCTURE OR PART OF A STRUCTURE WHICH IS LOCATED OUTSIDE THE LINES, GRADES OR GRADING SECTION OR LIMITS OF CONSTRUCTION ESTABLISHED FOR THIS PROJECT. THE CONTRACTOR CAN NOT CHANGE THE LIMITS OF CLEARING NOT GUARANTEED.

- 12. THE CONTRACT DOCUMENTS, SPECIFICATIONS, AND PLANS CALL ATTENTION TO CERTAIN REQUIRED FEATURES OF THE CONSTRUCTION BUT DO NOT PURPORT TO COVER ALL DETAILS OF DESIGN AND CONSTRUCTION. HOWEVER, THE CONTRACTOR SHALL FURNISH AND INSTALL THE WORKS IN ALL DETAILS AND READY FOR OPERATION.
- 13. ALL EQUIPMENT SHALL BE HANDLED, STORED, INSTALLED, TESTED, AND OPERATED IN STRICT ACCORDANCE
- 15. ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL
- 16. APPARENT ERRORS, DISCREPANCIES, OR OMISSIONS ON THE DRAWINGS SHALL BE BROUGHT TO THE ENGINEER OF RECORD'S ATTENTION IMMEDIATELY. ALL COMMUNICATION AND/OR REQUEST FOR INFORMATION SHALL BE IN WRITTEN FORM. THE EOR WILL PROVIDE NO VERBAL DIRECTION, CLARIFICATIONS, OR INFORMATION OVER THE PHONE OR IN THE FIELD. VERBAL DISCUSSIONS WILL NOT BE BINDING NOR WILL IT BE CONSIDERED AUTHORIZATION TO PROCEED WITH THE WORK WITHOUT WRITTEN CLARIFICATION, DIRECTION FOR AUTHORIZATION TO PROCEED WITH THE WORK WITHOUT WRITTEN CLARIFICATION, DIRECTION OF AUTHORIZATION. THE RESPONSIBLE PROFESSIONAL WILL REVIEW THE FIELD INFORMATION PROVIDED BY THE CONTRACTOR, GOVERNING STANDARDS AND STANDARD ENGINEERING PRACTICES PRIOR TO RESPONDING. THE RESPONSIBLE PROFESSIONAL RESERVES THE RIGHT TO REQUEST ADDITIONAL FIELD INFORMATION AS NECESSARY TO PROVIDE THE CONTRACTOR WITH APPROPRIATE DIRECTION. THE CONTRACTOR WILL RECEIVE A RESPONSE IN WRITING. THE RESPONSIBLE PROFESSIONAL WILL NOT BE RESPONSIBLE FOR CONSTRUCTION TIME DELAYS DUE TO UNFORESEEN CONDITIONS, NOR WILL THE RESPONSIBLE PROFESSIONAL AND/OR OWNER BE RESPONSIBLE FOR THE TIME DELAYS DUE TO INADEQUATE NOTIFICATION OR DELAYS IN WRITTEN NOTIFICATION OF CONFLICTS, ETC.
- PROJECT SCOPE OR SITE CONDITIONS AFFECTING THE WORK AS DESCRIBED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS.
- 19. ALL CORRESPONDENCE INCLUDING RFI'S SHALL BE FAXED OR EMAILED TO THE BENTLEY PROJECT MANAGER. MOLLY DEVIVERO (molly@baeonline.com). ANY ELEVATIONS NOTED WITHIN AN RFI OR OTHER CORRESPONDENCE SHALL BE BASED ON THE PROJECT DATUM AS REFERENCED ON THE PROJECT TOPOGRAPHICAL SURVEY BY SOUTHEASTERN SURVEYING.
- 20. AFTER COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PERFORM SITE CLEANUP OPERATION FOR REMOVAL OF ALL TRASH, DEBRIS, EXCESS MATERIALS AND EQUIPMENT. IT SHALL BE THE CONTRACTOR'S RESPONSIBLE TO PRESENT THE PROJECT SITE CLEAN AND IN GOOD ORDER AT THE TIME OF FINAL
- 21. ALL DISTURBED PERVIOUS AREAS SHALL BE SODDED. SOD SHALL BE ARGENTINE BAHIA AND SUITABLE FOR SHADE OR SUN. MUCK GROWN SOD SHALL NOT BE USED. ANY NON-PERVIOUS AREA DISTURBED SHALL BE RESTORED WITH LIKE MATERIALS, MEETING THE 2014 FDOT STANDARD SPECIFICATIONS, TO A CONDITION EQUAL TO OR BETTER THAN EXISTING AND ACCEPTABLE TO THE OWNER.
- CONSTRUCTION ACTIVITIES OF THE PROPOSED WORK.
- 23. DEWATERING FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS IS ANTICIPATED. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PREPARE AND SUBMIT A DEWATERING PLAN TO THE ENGINEER OF RECORD. THE USE OF A SUMP PUMP AND/OR PERIMETER DITCHES WILL NOT BE PERMITTED.
- MINIMUM OF (2) WORKING DAYS PRIOR TO EXCAVATING.
- 26. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. NO FILL OR RUNOFF WILL BE ALLOWED TO DISCHARGE ONTO ADJACENT PROPERTIES; EXISTING DRAINAGE PATTERNS SHALL NOT BE ALTERED. UPON APPROVAL, THE CITY OF WINTER GARDEN'IS NOT GRANTING RIGHTS OR EASEMENTS FOR DRAINAGE FROM, OR ONTO, PROPERTY OWNED BY OTHERS. OBTAINING PERMISSION, EASEMENTS OR OTHER APPROVALS THAT MAY BE REQUIRED TO DRAIN ONTO PRIVATE PROPERTY IS THE OWNER/DEVELOPER'S RESPONSIBILITY. SHOULD THE FLOW OF THE STORMWATER RUNOFF FROM, OR ONTO ADJACENT PROPERTIES BE UNREASONABLE OR CAUSE PROBLEMS, THE CITY WILL NOT BE RESPONSIBLE AND ANY CORRECTIVE MEASURES REQUIRED WILL BE THE RESPONSIBILITY OF THE OWNER. SITE CONSTRUCTION SHALL ADHERE TO THE CITY OF WINTER GARDEN EROSION AND SEDIMENT CONTROL REQUIREMENTS AS CONTAINED IN CHAPTER 106 - STORMWATER. APPROVAL BY THE CITY OF WINTER GARDEN DOES NOT WAIVE ANY PERMITS THAT MAY BE REQUIRED BY FEDERAL, STATE, REGIONAL, COUNTY, MUNICIPAL OR OTHER AGENCIES THAT MAY HAVE
- AFTER FINAL PLAN APPROVAL, A PRECONSTRUCTION MEETING WILL BE REQUIRED PRIOR TO ANY COMMENCEMENT OF CONSTRUCTION. THE APPLICANT SHALL PROVIDE AN EROSION CONTROL AND LIGHTING PLAN AT THE PRECONSTRUCTION MEETING AND SHALL PAY ALL ENGINEERING REVIEW AND INSPECTION FEES PRIOR TO CONSTRUCTION. INSPECTION FEES IN THE AMOUNT OF 2.25% OF THE COST OF ALL SITE IMPROVEMENTS SHALL BE PAID PRIOR TO ISSUANCE OF SITE OR BUILDING PERMITS.
- ALL SUBMITTALS SHALL BE ELECTRONIC UNLESS PAPER SIZE OF SUBMITTAL MAKES IT IMPRACTICAL O SUBMIT ELECTRONICALLY. ALL ELECTRONIC SUBMITTALS SHALL BE MADE TO THE BENTLEY PROJECT
- BENTLEY WILL RETAIN ONE (1) COPY FOR OUR RECORDS AND PROVIDE THE OWNER WITH ONE (1) COPY. UPON THE CONTRACTOR'S RECEIPT OF APPROVED SHOP DRAWINGS, THE CONTRACTOR MAY PROCEED WITH THE FABRICATION AND/OR WORK. SHOP DRAWINGS WILL BE REQUIRED FOR ALL STORM DRAINAGE STRUCTURES, FILTER FABRIC, RIPRAP, AGGREGATE, FABRIFORM, PIPING AND FITTINGS.

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- STANDARDS AND SPECIFICATIONS, AND THE PROJECT SPECIFICATIONS.

- THE CONTRACTOR SHALL LOCATE AND VERIFY (HORIZONTALLY AND VERTICALLY) ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND FOR NOTIFYING VARIOUS UTILITY COMPANIES TO MAKE THE NECESSARY ARRANGEMENTS FOR RELOCATION, TEMPORARY DISTRIBUTION OF SERVICE, OR CLARIFICATION OF ACTIVITY REGARDING SAID
- THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THESE PLANS OR FIELD LOCATED. ANY DELAY OR INCONVENIENCE OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.
- AND GRUBBING FROM WHAT IS SHOWN ON THE PLANS WITHOUT APPROVAL FROM THE ENGINEER OF RECORD. IN ORDER TO PROPOSE A CHANGE TO THE LIMITS OF CLEARING AND GRUBBING, THE CONTRACTOR SHALL SUBMIT AN RFI CONTAINING DETAILED AND DIMENSIONED LINE WORK OF THE PROPOSED LIMIT CHANGES TO THE ENGINEER OF RECORD FOR REVIEW AND FOR SUBMITTAL TO LOCAL AGENCIES AS APPLICABLE. PLEASE NOTE THAT REVIEW FOR CHANGES TO THE LIMITS OF CLEARING AND GRUBBING MAY TAKE IN EXCESS OF 60 DAYS AND APPROVAL IS
- 10. ALL PRIVATE AND PUBLIC PROPERTY DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING AT THE CONTRACTOR'S EXPENSE.
- 11. ALL WORK AND ALL MATERIALS FURNISHED SHALL BE IN CONFORMITY WITH THE LINES, GRADES, GRADING SECTIONS, CROSS SECTIONS, DIMENSIONS, MATERIAL REQUIREMENTS, AND/OR TESTING REQUIREMENTS THAT ARE SPECIFIED IN THE CONTRACT DOCUMENTS, PLANS AND SPECIFICATIONS.
- WITH THE APPLICABLE MANUFACTURER'S WRITTEN INSTRÚCTIONS.
- 14. ALL WORK SHALL BE ACCOMPLISHED TO THE HIGHEST QUALITY CRAFTSMANSHIP STANDARDS.
- CODES, ORDINANCES, AND REGULATIONS.
- NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY WORK REQUIRED DUE TO MISUNDERSTANDING OF THE
- 18. IF DESIGN SPECIFICATION DISCREPANCIES ARE FOUND BETWEEN THESE PLANS AND ANY OTHER CONTRACT DOCUMENT, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.

- 22. CONTINUOUS ACCESS SHALL BE MAINTAINED TO THE SITE FOR TESTING AND INSPECTION DURING ALL
- 24. CHAPTER 553.851 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY ALL GAS UTILITIES ATTICLIES
- 25. ALL CONSTRUCTION STAKING SHALL BE DONE AT THE CONTRACTOR'S EXPENSE AND BY HIS WORK FORCE.

SHOP DRAWING SUBMITTAL NOTES:

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2. IF PAPER COPIES OF SUBMITTALS ARE NEEDED OR REQUIRED, THE CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF DETAILED SHOP DRAWINGS OF ALL MAJOR ITEMS PROPOSED FOR THIS PROJECT TO THE BENTLEY PROJECT MANAGER, MOLLY DEVIVERO, PRIOR TO ORDERING ANY OF THE EQUIPMENT OR STRUCTURES. THREE (3) COPIES OF THE SHOP DRAWINGS WILL BE RETURNED TO THE CONTRACTOR,

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NO. 64860

MOLLY A. deVIVERO

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BY A REGISTERED ENGINEER

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#### GENERAL PROJECT EROSION AND SEDIMENT CONTROL NOTES:

