#### CITY OF JACKSONVILLE NOTES

#### GENERAL

All construction shall be performed in accordance with the approved plans and comply with all standard city policies and practices. City approval is contingent upon any required state or federal permit approvals such as those from the Department of Environmental Protection or the St. Johns River Water Management District (SJRWMD).

#### UTILITY WORK

Plan approval through Development Services does not include utilities. Proposed water, sewer or electric construction must be approved separately through the respective utility company. In most cases, this will be:

#### IΕΔ

JEA Tower - 4th Floor, 21 W. Church Street, Jacksonville, FL 32202 http://www.jea.com/business/services/devandbuild/developers.asp

#### WORK WITHIN THE RIGHT-OF-WAY

CITY: Except for new subdivision infrastructure construction, all work performed within a City of Jacksonville right-of-way or easement requires a Right-of-way Permit. The contractor performing the proposed work must have a current Right-of-way Bond on file with Development Services. Right-of-way Permit applications are processed at:

#### Development Services Customer Service Counter

Edward Ball Building, 2nd Floor

214 N. Hogan St. Jacksonville, FL 32202

(904) 255-8572 http://row.jaxdev.info/

STATE: All work performed within a state right-of-way requires a permit from the Florida Department of Transportation (FDOT). It is the developer's responsibility to obtain required FDOT permits or maintenance-of-traffic approvals for work within FDOT right-of-ways. The FDOT regional office can be contacted at (904) 360-5200 Any changes to the approved plans needed for FDOT approval must be submitted to Development Services as revisions.

#### Adjacent State Roads:

RAILROAD: Railroad companies may require special approvals or permits to work within their right-of-ways. It is the developer's responsibility to obtain permission from any railroad right-of-way owner before performing any work within their right-of-way.

#### STORMWATER

Annual reports in compliance with the SJRWMD stormwater permits are required from the maintenance entity of all stormwater management facilities. Send copies of the reports to:

#### Engineering and Construction Management Edward Ball Building, 10th Floor

214 N. Hogan St.

Jacksonville, FL 32202 http://www.coj.net/Departments/Public+Works/Engineering+and+Construction+Management/

The owner of any project one (1) acre or larger is required to provide a Notice of Intent (NOI) in accordance with criteria set forth in the city's NPDES permit within 48 hours of beginning construction. Send NOI and NOI fee to:

#### Florida Department of Environmental Protection NPDES Stormwater Notices Center, Mail Station #2510

2600 Blair Stone Road Tallahassee, Florida 32399-2400

(866) 336-6312 http://www.dep.state.fl.us/water/stormwater/npdes/

The contractor shall contact Environmental Quality Division, Erosion and Sedimentation Control Section (ESC) to provide verification that applicable stormwater permits have been obtained and to schedule a pre-construction ESC site inspection:

Environmental Quality Division 407 North Laura Street, Third Floor Jacksonville, FL, 32202

#### FIRE MARSHALL

(904) 255-7222

Plan review and approval does not relieve the contractor of complying with all applicable

Underground mains and hydrants shall be installed, completed, and in service prior to construction work.

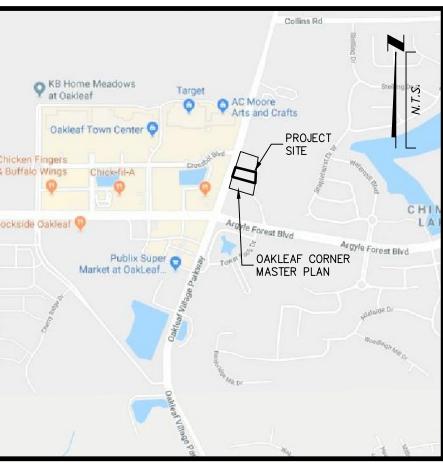
Underground contractor shall submit to the Fire Marshall for approval complete specs for all underground pipe and fittings relating to fire protection PRIOR to installation and inspection. Contractor shall include manufacturer's name and pipe ID along with contractor's state license number.

<u>LANDSCAPE</u>			
A Site Work Permit is required for this proje	ect.		
Tree Fund payment is due:	inches at \$	= \$	
Article 25 funds are due:	inches at \$	= \$	

TRAFFIC ENGINER	ERING
Metro Name (each)	
Standard (each)	
Stop/Yield (each)	
Design (per plat)	1 per plat
Installation (per hour)	1 per 2 signs (rounded up)
Streetlights Req	uired
	ts change from time to time. Consult Attachment 8 of the Land res Manual (http://ldpm.jaxdev.com/) for the current rates before allations.
No lane closures allow	ed from 7 a.m. till 9 a.m. and from 4 p.m. till 6 p.m.

# OAKLEAF CORNER OUTPARCEL 3

# DUVAL COUNTY, FLORIDA



LOCATION MAP

# PREPARED FOR OAKLEAF 31 DEVELOPMENT CORP.

12276 SAN JOSE BLVD. JACKSONVILLE, FL 32223



#### England-Thims & Miller, Inc.

14775 Old St. Augustine Road Jacksonville, FL 32258 TEL: (904) 642-8990 FAX: (904) 646-9485 CA - 00002584 LC - 0000316

DRAWING INDEX					
DRAWING NUMBER	DRAWING TITLE	REVISION			
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3	OAKLEAF CORNER MASTER PLAN				
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13	CONTRACTOR'S CERTIFICATION				

**JEA AVAILABILITY #: 2019-3525** 

### PLAN APPROVAL

Date	
Date	
Plan approval v date. Revisions	valid for five years after the initial approx made after the initial approved date do e year time frame.

## PLAN APPROVAL IS SUBJECT TO THE FOLLOWING NOTES AND CONDITIONS:

GENERAL PROJ	ECT INFO.	FOR
GENERAL City Development Number Concurrency Application Number Property Appraiser Number (RE #) Zoning Designation ZONING Application(s) (if any)	016416 1450 PUD	SED
PUD Ordinance Number FIRM - Community - Panel Flood Zones (Show in Plans) Base Flood Elev. (Show in Plans) Vertical Datum Used for Project JEA Availability Number	1999-0804 12031C0505H ZONE X N/A NAVD 1988 2019-3525	DATUM U
SUBDIVISION PSD Number City or Private Inspection Public or Private Roads Subdivision ("911") Disk Provided?	N/A PRIVATE N/A N/A	ICAL D
NON-SUBDIVISION		ZTI

North American Industry Classification System (NAICS) Impervious Area (Sq. Ft.) DRAWING NUMBER

NOTE:
IF YOU DIG IN FLORIDA, YOU ARE REQUIRED TO CALL SUNSHINE STATE ONE-CALL OF FLORIDA, INC. 1-800-432-4770 FOR LOCATES. IT'S THE LAW.

- ALL WORK SHALL BE PERFORMED IN A SAFE MANNER. ALL SAFETY RULES AND GUIDELINES OF O.S.H.A. SHALL BE FOLLOWED. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ANY INJURIES TO HIS EMPLOYEES. AND FOR ANY DAMAGE TO PRIVATE PROPERTY OR PERSONS DURING THE COURSE OF THIS PROJECT. ALL COSTS ASSOCIATED WITH COMPLYING WITH OSHA REGULATIONS AND THE FLORIDA TRENCH SAFETY ACT MUST BE INCLUDED IN THE CONTRACTORS BID.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE JOB SITE PRIOR TO PREPARING THE BID FOR THE PURPOSE OF FAMILIARIZING HIMSELF WITH THE NATURE AND THE EXTENT OF THE WORK AND LOCAL CONDITIONS, EITHER SURFACE OR SUB-SURFACE, WHICH MAY AFFECT THE WORK TO BE PERFORMED. AND THE EQUIPMENT, LABOR AND MATERIALS REQUIRED. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THE CONSTRUCTION CONTRACT. THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA (811) FOR UTILITY LOCATES IN ACCORDANCE WITH STATE LAW PRIOR TO EXCÁVATING. THE CONTRACTOR IS ALSO URGED TO TAKE COLOR PHOTOGRAPHS ALONG THE ROUTE OF OR WITHIN THE PROJECT TO RECORD EXISTING CONDITIONS PRIOR TO CONSTRUCTION, AND TO AID IN RESOLVING POSSIBLE FUTURE ISSUES THAT MAY OCCUR DUE TO THE CONSTRUCTION OF THE PROJECT.
- THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING STRUCTURES, IMPROVEMENTS, UTILITIES, PROPERTY LINES, AND CONFIRM ALL PROPOSED DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION OR ORDERING ANY MATERIALS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING A PERMANENT STAND OF SOD AND/OR GRASS PER CITY OF JACKSONVILLE STANDARDS AND MEETING THE NPDES FINAL STABILIZATION REQUIREMENTS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EITHER CONDUCT ANY FIELD EXPLORATION OR ACQUIRE ANY GEOTECHNICAL ASSISTANCE REQUIRED TO ESTIMATE THE AMOUNT OF UNSUITABLE MATERIAL THAT WILL REQUIRE REMOVAL AND/OR TO ESTIMATE THE AMOUNT OF OFF SITE BORROW THAT WILL BE REQUIRED. FAILURE OF THE CONTRACTOR TO IDENTIFY/QUANTIFY THE AMOUNT OF UNSUITABLE MATERIAL TO BE REMOVED AND REPLACED DURING THE BID PROCESS WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THE CONSTRUCTION
- ALL MATERIALS AND WORKMANSHIP ARE TO BE WARRANTED BY THE CONTRACTOR TO THE OWNER AND THE CITY OF JACKSONVILLE FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNER AND THE CITY OF JACKSONVILLE.
- THE LOCATION OF ALL EXISTING UTILITIES, STRUCTURES AND IMPROVEMENTS SHOWN ON THE DRAWINGS IS BASED ON LIMITED INFORMATION AND MAY NOT HAVE BEEN FIELD VERIFIED. THE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY RESPECTIVE UTILITY OWNERS AND FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND OTHER IMPROVEMENTS PRIOR TO COMMENCING ANY CONSTRUCTION. IF THE LOCATIONS SHOWN ARE CONTRARY TO THE ACTUAL LOCATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF THE DISCREPANCY. THIS DISCREPANCY SHOULD BE RESOLVED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS NEAR EXISTING UTILITIES AND IMPROVEMENTS AND SHALL BE RESPONSIBLE FOR AND SHALL REPAIR OR PAY FOR ALL DAMAGE MADE TO EXISTING UTILITIES OR OTHER IMPROVEMENTS. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL GRADES, INVERTS AND TYPE OF MATERIAL OF EXISTING UTILITIES TO WHICH HE SHALL CONNECT, AND NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES.
- UNLESS DIRECTED OTHERWISE BY THE OWNER OR THE ENGINEER, THE CONTRACTOR WILL CONTRACT WITH AN INDEPENDENT TESTING LABORATORY TO PERFORM MATERIAL TESTING AND SOIL TESTING IN ACCORDANCE WITH CITY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE REQUIRED FOR THE PROJECT INCLUDING CITY OF JACKSONVILLE RIGHT-OF-WAY PERMITS FOR WORK IN THE CITY RIGHT-OF-WAY OR EASEMENT. CONTRACTOR IS RESPONSIBLE FOR CONTROL OF SEDIMENTATION AND RUNOFF RESULTING FROM RAINFALL EVENTS DURING THE CONSTRUCTION OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH REGULATORY PERMITS ISSUED FOR
- 10. THE CONTRACTOR SHALL COORDINATE THE WORK WITHIN CITY OR STATE RIGHT-OF-WAY WITH THE APPROPRIATE AGENCIES FOR MAINTENANCE OF TRAFFIC AND METHOD OF CONSTRUCTION & REPAIR.
- 11. IF DEWATERING CAPACITY REQUIRES A CONSUMPTIVE USE PERMIT (C.U.P.) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE PERMIT THROUGH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND THE ENGINEER FOR APPROVAL OF ALL DEWATERING OPERATIONS PRIOR TO COMMENCEMENT.

12. PRIOR TO ANY DISCHARGE OF GROUND WATER (DEWATERING) FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT TO WATERS OF THE STATE (INCLUDING, BUT NOT LIMITED TO, WETLANDS, SWALES AND MUNICIPAL STORM SEWERS), THE CONTRACTOR SHALL TEST THE EFFLUENT (WATER TO BE DISCHARGED) IN ACCORDANCE WITH RULE 62-621.300(2), F.A.C. IF THE TEST RESULTS ON THE EFFLUENT ARE BELOW THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL SUBMIT A SUMMARY OF THE PROPOSED CONSTRUCTION ACTIVITY AND THE TEST RESULTS TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DISTRICT OFFICE, WITHIN ONE (1) WEEK AFTER DISCHARGE BEGINS. THE CONTRACTOR SHALL CONTINUE TO SAMPLE THE EFFLUENT AS REQUIRED THROUGHOUT THE PROJECT AND COMPLY WITH ALL CONDITIONS OF RULE 62-621.300(2), F.A.C. IF THE GROUND WATER EXCEEDS THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL COMPLY WITH OTHER APPLICABLE RULES AND REGULATIONS PRIOR TO DISCHARGE OF THE EFFLUENT (GROUND WATER) TO SURFACE WATERS OF THE STATE.

**GENERAL SITE NOTES:** 

- 13. ALL AREAS SHOWN TO BE FILLED SHALL BE CLEARED AND GRUBBED IN ACCORDANCE WITH CITY OF JACKSONVILLE STANDARDS AND SHALL BE FILLED WITH CLEAN STRUCTURAL FILL COMPACTED AND TESTED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
- 14. CLEARING AND GRUBBING REQUIRED FOR ALL ROADWAY, UTILITIES, DITCHES, BERMS, RIGHTS-OF-WAYS AND EASEMENTS (INCLUDING ELECTRIC EASEMENTS) ARE INCLUDED IN THIS PROJECT.
- 15 ALL ACCESS EASEMENTS ARE TO BE STABILIZED AND DRIVABLE.
- 16. ALL DEBRIS RESULTING FROM ALL ACTIVITIES SHALL BE DISPOSED OF OFF-SITE BY CONTRACTOR.
- 17. BURNING OF TREES, BRUSH AND OTHER MATERIAL SHALL BE APPROVED, PERMITTED AND COORDINATED WITH CITY OF JACKSONVILLE FIRE MARSHAL AND ALL OTHER PERMITTING AUTHORITIES BY THE CONTRACTOR.
- 18. UNSUITABLE MATERIALS UNDER UTILITY OR STORM PIPE, STRUCTURES, PAVEMENT, BUILDING PADS, OR HARDSCAPE ELEMENTS SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL, PROPERLY COMPACTED IN
- ACCORDANCE WITH THE GEOTECHNICAL REPORT 19. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL SURVEY AND PROPERTY MONUMENTS. IF A MONUMENT IS DISTURBED, THE CONTRACTOR

SHALL CONTRACT WITH THE SURVEYOR OF RECORD FOR REINSTALLATION

- 20. ALL UNDERGROUND UTILITIES TO BE INSTALLED UNDER PAVEMENT MUST BE INSTALLED PRIOR TO PREPARATION OF SUBGRADE FOR PAVEMENT.
- 21. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION WITH ALL OTHER CONTRACTORS. IN THE EVENT OF ANY CONFLICT WHATSOEVER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 22. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL MATERIALS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PURCHASE OR CONSTRUCTION OF ANY UTILITY OR STORM PIPE OR STRUCTURE.
- 23. AUGER BORINGS PROVIDED BY ELLIS & ASSOCIATES, INC., DATED: 4/15/2015,
- 24. FLOOD ZONE BASED UPON FEMA INSURANCE RATE MAPS PANEL NOS. 12031C0505H, DATED: 6/3/2013,
- 25. FOR SEDIMENT AND EROSION CONTROL PLANS, DETAILS AND NOTES REFER TO DRAWINGS 10 - 11. CONTRACTOR TO COORDINATE WITH AUTHORITY FOR INSPECTIONS PRIOR TO CLEARING OPERATIONS.
- 26. ELEVATIONS ARE BASED ON NAVD 1988.

OF THE MONUMENT

- 27. TOPOGRAPHIC INFORMATION BASED ON SURVEY PROVIDED BY ETM SURVEYING & MAPPING, INC., DATED: 07/28/19,
- 28. BOUNDARY INFORMATION BASED ON SURVEY PROVIDED BY ETM SURVEYING & MAPPING, INC., DATED: 08/07/2019,
- 29. ALL WORK AND MATERIALS SHALL BE IN COMPLETE ACCORDANCE WITH ALL RELATIVE SECTIONS OF "CITY STANDARD SPECIFICATIONS FOR CITY OF JACKSONVILLE, FLORIDA", (LATEST REVISION) AND ALL CURRENT CITY STANDARD DETAILS. THE WORK SHALL ALSO BE PERFORMED AND TESTED IN ACCORDANCE WITH THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY ELLIS & ASSOCIATES, INC., DATED: 4/15/2015, IF MORE STRINGENT THAN CITY REQUIREMENTS.
- 30. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE CIVIL ENGINEER TO DETERMINE IF THIS PROJECT IS WITHIN THE CITY'S JURISDICTION FOR INSPECTION. IF SO THEN, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE CITY FOR PRE-CONSTRUCTION MEETING AND INSPECTIONS.
- 31. PROJECT LOCATION: DUVAL COUNTY, FLORIDA.

PAVING AND DRAINAGE LEGEND

- 32. THESE PLANS WERE GENERATED UTILIZING AUTOCAD CIVIL 3D 2019.
- 33. THESE PLANS ARE PREPARED IN GENERAL COMPLIANCE WITH THE DUVAL COUNTY LAND DEVELOPMENT PROCEDURES MANUAL, DATED OCTOBER

- 1. ALL DRAINAGE STRUCTURES TO HAVE TRAFFIC BEARING GRATES.
- 2. ALL DRAINAGE PIPE JOINTS ARE TO BE FILTER FABRIC WRAPPED.
- 3. ALL INVERTS IN DRAINAGE STRUCTURES TO BE PRECAST OR BRICK WITH LAYER OF MORTAR BETWEEN EACH LAYER OF BRICK, OR REDDI-MIX CONCRETE WITH #57 STONE.
- ALL PIPE LENGTHS ARE SCALED DIMENSIONS. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED TO CONFORM WITH CITY REQUIREMENTS AND SHALL BE CONSTRUCTED TO CONFORM WITH CURBING, PROPERTY LINES AND LOW POINTS AS SHOWN ON THE PLANS.
- 5. CONTRACTOR SHALL ENSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEAN AND FUNCTIONING PROPERLY AT TIME OF ACCEPTANCE.
- 6. "AS-BUILT" DRAWINGS DRAINAGE AS-BUILTS PROVIDED TO CITY OF JACKSONVILLE AND THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT ARE REQUIRED TO BE SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTRACT WITH A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA FOR THE PREPARATION, FIELD LOCATIONS, CERTIFICATION AND SUBMITTAL OF "AS-BUILT" DRAWINGS IN ACCORDANCE WITH CURRENT CITY OF JACKSONVILLE STANDARDS AND SPECIFICATIONS AND SJRWMD REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROCESS THE AS-BUILT DRAWINGS FOR APPROVAL BY THE CITY OF JACKSONVILLE. IN ADDITION TO THE DRAINAGE SYSTEM THE "AS-BUILTS" SHALL SHOW THE ELEVATIONS AND LOCATION OF THE TOP OF BANK. WATER LEVEL. ANY POINTS OF CHANGE IN SLOPE, TOE OF SLOPE AND POND BOTTOM AT 100' MAXIMUM INTERVALS ALONG POND BANK FOR ALL POND CONSTRUCTION. ALL DIMENSIONS AND ELEVATIONS ON THE CONTROL STRUCTURE DETAILS SHALL BE SHOWN ON AS-BUILT DRAWINGS. ALL DEVIATIONS FROM PLANS SHALL BE CLEARLY INDICATED ON THE AS-BUILT
- THE CONTRACTOR SHALL PROVIDE ACCESSIBLE CURB RAMPS AT ALL SIDEWALK AND CURB CONNECTIONS. RAMPS SHALL MEET ALL APPLICABLE ADA REQUIREMENTS.
- 8. FOR SPECIAL PAVING AND DRAINAGE DETAILS SEE DRAWING NO. 8B-8A. FOR ALL STANDARD DETAILS SEE CITY OF JACKSONVILLE STANDARD SPECIFICATIONS AND DETAILS, LATEST REVISION.
- 9. UNDERDRAIN SHOWN HEREON IS THE MINIMUM REQUIRED BASED ON GEOTECHNICAL REPORT, PREPARED BY ELLIS & ASSOCIATES, INC., DATED: 4/15/2015, FINAL DETERMINATION OF LIMITS OF UNDERDRAIN WILL BE MADE BASED ON TEST HOLE OBSERVATION AT TIME OF ROADWAY
- 10. ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING SILT FENCE. COIR BALES. AND FILTER FABRIC INSIDE DRAINAGE STRUCTURES SHALL BE REMOVED PRIOR TO FINAL INSPECTION, UNLESS OTHERWISE DIRECTED BY
- THE OWNER OR THE ENGINEER. 11. PAVEMENT MARKINGS SHOULD BE PLACED AS SHOWN ON THE PLANS AND
- 12. ANY REQUIRED TEMPORARY MARKINGS MUST BE IN PLACE BEFORE OPENING LANES OF TRAFFIC. PAY ITEMS FOR TEMPORARY PAVEMENT MARKINGS ARE TO BE INCLUDED IN THE TABULATION OF QUANTITIES.
- 13. THE REMOVAL OF EXISTING PAVEMENT MARKINGS WILL BE CONSIDERED AN INCIDENTAL ITEM WITH NO ADDITIONAL COMPENSATION PROVIDED.
- 14. ALL PERMANENT PAVEMENT MARKINGS SHALL BE EXTRUDED THERMOPLASTIC AND MEET CURRENT CITY OF JACKSONVILLE SPECIFICATIONS AND/OR FDOT STANDARD SPECIFICATIONS, LATEST EDITION.
- 15. THERMOPLASTIC PAVEMENT MARKINGS ARE TO BE PLACED NO SOONER THAN 30 CALENDAR DAYS AFTER THE COMPLETION OF THE FINAL PAVEMENT LAYER.
- 16. A BITUMINOUS REFLECTIVE PAVEMENT MARKER (RPM) ADHESIVE MEETING CURRENT CITY OF JACKSONVILLE AND/OR FDOT SPECIFICATIONS SHALL BE USED ON ASPHALT ROADWAYS.
- 17. THE CONTRACTOR SHALL USE CLASS-B REFLECTIVE PAVEMENT MARKERS (RPM'S) INSTALLED TO MEET CURRENT CITY OF JACKSONVILLE SPECIFICATIONS AND/OR FDOT STANDARD SPECIFICATIONS.
- 18. REFLECTIVE PAVEMENT MARKERS THAT DO NOT CONFLICT WITH PERMANENT (THERMOPLASTIC) MARKINGS SHALL BE PLACED ON ALL FINAL ASPHALTIC CONCRETE SURFACES IMMEDIATELY AFTER THE TEMPORARY PERMANENT STRIPING IS IN PLACE.
- 19. PAVEMENT MARKINGS REMOVAL; 19.a. PAINT BLACKOUT METHOD OF PAVEMENT MARKINGS REMOVAL IS NOT

CONSTRUCTION.

DETAIL SHEETS.

- 19.b. GRINDING OR HYDRO BLAST METHODS SHALL BE USED ON WEATHERED ASPHALT SURFACES.
- REMOVAL ON NEW ASPHALT SURFACES SHALL BE BY HYDRO BLAST METHOD ONLY.
- 20. 48 HOURS PRIOR TO INSTALLING ANY PAVEMENT MARKINGS ON ANY CITY OF JACKSONVILLE ROADWAY OR STREET, THE CONTRACTOR SHALL CONTACT THE PAVEMENT MARKING INSPECTOR AT PHONE NUMBER (904)
- 21. IN THE EVENT OF A CONFLICT BETWEEN THE SPECIFICATIONS OF THE CITY OF JACKSONVILLE AND THE SPECIFICATIONS OF THE FDOT, THE CITY OF JACKSONVILLE WILL PREVAIL.

1. ALL WATER, REUSE WATER, SANITARY SEWER AND STORM SEWER CONSTRUCTION SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR, LICENSED UNDER THE PROVISIONS OF CHAPTER 489 FLORIDA STATUTES. THE CONTRACTOR SHALL FURNISH COPY OF THE CURRENT LICENSE AND QUALIFIERS TO THE DESIGN ENGINEER PRIOR TO START OF CONSTRUCTION. ALL WATER, REUSE WATER AND SEWER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH JEA STANDARDS, DETAILS AND MATERIALS MANUAL (LATEST REVISIONS) UNLESS MORE STRINGENT STANDARDS ARE SPECIFIED.

WATER, REUSE, & SEWER REQUIREMENTS

- FIRE PROTECTION MAINS (NON-JEA OWNED WATER SYSTEMS) SHALL BE C-900 PVC DR18 PIPE AND SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA REQUIREMENTS BY A FLORIDA LICENSED CONTRACTOR QUALIFIED TO INSTALL FIRE PROTECTION MAINS. LOCAL PERMITTING AND INSPECTION OF FIRE PROTECTION SYSTEM INSTALLATION, FLUSHING AND TESTING IS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR LOCAL PERMIT, NOTICE, AND COMPLIANCE WITH PERMIT.
- 3. FINAL CONNECTION TO THE JEA SYSTEM MAY BE CONTINGENT UPON THE CONSTRUCTION, DEDICATION, AND FINAL ACCEPTANCE OF OFF-SITE SYSTEMS.
- 4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER (AND THE JEA IF REQUIRED) ON ALL STRUCTURES AND MATERIALS, FOR REVIEW AND APPROVAL PRIOR TO PURCHASÉ OR FABRICATION OF ANY UTILITY PIPE OR STRUCTURE.
- UNSUITABLE MATERIALS UNDER UTILITY PIPES AND STRUCTURES SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL, PROPERLY COMPACTED IN ACCORDANCE WITH THE
- MECHANICALLY RESTRAINED JOINTS ARE REQUIRED ON PRESSURE MAINS AT VALVES, FITTINGS AND DEAD ENDS IN ACCORDANCE WITH JEA STANDARDS.
- CONTRACTOR SHALL FURNISH AND INSTALL LOCATE WIRING ON ALL PVC WATER MAINS, REUSE MAINS, FORCE MAINS, POLYETHYLENE AND PVC WATER SERVICES, INSTALLATION SHALL BE IN ACCORDANCE WITH JEA STANDARDS, DETAILS AND MATERIAL MANUAL, LATEST EDITION.
- 8. ALL POINTS OF CONNECTION FOR WATER, REUSE WATER AND SEWER MUST BE IN ACCORDANCE WITH THE AVAILABILITY RESPONSE FROM JEA.
- 9. F.D.E.P. PERMITS SUBMITTED THROUGH THE DEPARTMENT FOR PROCESSING SHALL BE IN CONFORMANCE WITH BOTH THE DESIGN PLANS AND THE WATER AND SEWER AVAILABILITY RESPONSE. ANY MINOR OR MAJOR DEVIATIONS BETWEEN THE PRELIMINARY DESIGN AND FINAL DESIGN SUBMITTAL SHALL REQUIRE REVISED F.D.E.P. PERMITS REFLECTING THESE
- 10. A JEA PRE-CONSTRUCTION CONFERENCE MUST BE HELD PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL CONTACT THE JEA NEW DEVELOPMENT PROJECT COORDINATOR: CHRIS BARRINGTON OR JEA DESIGNEE AT (904) 665-4081 TO SCHEDULE THIS CONFERENCE.
- 11. A TAP APPLICATION FEE IS REQUIRED AND SHALL BE PAID @ 515 N. LAURA ST., 1ST FLOOR. THIS MUST BE ACCOMPLISHED PRIOR TO CONNECTION TO THE JEA'S SYSTEM (WATER, SEWER, REUSE). IN ADDITION, CAPACITY FEES MUST BE PAID AT TIME OF OR PRIOR TO THE TAP FEE AND WILL BE BASED ON THE TOTAL NUMBER OF FIXTURE UNITS AND OR AVERAGE DAILY
- 12. THE CONTRACTOR SHALL MINIMIZE SERVICE INTERRUPTIONS AND MAINTAIN ANY EXISTING WATER AND SEWER SERVICE TO MEET THE SYSTEM DEMANDS AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF AFFECTED CUSTOMERS AND UTILITY A MINIMUM OF 48 HOURS IN ADVANCE OF ANY INTERRUPTION OF SERVICE.
- 13. CONTRACTOR SHALL OBTAIN A COPY OF THE F.D.E.P. OR JEA WATER AND SEWER PERMITS FROM THE ENGINEER PRIOR TO START OF CONSTRUCTION AND MUST COMPLY WITH ALL CONDITIONS OF PERMIT(S).
- 14. ALL JEA ELECTRICAL CONDUIT WORK SHALL BE COMPLETED PRIOR TO THE PRESSURE TESTING OF WATER MAINS, REUSE MAINS AND SEWAGE FORCE MAINS. ALL PRESSURE TESTING AND PUMP TESTING SHALL BE WITNESSED BY JEA AND THE ENGINEER.

#### WATER AND REUSE MAINS

- 15. UNLESS OTHERWISE INDICATED, ALL WATER MAINS AND REUSE MAINS WILL BE PVC DR18, C-900/C-905 (AS APPROPRIATE) PIPE. ALL 2" MAINS SHALL BE HDPE CTS SDR 9.
- 16. WATER MAINS AND REUSE MAINS SHALL HAVE A MINIMUM OF 30" COVER UNDER UNPAVED AREAS AND 36" MINIMUM COVER FROM FINISHED GRADE UNDER PAVED AREAS UNLESS OTHERWISE SHOWN. ADDITIONAL COVER IS REQUIRED FOR VALVE INSTALLATION CLEARANCE FOR PIPE GREATER THAN 8 INCHES IN DIAMETER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT INSTALLED PIPING UNTIL FINAL ACCEPTANCE BY F.D.E.P AND JEA.
- ALL WATER MAINS AND REUSE MAINS SHALL BE FLUSHED IN ACCORDANCE WITH, AND UNDER THE DIRECTION OF THE JEA.
- 18. HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER MAINS AND REUSE MAINS AND HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER MAINS AND REUSE MAINS TO OTHER UTILITIES SHALL BE IN ACCORDANCE WITH JEA AND F.D.E.P. REQUIREMENTS.
- 19. ALL GATE VALVES SHALL BE JEA STANDARD. VALVES SHALL BE MECHANICAL JOINT, CAST IRON, BRONZE FITTED WITH RESILIENT SEAT. ALL VALVES SHALL OPEN BY TURNING TO THE LEFT. VALVES SHALL BE RATED AT 250 PSI WORKING PRESSURE AND 500 PSI TEST
- 20. ALL NEW AND / OR RELOCATED WATER MAIN AND REUSE MAIN PIPE AND FITTINGS SHALL NOT CONTAIN MORE THAN EIGHT PERCENT LEAD, AND ALL PACKING AND JOINT MATERIALS USED IN THE JOINTS SHALL CONFORM WITH ALL APPLICABLE AWWA STANDARDS. ALL NEW AND / OR RELOCATED SERVICES AND PLUMBING SHALL CONTAIN NO MORE THAN EIGHT PERCÉNT LEAD AND ALL SOLDERS AND FLUX SHALL CONTAIN NO MORE THAN 0.2 PERCENT

- ALL FIRE HYDRANTS SHALL BE JEA STANDARD. FIRE HYDRANTS LOCATED WITHIN JEA RIGHT OF WAYS OR EASEMENTS SHALL BE PAINTED YELLOW. ALL PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED, OR IN ACCORDANCE WITH LOCAL REQUIREMENTS.
- 22. ALL FIRE HYDRANTS THAT ARE SUPPLIED BY A FIRE PUMP AND SUBJECT TO HIGH PRESSURE (IN EXCESS OF 60 P.S.I.) SHALL BE PAINTED GREEN WITH RED LETTERS "H.P." APPROXIMATELY 2" HIGH. THESE LETTERS SHALL BE STENCILED ON THE HYDRANT IN A CONSPICUOUS/ VISIBLE AREA.
- 23. ALL NEW FIRE HYDRANT INSTALLATIONS, PUBLIC AND PRIVATE, SHALL HAVE A BLUE F.D.O.T. TYPE REFLECTIVE PAVEMENT MARKER INSTALLED IN THE CENTER OF THE TRAFFIC LANE NEAREST THE NEW FIRE HYDRANT.
- 24. ALL WATER MAINS SHALL BE BACTERIOLOGICAL AND PRESSURE TESTED AT 150 PSI FOR 2 HOURS IN ACCORDANCE WITH AWWA STANDARDS AND JEA STANDARD REQUIREMENTS. NO CONNECTION TO THE EXISTING POTABLE WATER SYSTEM SHALL BE ALLOWED UNTIL ALL PROPOSED WATER LINES HAVE BEEN PRESSURE TESTED, DISINFECTED, AND CLEARED FOR SERVICE. THE ENGINEER MUST BE NOTIFIED 48 HOURS PRIOR TO PERFORMING THE PRESSURE TEST. DISINFECTION SHALL BE IN ACCORDANCE WITH AWWA-C-651. REUSE MAINS REQUIRE PRESSURE TEST ONLY.
- 25. ALL BACKFLOW PREVENTORS SHALL BE IN ACCORDANCE WITH JEA CROSS CONNECTION CONTROL PROGRAM. BACKFLOW PREVENTORS MUST BE TESTED AFTER INSTALLATION BY A CERTIFIED TESTER AND ANNUALLY THEREAFTER. THE CONTRACTOR SHALL CONTACT JEA COORDINATOR OR JEA DESIGNEE: BILL POUND AT (904) 665—5787. BACKFLOW PREVENTORS ON FIRE LINES OR COMBINATION FIRE/POTABLE MAINS SHALL BE HAVE FREEZE PROTECTION.
- 26. THE WATER TAPS DEPICTED ON THESE DESIGN PLANS SHALL BE CONSTRUCTED AS FOLLOWS: ALL POTABLE, REUSE. AND IRRIGATION WATER TAPS, FIRE LINE SERVICES AND FIRE HYDRANT INSTALLATIONS SHALL BE PERFORMED BY A LICENSED MASTER PLUMBER OR UNDERGROUND UTILITY CONTRACTOR UNDER THE FOLLOWING CONDITIONS: THE TAPS ARE TO BE SCHEDULED 48 HOURS IN ADVANCE WITH JEA. 2.) TAPS REQUIRING METER INSTALLATIONS OF SIZE 2" AND BELOW MUST INCLUDE THE SÉRVICE PIPE, METER BOX, AND CORP. STOP SIZED READY TO ACCEPT THE METER
- 3.) JEA FORCES WILL INSTALL THE METER UPON APPLICATION AND PAYMENT BY LICENSED MÅSTER PLUMBER OR UTILITY CONTRACTOR AT JEA WATER AND SEWER, 515 N. LAURA ST., 4.) ALL TAPS REQUIRING METER INSTALLATIONS OF SIZE 3" AND ABOVE SHALL TERMINATE SIZED READY FOR VAULT, METER AND BYPASS INSTALLATION. VAULT FURNISHED BY

CONTRACTOR. INSTALLATION BY JEA FORCES. SPECIAL ESTIMATE REQUIRED.

WATER METERS SHALL NOT BE LOCATED WITHIN PAVEMENT, CURB AND GUTTER OR DRIVEWAYS.

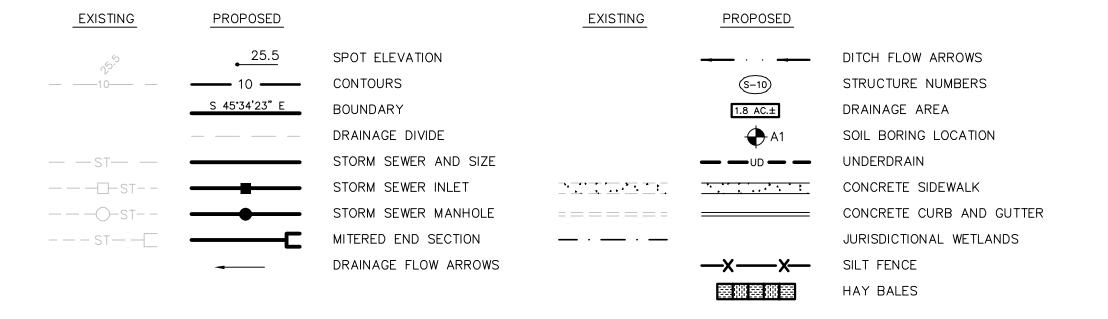
INSTALLATION BY JEA FORCES.

28. IF SOLVENT CONTAMINATION IS FOUND IN THE PIPE TRENCH, WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH APPROVAL OF THE PERMITTING AGENCY, DUCTILE IRON PIPE. FITTINGS AND SOLVENT RESISTANT GASKET MATERIAL SUCH AS FLUOROCARBON SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE PIPE SHALL EXTEND AT LEAST 100 FEET BEYOND ANY SOLVENT NOTED. ANY CONTAMINATED SOIL THAT IS EXCAVATED SHALL BE PLACED ON AN IMPERMEABLE MAT AND COVERED WITH A WATERPROOF COVERING. THE PROPER AUTHORITIES WILL BE NOTIFIED AND THE CONTAMINATED SOIL HELD FOR PROPER DISPOSAL.

