

# PLANS FOR TAMARACK III MOBILE HOME PARK

4401 S Ridgewood Ave, Edgewater, FL, 32141-7348  
EDGEWATER / VOLUSIA / FLORIDA  
SECTION 38 - TOWNSHIP 18 SOUTH - RANGE 35 EAST

PARCEL ID: 853801000071



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ABBREVIATION/ SIGN LEGEND	CONSULTANTS	UTILITY PROVIDERS	APPROVAL AGENCIES	INDEX OF SHEETS	MAPS
<p>A/C - AIR CONDITIONER APPROX - APPROXIMATE ASPH - ASPHALT AVG - AVERAGE BFP - BACK FLOW PREVENTER BLK - BLOCK BLDG - BUILDING BOC - BACK OF CURB BOW - BACK OF WALL C &amp; G - CURB &amp; GUTTER CE - CONSTRUCTION ENTRANCE CL - CENTERLINE CMP - CORRUGATED METAL PIPE CO - CLEAN OUT CONC - CONCRETE DEPT - DEPARTMENT DS - DOWN SPOUT ELEC - ELECTRIC EM - ELECTRICAL METER ELEV - ELEVATION EOP - EDGE OF PAVEMENT FDC - FIRE DEPARTMENT CONNECTION FDOT - FLORIDA DEPARTMENT OF TRANSPORTATION FF - FINISH FLOOR FG - FINISH GRADE FH - FIRE HYDRANT FM - FORCE MAIN FOC - FACE OF CURB FP&amp;L - FLORIDA POWER AND LIGHT GOV'T - GOVERNMENT HB - HOSE BIB HC - ADA ACCESSIBLE HDPE - HIGH DENSITY POLYETHYLENE PIPE INV - INVERT IRR - IRRIGATION ME - MATCH EXISTING ELEVATION MES - MITERED END SECTION MH - MANHOLE PVC - POLYVINYL CHLORIDE PIPE PVM/T - PAVEMENT R - RADIUS RCP - REINFORCED CONCRETE PIPE REV - REVISION RW - RIGHT-OF-WAY SF - SQUARE FEET SW - SIDEWALK TOB - TOP OF BANK TOE - TOP OF SLOPE TW - TOP OF WALL TYP - TYPICAL UNK - UNKNOWN UTL - UNDERGROUND TELEPHONE LINES W - WITH WV - WATER VALVE</p> <p>(B) - BUS STOP (R7-7) (DNE) - DO NOT ENTER (R5-1) (FL) - NO PARKING - FIRE LANE (R7-94) (HC) - HANDICAP (FTP 20-06 &amp; FTP 22-06) (KR) - KEEP RIGHT (R4-7A) (KL) - KEEP LEFT (R4-8A) (LTO) - LEFT TURN ONLY (R3-5L) (ME) - MEDIAN (R4-7) (R4-8) (ND) - NO DUMPING (NL) - NO LEFT TURN (R3-2) (NL) - NO LITTERING (NOR) - NO RIGHT TURN (R3-1) (NOT) - NO TRUCKS (R5-2A) (NP) - NO PARKING (R7-1) (OW) - ONE WAY (R6-1L) (R6-1R) (PE) - PEDESTRIAN CROSSING (W11-2) (RTO) - RIGHT TURN ONLY (R3-5R) (R1) - ROW NUMBER (SL) - SPEED LIMIT (R2-X) (ST) - STOP (R1-1) (TZ) - TOW AWAY ZONE (R7-201) (TE) - TRUCK ENTRANCE (WL) - WEIGHT LIMIT (R12-5) (WW) - WRONG WAY (R5-1A) (Y) - YIELD (R1-2) (DT) - RESERVED DRIVE-THRU PARKING</p>	<p><b>DEVELOPER</b> EDGEWATER WATERFRONT PARK, LLC. 650 S. LAKEVIEW DRIVE LAKE HELEN, FLORIDA 32744 ATTN: DAN MCFAIL PHONE: 386-956-4057</p> <p><b>ENGINEER</b> CPH, INC. 500 WEST FULTON STREET SANFORD, FLORIDA 32713 ATTN: JEREMIAH D. OWENS, P.E. PHONE: (407) 322-6841 FAX: (407)-330-0639</p> <p><b>SURVEYOR</b> SCOTT'S SURVEYING SERVICES, INC. 8 S. HWY 17-92, QUITE 8-A DEBARY, FLORIDA 32713 SCOTT BECHIR, B.S.M. PHONE: (386) 668-7332 FAX: (386) 668-7337</p> <p><b>LANDSCAPE ARCHITECT</b> CPH, INC. 500 WEST FULTON STREET SANFORD, FLORIDA 32713 ATTN: MAXWELL D. SPANN, R.L.A. (407) 322-6841</p>	<p><b>ELECTRIC</b> FLORIDA POWER &amp; LIGHT ATTN: JOEL BRAY PHONE: 386-586-6403</p> <p><b>TELEPHONE</b> ATT DISTRIBUTION ATTN: KIRBY SPENCER EMAIL: KS2488@ATT.COM</p> <p><b>WATER &amp; SEWER</b> VOLUSIA COUNTY RESOURCES AND UTILITIES ATTN: ROGER SMITH, P.E. UTILITY ENGINEER (386) 943-7027 EXT. 12076</p> <p><b>GAS</b> FLORIDA PUBLIC UTILITIES ATTN: DAVID JOHNSON PHONE: 352-636-4057</p>	<p><b>CITY OF EDGEWATER, FLORIDA</b> 104 NORTH RIVERSIDE DRIVE EDGEWATER, FLORIDA PLANNING &amp; ZONING ATTN: BONNIE BROWN (386) 424-2400 EXT. 1502</p> <p><b>STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION</b> CENTRAL DISTRICT (SEWER ONLY) 3319 MAGUIRE BOULEVARD ORLANDO, FLORIDA 32803 (407) 897-4100</p> <p><b>WATER MANAGEMENT DISTRICT</b> S.J.R.W.M.D. PALM BAY SERVICE CENTER 525 COMMUNITY COLLEGE PARKWAY, S.E. PALM BAY, FLORIDA 32909 ATTN: CARMAN CADENAS (407) 659-4809</p> <p><b>VOLUSIA COUNTY UTILITIES</b> VOLUSIA COUNTY RESOURCES AND UTILITIES 3151 E. NEW YORK AVE. 2ND FLOOR DELAND, FLORIDA 32724 ATTN: ROGER SMITH, P.E. UTILITY ENGINEER (386) 943-7027 EXT. 12076</p> <p><b>FLORIDA DEPARTMENT OF TRANSPORTATION</b> FDOT 1650 N. KEGLER ROAD DELAND, FLORIDA 32724 ATTN: THOMAS RUSS (386) 740-3400 EXT. 0304</p>	<p><b>GENERAL</b> G0.00 COVER SHEET G0.01 GENERAL NOTES - 1 OF 3 G0.02 GENERAL NOTES - 2 OF 3 G0.03 GENERAL NOTES - 3 OF 3</p> <p><b>CIVIL</b> 1 OF 3 BOUNDARY &amp; TOPOGRAPHIC SURVEY 2 OF 3 BOUNDARY &amp; TOPOGRAPHIC SURVEY DETAIL I 3 OF 3 BOUNDARY &amp; TOPOGRAPHIC SURVEY DETAIL II C1.00 STORMWATER POLLUTION PREVENTION PLAN C1.01 SWPPP DETAILS C2.00 OVERALL SITE PLAN C2.00A IRLSW OPEN SPACE C2.01 SITE DIMENSION PLAN - 1 OF 5 AND TYPICAL SECTIONS C2.02 SITE DIMENSION PLAN - 2 OF 5 C2.03 SITE DIMENSION PLAN - 3 OF 5 C2.04 SITE DIMENSION PLAN - 4 OF 5 C2.05 SITE DIMENSION PLAN - 5 OF 5 C2.06 SITE DIMENSION PLAN - POND 'D' AND RECREATION AREA C3.00 OVERALL SITE GRADING PLAN C3.01 STORM SEWER SCHEDULE &amp; OUTFALL STRUCTURE DETAILS C3.02 SITE GRADING PLAN - 1 OF 5 AND SECTIONS 'A'-A' AND 'B'-B' C3.03 SITE GRADING PLAN - 2 OF 5 C3.04 SITE GRADING PLAN - 3 OF 5 C3.05 SITE GRADING PLAN - 4 OF 5 C3.06 SITE GRADING PLAN - 5 OF 5 C3.07 SITE GRADING PLAN - POND 'C' PLAN AND SECTION 'C'-C' C3.08 SITE GRADING PLAN - SECTIONS AND DETAILS C3.09 SITE GRADING PLAN - RIVERFRONT AND BOARDWALK C4.00 PLAN &amp; PROFILE - RED CEDAR AVENUE - STA. 00+00 TO STA. 08+00 C4.01 PLAN &amp; PROFILE - RED CEDAR AVENUE - STA. 08+00 TO STA. 15+00 C4.02 PLAN &amp; PROFILE - RED CEDAR AVENUE - STA. 15+00 TO STA. 23+00 C4.03 PLAN &amp; PROFILE - RED CEDAR AVENUE - STA. 23+00 TO STA. 29+00 C4.04 PLAN &amp; PROFILE - RED CEDAR AVENUE - STA. 29+00 TO STA. 33+00 C4.05 PLAN &amp; PROFILE - LAUREL OAK AVENUE - STA. 00+00 TO STA. 05+00 C4.06 PLAN &amp; PROFILE - LAUREL OAK AVENUE - STA. 05+00 TO STA. 11+00 C4.07 PLAN &amp; PROFILE - LAUREL OAK AVENUE - STA. 11+00 TO STA. 16+60 C4.08 PLAN &amp; PROFILE - BLACK CHERRY LANE - STA. 00+75 TO STA. 08+50 C4.09 PLAN &amp; PROFILE - LIVE OAK LANE E. - STA. 00+00 TO STA. 6+50 C4.10 PLAN &amp; PROFILE - LIVE OAK LANE S. - STA. 00+00 TO STA. 05+00 C4.11 PLAN &amp; PROFILE - SLASH PINE LANE - STA. 00+00 TO STA. 02+50 C5.00 OVERALL SITE - COMPOSITE UTILITY PLAN C5.01 SANITARY SEWER SCHEDULE &amp; MISCELLANEOUS DETAILS C5.02 COMPOSITE UTILITY PLAN - 1 OF 5 C5.03 COMPOSITE UTILITY PLAN - 2 OF 5 C5.04 COMPOSITE UTILITY PLAN - 3 OF 5 C5.05 COMPOSITE UTILITY PLAN - 4 OF 5 C5.06 COMPOSITE UTILITY PLAN - 5 OF 5 C5.07 LIFT STATION DETAIL C6.00 CITY DETAILS - 1 OF 4 C6.01 CITY DETAILS - 2 OF 4 C6.02 CITY DETAILS - 3 OF 4 C6.03 CITY DETAILS - 4 OF 4 C6.04 VOLUSIA COUNTY UTILITY DETAILS</p> <p><b>LANDSCAPE</b> L2.0 OVERALL TREE RETENTION PLAN L2.1 - L2.7 TREE RETENTION PLAN L2.8 - L2.12 TREE RETENTION CHART L2.13 TREE RETENTION CHART AND DETAIL L2.0 OVERALL LANDSCAPE PLAN L2.1 - L2.7 LANDSCAPE PLAN L2.8 LANDSCAPE NOTES, PLANT LIST AND ENLARGEMENT L2.9 LANDSCAPE DETAILS 2.10 OPEN SPACE IR2.0 OVERALL IRRIGATION PLAN IR2.1 - IR2.7 IRRIGATION PLAN IR2.8 - IR2.10 IRRIGATION NOTES AND DETAILS IR2.11 PUMP STATION DETAILS</p>	<p><b>VICINITY MAP</b> SCALE: 1" = 3,000'</p> <p><b>LOCATION MAP</b> SCALE: 1" = 500'</p> <p>DESIGNED: I. BOYLES DRAWN: M. MOODY CHECKED: L. WRAY JOB NO.: E9501 DATE: 01/15/2021 © 2023</p> <p>COVER SHEET TAMARACK III MOBILE HOME PARK EDGEWATER / VOLUSIA / FLORIDA</p> <p>THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.</p> <p>Sheet No. <b>GO.00</b></p> <p>VERTICAL DATUM: NAVD 88</p>



GENERAL PROVISIONS

- 1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MAKE A PRE-CONSTRUCTION VIDEO (DVD FORMAT) ALONG THE PROPOSED ROUTE IN ACCORDANCE WITH THE SPECIFICATIONS. IN PARTICULAR, THE VIDEO SHALL DOCUMENT THE CONDITION OF EXISTING DRIVEWAYS, BUILDINGS, STRUCTURES, MAILBOXES, SIGNS, FENCES, AND LANDSCAPING ALONG PROPOSED CONSTRUCTION AREAS.
2. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (FS 553.60-553.64) ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
3. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES.
4. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
5. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. CPH, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.
6. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. CPH, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.
7. SUBMIT ELECTRONIC COPIES (PDF FORMAT) OF EACH SHOP DRAWING AND PRODUCT DATA TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.
8. PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF MARKER NEEDS TO BE REMOVED IT SHALL BE REFERENCED BY LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.
9. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. AS A MINIMUM, TESTING SHALL INCLUDE A) PIPING AND STRUCTURAL EXCAVATION, BEDDING AND BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS; C) PORTLAND CEMENT CONCRETE AND ASPHALT PAVING QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR CONTENT, AND FIELD AND LAB CURED STRENGTH SAMPLES AND TESTING.
10. IN ADDITION TO QUALITY CONTROL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY PUBLIC BODY HAVING JURISDICTION OVER THE PROJECT ARE NOT RELIED BY THE ENGINEER'S REVIEW OF SUBMITTALS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING AT THE TIME OF SUBMISSION, OF DEVIATIONS IN SUBMITTALS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
11. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE OWNER AND THE ENGINEER, APPROVED IN WRITING, AND COMPLYING WITH THE LATEST EDITION OF THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION", PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.
12. TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS.
13. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.
14. A DUMPSTER OF SUITABLE SIZE SHALL BE PROVIDED DURING ALL PHASES OF CONSTRUCTION WHICH WILL BE EMPTIED AT AN APPROPRIATE PERMITTED LANDFILL AND RETURNED TO SITE AS NEEDED.
15. ALL CONSTRUCTION ONSITE SHALL BE IN CONFORMANCE WITH CITY OF EDGEWATER STANDARD CONSTRUCTION DETAILS LATEST EDITION.

UTILITY GENERAL NOTES

- 1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.
2. THE LOCATION, MATERIAL TYPE, AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER INSTRUCTION.
3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING '811' AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
4. THE FOLLOWING UTILITIES HAVE PREVIOUSLY INDICATED THAT THEY MAY HAVE FACILITIES IN THE VICINITY OF THE CONSTRUCTION AREA:

AT&T TRANSMISSION
ATTN: NANCY SPENCE
770-918-5424
AT&T DISTRIBUTION
ATTN: KIRBY SPENCER
E-MAIL: KS2488@ATT.COM
CENTURYLINK
ATTN: JERROLD COLLINS
407-830-3458
SPECTRUM (CHARTER COMMUNICATIONS)
ATTN: MARVIN USRY
407-532-8509
E-MAIL: MARVIN.USRYJR@CHARTER.COM
COMCAST COMMUNICATIONS
ATTN: BILL GRAHAM
407-315-8528
LEVEL 3 COMMUNICATIONS
ATTN: ROBERT SMITH
407-754-0125
E-MAIL: ROBERT.SMITH@LEVEL3.COM
FLORIDA GAS TRANSMISSION CO.
ATTN: CLAY ROSSLER
407-875-5800
FLORIDA POWER & LIGHT
ATTN: JOEL BRAY
PHONE: 386-586-6403
E-MAIL: MATTHEW.SAUHEY@FPL.COM
FLORIDA POWER & LIGHT - TRANSMISSION
ATTN: DALIANA AMADOR
E-MAIL: DALIANA.AMADOR@FPL.COM
FLORIDA PUBLIC UTILITIES
ATTN: DAVE JOHNSON
386-668-9364
E-MAIL: DJOHNSON@CHPK.COM
TECO PEOPLES GAS
ATTN: LAWREE WASHINGTON
407-420-2675
VOLUSIA COUNTY WATER & UTILITY SERVICE
ATTN: EARL FARMER
386-804-7768

- 5. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.
6. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.
8. THE CONTRACTOR SHALL FIELD LOCATE ALL WATER AND SEWER SERVICES AND LATERALS WITHIN THE PROPOSED CONSTRUCTION AREA PRIOR TO CONSTRUCTION AND ADJUST THE PROPOSED CONSTRUCTION AS NEEDED TO ACCOMMODATE THESE EXISTING LINES.
9. TYPICAL DETAILS AND PROPOSED CONSTRUCTION AS SHOWN ILLUSTRATE THE ENGINEER'S INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE PROPOSED CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED IT COMPLIES WITH THE PROJECT SPECIFICATIONS AND APPROVAL IS RECEIVED FROM THE ENGINEER. WHERE SUCH PROPOSED REVISIONS DEVIATE FROM THE FDEP CONSTRUCTION PERMIT, THEN SUCH REVISIONS WILL ALSO REQUIRE APPROVAL FROM FDEP.
10. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, SIZE, MATERIAL TYPE, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS,

OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFOR, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTOR'S CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
11. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE TAPING EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC, LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

RECORD DRAWING REQUIREMENTS

- 1. RECORD DRAWINGS SHALL DEPICT SURVEYED AS-BUILT INFORMATION INCLUDING HORIZONTAL AND VERTICAL LOCATIONS AS REQUIRED BELOW. RECORD DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AT LEAST THREE WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED AND DATED BY THE DRAWING'S PARTY.
2. ALL RECORD DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR IN ACAD FORMAT USING CONSTRUCTION PLAN SHEETS PROVIDED BY THE ENGINEER. AS-BUILT INFORMATION SHALL BE FIELD VERIFIED, MEASURED, ADDED TO THE ACAD FILES OF THE CONSTRUCTION PLAN SHEETS PROVIDED BY THE ENGINEER, AND CERTIFIED, SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED SURVEYOR WHO WILL BE RESPONSIBLE FOR THE ACCURACY OF ALL DIMENSIONS AND ELEVATIONS. SHEET SIZES AND THE SCALE OF THE RECORD DRAWINGS SHALL MATCH SHEET SIZING AND SCALE OF THE CONSTRUCTION PLANS. ADD BLOWUP DETAILS IF NECESSARY.
3. THE SURVEYED AS-BUILT INFORMATION SHALL BE VERTICALLY BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND THE COORDINATE SYSTEM SHALL BE BASED HORIZONTALLY ON THE NORTH AMERICAN DATUM 83 (NAD83) (1980 ADJUSTMENT). THE AS-BUILT SURVEY SHALL BE REFERENCED TO THE PROJECT BENCHMARKS AND SHALL BE REFERRED TO THE STATE PLANE COORDINATES. ALL VALVES (CENTER OF PIPE) AND VALVE BOXES (GRADE), HYDRANTS (GRADE), BLOW OFF (GRADE), SAMPLE POINTS (GRADE) AND METER BOXES (GRADE), ETC. SHALL BE CLEARLY SHOWN.
4. THE SURVEYED AS-BUILT LOCATION OF THE NEWLY CONSTRUCTED FACILITIES SHALL BE IN AN ACAD OVERALL BASE DRAWING WHICH IS IN STATE PLANE, PROVIDING "PAPER SPACE" VIEWS THAT ARE NOT IN STATE PLANE OF THE CONSTRUCTED FACILITIES IS NOT ACCEPTABLE. PROVIDING NORTHING AND EASTING POINT TABLES ON SEPARATE NEW SHEETS ADDED TO THE CONSTRUCTION PLANS IS NOT ACCEPTABLE. THE AS-BUILT NORTHING AND EASTING DATA MUST BE ON THE INDIVIDUAL CONSTRUCTION PLAN SHEETS TO WHICH THE DATA APPLIES.
5. THE AS-BUILT INFORMATION IS TO INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
A. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS FOR ALL UTILITY AND STORM STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, INLETS AND CLEANOUTS, INCLUDING STRUCTURE TOP AND INVERT ELEVATIONS.
B. DISTANCE ALONG PIPELINES BETWEEN STRUCTURES.
C. STORMWATER POND TOP OF BERM AND POND BOTTOM ELEVATIONS AND HORIZONTAL DIMENSIONS MEASURED AT A MINIMUM OF TEN LOCATIONS PER POND, AT LOCATIONS DESIGNATED BY THE ENGINEER. TOP OF POND HORIZONTAL DIMENSIONS ARE ALSO TO BE TIED TO PROPERTY CORNERS, EASEMENTS, AND RIGHTS-OF-WAY.
D. STORMWATER CONTROL STRUCTURE DIMENSIONS AND ELEVATIONS, INCLUDING ALL WEIRS, SLOTS, ORIFICES, GRATES, AND SKIMMERS.
E. STORMWATER CONVEYANCE SYSTEMS INCLUDING DIMENSIONS, ELEVATIONS, CONTOURS, AND CROSS SECTIONS.
F. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS OF ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC.
G. VERTICAL ELEVATIONS OF ALL PIPELINES AT CROSSINGS OF POTABLE WATER MAINS (WHETHER THE WATER MAIN IS EXISTING OR NEW) IN ORDER TO DOCUMENT THAT THE MINIMUM REQUIRED VERTICAL SEPARATION HAS BEEN MET.
H. GRADE ELEVATION ABOVE UTILITY PIPELINE WHERE VERTICAL ELEVATIONS ARE REQUIRED AT ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC.
I. UTILITY PIPELINE TIED HORIZONTALLY TO EDGE OF PAVEMENT AND RIGHT-OF-WAY LINES, LOCATED EVERY 200-FT PLUS ALL CHANGES IN HORIZONTAL OFFSET.
J. VERTICAL ELEVATIONS OF THE TOP OF CASING AND TOP OF CARRIER PIPE MEASURED AT EACH END OF CROSSINGS THAT HAVE BEEN JACK AND BORED.
K. HORIZONTAL LOCATIONS (STATE PLANE COORDINATES AND STATIONS AND OFFSETS) OF EACH END OF STEEL CASING PIPE (ALSO PROVIDE DISTANCE FROM EDGE OF PAVEMENT AND ADJACENT RIGHT-OF-WAY LINES).
L. PIPELINE THAT IS DIRECTIONAL, BORED IS TO BE HORIZONTALLY AND VERTICALLY LOCATED EVERY 20' ALONG THE BORE. PROVIDE THIS INFORMATION BY SUBMITTING BORING LOGS AND BY DRAWING THE AS-BUILT VERTICAL AND HORIZONTAL LOCATIONS OF THE BORED PIPELINE ON THE RECORD DRAWINGS BASED ON THE BORING LOGS. PROVIDE STATE PLANE COORDINATES AT EACH END OF DIRECTIONAL BORED PIPELINE.
M. PAVEMENT WIDTH AND ELEVATIONS AT THE CENTERLINE AND EDGE OF PAVEMENT EVERY 200 FEET PLUS AT ALL CHANGES IN LONGITUDINAL SLOPE, CROSS SLOPE, INLET LOCATIONS, AND AT ALL DRIVEWAY AND STREET INTERSECTIONS. FOR PARKING LOTS, RECORD CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS ALONG ALL DRIVE AISLES AND ISLANDS.
N. ALL PARKING AREAS AND SIDEWALK RAMPS DESIGNATED FOR HANDICAP ACCESS SHALL CONTAIN HORIZONTAL AND VERTICAL MEASUREMENTS IN ORDER TO VERIFY REQUIRED WIDTHS AND SLOPES HAVE BEEN MET.
O. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS.
P. WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE RECORD DRAWINGS ARE TO REFLECT THE ACTUAL HORIZONTAL LOCATION.
Q. WHERE THE PLANS CONTAIN SPECIFIC VERTICAL ELEVATION DATA, THE RECORD DRAWINGS ARE TO REFLECT THE ACTUAL MEASURED VERTICAL ELEVATION.
6. RECORD DRAWINGS ARE TO BE PREPARED BY THE CONTRACTOR, CERTIFIED BY THE CONTRACTOR'S LICENSED SURVEYOR, AND DELIVERED TO THE ENGINEER FOR REVIEW. THE ENGINEER WILL REVIEW THE DRAWINGS FOR COMPLETENESS IN ACCORDANCE WITH THE REQUIREMENTS OF THESE NOTES WITH SEVEN (7) FULL WORKING DAYS. FOR PRELIMINARY REVIEW, SUBMITTAL IN ACAD AND PDF FORMAT IS REQUIRED AND SIGNED AND SEALED COPIES ARE NOT NECESSARY. FINAL SUBMITTAL OF COMPLETE RECORD DRAWINGS SHALL CONSIST OF ONE SET SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED SURVEYOR PLUS ACAD AND PDF FILES OF THE RECORD DRAWINGS DELIVERED TO THE ENGINEER. IF THE DRAWINGS ARE FOUND TO BE INCOMPLETE OR INACCURATE, THE DRAWINGS WILL BE RETURNED TO THE CONTRACTOR FOR CORRECTION.
7. IN CASES WHERE THE OWNER DETERMINES PARTIAL CLEARANCES FROM PERMITTING AGENCIES ARE BENEFICIAL TO THE OWNER FOR COMPLETED PORTIONS OF THE PROJECT, PROVIDE PRELIMINARY RECORD DRAWINGS (ACAD FORMAT) TO THE ENGINEER FOR ITS USE IN PREPARING THE PARTIAL CLEARANCE APPLICATIONS FOR THE OWNER.
8. COMPLETE SIGNED AND SEALED RECORD DRAWINGS ARE REQUIRED TO BE DELIVERED TO THE OWNER PRIOR TO FINAL INSPECTION OF THE PROJECT. FINAL INSPECTIONS WILL ONLY BE SCHEDULED UPON RECEIPT OF SIGNED AND SEALED RECORD DRAWINGS THAT HAVE BEEN REVIEWED BY THE ENGINEER AND DELIVERED BY THE ENGINEER TO THE OWNER.

TRAFFIC CONTROL

- 1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (MOT) PLAN PRIOR TO CONSTRUCTION. THE MOT PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES, AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE MOT PLAN AND INSTALLED TRAFFIC CONTROL MEASURES SHALL BE APPROVED BY THE ENGINEER, OWNER, AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. IN GENERAL, ROADWAY AND DRIVEWAY LANE CLOSURES ARE PROHIBITED DURING CONSTRUCTION UNLESS SPECIFICALLY DETAILED ON THESE PLANS. IN THE EVENT IT IS DETERMINED THAT ROADWAY AND DRIVEWAY LANE CLOSURES WILL BE ALLOWED, THE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M. UNLESS OTHERWISE AUTHORIZED IN THE APPROVED MOT PLAN.
2. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH FOOT STANDARD PLANS FOR ROAD CONSTRUCTION, INDEX NO. 102-600 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION.
3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.
4. CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION. COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.
5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.
6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.
7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.
8. WHEN WORK OCCURS ALONG MULTILANE ROADS WITHIN 15-FT OF ACTIVE ROAD TRAVEL WAY BUT NO CLOSER THAN 2-FT FROM THE TRAVEL WAY, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FOOT INDEX NO. 102-600 AND 102-612. WHEN WORK OCCURS ALONG MULTILANE ROADS BETWEEN THE ROAD CENTERLINE AND A LINE 2-FT OUTSIDE THE EDGE OF THE TRAVEL WAY, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FOOT INDEX NO. 102-600 AND 102-613.
9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE ROAD WHEREVER HAZARDS EXIST AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY COMPLETED PAVEMENTS UNTIL SUCH PAVEMENTS ARE OPEN TO PUBLIC USE.
10. WHERE A DROP-OFF CONDITION IN THE WORK ZONE OCCURS, IT SHALL BE MITIGATED IN ACCORDANCE WITH FOOT INDEX 102-600. REFER TO FOOT INDEX NO. 102-600 FOR THE DEFINITION OF A DROP-OFF.

SITE PREPARATION

- 1. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE DRAWINGS. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING

PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

- 2. STAKE OUT THE CONSTRUCTION, ESTABLISH LINES AND LEVELS, TEMPORARY BENCH MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO INTERCONNECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WORK.
3. PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS.
4. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, THE INTENT IS TO ALLOW TREES AND SHRUBS TO REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION - TREES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN 15 FEET FROM THE BACK OF CURB, OR OUTSIDE THE LIMITS OF EXCAVATION OR FILL AREAS, WHICHEVER IS FURTHER. UTILITY PIPELINE CONSTRUCTION - TREES AND SHRUBS TO REMAIN OUTSIDE A 15 FOOT WIDE PATH, CENTERED ON THE PIPELINE.
5. TREES TO REMAIN IN THE CONSTRUCTION AREA SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD.
6. AREAS TO RECEIVE CLEARING AND GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS, AREAS FOR FILL AND SITE GRADING, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE AREAS ONLY AS INDICATED ON THE DRAWINGS OR AS APPROVED IN WRITING BY THE ENGINEER.
7. CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENCROACH UPON OR OTHERWISE OBSTRUCT THE WORK.
8. EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES OR UTILITIES.
9. GRUBBING SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN 2" IN DIAMETER, AND MATTED ROOTS. REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW THE ORIGINAL SURFACE LEVEL OF THE GROUND.
10. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE DISPOSAL AREAS.

DEWATERING

- 1. DESIGN AND PROVIDE A DEWATERING SYSTEM USING ACCEPTED AND PROFESSIONAL METHODS CONSISTENT WITH CURRENT INDUSTRY PRACTICE. PROVIDE A DEWATERING SYSTEM OF SUFFICIENT SIZE AND CAPACITY TO CONTROL GROUNDWATER IN A MANNER THAT PRESERVES STRENGTH OF FOUNDATION SOILS, DOES NOT CAUSE INSTABILITY OR RAVELING OF EXCAVATION SLOPES, AND DOES NOT RESULT IN DAMAGE TO EXISTING STRUCTURES. WHERE NECESSARY TO THESE PURPOSES, LOWER WATER LEVEL IN ADVANCE OF EXCAVATION, UTILIZING WELLS, WELLPOINTS, OR SIMILAR POSITIVE METHODS, MAINTAIN THE GROUNDWATER LEVEL TO A MINIMUM OF 2 FEET BELOW EXCAVATIONS. PROVIDE PIEZOMETERS IF DIRECTED BY THE ENGINEER TO DOCUMENT THE GROUNDWATER LEVEL IS BEING MAINTAINED.
2. CONTROL, BY ACCEPTABLE MEANS, ALL WATER REGARDLESS OF SOURCE AND BE FULLY RESPONSIBLE FOR DISPOSAL OF THE WATER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SUPPLEMENTAL MEASURES TO CONTROL SEEPAGE, GROUNDWATER, OR ARTESIAN HEAD.
3. DEWATERING DISCHARGE FROM THE SITE SHALL COMPLY WITH ALL NPDES GENERAL PERMIT REQUIREMENTS AND STATE WATER QUALITY STANDARDS. PROVIDE ALL TESTING AND PERMITTING REQUIRED AND COMPLY WITH ALL TREATMENT OR DISPOSAL METHODS REQUIRED TO MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.
4. OPEN PUMPING WITH SUMPS AND DITCHES SHALL BE ALLOWED, PROVIDED IT DOES NOT RESULT IN BOILS, LOSS OF FINES, OR SETTLEMENTS OF THE SOIL. THE SUMP SHALL BE LOCATED OUTSIDE OF LOAD BEARING AREAS AND THE BEARING SURFACES WILL NOT BE DISTURBED. WATER CONTAINING SILT IN SUSPENSION SHALL NOT BE PUMPED INTO SEWER LINES OR ADJACENT STREAMS. DURING NORMAL PUMPING, AND UPON DEVELOPMENT OF WELLS, LEVELS OF FINE SAND OR SILT IN THE DISCHARGE WATER SHALL NOT EXCEED 5 PPM.
5. IF DEWATERING EQUIPMENT NEEDED EXCEEDS ANY OF THE FOLLOWING: 1) 6" PUMP VOLUME; 2) 100,000 GPD TOTAL, 24 HOUR (1 DAY) DEWATERING; AND, 3) 1,000,000 GPD PUMP CAPACITY, THE CONTRACTOR SHALL BE REQUIRED TO PERMIT THE DEWATERING SYSTEM WITH THE WATER MANAGEMENT DISTRICT.
6. CONTINUOUSLY MAINTAIN EXCAVATIONS IN A DRY CONDITION WITH POSITIVE DEWATERING METHODS DURING PREPARATION OF SUBGRADE, INSTALLATION OF PIPE, AND CONSTRUCTION OF STRUCTURES UNTIL THE CRITICAL PERIOD OF CONSTRUCTION AND/OR BACKFILL IS COMPLETED TO PREVENT DAMAGE OF SUBGRADE SUPPORT, PIPING, STRUCTURE, SIDE SLOPES, OR ADJACENT FACILITIES FROM FLOTATION OR OTHER HYDROSTATIC PRESSURE IMBALANCE.
7. WHEN CONSTRUCTION IS COMPLETE, REMOVE ALL DEWATERING EQUIPMENT FROM THE SITE, INCLUDING WELLS AND RELATED TEMPORARY ELECTRICAL SERVICE.

GRADING

- 1. GRADING SHOWN ON THESE PLANS IS PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.
2. ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNDESIRABLE STEEP SLOPES. THE STANDARD CROWN MAY HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.
3. UNIFORMLY SMOOTH GRADE SITE, DEPRESSIONS FROM SETTLEMENT SHALL BE FILLED AND COMPACTED. TOPS OF EMBANKMENTS AND BREAKS IN GRADE SHALL BE ROUNDED. FINISHED SURFACES SHALL BE REASONABLY SMOOTH, COMPACTED, FREE FROM IRREGULAR SURFACE CHANGES AND COMPARABLE TO THE SMOOTHNESS OBTAINED BY BLADE-GRADER OPERATIONS.
4. SLOPE GRADES TO DRAIN AWAY FROM STRUCTURES AT A MINIMUM OF 1/4-INCH PER FOOT FOR 10 FEET. FINISHED SURFACES ADJACENT TO PAVED AREAS AND WITHIN 10 FEET OF STRUCTURES SHALL BE WITHIN 1 INCH OF THE PROPOSED GRADE. ALL OTHER AREAS SHALL BE WITHIN 3 INCHES OF THE PROPOSED GRADE.
5. NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE-ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE OWNER.

EXCAVATION, TRENCHING, AND FILL

- 1. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
2. ROUGH EXCAVATE AND GRADE ANY PROPOSED STORMWATER PONDS AT THE START OF SITE GRADING ACTIVITIES. DIRECT SITE RUNOFF TO THE PONDS TO MINIMIZE RUNOFF TO OFFSITE AREAS.
3. POND CONSTRUCTION SHALL RESULT IN THE FINISHED POND HAVING SIDE SLOPES AND DIMENSIONS THAT ARE IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THAT THESE REQUIREMENTS HAVE BEEN MET. IF THE CONSTRUCTED SIDE SLOPES ARE STEEPER THAN THE REQUIRED SIDE SLOPES, OR THE POND VOLUME IS NOT WITHIN THREE (3) PERCENT OF THE DESIGN VOLUME, THE CONTRACTOR MAY BE REQUIRED TO MAKE CORRECTIONS TO THE POND AT NO ADDITIONAL COST TO THE OWNER.
4. FIELD DENSITY TESTING FREQUENCIES: A) ONE TEST FOR EACH 10,000 SQUARE FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING, MINIMUM 2 TESTS EACH LAYER; B) ONE TEST FOR EACH 100 SQUARE FEET OR FRACTION THEREOF OF BACKFILL AROUND AND UNDER STRUCTURES; C) ONE TEST FOR EACH 300 LINEAL FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING IN THE PIPELINE TRENCH; D) ONE TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL; E) ONE TEST PER 1000 SQUARE FEET OF PAVEMENT SUBGRADE, MINIMUM OF 2 TESTS.
5. IT IS INTENDED THAT PREVIOUSLY EXCAVATED MATERIALS CONFORMING TO THE FOLLOWING REQUIREMENTS BE UTILIZED WHEREVER POSSIBLE.
A. ACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-1, A-3, A-2.4, A-2.6; ASTM D2487 CLASSIFICATION GW, GP, GM, SM, SW, SP; UNLESS OTHERWISE DISAPPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS, NO MORE THAN 12% OF ACCEPTABLE MATERIALS SHALL PASS THE NUMBER 200 SIEVE.
B. UNACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-2.5, A-2.7, A-4, A-5, A-6, A-7, A-8; ASTM D2487 CLASSIFICATION GC, SC, ML, MH, CL, CH, OL, OH, PT; UNLESS OTHERWISE APPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS.
6. PROVIDE BARRIERS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS.
7. SIDEWALKS, ROADS, STREETS, AND PAVEMENTS SHALL NOT BE BLOCKED OR OBSTRUCTED BY EXCAVATED MATERIALS, EXCEPT AS AUTHORIZED BY THE ENGINEER, IN WHICH CASE ADEQUATE TEMPORARY PROVISIONS MUST BE MADE FOR SATISFACTORY TEMPORARY PASSAGE OF PEDESTRIANS, AND VEHICLES. MINIMIZE INCONVENIENCE TO PUBLIC TRAVEL OR TO TENANTS OCCUPYING ADJOINING PROPERTY.
8. FURNISH, INSTALL, AND MAINTAIN, WITHOUT ADDITIONAL COMPENSATION, SHEETING, BRACING, AND SHORING SUPPORT REQUIRED TO KEEP EXCAVATIONS WITHIN THE PROPERTY OR EASEMENTS PROVIDED, TO SUPPORT THE SIDES OF THE EXCAVATION, AND TO PREVENT ANY MOVEMENT WHICH MAY DAMAGE ADJACENT PAVEMENTS OR STRUCTURES, DAMAGE OR DELAY THE WORK, OR ENDANGER LIFE AND HEALTH. VOIDS OUTSIDE THE SUPPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED.
9. SHEETING, SHORING, AND BRACING USED FOR THE SUPPORT OF EXCAVATIONS OVER 20 FEET DEEP SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF FLORIDA.
10. ALL EXCAVATIONS SHALL BE MADE BY OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES IN ACCORDANCE WITH OSHA REQUIREMENTS AND THE RECOMMENDATIONS CONTAINED WITHIN THE PROJECT GEOTECHNICAL REPORT.
11. EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED FOR INDICATED FLOW LINES AND INVERT ELEVATIONS. OVER EXCAVATE TRENCHES A MINIMUM OF 2 FEET WHERE EXCAVATIONS OCCUR WITHIN UNSUITABLE SOILS, AND REPLACE OVER EXCAVATED MATERIAL WITH SUITABLE SOILS.

- 12. EXCEPT AS OTHERWISE INDICATED, EXCAVATE FOR PRESSURE PIPING SO TOP OF PIPING IS MINIMUM 3 FEET BELOW FINISHED GRADE.
13. TRENCH BOTTOMS AND THE BOTTOMS OF ALL STRUCTURES SHALL BE KEPT DRY, COMPACTED, AND STABLE TO A DEPTH TWO FEET BELOW THE BOTTOM OF THE TRENCH OR STRUCTURE.
14. ALL BEDDING, FILL, AND BACKFILL MATERIAL SHALL BE SUITABLE SOILS OR FLOWABLE FILL. WHERE TRENCH OR EXCAVATION IS WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, FOUNDATIONS, OR SLABS, PLACE BACKFILL IN LAYERS OF 8 INCH LOOSE DEPTH. IN ALL OTHER AREAS, PLACE FILL AND BACKFILL IN LAYERS OF 12 INCH LOOSE DEPTH.
15. MINIMUM DENSITY REQUIREMENT (ASTM D1557 OR AASHTO T198): BACKFILL AND FILL UNDER AND WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, SLABS, FOUNDATIONS = 98 PERCENT; BACKFILL AND FILL PLACED WITHIN PUBLIC ROAD RIGHT-OF-WAY AND UTILITY EASEMENTS = 95 PERCENT; BACKFILL AND FILL PLACED WITHIN POND AND ROAD EMBANKMENT = 95 PERCENT; BACKFILL AND FILL PLACED IN ALL OTHER AREAS = 90 PERCENT.

RIPRAP

- 1. ALL RIPRAP CONSTRUCTION SHALL MEET THE REQUIREMENTS OF SECTION 530 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

UTILITY SEPARATION REQUIREMENTS

- 1. THE HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS, STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF THREE FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, VACUUM TYPE SANITARY SEWER AND RECLAIMED WATER MAIN.
B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF SIX FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
2. THE VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY AND STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
A. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, THEN THE WATER MAIN CAN CROSS UNDER THESE TYPES OF PIPELINE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE PIPELINE. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST SIX FEET FROM GRAVITY SANITARY SEWER JOINTS.
B. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED RECLAIMED WATER MAINS, WASTEWATER FORCE MAINS AND STORMWATER FORCE MAINS. WHETHER THE WATER MAIN CROSSES OVER OR UNDER THESE TYPES OF PIPELINE SYSTEMS, THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST 12 INCHES FROM THE OUTSIDE OF THE EXISTING OR PROPOSED RECLAIMED WATER MAIN, WASTEWATER FORCE MAIN AND STORMWATER FORCE MAIN. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST SIX FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS.
3. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.
4. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST:
A. THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER.
B. SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN.
C. TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
5. THE FOLLOWING ARE ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES TO BE CONSIDERED FOR COST EVALUATION WITH NO GUARANTEE THEY WILL BE APPROVED FOR IMPLEMENTATION WHERE IT IS NOT POSSIBLE TO MEET THE SEPARATION REQUIREMENTS. EXCEPTIONS FROM MEETING THE PIPE SEPARATION REQUIREMENTS, WITHOUT MITIGATION, SHALL BE ALLOWED ONLY BY FDEP IF TECHNICAL OR ECONOMIC JUSTIFICATIONS FOR EACH EXCEPTION PROVIDED BY THE ENGINEER ARE ACCEPTABLE TO FDEP AND ARE ONLY TO BE IMPLEMENTED UPON RECEIPT OF EXPRESSED WRITTEN CONSENT FROM THE ENGINEER AND APPROVAL FROM FDEP ON A CASE BY CASE BASIS. ALL POSSIBLE MEASURES TO ACHIEVE COMPLIANCE WITH THE PIPE SEPARATION REQUIREMENTS SHALL BE CONSIDERED FIRST ALONG WITH DESIGN CHANGES TO MEET THE REQUIREMENTS BEFORE THE ENGINEER SUBMITS A JUSTIFICATION OF AN EXCEPTION TO FDEP FOR APPROVAL. IMPLEMENTATION OF THESE MEASURES WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER AND APPROVAL BY FDEP COULD RESULT IN THE REQUIREMENT THAT THE INSTALLED UNAPPROVED MEASURES BE REMOVED AND REPLACED AT NO ADDITIONAL COST.
A. WHERE A WATER MAIN IS LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE LESS THAN THE MINIMUM REQUIRED DISTANCE BETWEEN THE JOINTS IN THE OTHER PIPELINE:
1. USE OF PRESSURE RATED PIPE CONFORMING TO AWWA STANDARDS FOR A GRAVITY OR VACUUM TYPE PIPELINE.
2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER PIPELINE.
3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASUREMENT AT LEAST FOUR INCHES THICK FOR EITHER PIPE.
B. WHERE A WATER MAIN IS LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE LESS THAN THE REQUIRED MINIMUM SEPARATION:
1. USE OF PIPE OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (AT LEAST EQUAL TO 0.25 INCH THICK DUCTILE IRON PIPE), OR CONCRETE ENCASUREMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN AND FOR THE OTHER PIPELINE IF THE OTHER PIPELINE CONVEYS WASTEWATER OR RECLAIMED WATER.