- 1. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS, PERMITS, AND REGULATIONS CONTROLLING POLLUTION OF THE ENVIRONMENT.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING, MONITORING, AND REPAIRING EROSION CONTROL MEASURES DURING THE ENTIRE CONSTRUCTION PROCESS TO PREVENT OFF-SITE DISCHARGE OF SEDIMENTS OR DISCHARGE OF SEDIMENTS INTO ON-SITE ENVIRONMENTALLY SENSITIVE AREAS. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:
  - A. PLACE STRAW, MULCH, OR GRAVEL (EXCLUDING LIMEROCK) MATERIAL ON THE GROUND IN AREAS SUBJECTED TO CONSTRUCTION TRAFFIC ENTERING OR EXITING THE SITE TO PREVENT EXCESSIVE QUANTITIES OF SEDIMENT BEING TRANSPORTED OFF-SITE. B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF OFF-SITE SEDIMENTATION DUE TO HIS CONSTRUCTION ACTIVITIES IF THE OFF-SITE SEDIMENTATION IS DEEMED EXCESSIVE BY THE PROJECT ENGINEER OR LOCAL WATER MANAGEMENT DISTRICT. THE AREAS OF SEDIMENTATION REMOVAL SHALL INCLUDE BUT ARE NOT LIMITED TO PUBLIC RIGHTS OF WAY, STORM SEWERS, AND WATER BODIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING FOR AND OBTAINING ALL STATE, FEDERAL, OR LOCAL PERMITS REQUIRED FOR THE REMOVAL OF OFF-SITE SEDIMENTATION DUE TO HIS OR HIS SUBCONTRACTOR'S WORK FORCE.
- 3. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL EROSION PROTECTION COSTS, INCLUDING ANY COSTS ASSOCIATED WITH COMPLIANCE ISSUES AND THE ENFORCEMENT ACTIONS.
- 4. THE CONTRACTOR IS REQUIRED TO MEET ALL REQUIREMENTS INCLUDING MONITORING AND REPORTING OF THE EPA-NPDES STORMWATER GENERAL PERMIT AND MEET ALL THE CONDITIONS AND MINIMUM STANDARDS.
- STORM DRAINAGE DISCHARGE PROTECTION PROTECT PIPE OR DITCH DISCHARGES AS NECESSARY TO PREVENT SEDIMENTATION AND/OR EROSION. OFF-SITE DISCHARGE POINTS SHALL BE INSPECTED DAILY FOR POSSIBLE SEDIMENT BUILDUP, TRANSPORT, OR EROSION. ANY SEDIMENT BUILDUP OR TRANSPORT OFF-SITE SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO
- INLET AND MANHOLE PROTECTION ALL ON-SITE AND OFF-SITE STRUCTURES SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL PROJECT IS COMPLETE. DURING ON-SITE GRADING OPERATIONS THE GRADE ADJACENT TO INLETS AND MANHOLES SHALL NOT BE HIGHER THAN THE INLET GRATE ELEVATION OR MANHOLE TOP. SYNTHETIC BALES SHALL BE INSTALLED AROUND INLETS AND MANHOLES. INLET AND MANHOLE PROTECTION SHALL BE IN ACCORDANCE WITH THESE CONSTRUCTION DOCUMENTS AND THE FDOT STANDARD INDEX.
- DURING CONSTRUCTION, NO DIRECT DISCHARGE OF STORMWATER RUNOFF TO DOWNSTREAM RECEIVING WATER BODIES SHALL BE ALLOWED. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER QUALITY, AND SHALL ROUTE DISCHARGE WATER IN SUCH A MANNER TO ADEQUATELY REMOVE TURBIDITY AND SILT PRIOR TO RUNOFF FROM THE SITE.
- THE EROSION CONTROL MEASURES SHOWN HEREIN ARE A MINIMUM. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES FOR THE DURATION OF THE PROJECT. THE CONTRACTOR IS ALSO RESPONSIBLE FOR IMPLEMENTING ADDITIONAL MEASURES AS DEEMED NECESSARY BY SITE CONDITIONS AND THE WATER MANAGEMENT DISTRICT.
- ALL MEASURES TAKEN BY THE CONTRACTOR TO CONTROL EROSION SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION, THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE SOUTH FLORIDA WATER MANGEMENT DISTRICT, AND THESE CONSTRUCTION DOCUMENTS.
- 10. SILT FENCE SHALL BE INSTALLED ALONG THE LIMITS OF CLEARING AND GRUBBING. THE LIMITS OF CLEARING AND GRUBBING HAVE BEEN ESTABLISHED TYPICALLY AT 15 FEET OUTWARD FROM THE TOP OF SLOPE OR LIMITS OF WORK. REFER TO PLAN SHEETS FOR DETAILED LOCATIONS OF THE SILT FENCE.
- 11. THE CONTRACTOR SHALL PREPARE AND SUBMIT A NOI (NOTICE OF INTENT) AND NOT (NOTICE OF TERMINATION) TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) FOR NDPES PERMITTING. THE CONTRACTOR CAN CONTACT THE LOCAL FDEP STORMWATER DIVISION OR VISIT THE FDEP WEBSITE (WWW.DEP.STATE.FL.US/WATER/STORMWATER/NPDES) FOR FORMS AND ADDITIONAL INFORMATION.
- 12. NO SOIL OUTSIDE OF PROJECT LIMITS OF SILT FENCE SHALL BE DISTURBED.
- 13. THE CONTRACTOR SHALL DESILT ALL FINAL ON-SITE STORM SEWERS AND ALL OFF-SITE RECEIVING STORM SEWERS AND OUTFALL DITCHES/CANALS UPON COMPLETION OF ALL EARTHWORK ACTIVITIES, EARTH STABILIZATION, AND PRIOR TO FINAL INSPECTION. FINAL APPROVAL OF CONSTRUCTION COMPLETION WILL BE WITHHELD UNTIL SAID STORM SEWERS AND DITCHES/CANALS ARE DESILTED. DESILTING OF OFF-SITE STORM SEWERS SHALL NOT RESULT IN THE DISPLACEMENT OF SILT FURTHER DOWNSTREAM.
- 14. THE EROSION CONTROL MEASURES SHOWN HEREIN ARE A MINIMUM. SHOULD LOCAL REGULATORY AGENCIES REQUIRE IMPLEMENTATION OF ADDITIONAL MEASURES DUE TO UNANTICIPATED OR UNFORSEEN CONDITIONS, THE CONTRACTOR SHALL INSTALL SUCH MEASURES AS NECESSARY TO MEET THE REQUIREMENTS OF THE LOCAL AGENCY. LOCAL AGENCIES HAVING JURISDICTION INCLUDE THE SOUTH FLORIDA WATER MANGEMENT DISTRICT, ORANGE COUNTY, AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

### 15. MAINTENANCE

15A. THE EROSION AND SEDIMENTATION DEVICES WILL BE MAINTAINED. IF THE POSITIONS OF THE DEVICES ARE ALTERED DUE TO CONSTRUCTION ACTIVITIES, HEAVY RAINFALL, OR ANY OTHER EVENTS, THE DEVICES WILL BE RETURNED TO THEIR ORIGINAL CONDITION AND PLAN POSITION. EROSION CONTROL DEVICES THAT ARE DAMAGED OR ARE NO LONGER EFFECTIVE DUE TO DEGRADATION WILL BE REPLACED IN KIND. MAINTENANCE WILL BE PERFORMED UNTIL THE THREAT OF EROSION IS ELIMINATED OR PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.

### 16. INSPECTIONS

16A. QUALIFIED PERSONNEL SHALL INSPECT THE FOLLOWING ITEMS WITHIN 24 HOURS AFTER A RAINFALL TOTAL OF 0.5 INCHES OR AT LEAST EVERY 7 CALENDAR DAYS AND DAILY DURING THE WET SEASON OR DURING PERIODS OF PROLONGED RAINFALL EVENTS. TO COMPLY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAGES AND RECORD THE DAILY RAINFALL WHERE THE SITE HAS BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. INSPECTION OF THE CONTROLS INSTALLED IN THE FIELD WILL OCCUR TO ENSURE THAT THE CONTROLS AGREE WITH THE LATEST STORMWATER POLLUTION PREVENTION PLAN.

- 16A-1. POINTS OF DISCHARGE TO MUNICIPAL SEPARATE STORM SEWER SYSTEMS
- DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN STABILIZED
- AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION 16A-4. STRUCTURAL CONTROLS
- STORMWATER MANAGEMENT SYSTEMS
- LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE 16A-6. 16A-7. STABILIZATION CONTROLS

16B. REPAIRS SHALL BE INITIATED WITHIN 24 HOURS OF INSPECTIONS THAT INDICATE ITEMS ARE NOT IN GOOD WORKING ORDER

16C. IF INSPECTIONS INDICATE THAT THE STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENT, AND PREVENT DISCHARGING POLLUTANTS, ADDITIONAL MEASURES WILL BE PROVIDED.

#### GENERAL PROJECT EROSION AND SEDIMENT CONTROL NOTES CONT'D:

17. NON-STORMWATER DISCHARGES 17A. NON-STORMWATER DISCHARGE ASSOCIATED WILL BE RETAINED ON-SITE. WELL POINT DISCHARGES SHALL BE DIRECTED INTO SEDIMENT BASINS, ON-SITE STORM INLETS, OR

17B. DISCHARGE WATER FROM DEWATERING AND WELL POINTS MUST BE CLEAN PRIOR TO DISCHARGING INTO STORM SEWER OR STORMWATER MANAGEMENT SYSTEMS. IF THE CONTRACTOR ENCOUNTERS CONTAMINATED GROUND WATER DURING DEWATERING, THE WATER WILL NEED TO BE TREATED PRIOR TO DISCHARGE. ALL DEWATERING DISCHARGES MUST MEET STATE WATER QUALITY STANDARDS.

#### EROSION AND SEDIMENT CONTROL PLAN NOTES:

#### 1. SITE DESCRIPTION

- 1A. DESCRIPTION OF CONSTRUCTION ACTIVITY: CONSTRUCTION INCLUDES THE INSTALLATION OF A NEW SANITARY SEWER LINE, TWO NEW LIFT STATIONS, AND A NEW SANITARY MANHOLE.
- 1B. SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES: PHASE 1: PERIMETER EROSION CONTROLS WILL BE INSTALLED PRIOR TO THE START OF ANY CLEARING AND GRUBBING ACTIVITIES. STABILIZE ALL AREAS TO BE LEFT UNDISTURBED FOR A PERIOD OF 7 DAYS OR MORE.

PHASE 2: CLEARING AND GRUBBING, LOCATION AND EXCAVATION OF EXISTING FACILITIES. PHASE 3: GRADING, CONSTRUCTION OF SANITARY SEWER AND LIFT STATIONS (REFER TO PHASING PLAN).

#### 1C. SITE MAP:

1C-1. DRAINAGE PATTERNS: REFER TO TOPOGRAPHIC SURVEY AND SITE PLANS 1C-2. APPROXIMATE SLOPES: REFER TO TOPOGRAPHIC SURVEY AND SITE PLANS AND CROSS SECTIONS 1C-3. AREAS OF SOIL DISTURBANCE: REFER TO SITE PLANS

AREAS THAT ARE NOT TO BE DISTURBED: REFER TO SITE PLANS

#### 1D. RECEIVING WATERS: WETLAND

- 1E. SITE LOCATION: 150 Windermere Road, Winter Garden, FL 34787
- 1F. AREA ESTIMATES: TOTAL AREA OWNED: 336.74 AC. PROJECT LIMITS (LIMITS OF AREA TO BE DISTURBED): 0.396 AC.

#### 2. CONTROLS

- 2A. EROSION AND SEDIMENT CONTROLS:
  - AS WORK PROGRESSES, MODIFICATIONS WILL BE REQUIRED TO ADAPT TO SEASONAL VARIATIONS, CHANGES IN CONSTRUCTION ACTIVITY, AND THE NEED FOR BETTER PRACTICES. 2A-1. STABILIZATION PRACTICES SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE FOLLOWING:
  - TEMPORARY SEED AND MULCH, AND SOD IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 104.
  - PERMANENT SOD TO BE IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 570. 2A-2. IMPLEMENTATION OF STABILIZATION PRACTICES WILL BE BASED ON THE STATUS AND PROGRESS OF THE WORK.
  - TEMPORARY MULCH AND SEEDING MAY BE USED TO STABILIZE ALL AREAS WITH SLOPES LESS THAN 4:1 (H:V) THAT ARE BROUGHT TO FINAL GRADE, PREPARED AND AWAITING PLANTING OF FINAL PLANT MATERIAL.
  - PERMANENT SOD WILL BE REQUIRED FOR ALL AREAS BROUGHT TO FINAL GRADE AND PREPARED FOR PERMANENT STABILIZATION.
  - 2B. STORMWATER MANAGEMENT: AN EXISTING STORMWATER MANAGEMENT SYSTEM IS IN PLACE AND WILL NOT BE MODIFIED BY THIS PROJECT.

- 2C-1. WASTE DISPOSAL: WASTE DISPOSAL: CONTRACTOR SHALL DISPOSE OF WASTE AND DEBRIS OFF SITE. EXCAVATION MATERIAL SHALL NOT BE STOCK PILED ON SITE
- UNPROTECTED FROM RAINFALL AND RUNOFF. 2C-2. OFFSITE VEHICLE TRACKING AND GENERATION OF DUST SHALL BE CONTROLLED BY THE FOLLOWING METHODS: UTILIZATION OF EXISTING PAVED ROADS AND COVERING LOADED HAUL TRUCKS WITH TARPAULINS. REMOVING EXCESS DIRT FROM ROADS DAILY. APPLICATION OF FERTILIZERS AND PESTICIDES SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF FDOT STANDARD 570 AND 577 OF THE SPECIFICATIONS. 2C-4. TOXIC SUBSTANCES - NO TOXIC SUBSTANCES SHALL BE USED.

### 2D. STATE AND LOCAL PLANS AND PERMITS:

NO STATE AND LOCAL PERMITS NEED TO BE OBTAINED FOR EROSION & SEDIMENT CONTROL

# NOTES FOR SYNTHETIC HAY BALES

IN UNPAVED AREAS. SYNTHETIC HAY BALES SHALL BE TRENCHED 3" TO 4" AND ANCHORED WITH 2-1"x2" (OR 1" DIA.) x 4' WOOD STAKES.

ADJACENT BALES SHALL BE BUTTED FIRMLY TOGETHER. UNAVOIDABLE GAPS SHALL BE PLUGGED WITH HAY OR STRAW.

### STORMWATER INLET PROTECTION DETAIL AND NOTES

N.T.S.

