

CONSTRUCTION DOCUMENTS  
FOR THE

SUMMERPORT VILLAGE WM REPLACEMENT  
ORANGE COUNTY, FLORIDA

**ORANGE COUNTY UTILITIES  
ENGINEERING DIVISION**  
9150 CURRY FORD ROAD, 2ND FLOOR  
ORLANDO, FLORIDA 32825  
PHONE: 407-254-9900

**PREPARED FOR:  
ORANGE COUNTY UTILITIES DEPARTMENT  
ORANGE COUNTY, FLORIDA**

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**BOARD OF COUNTY COMMISSIONERS**

**TERESA JACOBS  
COUNTY MAYOR**

**S. SCOTT BOYD**  
District 1

**JENNIFER THOMPSON**  
District 4

**BRYAN NELSON**  
District 2

**TED EDWARDS**  
District 5

**PETE CLARKE**  
District 3

**VICTORIA SIPLIN**  
District 6

**AJIT LALCHANDANI**  
County Administrator

**RAYMOND E. HANSON, PE**  
Director Orange County Utilities Department



NOTE:

THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

**ORANGE COUNTY CONTRACT NO. Y11-902B  
OCUD PROJECT NO. 74986 (WATER)**

**REISS Project No. 110028**



**REISS ENGINEERING, INC.**  
CONSULTING ENGINEERS

CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT.  
WINTER SPRINGS, FLORIDA 32708  
TEL: (407) 679-5358  
FAX: (407) 679-5003

STEFANO CERIANA, P.E.  
FL REGISTRATION NUMBER: 66379



GENERAL CONSTRUCTION NOTES

ALL WORK AND REQUIREMENTS FROM THE NOTES IN THIS PAGE SHALL BE A REQUIREMENT OF THE CONTRACT AND EXECUTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO ORANGE COUNTY.

- ALL UTILITIES FACILITIES CONSTRUCTION CONNECTING TO THE ORANGE COUNTY UTILITIES SYSTEM SHALL CONFORM TO THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL, AND BE ONE OF THE APPROVED PRODUCTS LISTED IN APPENDIX 'D' OF THE MANUAL.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ORANGE COUNTY UTILITIES DISPATCH (EMERGENCY ONLY) IN THE EVENT OF UTILITY MAIN BREAK OR DAMAGE AT (407) 836-2777.
- ALL MAIN REPAIRS TO BE COMPLETED IMMEDIATELY BY THE CONTRACTOR, AT THE CONTRACTOR'S COST. IF THE MAIN IS NOT REPAIRED IN A TIMELY MANNER, AS DETERMINED BY THE ENGINEER, ORANGE COUNTY UTILITIES PERSONNEL MAY REPAIR THE MAIN AND THE CONTRACTOR WILL BE CHARGED FOR REPAIRS.
- COORDINATION AND COMMUNICATIONS WITH ORANGE COUNTY STAFF SHALL BE MADE THROUGH THE ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION INSPECTOR. CONTACT THE OCU DISPATCH DURING EMERGENCIES.
- THE ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION SHALL BE NOTIFIED AT LEAST SEVEN (7) DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY, OR PRIOR TO ANY ACTIVITY REQUIRING THE PRESENCE OF OR AN ACTION BY UTILITIES STAFF SUCH AS SCHEDULING VALVE OPERATION, PRESSURE TESTING, PIPE CONNECTION, PUMP STATION OPERATIONS OR SHUTDOWNS, ETC.
- ORANGE COUNTY UTILITIES DEPARTMENT TELEPHONE NUMBERS:  
ORANGE COUNTY UTILITIES DISPATCH 407-836-2777  
ORANGE COUNTY UTILITIES ENGINEERING DIVISION 407-254-9900  
FIELD SERVICES CENTER 407-836-6818
- WATER, WASTEWATER AND RECLAIMED WATER VALVES, PUMP STATIONS OR OTHER UTILITY INFRASTRUCTURE ARE TO BE OPERATED ONLY BY ORANGE COUNTY UTILITIES PERSONNEL. ALL VALVES BEING INSTALLED ARE TO REMAIN CLOSED DURING CONSTRUCTION.
- ALL EXISTING WATER MAIN, FORCE MAINS, GRAVITY PIPES AND OTHER UTILITY FACILITIES WITHIN THE LIMITS OF THE PROJECT SHALL BE SUPPORTED AND PROTECTED AGAINST DAMAGE DURING CONSTRUCTION. WHERE STORM DRAINAGE PIPING OR STRUCTURES ARE DAMAGED, THE CONTRACTOR SHALL REPAIR OR REPLACE AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN PROXIMITY OF WATER MAINS, WASTEWATER FORCE MAINS, GRAVITY MAINS, AND RECLAIMED WATER MAIN. WATER MAINS, FORCE MAINS, GRAVITY MAIN, AND RECLAIMED WATER MAIN LOCATIONS SHOWN ON THE PLANS ARE NOT EXACT OR GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.
- LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE AND LOCATION OF ALL ABOVEGROUND AND UNDERGROUND UTILITIES. CONTRACTOR SHALL CONTACT UTILITY OWNERS, INCLUDING FIBER OPTICS COMPANIES, AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION AND A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION. EXTREME CAUTION SHALL BE EXERCISED IN AREAS OF FIBER OPTICS, GAS MAINS AND ELECTRICAL CABLES AND CONDUITS.
- IMMEDIATELY AT ONSET OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES CRITICAL TO COMPLETING THE PROJECT (INCLUDING WATER, SEWER, RECLAIMED WATER, POWER, TELEPHONE, GAS, AND CABLE TV) AND SHALL EVALUATE POTENTIAL CONFLICTS IN A WRITTEN REPORT. ANY CONFLICTS SHALL BE REPORTED TO ENGINEER/OWNER IMMEDIATELY UPON DISCOVERY AND DETAILED IN THE REPORT.
- CONTRACTOR SHALL COORDINATE WITH ALL OTHER UTILITY OWNERS FOR RESOLUTION OF CONFLICTS. CONTRACTOR SHALL HAVE 48 HOURS TO DETERMINE THE RESOLUTION OF ANY UNKNOWN OR UNFORESEEN CONFLICTS. COSTS INCURRED SHALL BE BORNE BY THE UTILITY OWNER AND/OR CONTRACTOR AND NO CLAIMS MAY BE MADE AGAINST ORANGE COUNTY OR THE ENGINEER FOR THESE CONFLICTS. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR THE PERIOD OF TIME TO RESOLVE ANY CONFLICTS.
- SUPPORT & PROTECT ALL EXISTING UTILITIES. CONTRACTOR SHALL CONTACT UTILITY OWNERS FOR LOCATION OF ALL EXISTING FACILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH UTILITY OWNERS AND BE RESPONSIBLE FOR PROVIDING TEMPORARY SUPPORT FOR UTILITY POLES AND ALL OTHER UTILITIES DURING CONSTRUCTION.
- THE UTILITIES IMPROVEMENTS AND ADJUSTMENTS SHOWN ON THESE DRAWINGS ARE INTENDED TO MAINTAIN THE INTEGRITY OF THE ORANGE COUNTY WATER, WASTEWATER, AND RECLAIMED WATER SYSTEMS. THE DRAWINGS DO NOT INCLUDE WORK PERFORMED ON, OR FOR UTILITY SYSTEMS OWNED BY OTHERS, UNLESS STATED OTHERWISE ON THE DRAWINGS.
- FLUSHING AND HYDROSTATIC TESTING OF MAINS SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH AWWA SPECIFICATIONS C-600, C-651 AND APPLICABLE SECTIONS OF THE ORANGE COUNTY STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL (AUTHORIZED ORANGE COUNTY UTILITIES PERSONNEL SHALL BE PRESENT DURING THE TEST. COORDINATE WITH ORANGE COUNTY UTILITIES INSPECTOR AT LEAST SEVEN (7) DAYS PRIOR TO START THIS WORK).
- ALL EXISTING AND NEW OCU WATER AND SEWER VALVES, VALVE BOXES, AND MANHOLES SHALL BE PROTECTED AND ADJUSTED TO FINISHED GRADE WHETHER SHOWN OR NOT. VALVE AND VALVE BOXES SHALL REMAIN ACCESSIBLE AT ALL TIMES. ANY VALVES THAT MIGHT BE COVERED DURING CONSTRUCTION SHALL BE MARKED WITH A MARKER (GREEN FOR SEWER, BLUE FOR WATER, AND PURPLE FOR RECLAIMED WATER MAIN), A MINIMUM OF FOUR (4) FEET BELOW GRADE. ALL VALVES UNDER CONSTRUCTION ARE TO REMAIN CLOSED DURING CONSTRUCTION.
- SEE DETAIL SHEET FOR SEPARATION REQUIREMENTS BETWEEN WATER MAINS, SEWER MAINS AND OTHER PIPELINES AND MAINS. NO CONCRETE ENCASEMENT OF PIPES WILL BE PERMITTED.
- ALL WATER AND FORCE MAIN AND RECLAIMED WATER MAINS 12-INCHES IN DIAMETER OR LESS SHALL BE PVC AND CONFORM TO AWWA C900, DR 18. ALL WATER MAIN PIPE AND RECLAIMED WATER MAIN PIPE GREATER THAN 12-INCHES IN DIAMETER SHALL BE CLASS 250 DUCTILE IRON AND CONFORM TO ANSI/AWWA A21.51/C151. ALL PVC PRESSURE PIPE SHALL USE CLASS 250 DUCTILE IRON FITTINGS. FITTINGS FOR SERVICES SHALL BE BRASS.
- ALL PIPE, PIPE FITTINGS AND APPURTENANCES INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320 (21) (B) 3, FAS, USING BLUE AS A PREDOMINANT COLOR FOR WATER; GREEN FOR WASTEWATER; PURPLE FOR RECLAIMED WATER.
- ALL BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY AS MEASURED BY AASHTO T -180 METHOD 'D' TEST (MODIFIED PROCTOR) IN OPEN AREAS AND TO NOT LESS THAN 98% MAXIMUM DRY DENSITY AS MEASURED BY AASHTO T -180 METHOD 'D' TEST (MODIFIED PROCTOR) UNDER EXISTING OR PROPOSED ASPHALT OR CONCRETE PAVEMENT AND WITHIN 3-FT OF EXISTING OR PROPOSED PAVEMENT. ALL SOIL TESTING TO BE CONDUCTED BY THE COUNTY. THE CONTRACTOR SHALL PROVIDE ALL REASONABLE ASSISTANCE DURING SOIL TESTING.

- PIPE LENGTHS SHOWN ON PLANS ARE APPROXIMATE. ACTUAL LENGTHS ARE TO BE DETERMINED DURING CONSTRUCTION.
- ALL STATIONS AND OFFSETS REFER TO BASELINE OF STATIONING.
- ALL MAINS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS. A MINIMUM COVER OF 36 INCHES SHALL BE MAINTAINED ON ALL MAINS, WHERE IT IS NOT OTHERWISE SPECIFIED ON PLANS OR DIRECTED BY THE ENGINEER. FOR PVC PIPE, NO HORIZONTAL/ VERTICAL PIPE OR JOINT DEFLECTION SHALL BE ALLOWED. CONTRACTOR SHALL USE FITTINGS TO OBTAIN REQUIRED CLEARANCES. ON DUCTILE IRON PIPE, CONTRACTOR SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDATION FOR PIPE DEFLECTION. OTHERWISE USE FITTINGS TO OBTAIN REQUIRED CLEARANCES.
- ALL DUCTILE IRON AND PVC PIPE JOINTS SHALL BE FULLY RESTRAINED. IN ADDITION, ALL FITTINGS SHALL BE MECHANICAL JOINT RESTRAINED. NO THRUST BLOCKS SHALL BE PERMITTED.
- ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE BY THE CONTRACTOR ONLY AFTER THE PROPOSED CONNECTION PROCEDURE AND WORK SCHEDULE HAVE BEEN REVIEWED AND ACCEPTED BY THE OWNER. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE OWNER A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO SCHEDULING ANY CONNECTION. THE REQUEST SHALL REFERENCE THE PROFESSIONAL LAND SURVEYOR CERTIFIED COMPLETED AS-BUILT RECORD DRAWINGS PREVIOUSLY SUBMITTED AND SHALL OUTLINE THE FOLLOWING:  
A. POINTS OF CONNECTION, FITTINGS TO BE USED, METHODS OF FLUSHING AND VERIFICATION OF RESTRAINT ON EXISTING PIPE.  
B. ESTIMATED CONSTRUCTION TIME FOR THE CONNECTIONS.
- THE OWNER SHALL REVIEW THE SUBMITTAL AND INFORM THE CONTRACTOR REGARDING APPROVAL OR DENIAL OF THE REQUEST. IF THE OWNER REJECTS THE REQUEST, THE CONTRACTOR SHALL RESUBMIT THE REQUEST MODIFYING IT IN A MANNER ACCEPTABLE TO THE OWNER. ALL CONNECTIONS SHALL ONLY BE MADE ON THE AGREED UPON DATE AND TIME. SHOULD THE CONTRACTOR NOT INITIATE AND COMPLETE THE CONNECTION WORK IN THE AGREED UPON MANNER, HE SHALL BE REQUIRED TO RESCHEDULE THE CONNECTION BY FOLLOWING THE PROCEDURE OUTLINED ABOVE. THE CONTRACTOR SHALL NOT OPERATE ANY VALVES IN THE SYSTEM. MAINS SHALL NOT BE PLACED IN SERVICE UNTIL CLEARANCE IS RECEIVED FROM FDEP. AS-BUILT DRAWINGS MUST BE COMPLETED AND SUBMITTED PRIOR TO WATER MAIN CHLORINATION.
- PROTECT EXISTING IMPROVEMENTS TO THE MAXIMUM EXTENT POSSIBLE. RESTORE ALL EXISTING FACILITIES AND DISTURBED AREAS TO ORIGINAL CONDITION. PAVEMENT TO BE RESTORED IN ACCORDANCE WITH THE PAVEMENT RESTORATION DETAILS SHOWN ON THE CONSTRUCTION DETAIL SHEETS. ALL DAMAGED SIDEWALK, ROADWAY PAVEMENT AND OTHER IMPROVEMENTS SHALL BE RESTORED TO ORIGINAL CONDITION.
- ALL COUNTY ROADS TO BE OPEN CUT SHALL BE APPROVED BY ORANGE COUNTY PUBLIC WORKS PRIOR TO OPEN-CUTS. SUBMIT A MAINTENANCE OF TRAFFIC (MOT) PLAN CONFORMING TO ORANGE COUNTY RIGHT-OF-WAY UTILIZATION REGULATIONS TO ORANGE COUNTY PUBLIC WORKS PRIOR TO ANY WORK WITHIN COUNTY RIGHT-OF-WAY. A COPY OF THIS PLAN SHALL ALSO BE SUBMITTED TO THE ENGINEER AND UTILITY COUNTY INSPECTOR. NOTIFY THE COUNTY TRAFFIC ENGINEER 48 HOURS PRIOR TO ANY OPEN CUT OF ROADWAYS OR JACK AND BORE OPERATIONS WITHIN THE COUNTY RIGHT-OF-WAY. TWO WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION. MAINTAIN A SET OF COUNTY APPROVED CONSTRUCTION PLANS AND MOT PLANS AT THE CONSTRUCTION SITE AT ALL TIMES WHEN WORKING WITHIN THE COUNTY RIGHT-OF-WAY.
- WATER, SEWER, AND RECLAIMED WATER LINE MARKERS SHALL BE PLACED EVERY 1,000 FT AND AT ALL VALVE AND DIRECTIONAL CHANGES. SEE VALVE AND PIPING MARKING DETAILS.
- BENCHMARK LOCATIONS AND ELEVATION ARE SHOWN IN THE PLANS AS REPRESENTED BY SURVEYOR AT THE TIME OF SURVEY. CONTRACTOR SHALL VERIFY ITS CORRECTNESS AT THE TIME OF CONSTRUCTION AND INSTALL HIS OWN TEMPORARY BENCHMARKS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OCU UTILITIES INSPECTOR.
- NO VALVE BOXES, METERS, PORTIONS OF MANHOLES, OR OTHER APPURTENANCES OF ANY KIND RELATING TO ANY UNDERGROUND UTILITIES SHALL BE LOCATED IN ANY PORTION OF A CURB-AND-GUTTER SECTION. CONTRACTOR SHALL ADVISE ENGINEER IMMEDIATELY UPON DISCOVERY OF A POTENTIAL CONFLICT.
- WHERE REQUIRED, AT NO ADDITIONAL COST TO THE COUNTY, THE CONTRACTOR SHALL USE TEMPORARY SHEETING OR TRENCH BOXES TO MINIMIZE THE SIZE OF EXCAVATIONS AND PROTECT EXISTING ROADWAYS, UTILITIES AND OTHER FACILITIES. OR AS NEEDED TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION. CONTRACTOR TO COMPLY WITH OSHA TRENCH SAFETY REQUIREMENTS AT ALL TIMES.
- CONTRACTOR TO PROVIDE DETAILED AS-BUILT DRAWINGS OF ALL UTILITIES UNCOVERED IN TRENCHES. THE AS-BUILT SHALL RECORD LOCATION, SIZE, TYPE, ELEVATION AND OWNER OF ALL UTILITY FACILITIES UNCOVERED. COORDINATE ASSET TABLES SHALL BE COMPLETED AND REVISED TO MATCH AS-BUILT ASSETS.
- CONTRACTOR SHALL APPLY FOR AND SECURE ALL NECESSARY PERMITS FROM STATE, COUNTY, AND LOCAL MUNICIPALITIES. PERMITS SHALL INCLUDE, BUT NOT BE LIMITED TO, BUSINESS LICENSE AND DEWATERING.
- OAK TREES BETWEEN APPROXIMATELY 10+00 AND 13+00 TO BE PROTECTED WITH SILT FENCE.
- PIPE TRENCHES OR OTHER LARGE EXCAVATIONS SHALL BE BACKFILLED OR SECURELY COVERED AT THE CLOSE OF EACH WORKING DAY, TO THE SATISFACTION OF THE OWNER. NO BACKFILL MATERIAL OR CONSTRUCTION EQUIPMENT MAY BE STORED ON ANY COUNTY ROAD.

SURVEYOR'S DESCRIPTION:

A PORTION OF SUMMERLAKE PD PHASE 1A AS RECORDED IN PLAT BOOK 74, PAGES 16 THROUGH 38 IN SECTIONS 33 & 34, TOWNSHIP 23 SOUTH, RANGE 27 EAST OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA.

SURVEYOR'S REPORT:

- EASEMENTS OR RIGHTS OF WAY THAT APPEAR ON RECORDED PLANS OR THAT HAVE BEEN FURNISHED TO THE SURVEYOR BY OTHERS HAVE BEEN INCORPORATED INTO THIS DRAWING WITH APPROPRIATE NOTATION. OTHER EASEMENTS MAY BE DISCOVERED BY A SEARCH OF THE PUBLIC RECORDS.
- MEASUREMENT METHODS USED FOR THIS SURVEY MEET MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING CHAPTER 5J-17.050-.052 REQUIREMENTS.
- UNDERGROUND FOUNDATIONS HAVE NOT BEEN LOCATED.
- THE SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
- FEATURES SHOWN BY SYMBOL AS INDICATED IN THE LEGEND ARE NOT TO SCALE.
- BEARINGS SHOWN HEREON ARE BASED ON THE SOUTHERLY LINE OF CAWOOD ESTATES, SAID BEARING BEING N89°42'45"E.
- VERTICAL INFORMATION SHOWN HEREON REFERS TO ORANGE COUNTY BENCHMARK NO. 1580013 AND NO. S1291055 HAVING A PUBLISHED ELEVATION OF 150.026 FEET, NAVD88.
- THE HORIZONTAL POSITIONS FOR ALL FEATURES SHOWN ON THE MAP ARE RELATIVE TO NORTH AMERICAN DATUM, NAD 1983, 2007 ADJUSTMENT, STATE PLANE COORDINATE SYSTEM, FLORIDA EAST ZONE. CONTROL POINTS USED FOR THIS SURVEY ARE NATIONAL GEODETIC SURVEY, NGS POINTS PID#41805 AND PID#74844; DISTANCES SHOWN ARE GRID DISTANCES.
- DIMENSIONS ARE SHOWN IN UNITED STATES STANDARD SURVEY FEET AND DECIMALS THEREOF.
- POSITIONAL ACCURACY MEETS NATIONAL GEODETIC SURVEY, NGS THIRD ORDER, CLASS ONE, SPECIFICALLY 1:10,000, VERIFIED BY REDUNDANT MEASUREMENTS.
- ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
- RIGHT OF WAY INFORMATION SHOWN HEREON WAS DETERMINED BY FOUND MONUMENTATION, RECORDED PLATS, RECORDED RIGHT OF WAY MAPS, AND INFORMATION OBTAINED ON THE ORANGE COUNTY PROPERTY APPRAISERS WEB SITE.
- UTILITY LOCATIONS SHOWN HEREON ARE BASED ON FIELD LOCATIONS OF MARKINGS BY APEX ENGINEERING (FIELD MARKINGS ARE BASED ON SIGNALS RECEIVED FROM GROUND PENETRATING RADAR (GPR) AND ELECTRONIC EQUIPMENT. LOCATIONS ARE APPROXIMATE AND TEST HOLES SHOULD BE PERFORMED FOR VERIFICATION).
- IMPROVEMENTS & TOPOGRAPHIC FEATURES SHOWN HEREON ARE LIMITED TO AREAS PER SPECIFIC INSTRUCTIONS OF THE CLIENT.
- SURVEY PROVIDED BY APEX ENGINEERING, RUSSELL A. BRANCH, PSM #5299 - 9/19/14.
- THE DRAWING WAS PREPARED IN CONFORMANCE WITH THE ASCE STANDARD CE/ASCE 38-02 AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUB-SURFACE UTILITY DATA.
- SEE SPECIFICATION SECTION 01010 AND 02080 FOR SEQUENCE OF CONSTRUCTION.

