

THE CITY OF DAYTONA BEACH DR. MARTIN LUTHER KING, JR. BOULEVARD ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT



COMPONENTS OF THE ROADWAY CONTRACT PLAN SET

PART A-ROADWAY & PEDESTRIAN
CONSTRUCTION PLANS
PART B-LIGHTING PLANS

PROJECT NO. 2015-085

PART A

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LOCATION MAP
LENGTH OF PROJECT - 0.269 MILES

Derrick L. Henry-Mayor
Ruth Trager, Commissioner - Zone 1
Aaron Delgado, Commissioner - Zone 2
Kelly White, Commissioner - Zone 3
Robert A. Gilliland - Zone 4
Dannette Henry, Commissioner - Zone 5
Paula R. Reed, Commissioner - Zone 6
James V. Chisholm - City Manager
David Waller, Deputy Public Works Director
Frank VanPelt, Technical Services Director
Jim Nelson, PE, City Engineer
Jo Ann J. Macrina, PE, Deputy Director of Utilities
Michelle Martin, Technical Services Project Manager

REISSUED FOR BIDDING
JANUARY 2019

THE CITY OF DAYTONA BEACH PUBLIC WORKS TECHNICAL SERVICES DIVISION



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GOVERNING STANDARDS AND SPECIFICATIONS:
CITY OF DAYTONA BEACH UTILITIES DEPARTMENT STANDARD DETAILS, LATEST EDITION
FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2017 EDITION

MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, LATEST EDITION

FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS, 2017 EDITION

AMERICAN WATER WORKS ASSOCIATION

AMERICAN NATIONAL STANDARDS INSTITUTE

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.)



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No. 23273

SYMBOL LEGEND

	BOLLARD		GUY WIRE		SANITARY SEWER CLEAN OUT
	BUSH		IRON PIPE FOUND		SIGN
	CONCRETE MONUMENT FOUND		IRON ROD FOUND		SIGN NO PARKING
	ELECTRIC CABINET		LEFT TURN ARROW		SYCAMORE TREE
	ELECTRIC FLAG		METAL LIGHT POLE		TELECOM FLAG
	ELECTRIC MARKER		MONITORING WELL		TELECOM VAULT
	ELECTRIC METER		NAIL AND DISK FOUND		TRAFFIC MAST ARM
	ELECTRIC VAULT		NAIL AND DISK SET		TRAFFIC SIGNAL BOX
	ELM TREE		OAK TREE		VENT
	FIBER OPTIC MARKER		PALM TREE		WATER FLAG
	FIRE HYDRANT		POST		WATER METER
	GAS BLOW OFF		RECLAIM FLAG		WATER VALVE
	GAS FLAG		RECLAIM MANHOLE		WOOD LIGHT POLE
	GAS MARKER		SANITARY SEWER FLAG		WOOD UTILITY POLE
	GAS VENT		SANITARY SEWER MANHOLE		WOOD UTILITY POLE W/TRANSFORMER

COMMON SYMBOLS AND ABBREVIATIONS

A	DELTA ANGLE	E	EASTING	LS	LAND SURVEYOR	PE	PROFESSIONAL ENGINEER	S	SOUTHERLY
°	DEGREE(S)	E	EAST	LT	LEFT	PG/PGS	PAGE/PAGES	SUB	SUBDIVISION
'	MINUTES	EA	EDGE OF ASPHALT	LAT	LATITUDE	PI	POINT OF INTERSECTION	STA	STATION
±	PLUS OR MINUS	EC	EDGE OF CONCRETE	LONG	LONGITUDE	PL	PLACE	STM	STORM
BL	BOUNDARY LINE	EG	EDGE OF GRAVEL	M	MEASURED	PT	POINT OF TANGENCY	STY	STORY
CL	CENTER LINE	ELY	EASTERLY	(M)	MEASURED	PAR	PARALLEL	SELY	SOUTHEASTERLY
PL	PROPERTY LINE	ELEC	ELECTRIC	MB	MAP BOOK	PCP	POINT OF COMPOUND CURVE	SWLY	SOUTHWESTERLY
FL	FLOW LINE	ERCL	EROSION CONTROL LINE	MAX	MAXIMUM	PER	PERMANENT CONTROL POINT	I	TANGENT
A	ARC LENGTH	ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE EASEMENT	MES	METERED END SECTION	PKG	PARKING	TB	TANGENT BEARING
AC	ACRES	ESMT	EASEMENT	MIN	MINIMUM	PKY	PARKWAY	TBM	TEMPORARY BENCHMARK
ASB	AS-BUILT	E	FIELD MEASURED	MLW	MEAN LOW WATER	PLS	PROFESSIONAL LAND SURVEYOR	TEL	TELECOMMUNICATIONS
ASP	ASPHALT	(F)	FLORIDA	MOL	MORE OR LESS	POB	POINT OF BEGINNING	TER	TERRACE
AVG	AVERAGE	FL	FLORIDA	MHHW	MEAN HIGHER HIGH WATER	POC	POINT OF COMMENCEMENT	TOP	TOP OF BANK
B	BASE FLOOD ELEVATION	FM	FORCE MAIN	MLLW	MEAN LOWER LOW WATER	POL	POINT OF LINE	TON	TOP OPERATING NUT
BFB	BACK FLOW PREVENTER	FO	FIBER OPTIC	N	NORTH	PRC	POINT OF REVERSE CURVE	TRL	TRAIL
BOB	BOTTOM OF BANK	FT	FEET	NR	NORTH-RADIAL	PRM	PERMANENT REFERENCE MONUMENT	TWP	TOWNSHIP
BLVD	BOULEVARD	FAC	FLORIDA ADMINISTRATIVE CODE	NW	NORTHWEST	PSM	PROFESSIONAL SURVEYOR AND MAPPER	TYP	TYPICAL
C	CALCULATED CURVE	FND	FOUND	NGS	NATIONAL GEODETIC SURVEY	PVC	POLYVINYL CHLORIDE PIPE	U	UNDERGROUND UTILITY/UTILITIES
(C)	CHORD BEARING	G	NATURAL GAS	NLY	NORTHERLY	R	RADIAL	UND	UNDERGROUND UTILITY/UTILITIES
CH	CHORD DISTANCE	GOV	GOVERNMENT	NR	NORTH-RADIAL	(R)	RADIAL	VAR	VARIES
CR	COURT	GRAV	GRAVEL	N	NORTH	R/W	RIGHT OF WAY	VCP	VITRIFIED CLAY PIPE
CT	CIRCLE	H	HIGH POINT	NE	NORTHEAST	RD	ROAD	VERT	VERTICAL
CMP	CORRUGATED METAL PIPE	HGT	HEIGHT	NO	NORTH	RR	RAILROAD	W	WEST
COL	COLUMN	HOR	HORIZONTAL	NOAA	NATIONAL OCEANIC AND ATMOSPHERIC ASSOCIATION	RT	RIGHT	WC	WITNESS CORNER
CPP	CORRUGATED PLASTIC PIPE	HWY	HIGHWAY	NGVD	NATIONAL GEODETIC VERTICAL DATUM 1988	RAD	RADIUS	WD	WOOD
CRK	CREEK	HDWD	HARDWOOD	NELY	NORTHEASTERLY	RCP	REINFORCED CONCRETE PIPE	WY	WATER
CCCL	COASTAL CONSTRUCTION CONTROL LINE	HDWL	HEAD WALL	NR	NORTH-RADIAL	REC	RECORDED/RECORDED	WLY	WESTERLY
CONC	CONCRETE	INT	INTERSTATE	OR	OFFSET	REG	REGISTERED	WSP	WOOD STAVE PIPE
(D)	DEED/DESCRIPTION	INV	INVERT	O/S	OFFSET	RNG	RANGE	WTP	WATER TREATMENT PLANT
DB	DEED BOOK	IRR	IRRIGATION	OR	OFFICIAL RECORD	RTE	ROUTE	WTT	WASTE WATER TREATMENT PLANT
DR	DRIVE	ICWW	INTRACOASTAL WATER WAY	OHE	OVERHEAD ELECTRIC	RVR	RIVER	Z	ELEVATION
DIA	DIAMETER	L	LENGTH	OHW	ORDINARY HIGH WATER	RCLM	RECLAIMED WATER		
DIP	DUCTILE IRON PIPE	LB	LICENSED BUSINESS	OIL	OFFICIAL RECORD BOOK	S	SOUTH		
DWY	DRIVEWAY	LK	LAKE	ORB	OFFICIAL RECORD BOOK	S/W	SIDEWALK		
		LP	LOW POINT	P	PLAT	SB	SETBACK		
				(P)	PLAT	SE	SOUTHEAST		
				PB	PLAT BOOK	SQ	SQUARE		
				PC	POINT OF CURVATURE	SR	STATE ROAD		
						ST	STREET		
						SW	SOUTHWEST		
						SAN	SANITARY		
						SEC	SECTION		
						SHW	SEASONAL HIGH WATER		

SURVEYORS NOTES:

- THIS IS A TOPOGRAPHIC SURVEY, NOT A BOUNDARY SURVEY. THE PURPOSE OF THIS SURVEY IS TO SHOW EXISTING SITE CONDITIONS AS REQUESTED BY THE CLIENT FOR THE FUTURE ENGINEERING DESIGN OF SITE IMPROVEMENTS.
- THE LANDS SHOWN HEREON ARE CONSIDERED URBAN/HIGH RISK. THE CALCULATED ERROR OF CLOSURE MEETS OR EXCEEDS THE MINIMUM STANDARD REQUIREMENTS.
- EASEMENTS SHOWN HEREON ARE PER THE RECORDED PLAT, INSTRUMENTS OF RECORD PROVIDED TO THE SURVEYOR, OR INFORMATION OBTAINED BY A CURSORY SEARCH OF THE PUBLIC RECORDS OF THIS COUNTY.
- THERE MAY BE ADDITIONAL COVENANTS, EASEMENTS, RESERVATIONS AND/OR, RESTRICTIONS NOT SHOWN ON THIS SURVEY THAT MAY BE RECORDED IN THE PUBLIC RECORDS OF THIS COUNTY.
- THE BASIS OF BEARINGS FOR THIS SURVEY ARE NOTED ALONG THE SURVEY BASELINE FOR MARTIN LUTHER KING, JR BOULEVARD AND ARE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983/1990 (NAD 83/1990) AND WERE ESTABLISHED USING RTK GPS OBSERVATIONS.
- THIS SURVEY MAKES NO CLAIMS REGARDING OWNERSHIP OR RIGHTS OF POSSESSION.
- ALL DIMENSIONS SHOWN HEREON ARE STATED IN U.S. SURVEY FEET AND DECIMALS THEREOF. FOOT TO METER CONVERSION FORMULA IS 1 US FT = 0.304800609601 M.
- ALL STREETS AND RIGHTS OF WAY ARE OPEN AND ACCESSIBLE UNLESS NOTED OTHERWISE.
- ALL ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988) BENCHMARK RMR-80. HAVING A PUBLISHED ELEVATION OF 8.634 FEET (9.81 FEET NGVD 1929).
- THE VERTICAL ERROR OF CLOSURE FOR THIS SURVEY IS LESS THAN OR EQUAL TO .05' TIMES THE SQUARE ROOT OF THE BENCH LOOP IN MILES.
- UNDERGROUND FOUNDATIONS, IF ANY, WERE NOT LOCATED.
- ANY REFERENCE TO UTILITIES THAT MAY APPEAR ON THIS MAP, HAVE BEEN LOCATED FROM VISIBLE SURFACE EVIDENCE THAT EXISTED AT OR ABOVE THE SURFACE OF THE EARTH AT THE TIME OF THIS SURVEY.
- ANY REFERENCE TO UNDER GROUND UTILITIES ROUTES AND SIZES THAT MAY APPEAR ON THIS MAP, HAVE BEEN LOCATED FROM THE BEST AVAILABLE EVIDENCE THAT EXISTED AT THE TIME OF THIS SURVEY OR MAY HAVE BEEN EXTRAPOLATED FROM INFORMATION PROVIDED BY THE CITY OF DAYTONA BEACH UTILITY DEPARTMENT; THEREFORE, THE DEPICTED LOCATION AND SIZE OF ANY UNDERGROUND UTILITIES MUST BE CONSIDERED TO BE AN APPROXIMATE LOCATION AND SIZE OF ANY SUCH UTILITIES.
- NO SOFT DIG OF UNDERGROUND UTILITIES WAS PERFORMED. PRIOR TO RELYING ON THE INFORMATION SHOWN FOR UNDERGROUND UTILITIES ON THIS MAP FOR THE PURPOSE OF CONSTRUCTION, CONNECTION OR EXTENSION, THE UTILITY MUST BE EXPOSED BY THE CONTRACTOR AND THE INFORMATION VERIFIED.
- THIS PROPERTY LIES WITHIN FLOOD ZONE "A" NO BASE FLOOD ELEVATIONS DETERMINED, AND ZONE "X" SHADED NO BASE FLOOD ELEVATION, AND ZONE "X" NO BASE FLOOD ELEVATION PER THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS. (NFIP FIRM) MAP NO. 12127C0359H WITH AN EFFECTIVE DATE OF FEBRUARY 19, 2014.
- THIS SURVEY WAS PERFORMED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE FOLLOWING PARTY(IES): MCKIM AND CREED, INC. AND THE CITY OF DAYTONA BEACH AND IS NON-TRANSFERABLE TO ANY OTHER PARTY(IES). THIS SURVEY SHALL NOT BE RELIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL. ANY RE-USE OF THIS SURVEY FOR ANY PURPOSE OTHER THAN WHICH IT WAS ORIGINALLY INTENDED, WITHOUT THE WRITTEN PERMISSION OF THE UNDERSIGNED SURVEYOR AND MAPPER, WILL BE DONE SO AT THE RISK OF THE RE-USING PARTY AND WITHOUT ANY LIABILITY TO THE UNDERSIGNED SURVEYOR AND MAPPER.
- ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING SURVEYOR IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SIGNING SURVEYOR.
- THIS SURVEY WAS CONDUCTED IN COMPLIANCE WITH THE "STANDARDS OF PRACTICE" ESTABLISHED IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027 FLORIDA STATUTES, UNDER THE RESPONSIBLE CHARGE OF THE SIGNING SURVEYOR NAMED BELOW.
- THIS SURVEY IS NOT VALID UNLESS SIGNED BY THE PROFESSIONAL SURVEYOR AND MAPPER NOTED, AND EMBOSSED WITH THE SURVEYOR'S SEAL.
- THIS SURVEY MAP WAS PREPARED AT A SCALE OF 1 INCH EQUALS 100 FEET. ON SHEET 1 AND 1 INCH EQUALS 20 FEET ON SHEETS 2 AND 3. ON 24 INCH BY 36 INCH MEDIA. THIS SURVEY MAY HAVE BEEN REDUCED OR ENLARGED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED INFORMATION.
- FIELD WORK FOR THIS SURVEY WAS PERFORMED ON NOVEMBER 13, 2015 THROUGH NOVEMBER 21, 2015.

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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2016
A	ISSUE FOR BIDDING	AUGUST 2015

SEAL

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THE CITY OF
DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT

SURVEYOR'S LEGEND, SYMBOLS,
ABBREVIATIONS AND NOTES

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE: 1"=20'	M&C FILE NUMBER: G-2
MCE PROJ. # 0996-0161	HORIZONTAL: 1"=20'	DRAWING NUMBER: G-2
DRAWN: DMP	VERTICAL: 1"=4'	REVISION:
DESIGNED: P-JL		
CHECKED: CRB		
PROJ. MGR.: SRS		

STATUS: REISSUED FOR BIDDING

GENERAL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL SAFETY REGULATIONS. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE PROPER WARNING SIGNS, BARRICADES, TEMPORARY FENCING AND OTHER APPROPRIATE SAFETY DEVICES DURING THE EXECUTION OF THE WORK TO PROVIDE PUBLIC PROTECTION AND SAFETY.
- STATION OFFSET WITH POSITIVE VALUE (XX') MEANS RIGHT OF BASE LINE, (-XX') MEANS LEFT OF BASE LINE UNLESS OFFSET IS SPECIFICALLY SPECIFIED LT OR RT OF BASELINE.
- LOCATIONS OF EXISTING UNDERGROUND UTILITIES WERE PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE. VERIFY THE LOCATION AND DEPTH OF ALL PERTINENT UTILITIES PRIOR TO CONSTRUCTION. ALL LOCATIONS, ELEVATION AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PLAN PREPARATION. THE CONTRACTOR IS CAUTIONED THAT THERE MAY BE OTHER UTILITIES AND/OR IMPROVEMENTS NOT SHOWN ON THE DRAWINGS WHICH MAY IMPACT THE WORK REPRESENTED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE, THEREFORE, FOR VERIFYING, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES (WHETHER SHOWN OR NOT OF THE PLANS) WHICH COULD AFFECT THE CONTRACTOR'S WORK. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THERE MAY BE SOME UTILITY CONFLICTS INHERENT IN THE PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ANY AND ALL EXISTING UTILITIES FROM ACCIDENTAL DAMAGE.
- THE INFORMATION SHOWN IN THESE PLANS IS PROVIDED SOLELY FOR THE PURPOSE OF ASSISTING THE CONTRACTOR IN ASSESSING THE PHYSICAL CONDITIONS UNDER WHICH THE PROJECT IS TO BE BID AND CONSTRUCTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EVALUATING THE CONSTRUCTIBILITY OF THE PROJECT AND CONDUCTING HIS OWN INVESTIGATION INTO THE PHYSICAL CHARACTERISTICS OF THE PROJECT, INCLUDING THE EXISTENCE AND IMPACT OF ANY STRUCTURES, UTILITIES, OR OTHER SITE FEATURES (WHETHER SHOWN OR NOT SHOWN) PRIOR TO PREPARING AND SUBMITTING A SEALED BID.
- FIELD CONDITIONS MAY NECESSITATE ALIGNMENT AND GRADE DEVIATIONS OF THE PROPOSED UTILITIES TO AVOID OBSTACLES. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN WRITTEN CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
- THE CONTRACTOR SHALL ENDEAVOR TO PROTECT PRIVATE PROPERTY. ANY DAMAGE CAUSED BY THE CONTRACTOR IN THE PERFORMANCE OF HIS WORK SHALL BE CORRECT TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. PAYMENT WILL NOT BE MADE FOR THIS WORK.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE FEDERAL, STATE, AND LOCAL AGENCY'S STANDARDS.
- CONNECTIONS TO EXISTING FACILITIES SHALL BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER AND COORDINATE WITH THE UTILITY OWNER IN ADVANCE WHEN FIELD CONDITIONS INDICATE ANY VARIANCE FROM DETAILED METHODS, THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE AND DETAILED DRAWINGS (FOR OWNER APPROVAL) OF METHODS AND MATERIALS PROPOSED.
- WHEN IT IS NECESSARY TO DEFLECT THE PIPE HORIZONTALLY OR VERTICALLY, PIPE JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED DEFLECTION.
- ALL FITTINGS SHALL BE DUCTILE IRON AND RESTRAINED.
- ALL BRANCH PRESSURIZED MAINS SHALL BE RESTRAINED ALONG THEIR ENTIRE LENGTHS. OTHER RESTRAINED LENGTHS ARE INDICATED ON THE PROFILE AND SHALL NOT BE LESS THAN THAT INDICATED IN THE RESTRAINT JOINT TABLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS NOT ALREADY OBTAINED BY THE CITY.
- CONTRACTOR SHALL PREPARE AND SUBMIT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT IN ACCORDANCE WITH FDEP CRITERIA FOR AN NPDES CONSTRUCTION ACTIVITIES PERMIT. CONTRACTOR SHALL OBTAIN A FDEP GENERIC PERMIT FOR THE DISCHARGE OF PRODUCED GROUNDWATER. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO DISTURBANCE AND MAINTAINED THROUGH PROJECT COMPLETION.
- ALL UNDERGROUND PIPING SHALL BE PUSH-ON OR MECHANICAL JOINT; ABOVE GROUND PIPING SHALL BE FLANGED.
- CONCRETE ENCASE THE PROPOSED SANITARY SEWER AND ITS LATERALS WHEN THE VERTICAL CLEARANCE UNDER THE PROPOSED STORM DRAIN PIPING AND STRUCTURES IS LESS THAN 12".
- PRECAST CONCRETE THRUST BLOCKS SHALL BE INSTALLED AS NECESSARY TO PREVENT MOVEMENT OF EXISTING UNRESTRAINED PRESSURIZED PIPE AT ALL TIE-IN LOCATIONS WHETHER SPECIFICALLY IDENTIFIED ON THE PLANS OR NOT.
- CONTRACTOR SHALL MAINTAIN A SET OF PLANS WITH CURRENT FIELD CHANGES MARKED THEREON AND SHALL DELIVER THESE PLANS TO THE ENGINEER WITH EACH PAY REQUEST, TO SUPPORT PARTIAL CERTIFICATION TO PLACE UTILITIES INTO SERVICE AND UPON COMPLETION OF CONSTRUCTION. NO PAYMENT SHALL BE MADE UNTIL THIS REQUIREMENT IS SATISFIED.
- CONTRACTOR SHALL SUBMIT A DEWATERING PLAN PRIOR TO BEGINNING CONSTRUCTION.
- STATIONING FOR ALL VALVES, AIR RELEASES, BLOW-OFFS AND FIRE HYDRANTS ARE APPROXIMATE. ADJUSTMENT IN THE FIELD SHALL BE COORDINATED WITH THE FIELD INSPECTOR AND NOTED ON THE RECORD DRAWINGS.
- THE CONTRACTOR SHALL INCLUDE IN HIS BID; BY-PASS PUMPING FACILITIES, PUMPS, FITTINGS, TEMPORARY HOLDING TANKS, LABOR, ETC, AS NECESSARY, BASED ON THE CONTRACTORS SELECTED METHOD AND SEQUENCE OF CONSTRUCTION TO COMPLETE ALL WORK WHILE MAINTAINING UTILITY SERVICE.
- ALL PROPERTY LINE MARKERS (IRON PINS, CONCRETE MONUMENTS, ETC.) DESTROYED DURING CONSTRUCTION SHALL BE REPLACED IN-KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO RESET PROPERTY MARKERS.
- THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO ALL AFFECTED CITY WATER AND SEWER CUSTOMERS A MINIMUM OF 3 DAYS IN ADVANCE OF ANY AND ALL WORK REQUIRING DISRUPTION OF ACCESS, INTENDED WATER, OR SANITARY SEWER SERVICES INTERRUPTION. DISRUPTION IN SERVICE TO ANY CUSTOMERS SHALL NOT EXCEED 2 HOURS FOR WATER AND 4 HOURS FOR SANITARY SEWER SERVICE. ACCESS TO PROPERTY SHALL BE MAINTAINED AT ALL TIMES.
- THE OPENING AND / OR CLOSING OF EXISTING VALVES OR NEW VALVES THAT HAVE BEEN PLACED INTO SERVICE SHALL BE DONE BY THE CITY AND COORDINATED WITH ENGINEER.
- CONTRACTOR SHALL PROTECT ALL TREES WITHIN THE CONSTRUCTION LIMITS.
- CONTRACTOR SHALL MAINTAIN AT LEAST ONE ACCESS ENTRANCE TO COMMERCIAL AND INDUSTRIAL PROPERTIES AT ALL TIMES AND ACCESS TO RESIDENTIAL PROPERTIES AT ALL TIMES.
- CONTRACTOR SHALL PROVIDE TEMPORARY DRIVABLE ROAD BASE MATERIAL UNTIL PERMANENT ASPHALT OR CONCRETE HAS BEEN INSTALLED; DIRT IS NOT ACCEPTABLE.
- THE LOCATION OF AIR RELEASE VALVES ON THE PLANS ARE APPROXIMATE ONLY. FINAL LOCATION WILL BE DETERMINED IN THE FIELD WITH THE APPROVAL OF THE ENGINEER.
- WHERE THERE ARE DISCREPANCIES BETWEEN THE INDICATED RESTRAINED LENGTHS ON THE PLANS AND RESTRAINED JOINT TABLE, THE LONGER RESTRAINED JOINT LENGTH SHALL APPLY.
- THE CONTRACTOR SHALL REFER TO THE UNDERGROUNDING UTILITY PLANS FOR THE FRANCHISE UTILITY PLAN IMPROVEMENT LOCATIONS.

WATER GENERAL NOTES

- EXISTING WATER MAINS SHOWN TO BE REMOVED OR ABANDONED IN PLACE SHALL REMAIN ACTIVE DURING CONSTRUCTION. CONTRACTOR SHALL TRANSFER WATER SERVICE CONNECTIONS TO THE NEW WATER MAIN AFTER TESTING, BACTERIOLOGICAL CLEANING AND ACCEPTANCE BY THE CITY AND HEALTH DEPARTMENT.
- ALL EXISTING WATER SERVICES AND ASSOCIATED METER BOXES SHALL BE REPLACED AND CONNECTED TO THE NEW WATER MAIN AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL ASSUME ALL ADJACENT PROPERTIES HAVE ONE SERVICE CONNECTION. VACANT PROPERTIES WITHOUT AN EXISTING SERVICE SHALL HAVE A NEW SERVICE INSTALLED. ALL WATER SERVICES SHALL BE 1" UNLESS NOTED OTHERWISE.
- ALL WATER SERVICE TIE-INS FOR BUSINESSES ARE TO BE PERFORMED WHEN THE BUSINESS IS CLOSED.
- WATER SERVICES CROSSING UNDER PAVEMENT TO HAVE SCH 40 PVC SLEEVE PER CITY STANDARD INCLUDING IRRIGATION SERVICE LINES.
- ALL IRRIGATION CONNECTIONS TO BE PER CITY STANDARD AND INCLUDE REDUCED PRESSURE BACKFLOW PREVENTER AND METER.

SEWER GENERAL NOTES

- ALL EXISTING SANITARY SEWER SERVICE LATERALS ARE TO BE REPLACED AND TIED INTO THE NEW PIPE.
- THE LOCATION OF HOUSE LATERALS BY SYMBOLS ON THE PLANS ARE APPROXIMATE ONLY AND THE ACTUAL LOCATION AND SLOPES WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER.
- THE MINIMUM CLEARANCE BETWEEN HOUSE SEWER LATERALS AND WATER LINES SHALL BE 6" UNDER ALL CIRCUMSTANCES. IF THE HOUSE LATERAL IS BELOW A WATER LINE AND HAS BETWEEN 6" AND 18" OF CLEARANCE OR IF THE LATERAL IS ABOVE THE WATER LINE REGARDLESS OF CLEARANCE, THEN A NOMINAL 20' LENGTH OF GREEN AWWA CLASS 150 C900 PVC PIPE SHALL BE CENTERED OVER/UNDER THE WATER LINE.
- IF A HOUSE SEWER LATERAL MUST PASS UNDER ANY UTILITY OTHER THAN A WATER LINE WITH LESS THAN 18" CLEARANCE, THE LATERAL SHALL REMAIN SDR 35 PVC PIPE UNLESS THE UTILITY POSES A STRUCTURAL LOAD THAT IS TOO GREAT FOR THE PVC LATERAL. IF THE UTILITY POSES SUCH A STRUCTURAL LOAD AS DETERMINED BY THE ENGINEER, EACH CONFLICT WILL BE REVIEWED ON A CASE BY CASE BASIS.
- THE EXISTING 10" CLAY SANITARY PIPE, AS REFLECTED IN THE SURVEY, HAS BEEN REVISED TO A 12" CLAY SANITARY PIPE, PER CITY AS-BUILT DRAWINGS.

SOIL AND EROSION AND SEDIMENT CONTROL PLAN NOTES

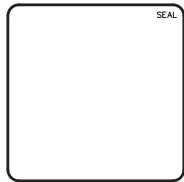
- ALL CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED. ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS SHALL BE COMPLIED WITH AT ALL TIMES.
- CARE SHALL BE EXERCISED TO PREVENT DISTURBANCE TO THE NATURAL VEGETATION IN AREAS NOT PROPOSED FOR IMMEDIATE CONSTRUCTION.
- ALL SOIL AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL WORK IS COMPLETE.
- CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL PREPARE AND SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL PREPARE AND SUBMIT A DEWATERING PLAN SHOWING APPLICABLE BEST MANAGEMENT PRACTICES FOR REVIEW AND APPROVAL PRIOR TO ANY DEWATERING ACTIVITIES.
- THE CONTRACTOR WILL NEED TO OBTAIN THE NECESSARY INDUSTRIAL WASTE (IW) APPROVAL (INCLUDING ANY REQUIRED TESTING) PRIOR TO ANY GROUNDWATER DISCHARGE. ONCE THE APPROPRIATE IW APPROVAL(S) HAVE BEEN OBTAINED, THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN DEWATERING EQUIPMENT AND DISCHARGE TO THE APPROPRIATE BMP SUCH AS GRAVITY BAG FILTER, SEDIMENT TRAP OR DEWATERING TANK.
- THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL BALES, SILT FENCE AND OTHER EROSION CONTROL MEASURES AND INSPECT DAILY.
- THE CONTRACTOR SHALL PERFORM DAILY INSPECTIONS OF THE DEWATERING EQUIPMENT, DISCHARGE HOSE, HOSE OUTLET AND DRAINAGE SWALES FOR SIGNS OF EROSION, SILTATION, OR OTHER DAMAGE. SHOULD EROSION BE OBSERVED, THE CONTRACTOR SHALL IMMEDIATELY MAKE ADJUSTMENTS TO DEWATERING ACTIVITIES AS NEEDED TO PREVENT FURTHER DAMAGE AND SHALL REPAIR ANY DAMAGE WITHIN 24 HOURS OF OBSERVATION.
- BYPASS PIPING, TEMPORARY HOLDING TANKS, OR OTHER APPROVED MEASURES SHALL BE IMPLEMENTED BY THE CONTRACTOR TO MAINTAIN SERVICE DURING CONSTRUCTION. WHEN SHUT DOWN OF SERVICE IS REQUIRED AND CANNOT BE AVOIDED, THE DURATION OF SHUT DOWN SHALL BE MINIMIZED AND COORDINATED WITH THE PROPERTY OWNER/RESIDENT AND COMMUNICATED TO THE CITY 48 HOURS PRIOR TO THE SERVICE DISRUPTION.
- THE CONTRACTOR SHALL PROVIDE AND IMPLEMENT SITE SPECIFIC EROSION AND SEDIMENT CONTROL PROCEDURES SUCH AS SILT SCREENS, TURBIDITY BARRIERS, OR OTHER APPROVED METHODS AS REQUIRED, TO PREVENT THE TRANSPORT OF SEDIMENT DOWNSTREAM INTO STREETS, STORM SEWERS, DITCHES, PONDS, ETC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION AND WATER POLLUTION RESTORATION EFFORTS.
- THE CONTRACTOR SHALL MAINTAIN SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE NPDES PERMIT, PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL PROVIDE DUST CONTROL AND PROTECT ADJACENT PROPERTIES FROM THE ACCUMULATION OF SOIL, DEBRIS AND GARBAGE.