# MOLLY A. deVIVERO FLORIDA P.E. NO. 64860 T VALID UNLESS SIGNED & SEA BY A REGISTERED ENGINEER

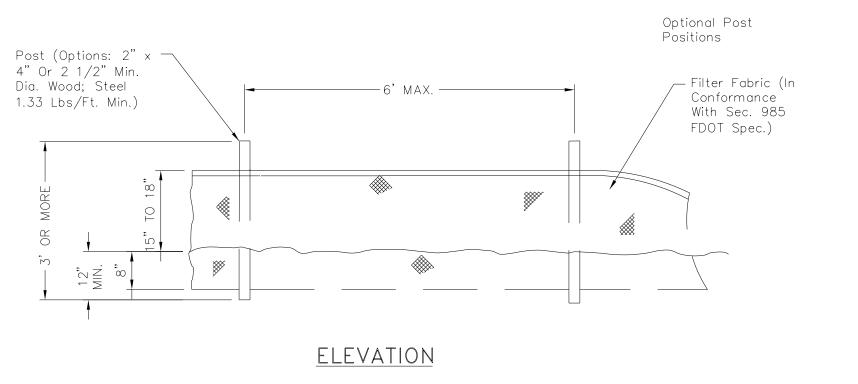
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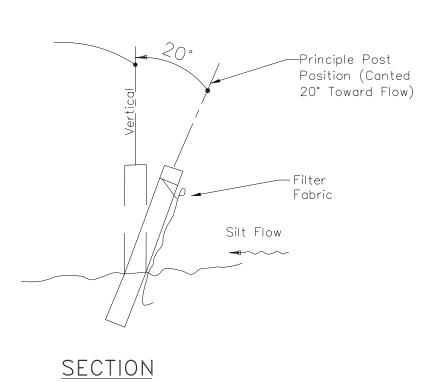
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# SILT FENCE DETAIL AND NOTES

N.T.S.

NOTES FOR SILT FENCES

IN DITCHES, THE SPACING FOR TYPE III SILT FENCE SHALL BE IN

LOADS ARE ANTICIPATED. SUGGESTED USE IS WHERE FILL SLOPE

3. DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING

WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS

AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

5. SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE

4. WHERE USED AS SLOPE PROTECTION, SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING

2. TYPE IV SILT FENCE TO BE USED WHERE LARGE SEDIMENT

IS 1:2 OR STEEPER AND LENGTH OF SLOPE EXCEEDS 25 FEET. AVOID USE WHERE THE DETAINED WATER MAY BACK INTO TRAVEL

ACCORDANCE WITH CHART 1, SHEET 1, FDOT INDEX 102.

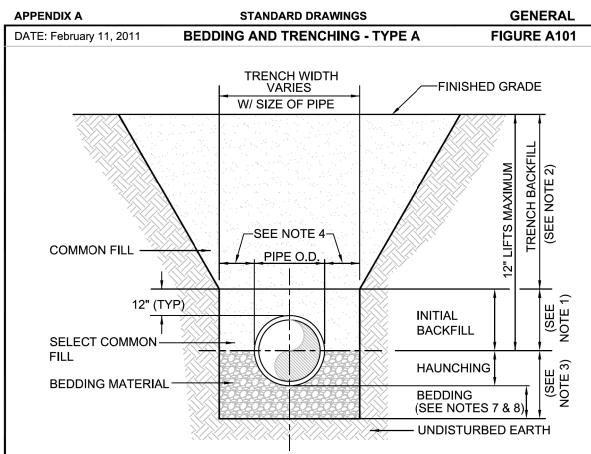
LANES OR OFF THE RIGHT OF WAY.

FOR STAKED SILL FENCE, (LF).

RUNOFF ALONG THE LENGTH OF THE FENCE.

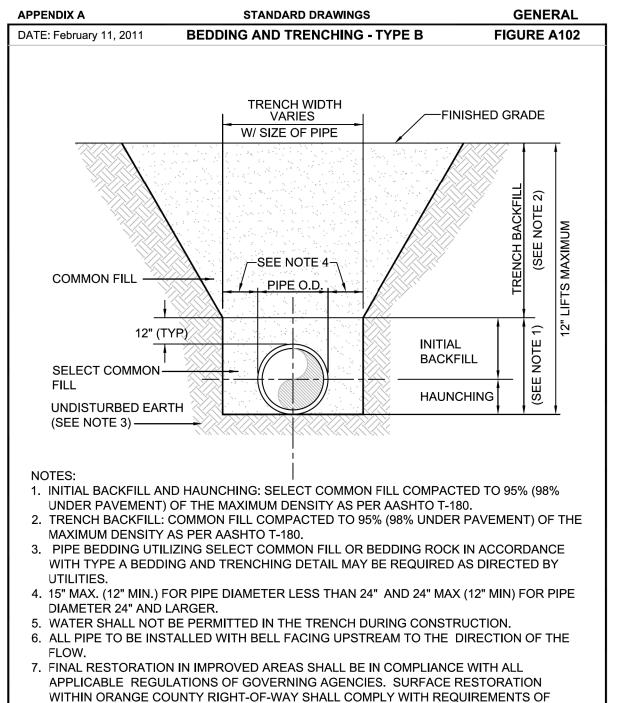
1. TYPE III FENCE TO BE USED AT MOST LOCATIONS. WHERE USED

# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL

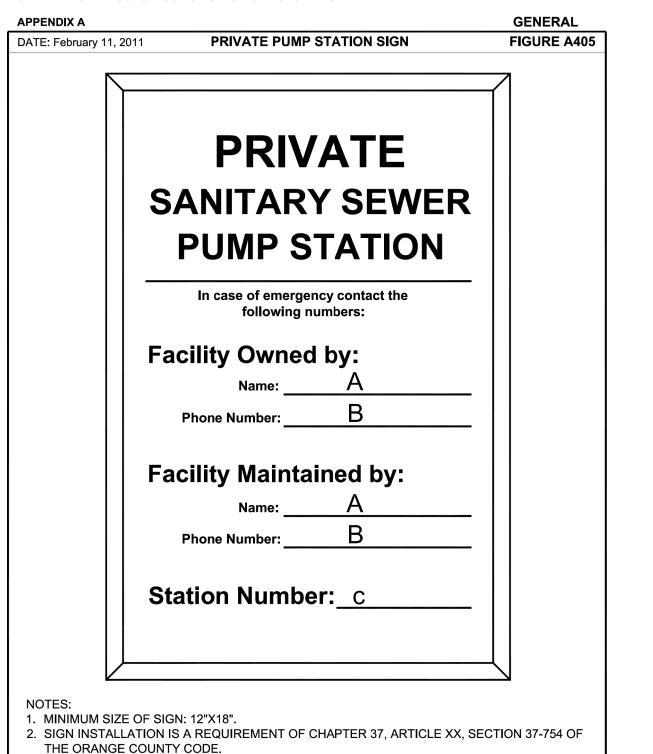


- . INITIAL BACKFILL: SELECT COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
- . TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
- 3. TYPE A BEDDING MATERIAL SHALL CONFORM TO FDOT NO. 57 AGGREGATE. 4. 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) 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
- . BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER UP TO 12" AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
- . DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. UTILITIES SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.
- FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN ORANGE COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF R/W UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL



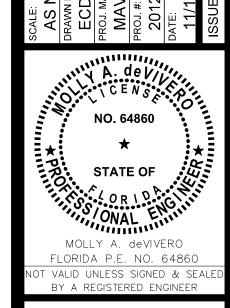
## ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL



3. OBTAIN STATION NUMBER FROM ORANGE COUNTY UTILITIES.

4. SIGN SHALL BE 0.04 GAUGE ALUMINUM.

- ORANGE COUNTY PARKS AND RECREATION
- CONTRACTOR TO COORDINATE TELEPHONE NUMBER WITH ORANGE COUNTY PARKS AND RECREATION PRIOR TO SIGN FABRICATION
- OFFICE/RESTROOM LIFT STATION WO #1 CONCESSION/RESTROOM LIFT STATION WO #2

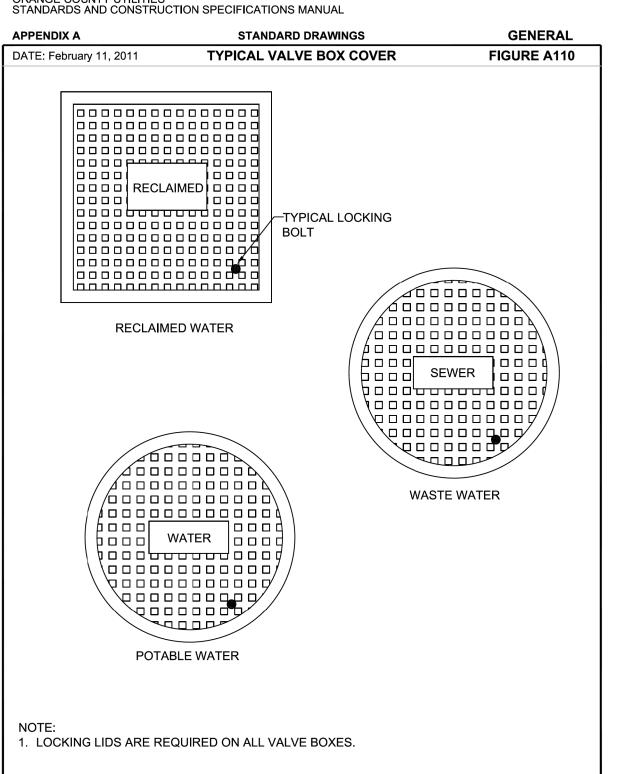


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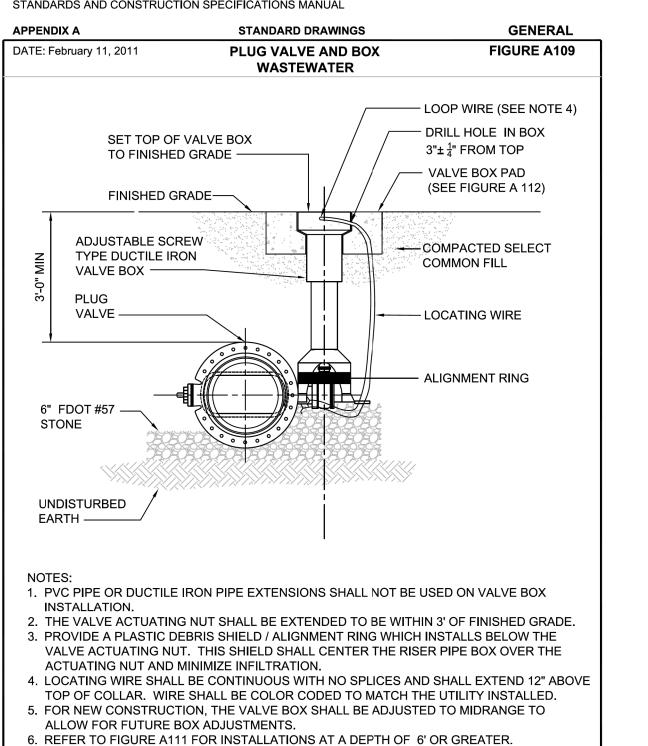
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# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL

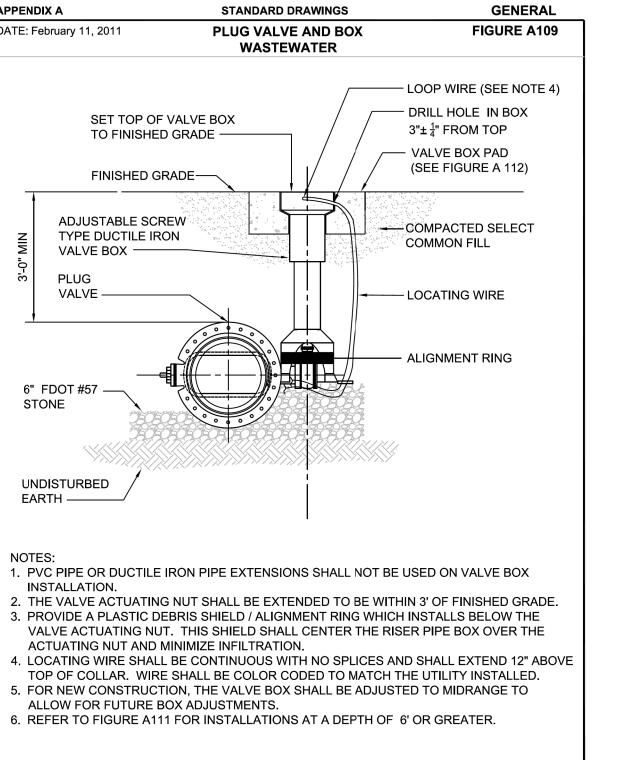


# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL



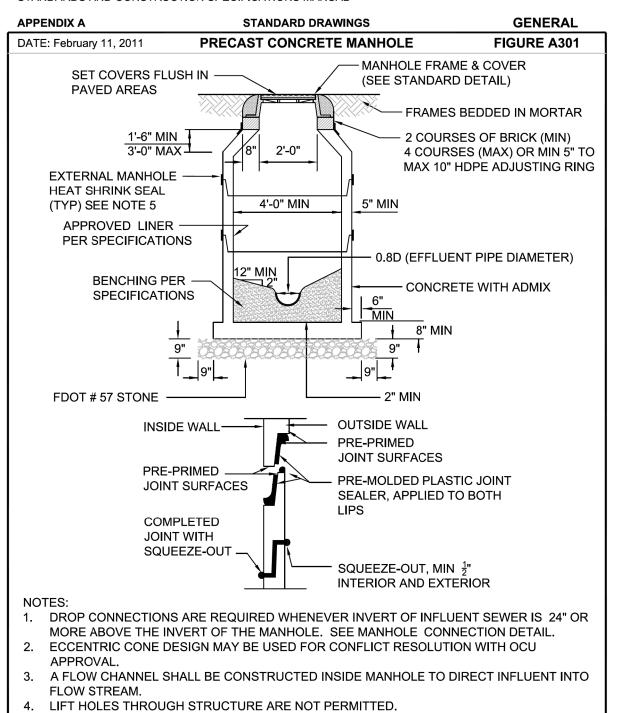
SPECIFICATIONS.

RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION



1/30/2015

# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL



WRAP TIGHTLY AROUND CASTING JOINTS AND APPLY HIGH INTENSITY PROPANE TORCH

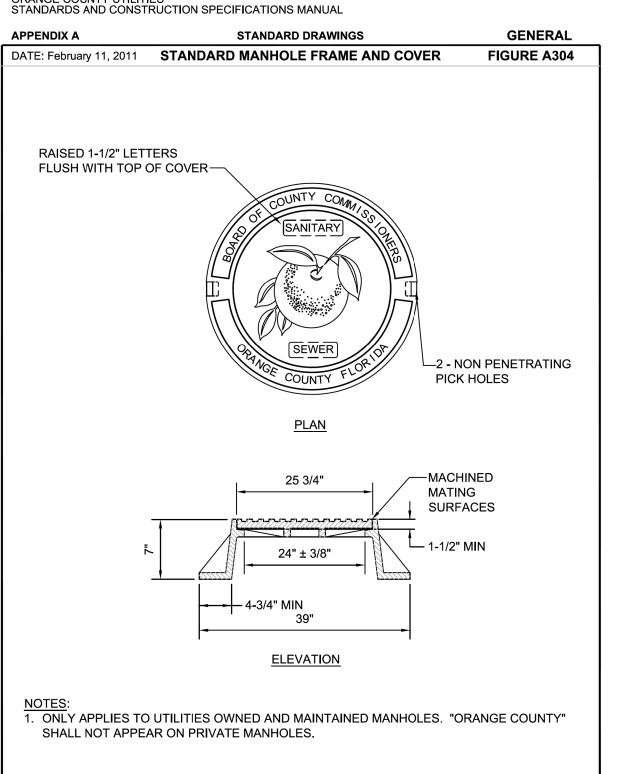
SECTION HEIGHTS VARY AS REQUIRED, AND AS AVAILABLE, FROM APPROVED

TO EFFECTIVELY SEAL THEM FROM GROUND WATER INFILTRATION.

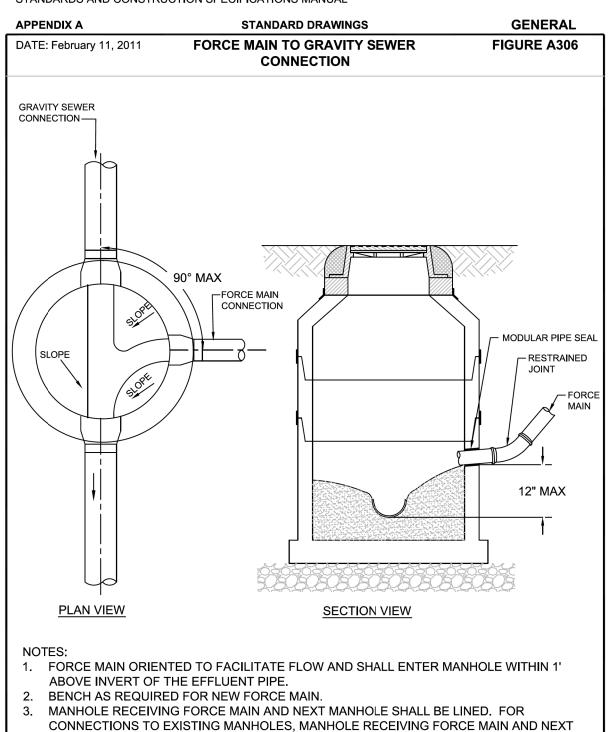
HDPE ADJUSTING RINGS MAY BE SUBSTITUTED FOR BRICK RISERS.

# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL

MANUFACTURERS LISTED IN APPENDIX D.



# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL

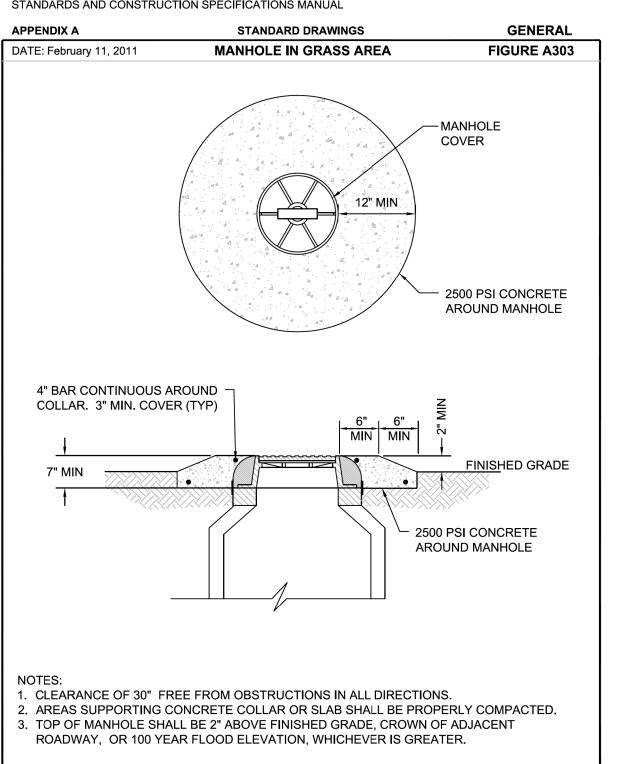


# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL

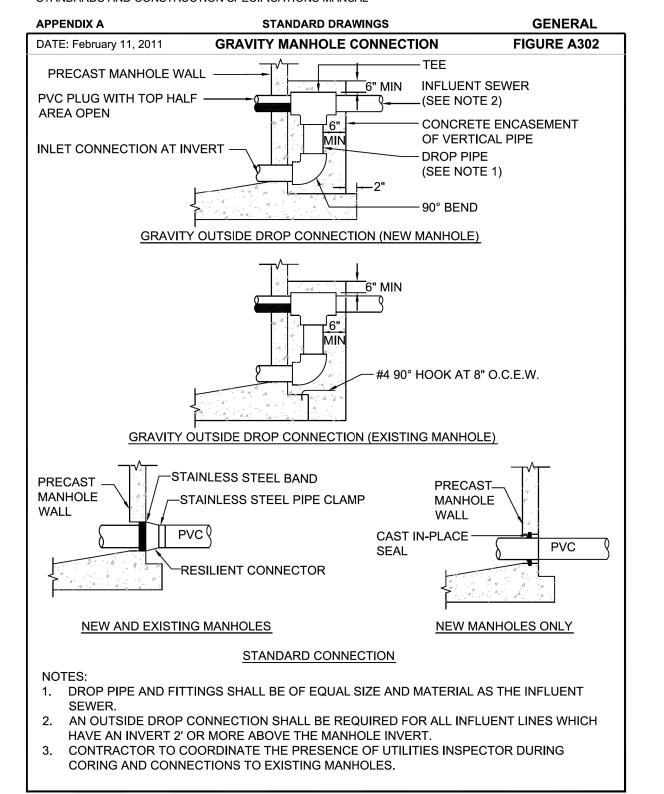
MANHOLE SHALL BE COATED OR LINED PER APPENDIX D.

CORING AND CONNECTIONS TO EXISTING MANHOLES.