UTILITIES	COMPANY	PHONE
POWER	DUKE ENERGY (PROGRESS ENERGY)	407-938-6670
WATER/SEWER	ORANGE COUNTY UTILITIES ENGINEERING DIVISION	407-254-9900
	ORANGE COUNTY UTILITIES DISPATCH (EMERGENCY ONLY)	407-836-2777
	FIELD SERVICES CENTER	407-836-6818
PHONE/CABLE	BRIGHT HOUSE	407-532-8509
	CENTURY LINK	407-532-8520
	AT&T	407-815-5344
		407-557-6766
	AT&T	813-342-0512
GAS	LAKE APOPKA NATURAL GAS	407-656-2734
DOT EQUIPMENT TRAFFIC SIGNALS	TRAFFIC CONTROL DEVICES	407-869-5300
	SUNSHINE ONE CALL SERVICE	1-800-432-4770

VVH TABLE							
DRAWING	TH NO.	STATION	OFFSET	DESCRIPTION	DIAMETER	GROUND ELEV	T.O.P.
C03	TH-1	15+99.92		PVC WATER MAIN	24"	118.14	112.99
C03	TH-2	15+99.87	5.18 R	PVC REUSE MAIN	12"	118.09	112.21
C02	TH-3	14+82.6	4.35 L	PVC REUSE MAIN	12"	119.01	115.12
C02	TH-4	14+00		PVC WATER MAIN	24"	119.89	113.10
C03	TH-5	17+77.39		PVC WATER MAIN	24"	UNKNOWN	113.56
C03	TH-6	18+16.42		PVC WATER MAIN	24"	UNKNOWN	112.98
C03	TH-7	17+79.3	5.55 R	PVC REUSE MAIN	12"	UNKNOWN	112.48
C03	TH-8	20+16.49		PVC WATER MAIN	24"	UNKNOWN	114.22
C03	TH-9	18+16.46	5.38 R	PVC REUSE MAIN	12"	UNKNOWN	112.36
C03	TH-10	20+16.32	6.24 R	PVC REUSE MAIN	12"	UNKNOWN	110.61
C03	TH-11	12+51.95	0.69 R	DI WATER MAIN	24"	122.00	114.76
C01	TH-12	0+25.66	19.47 L	DI WATER MAIN	20"	~116.9	112.77



REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLL

Issue Certification  
Stefano Ceriana, P.E.  
Florida P.E. No. 66379  
Reiss Engineering, Inc.  
Certificate of Authorization No. 8181  
1016 Spring Villas Pt.  
Winter Springs, FL 32708

Designed BRW  
Drawn RLL  
Checked BRW  
Reviewed EHT  
Approved SC

LINE IS 1" AT FULL SIZE  
LINE IS 1/2" AT HALF SIZE

ORANGE COUNTY  
SUMMERPORT VILLAGE WM REPLACEMENT

GENERAL CONSTRUCTION NOTES

PROJECT NO.:	110028
SCALE:	NONE
REVISION:	0
DRAWING NO.:	G02
SHEET NO.:	02 OF 11

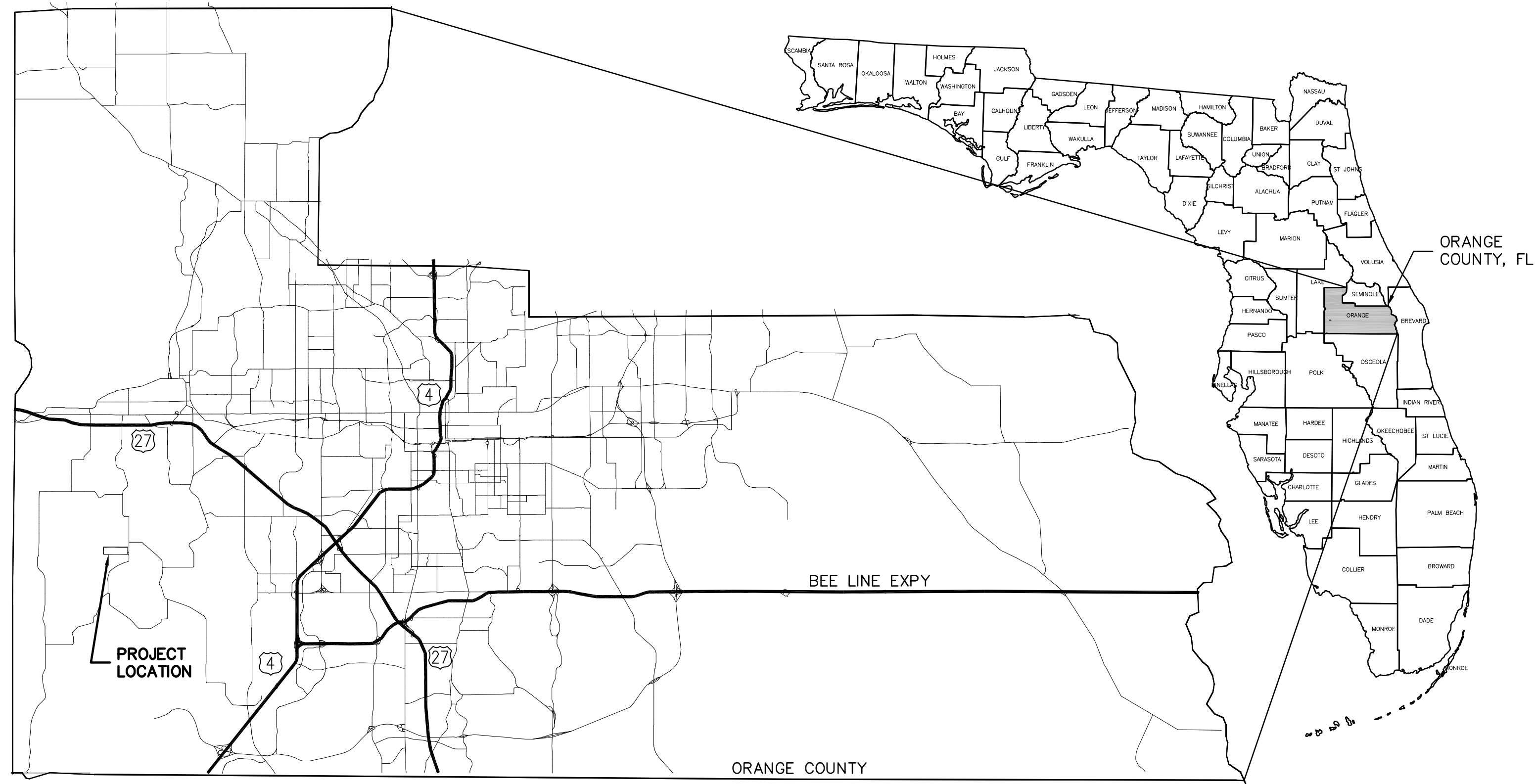


REISS ENGINEERING, INC.  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

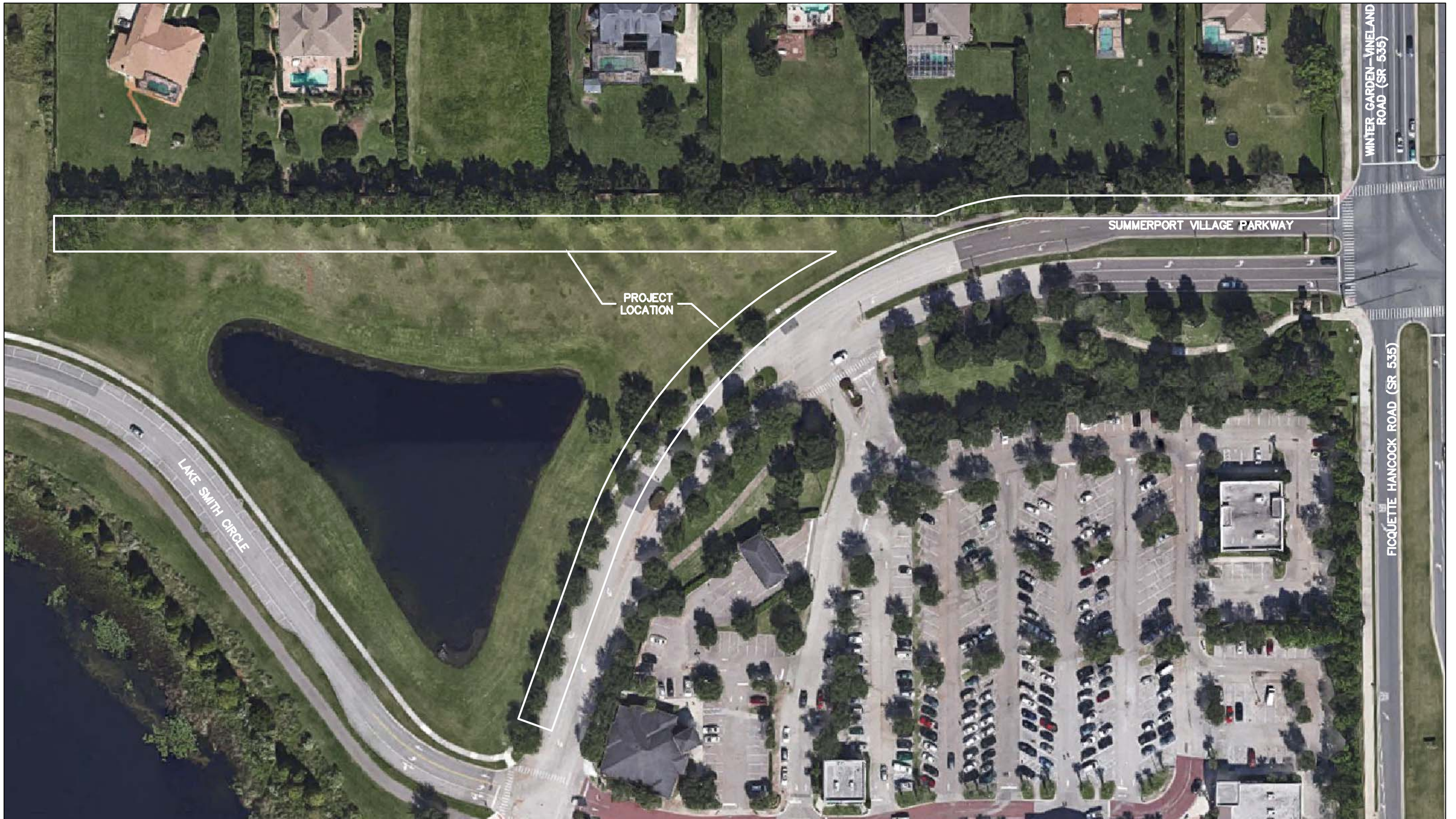
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**LOCATION MAP**



**PROJECT AREA MAP**



REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLL

Issue Certification  
 Stefano Ceriana, P.E.  
 Florida P.E. No. 66379  
 Reiss Engineering, Inc.  
 Certificate of Authorization No. 8181  
 1016 Spring Villas Pt.  
 Winter Springs, FL 32708

Designed BRW  
 Drawn RLL  
 Checked BRW  
 Reviewed EHT  
 Approved SC

LINE IS 1" AT FULL SIZE  
 LINE IS 1/4" AT HALF SIZE

ORANGE COUNTY  
 SUMMERPORT VILLAGE WM REPLACEMENT

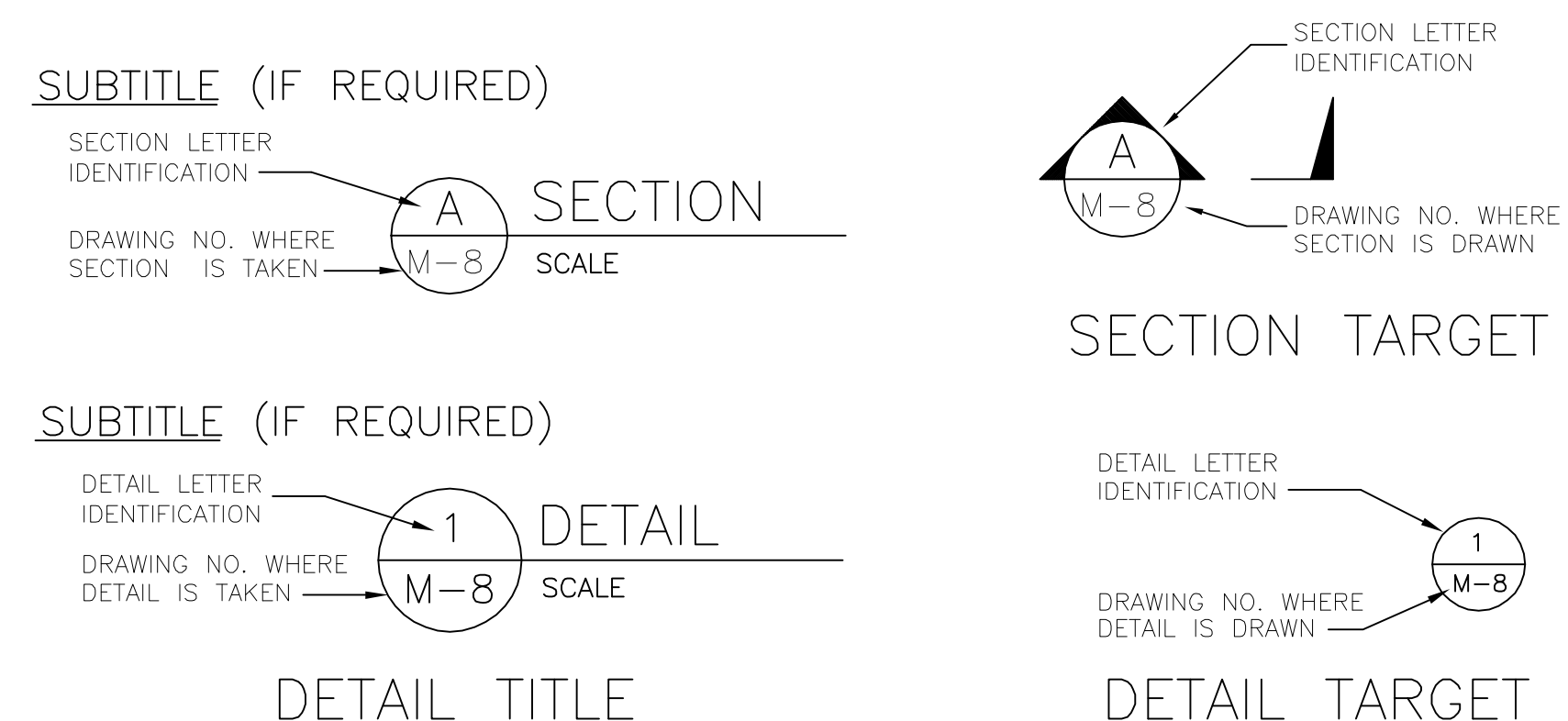
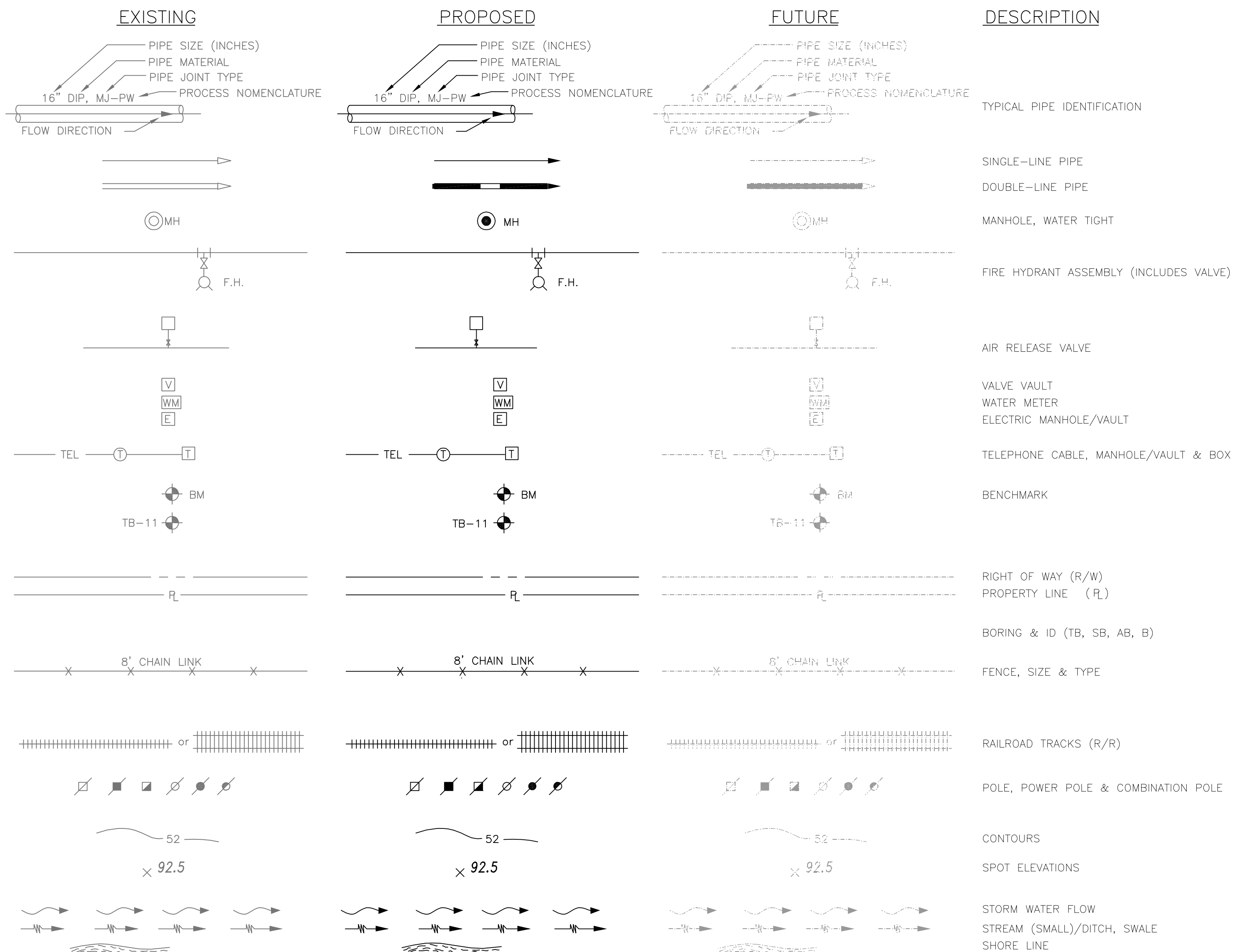
LOCATION MAP & PROJECT AREA MAP

PROJECT NO.: 110028	
SCALE: NOTED	REVISION: 0
DRAWING NO. G03	SHEET NO.: 03 OF 11

**RE** REISS ENGINEERING, INC.  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358



# SYMBOLS, STRUCTURES & FEATURES



### STANDARD LINETYPES

<b>SOLID, BLACK</b>	PROPOSED FEATURES (ABOVE GROUND)
<b>HIDDEN, BLACK</b>	PROPOSED FEATURES (BELOW GROUND)
<b>SOLID, GRAY</b>	EXISTING FEATURES (ABOVE GROUND)
<b>HIDDEN, GRAY</b>	EXISTING FEATURES (BELOW GROUND)
<b>DASHDOT2, GRAY</b>	FUTURE FEATURES

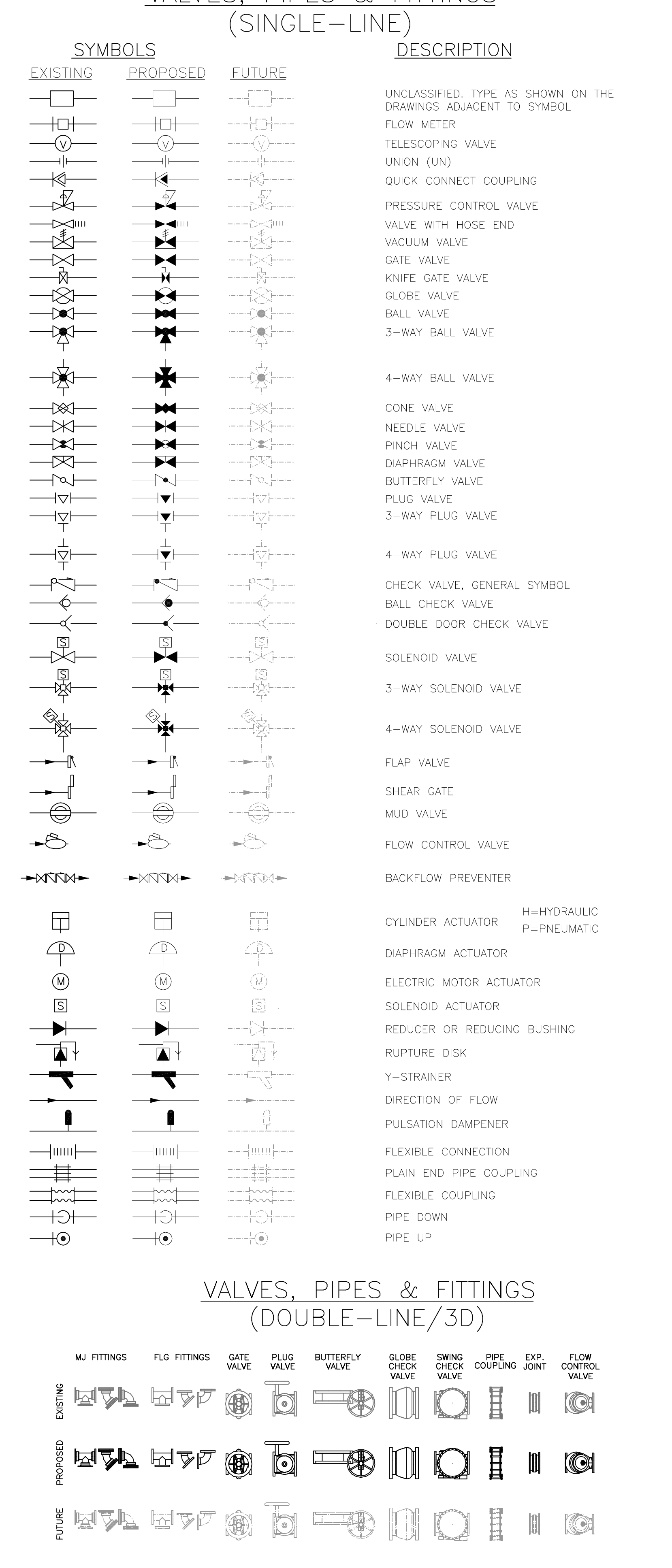
**NOTE:** THIS GENERAL LEGEND IS FOR GENERAL REFERENCE. NOT ALL ABBREVIATIONS, SYMBOLS, PROCESSES, MATERIALS, OR FITTINGS ARE NECESSARILY USED IN THIS DESIGN.