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Table with 3 columns: Revision, Date, No. and 4 rows of empty cells.

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Checked: M. MOODY
Drawn: L. WRAY
Job No.: E9501
Date: 01/15/2021 © 2023

GENERAL NOTES - 1 OF 3
TAMARACK III MOBILE HOME PARK
EDGEWATER / VOLUSIA / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No. GO.01

**WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS**

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER AND RECLAIMED WATER SYSTEMS SHOWN ON THESE PLANS IS **ONSITE: TAMARACK III OFFSITE: VOLUSIA COUNTY UTILITY**. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF **VOLUSIA COUNTY UTILITY AND CITY OF EDGEWATER**.
2. ALL WATER AND RECLAIMED MAIN PIPE SHALL BE EITHER DUCTILE IRON OR PVC, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. INSTALL ALL WATER AND RECLAIMED MAINS AT A MINIMUM 36 INCHES OF COVER.
4. BURIED DUCTILE IRON PIPE SHALL CONFORM WITH ANSIAWWA C150/A21.50 AND C151/A21.51, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. BURIED PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER = PC 350; B) 14" THROUGH 24" DIAMETER = PC 250; C) 30" THROUGH 64" DIAMETER = PC 200.
5. EXPOSED PIPE 4" AND LARGER SHALL BE DUCTILE IRON FLANGED AND SHALL CONFORM WITH ANSIAWANSI C115/A21.15, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. FLANGED PIPE SHALL COMPLY WITH THE FOLLOWING THICKNESS CLASS (TC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 4" DIAMETER = TC 54; B) 6" THROUGH 24" DIAMETER = TC 53
6. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSIAWWA C105/A21.5.
7. PVC PIPE 4" - 30" SHALL CONFORM TO AWWA C900. PIPE SHALL CONFORM TO ASTM D1784, TYPE I, GRADE I, 4000 PSI DESIGN STRESS, AND SHALL BE NATIONAL SANITATION FEDERATION (NSF) APPROVED. PIPE SHALL BE CLASS 235 (DR18) PVC PIPE WITH CAST IRON OUTSIDE DIAMETER (CIOD), AND SHALL CONTAIN MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900. THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.
8. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSIAWWA C110/A21.10 OR ANSIAWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.
9. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS CEMENT MORTAR LINING PER ANSIAWWA C104/A21.4. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSIAWWA C110/A21.10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEPEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEPEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
10. MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED, CONFORMING TO ANSIAWWA C111/A21.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.
11. RESTRAINED JOINTS FOR DUCTILE IRON PIPE BELL JOINTS SHALL BE AMERICAN FAST GRIP GASKET, MCWANE SURE GRIP 350 GASKET, U.S. PIPE FIELD LOK 350 GASKET, OR EBAA IRON MEGA LUG SERIES 1100HD. RESTRAINED JOINTS FOR DUCTILE IRON PIPE AND FITTING MECHANICAL JOINTS SHALL BE AMERICAN FLEX RING JOINT, AMERICAN LOK-RING JOINT, OR U.S. PIPE TR-FLEX. RESTRAINED JOINTS FOR PVC PIPE MECHANICAL JOINTS SHALL BE TYLER UNION SERIES 2000 TUF GRIP TLP, JCM SUR-GRIP BELL RESTRAINER, FORD UNI-FLANGE SERIES 1500 CIRCLE LOCK, OR EBAA IRON MEGA LUG SERIES 2000PV. RESTRAINED JOINTS FOR PVC PIPE PUSH ON JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1500 OR SERIES 1600 (C300 PVC), SERIES 2800, FORD UNI-FLANGE SERIES 1500, OR SMITH-BLAIR BELL JOINT. JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER. VALVES ARE TO BE RESTRAINED ON EACH SIDE OF THE VALVE AT THE CONNECTION TO ADJOINING PIPE.
12. POLYETHYLENE PIPE AND TUBING USED FOR SERVICE LINES 1/2-3/4 INCH DIAMETER SHALL BE POLYETHYLENE IN ACCORDANCE WITH AWWA C901. STANDARD CODE DESIGNATION PE 4710, SDR 9 (OUTSIDE DIAMETER BASED DIMENSION RATIO), 250 PSI. PIPE SHALL BE COLOR CODED BLUE (POTABLE WATER) OR PURPLE (RECLAIMED WATER). PIPE AND FITTINGS SHALL BE NSF APPROVED FOR THE USAGE TO WHICH THEY ARE TO BE APPLIED. JOINTS IN SDR-PR PE PIPE SHALL BE BUTT HEAT FUSION OR SOCKET HEAT FUSION TYPE. FITTINGS SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE OF THE SAME SDR OR LESS. PROVIDE ADAPTERS AS REQUIRED TO JOIN PE PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS.
13. SERVICE SADDLES SHALL MEET THE REQUIREMENTS OF AWWA C800 AND SHALL CONSIST OF EPOXY COATED DUCTILE IRON BODIES IN ACCORDANCE WITH ASTM A536, WITH DOUBLE STAINLESS STEEL STRAPS, BOLTS, WASHERS AND NUTS. STAINLESS STEEL SHALL BE TYPE 304, AND NUTS ARE TO BE TEFLON COATED. THE DUCTILE IRON BODY IS TO BE FUSION BONDED NYLON COATED, MINIMUM THICKNESS 12 MILS. OUTLET OF SADDLES IS TO HAVE NPT THREADS. SERVICE SADDLES SHALL BE MANUFACTURED BY FORD, MUELLER, OR SMITH-BLAIR.
14. ALL SERVICES SHALL INCLUDE THE FOLLOWING: CURB STOPS, UNIONS AS REQUIRED, CORPORATION STOPS. CONFORMANCE WITH AWWA C800 AND C901 IS REQUIRED. THE CONTRACTOR SHALL CUT "W" IN THE TOP CURB OF EACH WATER SERVICE AND "A" AT ALL VALVE LOCATIONS. CUT WS AND VS SHALL BE HIGHLIGHTED WITH BLUE PAINT.
15. UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS AND RECLAIMED WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE AND RECLAIMED WATER SERVICE TO THE CORPORATION STOP.
16. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE; VALVES OVER TWO INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED.
17. VALVES 4 INCHES AND LARGER SHALL BE LINED AND COATED. BURIED AND EXPOSED VALVES SHALL BE COATED INSIDE AND OUT WITH A RUST INHIBITING EPOXY PRIMER, FOLLOWED BY AN EPOXY COATING MEETING THE REQUIREMENTS OF AWWA C550, APPLIED AT THE FACTORY. THE INTERIOR OF VALVES WITH A CAST IRON OR DUCTILE IRON BODY SHALL BE COATED WITH AN EPOXY PROTECTIVE COATING MEETING NSF INTERNATIONAL STANDARD 61 AND AWWA C550. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEPEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEPEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
18. ALL VALVES 12" AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GATE VALVES 3 INCHES TO 12 INCHES SHALL CONFORM TO AWWA C502. THE VALVES SHALL BE STAINLESS STEEL. CAST IRON FULLY ENCAPSULATED MOLDED RUBBER WEDGE COMPLY WITH ASTM D2000, NON-RISING STEM WITH O-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE.
19. TAPPING SLEEVES ARE TO BE 18-8 TYPE 304 STAINLESS STEEL AND STAINLESS STEEL OUTLET, AS MANUFACTURED BY JCM OR APPROVED EQUAL. TAPPING VALVES SHALL BE RESILIENT SEATED GATE VALVES AND SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. TAPPING VALVES SHALL BE AMERICAN FLOW CONTROL, SERIES 2500, CLOW SERIES F-6100, OR MUELLER SERIES A2361.
20. VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH, TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150. VALVE BODY SHALL BE MECHANICAL JOINT END TYPE VALVE CONSTRUCTED OF CAST IRON OR DUCTILE IRON. DISC SHALL BE ONE PIECE CAST DESIGN WITH NO EXTERNAL RIBS TRANSVERSE TO FLOW. DISC SHALL BE CAST IRON OR DUCTILE IRON. THE RESILIENT SEAT SHALL MATE WITH A 304 OR 316 STAINLESS STEEL SURFACE.
21. VALVE SEATS SHALL BE MECHANICALLY RETAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. O-RING SEATS ON VALVE DISCS ARE UNACCEPTABLE. SEATS FOR VALVES 14" DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS. OPERATORS OF THE ENCLOSED TRAVELING-NUT TYPE SHALL BE PROVIDED UNLESS OTHERWISE INDICATED.
22. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER AND SHALL BE HEAVY DUTY TRAFFIC RATED. VALVE BOXES SHALL BE CAST IRON. VALVE BOX LIDS SHALL BE CAST IRON H-20 LOAD RATED. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. ALL VALVE BOX EXTENSIONS SHALL BE CAST IRON. VALVE BOX LIDS IN PAVED AREAS SHALL BE LOCKABLE. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN AND VALVE BOXES IN PAVED AREAS SHALL BE ADJUSTABLE SCREW TYPE. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "WATER" OR "RECLAIMED WATER". IN UNPAVED AREAS, INSTALL A 2-Ft X 2-Ft X 6-IN THICK CONCRETE PAD (2500 PSI) AT EACH VALVE. ALL VALVE BOX COVERS SHALL BE PAINTED WITH A THREE COAT SYSTEM. THE FIRST COAT SHALL BE PRIMER, 2.5-3.5 MIL DRY FILM THICKNESS (DFT) TNEPEC SERIES 135 CHEMBUILD OR APPROVED EQUAL; THE INTERMEDIATE COAT SHALL BE 4.0-10.0 MIL DFT TNEPEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEPEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE BLUE (WATER) OR PURPLE (RECLAIMED WATER) OR AS APPROVED BY THE LOCAL UTILITY.
23. PVC PIPES SHALL BE COLOR CODED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) AND STENCILED (0.75-INCH LETTERING ON THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION) "POTABLE WATER MAIN" OR "RECLAIMED WATER MAIN" AS APPLICABLE.
24. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE. MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. APPLY TAPE TO SURFACE OF PIPE, CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON BLUE BACKGROUND (WATER MAINS), BLACK PRINTING ON PURPLE BACKGROUND (RECLAIMED WATER MAINS). TAPE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
25. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) WITH BLACK LETTERING, CODED AND WORDED "CAUTION: WATER MAIN BURIED BELOW" AS APPLICABLE.
26. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 10 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 2" AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER LOCAL UTILITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.
27. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
28. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE

29. PROVIDED. ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALE TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.
  30. ALL SERVICE LINES SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.
  31. THE SEQUENCE OF TESTING AND DISINFECTION SHALL BE AS FOLLOWS: 1) CONDUCT PRESSURE AND LEAKAGE TESTING; 2) PERFORM FLUSHING PER UTILITY REQUIREMENTS AND AWWA C651; 3) DISINFECT THE WATER MAIN, INCLUDING VALVES AND FITTINGS; AND 4) DECHLORINATE AND FLUSH AFTER DISINFECTION.
  32. APPLY LEAKAGE TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS) OR 150 PSI (RECLAIMED WATER MAINS). MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.
  33. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.
  34. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP1/48000 WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.
  35. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE.
  36. PRIOR TO DISINFECTION, CONDUCT FULL DIAMETER FLUSHING OF PIPELINE IN SECTIONS IN ORDER TO REMOVE ANY SOLIDS OR CONTAMINATED MATERIAL THAT MAY HAVE BECOME LODGED IN THE PIPE.
  37. OBTAIN A MINIMUM FLUSHING VELOCITY OF 2.5 FEET PER SECOND PER AWWA C651.
  38. ALL TAPS REQUIRED FOR FLUSHING AND THE TEMPORARY OR PERMANENT RELEASE OF AIR AS NEEDED FOR FLUSHING SHALL BE PROVIDED BY THE CONTRACTOR.
  39. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING ANY METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C651. THE DISCHARGE LOCATIONS FOR THE CHLORINATED WATER SHALL BE APPROVED BY THE OWNER. NEUTRALIZE THE CHLORINE RESIDUAL BY MEANS OF A REDUCING AGENT IN ACCORDANCE WITH AWWA C651.
  40. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION, THOSE OF THE AUTHORITY SHALL GOVERN. ALL BACTERIOLOGICAL TESTING INCLUDING COLLECTION OF SAMPLES FOR TESTING SHALL BE PERFORMED BY A STATE CERTIFIED LABORATORY CONTRACTED BY THE CONTRACTOR. ALL WATER SAMPLE COLLECTION SHALL TAKE PLACE WITH A REPRESENTATIVE OF THE UTILITY PRESENT. PROPER CHAIN OF CUSTODY PROCEDURES MUST BE FOLLOWED. COPIES OF ALL TESTING RESULTS AND ALL RELATED CORRESPONDENCE FROM THE TESTING LAB SHALL BE SUBMITTED TO THE OWNER, UTILITY, AND ENGINEER.
  41. SAMPLE LOCATIONS SHALL BE ALONG EVERY 1200 FEET OF NEW MAIN, PLUS ONE FROM EACH END OF THE LINE AND AT LEAST ONE FROM EACH BRANCH. THE SAMPLE POINTS MUST HAVE A BRASS NON-THREADED SMOOTH-NOSED DOWNWARD SPOUTED HOSE BIBB MOUNTED ON A RIGID STAND PIPE AT LEAST THREE FEET ABOVE THE FINISH GRADE. NO HOSE OR FIRE HYDRANT SHALL BE USED IN THE COLLECTION OF SAMPLES. WARNING TAGS SHALL BE ATTACHED TO EACH SAMPLE POINT.
- FIRE PROTECTION SYSTEMS**
1. COMBUSTIBLE CONSTRUCTION CANNOT OCCUR UNTIL PROPER DOCUMENTATION HAS BEEN SUBMITTED TO THE LOCAL FIRE MARSHAL. DOCUMENTATION SHALL SHOW THAT HYDRANTS HAVE BEEN INSTALLED, TESTED, AND ARE IN PROPER WORKING ORDER.
  2. INSTALL ALL FIRE LINE PIPING AT A MINIMUM 36 INCHES OF COVER.
  3. ALL FIRE LINE PIPING FROM POINT OF SERVICE AS DEFINED BY FS 633.10(24) SHALL BE C900 DR 14, CAST IRON OUTSIDE DIAMETER (CIOD). THE FIRE LINE SHALL BE PRESSURE TESTED TO 200 PSI FOR A MINIMUM OF TWO HOURS, TESTED IN ACCORDANCE WITH NFPA 24.
  4. THE CONTRACTOR INSTALLING THE UNDERGROUND FIRE PROTECTION PIPING SHALL HOLD A CLASS I, II, OR LEVEL V CERTIFICATION AS ISSUED BY THE STATE OF FLORIDA, AS REQUIRED BY FS 633.02(5).
  5. ALL FIRE PROTECTION SPRINKLER SYSTEMS INSTALLED SHALL COMPLY WITH NFPA 13, AND SHALL BE MONITORED BY A COMPANY LISTED AS A CENTRAL STATION.
  6. HYDRANTS SHALL CONFORM TO AWWA C502 AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURER'S CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE REQUIRED.
  7. ALL HYDRANTS SHALL BE OF BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE FINISH GROUND LINE. HYDRANTS SHALL CONTAIN TWO-TWO AND A HALF INCH (2-1/2") HOSE CONNECTIONS AND ONE-TWO AND A HALF INCH (1-1/2") STEAMER CONNECTIONS WITH NATIONAL STANDARD FIRE HOSE COUPLING SCREW THREADS, FIVE AND ONE QUARTER INCH (5-1/4") VALVE OPENING, SIX INCH (6") DIAMETER MECHANICAL JOINT INLET, ONE AND ONE-HALF INCH (1-1/2") PENTAGON OPERATING NUT. THE HYDRANTS SHALL OPEN COUNTERCLOCKWISE.
  8. ALL HYDRANTS SHALL BE PAINTED IN AN APPROVED MANNER WITH THE PRIMER PAINT BEING KOPPERS' GLAMORTEX NO. 622 RUST PRIMER AND THE FINISH PAINT SHALL BE TWO COATS OF ENAMEL OR SPECIAL COATING TO COLOR AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.
  9. BLUE PAVEMENT REFLECTORS (CAT EYES) SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE DIRECTLY IN FRONT OF ALL FIRE HYDRANTS. THERE SHALL BE NO TREES, SHRUBS, OR LANDSCAPING PLANTED AROUND THE FIRE HYDRANTS OR IN AREAS DESIGNATED AS FIRE LANES.
  10. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER. SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN, AND TEN FEET FROM ANY ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
  11. THE SEQUENCE OF TESTING AND DISINFECTION SHALL BE AS FOLLOWS: 1) CONDUCT FIRE FLOW, PRESSURE AND LEAKAGE TESTING; 2) PERFORM FLUSHING PER UTILITY REQUIREMENTS AND AWWA C651; 3) DISINFECT THE WATER MAIN, INCLUDING VALVES AND FITTINGS; AND 4) FLUSH AFTER DISINFECTION.
  12. THE CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER AND THE UTILITY. HYDRANTS SHALL DELIVER A MINIMUM OF 1250 GPM WITH A RESIDUAL PRESSURE OF 20 PSI.
  13. APPLY LEAKAGE TEST PRESSURE OF 200 PSI (FIRE MAINS) MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.
  14. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.
  15. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP1/48000 WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.
  16. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS.
  17. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION, THOSE OF THE AUTHORITY SHALL GOVERN. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C651.
- SANITARY SEWER SYSTEMS**
1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE SEWER SYSTEM SHOWN ON THESE PLANS IS **ONSITE: OWNER, OFFSITE: VOLUSIA COUNTY UTILITY**. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF **VOLUSIA COUNTY UTILITY AND CITY OF EDGEWATER**.
  2. PVC SEWER PIPE SHALL BE TYPE PSM PVC PIPE CONFORMING TO ASTM D3034 AND SHALL BE SDR 35 FOR 4" THROUGH 15", AND ASTM F 679, WALL THICKNESS T-1, FOR PIPE 18" THROUGH 27".
  3. INSTALL ALL SEWER MAINS AT A MINIMUM 36 INCHES OF COVER.
  4. JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212 USING RUBBER GASKETS CONFORMING TO ASTM F477.
  5. FITTINGS SHALL CONFORM TO THE SAME REQUIREMENTS AS THE PIPE. PROVIDE ADAPTERS AS REQUIRED TO JOIN PVC PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS. SOLVENT CEMENT SHALL BE AS RECOMMENDED BY THE PIPE MANUFACTURER.
  6. PVC SEWER PIPE SHALL BE COLOR CODED GREEN, STENCILED "SEWER LINE" (2" LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).
  7. INSTALL ADHESIVE IDENTIFICATION TAPE ALONG PIPELINE. TAPE SHALL BE MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. TAPE COLOR AND LETTERING SHALL BE "SEWER LINE", BLACK PRINTING ON GREEN BACKGROUND.

8. INSTALL WARNING TAPE ALONG ALL SEWER PIPELINES. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE, COLORED GREEN WITH BLACK LETTERING CODED AND WORDED "CAUTION: SEWER BURIED BELOW" INSTALL ALONG PIPELINE, 2 FEET ABOVE PIPE, MINIMUM OF 1 FOOT BELOW GRADE.
  9. CONNECTIONS TO EXISTING SEWER SHALL BE CONDUCTED IN SUCH A MANNER THAT THE EXISTING SEWER REMAINS IN OPERATION. PROVIDE BY PASS PUMPING OF EXISTING FLOWS OR COLLECT AND LEGALLY DISPOSE OF EXISTING SEWER FLOW AS NEEDED TO ACCOMMODATE CONSTRUCTION WHILE KEEPING EXISTING SEWER IN SERVICE.
  10. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND MANHOLES. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.
  11. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALE TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.
  12. ALL SERVICE LATERALS SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.
  13. PROVIDE LIGHT SOURCE AND MIRRORS FOR LAMPING OF SEWER. ANY SEWER IN WHICH THE DIRECT LIGHT OF A LAMP CANNOT BE VIEWED IN EITHER DIRECTION, FULL CIRCLE, BETWEEN ADJACENT MANHOLES SHALL BE CONSIDERED UNSATISFACTORY, UNLESS THE LINE IS DESIGNED WITH HORIZONTAL DEFLECTIONS, AND SHALL BE REPAIRED BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.
  14. CONDUCT LOW PRESSURE AIR TESTING (4.0 PSI INITIAL PRESSURE) OF INSTALLED SEWER PIPING IN ACCORDANCE WITH ASTM F1417. MAXIMUM ALLOWABLE LEAKAGE IS 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE AREA BEING TESTED. ALLOWABLE AIR PRESSURE DROP DURING THE TEST IS 0.5 PSIG. MINIMUM REQUIRED TEST TIME (DURATION) IS: A) 4" PIPE = 1 MIN 53 SEC; B) PIPE = 2 MIN 50 SEC; OR 0.427 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; C) PIPE = 3 MIN 47 SEC; OR 0.760 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; D) 10" PIPE = 4 MIN 43 SEC; OR 1.187 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; E) 12" PIPE = 5 MIN 40 SEC; OR 1.708 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER.
  15. CONDUCT LEAKAGE TESTING OF MANHOLES BY PLOGGING INVERTS AND FILLING MANHOLE WITH WATER. ALLOWABLE WATER DROP IN MANHOLE TO BE FIELD DETERMINED BY UTILITY AND ENGINEER. MINIMUM TEST DURATION IS 1 HOUR.
  16. CONDUCT DEFLECTION TESTING OF PIPELINE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. MAXIMUM ALLOWABLE PIPE DEFLECTION IS TO BE MEASURED BY MANUALLY PULLING A MANDREL THROUGH THE PIPE. THE MINIMUM MANDREL OUTER DIAMETER SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 6" SEWER = 5.45" MANDREL; 8" SEWER = 7.28" MANDREL; 10" SEWER = 9.08" MANDREL; 12" SEWER = 10.79" MANDREL; 15" SEWER = 13.20" MANDREL; 18" SEWER = 16.13" MANDREL; 21" SEWER = 19.00" MANDREL; 24" SEWER = 21.36" MANDREL; 27" SEWER = 24.06" MANDREL.
  17. DEFLECTION TESTING IS CONSIDERED SATISFACTORY IF THE MANDREL CAN BE PULLED BY HAND THROUGH THE PIPE BEING TESTED. IF THE MANDREL CANNOT BE PULLED THROUGH THE PIPE, REPLACE OR CORRECT THE PIPE AND RETEST UNTIL TESTING IS SATISFACTORY. ANY PIPE REMOVED OR CORRECTED DUE TO FAILING DEFLECTION TESTING SHALL ALSO BE RE-TESTED FOR LEAKAGE.
- FORCE MAIN SYSTEMS**
1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE FORCE MAIN SYSTEM SHOWN ON THESE PLANS IS **ONSITE: TAMARACK III OFFSITE: VOLUSIA COUNTY UTILITY**. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF **VOLUSIA COUNTY UTILITY AND CITY OF EDGEWATER**.
  2. ALL FORCE MAIN PIPE SHALL BE PVC, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
  3. INSTALL ALL FORCE MAINS AT A MINIMUM 36 INCHES OF COVER.
  4. BURIED DUCTILE IRON PIPE SHALL CONFORM WITH ANSIAWWA C150/A21.50 AND C151/A21.51, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. BURIED PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER = PC 350; B) 14" THROUGH 24" DIAMETER = PC 250; C) 30" THROUGH 64" DIAMETER = PC 200.
  5. EXPOSED PIPE 4" AND LARGER SHALL BE DUCTILE IRON FLANGED AND SHALL CONFORM WITH ANSIAWANSI C115/A21.15, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. FLANGED PIPE SHALL COMPLY WITH THE FOLLOWING THICKNESS CLASS (TC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 4" DIAMETER = TC 54; B) 6" THROUGH 24" DIAMETER = TC 53.
  6. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSIAWWA C105/A21.5.
  7. PVC PIPE 4" - 30" SHALL CONFORM TO AWWA C900. PIPE SHALL CONFORM TO ASTM D1784, TYPE I, GRADE I, 4000 PSI DESIGN STRESS, AND SHALL BE NATIONAL SANITATION FEDERATION (NSF) APPROVED. PIPE SHALL BE CLASS 235 (DR18) PVC PIPE WITH CAST IRON OUTSIDE DIAMETER (CIOD), AND SHALL CONTAIN MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900. THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.
  8. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSIAWWA C110/A21.10 OR ANSIAWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.
  9. INTERIOR LINING FOR PIPES AND FITTINGS SHALL BE EITHER MINIMUM 40 MILS DRY FILM THICKNESS (80 MILS NOMINAL) OF CERAMIC EPOXY LINING, AS MANUFACTURED UNDER THE NAME OF "PROTECTO 401", OR MINIMUM 40 MILS DRY FILM THICKNESS (80 MILS NOMINAL) OF FUSION BONDED EPOXY AND POLYETHYLENE LINING, AS MANUFACTURED UNDER THE NAME OF "POLYBOND PLUS", OR EQUAL. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSIAWWA C110/A21.10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEPEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEPEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
  10. MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED, CONFORMING TO ANSIAWWA C111/A21.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.
  11. RESTRAINED JOINTS FOR DUCTILE IRON PIPE BELL JOINTS SHALL BE AMERICAN FAST GRIP GASKET, MCWANE SURE GRIP 350 GASKET, U.S. PIPE FIELD LOK 350 GASKET, OR EBAA IRON MEGA LUG SERIES 1100HD. RESTRAINED JOINTS FOR DUCTILE IRON PIPE AND FITTING MECHANICAL JOINTS SHALL BE AMERICAN FLEX RING JOINT, AMERICAN LOK-RING JOINT, OR U.S. PIPE TR-FLEX. RESTRAINED JOINTS FOR PVC PIPE MECHANICAL JOINTS SHALL BE TYLER UNION SERIES 2000 TUF GRIP TLP, JCM SUR-GRIP BELL RESTRAINER, FORD UNI-FLANGE SERIES 1500 CIRCLE LOCK, OR EBAA IRON MEGA LUG SERIES 2000PV. RESTRAINED JOINTS FOR PVC PIPE PUSH ON JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1500 OR SERIES 1600 (C300 PVC), SERIES 2800, FORD UNI-FLANGE SERIES 1500, OR SMITH-BLAIR BELL JOINT. JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER. VALVES ARE TO BE RESTRAINED ON EACH SIDE OF THE VALVE AT THE CONNECTION TO ADJOINING PIPE.
  12. INTERIOR LINING FOR VALVES 4 INCH AND LARGER SHALL BE EITHER MINIMUM 40 MILS DRY FILM THICKNESS (80 MILS NOMINAL) OF CERAMIC EPOXY LINING, AS MANUFACTURED UNDER THE NAME OF "PROTECTO 401", OR MINIMUM 40 MILS DRY FILM THICKNESS (80 MILS NOMINAL) OF FUSION BONDED EPOXY AND POLYETHYLENE LINING, AS MANUFACTURED UNDER THE NAME OF "POLYBOND PLUS", OR EQUAL. EXTERIOR COATING FOR BURIED VALVES SHALL BE RUST INHIBITING EPOXY PRIMER, FOLLOWED BY A COAL TAR EPOXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING OF EXPOSED VALVES SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEPEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEPEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
  13. ALL FORCE MAIN VALVES SHALL BE CAST IRON SUITABLE FOR WASTEWATER SERVICE WITH PRESSURES UP TO 250 PSIG, AND SHALL BE QUARTER-TURN, NON-LUBRICATED, ECCENTRIC TYPE WITH RESILIENT FACED PLUG, MANUFACTURED AND TESTED IN ACCORDANCE WITH AWWA C517. PORT AREAS OF NOT LESS THAN 100% OF PIPE AREA SHALL BE SUPPLIED ON ALL VALVES. STANDARD PLUG VALVES SHALL BE CLOW F5412 / F5413, VALMATIC 5600 / 5800, DEZURIK SERIES PEC, M&H 1820, PRAIT PV, OR APPROVED EQUAL.
  14. TAPPING SLEEVES ARE TO BE 18-8 TYPE 304 STAINLESS STEEL AND STAINLESS STEEL OUTLET, AS MANUFACTURED BY JCM OR APPROVED EQUAL. TAPPING VALVES SHALL BE RESILIENT SEATED GATE VALVES AND SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. TAPPING VALVES SHALL BE AMERICAN FLOW CONTROL, SERIES 2500, CLOW SERIES F-6100, OR MUELLER SERIES A2361.
  15. AIR RELEASE VALVES SHALL BE COMBINATION CAPABLE OF DISCHARGING ACCUMULATED AIR IN THE LINE WHILE THE LINE IS OPERATING UNDER A PRESSURE OF 150 PSI. FLOAT MATERIAL SHALL BE STAINLESS STEEL. AIR RELEASE VALVES SHALL BE A STAINLESS STEEL BODY AND SHALL BE MANUFACTURED BY ARI (NO. ARI-D-020) OR VENT-O-MAT RGX SERIES. ENCLOSURES FOR AIR RELEASE VALVES SHALL BE POLYETHYLENE WITH STAINLESS STEEL HARDWARE, AND SHALL BE PROVIDED WITH A TAMPER PROOF LOCKING DEVICE. ENCLOSURES SHALL BE AS MANUFACTURED BY WATER PLUS CORPORATION (MODEL 126255) OR APPROVED EQUAL, AND SHALL HAVE VENTS AND SHALL BE GREEN IN COLOR.
  16. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER AND SHALL BE HEAVY DUTY TRAFFIC RATED. VALVE BOXES SHALL BE CAST IRON. VALVE BOX LIDS SHALL BE CAST IRON H-20 LOAD RATED. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. ALL VALVE BOX EXTENSIONS SHALL BE CAST IRON. VALVE BOX LIDS IN PAVED AREAS SHALL BE LOCKABLE. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN AND VALVE BOXES IN PAVED AREAS SHALL BE ADJUSTABLE SCREW TYPE. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "SEWER" IN UNPAVED AREAS, INSTALL A 2-Ft X 2-Ft X 6-IN THICK CONCRETE PAD (2500 PSI) AT EACH VALVE. ALL VALVE BOX COVERS SHALL BE PAINTED WITH A THREE COAT SYSTEM. THE FIRST COAT SHALL BE PRIMER, 2.5-3.5 MIL DRY FILM THICKNESS (DFT) TNEPEC SERIES 135 CHEMBUILD OR APPROVED EQUAL; THE INTERMEDIATE COAT SHALL BE 4.0-10.0 MIL DFT TNEPEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEPEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE GREEN AS APPROVED BY THE LOCAL UTILITY.
  17. PVC PIPE SHALL BE COLOR CODED GREEN AND STENCILED (0.75-INCH LETTERING ON THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION) "SEWER FORCE MAIN".

18. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH, TEXT TO BE "SEWER FORCE MAIN". APPLY TAPE TO SURFACE OF PIPE, CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON GREEN BACKGROUND. TAPE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ALONG BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
19. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BROWN WITH BLACK LETTERING, CODED AND WORDED "CAUTION: FORCE MAIN BURIED BELOW".
20. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 10 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 2" AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER UTILITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.
21. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
22. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.
23. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALE TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.
24. APPLY HYDROSTATIC TEST PRESSURE OF 100 PSI FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURER'S SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.
25. APPLY LEAKAGE TEST PRESSURE OF 100 PSI. MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.
26. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.
27. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP1/48000 WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER





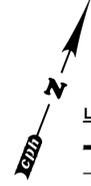
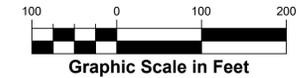
No.	Date	Revision
1	07/12/23	REVISED PER SURVIVOR COMMENT

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 01/15/2021 © 2023

**STORMWATER POLLUTION PREVENTION PLAN**  
**TAMARACK III MOBILE HOME PARK**  
 EDgewater / Volusia / Florida

THIS SHEET NOT VALID FOR  
 CONSTRUCTION WITHOUT  
 COMPLETE SET OF PLANS.

Sheet No.  
**C1.00**



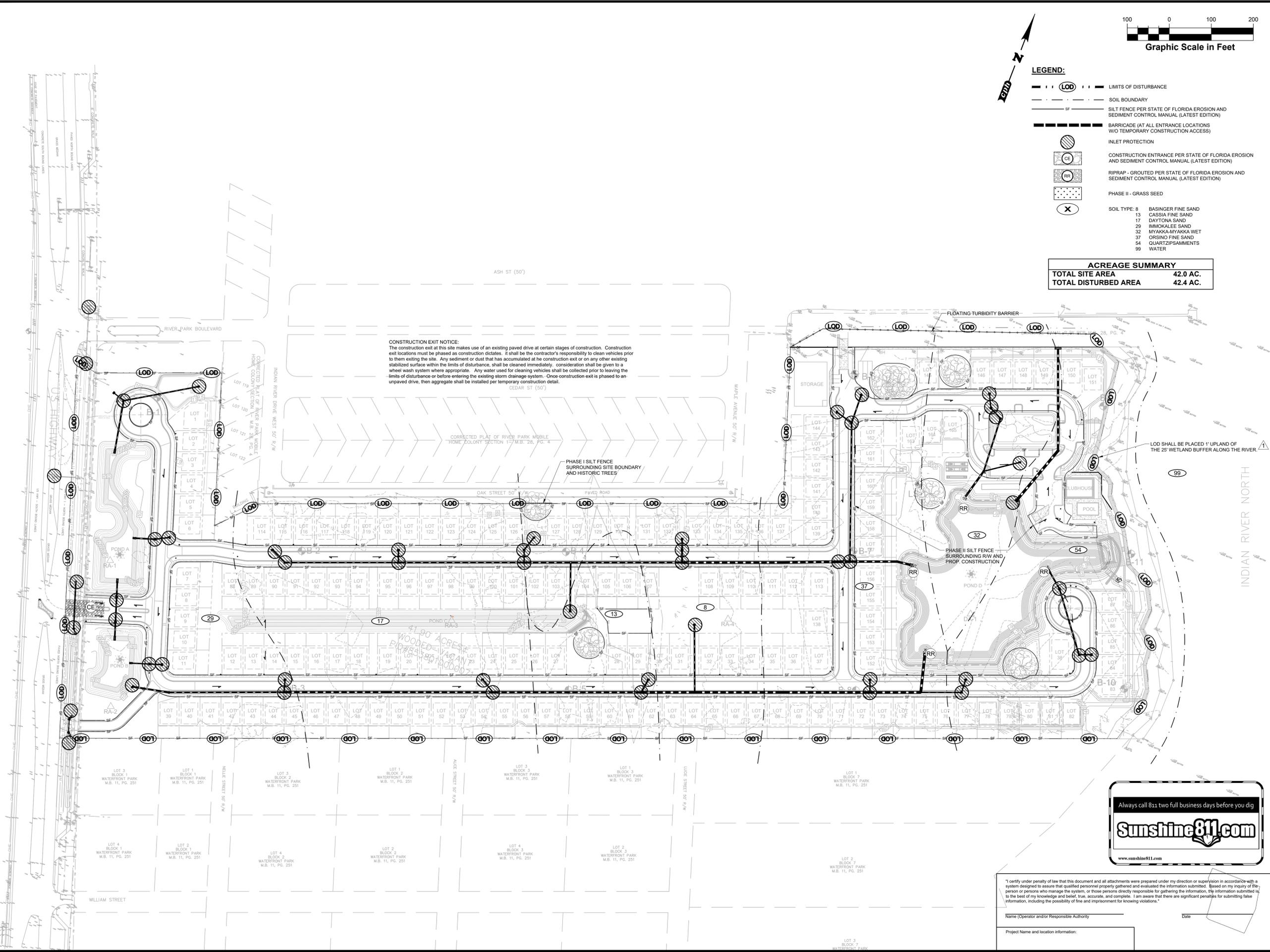
**LEGEND:**

- LOD** LIMITS OF DISTURBANCE
- SOIL BOUNDARY
- SILT FENCE PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- BARRICADE (AT ALL ENTRANCE LOCATIONS W/O TEMPORARY CONSTRUCTION ACCESS)
- INLET PROTECTION
- CONSTRUCTION ENTRANCE PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- RIPRAP - GROUDED PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- PHASE II - GRASS SEED
- SOIL TYPE: 8 BASINGER FINE SAND
- 13 CASSIA FINE SAND
- 17 DAYTONA SAND
- 29 IMMOKALEE SAND
- 32 MYAKKA-MYAKKA WET
- 37 ORSINO FINE SAND
- 54 QUARTZSAMPLMENTS
- 99 WATER

**ACREAGE SUMMARY**

TOTAL SITE AREA	42.0 AC.
TOTAL DISTURBED AREA	42.4 AC.

**CONSTRUCTION EXIT NOTICE:**  
 The construction exit at this site makes use of an existing paved drive at certain stages of construction. Construction exit locations must be phased as construction dictates. It shall be the contractor's responsibility to clean vehicles prior to them exiting the site. Any sediment or dust that has accumulated at the construction exit or on any other existing stabilized surface within the limits of disturbance, shall be cleaned immediately. Consideration shall be given to a wheel wash system where appropriate. Any water used for cleaning vehicles shall be collected prior to leaving the limits of disturbance or before entering the existing storm drainage system. Once construction exit is phased to an unpaved drive, then aggregate shall be installed per temporary construction detail.



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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (Operator and/or Responsible Authority) \_\_\_\_\_ Date \_\_\_\_\_

Project Name and location information: \_\_\_\_\_

**EROSION AND SEDIMENT CONTROL**

- EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION. SEDIMENT CONTROL CONSISTS OF SILT FENCING (SEDIMENT BARRIER) AND FLOATING TURBIDITY BARRIERS PER DETAILS ON THE DRAWINGS. EROSION CONTROL CONSISTS OF SEEDING AND MULCHING, HYDROSEEDING, SODDING, WETTING SURFACES, PLACEMENT OF COARSE AGGREGATE, TEMPORARY PAVING.
- MAINTAIN TEMPORARY EROSION CONTROL SYSTEMS AS DIRECTED BY OWNER OR GOVERNING AUTHORITIES TO CONTROL EROSION AND SLTATION DURING LIFE OF CONTRACT. OWNER HAS AUTHORITY TO LIMIT SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, TRENCHING, BORROW AND EMBANKMENT OPERATIONS. OWNER ALSO HAS AUTHORITY TO DIRECT CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
- CONTRACTOR SHALL RESPOND TO EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS OR IMPLEMENT ADDITIONAL MEASURES TO CONTROL EROSION ORDERED BY OWNER OR GOVERNING AUTHORITIES WITHIN 48 HOURS OR SOONER IF REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR WILL BE REQUIRED TO INCORPORATE PERMANENT EROSION CONTROL FEATURES INTO PROJECT AT EARLIEST PRACTICAL TIME TO MINIMIZE NEED FOR TEMPORARY CONTROLS.
- THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS REPRESENT A MINIMUM REQUIREMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES NEEDED IN ORDER TO PREVENT THE TRANSFER OF SEDIMENT FROM THE PROJECT AREA AND PREVENT THE EROSION OF SURFACES DURING CONSTRUCTION, AS NEEDED TO PROTECT ADJACENT PROPERTIES AND WATER BODIES.
- GRASS ALL DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE. TYPE OF GRASSING SHALL BE AS FOLLOWS: TEMPORARY GRASSING TO BE SODDING AT ALL DRAINAGE STRUCTURES, RETENTION AREAS, SWALES AND DITCHES, AND WHERE SLOPES ARE STEEPER THAN 5:1. TEMPORARY GRASSING CAN BE HYDROSEEDING OR SEED AND MULCH AT ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED IN THE DRAWINGS OR SPECIFICATIONS.
- INSPECT EVERY TWO WEEKS DURING CONSTRUCTION. REMOVE ANY SEDIMENT BUILD-UP, REPAIR AND REINSTALL ANY DAMAGED OR MISSING SEDIMENT CONTROL MEASURES. INSTALL ADDITIONAL MEASURES IF INSPECTION REVEALS ADDITIONAL SEDIMENTATION CONTROL IS NECESSARY.
- AREAS TO BE PAVED SHALL BE TREATED WITH A BITUMINOUS PRIME COAT AND SANDED TO MINIMIZE EROSION, WHERE PAVING IS SCHEDULED TO OCCUR MORE THAN 48 HOURS AFTER INSTALLATION OF BASE COURSE. AREAS TO RECEIVE CONCRETE PAVING SHALL BE EITHER PROTECTED WITH A LAYER OF FDOT COARSE AGGREGATE MATERIAL OR SHALL BE PAVED WITHIN 48 HOURS OF INSTALLATION OF THE SUBGRADE. INSTALL FINAL SURFACE COURSES WITHIN 14 DAYS AFTER REMOVAL OF EXISTING PAVEMENT.