DEMOLITION NOTES:

- DRAWINGS USED TO INDICATE DEMOLITION ARE BASED ON RECORD DRAWINGS AND SURVEYED DATA. CONTRACTOR SHALL CONDUCT A COMPREHENSIVE SURVEY AT THE SITE TO VERIFY CORRECTNESS AND EXACTNESS OF THE DRAWING.
- THE INTENT OF THE PIPES IDENTIFIED ON THE DEMOLITION PLANS ARE FOR THEIR COMPLETE REMOVAL UNLESS OTHERWISE INDICATED ON THE PLANS. IF IT CAN BE SHOWN THAT THE EXISTING PIPE IDENTIFIED FOR REMOVAL DOES NOT INTERFERE WITH ANY OF THE PROPOSED IMPROVEMENTS IDENTIFIED IN THE CONTRACT DOCUMENTS, IT MAY BE ABANDONED IN PLACE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL PIPES PROPOSED TO BE ABANDONED IN PLACE FOR CONSIDERATION. IF THE EXISTING PIPE IDENTIFIED TO BE ABANDONED IN PLACE IS FOUND TO INTERFERE WITH ANY OF THE PROPOSED IMPROVEMENTS IDENTIFIED IN THE CONTRACT DOCUMENTS, IT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. PIPE IDENTIFIED OR OTHERWISE APPROVED TO BE ABANDONED IN PLACE SHALL BE CAPPED TO PROVIDE A POSITIVE SEAL AND GROUT FILLED AS PROVIDED IN THE SPECIFICATIONS.
- REMOVE ALL EXISTING FIRE HYDRANT ASSEMBLIES. REPLACE WITH NEW FIRE HYDRANT ASSEMBLIES AS IDENTIFIED ON THE PLANS. FINAL LOCATION TO BE DETERMINED IN THE FIELD.

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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2015
A	ISSUE FOR BIDDING	AUGUST 2013
REVISIONS		



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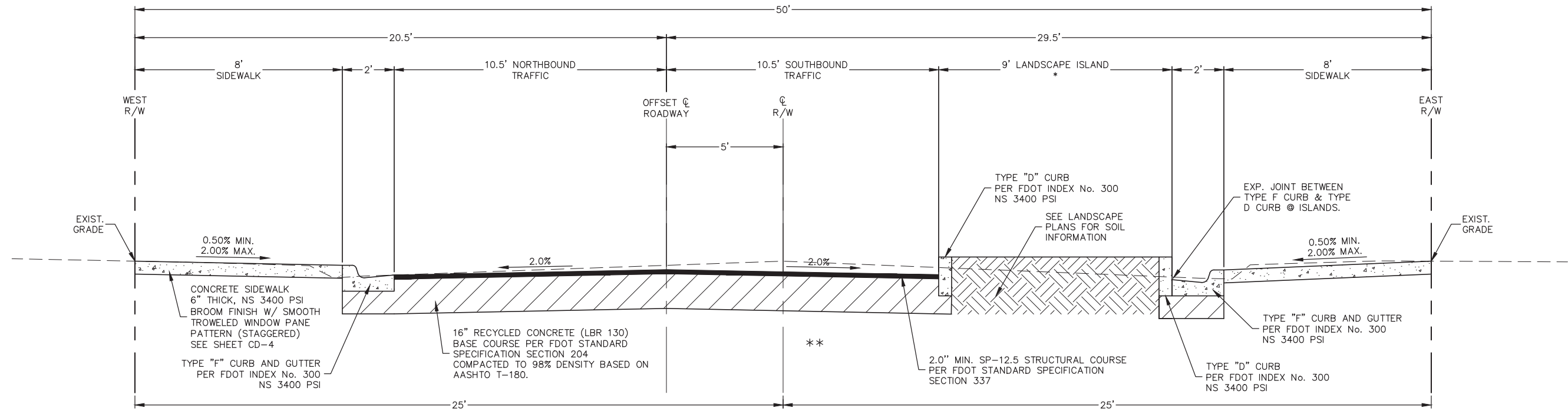
**DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT**

GENERAL NOTES

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE	M&C FILE NUMBER
M&C PROJ. # 0996-0161	HORIZONTAL: NA	GND02-09960161
DRAWN: DMP	VERTICAL: NA	DRAWING NUMBER
DESIGNED: P-JL		G-3
CHECKED: CRB		
PROJ. MGR.: SRS		

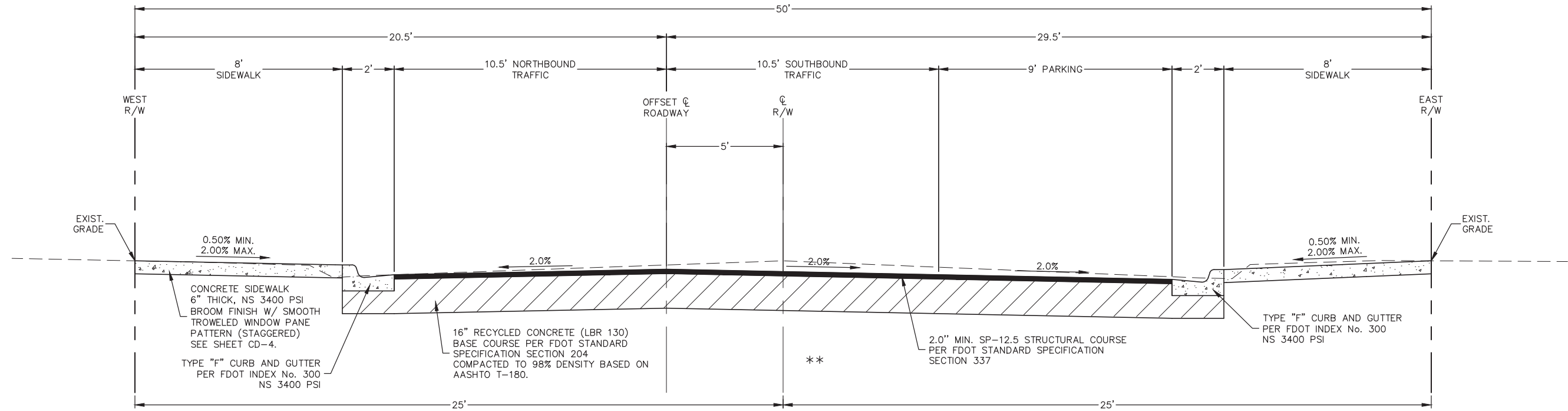
STATUS: **REISSUED FOR BIDDING**



DR. MARTIN LUTHER KING, JR. BOULEVARD PROPOSED CROSS SECTION @ LANDSCAPE ISLAND

SCALE: NTS
 STA. 105+27 TO STA. 105+66
 STA. 107+70 TO STA. 108+22
 STA. 108+72 TO STA. 109+16
 STA. 111+82 TO STA. 112+03
 STA. 112+56 TO STA. 112+96

*ISLAND TAPERS ADJACENT TO INTERSECTIONS. SEE DETAIL SHEET C-3
 **STATIC COMPACTION ONLY



DR. MARTIN LUTHER KING, JR. BOULEVARD PROPOSED CROSS SECTION

SCALE: NTS
 TYPICAL STA. 101+65 TO 115+40

- NOTES:
1. SUPERPAVE TRAFFIC LEVEL IS "C".
 2. CPF ADJUSTMENTS WILL NOT APPLY.
 3. ALL CONCRETE SHALL BE 3400 PSI.

REVNO.	DESCRIPTIONS	DATE
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TYPICAL SECTIONS

PROJECT NO. 2015-085

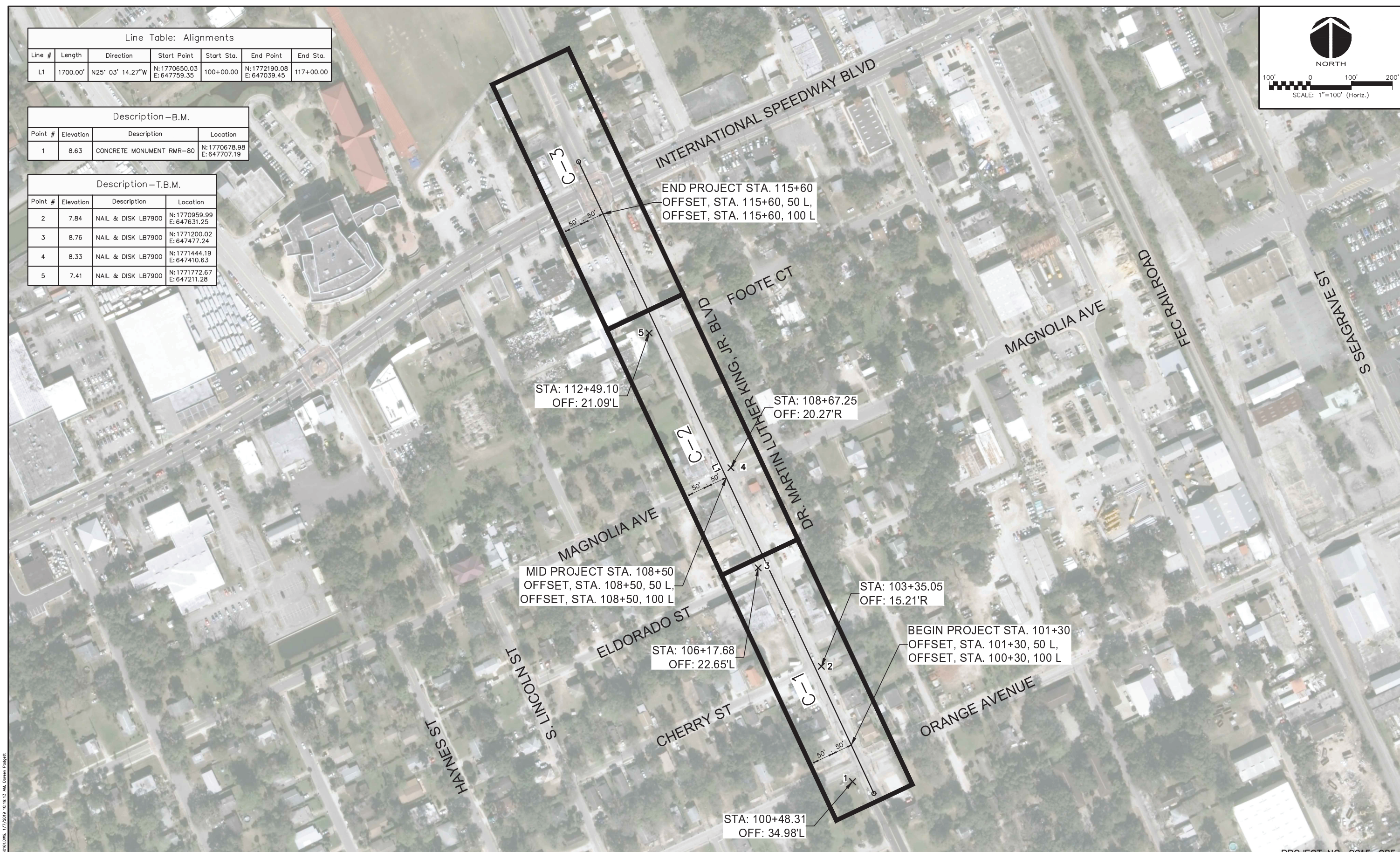
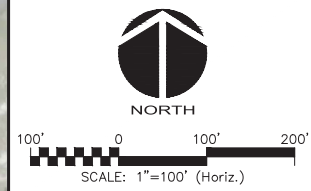
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DRAWN: DMP	VERTICAL: NA	DRAWING NUMBER
DESIGNED: P.J.L.		G-4
CHECKED: CRB		REVISION
PROJ. MGR.: SRS		

STATUS: **REISSUED FOR BIDDING**

Line Table: Alignments						
Line #	Length	Direction	Start Point	Start Sta.	End Point	End Sta.
L1	1700.00'	N25° 03' 14.27"W	N:1770650.03 E:647759.35	100+00.00	N:1772190.08 E:647039.45	117+00.00

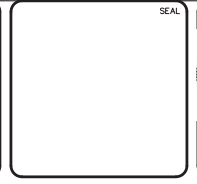
Description - B.M.			
Point #	Elevation	Description	Location
1	8.63	CONCRETE MONUMENT RMR-80	N:1770678.98 E:647707.19

Description - T.B.M.			
Point #	Elevation	Description	Location
2	7.84	NAIL & DISK LB7900	N:1770959.99 E:647631.25
3	8.76	NAIL & DISK LB7900	N:1771200.02 E:647477.24
4	8.33	NAIL & DISK LB7900	N:1771444.19 E:647410.63
5	7.41	NAIL & DISK LB7900	N:1771772.67 E:647211.28



PROJECT NO. 2015-085

REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018



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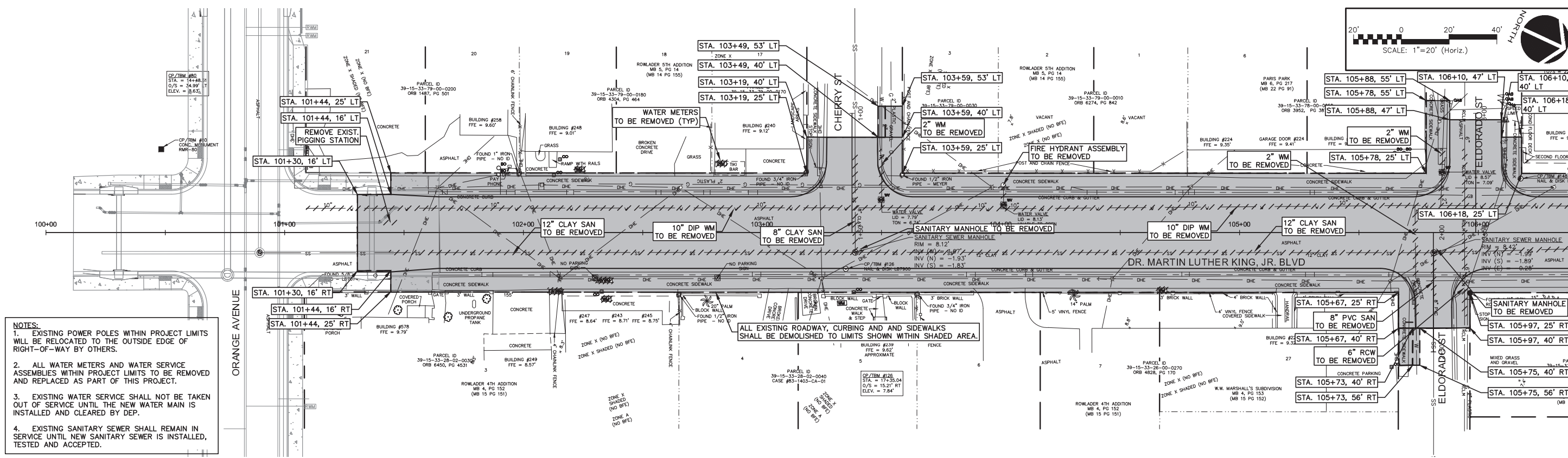
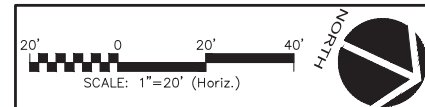
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DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT
KEY SHEET AND HORIZONTAL
CONTROL PLAN

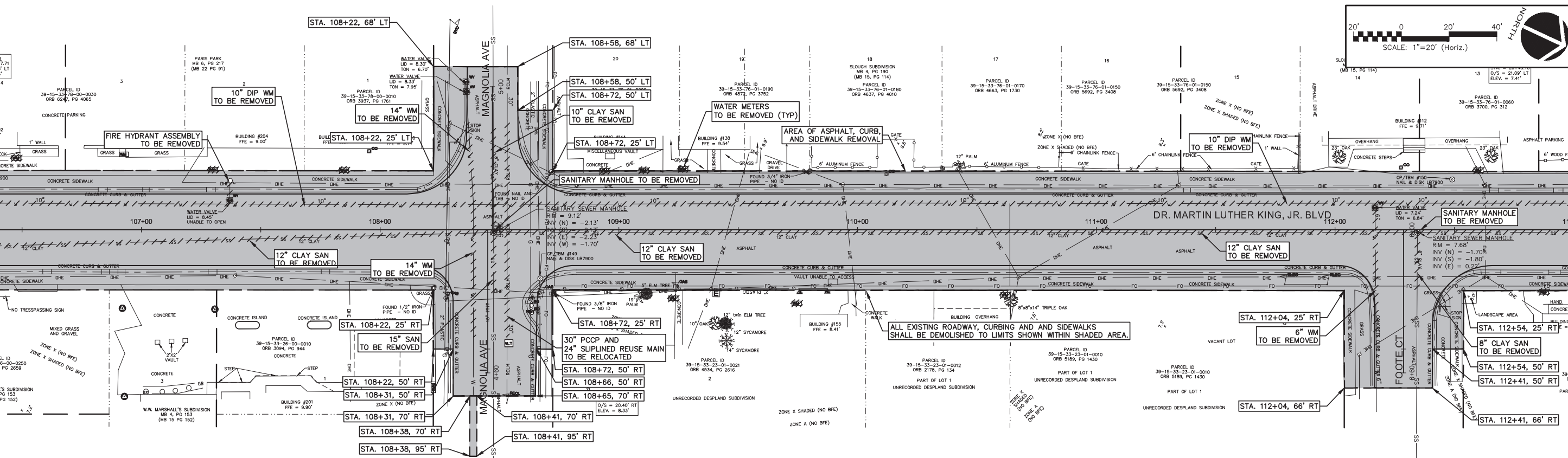
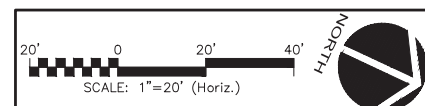
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DRAWN: BFN	CHECKED: CRB	REVISION:
PROJ. MGR: SRS	VERTICAL: NA	
STATUS: REISSUED FOR BIDDING		

MATCH LINE STA. 106+40 SEE THIS SHEET FOR CONTINUATION



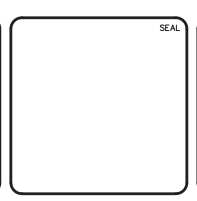
- NOTES:**
- EXISTING POWER POLES WITHIN PROJECT LIMITS WILL BE RELOCATED TO THE OUTSIDE EDGE OF RIGHT-OF-WAY BY OTHERS.
 - ALL WATER METERS AND WATER SERVICE ASSEMBLIES WITHIN PROJECT LIMITS TO BE REMOVED AND REPLACED AS PART OF THIS PROJECT.
 - EXISTING WATER SERVICE SHALL NOT BE TAKEN OUT OF SERVICE UNTIL THE NEW WATER MAIN IS INSTALLED AND CLEARED BY DEP.
 - EXISTING SANITARY SEWER SHALL REMAIN IN SERVICE UNTIL NEW SANITARY SEWER IS INSTALLED, TESTED AND ACCEPTED.

MATCH LINE STA. 113+00 SEE SHEET D-2 FOR CONTINUATION



MATCH LINE STA. 106+40 SEE THIS SHEET FOR CONTINUATION

REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018



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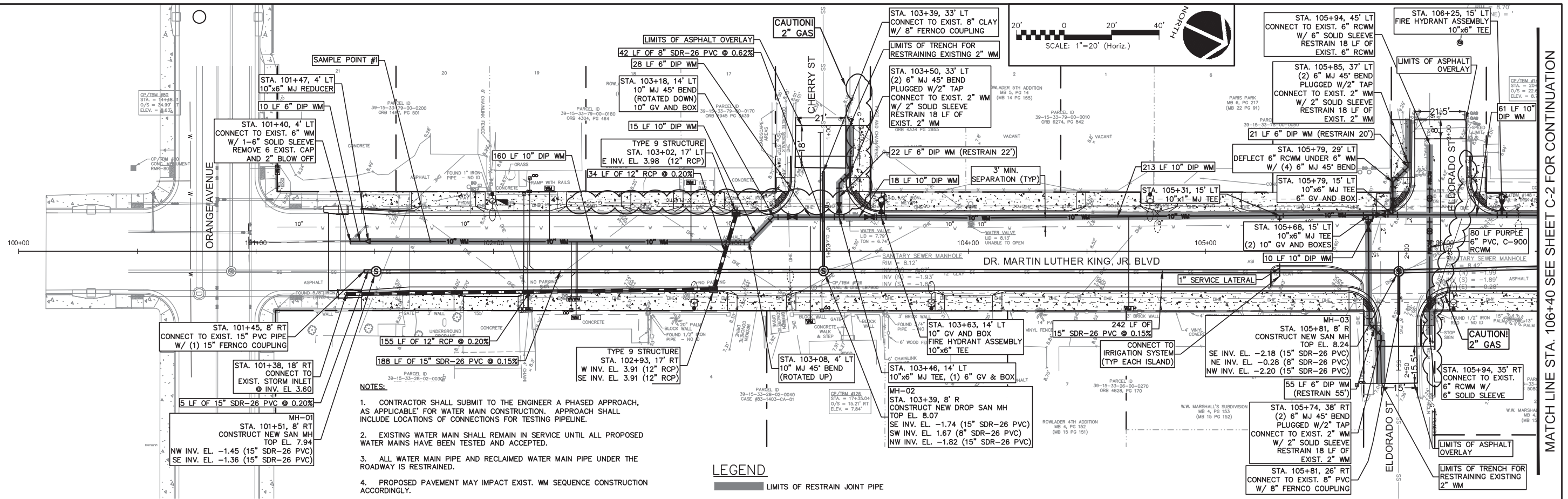
**DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT**

DEMOLITION PLAN
1 OF 2

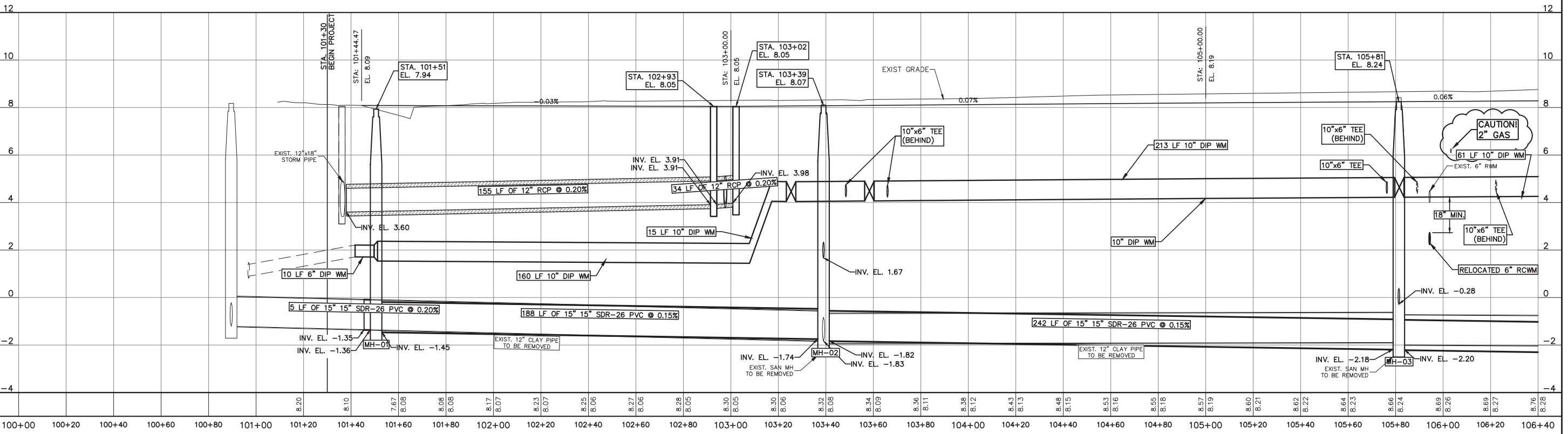
PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE: HORIZONTAL: 1"=20'	M&C FILE NUMBER: CD101-09960161
MCE PROJ. # 0996-0161	VERTICAL: 1"=2'	DRAWING NUMBER: D-1
DRAWN: BFN		
DESIGNED: P.J.L.		
CHECKED: CRB		
PROJ. MGR.: SRS		

STATUS: REISSUED FOR BIDDING



- NOTES:**
- CONTRACTOR SHALL SUBMIT TO THE ENGINEER A PHASED APPROACH, AS APPLICABLE FOR WATER MAIN CONSTRUCTION. APPROACH SHALL INCLUDE LOCATIONS OF CONNECTIONS FOR TESTING PIPELINE.
 - EXISTING WATER MAIN SHALL REMAIN IN SERVICE UNTIL ALL PROPOSED WATER MAINS HAVE BEEN TESTED AND ACCEPTED.
 - ALL WATER MAIN PIPE AND RECLAIMED WATER MAIN PIPE UNDER THE ROADWAY IS RESTRAINED.
 - PROPOSED PAVEMENT MAY IMPACT EXIST. WM SEQUENCE CONSTRUCTION ACCORDINGLY.



REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018



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 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT

PLAN AND PROFILE
 100+00 TO 106+40

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE: HORIZONTAL: 1"=20'	M&C FILE NUMBER: CU101-09960161
MCE PROJ. # 0996-0161	VERTICAL: 1"=2'	DRAWING NUMBER: C-1
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DESIGNED: P.J.L.		
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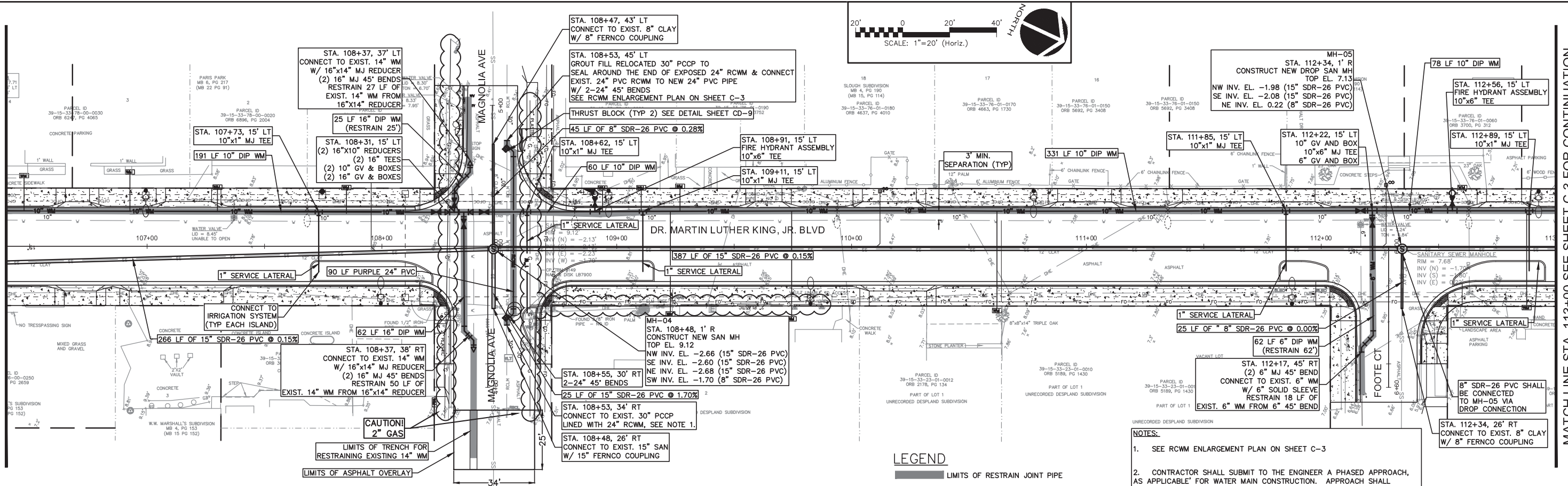
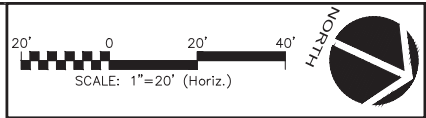
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MATCH LINE STA. 106+40 SEE SHEET C-2 FOR CONTINUATION

MATCH LINE STA. 106+40 SEE SHEET C-1 FOR CONTINUATION

MATCH LINE STA. 113+00 SEE SHEET C-3 FOR CONTINUATION

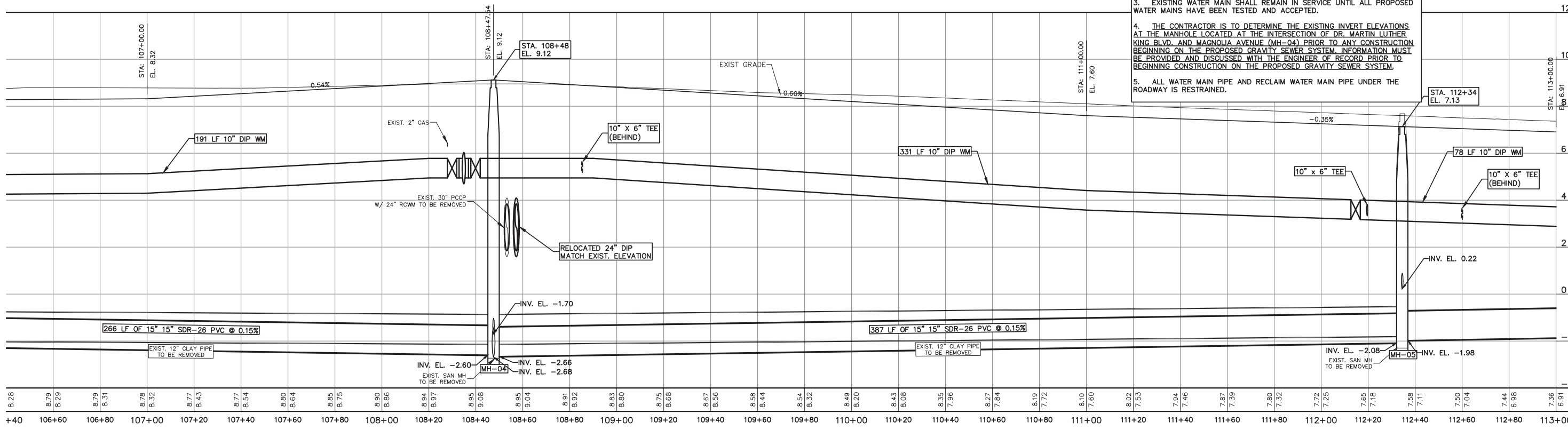


LEGEND

LIMITS OF RESTRAIN JOINT PIPE

NOTES:

- SEE RCWM ENLARGEMENT PLAN ON SHEET C-3
- CONTRACTOR SHALL SUBMIT TO THE ENGINEER A PHASED APPROACH, AS APPLICABLE FOR WATER MAIN CONSTRUCTION. APPROACH SHALL INCLUDE LOCATIONS OF CONNECTIONS FOR TESTING PIPELINE.
- EXISTING WATER MAIN SHALL REMAIN IN SERVICE UNTIL ALL PROPOSED WATER MAINS HAVE BEEN TESTED AND ACCEPTED.
- THE CONTRACTOR IS TO DETERMINE THE EXISTING INVERT ELEVATIONS AT THE MANHOLE LOCATED AT THE INTERSECTION OF DR. MARTIN LUTHER KING BLVD. AND MAGNOLIA AVENUE (MH-04) PRIOR TO ANY CONSTRUCTION BEGINNING ON THE PROPOSED GRAVITY SEWER SYSTEM. INFORMATION MUST BE PROVIDED AND DISCUSSED WITH THE ENGINEER OF RECORD PRIOR TO BEGINNING CONSTRUCTION ON THE PROPOSED GRAVITY SEWER SYSTEM.
- ALL WATER MAIN PIPE AND RECLAIM WATER MAIN PIPE UNDER THE ROADWAY IS RESTRAINED.



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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018



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THE CITY OF DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT

PLAN AND PROFILE
106+40 TO 113+00

PROJECT NO. 2015-085

DATE: APRIL 2017
MCE PROJ. #: 0996-0161
DRAWN: DMP
DESIGNED: P.J.L.
CHECKED: CRB
PROJ. MGR.: SRS

SCALE
HORIZONTAL: 1"=20'
VERTICAL: 1"=2'

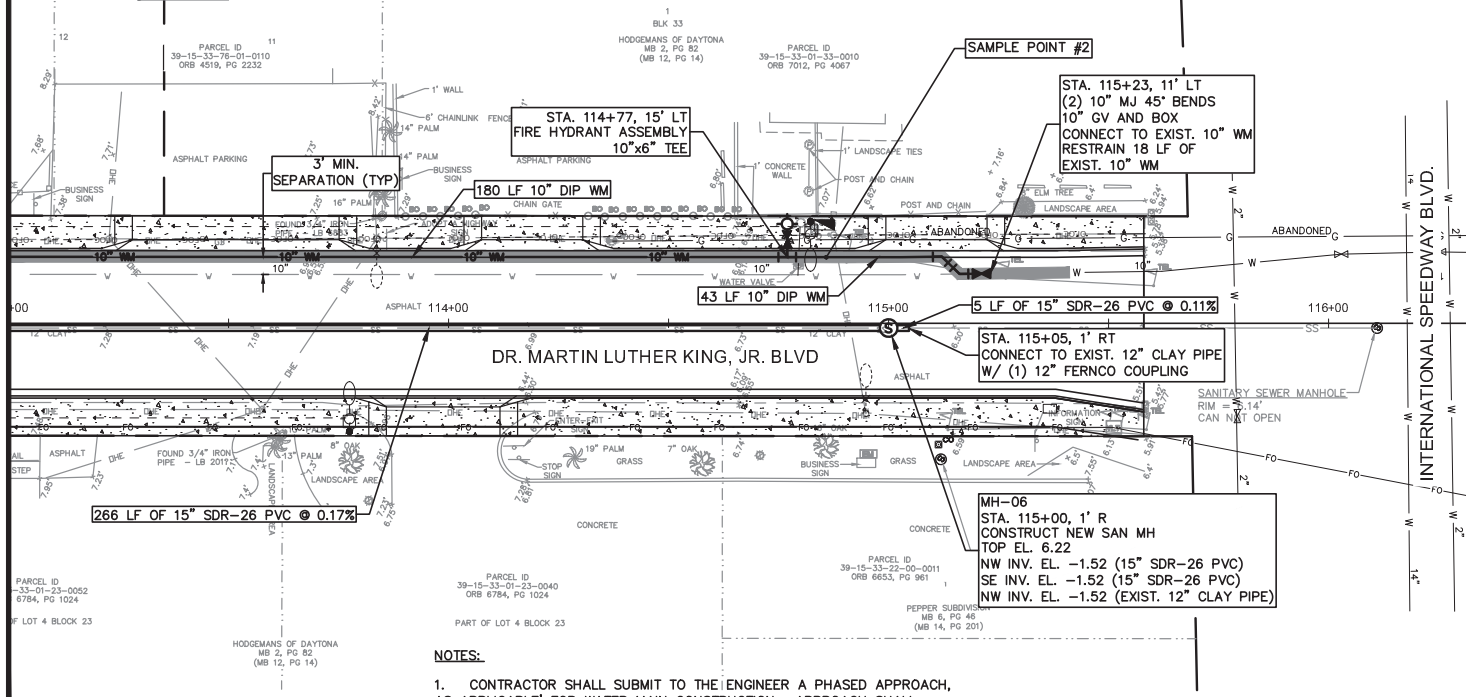
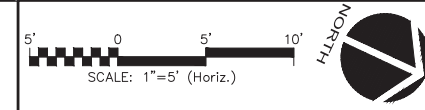
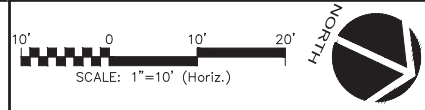
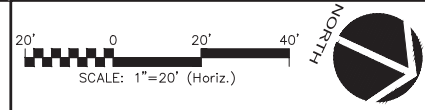
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DRAWING NUMBER: C-2

STATUS: REISSUED FOR BIDDING

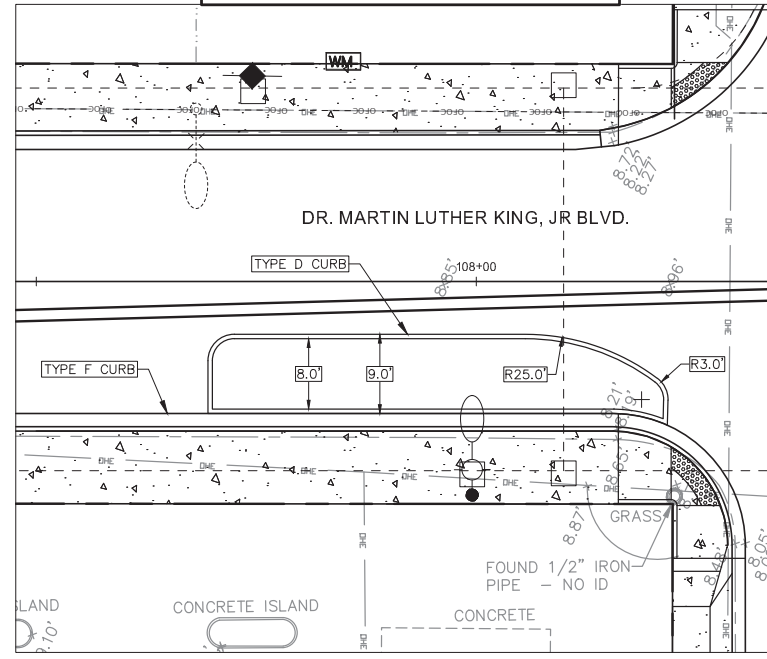
MATCH LINE STA. 113+00 SEE SHEET C-2 FOR CONTINUATION

LEGEND

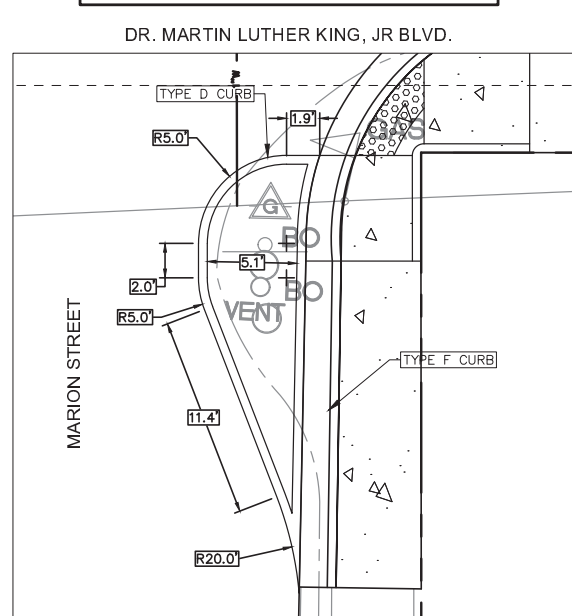
LIMITS OF RESTRAIN JOINT PIPE



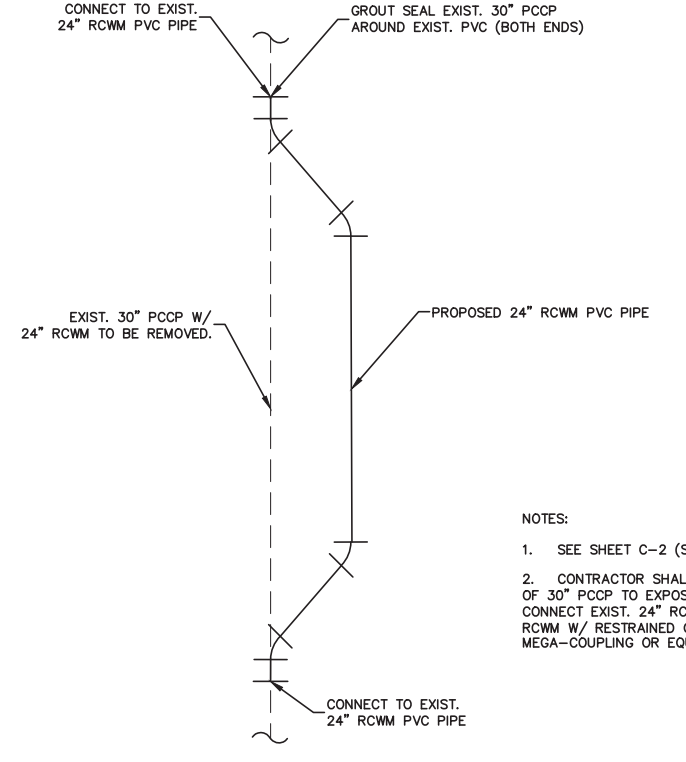
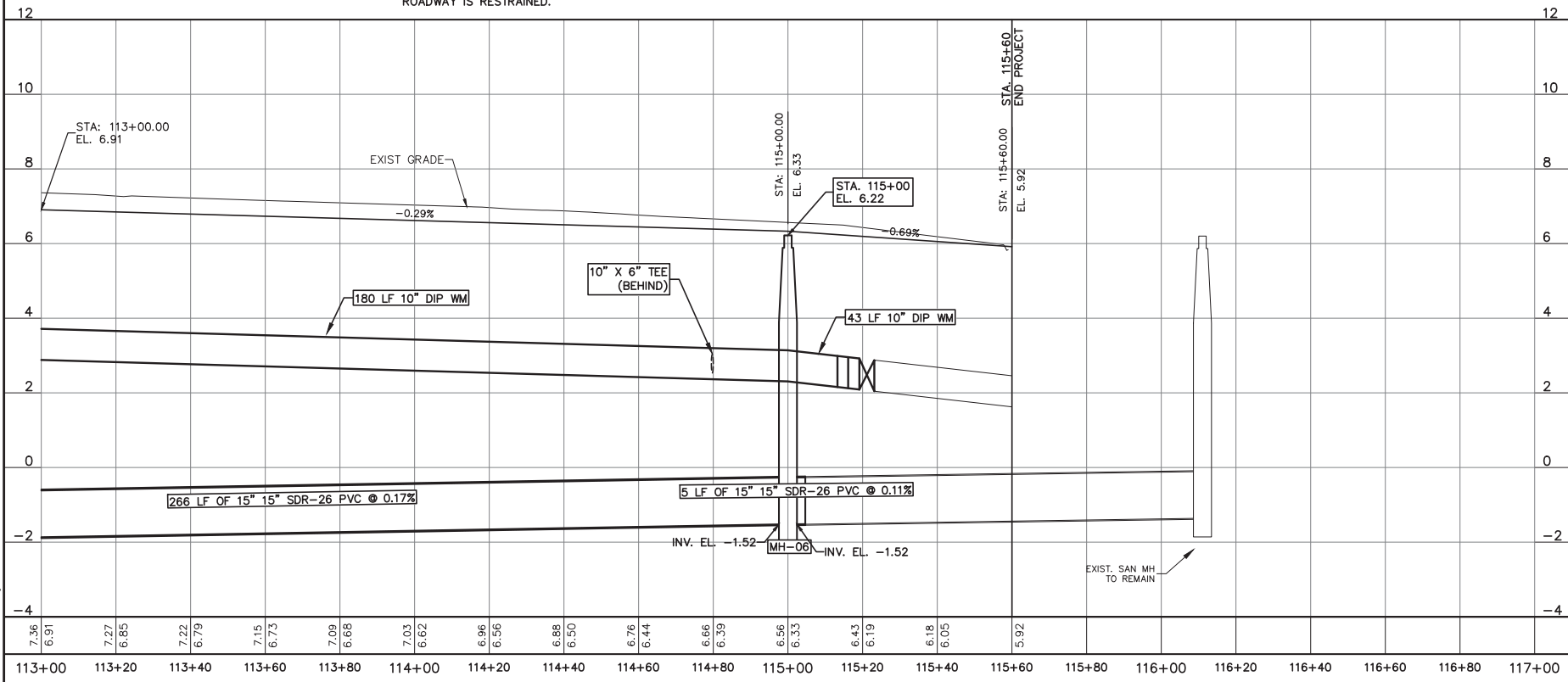
- NOTES:**
1. CONTRACTOR SHALL SUBMIT TO THE ENGINEER A PHASED APPROACH, AS APPLICABLE FOR WATER MAIN CONSTRUCTION. APPROACH SHALL INCLUDE LOCATIONS OF CONNECTIONS FOR TESTING PIPELINE.
 2. EXISTING WATER MAIN SHALL REMAIN IN SERVICE UNTIL ALL PROPOSED WATER MAINS HAVE BEEN TESTED AND ACCEPTED.
 3. ALL WATER MAIN PIPE AND RECLAIMED WATER PIPE UNDER THE ROADWAY IS RESTRAINED.



TYPICAL BUMP-OUT DETAIL
SCALE 1"=10'



**MAGNOLIA AVE. STA. 4+30 ±
BUMP-OUT DETAIL**
SCALE 1"=5'



24" RCWM RELOCATION DETAIL

- NOTES:**
1. SEE SHEET C-2 (STA. 108+53, 45' LT)
 2. CONTRACTOR SHALL CUT AWAY 5- FEET OF 30" PCPP TO EXPOSE EXISTING 24" RCWM. CONNECT EXIST. 24" RCWM TO PROPOSED 24" RCWM W/ RESTRAINED COUPLING SUCH AS MEGA-COUPLING OR EQUAL.

REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018

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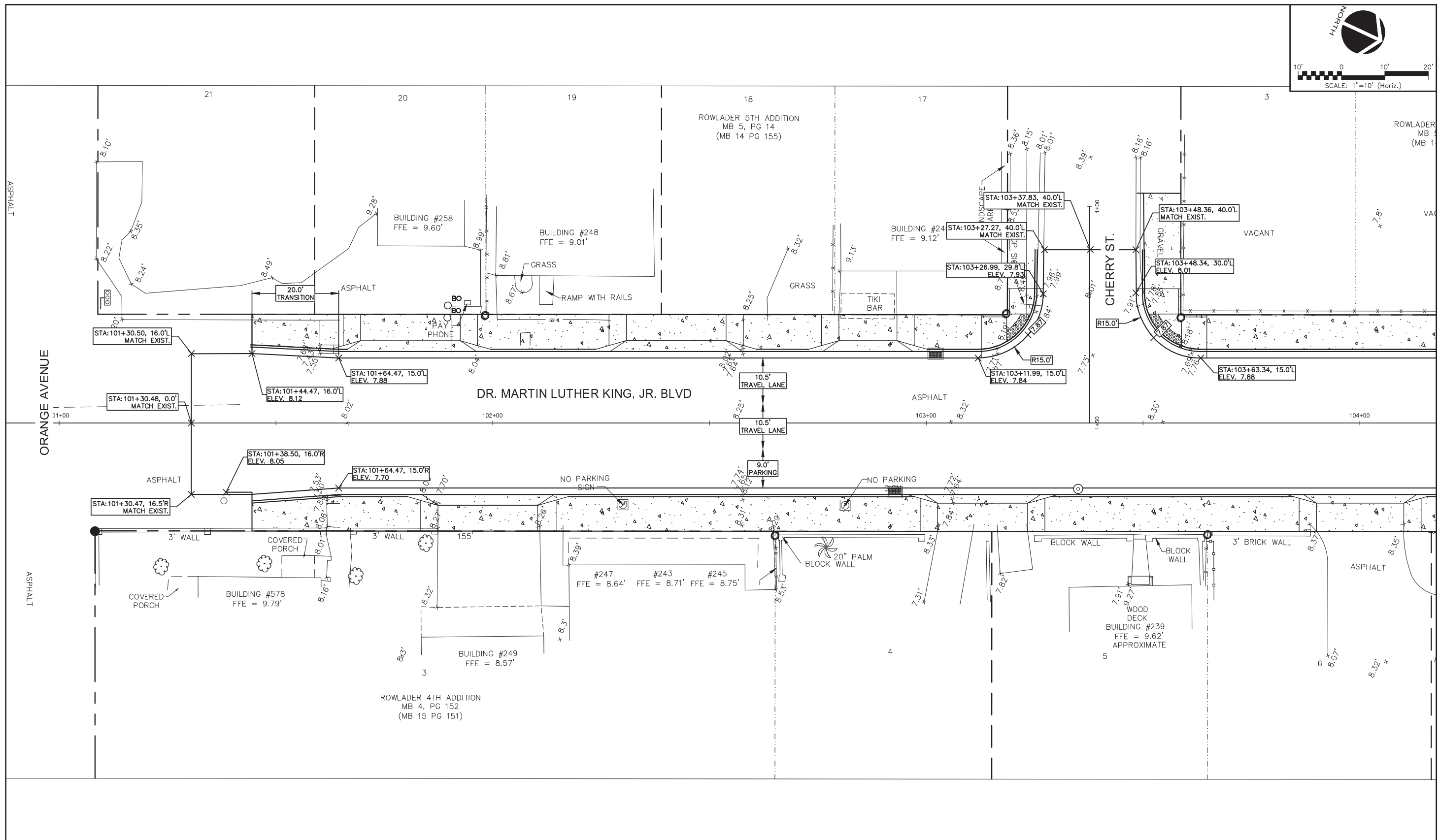
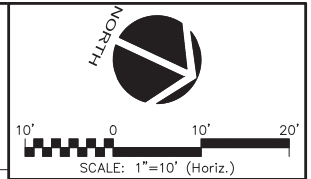
**DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT**

**PLAN AND PROFILE
113+00 TO 117+00**

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE: 1"=20'	M&C FILE NUMBER: CU101-09960161
MCE PROJ. # 0996-0161	HORIZONTAL: 1"=20'	DRAWING NUMBER: C-3
DRAWN: DMP	VERTICAL: 1"=2'	
DESIGNED: P.J.L.		
CHECKED: CRB		
PROJ. MGR.: SRS		

STATUS: REISSUED FOR BIDDING



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A	ISSUE FOR BIDDING	AUGUST 2013
REVISIONS		



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 SCOTT R. SPOONER, P.E.
 No. 23273

139 Executive Circle, Suite 201
 Daytona Beach, Florida 32114
 Phone: (386)274-2828, Fax: (386)274-1393
 CA License No. 29588
 www.mckimcreed.com

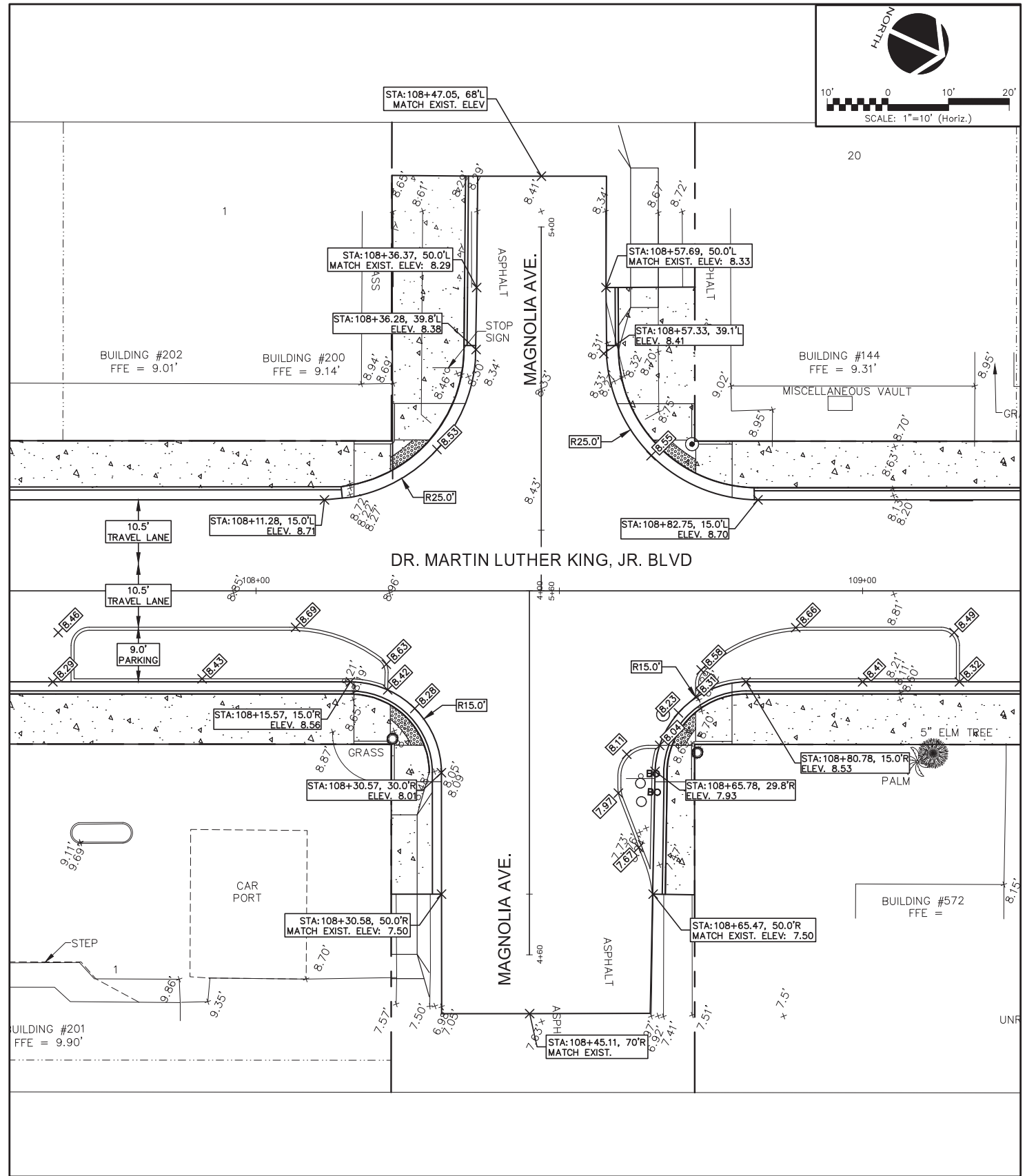
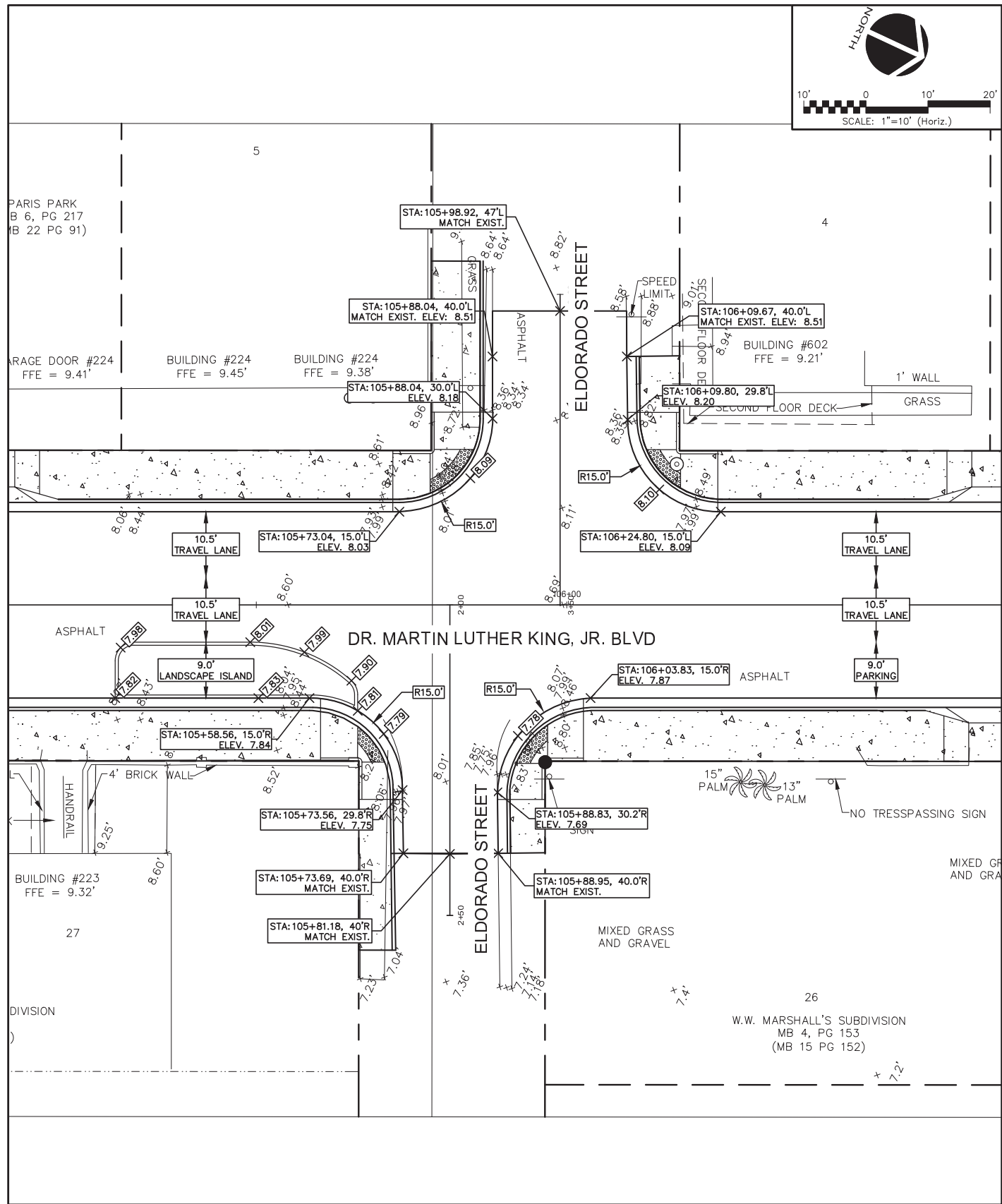
THE CITY OF
 DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT
 INTERSECTION PLAN
 1 OF 3

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE	M&C FILE NUMBER
M&C PROJ. # 0996-0161	HORIZONTAL: 1"=20'	CU401-09960161
DRAWN: BEN	VERTICAL: 1"=2'	DRAWING NUMBER
DESIGNED: P.L.		C-4
CHECKED: CRB		
PROJ. MGR.: SRS		