INDIVIDUAL DISCIPLINE STANDARD LEGENDS MAY SUPERCEDE THIS GENERAL LEGEND.

# ABBREVIATIONS

GENERAL	SYMBOLS	PIPE / JOINTS	SYMBOLS
ADJUSTABLE	ADJ.	BLACK IRON PIPE	BIP
ANGLE	∠	BLACK STEEL PIPE	BSP
ANGLE OF DEFLECTION	AOD	BUTT WELD	BW
APPROXIMATE	APPROX.	CAST IRON	CI
BACKFLOW PREVENTER	BFP	CAST IRON PIPE	CIP
BENCH MARK	BM	CAST IRON SOIL PIPE	CISP
BETWEEN	BTWN.	CONCRETE PRESSURE PIPE	CPP
B.O.S.	B.O.S.	COPPER PIPE	COP
BUILDING	BLDG.	CORRUGATED METAL PIPE	CMP
CAPACITY	CAP.	CHLORINATED POLYVINYL CHLORIDE	CPVC
CENTER LINE	CL	DUCTILE IRON PIPE	DIP
CENTER TO CENTER	C.C.	DUCTILE IRON	DI
CLEANOUT	C.O.	EXPANSION	EXP
CONCRETE	CONC.	FLANGE	FLG
CONDITION	COND.	GALVANIZED STEEL PIPE	GS
CONTINUATION	CONT.	HIGH-DENSITY POLYETHYLENE	HDPE
CONNECTION	CONN.	JOINT	JT
CONSTRUCT	CONSTR.	MECHANICAL JOINT	MJ
CONTRACTOR	CONTR.	METAL REINFORCED PLASTIC PIPE	MRPP
CUBIC FOOT	CU. FT.	POLYETHYLENE PIPE	PE
CUBIC INCH	CU. IN.	POLYVINYLCHLORIDE	PVC
CUBIC YARD	CU. YD.	POLYVINYLCHLORIDE (DOUBLE CONTAINED)	PVC-D
DEGREE	DEG.	PUSH-ON JOINT	PJ
DIA.	DIA.	REINFORCED CONCRETE PIPE	RCP
DIAGONAL	DIAG.	RESTRAINED JOINT	RJ
DIMENSION	DIM.	RESTRAINED MECHANICAL JOINT	RMJ
DISCHARGE	DISC.	SCHEDULE	SCH
DRAWING	DWG.	STAINLESS STEEL	S.STL
EACH	E.A.	STEEL PIPE	STL
EACH WAY	E.W.	TIED JOINT	TJ
EACH FACE	E.F.	VITRIFIED CLAY PIPE	VCP
ELEVATION	EL., ELEV.	WALL SLEEVE	WS
EQUIPMENT	EQUIP.	WALL PIPE (WITH WATER STOP)	WP
EXISTING	EXIST.	<b>VALVES, FITTINGS, ETC.</b>	
FINISH	FIN.	ACTUATED BUTTERFLY VALVE	ABFV
FINISH FLOOR	F.F.	AIR CUSHION CHECK VALVE	ACCV
FIRE PROTECTION	FP	AIR RELEASE VALVE	ARV
FLEXIBLE	FLEX.	BALL CHECK VALVE	BACV
FLOOR DRAIN	F.D.	BALL VALVE	BV
GAUGE	GA.	BLIND FLANGE	BF
GRADE	GR.	BUTTERFLY VALVE	BFV
HIGH	H.	BURIED GEAR OPERATOR	BGO
HIGH POINT	H.P.T.	CHECK VALVE, SWING/GLOBE	CV
HIGH WATER LEVEL	H.W.L.	ELBOW	ELL
HORIZONTAL	HORIZ.	ELECTRIC VALVE ACTUATOR	EVA
HORIZONTAL DIRECTIONAL DRILL	HDD	ELEVATED GEAR OPERATOR	EGO
H.P.	H.P.	EXPANSION JOINT	EJ
I.D.	I.D.	FIRE HYDRANT	FH
INSIDE DIAMETER	I.D.	FITTING	FTG
INTERMEDIATE	INT.	FLANGE	FLG
L.F.	L.F.	FLANGED ADAPTOR	FG
L.G., L.	L.G., L.	FLEXIBLE COUPLING	FC
L.W.L.	L.W.L.	GATE VALVE	GV
L.P.T.	L.P.T.	HARNESSED FLANGED COUPLING ADAPTER	HFCA
MH	MH	HYDRAULIC VALVE ACTUATOR	HVA
MANHOLE	MH	KNIFE GATE VALVE	KGV
MANUFACTURER	MFR.	MECHANICAL JOINT	MJ
MATERIAL	MTL.	ORIFICE PLATE	O.P.
MAXIMUM	MAX.	PLASTIC BALL VALVE	PBAV
MECHANICAL	MECH.	PLUG VALVE	PV
MINIMUM	MIN.	REDUCER	RED
MOUNTED	MTD.	RESTRAINED MECHANICAL JOINT	RMJ
NOMINAL	NOM.	SILENT CHECK VALVE	SCV
N.I.C.	N.I.C.	SOLENOID VALVE	SV
NOT IN CONTRACT	N.T.S.	VALVE BOX	VB
NOT TO SCALE	N.O., #	<b>PROCESS NOMENCLATURE</b>	
NUMBER	N.O., #	<b>LIQUID &amp; GAS PROCESS</b>	
ON CENTERS	O.C.	AIR PIPE	AIR
OPERATOR	OPER.	AMMONIA GAS	AG
OPTION	OPT.	AMMONIA SOLUTION	AS
OPPOSITE	OPP.	CHLORINE GAS	CG
OPENING	OPNG.	CHLORINE SOLUTION	CS
OR EQUAL	O/E.	CONCENTRATE WATER	CONC
OUTSIDE DIAMETER	O.D.	CARBON DIOXIDE	CO <sub>2</sub>
PLATE	PL.	DISINFECTED WATER	DW
POINT	PT.	EFFLUENT	EFF
POUND	LB.	FILTER EFFLUENT	FE
PRESSURE	PRES.	FINISHED WATER	FW
PROPOSED	PROP.	FORCE MAIN	FM
RADIUS	RAD., R.	INFILUENT	INF
RADIUS OF CURVATURE	ROC	INFILUENT RECYCLE	IR
REQUIRED	REQ'D.	LIQUID AMMONIUM SULFATE	LAS
RIGHT OF WAY	R/W, R.O.W.	MICROFILTRATION	MF
ROOM	RM.	MIXED LIQUOR	ML
REVOLUTIONS PER MINUTE	R.P.M.	SODIUM HYPOCHLORITE	NaOCl
SECTION	SEC.	NON-POTABLE WATER	NPW
SHEET	SH., SHT.	PERMEATE	PERM
SIDEWALK	SDWK.	POTABLE WATER	PW
SIMILAR	SIM.	RAW SEWAGE	RS
SOIL BORING	SB, B, AB	RAW WATER	RAW
SPECIFICATIONS	SPECS.	RECLAIMED WATER/RECLAIMED WATER MAIN	RW/RWM
SQUARE	SQ.	RETURN ACTIVATED SLUDGE	RAS
SQUARE FOOT	SQ. FT.	RETURN EFFLUENT WATER	REW
SQUARE INCH	SQ. IN.	REUSE EFFLUENT WATER	REUW
SQUARE YARD	SQ. YD.	RO REJECT	RO
STANDARD	STD.	SECONDARY EFFLUENT	SE
STANDARD DIMENSION RATIO	S.D.R.	WASTE ACTIVATED SLUDGE	WAS
STATION	STA.	WATER MAIN	WM
SYMMETRICAL	SYMM.	<b>STORMWATER</b>	
TAPPING SLEEVE	TS	DRAIN/SANITARY SEWER	D
TAPPING VALVE	TV	STORM DRAIN	SD
TEMPORARY	TEMP.	STORMWATER/STORMWATER FORCEMAIN	SW/SWFM
TEST BORING	TB	<b>POWER &amp; FUEL</b>	
TEST HOLE	TH	ELECTRIC CABLE/DUCT BANK	E
THICK	THK.	FUEL LINE	FL
THREADED	THD.	NATURAL GAS LINE	GAS
TOP OF CONCRETE	T.O.C.	<b>COMMUNICATION</b>	
TOP OF SLAB	T.O.S.	FIBER OPTIC	FO, FOC
TYPICAL	TYP.	TELEVISION CABLE	TV
UNLESS NOTED OTHERWISE	U.N.O.	<b>EQUIPMENT</b>	
ULTRAVIOLET	UV	HIGH SERVICE PUMP	HSP
VERTICAL	VERT.	RECIRCULATION PUMP	RP
VENT	VT.	CHLORINATOR	CHL
VENT THROUGH ROOF	V.T.R.	AMMONIATOR	AMM
WATER ACTIVATED SLUDGE	W.A.S.	FLUORINATOR	FL
WATER LEVEL	W.L.	CHLORINE BOOSTER PUMP	CBP
WEATHERPROOF	WPF.		
WIDE	W.		
WITH	W/		

# VALVES, PIPES & FITTINGS



REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLL

Issue Certification	Stefano Ceriana, P.E. Florida P.E. No. 66379 Reiss Engineering, Inc. Certificate of Authorization No. 8181 1016 Spring Villas Pt. Winter Springs, FL 32708
Designed	BRW
Drawn	RLL
Checked	BRW
Reviewed	EHT
Approved	SC

ORANGE COUNTY  
SUMMERPORT VILLAGE WM REPLACEMENT

STANDARD LEGEND

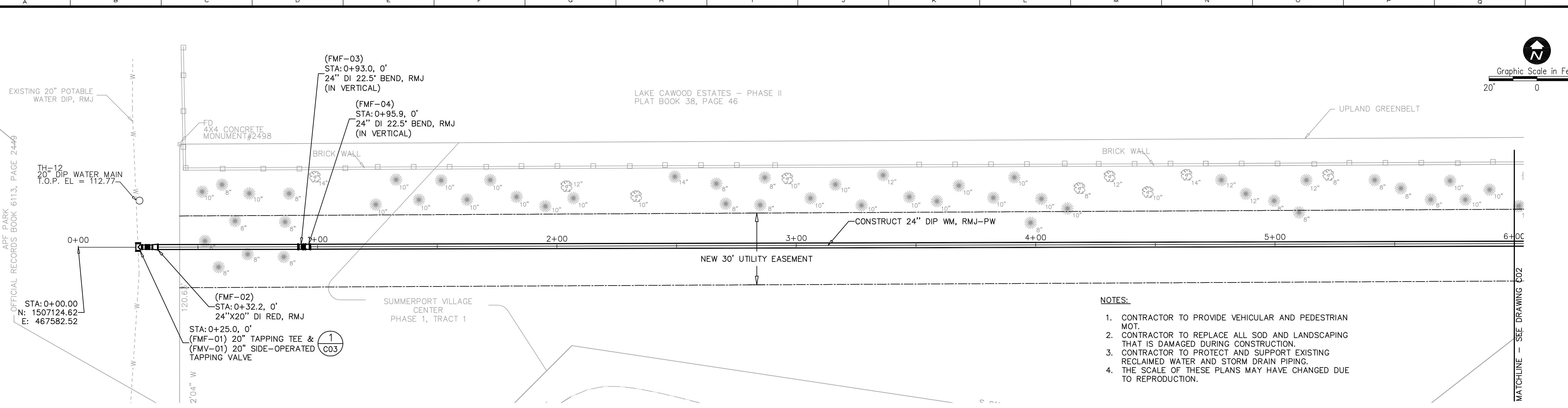
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REVISION:	0
DRAWING NO.:	G04
SHEET NO.:	04 OF 11



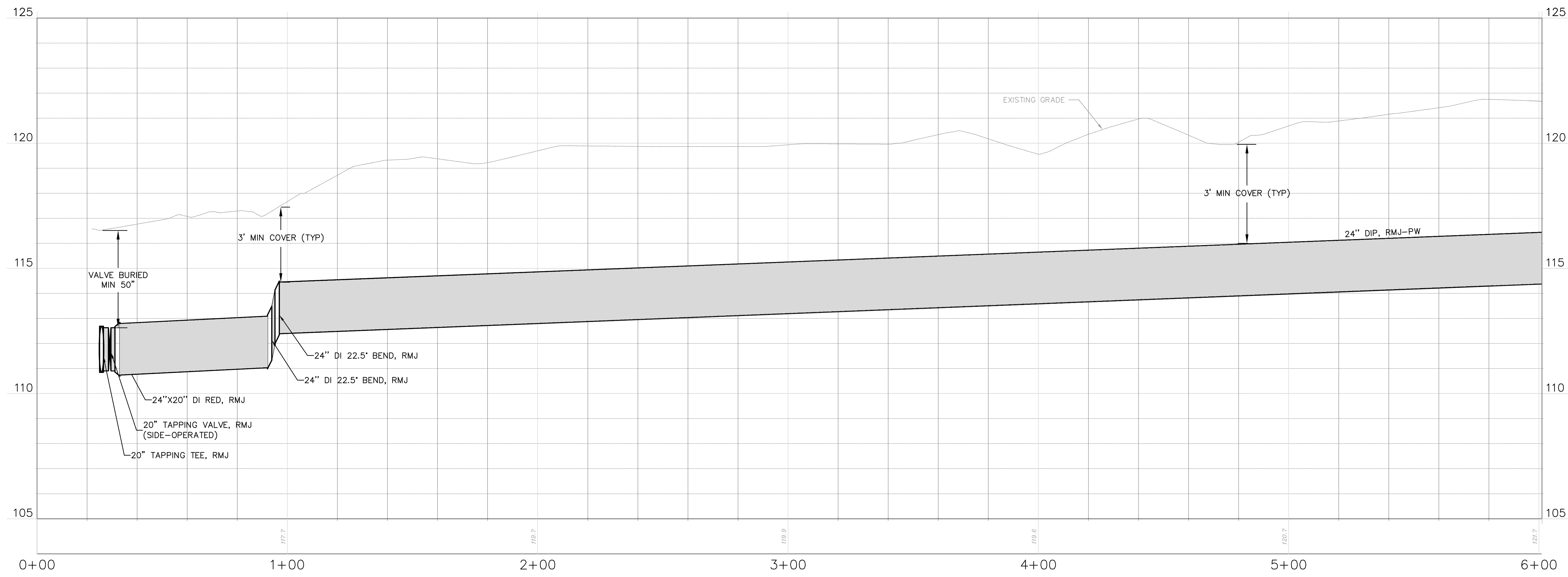
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- NOTES:**
1. CONTRACTOR TO PROVIDE VEHICULAR AND PEDESTRIAN MOT.
  2. CONTRACTOR TO REPLACE ALL SOD AND LANDSCAPING THAT IS DAMAGED DURING CONSTRUCTION.
  3. CONTRACTOR TO PROTECT AND SUPPORT EXISTING RECLAIMED WATER AND STORM DRAIN PIPING.
  4. THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.



REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLL

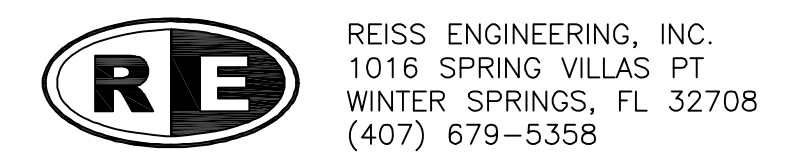
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 Florida P.E. No. 66379  
 Reiss Engineering, Inc.  
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 1016 Spring Villas Pt.  
 Winter Springs, FL 32708

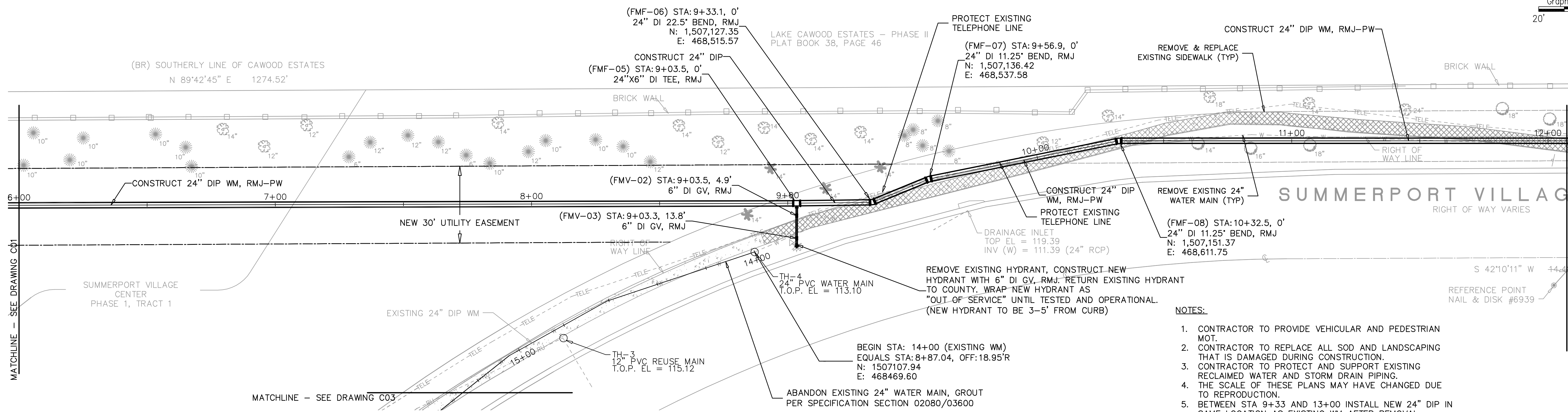
Designed BRW  
 Drawn RLL  
 Checked BRW  
 Reviewed EHT  
 Approved SC

**ORANGE COUNTY**  
 SUMMERPORT VILLAGE WM REPLACEMENT

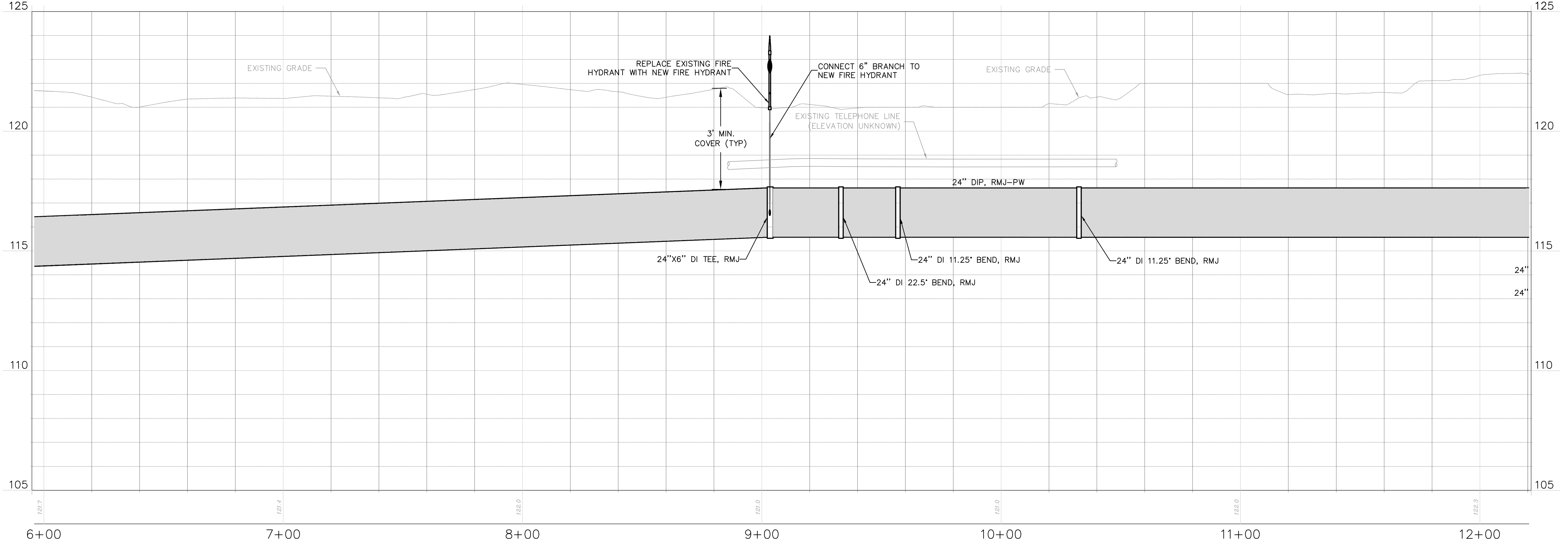
WM CONSTRUCTION - STA. 0+00 TO STA. 6+00

PROJECT NO.: 110028	
SCALE: NOTED	REVISION: 0
DRAWING NO. C01	SHEET NO.: 05 OF 11





- NOTES:**
1. CONTRACTOR TO PROVIDE VEHICULAR AND PEDESTRIAN MOT.
  2. CONTRACTOR TO REPLACE ALL SOD AND LANDSCAPING THAT IS DAMAGED DURING CONSTRUCTION.
  3. CONTRACTOR TO PROTECT AND SUPPORT EXISTING RECLAIMED WATER AND STORM DRAIN PIPING.
  4. THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.
  5. BETWEEN STA 9+33 AND 13+00 INSTALL NEW 24\"/>



REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLL

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1016 Spring Villas Pt.  
Winter Springs, FL 32708