**STORMWATER POLLUTION PREVENTION REQUIREMENTS**

- CONSTRUCTION OF THIS PROJECT IS REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) FDEP GENERIC PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES.
- IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES. COPIES OF THE NPDES GENERIC PERMIT, NOI, AND NOT FORMS, AND PERMIT APPLICATION FEE INFORMATION ARE AVAILABLE FOR DOWNLOAD FROM FDEP.
- THE SWPPP SHALL LIST ALL THE CONTRACTORS OR SUBCONTRACTORS WHO WILL BE CONDUCTING CONSTRUCTION ACTIVITIES AT THE SITE, AND IDENTIFY THE AREAS OF THE SITE IN WHICH THEY WILL BE WORKING. ALL CONTRACTORS AND SUBCONTRACTORS IDENTIFIED IN THE SWPPP MUST SIGN A COPY OF THE CERTIFICATION STATEMENT CONTAINED IN THE SWPPP BEFORE CONDUCTING ANY CONSTRUCTION ACTIVITIES AT THE SITE. THE CERTIFICATIONS MUST HAVE THE NAME AND TITLE OF THE PERSON SIGNING THE CERTIFICATION, THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE CONTRACTING FIRM, AND THE SIGNATURE DATE. THESE STATEMENTS MUST BE MAINTAINED IN THE SWPPP FILE ON SITE.
- THE SWPPP SHALL DESCRIBE AND ENSURE THE IMPLEMENTATION OF BEST MANAGEMENT PRACTICES WHICH WILL BE USED TO REDUCE THE POLLUTANTS IN STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY AND TO ASSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE NPDES GENERIC PERMIT. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE DRAWINGS ARE THE MINIMUM REQUIRED THAT ARE TO BE INSTALLED PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY STANDARDS AND MAY NEED TO INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROLS TO MEET THESE REQUIREMENTS.
- THE SWPPP SHALL BE COMPLETED PRIOR TO SUBMITTAL OF THE NOI AND SHALL INCLUDE THE ELEMENTS NECESSARY TO COMPLY WITH THE NPDES GENERIC PERMIT AND SHALL ALSO INCLUDE ALL LOCAL GOVERNING AGENCY AND OWNER REQUIREMENTS. THERE MAY BE MORE STRINGENT LOCAL GOVERNMENT OR OWNER REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL, WHICH WOULD BE LOCATED IN THE SPECIFICATIONS OR ELSEWHERE ON THESE DRAWINGS.
- THE CONTRACTOR MUST FILE THE NOI WITH FDEP AND THE OWNER AT LEAST TWO (2) BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO SUBMIT A COPY OF THE NOI TO THE MS4 OPERATOR FOR ALL PROJECTS THAT DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY TO A MUNICIPAL SEPARATE STORMWATER SYSTEM (MS4). A COPY OF THE NOI AND A DESCRIPTION OF THE PROJECT MUST BE POSTED IN A PROMINENT PLACE FOR PUBLIC VIEWING AT THE CONSTRUCTION SITE.
- THE SWPPP MUST BE IMPLEMENTED AT THE START OF CONSTRUCTION. A COMPLETE COPY OF THE SWPPP, INCLUDING COPIES OF ALL INSPECTION REPORTS, PLAN REVISIONS, ETC., MUST BE RETAINED AT THE PROJECT SITE AT ALL TIMES DURING WORKING HOURS AND KEPT IN THE PERMANENT PROJECT RECORDS FOR AT LEAST THREE YEARS FOLLOWING SUBMISSION OF THE NOT.
- FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND THAT A UNIFORM PERENNIAL VEGETATIVE COVER (EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) WITH A DENSITY OF AT LEAST 70% FOR ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES HAS BEEN ESTABLISHED OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS GEOTEXTILES) HAVE BEEN EMPLOYED. ONCE CONSTRUCTION IS COMPLETED AND FINAL STABILIZATION HAS BEEN ACHIEVED, THE CONTRACTOR MUST FILE THE NOT TO FDEP, THE OWNER, AND THE MS4 OPERATOR WITHIN 14 DAYS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THE ADEQUACY OF SITE POLLUTANT DISCHARGE CONTROLS BETWEEN THE TIME THE SWPPP IS IMPLEMENTED AND FINAL SITE STABILIZATION IS ACHIEVED. ALL DISTURBED AREAS AND POLLUTANT CONTROLS MUST BE INSPECTED AT LEAST EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS FOLLOWING A RAINFALL OF 0.5 INCHES OR GREATER. THE INSPECTIONS ARE TO BE CONDUCTED BY THE CONTRACTOR'S QUALIFIED DESIGNATED REPRESENTATIVE. ANY REPAIRS OR REPLACEMENT SHALL BE PERFORMED IMMEDIATELY.
- ALL INSPECTIONS SHALL BE DOCUMENTED IN AN INSPECTION REPORT THAT SUMMARIZES THE SCOPE OF THE INSPECTION, THE NAMES AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE OF THE INSPECTION, RAINFALL DATA, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SWPPP, AND ACTIONS TAKEN IN ORDER TO ENSURE COMPLIANCE WITH NPDES REQUIREMENTS AND THE SWPPP. SUCH REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE AND ACTIONS TAKEN TO BRING THE PROJECT INTO COMPLIANCE. WHERE A REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE NPDES REQUIREMENTS AND THE SWPPP. EACH INSPECTION REPORT SHALL BE SIGNED AND CERTIFIED BY EACH INSPECTOR.
- BASED ON INSPECTION RESULTS, ANY MODIFICATIONS NECESSARY TO INCREASE EFFECTIVENESS OF THE SWPPP TO AN ACCEPTABLE LEVEL MUST BE MADE WITHIN SEVEN CALENDAR DAYS OF THE INSPECTION.
- THE SWPPP MUST BE UPDATED EACH TIME THERE ARE SIGNIFICANT MODIFICATIONS TO THE POLLUTANT PREVENTION SYSTEM OR A CHANGE OF CONTRACTORS WORKING ON THE PROJECT WHO DISTURBS SITE SOIL. FOR CONSTRUCTION ACTIVITIES WHERE THE OPERATOR CHANGES, THE NEW OPERATOR SHALL FILE AN NOI FOR COVERAGE UNDER THE GENERIC PERMIT AT LEAST TWO (2) DAYS BEFORE ASSUMING CONTROL OF THE PROJECT AND THE PREVIOUS OPERATOR SHALL FILE AN NOT TO TERMINATE PERMIT COVERAGE IN ACCORDANCE WITH THE NPDES GENERIC PERMIT. AMENDMENTS TO THE PLAN SHALL BE PREPARED, SIGNED, DATED, AND KEPT AS ATTACHMENTS TO THE ORIGINAL SWPPP.

- EACH SWPPP SHALL PROVIDE A DESCRIPTION OF POLLUTANT SOURCES AND OTHER INFORMATION INCLUDING A DESCRIPTION OF THE NATURE OF THE CONSTRUCTION ACTIVITY, THE INTENDED SEQUENCE OF MAJOR ACTIVITIES THAT DISTURB SOILS FOR MAJOR PORTIONS OF THE SITE, ESTIMATES OF THE TOTAL AREA OF THE SITE AND THE TOTAL AREA OF THE SITE THAT IS EXPECTED TO BE DISTURBED BY EXCAVATION, GRADING, OR OTHER CONSTRUCTION ACTIVITIES, EXISTING DATA DESCRIBING THE SOIL OR THE QUALITY OF ANY DISCHARGE FROM THE SITE AND AN ESTIMATE OF THE SIZE OF THE DRAINAGE AREA FOR EACH DISCHARGE POINT, A SITE MAP INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER MAJOR GRADING OR OTHER SOIL DISTURBANCE, AN OUTLINE OF AREAS WHICH MAY NOT BE DISTURBED, THE LOCATION OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS IDENTIFIED IN THE PLAN, THE LOCATION OF AREAS WHERE STABILIZATION PRACTICES ARE EXPECTED TO OCCUR, SURFACE WATERS, WETLANDS, AND LOCATIONS WHERE STORMWATER IS DISCHARGED TO A SURFACE WATER OR MS4, AND THE LATITUDE AND LONGITUDE OF EACH DISCHARGE POINT AND THE NAME OF THE RECEIVING WATER(S) FOR EACH DISCHARGE POINT.
- THE FOLLOWING SITE DATA IS PROVIDED TO THE CONTRACTOR FOR USE IN PREPARING THE SWPPP AND COMPLETING THE NOI:
  - TOTAL SITE AREA: 42 ACRE
  - TOTAL AREA IMPACTED BY CONSTRUCTION: 42 + OFFSITE AREA
  - EXISTING SITE SOILS: IMMOKALEE SAND, DAYTONA SAND, BASSINGER FINE SAND DEPRESSIONAL, CASSIA FINE SAND, ORSINO FINE SAND, MYAKKA FINE SAND AND QUARTZIPSAMMENTS

- STABILIZE ALL CONSTRUCTION SITE EXITS WITH COARSE AGGREGATE OR OTHER APPROVED MATERIALS IN ACCORDANCE WITH DETAILS IN THESE PLANS. OTHER MINIMUM CONSTRUCTION REQUIREMENTS THAT NEED TO BE IMPLEMENTED IN ORDER TO COMPLY WITH THE NPDES GENERIC PERMIT INCLUDE INSTALLATION OF SEDIMENT BARRIERS DOWN SLOPE FROM CONSTRUCTION OR EXISTING ROCK SURFACE TEMPORARY PARKING AREAS, INSTALLATION OF SEDIMENT BARRIERS DOWN SLOPE PRIOR TO CLEARING AND GRUBBING, INSTALLATION OF SEDIMENT BARRIERS ON THE DOWN SLOPE SIDE OF UTILITY CONSTRUCTION AND SOIL STOCKPILES, AND THE INSTALLATION OF SEDIMENT BARRIERS ON THE DOWN SLOPE SIDE OF GRADING ACTIVITIES.
- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE, BUT IN NO CASE MORE THAN 7 DAYS, IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
- THE OWNER HAS THE AUTHORITY TO LIMIT SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, TRENCHING, BORROW AND EMBANKMENT OPERATIONS. THE OWNER ALSO HAS AUTHORITY TO DIRECT CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
- THE CONTRACTOR SHALL RESPOND TO EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS OR IMPLEMENT ADDITIONAL MEASURES TO CONTROL EROSION ORDERED BY OWNER OR GOVERNING AUTHORITIES WITHIN 48 HOURS OR SOONER IF REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL INCORPORATE PERMANENT EROSION CONTROL FEATURES INTO PROJECT AT EARLIEST PRACTICAL TIME TO MINIMIZE NEED FOR TEMPORARY CONTROLS.
- FOR DRAINAGE BASINS WITH 10 OR MORE DISTURBED ACRES AT ONE TIME, A TEMPORARY (OR PERMANENT) SEDIMENT BASIN PROVIDING 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED, OR EQUIVALENT CONTROL MEASURES, SHALL BE PROVIDED WHERE ATTAINABLE UNTIL FINAL STABILIZATION OF THE SITE. THE 3,600 CUBIC FEET OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. FOR DRAINAGE BASINS WITH 10 OR MORE DISTURBED ACRES AT ONE TIME AND WHERE A TEMPORARY SEDIMENT BASIN PROVIDING 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED, OR EQUIVALENT CONTROLS IS NOT ATTAINABLE, A COMBINATION OF SMALLER SEDIMENT BASINS AND/OR SEDIMENT TRAPS AND OTHER BMPs SHOULD BE USED. AT A MINIMUM, SILT FENCES (SEDIMENT BARRIERS), OR EQUIVALENT SEDIMENT CONTROLS ARE REQUIRED FOR ALL SIDESLOPE AND DOWNSLOPE BOUNDARIES OF THE CONSTRUCTION AREA.
- WATER TRUCKS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR AND SHALL BE IN COMPLIANCE WITH APPLICABLE LOCAL AND STATE DUST CONTROL REGULATIONS.
- MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION. REPAIR OR REPLACE ALL DAMAGED SEDIMENT BARRIERS. REMOVE ACCUMULATED SEDIMENT ALONG ALL SILT FENCES WHERE THE HEIGHT OF THE SEDIMENT EXCEEDS ONE-THIRD OF THE HEIGHT OF THE SILT FENCE. INSPECT ALL TEMPORARY AND PERMANENT GRASSING AREAS AND RE-GRASS WHERE THERE ARE BARE SPOTS, WASHOUTS, OR UNHEALTHY GROWTH.
- AT THE COMPLETION OF CONSTRUCTION, ONCE FINAL STABILIZATION HAS BEEN ACHIEVED, CLEAN ALL ACCUMULATED SEDIMENT FROM ALL STORM STRUCTURES, PIPELINES, AND STORMWATER PONDS. REMOVE ALL TEMPORARY SEDIMENT CONTROLS UPON RECEIPT OF AUTHORIZATION TO REMOVE HAS BEEN RECEIVED FROM THE OWNER OR ENGINEER. NOTE THAT THIS MAY NOT OCCUR FOR SOME TIME AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED, IN ORDER TO ENSURE THEIR REMOVAL HAS NOT OCCURRED UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED TO THE SATISFACTION OF THE OWNER AND ENGINEER.
- NON-STORMWATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER USED FOR CONSTRUCTION, WHICH DISCHARGES FROM THE SITE, MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE GOVERNING LOCAL AGENCY. WATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE. ALLOWABLE NON-STORMWATER DISCHARGES INCLUDE DISCHARGES FROM FIRE FIGHTING ACTIVITIES, FIRE HYDRANT FLUSHING, WATER USED TO WASH VEHICLES OR CONTROL DUST, WATER FLOWING FROM POTABLE SOURCES AND WATER LINE FLUSHING, IRRIGATION DRAINAGE, AND RUNOFF FROM PAVEMENT WASH DOWN WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS HAVE NOT BEEN USED.
- SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE NOT ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORMWATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. THE CONTAINERS SHALL BE EMPTIED PERIODICALLY BY A CONTRACT TRASH DISPOSAL SERVICE AND HAULED AWAY FROM THE SITE.
- SUBSTANCES THAT HAVE THE POTENTIAL FOR POLLUTING SURFACE AND/OR GROUNDWATER MUST BE CONTROLLED BY WHATEVER MEANS NECESSARY IN ORDER TO PREVENT DISCHARGE FROM THE SITE. AS AN EXAMPLE, SPECIAL CARE MUST BE EXERCISED DURING EQUIPMENT FUELING AND SERVICING OPERATIONS. IF A SPILL OCCURS, IT MUST BE CONTAINED AND DISPOSED SO THAT IT WILL NOT FLOW FROM THE SITE OR ENTER GROUNDWATER, EVEN IF THIS REQUIRES REMOVAL, TREATMENT, AND DISPOSAL OF SOIL IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
- ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES SHALL BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE FOR USE BY ALL CONSTRUCTION PERSONNEL AND SHALL BE SERVICED BY A COMMERCIAL OPERATOR AT LEAST ONCE A WEEK.
- DISCHARGES RESULTING FROM GROUNDWATER DEWATERING ACTIVITIES AT CONSTRUCTION SITES ARE PERMITTED PROVIDED THE GROUNDWATER IS FREE OF SEDIMENTS, IS NOT CONTAMINATED, AND DEWATERING OCCURS IN ACCORDANCE WITH STATE AND LOCAL GOVERNING AGENCY REGULATIONS.
- CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS, AND OTHER TOXIC MATERIAL MUST BE STORED IN WATERPROOF CONTAINERS, EXCEPT DURING APPLICATION. THE CONTENTS MUST BE KEPT IN TRUCKS OR WITHIN STORAGE FACILITIES. RUNOFF CONTAINING SUCH MATERIAL MUST BE COLLECTED, REMOVED FROM THE SITE, TREATED, AND DISPOSED AT AN APPROVED SOLID WASTE OR CHEMICAL DISPOSAL FACILITY.
- THE DISCHARGE OF HAZARDOUS SUBSTANCES OR OIL IN THE STORMWATER DISCHARGE(S) FROM A FACILITY OR ACTIVITY SHALL BE PREVENTED. THIS DOES NOT RELIEVE THE OPERATOR OF THE REPORTING REQUIREMENTS OF 40 CFR PART 117 AND 40 CFR PART 302. THE OPERATOR SHALL SUBMIT WITHIN 14 CALENDAR DAYS OF KNOWLEDGE OF THE RELEASE A WRITTEN DESCRIPTION OF THE RELEASE (INCLUDING THE TYPE AND ESTIMATE OF THE AMOUNT OF MATERIAL RELEASED), THE DATE THAT SUCH RELEASE OCCURRED, THE CIRCUMSTANCES LEADING TO THE RELEASE, AND REMEDIAL STEPS TO BE TAKEN. THE SWPPP MUST BE MODIFIED WITHIN 14 CALENDAR DAYS OF KNOWLEDGE OF THE RELEASE TO PROVIDE A DESCRIPTION OF THE RELEASE, THE CIRCUMSTANCES LEADING TO THE RELEASE, AND THE DATE OF THE RELEASE. IN ADDITION, THE PLAN MUST BE REVIEWED TO IDENTIFY MEASURES TO PREVENT THE REOCCURRENCE OF SUCH RELEASES AND TO RESPOND TO SUCH RELEASES, AND THE PLAN MUST BE MODIFIED WHERE APPROPRIATE.

DRAINAGE AREA CONTRIBUTING TO EACH DISCHARGE POINT:  
 LATITUDE AND LONGITUDE OF PROJECT LOCATION:  
 MS4 OPERATOR NAME:  
 RECEIVING WATERS:

42 ACRE  
 29.865390°, 28.911333°  
 STATE OF FLORIDA  
 INDIAN RIVER NORTH

42 ACRE  
 29.865390°, 28.911333°  
 STATE OF FLORIDA  
 INDIAN RIVER NORTH

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS (LESS THAN 5%).

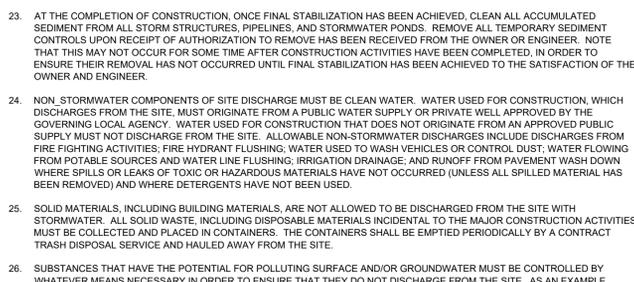
2. THE TOP OF THE FRAME (PONING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE CONSTRUCTED ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

3. FASTEN FRAMING TO STRUCTURE TO ALLOW GRATE REMOVAL.

4. LEAVE EXPOSED EDGE TO ALLOW FOR PAVING TO GRADE.

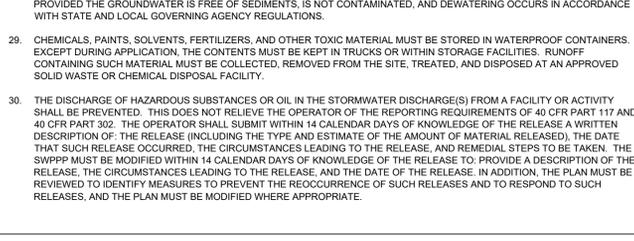
**DRIVEWAY INLET PROTECTION DETAIL**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



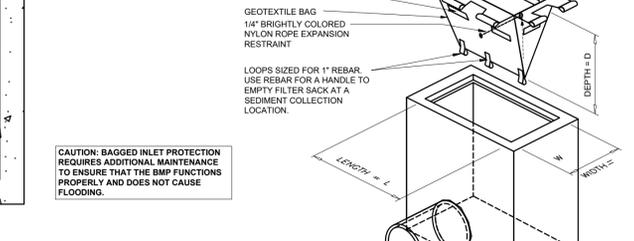
**GRATE INLET PROTECTION DETAIL**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



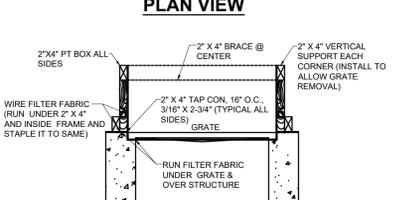
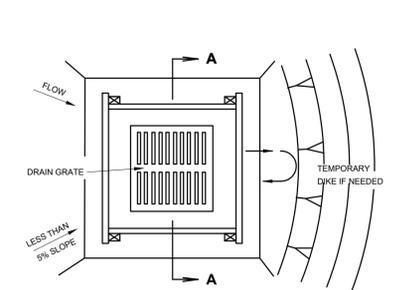
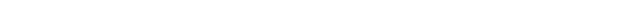
**GRATE LINE PROTECTION DETAIL**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



**GEOTEXTILE BAG INLET PROTECTION DETAIL**  
N.T.S.

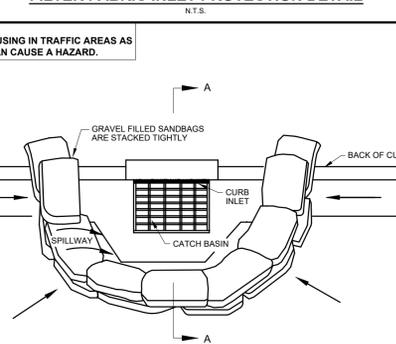
NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



- NOTES:
- DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS (LESS THAN 5%).
  - THE TOP OF THE FRAME (PONING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE CONSTRUCTED ON THE DOWNSLOPE SIDE OF THE STRUCTURE.
  - FASTEN FRAMING TO STRUCTURE TO ALLOW GRATE REMOVAL.
  - LEAVE EXPOSED EDGE TO ALLOW FOR PAVING TO GRADE.

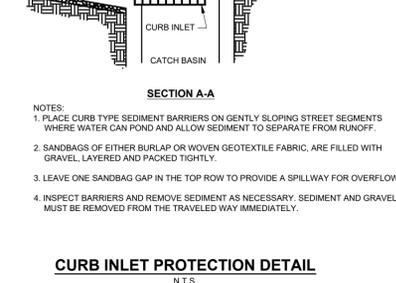
**FILTER FABRIC INLET PROTECTION DETAIL**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



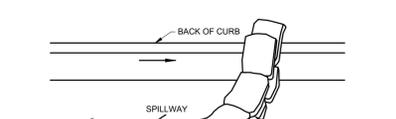
**GRATE & WIRE MESH INLET SEDIMENT FILTER**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



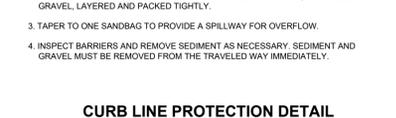
**CURB INLET PROTECTION DETAIL**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



**CURB LINE PROTECTION DETAIL**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



**CONTRACTOR / SUBCONTRACTOR CERTIFICATION TABLE**

THIS SWPPP MUST CLEARLY IDENTIFY, FOR EACH MEASURE IDENTIFIED WITHIN THE SWPPP, THE CONTRACTOR(S) OR SUBCONTRACTOR(S) WHO WILL IMPLEMENT EACH MEASURE. ALL CONTRACTOR(S) AND SUBCONTRACTOR(S) IDENTIFIED IN THE SWPPP MUST SIGN THE FOLLOWING CERTIFICATION:

Name / Signature	Title	Company Name, Address and Phone Number	Date

NOTE: CONTRACTOR TO ADD SHEETS TO CERTIFICATION TABLE AS NECESSARY.

**SWPPP IMPLEMENTATION LOG**

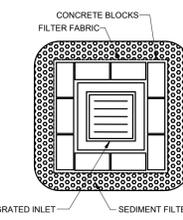
A RECORD OF DATES WHEN BMPs ARE INSTALLED OR REMOVED, STABILIZATION MEASURES ARE INITIATED, MAJOR GRADING ACTIVITIES OCCUR, AND CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON PORTIONS OF THE SITE. THIS FORM MUST BE UPDATED CONTINUOUSLY THROUGHOUT THE PROJECT UNTIL THE NOTICE OF TERMINATION (NOT) IS FILED.

DESCRIPTION OF ACTIVITY	LOCATION	CONTRACTOR	BEGIN DATE	END DATE

NOTE: CONTRACTOR TO ADD SHEETS TO THE SWPPP IMPLEMENTATION LOG AS NECESSARY.

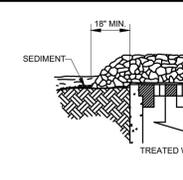
**CONCRETE BLOCK AND AGGREGATE INLET SEDIMENT FILTER**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



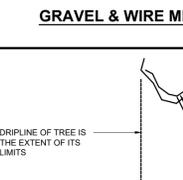
**BLOCK AND AGGREGATE INLET SEDIMENT FILTER**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



**GRAVEL & WIRE MESH INLET SEDIMENT FILTER**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



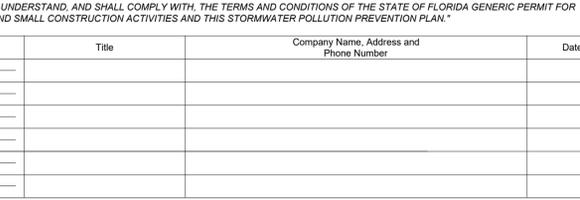
**TREE PROTECTION DETAIL**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



**DOMED INLET PROTECTION (PREFABRICATED)**  
N.T.S.

NOTE: AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



NOTE: CONTRACTOR TO ADD SHEETS TO CERTIFICATION TABLE AS NECESSARY.

**CONSTRUCTION SEQUENCING TABLE**

ANTICIPATED CONSTRUCTION SEQUENCE*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPORARY CONTROL MEASURES												
STORM FACILITIES												
ROUGH GRADE / SEDIMENT CONTROL												
FOUNDATION / BUILDING CONSTRUCTION												
SITE CONSTRUCTION												
FINISH GRADING												
PERMANENT CONTROL MEASURES												

\* THIS IS ONLY A GUIDE, CONTRACTOR IS TO USE HIS JUDGMENT TO MODIFY AS NEEDED.

**STORMWATER TEAM**

Description	Name	Company
Contractor:		
Contractor's Responsible Authority:		
Qualified Inspector(s):		
Maintenance Personnel:		

**DESIGNED BY**

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 01/15/2021 © 2023

**SWPPP DETAILS**

1. EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.

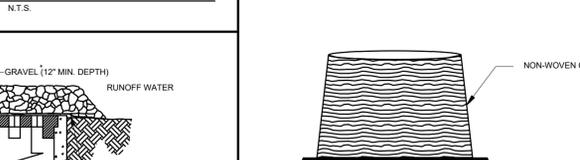
2. PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURING PROPER SEATING OF FRAME TO STRUCTURE.

3. SLIDE THE COVER OVER THE FRAME.

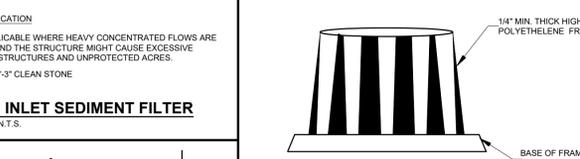
4. FILL THE COVER POCKETS WITH SOIL, #57 GRAVEL OR EQUIVALENT. THE COVER POCKETS SHOULD BE COMPLETELY FILLED TO ENSURE A GOOD SEAL BETWEEN THE GROUND AND INLET STRUCTURE.

5. BACK FILL AROUND THE FRAME AND COVER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION; HOWEVER, BACKFILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.

**TOP VIEW**



**SIDE VIEW**



**STORMWATER TEAM**

Description	Name	Company
Contractor:		
Contractor's Responsible Authority:		
Qualified Inspector(s):		
Maintenance Personnel:		

**DESIGNED BY**

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 01/15/2021 © 2023

**SWPPP DETAILS**

1. EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.

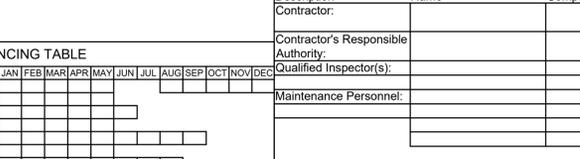
2. PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURING PROPER SEATING OF FRAME TO STRUCTURE.

3. SLIDE THE COVER OVER THE FRAME.

4. FILL THE COVER POCKETS WITH SOIL, #57 GRAVEL OR EQUIVALENT. THE COVER POCKETS SHOULD BE COMPLETELY FILLED TO ENSURE A GOOD SEAL BETWEEN THE GROUND AND INLET STRUCTURE.

5. BACK FILL AROUND THE FRAME AND COVER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION; HOWEVER, BACKFILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.

**TOP VIEW**

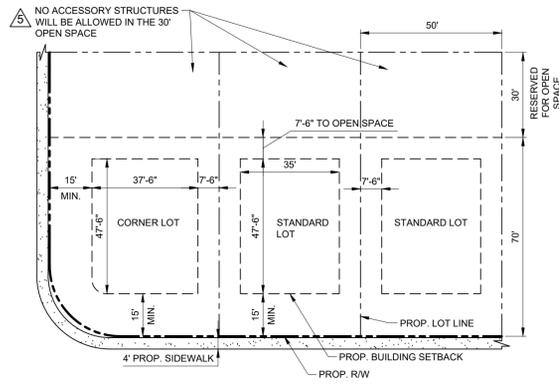


**SIDE VIEW**



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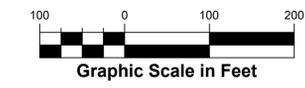
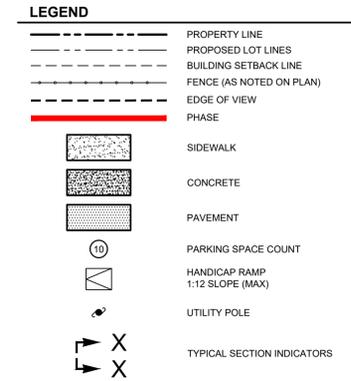
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 CPH, Inc.  
 State of Florida Licenses:  
 Engineer No. 3215  
 Surveyor No. LB7443  
 Architect No. AA26000926  
 Landscape No. LC000298



**BUILDING SETBACK DETAIL (TYP 100' X 50' LOT SIZE)**  
SCALE: 1" = 30'

**SITE PARKING DATA**

REST / BAR:	1 SP / 4 SEATS
WAREHOUSE STORAGE:	1 SP / 1,000 SF GFA
RECREATION OUTDOOR:	1 SP / EA. EMPLOYEE + 1 PER 4 PATRONS UNDER 1 SP / 400 SF GFA
TIKI BAR:	1,800 60% DINING = 1,080 SF / 14 SF / TABLE = 77 TABLES 25% OF TENANTS ARE WALKERS, WHICH LEAVES 58 = 15 SPACES
CLUBHOUSE / POOL:	1 SP / EMPLOYEE = 1 SPACE 3,500 SF CLUBHOUSE @ 60% = 2,100 SF / 14 SF / TABLE = 150 / 4 = 38 SPACES
OUTDOOR REC.:	1,170 / 400 = 3 SPACES 2,070 / 400 = 4 SPACES
BATHROOM:	1 SP / EMPLOYEE = 1 SPACE
TOTAL REQUIRED:	15 + 38 + 7 + 2 = 62 SPACES
TOTAL PROPOSED:	67 + 2 ADA SPACES



**SITE STATISTICAL DATA**

TOTAL SITE AREA	= 42 AC. ±
PARCEL I.D.	= 883801000071
TOTAL LOTS	= 165
BUILDING HEIGHT	= <45'
CLUBHOUSE	= 3,500 SF ± (70'X50')
STORAGE	= 8,000 SF ±
TIKI HUT	= 1,800 SF ± (PRIVATE RESIDENTS ONLY) (30'X60')
IMPERVIOUS AREAS	= LOTS, ROAD, SIDEWALK & AMENITIES = 12.00 AC.
PERVIOUS AREAS:	35% OPEN SPACE = 14.70 AC
PODS	= 8.69 AC. (@ NORMAL W.L.)
OTHER OPEN SPACE	= 6.61
TOTAL	= 42.0± AC.

MAINTENANCE RESPONSIBILITY OWNER TO PROVIDE

SOIL TYPES IMMOKALEE SAND, DAYTONA SAND, BASSINGER FINE SAND DEPRESSIONAL, GASSIA FINE SAND, ORSINO FINE SAND, MYAKKA FINE SAND AND QUARTZSAMPLMENTS

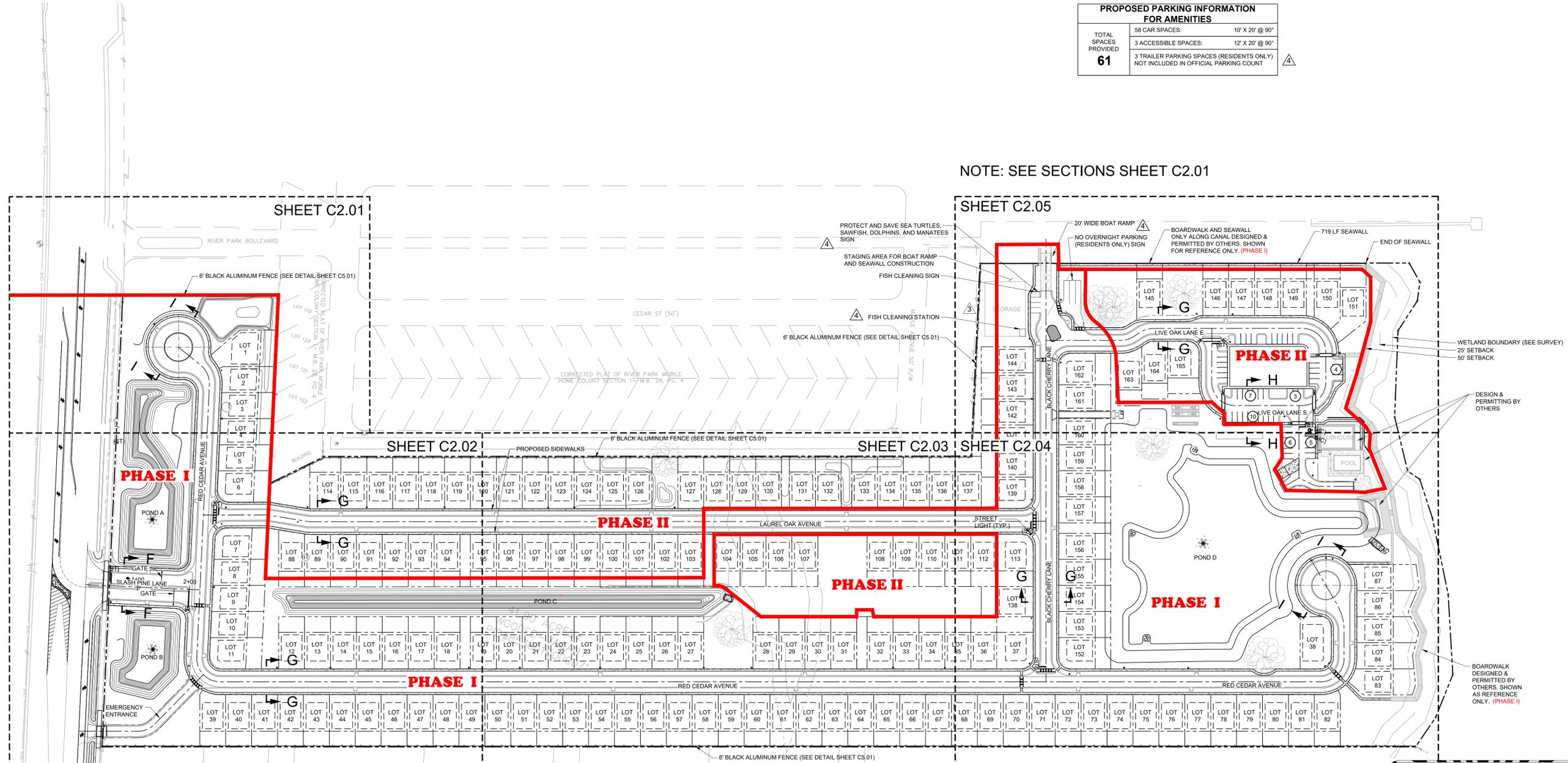
EXIST. / PROP. ZONING = MHI MAX. DENSITY ALLOWED 5.1 TO 8.0 UNITS / ACRE PROVIDED DENSITY 3.93 UNITS / ACRE

TAMARACK III IS A 55+ COMMUNITY

- NOTE:**
- ITEMS SHOWN SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN BOLD REPRESENT PROPOSED CONDITIONS.
  - ALL ENTRANCE GATES SHALL HAVE A CLEAR WIDTH OF 20'. A MINIMUM CLEAR HEIGHT OF NOT LESS THAN 13'-6" SHALL BE MAINTAINED ON ALL ACCESS GATES AND ROADS.

**PROPOSED PARKING INFORMATION FOR AMENITIES**

TOTAL SPACES PROVIDED	<b>61</b>
58 CAR SPACES:	10' X 20' @ 90°
3 ACCESSIBLE SPACES:	12' X 20' @ 90°
3 TRAILER PARKING SPACES (RESIDENTS ONLY)	NOT INCLUDED IN OFFICIAL PARKING COUNT







No.	Date	Revision
1	1-25-23	REVISED PER FIRE MARSHAL
2	12-14-22	REVISED PER CITY COMMENT
3	10-19-22	REVISED PER CITY FIRE MARSHAL
4	5-5-22	ADJUSTED CALLOUTS

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 01/15/2021 © 2023

**SITE DIMENSION PLAN - 2 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
 EDGEWATER / VOLUSIA / FLORIDA

THIS SHEET NOT VALID FOR  
 CONSTRUCTION WITHOUT  
 COMPLETE SET OF PLANS.

MATCH LINE A - RED CEDAR AVENUE STA. 3+39.1 ON SHEET C2.01

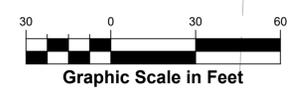
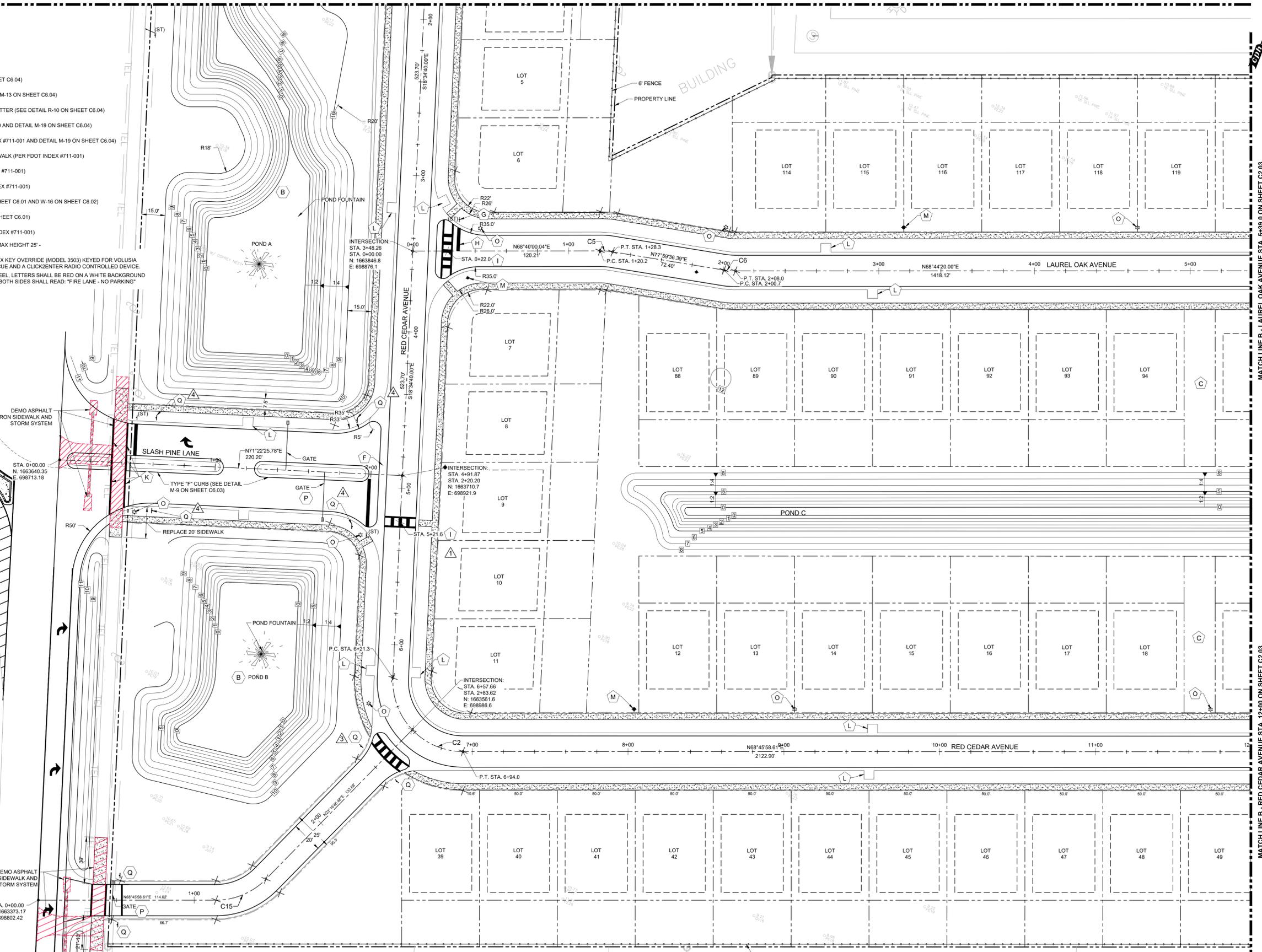
MATCH LINE B - LAUREL OAK AVENUE STA. 5+38.0 ON SHEET C2.03

MATCH LINE B - RED CEDAR AVENUE STA. 12+00 ON SHEET C2.03

**KEYNOTES**

- A HISTORIC TREES
- B WATER DETENTION AREA
- C UTILITY EASEMENT
- D CUL-DE-SAC (SEE DETAIL R-8 ON SHEET C6.04)
- E DUMPSTER ENCLOSURE (SEE DETAIL M-13 ON SHEET C6.04)
- F ROADWAY INTERSECTION VALLEY GUTTER (SEE DETAIL R-10 ON SHEET C6.04)
- G STOP SIGN (PER FDOT INDEX #700-010 AND DETAIL M-19 ON SHEET C6.04)
- H 24" SOLID STOP BAR (PER FDOT INDEX #711-001 AND DETAIL M-19 ON SHEET C6.04)
- I HIGH VISIBILITY PEDESTRIAN CROSSWALK (PER FDOT INDEX #711-001)
- J TURN LANE ARROW (PER FDOT INDEX #711-001)
- K 12" SOLID WHITE LINE (PER FDOT INDEX #711-001)
- L STORM INLET (SEE DETAIL ST-1 ON SHEET C6.01 AND W-16 ON SHEET C6.02)
- M FIRE HYDRANT (SEE DETAIL W-1 ON SHEET C6.01)
- N 6" SOLID WHITE STRIPE (PER FDOT INDEX #711-001)
- O 20" MOTORIZED GATE WITH DUAL KNOX KEY OVERRIDE (MODEL 3503) KEYS FOR VOLUSIA COUNTY AND EDGEWATER FIRE RESCUE AND A CLICKCENTER RADIO CONTROLLED DEVICE.
- P PERMANENT SIGNAGE - 18 GAUGE STEEL, LETTERS SHALL BE RED ON A WHITE BACKGROUND AND A MINIMUM OF 3" HIGH. SIGN ON BOTH SIDES SHALL READ: "FIRE LANE - NO PARKING"
- Q-B-1 GEOTECHNICAL BORING

CURVE	RADIUS	LENGTH	DEG. OF CURV.	TANGENT
C1	45.0'	42.1'	053°37'33"	22.74'
C2	45.0'	72.8'	092°39'21"	47.14'
C3	45.0'	70.7'	090°00'00"	45.00'
C4	100.0'	52.8'	030°15'23"	27.03'
C5	50.0'	8.1'	009°19'36"	4.08'
C6	45.0'	7.3'	009°15'16"	3.64'
C7	45.0'	69.6'	088°35'36"	43.93'
C8	45.0'	25.4'	032°18'34"	13.04'
C9	45.0'	25.3'	032°16'27"	13.02'
C10	45.0'	70.7'	089°58'19"	44.98'
C11	45.0'	70.7'	089°59'56"	45.00'
C12	30.0'	47.1'	090°00'00"	30.00'
C13	45.0'	70.8'	090°08'02"	45.11'
C14	45.9'	21.6'	026°56'02"	11.00'
C15	45.0'	35.7'	045°29'13"	18.86'



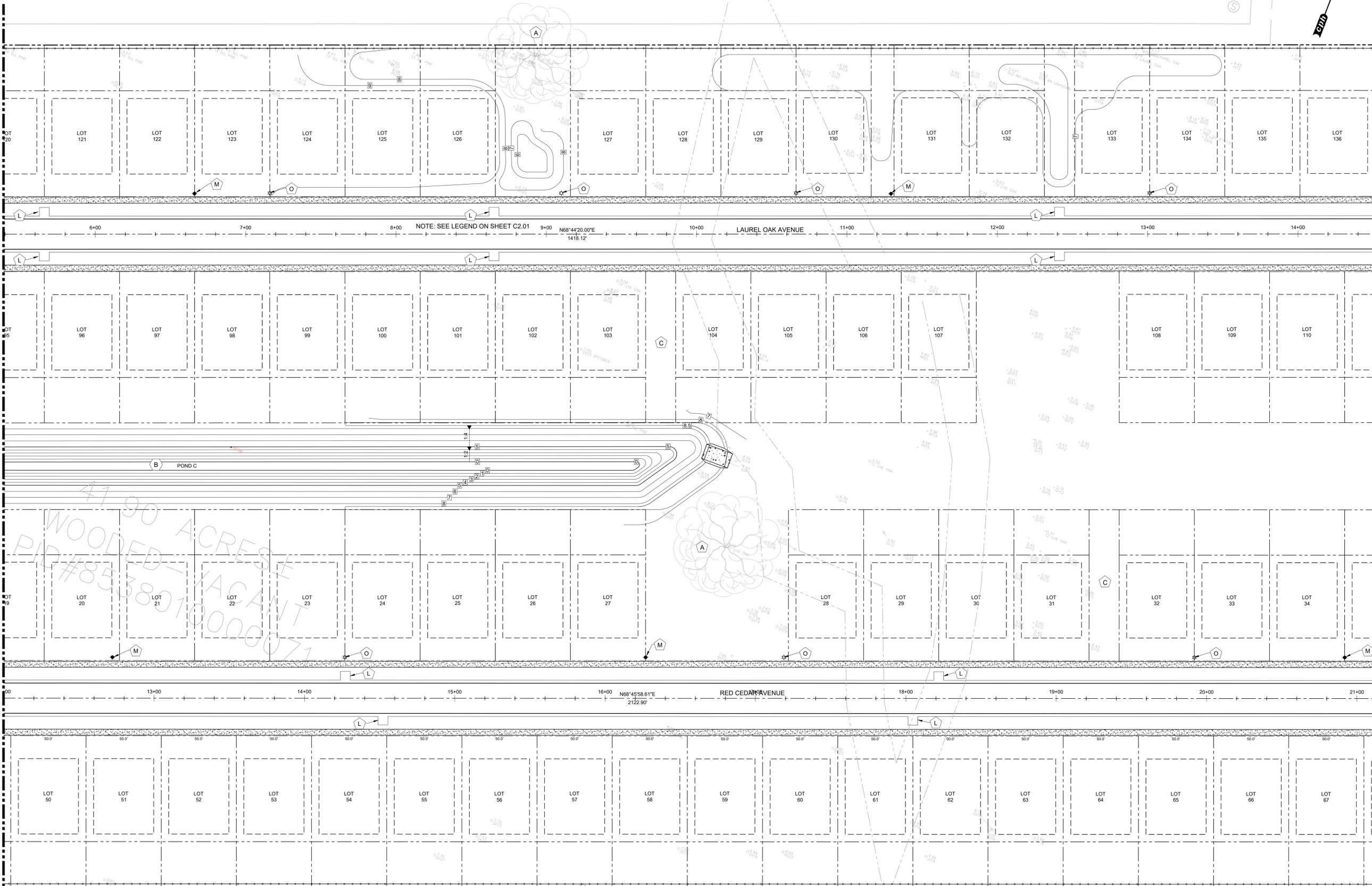


MATCH LINE B - LAUREL OAK AVENUE STA. 5+39.0 ON SHEET C2.02

MATCH LINE C - LAUREL OAK AVENUE STA. 14+50.8 ON SHEET C2.04

MATCH LINE B - RED CEDAR AVENUE STA. 12+00 ON SHEET C2.02

MATCH LINE C - RED CEDAR AVENUE STA. 21+11.1 ON SHEET C2.04



NOTE: SEE LEGEND ON SHEET C2.01  
N68°44'20.00"E  
1418.12'

N68°45'58.61"E  
2122.90'

41.90 ACRES  
WOODED ACRES  
PID#8538010000077

No.	Date	Revision

Designed: I. BOYLES  
Drawn: M. MOODY  
Checked: L. WRAY  
Job No.: E9501  
Date: 01/15/2021 © 2023

**SITE DIMENSION PLAN - 3 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
EDGEWATER / VOLUSIA / FLORIDA

THIS SHEET NOT VALID FOR  
CONSTRUCTION WITHOUT  
COMPLETE SET OF PLANS.