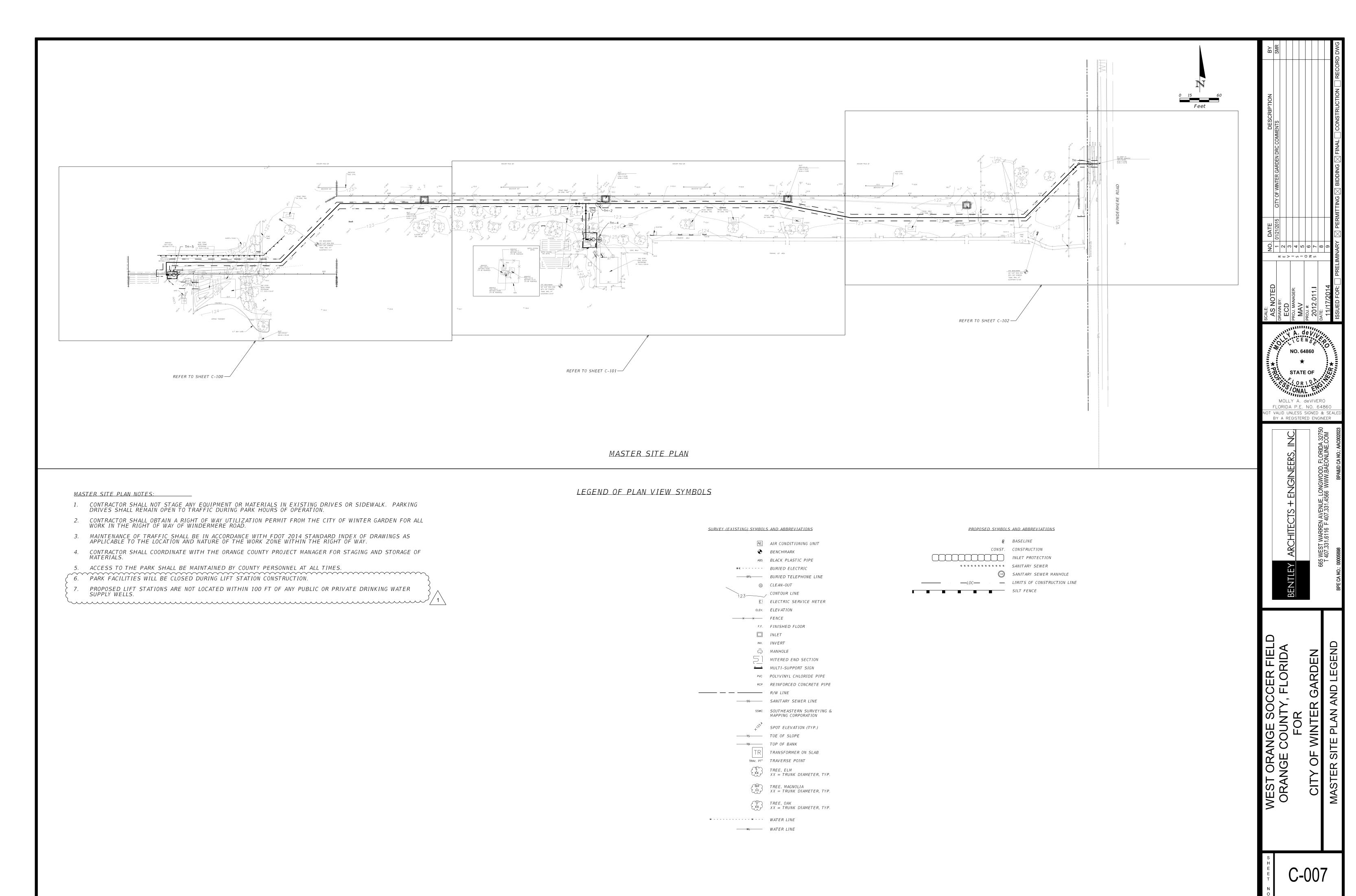
4. CONTRACTOR TO COORDINATE THE PRESENCE OF UTILITIES INSPECTOR DURING

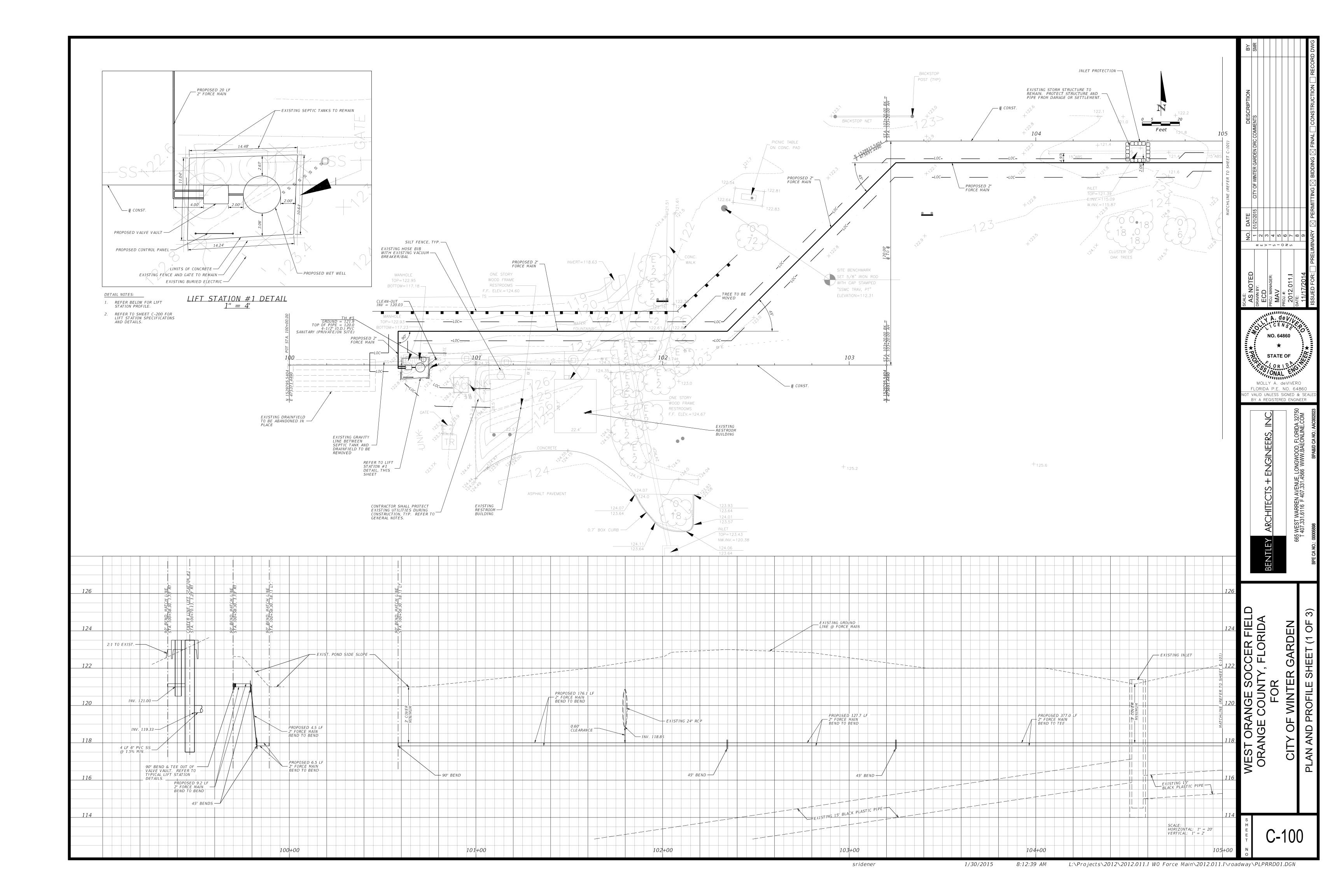


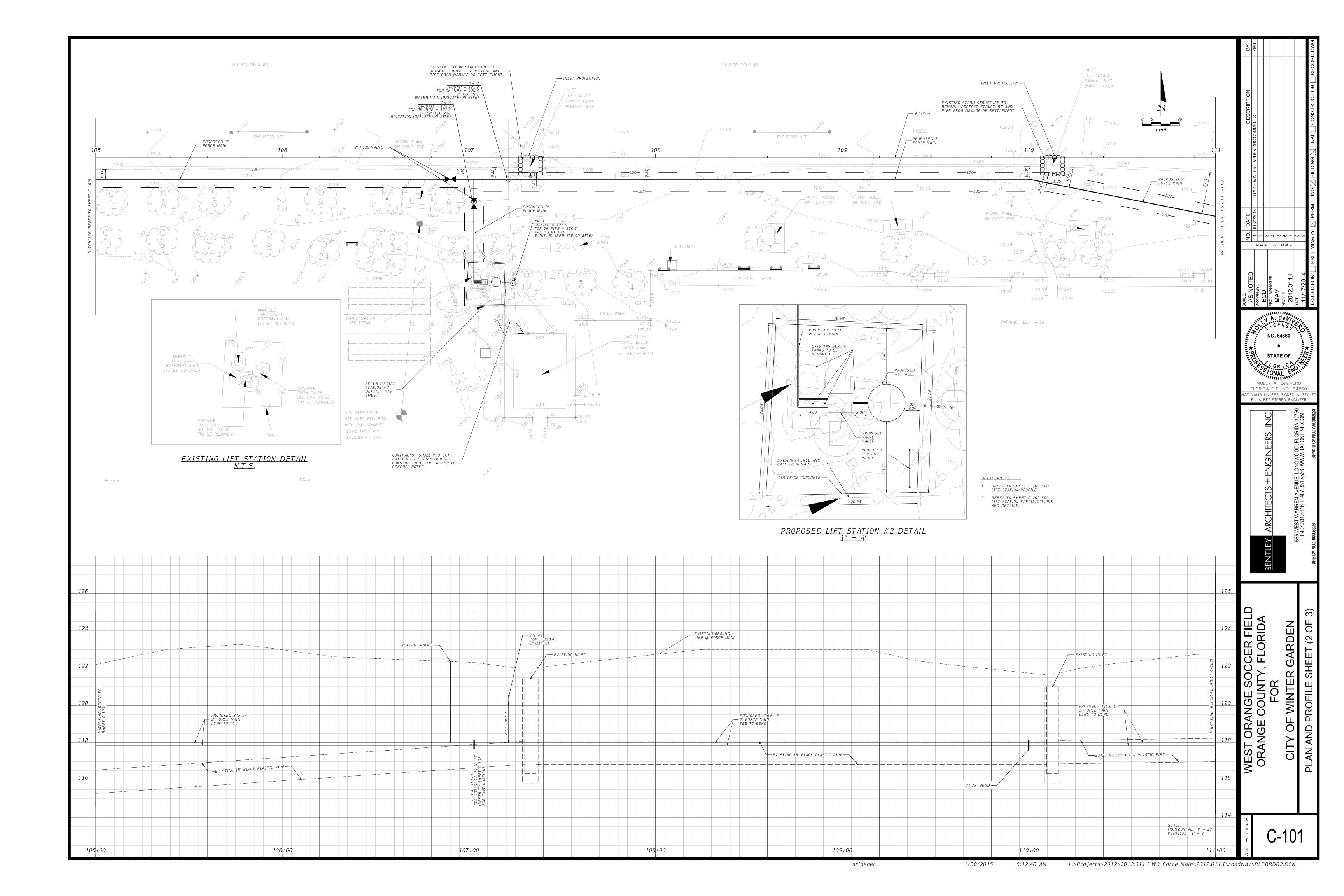
# ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL

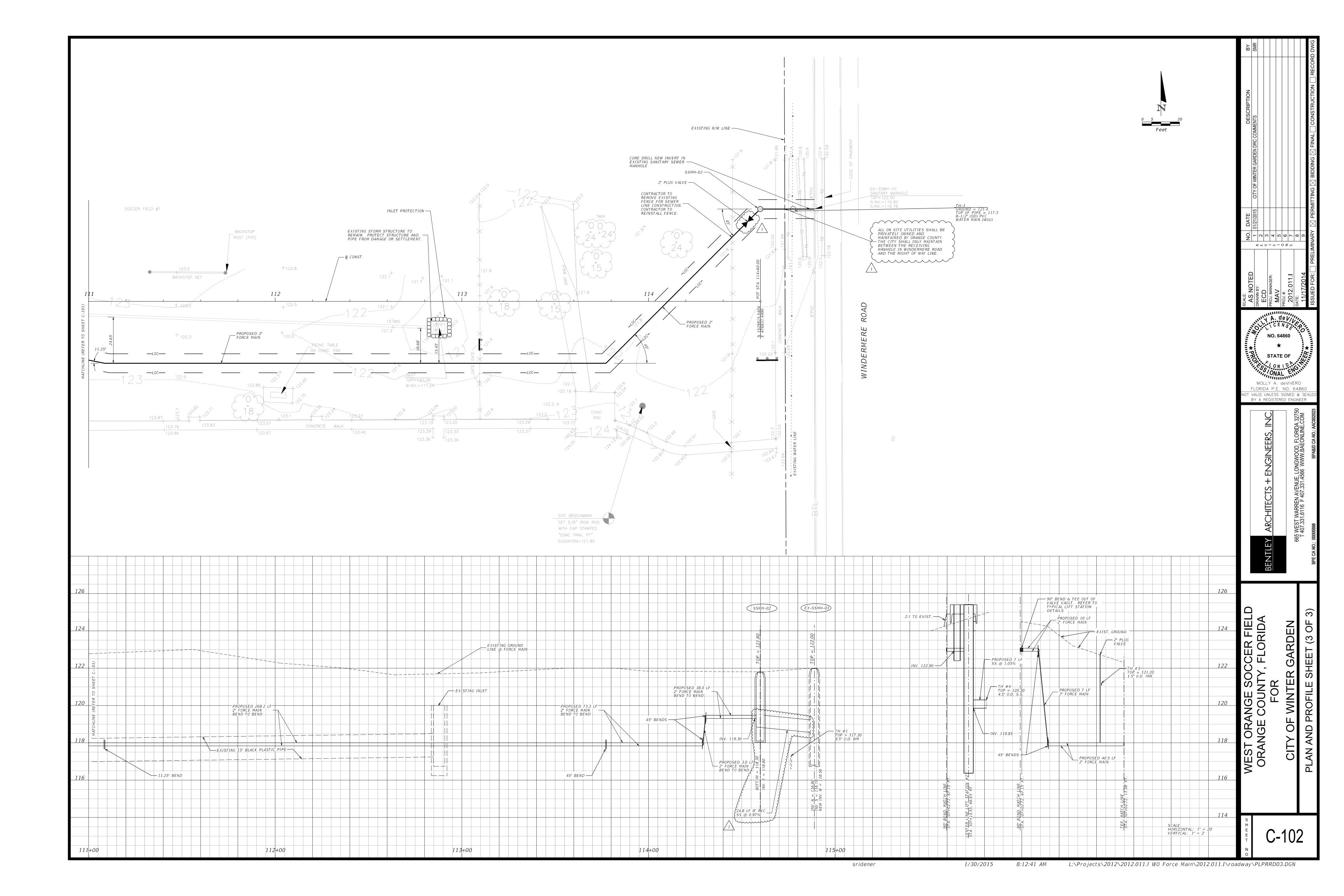


- 2 8 4 9 7 8 MOLLY A. deVIVERO FLORIDA P.E. NO. 64860 VALID UNLESS SIGNED & SEAL









#### **GENERAL NOTES:**

- THE CONTRACTOR SHALL PROVIDE AND INSTALL PUMP STATIONS AND TANK EQUAL TO OR BETTER (MORE EFFICIENT) THAN THAT SHOWN HEREON. SUBMITTAL OF SHOP DRAWINGS SHALL BE REQUIRED. REFER TO GENERAL UTILITY NOTES FOR
- SHOP DRAWING SUBMITTAL REQUIREMENTS. CONTRACTOR SHALL CONNECT LIFT STATION #1 TO THE EXISTING POWER SERVICE FOR THE EXISTING SEPTIC SYSTEM PUMP STATION FROM THE ELECTRICAL PANEL AT THE EXISTING OFFICE BUILDING. CONSTRUCTION SCOPE SHALL INCLUDE RUNNING NEW FEED FROM PANEL TO LIFT STATION CONTROL PANEL
- AVAILABLE POWER FOR LIFT STATION #1 IS 120/240 V SINGLE PHASE SERVICE.
- CONTRACTOR SHALL CONNECT LIFT STATION #2 TO THE EXISTING POWER SERVICE FOR THE EXISTING SEPTIC SYSTEM PUMP STATION FROM THE ELECTRICAL PANEL AT THE EXISTING CONCESSION BUILDING. CONSTRUCTION SCOPE SHALL INCLUDE RUNNING NEW FEED FROM PANEL TO LIFT STATION CONTROL PANEL
- AVAILABLE POWER FOR LIFT STATION #2 IS 120/240 V SINGLE PHASE
- PROVIDE SIGN IN ACCORDANCE WITH DETAIL ON C-005 ON THE ACCESS GATE TO BOTH LIFT STATIONS.

# DUPLEX CONTROL PANEL:

- CONTROL PANEL SHALL BE ASSEMBLED AND BUILT BY A TUV (UL508A CERTIFIED) MANUFACTURING FACILITY.
- THE ENCLOSURE SHALL BE NEMA 4X, MINIMUM 30" HIGH X 30" WIDE X 10" DEEP FIBERGLASS WITH PADLOCKABLE DRAW LATCHES. ENCLOSURE SHALL BE SIZED TO ACCOMMODATE ALL CONTROLS FOR THE LIFT STATION.
- THE ENCLOSURE SHALL HAVE EXTERNAL MOUNTING FEET TO ALLOW FOR WALL
- ALL HARDWARE SHALL BE STAINLESS STEEL.
- 5. THE FOLLOWING COMPONENTS SHALL BE MOUNTED THROUGH THE ENCLOSURE: 1- EA. RED ALARM BEACON (LIGHT)
- 1- EA. ALARM HORN
- 1- EA. ALARM SILENCE PUSH-BUTTON
- THE BACKPANEL SHALL BE FABRICATED FROM .125, 5052-H32 MARINE ALLOY ALUMINUM. ALL COMPONENTS SHALL BE MOUNTED BY MACHINED STAINLESS STEEL
- THE FOLLOWING COMPONENTS SHALL BE MOUNTED TO BACKPANEL:
- 2- EA. MOTOR CONTACTORS
- 1- EA. PHASE MONITOR (SINGLE PHASE)
- 1- EA. SILENCE RELAY
- 1- EA. DUPLEX ALTERNATOR
- 1- EA. MODEL BOAC5AH BATTERY BACK-UP W/ SMART CHARGER
- 20- EA. TERMINALS FOR FIELD CONNECTIONS 3- EA. GROUNDING LUGS
- THE INNERDOOR SHALL BE FABRICATED FROM .080, 5052-H32 MARINE ALLOY ALUMINUM. THE INNERDOOR SHALL HAVE A CONTINUOUS ALUMINUM PIANO HINGE.
- THE FOLLOWING COMPONENTS SHALL BE MOUNTED THROUGH THE INNERDOOR: 1- EA. MAIN CIRCUIT BREAKER
- 1- EA. EMERGENCY CIRCUIT BREAKER
- 1- EA. MECHANICAL INTERLOCK FOR EMERGENCY AND MAIN BREAKERS
- 2- EA. SHORT CIRCUIT PROTECTORS 1- EA. CONTROL CIRCUIT BREAKER
- 2- EA. SEAL FAILURE INDICATOR LIGHTS (NOT REQUIRED)
- 1- EA. HAND-OFF-AUTO SELECTOR SWITCHES 2- EA. PUMP RUN PILOT LIGHTS
- 1- EA. POWER ON PILOT LIGHT
- 2- EA. ELAPSE TIME METERS (NON-RESETABLE) 1- EA. GFI DUPLEX CONVENIENCE OUTLET
- O. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES
- 1. ELECTRICIAN SHALL SEAL OFF CONDUIT RUNS
- 12. ELECTRICIAN TO MOUNT LIGHTNING ARRESTOR AT SWITCH DISCONNECT 13. CONTRACTOR SHALL VERIFY POWER SOURCE PRIOR TO ORDERING EQUIPMENT