- 29. ALL SEWER MAINS, SERVICES, AND FITTINGS SHALL BE PVC (ASTM-3034) SDR 26 UNLESS OTHERWISE INDICATED. FORCE MAINS SHALL BE PVC DR 18 PIPE UNLESS OTHERWISE INDICATED. FORCE MAINS SHALL BE PRESSURE TESTED THE SAME AS WATER AND REUSE
- 30. SANITARY SEWER SERVICES SHALL BE 6" PVC WITH A MINIMUM SLOPE OF 1.04% AND SHALL BE TERMINATED AT THE RIGHT-OF-WAY LINE WITH A DEPTH OF 30" TO 60" UNLESS OTHERWISE DETAILED OR RESTRICTED DUE TO DEPTH OF SEWER MAIN. FORCE MAINS SHALL HAVE A MINIMUM COVER OF 30 INCHES IN UNPAVED AREAS AND 36 INCHES IN PAVED AREAS UNLESS OTHERWISE INDICATED. SEE FORCE MAIN PROFILE SHEET(S).
- SEWER LINES AND FORCE MAINS ARE DESIGNED TO FINISHED GRADES AND SHALL BE PROTECTED UNTIL WORK IS COMPLETED AND ACCEPTED BY F.D.E.P AND JEA.
- 32. PRIOR TO THE PLACEMENT OF THE LIMEROCK BASE COURSE, THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER A SCHEDULE OF INVERT ELEVATIONS OF ALL SANITARY MANHOLES. THIS SCHEDULE SHALL BE PROVIDED BY THE REGISTERED LAND SURVEYOR SUBMITTING THE "AS-BUILT" DRAWINGS FOR THIS PROJECT.
- 33. THE CONTRACTOR SHALL INSTALL ANY ADDITIONAL AIR RELEASE VALVES AT CHANGES IN EVATION OF 2 FT. DUE TO ACTUAL FIELD CONDITIONS OR CONFLICTS NOT IDENTIFIED ON
- TELEVISION INSPECTION SHALL BE REQUIRED ON ALL GRAVITY SEWER MAINS. INSPECTION SHALL BE RECORDED ON VIDEO TAPE OR DVD. ALL LINES ARE TO BE CLEANED AND FLUSHED PRIOR TO INSPECTION. A FULL WRITTEN REPORT AS TO THE CONDITION OF THE PIPE WITH PERTINENT DATA SUCH AS DISTANCE BETWEEN MANHOLES, LOCATION OF SERVICES, ETC. SHALL BE SUBMITTED TO THE OWNER AND ENGINEER PRIOR TO ACCEPTANCE AND ONE COPY OF THE VIDEO INSPECTION SHALL BE SUBMITTED TO THE JEA. ALL DEFECTIVE AREAS AND ITEMS SHALL BE REPLACED OR REPAIRED PRIOR TO FINAL ACCEPTANCE. ALL REPAIRED SECTIONS MUST BE REINSPECTED PRIOR TO ACCEPTANCE. THE MAXIMUM DEFLECTION SHALL NOT EXCEED 7.5% OF THE NOMINAL DIAMETER IN ACCORDANCE WITH JEA STANDARDS. INFILTRATION AND/OR EXFILTRATION TESTING OF GRAVITY SEWERS MAY BE REQUIRED IF DEEMED NECESSARY BY THE ENGINEER. THE MAXIMUM ALLOWABLE INFILTRATION-EXFILTRATION RATE WILL BE 50 GALLONS PER INCH DIAMETER PER MILE PER

BACKFLOW PREVENTER

### WATER AND SEWER LEGEND



**EXISTING** EXISTING **PROPOSED** PROPOSED SANITARY SEWER LINE FIRE HYDRANT SANITARY SEWER SERVICE FLUSHING HYDRANT SANITARY SEWER MANHOLE GATE VALVE REDUCER CLEANOUT WATER MAIN REUSE WATER MAIN WATER METER

FIRE PROTECTION MAIN

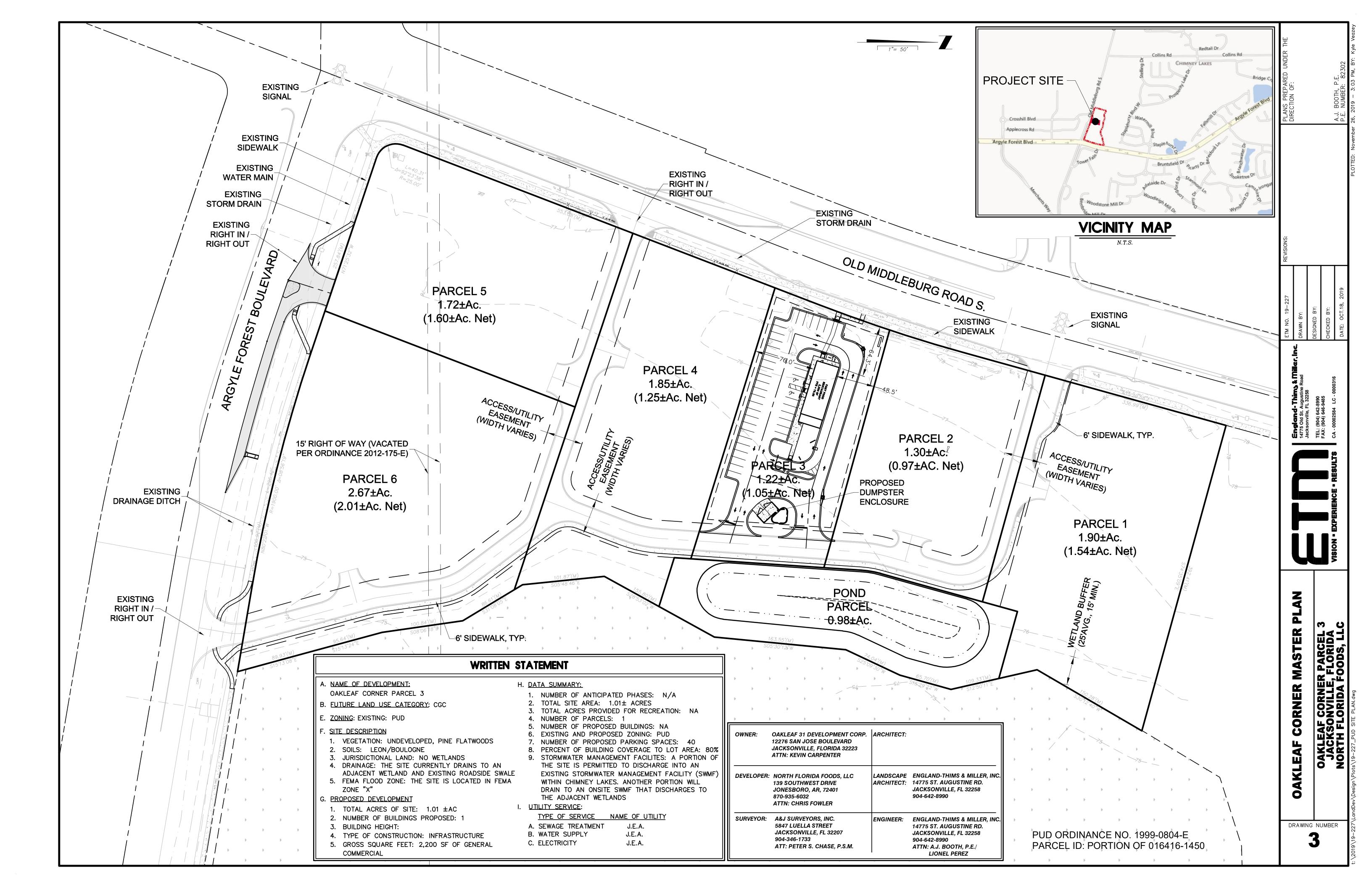
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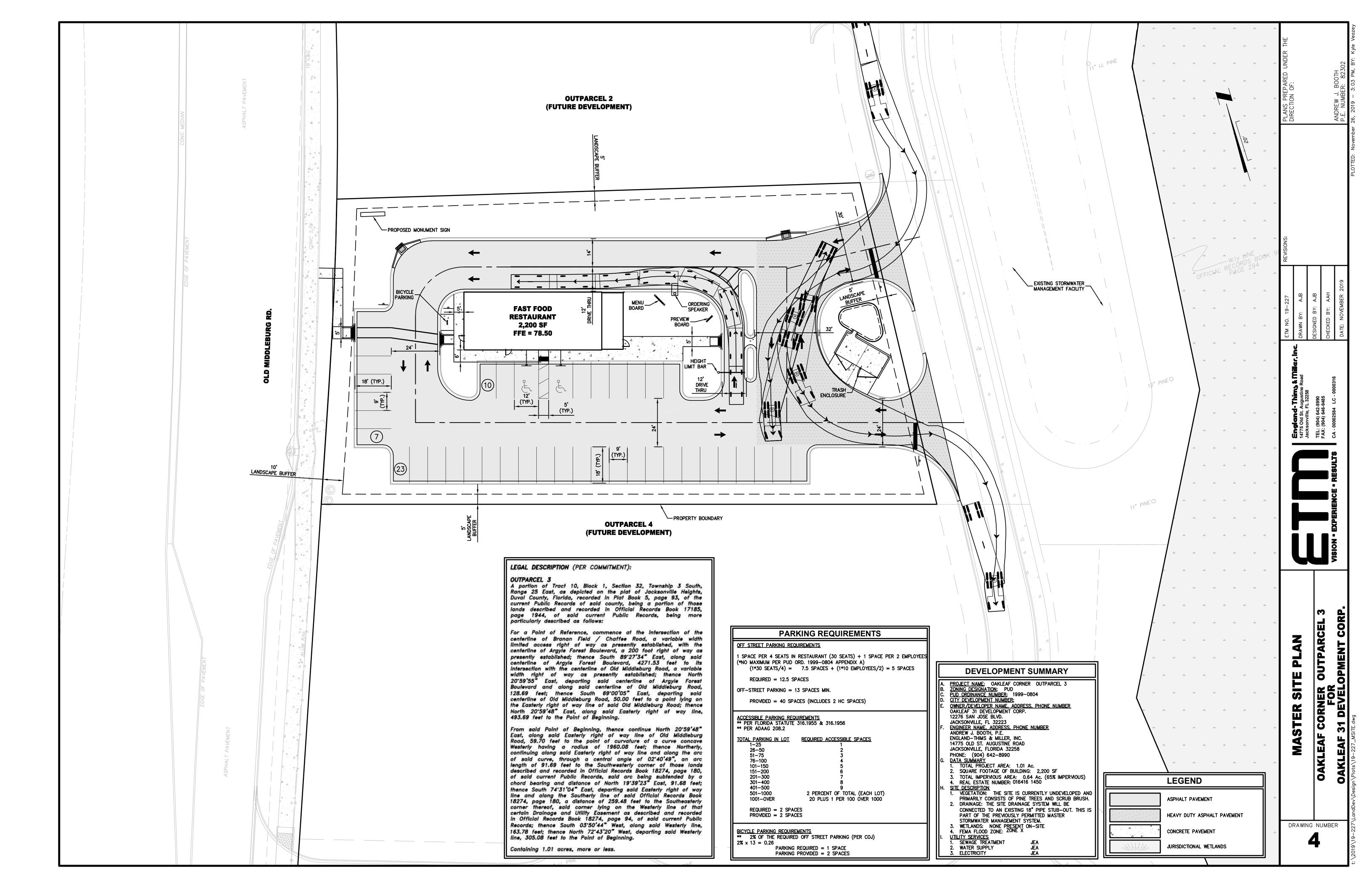
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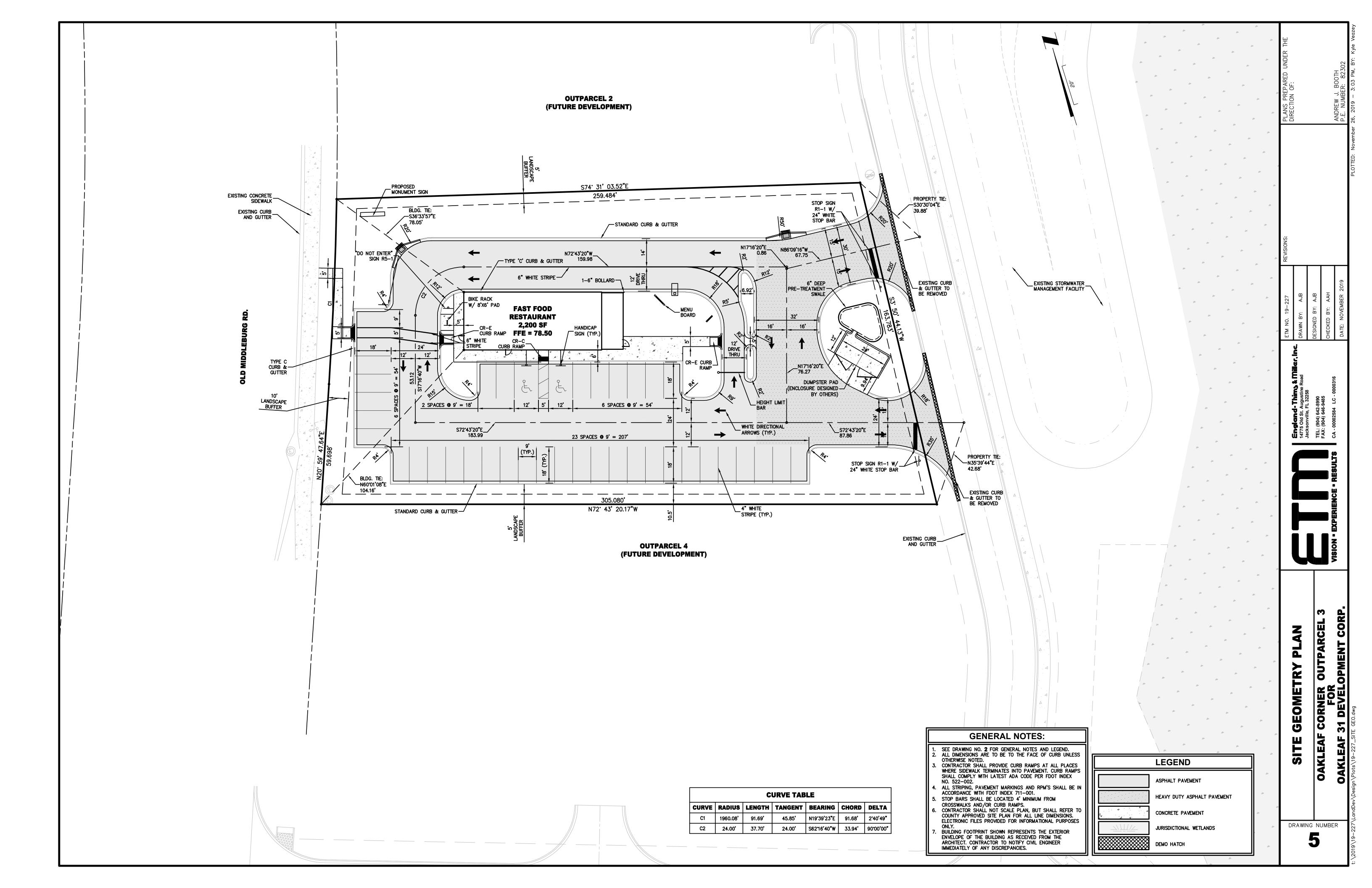
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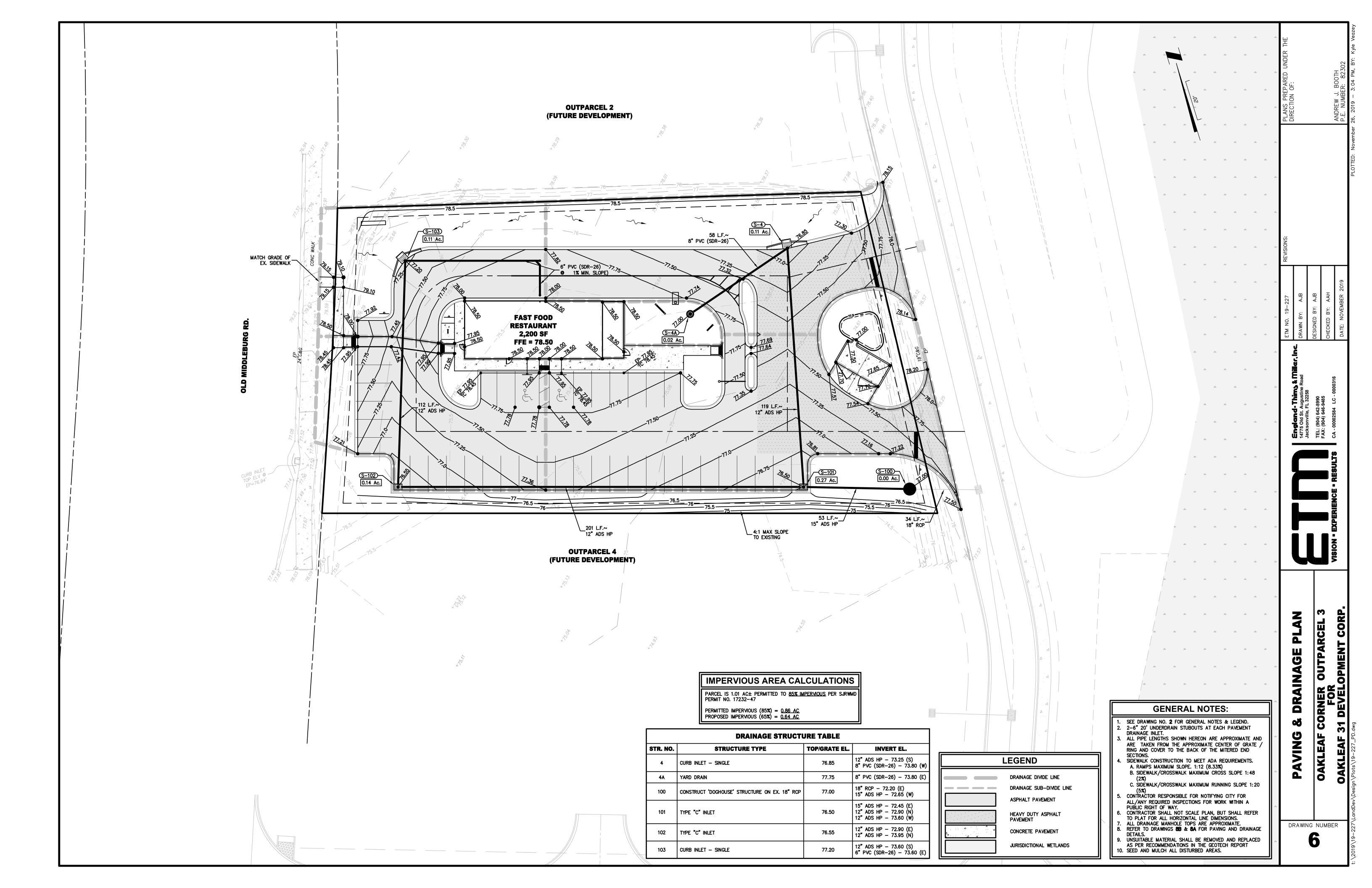
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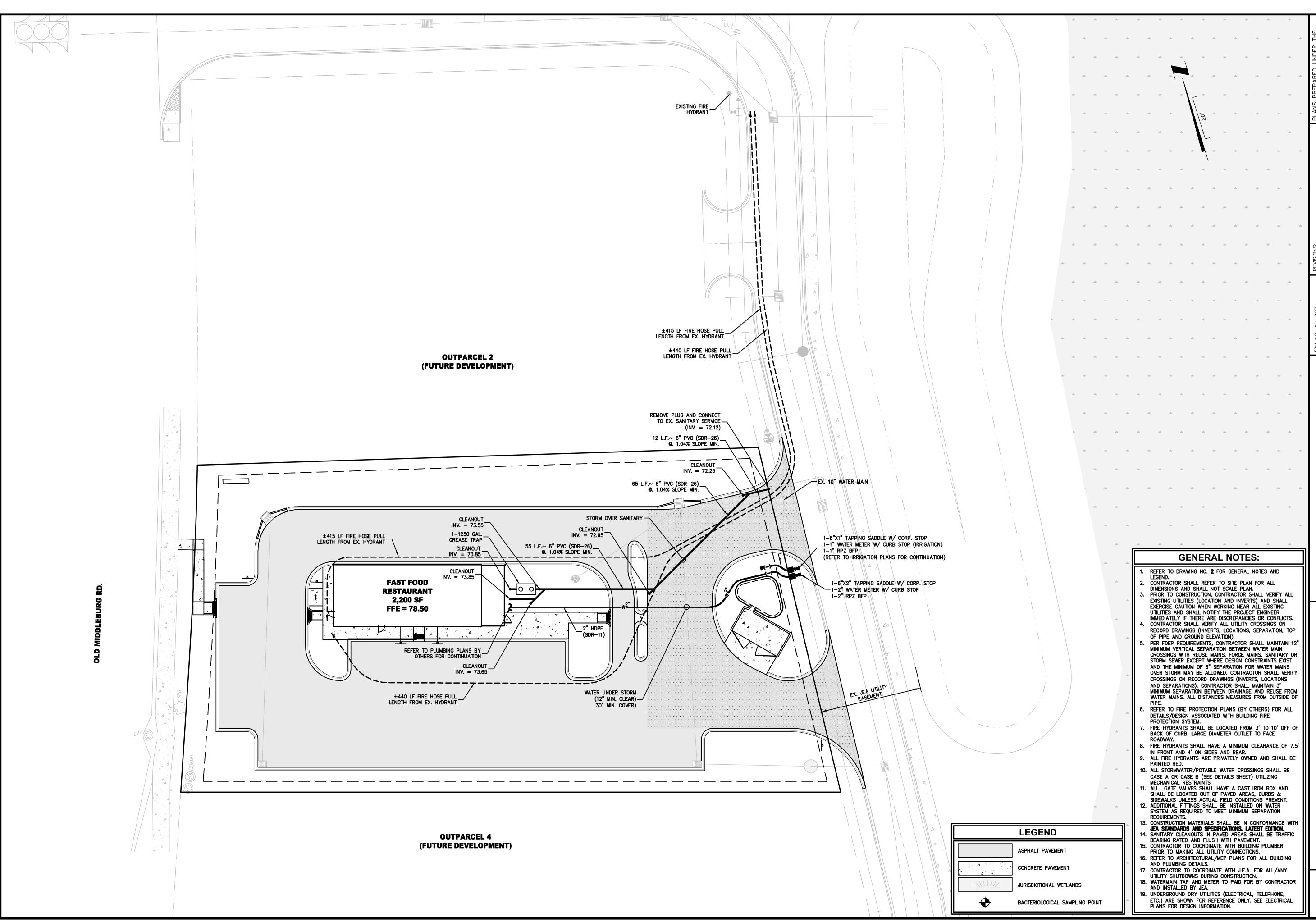
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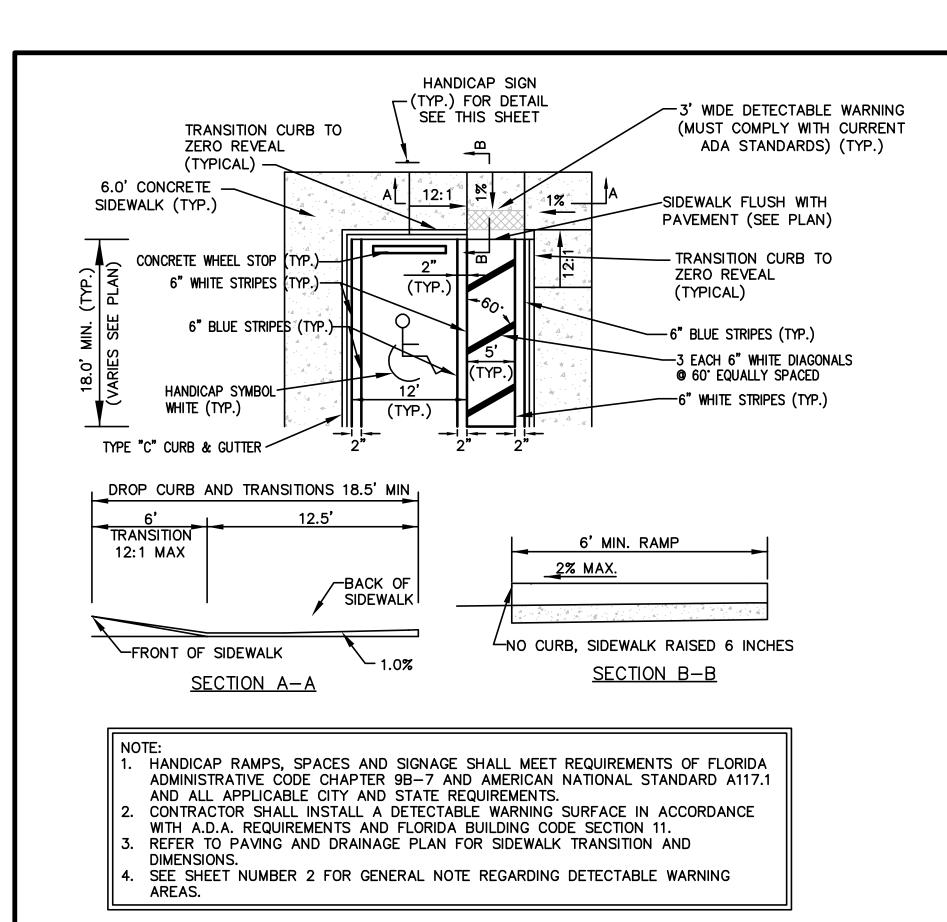






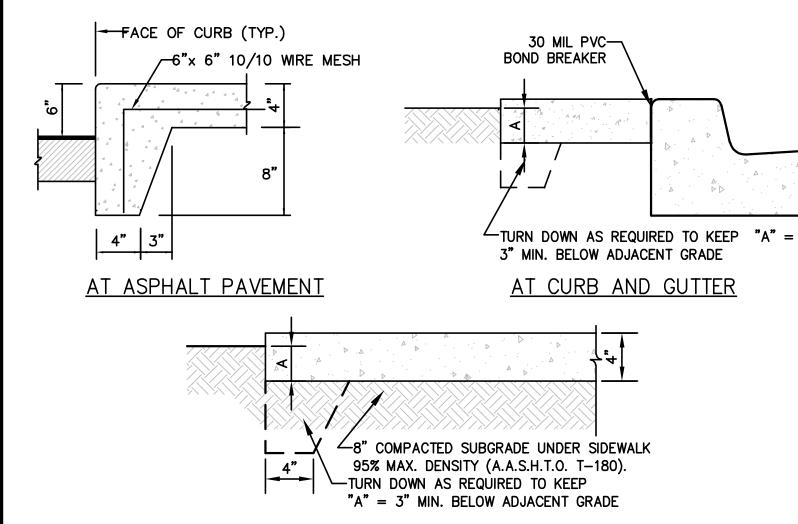


DRAWING NUMBER



#### HANDICAP RAMP DETAILS

N.T.S.

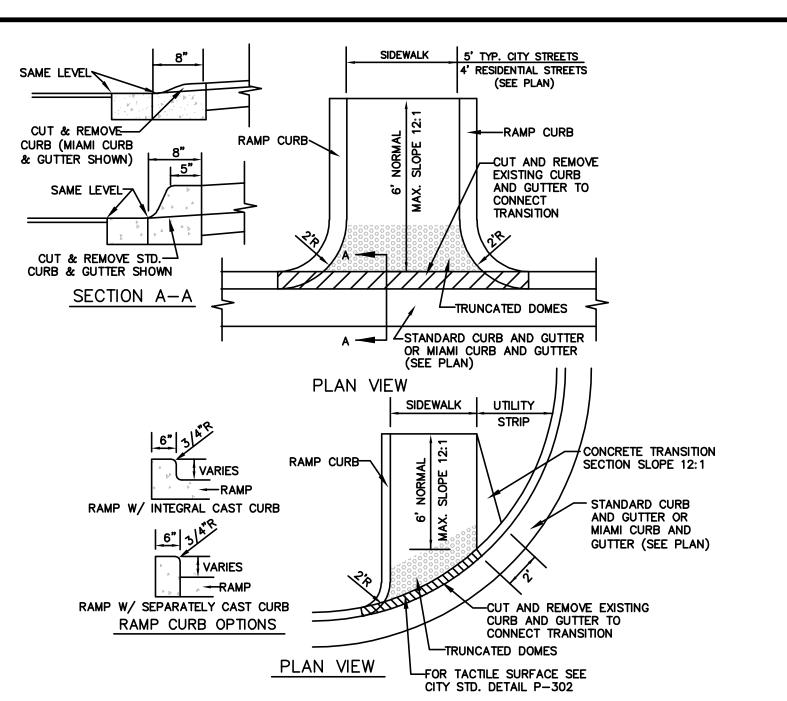


#### AT GRADE

- NOTES:

  1. CONSTRUCT STRAIGHT JOINTS WITH FACE PERPENDICULAR TO SURFACE OF CONCRETE. TRAVERSE JOINTS SHALL BE AT RIGHT ANGLES TO CENTERLINE UNLESS OTHERWISE INDICATED ON PLANS. PROVIDE EXPANSION JOINTS AT 100' INTERVAL MAXIMUM SPACING ON CENTER.
- PROVIDE EXPANSION JOINTS FILLER FOR JOINTS ABUTTING CURBS, CATCH BASINS, MANHOLES,
- INLETS STRUCTURES, WALKS AND OTHER FIXED OBJECTS UNLESS OTHERWISE INDICATED ON PLANS. EXTEND JOINTS FILLER FULL WIDTH AND DEPTH OF JOINT, AND 1/2" BELOW FINISHED SURFACE. PLACE SEALANT OVER JOINT FILLER PER MANUFACTURERS RECOMMENDATIONS.
- USE PREMOLDED ASPHALT-IMPREGNATED FIBERBOARD, 1/2" THICK CONFORMING TO ASTM D1751.
- CONTRACTION JOINT SHALL BE SAW CUT (1/4" WIDE BY 1" DEEP).
- FINISHED SURFACE FOR CONCRETE SIDEWALK SHALL BE GRAY CONCRETE WITH LIGHT BROOM FINISH PERPENDICULAR TO LINE OF TRAFFIC (UNLESS OTHERWISE INDICATED ON PLANS).
- PROVIDE CRACK CONTROL JOINTS @ (SAME AS WIDTH) O.C.
- 8. PROVIDE 16" STRIP SOD ADJACENT TO ALL EDGES OF SIDEWALK, CURB AND PAVEMENT AREAS. 9. CONCRETE COMPRESSION STRENGTH 3000 P.S.I. @ 28 DAYS UNLESS OTHERWISE APPROVED BY
- ENGINEER OF RECORD. 10. SIDEWALK TO BE CONSTRUCTED WITH SLOPES COMPLYING TO WITH LATEST ADA CODE AND FDOT INDEX 522-001. SIDEWALK MAX. VERTICAL SLOPE OF 5.0% AND MAX CROSS SLOPE OF 2.0%.

#### **CONCRETE WALK**

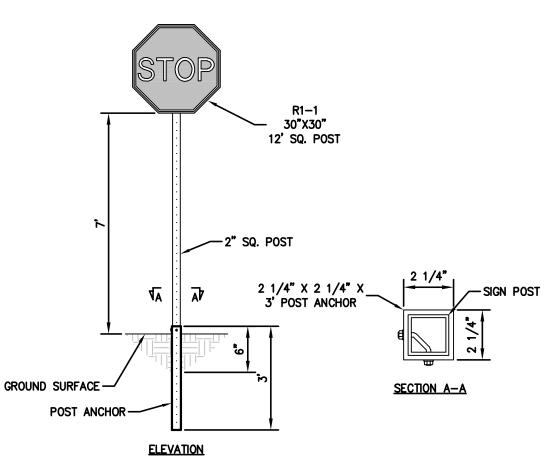


1. HANDICAP RAMPS, SPACES AND SIGNAGE SHALL MEET AMERICAN NATIONAL STANDARD A117.1 AND ALL APPLICABLE CITY AND STATE REQUIREMENTS.

2. THE CONTRACTOR SHALL INSTALL DETECTABLE WARNING SURFACES IN ACCORDANCE WITH A.D.A. REQUIREMENTS. REFER TO FDOT STANDARD INDEX 502-002 FOR FURTHER INFORMATION.

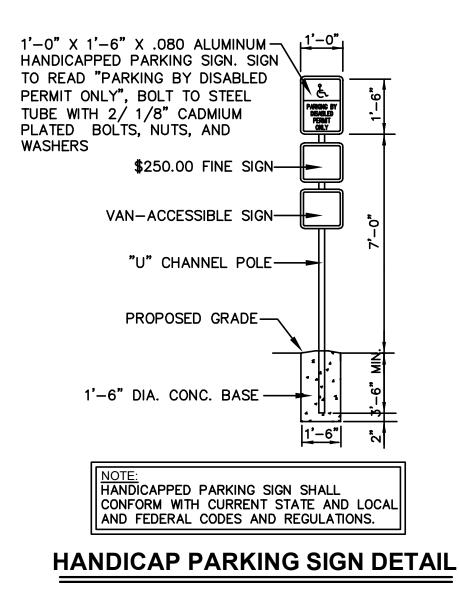
#### STANDARD HANDICAP RAMP DETAILS

N.T.S.

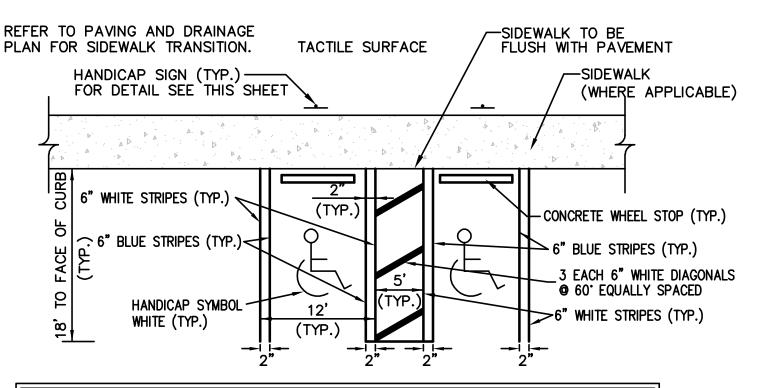


#### SIGN INSTALLATION DETAIL

N.T.S.



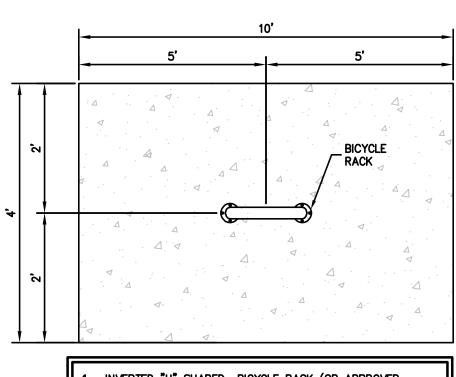
N.T.S.



HANDICAP RAMPS, SPACES AND SIGNAGE SHALL MEET AMERICAN NATIONAL STANDARD A117.1 AND ALL APPLICABLE CITY AND STATE REQUIREMENTS. THE CONTRACTOR SHALL INSTALL DETECTABLE WARNING SURFACES IN ACCORDANCE WITH A.D.A. REQUIREMENTS. REFER TO FDOT STANDARD INDEX 522-002 FOR DETECTABLE WARNING PLACEMENT.

#### UNIVERSAL HANDICAP PARKING DETAIL

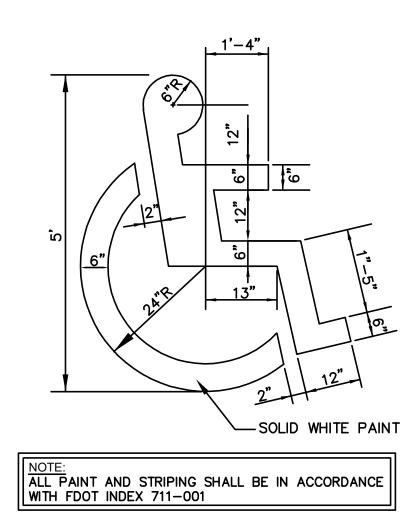
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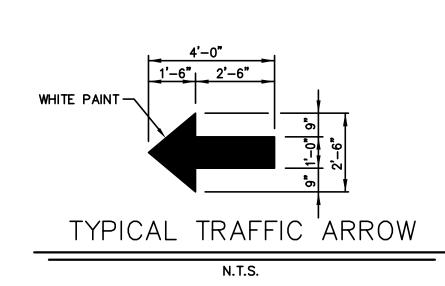
INVERTED "U" SHAPED BICYCLE RACK (OR APPROVED EQUIVALENT) HOT DIPPED GALVANIZED WITH SURFACE MOUNT RACK MUST SUPPORT BICYCLE IN TWO PLACES PER COJ LAND DEVELOPMENT CODE SEC. 656.609 BICYCLE RACKS SHALL BE A MINIMUM OF 3' FROM ANY

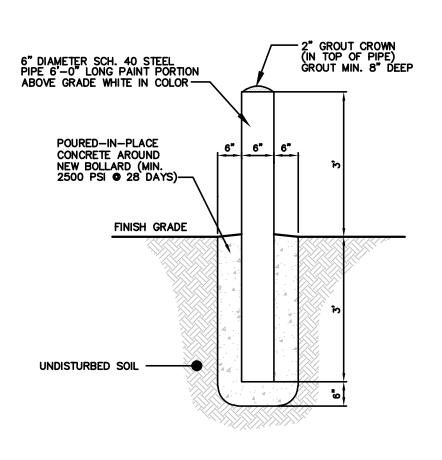
#### **BICYCLE RACK DETAIL**

N.T.S.