STATUS: REISSUED FOR BIDDING



REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018
	REVISIONS	



Digitally signed by Scott R. Spooner
 Date: 2019.01.10 15:55:53 -05'00'
 SCOTT R. SPOONER, P.E.
 No. 23273

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THE CITY OF DAYTONA BEACH
 INCORPORATED JULY 1888
 THE CITY OF
 DAYTONA BEACH, FLORIDA

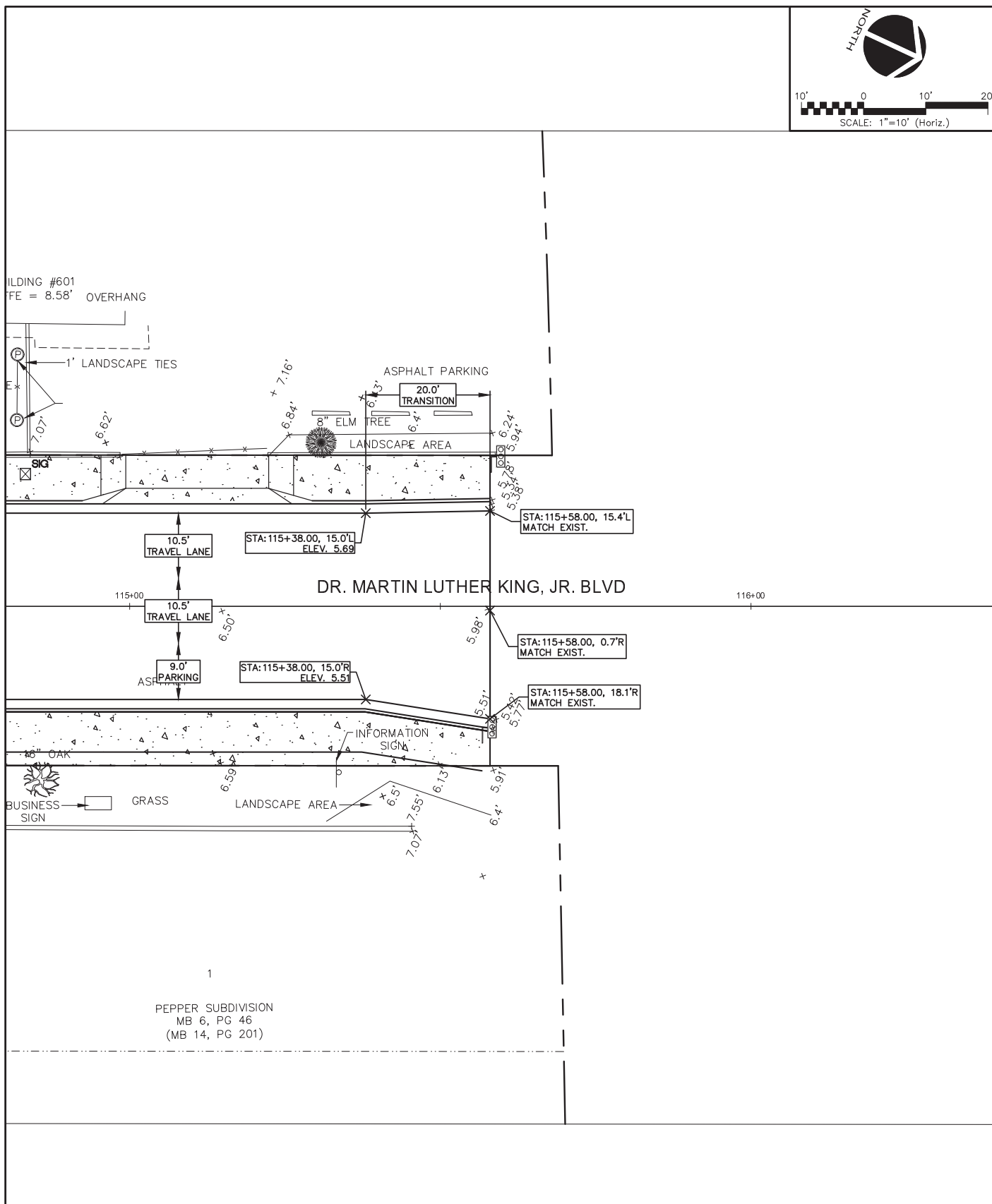
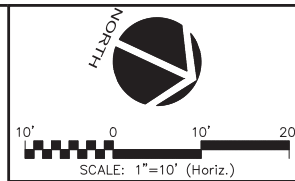
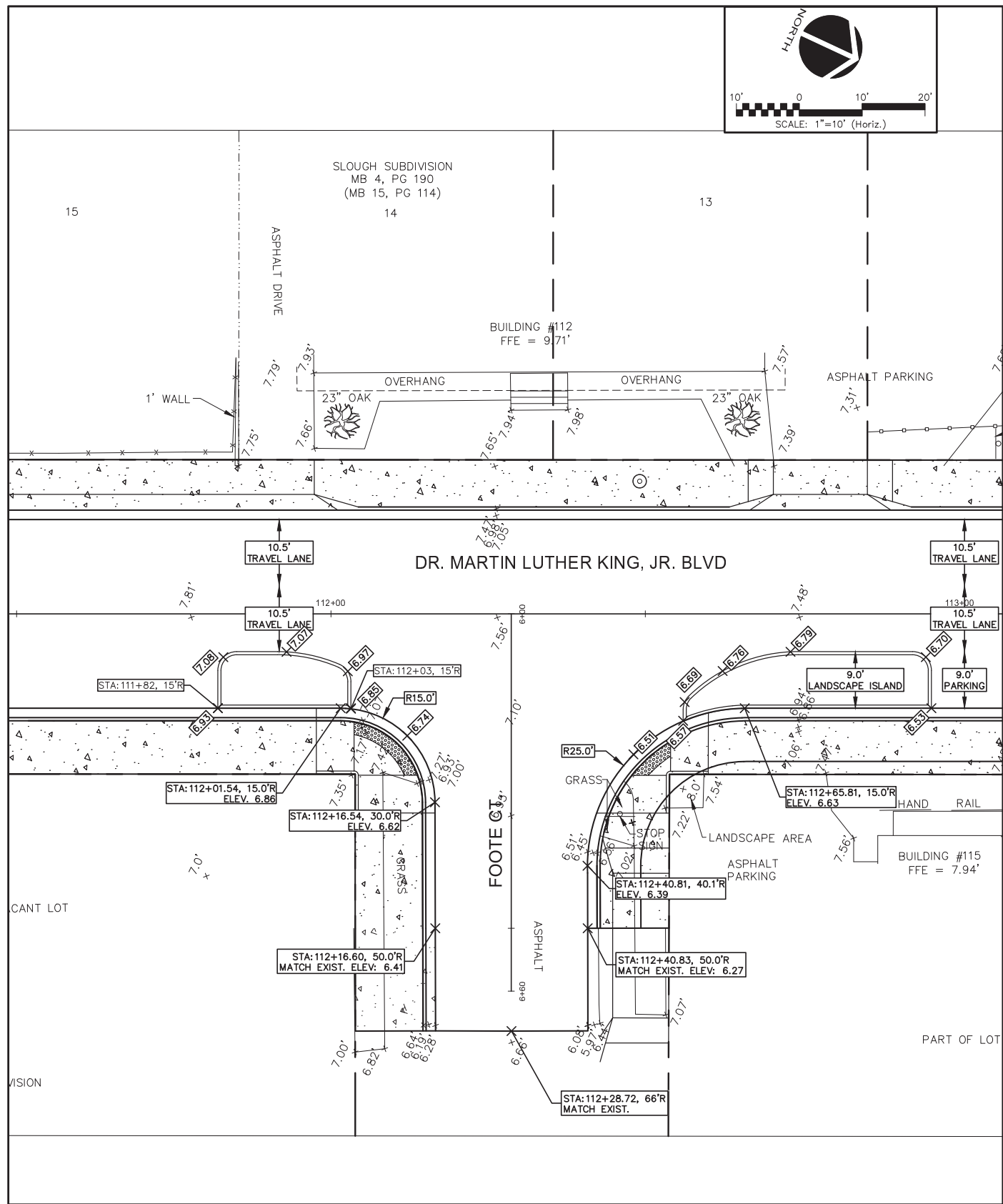
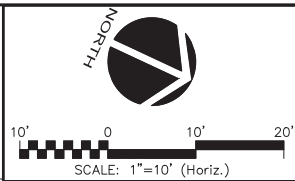
**DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT**
 INTERSECTION PLAN
 2 OF 3

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE: HORIZONTAL: 1"=20'	M&C FILE NUMBER: CU401-09960161
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CHECKED: CRB	PROJ. MGR.: SRS	REVISION:

STATUS: REISSUED FOR BIDDING

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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2019
A	ISSUE FOR BIDDING	AUGUST 2018
	REVISIONS	



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 SCOTT R. SPOONER, P.E.
 No. 23273

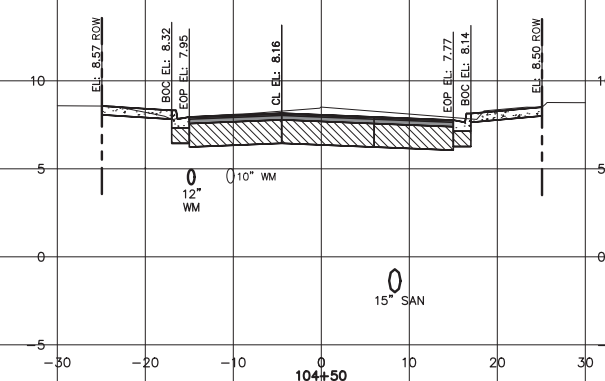
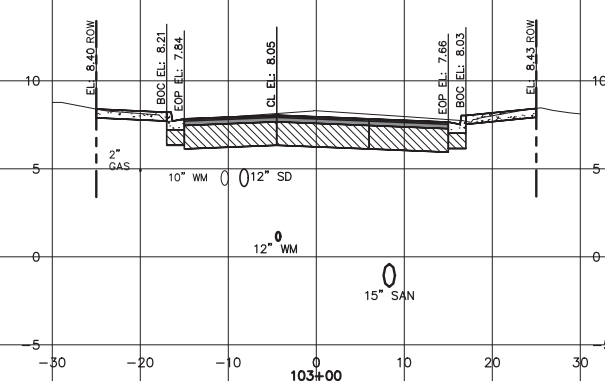
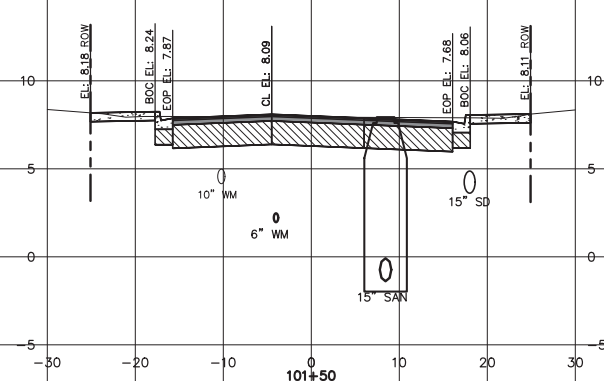
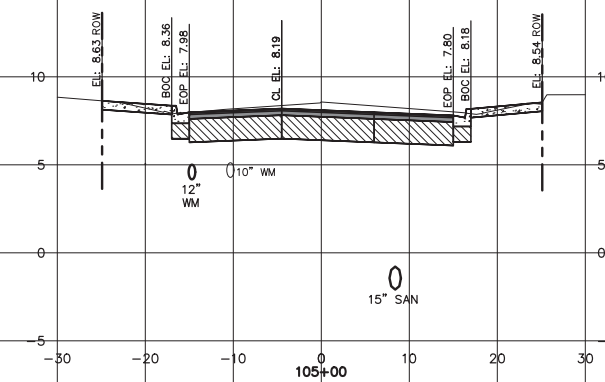
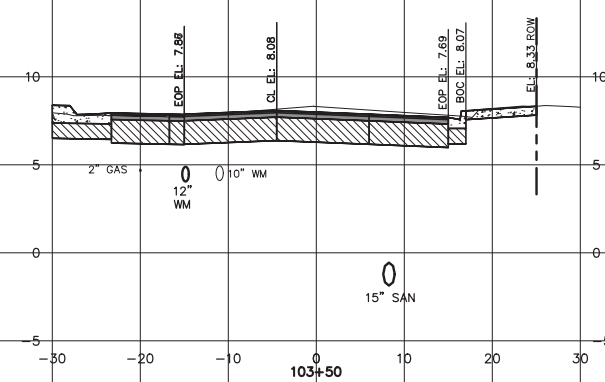
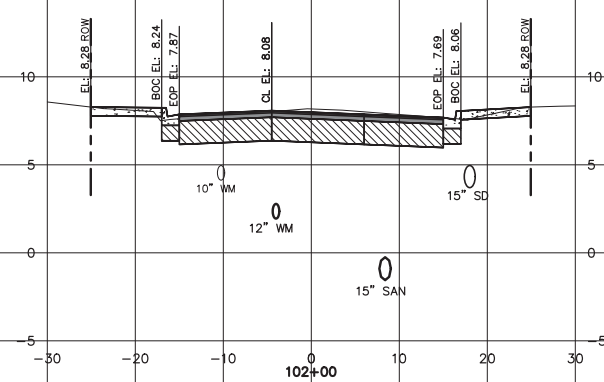
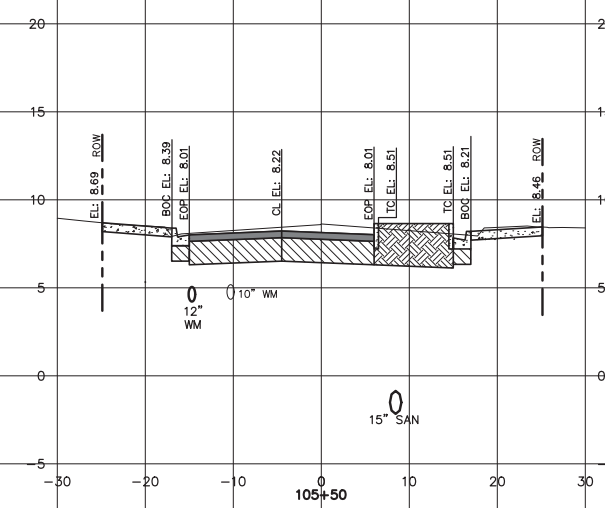
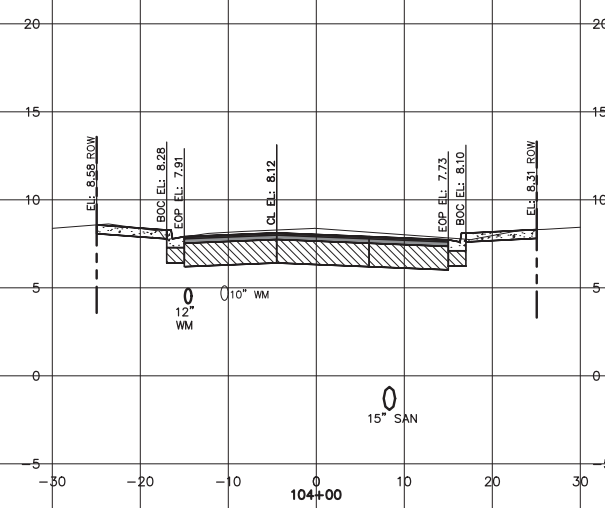
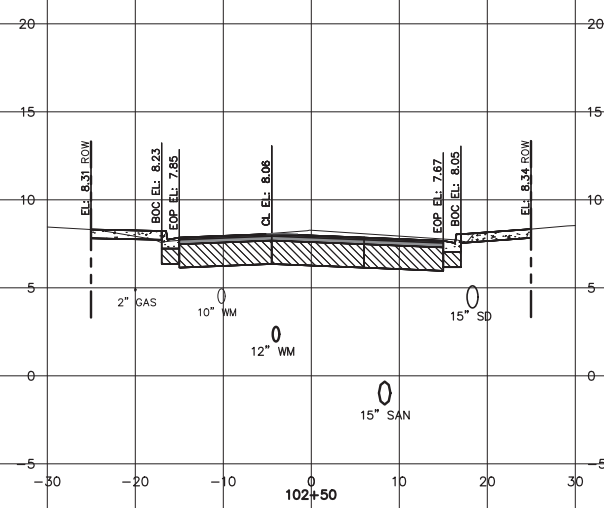
139 Executive Circle, Suite 201
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 Phone: (386)274-2828, Fax: (386)274-1393
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THE CITY OF
 DAYTONA BEACH, FLORIDA

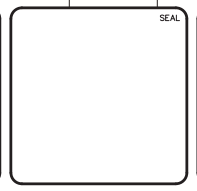
DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT
 INTERSECTION PLAN
 3 OF 3

PROJECT NO. 2015-085
 DATE: APRIL 2017
 MCE PROJ. # 0996-0161
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 DESIGNED: P.J.L.
 CHECKED: CRB
 PROJ. MGR.: SRS
 SCALE
 HORIZONTAL: 1"=20'
 VERTICAL: 1"=2'
 M&C FILE NUMBER
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C-6
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REISSUED FOR BIDDING

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A	ISSUE FOR BIDDING	AUGUST 2018
REVISIONS		



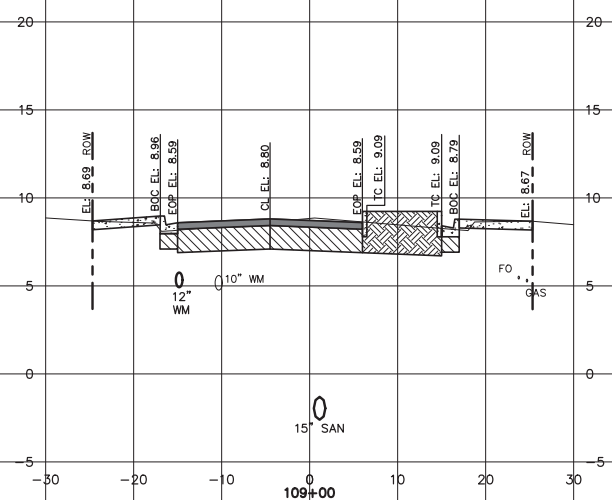
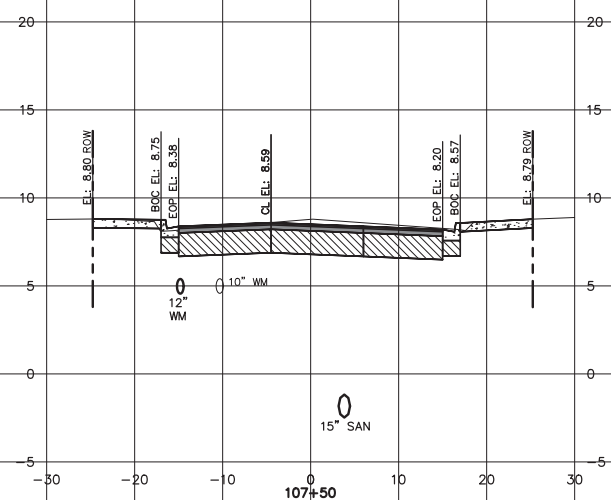
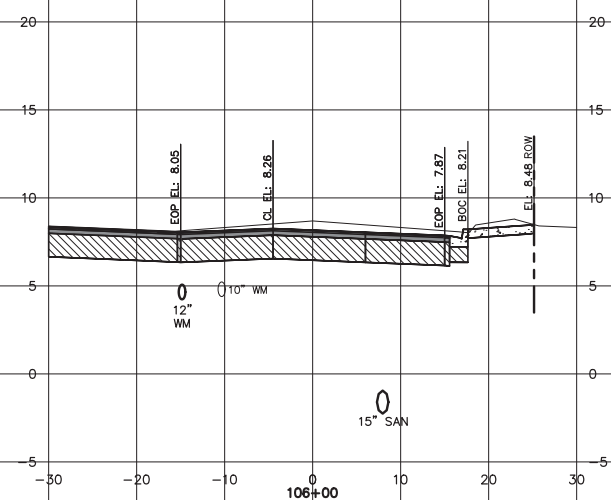
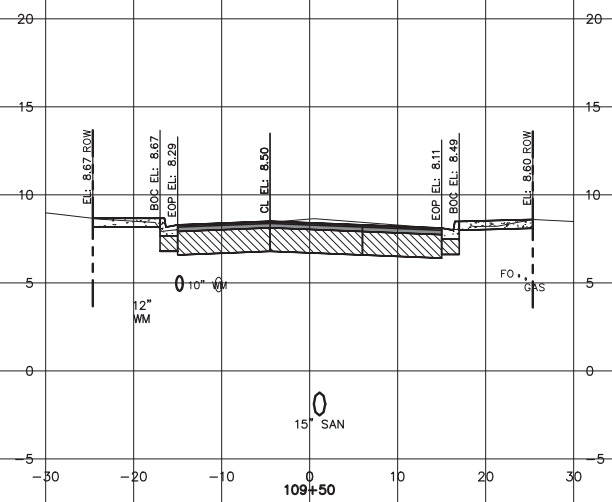
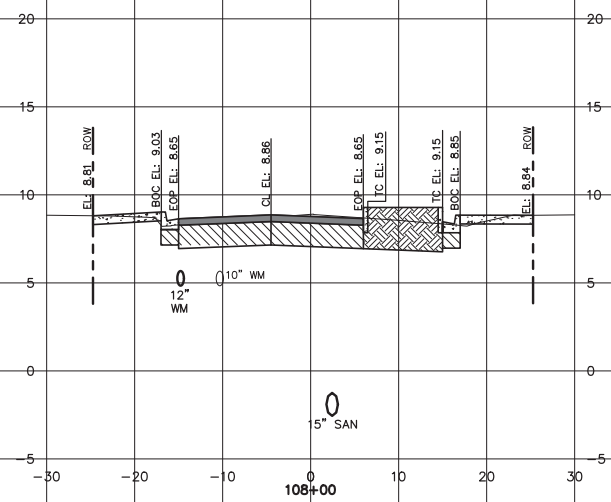
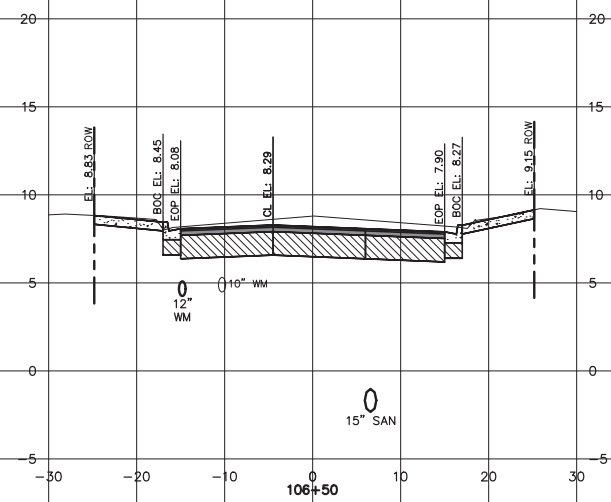
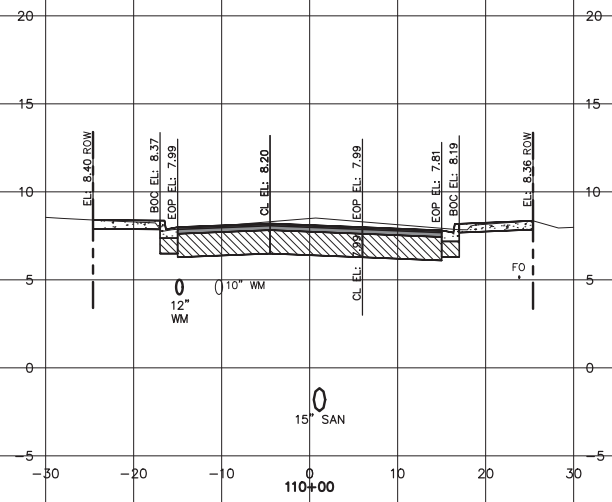
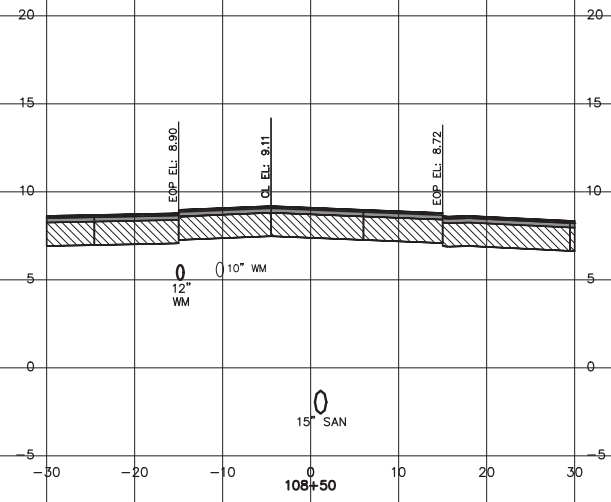
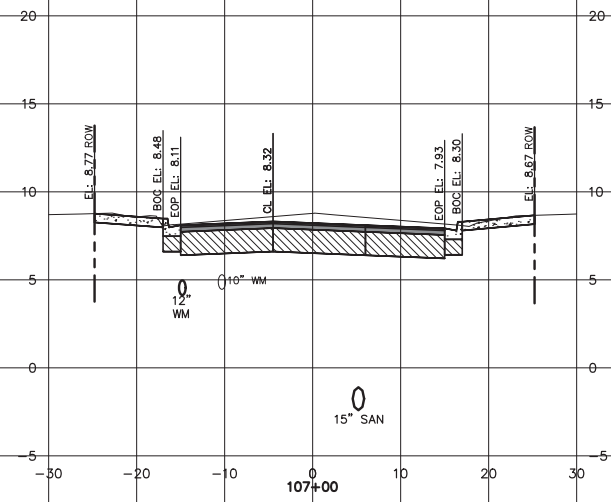
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 Date: 2019.01.10 15:57:44 -05'00'
 SCOTT R. SPOONER, P.E.
 No. 23273

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 Daytona Beach, Florida 32114
 Phone: (386)274-2828, Fax: (386)274-1393
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THE CITY OF DAYTONA BEACH, FLORIDA

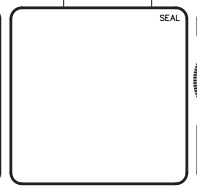
DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT
ROADWAY SECTIONS
1 OF 4

PROJECT NO. 2015-085
 DATE: APRIL 2017
 MCE PROJ. # 0996-0161
 DRAWN: BFN
 DESIGNED: P.J.L.
 CHECKED: CRB
 PROJ. MGR.: SRS
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A	ISSUE FOR BIDDING	AUGUST 2018
REVISIONS		