#### COMPONENT SPECIFICATIONS:

- 1. ALL CIRCUIT BREAKERS SHALL BE MOLDED THERMAL MAGNETIC.
- 2. THE MECHANICAL INTERLOCK SHALL PREVENT THE NORMAL AND EMERGENCY MAIN BREAKERS BEING ENERGIZED AT THE SAME TIME.
- 3. ALL MOTOR SHORT CIRCUIT PROTECTION DEVICES MUST PROVIDE FOR UNDERVOLTAGE RELEASE AND CLASS 10 OVERLOAD PROTECTION. VISIBLE TRIP INDICATION, TEST, AND RESET CAPABILITY MUST BE PROVIDED WITHOUT OPENING INNER DOOR.
- 4. OPEN FRAME, ACROSS THE LINE, CONTACTORS SHALL BE RATED PER IEC STANDARDS AND PROPERLY SIZED PER THE MOTOR REQUIREMENTS. CONTACTORS SHALL PROVIDE FOR SAFE TOUCH POWER AND CONTROL TERMINALS.
- 5. LIGHTNING ARRESTOR SHALL MEET OR EXCEED THE REQUIREMENTS OF ANSI/IEEE STD. C62.21-1984 SECTION 8.6.1. AND 8.7.3 SHALL BE SUPPLIED BY ELECTRICIAN AND MOUNTED ON THE BOTTOM SIDE OF THE SWITCH DISCONNECT
- AHEAD OF THE PUMP CONTROL PANEL. A GREEN PILOT LIGHT SHALL BE SUPPLIED FOR EACH MOTOR. THE PILOT LIGHT
- SHALL ILLUMINATE EACH TIME THE MOTOR IS CALLED TO RUN. 7. EACH PUMP SHALL HAVE AN ELAPSE TIME METER TO RECORD THE ACCUMULATED RUN TIME. THE ETM SHALL BE 2" DIAMETER, NON-RESETTABLE, SIX DIGIT,
- TOTALLY ENCAPSULATED UNIT. 8. A RED PILOT LIGHT SHALL BE SUPPLIED FOR CONTROL POWER. THE PILOT LIGHT SHALL ILLUMINATE WHEN THE CONTROL POWER IS AVAILABLE INSIDE THE
- CONTROL PANEL.
- 9. RELAYS SHALL BE ICE-CUBE PLUG IN TYPE. RELAY CONTACTS SHALL BE RATED 10 AMP MINIMUM, DPDT.
- 10. TWENTY (20) TERMINALS SHALL BE SUPPLIED FOR FIELD CONNECTIONS. 11. THE TERMINALS SHALL BE RATED 25 AMPS MINIMUM.
- 12. EACH MOTORS' OVER-TEMPERATURE CONTACT SHALL BE CONNECTED TO THE TERMINAL STRIP AND SHALL OPEN A CONTACT TO DE-ENERGIZE THE APPROPRIATE MOTOR UPON A HIGH TEMPERATURE WITHIN THE MOTOR.
- 13. GROUND LUGS SHALL BE SUPPLIED AND APPROPRIATELY SIZED FOR EACH MOTOR AND FOR SERVICE ENTRANCE.
- 14. NAMEPLATES FOR THE INNERDOOR AND BACK PANEL SHALL BE OF A GRAPHIC DESIGN, SPECIFICALLY DEPICTING THE INTENT FOR EACH DEVICE.
- 15. ALL WIRING ON THE BACKPANEL SHALL BE CONTAINED WITHIN THE WIRING DUCT. 16. ALL WIRING BETWEEN THE INNERDOOR AND THE BACKPANEL SHALL BE CONTAINED WITHIN A PLASTIC SPIRAL WRAP.
- 17. EACH WIRE SHALL HAVE A WIRE NUMBER AT EACH END TO CORRESPOND TO THE AS <u>EXECUTION</u>: BUILT DRAWING FOR FIELD TROUBLESHOOTING.

MATERIALS.

- 1. SUBMERSIBLE PUMPS SHALL BE FLYGT PRODUCT NO. DP 3068 LT, 10, 283 OR APPROVED EQUAL, BASED ON AVAILABILITY OF SINGLE PHASE 240 VOLT SERVICE. 2. THE PUMPS SHALL BE INSTALLED IN THE H-20 LOAD RATED FIBERGLASS WETWELL
- UTILIZING A DUAL SLIDE RAIL SYSTEM. 3. THE PUMPS SHALL BE CAPABLE OF HANDLING AND PUMPING 2.5" SOLID

#### FASTENERS & APPURTENANCES:

- 1. ALL FASTENERS, LIFTING CABLES, FLOAT CABLE BRACKET, HINGES, AND APPURTENANCES SHALL BE MADE OF AISI 304SS.
- 2. A 304SS SLIDE/LATCH ASSEMBLY SHALL BE PROVIDED FOR HOLDING THE DOORS
- OPEN ON THE WETWELL 3. SLIDE RAILS SHALL BE MADE OF SCH.40 AISI 304SS PIPE.
- PUMP LIFTING CABLES SHALL BE MADE OF AISI 304 SS. 5. PUMP LIFTING BALES SHALL BE MADE OF AISI 304 SS.

- INSPECTION & TESTING: FOR EACH LIFT STATION FOR A TOTAL OF TWO START-UP SITE VISITS DUE TO PHASING, A FACTORY REPRESENTATIVE SHALL BE PROVIDED AND SHALL HAVE COMPLETE KNOWLEDGE OF THE PROPER OPERATION AND MAINTENANCE OF
- MEGGER THE MOTORS. THE PUMP MOTORS SHALL BE MEGGED OUT PRIOR TO THE
- START-UP TO ENSURE THAT THE INSULATION OF THE PUMP MOTOR/CABLE IS
- 3. THE PUMP CONTROLS AND PUMPS SHALL BE CHECKED FOR MECHANICAL RELIABILITY AND PROPER OPERATION. 4. THE SANITARY FORCEMAIN SHALL BE LEAKAGE TESTED AND APPROVED.

#### H-20 LOAD RATED WETWELL WITH LIFTING LUGS:

- 1. THE FIBERGLASS WETWELL MUST BE H-20 LOAD RATED WITH INTEGRAL LIFTING
- LUGS, FIBERGLASS SLOPE IN BOTTOM OF WETWELL. CERTIFICATION OF THE H-20 LOAD RATING MUST BE SUPPLIED AT THE TIME OF SUBMITTALS TO ENGINEER. H-20 CERTIFICATION MUST BE SIGNED AND SEALED
- BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA THE WETWELL SHALL BE MANUFACTURED OF FIBERGLASS REINFORCED POLYESTER (FRP) OF DEPTH AND DIAMETER AS SHOWN ON THE LIFT STATION ELEVATION DETAIL. THE WALL THICKNESS SHALL BE ADEQUATE FOR THE DEPTH OF THE
- WETWELL TO MAINTAIN THE H-20 LOAD RATING. AFTER THE WETWELL HAS BEEN INSTALLED, THE ASTM CERTIFICATION NUMBER AND SERIAL TRACKING NUMBER MUST BE VISIBLE.

INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE CONSTRUCTION DOCUMENTS.

TOP OF CONCRETE PAD

AND VAULT HATCHES

FLUSH WITH LIFTSTATION

1 ½" X 2" REDUCER -

6" CONCRETE SLAB

#### DATUM NOTE:

\*EMERGENCY PUMP OUT

CAM-LOCK MALE QUICK

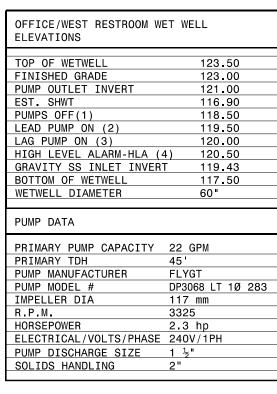
CONNECT W/ CAM LOCK DUST CAP

PLUG VALVE W/ SQUARE NUT OPERATOR

THESE PLANS ARE BASED ON THE VERTICAL DATUM NAVD 88, REFER TO THE TOPOGRAPHIC SURVEY FOR MORE INFORMATION.

FIBERGLASS VALVE BOX

( 40"X 30"X 36"D)



ELEVATIONS AND PUMP DATA SUMMARY FOR PUMP STATION #1

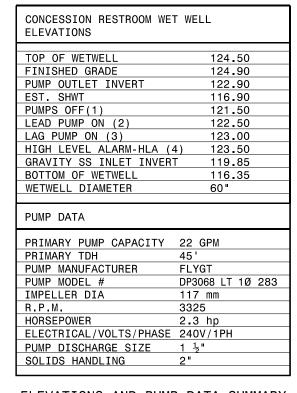
2" GREEN VENT w/ BRONZE BUG SCREEN

1. CONCRETE SLAB SHALL BE 6" THICK, 3000 PSI CONCRETE WALK W/6X6 W1.4XW1.4 WWF OVER COMPACTED SUBGRADE TO A MIN. 98% OF AASHTO T99 DENSITY. WWF SHALL BE LOCATED AT MID DEPTH OF CONCRETE SLAB. REFERENCE FDOT STANDARD SPECIFICATIONS 347 AND 522. NOTE MINIMUM COMPRESSIVE STRENGTH REQUIRED DOES EXCEED THE 2500 PSI PER SPECIFICATION 347. AND THE

2. CONCRETE BASE SLAB IS TO BE CONSTRUCTED IN TWO POURS. BOTTOM SLAB IS TO BE POURED WITH REBAR AS SHOWN, ALLOWED TO CURE TO ENSURE THE LIFTSTATION WETWELL WILL NOT SINK INTO THE CONCRETE. THE WETWELL WILL THEN BE LOWERED ON TO THE SLAB WITHIN THE REBAR RING. THEN THE CONTRACTOR WILL MAKE THE SECOND POUR AND CONTRACTOR SHALL ENSURE WETWELL IS

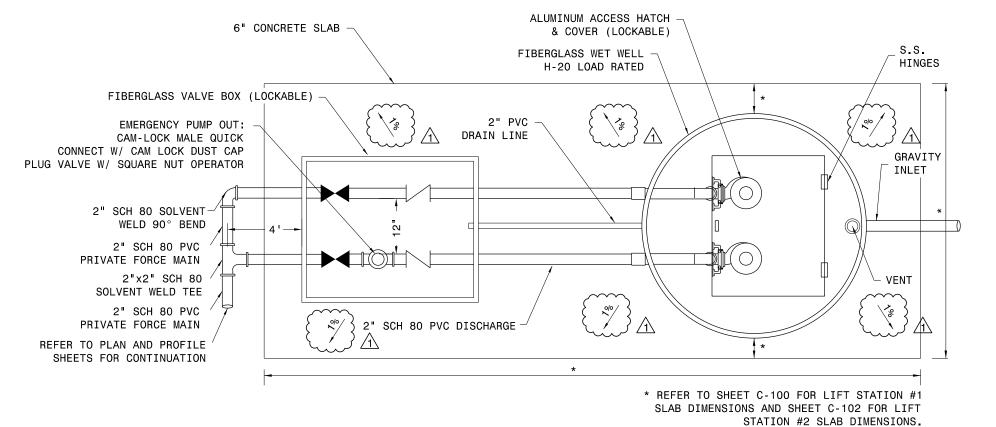
COMPACTION FOR THE FOUNDATION DOES EXCEED THE 95% PER FDOT STANDARD SPECIFICATION 522.

WEIGHTED DOWN TO RESIST THE BUOYANCY FORCE OF THE WET CONCRETE.

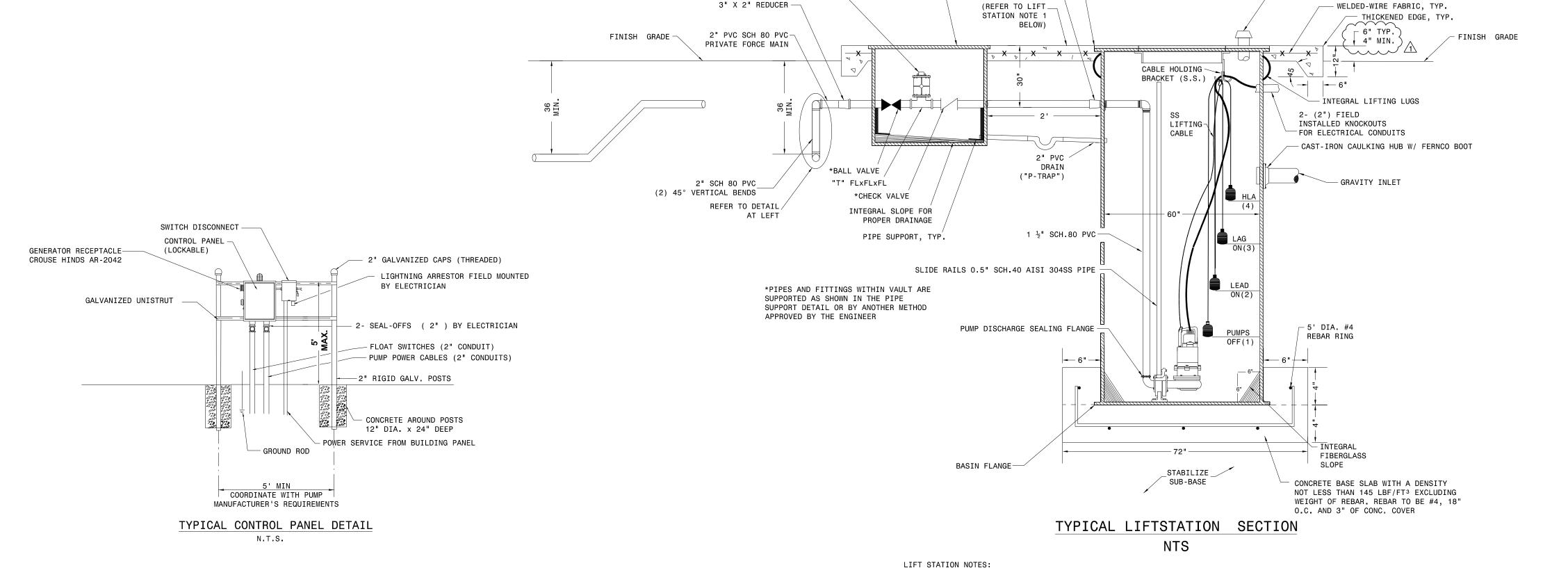


ELEVATIONS AND PUMP DATA SUMMARY FOR PUMP STATION #2

TYPICAL LIFT STATION AND LIFT STATION COMPONENTS SHOWN HEREON. REFER TO PLAN AND PROFILE SHEETS FOR LIFT STATION #1 AND #2 ACTUAL LIFT STATION AND COMPONENT LAYOUT.