HANDICAP PAVEMENT MARKINGS





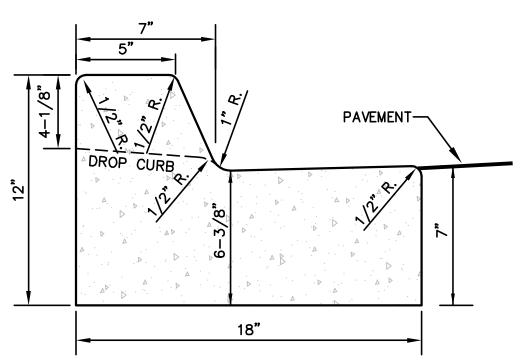
**6" PROTECTIVE BOLLARD** 

DRAIN

**DETAIL** 

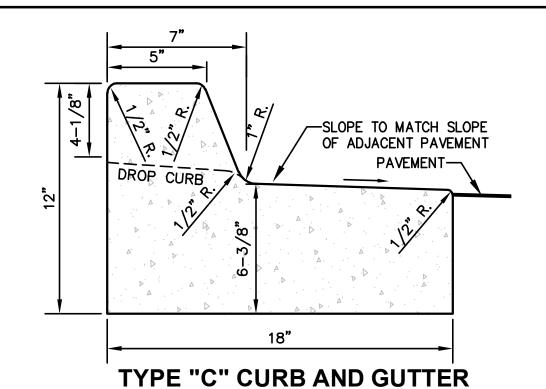
DRAWING NUMBER

**8A** 



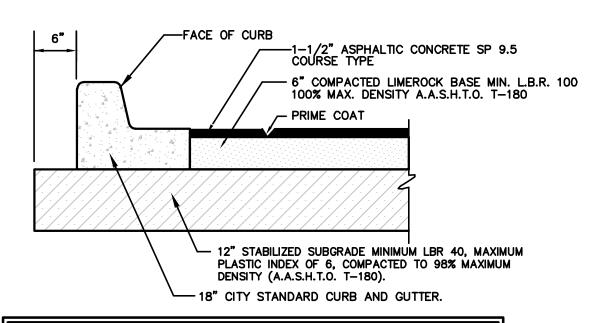
#### STANDARD CURB AND GUTTER

- 1. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE LATEST FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2. CONCRETE SHALL BE CLASS 1 CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI UNLESS OTHERWISE APPROVED BY THE ENGINEER OF
- WHEN USED ON THE HIGH SIDE OF ROADWAY SECTIONS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. WHERE THIS CONDITION IS ENCOUNTERED, THE FRONT FACE VERTICAL DIMENSION SHALL REMAIN AS SHOWN FOR NORMAL SECTIONS SHOWN HEREON.



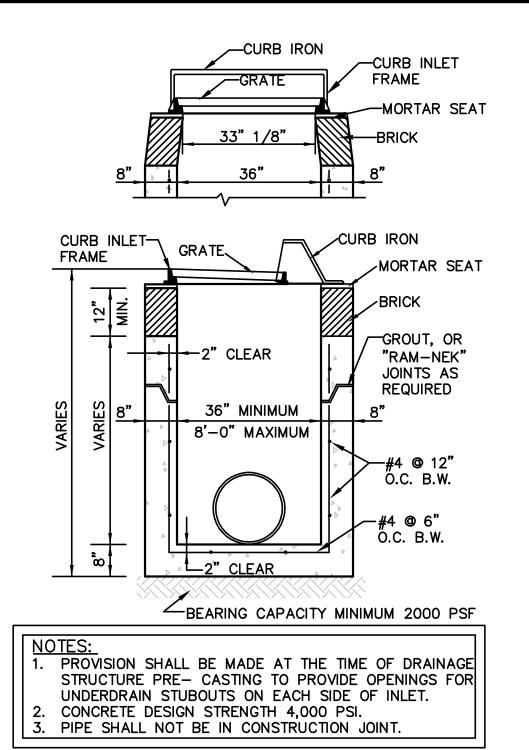
#### TO BE USED AT ALL MEDIANS N.T.S.

- MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE LATEST FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- CONCRETE SHALL BE CLASS 1 CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI UNLESS OTHERWISE APPROVED BY THE ENGINEER OF
- . WHEN USED ON THE HIGH SIDE OF ROADWAY SECTIONS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. WHERE THIS CONDITION IS ENCOUNTERED, THE FRONT FACE VERTICAL DIMENSION SHALL REMAIN AS SHOWN FOR NORMAL SECTIONS SHOWN HEREON.



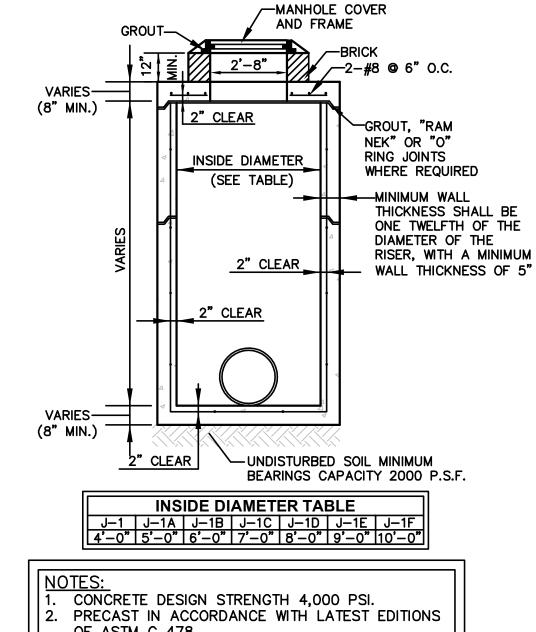
ALL DISTURBED AREAS TO BE SEEDED AND MULCHED SOIL ANALYSIS MAY INDICATE THE NEED FOR THICKER BASE COURSES THAN THOSE HEREIN. THE PAVEMENT THICKNESS SHOWN HEREIN ARE NOT INTENDED TO BE ABSOLUTE, BUT ARE PRELIMINARY CRITERIA AND MAY BE MODIFIED TO ACCOMMODATE THE BEARING CAPACITY OF VARIOUS SUBGRADES. ALL ASPHALTIC CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 331 AND/OR 333, FDOT STANDARD SPECIFICATIONS, LATEST EDITION.

TYPICAL PAVEMENT SECTION



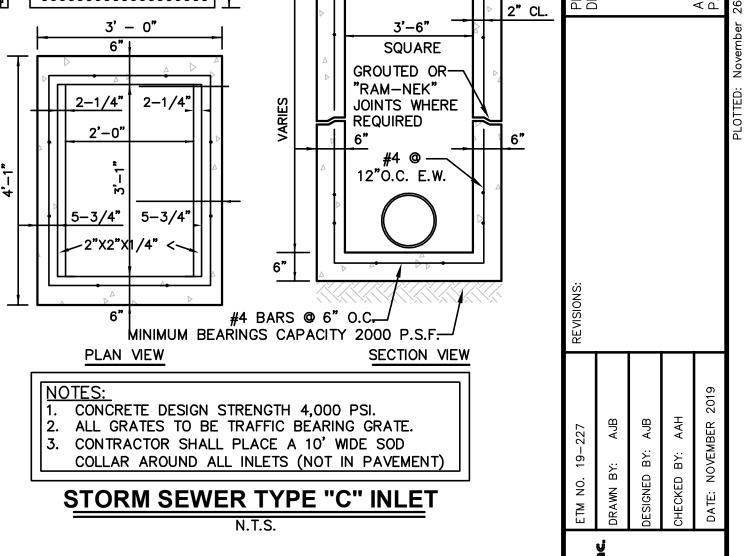
#### TYPE "A" SINGLE CURB INLET

N.T.S.



- OF ASTM C 478.
- PIPES SHALL BE FLUSH WITH INSIDE WALL. 4. IN PAVED AREAS FRAME AND GRATE MUST MATCH

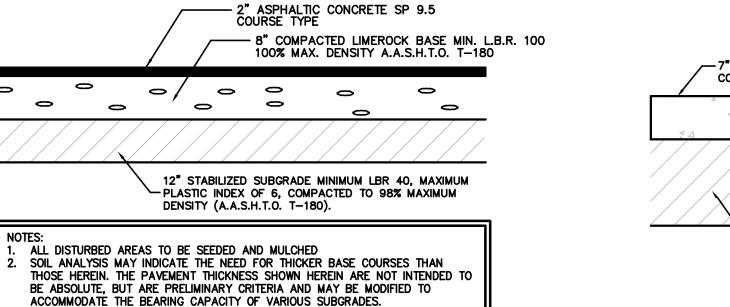
#### FINAL ASPHALT AND CROSS-SLOPE. RING AND COVER SHALL BE TRAFFIC BEARING



4' - 6"

#### STORM SEWER J-1 MANHOLE

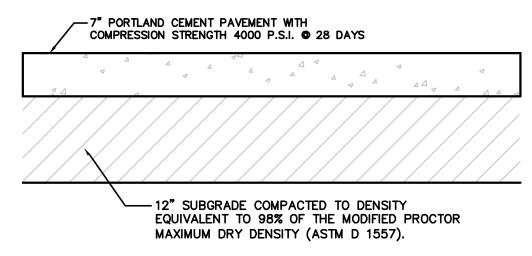
N.T.S.



#### **HEAVY DUTY ASPHALT PAVEMENT SECTION**

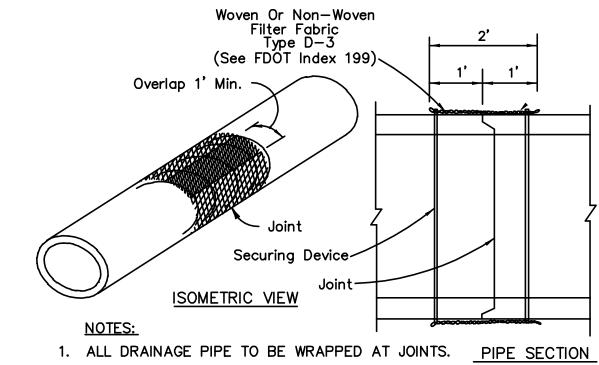
AND/OR 333, FDOT STANDARD SPECIFICATIONS, LATEST EDITION.

ALL ASPHALTIC CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 331



#### TYPICAL CONCRETE PAVEMENT SECTION

N.T.S.

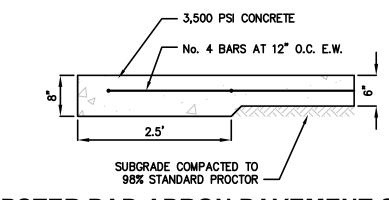


35-7/8"

COST OF FILTER FABRIC JACKET TO BE INCLUDED IN COST OF PIPE CULVERTS.

FILTER FABRIC JACKET

N.T.S.



**DUMPSTER PAD APRON PAVEMENT SECTION** 

DRAIN

DRAWING NUMBER **8B** 

NOT APPLICABLE	APPLICABLE	<u>S</u>	SURVEY AND LOCATE DATA:
		1.	ALL ELEVATIONS ARE BASED ON U.S.C.&G.S. DATUM AND SHOWN IN FEET.
		2.	ELEVATIONS ARE BASED ON NAVD 1988.
		3.	LOCATION OF EXISTING UTILITIES OBTAINED BY SOFT DIG LOCATES WHERE SHOWN ON PLANS, OR INCLUDED WITH BID SPECS.
		4.	EXISTING WATER AND SEWER LINES ARE SHOWN AS PER FIELD LOCATES AND SUBDIVISION AS-BUILT PLANS.
		5.	UNDERGROUND UTILITIES WERE LOCATED UTILIZING GROUND PENETRATING RADAR (GPR) AND A DIGITAL LOCATOR. CONTRACTOR SHALL BE AWARE THAT IN SOME CASES UTILITIES HAVE BEEN LOCATED, AND SURVEY HAS BEEN COMPLETED ONLY ON ONE SIDE OF THE ROAD.
		6.	ALL PIPE LENGTHS SHOWN ON PLAN AND PROFILES ARE FROM CENTER TO CENTER OF MANHOLES, CATCH BASINS, INLETS ETC. OR ALONG THE CENTER LINE OF FORCE MAINS AND WATER MAINS.
		7.	INVERT ELEVATIONS SHOWN ON DRAWINGS REFER TO THE CENTERLINE OF MANHOLES, UNLESS OTHERWISE INDICATED.
		8.	THE LOCATION OF ALL EXISTING SEWER AND WATER SERVICE LINES MAY NOT BE INDICATED ON THESE PLANS. THE LOCATION OF NEW SERVICES SHALL BE VERIFIED IN THE FIELD.
	$\boxtimes$	9.	BENCHMARK DATA:
		<u>P</u>	ERMIT REQUIREMENTS (NOT ALL INCLUSIVE):
		1.	CONTRACTOR TO OBTAIN ALL REQUIRED RIGHT-OF-WAY PERMITS.
		2.	CONTRACTOR SHALL NOT OPEN CUT STREETS IN THE PROJECT AREA UNLESS SPECIFICALLY SHOWN ON PLANS
		3.	THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CONSUMPTIVE USE PERMIT (C.U.P.) THROUGH THE ST. JOHNS WATER MANAGEMENT DISTRICT SHOULD DEWATERING ACTIVITIES BE REQUIRED.
		4.	THE DEPARTMENT OF TRANSPORTATION, RAILROAD COMPANIES AND C.O.J. ARE TO BE NOTIFIED IN ADVANCE OF CONSTRUCTION PER THEIR RESPECTIVE PERMIT CONDITIONS.
		5.	ALL WORK SHALL BE IN ACCORDANCE WITH BID DOCUMENTS, JEA WATER AND SEWER STANDARDS, DETAILS AND MATERIALS MANUAL, REV. 2018. AND CITY OF JACKSONVILLE STANDARD SPECIFICATIONS AND DETAILS AND ALL APPLICABLE STATE AND LOCAL REGULATIONS.
	×	6.	IF SOLVENT CONTAMINATION IS FOUND IN THE PIPE TRENCH, WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH APPROVAL OF THE PERMITTING AGENCY, DUCTILE IRON PIPE, FITTINGS AND SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST 100 FEET BEYOND ANY SOLVENT NOTED.
		7.	THE CONTRACTOR SHALL NOTIFY APPLICABLE UTILITY CONTACT PERSONNEL NOT LESS THAN ONE WEEK PRIOR TO CONSTRUCTION OF FACILITIES IN THEIR RESPECTIVE AREAS.
		8.	TREE PROTECTION SHALL BE IN ACCORDANCE WITH JACKSONVILLE ORDINANCE CODE 656 AND/OR AS DETAILED ON SPECIFIC PLAN SHEETS. NO TRIMMING OF OVERHANGING TREE LIMBS WILL BE ALLOWED. USE SMALLER EQUIPMENT IF NECESSARY.
		9.	THE CONTRACTOR SHALL LOCATE THE DRAINAGE INLET STRUCTURES IN THE PROJECT AREA AND ERECT SEDIMENTATION CONTROL DEVICES AS NECESSARY PER THE CITY OF JACKSONVILLE STORMWATER POLLUTION PREVENTION PLAN.
		10.	CONTRACTOR TO COORDINATE WORK WITH OTHER UTILITIES DURING CONSTRUCTION.
		F	XISTING LITH ITY PROTECTION:

#### EXISTING UTILITY PROTECTION.

- 1. IN ORDER TO REDUCE THE DISRUPTION AND COST OF UTILITY DAMAGES OCCURRING IN THE DUVAL COUNTY RIGHT-OF-WAY AND EASEMENTS, THE CONTRACTOR SHALL PREVENT DAMAGES TO EXISTING UTILITIES CAUSED BY HIS WORK THROUGH FIELD VERIFICATION OF THE LOCATION OF THE EXISTING UTILITIES. IN THE CASE OF OPEN EXCAVATION, VERIFICATION MAY BE PERFORMED DURING THE CONTRACTORS WORK. IN THE CASE OF DIRECTIONAL DRILLING, VERIFICATION SHALL TAKE PLACE PRIOR TO MOBILIZATION OF THE DRILLING EQUIPMENT.
- 2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES AS NEEDED TO AVOID CONTACT. EXISTING UTILITIES SHALL BE EXPOSED USING DETECTION EQUIPMENT OR OTHER ACCEPTABLE MEANS. SUCH METHODS MAY INCLUDE BUT SHALL NOT BE LIMITED TO "SOFT DIG" EQUIPMENT AND GROUND PENETRATING RADAR (GPR). THE EXCAVATOR SHALL BE HELD LIABLE FOR DAMAGES CAUSED TO THE CITY'S/JEA'S INFRASTRUCTURE AND THE EXISTING FACILITIES OF OTHER UTILITY COMPANIES.
- 3. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND AVOID ALL UTILITIES, OTHER STRUCTURES AND OBSTRUCTIONS BOTH ABOVE AND BELOW GROUND SURFACE. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

### **RESTORATION NOTES:**

- 1. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR, REGISTERED IN THE STATE OF FLORIDA, TO REFERENCE AND RESTORE PROPERTY CORNERS AND LANDMARKS WHICH MAY BE DISTURBED BY CONSTRUCTION, KNOWN CORNER LOCATIONS ARE AVAILABLE FROM THE CITY OF JACKSONVILLE ENGINEERING DIVISION.
- 2. THE CONTRACTOR SHALL RESTORE/REPLACE ALL CULVERTS, HEADWALLS AND STORM DRAIN INLETS REMOVED OR DISTURBED BY THE CONSTRUCTION OPERATION.
- 3. TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION IN ACCORDANCE WITH CITY OF JACKSONVILLE/FDOT STANDARD SPECIFICATIONS.
- 4. SIDEWALKS, DRIVEWAYS AND CURBING DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN ACCORDANCE WITH JACKSONVILLE STANDARD SPECIFICATIONS. SIDEWALKS REMOVED AND REPLACED IN CURB AND GUTTER AREAS AT INTERSECTIONS SHALL HAVE HANDICAP RAMPS INSTALLED. DRIVEWAYS AND SIDEWALKS SHALL BE SAWCUT ALONG THE RIGHT-OF-WAY LINE OR NEAREST JOINT AND REMOVED AND REPLACED TO THE EDGE OF STREET.
- 5. GRASS SOD SHALL BE FURNISHED AND PLACED IN THE AREAS DISTURBED OR DAMAGED BY THE CONSTRUCTION OPERATION.
- 6. ALL PAVEMENT REPAIR SHALL BE IN ACCORDANCE WITH THE CITY OF JACKSONVILLE/FDOT STANDARD DETAILS AND SPECIFICATIONS LATEST EDITION.
- 7. UNLESS OTHERWISE NOTED, REMOVE AND REPLACE EXISTING PAVEMENT AS PER C.O.J. CASE X (10) PAVEMENT REPLACEMENT DETAIL.
- 8. CONTRACTOR MUST MAINTAIN AND PRESERVE NEWLY GRADED AREAS AND REPAIR AREAS WHERE SETTLING AND EROSION

### **UTILITY CONTACTS:**

A. AT&T ~ GENERAL NUMBER— — — — — — — — — — — — — — — — — — —	<b> 9</b> 04-519-252
B. AT&T ~ ADAM DUGAN ~ NORTH DISTRICT— — — — — — — — — — — — — — — — — — —	
C. AT&T ~ BILL LAKE ~ SOUTH DISTRIC <del>T</del> — — — — — — — — — — — — — — — — — — —	
D. CITY OF JACKSONVILLE ~ PUBLIC WORKS DEPT.— — — — — — — — — — — — — — — — — — —	<b>- — — — — — — —</b> —904-255-876
E. CITY OF JACKSONVILLE ~ TRAFFIC OPERATIONS— — — — — — — — — — — — — — — — — — —	
F. FLORIDA DEPT. OF TRANSPORTATION— — — — — — — — — — — — — — — — — — —	<b> </b>
G. JEA ~ WATER COLLECTION & DISTRIBUTION ~ BOB ALLSBROOK — — — — — — — — — —	<b> 9</b> 04-665-729
H. JEA ~ SEWER COLLECTION & DISTRIBUTION ~ BOB ALLSBROOK	<b> </b>
I. JEA ~ GENERAL INFORMATION— — — — — — — — — — — — — — — — — — —	<b>- — — — — — — —</b> — 904-665-600
J. JEA ~ PROJECT OUTREACH— — — — — — — — — — — — — — — — — — —	- <b>— — — — — — —</b> — 904-665-750
K. JEA ~ POWER OUTAGES— — — — — — — — — — — — — — — — — — —	
L. JEA ~ SEWER PROBLEMS— — — — — — — — — — — — — — — — — — —	
M. JEA ~ WATER PROBLEMS— — — — — — — — — — — — — — — — — — —	
N. JEA ~ WATER & SEWER LOCATES— — — — — — — — — — — — — — — — — — —	
O. NASSAU COUNTY ~ PUBLIC WORKS ~ CHARLES HOUSTON— — — — — — — — — — — —	
P. ST. JOHNS COUNTY ~ RIGHT-OF-WAY PERMITTING ~ RICK MAULDIN— — — — — — — — —	<b> </b>
Q. ST. JOHNS COUNTY ~ TRAFFIC SIGNALS ~ HANK MEIN— — — — — — — — — — — —	
R. COMCAST ~ EMERGENCY HOTLINE- — — — — — — — — — — — — — — — — — — —	
S. TECO/PEOPLES GAS ~ BEN MOBLEY— — — — — — — — — — — — — — — — — — —	
T. SUNSHINE ONE CALL———————————————————————————————————	<b></b>

i.	NOT APPLICABLE	APPLICABLE	<u>IN</u>	ISTALLATION NOTES:	ims & Miller, Inc. stine Road 258
			1.	CONTRACTOR TO REHABILITATE ALL MANHOLES ON PIPE BURST SEWERS VIA COATING/LINING PER JEA SPECIFICATION 446-2, UNLESS OTHERWISE NOTED ON THE PLANS.	ind-Th 1 St. Augu ille, FL 32 3 642-8990
			2.	CONTRACTOR TO RENEW, REHABILITATE, REPLACE OR REINSTALL AS APPLICABLE ALL SERVICE LATERALS TO R.O.W. LINE.	75 Ok ksonv 1: (904
			3.	CONTRACTOR TO INSTALL SEWER SERVICE PIPING A MINIMUM OF 60 INCHES BELOW GRADE. WHERE NEW SANITARY SEWER MAIN IS LESS THAN 5 FEET DEEP, THE SEWER SERVICE PIPE SHALL BE INSTALLED AS DEEP AS POSSIBLE.	## ## ## ## ## ## ## ## ## ## ## ## ##
			4.	WHEN THE DISTANCE BETWEEN A POWER POLE AND THE TRENCH IS LESS THAN THE TRENCH DEPTH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH JEA ELECTRICAL PERSONNEL TO SECURE POWER POLES. THE CONTACTS FOR JEA ARE AS FOLLOWS:  NORTHSIDE~EAST of US-1 MIKE CORBITT @ 665-7991 (mobile 662-0635) NORTHSIDE~WEST of US-1 ANDY YEAGER @ 665-7998 (mobile 662-0622) NORTHSIDE~BACKUP ALAN AINSLEY @ 665-7303 (mobile 662-0622) SOUTHSIDE~SOUTH of BEACH BLVD. TOM KERNS @ 665-6847 (mobile 860-1687) SOUTHSIDE~NORTH of BEACH BLVD. DERYL BASFORD @ 665-6855 (mobile 662-0616) SOUTHSIDE~BACKUP EDDIE GALES @ 665-6855 (mobile 662-0616) A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED FOR AN OUTSIDE MEETING WITH JEA ELECTRICAL TO DISCUSS THE REQUIRED WORK. ADDITIONAL TIME WILL BE REQUIRED BY JEA ELECTRICAL FOR ANY REQUIRED WORK TO BE ACCOMPLISHED.	
			5.	ALL NEW STORM DRAIN PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.	
529			6.	THE DESIGN FOR THE PROJECT IS BASED UPON THE "OPEN-CUT" METHOD OF CONSTRUCTION. IF USING ALTERNATIVE MEANS OR METHODS, THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE STANDARDS FOR THAT MEANS OR METHOD.	'HIS TAKE
741 754 762 361			7.	THE CONTRACTOR SHALL MINIMIZE SERVICE INTERRUPTIONS AT SERVICE CONNECTIONS. THE MEANS AND METHODS SHALL BE LEFT TO THE DISCRETION OF THE CONTRACTOR, SUBJECT TO THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. NO EXISTING ACTIVE SERVICE SHALL BE LEFT INTERRUPTED AT THE END OF THE WORK DAY.	JWN ON T
200 299 299 000			8.	CONTRACTOR SHALL PROVIDE ADDITIONAL CORPORATION STOPS FOR FILLING AND DRAINING PURPOSES DURING CONSTRUCTION AS NEEDED. CORPORATION STOPS ARE TO BE PLUGGED AND LEFT IN PLACE. INDICATE CORPORATION STOP LOCATIONS ON RECORD DRAWINGS (AS-BUILTS).	AS SHOW Y THE J.E
500 000			9.	WATER AND SEWER SERVICES SHALL BE TRANSFERRED TO THE NEW MAIN UPON COMPLETION AND F.D.E.P./J.E.A. CERTIFICATION, AND PRIOR TO THE EXISTING MAINS BEING ABANDONED.	TAILS, ARE B
302 301 410 334			10.	IF EXISTING VALVES ARE IN UNPAVED AREAS AND ARE TO BE TAKEN OUT OF SERVICE, THEY SHALL BE CLOSED AND THE VALVE BOX AND COVER SHALL BE REMOVED. IF THE VALVES ARE UNDER PAVED AREAS, THEY SHALL BE CLOSED, THE VALVE BOX GROUT FILLED AND THE COVER REMOVED.	ESE DE AWING EXCEP
134 173			11.	CONTRACTOR SHALL REPLACE EXISTING WATER METER BOXES WHEN DEEMED NECESSARY BY THE JEA INSPECTOR.	H S S S S S S S S S S S S S S S S S S S
274 958			12.	CONTRACTOR TO PROVIDE ADDITIONAL DEPTH OF BURY VIA PIPE JOINT DEFLECTION TO ACCOMMODATE VALVE SELECTION PER JEA	_

STANDARDS.

RELOCATE WATER METERS AS NECESSARY.

PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED.

☐ 15. SHEET PILING WILL BE REQUIRED ON ALL EXCAVATIONS DEEPER THAN 16 FEET.

☐ ☐ 13. WATER METERS MAY REQUIRE RELOCATION FOR CONSTRUCTION, CONTRACTOR SHALL CONTACT JEA METER DEPARTMENT AND ☐ ☐ 14. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL OBTAIN ALL GEOTECHNICAL AND TOPOGRAPHIC SURVEY DATA AND LOCATIONS OF ABOVE GROUND AND UNDERGROUND UTILITIES. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER IN ORDER THAT



JEA STANDARD
ENERAL NOTES LEGEND, AND
OAKLEAF CORNER OUTP,

#### CO-POLYMER BOX & COVER (SET AT FINISHED GRADE) (NOTE #2) JEA APPROVED CROSS-CONNECTION CONTROL DEVICE WITH ISOLATION JEA WATER SERVICE -VALVES AND TOP SIDE TEST PORTS (PER PLATE W-2) (SAME SIZE AS INLET PIPE). POSITIONED IN THE CENTER OF BOX. - WATER SERVICE LINE CONNECTED TO FINISHED GRADE 10' (MAX) POTABLE WATER MAIN (WATER SERVICE) **METER** POTABLE WATER 3/4" (MIN.) SUPPLY PIPE-SUPPLY TO (GALV OR PVC PIPE, NO 2" MIN - 6" MAX CUSTOMER OTHER SERVICE CONNECTIONS ALLOWED BETWEEN METER #57 STONE UNDER BOX-AND CROSS-CONNECTION #57 STONE ON THE SIDE OF THE FOR EROSION CONTROL DEVICE, SEE NOTE #1) AND SUPPORT (4" THK) BOX LANDSCACAPE WITH MESH

CONSTRUCTED BY CUSTOMER

CONSTRUCTED

#### HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS

	PROPOSED UTILITY											
	PO	ΓABLE WA	TER		STEWATE Y AND FOR		RECL	AIMED WA	ATER	VACI	JUM SEWI	ERS
CONFLICTING UTILITY	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*
POTABLE WATER	3' NOTE 1	12"	3' NOTE 2	6' to 10'	12" NOTE 5	6' NOTE 2	3'	12"	6' NOTE 2	3' to 10'	12"	3' NOTE 2
RECLAIMED WATER	3'	12"	6' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3'	12"	6' NOTE 2	3' NOTE 1	12"	3' NOTE 2
WASTEWATER (GRAVITY AND FORCE MAIN)	6' to 10'	12"	6' NOTE 2	3' NOTE 1	12"	6"	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
VACUUM SEWERS	3' to 10'	12"	3' NOTE 2	3' NOTE 1	12"	6"	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
RIGHT OF WAYS	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A
PERMANENT STRUCTURES (SIGNS, POLES, ETC.)	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A
STORM SEWERS	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
GAS	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
TREES	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A
ALL OTHER UTILITIES	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2

#### NOTES

- 1. THIS SEPARATION REQUIREMENT IS TO PROVIDE ACCESSIBILITY FOR CONSTRUCTION AND MAINTENANCE. THREE FEET OF HORIZONTAL SEPARATION IS THE MINIMUM FOR PIPES WITH THREE FEET OF COVER. FOR PIPES INSTALLED AT GREATER DEPTH, PROVIDE AN ADDITIONAL FOOT OF SEPARATION FOR EACH ADDITIONAL FOOT OF DEPTH.
- 2. THE MINIMUM JOINT SPACING REQUIRED FROM CROSSING FROM OTHER UTILITIES WHILE STILL MAINTAINING MINIMUM VERTICAL SEPARATION.
- 3. DISTANCES GIVEN ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
- 4. NO WATER PIPE SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF SANITARY OR STORM WATER MANHOLE OR STRUCTURES.
- 5. WATER MAIN SHOULD CROSS ABOVE OTHER PIPES WHENEVER POSSIBLE. WHEN WATER MAIN MUST BE BELOW OTHER UTILITY PIPING, THE MINIMUM SEPARATION SHALL BE 12 INCHES.
- 6. REFER TO POTABLE WATER PIPING- SECTION 350, III.4.11.

# SEPARATION REQUIREMENTS FOR WATER, WASTEWATER AND RECLAIMED WATER MAINS

JANUARY 2019 PLATE W-10

#### WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS - NOTES

- 1. IT IS REQUIRED THAT "WATER MAINS" BE INSTALLED, CLEANED, DISINFECTED AND HAVE A SATISFACTORY BACTERIOLOGICAL SURVEY PERFORMED IN ACCORDANCE WITH THE LATEST APPLICABLE AWWA STANDARDS, CHAPTER 62-555, F.A.C. AND LATEST JEA WATER AND SEWER STANDARDS. FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT HAVE AN INSIDE DIAMETER OF THREE (3) INCHES OR GREATER. IN ADDITION, THE PHRASE "RECLAIMED WATER" REFERS TO THE WATER REGULATED UNDER PART III OF CHAPTER 62-610. F.A.C.
- 2. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE (3) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER.
- 3. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX (6) INCHES ABOVE THE TOP OF THE SEWER (SPECIAL CASE).
- 4. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX (6) INCHES, AND PREFERABLE TWELVE (12) INCHES, ABOVE OR AT LEAST TWELVE (12) INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- 5. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS A LEAST TWELVE (12) INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- 6. AT THE UTILITY CROSSINGS DESCRIBED IN NOTES 4 AND 5 ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER, AND AT LEAST SIX (6) FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINE CONVEYING RECLAIMED WATER.
- 7. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SO THAT THE HYDRANTS ARE AT LEAST THREE (3) FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER; AT LEAST THREE (3) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER OR WASTEWATER FORCE MAIN.
- 8. WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE, THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER TO OBTAIN APPROVAL OF ANY ALTERNATIVE CONSTRUCTION METHODS, PRIOR TO CONSTRUCTION

#### NOTES ON UTILITY SEPARATION REQUIREMENTS

JANUARY 2019 PLATE W-11

3. BACKFLOW PREVENTION DEVICES REQUIRED WHEN:
IRRIGATION SYSTEMS - REQUIRED ON IRRIGATION SYSTEMS AT THE CONNECTION TO POTABLE SYATEM
RESIDENTIAL SYSTEMS - REQUIRED ON WATER SERVICE IF RECLAIMED SERVICE WATER AVAILABLE TO SITE
COMMERCIAL SITES - REQUIRED ON ALL WATER SERVICES
INDUSTRIAL SITES - REQUIRED ON BOTH WATER AND RECLAIMED SERVICE ON, WATER SERVICE EVEN IF NO RECLAIMED

1. THE POTABLE WATER CUSTOMER IS REQUIRED TO INSTALL AND MAINTAIN A JEA APPROVED CROSS-CONNECTION DEVICE ON THEIR POTABLE WATER SERVICE LINE. OPERATION AND MAINTENANCE OF THIS CROSS-CONNECTION DEVICE SHALL COMPLY WITH JEA'S CROSS-CONNECTION CONTROL PROGRAM AND ASSOCIATED OPERATIONS POLICIES. ALL REDUCED

2. ONLY DOUBLE CHECK VALVE ASSEMBLIES MAY BE INSTALLED BELOW GROUND. THESE DEVICES MAY BE INSTALLED IN A TYPICAL 1" (CO-POLYMER) METER BOX WITH SOLID LID (GENERIC LID WITH NO "JEA" LOGO, SEE ALSO W-3). THE SIZE OF BOX SHALL BE 12"x20", AT A MINIMUM. IT SHALL BE NOTED THAT IF THE HIGH MEAN GROUND WATER LEVEL FALLS INSIDE THIS BOX, THEN THE CROSS-CONNECTION CONTROL DEVICE MUST BE INSTALLED ABOVE GROUND. ACCEPTABLE DOUBLE CHECK VALVE ASSEMBLIES (BRONZE BODY WITH TWO CHECK VALVES, TWO BALL VALVES AND UNION CONNECTIONS BETWEEN BALL VALVES AND THE DEVICE). INCLUDE: WATTS U007M2QT, WILKINS 950XLTU OR JEA APPROVED EQUAL.

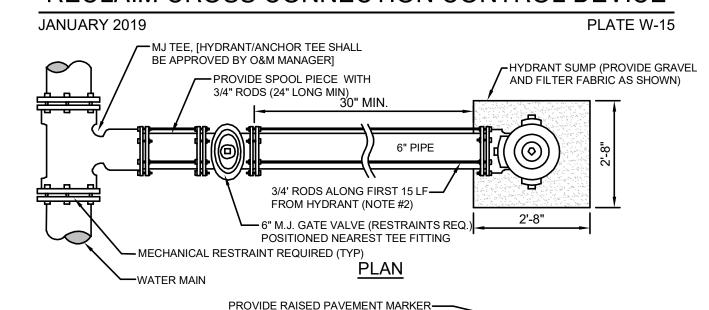
PRESSURE ASSEMBLIES SHALL BE MOUNTED ABOVE GRADE.

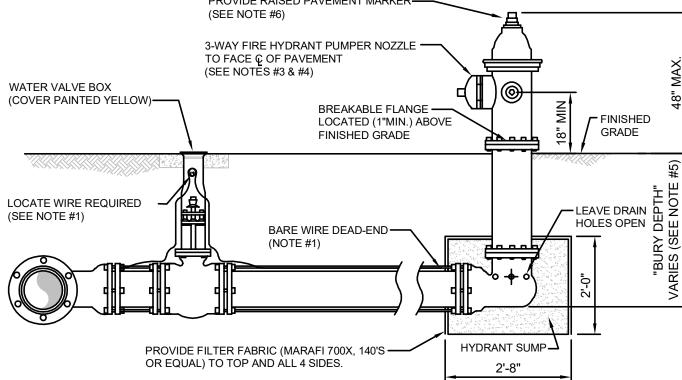
FOR EROSION CONTROLAND

SUPPORT (4" THK)

4. JEA IRRIGATION SERVICE CONNECTIONS REQUIRE ABOVE GRADE REDUCED PRESSURE BACKFLOW PREVENTERS. (SEE

#### RECLAIM CROSS CONNECTION CONTROL DEVICE





#### NOT

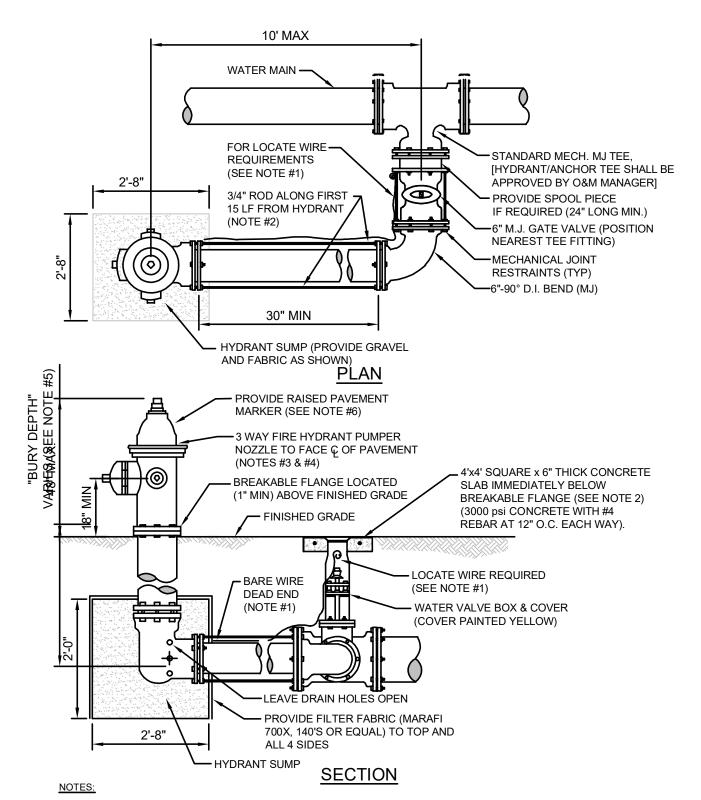
1. LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION PARAGRAPH.