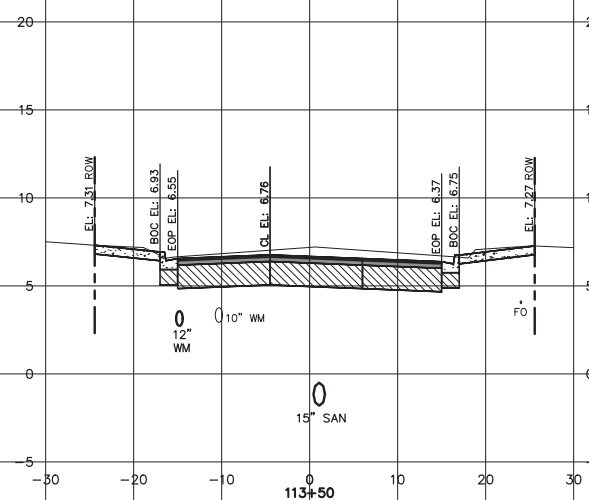
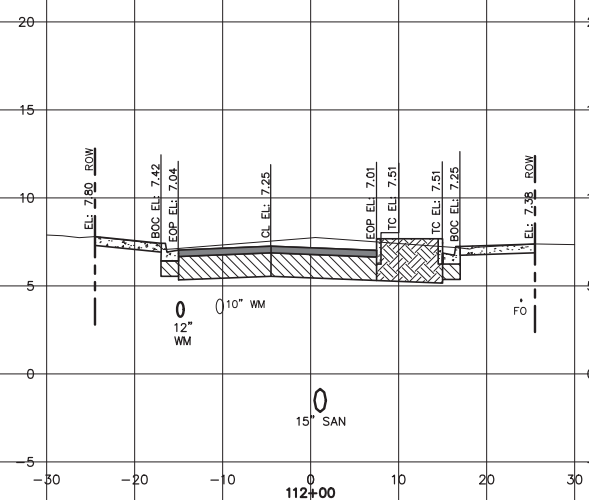
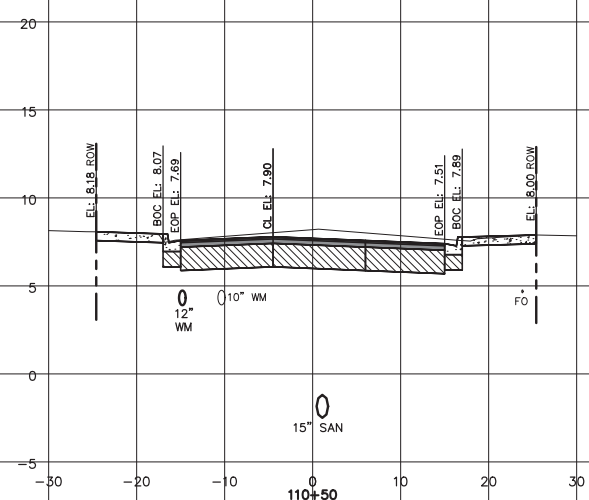
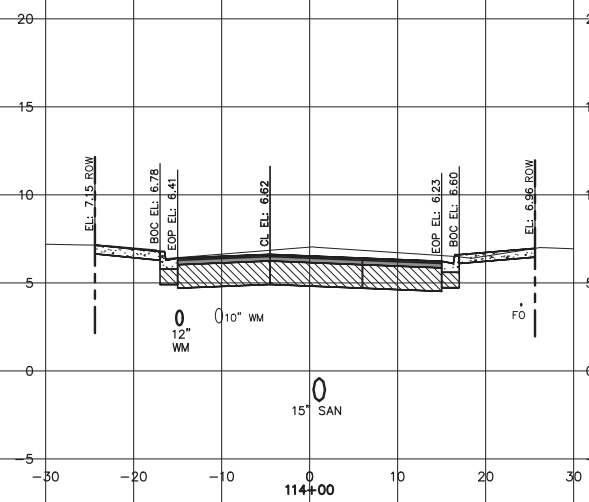
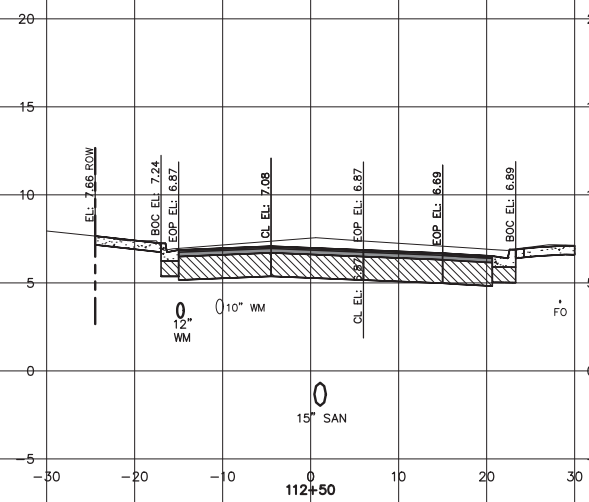
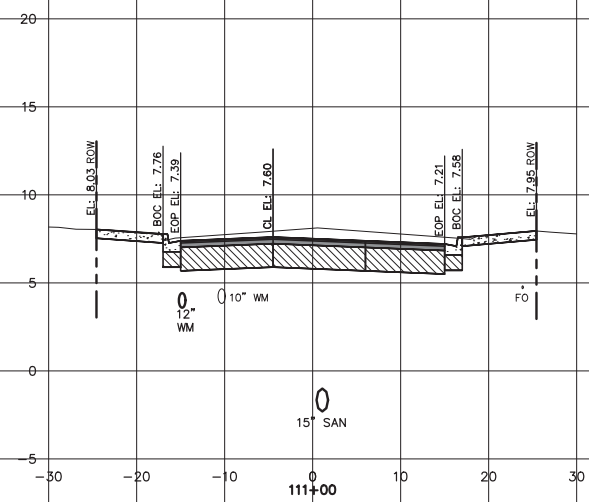
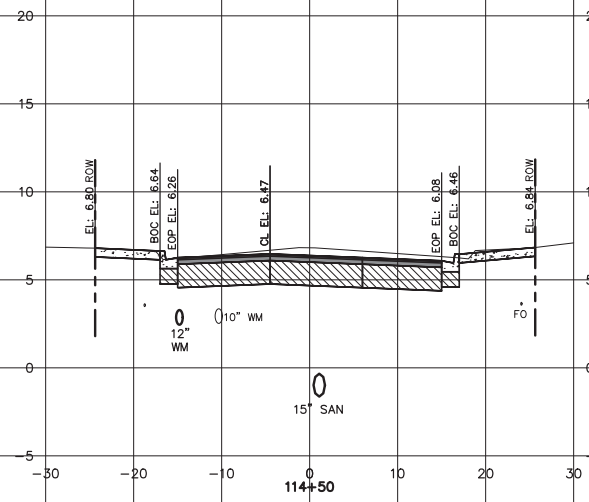
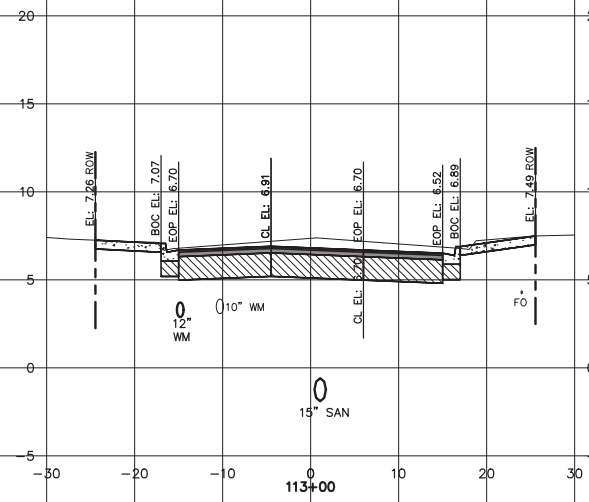
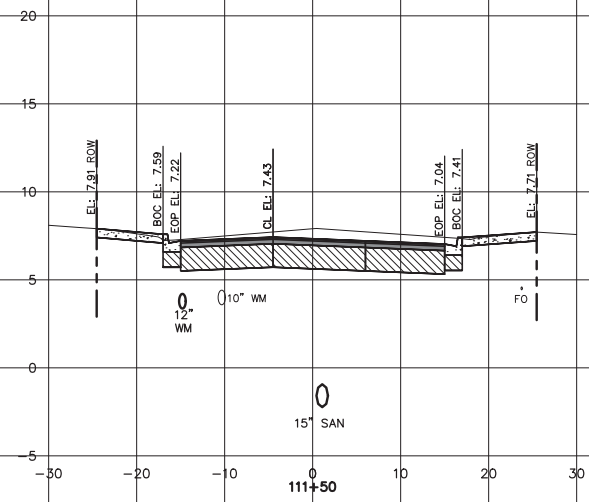
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 SCOTT R. SPOONER, P.E.
 No. 23273

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 Daytona Beach, Florida 32114
 Phone: (386)274-2828, Fax: (386)274-1393
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THE CITY OF
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DR. MARTIN LUTHER KING, JR.
 BOULEVARD—ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT
 ROADWAY SECTIONS
 2 OF 4

PROJECT NO. 2015-085
 DATE: APRIL 2017
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 DRAWN: BEN
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A	ISSUE FOR BIDDING	AUGUST 2015

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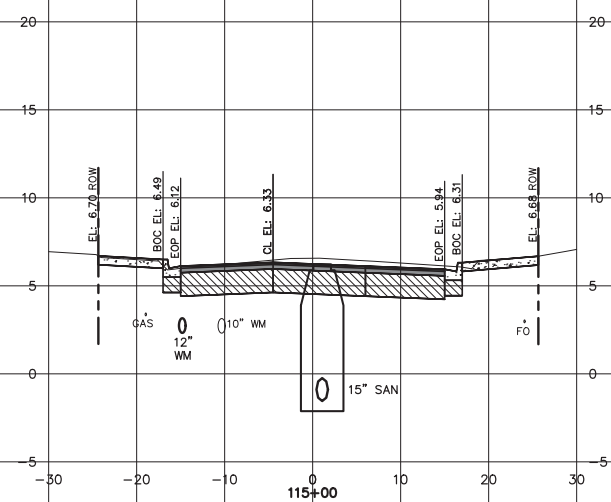
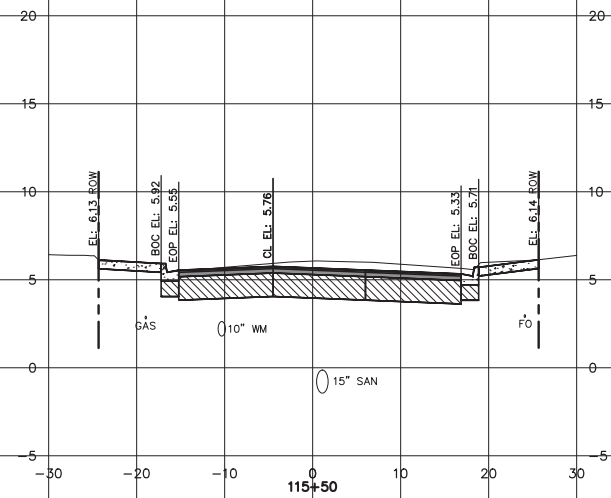
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 No. 23273

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 Daytona Beach, Florida 32114
 Phone: (386)274-2828, Fax: (386)274-1393
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THE CITY OF
 DAYTONA BEACH, FLORIDA

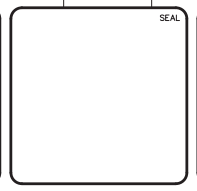
DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT
 ROADWAY SECTIONS
 3 OF 4

PROJECT NO. 2015-085
 DATE: APRIL 2017
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 DESIGNED: P.J.L.
 CHECKED: CRB
 PROJ. MGR.: SRS
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 HORIZONTAL: 1"=10'
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 CU801-09960161
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A	ISSUE FOR BIDDING	AUGUST 2018



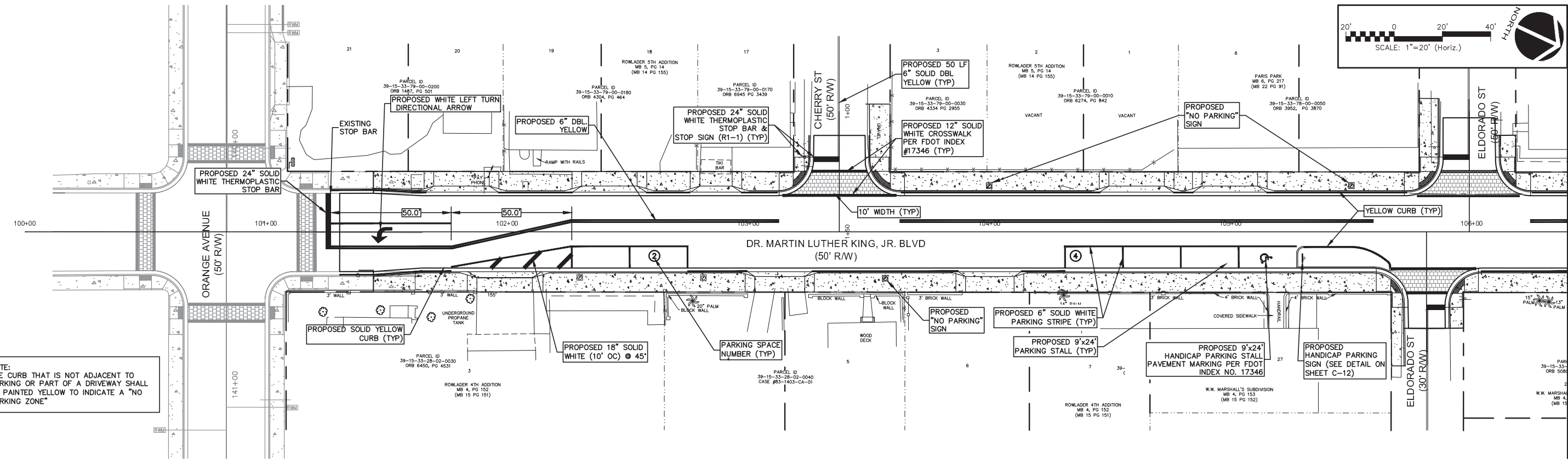
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 Spooner
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 SCOTT R. SPOONER, P.E.
 No. 23273

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 Daytona Beach, Florida 32114
 Phone: (386)274-2828, Fax: (386)274-1393
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THE CITY OF
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DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT
 ROADWAY SECTIONS
 4 OF 4

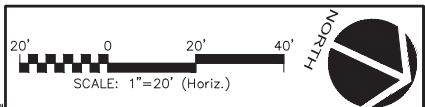
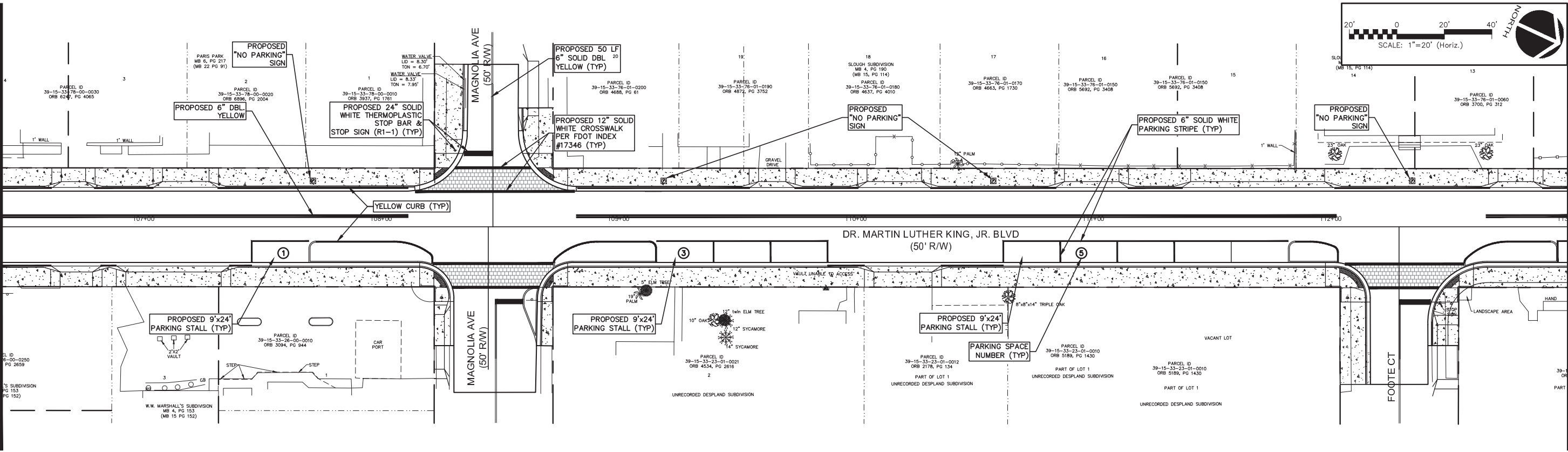
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 M&C FILE NUMBER
 CU801-09960161
 DRAWING NUMBER
C-10
 STATUS: REISSUED FOR BIDDING
 REVISION



NOTE:
THE CURB THAT IS NOT ADJACENT TO
PARKING OR PART OF A DRIVEWAY SHALL
BE PAINTED YELLOW TO INDICATE A "NO
PARKING ZONE"



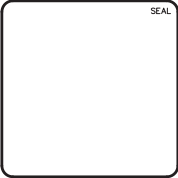
MATCH LINE STA. 16+40 SEE THIS SHEET FOR CONTINUATION



MATCH LINE STA. 106+40 SEE THIS SHEET FOR CONTINUATION

MATCH LINE STA. 113+00 SEE SHEET C-12 FOR CONTINUATION

REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018



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Scott R
Spooner
Date:
2019.01.10
16:01:48
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No. 23273

139 Executive Circle, Suite 201
Daytona Beach, Florida 32114
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THE CITY OF
DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT

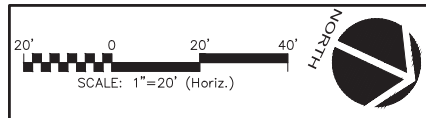
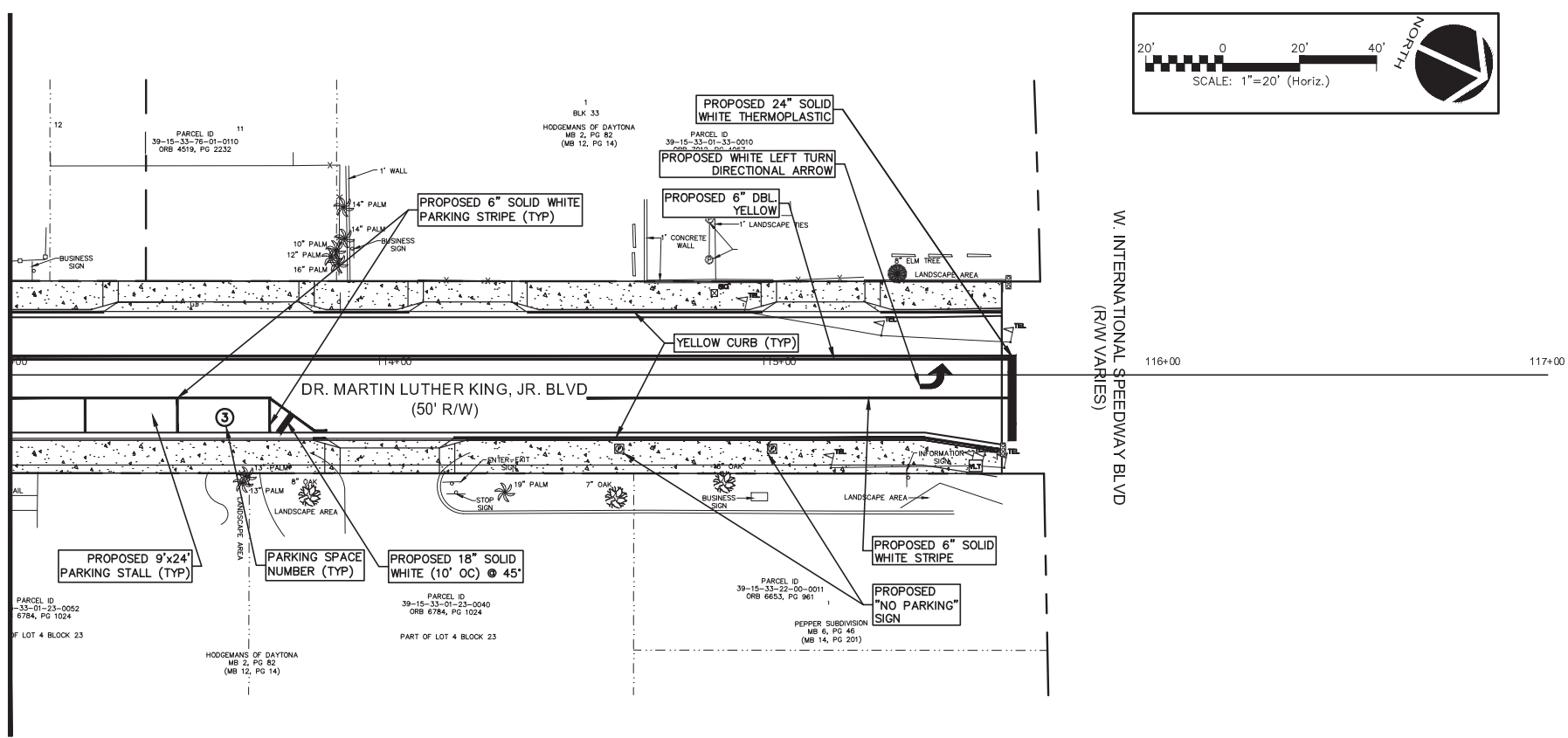
SIGNING & MARKING PLAN
1 OF 2

PROJECT NO. 2015-085

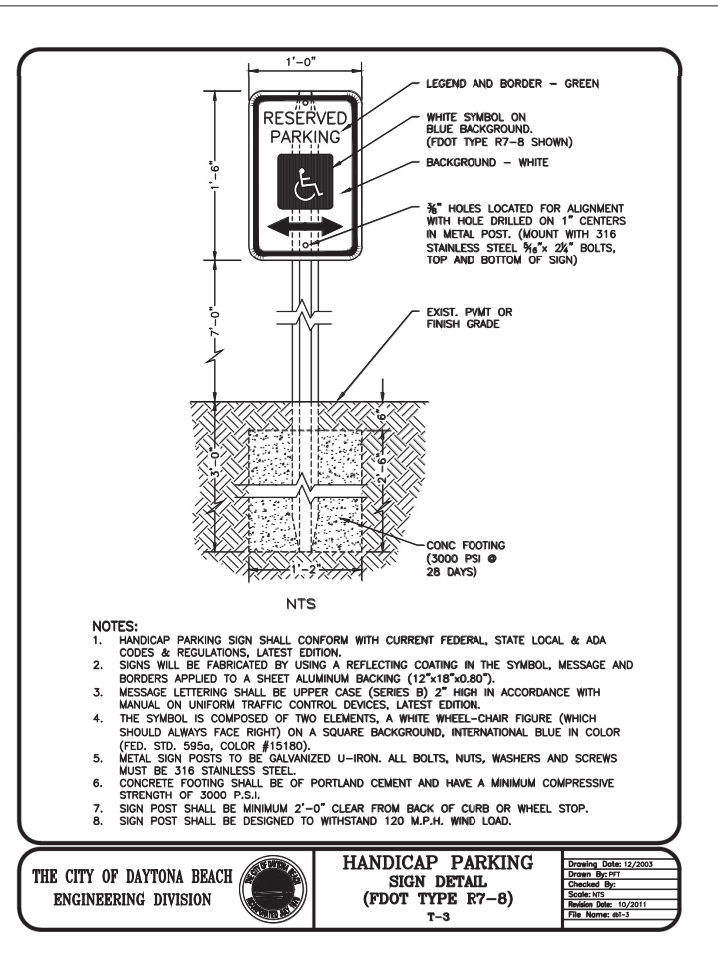
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DESIGNED: P.J.L.		
CHECKED: CRB		
PROJ. MGR: SRS		

STATUS: REISSUED FOR BIDDING

MATCH LINE STA. 113+00 SEE SHEET C-11 FOR CONTINUATION



NOTE:
1. RPM'S ARE TO BE INCLUDED WITHN CENTERLINE STRIPING COST.



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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018



Digitally signed by Scott R Spooner
 Date: 2019.01.10 16:02:52 -05'00'
 SCOTT R. SPOONER, P.E.
 No. 23273

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 139 Executive Circle, Suite 201
 Daytona Beach, Florida 32114
 Phone: (386)274-2828, Fax: (386)274-1393
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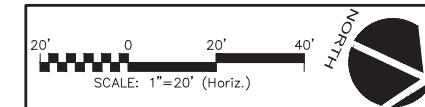
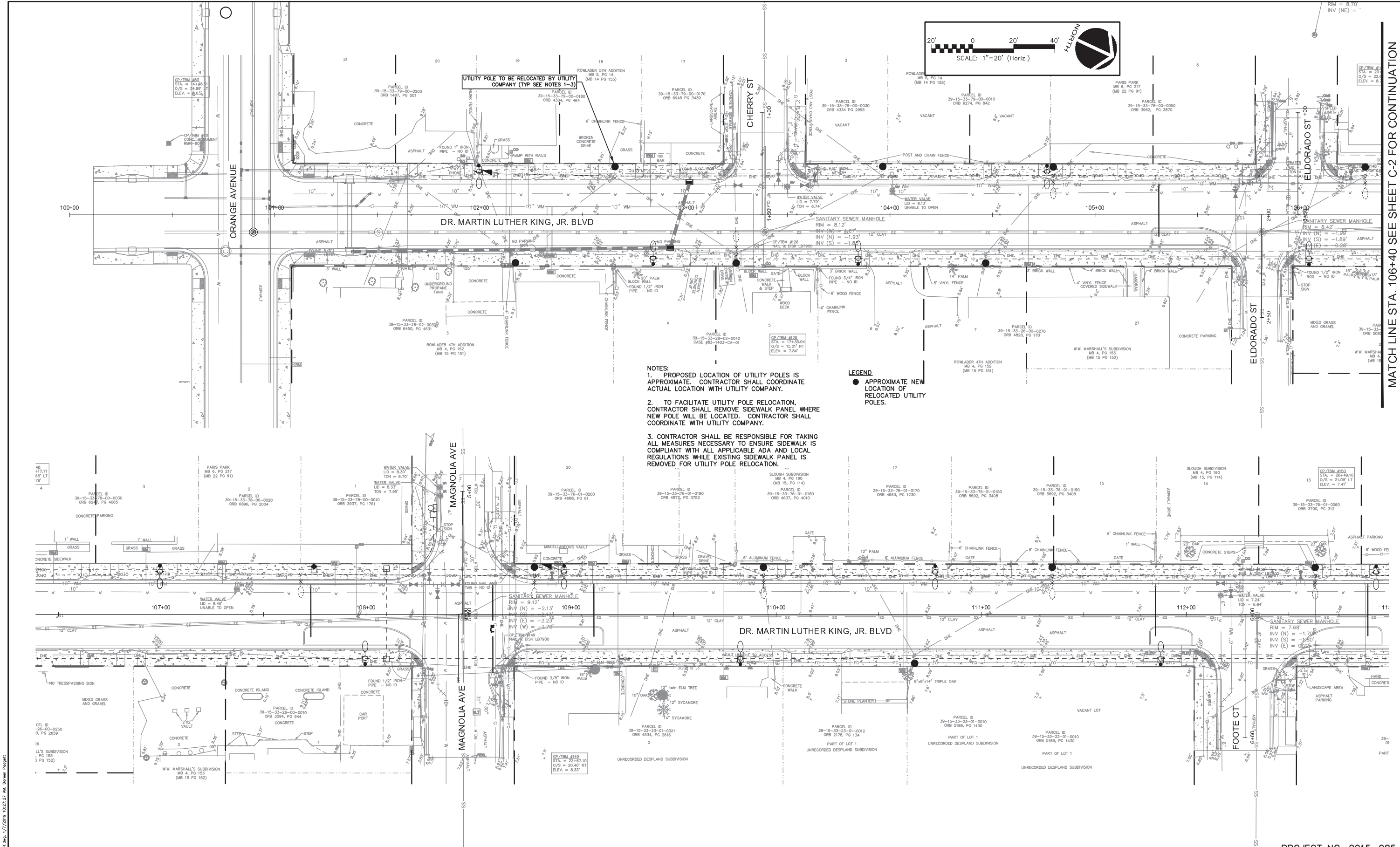
THE CITY OF DAYTONA BEACH
 DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR. BOULEVARD-ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT
SIGNING & MARKING PLAN
 2 OF 2

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE: HORIZONTAL: 1"=20'	M&C FILE NUMBER: CP101-09960161
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PROJ. MGR.: SRS		

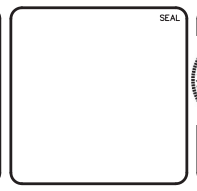
STATUS: REISSUED FOR BIDDING



- NOTES:**
1. PROPOSED LOCATION OF UTILITY POLES IS APPROXIMATE. CONTRACTOR SHALL COORDINATE ACTUAL LOCATION WITH UTILITY COMPANY.
 2. TO FACILITATE UTILITY POLE RELOCATION, CONTRACTOR SHALL REMOVE SIDEWALK PANEL WHERE NEW POLE WILL BE LOCATED. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ALL MEASURES NECESSARY TO ENSURE SIDEWALK IS COMPLIANT WITH ALL APPLICABLE ADA AND LOCAL REGULATIONS WHILE EXISTING SIDEWALK PANEL IS REMOVED FOR UTILITY POLE RELOCATION.
- LEGEND:**
- APPROXIMATE NEW LOCATION OF RELOCATED UTILITY POLES.

MATCH LINE STA. 106+40 SEE SHEET C-2 FOR CONTINUATION

REVNO.	DESCRIPTIONS	DATE									
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A	ISSUE FOR BIDDING	AUGUST 2018									
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REVNO.	DESCRIPTIONS	DATE									



Digitally signed by
Scott R Spooner
 Date: 2019.01.10 16:03:58 -05'00'

139 Executive Circle, Suite 201
 Daytona Beach, Florida 32114
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THE CITY OF
 DAYTONA BEACH, FLORIDA

**DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT**

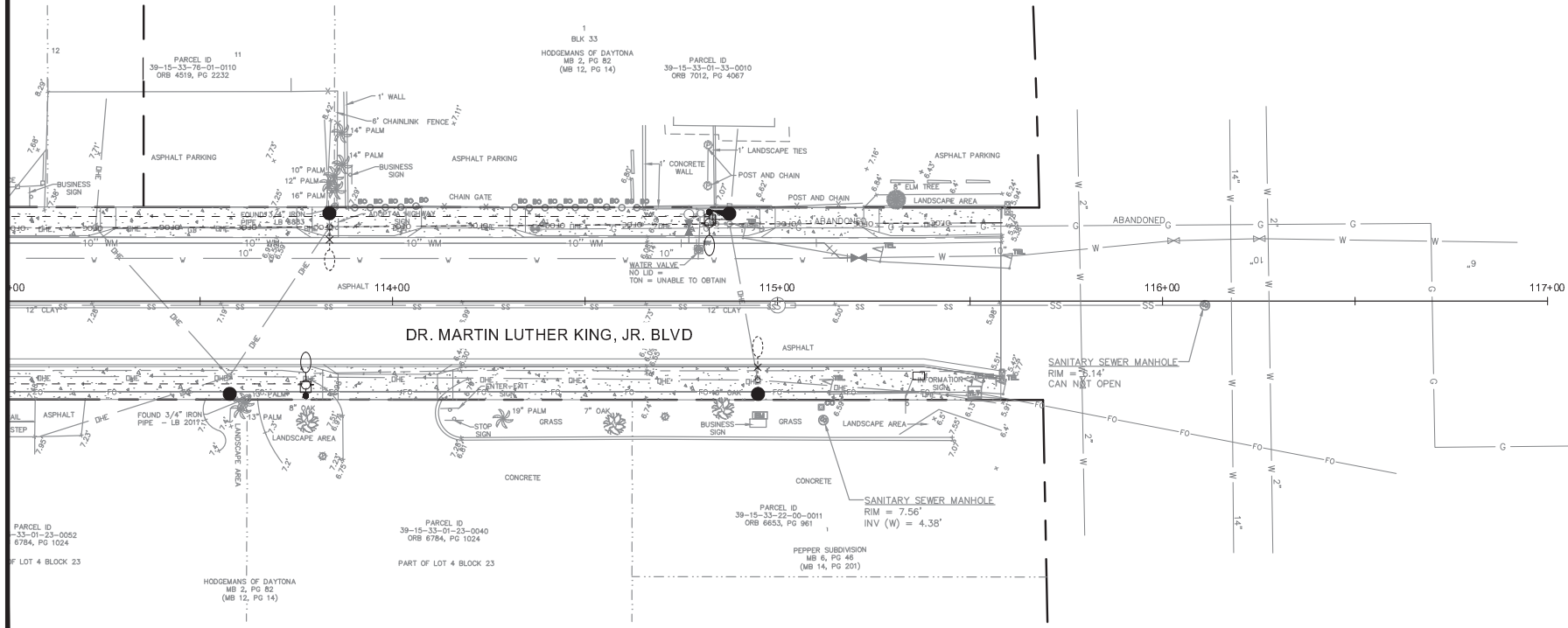
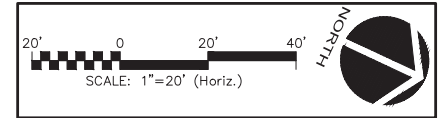
PRIVATE UTILITY
 RELOCATION PLAN 1 OF 2

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE: 1"=20'	M&C FILE NUMBER: CU103-09960161
MCE PROJ. # 0996-0161	HORIZONTAL: 1"=20'	DRAWING NUMBER: C-13
DRAWN: BEN	VERTICAL: 1"=2"	
DESIGNED: P.J.L.		
CHECKED: CRB		
PROJ. MGR.: SRS		
STATUS: REISSUED FOR BIDDING		

S:\2015\085\085-085-085-085.dwg 1/17/2018 10:27:27 AM, Doreen Podgett

MATCH LINE STA. 113+00 SEE SHEET C-2 FOR CONTINUATION

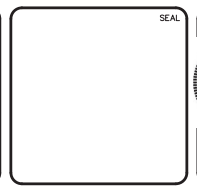


LEGEND
 ● APPROXIMATE NEW LOCATION OF RELOCATED UTILITY POLES.