TYPICAL LIFTSTATION PLAN VIEW



BENTLEY

S Z O – S – O Z S

A. deV

NO. 64860

STATE OF

MOLLY A. deVIVERO

FLORIDA P.E. NO. 64860

T VALID UNLESS SIGNED & SEA

BY A REGISTERED ENGINEER

WOOD, FLORIDA 3275 WW.BAEONLINE.COM

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THIS RECORD DRAWING IS PROVIDED FOR CONTRACTOR'S USE AND REFERENCE ONLY TO DOCUMENT RECORD FIELD CONDITIONS. THE WORK DEPICTED IN THESE PLANS IS NOT IN THIS CONTRACT. THE INCLUSION OF THIS INFORMATION DOES NOT REPLACE OR RELIEVE THE CONTRACTORS OF THEIR RESPONSIBILITY TO VERIFY EXISTING FIELD CONDITIONS PRIOR TO BID AND CONSTRUCTION. FACTORY FINISHED POLE FIXTURE FURNISHED, INSTALLED AND — WIRED BY ELECTRICAL CONTRACTOR -Furnish and Install In-line Ballast Fuses in Bussmann "Tron" WEATHERPROOF FUSE HOLDERS #HEB-AD WITH #KTK FUSES (SIZE AS REQUIRED)
OR ACCEPTABLE EQUAL. 2"x 5" gasketed hand pole-REMOTE INDICATOR W/KEY RESET ----ELECTRICAL CONTRACTOR TO CONNECT GROUND WIRE TO POLE BASE — (4)-36\*x1\*9 ANCHOR BOLTS S Z O - S - C E R FPC PAD MOUNTED XFMR CONTROL PANEL-- #3 REINFORCING TIES 12" ON CENTER DUCT SMOKE DETECTORS TYPICAL FOR ALL AHU'S - BOLTED CONNECTION HORN/STROBE CIRCUIT CONTROL MODULE (BOTH ENDS) CONCRETE BASE 2'-0" DIAMETER ---STROBE CIRCUIT - PIPE SLEEVE WITH COVER AMPLIFIER MODULE MANUAL PULL STATION SET FLUSH WITH PAVEMENT S-B-S-H-S INDICATING DEVICE LOOPS - 3/4"X10" COPPERWELD TWO PHONE LINES HEAT AND SMOKE CIRCUIT (TYPICAL) DIALER - ≸6 BARE GROUND WIRE 120V POWER SUPPLY BATTERY BATTERY 120V POWER SUPPLY 3" COVER ---- PVC PLASTIC CONDUIT NO CONDUIT INITIATING DEVICE LOOPS INTO BOTTOM (TYPICAL) OF FACP CABINET 10 (2) 30 ( 0 (24 d) 30 FIRE ALARM DIAGRAM VALID UNLESS SIGNED & SEA FIRE ALARM DIAGRAM NOTES: SITE LIGHTING FIXTURE DETAIL ELECTRICAL ONE-LINE DIAGRAM 1. SEPARATE ZONES & FUNCTIONS MAY BE RUN IN THE SAME CONDUIT. 3. MINIMUM CONDUIT SIZE SHALL BE 3/4".
4. PROVIDE ACTUAL CONDUIT SIZE REQUIRED ON SHOP DRAWINGS. ながアノライのから 5. WIRING SHALL BE MINIMUM SIZE #16 THHN CU. 6. ALL CONDUIT SHALL BE FURNISHED WITH NYLON PULL STRING. 7. ALL AHU SHUTDOWN DEVICES MUST BE LOCATED WITHIN THREE FEET OF THE AHU STARTER. 8. ALL CABLE SHALL HAVE ZONE NUMBER AT BOTH ENDS, AND ALL RETURN CABLE SHALL BE TAPED. 9. FIELD VERIFY QUANTITY OF DEVICES REQUIRED. THIS DWG. FOR SCHEMATIC PURPOSES ONLY. 10. PROVIDE END-OF-LINE DEVICES ON EACH CIRCUIT. ARCHITECTS · (2)#10,#10GND,3/4"C ORANGE BENTLEY -2" PHONE CONDUIT WITH PULLBOX 150" ON CENTER. CONTRACTOR INSTALLED 4°C. WITH WEST JOHNAR SAND VOLICY FAR | SERVERE | | SANCE | BALL | BALL F27037 F070RF PULLBOX 150' ON CENTER FOR SPRINT PROVIDED/INSTALLED CONDUIT AND PRIMARY CONDUCTORS. TELEPHONE SERVICE CONDUCTORS. EASEMENT NOT REQUIRED. asi waruska Buntan - WEATHERPROOF JUNCTION BOX FOR FLAG LIGHTING FIXTURES. ER FIE The information shows on this drawing is the property of WBQ Design and Engineering, Inc. This drawing shall not be reproduced, disclosed to others or used in any manner without the prior written consent of WBQ Design & Engineering, Inc. Contractor shall verify all consistions on the job site & notify the Project Engineer of any variations from dimensions shown on these drawings before proceeding with any construction. ELECTRICAL SITE PLAN
SCALE: 1"-80"-0" PLAN KEY NOTES: (1) GENERAL NOTES: 1. PROVIDE 60A, H.O., 2 POLE, S.N. FUSED DISCONNECT SWITCH A. THE CONTRACTOR SHALL COORDINATE WITH THE POWER AND TELEPHONE UTILITIES FOR NEW SERVICE. PROVIDE APPLICATIONS FOR DOSING SYSTEM. (3) #6, #10GND, 1-1/4"C FEEDER. MOUNT DISCONNECT SWITCH ON BUILDING AT 80" A.F.G. AND SCHEDULE FOR THEIR WORK TO BE COMPLETE BEFORE MOUNT GFI TYPE RECEPTACLE ON BASE OF PAVILION COLUMN, PROVIDE LOCKABLE METAL COVER. INTERNATIC WP1010MC OR SUBSTANTIAL COMPLETION OF PROJECT. Drawn By: JGL Signature and Seal Checked By: DDA ACCEPTABLE EQUAL. (TYPICAL) VEST OR ORANGE Designed By:- PROVIDE IN GRADE JUNCTION/PULLS BOXES AND CONDUIT FOR FUTURE SPORTS LIGHTING, NEW SERVICE AT XFMR LOCATION S.G.M. ENGINEERING, INC. GRAPHIC SCALE (SFAL) Date: 06/10-02 Job No.: WOULD BE REQUIRED IN THE FUTURE FOR SPORTS LIGHTING. TEL: (407) 767-5188 FAX: (407) 767-5772 EB-0006208 Project number: 20153 Dwg. File: 0153-550 S. North Lake Blvd. Suite 1000 Altamonte Springs Florida, 32701 2/6/4 ( IN FEET ) 1 inch = 60 ft. Copyright @2002 SGM Engineering, Inc.

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| PANEL PS LOCATION MECH, ELEC ROO |         | 5777500        | NG          |                          | 250A M        |          | A 15.            |       |         | EMER AC 14,000<br>SURFACE               |
|----------------------------------|---------|----------------|-------------|--------------------------|---------------|----------|------------------|-------|---------|---|
| LOAD DESCRIPTION                 | В       | KR             | KV.         | A                        | CKT.          |          | VA.              | 91    | KR      | LAND DECEMBRAN                          |
|                                  | TRIP    | POLES          | ØA          | 姆                        | NO.           | øA       | øB               | TRIP  | POLES   | LOAD DESCRIPTION                        |
| 0 - Panel Pr                     | 60      | 2              | 5.00        | 0.0650                   | 1 2           | 1,61     |                  | 20    |         | L - SITE LTG                            |
| 0 –                              | 35%     | 40 E           |             | 5.00                     | 3 4 1         |          | 1.61             | 20    | 1       | L.                                      |
| SPARE                            | 20      | 1              | 0.60        | 0.000                    | 5 5 1         | 1.15     |                  | 20    |         | L - SITE LTG                            |
| 0 - FIRE ALARM PANEL             | 20      | 1              |             | 0.80                     | 7:8;          |          | 1.15             | 20    | 1       | L =                                     |
| R – TTB                          | 20      | 1              | 0.80        | 08                       | 9 10          | 0.60     |                  | 20    | 1       | 0 - PICNIC PAVILLION                    |
| r — storage                      | 20      | 1              |             | 0.80                     | 11 12         |          | 0.60             | 20    | 1       | 0 - PICNIC PAVILUON                     |
| R - OFFICE                       | 20      | 1              | 1.00        | 0.000.00                 | .13 14        | 0.80     |                  | 20    | 1       | 0 - IRRIGATION CONTROLLER               |
| R - OFFICE                       | 20      | 1              | 10          | 1.00                     | 115 16        |          | 1.84             | 20    | 1       | M - CU-1                                |
| L - OFFICE                       | 20      | 1 1            | 1.00        | 33.33.33.x               | [17-18]       | 1.84     |                  | 20    | ' 1     | M -                                     |
| L - BLDG EXTERIOR                | 20      | 1 1            | Der Service | 0.50                     | 19,20         |          | 5.53             | 20    | 1       | M - AH-1                                |
| M – DOSING PUMP SYSTEM           | . 60    | 2              | 3.00        |                          | 21 22         | 5,53     |                  | 20    | 1       | M -                                     |
| M =                              | 1 -     | - 1            | - 18        | 3.00                     | 23 24         |          | 0.60             | 20    | 1       | S - SPARE                               |
| L-FLAG                           | 20      | 1 .            | 1.20        |                          | 25 26         | 0.60     |                  | 20    | 1       | S - SPARE                               |
| SPACE ONLY                       | 1 _     | 1              |             | 0.00                     | 27 28         | Continuo | 0.00             |       | 1       | SPACE ONLY                              |
| SPACE ONLY                       |         | 1              | 0.00        |                          | 29 30         | 0.00     | - Calabar (1919) | 140   | 1       | SPACE ONLY                              |
| SPACE ONLY                       | -       | 1              |             | 0.00                     | 31 32         |          | 0.00             | -     | 1       | SPACE ONLY                              |
| SPACE ONLY                       | 1 4     | 1              | 0.00        |                          | 33 34         | 0.00     |                  |       | 1       | SPACE ONLY                              |
| SPACE ONLY                       | 1 -     | 1 .            | 100000      | 0.00                     | 35 36         | 100      | 0.00             | 1 300 | 1       | SPACE ONLY                              |
| SPACE ONLY                       | -       | 1 1            | 0.00        |                          | 37 38         | 0.00     | ĺ                | 20    | 2       | 0 - TVSS                                |
| SPACE ONLY                       | i e     | 1              |             | 0.00                     | 39 4C         |          | 0.00             |       | -       | 0-                                      |
| SPACE ONLY                       | 1220    | 1 1            | 0.00        |                          | 41 42         | 0.00     | ì                | T a   | 1       | SPACE ONLY                              |
| TOTALS                           | 69-31-0 |                | 12.6        | 11.1                     | $\rightarrow$ | 12.1     | 11.3             |       |         |   |
| SERVES                           |         | CO             | NN. LOAD    | CONTRACTOR OF THE PARTY. | D.F.          |          | EMAND -          | KVA A | OTES:   | 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - |
| LIGHTING                         |         | and except any | 8.22        | AND SE                   | 1.25          |          | 10.28            | 200.1 | 15 3500 |   |
| RECEPTACLES - 1ST 10 KVA         | ****    | log.           | 3.60        |                          | 1.0           |          | 3.60             |       |         |   |
| receptacles – above 10 kva       |         | 1              | 0.00        |                          | 0.50          |          | 0.00             |       |         |   |
| MECHANICAL                       |         |                | 20.74       |                          | 1.00          |          | 20.74            |       |         |   |
| EQUIPMENT                        |         |                | 0.00        |                          | 1.0           |          | 0.00             |       |         |   |
| APPLIANCE                        |         |                | 0.00        |                          | 0.75          |          | 0.00             |       |         |   |
| SPARE/SPACE                      |         |                | 1.80        |                          | 1.0           |          | 1.80             |       |         |   |
| OTHER                            |         |                | 12.80       |                          | 1.0           |          | 12.80            |       |         |   |
| TOTALS                           |         | 1              | 47.16       |                          | 1             |          | 49.22            | _     | CALC    | JLATED AMPS: 205                        |