Designed BRW  
Drawn RLL  
Checked BRW  
Reviewed EHT  
Approved SC

ORANGE COUNTY  
SUMMERPORT VILLAGE WM REPLACEMENT  
  
WM CONSTRUCTION - STA. 6+00 TO STA. 12+20

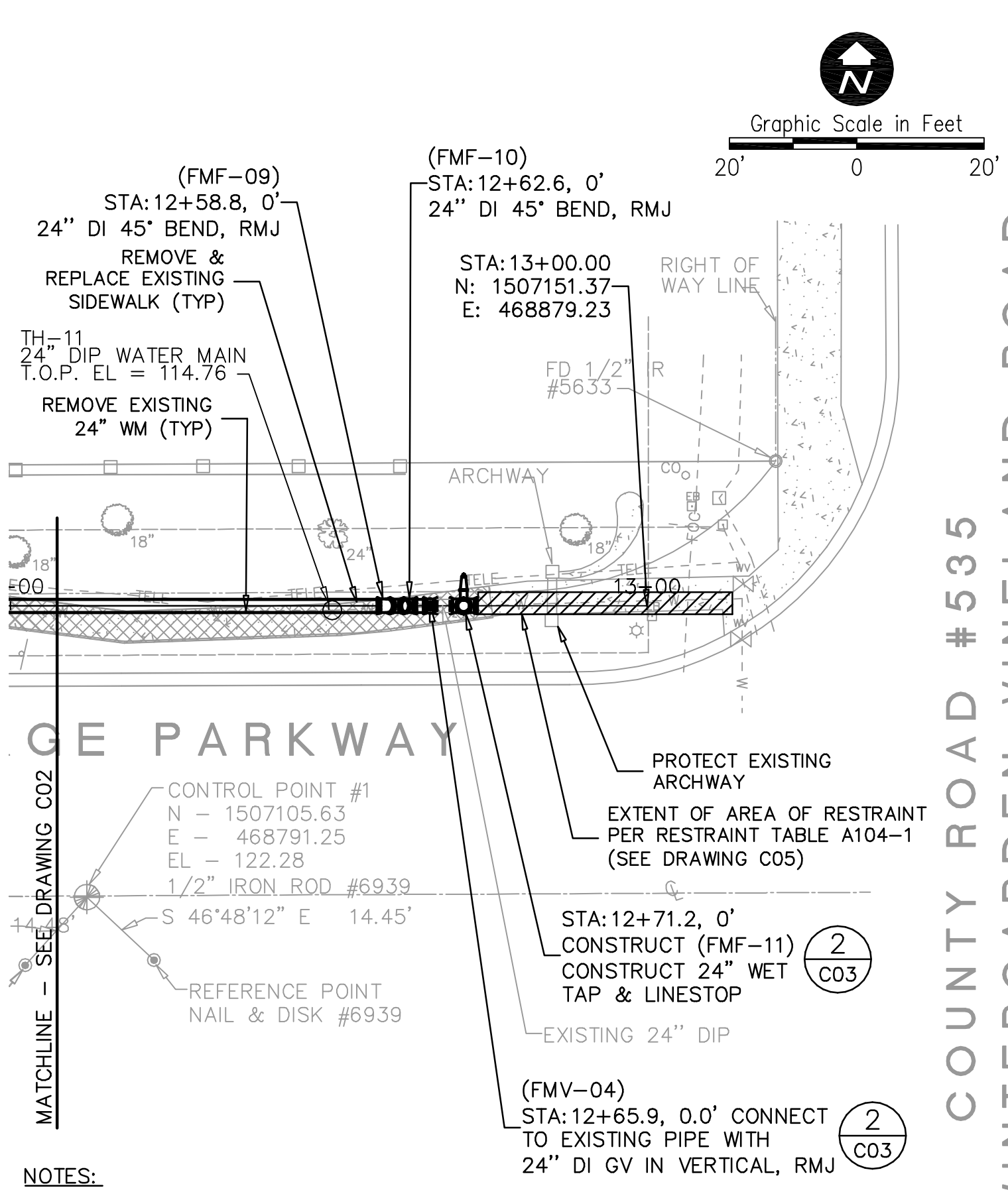
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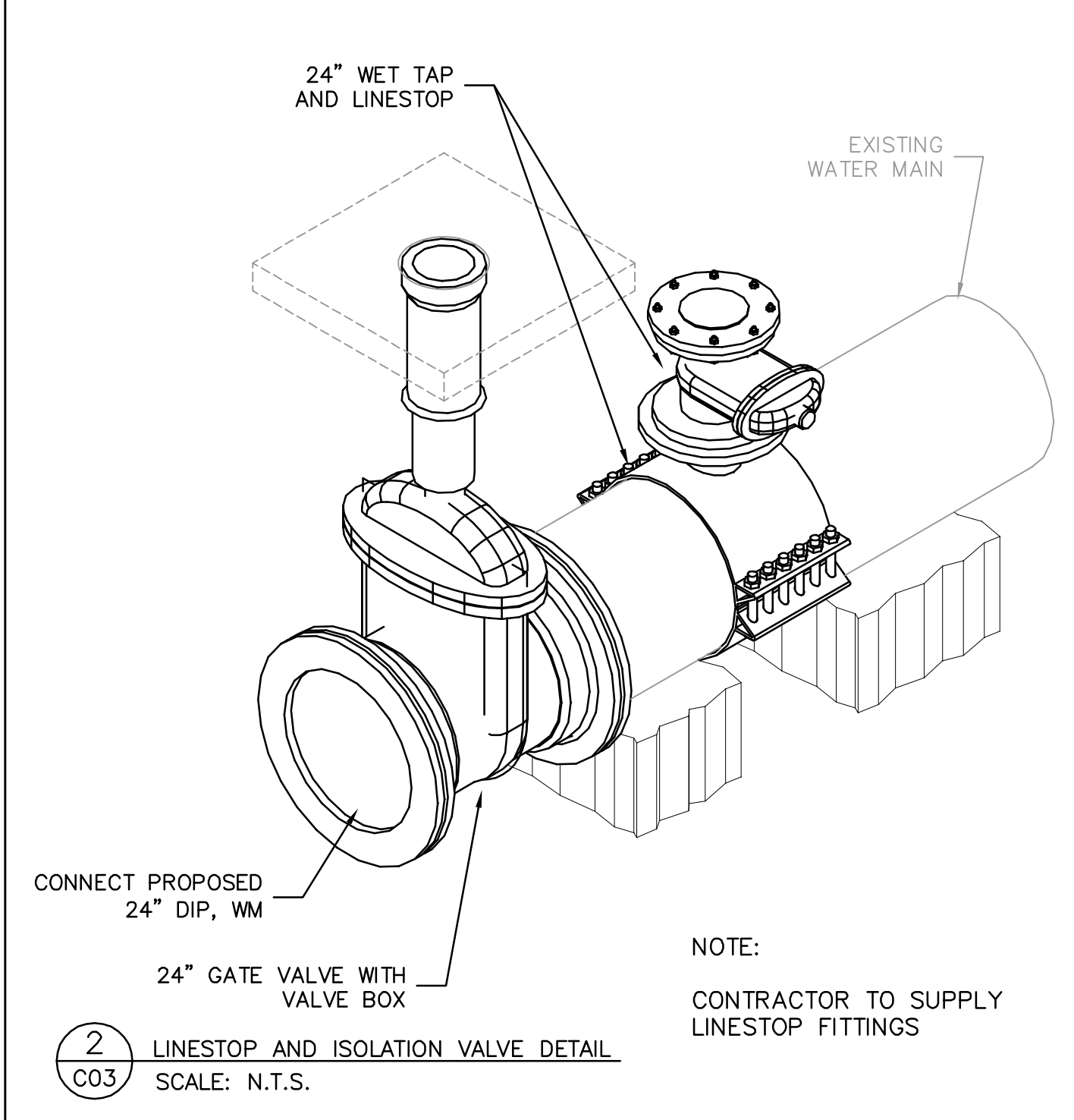
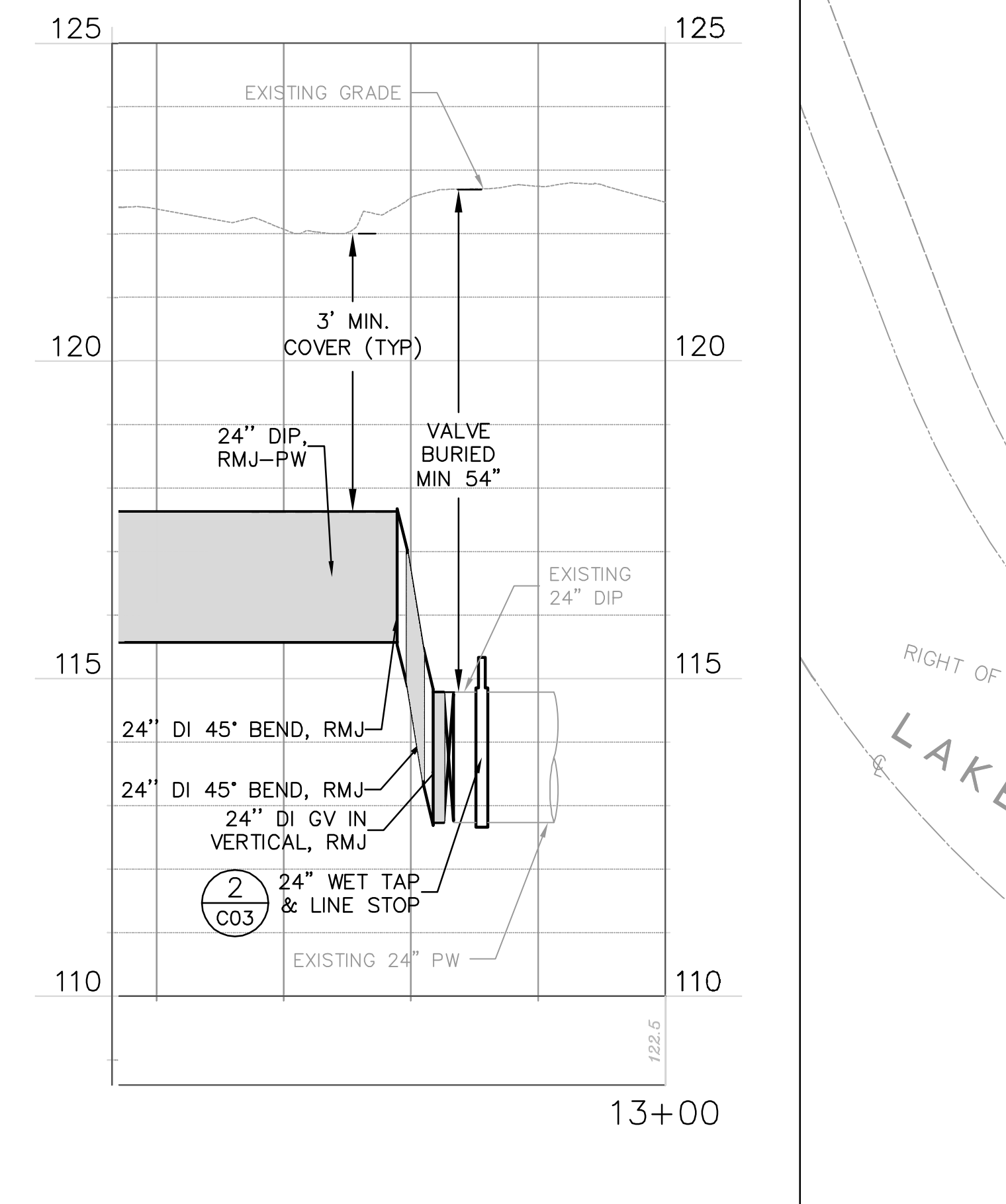
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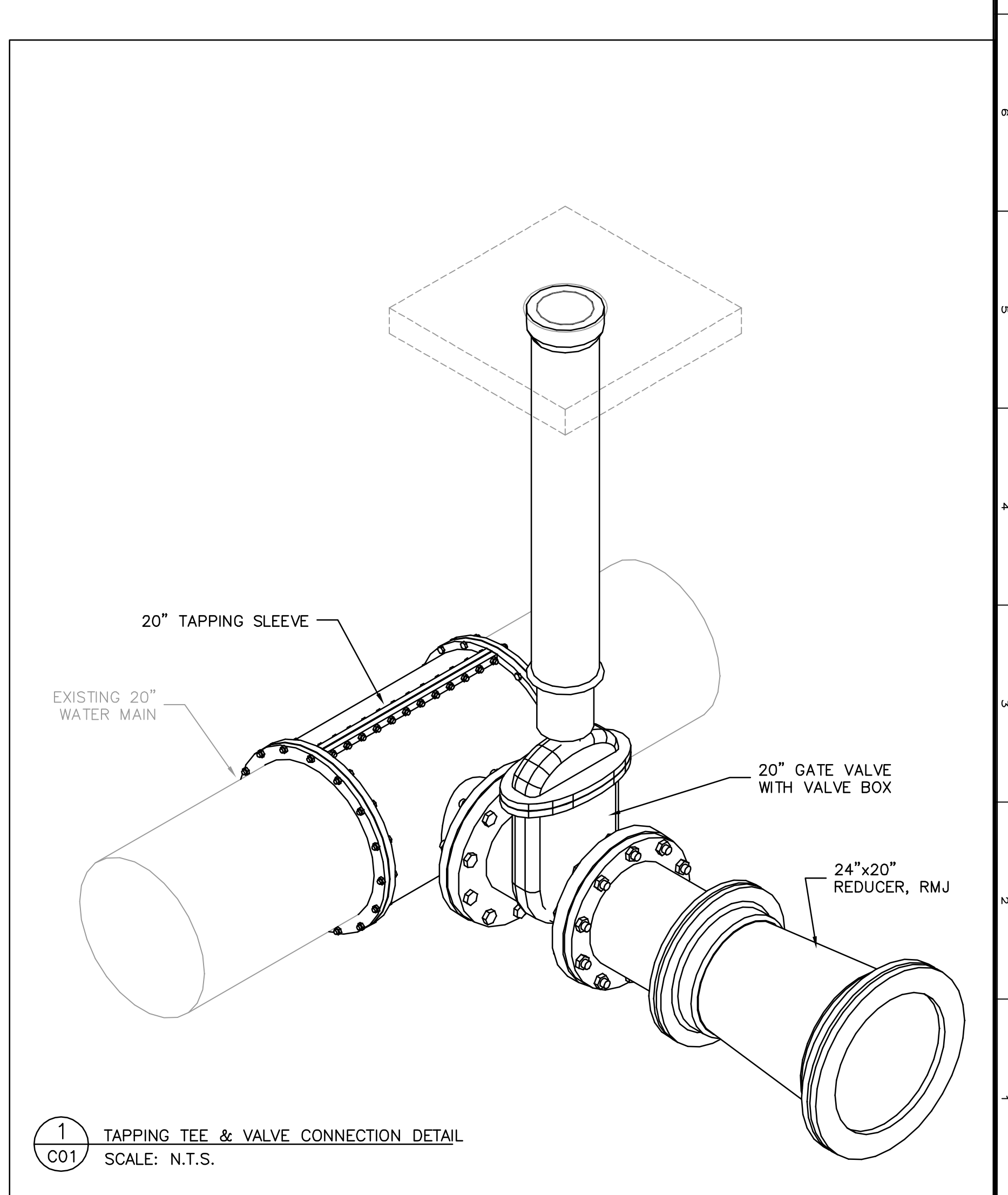
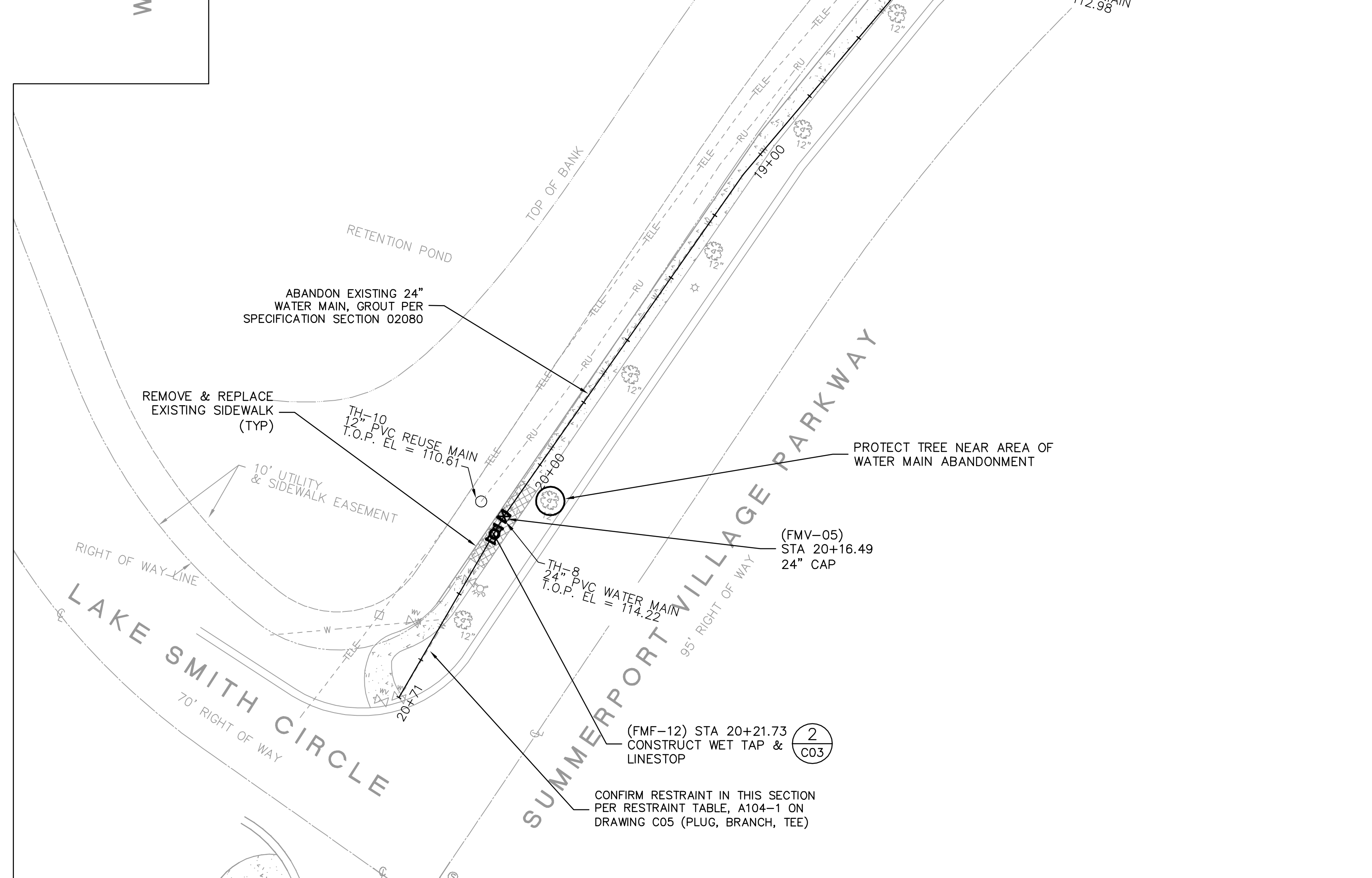
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- NOTES:**
1. CONTRACTOR TO PROVIDE VEHICULAR AND PEDESTRIAN MOT.
  2. CONTRACTOR TO REPLACE ALL SOD AND LANDSCAPING THAT IS DAMAGED DURING CONSTRUCTION.
  3. CONTRACTOR TO PROTECT AND SUPPORT EXISTING RECLAIMED WATER AND STORM DRAIN PIPING.
  4. THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.
  5. BETWEEN STA 9+33 AND 13+00 INSTALL NEW 24" DIP IN SAME LOCATION AS EXISTING WM AFTER REMOVAL.