NOTES:
 1. PROPOSED LOCATION OF UTILITY POLES IS APPROXIMATE. CONTRACTOR SHALL COORDINATE ACTUAL LOCATION WITH UTILITY COMPANY.
 2. TO FACILITATE UTILITY POLE RELOCATION, CONTRACTOR SHALL REMOVE SIDEWALK PANEL WHERE NEW POLE WILL BE LOCATED. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ALL MEASURES NECESSARY TO ENSURE SIDEWALK IS COMPLIANT WITH ALL APPLICABLE ADA AND LOCAL REGULATIONS WHILE EXISTING SIDEWALK PANEL IS REMOVED FOR UTILITY POLE RELOCATION.

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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2019
A	ISSUE FOR BIDDING	AUGUST 2018
REVISIONS		



Digitally signed by Scott R Spooner
 Date: 2019.01.10 16:05:07 -05'00'
 SCOTT R. SPOONER, P.E.
 No. 23273

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 THE CITY OF DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
 BOULEVARD—ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT
 PRIVATE UTILITY RELOCATION PLAN 2 OF 2

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE	M&C FILE NUMBER
M&C PROJ. # 0996-0161	HORIZONTAL: 1"=20'	CU103-09960161
DRAWN: BFN	VERTICAL: 1"=2'	DRAWING NUMBER
DESIGNED: P.J.L.		C-14
CHECKED: CRB		
PROJ. MGR.: SRS		

STATUS: REISSUED FOR BIDDING

POTABLE WATER CONSTRUCTION & DESIGN STANDARDS

- THE CITY'S UTILITIES DEPARTMENT SHALL BE GIVEN A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS OR WEEKENDS) PRIOR TO BEGINNING ANY POTABLE WATER SYSTEM CONSTRUCTION.
- ALL DEWATERING ACTIVITIES EITHER DIRECTLY DISCHARGED OR THAT SUBSEQUENTLY USE THE CITY'S STORMWATER SYSTEM TO CONVEY GROUND OR SURFACE WATER FROM A SITE SHALL REQUIRE A STANDARD OR GENERAL USE PERMIT AS PER ARTICLE 7 SECTION 7 OF THE LAND DEVELOPMENT CODE. A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING ACTIVITIES, OR IN ANY CONSTRUCTION ACTIVITIES. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHES ALLOWING CONSTRUCTION OR MAINTENANCE TO BE DONE IN THE DRY, OR ANY ACTIVITY WHICH CHANGES THE IMPERVIOUS AREA OF LAND. SITE SPECIFIC PERMITS SHALL REQUIRE THE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE THE PAYMENT OF AN ANNUAL FEE BASED ON ROUTING SCHEDULE OF MAINTENANCE ACTIVITIES DISCHARGING DIRECTLY OR SUBSEQUENTLY INTO THE CITY'S MSA. DEWATERING PERMIT APPLICATIONS MAY BE FOUND AT <http://www.codb.us/links.asp?link=202>. FEES ARE SUBJECT TO ARTICLE 20 SECTION 3.1 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED TO THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT AT 120 BASIN STREET SUITE 100, DAYTONA BEACH FL 32114 BEFORE ANY USE OF THE MSA WILL BE ALLOWED. FAILURE TO COMPLY WILL RESULT IN THE TERMINATION OF ACCESS TO THE CITY'S MSA SYSTEM.
- ALL WORK PERFORMED UPON POTABLE WATER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE CONSTRUCTED BY AN UNDERGROUND UTILITY CONTRACTOR OR GENERAL CONTRACTOR LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE DEPARTMENT OF HEALTH, AND THAT AS-BUILT DRAWINGS (MEETING THE CITY'S AS-BUILT DRAWING REQUIREMENTS) ARE PROVIDED TO THE CITY PRIOR TO ANY USE OF THIS SYSTEM.
- WATER DISTRIBUTION SYSTEM SHALL BE DESIGNED TO COMPLY WITH THE CITY'S FIRE (WATER) FLOW CODE.
- ALL WATER SERVICE ENDINGS SHALL BE MARKED WITH A 2" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE GRADE, IN FRONT OF THE METER BOX WITH 2' OF ENDTRACE COILED AND CAPPED WITH AN ELSTER HYDROSEPT CAP INSIDE OF THE METER BOX.
- ALL WATER SERVICES SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB.
- ALL WATER VALVES SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB.
- ALL TAPPING OF MAINS SHALL BE PERFORMED WITH A UTILITY REPRESENTATIVE PRESENT. SCHEDULING OF THESE CONNECTIONS SHALL BE REQUIRE A MINIMUM OF 3 (THREE) BUSINESS DAYS FOR NOTIFICATION AND SHALL BE COORDINATED WITH THE WATER DISTRIBUTION DIVISION (386) 671-8815.
- FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION STATIONING & OFFSETS FROM THE CENTER LINE OF CONSTRUCTION AND RIGHT-OF-WAY LINES THE PROPOSED LOCATIONS OF ALL WATER MAINS.
- DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW MAIN BEING LAID.
- ALL WATER MAINS SHALL BE LAID ON A FIRM UNYIELDING FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 98% IN PAVED AREAS AND 95% IN UNPAVED AREAS IN ACCORDANCE WITH AASHTO T-180 MODIFIED PROCTER TEST.
- ON PROJECTS THAT ARE NOT INITIATED BY THE CITY IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 12 INCHES ABOVE THE PIPE AND AT 12 INCH VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

WATER CONSTRUCTION
& DESIGN STANDARDS
(PAGE 1 OF 4)

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Scale: NTS
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(CONT'D)

- WHERE POTABLE WATER AND SANITARY SEWER MAINS CROSS WITH LESS THAN TWELVE (12) INCHES OF VERTICAL CLEARANCE OR WHERE THE SEWER MAIN IS ABOVE THE WATER MAIN, THE SEWER MAIN SHALL BE ENCASED WITH CONCRETE, OR UPGRADED TO C-900 PVC PIPE FOR A MINIMUM LENGTH OF TWENTY (20) FEET, CENTERED ON THE POINT OF CROSSING. A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET (SIDE TO SIDE) BETWEEN POTABLE WATER MAINS AND SEWER MAINS SHALL BE MAINTAINED WHEN AT ALL POSSIBLE. WHEN THE SIX (6) FOOT HORIZONTAL SEPARATION CANNOT BE MAINTAINED, THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELVE AT LEAST 18" ABOVE THE SEWAGE MAIN. ALTERNATIVELY, THE SEWER MAIN SHALL BE ENCASED WITH CONCRETE OR ENCLOSED IN A WATER TIGHT CARRIER PIPE, OR UPGRADED TO PRESSURE RATED PVC PIPE (MEETING THE AWWA C-900 OR C-905 SPECIFICATION) AND PRESURE TESTED. **SEE PIPE SEPARATION DETAIL (W-5) AND UTILITY PIPE ENCASEMENT DETAIL (W-9).
- WATER MAINS ARE TO BE CONSTRUCTED A MINIMUM OF FOUR FEET MEASURED FROM THE OUTSIDE WALL OF THE WATER MAIN, BEHIND THE BACK OF CURB OR OUTSIDE OF THE EDGE OF ROADWAY PAVEMENT, WHICHEVER IS GREATER.
- A THREE INCH WIDE METALLIZED LOCATOR TAPE SHALL BE USED ON ALL PRESURIZED MAINS WITH METALLIZED LOCATOR TAPE SHALL BE NON-CORRODIBLE CONSISTING OF POLYETHYLENE FILM WITH METALLIC FILM AND SHALL BE CONTINUOUSLY MARKED TO IDENTIFY THE REFERENCED PIPELINE. THE TAPE SHALL BE INSTALLED EIGHTEEN INCHES DIRECTLY ABOVE THE PIPE.
- ALL NON-METALLIC WATERLINES SHALL HAVE #12 SINGLE STRAND UTILITY RATED INSULATED COPPER WIRE ATTACHED. THE ENDS NEED TO BE SEALED WITH LIQUID TAPE.
- SINGLE RESIDENTIAL WATER SERVICES SHALL BE A COPPER 1" MINIMUM, OR ENDOT, ENDOTRACE POLY-TUBE (MEETS THE SPECIFICATIONS OF NSF-14, AND AWWA C901.)
- ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE, AND SHALL HAVE A MINIMUM COVER OF 36 INCHES.
- WATER MAINS SHALL BE DUCTILE IRON PIPE (D.I.P.), CLASS 350, CEMENT LINED UNLESS OTHERWISE APPROVED BY THE CITY. ALL NON DUCTILE IRON PIPE HORIZONTAL, DIRECTIONAL, DRILL WATER MAINS SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 160 PSI. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING DEPENDENT ON SITE CONDITIONS.
- ALL POTABLE WATER MAINS SHALL USE A THRUST RESTRAINT JOINT METHOD IN COMPLIANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) GUIDELINES.
- METALLIZED JOINTS, RESTRAINED JOINTS, GRIPPER GASKETS, OR STAR GRIPS SHALL BE USED ON ALL RESTRAINED JOINT INSTALLATIONS. MINIMUM DEPTH OF BURY ON NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DIPRA THRUST RESTRAINT DESIGN GUIDELINES.
- GRIPPER RING GASKETS SHALL BE USED AS APPROPRIATE FOR RESTRAINING PRESSURE PIPE TO FITTINGS, VALVES, ETC.
- WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 750 FEET. SPACING OF VALVES ON PRIMARY TRANSMISSION MAINS WILL BE DETERMINED BY THE CITY.
- AT ALL WATER MAIN TEES AND VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
- APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
A. RESILIENT SEAT GATE VALVES (AWWA C-509)
B. TAPPING VALVES WITH MECHANICAL TAPPING SLEEVE.
- ALL WATER VALVES, INCLUDING CONCRETE COLLAR (WITH DEBRIS CAP), SHALL BE ADJUSTED TO FINISHED GRADE AND THE VALVE BOX LID, PRIMED PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.
- UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS, WATER VALVES SHALL BE COMPLETELY OPENED BY PUBLIC UTILITIES PERSONNEL. AT NO TIME SHALL CONTRACTOR OPERATE ANY EXISTING VALVES WITHOUT A CITY INSPECTOR PRESENT.
- ALL VALVES 2" AND SMALLER SHALL BE CURB STOPS. VALVES LARGER THAN 2" SHALL BE GATE VALVES.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

WATER CONSTRUCTION
& DESIGN STANDARDS
(PAGE 2 OF 4)

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Scale: NTS
Revision Date: 02/20/14
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POTABLE WATER CONSTRUCTION & DESIGN STANDARDS (CONT'D)

- TYPICALLY, A MINIMUM OF ONE FIRE HYDRANT SHALL BE LOCATED AT EVERY INTERSECTION. OTHER FIRE HYDRANTS SHALL BE LOCATED SO AS TO PRODUCE A MAXIMUM 500 FOOT RADIUS OF COVERAGE. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL. THE PRIMARY HYDRANT PORT IS TO FACE THE STREET.
- IN AREAS WHERE RECLAIMED WATER IS NOT AVAILABLE THE CONTRACTOR SHALL BE REQUIRED TO TRANSFER THE WATER FROM THE POTABLE WATER LINES WITH NECESSARY BACKFLOW PREVENTION DEVICES TO THE NON-POTABLE WATER LINES FOR UTILIZATION IN THEIR PRESSURE TEST.
- THE CONTRACTOR SHALL BE REQUIRED TO PIG ALL POTABLE MAINS 6" OR GREATER IN DIAMETER LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CONTRACTOR.
- WITH RESPECT TO FLUSHING, PIGGING, TESTING, AND THE IN-CONNECTIONS, THE CITY RESERVES THE RIGHT TO REQUIRE WORK TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 6:00 A.M.) IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS.
- THE CITY RESERVES THE RIGHT TO PERFORM THE SAMPLING AND ANALYSIS FOR BACTERIOLOGICAL CLEARANCE OF THE WATER MAIN. ANY RETESTING WILL BE AT THE CONTRACTOR'S EXPENSE.
- POTABLE WATER SYSTEM EXTENSIONS MAY NOT BE USED PRIOR TO FINAL TESTING, UNTIL CLEARANCE IS ACCEPTED BY THE CITY OF DAYTONA BEACH AND THE VOLUSIA COUNTY HEALTH DEPARTMENT.
- A BACK FLOW PREVENTER (BFP) SHALL BE PLACED ON ALL POTABLE AND FIRELINES SERVING COMMERCIAL, PROPERTIES AND RESIDENTIAL WHERE ALTERNATIVE WATER IS AVAILABLE. THE TYPE OF BACKFLOW PREVENTERS REQUIRED ARE AS FOLLOWS:
POTABLE WATER SERVICE, REDUCED PRESSURE ZONE BFP
FIRELINE SERVING A FIRE SPRINKLER SYSTEM AND/OR PRIVATE FIRE HYDRANT; DOUBLE CHECK VALVE SYSTEM
FIRELINE; DOUBLE CHECK VALVE SYSTEM
IN CASES WHERE A WATER LINE SERVES BOTH DOMESTIC AND FIRE SERVICES, A REDUCED PRESSURE ZONE BFP SHALL BE REQUIRED.
- ALL JACK & BORES REQUIRED WITH COMMERCIAL DEVELOPMENTS SHALL BE AT THE SOLE COST OF THE OWNER / DEVELOPER.
- ALL C-900 PVC PIPE REQUIREMENTS ARE REFERENCED TO THE C-900-97 STANDARDS. DR UPGRADES FOR BURST PROTECTION MAY BE REQUIRED WHEN USING THE C-900-07 STANDARDS.
- CHLORINATED WATER MUST BE DE-CHLORINATED PRIOR TO DISCHARGE INTO ANY JURISDICTIONAL WETLAND OR WATER BODY AS PER AWWA STANDARD, ANSI/AWWA C655-09.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

WATER CONSTRUCTION
& DESIGN STANDARDS
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POTABLE WATER CONSTRUCTION & DESIGN STANDARDS TESTING REQUIREMENTS:

- ON ALL PROJECTS OTHER THAN THOSE INITIATED BY THE CITY THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE THAT COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY. HOWEVER, ON ALL CITY PROJECTS THE TESTING WILL BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. TESTS SHALL BE DONE ONE FOOT ABOVE THE PIPE AND THEN AT ONE FOOT VERTICAL INTERVALS UNTIL FINAL GRADE IS REACHED. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S DESIGNATED SITE INSPECTOR.
- ALL POTABLE WATER MAINS SHALL BE FLUSHED, DISINFECTED, PRESSURE TESTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE WHEN APPROPRIATE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED INSPECTOR WHO SHALL COORDINATE WITH CITY PERSONNEL AT THE WATER TREATMENT PLANT AT LEAST 3 (THREE) BUSINESS DAYS PRIOR TO BEGINNING FLUSH OF THE MAINS PRIOR TO THE COMMENCEMENT OF PRESSURE TESTING. NO HOSE OR FIRE HYDRANT SHALL BE USED IN THE COLLECTION OF BACTERIOLOGICAL SAMPLES. THE SAMPLING TAP MUST BE DEDICATED AND CLEAN, AND DISINFECTED AND FLUSHED PRIOR TO SAMPLING. SAMPLING TAP SHALL BE SMOOTH, UNTHREADED 1/2" HOSE BIB. DISINFECTION & SAMPLING SHALL BE SCHEDULED AT THE CITY'S CONVENIENCE.
- PRESSURE TEST FOR TAPPING SADDLES AND VALVES. (MINIMUM OF 30 MINUTES AT 150 PSI OR 30 MINUTES AT MANUFACTURERS LABELED TESTING PRESSURE).
- WATER MAINS SHALL BE PRESSURE TESTED AT 150 PSI FOR 30 MINUTES. TESTING SHALL BE IN ACCORDANCE WITH AWWA C-900 AND AWWA C-605 AS APPLICABLE WITH ALLOWABLE LEAKAGE TO BE X GAL/HR PER X" DIA. OF PIPE, PER X' OF MAIN TO BE TESTED.
ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE = GPH

AVERAGE PRESSURE TEST (PSI)	NOMINAL PIPE DIAMETER - INCHES												AVERAGE TEST PRESSURE (PSI)						
(PSI)	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54	60	64	(PSI)
450	0.48	0.64	0.96	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82	4.76	5.73	6.69	7.64	8.60	9.56	10.19	450
400	0.30	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.30	400
350	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81	3.37	4.21	5.06	5.90	6.74	7.58	8.43	8.99	350
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.12	3.90	4.68	5.46	6.24	7.02	7.80	8.30	300
275	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.99	3.73	4.48	5.23	5.98	6.73	7.47	7.93	275
250	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85	3.56	4.27	4.99	5.70	6.41	7.12	7.60	250
225	0.34	0.45	0.68	0.90	1.13	1.36	1.59	1.83	2.06	2.29	2.76	3.38	4.00	4.71	5.41	6.10	6.78	7.25	225
200	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12	2.55	3.19	3.82	4.46	5.09	5.73	6.37	6.80	200
175	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	1.98	2.38	2.98	3.58	4.17	4.77	5.36	5.96	6.36	175
150	0.28	0.37	0.54	0.72	0.89	1.07	1.24	1.41	1.58	1.74	2.14	2.64	3.14	3.64	4.14	4.64	5.14	5.54	150
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01	2.50	3.00	3.50	4.00	4.50	5.00	5.37	125
100	0.23	0.31	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80	2.20	2.70	3.15	3.60	4.05	4.50	4.80	100

* IF THE PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.

WHERE:
L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
S = LENGTH OF PIPE TESTED, IN FEET
D = NOMINAL DIAMETER OF PIPE, IN INCHES
P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH (GAUGE)

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

WATER CONSTRUCTION
& DESIGN STANDARDS
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File Name: Water Main W-4 Page 4

Guidelines for the Acceptance of New Water Mains from Contractors

Contact the Utilities Department at 386-671-8871 or 386-671-8827 a min. of 5 business days prior to beginning any potable water system construction. Utilities Inspector will coordinate with the City's Water Distribution Division to schedule the tap of the main. DOH Permit to be forwarded to the Water/Wastewater (W/W/W) Inspector with the Regulatory Compliance Division.

Contractor to install tapping saddle/sleeve and disinfected valve on the existing water main under inspection of the Utilities Department. All materials must be swabbed with a 5% chlorine solution.

Pressure test the tapping saddle/sleeve and valve. (Min. 30 minutes at manufacturer recommended pressure).

City's Water Distribution Department will tap the existing main.

All mains 6" and larger (greater than 100 LF) must be pigged and flushed by the contractor under inspection of the water/wastewater inspectors. Contact Bob Terpstra between 07:30 - 14:00 hrs. Monday - Thursday excluding holidays at 386-671-8809 or 386-717-7839 to schedule.

Contractor must pressure test the new main under inspection of the W/W/W Inspector. (Minimum 4 hrs at 150 psi) Refer to CODB Standard Details.

Pressure Test Passed → Pressure Test Failed → Repair leaks

Submit Preliminary As-Built to Utilities Engineering. (1 AutoCAD CD and 1 Paper Copy in State Plane Coordinates NAD 83). Once preliminary as-builts are acceptable, W/W/W Inspector will schedule the chlorination. (Chlorination is scheduled Mon. thru Wed. with 48 hrs advance notice required.)

Contractor will super chlorinate the new main in accordance with AWWA C651.05 (or most recent version). The chlorine solution must be greater than 25 mg/L (50 mg/L preferred) and must remain in the water main for at least 24 hrs with a final residual of 10 mg/L. The chlorination must be monitored by the W/W/W Inspector. An alternative method of "slug" chlorination can be utilized. Initial chlorine dose of 100 mg/L in contact for 3 hours with a final residual of 50 mg/L.

Flush main and reduce the chlorine residual to proper level (1-3 mg/L typical, not to exceed ambient chlorine residual from the WTP). Any water discharged to receiving water bodies shall be dechlorinated per AWWA standards.

Re-chlorination is required if the 2nd consecutive sample fails.

W/W/W Inspector/CODB Lab will collect and test samples for 2 consecutive days per FDEP requirements.

Bacteriological test passed for 2 consecutive days → Bacteriological test failed → Re-chlorination

Submit Final As-built Drawings (1 Mylar & 2 Paper Copies, 1 CD with CAD drawings and pdfs), Bacteriological Test Results and FDEP Clearance Application to the Utilities Engineering Division.

Utilities Engineering signs and delivers the FDEP clearance app. to the Health Department.

FDEP Letter of Clearance Received

Water Distribution Division will open valve and place water main into service.

*Should the bacteriological samples expire prior to DOH submittal re-chlorination and re-sampling will be required at the contractor's cost using the City personnel and laboratory.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

GUIDELINES FOR THE ACCEPTANCE
OF NEW WATER MAINS
FROM CONTRACTORS

FC-15/16
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File Name: AS-BUILT Page 9

TYPICAL PIPE CROSSING DETAIL

NOTES:

- TYPE "A" CROSSING SHALL BE THE PREFERRED CONFIGURATION. TYPE "B" MAY BE USED ONLY UPON SPECIFIC APPROVAL.
- CONCRETE ENCASEMENT OF A SANITARY SEWER MAIN IS AN ALTERNATIVE METHOD OF ADDRESSING A CONFLICT WHEN 12" VERTICAL SEPARATION DISTANCE CANNOT BE MAINTAINED. IN SUCH INSTANCES, THE MINIMUM PIPE VERTICAL SEPARATION SHALL BE 0". (NOTE THAT THIS DOES NOT APPLY TO SERVICE LATERALS. SEE STANDARD DETAILS S-30 AND S-30-B).
- LOWERING OF EXISTING WATER MAIN & FORCE MAIN BY DEFLECTION METHOD MAY BE ACCEPTABLE IF EXISTING FIELD CONDITIONS PERMIT AND APPROVAL IS RECEIVED FROM CDD.
- LENGTH OF SECTION BASED ON MINIMUM LENGTH AS DETERMINED BY DIPRA RESTRAINED JOINT MANUAL.
- INSTALL RESTRAINED JOINTS, AS REQUIRED, FROM DEFLECTION POINT IN BOTH DIRECTIONS (20" MIN.).

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

TYPICAL PIPE
CROSSING
DETAIL

FC-15/16
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Scale: NTS
Revision Date: 12/13
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LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Crossings (1)	Joint Sealing @ Crossings (Full Joint Centered)
Sanitary Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main 10 ft. minimum	Water Main 12 inches is the minimum, 6 inches is recommended and 12 inches is preferred	Alternate 3 ft. minimum
Vacuum Sanitary Sewer	Water Main 10 ft. minimum	Water Main 12 inches is the minimum, 6 inches is recommended and 12 inches is preferred	Alternate 3 ft. minimum
On-Site Sewage Treatment & Disposal System	Water Main 10 ft. minimum	Water Main 12 inches is the minimum, 6 inches is recommended and 12 inches is preferred	Alternate 3 ft. minimum

Notes: (1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches. (2) 1/2" for gravity sanitary sewer where the bottom of the sewer main is laid at least 6 inches above the top of the gravity sanitary sewer. (3) 1/2" for gravity sanitary sewer where the bottom of the sewer main is laid at least 6 inches above the top of the gravity sanitary sewer. (4) Reclaimed water not regulated under Part III of Chapter 62-601, F.A.C. (5) Reclaimed water not regulated under Part III of Chapter 62-601, F.A.C.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

WATER MAIN
SEPARATION CHART

FC-15/16
Drawing Date: 01/28
Drawn By: AJM
Checked By: JAP
Scale: NTS
Revision Date: 01/28/14
File Name: Water Main W-5 Page 13

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)

FITTING	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
PIPE SIZE (IN.) :					
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36"	69 (82)	28 (34)	18 (18)	18 (18)	170 (204)
42"	76 (92)	31 (37)	18 (18)	18 (18)	191 (229)
48"	90 (106)	40 (46)	18 (18)	18 (18)	212 (254)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.

TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

TABLE APPLIES TO DUCTILE IRON PIPE FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 3 FEET (MIN.)
SAFETY FACTOR: 1.5
TRENCH TYPE: 2

VALUES IN PARENTHESIS (X) ARE FOR PIPE ENCASED IN POLYETHYLENE.