Sheet No.  
**C2.03**

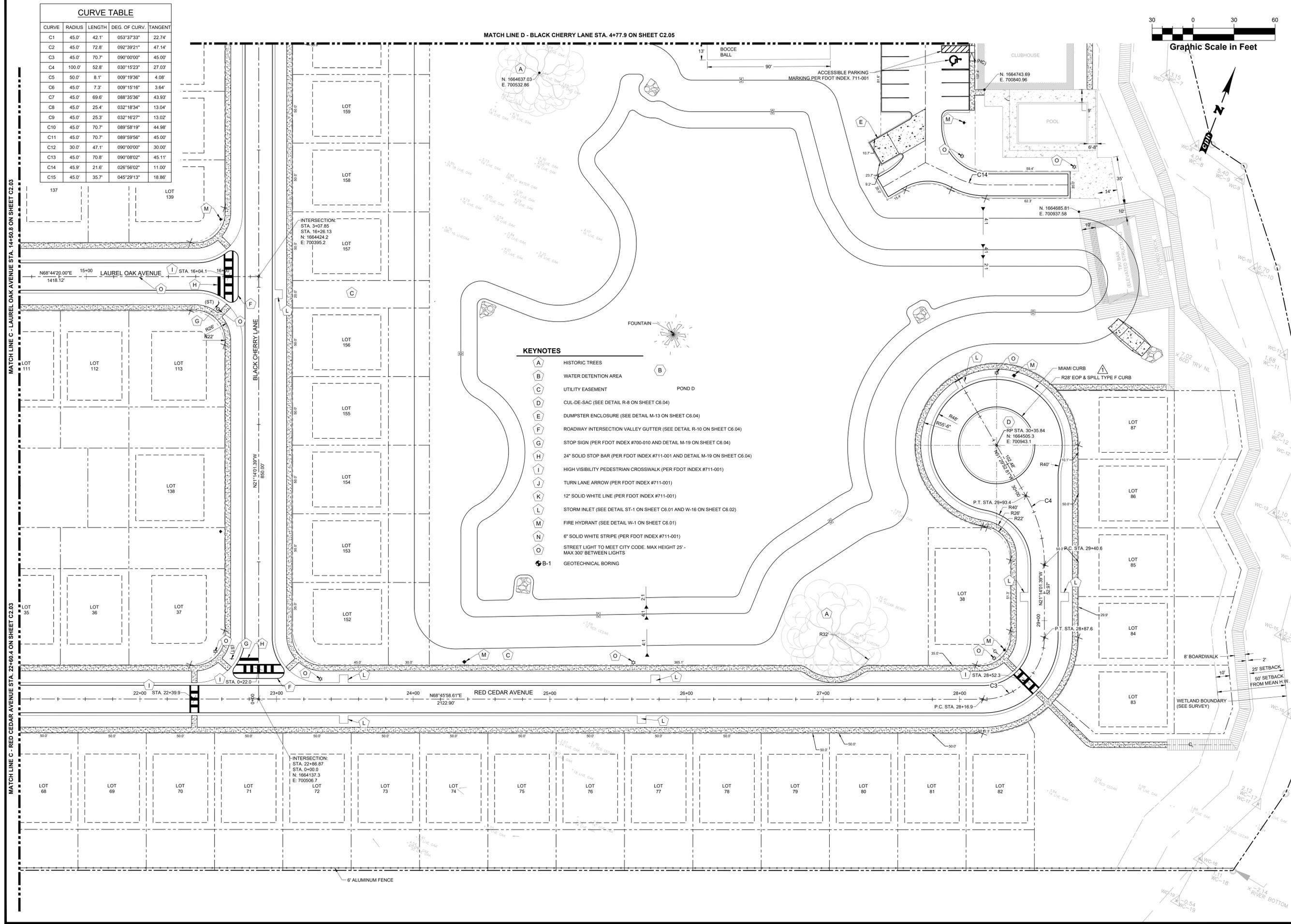


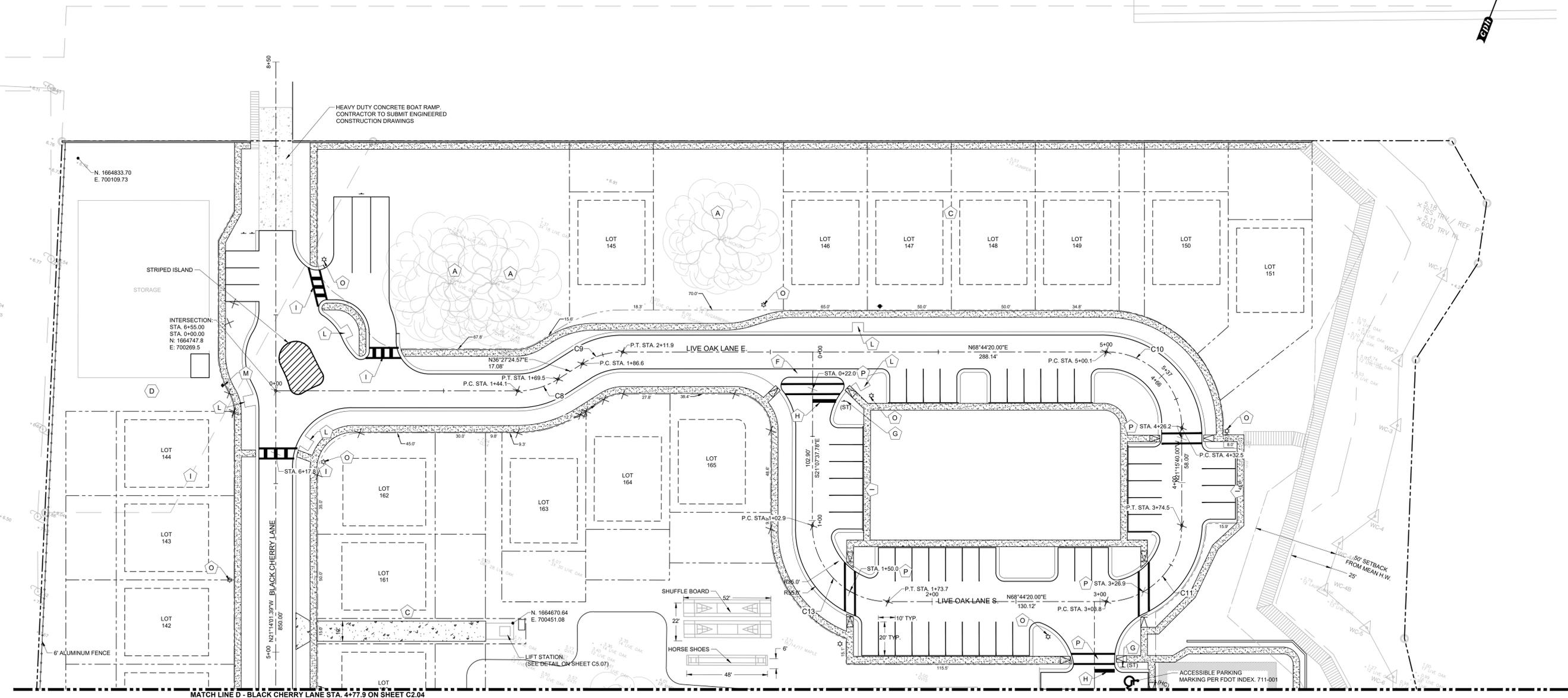
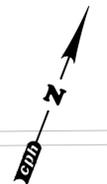
No.	Date	Revision
1	10/19/22	REVISED PER CITY FIRE MARSHALL

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 01/15/2021 © 2023

**SITE DIMENSION PLAN - 4 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
 EDGEWATER / VOLUSIA / FLORIDA

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 COMPLETE SET OF PLANS.

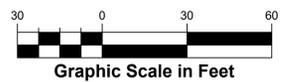




**KEYNOTES**

- A** HISTORIC TREES
- B** WATER DETENTION AREA
- C** UTILITY EASEMENT
- D** CUL-DE-SAC (SEE DETAIL R-8 ON SHEET C6.04)
- E** DUMPSTER ENCLOSURE (SEE DETAIL M-13 ON SHEET C6.04)
- F** ROADWAY INTERSECTION VALLEY GUTTER (SEE DETAIL R-10 ON SHEET C6.04)
- G** STOP SIGN (PER FDOT INDEX #700-010 AND DETAIL M-19 ON SHEET C6.04)
- H** 24" SOLID STOP BAR (PER FDOT INDEX #711-001 AND DETAIL M-19 ON SHEET C6.04)
- I** HIGH VISIBILITY PEDESTRIAN CROSSWALK (PER FDOT INDEX #711-001)
- J** TURN LANE ARROW (PER FDOT INDEX #711-001)
- K** 12" SOLID WHITE LINE (PER FDOT INDEX #711-001)
- L** STORM INLET (SEE DETAIL ST-1 ON SHEET C6.01 AND W-16 ON SHEET C6.02)
- M** FIRE HYDRANT (SEE DETAIL W-1 ON SHEET C6.01)
- N** 6" SOLID WHITE STRIPE (PER FDOT INDEX #711-001)
- O** STREET LIGHT TO MEET CITY CODE. MAX HEIGHT 25' - MAX 300' BETWEEN LIGHTS
- P** STANDARD CROSSWALK (PER FDOT INDEX #711-001)
- B-1** GEOTECHNICAL BORING

CURVE TABLE				
CURVE	RADIUS	LENGTH	DEG. OF CURV.	TANGENT
C1	45.0'	42.1'	053°37'33"	22.74'
C2	45.0'	72.8'	092°39'21"	47.14'
C3	45.0'	70.7'	090°00'00"	45.00'
C4	100.0'	52.8'	030°15'23"	27.03'
C5	50.0'	8.1'	009°19'36"	4.08'
C6	45.0'	7.3'	009°15'16"	3.64'
C7	45.0'	69.6'	088°35'36"	43.93'
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C9	45.0'	25.3'	032°16'27"	13.02'
C10	45.0'	70.7'	089°58'19"	44.98'
C11	45.0'	70.7'	089°59'56"	45.00'
C12	30.0'	47.1'	090°00'00"	30.00'
C13	45.0'	70.8'	090°08'02"	45.11'
C14	45.9'	21.6'	026°56'02"	11.00'
C15	45.0'	35.7'	045°29'13"	18.86'



Always call 811 two full business days before you dig

**Sunshine811.com**

www.sunshine811.com

**SITE DIMENSION PLAN - 5 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
 EDGEWATER / VOLUSIA / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

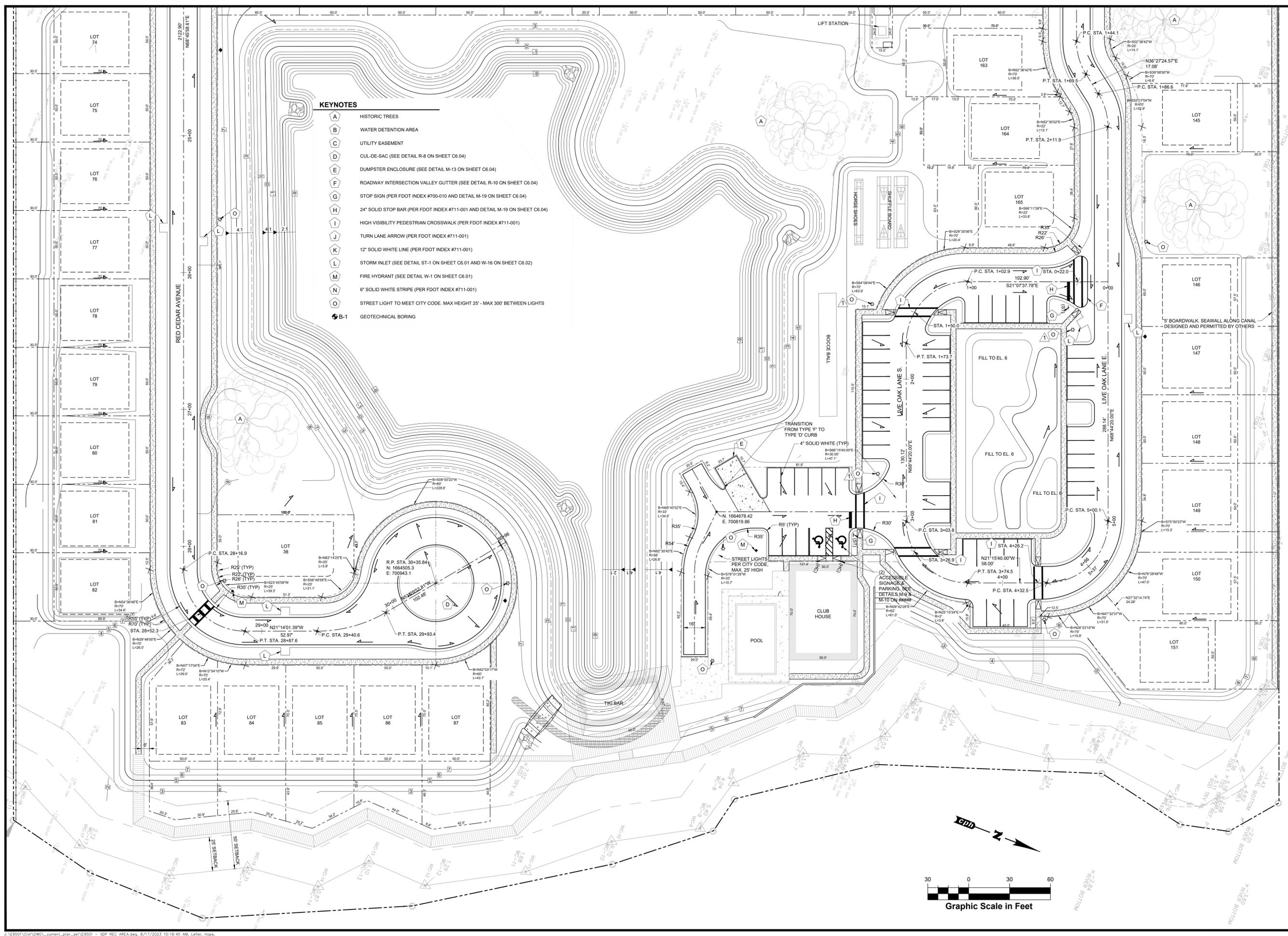
Sheet No.  
**C2.05**

No.	Date	Revision
1	7-25-22	REVISED PER CITY RAI

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 01/15/2021 © 2023

**SITE DIMENSION PLAN - POND 'D'  
 AND RECREATION AREA**  
**TAMARACK III MOBILE HOME PARK**  
 EDGEWATER / VOLUSIA / FLORIDA

THIS SHEET NOT VALID FOR  
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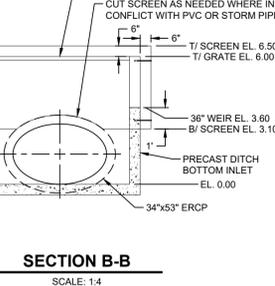
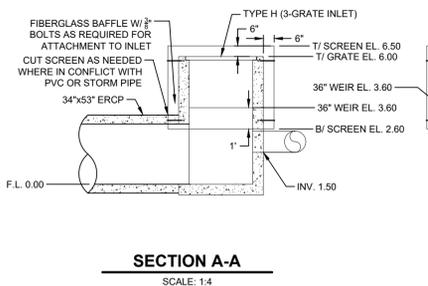
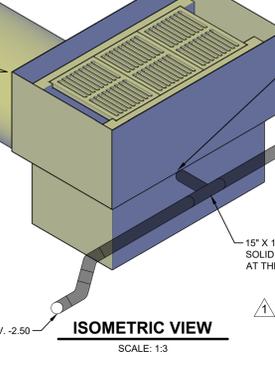
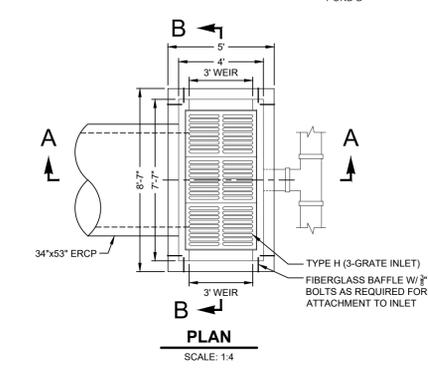
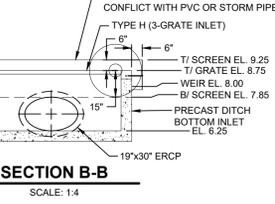
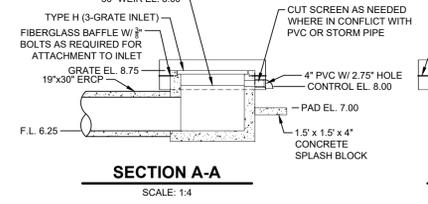
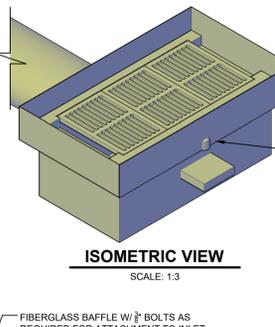
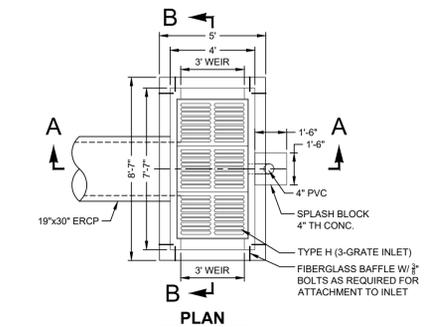
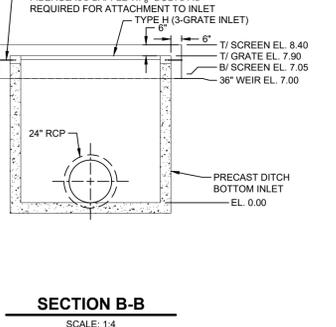
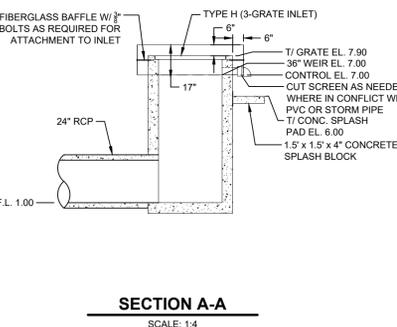
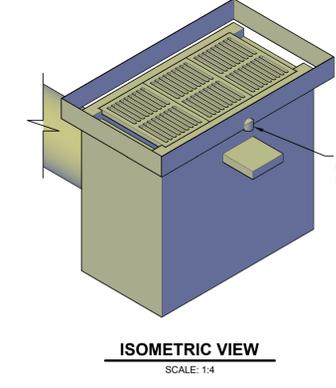
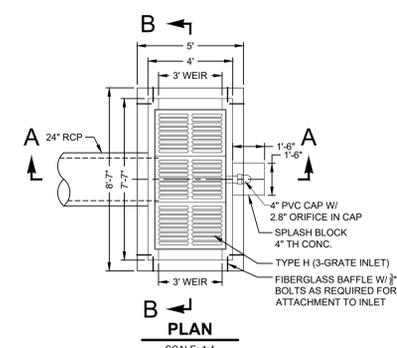
STORM SEWER STRUCTURE SCHEDULE - 1.2.4				
STRUCTURE NUMBER	LOCATION	DESCRIPTION	FLOW LINE ELEVATIONS	RIM/EOP ELEVATION
S-3	N. 1664242.07 E. 698818.13	Index No. 425-052 - Ditch Bottom Inlet - Type E 4 - 24" THROATS	5.70 SW 10.30 9.80 THROAT	
S-4	N. 1663867.67 E. 698853.25	Index No. 425-052 - Ditch Bottom Inlet - Type E	2.50 NE 0.50 W	10.00
S-5	N. 1663852.87 E. 698808.65	Index No. 430-011 - U-Type Concrete Endwall w/ Baffles	0.00 E	
S-6	N. 1664146.05 E. 698864.08	Index No. 425-052 - Ditch Bottom Inlet - Type E	4.00 S 4.80 W 4.60 NE	10.35
S-7	N. 1663883.94 E. 698863.48	Index No. 425-052 - Ditch Bottom Inlet - Type E	2.80 SW	10.00
S-8	N. 1664155.23 E. 698635.63	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	4.80 SE	10.00 9.5 THROAT
S-10	N. 1664023.46 E. 698608.51	Index No. 430-011 - U-Type Concrete Endwall w/ Baffles	0.00 N	
S-11	N. 1663740.04 E. 698805.81	Index No. 430-011 - U-Type Concrete Endwall w/ Baffles	0.00 S	
S-12	N. 1663706.77 E. 698817.10	Index No. 425-052 - Ditch Bottom Inlet - Type E	0.60 N 0.60 S	10.10
S-13	N. 1663654.20 E. 698834.77	Index No. 425-052 - Ditch Bottom Inlet - Type E	1.40 N 0.60 S	10.50
S-14	N. 1663616.83 E. 698847.33	Index No. 430-011 - U-Type Concrete Endwall w/ Baffles	0.00 N	
S-15	N. 1663596.66 E. 698976.02	Index No. 425-052 - Ditch Bottom Inlet - Type E	2.80 W	10.00
S-16	N. 1663587.09 E. 698947.54	Index No. 425-052 - Ditch Bottom Inlet - Type E	2.50 E 0.50 W	10.00
S-17	N. 1663573.66 E. 698907.59	Index No. 430-011 - U-Type Concrete Endwall w/ Baffles & Grate	0.00 E	
S-18	N. 1663541.08 E. 699015.43	Index No. 425-001 - Type 7 Manhole	5.95 E 6.00 W	10.90
S-19	N. 1663640.81 E. 699270.42	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	4.65 N 4.60 E 4.65 W	9.50
S-20	N. 1663730.47 E. 699501.13	Index No. 425-001 - Type 7 Manhole (1 or 2-Piece Cover (Center)) w/ J Bottom	3.75 W 3.70 E	10.60
S-21	N. 1663820.89 E. 699734.21	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	2.84 W 4.20 NW 2.80 E	8.50
S-22	N. 1663948.55 E. 700062.76	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	1.40 W 1.40 N 1.35 E	6.60
S-23	N. 1663994.86 E. 700181.57	Index No. 425-001 - Type 7 Manhole (Center) w/ J Bottom	0.80 W 0.80 N 0.75 E	7.98
S-24	N. 1664070.92 E. 700377.31	Index No. 425-001 - Type 7 Manhole (2-Piece Cover (Center)) w/ J Bottom	-0.10 W -0.15 E	7.70
S-25	N. 1664145.75 E. 700570.31	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	-1.00 W 1.70 N -1.00 E	6.60
S-26	N. 1664189.71 E. 700683.04	Index No. 425-001 - Type 7 Manhole w/ J Bottom	-1.67 W 2.00 E -4.50 N	7.70
S-27	N. 1664260.51 E. 700664.17	Index No. 430-012 - U-Type Winged Concrete Endwall w/ Energy Dissipator	-4.85 S	
S-28	N. 1663689.60 E. 699261.57	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	4.95 S	9.50
S-29	N. 1663840.06 E. 699699.94	Index No. 425-052 - Ditch Bottom Inlet - Type E	4.50 SE	8.60
S-30	N. 1663982.99 E. 700067.81	Index No. 425-052 - Ditch Bottom Inlet - Type E	1.60 S	6.60
S-31	N. 1664144.11 E. 700122.68	Index No. 425-052 - Ditch Bottom Inlet - Type E	2.00 S	5.90
S-32	N. 1664173.98 E. 700559.34	Index No. 425-052 - Ditch Bottom Inlet - Type E	2.00 S	6.60
S-33	N. 1664256.56 E. 700771.86	Index No. 425-052 - Ditch Bottom Inlet - Type E	4.00 S	7.73
S-34	N. 1664224.71 E. 700773.51	Index No. 425-052 - Ditch Bottom Inlet - Type E	3.70 N 3.00 W	7.68
S-35	N. 1664420.56 E. 701029.86	Index No. 425-052 - Ditch Bottom Inlet - Type E	3.00 W	6.60
S-36	N. 1664409.60 E. 701001.64	Index No. 425-052 - Ditch Bottom Inlet - Type E	2.70 E 0.75 NW	6.60
S-37	N. 1664538.07 E. 700901.98	Index No. 425-052 - Ditch Bottom Inlet - Type E	0.25 SE 0.20 NW	6.60
S-38	N. 1664558.08 E. 700876.85	Index No. 430-011 - U-Type Concrete Endwall w/ Baffles & Grate	0.00 SE	
S-40	N. 1663945.12 E. 699122.34	Index No. 425-052 - Ditch Bottom Inlet - Type E	3.50 SE	9.00
S-41	N. 1663927.94 E. 699161.15	Index No. 425-052 - Ditch Bottom Inlet - Type E	3.10 NW 3.00 E	9.00
S-42	N. 1664025.85 E. 699412.79	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	1.70 W 1.65 E 1.80 N	9.16
S-43	N. 1664134.32 E. 699691.56	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	0.15 W 0.20 N 0.10 E	7.10
S-44	N. 1664174.52 E. 699794.87	Index No. 425-001 - Type 7 Manhole w/ J Bottom	-0.32 W -0.40 E -0.35 S	8.50
S-45	N. 1664270.70 E. 70042.07	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	-1.53 W -1.55 N -1.47 E	6.60
S-46	N. 1664357.65 E. 700265.48	Index No. 425-001 - Type 7 Manhole w/ J Bottom	-2.45 W -2.50 E	7.60
S-47	N. 1664407.41 E. 700388.44	Index No. 425-041 - Gutter Inlet - Type E w/ J Bottom	-3.00 W -3.05 E	6.80
S-48	N. 1664417.60 E. 700413.60	Index No. 425-052 - Ditch Bottom Inlet - Type E w/ J Bottom	-3.15 W -3.25 E 0.00 N	6.80
S-49	N. 1664458.29 E. 700518.32	Index No. 425-001 - Type 7 Manhole w/ J Bottom	-3.80 W -3.90 E	4.00
S-50	N. 1664463.06 E. 700542.40	Index No. 430-012 - U-Type Winged Concrete Endwall w/ Energy Dissipator	-4.05 W	
S-51	N. 1664053.87 E. 699401.93	Index No. 425-052 - Ditch Bottom Inlet - Type E	2.10 S	9.16
S-52	N. 1664162.32 E. 699680.66	Index No. 425-052 - Ditch Bottom Inlet - Type E	0.50 S 1.00 N	7.10
S-53	N. 1664197.99 E. 699691.96	Index No. 425-052 - Ditch Bottom Inlet - Type E 4 - 24" THROATS	1.65 S	8.00 THROAT 7.55
S-54	N. 1664298.70 E. 700031.17	Index No. 425-052 - Ditch Bottom Inlet - Type E	0.65 N -0.99 S	6.60

STORM SEWER STRUCTURE SCHEDULE - 1.2.4				
STRUCTURE NUMBER	LOCATION	DESCRIPTION	FLOW LINE ELEVATIONS	RIM/EOP ELEVATION
S-55	N. 1664322.88 E. 700021.76	Index No. 425-052 - Ditch Bottom Inlet - Type E 4 - 24" THROATS	1.00 S 7.50 THROAT 6.80	
S-56	N. 1664725.33 E. 700298.26	Index No. 425-052 - Ditch Bottom Inlet - Type E	1.00 S 1.10 W 1.10 N	6.60
S-57	N. 1664736.30 E. 700296.55	Index No. 425-052 - Ditch Bottom Inlet - Type E	1.45 E	6.60
S-58	N. 1664796.09 E. 700297.23	Index No. 425-052 - Ditch Bottom Inlet - Type E	1.65 S	6.60
S-59	N. 1664909.00 E. 700578.99	Index No. 425-052 - Ditch Bottom Inlet - Type E	3.50 SE	6.60
S-60	N. 1664878.29 E. 700594.26	Index No. 425-052 - Ditch Bottom Inlet - Type E	3.00 NW 2.95 SE	6.60
S-61	N. 1664863.11 E. 700624.67	Index No. 425-052 - Ditch Bottom Inlet - Type E 4 - 24" THROATS	2.90 NW 2.85 S	6.5 THROAT 5.5
S-62	N. 1664783.24 E. 700705.34	Index No. 425-052 - Ditch Bottom Inlet - Type E	3.65 SW	6.35
S-63	N. 1664733.88 E. 700632.92	Index No. 425-001 - Type 7 Manhole w/ J Bottom	2.15 N 2.15 NE 2.10 S	8.00
S-64	N. 1664654.77 E. 700612.89	Index No. 430-012 - U-Type Concrete Endwall w/ Energy Dissipator	2.00 N	
S-65	N. 1664685.72 E. 700727.42	Index No. 425-052 - Ditch Bottom Inlet - Type H (3 Grates) SEE SHEET C5.01 FOR DETAIL	0.00 N	SEE DETAIL ON THIS SHEET
S-66	N. 1663703.15 E. 698713.74	Index No. 430-021 - Cross Drain MES	8.90 S	
S-67	N. 1663592.58 E. 698755.65	Index No. 430-021 - Cross Drain MES	9.00 N	
S-68	N. 1663622.31 E. 698929.56	Index No. 425-052 - Ditch Bottom Inlet - Type H (3 Grates) SEE SHEET C5.01 FOR DETAIL	6.25 E	SEE DETAIL ON THIS SHEET
S-69	N. 1664066.18 E. 698935.66	Index No. 425-052 - Ditch Bottom Inlet - Type H (3 Grates) SEE SHEET C5.01 FOR DETAIL	1.00 N	SEE DETAIL ON THIS SHEET
S-70	N. 1665067.61 E. 700692.31	Index No. 430-001 - Straight Endwall with Steel Guard Index No. 430-030 and flap gate. See detail sheet C5.01	-1.65 SW	
S-71	N. 1663401.07 E. 698818.48	Index No. 430-021 - Cross Drain MES	8.90 S	
S-72	N. 1663362.62 E. 698831.02	Index No. 430-021 - Cross Drain MES	9.00 N	
S-73	N. 1663345.19 E. 698833.52	Index No. 425-052 - Type C Inlet	9.00 N	GRATE 11.00 THROAT 10.60 N&S
S-74	N. 1664841.87 E. 700780.14	Index No. 425-001 - Type 7 Manhole (Center) w/ J Bottom	-0.54 S -0.60 NE	7.75
S-75	N. 1663599.61 E. 698749.07	Index No. 425-001 - Type I Manhole	8.95	11.00
S-76	N. 1663395.96 E. 698818.84	Index No. 425-001 - Type I Manhole	8.95	11.00
S-77	N. 1663366.09 E. 698826.87	Index No. 425-001 - Type I Manhole	8.98	11.00

STORM PIPE SCHEDULE			
NO.	LENGTH	SIZE	SLOPE
S-3 TO S-6	118'	18" RCP	0.93%
S-4 TO S-5	47'	24" RCP	1.06%
S-6 TO S-10	119'	24" RCP	3.66%
S-7 TO S-4	34'	18" RCP	0.87%
S-8 TO S-6	30'	15" RCP	0.68%
S-12 TO S-11	35'	24" RCP	1.71%
S-13 TO S-12	55'	24" RCP	1.45%
S-13 TO S-14	35'	24" RCP	1.71%
S-15 TO S-16	30'	18" RCP	1.00%
S-16 TO S-17	42'	15" RCP	1.19%
S-18 TO S-19	274'	19"x30" ERCP	0.47%
S-19 TO S-20	248'	29"x45" ERCP	0.34%
S-20 TO S-21	250'	29"x45" ERCP	0.34%
S-21 TO S-22	352'	29"x45" ERCP	0.40%
S-22 TO S-23	128'	34"x53" ERCP	0.43%
S-23 TO S-24	210'	34"x53" ERCP	0.40%
S-24 TO S-25	207'	34"x53" ERCP	0.55%
S-25 TO S-26	121'	34"x53" ERCP	0.55%
S-26 TO S-27	73'	34"x53" ERCP	0.48%
S-28 TO S-19	30'	18" RCP	1.00%

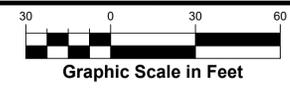
STORM PIPE SCHEDULE			
NO.	LENGTH	SIZE	SLOPE
S-29 TO S-21	39'	15" RCP	0.76%
S-30 TO S-22	35'	14"x23" ERCP	0.57%
S-31 TO S-23	160'	24" RCP	0.75%
S-32 TO S-25	30'	18" RCP	1.00%
S-33 TO S-34	32'	15" RCP	0.94%
S-34 TO S-26	97'	18" RCP	1.03%
S-35 TO S-36	30'	18" RCP	1.00%
S-36 TO S-37	163'	24" RCP	0.31%
S-37 TO S-38	31'	24" RCP	0.65%
S-40 TO S-41	42'	18" RCP	0.95%
S-41 TO S-42	270'	24" RCP	0.48%
S-42 TO S-43	299'	30" RCP	0.50%
S-43 TO S-44	111'	36" RCP	0.38%
S-44 TO S-45	265'	36" RCP	0.43%
S-45 TO S-46	240'	34"x53" ERCP	0.41%
S-46 TO S-47	133'	34"x53" ERCP	0.38%
S-47 TO S-48	27'	34"x53" ERCP	0.37%
S-48 TO S-49	112'	42" RCP	0.49%
S-49 TO S-50	25'	42" RCP	0.61%
S-51 TO S-42	30'	18" RCP	1.00%

STORM PIPE SCHEDULE			
NO.	LENGTH	SIZE	SLOPE
S-52 TO S-43	30'	18" RCP	1.00%
S-53 TO S-52	37'	18" RCP	1.74%
S-54 TO S-45	30'	19"x30" ERCP	1.86%
S-55 TO S-54	26'	24" RCP	1.35%
S-56 TO S-48	329'	24" RCP	0.30%
S-57 TO S-56	43'	18" RCP	0.81%
S-58 TO S-56	71'	14"x23" ERCP	0.78%
S-59 TO S-60	34'	15" RCP	1.46%
S-60 TO S-61	21'	18" RCP	0.41%
S-61 TO S-63	131'	24" RCP	0.53%
S-62 TO S-63	88'	15" RCP	1.71%
S-63 TO S-64	50'	29"x45" ERCP	0.20%
S-65 TO S-74	150'	34"x53" ERCP	0.40%
S-75 TO S-66	107'	14" X 27" ERCP	0.04%
S-68 TO S-18	88'	19"x30" ERCP	0.65%
S-69 TO S-44	116'	24" RCP	1.17%
S-72 TO S-77	5'	14" X 27" ERCP	0.40%
S-74 TO S-70	245'	42" RCP	0.41%
S-73 TO EX.	10'a	18" RCP	----
S-71 TO S-76	5'	14" X 27" ERCP	1.0%
S-76 TO S-77	30'	14" X 27" ERCP	0.10%
S-75 TO S-67	9'	14" X 27" ERCP	0.60%



NOTES:  
1. ATTACHMENT ANCHORS PER BOLT, FLAT WASHER, FENDER WASHER, AND LOCK NUT, ALL STAINLESS STEEL.  
2. EMBEDMENT DEPTH 2'





Plans Prepared By:  
CPH, Inc.  
State of Florida Licenses:  
Engineer No. 3215  
Surveyor No. LB1743  
Architect No. AA26000296  
Landscape No. LC000298

Howard L. Wray, Jr., State of Florida,  
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No.	Date	Revision
1	10-7-22	REVISE DRAINAGE PIPE CROSSINGS AT DRIVES
2	8-17-22	REVISED PER CITY RAI
3	5-5-22	REVISED RIGHT TURN LANE

Designed: I. BOYLES  
Drawn: M. MOODY  
Checked: L. WRAY  
Job No.: E9501  
Date: 01/15/2021 © 2023

**SITE GRADING PLAN - 2 OF 5**

**TAMARACK III MOBILE HOME PARK**  
EDGEWATER / VOLUSIA / FLORIDA

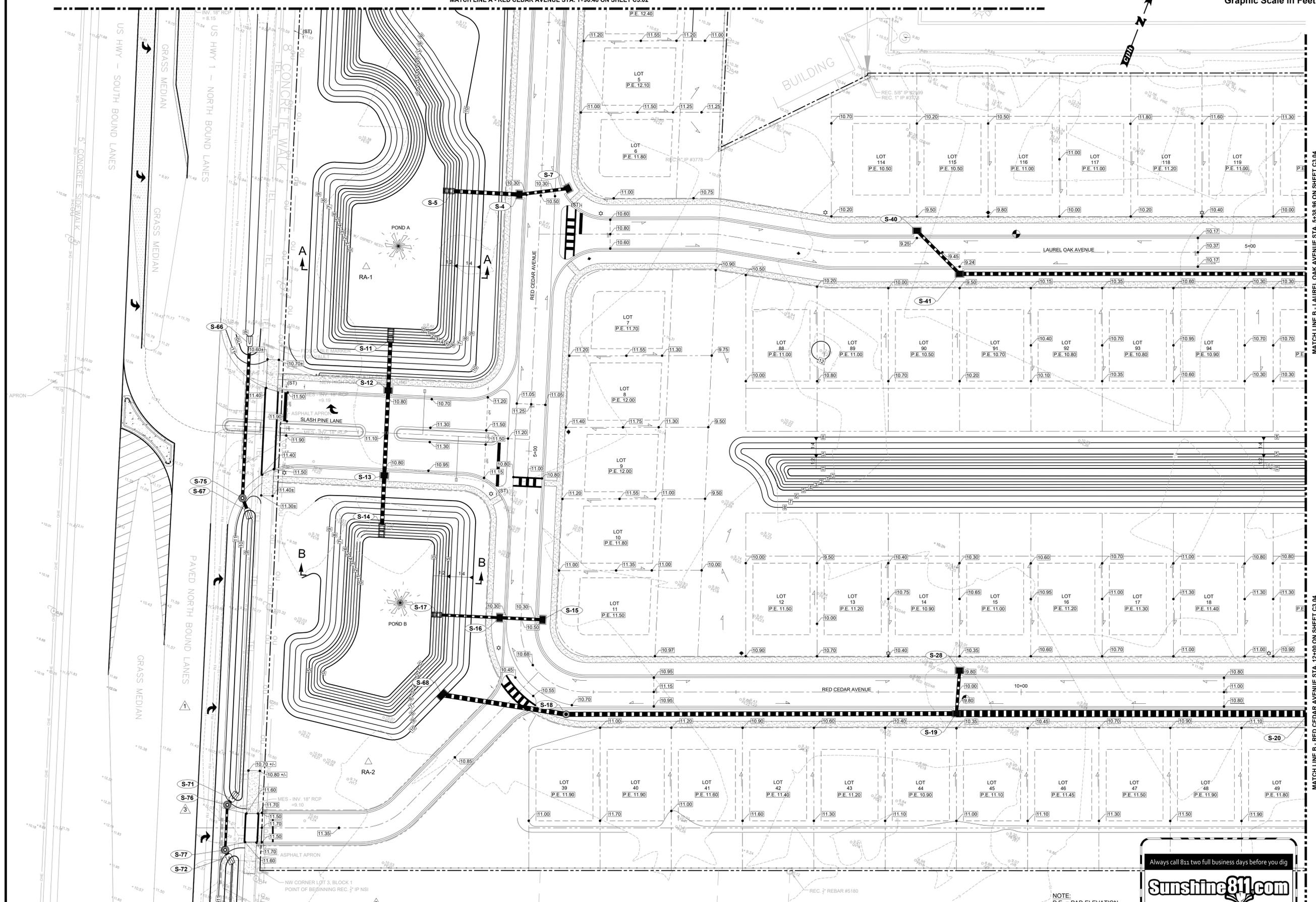
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CONSTRUCTION WITHOUT  
COMPLETE SET OF PLANS.

Sheet No.  
**C3.03**

MATCH LINE A - RED CEDAR AVENUE STA. 1+90.48 ON SHEET C3.02

MATCH LINE B - LAUREL OAK AVENUE STA. 6+38.96 ON SHEET C3.04

MATCH LINE B - RED CEDAR AVENUE STA. 12+00 ON SHEET C3.04



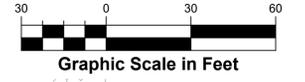
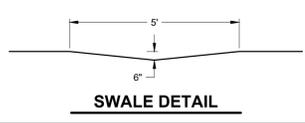
NOTE:  
MAINTAIN MIN. 3" OF COVER OVER THE EXISTING F.M. AND W.M. AT BOTH ENTRANCES. LOCATE THE  
PROPOSED DRAINAGE CROSSING TO AVOID CREATING A SANITARY HAZARD WITH THE EXISTING W.M.