SECTION

- 2. FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK AND NOT WITHIN SWALE/DITCH AREAS. THE DISTANCE RANGE FROM EDGE OF ADJACENT PAVEMENT, BACK OF CURB AND FACE OF SIDEWALK SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA AND APPLICABLE PERMITTING AGENCIES. DISTANCE SHALL BE MEASURED TO THE CLOSEST PART OF THE FIRE HYDRANT (I.E. THE PUMPER NOZZLE). THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A SPLIT SERRATED RING WITH RESTRAINT EARS (EBAA 15 PF06 or EQUAL) MAYBE USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE JOINT RESTRAINTS.
- OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
- 4. PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OILED, GREASED AND REPAINTED (RUS- KIL ENAMEL-INTERNATIONAL YELLOW OR EQUAL). PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS SHALL BE PAINTED RED.
- 5. FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TEE-OFF A 12" OR LARGER WATER MAIN. UNLESS APPROVED OTHERWISE BY JEA, THE INSTALLATION OF (45°) BENDS IS NOT ACCEPTABLE WHEN UTILIZED TO CORRECT AN IMPROPERLY FURNISHED HYDRANT. THE USE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.
- 6. BLUE REFLECTIVE MARKERS SHALL BE INSTALLED IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

# FIRE HYDRANT INSTALLATION USING MECHANICAL JOINT TEE

JANUARY 2019 PLATE W-13



- 1. LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION PARAGRAPH.
- 2. FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK. ALL HYDRANTS SHALL BE LOCATED NO LESS THAN THREE (3) FEET FROM THE EDGE OF PAVEMENT OR BACK OF CURB OF THE ADJACENT ROADWAY AND NO LESS THAN THREE (3) FEET FROM ANY PHYSICAL FEATURE WHICH MAY OBSTRUCT ACCESS OR VIEW OF ANY HYDRANT UNLESS OTHERWISE APPROVED BY THE JEA. THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A SPLIT SERRATED RING WITH RESTRAINT EARS (EBAA 15 PF06 or EQUAL) MAYBE USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE
- 3. OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
- PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OILED, GREASED AND REPAINTED (RUS- KIL ENAMEL-INTERNATIONAL YELLOW OR EQUAL). PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS SHALL BE PAINTED RED.
- 5. FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TEE-OFF A 12" OR LARGER WATER MAIN. UNLESS APPROVED OTHERWISE BY JEA, THE INSTALLATION OF (45°) BENDS IS NOT ACCEPTABLE WHEN UTILIZED TO CORRECT AN IMPROPERLY FURNISHED HYDRANT. THE USE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.
- 6. BLUE REFLECTIVE MARKERS SHALL BE INSTALLED IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

#### FIRE HYDRANT INSTALLATION LIMITED SPACE

JANUARY 2019 PLATE W-14

DE - RESULT	DATE						
VISION - EXPERIENCE - RESULT	ВУ						
Vision	NO.			C	٥.	0	j
THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE J.E.A. WE TAKE NO EXCEPTION TO THE DESIGN	DESIGN ENGINEER		ANDREW I BOOTH	ANDICEN O. DOOLL	FI ORIDA BEGISTBATION NO		
THESE DETAIL DRAWING ARE NO EXCEPTIOI	DESIGNER:	DRAWN BY:		DAIE:	CHECKED BY:		JA F
						Sm	
		JEA STANDARD		4			0 -LOC*CHO CLCOOL*L
	19-227		IANITADY 2010	BIOZ IURONIKO		AS NOTED	

1. WATER SERVICE CONNECTIONS REQUIRE ABOVE GRADE REDUCED PRESSURE BACKFLOW PREVENTERS. (SEE PLATE W-15)

BACKFLOW PREVENTION DEVICES REQUIRED WHEN:

IRRIGATION SYSTEMS - REQUIRED ON IRRIGATION SYSTEMS AT THE CONNECTION TO POTABLE SYSTEM RESIDENTIAL SYSTEMS - REQUIRED ON WATER SERVICE IF RECLAIMED SERVICE WATER AVAILABLE TO SITE COMMERCIAL SITES - REQUIRED ON ALL WATER SERVICES INDUSTRIAL SITES - REQUIRED ON BOTH WATER AND RECLAIMED SERVICE CONNECTIONS.

RESIDENTIAL IRRIGATION SERVICES MAY UTILIZE AN ALTERNATE BACKFLOW PREVENTER LOCATION IF THE FOLLOWING

3.a. CUSTOMER HAS SUBMITTED A COMPLETED "CUSTOMER AFFIDAVIT" FORM AND

THERE ARE NO ADDITIONAL CONNECTIONS BETWEEN THE METER AND THE BACKFLOW PREVENTER, AND THE ALTERNATE BACKFLOW LOCATION IS EASILY ACCESSIBLE TO JEA AND BACKFLOW TESTERS.

A LOCATE WIRE SHALL BE PLACED ON SERVICES 10FT OR GREATER.

#### CROSS CONNECTION CONTROL DEVICE

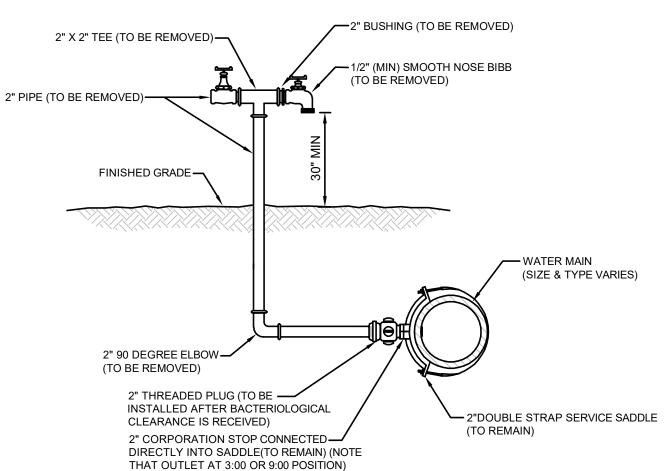
JANUARY 2019 JEA IRRIGATION SERVICE CONNECTIONS PLATE W-15A

GANG WATER SERVICES GANG WATER SERVICES SINGLE WATER SERVICE 3 OR 4 SERVICES (SEE NOTE #5) 5 OR MORE SERVICES (SEE NOTE #5) 4" D.I.P. OR MAIN (MIN) WHERE METER W/ MULTIPLE TAPS ARE EASEMENT 15' MAX : - - \_ \_ \_ **- - \_ \_ + - + - +** 1" POLY TUBING W/"Y" -1" MIP PACK JOINT COUPLING -MULTI-SERVICE "Y" (2" FIP INLET AND 3 2" POLY TUBING OR 4 1" FIP OUTLET) — LONG-SIDE WATER SERVICE -2" MIP PACK - SERVICE SADDLES WITH POLY TUBING (1" MIN.) JOINT COUPLING 24" SEPARATION AT A MIN. (NO GLUED TEES) - 2" POLY TUBING -SADDLE W/CORP -2" SADDLE W/CORP STOP STOP (TYP) TAPPING SLEEVE OR 2 MAX (SEE NOTE #4) SHORT-SIDE WATER SERVICE POLY TUBING (1" MIN.) -METER BOX LOCATION WATER METER BOX (TYP) (NEAR UG ELECTRICAL 10'X10' JEA UTILITY
EASEMENT W///O FI 7 1/2' JEA UTILITY EASEMENT BOX OR DRAINAGE R/W: RIGHT OF WAY LINE EASEMENT (NOTE #3) P/L: PROPERTY LINE **DOUBLE 1" WATER SERVICE** 

- 1. THE SKETCHES ABOVE INDICATE TYPICAL WATER SERVICE AND METER BOX LOCATIONS. ACTUAL LOCATIONS OF BOXES MAY VARY SLIGHTLY ACCORDING TO FIELD CONDITIONS ENCOUNTERED. TYPICALLY, THE METER BOX SHALL LOCATED AT THE R/W LINE BUT INSIDE THE 7 1/2' ELECTRIC
- 2. UNLESS SPECIFIED OTHERWISE BY THE APPLICABLE COUNTY (NASSAU, CLAY OR ST. JOHNS COUNTY), THE METER BOX SHALL BE LOCATED IN THE JEA 7 1/2' UTILITY EASEMENT, AND TWO FEET INSIDE OF THE PROLONGATION OF ONE OF THE SIDE PROPERTY LINES. IF A CONFLICT EXISTS WITH OTHER UTILITIES, THE METER BOX MAY BE ADJUSTED TO FOUR FEET (MAX.) INSIDE PROPERTY LINES (IN LIEU OF TWO FEET). UNLESS APPROVED OTHERWISE BY JEA, THE WATER METER BOX SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN SIDEWALKS OR DRIVEWAYS). IF THE METER BOX IS APPROVED BY JEA TO BE LOCATED IN A DRIVEWAY OR SIDEWALK, THEN THE CONSTRUCTION SHALL MEET STANDARD DETAIL NÚMBERS W-3&4, AT A MINIMUM (SEE W-3 AND W-4 FOR THE REQUIREMENTS OF SPECIAL ORDER POLYMER BOX AND TOP). SET TOP OF BOX AT FINISHED GRADE. IF AN UNAPPROVED METER BOX IS IDENTIFIED BY JEA, THEN THE CONTRACTOR OR CUSTOMER SHALL BE RESPONSIBLE FOR THE COST OF RELOCATING ANY METER BOX WHICH IS LOCATED IN THE SIDEWALK OR DRIVEWAY OR THE COST TO PROVIDE THE CORRECT METER BOX. JEA SHALL APPROVE ALL DEVIATIONS TO THE ABOVE
- 3. IF DRAINAGE OR OTHER EASEMENT LOCATED BETWEEN LOTS, METER BOXES SHALL BE LOCATED AT THE EASEMENT LINE BUT OUTSIDE THE EASEMENT
- 4. FOR SINGLE SERVICES, THE HORIZONTAL DISTANCE (PERPENDICULAR TO THE MAIN)BETWEEN THE SERVICES SADDLE AND THE METER BOX SHALL BE 2 FEET MAXIMUM. FOR DOUBLE 1" SERVICES, THE 2" POLY MAIN SHALL BE LOCATED CÉNTERED BETWEEN THE TWO METER BOXES. LOCATE WIRE IS REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. IF LOCATE WIRE IS REQUIRED, THE WIRE SHALL RUN FROM THE METER BOX (W/ PIG TAIL) TO THE MAIN (DEAD END SHALL BE TAPED WITH NO CONNECTION TO MAIN WIRE WITH THE LAST 24 INCHES STRIPED OF INSULATION/BARE WIRE AS GROUND). ALL EXCEPTIONS TO THIS REQUIREMENT MUST BE APPROVED BY JEA. THIS WILL ASSIST IN LOCATING EXISTING SERVICE LINES IN THE
- 5. GANG WATER SERVICES: FOR 3 OR 4 SERVICES IN ONE AREA, A DUCTICLE IRON PIPE (D.I.P.) WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG SIDE SERVICES WHERE SHOWN ON THE DRAWINGS. LOCATE WIRE SHALL EXTEND FROM ONE METER BOX TO CORP STOP AT WATER MAIN, FOR 5 OR MORE SERVICES IN ONE AREA. A WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG SIDE SERVICES WHERE SHOWN ON THE DRAWINGS (TAPS STAGGERED AND AT 2 FEET ON CENTER-MIN) FOR WATER SUPPLY HEADERS WHERE 5 OR MORE TAPS ARE CONSTRUCTED, THE HEADER PIPE SHALL BE 4" AT A MINIMUM. EXAMPLE: CONSTRUCT A 4" MAIN PVC CROSSING THE STREET FOR 5 RESIDENTIAL CUSTOMERS, UTILIZING 4" DIP, 4" PIPE, 4"X1" SADDLES AND 1" CORP STOPS (NO GLUED TEE FITTINGS). THE 4" OR LARGER D.I.P. WATER MAIN MUST BE SIZED AND DESIGNED BY THE P.E. ENGINEER.
- 6. DOUBLE 1" WATER SERVICES IS ALLOWED FOR SHORT SIDE OR LONG SIDE SERVICES AND WHERE SHOWN ON THE DRAWINGS.
- 7. A 1" IRRIGATION SERVICE MAYBE TAPPED INTO THE (1" MIN) DOMESTIC WATER SERVICE LINE (WHICH SERVES THE SAME CUSTOMER) UTILIZING A 1" BRONZE "Y" FITTING. (IN AREAS WHERE NO RECLAIMED WATER IS AVAILABLE).
- 8. No 2" AND SMALLER WATER SERVICE TAPS PERMITTED ON WATER MAINS WHICH ARE 20" AND LARGER SIZE.
- 9. RECLAIMED WATER METER BOXES OR SERVICES SHALL BE CONSTRUCTED SIMILAR TO THE ABOVE AND SHALL BE LOCATED, AT A MIN. OF 10' FROM THE POTABLE WATER SERVICE, AND/OR BOX AND NOT ALLOWED IN CONCRETE OR ASPHALT UNLESS APPROVED OTHERWISE BY JEA.
- 10. SERVICE SIZE SHALL BE SAME AS THE METER SIZE.

#### WATER OR RECLAIM SERVICE INSTALLATIONS 2" AND SMALLER METER

PLATE W-1 January 2019



- 1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROADWAY SHOULDERS
- 2. ALL PIPE & FITTING SHALL BE GALVANIZED MATERIAL OR PVC (S-40).
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTING (AS NOTED) AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED
- 4. THE CONTRACTOR SHALL COMPLY WITH ALL JEA RULES AND POLICES AS OUTLINED BY THE JEA'S ENVIRONMENTAL RESPONSE COORDINATOR (ERC) AND OTHER ASSOCIATED JEA STANDARDS.

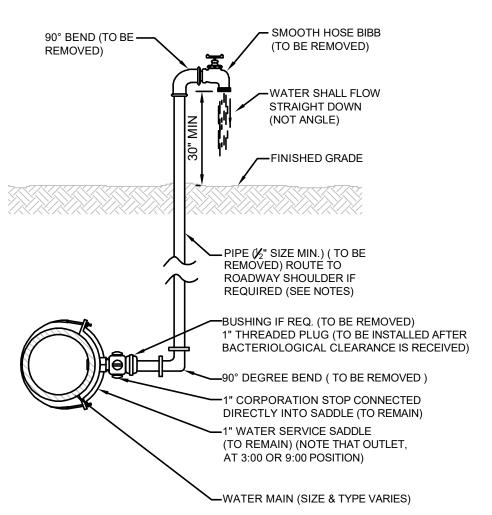
#### 2" TEMPORARY SAMPLE TAP FOR STUB OUT

JANUARY 2019 PLATE W-26 WATER SERVICE MARKER -REQUIRED FOR NEW **DEVELOPMENT AREAS** (SEE NOTE #4) SET AT FINAL GRADE (NOTE #7)-CO-POLYMER METER BOX — & COVER (NOTE #1) METER COUPLING (NOTE #4)-CURB STOP -(MAX) LOCATE WIRE PIG — TAIL END (12" LONG ALL SERVICES REGARDLESS OF SIZE. METER 🗎 (CONNECTED DIRECTLY INTO SADDLE) (NOTE #4) CONNECTION TO CUSTOMER'S WATER MAIN AND BACKFLOW SET CURB STOP AS -PREVENTER (IF APPLICABLE) CLOSE TO WALL <sup>1</sup>/<sub>2</sub>"AS SERVICE SADDLE -SET METER ON UNDISTURBED POSSIBLE (2 MAX) (SEE NOTE #2) OR COMPACTED SOIL POLYETHYLENE WATER SERVICE LINE (100LF MAX., NOTE #3) ACCEPTABLE RANGE FOR TAPS 0°-45° - DISTRIBUTION MAIN

- 1. SEE PLATE W-1 FOR METER LOCATION REQUIREMENTS.
- SINGLE BAND SADDLES MAYBE UTILIZED ON NEW 1" WATER SERVICES WHICH ARE INSTALLED ON A DRY 10" SIZE OR SMALLER WATER MAIN (NEW WATER MAIN CONSTRUCTION). FOR WET TAPS OR WATER MAINS 12" SIZE AND LARGER, A DOUBLE BAND SADDLE IS REQUIRED. BRASS SADDLES MAY BE UTILIZED ON NEW 1 INCH AND SMALLER WATER SERVICES WHICH ARE INSTALLED ON A DRY 10 INCH OR SMALLER PVC WATER MAIN
- 3. NO OPEN CUT UNDER ROADWAY PAVING ALLOWED UNLESS THE ROADWAY IS BEING RECONSTRUCTED OR IF DIRECTED OTHERWISE BY J.E.A. CONSTRUCT POLY LINE WITH 24" (MIN.) COVER UNDER ROADWAYS. THE POLY WATER SERVICE LINE SHALL BE SAME SIZE AS THE METER (1" MINIMUM) AND BE INSTALLED PERPENDICULAR TO THE MAIN AND NOT EXCEED 100LF UNLESS
- 4. INSTALL PVC PLUG IN ALL CURB STOPS IF WATER SERVICE IS "NOT IN USE" (I.E.: IF NO METER IS INSTALLED). WATER SERVICES SERVING VACANT LOTS (SERVICE NOT IN USE), SHALL INCLUDE A "W" CUT INTO THE CURB (CLOSEST TO THE METER BOX), AND PAINTED BLUE (PAINTED PURPLE FOR RECLAIMED WATER). IN ADDITION, FOR NEW DEVELOPMENT AREAS WHERE THE WATER SERVICE IS "NOT IN USE". A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED BLUE OR PURPLE FOR RECLAIMED WATER). THE REMOVAL OR TRANSFER OF A WATER SERVICE SHALL INCLUDE BRASS METER COUPLINGS (HEX ON BARREL TYPE).
- 5. NO 2" AND SMALLER WATER SERVICE TAPS PERMITTED ON WATER MAINS WHICH ARE 20" AND LARGER SIZE.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE METER OR ELECTRONIC DEVICES IF DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD.
- 7. METER BOX AND TOP SHALL BE CLEAR OF ALL DEBRIS TO ALLOW FULL ACCESS TO BOX (i.e. NO DIRT, TRASH OR OTHER DEBRIS
- 8. LOCATE WIRING REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. SEE PLATE W-44.

#### WATER SERVICE DETAIL- 2" AND SMALLER METER

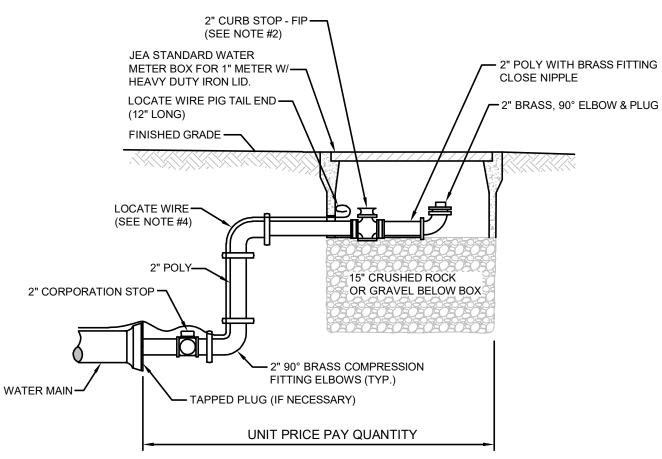
JANUARY 2019 PLATE W-2



- 1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROADWAY SHOULDERS (NON-TRAFFIC AREAS).
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTINGS (AS NOTED), AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.
- 3. PIPE AND FITTINGS SHALL BE PVC (SCH. 40) OR GALV. MATERIAL.
- 4. THE USE OF THE ABOVE CONSTRUCTION FOR A TEMPORARY SAMPLE POINT SHALL BE LIMITED TO AREAS WHERE A SAMPLE TAP BY ALTERNATIVE METHODS (SEE W-24) IS NOT FEASIBLE OR IF DIRECTED OTHERWISE BY JEA.
- 5. THE CONTRACTOR SHALL COMPLY WITH ALL JEA RULES AND POLICIES AS AS OUTLINED BY JEA'S ENVIRONMENTAL RESPONSE COORDINATOR (ERC) AND OTHER ASSOCIATED JEA STANDARDS

#### TEMPORARY SAMPLE TAP

PLATE W-25 JANUARY 2019



JANUARY 2019

- 1. PIPE SHALL BE POLYETHYLENE. FITTINGS SHALL BE BRASS.
- 2. THE 2" CURB STOP SHALL BE ALL BRONZE. FITTINGS SHALL BE BRASS.

PLATE W-28

- 3. ANY RECLAIMED WATER VALVE SHALL HAVE RECLAIMED EMBLEM.
- 4. LOCATE WIRE FOR 10' OR GREATER IN LENGTH.
- 5. CANNOT BE PLACED UNDER CONCRETE OR PAVEMENT.
- 6. PLACE 2 FEET PAST LAST WATER MAIN SERVICE CONNECTION.

FLUSHING VALVE BELOW GRADE

ARE BY THE J.E.A.

#### CASE "A" CROSSING

- 1. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST. ASTM D 1557.
- 2. FOR MINIMUM VERTICAL SEPARATION REQUIREMENTS SEE DETAIL (W-10 AND W-11).
- 3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.
- 4. THE COVER FOR PIPING LESS THAN 24" SIZE SHALL BE 30" (MIN) IN UNPAVED AREAS, 36" (MIN) IN PAVED AREAS AND A MAXIMUM COVER OF 60", UNLESS APPROVED BY JEA. THE COVER FOR PIPING 24" SIZE AND LARGER SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY JEA.
- IF UTILITY CONFLICT IS LOCATED IN A NON-TRAFFIC AREA (NO TRAFFIC LOADS) AND THE NEW PIPE IS D.I.P., THEN THE MINIMUM COVER MAY BE REDUCED TO 24 INCHES (ONLY IN THE AREA OF THE CONFLICT).

### ADJUSTMENT OVER EXISTING UTILITIES MECHANICAL RESTRAINTS

JANUARY 2019 PLATE W-32 MAXIMUM 80% OF MANUFACTURER'S RECOMMENDATION MANUFACTURER'S **RECOMMENDATION FOR JOINT** LOCATE WIRE (SEE NOTE #3) **DEFLECTION (SEE NOTE #5)** PROPOSED FORCE MAIN EXISTING CONFLICT PIPE FULL LENGTH OF PIPE SIZE & TYPE VARIES CENTERED AT CROSSING (SEE NOTE #1) SEPARATION VARIES 9' MIN 9' MIN MINIMUM HORIZONTAL LENGTH REQUIRED MINIMUM HORIZONTAL LENGTH REQUIRED AS PER MANUFACTURER TO DEFLECT PIPE AS PER MANUFACTURER TO DEFLECT PIPE VERTICALLY TO AVOID OBSTRUCTION. VERTICALLY TO AVOID OBSTRUCTION.

#### CASE "B" CROSSING

#### NOTES:

- 1. IF EXISTING CONFLICT PIPE IS A WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSING.
- 2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (W-10 & W-11)
- 3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.
- 4. THE COVER OVER ALL PIPING LESS THAN 24" SIZE SHALL BE A MINIMUM OF 30" IN UNPAVED AREAS AND 36" IN PAVED AREAS WITH A MAXIMUM COVER OF 60" UNLESS APPROVED OTHERWISE BY JEA. COVER FOR PIPING 24" SIZE AND LARGER SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84" UNLESS APPROVED OTHERWISE BY JEA. THE SOILS BETWEEN THE NEW MAIN AND THÈ CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.
- 5. JEA ONLY ALLOWS 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION FOR JOINT DEFLECTION. BENDING THE PIPE BARREL IS NOT ALLOWED. UNLESS OTHERWISE APPROVED BY JEA, THE MAXIMUM ARE LISTED IN TABLE BELOW. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN THESE JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20LF PIPE LENGTH.

#### MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION

#### **PVC PIPE**

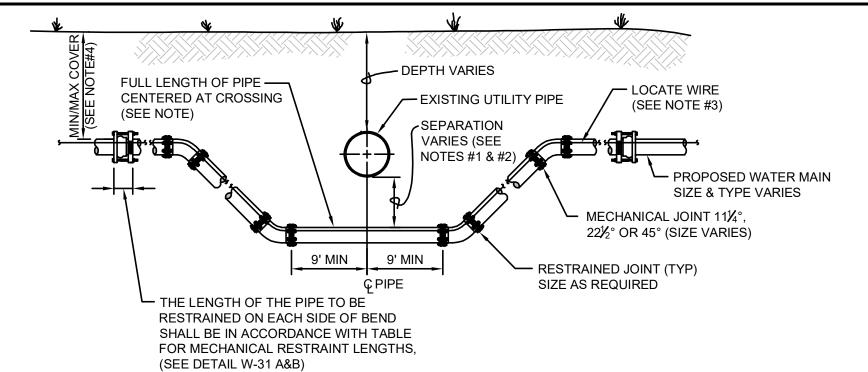
PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
2	30	7°	158 FT
4	10	2.4°	480 FT
6	10	2.4°	480 FT
8	10	2.4°	480 FT
10	10	2.4°	480 FT
12	8.5	2°	564 FT
14 - 24	5	1.2°	960 FT
30 - 48	3.25	0.8°	1477 FT

#### DUCTILE IRON PIPE (Mechanical Joint)

PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
-	-	-	-
4	27	6.5°	177 FT
6	24	5.7°	200 FT
8 - 12	17.5	4.2°	273 FT
14 - 16	12	2.9°	400 FT
18 - 20	10	2.4°	477 FT
24 - 30	8	1.9°	600 FT
36	7	1.7°	687 FT
42 - 48	6.7	1.6°	716 FT

### ADJUSTMENT UNDER EXISTING UTILITIES PIPE JOINT DEFLECTION

JANUARY 2019 PLATE W-40

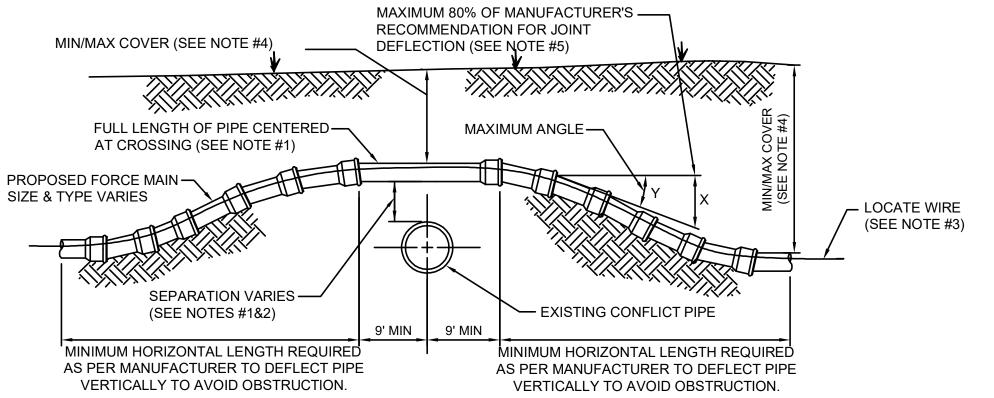


#### **CASE "B" CROSSING**

- THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST. ASTM D 1557
- 2. FOR MINIMUM VERTICAL SEPARATION REQUIREMENTS SEE DETAILS (W-10 AND W-11)
- 3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.
- 4. THE COVER FOR PIPING LESS THAN 24" SIZE SHALL BE 30" (MIN) IN UNPAVED AREA. 36" (MIN) IN PAVED AREAS AND A MAXIMUM COVER OF 60", UNLESS APPROVED BY JEA. THE COVER FOR PIPING 24" SIZE AND LARGER SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY JEA.

### ADJUSTMENT UNDER EXISTING UTILITIES MECHANICAL RESTRAINTS

PLATE W-34 JANUARY 2019



#### CASE "A" CROSSING

#### NOTES:

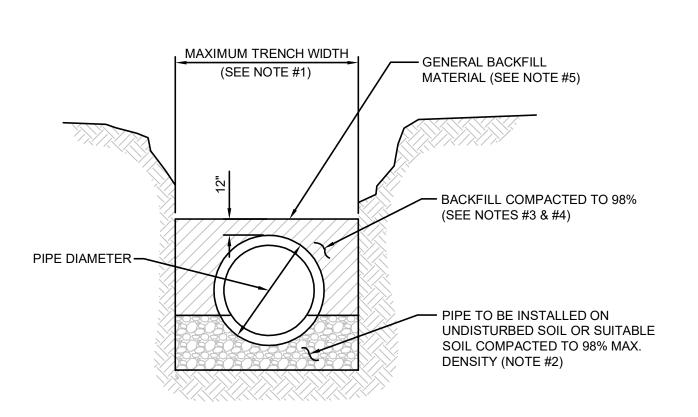
- 1. IF EXISTING CONFLICT PIPE IS A WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE
  - CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSING.
- 2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (S-10 & W-11).
- 3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.
- 4. THE COVER OVER ALL PIPING LESS THAN 24" SIZE SHALL BE A MINIMUM OF 30" IN UNPAVED AREAS AND 36" IN PAVED AREAS WITH A MAXIMUM COVER OF 60" UNLESS APPROVED OTHERWISE BY JEA. COVER FOR PIPING 24" SIZE AND LARGER SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84" UNLESS APPROVED OTHERWISE BY JEA. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.
- 5. JEA ONLY ALLOWS 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION FOR JOINT DEFLECTION. BENDING THE PIPE BARREL IS NOT ALLOWED. UNLESS OTHERWISE APPROVED BY JEA, THE MAXIMUM ARE LISTED IN TABLE BELOW. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN THESE JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20LF PIPE LENGTH.

#### MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION

C PIPE				<b>DUCTILE IR</b>	ON PIPE (Mecha	anical Joint)	
IPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS	PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIU OF CURVE WITH 20FT. LENGTHS
2	30	7°	158 FT	-	-	-	-
4	10	2.4°	480 FT	4	27	6.5°	177 FT
6	10	2.4°	480 FT	6	24	5.7°	200 FT
8	10	2.4°	480 FT	8 - 12	17.5	4.2°	273 FT
10	10	2.4°	480 FT	14 - 16	12	2.9°	400 FT
12	8.5	2°	564 FT	18 - 20	10	2.4°	477 FT
4 - 24	5	1.2°	960 FT	24 - 30	8	1.9°	600 FT
0 - 48	3.25	0.8°	1477 FT	36	7	1.7°	687 FT
				42 - 48	6.7	1.6°	716 FT
·							

### ADJUSTMENT OVER EXISTING UTILITIES PIPE JOINT DEFLECTION

JANUARY 2019 PLATE W-41

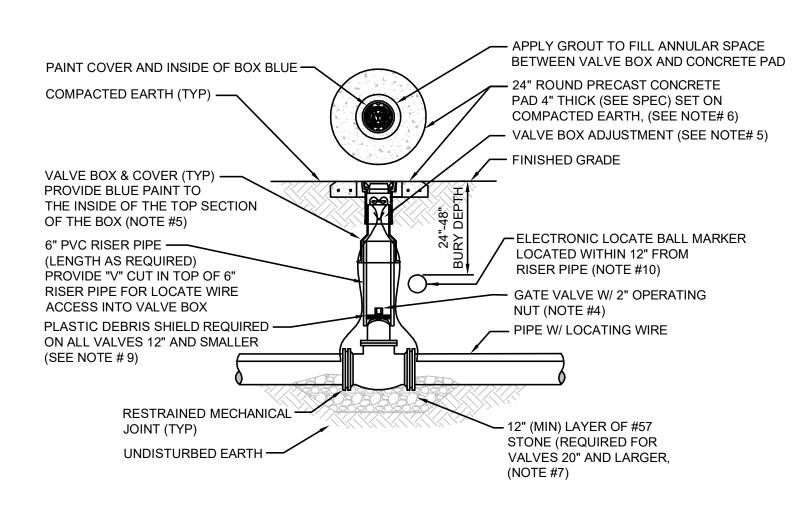


#### TYPICAL TRENCH

- 1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4)) TO DETERMINE MAXIMUM
- 2. BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT
- 3. BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE.
- 4. BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 98% OF IT'S MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST. ASTM D1557.
- 5. SEE " EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

#### OPEN CUT TRENCH FOR PRESSURE PIPE

JANUARY 2019 PLATE W-42 IN CITY RIGHT OF WAY



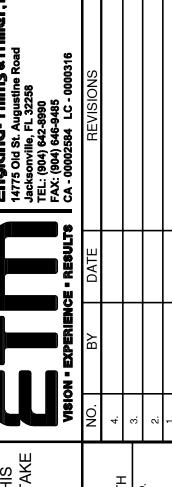
#### NOTES:

RESULTING RADIUS

- 1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.
- 2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAILW-44)
- 3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/ADJACENT TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED GREEN.
- 4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
- 5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 12" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
- 6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A 1/4" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
- 7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 #4 REBAR AROUND PERIMETER, MAY BE USED.
- 8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO ⅓ THE OVERALL HEIGHT OF THE VALVE.
- 9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.
- 10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1403XR FOR WATER AND 1408XR FOR RECLAIMED WATER).

#### WATER VALVE INSTALLATION DETAIL

JANUARY 2019 PLATE W-18





STANDARD

MAIN DETAILS
RNER OUTPAF

- 1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
- 2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.
- 3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
- 4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ÀSSUME 45 DEGREE BENDS.
- 5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
- 6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).
- 7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

JANUARY 2019

	LENGTH (L)	TO BE F	RESTRAI	NED				(SEE PI	_ATE Nos.	38C & 38D	FOR ADD	OITIONAL DE	TAILS)
	NOMINAL		HORIZON	TAL BENDS	3	45° B	LOFFSETS BENDS	VALVES OR	REDU	ICERS		TEES SEE NOTE 5	
	PIPE SIZE (IN.)	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)			DEAD ENDS L (FT.)	SIZE (IN.)	L (FT.)	RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
	4	21	9	5	3	17	3	47	6x4	34	4	4	F.O.
L WATER, SEWER FORCE MAIN OR S SHALL BE RESTRAINED TO LENGTHS	6	30	13	6	3	23	4	66	8x6 8x4	36 62	4	6 4 < LESS	10 F.O.
A MINIMUM.	8	38	16	8	4	30	6	86	10x8	35	8	8	29
R=1.5, TEST PRESSURE=150PSI, SOIL=GM OR	10	45	19	9	5	36	7	103	10x6	63	10	6 < LESS 10	F.O. 45
INCHES FOR 20" AND SMALLER PIPE SIZE SIZE.	12	53	22	11	6	43	8	121	12x10	36		8 6 < LESS	13 F.O.
	14	61	26	13	6	50	9	140	12x8 16x12	64 66	12	12	62
ED ON EACH SIDE OF FITTING.	16	66	28	14	7	55	10	154	16x12	92		10 8 < LESS	32 F.O.
COVER ON TOP AND APPROX. 8 FEET	18	73	30	15	8	60	11	170	20x18	35	16	16	94
IS THE RESTRAINED LENGTH FOR THE LENGTH FOR THE LOWER (DEEPER)	20	79	33	16	8	66	12	186	20x16	66		12 10	39 5
	24	79	33	16	8	77	15	185	20x12	117 56		10 < LESS	F.O.
NTS OR RESTRAINED LENGTH ON EITHER	30	93	39	19	10	97	17	222	24x20 24x18	80	20	20 16	125 76
ANCE OF 30 FEET (MIN). SEE SCHEDULE  BRANCH" LINE.	36	106	39	21	11	107	20	257	24x16	101		12 10 < LESS	14 F.O.
SIDE SHALL BE RESTRAINED 35 FT (MIN).	42	117	49	24	12	120	24	289	30x24	78	24	24	124
, ,	48	144	53	26	13	133	26	321	30x20 36x30	121 78		20 16	84 36
TRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) TURERS RECOMMENDATION, WHICH									36x30	141	- 00	12 < LESS	F.O.
RALLEL RODS/NUTS. THESE NUTS SHOULD ON THE PIPE SHOULD ALWAYS BE VISIBLE									42x36	75	30	30 24	159 104
RHOMING THE JOINT MAY CAUSE A FAILURE									42x30	140		20 16	60 5
TAGE.									48x42	75		16 < LESS	F.O.
									48x36	139	36	36 30 24 20 16 < LESS	192 142 83 33 F.O.
											42	42	223
PVC PIPE RESTR	AINT	JO	INT	SC	HE	DU	LE					36 30 24	178 124 59
RY 2019							ΟΙ ΔΤ	E W-31A				20 16 < LESS	5 F.O.
IXI 2013							i LAI	L W-31A			48	48 42	253 209

#### **DUCTILE IRON PIPE RESTRAINT NOTES:**

- 1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
- 2. ASSUMPTIONS: DUCTILE IRON PIPE (WITHOUT POLY WRAP), SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE. FOR D.I.P. W/POLY WRAP, USE RESTRAINT JOINT SCHEDULE FOR PVC PIPE.
- 3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
- 4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
- 5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
- 6. HDPE TO D.I.P. TRANSITIONS: THE D.I.P. PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

OMINAL		HORIZONT	AL BENDS		45° B	OFFSETS ENDS	VALVES OR		REDU	CERS		TEE SEE NOTE 5	
PIPE SIZE (IN.)	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	<u> </u>	OTE 4) LOWER L (FT.)	DEAD ENDS L (FT.)		SIZE (IN.)	L (FT.)	RUN SIZE (IN.)	BRANCH SIZE (IN.)	
4	17	7	4	2	11	3	30		6x4	22	4	4	ł
6	24	10	5	3	15	4	42		8x6	23	4	6	t
									8x4	39		4 < LESS	Ļ
8	31	13	6	3	20	5	55		10x8	22	8	8 6 < LESS	
10	36	15	8	4	23	6	65		10x6	40	10	10	ł
12	42	18	9	5	27	7	77		12x10	23	10	8	
14	48	20	10	5	31	7	87		12x8	41		6 < LESS	Ļ
									16x12	42	12	12 10	
16	53	22	11	6	35	8	97		16x10	58		8 < LESS	
18	58	24	12	6	39	9	107		20x18	22	16	16	Ī
20	63	27	13	6	42	10	118		20x16	42		12 10	
24	63	27	13	7	49	12	118		20x12	74		8 < LESS	
30	75	31	15	8	59	14	141		24x20	36	20	20	Ī
	<u> </u>								24x18	51		16 12	
36	86	36	17	9	68	17	163		24x16	64		10 < LESS	
42	95	40	19	10	76	19	183		30x24	50	24	24	T
48	117	43	21	11	84	21	203		30x20	77		20 16	
	!		<u> </u>		<u> </u>			ļ	36x30	50		12 < LESS	
									36x24	89	30	30	Ī
									42×36	48		24	1

6 < LESS | F.O. 8 < LESS F.O. 8 < LESS | F.O. 10 < LESS F.O. 12 < LESS F.O. 12 < LESS F.O. 12 < LESS F.O.

(SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

TEE SEE NOTE 5

4 < LESS F.O.

6 < LESS F.O.

42x30 89 48x42 48 48x36 88 12 < LESS | F.O.

> 20 < LESS F.O. F.O. = FITTING ONLY

DUCTILE IRON PIPE RESTRAINT JOINT SCHEDULE

JANUARY 2019

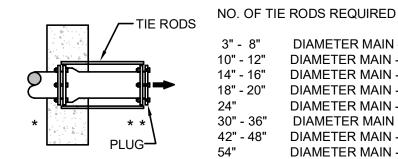
PLATE W -31B

LENGTH (L) TO BE RESTRAINED

### TEE BOLT PLAIN END P.V.C. RESTRAINED BELL JOINT RING RESTRAINED MECHANICAL JOINT TYPICAL PROFILE TYPICAL PROFILE BELL JOINT TO PLAIN END MECHANICAL JOINT TO PLAIN END W/MECHANICAL RESTRAINERS W/MECHANICAL RESTRAINERS SECTION

### REDUCER

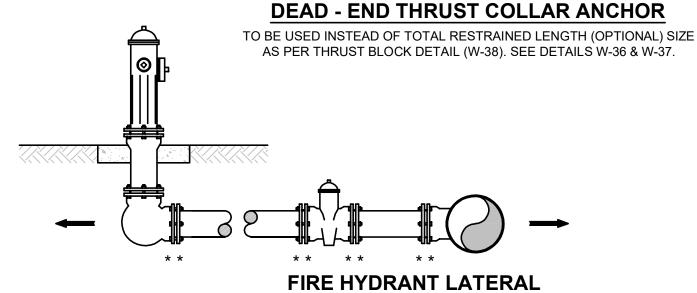
#### **MECHANICAL JOINT SLEEVES**



DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN - 8 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN - 12 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN - 14 TIE RODS REQUIRED PER JOINT (1" ROD)

## DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)

DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)



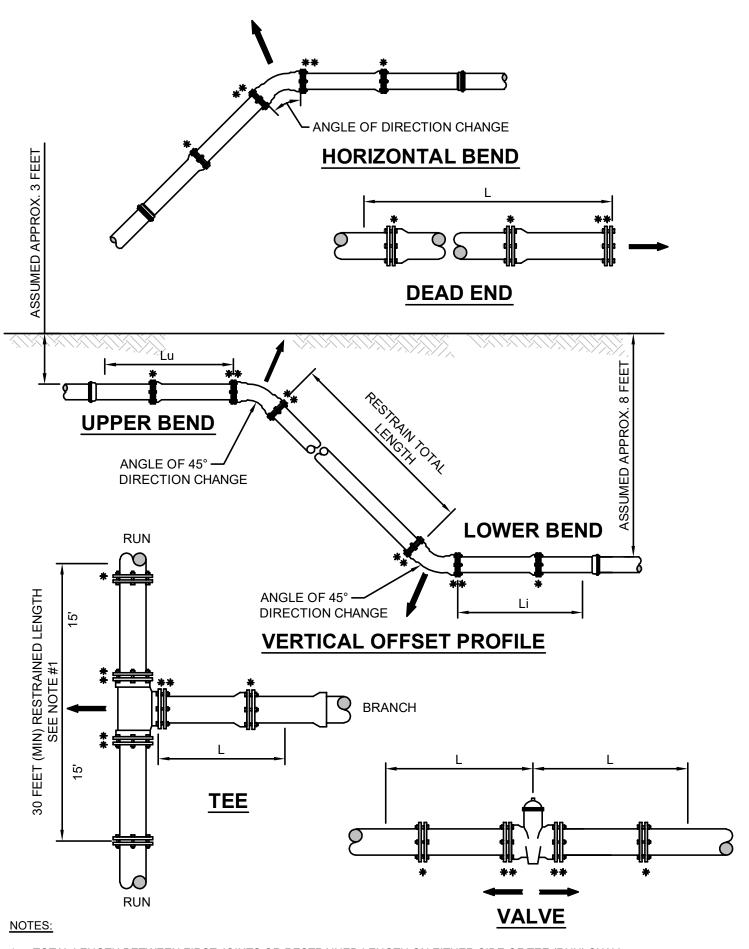
#### GENERAL NOTE:

JANUARY 2019

- 1. PAY ITEM " \* " DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
- 2. PAY ITEM " \*\* " DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.
- INDICATES DIRECTION OF THRUST FORCE.

#### MECHANICAL RESTRAINT DETAILS - I

PLATE W-31C



F.O. = FITTING ONLY

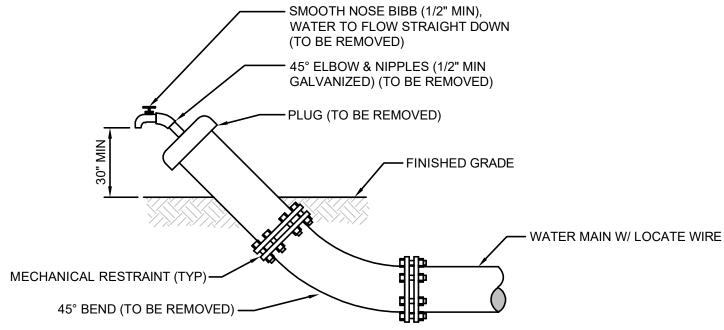
- 1. TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN.).
- 2. PAY ITEM "\*" DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIC.
- 3. PAY ITEM "\*\*" DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.

#### MECHANICAL RESTRAINT DETAILS - II

JANUARY 2019 PLATE W-31D

ETAILS AS SHOWN C ARE BY THE J.E.A. P PTION TO THE DESIG

#### TEMPORARY SAMPLE TAP UTILIZING A NEW 1" WATER SERVICE



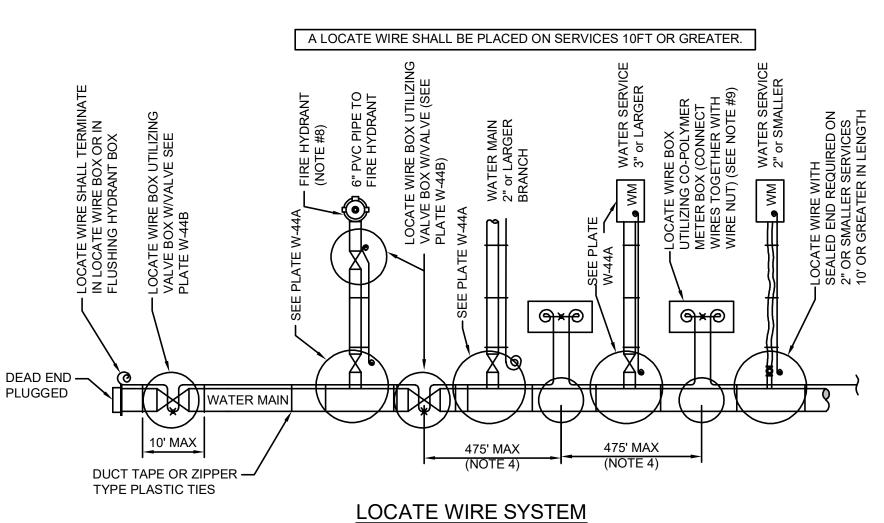
#### TEMPORARY SAMPLE TAP UTILIZING PLUG AT FLUSHING LOCATION

- 1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROAD SHOULDERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTINGS (AS NOTED) AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.
- 3. THE CONTRACTOR SHALL UTILIZE THE ABOVE ALTERNATIVE METHODS FOR CONSTRUCTION OF TEMPORARY SAMPLE POINTS IN ALL AREAS, WHERE POSSIBLE.
- 4. THE CONTRACTOR SHALL COMPLY WITH ALL JEA RULES AND POLICIES AS OUTLINED BY THE JEA'S ENVIRONMENTAL RESPONSE COORDINATOR (ERC) AND OTHER ASSOCIATED JEA STANDARDS.

#### TEMPORARY SAMPLE TAP ALTERNATIVE METHODS

JANUARY 2019

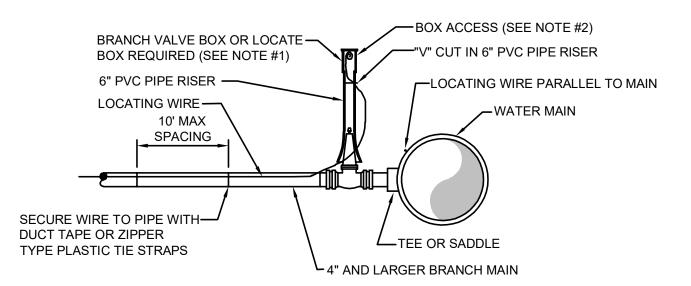
PLATE W-24



- 1. LOCATING WIRE TO BE INSTALLED IN EITHER THE ONE OR ELEVEN O'CLOCK POSITION ON ALL DUCTILE IRON 0R PVC (PRESSURE MAINS). LOCATE WIRE SHALL ALSO BE INSTALLED ON ALL (HDPE) POLY MAIN PIPING (1:00 OR 11:00 POSITION, IF POSSIBLE).
- 2. SECURE LOCATING WIRE TO PVC & D.I.P. WATER MAIN BY USE OF DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS SPACED AT A MAXIMUM DISTANCE OF TEN (10') AND AT EACH SIDE OF BELL JOINT OR FITTING.
- 3. THE ENTIRE LOCATING SYSTEM SHALL BE SUBJECTED TO TESTING TO DETERMINE ITS RELIABILITY. WHERE INSTALLED UNDER PAVEMENT AREAS, TESTING SHALL BE DONE PRIOR TO THE PLACEMENT OF PAVEMENT, UNLESS APPROVED OTHERWISE BY JEA.
- 4. LOCATING WIRE SHALL TERMINATE WITHIN AN ACTIVE VALVE BOX ( WITH A VALVE ) OR A METER BOX ( IF NO VALVE ) AT 475' INTERVALS. SEE DETAIL PLATE W-44B. WIRE CONNECTIONS BELOW GROUND (OUTSIDE OF A BOX) SHALL BE AVOIDED.
- 5. REFER TO SECTION 350 FOR LOCATE WIRE SPECIFICATIONS.
- 6. "X" INDICATES THAT THE WIRES ARE CONNECTED TOGETHER.
- 7. "@" INDICATES A WIRE PIG-TAIL (24" LONG)
- 8. FOR FIRE HYDRANT LOCATE WIRE REQUIREMENTS AND EXCLUSIONS, SEE PLATES W-12,13 AND 14.
- 9. AN "LW" CUT SHALL BE CARVED IN THE CONCRETE CURB AND PAINTED AT ALL LOCATE WIRE BOXES.

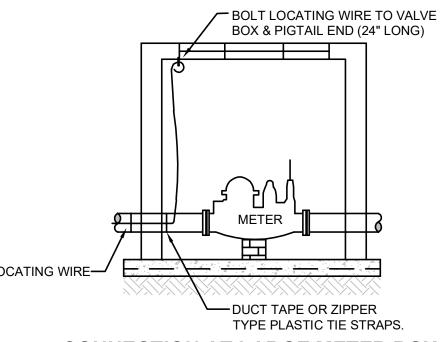
### LOCATE WIRE CONSTRUCTION FOR WATER MAINS

PLATE W-44 JANUARY 2019



#### **BRANCH FORCE MAIN**

(2" AND LARGER WATER MAIN OR 3" AND LARGER WATER SERVICE PIPE)

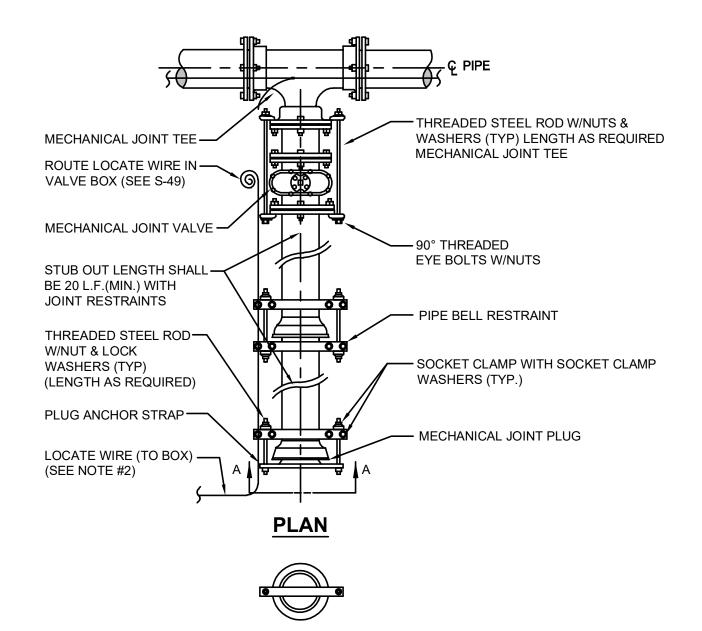


#### **CONNECTION AT LARGE METER BOX** (3" OR LARGER SERVICE)

- 1. NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE.
- 2. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE SECTION (SEE W-18).
- 3. LOCATE WIRE SHALL HAVE 2' OF SLACK INSIDES VALVE AND LOCATE POINTS.

#### LOCATE WIRE FOR BRANCH MAIN

JANUARY 2019 PLATE W-44A



- 2. LOCATING WIRE REQUIRED, UTILIZING A LOCATE WIRE BOX INSTALLED AT PLUG LOCATION

1. IN LIEU OF BELL/ROD RESTRAINTS, MECHANICAL JOINT RESTRAINTS MAY BE USED.

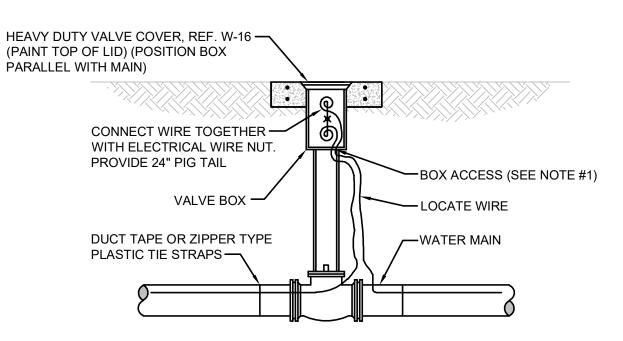
۷.	LOCATING WI	RE REQUIRED, OTILIZING A LOCATE WIRE BOX INSTALLED AT PLUG LOCA
3.	NUMBER OF 1	TIE RODS REQUIRED IS AS FOLLOWS:
	3" - 8"	DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD)
	10" - 12"	DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)
	14" - 16"	DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD)
	18" - 20"	DIAMETER MAIN - 8 TIE RODS REQUIRED PER JOINT (3/4" ROD)
	24"	DIAMETER MAIN -12 TIE RODS REQUIRED PER JOINT (3/4" ROD)
	30" - 36"	DIAMETER MAIN -14 TIE RODS REQUIRED PER JOINT (1" ROD)
	42" - 48"	DIAMETER MAIN -16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)
	54"	DIAMETER MAIN -18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)

4. THE LOCATION OF THE DEAD END PLUG SHALL NOT BE UNDER PAVEMENT, IF POSSIBLE. THE STUB OUT SHALL EXTEND BEYOND THE INTERSECTION AREAS OR ROAD CROSSING BY 10 FEET (MIN.) WHERE POSSIBLE.

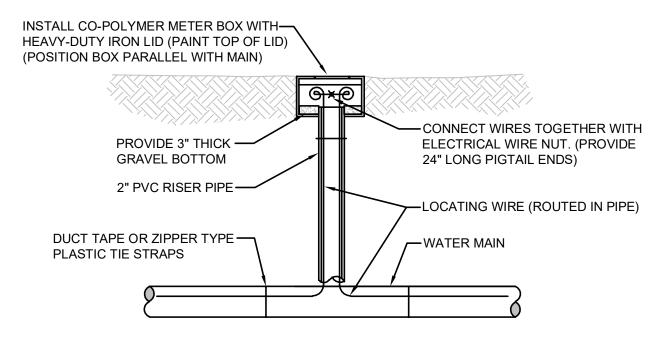
**SECTION "A-A"** 

### PLUGGED DEAD END USING MECHANICAL RESTRAINTS

JANUARY 2019 PLATE W-37



#### **LOCATE WIRE BOX UTILIZING VALVE BOX**



#### **LOCATE WIRE BOX UTILIZING METER BOX**

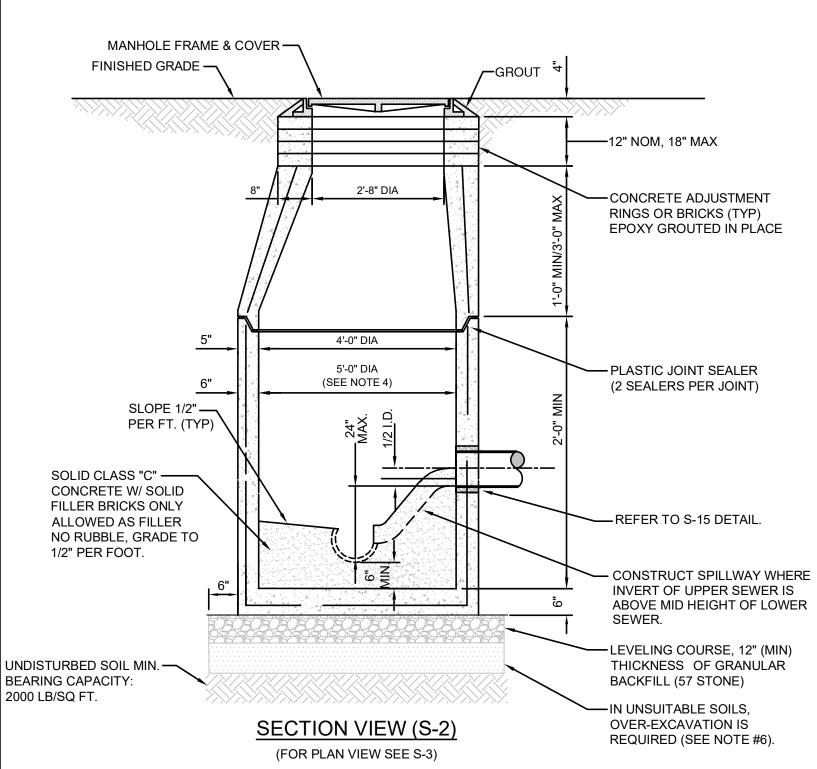
- 1. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE (SEE W-18).
- 2. LOCATE WIRE SHALL HAVE 2' OF SLACK INSIDES VALVE AND LOCATE POINTS.

#### LOCATE WIRE BOX

PLATE W-44B JANUARY 2019

1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE BETWEEN 90° - 180° UNLESS OTHERWISE APPROVED BY JEA.

> PLAN VIEW (S-3) (FOR SECTION VIEW SEE S-2)

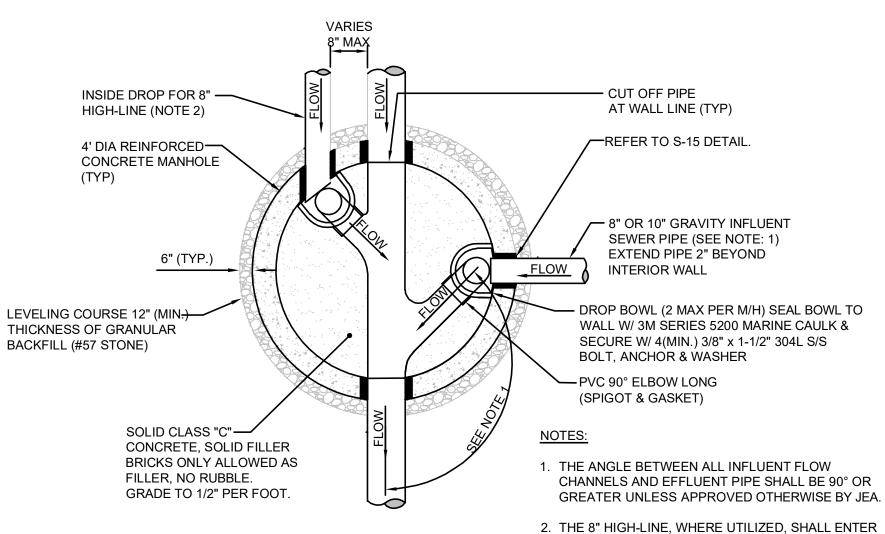


#### NOTES:

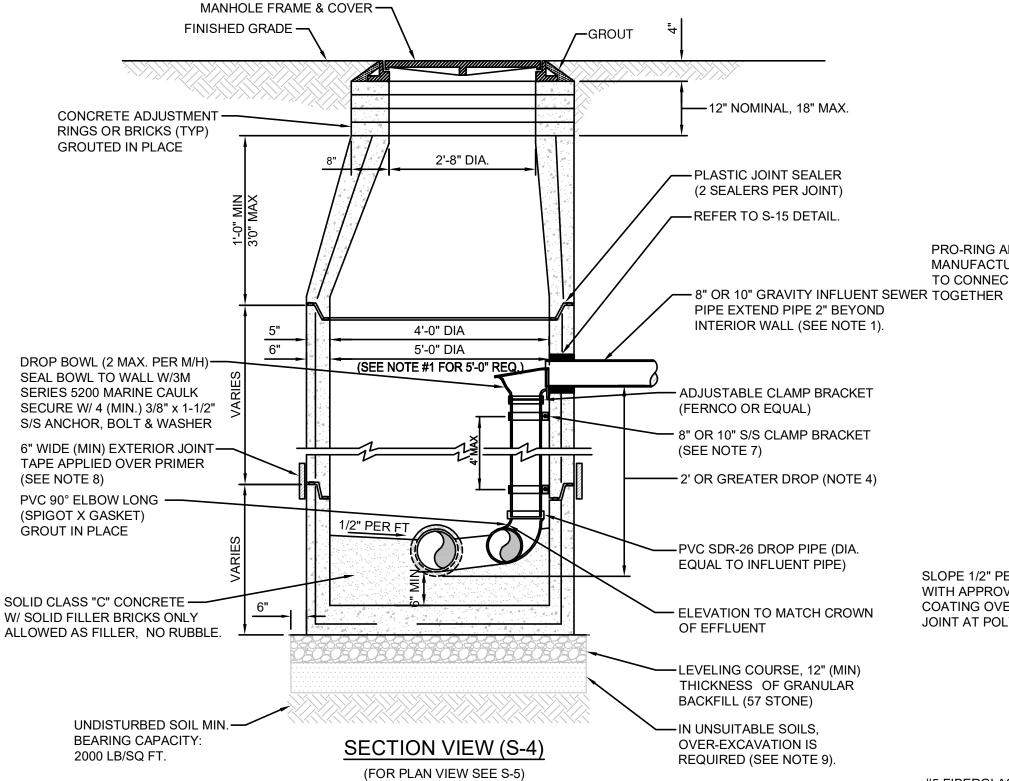
- PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL
- 2. THE INTERIOR AND EXTERIOR OF MANHOLE AND ADJUSTING RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL
- IF SPECIALTY LINER IS TO BE INSTALLED ON INSIDE SURFACE OF MANHOLE, THE BITUMINOUS WATERPROOFING MATERIAL SHALL BE OMITTED ON THE INSIDE.
- JUNCTION MANHOLE (CLOSEST TO WETWELL) SHALL BE 5' DIA WITH SPECIALTY LINER.
- ALL MANHOLE JOINTS BELOW THE TOP COVER SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (WITH PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL. SEE PLATE S-17.
- IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

### SANITARY SEWER CONCRETE TYPE "A" MANHOLE 8"-21" SEWERS

PLATES S-2, S-3 JANUARY 2019



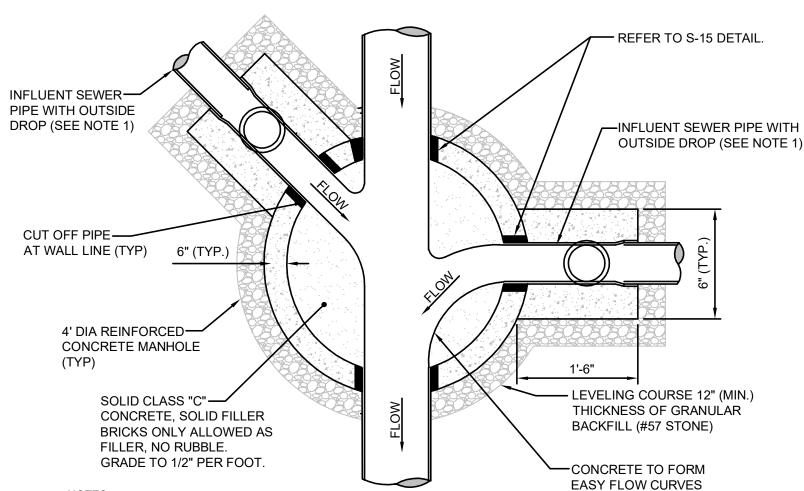
THE MANHOLE ON-CENTER OR OFF-CENTER AS PLAN VIEW (S-5) SHOWN ABOVE. (FOR SECTION VIEW SEE S-4)



- THIS ASSEMBLY IS FOR 8" OR 10" GRAVITY INFLUENT LINES ONLY. NEW CONSTRUCTION ONLY NO FORCE MAINS LARGER THAN 6". MAXIMUM OF 2 INSIDE DROP BOWLS PER MANHOLE. A 5'-0" DIA. MANHOLE (6" THICK WALLS) IS REQUIRED IF TWO INSIDE DROPS ARE CONSTRUCTED WITH ONE OR BOTH BEING 10" SIZE. DROP BOWL BY RELINER OR APPROVED EQUAL REQUIRED. THE INSIDE DROP FOR AN 8" HIGH-LINE SHALL BE CONSTRUCTED SIMILAR TO ABOVE (SEE PLATE S-5).
- 2. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
- THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS
- 4. TYPE "B" MANHOLE MUST BE USED FOR 2' OR GREATER INFLUENT PIPE DROPS.
- THE DROP BOWL ASSEMBLY SHALL BE INSTALLED PRIOR TO APPLICATION OF SPECIALTY LINING MATERIAL
- 6. A TYPE "D" MANHOLE SHALL BE UTILIZED WHEN THREE OR MORE (2' OR GREATER) DROPS ARE INVOLVED OR WHEN INFLUENT PIPES AREA LARGER THAN 10" IN SIZE.
- 7. ADJUSTABLE CLAMPING BRACKET (MIN. 2 PER DROP BOWL ASSY). 1-1/2" WIDE, 11 GA. W/ 3/8" DIA. 18-8 PINCH BOLTS AND NUTS. SECURE TO M/H WALL WITH (2) 3/8" X 1" BOLT, ANCHOR & WASHER PER BRACKET ASSY. ALL 304 OR 316 STAINLESS STEEL MATERIALS.
- ALL M/H JOINTS BELOW THE TOP CONE SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (W/PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL.
- IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

### SANITARY SEWER CONCRETE TYPE "B" MANHOLE 8"-10" SEWERS

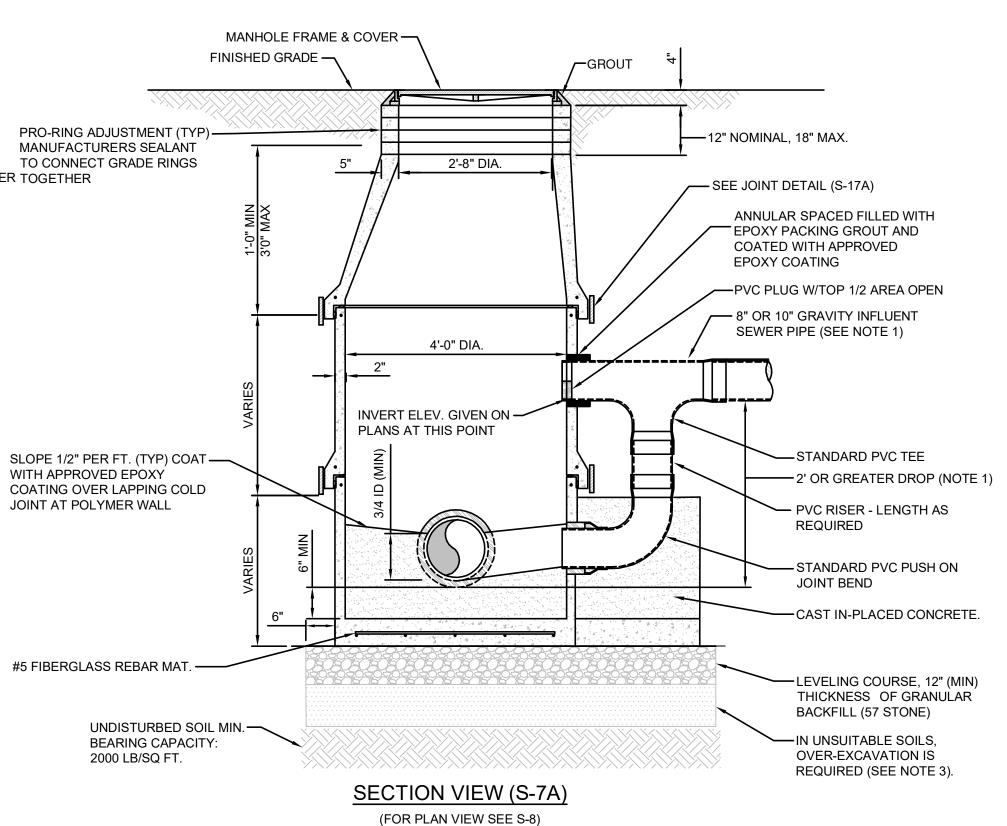
PLATES S-4, S-5 JANUARY 2019



- 1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE 90° OR GREATER UNLESS APPROVED OTHERWISE BY JEA.
- 2. THE INTERIOR AND EXTERIOR OF THE MANHOLE AND THE INTERIOR OF THE ADJUSTMENT RINGS SHALL BE GIVEN 2 COATS OF BITUMINOUS WATERPROOFING MATERIAL.
- 3. IF SPECIALITY LINER IS TO BE INSTALLED ON INSIDE OF MANHOLE, THE BITUMINOUS WATERPROOFING MATERIAL SHALL BE OMITTED ON THE INSIDE.
- 4. TYPE "D" MANHOLES SHALL BE USED FOR 12" OR LARGER INFLUENT PIPES W/ 2' OR GREATER INFLUENT DROP.

### PLAN VIEW (S-8)

(FOR SECTION VIEW SEE S-7)



- 1. TYPE "D" MANHOLE SHALL BE USED FOR 10" OR LARGER INFLUENT PIPES W/ 2' OR GREATER INFLUENT DROP.
- ALL M/H JOINTS BELOW THE TOP CONE SECTION SHALL INCLUDE A 18" WIDE (MIN) EXTERIOR JOINT TAPE (W/PRIMER). TAPE ON THE CONE
- 3. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

### SANITARY SEWER POLYMER TYPE "D" MANHOLE 12"-21" SEWERS

JANUARY 2019 PLATES S-7A, S-8 ARE BY THE J.E.A.

A STANDARD
Y SEWER DETAILS
DRNER OUTPARCEL

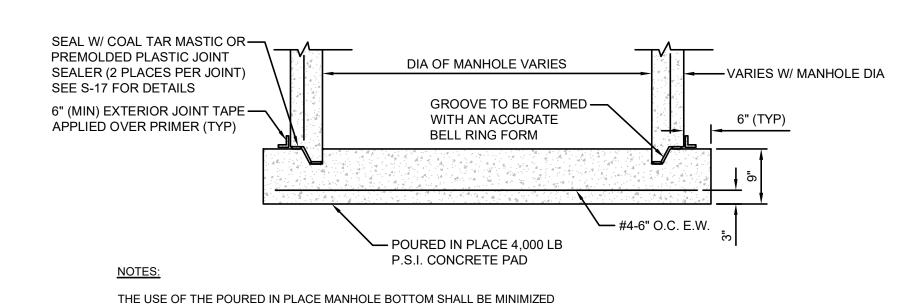
RUBBER BOOT, DOUBLE BANDED, 316 S/S CLAMPS.

MEETING THE ASTM C923 STANDARD. Kor-N-Seal® I EX SERIES

CONNECTOR WITH DOUBLE STAINLESS STEEL BANDS OR EQUAL.

#### RUBBER BOOT

(FOR NEW M/H CONSTRUCTION ONLY, MAXIMUM DEPTH 15FT)

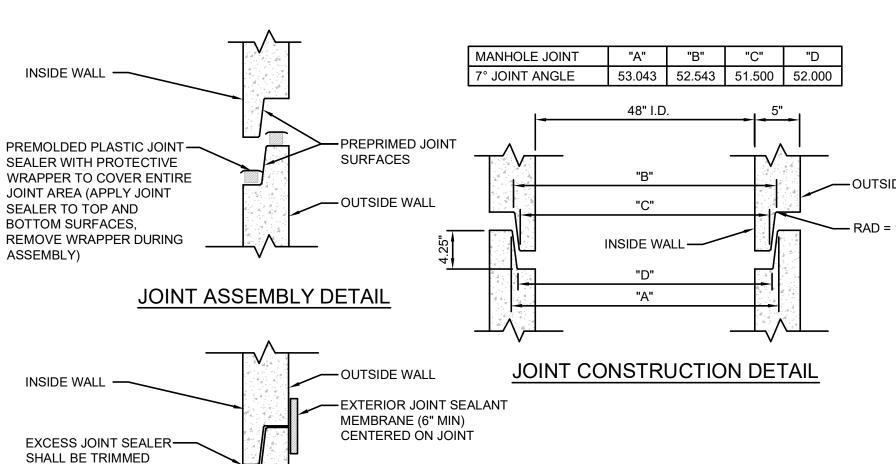


### MANHOLE BOTTOM

AND SHALL BE SPECIFICALLY APPROVED BY JEA PRIOR TO CONSTRUCTION.