**2**  
**C03**  
LINESTOP AND ISOLATION VALVE DETAIL  
SCALE: N.T.S.



REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLI

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Florida P.E. No. 66379  
Reiss Engineering, Inc.  
Certificate of Authorization No. 8181  
1016 Spring Villas Pt.  
Winter Springs, FL 32708

Designed BRW  
Drawn RLI  
Checked BRW  
Reviewed EHT  
Approved SC

ORANGE COUNTY  
SUMMERPORT VILLAGE WM REPLACEMENT  
  
WM CONSTRUCTION - STA. 12+20 TO STA. 13+00

PROJECT NO.: 110028	
SCALE: NOTED	REVISION: 0
DRAWING NO. C03	SHEET NO.: 07 OF 11





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VALVE																
ID NUMBER	PLAN SHEET #	STATIONING	EASTING	NORTHING	ELEVATION	VALVE TYPE	MAIN TYPE	VALVE SIZE	VALVE MANUFACTURER	VALVE MODEL #	# OF TUNRS TO CLOSE	GEAR ACTUATOR	GEAR RATIO	SIDE ACTUATOR	ACTUATOR MANUFACTURER	COMMENTS
FMV-01	C01	0+25				TAP VALVE	WM	20"						YES		
FMV-02	C02	9+3.5, 4.9' R				GATE	WM	6"						NO		
FMV-03	C02	9+3.5, 13.8' R				GATE	WM	6"						NO		
FMV-04	C03	12+65.9				GATE	WM	24"						YES		
FMV-05	C03	20+16.49				GATE	WM	24"						YES		

FITTING								
ID NUMBER	PLAN SHEET #	STATIONING	EASTING	NORTHING	ELEVATION	MAIN TYPE	FITTING TYPE	COMMENTS
FMF-01	C01	0+25				WM	20" TAP TEE	
FMF-02	C01	0+32.2				WM	24" x 20" - RED	
FMF-03	C01	0+93				WM	24" - BEND 22.5°	
FMF-04	C01	0+95.9				WM	24" - BEND 22.5°	
FMF-05	C02	9+3.5				WM	24" x 6" - TEE	
FMF-06	C02	9+33.1				WM	24" - BEND 22.5°	
FMF-07	C02	9+56.9				WM	24" - BEND 11.25°	
FMF-08	C02	10+32.5				WM	24" - BEND 11.25°	
FMF-09	C03	12+58.8				WM	24" - BEND 45°	
FMF-10	C03	12+62.6				WM	24" - BEND 45°	
FMF-11	C03	12+71.2				WM	24" LINESTOP	
FMF-12	C03	20+21.73				WM	24" TAP TEE	

PIPE												
ID NUMBER	PLAN SHEET #	STATIONING	EASTING	NORTHING	ELEVATION	MAIN TYPE	TYPE OF SHOT	CONSTRUCTION METHOD	MATERIAL	PRESSURE CLASS	MANUFACTURER	COMMENTS
FMP-01	C01	0+40				24" WM		OPEN CUT	DIP			
FMP-02	C01	1+00				24" WM		OPEN CUT	DIP			
FMP-03	C01	2+00				24" WM		OPEN CUT	DIP			
FMP-04	C01	3+00				24" WM		OPEN CUT	DIP			
FMP-05	C01	4+00				24" WM		OPEN CUT	DIP			
FMP-06	C01	5+00				24" WM		OPEN CUT	DIP			
FMP-07	C01	6+00				24" WM		OPEN CUT	DIP			
FMP-08	C02	7+00				24" WM		OPEN CUT	DIP			
FMP-09	C02	8+00				24" WM		OPEN CUT	DIP			
FMP-10	C02	9+00				24" WM		OPEN CUT	DIP			
FMP-11	C02	10+00				24" WM		OPEN CUT	DIP			
FMP-12	C02	11+00				24" WM		OPEN CUT	DIP			
FMP-13	C02	12+00				24" WM		OPEN CUT	DIP			



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REV	DATE	DESCRIPTION	BY

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 Winter Springs, FL 32708

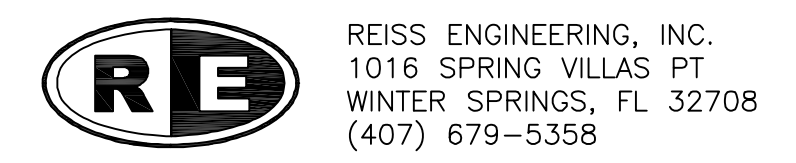
Designed BRW  
 Drawn RLL  
 Checked BRW  
 Reviewed EHT  
 Approved SC

LINE IS 1" AT FULL SIZE  
 LINE IS 1/8" AT HALF SIZE

ORANGE COUNTY  
 SUMMERPORT VILLAGE WM REPLACEMENT

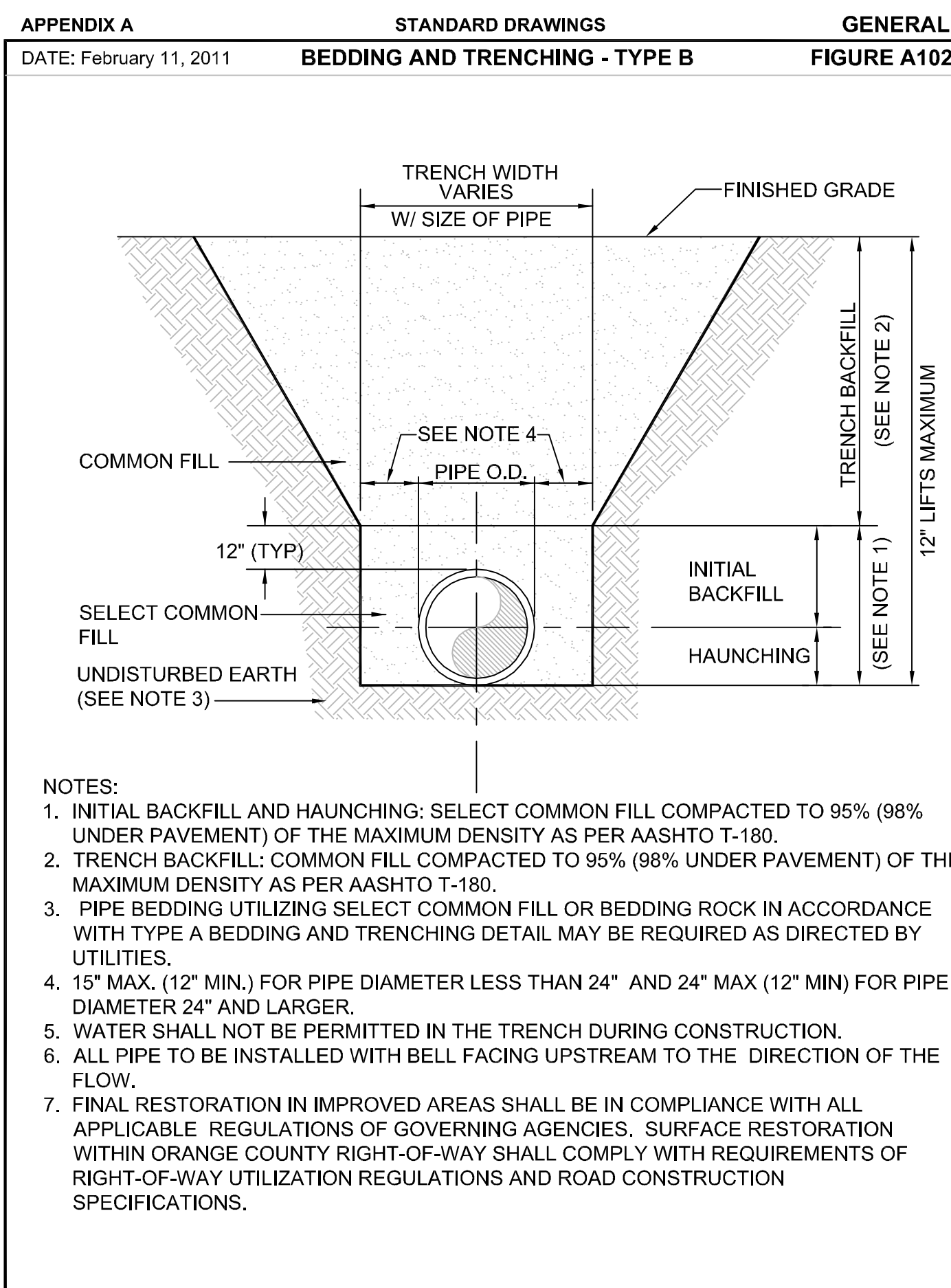
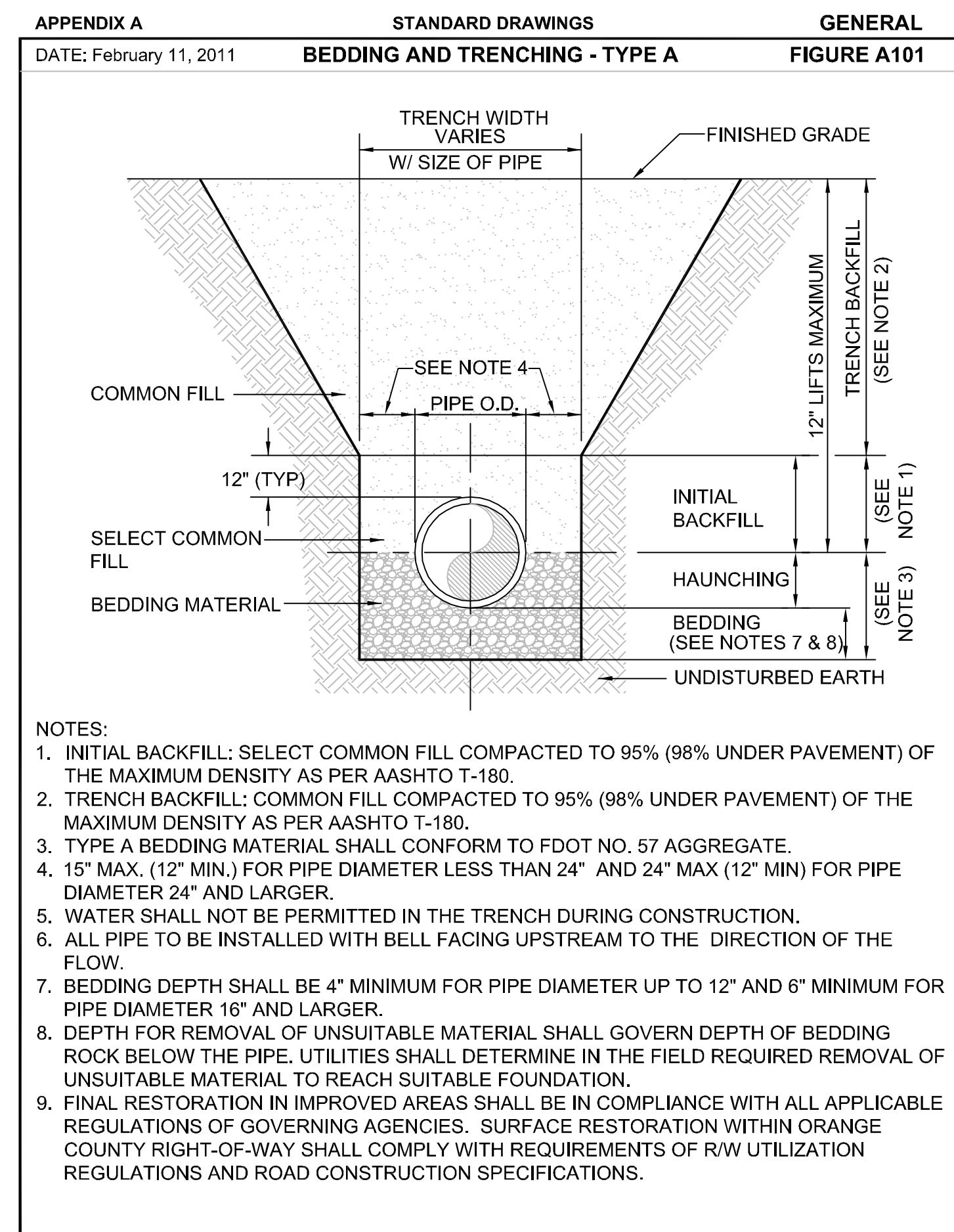
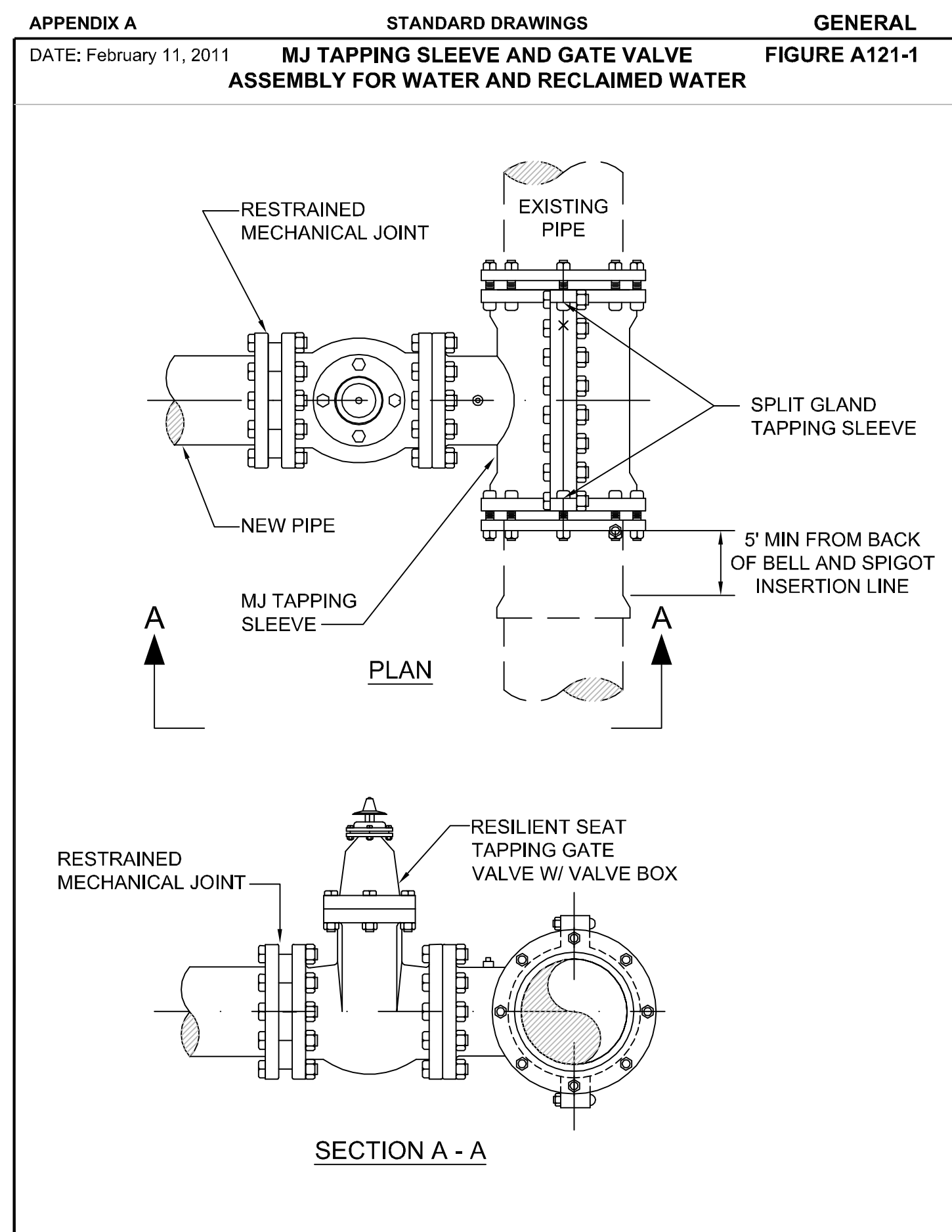
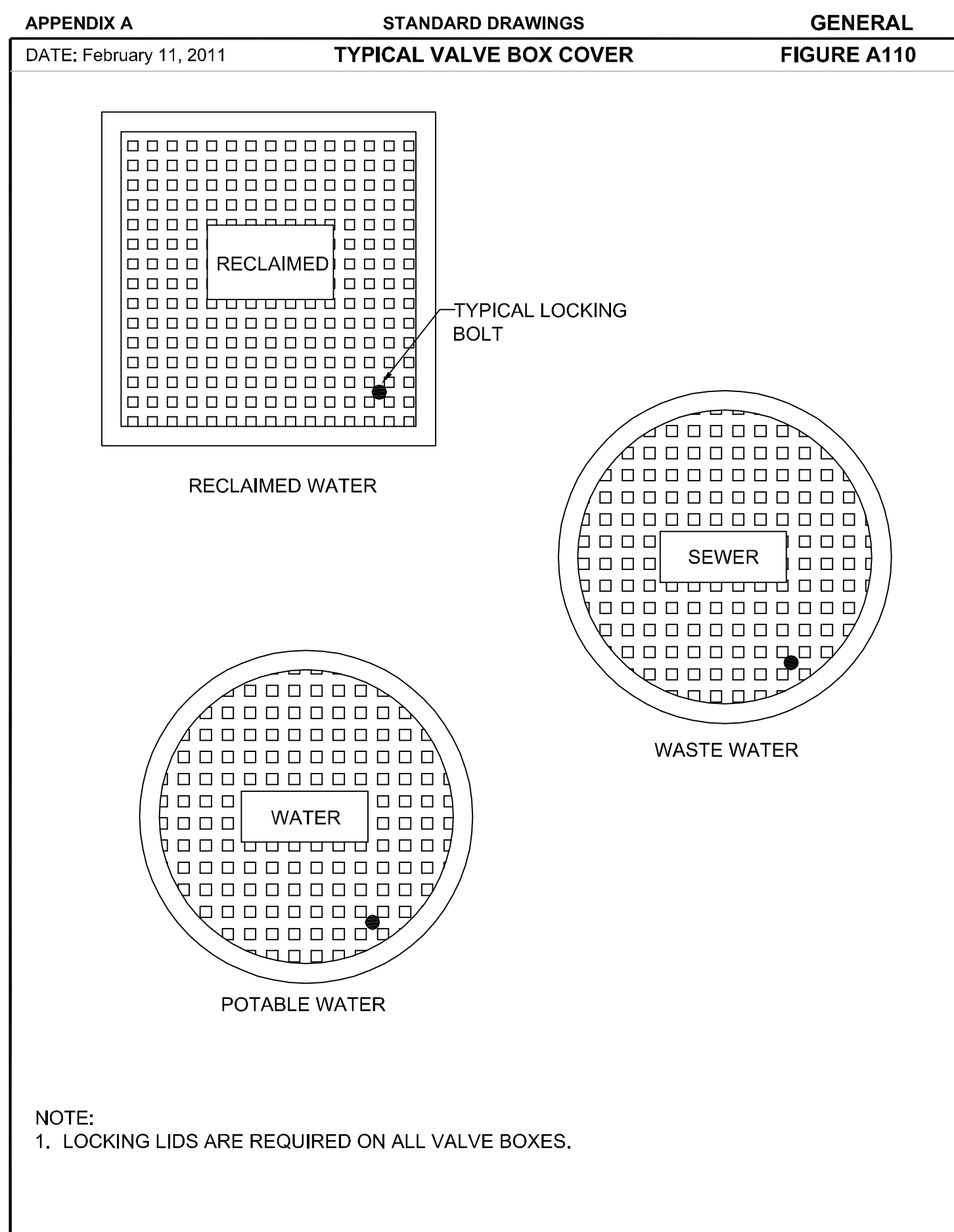
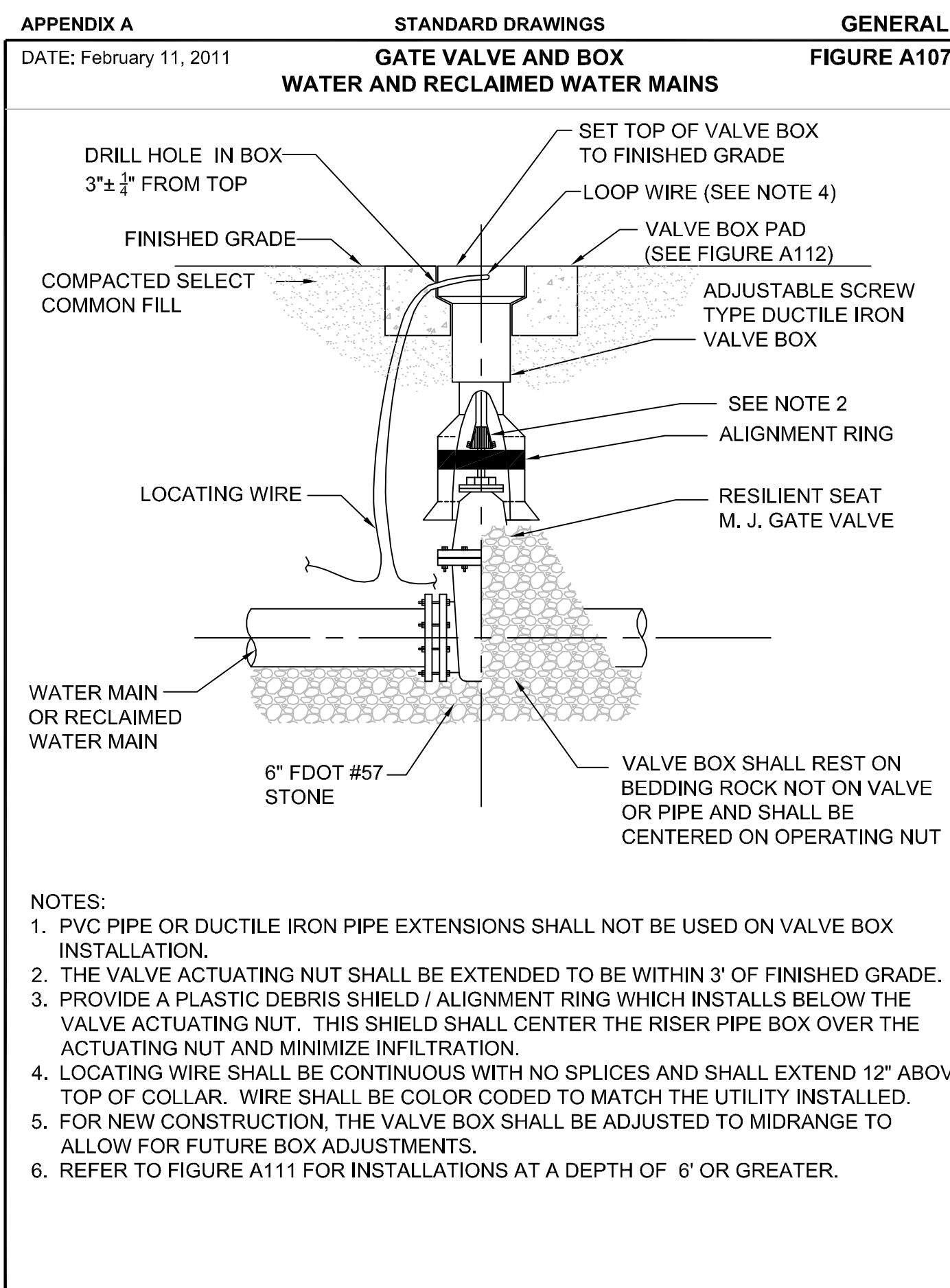
ASSET ATTRIBUTE TABLES

PROJECT NO.: 110028	
SCALE: NONE	REVISION: 0
DRAWING NO. C04	SHEET NO.: 08 OF 11



REISS ENGINEERING, INC.  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358





**APPENDIX A** **STANDARD DRAWINGS** **GENERAL**  
DATE: February 11, 2011 **RESTRAINED PIPE TABLE** **FIGURE A104-1**  
**WATER AND RECLAIMED WATER MAINS**