NOTE:  
P.E. = PAD ELEVATION

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Plans Prepared By:  
CPH, Inc.  
State of Florida Licenses:  
Engineer No. 3215  
Surveyor No. LB7143  
Architect No. AA26002926  
Landscape No. LC000298

Howard L. Wray, Jr., State of Florida,  
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HOWARD LAWRENCE WRAY, P.E.  
55557 FL

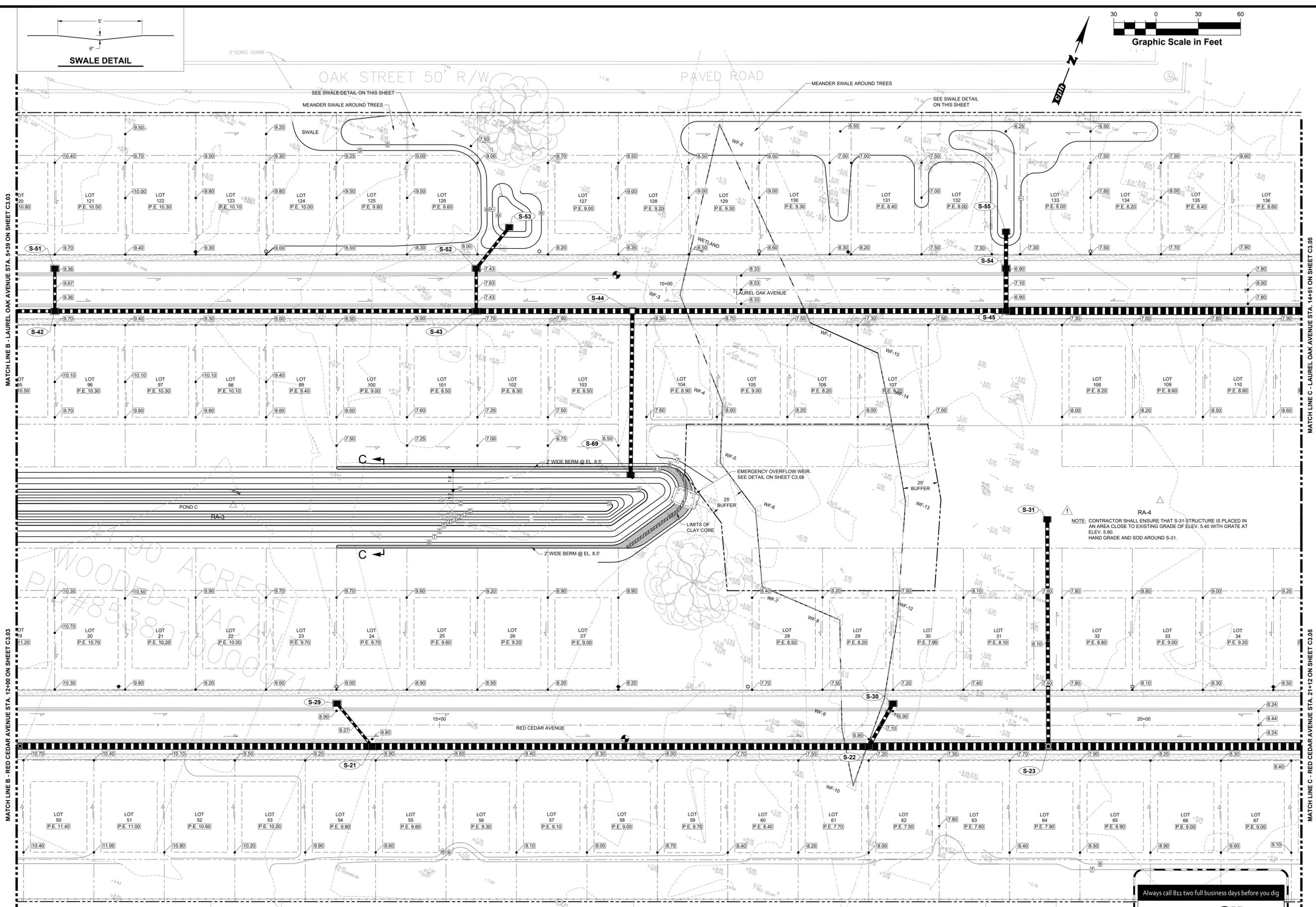
No.	Date	Revision
1	8-17-22	REVISED PER CITY RAI
2	7-29-22	REVISED PER CITY RAI

Designed: I. BOYLES  
Drawn: M. MOODY  
Checked: L. WRAY  
Job No.: E9501  
Date: 01/15/2021 © 2023

**SITE GRADING PLAN - 3 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
EDGEWATER / VOLUSIA / FLORIDA

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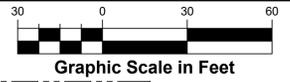
Sheet No.  
**C3.04**



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MATCH LINE D - BLACK CHERRY LANE STA. 4+78 ON SHEET C3.06



Plans Prepared By:  
CPh, Inc.  
State of Florida Licenses:  
Engineer No. 3215  
Surveyor No. LB7143  
Architect No. AA2600926  
Landscape No. LC000298

HOWARD LAMBERGE WRAY, P.E.  
55557 FL

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Professional Engineer, License No. 55557.  
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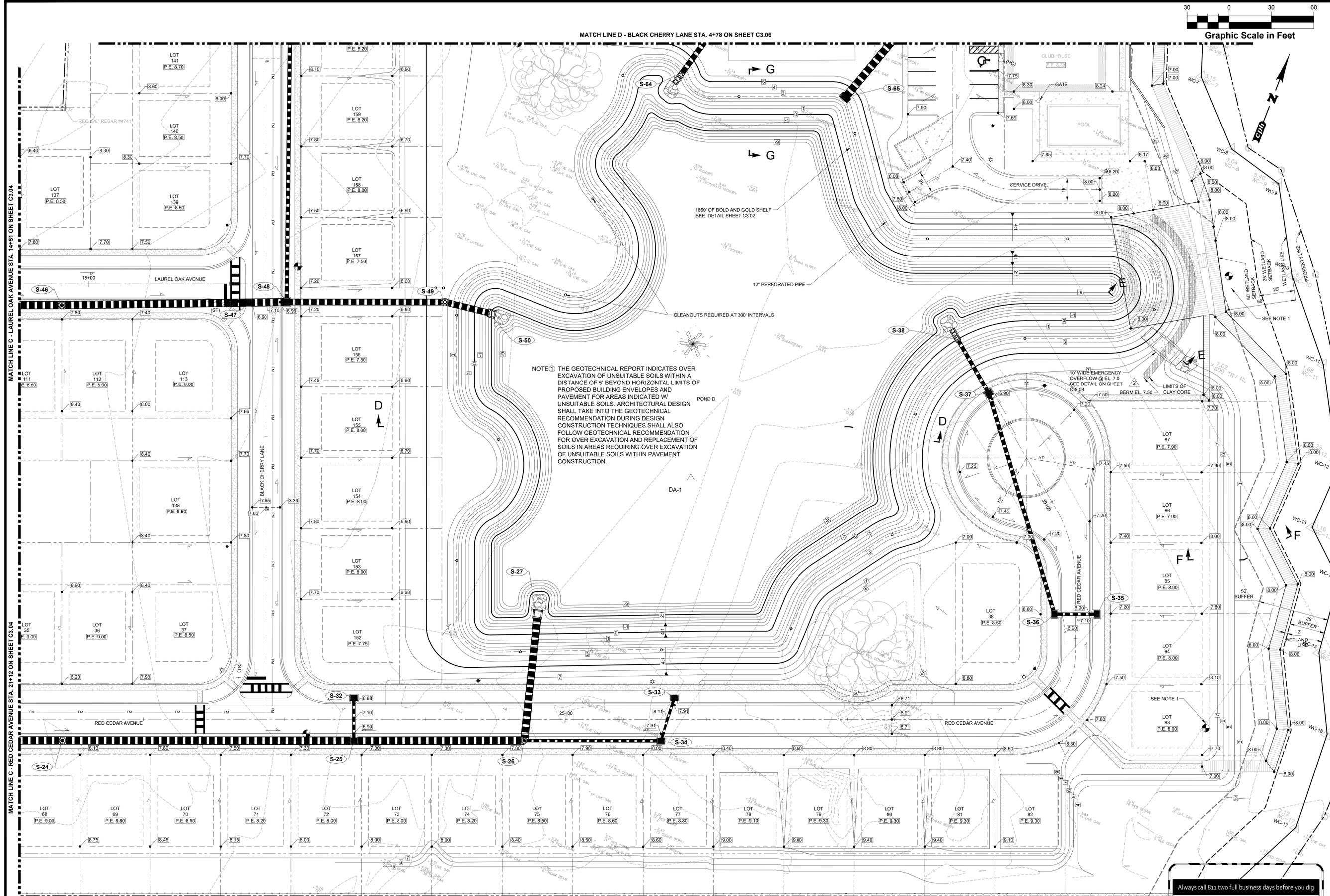
No.	Date	Revision
1	5-5-22	REVISED FILTER SYSTEM
2	7-29-22	QAC
3	8-17-22	REVISED PER CITY RAI
4	8-17-22	QAC

Designed: I. BOYLES  
Drawn: M. MOODY  
Checked: L. WRAY  
Job No.: E9501  
Date: 01/15/2021 © 2023

**SITE GRADING PLAN - 4 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
EDGEWATER / VOLUSIA / FLORIDA

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Sheet No.  
**C3.05**



NOTE 1 THE GEOTECHNICAL REPORT INDICATES OVER EXCAVATION OF UNSUITABLE SOILS WITHIN A DISTANCE OF 5' BEYOND HORIZONTAL LIMITS OF PROPOSED BUILDING ENVELOPES AND PAVEMENT FOR AREAS INDICATED W/ UNSUITABLE SOILS. ARCHITECTURAL DESIGN SHALL TAKE INTO THE GEOTECHNICAL RECOMMENDATION DURING DESIGN. CONSTRUCTION TECHNIQUES SHALL ALSO FOLLOW GEOTECHNICAL RECOMMENDATION FOR OVER EXCAVATION AND REPLACEMENT OF SOILS IN AREAS REQUIRING OVER EXCAVATION OF UNSUITABLE SOILS WITHIN PAVEMENT CONSTRUCTION.

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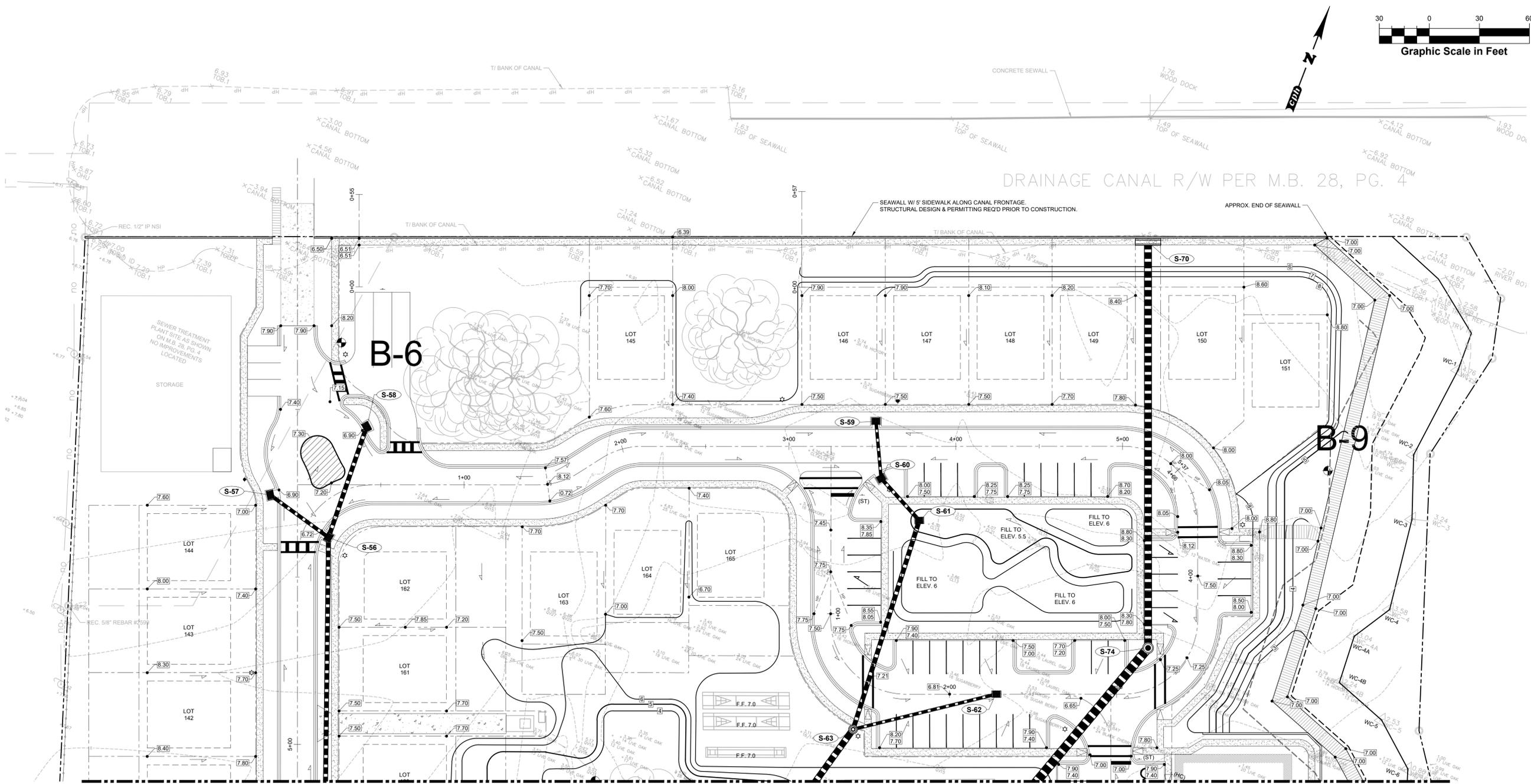
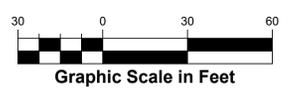
No.	Date	Revision
1	5-5-22	ADDED PARKING
2	8-17-22	REVISED PER CITY RAI

Designed: I. BOYLES  
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Checked: L. WRAY  
Job No.: E9501  
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**SITE GRADING PLAN - 5 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
EDGEWATER / VOLUSIA / FLORIDA

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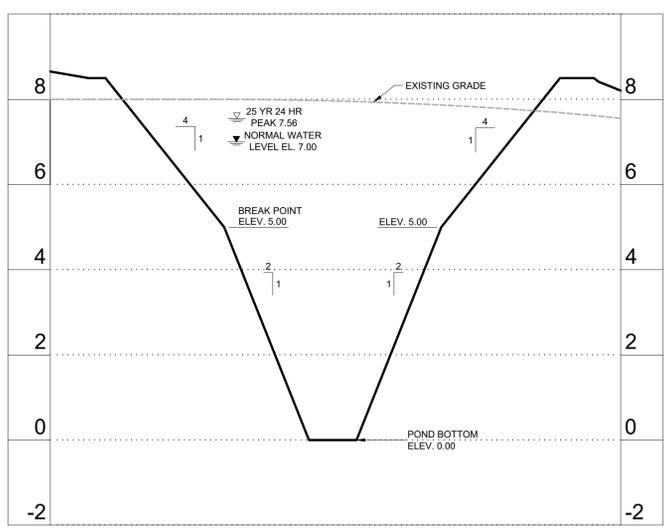
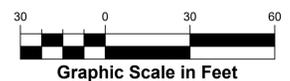
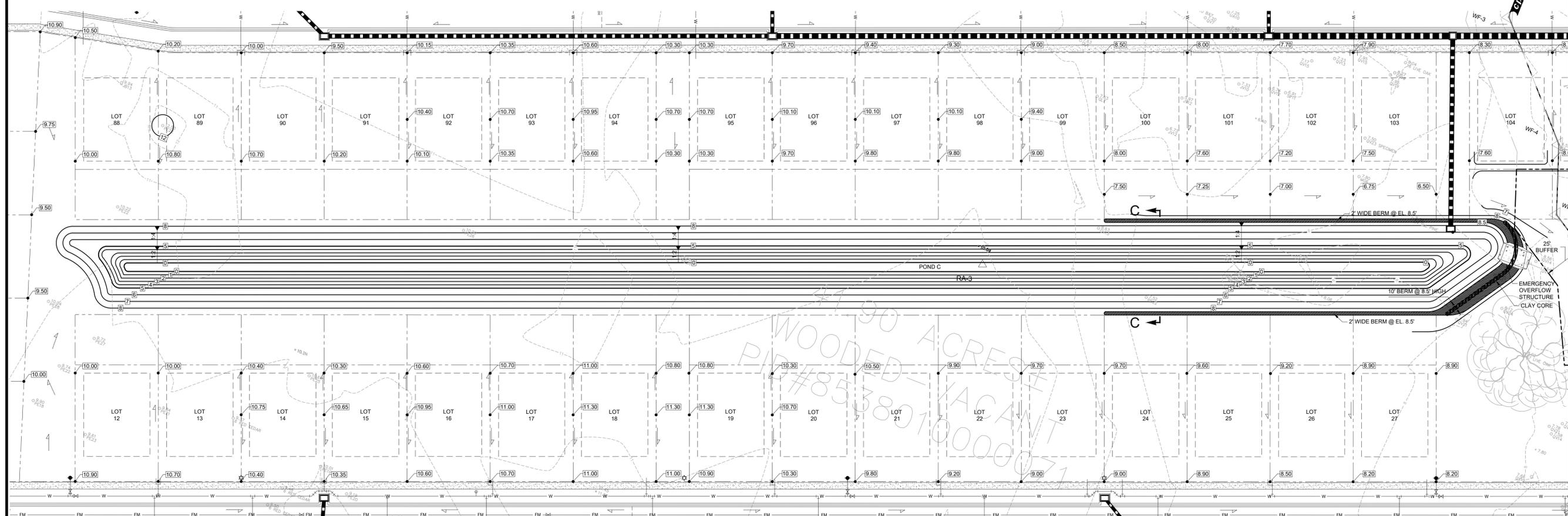
Sheet No.  
**C3.06**



MATCH LINE D - BLACK CHERRY LANE STA. 4+77.9 ON SHEET C3.05

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**SECTION 'C'-'C' - POND C**  
 SCALE: 1" = 10' HORIZ  
 1" = 2' VERT

No.	Date	Revision
1	8-17-22	REVISED PER CITY RAI

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 01/15/2021 © 2023

**SITE GRADING PLAN - POND 'C' PLAN  
 AND SECTION 'C'-'C'**  
**TAMARACK III MOBILE HOME PARK**  
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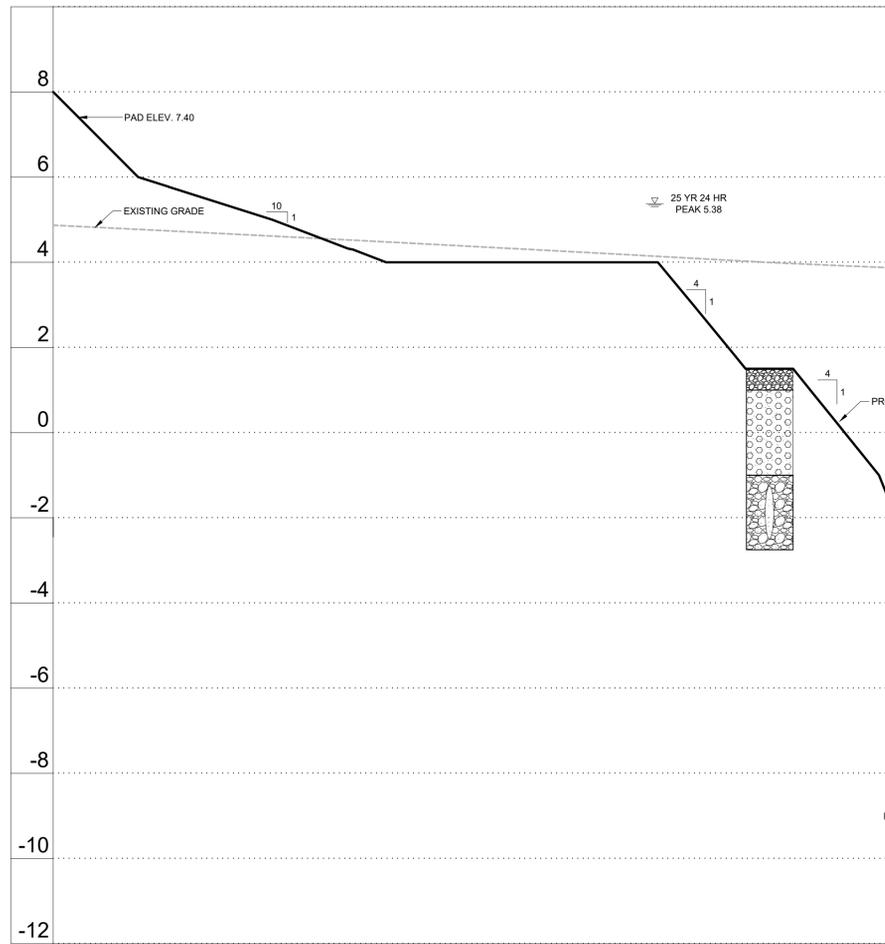
No.	Date	Revision
1	5-5-22	REVISED POND CROSS SECTIONS

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 01/15/2021 © 2023

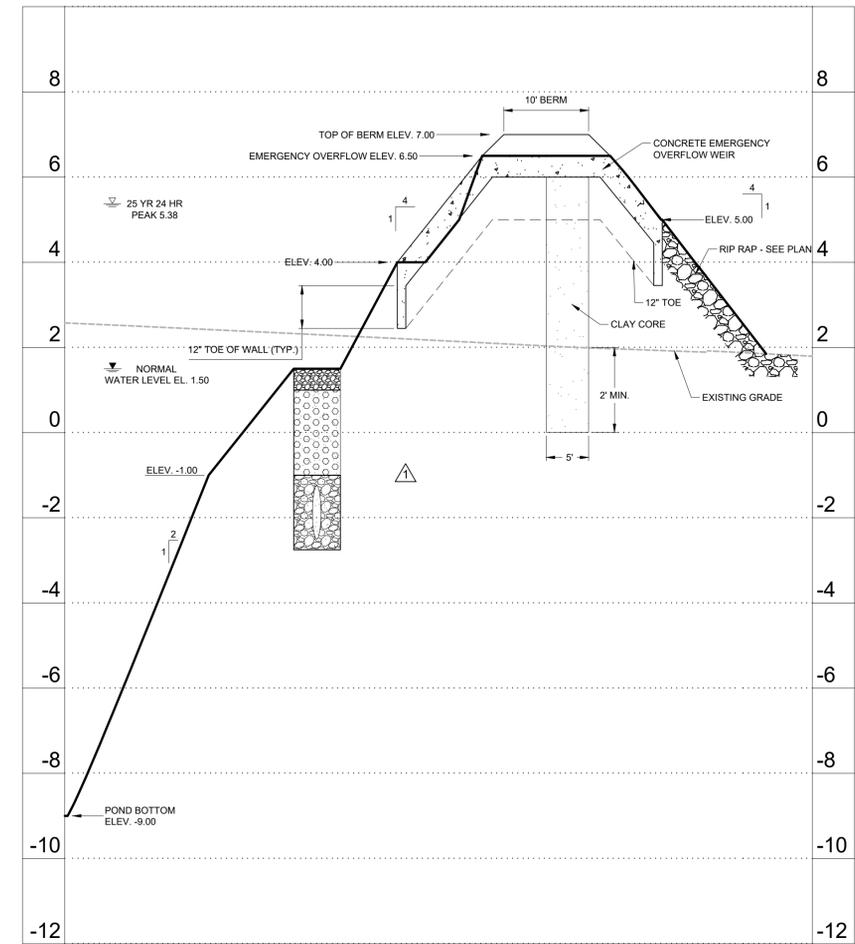
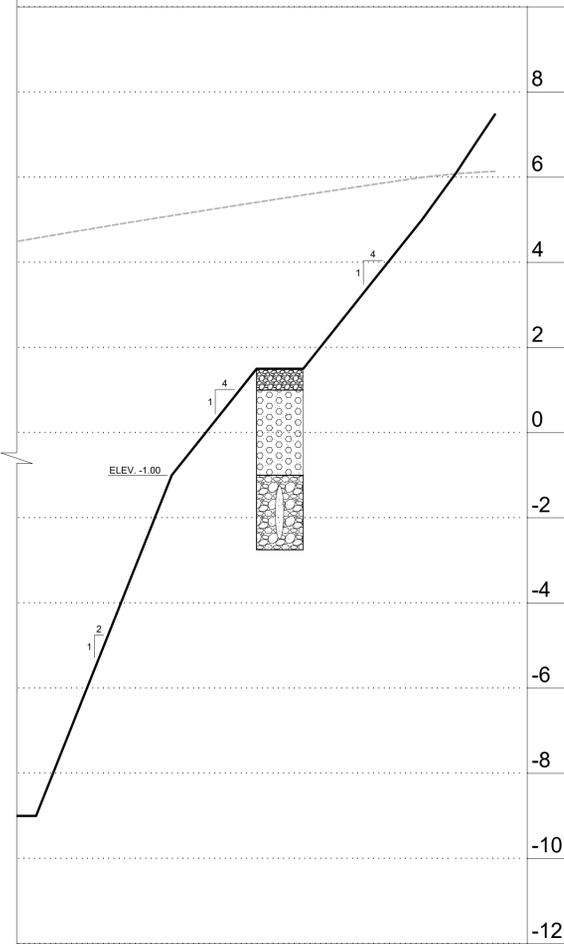
**SITE GRADING PLAN -  
 SECTIONS AND DETAILS**  
**TAMARACK III MOBILE HOME PARK**  
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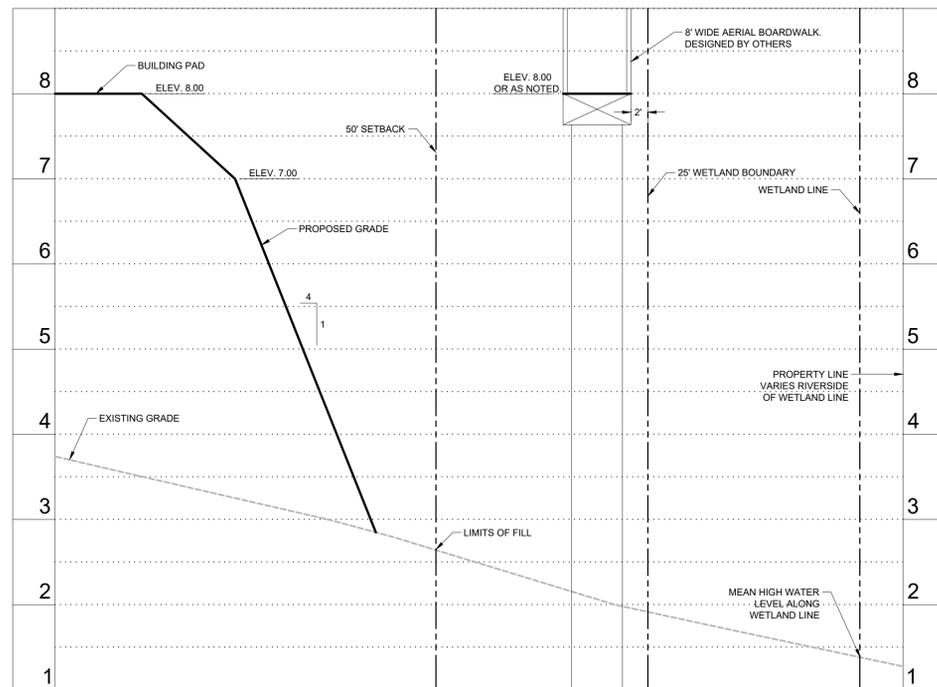
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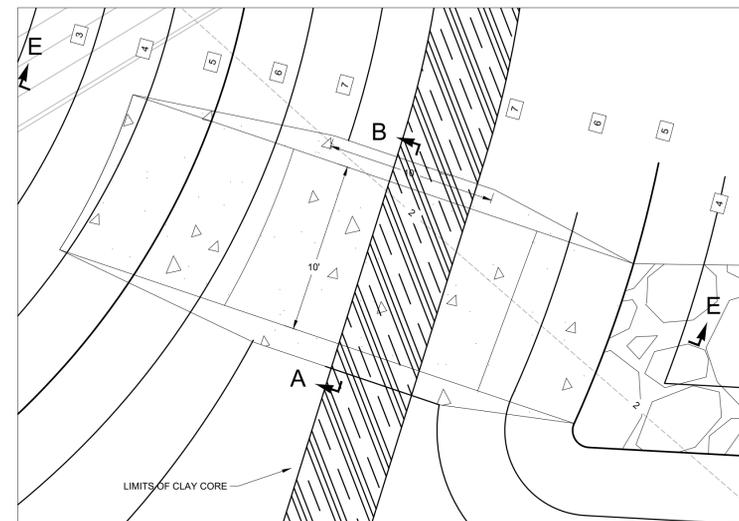
**SECTION 'D'-D' - POND D**  
 SCALE: 1" = 10' HORZ  
 1" = 2' VERT



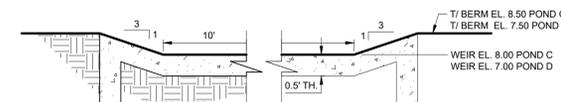
**SECTION 'E'-E' - POND D**  
 SCALE: 1" = 10' HORZ  
 1" = 2' VERT



**SECTION 'F'-F' - RIVERFRONT AND BOARDWALK**  
 SCALE: 1" = 10' HORZ  
 1" = 1' VERT



**POND D OVERFLOW PLAN**  
 SCALE: 1" = 5'



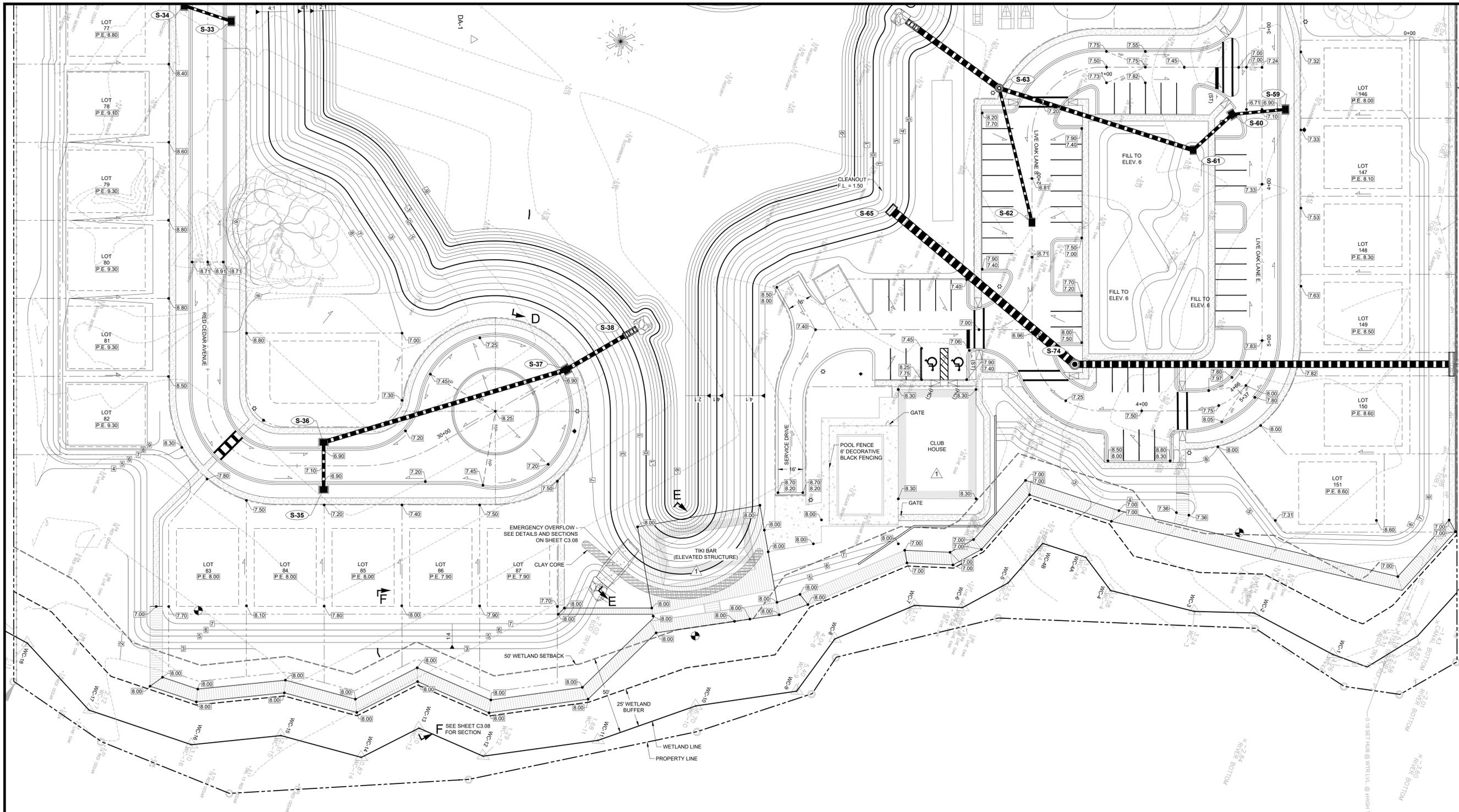
**SECTION A-B**  
 SCALE: 1" = 2'

**CONCRETE EMERGENCY OVERFLOW DETAIL**

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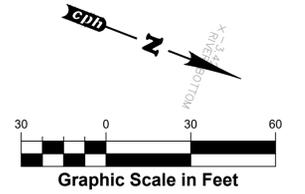
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**Notes:**

1. Boring B-10 and B-11 noted the presence of very loose silty fine sand with many organic materials (PT/Muck) in the upper approximately 8.5 feet locations. The geotechnical report recommended over excavating the soils and replacing them with suitable compacted backfill soils in proposed structure areas with shallow conventional foundation systems. Architect and Contractor to obtain a copy of the report and follow all of the recommendation guidelines, including test pits to be performed to determine the magnitude of the material and further delineate the vertical and horizontal extent of the material prior to construction.
2. Where pavement areas are proposed near the soils noted in B-10 & B-11 (Pt/Muck) and the grades are more than one foot of fill, consolidation of the organic layer may occur. A biaxial geogrid may be placed between the stabilized subgrade and base material. Contractor shall provide test pits to delineate the vertical and horizontal extent of the material and if found, follow recommendation of Universal Engineering Sciences for the biaxial geogrid or remove and replacement of the poor soils is required. We recommend that the owner retain Universal Engineering Sciences to perform construction material testing and observation on this project throughout the construction.



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Plans Prepared By:  
CPH, Inc.  
State of Florida Licenses:  
Engineer No. 3215  
Surveyor No. LB7143  
Architect No. AA26000296  
Landscape No. LC000298

HOWARD LAWRENCE WRAY, P.E.  
55557 FL

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No.	Date	Revision
1	5-5-22	ADJUSTED BLDG OUT OF 50' SETBACK

Designed: I. BOYLES  
Drawn: M. MOODY  
Checked: L. WRAY  
Job No.: E9501  
Date: 01/15/2021 © 2023

**SITE GRADING PLAN -  
RIVERFRONT AND BOARDWALK**

**TAMARACK III MOBILE HOME PARK**

EDGEWATER / VOLUSIA / FLORIDA

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P:\E9501\Civil\DWG\_Current\plan\_set\E9501 - SOP III REC AREA.dwg, 8/17/2023 10:25:05 AM, Laffer, Hope.

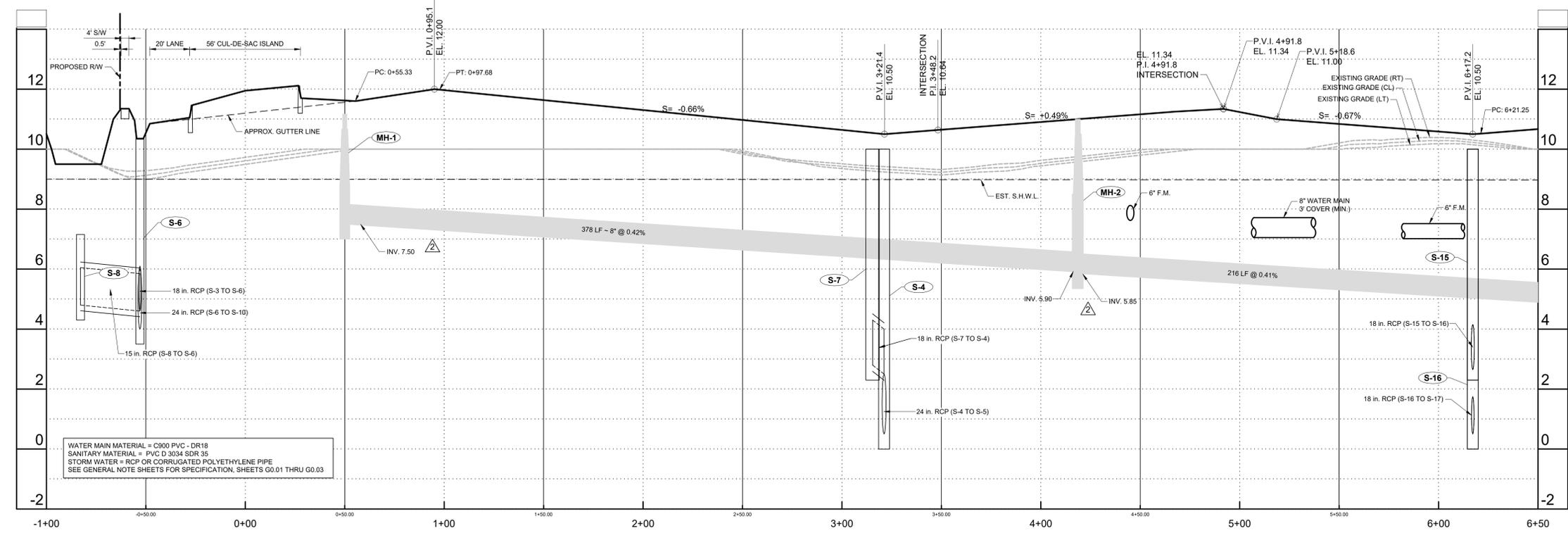
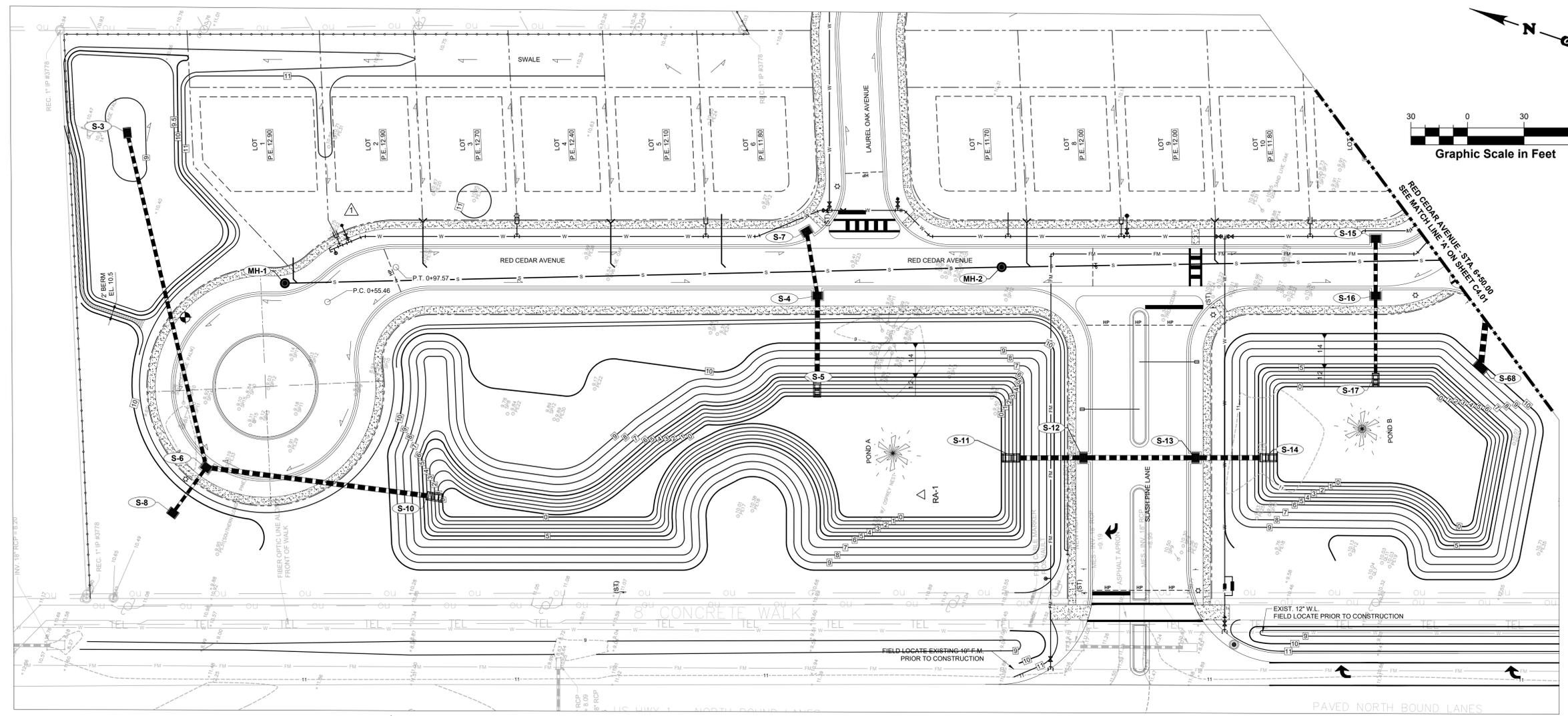
No.	Date	Revision
1	7-29-22	REVISED PER CITY RAI
2	5-5-22	ADDED FIRE HYDRANT