* VALUES APPLY TO DUCTILE IRON PIPE AT 50 PSI TEST PRESSURE.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

DIP
RESTRAINED JOINT
TABLE

FC-15/16
Drawing Date: 01/28
Drawn By: AJM
Checked By: JAP
Scale: NTS
Revision Date: 01/28/14
File Name: Water Main W-6 Page 14

REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2015
A	ISSUE FOR BIDDING	AUGUST 2013

SEAL

Digitally signed by Scott R Spooner
Date: 2019.01.10 16:06:19 -05'00'

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THE CITY OF DAYTONA BEACH
DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT

WATER DETAILS 1

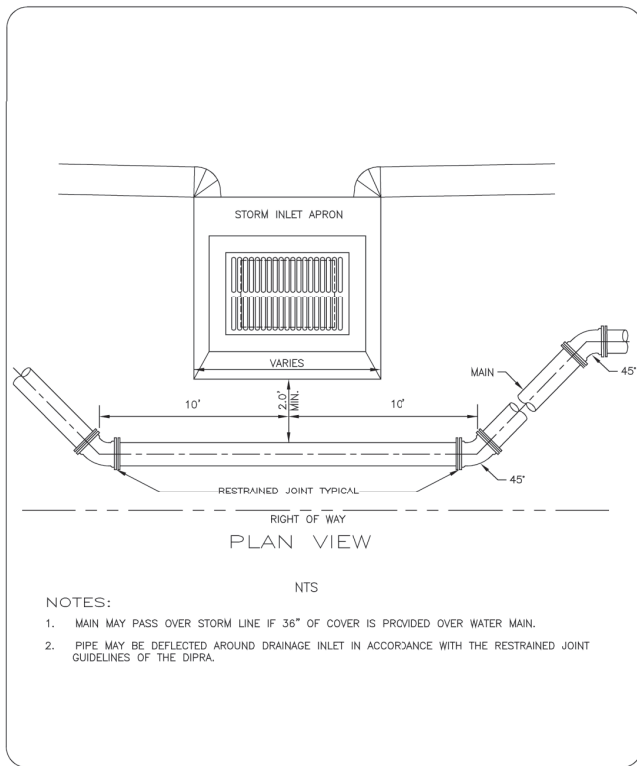
PROJECT NO. 2015-085

DATE: APRIL 2017
MCE PROJ. # 0996-0161
DRAWN: DML
DESIGNED: PJP
CHECKED: CRB
PROJ. MGR. SRS

SCALE: HORIZONTAL: 1"=20'
VERTICAL: 1"=4'

M&C FILE NUMBER: D001-09960161
DRAWING NUMBER: CD-1

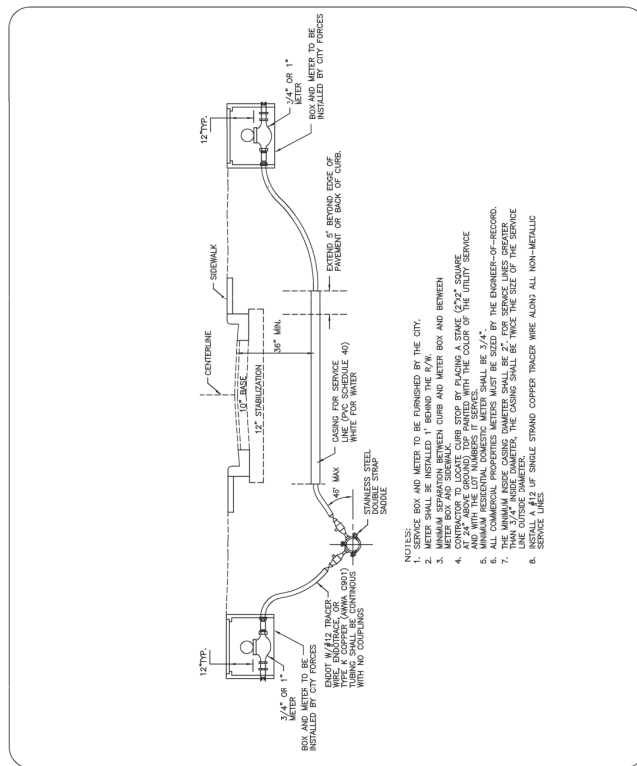
STATUS: REISSUED FOR BIDDING



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

WATERMAIN INSTALLATION BETWEEN STORM INLET AND R.O.W. DETAIL
W-13

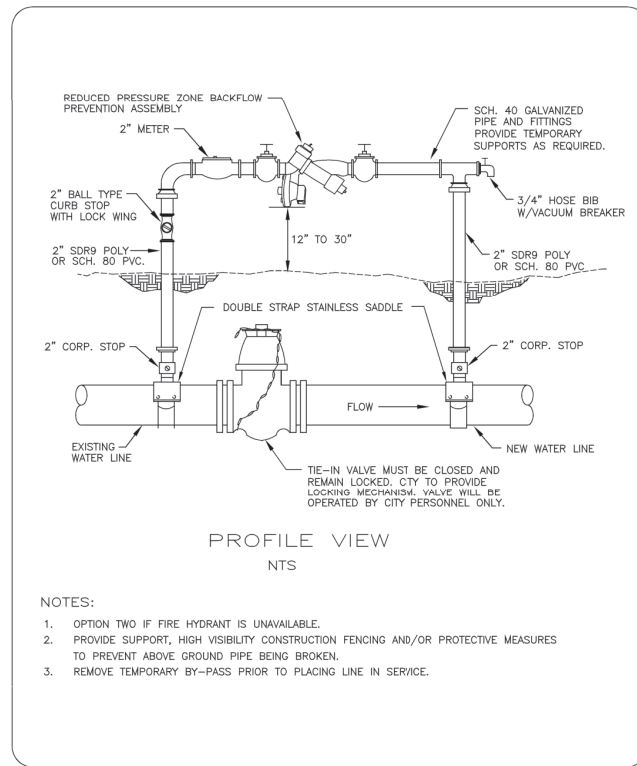
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Drawing Date: 01/08
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 12/12
File Name: Water Valve Box 8-11
Page 17



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

WATER SERVICE CONNECTION (UNDER ROAD) (PAGE 2 OF 2)
W-21

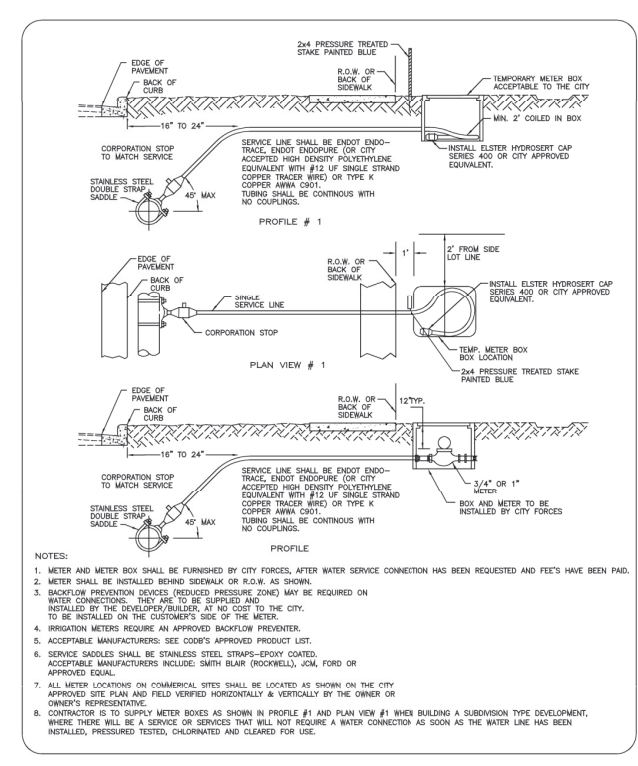
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Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 04/13
File Name: Water Valve Box 8-11
Page 25



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

TEMPORARY FILL CONNECTION DETAIL
W-22

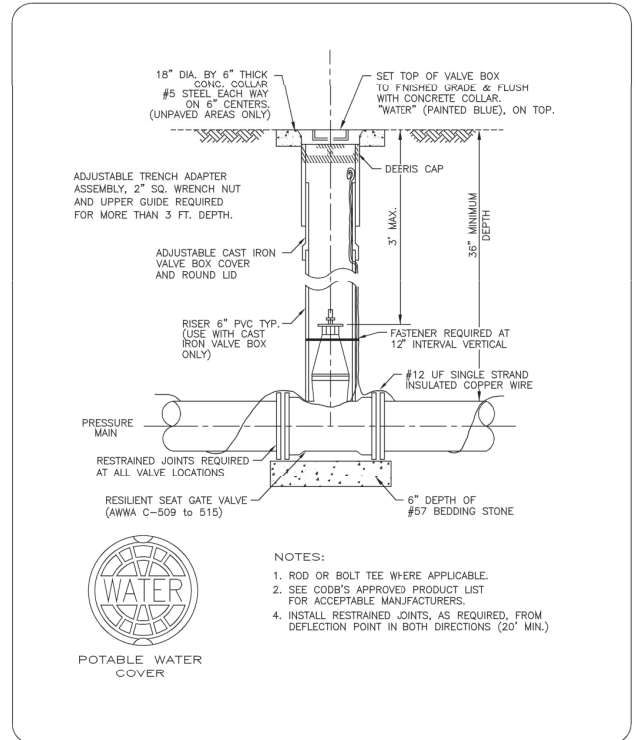
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Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 12/12
File Name: Water Valve Box 8-11
Page 26



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

WATER SERVICE CONNECTION (PAGE 1 OF 2)
W-20

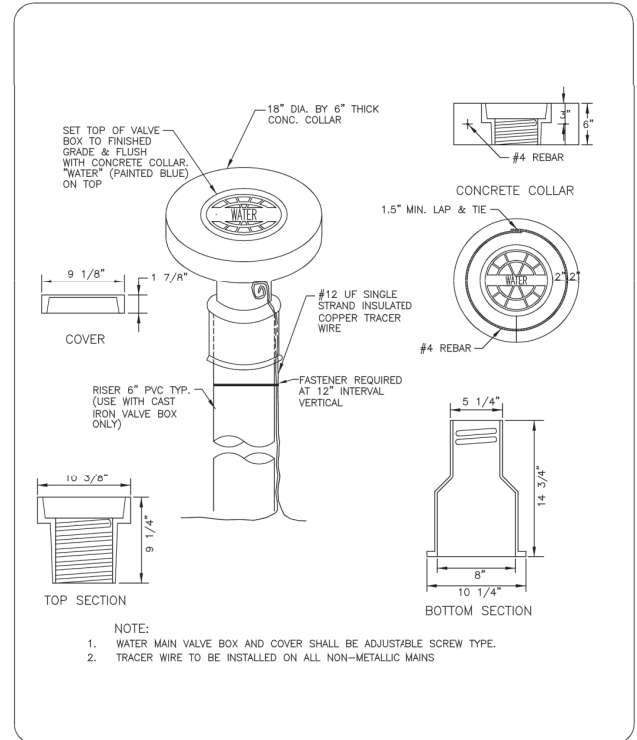
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Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 12/13
File Name: Water Valve Box 8-11
Page 24



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

WATER VALVE AND VALVE BOX DETAIL
W-16

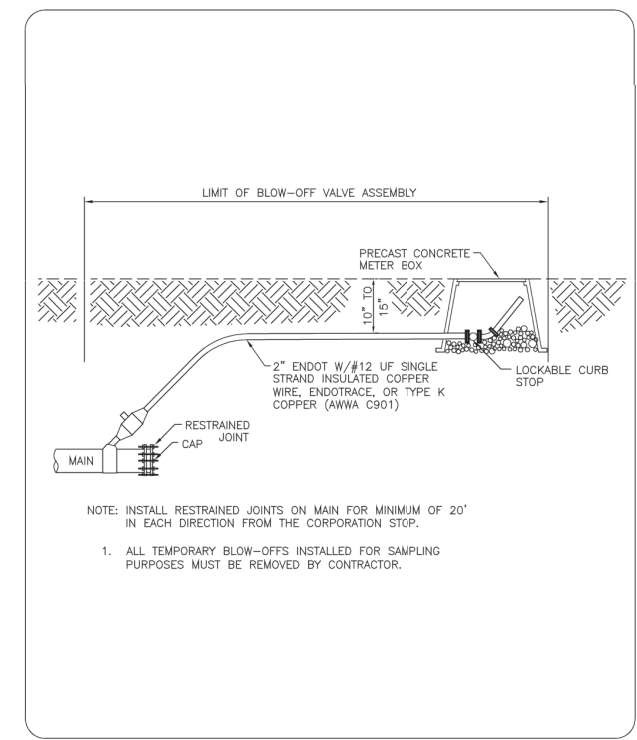
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Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 12/12
File Name: Water Valve Box 8-11
Page 20



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

MAIN VALVE BOX DETAIL
W-17

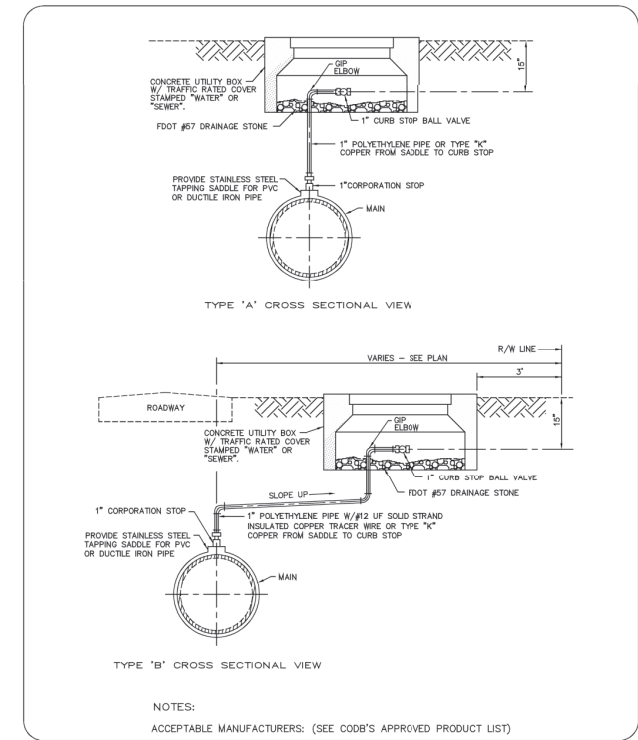
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Drawing Date: 11/10
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 12/12
File Name: Water Valve Box 8-11
Page 21



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

STANDARD 2" BLOW-OFF VALVE ASSEMBLY DETAIL
W-30

FY-15/16
Drawing Date: 01/08
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 12/12
File Name: Water Valve Box 8-11
Page 24



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

MANUAL AIR RELEASE VALVE DETAIL
W-24

FY-15/16
Drawing Date: 01/08
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 12/12
File Name: Water Valve Box 8-11
Page 28

REVNO.	DESCRIPTIONS	DATE
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THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

THE CITY OF DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT

WATER DETAILS 2

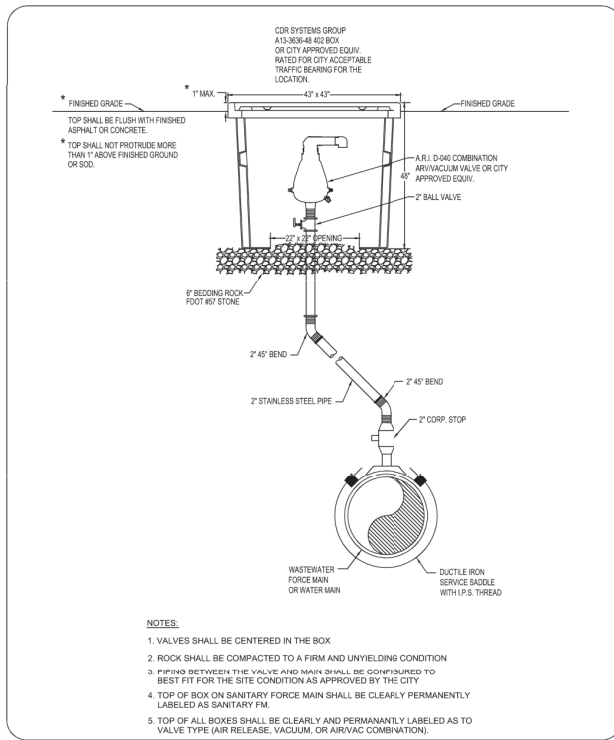
PROJECT NO. 2015-085

DATE: APRIL 2017
MCE PROJ. # 0996-0161
DRAWN: DMP
DESIGNED: P.J.L.
CHECKED: CRB
PROJ. MGR.: SRS

SCALE
HORIZONTAL: 1"=20'
VERTICAL: 1"=4'

M&C FILE NUMBER
D001-09960161
DRAWING NUMBER
CD-2

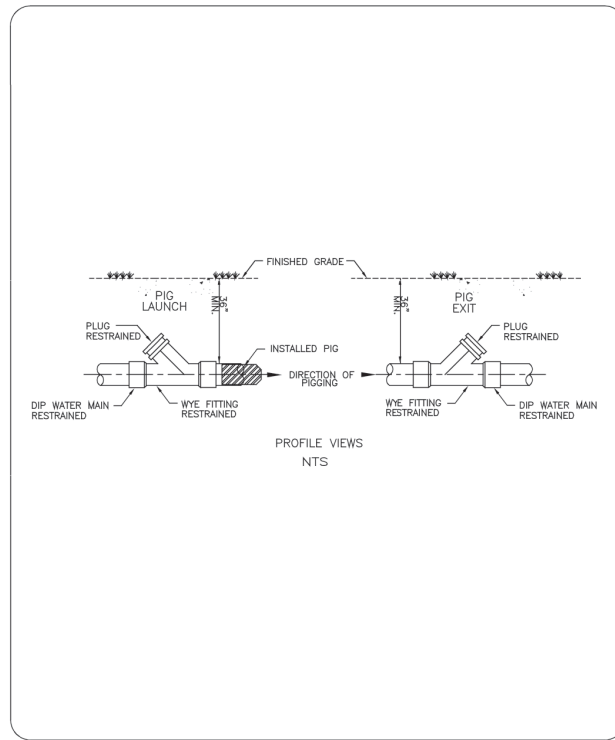
STATUS:
REISSUED FOR BIDDING



THE CITY OF DAYTONA BEACH
 UTILITIES DEPARTMENT

AUTOMATIC AIR/VACUUM
 VALVE
 DETAIL
 W-25

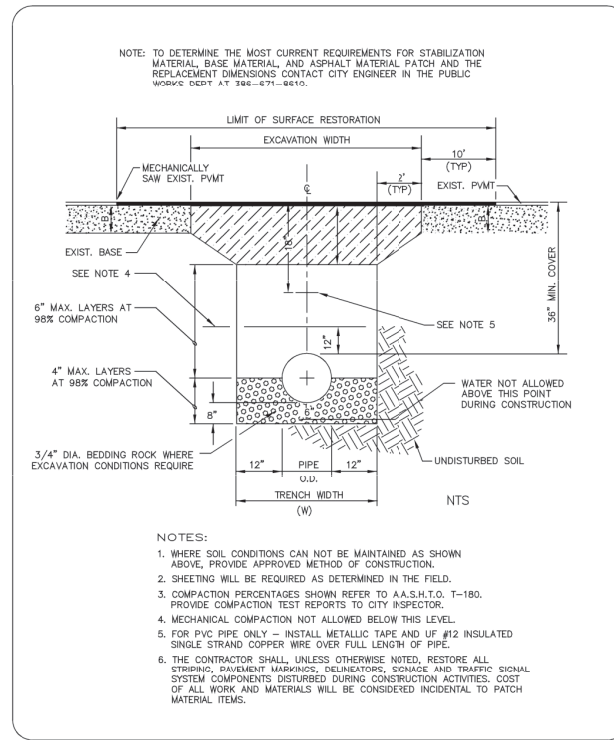
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 Drawing Date: 12/10
 Drawn By: KJM
 Checked By: JAP
 Scale: 1/8"
 Revision Date: 12/12
 File Name: Water Detail W-25
 Page: 25



THE CITY OF DAYTONA BEACH
 UTILITIES DEPARTMENT

PIG LAUNCH
 AND RECEIVING
 DETAIL
 W-31

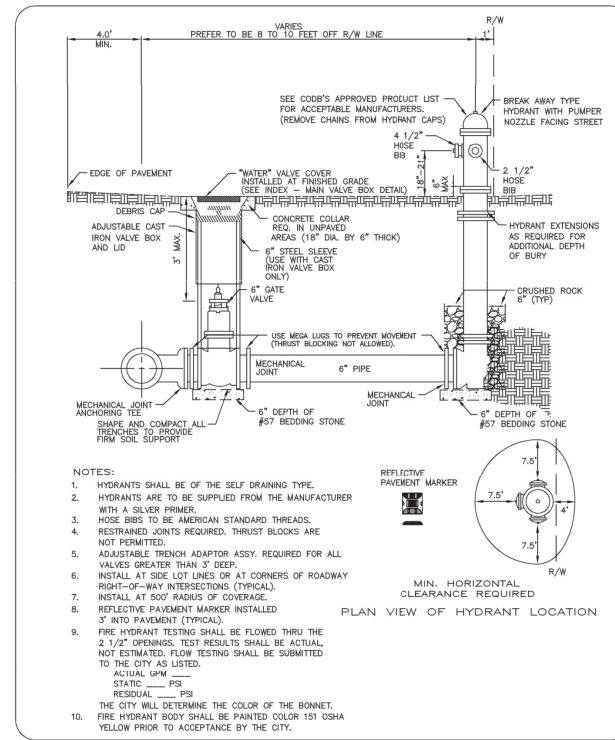
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 Drawn By: KJM
 Checked By: JAP
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 Revision Date:
 File Name: Pig Launch W-31
 Page: 31



THE CITY OF DAYTONA BEACH
 UTILITIES DEPARTMENT

PAVEMENT CUT
 AND PATCH
 DETAIL
 W-15

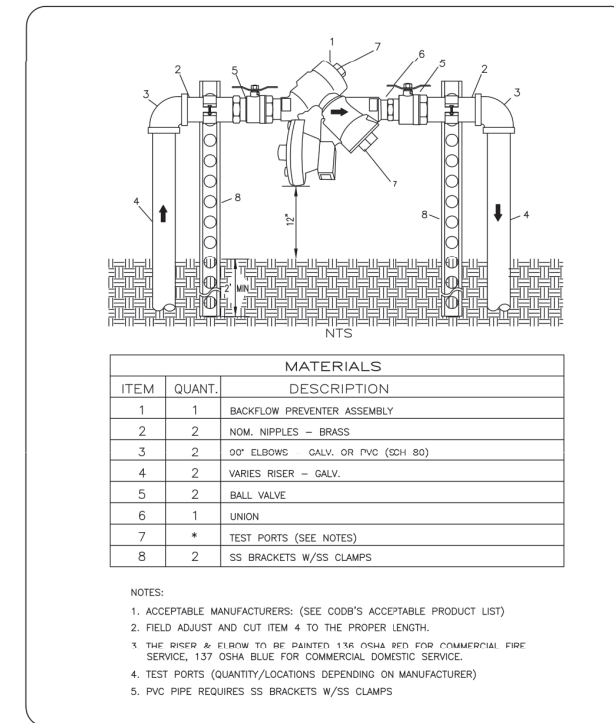
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 Drawing Date: 07/08
 Drawn By: KJM
 Checked By: JAP
 Scale: 1/8"
 Revision Date: 05/13
 File Name: Pavement Cut & Patch W-15
 Page: 15



THE CITY OF DAYTONA BEACH
 UTILITIES DEPARTMENT

FIRE HYDRANT
 ASSEMBLY
 DETAIL
 W-18

FY-15/16
 Drawing Date: 07/08
 Drawn By: KJM
 Checked By: JAP
 Scale: 1/8"
 Revision Date:
 File Name: Fire Hydrant Assembly W-18
 Page: 18



THE CITY OF DAYTONA BEACH
 UTILITIES DEPARTMENT

REDUCED PRESSURE ZONE BACKFLOW
 PREVENTER, SINGLE SERVICE
 3/4", 1", 1-1/2" or 2"
 (PAGE 1 OF 3)
 W-26

FY-15/16
 Drawing Date: 07/08
 Drawn By: KJM
 Checked By: JAP
 Scale: 1/8"
 Revision Date: 07/10
 File Name: Backflow Preventer W-26
 Page: 30

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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018

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 Date: 2019.01.10 16:08:50 -05'00'
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 No. 23273

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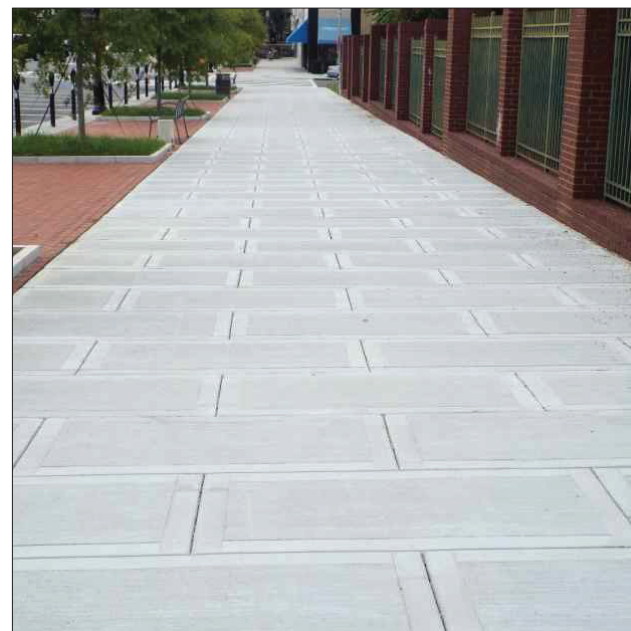
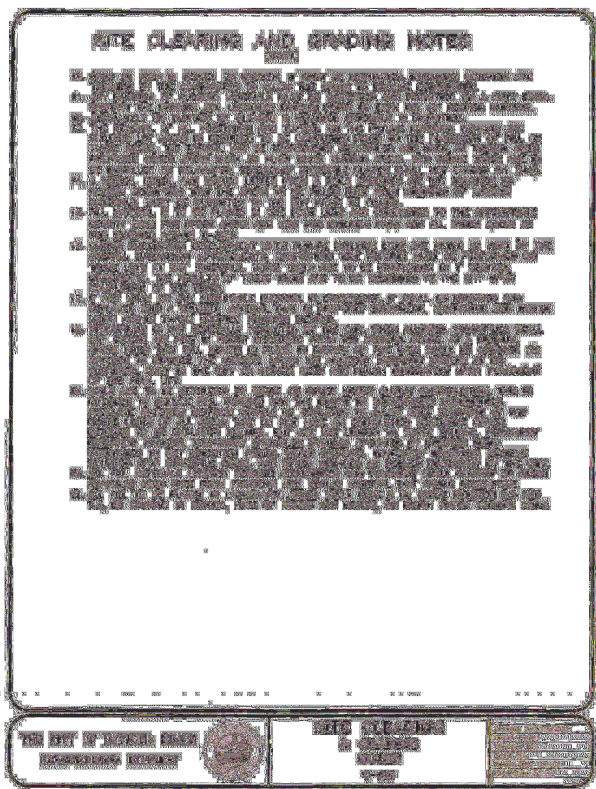
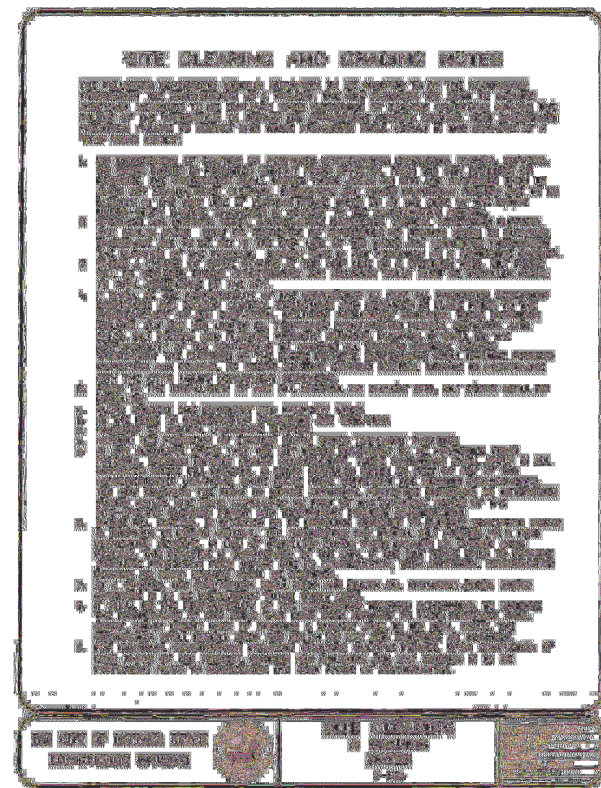
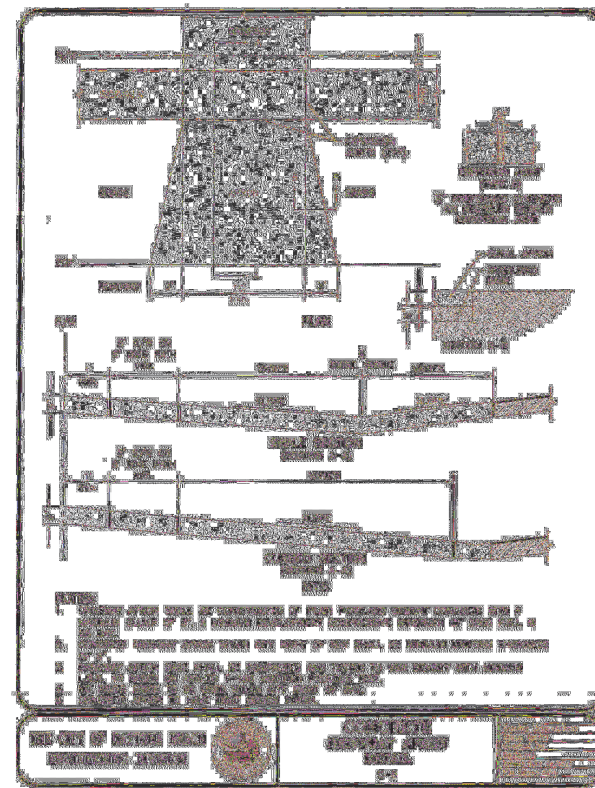
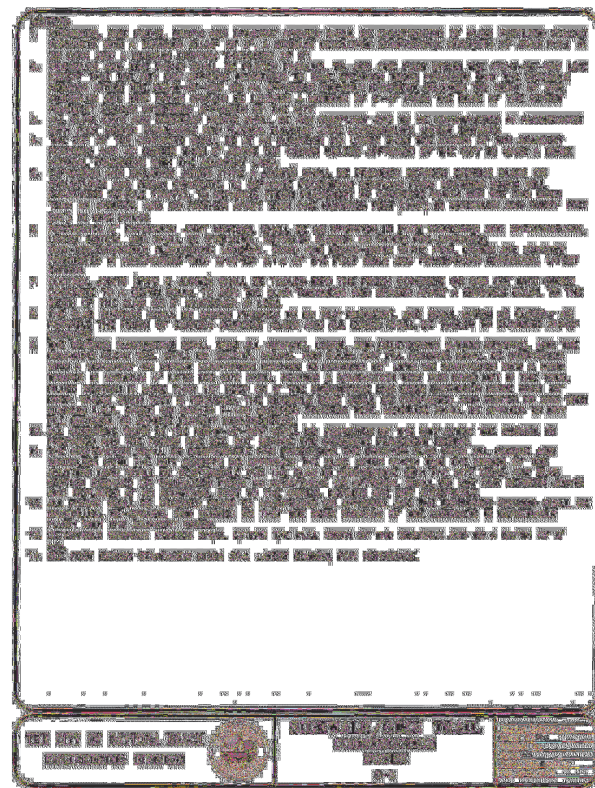
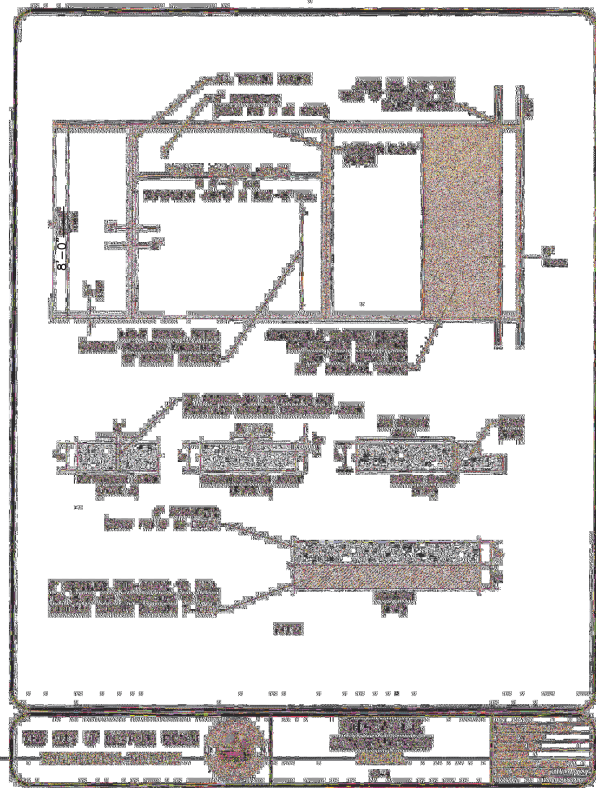
THE CITY OF
 DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT
 WATER DETAILS 3

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE: 1"=20'	M&C FILE NUMBER: D001-09960161
MCE PROJ. # 0996-0161	HORIZONTAL: 1"=20'	DRAWING NUMBER: CD-3
DRAWN: DMP	VERTICAL: 1"=4'	REVISION:
DESIGNED: P.J.L.		
CHECKED: CRB		
PROJ. MGR.: SRS		

STATUS: REISSUED FOR BIDDING

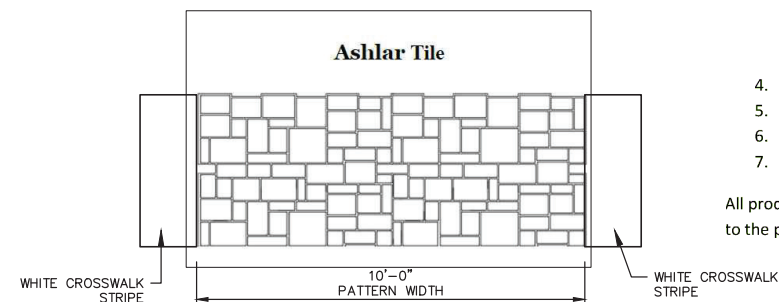


TYPICAL SIDEWALK PATTERN & DETAIL

NOT TO SCALE

NOTE: SIDEWALK TO DEVIATE FROM CITY STANDARD BY PROVIDING THE FOLLOWING:

- 1.) SMOOTH TROWEL FINISH
- 2.) WINDOW PATTERN (STAGGERED) (SEE PHOTO)



STAMPED ASPHALT CROSSWALK

NOT TO SCALE

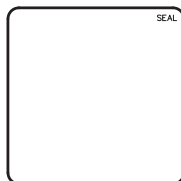
STAMPED ASPHALT CROSSWALK NOTES:

1. Installation is to take place on a fully cured substrate. The asphalt surface is to have a full cure of 14 days, minimum.
2. Product is to be as follows"
 - a. Florida Department of Transportation (FDOT)
 - b. Section 523: S523, Patterned – Textured Pavement
 - c. Approved Product List (APL) Certification No.: 523-000-003
3. Paveway Systems, Inc.;
 - a. 114 Indian Lakes Lane, Florahome, Florida 32140
 - b. Phone:386/659-1316
 - c. www.pavewaysystems.com
4. Proposed Color shall be Amber B-20 for all crosswalks
5. Proposed Pattern Shall be Ashlar Tile
6. Crosswalks are to match the color and style of the existing crosswalks on Orange Avenue
7. Shop Drawing submittal is required.