### CONCRETE MANHOLE PIPE CONNECTION DETAIL

JANUARY 2019



ALL LIFTING HOLES (INSERTS)

SHALL BE FILLED WITH

**COMPLETED JOINT DETAIL** 

NON-SHRINK GROUT AND

PRECAST CONCRETE SEWER MANHOLE JOINT DETAIL

PLATE S-17

**COATED WITH BITUMINOUS** 

WATERPROOFING MATERIAL

FLUSH TO INSIDE

JANUARY 2019

SURFACE

### SANITARY SEWER MANHOLE FRAME AND COVER

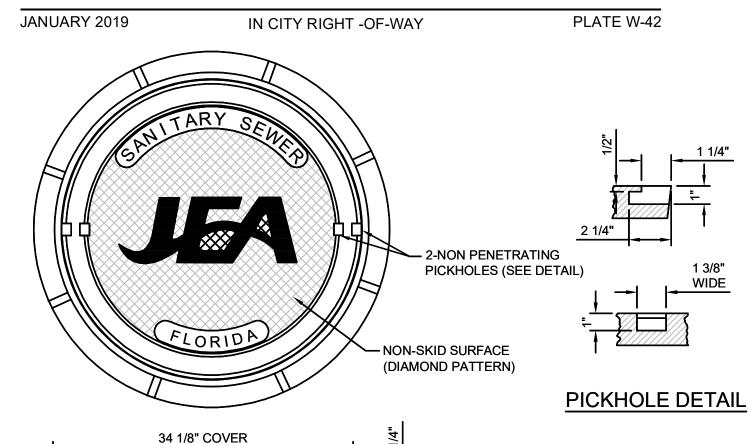
JANUARY 2019 PLATE S-1

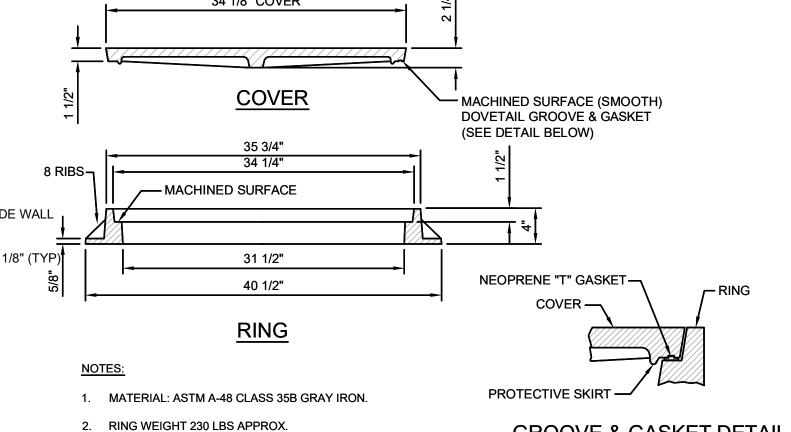
MATERIAL (SEE NOTE #5) BACKFILL COMPACTED TO 98% (SEE NOTES #3 & #4) PIPE DIAMETER -PIPE TO BE INSTALLED ON UNDISTURBED SOIL OR SUITABLE SOIL COMPACTED TO 98% MAX. DENSITY (NOTE #2)

#### **TYPICAL TRENCH**

- 1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE: OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4)) TO DETERMINE MAXIMUM
- 2. BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT
- 3. BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE.
- 4. BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 98% OF IT'S MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D1557
- 5. SEE " EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

#### OPEN CUT TRENCH FOR PRESSURE PIPE





**GROOVE & GASKET DETAIL** 

COVER WEIGHT 230 LBS. APPROX

- 4. ALL DIMENSIONS ARE SHOWN IN INCHES.
- FOR MANHOLES WHICH WILL BE MAINTAINED BY JEA (INCLUDING UTILITY DEDICATION PROJECTS), THE COVER SHALL INCLUDE THE "JEA" LOGO AND A NEOPRENE GASKET.
- FOR MANHOLES WHICH WILL BE MAINTAINED BY PARTIES OTHER THAN JEA (SUCH AS PRIVATE SEWER COLLECTION SYSTEMS, PRIVATE (FORCE MAIN) PUMP OUT BOX AND SYSTEMS NOT MAINTAINED BY JEA), THE COVER SHALL INCLUDE 'SANITARY SEWER" GENERIC LETTERING (NO "JEA" LOGO OR NEOPRENE GASKET).

#### MAXIMUM TRENCH WIDT - GENERAL BACKFILL MATERIAL COMPACTED TO 100% MAX.ASTM D698 (SEE NOTE #5) - BACKFILL COMPACTED TO 98% MAX. DENSITY, ASTM D698 (SEE NOTES #3 & #4) PIPE DIAMETER PIPE TO BE INSTALLED ON UNDISTURBED SOIL OR SUITABLE SOIL COMPACTED TO 100% MAX. DENSITY, ASTM D698 (NOTE #2)

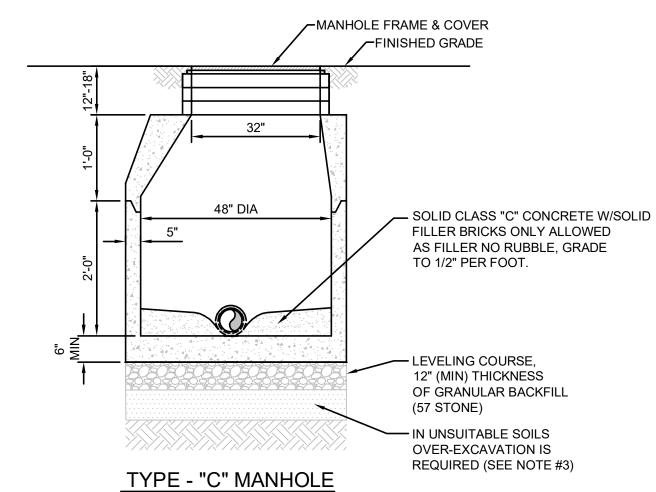
#### **TYPICAL TRENCH**

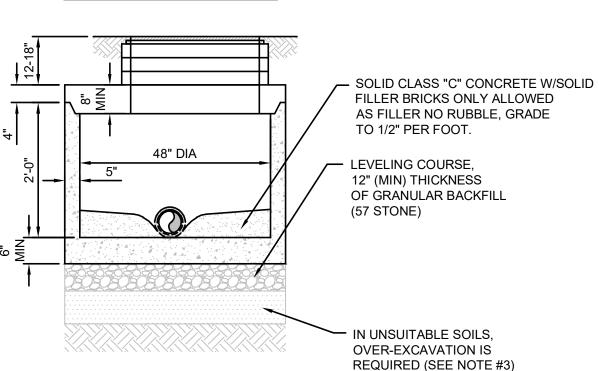
- 1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4)) TO DETERMINE MAXIMUM
- 2. BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT ABOVE THE TOP OF THE PIPE.
- 3. BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE
- 4. BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 100% OF IT'S MAXIMUM DENSITY AS DETERMINED BY THE
- 5. SEE " EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS AND EXCEPTIONS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED

#### OPEN CUT TRENCH FOR PRESSURE PIPE

JANUARY 2019 IN STATE ROAD RIGHT -OF-WAY

PLATE W-42A





#### TYPE - "C" MANHOLE WITH FLAT TOP

#### SECTION VIEWS NOTES:

- 1. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL
- 2. THE INTERIOR AND EXTERIOR OF MANHOLE AND INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COAT OF BITUMINOUS WATERPROOFING MATERIAL.
- 3. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

### SANITARY SEWER CONCRETE TYPE "C" MANHOLE 8"-21" SEWERS

JANUARY 2019 PLATE S-6

JEA STANDARD SANITARY SEWER DETAILS AKLEAF CORNER OUTPARCE

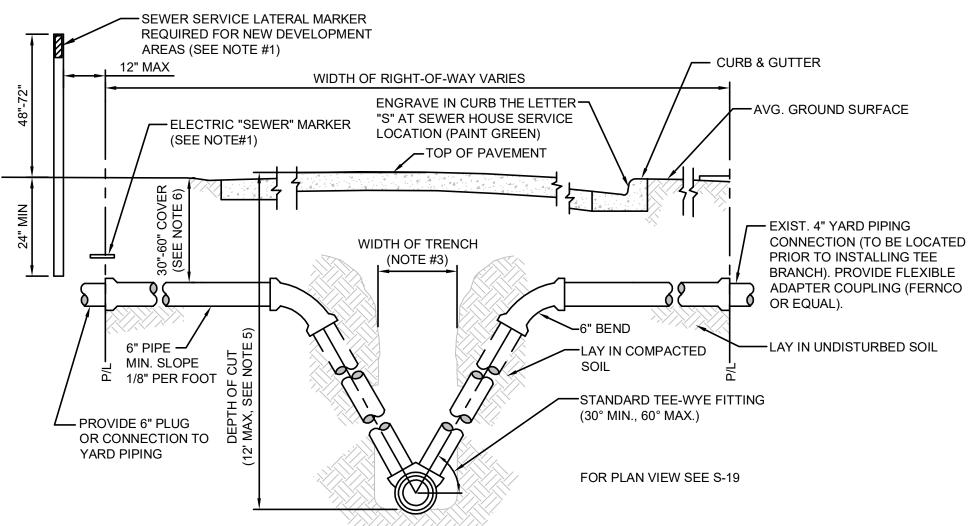
#### CASE "A" CROSSING

#### NOTES:

- 1. IF EXISTING CONFLICT PIPE IS A WATER OR RECLAIMED WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSINGS.
- 2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (S-26 & S-27).
- 3. LOCATING WIRE REQUIRED: SEE DETAIL S-49.
- 4. THE COVER FOR PIPING LESS THAN 24" SIZE SHALL BE 30" (MIN) IN UNPAVED AREAS, 36" (MIN) IN PAVED AREAS AND A MAXIMUM COVER OF 60", UNLESS PRE-APPROVED BY JEA. THE COVER FOR PIPING 24" SIZE AND LARGER SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY JEA.
- 5. THE SOILS BETWEEN THE MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.

# ADJUSTMENT OVER EXISTING UTILITIES MECHANICAL RESTRAINTS

JANUARY 2019 PLATE S-39

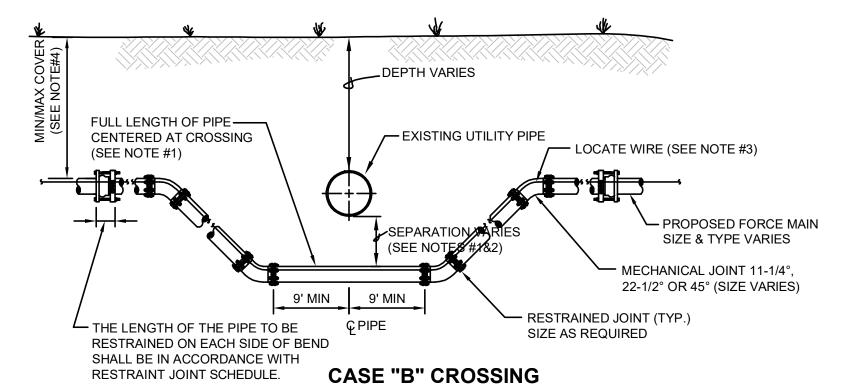


#### NOTE

- 1. TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE BEING INSTALL FOR FUTURE USE AT A MAX DEPTH OF 3' AT FINISH GRADE. FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED. WHERE REQUIRED BY JEA OR NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER SHALL BE INSTALLED TO MARKER SHALL ALSO BE INSTALLED.
- 2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).
- 3. SEE MEASUREMENT AND PAYMENT SECTION FOR MAXIMUM PAYMENT WIDTHS.
- 4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTINGS) SHALL BE PVC SDR-26.
- 5. UNLESS APPROVED OTHERWISE BY A JEA O&M MANAGER, NO GRAVITY SEWER MAIN WITH SEWER SERVICE LATERALS SHALL BE CONSTRUCTED WITH A "DEPTH OF CUT" GREATER THAN 12 FEET.
- 6. SEWER SERVICE LATERALS ASSOCIATED WITH GRAVITY SEWER MAINS WHICH ARE DEEPER THAN 12 FEET, MUST BE ROUTED TO A GRAVITY SEWER HIGH-LINE, A MANHOLE OR OTHER JEA APPROVED METHOD.
- 7. THE SEWER SERVICE LATERAL SHALL BE CONSTRUCTED AT A DEPTH TO ALLOW A GRAVITY CONNECTION BY THE CUSTOMER, WHERE POSSIBLE (CONTINGENT UPON MEETING THE CUSTOMER'S ON-SITE CONDITIONS AND LOCAL CONSTRUCTION STANDARDS). A LATERAL REQUIRING MORE THAN 60" OF COVER MUST BE APPROVED, PRIOR TO CONSTRUCTION, BY JEA.

### HOUSE LATERAL - SECTION VIEW

JANUARY 2019 PLATE S-20

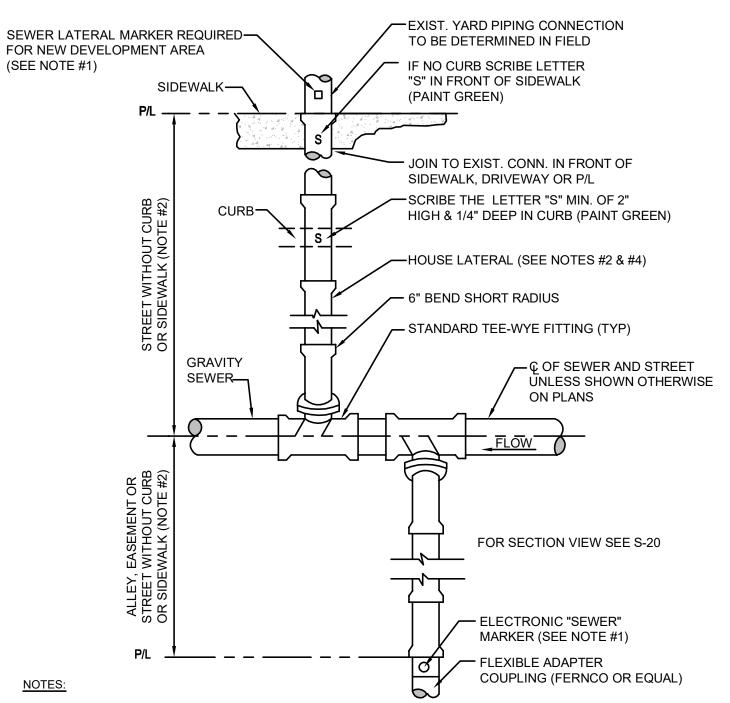


#### NOTES:

- 1. IF EXISTING CONFLICT PIPE IS A WATER OR RECLAIMED WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED.A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSINGS.
- 2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (S-26 & S-27).
- 3. LOCATING WIRE REQUIRED: SEE DETAIL S-49.
- 4. THE COVER FOR PIPING LESS THAN 24" SIZE SHALL BE 30" (MIN) IN UNPAVED AREAS, 36" (MIN) IN PAVED AREAS AND A MAXIMUM COVER OF 60", UNLESS PRE-APPROVED BY JEA. THE COVER FOR PIPING 24" SIZE AND LARGER SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY JEA.
- 5. THE SOILS BETWEEN THE MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.

# ADJUSTMENT UNDER EXISTING UTILITIES MECHANICAL RESTRAINTS

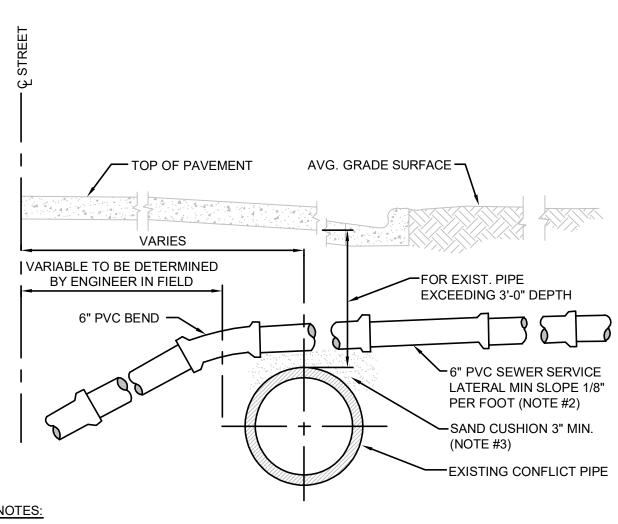
JANUARY 2019 PLATE S-41



- 1. TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE BEING INSTALL FOR FUTURE USE AT A MAX DEPTH OF 3' AT FINISH GRADE. FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED. WHERE REQUIRED BY JEA OR NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER SHALL BE INSTALLED TO MARKER SHALL ALSO BE INSTALLED.
- 2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).
- 3. NO SEWER SERVICE CONNECTIONS PERMITTED ON GRAVITY SEWER PIPE WHICH ARE 16" AND LARGER.
- 4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTING) SHALL BE PVC SDR-26.

#### HOUSE LATERAL - PLAN VIEW

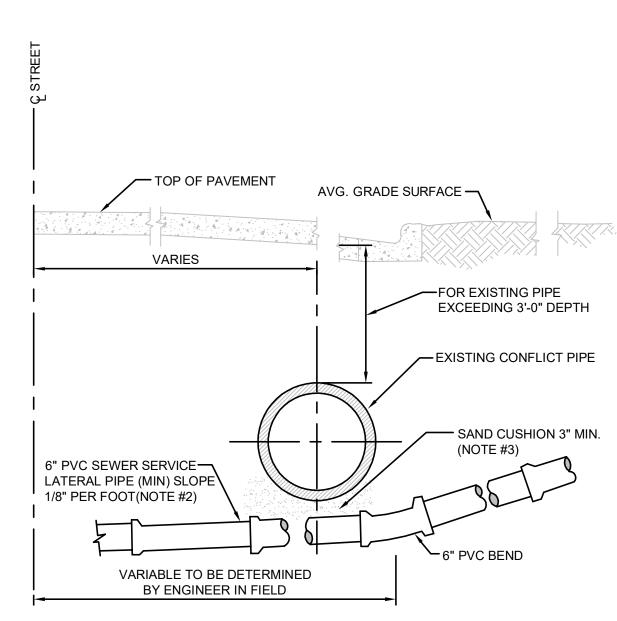
JANUARY 2019 PLATE S-19



- 1. ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
- 2. FLATTER SLOPES MUST BE PRE-APPROVED BY JEA O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION.
- 3. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.

#### HOUSE LATERAL OVER CONFLICT PIPE

JANUARY 2019 PLATE S-23

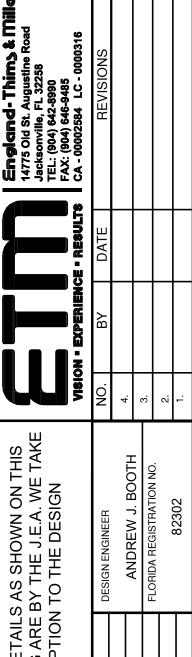


#### NOTES:

- 1. ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
- 2. FLATTER SLOPE MUST BE PRE-APPROVED BY JEA O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION
- 3. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.

HOUSE LATERAL UNDER CONFLICT PIPE

JANUARY 2019 PLATE S-24



DESIGNER:
DRAWN BY:
DATE:
CHECKED BY:
DATE:
DATE:

D. SHEETS PRC 5 HEET NO. DAT 3 AWING NO. SCA

- 1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS).
- 2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
- 3. FRAME AND COVER SHALL BE JEA STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD JEA COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DÓOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
- 4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEÉ SPECIFICATION FOR ADDITIONAL REQUIREMENTS
- 5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

### AIR VALVE ASSEMBLY INSIDE MANHOLE IN ROW

JANUARY 2019

MANHOLE FRAME & COVER (NOTE #2) -CITY R/W 4" QUICK DISCONNECT WITH CAP -(NOTE #5) 4" PLUG VALVE OR GATE — PRIVATE PROPERTY CITY R/W VALVE(FLG'D) 4" D.I. TEE (MIN) ---CHECK VALVE -(SIZE AS REQUIRED) 3' (MAX) GRADE -GATE VALVE (4" MIN) (SEE NOTE #3) (SEE NOTE #2) LOCATE WIRE REQUIRED GROUT SEAL PIPE-OPENING (TYP) TO JEA SYSTEM FROM PRIVATE -PUMP STATION -4" FM (PVC, DR18) -8" (min) OF ROCK (57 STONE)

1. SEWER PUMP-OUT BOX SHALL BE CONSTRUCTED ON PRIVATE PROPERTY AND LOCATED AT THE RW LINE. THE PREFERRED CONSTRUCTION LAYOUT IS SHOWN ABOVE.

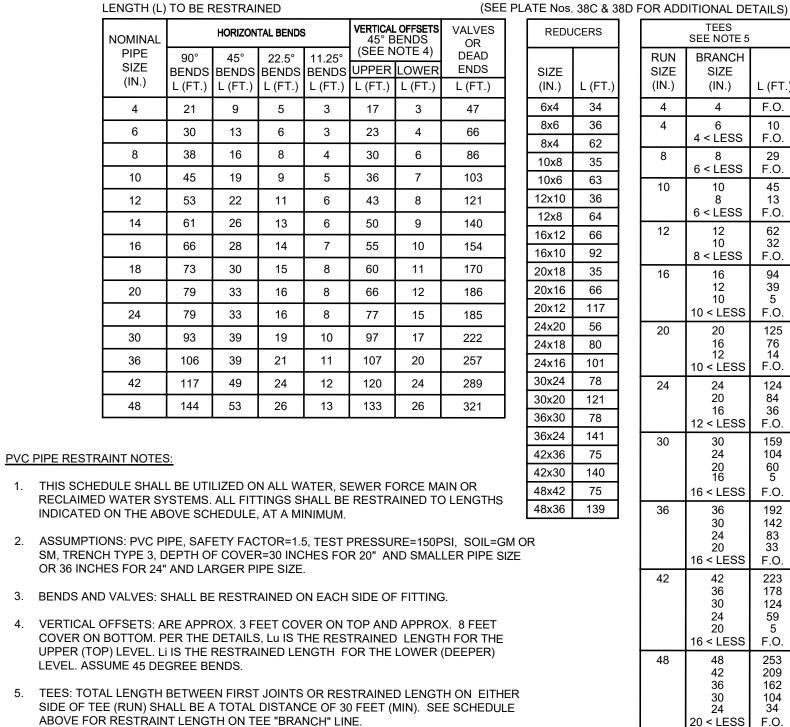
ASSEMBLY TO BE ENCLOSED WITHIN A 48"x48" (MIN) PRECAST CONCRETE BOX WITH OPEN BOTTOM W/H-20 TRAFFIC LOADING COVER OR TYPE "C" MANHOLE OPEN BOTTOM WITH FRAME AND COVER (NON-JEA LOGO

3. A JEA APPROVED GATE VALVE (4" MIN) SHALL BE PROVIDED AT THE R/W LINE FOR ALL FORCE MAIN PIPING WHICH EXCEEDS 15' LINEAR FEET WITHIN THE CITY R/W AREA. THE GATE VALVE AT THE R/W LINE IS NOT REQUIRED WHERE THE CONNECTION (CONNECTION AT JEA MAIN) IS LOCATED ON THE SAME SIDE OF THE STREET AS THE PUMP-OUT BOX (SHORT-SIDE SERVICE) AND CONSIST OF 15 LINEAR FEET OR LESS WITHIN

- 4. NO CONNECTIONS PERMITTED INTO JEA FORCE MAINS WHICH ARE GREATER THAN 12" WITHOUT PRIOR JEA
- 5. QUICK DISCONNECT WITH CAP SHALL BE ALUMINUM AND BE POSITIONED DIRECTLY UNDER MANHOLE LID

#### PRIVATE PUMP OUT ASSEMBLY

PLATE S-46 JANUARY 2019



4 < LESS F.O. 6 < LESS | F.O. 6 < LESS F.O. 8 < LESS F.O. 10 < LESS | F.O. 10 < LESS | F.O. 12 < LESS | F.O. 16 < LESS F.O. 16 < LESS F.O. 223 S AS SHC BY THE 16 < LESS F.O. 253 209 F.O. = FITTING ONLY

PLATE S-38A

OWN J.E.A THESE DET DRAWING A NO EXCEPT

PVC PIPE RESTRAINT JOINT SCHEDULE

JANUARY 2019

6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE)

SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD

AT THE BELL RESULTING IN A SERVICE OUTAGE.

ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE

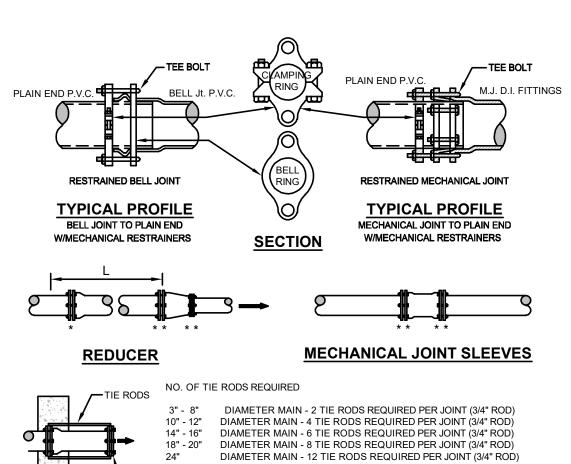
- MANHOLE FRAME & COVER / ADJUSTMENT - FLAT TOP SECTION (8" THK. MIN) - 316 S.S. CABLE HOOK. LOCATE WIRE PIG TAIL END (SEE NOTE #6) AIR VALVE ASSEMBLY 4' DIA OR 4 SQUARE MANHOLE (MIN) W/FLAT TO SECTION NO BOTTOM PROVIDE SPECIALTY INTERIOR LINER, DOG HOUSE MANHOLE DESIGN WITH 12" SEPARATION (MANHOLE TO PIPE) MAY BE UTILIZED. (SEE NOTE #2) VALVE (SEE NOTE #5) ADAPTER (IF REQ.) 6" MIN GRAVEL SLOPE DOWN TO MAIN (1/8" PER 1' MIN) LOCATE WIRE -DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS 316 S S PIPF-OFF-SET PIPING "IF REQUIRED" -(2" MIN, SEE NOTES #1 & #6) AND FITTINGS FOR OFF-SET PIPING LARGER THAN 2 INCH-SIZE, PROVIDE A GATE VALVE INSTALLED VERTICALLY (W/B&C) NEAR MAIN (SEE NOTE #6) 2" SS BALL VALVE -

(SEE NOTE #5) THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS). IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER: PIPING SHALL BE 316 STAINLESS STEEL SCH.40. STD GRADE, THREADED. FOR PIPE SIZES 4 INCH AND LARGER: PIPING SHALL BE 316 STAINLESS STEEL SCH. 10 (MIN), WELDED OR PVC DR-18 PIPE AND FITTINGS-RESTRAINED.

- THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE
- . FRAME AND COVER SHALL BE JEA STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD JEA COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
- . FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- i. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING, ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED

### L HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE. AIR VALVE ASSEMBLY INSIDE MANHOLE

PLATE S-29 JANUARY 2019



THE CITY R/W AREA.

DIAMETER MAIN - 14 TIE RODS REQUIRED PER JOINT (1" ROD) 42" - 48" DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD) DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)

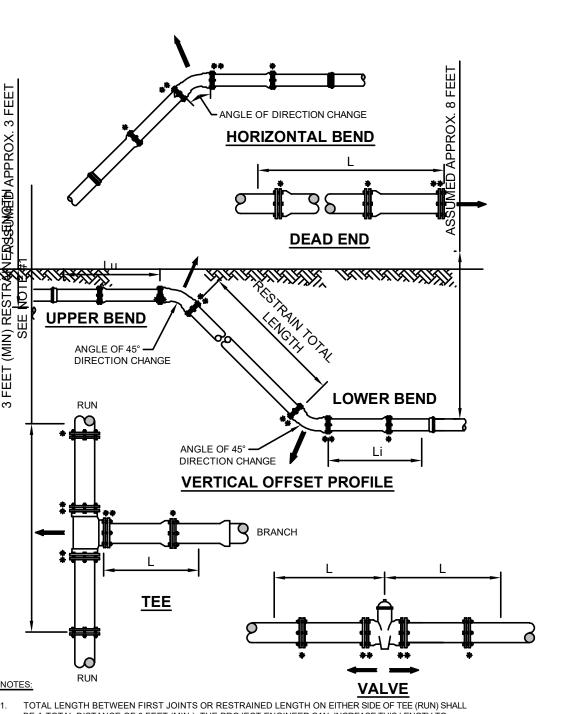
> **DEAD - END THRUST COLLAR ANCHOR** TO BE USED INSTEAD OF TOTAL RESTRAINED LENGTH (OPTIONAL) SIZE AS PER THRUST BLOCK DETAIL (W-38). SEE DETAILS W-36 & W-37.

#### GENERAL NOTE:

- 1. PAY ITEM " \* " DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
- 2. PAY ITEM " \*\* " DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.
- 3. INDICATES DIRECTION OF THRUST FORCE.

#### MECHANICAL RESTRAINT DETAILS - I

JANUARY 2019 PLATE S-38C

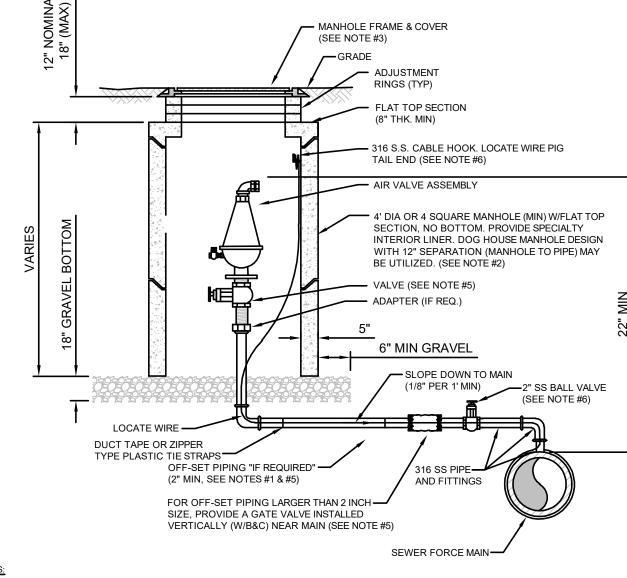


1. TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 6 FEET (MIN.). THE PROJECT ENGINEER CAN INCREASE THIS LENGTH TO REDUCE THE NUMBER OF RESTRAINS REQUIRED. ANY CHANGES TO THIS TABLE MUST BE SUMMITTED

- 2. PAY ITEM "\*" DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIC.
- 3. PAY ITEM "\*\*" DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR

#### MECHANICAL RESTRAINT DETAILS - II

JANUARY 2019 PLATE S-38D



- 1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS). IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER: PIPING SHALL BE 316 STAINLESS STEEL SCH.40. STD GRADE. THREADED. FOR PIPE SIZES 4 INCH AND LARGER:
- 2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
- 3. FRAME AND COVER SHALL BE JEA STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VALULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD JEA COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
- 4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- 5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

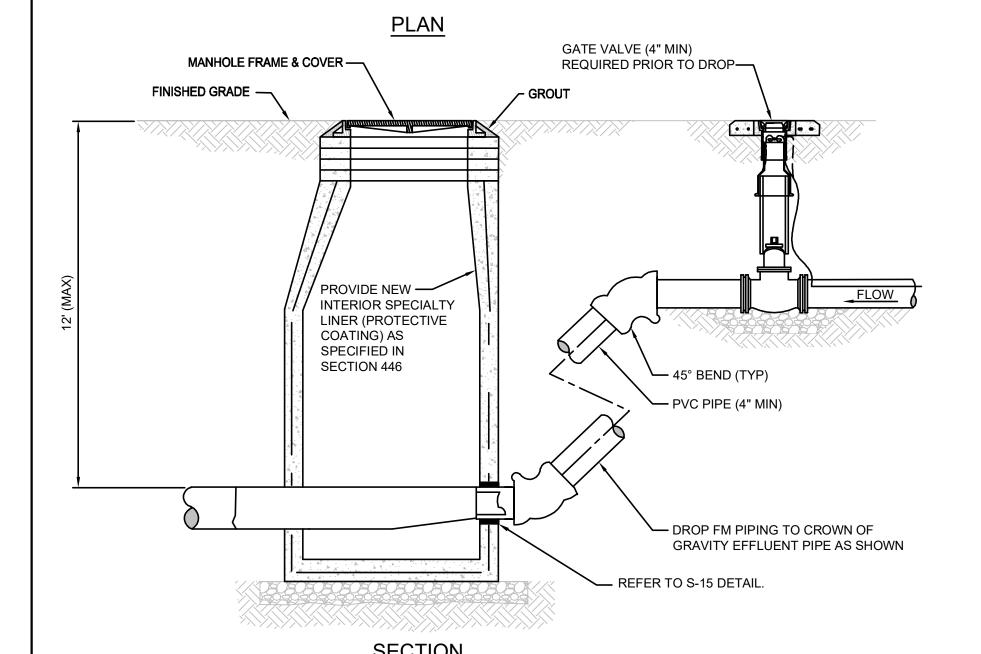
#### OPTIONAL LOW PROFILE AIR VALVE ASSEMBLY INSIDE MANHOLE

JANUARY 2019 PLATE S-29A

STANDARD

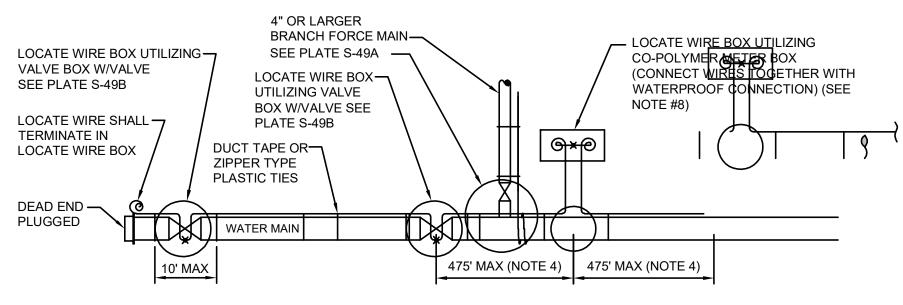
Y SEWER DE'

RNER OUTP



### TYPICAL FORCE MAIN CONNECTION TO MANHOLE

JANUARY 2019 PLATE S-18



#### LOCATE WIRE SYSTEM

#### NOTE

- 1. LOCATING WIRE TO BE INSTALLED IN EITHER THE ONE OR ELEVEN O'CLOCK POSITION ON ALL DUCTILE IRON 0R PVC (PRESSURE MAINS). LOCATE WIRE SHALL ALSO BE INSTALLED ON ALL (HDPE) POLY MAIN PIPING (1:00 OR 11:00 POSITION, IF POSSIBLE).
- 2. SECURE LOCATING WIRE TO PVC FORCE MAIN BY USE OF DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS SPACED AT A MAXIMUM DISTANCE OF TEN (10') AND AT EACH SIDE OF BELL JOINT OR FITTING.
- THE ENTIRE LOCATING SYSTEM SHALL BE SUBJECTED TO TESTING TO DETERMINE ITS RELIABILITY. WHERE INSTALLED UNDER PAVEMENT AREAS, TESTING SHALL BE DONE PRIOR TO THE PLACEMENT OF PAVEMENT, UNLESS APPROVED OTHERWISE BY JEA.
- 4. LOCATING WIRE SHALL TERMINATE WITHIN AN ACTIVE VALVE BOX ( WITH A VALVE ) OR A METER BOX ( IF NO VALVE ) AT 475'

INTERVALS. SEE DETAIL PLATE S-49B. WIRE CONNECTIONS BELOW GROUND (OUTSIDE OF A BOX) SHALL BE AVOIDED.

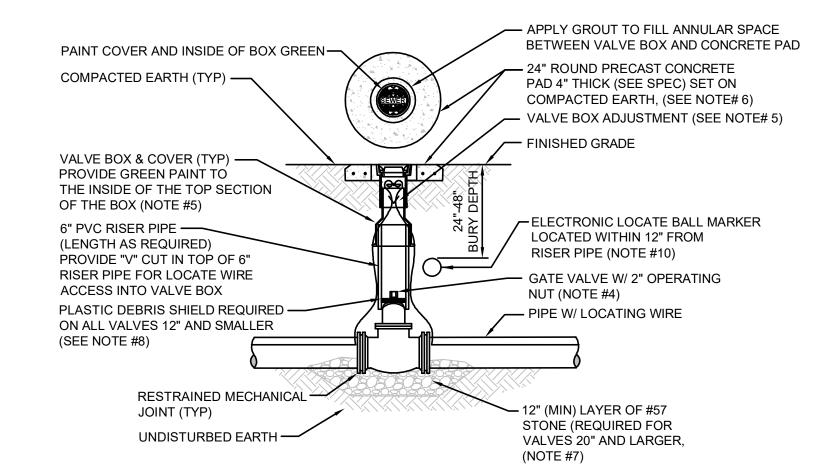
- 5. LOCATING WIRE SHALL BE 12 GAUGE COPPER WIRE WITH .03 INCHES (MINUMUM) HDPE INSULATION THICKNESS, 0.141 INCHES
- (MINIMUN) O.D. RATED BREAK LOAD 250LBS., UF RATED (DIRECT BURIÀL), GREEN COLOR. FOR HDD INSTALLATIONS, THE LOCATE WIRE SHALL BE COPPER CODED STEEL AS SPECIFIED IN SPEC. SECTION 750.
- 6. "X" INDICATES THAT THE WIRES ARE CONNECTED TOGETHER WITH WATERPROOF CONNECTION. (SEE DETAIL W-49B)
- 7. "o" INDICATES A WIRE PIG-TAIL (24" LONG)

JANUARY 2019

- 8. AN "LW" CUT SHALL BE CARVED IN THE CONCRETE CURB AND PAINTED AT ALL LOCATE WIRE BOXES.
- 9. FOUR LANES OF TRAFFIC (HAVING TWO LANES OF TRAFFIC IN EACH DIRECTION) OR GREATER THE LOCATE WIRE AND VALVE BOX SHALL BE OFF-SET TO THE RIGHT-OF-WAY.