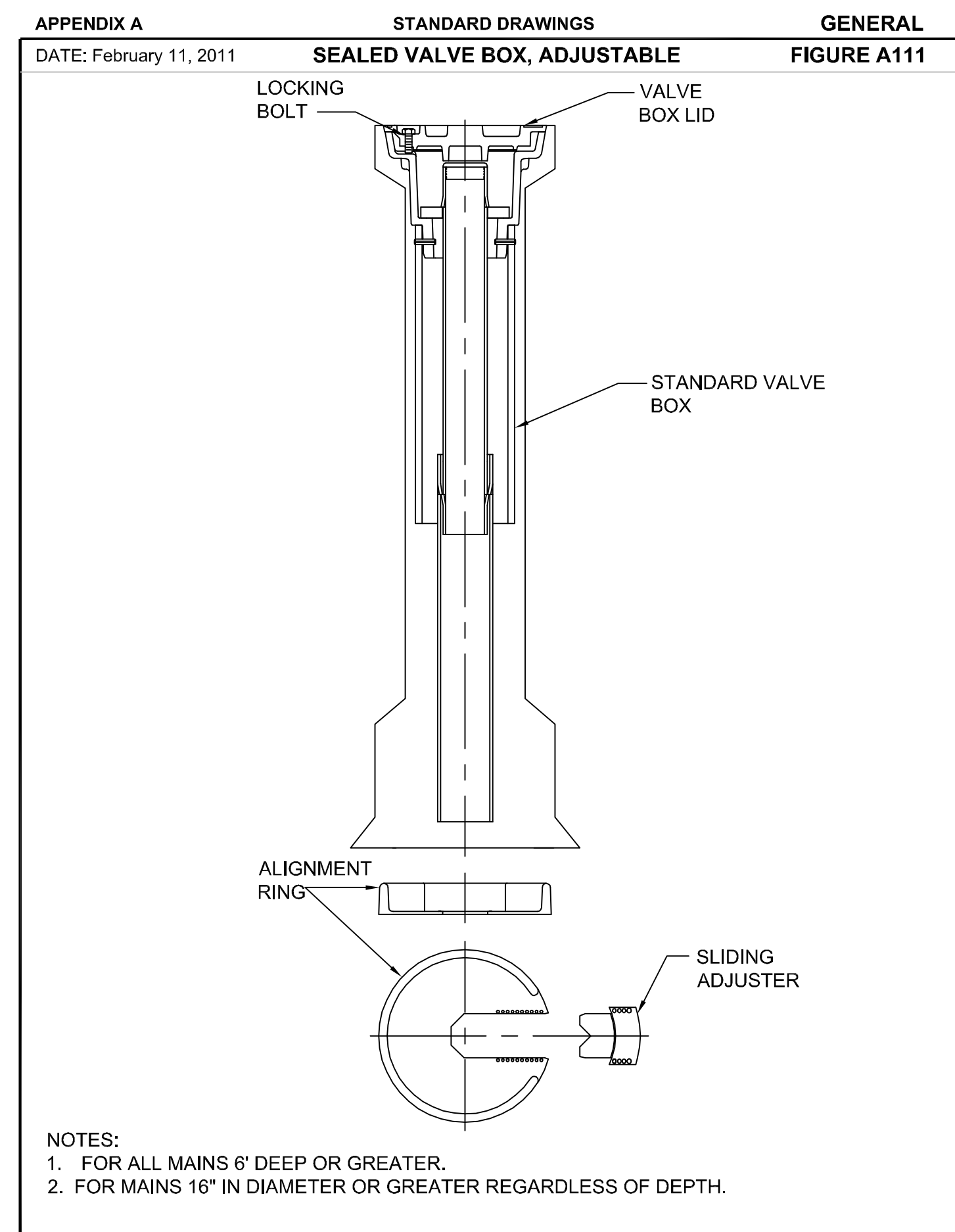
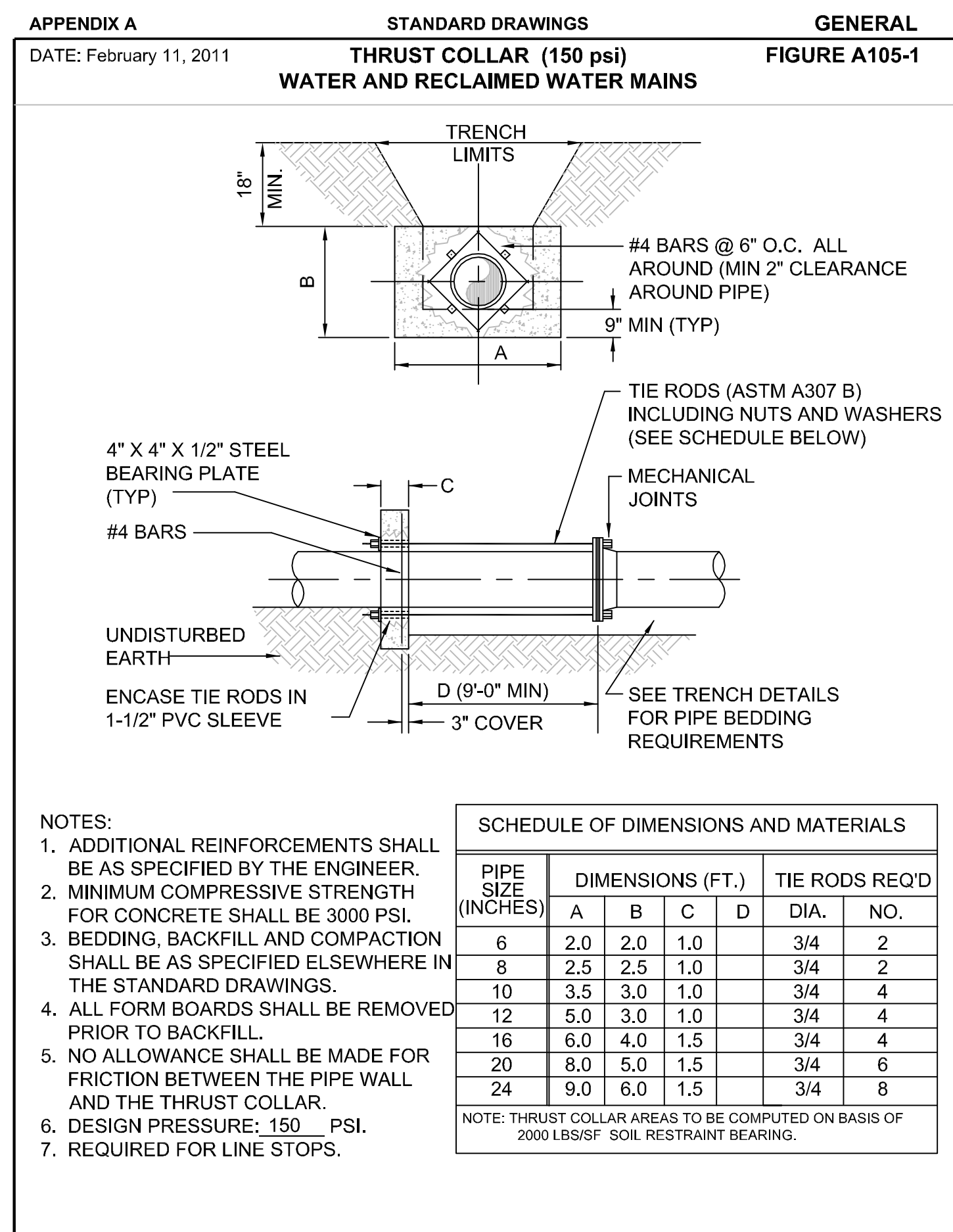
TYPE	MINIMUM LENGTH (FT) TO BE RESTRAINED ON EACH SIDE OF FITTING(S)									
	PIPE SIZE									
	4"	6"	8"	10"	12"	16"	20"	24"	30"	36"
90° BEND	25	36	46	55	64	65	77	89	105	120
45° BEND	10	15	19	23	26	27	32	37	44	50
22-1/2° BEND	5	8	9	11	13	13	15	18	21	24
11-1/4° BEND	3	4	5	6	8	7	8	9	10	12
PLUG OR BRANCH OF TEE	53	74	97	117	135	138	166	194	231	265
VALVE	27	38	49	59	68	69	83	97	116	133
REDUCER	VARIES BY SIZE; TO BE DETERMINED BY THE DESIGN ENGINEER.									

**NOTES:**

- FITTINGS SHALL HAVE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED.
- INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN LENGTH SHOWN IN THE TABLE.
- WHERE TWO OR MORE FITTINGS ARE IN SERIES, SELECT FITTING RESTRAINT LENGTH THAT YIELDS THE LONGEST RESTRAINT DISTANCE.
- ALL INLINE VALVES SHALL BE RESTRAINED.
- WHERE INTERNAL RESTRAINED JOINTS ARE USED, THE ENTIRE BELL SHALL BE PAINTED RED.
- LENGTHS SHOWN IN THE TABLE WERE CALCULATED IN ACCORDANCE WITH PROCEDURES OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" GUIDELINES PUBLISHED BY DIPRA, USING THE ASSUMPTIONS SHOWN BELOW:

WORKING PRESSURE: 150 PSI  
SOIL DESIGNATION: SM (SAND SILT)  
LAYING CONDITIONS: 3  
DEPTH OF COVER: 3 FT  
SAFETY FACTOR: 1.5  
CONVERSION FACTOR FOR PVC PIPE: 1.25

THE DESIGN ENGINEER SHALL INCREASE THE VALUES IN THE TABLE AS WARRANTED BY SITE-SPECIFIC SOIL DESIGNATIONS, LAYING CONDITIONS, PIPE MATERIAL, ETC. FOR DIP ENCASED IN POLYETHYLENE, INCREASE THE GIVEN VALUE BY A FACTOR OF 1.25.



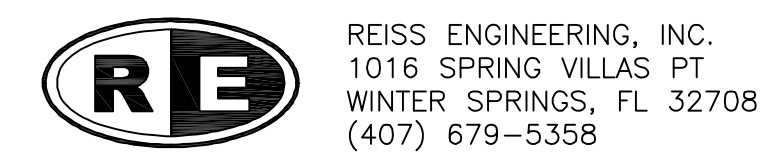
REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLL

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Designed BRW  
Drawn RLL  
Checked BRW  
Reviewed EHT  
Approved SC

ORANGE COUNTY  
SUMMERPORT VILLAGE WM REPLACEMENT  
  
DETAILS

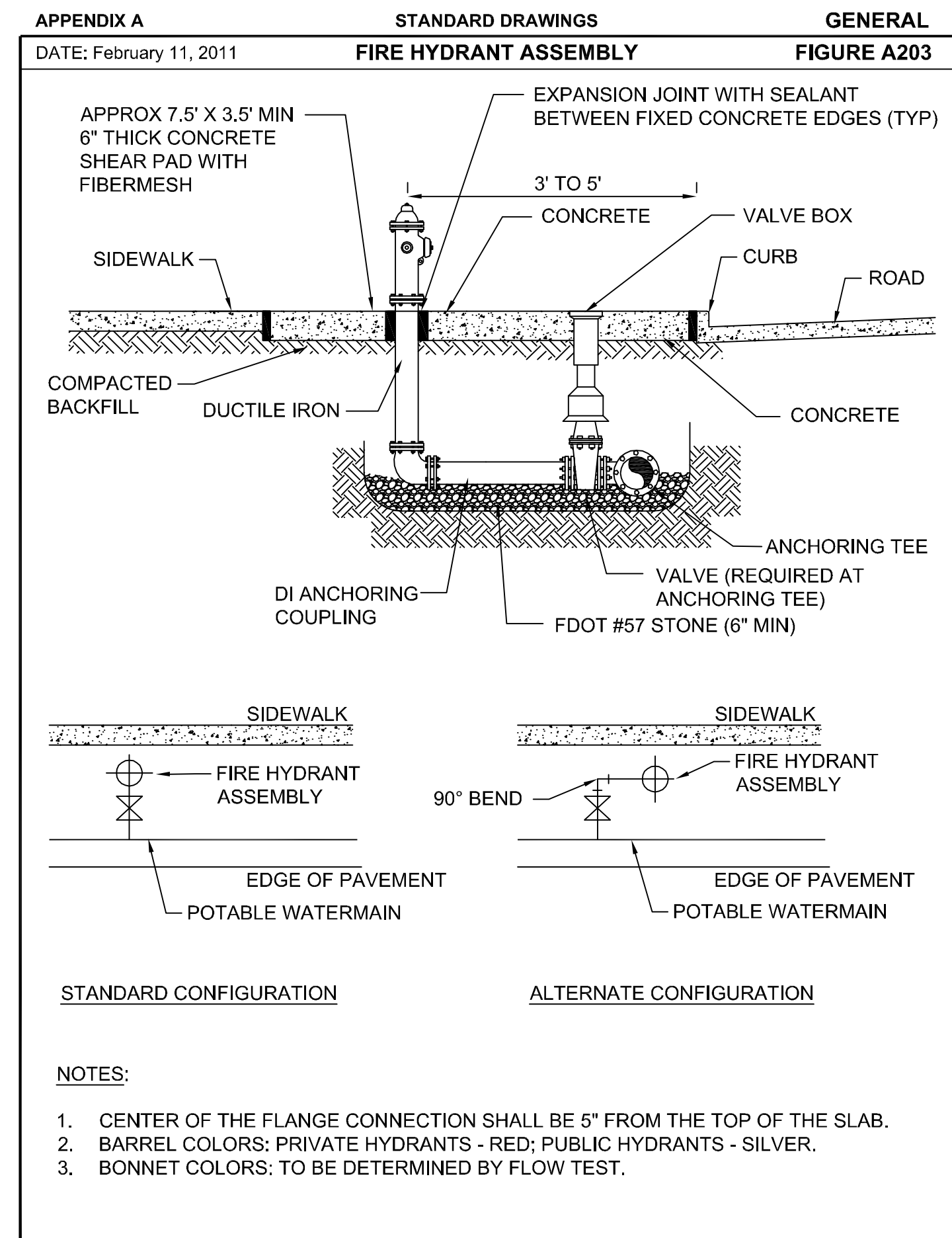
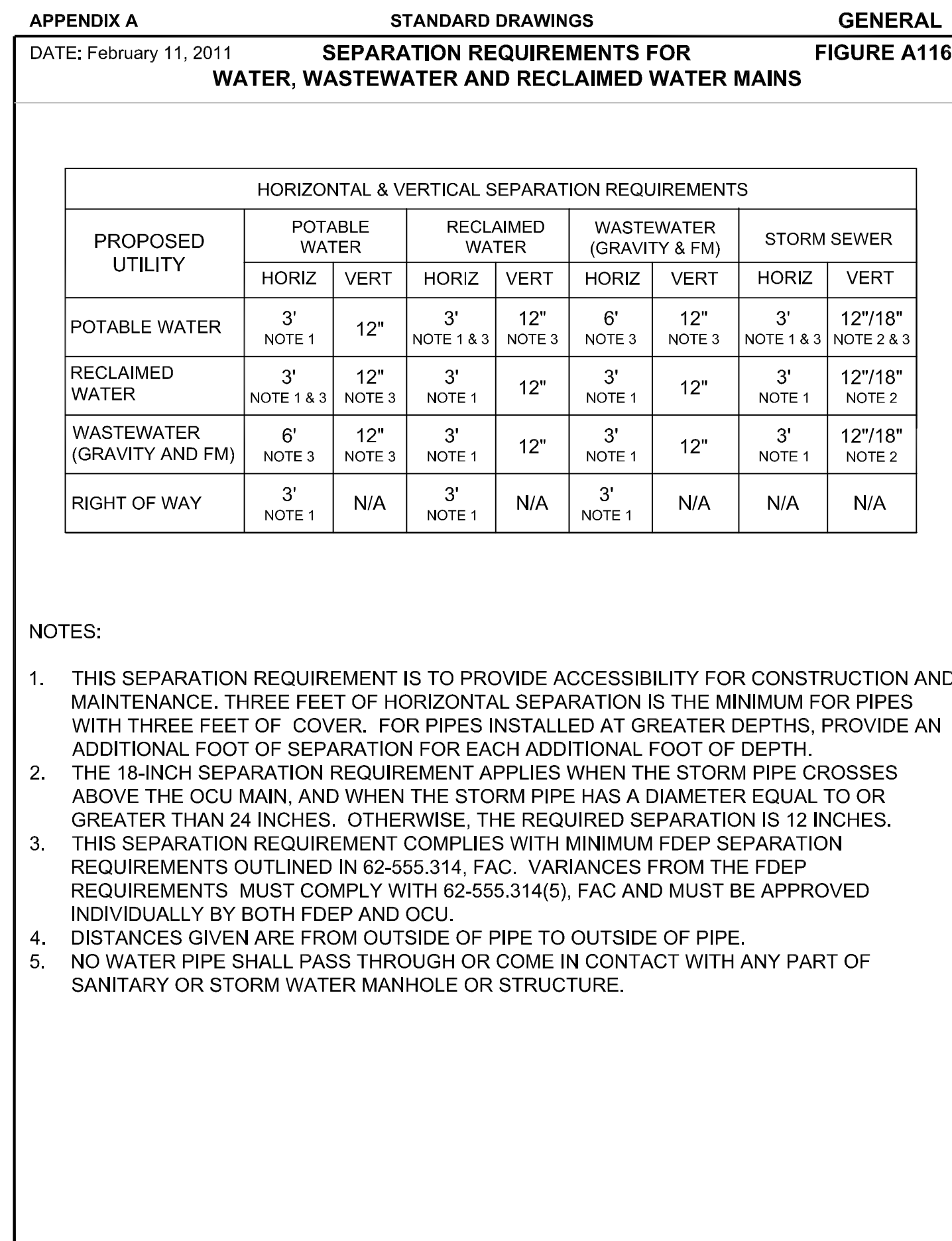
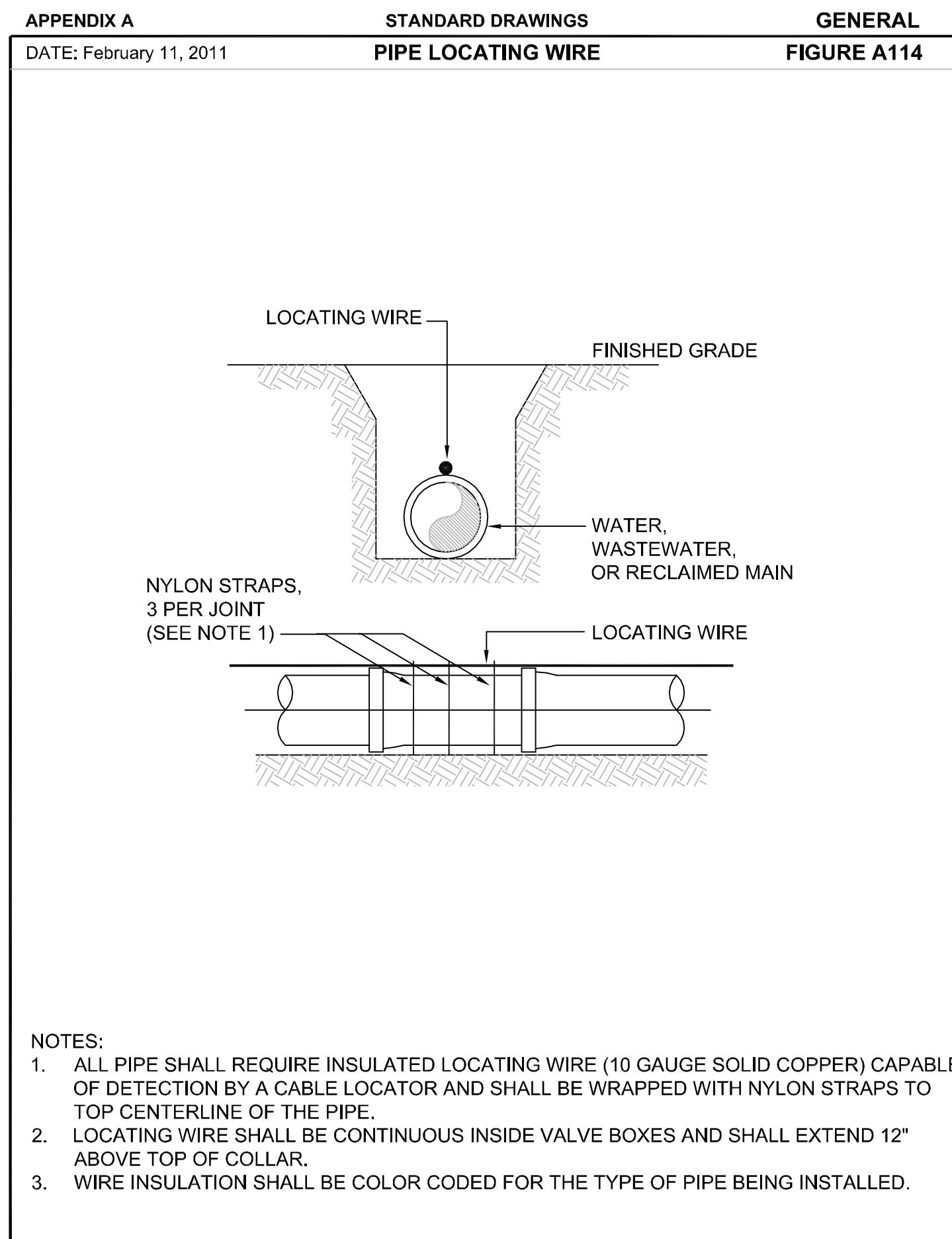
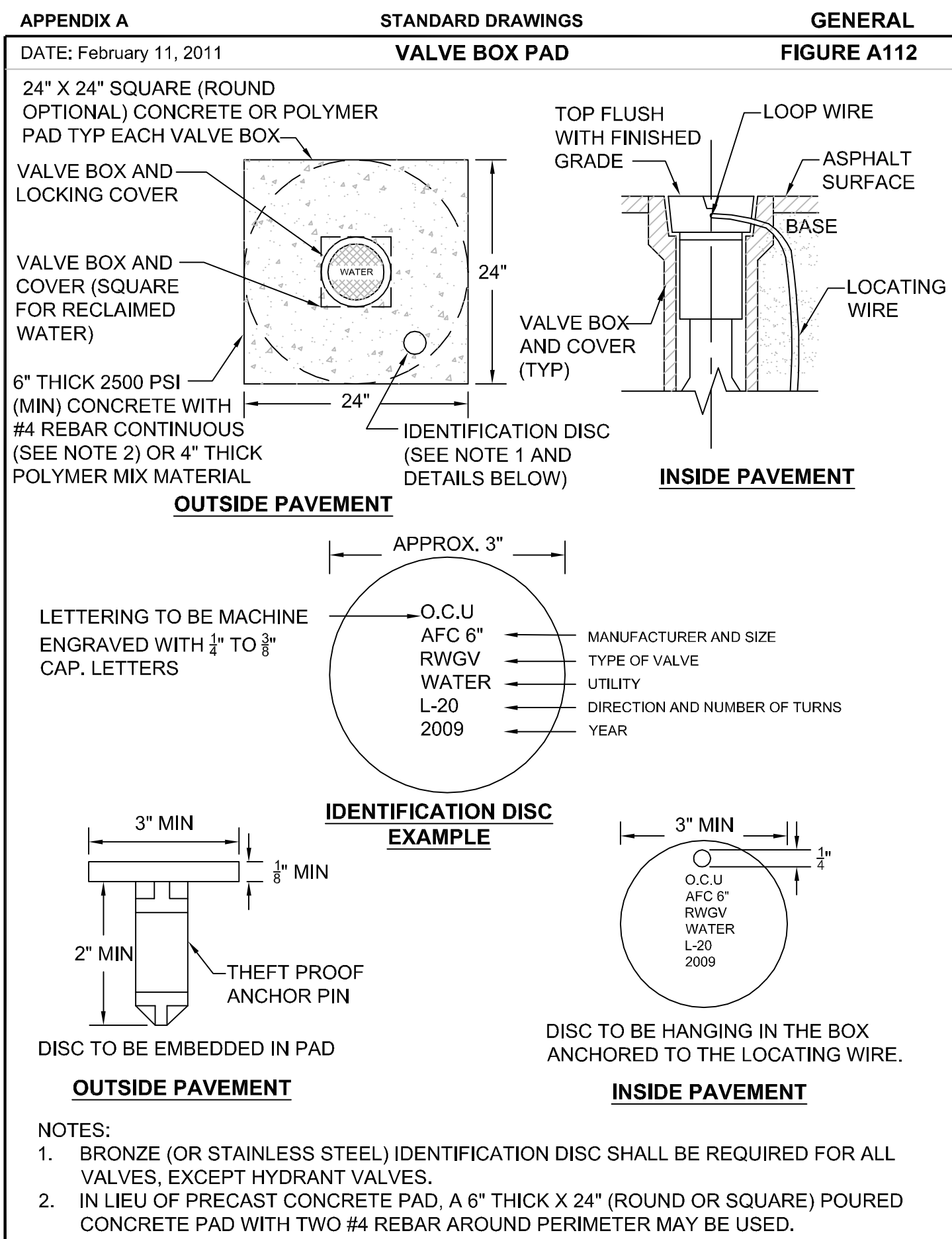
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DRAWING NO. C05	SHEET NO.: 09	OF 11