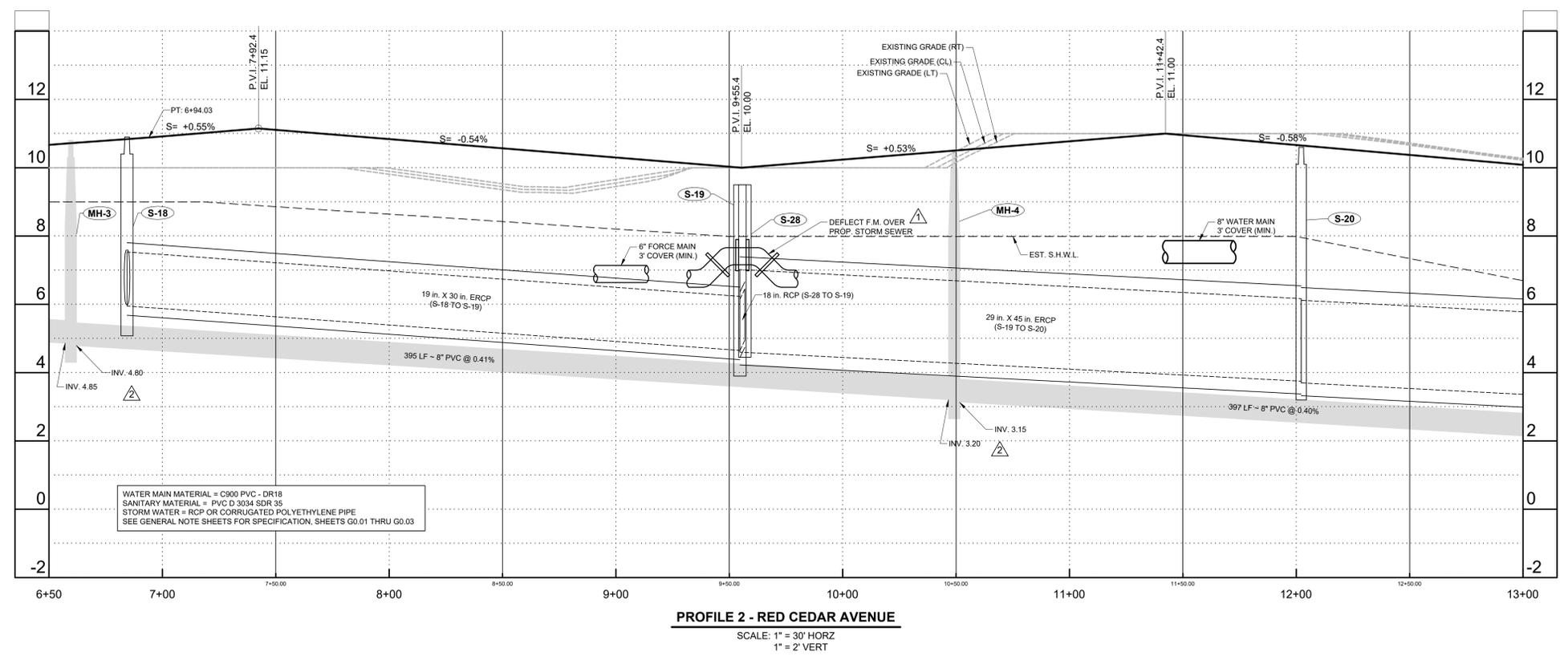
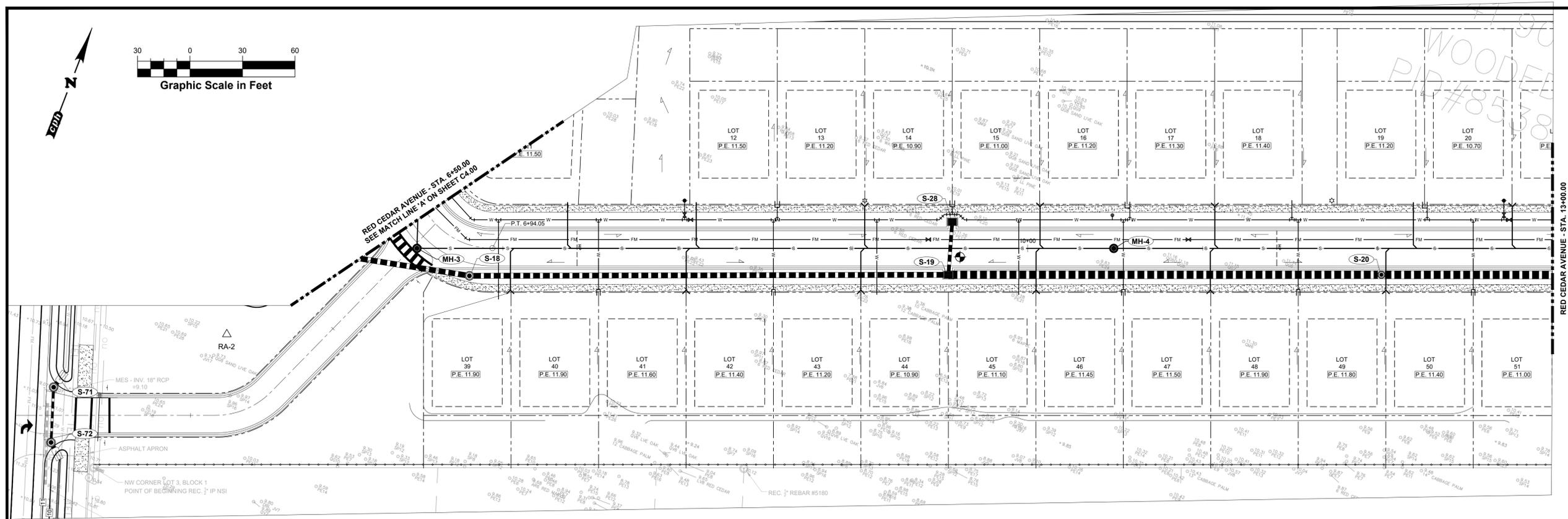
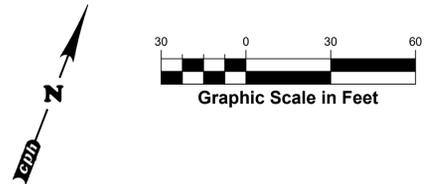
Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
 Date: 08/03/2020 © 2023

**PLAN & PROFILE - RED CEDAR AVENUE  
 - STA. 00+00 TO STA. 08+00**  
**TAMARACK III MOBILE HOME PARK**  
 EDGEWATER / VOLUSIA / FLORIDA

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Sheet No.  
**C4.00**





WATER MAIN MATERIAL = C900 PVC - DR18  
 SANITARY MATERIAL = PVC D 304 SDR 35  
 STORM WATER = RCP OR CORRUGATED POLYETHYLENE PIPE  
 SEE GENERAL NOTE SHEETS FOR SPECIFICATION, SHEETS G0.01 THRU G0.03

**PROFILE 2 - RED CEDAR AVENUE**  
 SCALE: 1" = 30' HORIZ  
 1" = 2' VERT

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 Sanford, FL 32771  
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Plans Prepared By:  
 CPH, Inc.  
 State of Florida Licenses:  
 Engineer No. 3215  
 Surveyor No. LB7143  
 Architect No. AA26000296  
 Landscape No. LC000298

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1	7-5-22	REVISED PER VOLUSIA COUNTY
2	7-29-22	REVISED PER CITY RAI
3		
4		
5		
6		
7		
8		
9		
10		

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 Drawn: M. MOODY  
 Checked: L. WRAY  
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**PLAN & PROFILE - RED CEDAR AVENUE**  
**- STA. 08+00 TO STA. 15+00**  
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2	7-29-22	REVISION PER CITY RAI

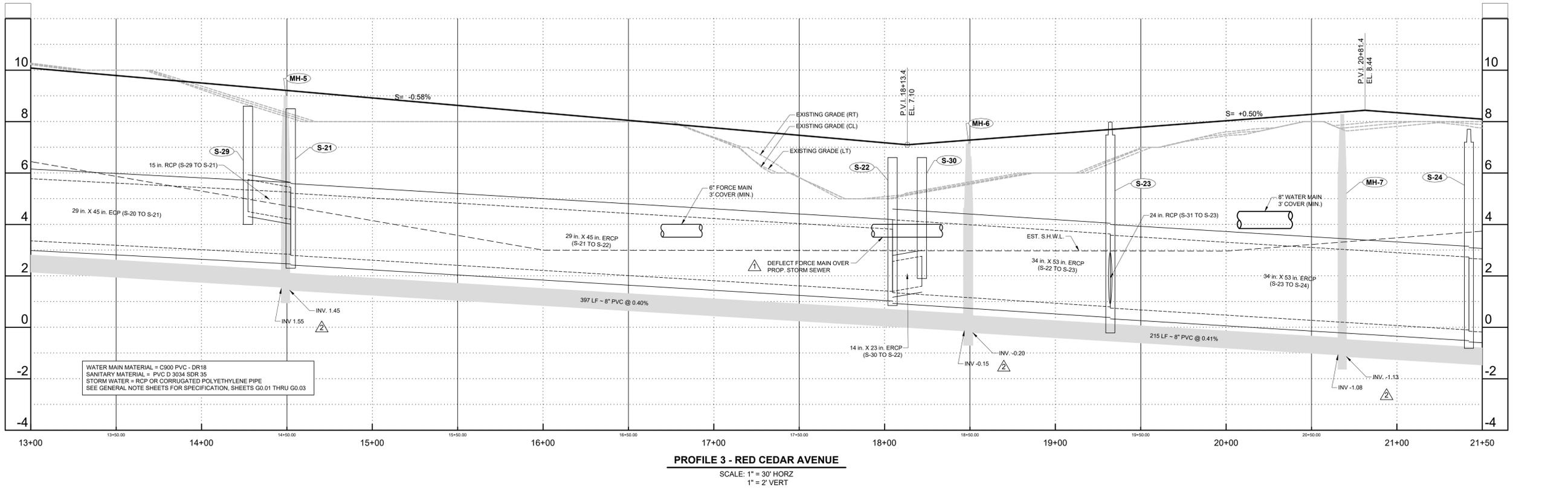
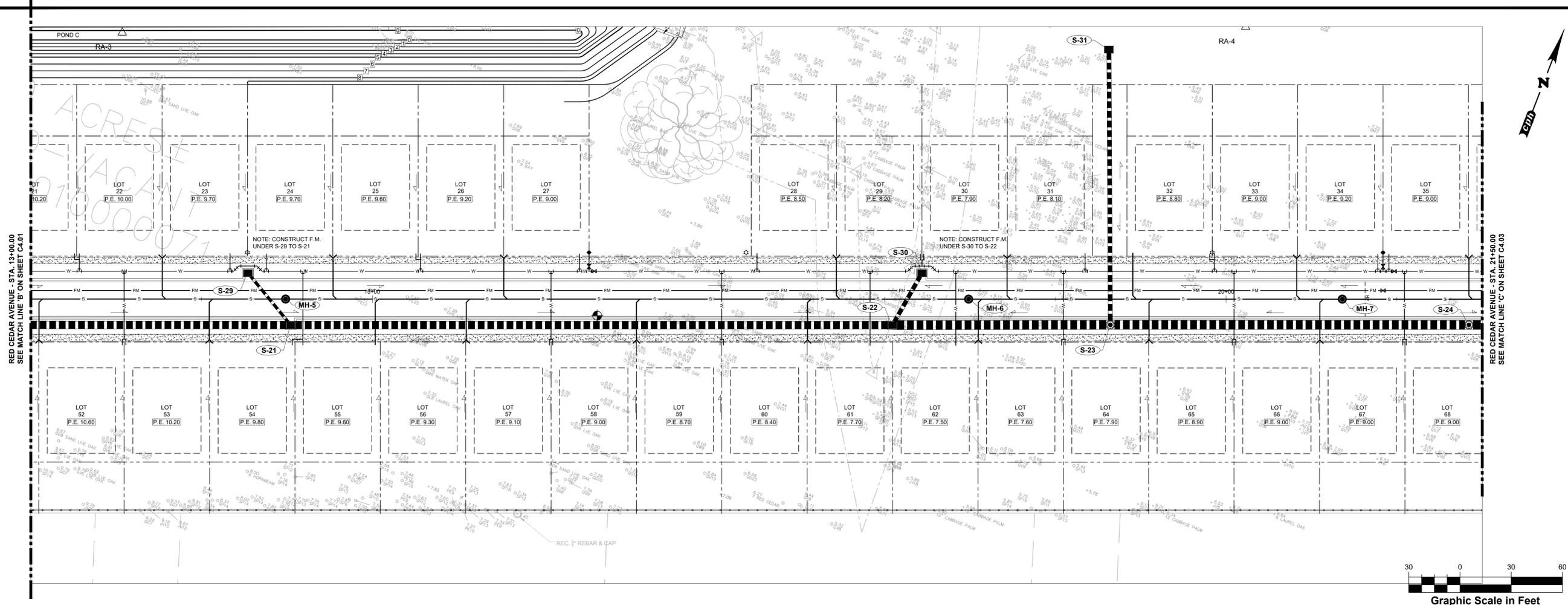
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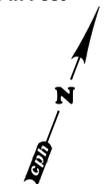
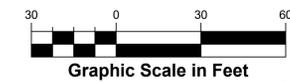
**PLAN & PROFILE - RED CEDAR AVENUE**  
 - STA. 15+00 TO STA 23+00

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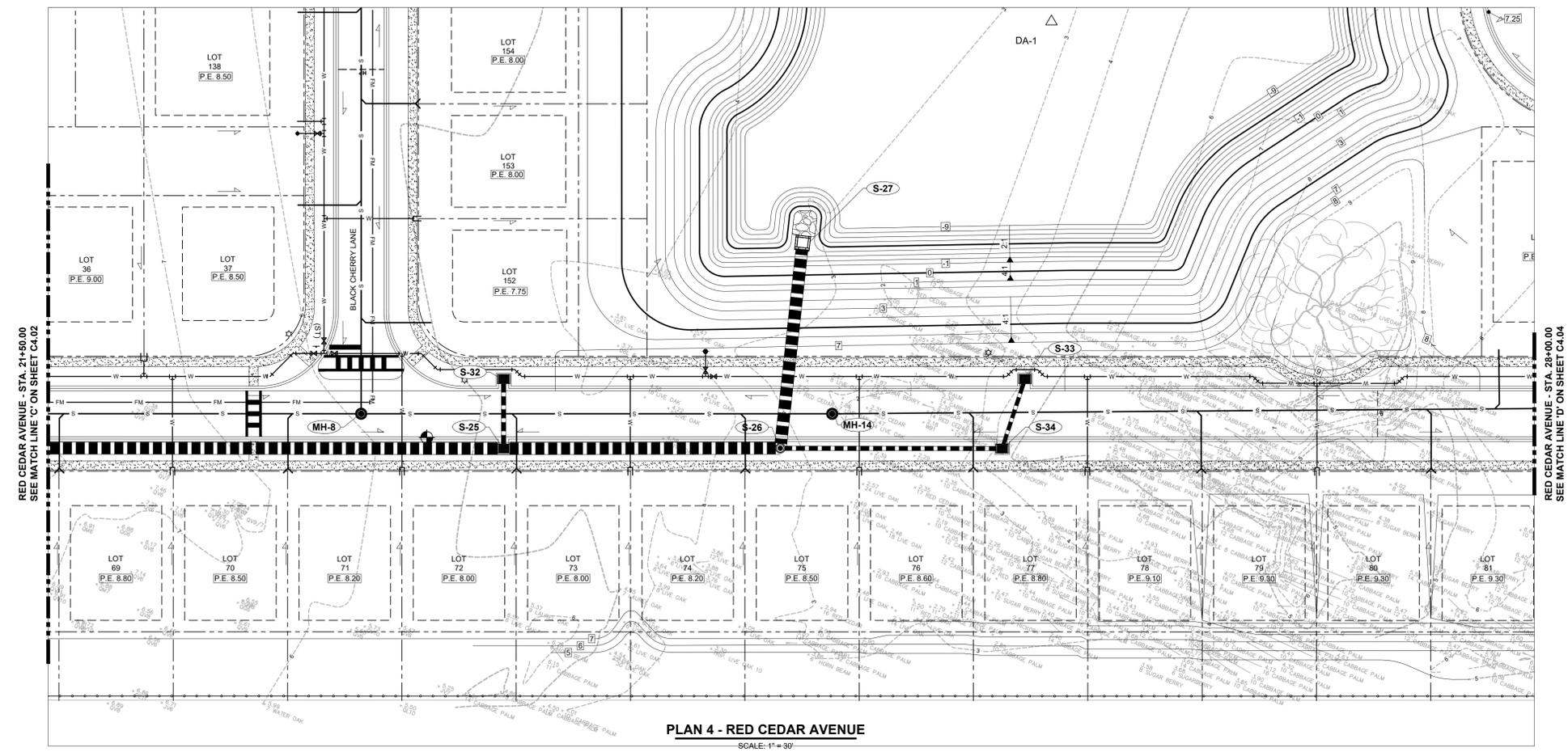
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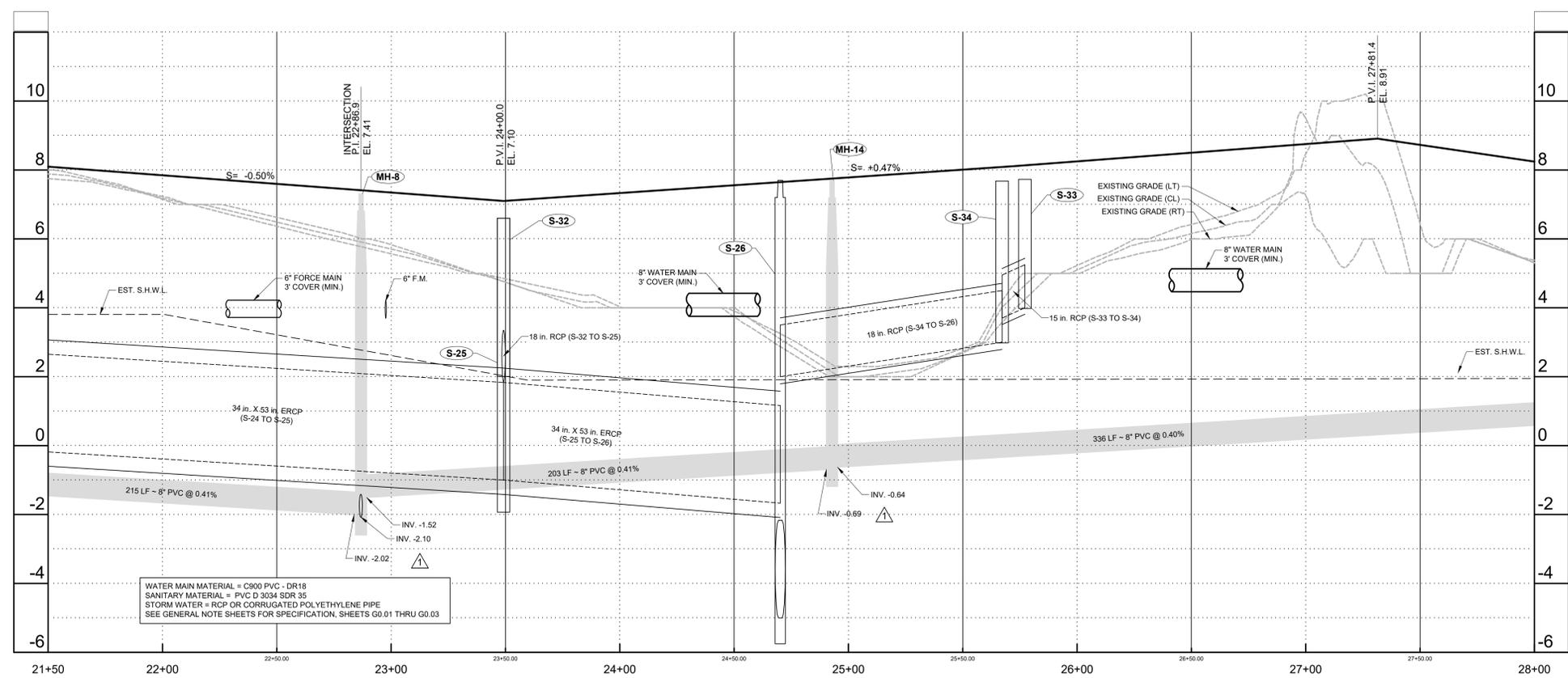


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 Engineer No. 3215  
 Surveyor No. LB7143  
 Architect No. AA26000926  
 Landscape No. LC000298



**PLAN 4 - RED CEDAR AVENUE**  
 SCALE: 1" = 30'



**PROFILE 4 - RED CEDAR AVENUE**  
 SCALE: 1" = 30' HORIZ  
 1" = 2' VERT

WATER MAIN MATERIAL = C900 PVC - DR18  
 SANITARY MATERIAL = PVC D 3034 SDR 35  
 STORM WATER = RCP OR CORRUGATED POLYETHYLENE PIPE  
 SEE GENERAL NOTE SHEETS FOR SPECIFICATION, SHEETS G0.01 THRU G0.03

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 55557 FL

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1	7-25-22	REVISED PER CITY PLAN

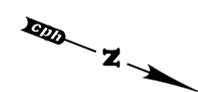
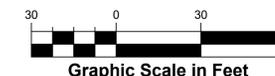
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 Job No.: E9501  
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**PLAN & PROFILE - RED CEDAR AVENUE**  
 - STA. 23+00 TO STA 29+00

**TAMARACK III MOBILE HOME PARK**  
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 Surveyor No. LB7143  
 Architect No. AA2600926  
 Landscape No. LC000298

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1	7-5-22	REVISION PER VOLUSIA COUNTY
2	7-29-22	REVISION PER CITY RAI

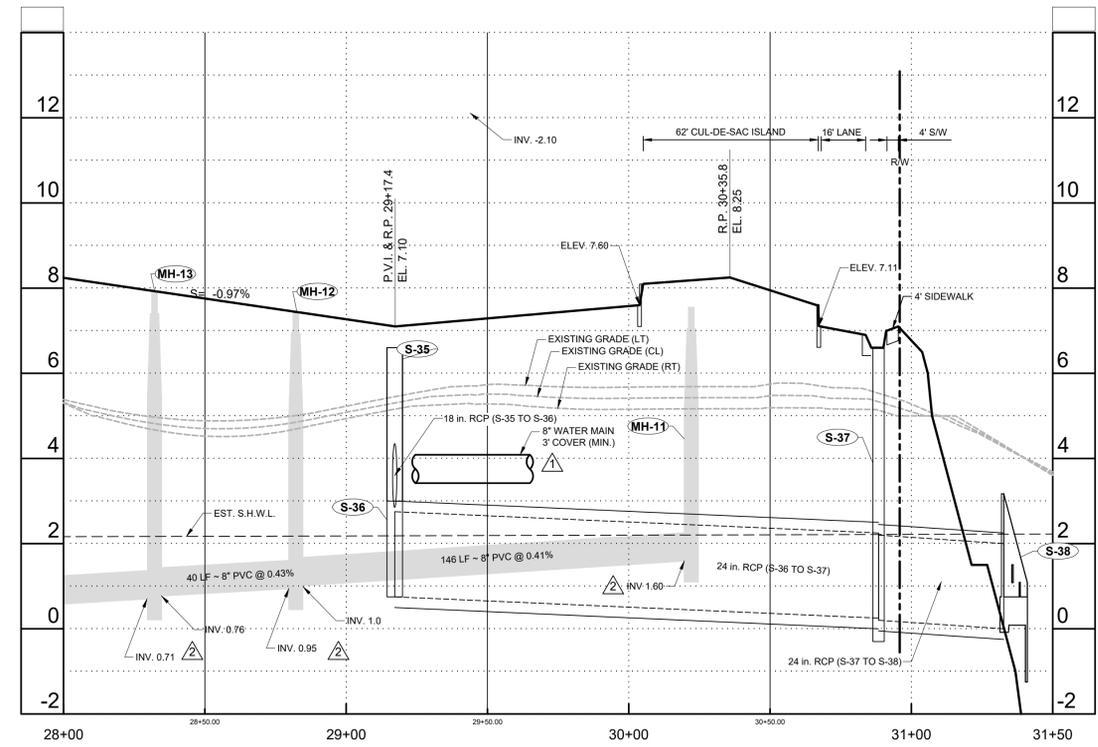
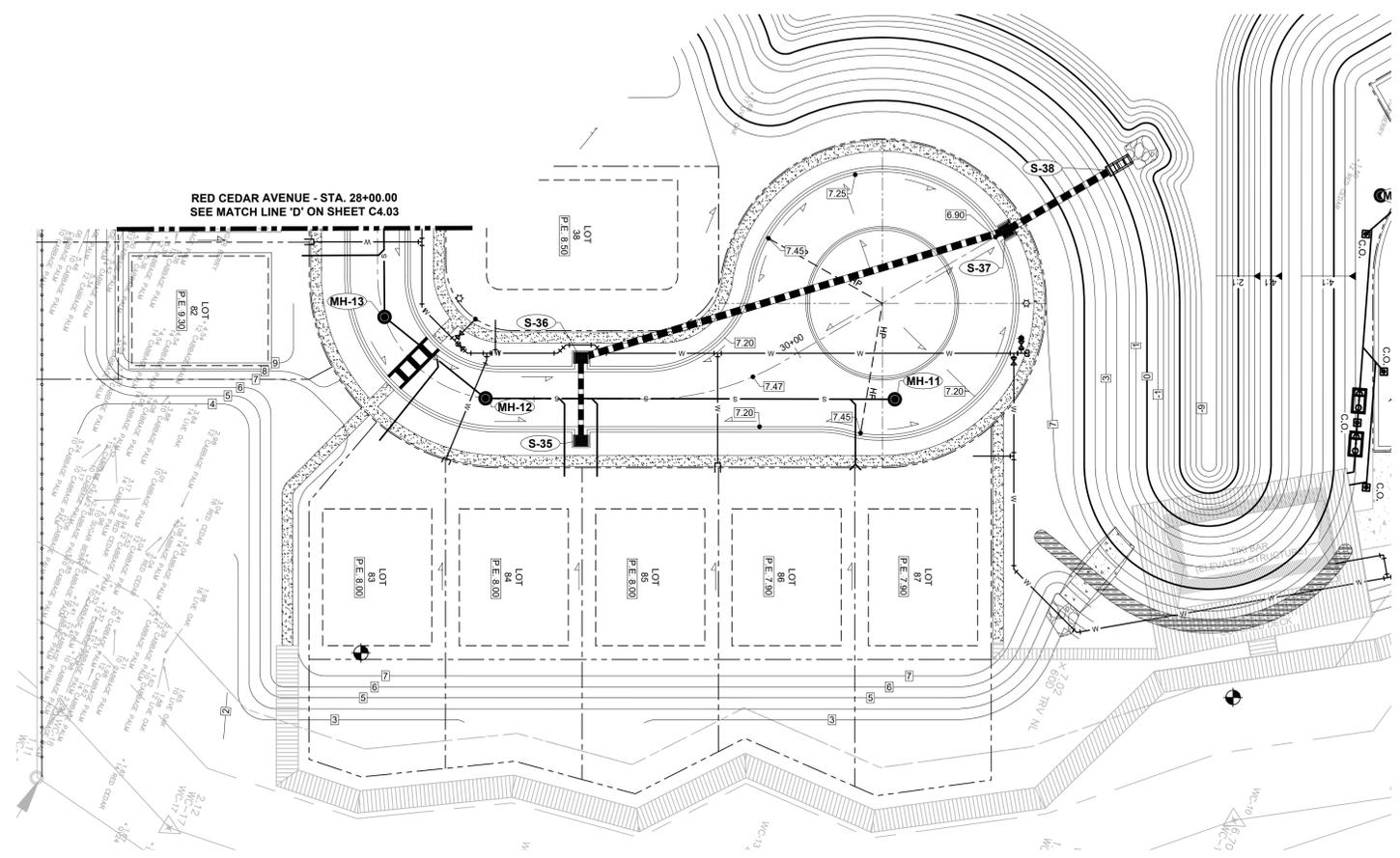
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**PLAN & PROFILE - RED CEDAR AVENUE  
 - STA. 29+00 TO STA 33+00**

**TAMARACK III MOBILE HOME PARK**  
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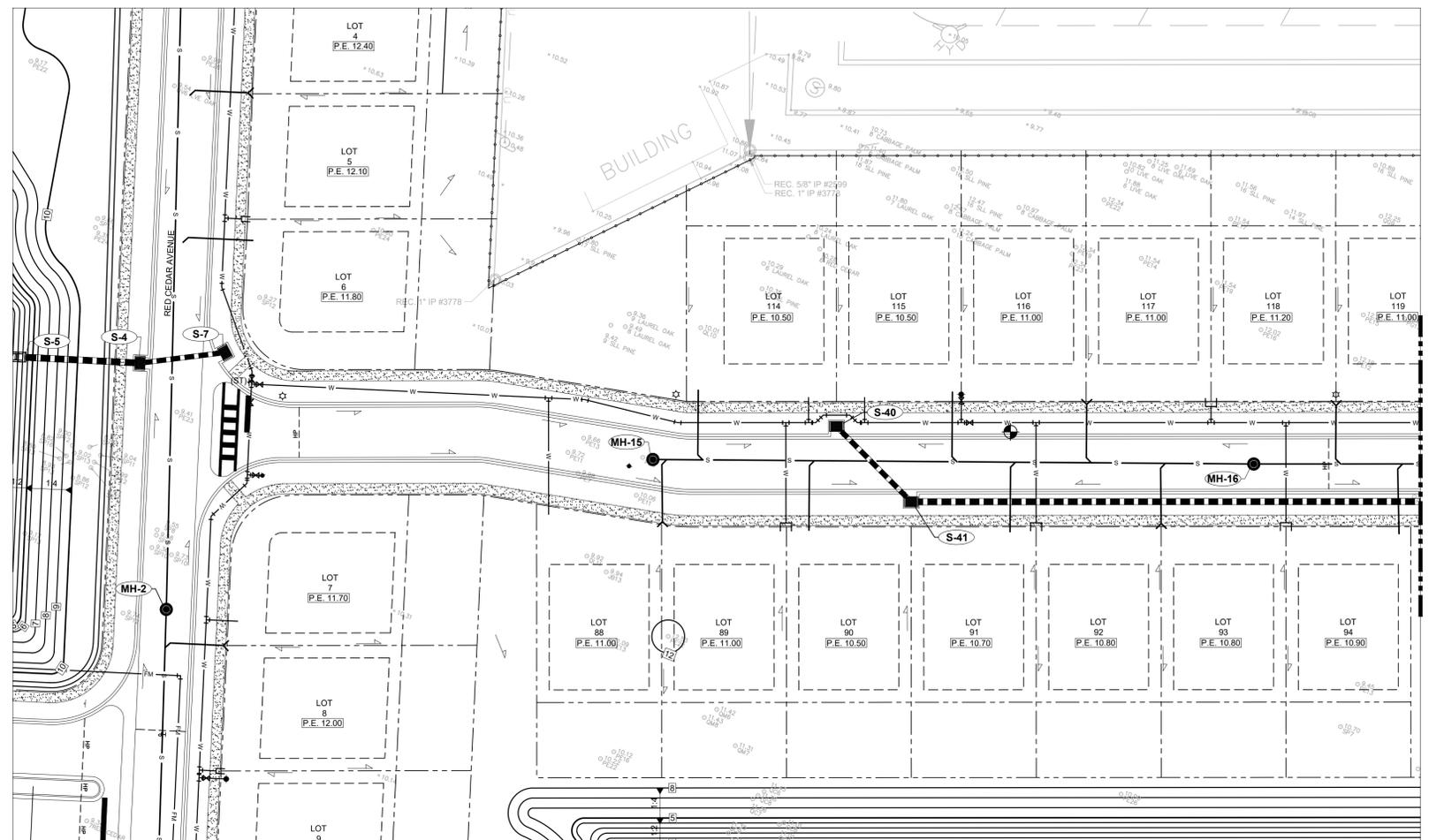
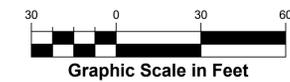
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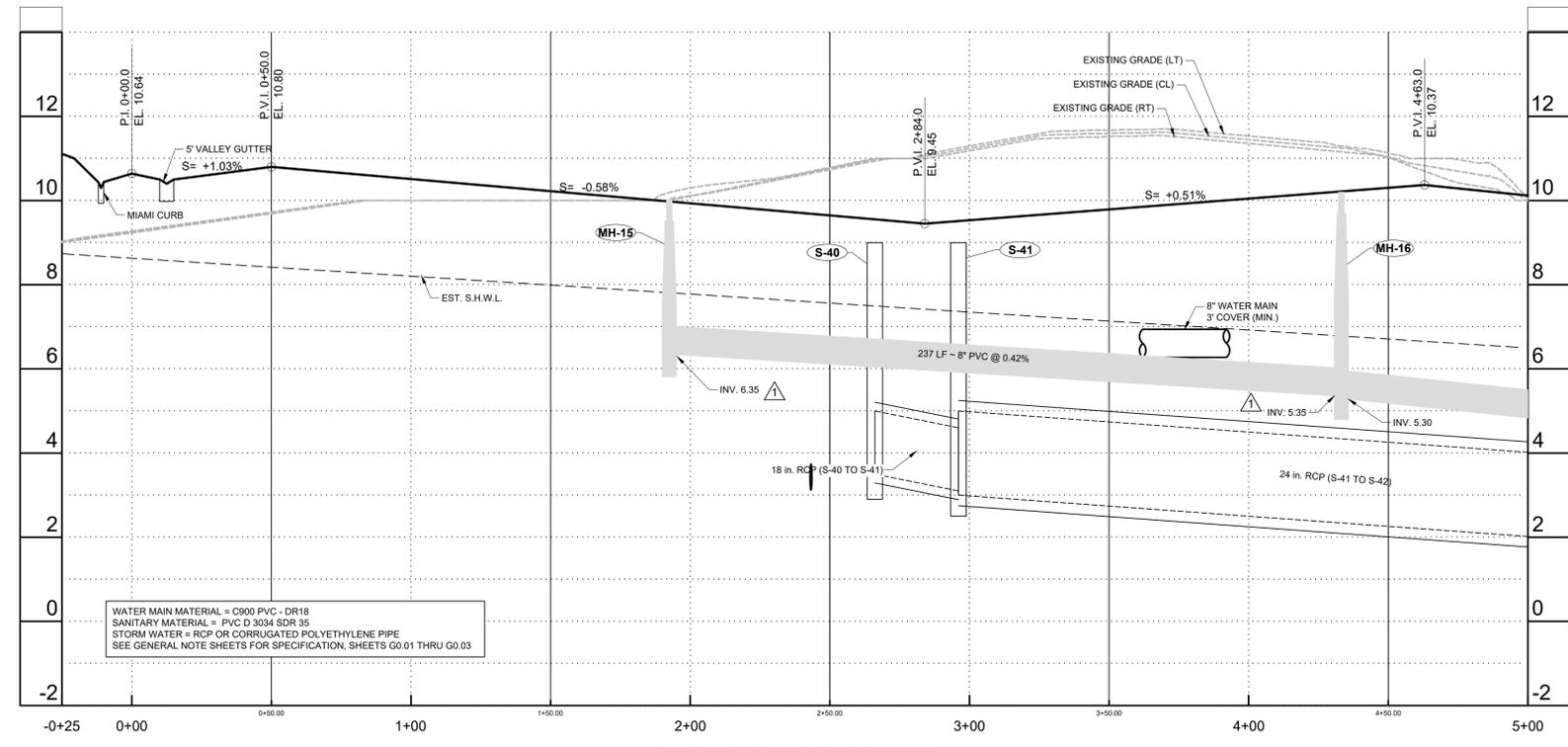


**PROFILE 5 - RED CEDAR AVENUE**  
 SCALE: 1" = 30' HORZ  
 1" = 2' VERT

WATER MAIN MATERIAL = CS90 PVC - DR18  
 SANITARY MATERIAL = PVC D 3034 SDR 35  
 STORM WATER = RCP OR CORRUGATED POLYETHYLENE PIPE  
 SEE GENERAL NOTE SHEETS FOR SPECIFICATION, SHEETS G0.01 THRU G0.03



LAUREL OAK AVENUE - STA. 5+00.00  
 SEE MATCH LINE 'E' ON SHEET C4.05



WATER MAIN MATERIAL = C900 PVC - DR18  
 SANITARY MATERIAL = PVC D 3034 SDR 35  
 STORM WATER = RCP OR CORRUGATED POLYETHYLENE PIPE  
 SEE GENERAL NOTE SHEETS FOR SPECIFICATION, SHEETS G0.01 THRU G0.03

**PROFILE 1 - LAUREL OAK AVENUE**  
 SCALE: 1" = 30' HORIZ  
 1" = 2' VERT

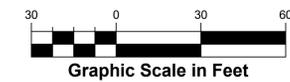
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 Checked: L. WRAY  
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**PLAN & PROFILE - LAUREL OAK AVENUE**  
**- STA. 00+00 TO STA. 05+00**  
**TAMARACK III MOBILE HOME PARK**  
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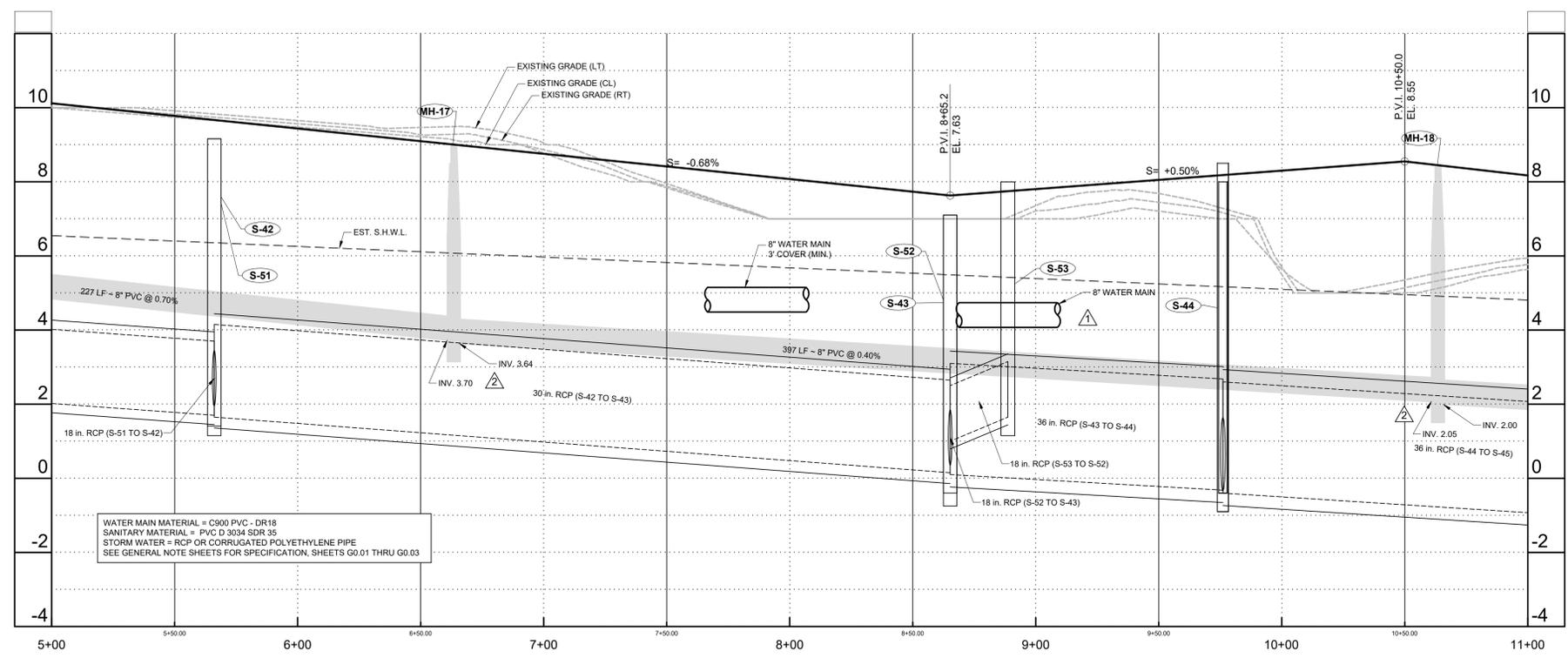
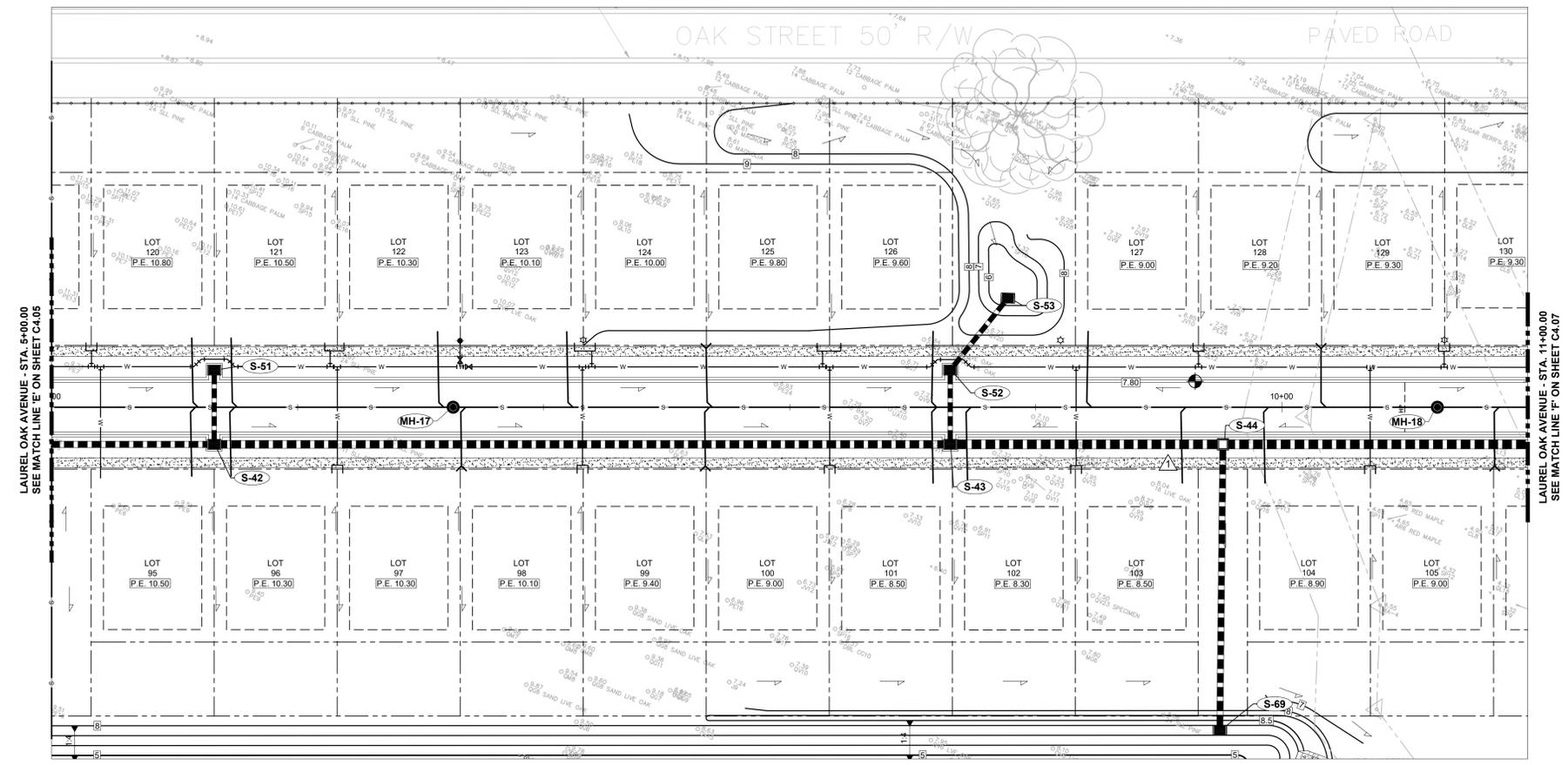
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 State of Florida Licenses:  
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 Surveyor No. LB7143  
 Architect No. AA26000296  
 Landscape No. LC000298

HOWARD L. WRAY, P.E.  
 55557 FL



**PROFILE 2 - LAUREL OAK AVENUE**  
 SCALE: 1" = 30' HORZ  
 1" = 2' VERT

WATER MAIN MATERIAL = C900 PVC - DR18  
 SANITARY MATERIAL = PVC D 3034 SDR 35  
 STORM WATER = RCP OR CORRUGATED POLYETHYLENE PIPE  
 SEE GENERAL NOTE SHEETS FOR SPECIFICATION, SHEETS G0.01 THRU G0.03