### LOCATE WIRE CONSTRUCTION FOR FORCE MAINS

PLATE S-49

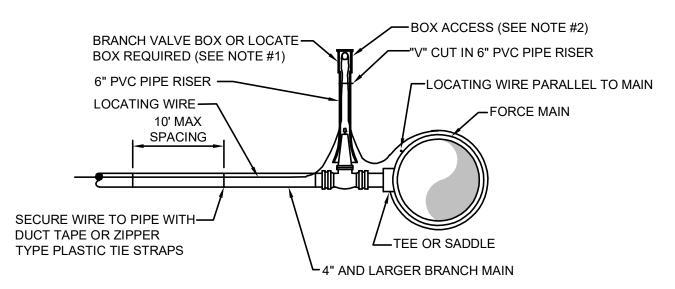


#### NOTES:

- 1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED
- 2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAIL S-49).
- 3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/(ASPHALT IF NO CURB) ADJACENT TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED GREEN.
- 4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
- 5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 24" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIPE NUT.
- 6. BRASS IDENTIFICATION TAG INDICATING "SEWER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A ½" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
- 7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 #4 REBAR AROUND PERIMETER, MAY BE USED.
- 8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO 1/3 THE OVERALL HEIGHT OF THE VALVE.
- 9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.
- 10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1404XR FOR SEWER).

### SEWER VALVE DETAIL

JANUARY 2019 PLATE S-30



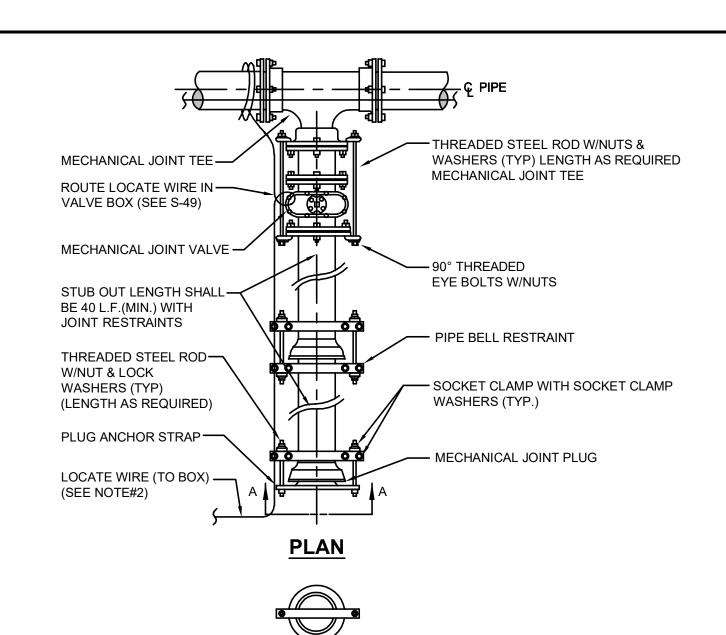
#### **BRANCH FORCE MAIN**

(4" AND LARGER SEWER MAIN)
NOTE:

- 1. NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE
- 2. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE SECTION (SEE S-30).
- 3. LOCATE WIRE BOX SHALL BE INSTALLED OUTSIDE OF SIDEWALKS, DRIVEWAYS AND PAVEMENT.
- 4. "@" INDICATES A WIRE PIG-TAIL (4' LONG)

#### LOCATE WIRE FOR BRANCH MAIN

JANUARY 2019 PLATE S-49A



#### **SECTION "A-A"**

- 1. IN LIEU OF BELL/ROD RESTRAINTS, MECHANICAL JOINT RESTRAINTS MAY BE USED.
- 2. LOCATING WIRE REQUIRED, UTILIZING A LOCATE WIRE BOX INSTALLED AT PLUG LOCATION.
- 3. NUMBER OF TIE RODS REQUIRED IS AS FOLLOWS:

  3" 8" DIAMETER MAIN 2 TIE RODS REQUIRED PER JOINT (3/4" ROD)

  10" 12" DIAMETER MAIN 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)

  14" 16" DIAMETER MAIN 6 TIE RODS REQUIRED PER JOINT (3/4" ROD)

  18" 20" DIAMETER MAIN 8 TIE RODS REQUIRED PER JOINT (3/4" ROD)

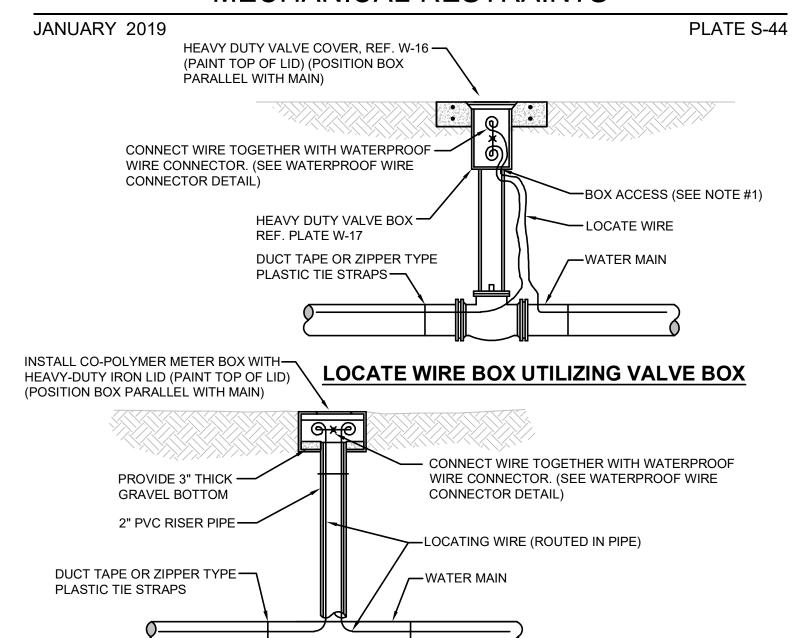
  24" DIAMETER MAIN 12 TIE RODS REQUIRED PER JOINT (3/4" ROD)

  30" 36" DIAMETER MAIN 14 TIE RODS REQUIRED PER JOINT (1" ROD)

  42" 48" DIAMETER MAIN 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)

  54" DIAMETER MAIN 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)
- 4. THE LOCATION OF THE DEAD END PLUG SHALL NOT BE UNDER PAVEMENT, IF POSSIBLE. THE STUB OUT SHALL EXTEND BEYOND THE INTERSECTION AREAS OR ROAD CROSSING BY 10 FEET (MIN.)

# PLUGGED DEAD END USING MECHANICAL RESTRAINTS



# WINZ IN WINZ 991

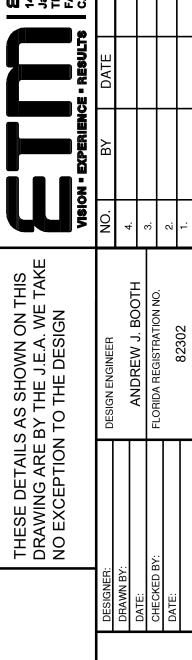
LOCATE WIRE BOX UTILIZING METER BOX

#### OTES: WATERPROOF WIRE CONNECTOR DETAIL

- 1. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE (SEE W-18).
- 2. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE AND LOCATE POINTS.
- 3. LOCATE WIRE CONNECTION SHALL ONLY BE A 2 WAY CONNECTION.

### LOCATE WIRE BOX

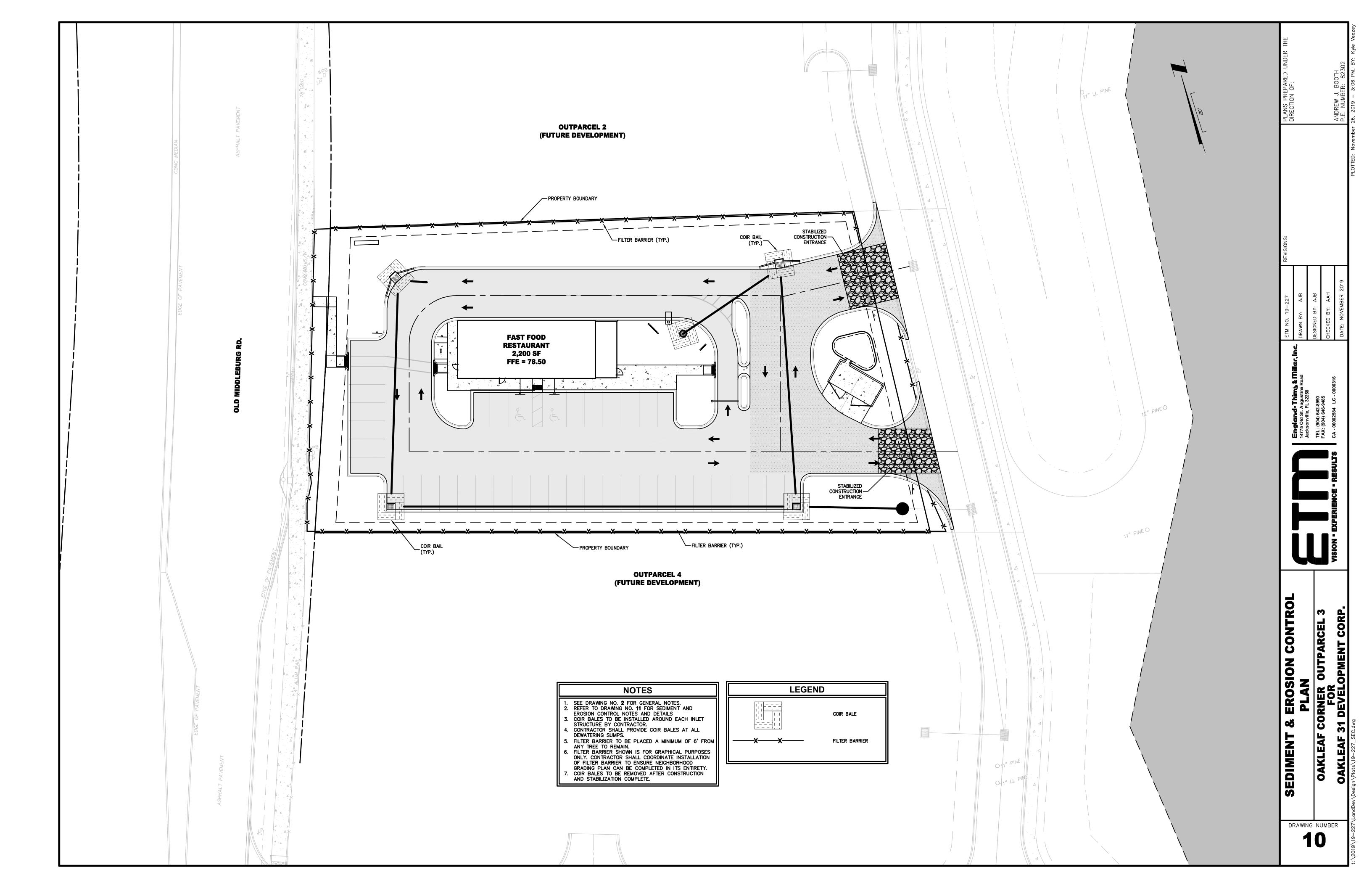
JANUARY 2019 PLATE S-49B



Building Communitysm

JEA STANDARD IITARY SEWER DETAILS AF CORNER OUTPARCEL

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E: AS NOTED

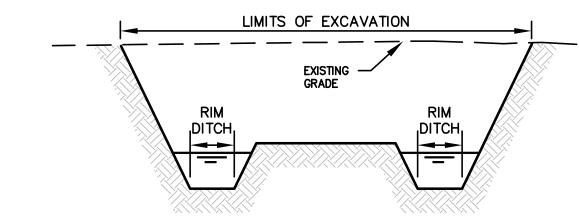


#### SEDIMENT AND EROSION CONTROL NOTES

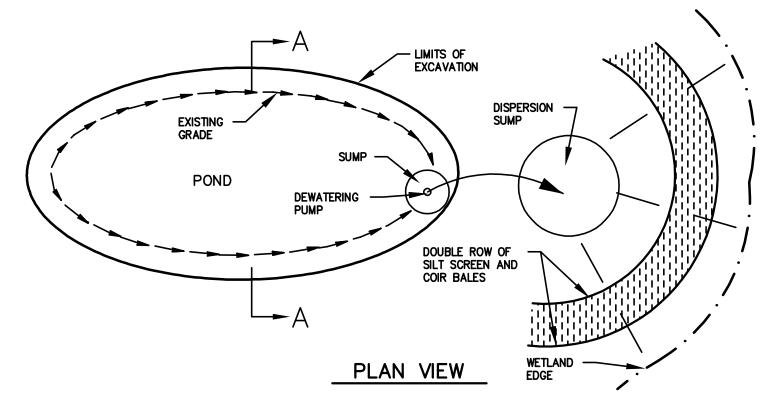
- 1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON—SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AND SWALES AT COMPLETION OF CONSTRUCTION.
- 2. THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
- 3. ADDITIONAL PROTECTION ON-SITE PROTECTION IN ADDITION TO THE ABOVE MUST BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNSEEN CONDITIONS OR ACCIDENTS.
- 4. CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
- 5. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS REQUIRED, THE STRIPS SHALL BE OVERLAPPED.
- 6. FDOT NO. 1 COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ON SEDIMENT FILTER DETAIL (SEE DETAIL THIS SHEET). THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHÈS OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES
- 7. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.
- 8. BALES SHALL BE EITHER WIRE-BOUND OR STRING-TIED WITH THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.
- 9. BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.
- 10. THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED
- 11. EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE.
- 12. LOOSE COIR SHOULD BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.
- 13. COIR BALE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- 14. CLOSE ATTENTION SHALL BE GIVEN TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.
- 15. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.
- 16. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. IT MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- 17. ANY SEDIMENT DEPOSITS REMAINING IN PLACE, AFTER THE COIR BALE OR FILTER BARRIERS, AND OR SILT FENCES ARE NO LONGER REQUIRED, SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
- 18. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 19. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED
- 20. STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS
- 21. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- 22. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS AND ST. JOHNS RIVER WATER MANAGEMENT DISTRICT RULES AND REGULATIONS.
- 23. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "THE FLORIDA DEVELOPMENT MANUAL - A GUIDE TO SOUND LAND AND WATER MANAGEMENT" FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (F.D.E.P.) CHAPTER 6.
- 24. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE DETAILS (THIS SHEET) FOR TYPICAL
- 25. SOD SHALL BE PLACED IN AREAS WHICH MAY REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITY STANDARDS ARE MAINTAINED.
- 26. ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS TO THE RECEIVING OUTFALL.
- 27. DEWATERING PUMPS SHALL NOT EXCEED THE CAPACITY OF THAT WHICH REQUIRES A CONSUMPTIVE USE PERMIT FROM THE ST. JOHNS RIVER WATER
- 28. ALL DISTURBED AREAS SHALL BE GRASSED, FERTILIZED AND MULCHED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED. CONTRACTOR SHALL USE ADDITIONAL MEASURES TO STABILIZE DISTURBED AREAS THROUGH COMPACTION, SILT SCREENS, COIR BALES, AND GRASSING. ALL FILL SLOPES 3:1 OR STEEPER TO RECEIVE STAKED SOLID SOD.
- 29. ALL DEWATERING, EROSION, AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL AFTER COMPLETION OF CONSTRUCTION, AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
- 30. THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
- 31. THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRIES, RELATIVE TO COMPLIANCE OF SJRWMD FOR EROSION AND SEDIMENTATION CONTROL. THE COST OF THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.
- 32. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS AND PRESERVATION EASEMENTS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
- 33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING A PERMANENT STAND OF SOD AND/OR GRASS PER THE CONTRACT DOCUMENTS AND MEETING THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, XXXXXXXX AND NPDES FINAL STABILIZATION REQUIREMENTS.
- 34. THESE PLANS INCLUDING THE POLLUTION PREVENTION PLAN INDICATE THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES REQUIRED FOR THIS PROJECT. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "THE FLORIDA DEVELOPMENT MANUAL - A GUIDE TO

SOUND LAND AND WATER MANAGEMENT" FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (F.D.E.P.) CHAPTER 6. CONTRACTOR SHALL PROVIDE EROSION PROTECTION AND TURBIDITY CONTROL AS REQUIRED TO INSURE CONFORMANCE TO STATE AND FEDERAL WATER QUALITY STANDARDS AND MAY NEED TO INSTALL ADDITIONAL CONTROLS TO CONFORM TO AGENCIES REQUIREMENTS. IF A WATER QUALITY VIOLATION OCCURS, THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ALL DAMAGE AND ALL COSTS WHICH MAY RESULT INCLUDING LEGAL FEES, CONSULTANT FEES, CONSTRUCTION COSTS, AND FINES.

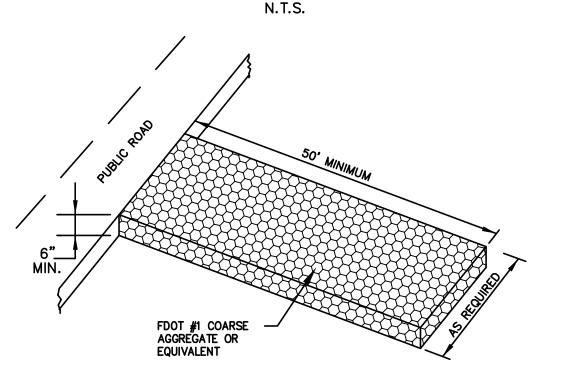
35. 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR WILL SUBMIT A "NOTICE OF INTENT" TO THE EPA IN ACCORDANCE WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM RULES AND REGULATIONS. (FOR ANY CONSTRUCTION NOT COVERED BY THE OWNER'S "NOTICE OF INTENT" PERMIT)



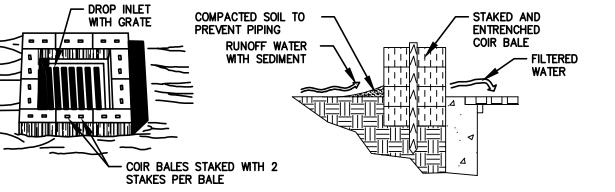
#### SECTION A-A



### TEMPORARY DEWATERING DETAIL



#### STABILIZED CONSTRUCTION ENTRANCE N.T.S.

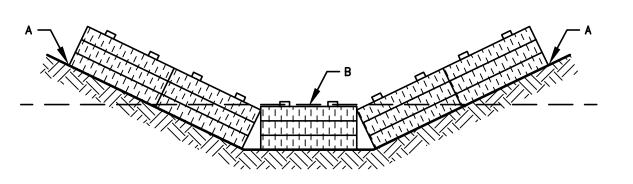


#### SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5 PERCENT) WHERE SHEET OR OVERLAND FLOWS (NOT EXCEEDING 0.5 cfs) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

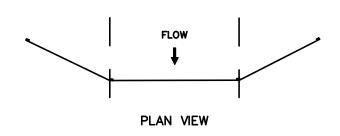
#### COIR BALE DROP INLET SEDIMENT FILTER

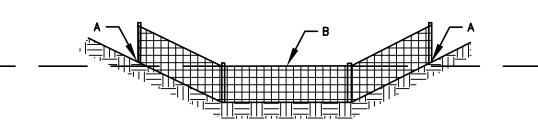
N.T.S.



POINTS A SHOULD BE HIGHER THAN POINT B

### PROPER PLACEMENT OF COIR BALE IN A DRAINAGE WAY

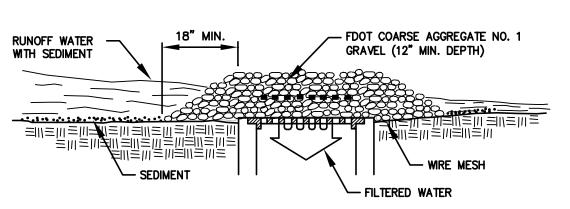




SECTION VIEW POINTS A SHOULD BE HIGHER THAN POINT E

### PROPER PLACEMENT OF A FILTER BARRIER IN DRAINAGE WAY

N.T.S.

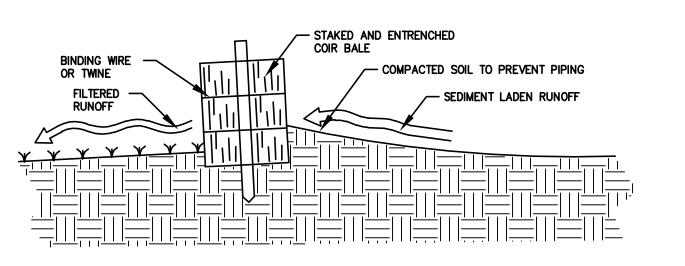


#### SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

### GRAVEL AND WIRE MESH DROP INLET **SEDIMENT FILTER**

N.T.S.

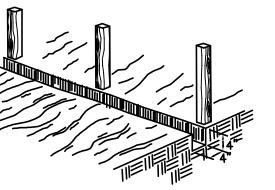


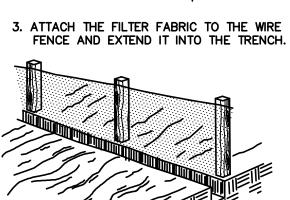
### **CROSS-SECTION OF A PROPERLY**

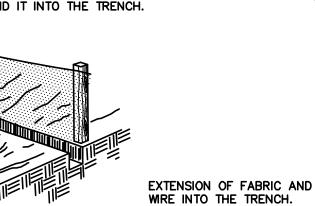
**INSTALLED COIR BALE** 

N.T.S.

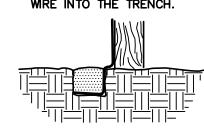








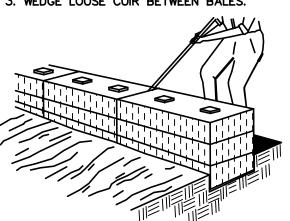
WIRE INTO THE TRENCH.



### **CONSTRUCTION OF SILT FENCE**

1. EXCAVATE THE TRENCH

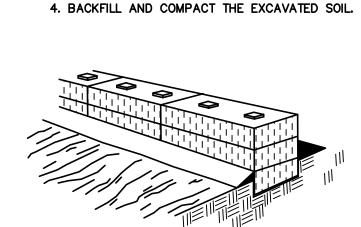
3. WEDGE LOOSE COIR BETWEEN BALES.



2. PLACE AND STAKE COIR BALES.

2. STAPLE WIRE FENCING TO THE POSTS.

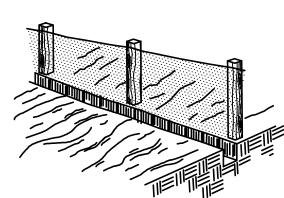
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



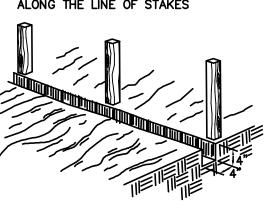
### CONSTRUCTION OF A COIR BALE BARRIER

1. SET THE STAKES.

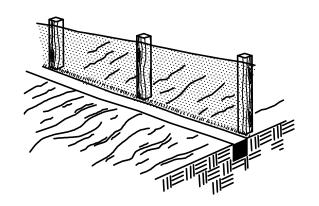
3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.



2. EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES



4. BACKFILL AND COMPACT THE EXCAVATED SOIL



CONSTRUCTION OF A FILTER BARRIER

OUT

Ü

DRAWING NUMBER

#### \* ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY TO DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.

### ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF

#### REACHED ONE-THIRD THE HEIGHT OF THE FENCE.

#### \* THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10

- \* DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
- INSPECTION. A COPY OF THE REPORT FORM SHALL BE COMPLETED BY THE THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND AND EROSION PLANS,
- THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.
- WLL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE
- RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE. SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

#### NON-STORM WATER DISCHARGES

- \* PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
- \* UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).
- ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

#### CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

#### DEWATERING

PRIOR TO ANY DISCHARGE OF GROUND WATER (DEWATERING) FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT TO WATERS OF THE STATE (INCLUDING, BUT NOT LIMITED TO, WETLANDS, SWALES AND MUNICIPAL STORM SEWERS), THE CONTRACTOR SHALL TEST THE EFFLUENT (WATER TO BE DISCHARGED) IN ACCORDANCE WITH RULE 62-621.300(2), F.A.C. IF THE TEST RESULTS ON THE EFFLUENT ARE BELOW THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL SUBMIT A SUMMARY OF THE PROPOSED Construction activity and the test results to the department of environmental PROTECTION DISTRICT OFFICE, WITHIN ONE (1) WEEK AFTER DISCHARGE BEGINS. THE CONTRACTOR SHALL CONTINUE TO SAMPLE THE EFFLUENT AS REQUIRED THROUGHOUT THE PROJECT AND COMPLY WITH ALL CONDITIONS OF RULE 62-621.300(2), F.A.C. IF THE GROUND WATER EXCEEDS THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR EFFLUENT (GROUND WATER) TO SURFACE WATERS OF THE STATE.

SIGNATURE	BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS	RESPONSIBLE FOR/DUTIES
		GENERAL CONTRACTOR
		SUB-CONTRACTOR

THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE

USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS. \* NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME

WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.

\* ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING

\* BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS

SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.

\* SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT. TEARS, TO

PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB.

\* TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.

\* A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH

OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED.

\* THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO

\* PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND

- \* IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:
- \* WATER FROM WATER LINE FLUSHING

SHALL COMPLY WITH OTHER APPLICABLE RULES AND REGULATIONS PRIOR TO DISCHARGE OF THE

SPILL PREVENTION

Masonry Blocks

Metal Studs

Roofing Materials

#### MATERIAL MANAGEMENT PRACTICES

PRESENT ONSITE DURING CONSTRUCTION:

Concrete

Detergents

Asphalt

Fertilizers

Paints

Cleaning Solvents

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE

#### GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

\* AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED

\* ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER

THE ORIGINAL MANUFACTURER'S LABEL.

DISPOSING OF THE CONTAINER.

\* MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.

\* THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

WITH HAZARDOUS MATERIALS.

\* ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.

\* IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP

GLOVES, GOGGLES, LIQUID ABSORBENT (i.e. KITTY LITTER OR EQUAL), FOR THIS PURPOSE.

OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

Petroleum Based Products

TO DO THE JOB.

\* PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH

\* SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

\* WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE

#### HAZARDOUS PRODUCTS

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED

\* PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE

ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A

SEALABLE PLASTIC BIN TO AVOID SPILLS.

#### CONCRETE TRUCKS

#### SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL

SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE

SIGNATURE	BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS	RESPONSIBLE FOR/DUTIES
		GENERAL CONTRACTOR
		SUB-CONTRACTOR
		OF CONTRACTOR & ALL SUBS

0

DRAWING NUMBER

# SITE DESCRIPTION PROJECT NAME AND LOCATION:

OWNER/DEVELOPER NAME AND ADDRESS: OAKLEAF 31 DEVELOPMENT CORP.

OAKLEAF CORNER OUTPARCEL 3

DUVAL COUNTY, FLORIDA

12276 SAN JOSE BLVD.

JACKSONVILLE, FL 32223

DESCRIPTION:

THIS PROJECT WILL CONSIST OF: CONSTRUCTION OF A 1.01 AC. DEVELOPMENT. CONSTRUCTION WILL CONSIST OF INSTALLATION OF UNDERGROUND UTILITIES, CLEARING, GRADING, STORMWATER MANAGEMENT FACILITIES ROADWAYS, PARKING AREAS, AND ASSOCIATED CONSTRUCTION.

SOIL DISTURBING ACTIVITIES WILL INCLUDE: CLEARING AND GRUBBING; INSTALLING A STABILIZED CONSTRUCTION ENTRANCE, PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS; GRADING: EXCAVATION FOR THE SEDIMENTATION POND, STORM SEWER. UTILITIES, AND BUILDING FOUNDATION; CONSTRUCTION OF CURB AND GUTTER, ROAD, AND PARKING AREAS; AND PREPARATION FOR FINAL PLANTING AND SEEDING.

GENERALIZED RUNOFF CURVE NUMBERS (REFER TO DRAINAGE

CALCULATIONS FOR ACTUAL CURVE NUMBER FOR EACH BASIN)  $PRE-CONSTRUCTION = 75\pm$ DURING CONSTRUCTION =  $80\pm$ 

 $POST-CONSTRUCTION = 85\pm$ 

\* SEE ATTACHED FOR SOILS DATA \* SEE ATTACHED DWG. No. 6 FOR POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL

CONTROLS AND STORM WATER DISCHARGE POINTS. \* SEE ATTACHED DWG. No. 10 FOR LOCATION OF TEMPORARY

STABILIZATION PRACTICES, AND TURBIDITY BARRIERS

BEEN OBTAINED.

D.E.P. DREDGE/FILL PERMIT #

SITE AREA: TOTAL AREA OF SITE =  $1.01 \text{ AC}\pm$ 2. TOTAL AREA TO BE DISTURBED = 1.01 AC $\pm$ 

NAME OF RECEIVING WATERS: HEADWATERS OF EXISTING TRIBUTARY OF MCGIRTS CREEK CONTROLS

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN OFF. DWG. No. 10 HAVE BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS AS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTORS REQUIREMENTS" FOR A

VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED. AREAS WHICH ARE NOT DEVELOPED BUT WILL BE REGRADED

SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE.

REFER TO " CONTRACTORS REQUIREMENTS" FOR THE TIMING OF CONTROL/MEASURES.

CERTIFICATION OF COMPLIANCE WITH

FEDERAL, STATE AND LOCAL REGULATIONS IN AN EFFORT TO ENSURE COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS REGARDING EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE

C.O.E. DREDGE/FILL PERMIT S.J.R.W.M.D. M.S.S.W. PERMIT #

POLLUTION PREVENTION PLAN CERTIFICATION

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

CORPORATE OFFICER, GENERAL PARTNER, PROPRIETOR, EXECUTIVE OFFICER, OR RANKING ELECTED OFFICIAL

FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED. MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION AND SEDIMENT CONTROL PLAN AND AS REQUIRED TO MEET THE SEDIMENT AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.

NOTE: VERTICAL CONSTRUCTION OF THE BUILDING WILL BE TAKING

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND

CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF

IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE

WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED

DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE

CONTROLS

SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH

WITH THE SEDIMENT & EROSION CONTROL PLAN (DRAWING NO. 10)

COIR BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE

THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL

OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY

IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY

PLACE DURING ALL THE SEQUENCE STEPS LISTED ABOVE

**GENERAL** 

REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION

AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE

ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT

MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED

TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM

SEQUENCE OF MAJOR ACTIVITIES:

9. INSTALL UTILITIES, STORM SEWER,

10. APPLY BASE TO PARKING AREAS

SEEDING/SOD AND PLANTING

ACTIVITY IS COMPLETE AND THE

SITE IS STABILIZED, REMOVE ANY

SWALES/DIKES AND RESEED/SOD

CURBS & GUTTER.

11. COMPLETE GRADING AND

INSTALL PERMANENT

12. COMPLETE FINAL PAVING

14. WHEN ALL CONSTRUCTION

SEDIMENT FROM BASINS

TEMPORARY DIVERSION

AS REQUIRED

13. REMOVE ACCUMULATED

CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING ON THE NATURE OF

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

CONSTRUCTION ENTRANCE

2. INSTALL SILT FENCES AND COIR

3. CLEAR AND GRUB FOR DIVERSION

CONSTRUCT SEDIMENTATION

6. STOCK PILE TOP SOIL IF REQUIRED

STABILIZE DENUDED AREAS AND

7. PERFORM PRELIMINARY GRADING

STOCKPILES AS SOON AS

ON SITE AS REQUIRED

CONTINUE CLEARING AND

GRUBBING

PRACTICABLE

SWALES/DIKES AND SEDIMENT

BALES AS REQUIRED

1. INSTALL STABILIZED

EROSION AND SEDIMENT CONTROLS

COLLECTION FACILITY.

- STABILIZATION PRACTICES COIR BALE BARRIER: COIR BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE
  - FOLLOWING LIMITATIONS: A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT. B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
  - C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS. D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF COIR BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO INSURE
- AGAINST WASHOUT. 2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE
  - FOLLOWING LIMITATIONS: A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT. B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM

CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.

BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED

APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE

CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL

BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE. 4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE

LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO

- RECONCENTRATE AFTER RELEASE. 5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER
- 6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 10 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITH AN EROSION CONTROL PLAN WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.

INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT -LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.

TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 7 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.

9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.

10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER.

11. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.

12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.

13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE

14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

LIMITATIONS:

OFFSITE FACILITIES.

STRUCTURAL PRACTICES TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE

USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP IS USUALLY INSTALLED IN AN DRAINAGEWAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA WITH THE FOLLOWING

INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION 3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE VELOCITY OF FLOW AT DESIGN

CAPACITY OF THE OUTLET WILL EXCEED THE PERMISSIBLE VELOCITY OF

A. THE SEDIMENT TRAP MAY BE CONSTRUCTED EITHER

SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED 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. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL

OTHER CONTROLS

WASTE DISPOSAL

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED

AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL

SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

THE RECEIVING CHANNEL OR AREA.