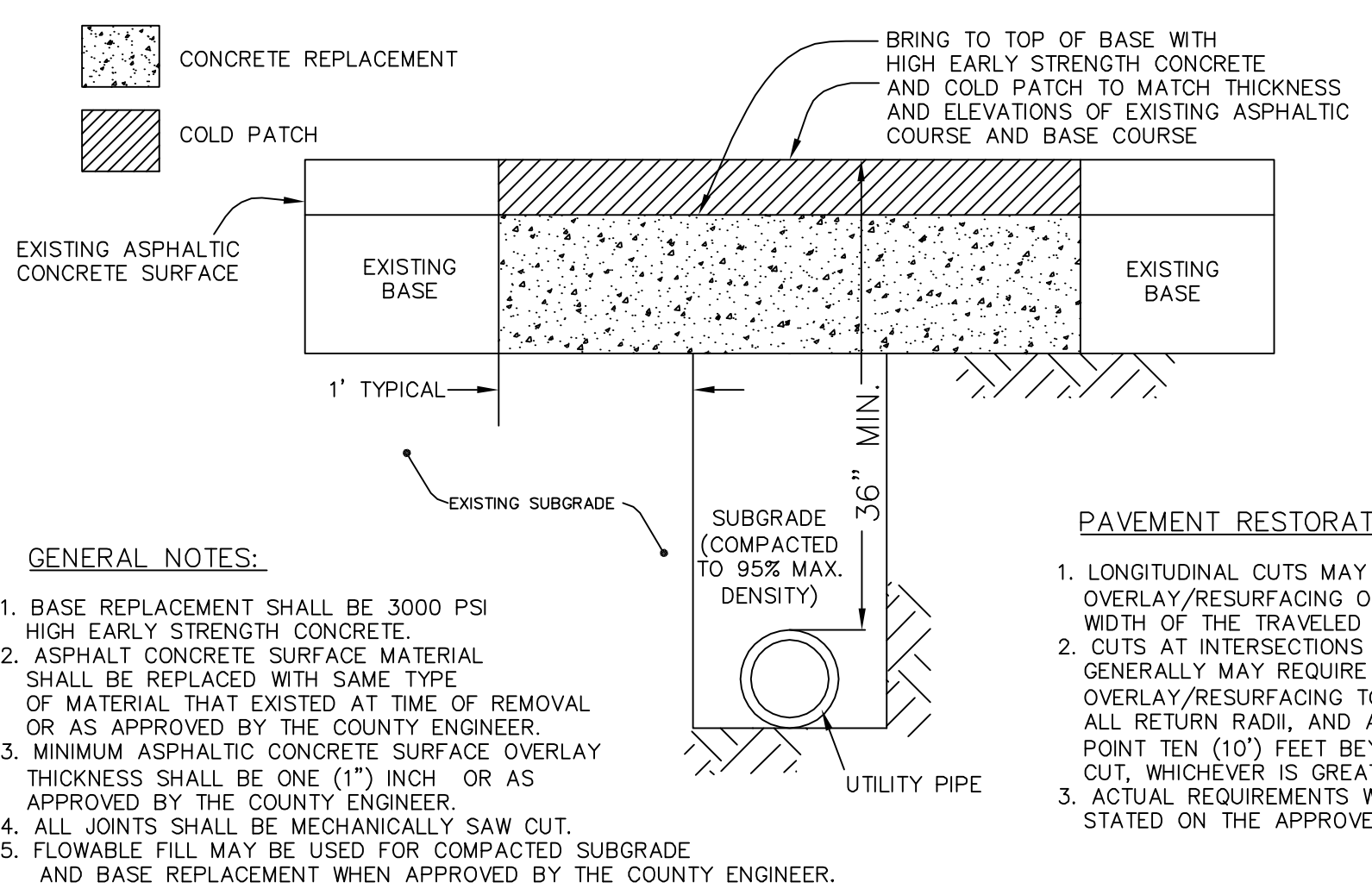
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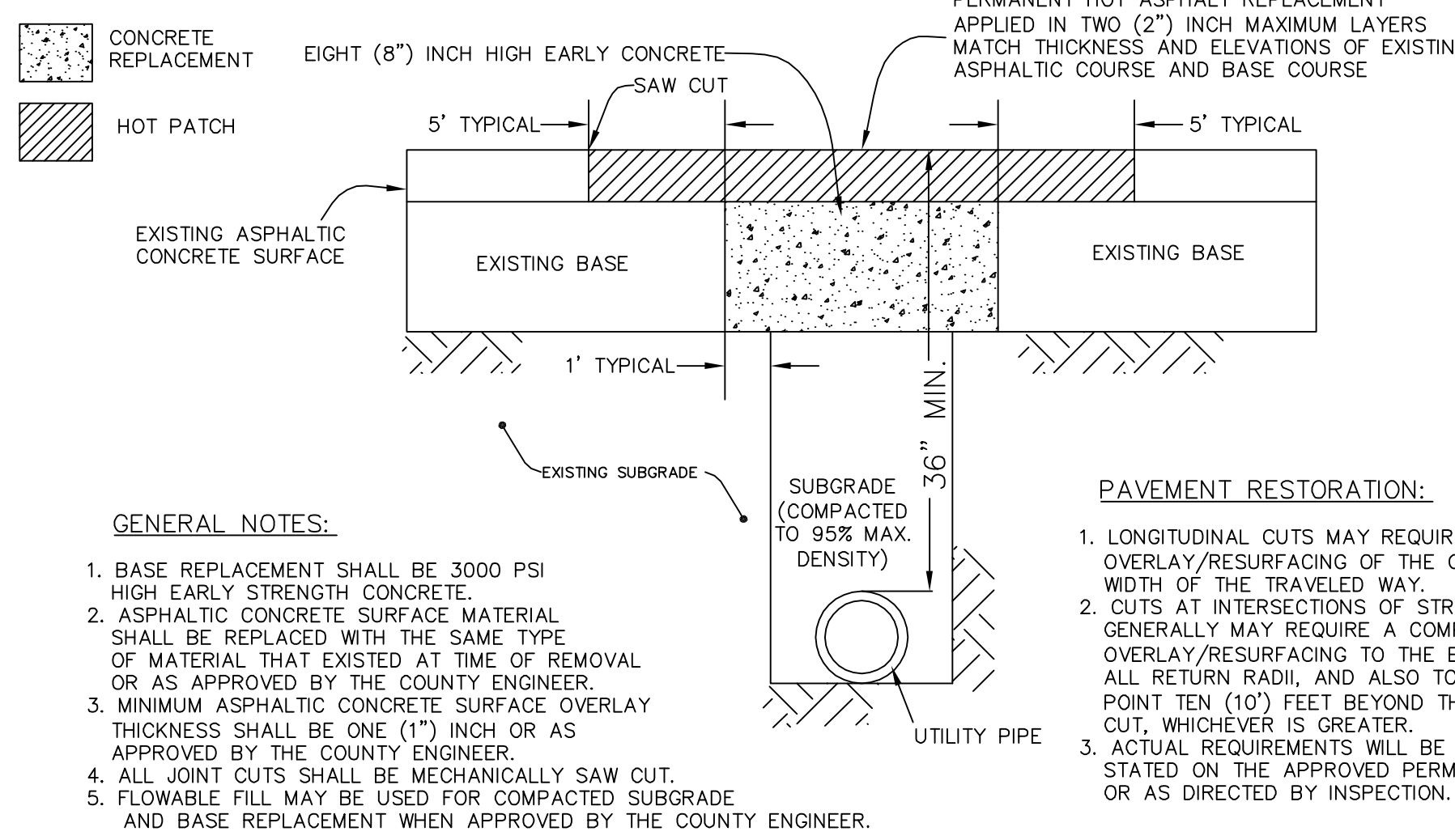


**NOTE:**  
SUB-GRADE CUT TO BE COMPACTED TO 95% MAX. DENSITY AS DETERMINED BY AASHTO T - 180. CUT TO BE REPLACED WITH 3000 PSI HIGH EARLY CONCRETE TO TOP OF EXISTING BASE. CUT AREA TO BE PLATED OR PROTECTED ON DAY OF POUR. TEMPORARY COLD PATCH TO BE APPLIED AND BROUGHT TO GRADE NEXT DAY. PERMANENT REPAIR TO BE MADE WITHIN 30 DAYS.



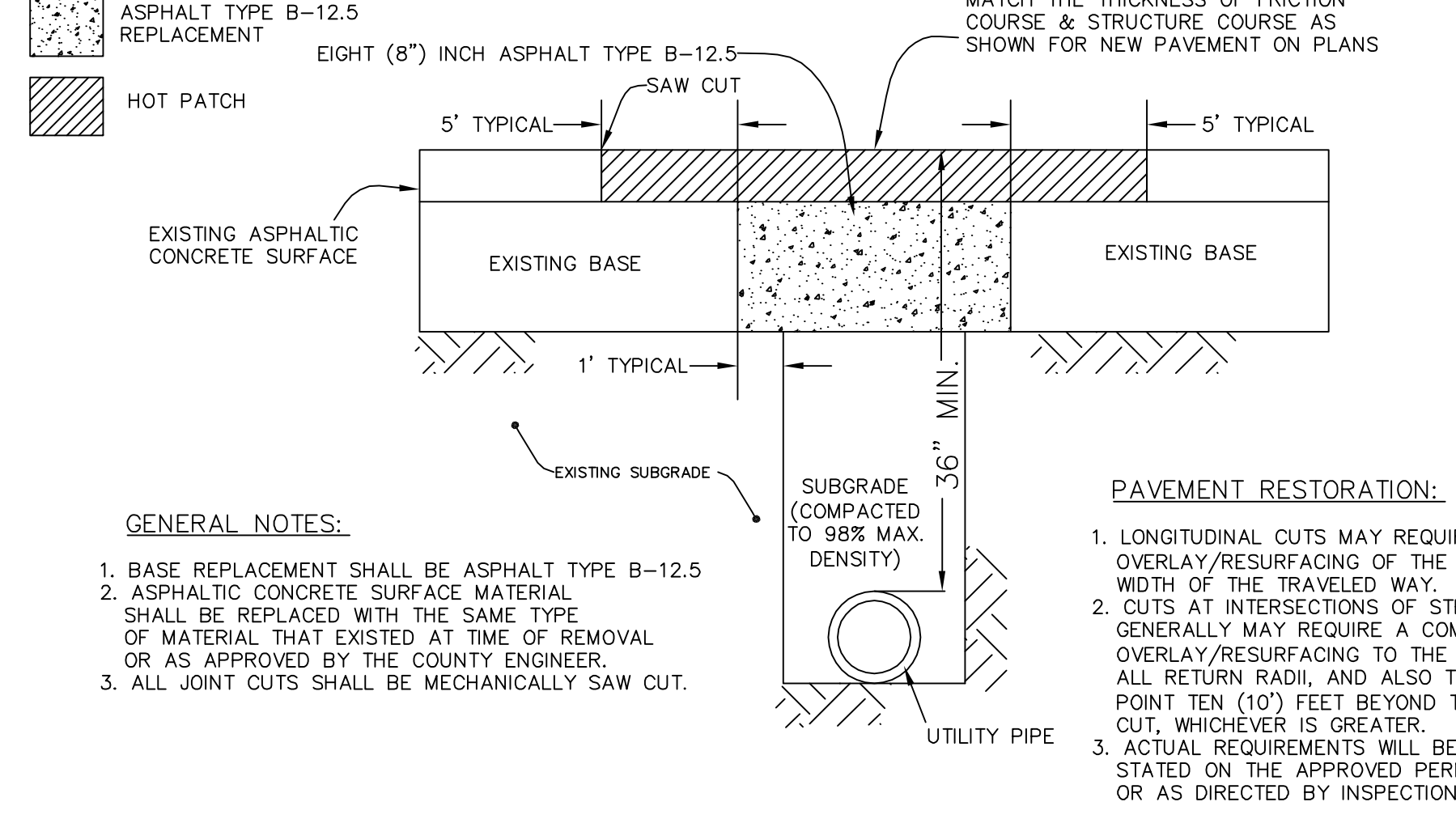
**STANDARD ROADWAY OPENCUT CROSS SECTION DETAIL**  
TEMPORARY COLD PATCH OVER CONCRETE BASE - TYPICAL OF MAJOR OPEN CUTS

**NOTE:**  
SUB-GRADE CUT TO BE COMPACTED TO 95% MAX. DENSITY AS DETERMINED BY AASHTO T - 180. CUT TO BE REPLACED WITH AN EIGHT (8") INCH 3000 PSI HIGH EARLY CONCRETE TO TOP OF EXISTING BASE. CUT AREA TO BE PLATED OR PROTECTED ON DAY OF POUR. EXISTING SURFACE TO BE SAW CUT TO AN AREA FIVE (5') FEET, BEYOND THE BASE CUT.



**STANDARD ROADWAY OPENCUT CROSS SECTION DETAIL**  
FINAL RESTORATION - TYPICAL OF MAJOR OPEN CUTS

**NOTE:**  
SUB-GRADE CUT TO BE COMPACTED TO 98% MAX. DENSITY AS DETERMINED BY AASHTO T - 180. CUT TO BE REPLACED WITH AN EIGHT (8") INCH 3000 PSI HIGH EARLY CONCRETE TO TOP OF EXISTING BASE. CUT AREA TO BE PLATED OR PROTECTED ON DAY OF POUR. EXISTING SURFACE TO BE SAW CUT TO AN AREA FIVE (5') FEET, BEYOND THE BASE CUT.



**STANDARD ROADWAY OPENCUT CROSS SECTION DETAIL**  
FINAL RESTORATION - TYPICAL OF MAJOR OPEN CUTS

**Table 2210-1: Minimum Pipe Cover Required for Valves**

Pipe Diameter (Inches)	Vertical Gate Valve Cover	
	LOCAL Roadway	Non-LOCAL Roadway*
4"-8"	30"	36"
12"	36"	36"
16"	44"	48"
20"	-	50"
24"	-	54"

**Note:** \* Additional 12" of cover is required for all vertical valves 16" and greater located in the pavement.



REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLL

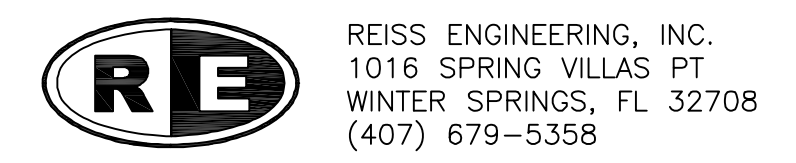
Issue Certification  
Stefano Ceriana, P.E.  
Florida P.E. No. 66379  
Reiss Engineering, Inc.  
Certificate of Authorization No. 8181  
1016 Spring Villas Pt.  
Winter Springs, FL 32708

Designed BRW  
Drawn RLL  
Checked BRW  
Reviewed EHT  
Approved SC

ORANGE COUNTY  
SUMMERPORT VILLAGE WM REPLACEMENT

DETAILS

PROJECT NO.: 110028	SCALE: NOTED	REVISION: 0
DRAWING NO.: C06	SHEET NO.: 10	OF 11

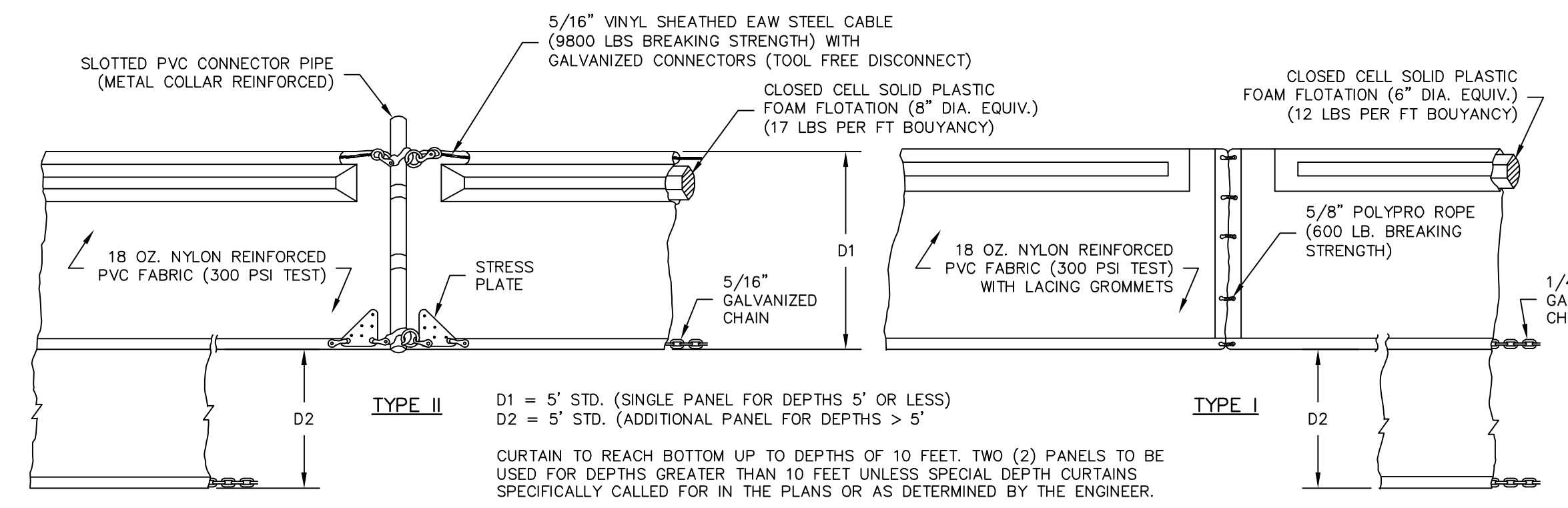
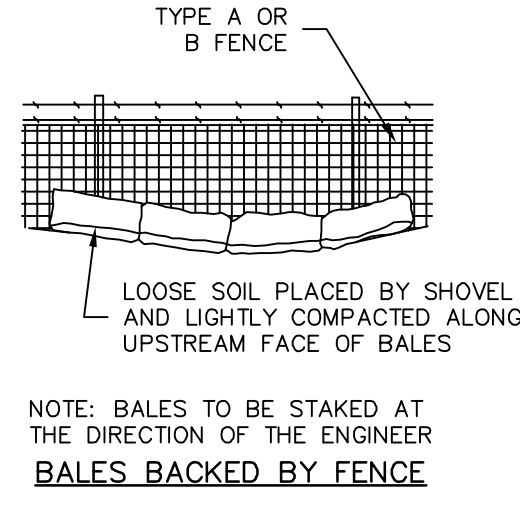
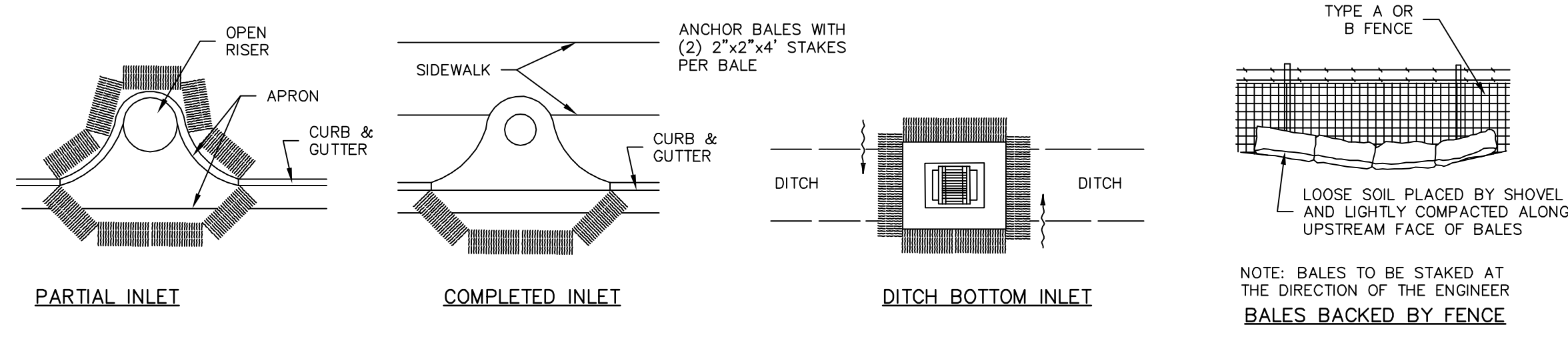