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2	7-5-22	REVISED PER VOLUSIA COUNTY

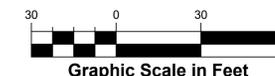
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**PLAN & PROFILE - LAUREL OAK AVENUE**  
 - STA. 05+00 TO STA. 11+00

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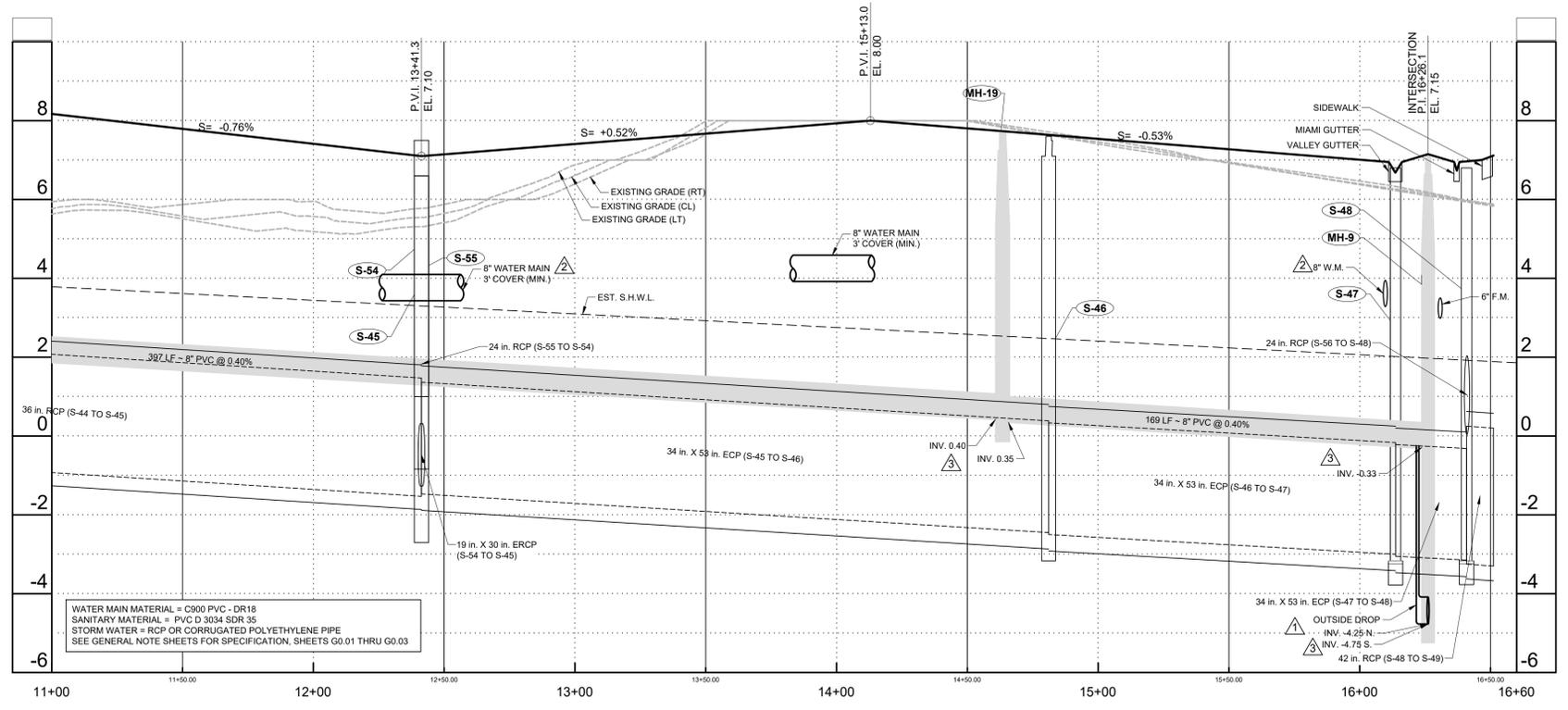
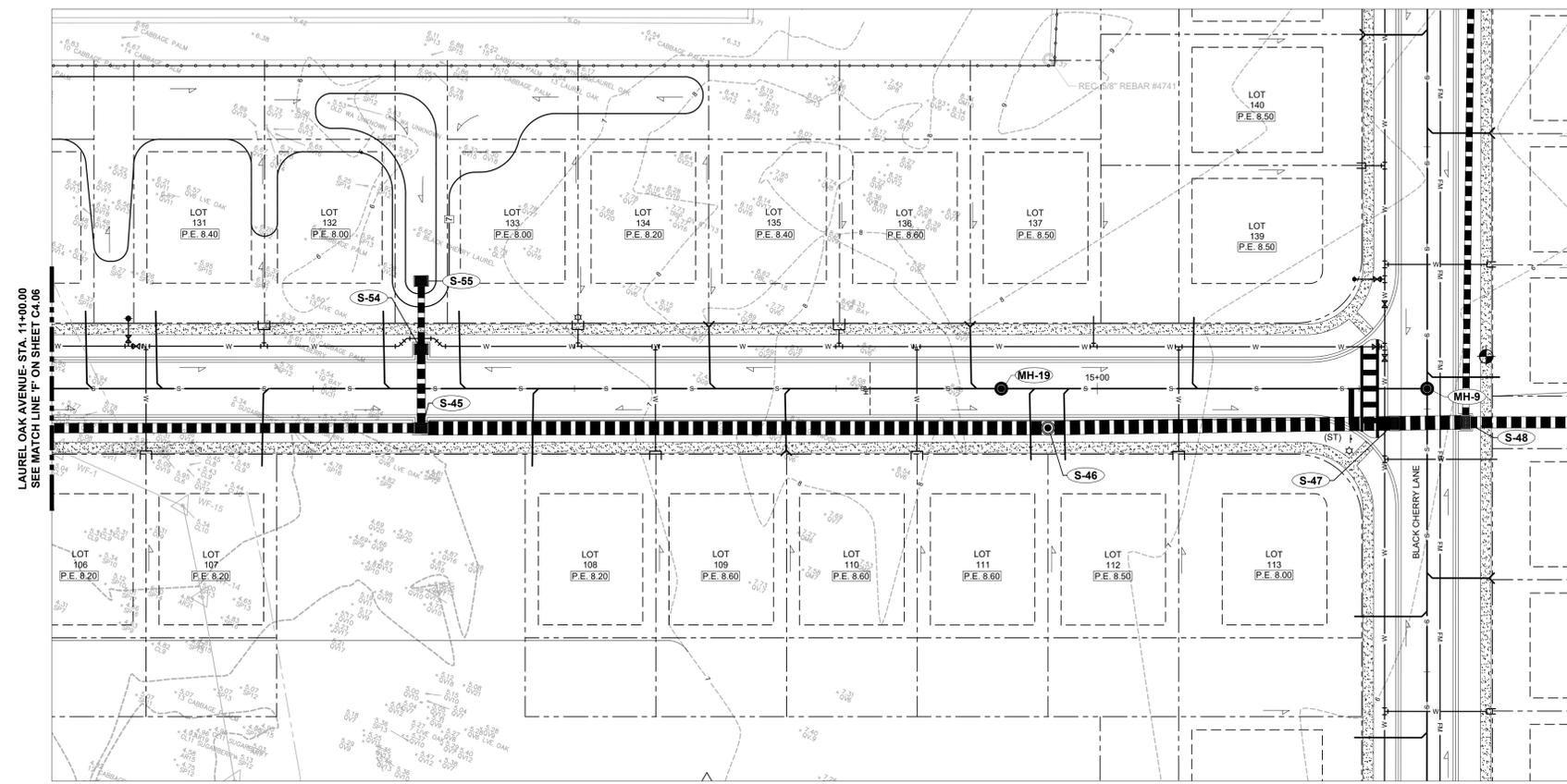
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 Surveyor No. LB7143  
 Architect No. AA26000926  
 Landscape No. LC000298

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**PROFILE 3 - LAUREL OAK AVENUE**  
 SCALE: 1" = 30' HORZ  
 1" = 2' VERT

No.	Date	Revision
1	7-26-22	REVISED PER CITY RAI
2	7-5-22	REVISED PER VOLUSIA COUNTY
3	5-5-22	REVISED OUTSIDE DROP CONNECTION

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**PLAN & PROFILE - LAUREL OAK AVENUE**  
 - STA. 11+00 TO STA. 16+60

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No.	Date	Revision
1	8-14-23	ADDED SIGNS & NOTE
2	7-26-22	REVISED PER CITY RAI
3	7-5-22	REVISED PER VOLUSIA COUNTY
4	5-5-22	ADDED GENERATOR LOCATION

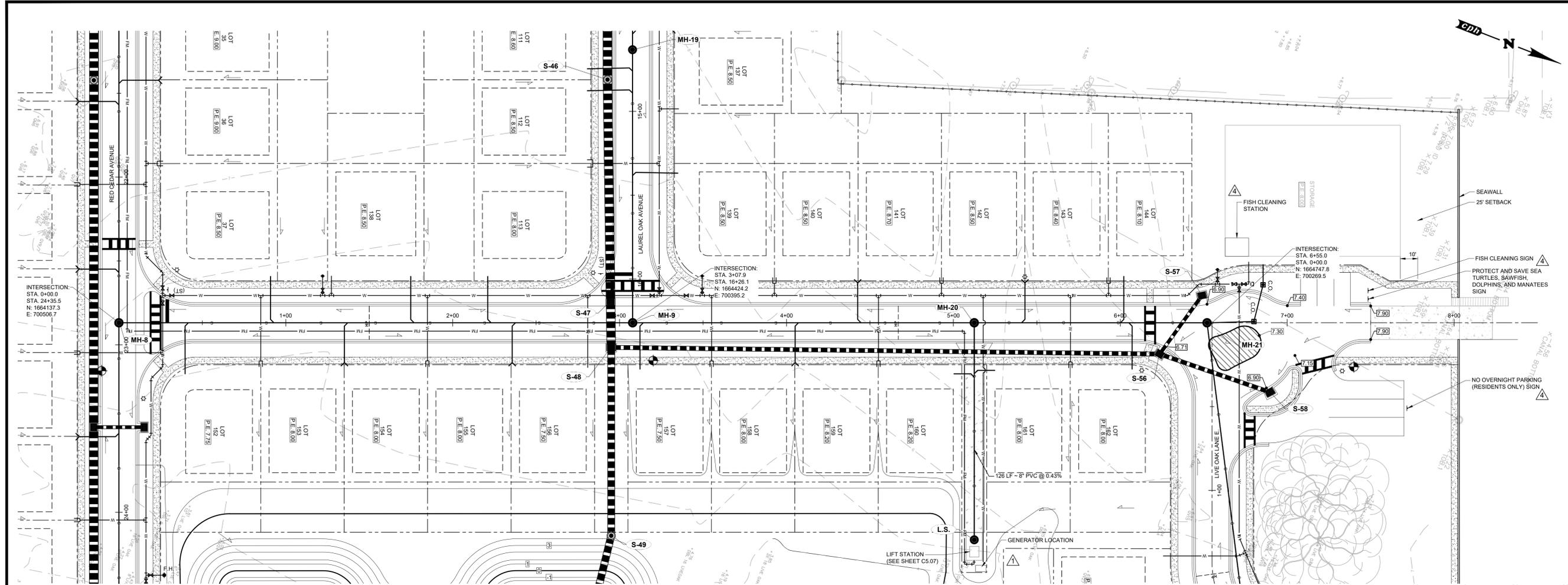
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**PLAN & PROFILE - BLACK CHERRY LANE**  
 - STA. 00+75 TO STA. 08+50

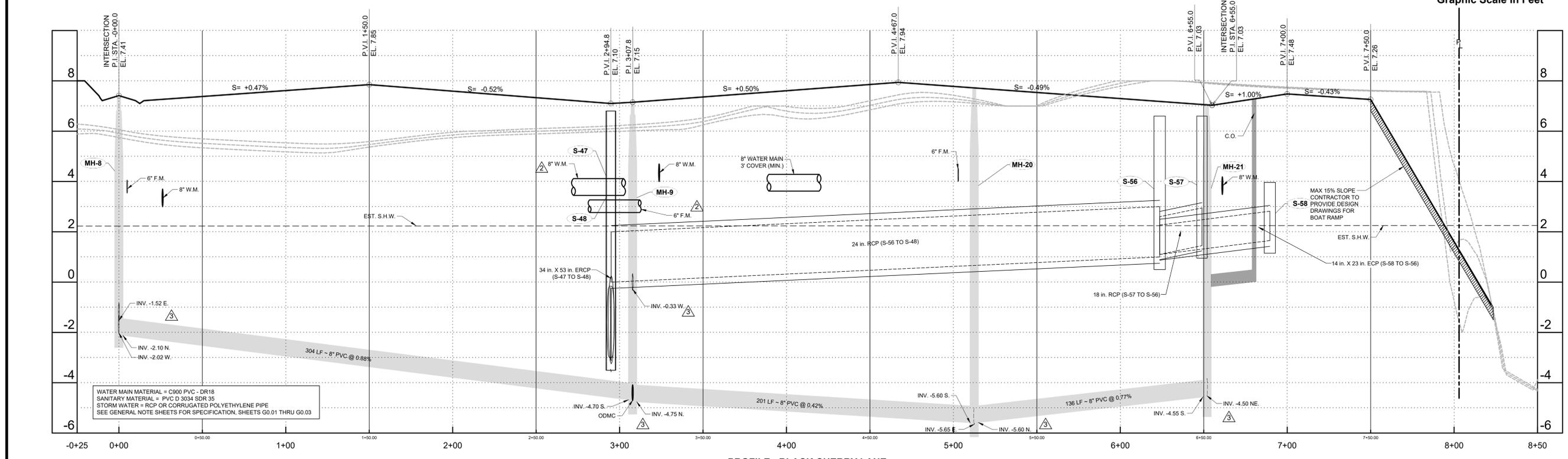
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**PLAN - BLACK CHERRY LANE**  
 SCALE: 1" = 30'



**PROFILE - BLACK CHERRY LANE**  
 SCALE: 1" = 30' HORIZ  
 1" = 2' VERT



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 Landscape No. LC000298

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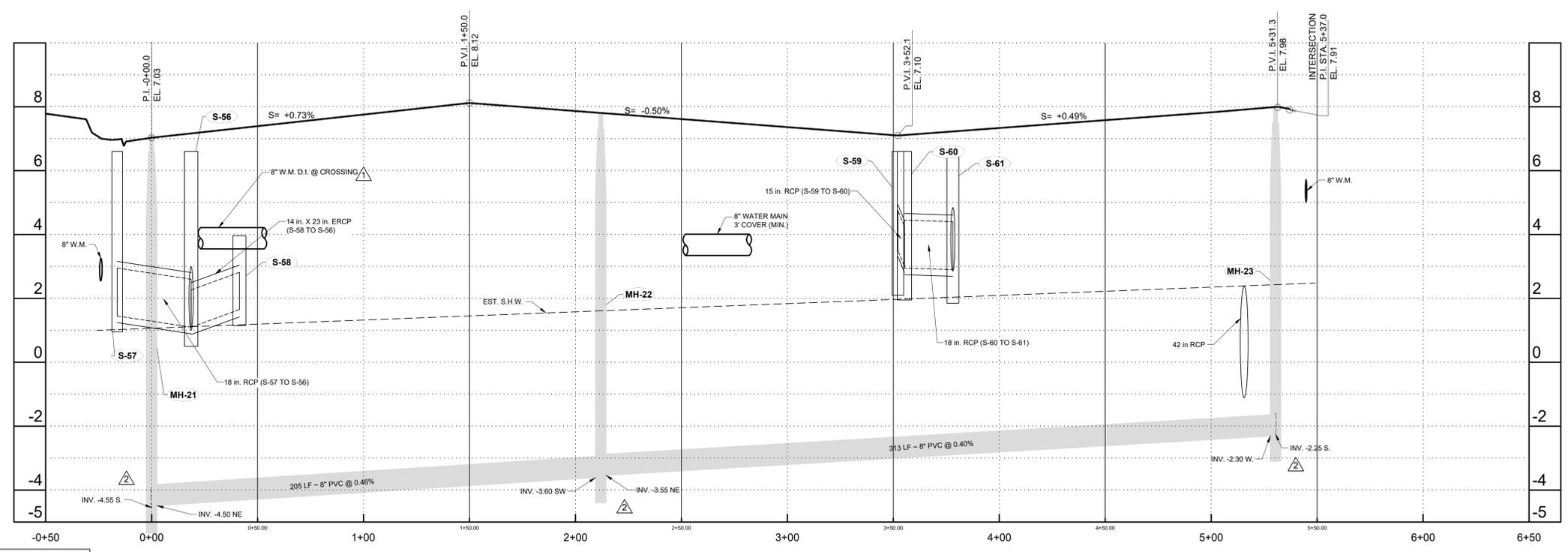
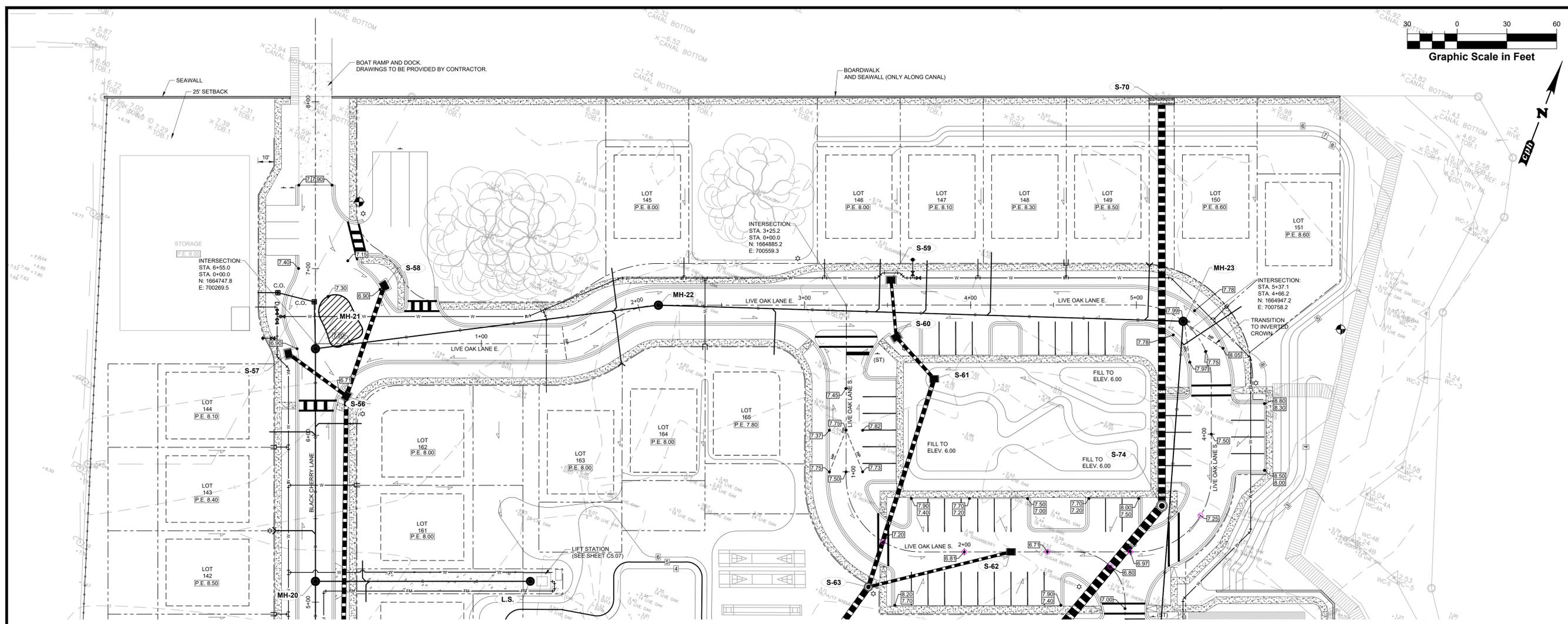
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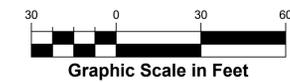
**PLAN & PROFILE - LIVE OAK LANE E.**  
 - STA. 00+00 TO STA. 6+50  
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 SANITARY MATERIAL = PVC D 3034 SDR 35  
 STORM WATER = RCP OR CORRUGATED POLYETHYLENE PIPE  
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2	7-5-22	REVISED PER VOLUSIA COUNTY
3	5-5-22	ADJUSTED S-64

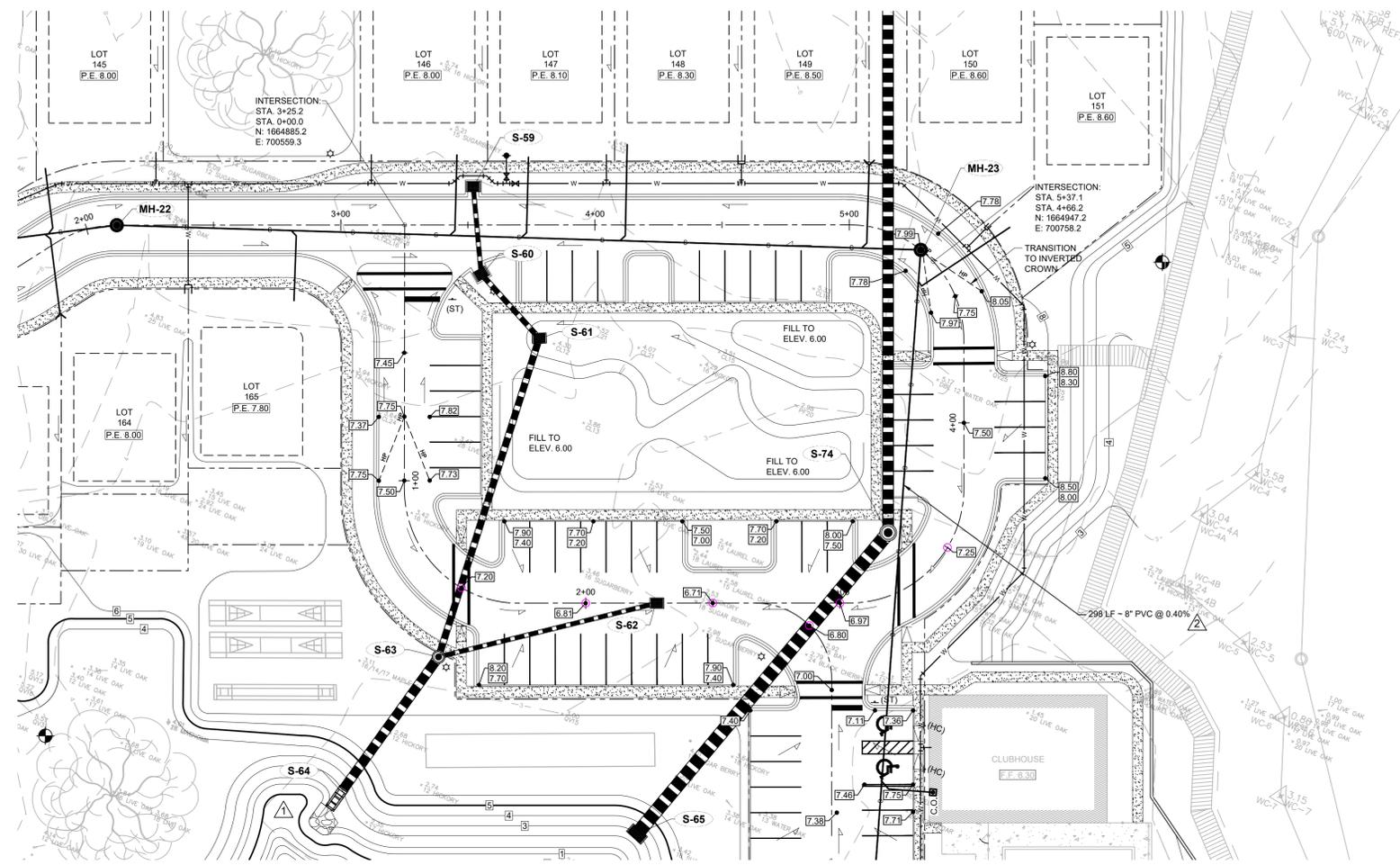
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**PLAN & PROFILE - LIVE OAK LANE S.**  
 - STA. 00+00 TO STA. 05+00

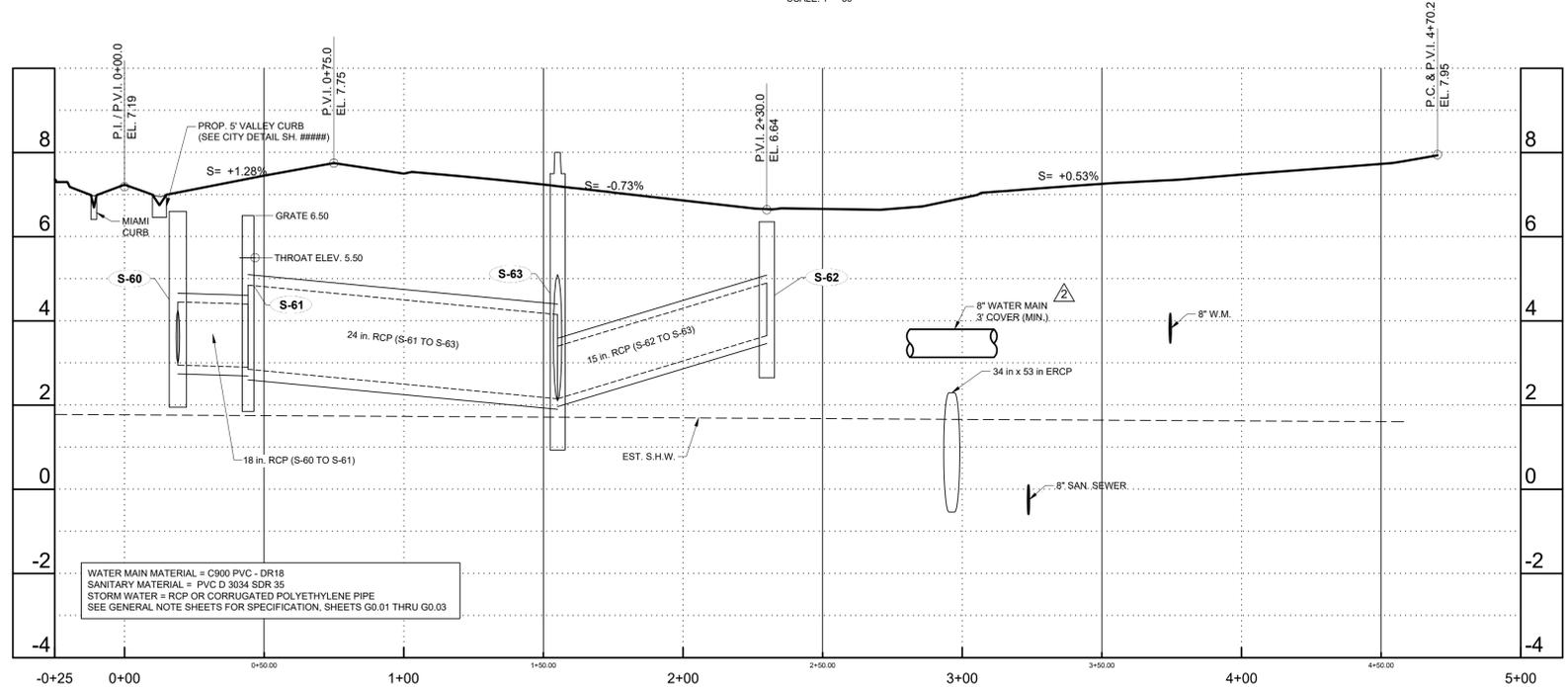
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**PLAN - LIVE OAK LANE S.**  
 SCALE: 1" = 30'



**PROFILE - LIVE OAK LANE S.**  
 SCALE: 1" = 30' HORZ  
 1" = 2' VERT

No.	Date	Revision
10-3-22	10-3-22	ADDED PROFILE OF CONNECTION TO F.M. AND W.M.
7-5-22	7-5-22	REVISED PER VOLUSIA COUNTY

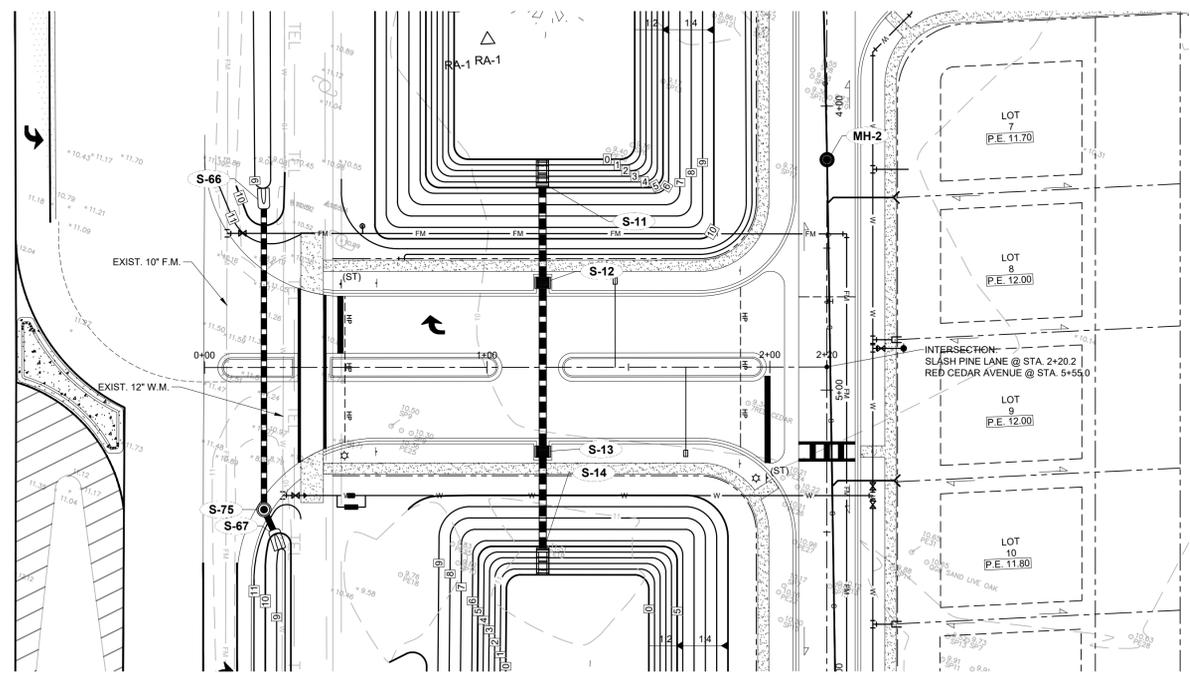
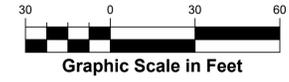
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**PLAN & PROFILE - SLASH PINE LANE -  
 STA. 00+00 TO STA 02+50**

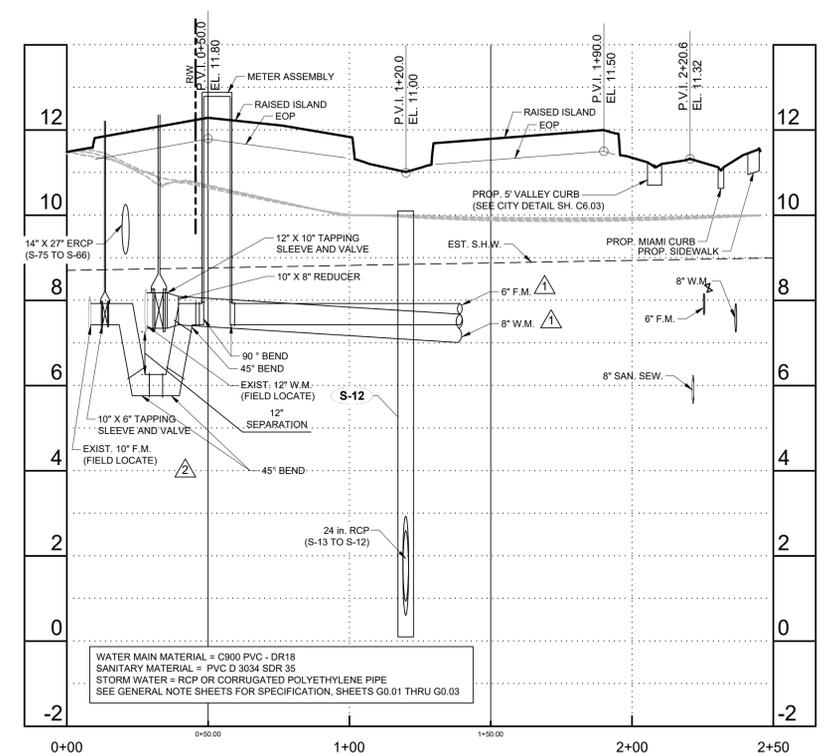
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**PLAN - SLASH PINE LANE**  
 SCALE: 1" = 30'



**PROFILE - SLASH PINE LANE**  
 SCALE: 1" = 30' HORIZ  
 1" = 2' VERT

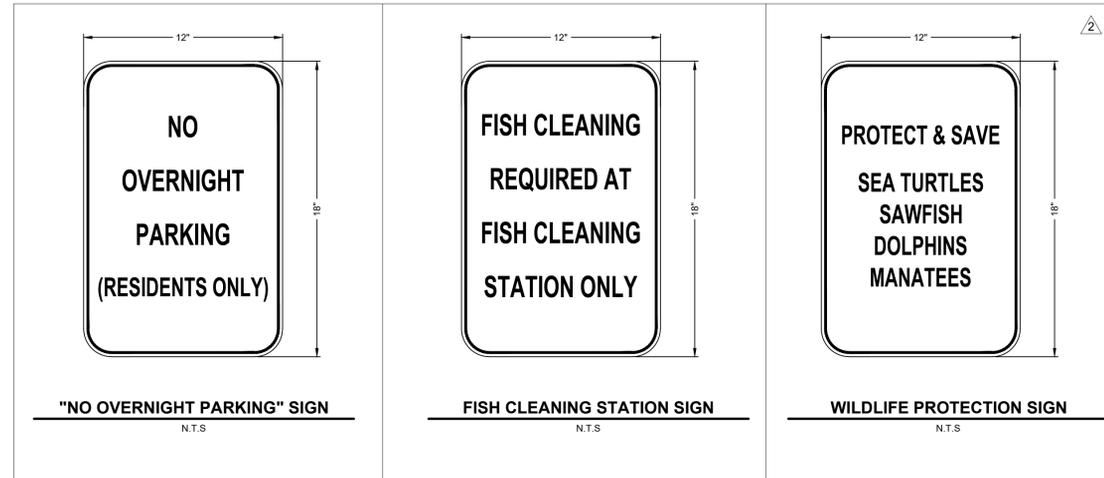


SANITARY SEWER STRUCTURE SCHEDULE				
STRUCTURE NUMBER	LOCATION	DESCRIPTION	FLOW LINE ELEVATIONS	RIM/EOP ELEVATION
L.S.	N. 166461.90 E. 700441.82	CONCENTRIC MANHOLE	-6.20 W 7.50	7.50
MH-1	N. 1664137.55 E. 698769.49	CONCENTRIC MANHOLE	7.50 S	11.17
MH-2	N. 1663779.92 E. 698896.66	CONCENTRIC MANHOLE	5.90 N 5.85 S	11.00
MH-3	N. 1663544.78 E. 698981.80	CONCENTRIC MANHOLE	4.85 N 4.80 E	10.80
MH-4	N. 1663689.04 E. 699353.08	CONCENTRIC MANHOLE	3.20 W 3.15 E	10.50
MH-5	N. 1663833.91 E. 699725.93	CONCENTRIC MANHOLE	1.55 W 1.45 E	9.00
MH-6	N. 1663978.78 E. 700098.77	CONCENTRIC MANHOLE	-0.15 W -0.20 E	7.14
MH-7	N. 1664058.04 E. 700302.75	CONCENTRIC MANHOLE	-1.08 W -1.13 E	8.28
MH-8	N. 1664137.29 E. 700506.72	CONCENTRIC MANHOLE	-2.02 W -1.52 E -2.10 N	7.31
MH-9	N. 1664424.22 E. 700395.24	CONCENTRIC MANHOLE	-4.70 S -0.33 W ODMC -4.75 N	7.15
MH-11	N. 1664522.27 E. 700974.10	CONCENTRIC MANHOLE	1.60 S	7.55
MH-12	N. 1664382.35 E. 701028.11	CONCENTRIC MANHOLE	0.95 S 1.00 N	7.45
MH-13	N. 1664337.08 E. 701013.84	CONCENTRIC MANHOLE	0.71 W 0.76 N	7.90
MH-14	N. 1664211.90 E. 700698.74	CONCENTRIC MANHOLE	-0.69 W -0.64 E	7.70
MH-15	N. 1663906.21 E. 699058.61	CONCENTRIC MANHOLE	6.35 E	10.02
MH-16	N. 1663991.67 E. 699283.51	CONCENTRIC MANHOLE	5.35 W 5.30 E	10.20
MH-17	N. 1664075.08 E. 699497.86	CONCENTRIC MANHOLE	3.64 E 3.70 W	9.00
MH-18	N. 1664220.12 E. 699870.63	CONCENTRIC MANHOLE	2.00 E 2.05 W	8.45
MH-19	N. 1664365.15 E. 700243.42	CONCENTRIC MANHOLE	0.35 E 0.40 W	7.75
MH-20	N. 1664615.00 E. 700321.11	CONCENTRIC MANHOLE	-5.60 S -5.60 N -5.65 E	7.72
MH-21	N. 1664745.00 E. 700270.61	CONCENTRIC MANHOLE	-4.50 NE -4.55 S	7.10
MH-22	N. 1664844.16 E. 700453.77	CONCENTRIC MANHOLE	-3.55 E -3.60 SW	7.80
MH-23	N. 1664949.67 E. 700752.00	CONCENTRIC MANHOLE	-2.25 S -2.30 W	7.99
MH-24	N. 1664661.36 E. 700840.24	CONCENTRIC MANHOLE	-1.05 N	7.50
GREASE TRAP #1		SIZE TO BE DETERMINED WHEN TIKI BAR IS DESIGNED	INV. IN 1.45 INV. OUT 1.20	
GREASE TRAP #2		SIZE TO BE DETERMINED WHEN TIKI BAR IS DESIGNED	INV. IN 1.10 INV. OUT 0.85	

\*ODMC = OUTSIDE DROP MANHOLE CONNECTION

SANITARY PIPE SCHEDULE			
NO.	LENGTH	SIZE	SLOPE
MH-1 TO MH-2	377'	8" P.V.C.	0.42%
MH-2 TO MH-3	246'	8" P.V.C.	0.41%
MH-3 TO MH-4	395'	8" P.V.C.	0.41%
MH-4 TO MH-5	397'	8" P.V.C.	0.40%
MH-5 TO MH-6	397'	8" P.V.C.	0.40%
MH-6 TO MH-7	215'	8" P.V.C.	0.41%
MH-7 TO MH-8	215'	8" P.V.C.	0.41%
MH-8 TO MH-9	304'	8" P.V.C.	0.88%
MH-9 TO MH-20	201'	8" P.V.C.	0.42%
MH-11 TO MH-12	146'	8" P.V.C.	0.41%
MH-12 TO MH-13	44'	8" P.V.C.	0.43%
MH-13 TO MH-14	336'	8" P.V.C.	0.40%
MH-14 TO MH-8	203'	8" P.V.C.	0.41%
MH-15 TO MH-16	237'	8" P.V.C.	0.42%
MH-16 TO MH-17	227'	8" P.V.C.	0.70%
MH-17 TO MH-18	397'	8" P.V.C.	0.40%
MH-18 TO MH-19	397'	8" P.V.C.	0.40%
MH-19 TO MH-9	159'	8" P.V.C.	0.46%
MH-20 TO L.S.	126'	8" P.V.C.	0.43%
MH-21 TO MH-20	136'	8" P.V.C.	0.77%
MH-22 TO MH-21	205'	8" P.V.C.	0.46%
MH-23 TO MH-22	313'	8" P.V.C.	0.40%
MH-24 TO MH-23	298'	8" P.V.C.	0.40%

\*MANHOLE PER FDOT INDEX #425-001



**FRESNO**

**SERIES 6000 10C FLAP GATE**

**Series 6000 10C Flap Gate**

**Features**

- Economical backflow prevention perfect for low head applications.
- Double pivot hinge action provides positive seating.
- Rugged Cast Iron seat and cover.
- Versatile for mounting to headwalls or corrugated pipe.
- Balanced design ensures maximum responsiveness.
- Precision machined and ground seating surfaces.

**Material Specifications**

Item	Description	Material	Specification
1	Seat	Cast Iron	ASTM A126, Class B
2	Cover	Cast Iron	ASTM A126, Class B
3	Link	Steel, Galvanized	ASTM A36, A123
4	Bushing	Bronze	ASTM B505
5	Hinge Bolt	Steel, Plated	ASTM A307, A164
6	Nut	Steel, Plated	ASTM A307, A164
7	Washer	Steel, Plated	ASTM A307, A164

**Applications**

The Series 6000 Flap Gate is designed to permit the outflow of water from a pipe or a structure to a body of water while preventing backflow of the same. It is frequently used in reservoirs, tidal basins, ponding basins, pump stands and storm drain systems where seating heads are less than ten feet.