WASTE MATERIALS ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE

OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE HAZARDOUS WASTE ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL

SANITARY WASTE

OFFSITE VEHICLE TRACKING

BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

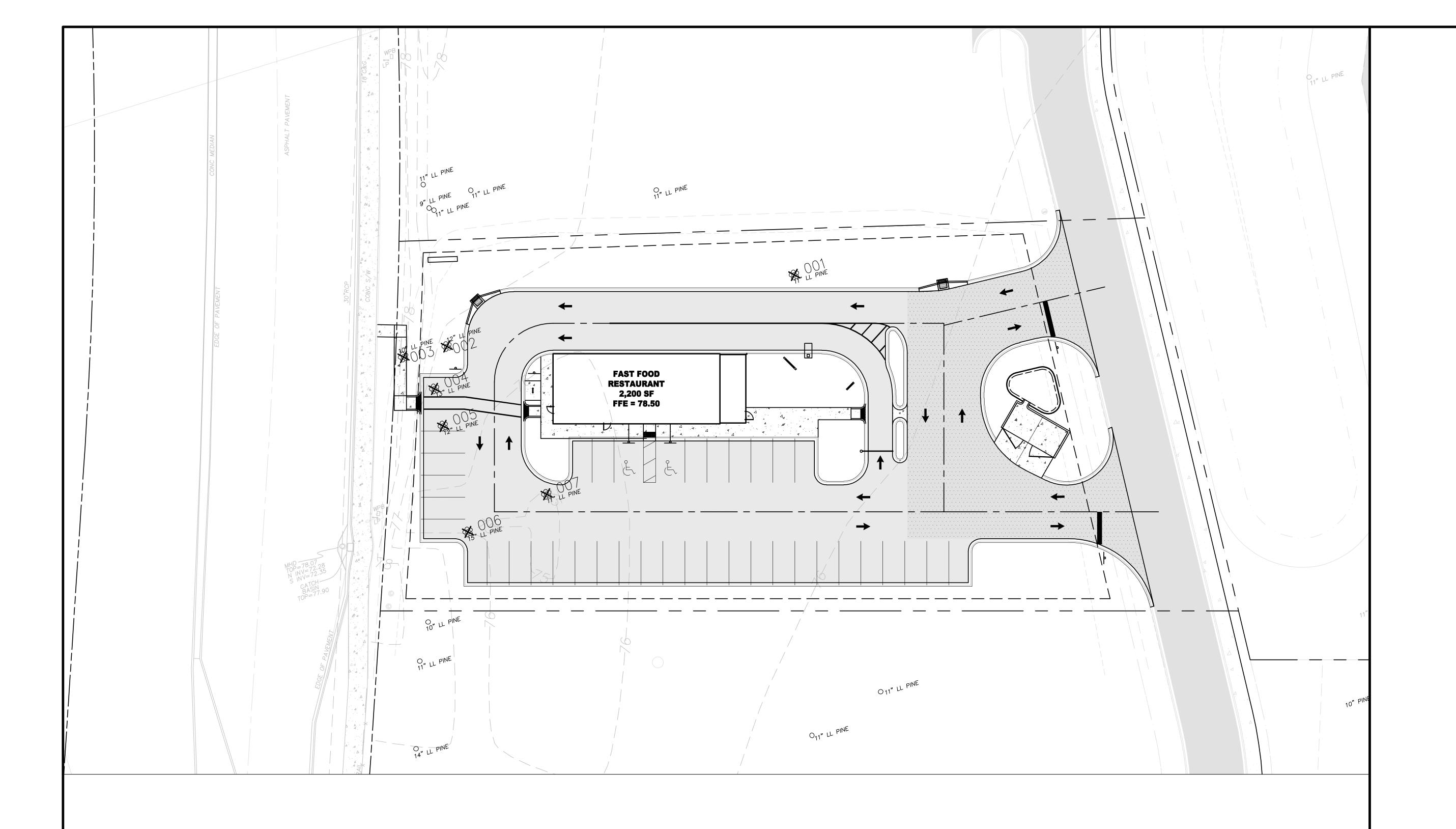
VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS,

3 LAN FORK		IS THERE EVIDENCE OF WASHOUT OR OVERTOPPING				EFORE	(0	DOES SILT NEED TO BE REMOVED FROM AROUND CONTROL			NTROLS:		EFORE	
OUTPARCEL  N PREVENTION P.  NANCE REPORT 1  TROLS	SWALES	IS DIKE/SWALE STABILIZED ?				ON OR BEFORE	LL TURBIDITY CONTROLS	ARE TURBIDITY CONTROLS IN NEED OF REPLACING			OUTFALLS TURBIDITY CO		ON OR BEFORE	- 4
OAKLEAF CORNER OUTPARCEL 3  STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM  STRUCTURAL CONTROLS	EARTH DIKES/SWALES	ТО		H DIKE/SWALE:			CATCH BASIN/CURB INLET/OUTFALL TURBIDITY CONTROLS	ANY EVIDENCE OF CLOGGING/WASHOUT OR BYPASSING?			MAINTENANCE REQUIRED FOR CATCH BASIN/CURB INLETS/OUTFALLS TURBIDITY CONTROLS:			PAGE 2 OF
OAKL storu inspec		FROM		MAINTENANCE REQUIRED FOR EARTH DIKE/SWALE:		TO BE PERFORMED BY:	CATCH BA	ARE TURBIDITY CONTROLS IN PLACE			CE REQUIRED FOR CATC		TO BE PERFORMED BY:	
	DATE:	DIKE OR SWALE		MAINTENAN		TO BE PERI		STRUCTURE, OUTFALL			MAINTENAN		TO BE PERI	

	OAKLEAF CORI	CORNER OUTPARCEL 3	3	
	S <b>torm Water Poll</b> I <b>nspection and M</b> Sedin	STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM SEDIMENT BASIN	ORM	
DEPTH OF SEDIMENT IN BASIN	DEPTH OF SEDIMENT SIDE BASIN	ANY EVIDENCE OF OVERTOPPING OF THE EMBANKMENT ?	CONDITION OF OUTFALL FROM SEDIMENT BASIN	CHANGES
MAINTENANCE REQUIRED FOR SEDIMENT BASIN:	FOR SEDIMENT BASIN:			
				REASONS
TO BE PERFORMED BY:		ON OR BEI	BEFORE	
	OTHER STABILIZED CON	OTHER CONTROLS STABILIZED CONSTRUCTION ENTRANCE		
DOES MUCH SEDIMENT GET TRACKED ON TO ROAD ?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE ?	IS THE CULVERT BENEATH THE ENTRANCE WORKING? (IF APPLICABLE)	I CERTIFY OR SUPER
				MANAGE SUBMITTE ARE SIGN IMPRISONI
MAINTENANCE REQUIRED FOR STABILIZED	FOR STABILIZED CONSTRUC	CONSTRUCTION ENTRANCE:		
				SIGNATU
TO BE PERFORMED BY:		ON OR BEFORE	-ORE	DATE: -
	PAGE 3	3 OF 4		

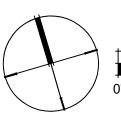
CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:
REASONS FOR CHANGES:
I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION 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
SIGNATURE:
PAGE 4 OF 4

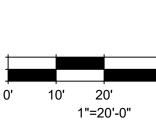
CONTRACTOR'S CERTIFICATION



	TREES TO BE REMOVED										
	DEVELOPMENT AREA										
	SPECIES										
Point	COMMON										
Number	NAME	D.B.H.	. PER	TRUNK	MITIGATED INCHES						
1	LONGLEAF PINE	11			11						
2	LONGLEAF PINE	12			12						
3	LONGLEAF PINE	10			10						
4	LONGLEAF PINE	13			13						
5	LONGLEAF PINE	12			12						
6	LONGLEAF PINE	15			15						
7	LONGLEAF PINE	11			11						
			TOTA	٩L	84						

TREE MITIGATION LEGEND







DRAWING NUMBER

LANDSCAPE CODE REQUIREMENT SUMMARY					
DESCRIPTION	REQUIRED		PROVIDED		
STREET PERIMETER LANDSCAPE AREA WEST (146 L.F. X 5 S.F./L.F.) OLD MIDDLEBURG ROAD	730 S.F.		760 S.F.		
STREET PERIMETER SCREEN  WEST (146 L.F. X 0.75)  EAST (103 L.F. X 0.75)		L.F. L.F.		L.F.	
STREET PERIMETER TREES	TOTAL	SHADE	TOTAL	SHADE	
WEST (146 L.F. /50)* EAST (103 L.F. /50)**	3 TREES 3 TREES	2 TREES 1 TREES	3 TREES 3 TREES	2 TREES 1 TREES	
OTHER PERIMETER LANDSCAPE AREA  NORTH (260 L.F. x 5 S.F./ L.F.)  SOUTH (305 L.F. x 5 S.F./ L.F.)	1	) S.F. 5 S.F.		1522 S.F. 1867 S.F.	
OTHER PERIMETER TREES	TOTAL	SHADE	TOTAL	SHADE	
NORTH (260 L.F. /50)*** SOUTH (305 L.F. /50)****	6 TREES 6 TREES	3 TREES 3 TREES	6 TREES 7 TREES	4 TREES 3 TREES	
VEHICLE USE AREA  PUBLIC VEHICLE USE AREA  NON-PUBLIC VEHICLE USE AREA	23,230 S.F. N/A				
PUBLIC VUA LANDSCAPE AREA (VUA S.F. X 0.10)	2,323 S.F.		5713 S.F.		
NON-PUBLIC VUA LANDSCAPE AREA (VUA S.F. X 0.05)	N/A		N/A		
VUA SHRUBS (VUA LANDSCAPE S.F. X 0.25)	581 S.F.		704 S.F.		
	TOTAL	SHADE	TOTAL	SHADE	
VUA TREES (VUA S.F./ 4000 S.F.)	6 TREES	3 TREES	6 TREES	3 TREES	

- \* PROVIDED QUANTITY INCLUDES 4 PALM TREES COUNTED AS 1 SHADE TREE
- \*\* PROVIDED QUANTITY INCLUDES 2 NON-SHADE TREES COUNTED AS 1 SHADE TREES COUNTED AS 8 NON-SHADE TREES & 2 EXISTING ELM TREES
- \*\*\* PROVIDED QUANTITY INCLUDES 6 PALM TREES COUNTED AS 3 NON-SHADE TREES
- \*\*\*\* PROVIDED QUANTITY INCLUDES 6 NON-SHADE TREES COUNTED AS 3 SHADE TREES

### NATIVE MATERIALS CALCULATIONS

TYPE	QUANTITY	PERCENTAGE
Trees	36	83%
Shrubs	462	51%

### TREE MITIGATION TABLE

PROTECTED TREES REMOVED	INCHES REMOVED (DBH)	MITIGATION RATE 1:	MITIGATION OBLIGATION (Inches)
LIVE OAKS 24" +	0	1	0
LIVE OAKS 11.5" - 23.5"	0	1	0
LIVE OAKS < 11.5"	0	1	0
SUBTOTAL			0
OTHER 24" +	0	1	0
OTHER 11.5" - 23.5"	52	3	17.3
OTHER < 11.5"	10.66		
SUBTOTAL	28		
TOTAL OTHER INCHES REMOVED	0		
TOTAL OTHER INCHES REPLACED	62		
TOTAL LIVE OAK INCHES REMOVED	0		
TOTAL LIVE OAK INCHES REPLACE	12		
MITIGATION BALANCE DUE	0		
TREE FUND PAYMENT	\$0.00		

	$^{P}L^{P}$	$\lceil N  angle$	ΓSC	HE	DU	LE
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<u>TREES</u> AR	QTY 3	BOTANICAL NAME ACER RUBRUM	COMMON NAME RED MAPLE	CONT 30 GAL	<u>CAL</u> 2"CAL	<u>SIZE</u> 12-14' HT X 6' SPD		REMARKS
102	10	ILEX OPACA 'EAST PALATKA'	AMERICAN HOLLY	FG	2"CAL	10'-12' HT X 3'-4' SPD		
LI	6	LAGERSTROEMIA X 'NATCHEZ'	WHITE CRAPE MYRTLE MULTI-TRUNK	6" CAL. 8-10' HT, 4-5' SPRD. MIN.				MULTI-TRUNKED TOTAL OF 6"
QV	4	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	SIZE AS NEEDED	3" CAL.	10' HT. X 4.5' SPD.		
SP16	5	SABAL PALMETTO	CABBAGE PALM	FG		16° CT.		
SP18	8	SABAL PALMETTO	CABBAGE PALM	FG		18' CT.		
<u>SHRUBS</u> IP	<u>QTY</u> 93	BOTANICAL NAME ILLICIUM PARVIFLORUM	COMMON NAME ANISE	CONT 3 GAL,, 2' O.C., 18" HT. X 18" SPR.			<u>SPACING</u> 36" o.c.	REMARKS
IVS	63	ILEX VOMITORIA 'SCHILLINGS'	SCHILLINGS DWARF	3 GAL, 2.5° O.C., 18"HT X 18"SPR			30" o.c.	
VOS	77	VIBURNUM OBOVATUM 'MS. SCHILLER'S DELIGHT'	MS. SCHILLERS DELIGHT WALTER'S VIBURNUM	3 GAL., 3' O.C., 18" HT. X 18" SPR.			36" o.c.	
VS	15	VIBURNUM SUSPENSUM	SANDANKWA VIBURNUM	3 GAL., 3.5 O.C., 24" HT X 18 SPR			42" o.c.	
<u>SHRUB AREAS</u> MC	<u>QTY</u> 193	BOTANICAL NAME MUHLENBERGIA CAPILLARIS	COMMON NAME PINK MUHLY GRASS	CONT 3 GAL.			SPACING 30" o.c.	REMARKS
SB	36	SPARTINA BAKERI	SAND CORDGRASS	3 GAL. MIN.			36" o.c.	36" O.C., 18" HT. FULL
GROUND COVERS JB	<u>QTY</u> 67	BOTANICAL NAME JUNIPERUS CONFERTA 'BLUE PACIFIC'	COMMON NAME BLUE PACIFIC JUNIPER	<u>CONT</u> 1 GAL @ 2'OC, 18"HT X 18"SPD			SPACING 30" o.c.	REMARKS 12" SPREAD MINIMUM
TA	304	TRACHELOSPERMUM ASIATICUM 'ASIATIC'	ASIATIC JASMINE	1 GAL. @ 2' O.C.			24" o.c.	
TV	67	TULBAGHIA VIOLACEA	SOCIETY GARLIC	1 GAL. @ 2' O.C.			30" o.c.	
SOD/SEED SOD	<u>QTY</u> TBD	BOTANICAL NAME PASPALUM NOTATUM 'ARGENTINE'	COMMON NAME BAHIA GRASS	CONT SOD			<u>SPACING</u>	<u>REMARKS</u>

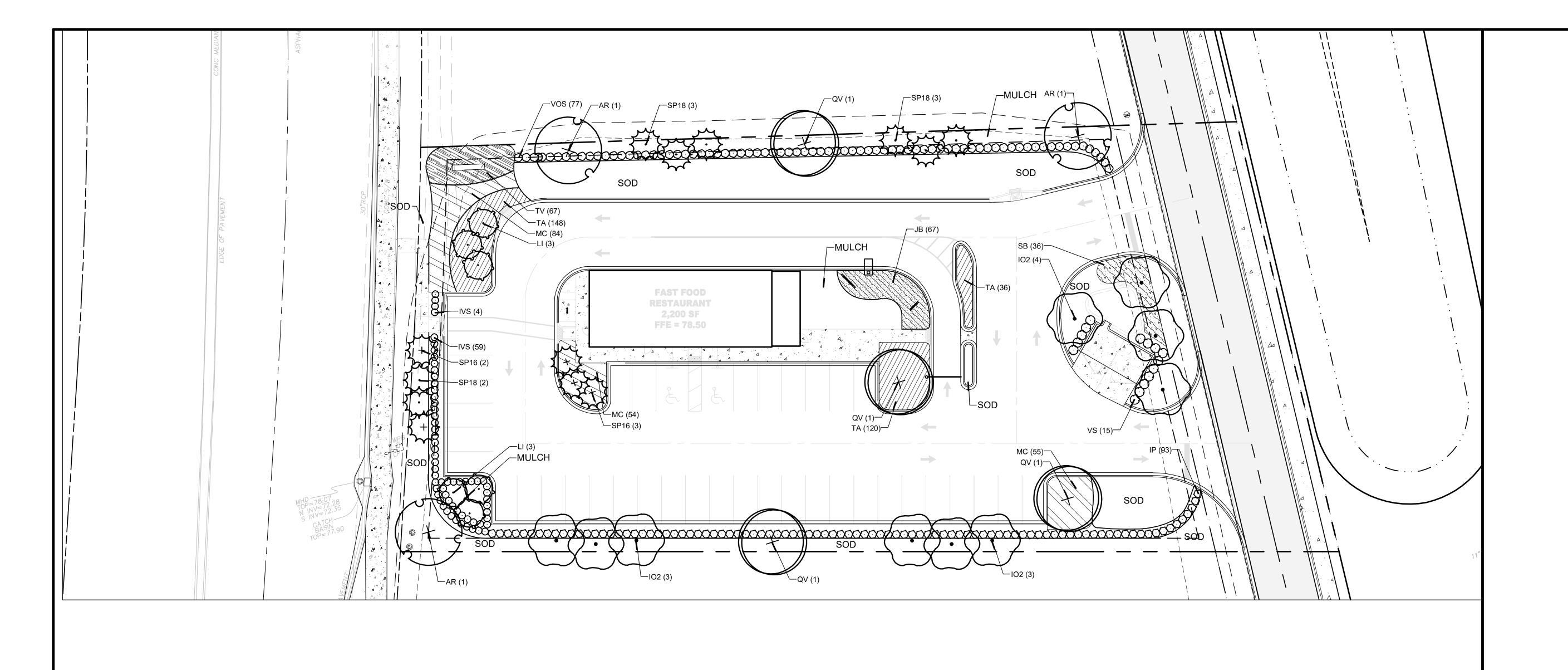
England-Thims & Miller, Inc.

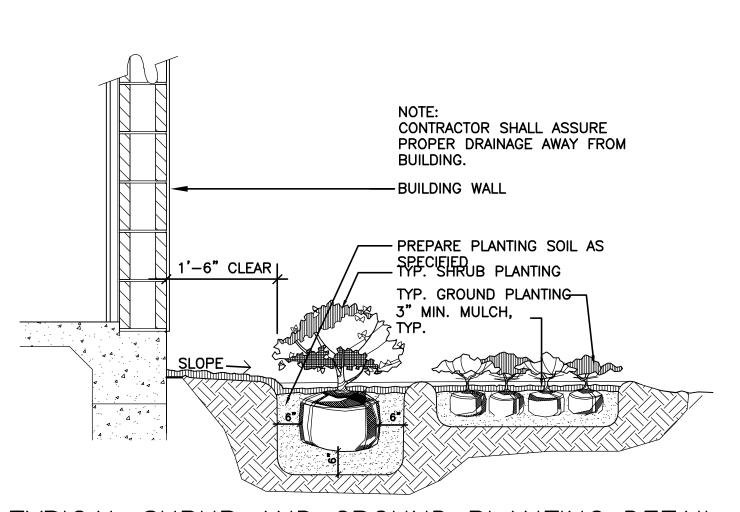
14775 Old St. Augustine Road
Jacksonville, FL 32258
Jacksonville, FL 32258
TEL: (904) 642-8990
FAX: (904) 646-9485
CA-00002584 LC-0000316
DATE: NOVEMB

LS-1 LANDSCAPE CODE
CALCULATIONS AND NOTES
OAKLEAF CORNER OUTPARCEL 3
FOR
POOKLEAF 31 DEVELOPMENT CORP.

DRAWING NUMBER

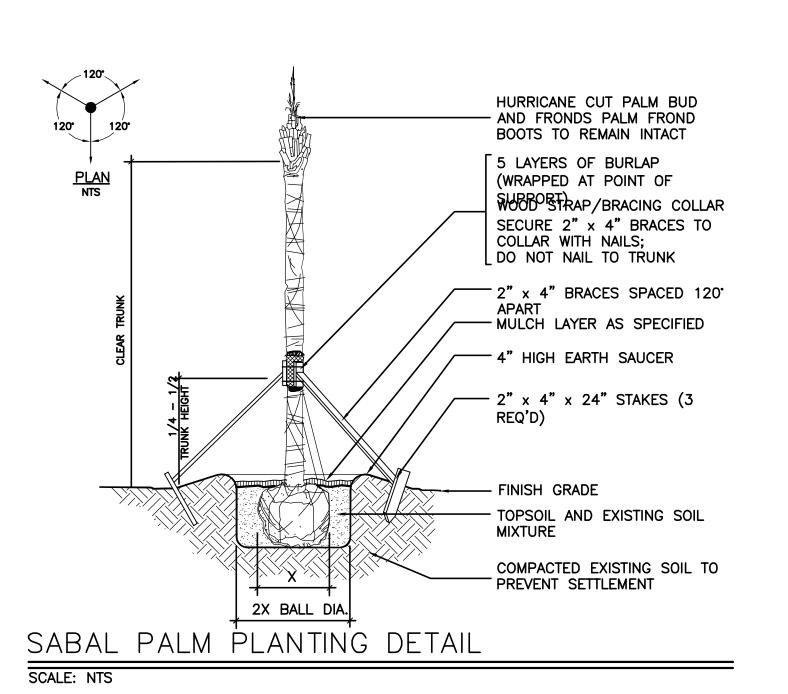
**LS-01** 

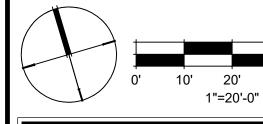




TYPICAL SHRUB AND GROUND PLANTING DETAIL AT BUILDING FOUNDATION

SCALE: NTS







KNOW WHAT'S BELOW ALWAYS CALL 81 1 BEFORE YOU DIG DRAWING NUMBER **LS-02** 

OUTPARCEL

LANDSCAPE

**LS-2** 

#### LANDSCAPE SPECIFICATIONS:

- PART 1 GENERAL NOTES
- 1.1 Scope. This section includes all planting of shrubs, trees, ground covers, and other supplementary work shown on the drawings and specified herein, complete.
- 1.2 Applicable Documents. The following publications, specifications, and standards of the issues listed in this paragraph (including the amendments and addenda designated), but referred to hereinafter by basic designation only, form a part of this specification to the extent required by the references thereto.
- 1.3 Publication of Reference. Publications as herein listed shall be held in basic
  - 1.3.1 Grades and Standards for Nursery Plants, Parts I and II, State Department of Agriculture and/or State Plant Board of Florida, Segale Building, Gainesville,
  - 1.3.2 State of Florida Fertilizer Law, Office of the Secretary of State, Tallahassee,
  - American Standard for Nursery Stock (ANSI Z60.1-), American Association of Nurservmen
  - 1.3.4 Tree Care Operations (ANSI Z133.1-)
  - 1.3.5 Guideline Specifications to Sodding, America Sod Producers Association (ASPA).
- 1.4 Substitutions of Plant Material. If a plant is found to be unavailable, submit proof of non-availability and a proposal for use of equivalent material. When authorized. adjustment of contract amount will be made. No substitutions will otherwise be authorized. To prove non-availability, The Contractor must provide at least five (5) letters from growers or dealers from the States of Florida and Georgia explaining the non-availability of the plant material. Substitutions made without prior approval may be rejected after planting and any replacement of materials will be at the contractors expense.
- 1.5 On—Site Conditions and Adjustments. The locations of plants, as shown on the plans, are approximate. Planting shall be adjusted to fit actual as—built conditions on the site, including but not limited to separation from hardscapes and utilities as governed by municipal codes. Any changes in locations caused thereby shall be made without additional cost to the Owner, Owner's Representative, or Landscape Architect. The Contractor shall immediately notify the Owner's Representative when conditions detrimental to plant growth are encountered, such as rubble fill, lime rock, or obstructions; and when field conditions are different than portrayed on the plans prior to planting. The Owner or Owner's Representative may adjust the layout or location of specified plant materials to avoid these areas without additional costs.
- 1.6 Coordination of Plantings. Coordinate all landscape work with the Owner's Representative and other contractors. Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise directed by the Owners Representative.
- 1.7 Fine Grading. Provide fine grading necessary to establish finish grade in all landscape areas. Fine grading shall include only minor grading to correct random or infrequent grade irregularities of 12" or less; unless otherwise noted on plans.
- 1.8 Liability of Contractor. The contractor shall be liable for any and all damages to property that result from his performance, including damage to preserved trees. He shall, without extra cost, mitigate or restore to original condition any areas and/or construction damaged, defaced, disturbed, or destroyed by him or his workmen.
- 1.9 Tree Tagging. A tree tagging trip may be requested by Owner's Representative prior to approval of plant material. Landscape contractor shall be responsible for providing transportation and accommodations if necessary.
- 1.10 Inferior Materials. Contractor shall be responsible for rejecting inferior materials. Materials in a damaged or unhealthy state may be rejected by the Owners Representative if necessary.
- 1.11 Onsite Debris. Contractor shall be responsible for removing and disposing of offsite all stones over 1" in diameter, sticks, roots, and other extraneous matter in planted areas to a depth of 2'. If debris is excessive and results from construction waste please contact owners representative for appropriate actions.
- PART 2 SUBMITTALS
- 2.1 Soil Testing for Plant Material. The Contractor shall be responsible for testing soils in planted areas to confirm that soil is suitable for healthy plant growth.
- 2.2 Seed Certification. All seed must comply with regulatory agencies for fertilizer and herbicide composition
- 2.3 Inspection Certificates, Manufacturer's Data. Upon request of Owners representative copies of inspection certificates or manufacturer's data shall be provided for any material used onsite; in addition to existing materials found onsite.
- PART 3 MATERIALS
- 3.1 General Plant Materials Requirements. Provide state inspected, nursery grown plants, unless otherwise specified. Conform to the plant schedule, "Florida Department of Agriculture Grades and Standards for Nursery Plants", local landscape ordinance, and, where applicable, to ANSI Z60.1 All plant materials shall be nursery grown, Florida No.1 stock. Any material not consistent with Florida Number 1 standards may be rejected after planting and replacement of materials will be at the contractors expense. All materials shall be healthy, vigorous, free of diseases and insects, pruned for best shape without appearance of "de-horning", and without symptoms of nutritional deficiency. Furnish plants grown under climatic conditions similar to those in the locality of the project. All plants must be true of variety, cultivars, and/or species. Plants must measure according to sizing requirements detailed on the drawings. Plants must be naturally bushy, dense, in good foliage, well branched, and of good appearance. The nursery/nurseries from which they are derived shall be under regulatory inspection by the Florida State Department of Agriculture and/or the Florida State Plant Board or an equivalent agency, if derived from outside the State of Florida. Plants entering from outside the State of Florida must bear the entry certificate of the State Department of Agriculture of the State of Florida. All plant materials will be subject to approval of the Owner or Owner's Representative for quality, size and color.
- 3.2 Soil Additives. Contractor shall be responsible for adding peat, humus, fertilizer, manure, pH adjusters or any other commercially accepted soil additive to insure normal, healthy plant growth.
- 3.3 Balled and Burlapped Trees. Ensure that field grown material follows local industry standards for root pruning, digging, balling and burlapping, etc. All balled and burlapped materials must be hardened off before shipment. All materials are subject to approval by the Owners Representative prior to shipping to project site.
- 3.4 Spaded Trees. Trees shall have been spaded from a commercial nursery field that has been inspected by The Department of Agriculture and Consumer Services within the last 9 months. The Contractor shall provide a copy of the most recent Nursery, Stock dealer and Special Inspection Report for verification upon Owners Representative request. Ball size shall be at least one size greater than recommended by ANSI Z60.1, American Standard for Nursery Stock, unless otherwise specified. Spaded material is subject to approval and tagging by the Owner's Representative prior to shipping to project site.

- 3.5 Container Plants. Provide container grown plants with sufficient roots to hold the container soil together after removal from the container. Root bound plants and plants with inadequate root systems are not acceptable.
- 3.6 Surface Mulch. Plans shall specify mulch type. Mulch shall be in a non-decomposed state; not more than one (1) season old.
- 3.7 Herbicides, Insecticides. Chemical sprays, dusts, or gaseous compounds used on or around plant materials, including but not limited to trees, shall be approved for such uses by the environmental protection agency and the Florida department of agriculture and consumer services. Such materials as may be used shall not constitute a hazard to human health or interfere with site working conditions and
- 3.8 General Seed Requirements. Where seeding may be required on the plans, the seed required shall comply with all minimum provisions of the Florida seed certification and testing law. Noxious weed seeds shall be non-existent and foreign materials shall not exceed two percent. All disturbed areas not shown as sodded shall be seeded.
- 3.9 General Sod Requirements. See plan for specified sod. All sod shall be healthy, strongly rooted and not less than two (2) years old, free of weeds and undesirable native grasses in 16" x 24" pads, 1-1/2" thick. Sod shall conform to "nursery grown" grade as established by American Sod Producers Association (ASPA). Sod shall be considered free of weeds if less than 5 weeds are found per 100 square feet of area. Brown, dry, irregularly smooth, and/or un-fresh sod will be rejected.

#### PART 4 PLANTING PROCEDURES

- 4.1 General. Prior to commencement of any work, the landscape contractor shall inspect the site, locate planting greas, placement of guying devices, locate electrical cables. conduits, and other underground and above utilities so that proper precautions and procedures may be followed during and throughout construction. The contractor shall become familiar with other job trade activity which has an impact upon his work or upon which his work has an impact and shall arrange to carefully coordinate his work with other trades through the owner's representative on-site. All planting practices listed herein shall insure healthy plant growth.
- 4.2 Layout. The location of plants and planting beds, as shown on these plans, are approximate. The locations and bed lines shall be staked on the project site by the contractor and approved by the owner's representative before any plant pits or beds are dug. The contractor is responsible for verifying that proper setbacks, as defined by local codes and rules, are provided between trees and their proximity to utilities and hardscapes. Unless otherwise noted, no tree shall be planted closer than four feet to a hardscape surface. The owner's representative may adjust plant material locations to meet field conditions. Contractor shall make minor adjustments without additional cost to the owner.
- 4.3 Finish Grades. The landscape contractor is responsible for all fine grading and preparation for planting. Finish grades (top of soil) for all sod areas after settlement shall be one—half inch below the top of abutting curbs, walks, walls and abutments. The finish grade of all plant beds prior to mulching shall be three inches below finish grade of sod, abutting curbs, walks and walls. Three inches of mulch shall be added after planting.
- 4.4 Planting Seasons/Times. The planting of plant materials and lawns may proceed at any time, period, or season agreed upon by the contractor and the owner or owner's
- 4.5 Plant Pits. The contractor shall excavate plant pits, unless otherwise approved, according to the drawings.
- 4.6 Setting Plants. Each plant shall be established in a manner consistent with plant details. All plants shall be set plumb and straight. Plants shall be established to a depth that is not greater than that at which they grew when in the nursery container or field. All back fill shall be tamped and worked firmly under and around the root ball to fill all voids.
- 4.7 Soil Preparation for Trees. Shrubs and Groundcover. All areas to be planted shall be prepared in a manner to insure normal, vigorous and healthy growth of plant
- 4.8 Staking. All trees are to be staked unless otherwise instructed by owner or owner's representative. Refer general staking details on the drawings. Materials used shall insure healthy plant growth.
- 4.9 Mulching. All plant beds and plant saucers shall be uniformly covered with a four—inch (4") layer of mulch. Hedges shall be mulched the full width of the hedge bed. Contain mulch within landscape borders.
- 4.10 Sod. All areas to be either seeded, sprigged, or sodded shall be prepared in a manner to insure normal, vigorous and healthy growth.
  - 4.10.1 Fine grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll, rake and drag lawn areas, remove ridges and fill depressions with topsoil as required to meet finish grades. In areas to be sodded, allow for sod thickness. 4.10.2 Sod Installation. Lay sod in straight, parallel rows to form a solid mass with
  - tightly fitted joints, without overlap. Stagger strips to offset joints. Work topsoil into minor cracks. On 1:3 slopes or greater, lay sod with long dimension of pads parallel to contours and stake sod as necessary to stabilize. Drive sod stakes flush with top of sod.
  - 4.10.3 Sprigging and Seeding. Sprigging/seeding shall be done in a manner to insure a quick grow in period achieving a uniform green lawn prior to final acceptance.
- PART 5 MAINTENANCE
- 5.1 Plant Material. Maintain all plant materials until final acceptance. Maintenance shall include all required watering, cultivation, weeding, mowing, pruning, wound dressing, immediate replacement of dead and unacceptable material, straightening plants which lean or sag, adjustments of plants which are planted too low, and any other procedure consistent with good horticultural practice necessary to insure normal, vigorous and healthy growth of all planting under this contract.
- 5.2 Lawn. Maintain lawns until final acceptance. Reset settled or eroded sod areas to proper grade. Fill open joints with topsoil. Keep sod free of insects and disease.

#### PART 6 FINAL INSPECTION AND ACCEPTANCE

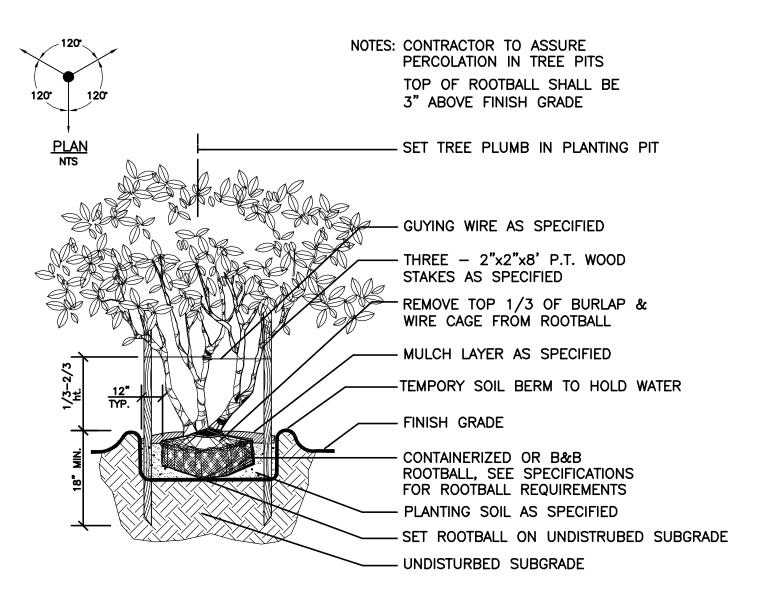
6.1 Final Cleanup. Upon final completion of work and before inspection and acceptance, all aspects of the project site shall be thoroughly and completely cleaned of debris, stains, materials, defacements, and temporary facilities. Likewise, any repairs, which are the obligation of this contractor, shall be completed.

6.2 Initial Inspection and Acceptance. Inspection shall be made by the owner or owner's representative within (10) ten days of written notification from the contractor that installation is complete. If all work and materials meet specifications project will be accepted as is. Materials and work not in compliance with specifications shall be rejected by owners representative and replaced by the contractor within (15) fifteen days of notification by owner's representative. Notification will graphically depict all rejected material on plans. Upon replacement of all rejected work and materials by the contractor the owner's representative shall conduct a final inspection within ten (10) days of written notification from the contractor that all rejected work has been replaced according to specifications. Approval will be granted upon the acceptance of all replaced material noted on plans. After final acceptance, the landscape contractor will not be responsible for damage to work resulting from:neglect by owner, damage by others; abnormal weather conditions such as floods, excessive wind, severe freezing or abnormal rains; or other activities clearly beyond the landscape contractor's control.

#### PART 7 GUARANTEE

7.1 Guarantee. All plant materials and trees installed by the contractor shall be <u>quaranteed for 365 days</u> from the date of final inspection and acceptance. The contractor shall replace at no additional cost to the owner, all plant materials which die and/or which are not healthy and in a good growing condition during the quarantee period. Replacement of such material shall occur within ten (10) days from owner's written notification to the contractor. The 365 day guarantee period for replaced plant materials shall commence on the date of acceptance of the replaced item or items of plant material. The contractor shall not be required to replace, repair, or restore any portion of the work that is damaged, defaced, disturbed, and/or destroyed by others after final acceptance.

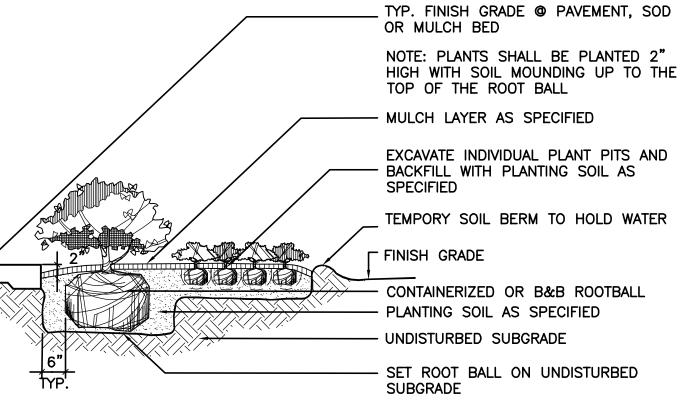
NOTE: IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY WITH THE LANDSCAPE ARCHITECT THAT THEY ARE USING THE MOST CURRENT PLAN SET FOR BIDDING AND INSTALLATION. FAILURE TO VERIFY CURRENT PLAN SET COULD RESULT IN CORRECTIVE WORK. INCLUDING DESIGN REVISIONS AND PERMITTING FEES TO BE PERFORMED AT THE CONTRACTORS EXPENSE.



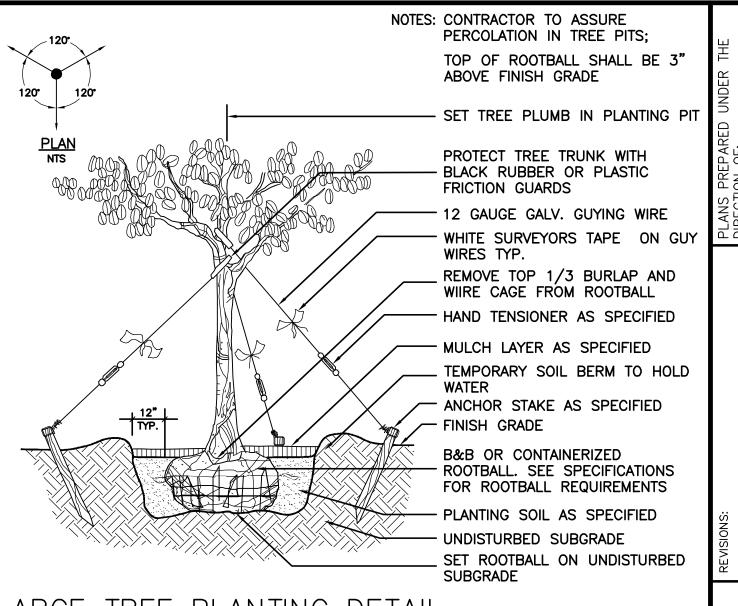
#### MULTI-TRUNK TREE PLANTING DETAIL

WHEN GROUNDCOVER AND SHRUBS ARE USED IN MASS, PREPARE ENTIRE BED TO RECEIVE PLANTING SOIL AND PLANT MATERIAL AS SPECIFIED.

CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

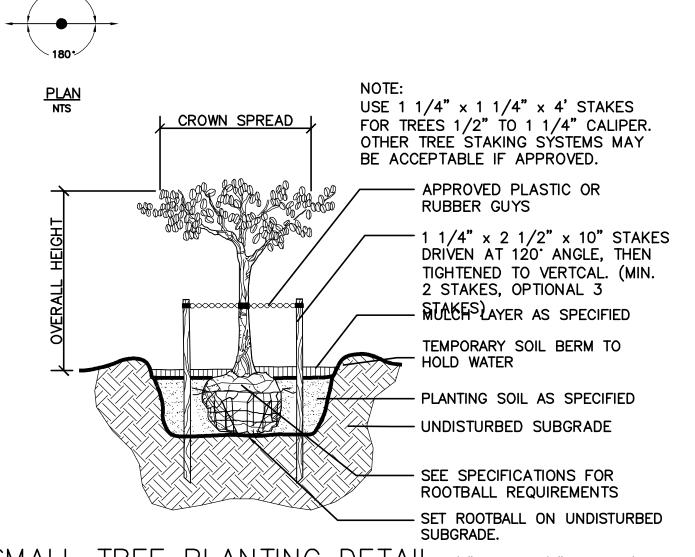


SHRUB AND GROUNDCOVER PLANTING DETAIL



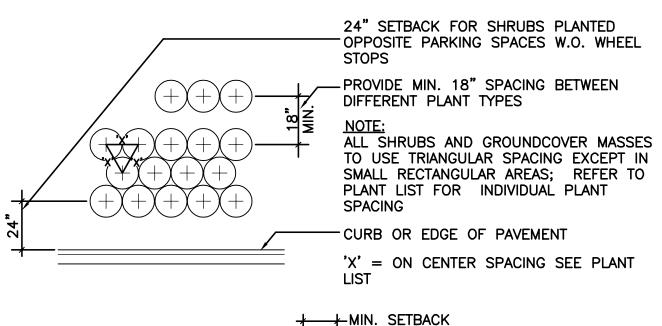
LARGE TREE PLANTING DETAIL (4" CALIPER AND LARGER)

SCALE: NTS



SMALL TREE PLANTING DETAIL (1" TO 3-1/2" CALIPER)

SCALE: NTS



THE PERIMETER OF ALL CURVED PLANTING BEDS SHALL BE PLANTED WITH A ROW OF SHRUBS AS SHOWN IN THE PLANS AND AT THE SPACING SHOWN IN THE PLANT LIST. INTERIOR PORTIONS OF EACH BED SHALL BE PLANTED AT APPROPRIATE SPACING ACCORDING TO THIS PLANT SPACING DETAIL ABOVE.

18" MIN. SETBACK FOR SHRUBS 12" MIN. SETBACK FOR GROUNDCOVERS

SHRUB AND GROUNDCOVER SPACING DETAIL

OUTPARCEL |5 |5 PE SPECI DETAILS NER OUT FOR EVELOPME CORN AND

BED LINE-

NO

DRAWING NUMBER

**LS-03**