REISS ENGINEERING, INC.  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

Parent Sheet Set: 110028SUMMERPORT/Rev/Plot by: ROBERT L. LUPO  
Individual File Path: R:\PROJECTS\110028 - ORANGE CO SUMMERPORT VILLAGE WM DESIGN\DRAWINGS\FINAL\DESIGN\110028.DWG  
Rev on: 7/30/2015 3:18 PM

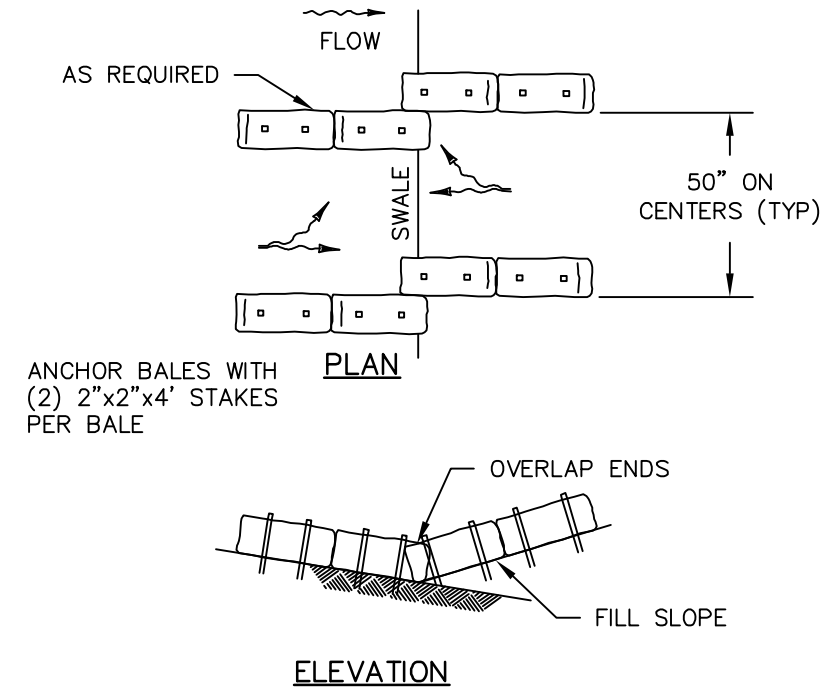
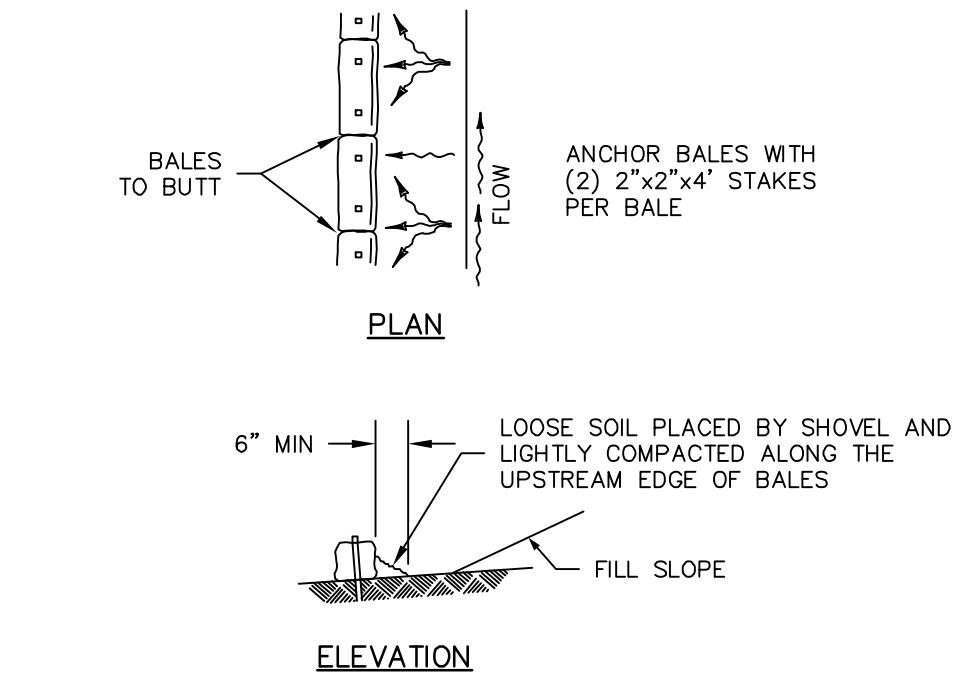


Parent Sheet Set: 110028SUMMERPORT Rev/Plot by: ROBERT L. LUPO Rev on: 7/30/2015 3:18 PM Individual File Path: \\PROJECTS\110028 - ORANGE CO SUMMERPORT VILLAGE WM DESIGN DRAWINGS\FINAL\DESIGN\11\_C07.DWG



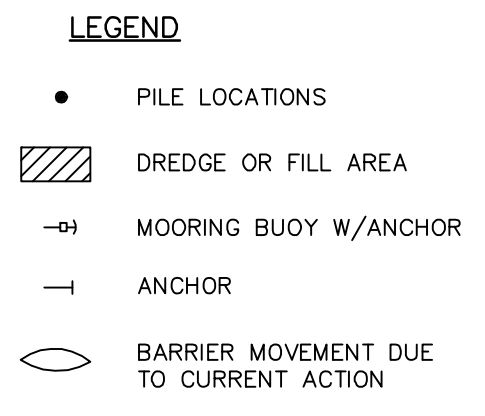
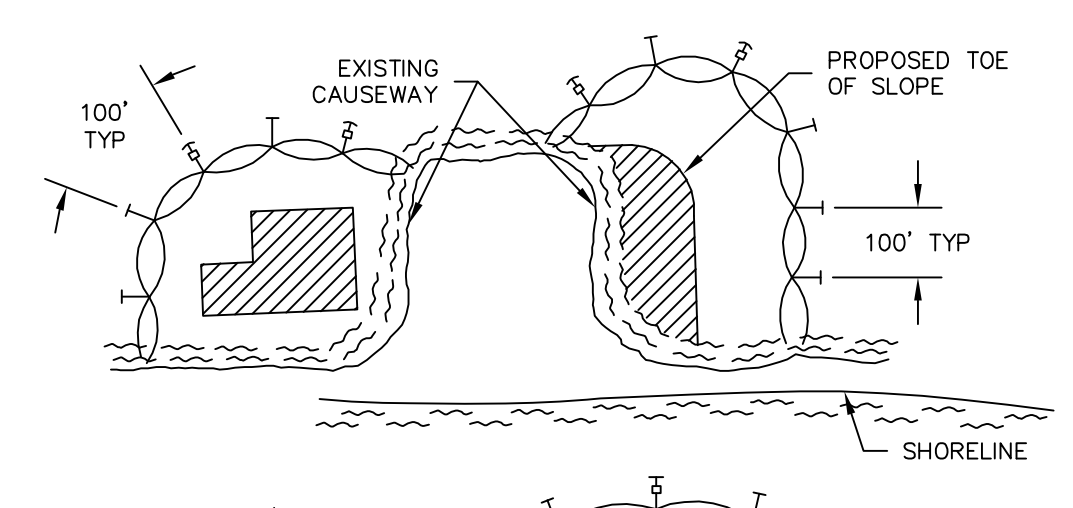
NOTE: BALES TO BE STAKED AT THE DIRECTION OF THE ENGINEER BALES BACKED BY FENCE

NOTE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

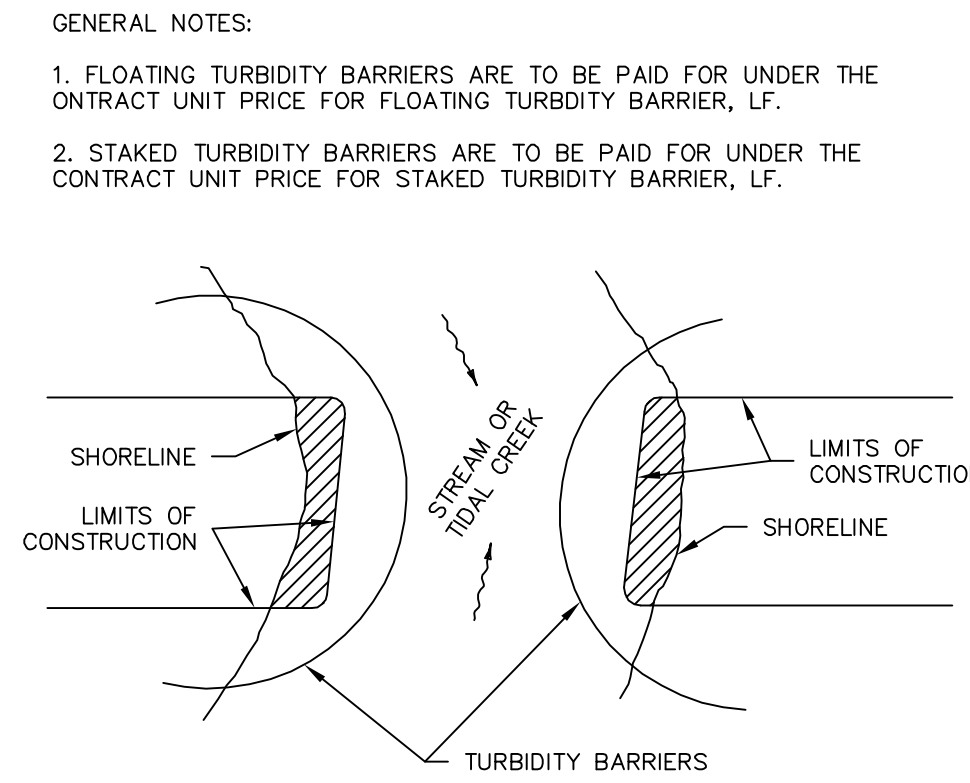


TO BE USED AT SELECTED SITES WHERE THE NATURAL GROUND SLOPES AWAY FROM THE TOE OF SLOPE

TO BE USED AT SELECTED SITES WHERE THE NATURAL GROUND SLOPES TOWARD THE TOE OF SLOPE



- NOTES:
1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
  2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
  3. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
  4. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
  5. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.



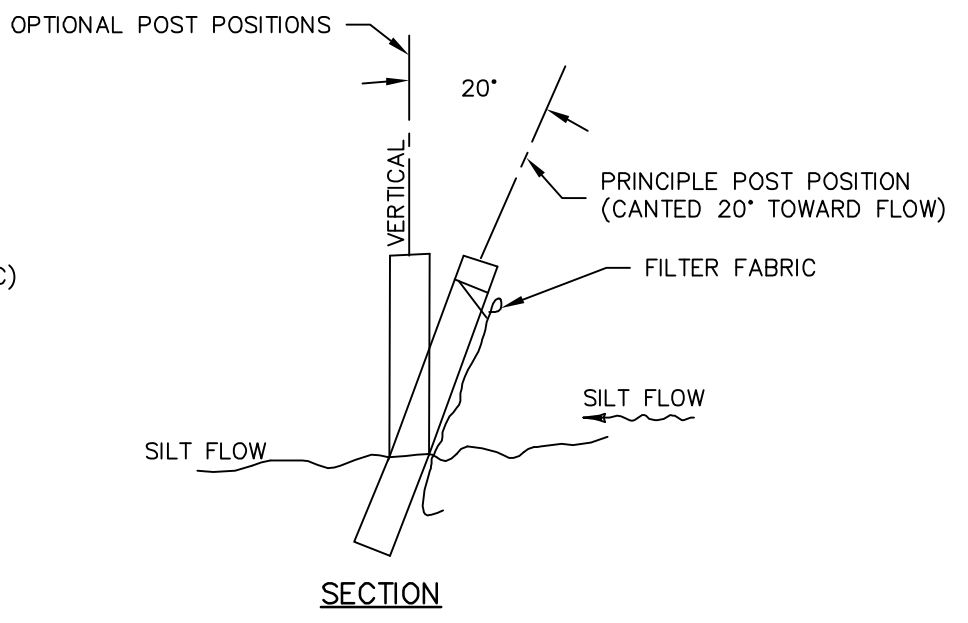
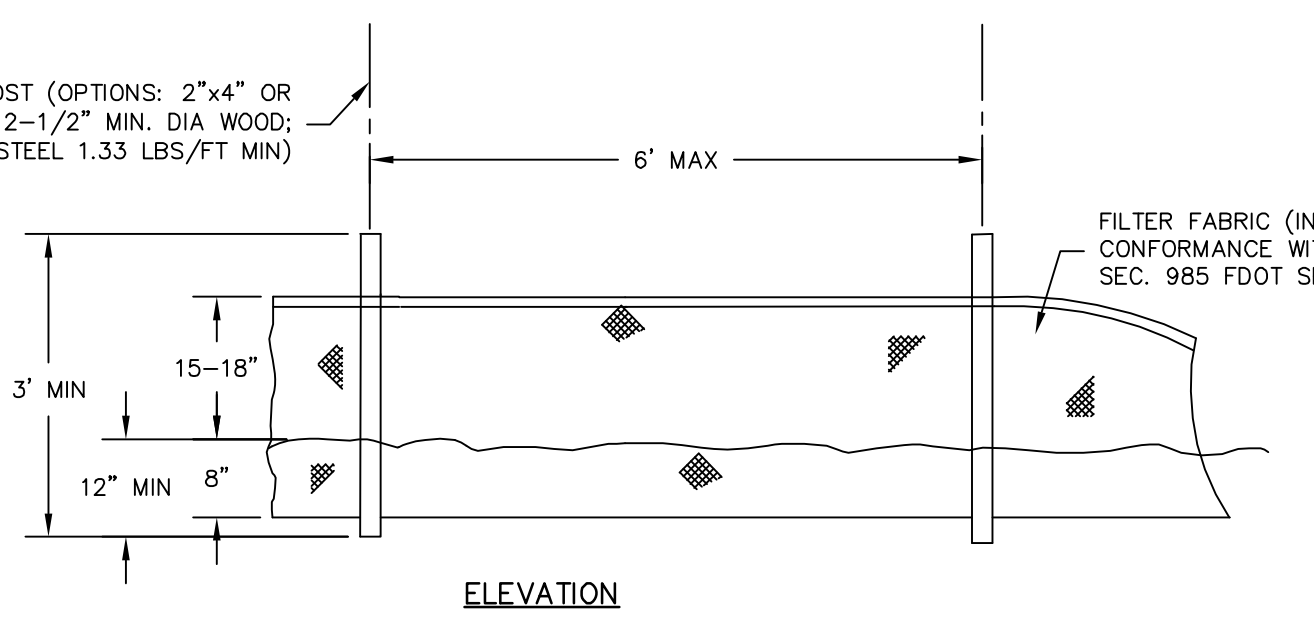
GENERAL NOTES:

1. FLOATING TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR FLOATING TURBIDITY BARRIER, LF.
2. STAKED TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED TURBIDITY BARRIER, LF.

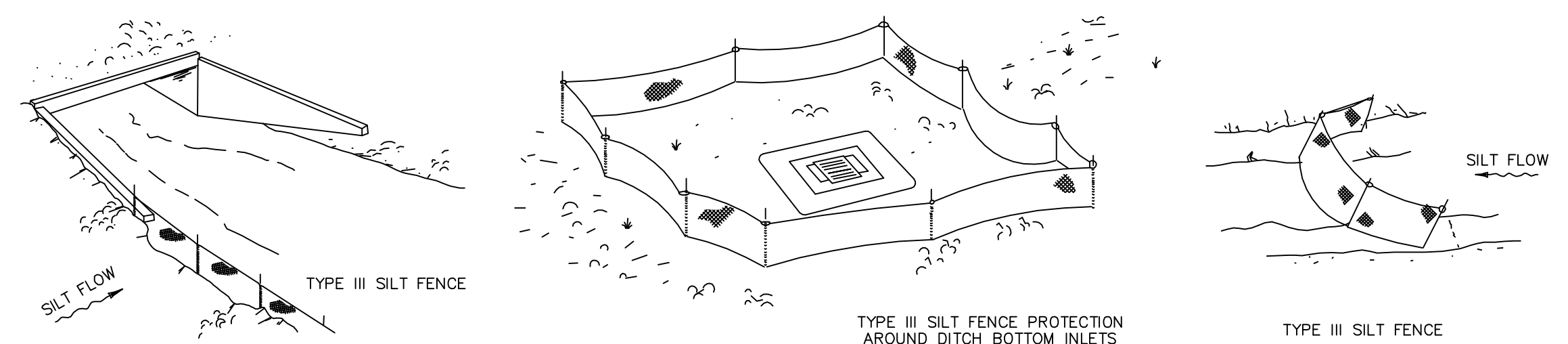
NOTE:

TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTOR'S OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS. HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY ENGINEER.

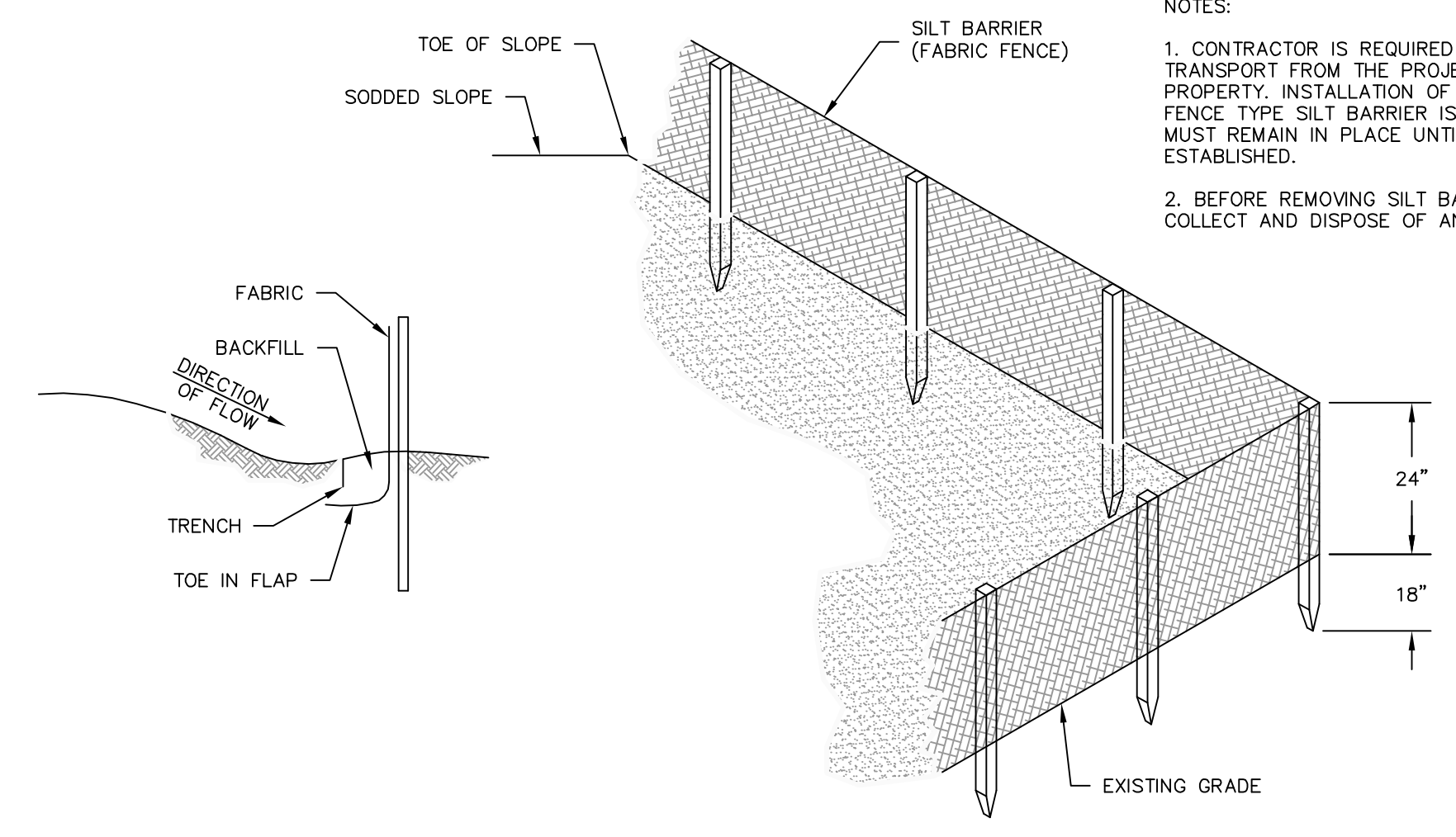
TURBIDITY BARRIER APPLICATIONS



NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (LF)



DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.



NOTES:

1. CONTRACTOR IS REQUIRED TO PREVENT ANY SEDIMENT TRANSPORT FROM THE PROJECT SITE ON TO ADJACENT PROPERTY. INSTALLATION OF EITHER BALED HAY OR FABRIC FENCE TYPE SILT BARRIER IS ACCEPTABLE. THE BARRIER MUST REMAIN IN PLACE UNTIL UPLAND VEGETATION IS ESTABLISHED.
2. BEFORE REMOVING SILT BARRIER, CONTRACTOR SHALL COLLECT AND DISPOSE OF ANY ACCUMULATED SILT.



REV	DATE	DESCRIPTION	BY
0	8/2015	ISSUED FOR BID	RLL

Issue Certification  
Stefano Ceriana, P.E.  
Florida P.E. No. 66379  
Reiss Engineering, Inc.  
Certificate of Authorization No. 8181  
1016 Spring Villas Pt.  
Winter Springs, FL 32708

Designed BRW  
Drawn RLL  
Checked BRW  
Reviewed EHT  
Approved SC

ORANGE COUNTY  
SUMMERPORT VILLAGE WM REPLACEMENT  
EROSION CONTROL DETAILS

PROJECT NO.:	110028
SCALE:	NOTED
DRAWING NO.:	C07
REVISION:	0
SHEET NO.:	11 OF 11