**SPECIFICATIONS**

**Pressure Rating**  
Maximum seating head ..... 10 ft.

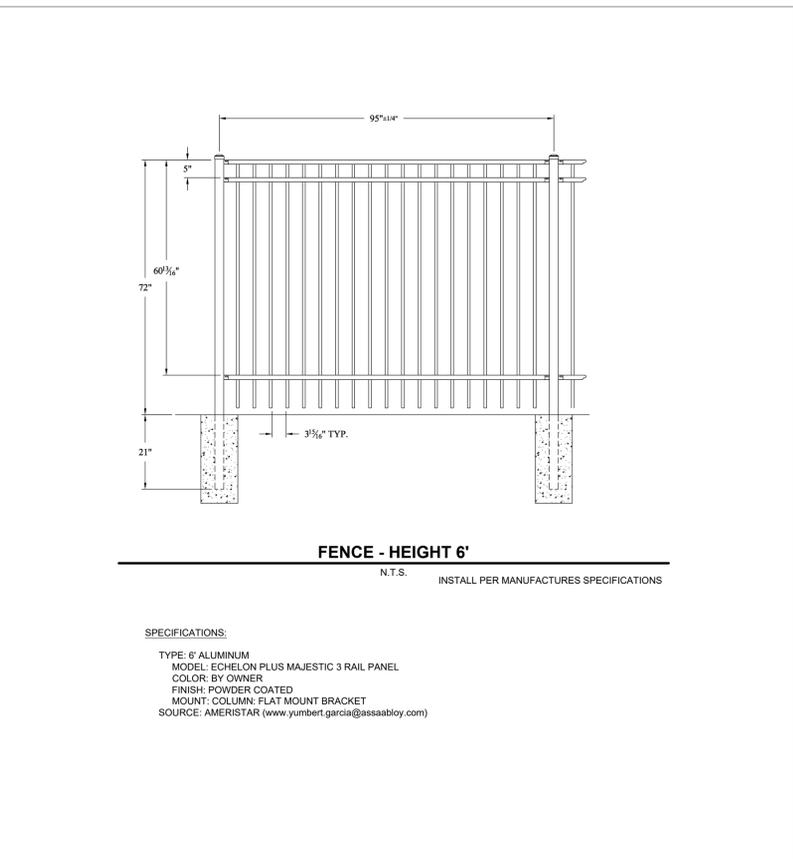
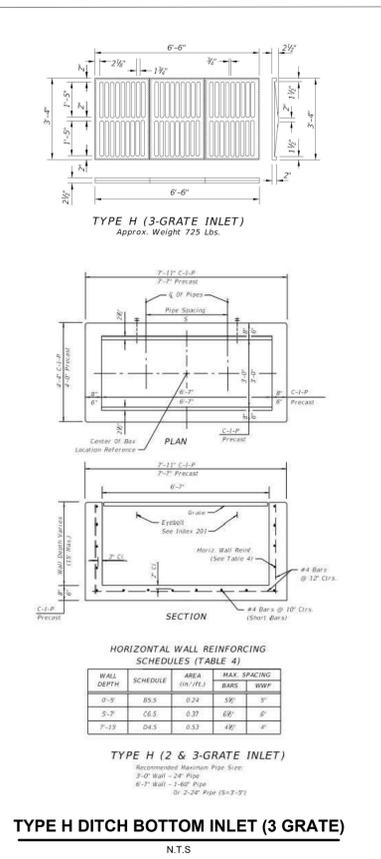
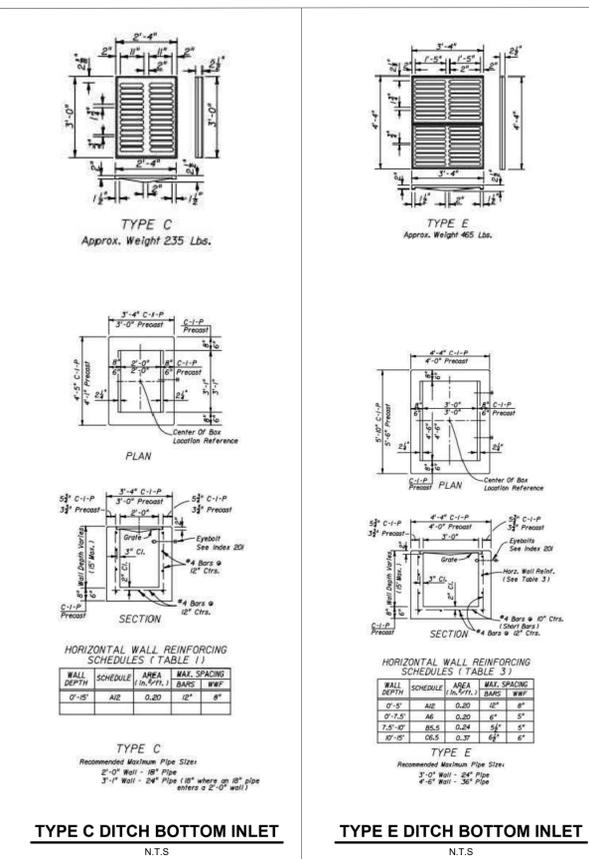
**Installation**  
The Series 6000 Flap Gate is normally installed on corrugated steel pipe or bolted to a concrete head wall or a steel flange. When attached to corrugated steel pipe the spigot back style seat is used. This style seat allows for a simple bolted connection to the pipe or the use of a rod and lug harness assembly to mount the gate to the pipe. In either case a mastic is used to seal the joint. When mounted to a concrete headwall the flat back style seat is used in conjunction with embedded anchor bolts to locate, align and support the gate. A one inch space between the seat and concrete is grouted after the gate has been mounted on the anchor bolts. The flat back style seat can also be machined and drilled to match a partial pattern of a standard 25 lb. or 125 lb. flange.

**Options**

- Flat back for headwall or flange mounting.
- Spigot back for corrugated pipe.
- Bronze seating surfaces.
- Stainless Steel links/bushings/fasteners.
- Special coatings.

**Dimensional Information**

Valve Size (Inches)	Weight (lbs)	Dimensions (Inches)								Anchor Bolt Data		
		A	B	C	D	E	F	G	H	Qty.	Size	
6	10.0	14.0	11.00	5.69	9.50	2.15	7.50	8.75	1.28	6.75	4	3/8 x 12
8	19.0	28.0	13.50	6.38	11.75	2.75	10.06	10.00	1.50	8.75	4	1/2 x 12
10	28.0	37.0	16.12	7.81	14.25	2.90	12.50	12.25	1.50	11.75	4	1/2 x 12
12	40.0	51.0	19.00	9.25	17.00	3.13	14.88	14.12	1.50	13.25	4	1/2 x 12
15	53.0	76.0	22.12	11.31	19.00	4.00	18.50	17.81	1.50	16.25	4	1/2 x 12
18	85.0	128.0	25.12	13.62	22.75	4.27	22.19	21.00	1.50	19.25	4	5/8 x 12
21	123.0	-	28.25	15.88	26.00	4.75	26.00	24.00	1.50	22.25	4	5/8 x 12
24	142.0	202.0	32.12	18.00	29.50	5.92	29.62	27.50	1.50	25.25	4	5/8 x 12
30	286.0	-	-	21.75	-	-	36.25	34.00	2.00	31.25	4	3/4 x 12
36	408.0	473.0	46.00	26.25	42.75	3.35	-	-	-	-	4	3/4 x 12
42	535.0	614.0	53.00	31.00	49.50	3.50	51.50	47.75	2.00	43.38	4	3/4 x 12
48	769.0	890.0	59.75	35.25	56.75	6.56	58.75	50.75	2.00	49.38	4	3/4 x 12
60	1282.0	-	-	43.25	-	-	73.00	68.50	2.75	61.25	6	1 x 12



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500 West Fulton Street  
Sanford, FL 32771  
Ph: 407.322.6841

Plans Prepared By:  
CPH, Inc.  
State of Florida Licenses:  
Engineer No. 3215  
Surveyor No. LB7143  
Architect No. AA26000296  
Landscape No. LC000298

HOWARD LAWRENCE WRAY, P.E.  
55557.FL

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No.	Date	Revision
1	8-14-23	ADDED SIGN
2	7-29-22	OAC

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Drawn: M. MOODY  
Checked: L. WRAY  
Job No.: E9501  
Date: 08/03/2020 © 2023

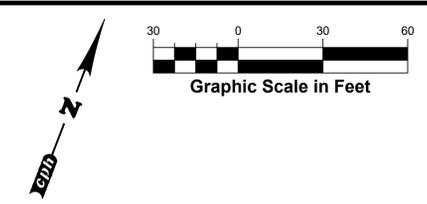
**SANITARY SEWER SCHEDULE & MISCELLANEOUS DETAILS**

**TAMARACK III MOBILE HOME PARK**  
EDGEWATER / VOLUSIA / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

Sheet No.  
**C5.01**

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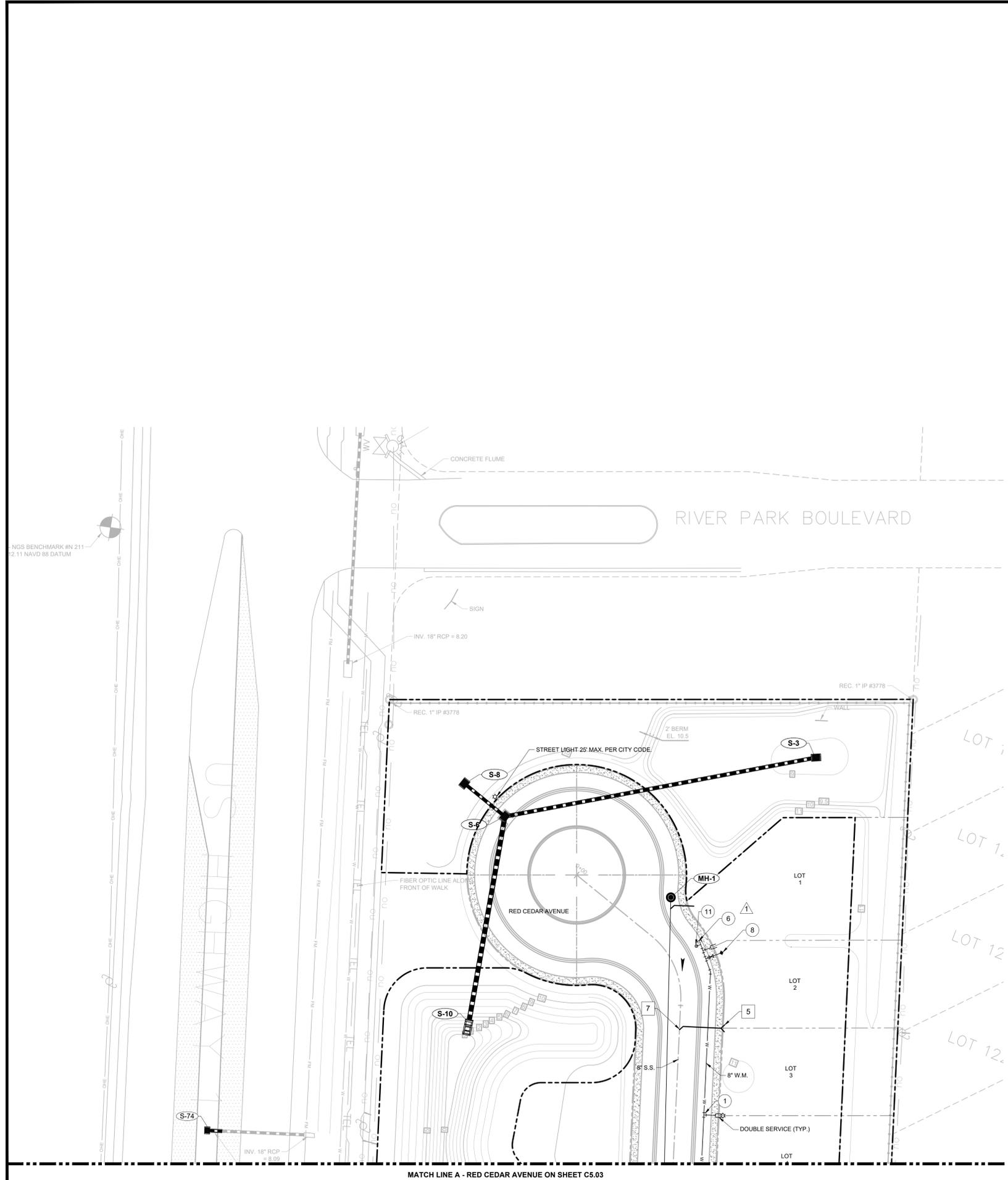


No.	Date	Revision
1	7-25-22	REVISED PER CITY RAI

Designed: I. BOYLES  
 Drawn: M. MOODY  
 Checked: L. WRAY  
 Job No.: E9501  
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**COMPOSITE UTILITY PLAN - 1 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
 EDGEWATER / VOLUSIA / FLORIDA

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 Sheet No.  
**C5.02**



**WATER MAIN**

- 1 DOUBLE STRAP SADDLE FOR WATER SERVICE
- 2 8" RESTRAINED 45° BEND
- 3 8" GATE VALVE AND BOX
- 4 8" RESTRAINED 90° BEND
- 5 8" RESTRAINED 22.5° BEND
- 6 8" RESTRAINED PLUG
- 7 ARV/ BLOWOFF
- 8 8" X 6" RESTRAINED TEE, GATE VALVE, & FIRE HYDRANT ASSEMBLY
- 9 8" X 8" RESTRAINED TEE
- 10 8" RESTRAINED 11.25° BEND
- 11 BLOW-OFF ASSEMBLY (SEE DETAIL SHEET C6.01)

NOTE: FOR STORM AND SANITARY SCHEDULES SEE SHEETS C3.01 & C5.01

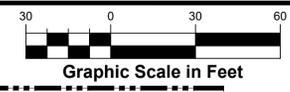
**FORCE MAIN**

- 1 6" RESTRAINED TEE
- 2 6" 45° BEND RESTRAINED
- 3 6" 90° BEND RESTRAINED
- 4 ARV/ BLOWOFF

**SANITARY SEWER**

- 5 6" DOUBLE SERVICE
- 6 4" SINGLE SERVICE
- 7 8" X 6" WYE
- 8 8" X 4" WYE





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 500 West Fulton Street  
 Sanford, FL 32771  
 Ph: 407.322.6841  
 Plans Prepared By:  
 CPH, Inc.  
 State of Florida Licenses:  
 Engineer No. 3215  
 Surveyor No. LB7143  
 Architect No. AA26000926  
 Landscape No. LC000298

HOWARD L. WRAY, P.E.  
 55557 FL

Howard L. Wray, Jr., State of Florida,  
 Professional Engineer, License No. 55557.  
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No.	Date	Revision
1	07/26/2022	REVISION PER VOLUSIA COUNTY

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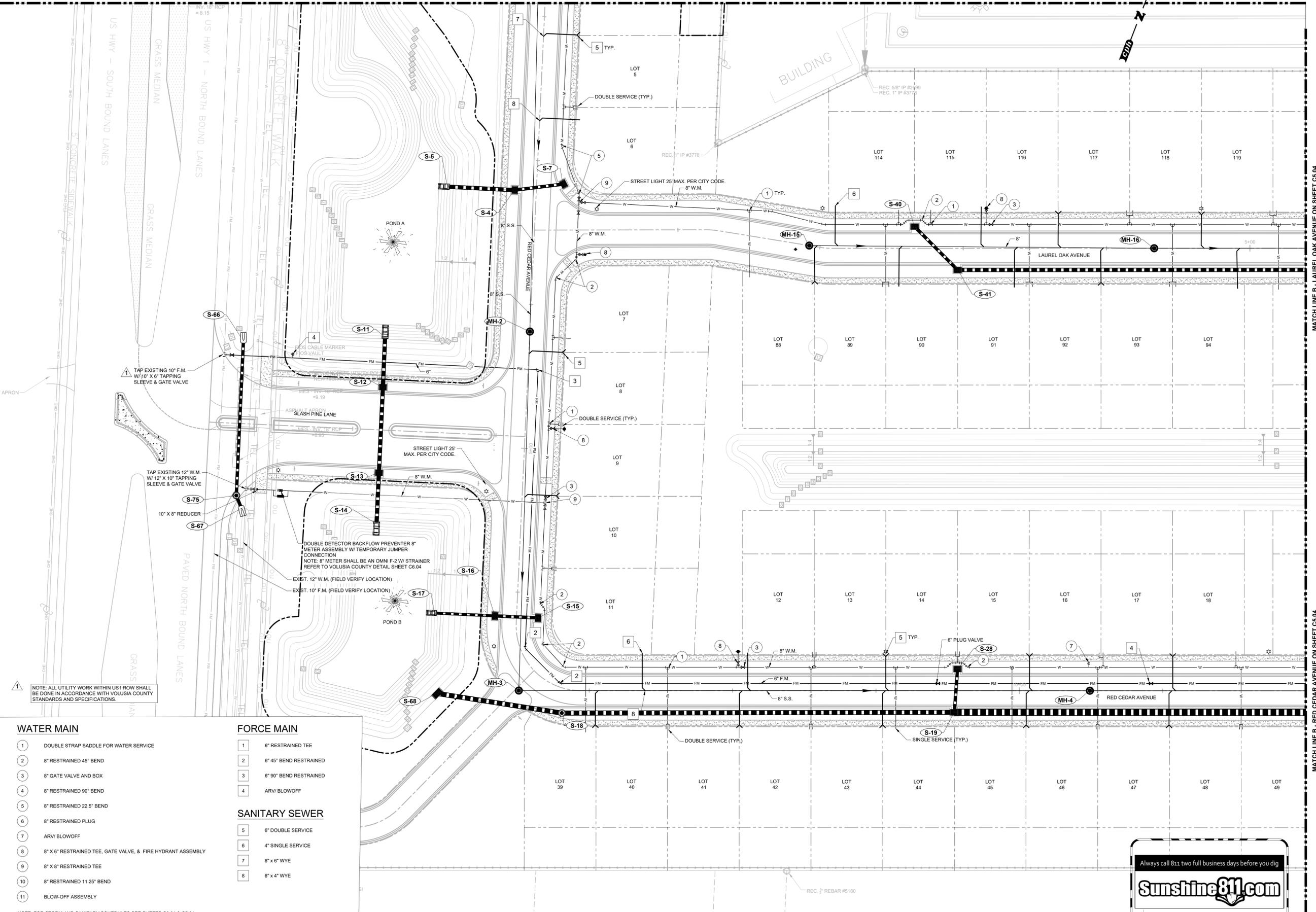
**COMPOSITE UTILITY PLAN - 2 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
 EDgewater / Volusia / Florida

THIS SHEET NOT VALID FOR  
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 COMPLETE SET OF PLANS.  
 Sheet No.  
**C5.03**

MATCH LINE A - RED CEDAR AVENUE ON SHEET C5.02

MATCH LINE B - LAUREL OAK AVENUE ON SHEET C5.04

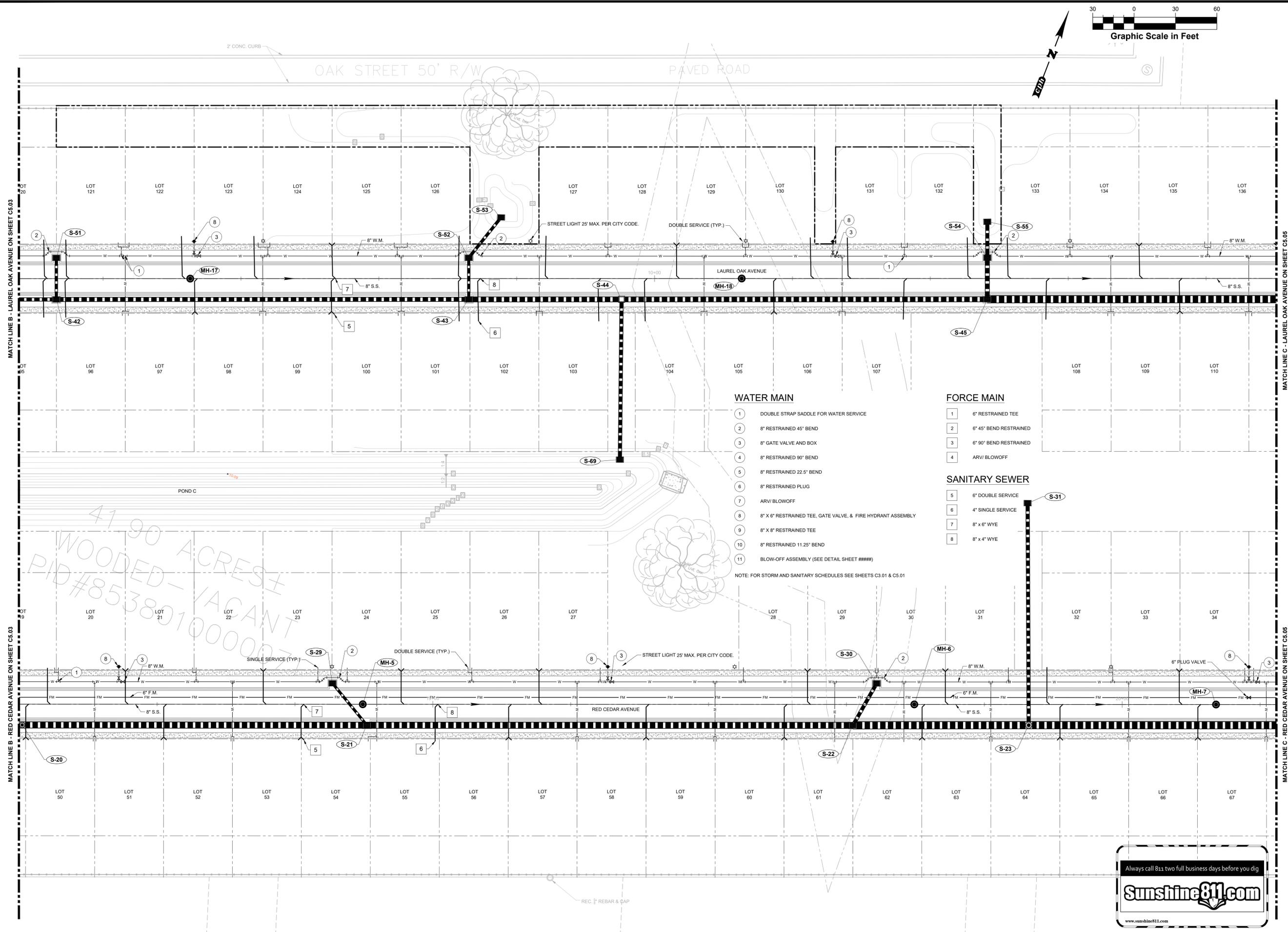
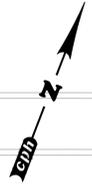
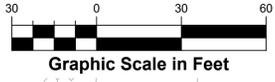
MATCH LINE B - RED CEDAR AVENUE ON SHEET C5.04



- WATER MAIN**
- 1 DOUBLE STRAP SADDLE FOR WATER SERVICE
  - 2 8" RESTRAINED 45° BEND
  - 3 8" GATE VALVE AND BOX
  - 4 8" RESTRAINED 90° BEND
  - 5 8" RESTRAINED 22.5° BEND
  - 6 8" RESTRAINED PLUG
  - 7 ARW/ BLOWOFF
  - 8 8" X 6" RESTRAINED TEE, GATE VALVE, & FIRE HYDRANT ASSEMBLY
  - 9 8" X 8" RESTRAINED TEE
  - 10 8" RESTRAINED 11.25° BEND
  - 11 BLOW-OFF ASSEMBLY
- FORCE MAIN**
- 1 6" RESTRAINED TEE
  - 2 6" 45° BEND RESTRAINED
  - 3 6" 90° BEND RESTRAINED
  - 4 ARW/ BLOWOFF
- SANITARY SEWER**
- 5 6" DOUBLE SERVICE
  - 6 4" SINGLE SERVICE
  - 7 8" X 6" WYE
  - 8 8" X 4" WYE

NOTE: FOR STORM AND SANITARY SCHEDULES SEE SHEETS C3.01 & C5.01

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**WATER MAIN**

- 1 DOUBLE STRAP SADDLE FOR WATER SERVICE
- 2 8" RESTRAINED 45° BEND
- 3 8" GATE VALVE AND BOX
- 4 8" RESTRAINED 90° BEND
- 5 8" RESTRAINED 22.5° BEND
- 6 8" RESTRAINED PLUG
- 7 AR/W BLOWOFF
- 8 8" X 6" RESTRAINED TEE, GATE VALVE, & FIRE HYDRANT ASSEMBLY
- 9 8" X 8" RESTRAINED TEE
- 10 8" RESTRAINED 11.25° BEND
- 11 BLOW-OFF ASSEMBLY (SEE DETAIL SHEET #####)

**FORCE MAIN**

- 1 6" RESTRAINED TEE
- 2 6" 45° BEND RESTRAINED
- 3 6" 90° BEND RESTRAINED
- 4 AR/W BLOWOFF

**SANITARY SEWER**

- 5 6" DOUBLE SERVICE
- 6 4" SINGLE SERVICE
- 7 8" x 6" WYE
- 8 8" x 4" WYE

NOTE: FOR STORM AND SANITARY SCHEDULES SEE SHEETS C3.01 & C5.01

41.90 ACRES ±  
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No.	Date	Revision

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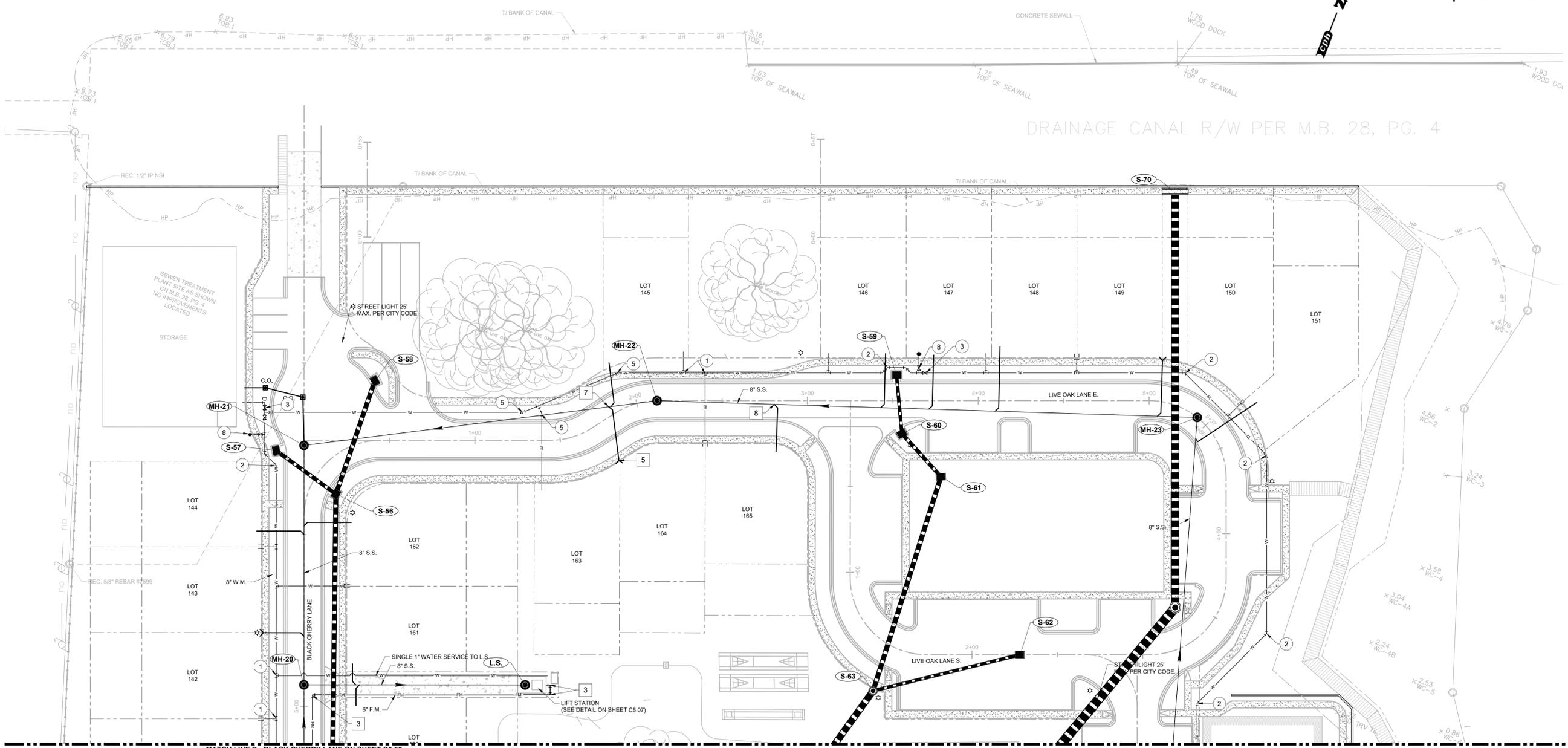
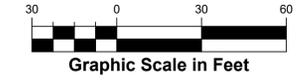
**COMPOSITE UTILITY PLAN - 3 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
 EDGEWATER / VOLUSIA / FLORIDA

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Sheet No.  
**C5.04**





**WATER MAIN**

- 1 DOUBLE STRAP SADDLE FOR WATER SERVICE
- 2 8" RESTRAINED 45° BEND
- 3 8" GATE VALVE AND BOX
- 4 8" RESTRAINED 90° BEND
- 5 8" RESTRAINED 22.5° BEND
- 6 8" RESTRAINED PLUG
- 7 ARV/ BLOWOFF
- 8 8" X 6" RESTRAINED TEE, GATE VALVE, & FIRE HYDRANT ASSEMBLY
- 9 8" X 8" RESTRAINED TEE
- 10 8" RESTRAINED 11.25° BEND
- 11 BLOW-OFF ASSEMBLY (SEE DETAIL SHEET #####)

**FORCE MAIN**

- 1 6" RESTRAINED TEE
- 2 6" 45° BEND RESTRAINED
- 3 6" 90° BEND RESTRAINED
- 4 ARV/ BLOWOFF

**SANITARY SEWER**

- 5 6" DOUBLE SERVICE
- 6 4" SINGLE SERVICE
- 7 8" X 6" WYE
- 8 8" X 4" WYE

NOTE: FOR STORM AND SANITARY SCHEDULES SEE SHEETS C3.01 & C5.01

No.	Date	Revision

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**COMPOSITE UTILITY PLAN - 5 OF 5**  
**TAMARACK III MOBILE HOME PARK**  
 EDGEWATER / VOLUSIA / FLORIDA

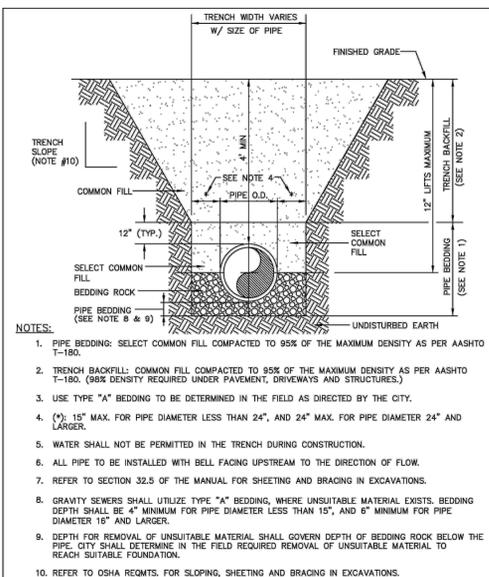


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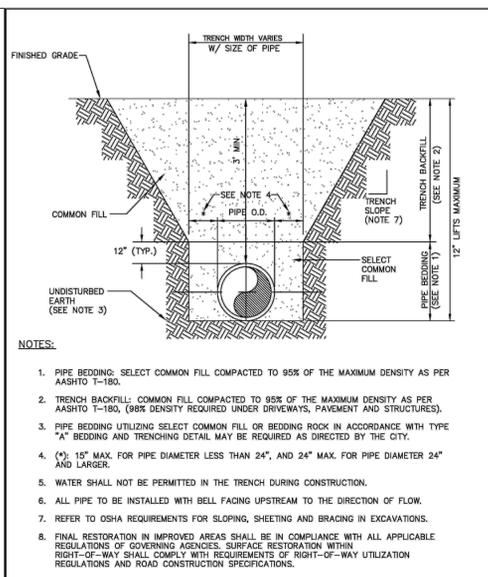
Sheet No.  
**C5.06**



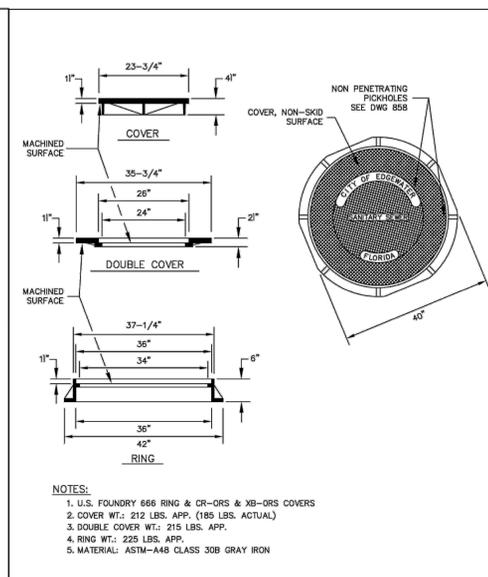




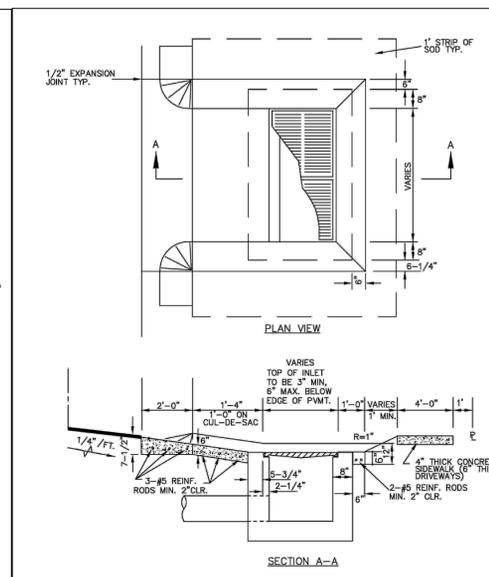
STANDARD CONSTRUCTION DETAIL  
TYPE "A" BEDDING AND TRENCH DETAIL  
(SPECIAL GRAVITY SEWER INSTALLATIONS)  
FILE NAME: EW\_S28.DWG  
DETAIL REF: S-28



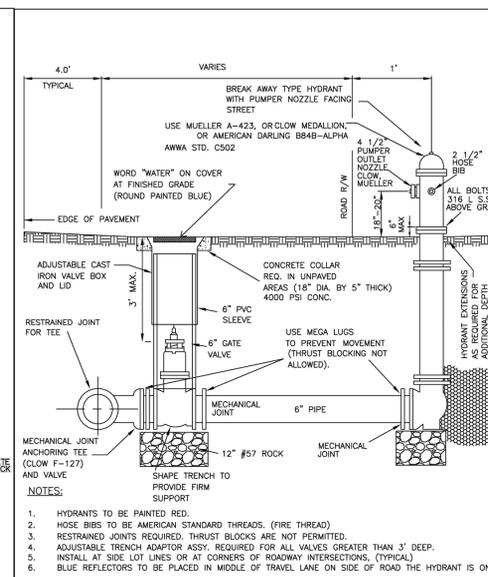
STANDARD CONSTRUCTION DETAIL  
TYPE "B" BEDDING AND TRENCH DETAIL  
(TYPICAL FOR WATER, SEWER, FORCE MAIN, STORM  
DRAIN AND RECLAIMED WATER MAIN INSTALLATIONS)  
FILE NAME: EW\_S29.DWG  
DETAIL REF: S-29



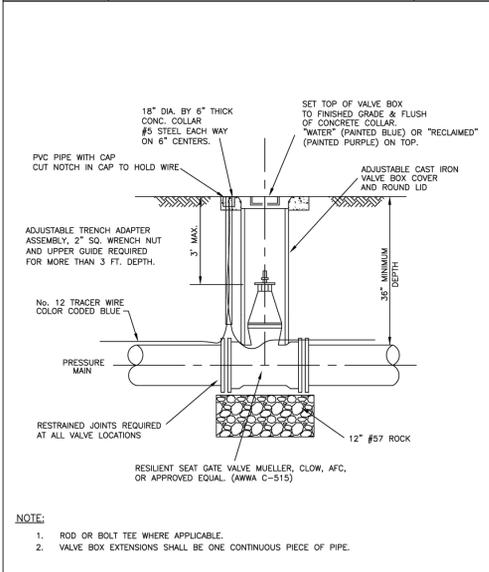
STANDARD CONSTRUCTION DETAIL  
SANITARY SEWER DOUBLE MANHOLE COVER  
FILE NAME: EW\_S30.DWG  
DETAIL REF: S-30



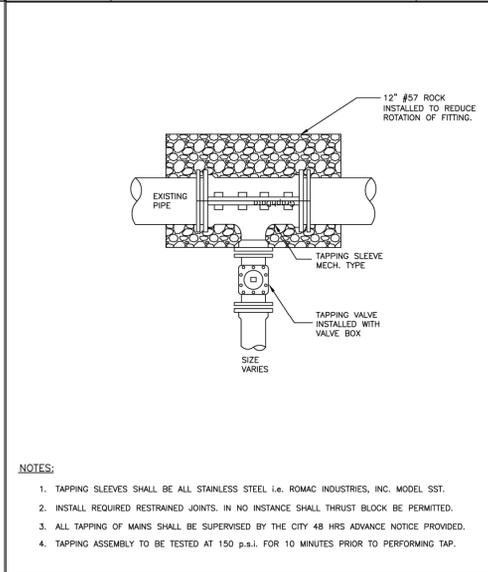
STANDARD CONSTRUCTION DETAIL  
STORM INLET APRON  
FILE NAME: EW\_ST1.DWG  
DETAIL REF: ST-1



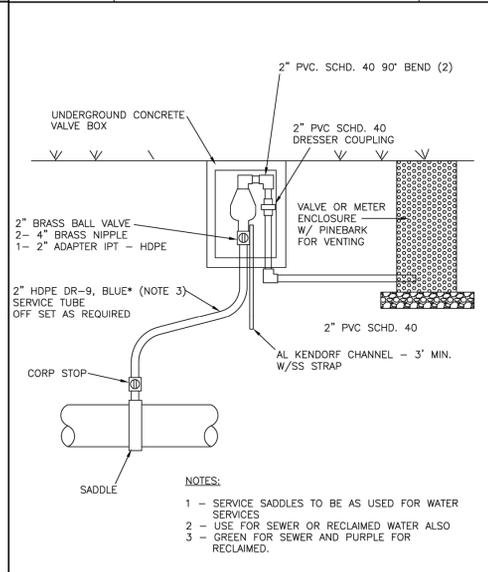
STANDARD CONSTRUCTION DETAIL  
FIRE HYDRANT ASSEMBLY  
FILE NAME: EW\_W1.DWG  
DETAIL REF: W-1



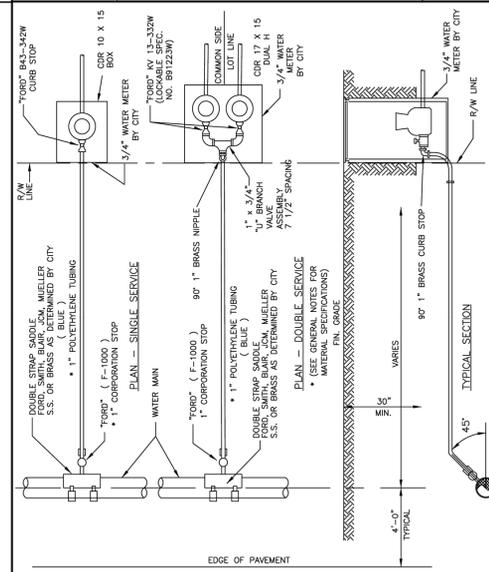
STANDARD CONSTRUCTION DETAIL  
POTABLE WATER AND/OR RECLAIMED WATER  
VALVE AND VALVE BOX  
(2" - 16" VALVE SIZES)  
FILE NAME: EW\_W2.DWG  
DETAIL REF: W-2



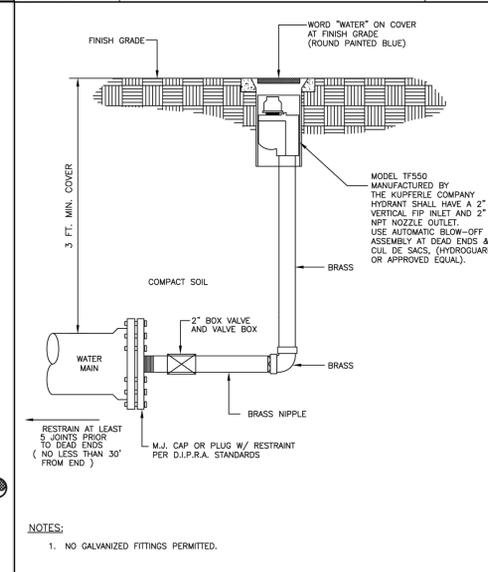
STANDARD CONSTRUCTION DETAIL  
TAPPING VALVE AND SLEEVE  
FILE NAME: EW\_W3.DWG  
DETAIL REF: W-3



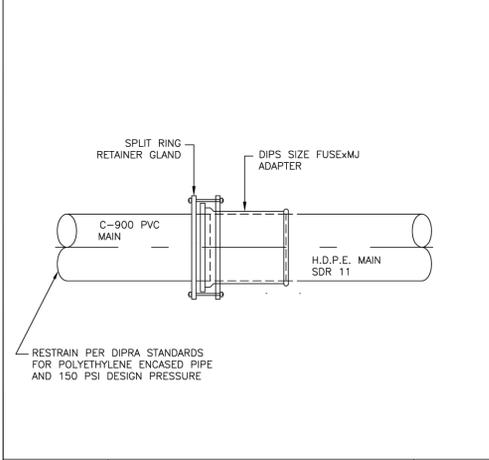
STANDARD CONSTRUCTION DETAIL  
AIR / VACUUM RELEASE VALVE PIT  
FILE NAME: EW\_W4.DWG  
DETAIL REF: W-4



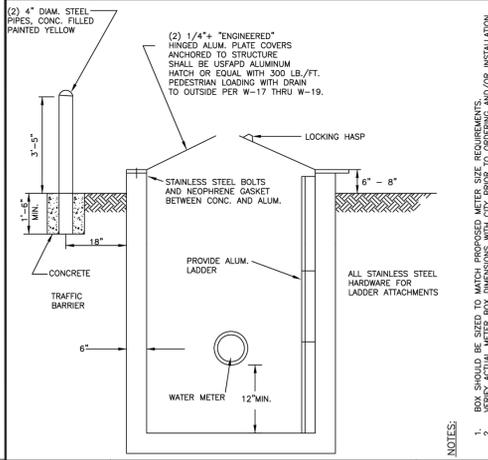
STANDARD CONSTRUCTION DETAIL  
WATER LATERAL SERVICE  
(3/4" - 2" SIZES)  
FILE NAME: EW\_W5.DWG  
DETAIL REF: W-5



STANDARD CONSTRUCTION DETAIL  
POTABLE WATER  
BLOW-OFF ASSEMBLY  
FILE NAME: EW\_W6.DWG  
DETAIL REF: W-6



STANDARD CONSTRUCTION DETAIL  
P.V.C. TO H.D.P.E.  
RESTRAINED JOINT DETAIL  
FILE NAME: EW\_W7.DWG  
DETAIL REF: W-7



STANDARD CONSTRUCTION DETAIL  
WATER METER BOX  
(METER 3" AND LARGER SIZES)  
FILE NAME: EW\_W8.DWG  
DETAIL REF: W-8

NOTE: BOX SHOULD BE SIZED TO MATCH PROPOSED METER SIZE. REQUIREMENTS: VERIFY ACTUAL METER BOX DIMENSIONS WITH CITY PRIOR TO ORDERING AND/OR INSTALLATION.

METER TYPE	SIZE	MINIMUM (INCHES) METER BOX SIZES			BROOKS EQUIVALENT
		A	B	C	
TURBINE	3"	60	48	60	SERIES 666 W/6" FLOOR
	4"	60	48	60	"
	6"	60	60	60	"
COMPOUND	3"	60	48	66	"
	4"	60	48	66	"
	6"	60	60	72	"
F.M.	3"	72	48	60	"
	4"	72	48	60	"
	6"	78	66	60	M-88 SERIES W/6" FLOOR & 12" COVER

NOTE:  
1. VERIFY ACTUAL METER BOX SIZE WITH CITY PRIOR TO ORDERING.  
2. METERS TO BE RADIO-REED, BY INVENTORS.

STANDARD CONSTRUCTION DETAIL  
3" - 8" WATER METER BOX  
FILE NAME: EW\_W9.DWG  
DETAIL REF: W-9

No.	Date	Revision

Designed: I. BOYLES  
Drawn: M. MOODY  
Checked: L. WRAY  
Job No.: E9501  
Date: 08/03/2020 © 2023

1. NO GALVANIZED FITTINGS PERMITTED.

RESTRAIN AT LEAST 5 JOINTS PRIOR TO DEAD ENDS (NO LESS THAN 30' FROM END.)

CITY DETAILS - 2 OF 4  
TAMARACK III MOBILE HOME PARK  
EDGEWATER / VOLUSIA / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.  
Sheet No.  
C6.01