| SYMBOL       | DESCRIPTION  | SYMBOL           | DESCRIPTION  |
|--------------|--|------------------|--|
| 0            | 2' X 4', 4 LAMP, LAY-IN FLUORESCENT TROFFER  | <b>⇒</b> wpg     | SAME AS ABOVE; WEATHERPROOF  |
|              | 2' X 4', 4 LAMPS LAY-IN FLUORESCENT TROFFER W/EMERGENCY BATT, PACK                                     | ⊖ <sub>GFl</sub> | DUPLEX RECEPTACLE WITH GROUND FAULT PROTECTION   |
|              | 1" X 4', 4 LAMPS LAY-IN FLUORESCENT TROFFER  |                  | SPECIAL PURPOSE RECEPTACLE   |
| •            | 2 LAMP, 4' LONG FLUORESCENT STRIP LIGHT FIXTURE  | •                | JUNCTION BOX   |
| 0            | INCANDESCENT DOWNLIGHT, 75W, R30 LAMP, MAX.  | E                | JUNCTION BOX OR ELECTRICAL CONNECTION POINT  |
| Ю            | SURFACE MOUNTED INCANDESCENT OR HID: INDOOR 50W, A19 LAMP<br>OUTDOOR - 100W, MH LAMP, MAX.             | Ŋ                | TELEPHONE OUTLET   |
| <b>o</b> —[] | SITE LIGHTING POLE & FIXTURE   | 4                | EXTERNALLY OPERATED DISCONNECT SWITCH  |
| <u> </u>     | TRACK LIGHTING SYSTEM  |                  | PANELBOARD, FLUSH MOUNTED; MOUNTING HEIGHT 78" TO TOP OF CABINET   |
| 4            | EMERGENCY LIGHT W/BATTERY PACK   | <u> </u>         | SAME AS ABOVE, SURFACE MOUNTED   |
|              | EXIT LIGHT WITH SATTERY PACK   | - HIII           | HOMERUN TO PANEL, NUMBER OF SHORT HASH MARKS INDICATES NUMBER OF CIRCUITS. LONG HASH MARK INDICATES NEUTRAL. |
| S            | 20 AMP TOGGLE SWITCH, SINGLE POLE; MOUNTING HEIGHT 48" TO TOP "3" - 3-WAY, "4" - 4-WAY, "2" - TWO POLE | <i>\O</i>        | ELECTRIC MOTOR EQUIPMENT   |
| <del>-</del> | DUPLEX RECEPTACLE OUTLET; MTG. HEIGHT +15" TO THE BOTTOM UNLESS OTHERWISE NOTED                        | n - 198          | #55000000 (5-0) H 15- 1000   |

ELECTRICAL SYMBOLS

| DESCRIPTION |
|-------------|
| DATE DESC   |

| PANEL <u>pr</u>                        |          | SER         | NICE                                  | 120       | /24     | 0 <b>V</b> | 1#-3W  |          |             |  | EAKER AC 10,000   |  |  |
|--|----------|-------------|---------------------------------------|-----------|---------|------------|--|----------|-------------|--|-------------------|--|--|
| LOCATION STORAGE                       |          | RATING      |                                       |           | 60A MCB |            |  |          | MOUNTENE    |  | SURFACE           |  |  |
| -                                      | 456566   |             |                                       |           |         |            | - 39 2   |          |             | As a second of the second of t |                   |  |  |
|  |          | 484         | R KVA                                 |           |         |            | OKT KVA  |          |             |  |                   |  |  |
| LOAD DESCRIPTION                       | HOLE MAN | (R<br>POLES | øA :                                  | -         |         | KT.<br>IO. | øA K   | VA<br>ØB | -           | KR<br>POLES  | LOAD DESCRIPTION  |  |  |
| - STORAGE                              | 20       | 1           | 0.80                                  | 2.5       | 1       | 2          | 0.80   |          | 20          | 10000  | L - RESTROOMS     |  |  |
| - RESTROOMS                            | 20       | 1           |                                       | 0.80      | 3       | -          |  | 0.90     | 20          |  | L - BLDG EXTERIOR |  |  |
| PARE                                   | 20       | 1           | 0.60                                  |           | 5       | 6          | 0.60   |          | 20          | 1  | SPARE             |  |  |
| - HAND DRYER                           | 20       | 1           |                                       | 2.00      | 7       | 8          |  | 0.60     | 20          | 1  | SPARE             |  |  |
| - HAND DRYER                           | 20       | 1           | 2.00                                  | 777.77    | 9       | 10         | 0.60   | 817.5    | 20          | Ti-  | SPARE             |  |  |
| PACE ONLY                              | -        | 1           |                                       | 0.00      | 11      | :2         |  | 0.00     | 1 (40       | 1  | SPACE ONLY        |  |  |
| PACE ONLY                              | -        | 1           | 0.00                                  | - 45      | 13      | -          | 0.00   | 7175.0   | -           | 13 1   | SPACE ONLY        |  |  |
| PACE ONLY                              | -        | 1           | 78.77                                 | 0.00      | 15      | 10000      |  | 0.00     | 20          |  | 0 - TVSS          |  |  |
| PACE ONLY                              |          | 1           | 0.00                                  | *****     | :7      |            | 0.00   |          | <del></del> |  | 0 -               |  |  |
| X P X X P V Y X X X X                  |          |             |                                       | 112       | -       | 20         |  | 7.7.7    | 12          | 1.1  |                   |  |  |
|  | 5.25     | 2           | e e e                                 |           | 21      | 22         |  | 2 25     | 5, 2,       |  | ROZZÁR KOZBÁRA    |  |  |
| XXXXXXXXXX                             | 2.2      | M.A.        | A FEBRUARY                            |           | 23      |            | 1, 1, 2  | 7 3      | 120         |  |                   |  |  |
| Acres 18 March 20 Control              |          |             | , , , , , , , , , , , , , , , , , , , |           | 25      |            | XXX  | 1 1      | 2 /         | N. I   |                   |  |  |
|  | 2-8      |             |                                       |           | 27      | 28         | 10. 10   |          |             |  |                   |  |  |
| 47/2423/2                              | 18, 7    | 11.7        | 27.53                                 | 100       | 29      |            | 76.5   | 7.5      | 1           |  |                   |  |  |
| AXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | ¥        | 9           | X 1 X                                 |           | -       | 32         |  |          | 150         |  |                   |  |  |
|  |          |             | A. A. A. A.                           | 7         | 33      | 1          | 15 5   |          |             | 1  |                   |  |  |
|  |          |             |                                       |           | 35      | -          |  | 7 - 0    | 1232        |  |                   |  |  |
|  |          | 1           | 1.00                                  | a Danjale | 37      |            | A STATE OF THE STA |          |             |  |                   |  |  |
|  | 2.0      |             | 9 8 8 1                               | 2000      | _       | 40         |  | ^ ^X     |             | 7 %  |                   |  |  |
| X / 3                                  | 3 /      | . ,         |                                       | 777       | _       | 42         | 1  |          | 17 /        | 14.5   |                   |  |  |
| OTALS                                  |          |             | 3.4                                   | 2.8       | 1       |            | 2.0  | 1.5      |             |  |                   |  |  |
| ERVES                                  | -        | CC          | ONN. LOAD                             |           | 10      | F.         | The second second  | MAND -   | KVA N       | IOTES:   |                   |  |  |
| IGHTING                                | - 80     | T           | 1.70                                  |           |         | 25         |  | 2.13     |             | ***************************************  |                   |  |  |
| ECEPTACLES - 1ST 10 KVA                |          | 1           | 1.60                                  | 7.07      | -       | .0         |  | 1.60     | 22          |  |                   |  |  |
| ECEPTACLES - ABOVE 10 KVA              |          |             | 0.00                                  |           | -       | 50         |  | 0.00     |             |  |                   |  |  |
| ECHANICAL                              |          |             | 0.00                                  |           | -       | 00         |  | 0.00     |             |  |                   |  |  |
| QUIPMENT                               |          | 1           | 0.00                                  | - 1       |         | .0         |  | 0.00     | 7.0         |  |                   |  |  |
| PPLIANCE                               | 38.85    | 1           | 0.00                                  |           |         | 75         |  | 0.00     |             |  |                   |  |  |
| PARE/SPACE                             |          | 1           | 2.40                                  |           | 1       | 0          |  | 2.40     |             |  |                   |  |  |
| THER                                   |          | 1           | 0.00                                  | NVS -     | 1-      | .0         |  | 0.00     |             |  |                   |  |  |
| OTALS                                  |          |             | 5.70                                  |           | -       | -          | Control of the last  | 6.13     |             |  | ULATED AMPS: 26   |  |  |

| TYPE | DESCRIPTION   | TOTAL |     | LAMP  | S             | MOUNTING |
|------|---|-------|-----|-------|---------------|----------|
|      | 1000  | WATTS | NO. | WATTS | TYPE          |          |
| 8P   | INCANDÉSCENT EMÉRGENCY BATTERY PACK LIGHTING UNIT, TWIN CONCEALLED HEADS, HALOGEN<br>LAMPS, WHITE FINISH, 120 VOLT.<br>LITHONIA ELM-H<br>OR ACCEPTABLE EQUAL  | 10    |     |       | 10.74.20<br>V | SURFACE  |
| FA   | FLOURESCENT INDUSTRIAL FIXTURE WITH APPERATURED REFLECTOR, 48" LENGTH, (2) T8 LAMPS, ELECTRONIC BALLAST, 120 VOLT. LITHONIA LA—232—120 OR ACCEPTABLE EQUAL  | 75    | 2   | 32    | Т8            | SURFACE  |
| FB   | FLOURESCENT ENCLOSED INDUSTRIAL FIXTURE, 48" LENGTH, (2) T8 LAMPS, ELECTRONIC BALLAST, HIGH IMPACT ACRYLIC LENS, WET LOCATION LISTED, 120 VOLT. LITHONIA DMW-232-AR-120 OR ACCEPTABLE EQUAL   | 75    | 2   | 32    | Т8            | SURFACE  |
| SLA  | HID AREA LIGHTING FIXTURE AND POLE, 400 WATT LAMP, TYPE III DISTRIBUTION, 240 VOLT, ROUND STRAIGHT ALUMINUM POLE ON A 4'-0" ABOVE GRADE CONCRETE BASE - 30' FIXTURE MOUNTING HEIGHT, DARK BRONZE FINISH ON FIXTURE AND POLE. LIGHTONIA KAD400M-R3-208-RPD04, POLE OR ACCEPTABLE EQUAL | 450   | 1   | 400   | мн            | POLE     |
| SLB  | HID AREA LIGHTING FIXTURE AND POLE, 400 WATT LAMP, TYPE II DISTRIBUTION, 240 VOLT, ROUND STRAIGHT ALUMINUM PLE ON A 4'-0" ABOVE GRADE CONCRETE BASE - 30' FIXTURE MOUNTING HEIGHT, DARK BRONZE FINISH ON FIXTURE AND POLE. LIGHTONIA KAD400M-R2-208-RPD04, POLE OR ACCEPTABLE EQUAL   | 450   | 1   | 400   | МН            | POLE     |
| SLC  | HID AREA LIGHTING FIXTURE AND POLE, 400 WATT LAMP, TYPE V DISTRIBUTION, 240 VOLT, ROUND STRAIGHT ALUMINUM POLE ON A 4'-0" ABOVE GRADE CONCRETE BASE — 30' FIXTURE BRONZE FINISH ON FIXTURE AND POLE. LIGHTONIA KAD400M-R5-208-RPD04, POLE OR ACCEPTABLE EQUAL                         | 450   | 1   | 400   | МН            | POLE     |
| WA   | HID WALL MOUNTED AREA LIGHTING FIXTURE, 70 WATT METAL HALIDE LAMP, WHITE FINISH, WET LOCATION LISTED, 120 VOLT. LITHONIA TWA70M-120-F-DWH OR ACCEPTABLE EQUAL   | 80    | 1   | 70    | МН            | SURFACE  |

1. ALL FIXTURES 120 VOLT UNLESS OTHERWISE NOTED.

- 2. ALL FLUORESCENT LAMPS SHALL HAVE CORRELATED COLOR TEMPERATURE OF 3000.
- 3. ALL FLUORESCENT TUBE LAMPS SHALL HAVE MINIMUM 80 CRI. 4. FINAL FIXTURE FINISHES SHALL BE SELECTED DURING SUBMITTAL PROCESS BY ARCHITECT FROM EXTENDED STANDARD
- COLOR CHART FOR EACH FIXTURE.

| ACILITIE<br>0 S. North Lake Bl<br>ite 1000 | T. 1780 | _ &      |             | TEL: (407)<br>FAX: (407) | 767-5188          |
|--|---------|----------|-------------|--------------------------|-------------------|
|  |         | ONSUL    | TING        | CNAL                     | NEERS             |
| .G.M.                                      | EN      | GINE     | ER          | ING,                     | INC.              |
| eg. No.                                    | 99      | Signatur | re and S    | Seal                     |                   |
|  |         | G.M. EN  | G.M. ENGINE | G.M. ENGINEER            | G.M. ENGINEERING, |

|  | DATE | DETAILS. SCHEDULES |
|--|------|--------------------|
|--|------|--------------------|

S Z O - S - C E R 

CER FIEI FLORIDA

VEST OR ORANGE

C-301

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Drawn By: JGL

Checked By: DDA

Designed By:

Date: 06/10-02 Job No.:

Dwg. File: 0153-

sridener