All product and installation shall be in accordance with Paveway Systems, Inc. or equal and shall adhere to the produce specifications provided by the manufacture.

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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2019
A	ISSUE FOR BIDDING	AUGUST 2018



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THE CITY OF DAYTONA BEACH
INCORPORATED JULY 1888

THE CITY OF
DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT

CIVIL DETAILS

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE	M&C FILE NUMBER
MCE PROJ. # 0996-0161	HORIZONTAL: 1"=20'	D001-09960161
DRAWN: DMP	VERTICAL: 1"=4'	DRAWING NUMBER
DESIGNED: P.J.L.		CD-4
CHECKED: CRB		
PROJ. MGR.: SRS		

STATUS: REISSUED FOR BIDDING

SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS

- THE CITY'S UTILITIES DEPARTMENT SHALL BE GIVEN A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS) PRIOR TO BEGINNING ANY SANITARY SEWER CONSTRUCTION.
- ALL DOWNGRADE ACTIVITIES EITHER DIRECTLY DISCHARGED OR THAT SUBSEQUENTLY USE THE CITY'S STORMWATER SYSTEM TO CONVEY GROUND OR SURFACE WATER FROM A SITE SHALL REQUIRE A STANDARD OR GENERAL USE PERMIT AS PER ARTICLE 7 SECTION 7 OF THE LAND DEVELOPMENT CODE. A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DOWNGRADE ACTIVITIES, OR IN ANY CONSTRUCTION ACTIVITIES. DOWNGRADE ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED WALL, COFFERDAM, OR TRENCHES ALLOWING CONSTRUCTION OR MAINTENANCE TO BE ZONE IN THE CITY, OR ANY ACTIVITY WHICH CHANGES THE INTERVENE AREA OF LAND. SITE SPECIFIC PERMITS SHALL REQUIRE THE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL BE FOUND AT <http://www.codcity.com/Permits.aspx?Page=2015>. FEES ARE SUBJECT TO ARTICLE 20 SECTION 3.1 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED TO THE CITY OF DAYTONA BEACH UTILITY DEPARTMENT AT 123 BASH STREET SUITE 100, DAYTONA BEACH FL 32114 BEFORE ANY USE OF THE MSA WILL BE ALLOWED. FAILURE TO COMPLY WILL RESULT IN THE TERMINATION OF ACCESS TO THE CITY'S MSA SYSTEM.
- UPON COMPLETION, THE CONTRACTOR SHALL PROVIDE THE CITY UTILITIES DEPARTMENT WITH A CITY INSPECTION LOG ON DVD AND A PRINTED REPORT FOR ALL GRAVITY MAINS AND LATERALS CONSTRUCTED. ALL WORK, WITH THE EXCEPTION OF FINAL GRADE ADJUSTMENT TO THE MANHOLES, SHALL BE COMPLETED PRIOR TO COMMENCING THE CITY INSPECTION. THE CONTRACTOR SHALL COORDINATE THE CITY INSPECTION TIME WITH THE CITY UTILITY INSPECTOR PRIOR TO INITIATING THE WORK. FINAL PAVING SHALL NOT COMMENCE UNTIL APPROVAL HAS BEEN RECEIVED FROM THE CITY UTILITY INSPECTOR.
- SEWER LATERALS LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT "V", OR BY A METAL TAB SET INTO THE PAVEMENT.
- THE CONTRACTOR SHALL BE REQUIRED TO PIG ALL FORCE MAINS EQUAL TO OR GREATER THAN 6" IN DIAMETER AND PRIMARY TRANSMISSION MAINS LOCATED ON COLLECTOR AND ARTERIAL ROADWAYS. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CITY.
- WITH RESPECT TO TIE-IN CONNECTIONS AND COING OPERATIONS, THE CITY RESERVES THE RIGHT TO REQUIRE CONNECTIONS TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 6:00 A.M.) IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS.
- ALL WORK PERFORMED UPON SANITARY SEWER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE CONSTRUCTED BY A LICENSED UNDERGROUND UTILITY CONTRACTOR OR LICENSED GENERAL CONTRACTOR, WHO IS LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
- UPON COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AS-BUILTS ARE SUBMITTED TO THE CITY UTILITIES DEPARTMENT PRIOR TO ANY USE OF THE SYSTEM.
- FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION THE LOCATION OF ALL FORCE MAINS, VALVES, MANHOLES & LATERALS FROM THE BASELINE CONSTRUCTION AND FROM RIGHT-OF-WAY LINE.
- LANDSCAPE PLANS SHALL CLEARLY DEPICT THE DESIGN LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORM WATER INFRASTRUCTURE IN ORDER TO EVALUATE POTENTIAL CONFLICTS.
- ALL SANITARY STANDARD DETAILS SHALL APPLY TO ALL CONSTRUCTION WORK PERFORMED IN THE CITY OF DAYTONA BEACH BY REFERENCE TO THESE NOTES (S-1 TO S-16).
- ALL PLUG VALVES SHALL BE IDENTIFIED AS SUCH WITH AN ENGRAVED BRASS 2" x 6" NAME PLATE EMBEDDED IN SURFACE OF CONCRETE CURB OR CONCRETE PAVEMENT.
- FOR AS-BUILT INFORMATION SEE THE CITY'S AS-BUILT DRAWING REQUIREMENTS ATTACHED TO THE BACK OF THE UTILITIES DEPARTMENT'S STANDARD DETAILS.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (PAGE 1 OF 4)
S-1

Drawn By: JAP	Revision Date: 05/16
Checked By: JAP	Revision Date: 05/16
Scale: 1/8" = 1'-0"	File Name: Sanitary Sewer Cover S-1
Revision Date: 05/16	Page 11

SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D)

- ALL LIFT STATION WETWELL FASTENERS AND THROUGH-TOP CONNECTORS THAT CONTACT THE WETWELL (SUCH AS NIPPLES) SHALL BE 3/8" SS FASTENERS.
- ALL GRAVITY SANITARY SEWER MAIN LINES SHALL BE 8" DIAMETER MINIMUM. COMMERCIAL SERVICE LATERALS SHALL BE GREEN 6" DIA. OR LARGER. ALL SINGLE FAMILY RESIDENTIAL SERVICE LATERALS SHALL BE 4" - SINGLE SERVICES WITH CLEAN OUTS INSTALLED AT PROPERTY LINE.
- ALL GRAVITY SANITARY SEWER MAIN LINES SHALL BE GREEN PVC 50R-26, ASTM D-3034 OR C-900 DR-25 MINIMUM PRESSURE CLASS 100, IN PLACES WHERE A MINIMUM COVER OF 4.0' CANNOT BE MAINTAINED OR IN DEPTHS OF TRENCH (10' FEET OR GREATER) OF C-900 GREEN PVC 50R-26, MINIMUM PRESSURE CLASS 100 SHALL BE USED.
- FOR SINGLE FAMILY HOMES, SINGLE SIX INCH SEWER SERVICES LATERALS SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GRADE AT THE PROPERTY LINE WITH A PVC RISER AND PLUG BEING EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS SHALL BE USED ON ALL LINES. NO GLEED JOINTS ARE PERMITTED ON LATERALS.
- FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
- ALL SANITARY SEWER FORCE MAINS, INCLUDING FITTINGS, SHALL BE DUCTILE IRON PIPE (D.I.P.), EPOXY LINED, CLASS 350, FORCE MAIN MINIMUM DEPTH OF COVER SHALL BE 30". ALL FORCE MAINS SHALL BE DISTINCTLY MARKED BY THE UTILITIES DEPARTMENT. ALL NON 90° HORIZONTAL DIRECTIONAL DRILL FORCE MAINS SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 180 PSI. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING DEPENDENT ON SITE CONDITIONS.
- ALL SANITARY SEWER FORCE MAINS SHALL USE A THRUST RESTRAINT JOINT METHOD IN COMPLIANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION GUIDELINES. IN NO INSTANCE SHALL THRUST BLOCKS BE PERMITTED.
- AS A GENERAL RULE, THE NUMBER OF JOINTS SHALL BE LIMITED WHENEVER POSSIBLE. IN SPECIAL CASES WHERE A JOINT NEAR AN 8" TO 12" PVC SEWER MAIN IS REQUIRED, THE PROPER ROAD WRAP AROUND SLEEVES MAY BE ALLOWED BY SPECIAL APPROVAL BY THE CITY.
- ALL IN-LINE SANITARY SEWER FORCE MAIN VALVES SHALL BE RESILIENT SEAT GATE VALVES UNLESS OTHERWISE NOTED. VALVES SHALL BE SPACED A MAXIMUM OF 1000 FEET APART.
- ALL C-900 PVC PIPE REQUIREMENTS ARE REFERENCED TO THE C-900-97 STANDARDS. REQUIREMENTS FOR BURST PROTECTION MAY BE REQUESTED WHEN USING THE C-900-97 STANDARDS.
- MINIMUM GRAVITY SANITARY SEWER SLOPES ARE AS FOLLOWS:
8" PIPE: 0.40%
10" PIPE: 0.28%
12" PIPE: 0.22%
15" PIPE: 0.18%
OR OTHERWISE NOTED BY THE UTILITIES DEPARTMENT.
- GRAVITY SANITARY SEWER LINES SHALL BE INSTALLED WHENEVER POSSIBLE UNDER PAVED AREAS WITHIN PUBLIC RIGHT-OF-WAYS. UTILITY EASEMENTS SHALL BE PROVIDED WHENEVER PUBLICLY-OWNED SEWER LINES ARE CONSTRUCTED OUTSIDE OF A PUBLIC RIGHT-OF-WAY.
- GRAVITY SANITARY SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY THE CITY.
- THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING OPERATIONS, DOWNGRADE THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 4" BELOW THE PIPE BEING LAD WITHIN THE AREA OF THE TRENCH.
- ALL PIPES SHALL BE LAD ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES IS NOT ACCEPTABLE. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
- ON ALL EXCAVATION AND BACKFILLING THE CONTRACTOR SHALL PROVIDE ADEQUATE SHELTING AND BRACING IN ORDER TO PROVIDE FOR THE SAFETY OF WORKERS, AS WELL AS REPRESENTATIVES OF THE CITY, THE DESIGN ENGINEER, AND THE DEVELOPER.
- ALL TRENCHES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND COMPACTED TO THE SPECIFIED MINIMUM COMPACTION (GIVEN IN LANDSCAPE AREAS AND BENEATH PAVED AREAS) OF THE OPTIMUM DENSITY OF THAT MATERIAL BASED ON THE ASTM 1-180 MODIFIED PROCTOR TEST.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D)
(PAGE 2 OF 4)
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SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D)

- THE CONTRACTOR SHALL INSTALL A #12 UF SINGLE STRAND COPPER WIRE, OR SIMILAR DEVICE AS MAY BE APPROVED BY THE CITY FOR THE FULL LENGTH OF ALL NON-METALLIC SEWER FORCE MAINS. THIS PIPE LOCATOR AND SHALL BE INSTALLED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS DIRECTED BY THE MANUFACTURER. TAPE SHALL BE COLOR CODED GREEN FOR SANITARY SEWER AND FORCE MAIN, LOCATOR WIRE/DEVICE SHALL TERMINATE AT A LOCATION AND IN A MANNER CONVENIENT FOR CITY LOCATOR STAFF.
- ALL SEWER LINES WHICH ARE CONSTRUCTED OUTSIDE OF PUBLIC RIGHT-OF-WAYS WITHIN SIDE YARDS, BACKYARDS, AND OTHER PROXIMATE ACCESSIBLE AREAS SHALL BE CONSTRUCTED WITH A MINIMUM INSIDE DIAMETER OF 4 FEET. MANHOLES OVER 6 FEET IN DEPTH SHALL HAVE THE BOTTOM PRE-CAST SECTION AT A MINIMUM OF FOUR FEET TALL.
- STANDARD MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
- ALL SEWER FITTINGS TO BE "VARCO" OR APPROVED EQUAL.
- MANHOLE RIMS SHALL MATCH FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.5 FEET AND MAXIMUM OF 1.0 FEET ABOVE GRADE GENERALLY IN UNPAVED AREAS.
- THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
- RUBBER BOOTS AND STAINLESS STEEL BANDS SHALL BE UTILIZED IN THE CONNECTION OF THE SEWER MAIN TO THE MANHOLES (SEE STANDARD MANHOLE AND BOOT DETAIL).
- INDIVIDUAL SANITARY SEWER CONNECTIONS ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, AND MUST BE CONNECTED TO SEWER MAIN LINES BY USE OF WYE CONNECTIONS, UNLESS OTHERWISE APPROVED BY THE CITY.
- SANITARY SEWER DROP MANHOLES SHALL ONLY BE USED UNDER SPECIAL CONDITIONS AS APPROVED BY THE CITY.
- ALL SANITARY SEWER MANHOLE COVERS SHALL HAVE THE WORD "SANITARY" CAST INTO THEM AS SHOWN ON DETAIL S-3.
- SANITARY SEWER MANHOLES WHICH HAVE SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM SHALL BE FIBERGLASS OR POLY-ETHYLENE LINED, RETRO-FITTING OF MANHOLES WITH LINERS SHALL BE REQUIRED WHEN NEW CONNECTIONS SUCH AS THIS ARE MADE. FIBERGLASS SHALL BE A MINIMUM 1/2" THICKNESS UNLESS APPROVED OTHERWISE BY THE CITY. OTHER TYPES OF LINING METHODS AND MATERIALS MAY BE CONSIDERED ON A CASE BY CASE BASIS. UNDER SPECIAL CIRCUMSTANCES WHERE HYDROGEN SULFIDE IS A MAJOR CONCERN MANHOLES UPSTREAM AND/OR DOWNSTREAM OF THE FORCE MAIN TIE-IN OR WET WELL MAY ALSO BE REQUIRED TO HAVE LININGS INSTALLED.
- PLASTIC, AS MANUFACTURED BY PRESS SEAL GASKET CORPORATION, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WETWELL JOINTS. APPLY ONE LAYER OF 8" JOINT SEALER PRIOR TO BACKFILLING OPERATIONS.
- ANY NEW OR EXISTING ESTABLISHMENT WITH THE POTENTIAL TO DISCHARGE INDUSTRIAL OR COMMERCIAL WASTES INTO THE SEWER SYSTEM SHALL CONSTRUCT AND MAINTAIN AT HIS EXPENSE A SUITABLE CONTROL, MANHOLE, OR MANHOLES, DOWNSTREAM FROM ANY TREATMENT, STORAGE OR OTHER APPROVED WORKS, PRIOR TO THE CITY'S COLLECTION SYSTEM TO FACILITATE OBSERVATION, MEASUREMENT, AND SAMPLING OF ALL WASTES, INCLUDING ALL DOMESTIC SEWAGE FROM THE ESTABLISHMENT.
- THE CONTROL MANHOLE OR MANHOLES SHALL BE CONSTRUCTED AT SUITABLE AND SATISFACTORY LOCATIONS MAKING THE MANHOLE ACCESSIBLE TO CITY PERSONNEL AT ALL TIMES FOR SAMPLING.
- SANITARY SEWER LIFT STATIONS AND FORCE MAINS SIZE, MATERIAL, AND DESIGN SHALL BE APPROVED BY THE CITY. LIFT STATIONS SHALL BE CONSTRUCTED WITH A MINIMUM WET WELL AS PER THE LIFT STATION DETAIL. MINIMUM OF 6 FEET SHALL BE MAINTAINED BETWEEN LOWEST INFLUENT INVERT AND WETWELL FLOOR.
- IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO PREPARE AND SUBMIT FLOWLINE CALCULATIONS TO SIZE THE BASE OF THE WET WELL, AND ANY MANHOLES AS DEEMED NECESSARY BY THE CITY.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D)
(PAGE 3 OF 4)
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SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS TESTING REQUIREMENTS:

- THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE THAT COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY. TESTS SHALL BE DONE ONE FOOT ABOVE THE PIPE AND THEN AT ONE FOOT VERTICAL INTERVALS UNTIL FINAL GRADE IS REACHED. TESTING SHALL BE COMPLETED AND TEST DOCUMENTS SUBMITTED TO THE CITY AT A MINIMUM FREQUENCY OF ONE SET OF TESTS PER EACH 300 FEET OF PIPING AND ONE ADDITIONAL SET OF TESTS AT EVERY MANHOLE. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S DESIGNATED SITE INSPECTOR.
- ALL TESTING REQUIRED BY THE CITY SHALL BE PAID FOR BY THE CONTRACTOR / DEVELOPER.
- THE CITY OF DAYTONA BEACH RESERVES THE RIGHT TO REQUIRE THE DEVELOPER TO PERFORM VACUUM TESTING OF ALL SANITARY MANHOLES AND TO AIR TEST SEWER MAINS.
- ALL PROPOSED SEWER FORCE MAINS SHALL BE FLUSHED, PRESSURE TESTED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED SITE INSPECTOR WHO SHALL COORDINATE WITH CITY PERSONNEL AT THE WASTEWATER TREATMENT PLANT AT LEAST (3) THREE BUSINESS DAYS PRIOR TO BEGINNING A FULL-DIAMETER FLUSH OF THE MAINS PRIOR TO THE COMMENCEMENT OF PRESSURE TESTING. (SUBJECT TO AVAILABILITY).
- SANITARY SEWER FORCE MAINS SHALL BE PRESSURE TESTED TO 150 PSI FOR 2 HOURS. WITH ALLOWABLE LEAKAGE TO BE X GAL/HR PER X' DIA. OF PIPE, PER X' OF MAIN TO BE TESTED.

ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE * -GPH

AVERAGE TEST PRESSURE (PSI)	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54	60	64	AVERAGE TEST PRESSURE (PSI)
450	0.48	0.64	0.96	1.28	1.60	1.92	2.24	2.56	2.88	3.20	3.84	4.80	5.76	6.72	7.68	8.64	9.60	10.56	450
400	0.42	0.56	0.84	1.12	1.40	1.68	1.96	2.24	2.52	2.80	3.36	4.20	5.04	5.88	6.72	7.56	8.40	9.24	400
350	0.36	0.48	0.72	0.96	1.20	1.44	1.68	1.92	2.16	2.40	2.88	3.60	4.32	5.04	5.76	6.48	7.20	7.92	350
300	0.30	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.40	3.00	3.60	4.20	4.80	5.40	6.00	6.60	300
275	0.27	0.36	0.54	0.72	0.90	1.08	1.26	1.44	1.62	1.80	2.16	2.70	3.24	3.78	4.32	4.86	5.40	5.94	275
250	0.24	0.32	0.48	0.64	0.80	0.96	1.12	1.28	1.44	1.60	1.92	2.40	2.88	3.36	3.84	4.32	4.80	5.28	250
225	0.21	0.28	0.42	0.56	0.70	0.84	0.98	1.12	1.26	1.40	1.68	2.10	2.52	2.94	3.36	3.78	4.20	4.62	225
200	0.18	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.20	1.44	1.80	2.16	2.52	2.88	3.24	3.60	3.96	200
175	0.15	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.30	175
150	0.12	0.16	0.24	0.32	0.40	0.48	0.56	0.64	0.72	0.80	0.96	1.20	1.44	1.68	1.92	2.16	2.40	2.64	150
125	0.09	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.72	0.90	1.08	1.26	1.44	1.62	1.80	1.98	125
100	0.06	0.08	0.12	0.16	0.20	0.24	0.28	0.32	0.36	0.40	0.48	0.60	0.72	0.84	0.96	1.08	1.20	1.32	100

* IF THE PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.
L = SD³/P
133,200
WHERE:
L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
S = LENGTH OF PIPE TESTED, IN FEET
D = NOMINAL DIAMETER OF PIPE, IN INCHES
P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH (GAUGE)

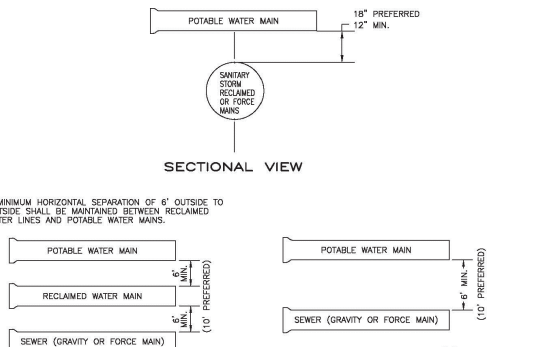
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UTILITIES DEPARTMENT



SANITARY SEWER TESTING REQUIREMENTS NOTES
(PAGE 4 OF 4)
S-4

Drawn By: JAP	Revision Date: 05/16
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POTABLE WATER MAIN TO BE CENTERED ABOVE THE CROSSING MAIN FOR MAXIMUM JOINT SEPARATION.

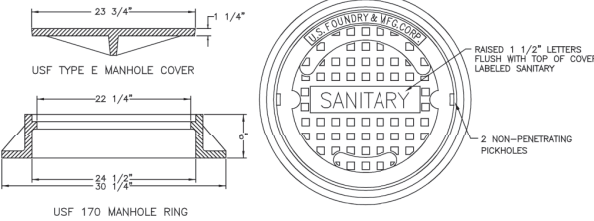


THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



PIPE SEPARATION DETAIL
S-8

Drawn By: JAP	Revision Date: 05/16
Checked By: JAP	Revision Date: 05/16
Scale: 1/8" = 1'-0"	File Name: Pipe Separation S-8
Revision Date: 05/16	Page 15

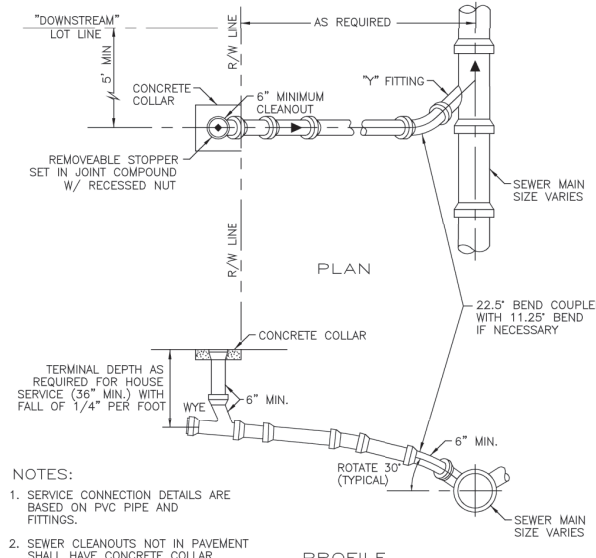


THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



SANITARY SEWER COVER DETAIL
S-18

Drawn By: JAP	Revision Date: 05/16
Checked By: JAP	Revision Date: 05/16
Scale: 1/8" = 1'-0"	File Name: Sanitary Sewer Cover S-18
Revision Date: 05/16	Page 16

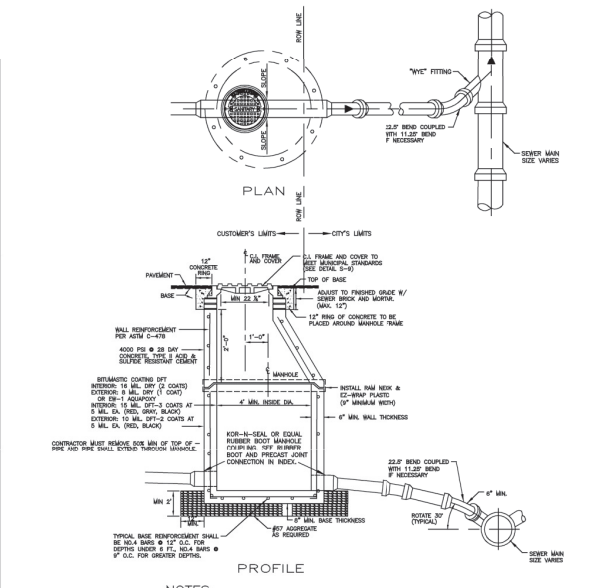


THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



RESIDENTIAL SANITARY LATERAL DETAIL
S-10

Drawn By: JAP	Revision Date: 05/16
Checked By: JAP	Revision Date: 05/16
Scale: 1/8" = 1'-0"	File Name: Residential Lateral S-10
Revision Date: 05/16	Page 17



THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



COMMERCIAL SANITARY LATERAL DETAIL
S-11 A

Drawn By: JAP	Revision Date: 05/16
Checked By: JAP	Revision Date: 05/16
Scale: 1/8" = 1'-0"	File Name: Commercial Lateral S-11 A
Revision Date: 05/16	Page 18

PROJECT NO. 2015-085

DATE: APRIL 2017
MCE PROJ. # 0996-0161
DRAWN: DML
DESIGNED: PJP
CHECKED: CRB
PROJ. MGR. SRS

SCALE: HORIZONTAL: 1"=20'
VERTICAL: 1"=4'

M&C FILE NUMBER: D001-0996-0161
DRAWING NUMBER: CD-5

STATUS: REISSUED FOR BIDDING

REVISION

DR. MARTIN LUTHER KING, JR. BOULEVARD-ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT

THE CITY OF DAYTONA BEACH, FLORIDA

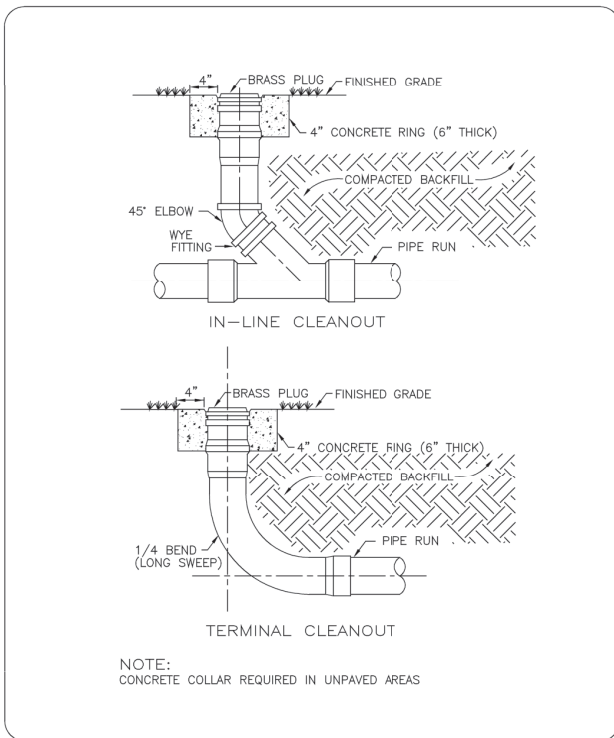
SANITARY SEWER DETAILS 1

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Date: 2019.01.10 16:11:34 -05'00'

SCOTT R. SPOONER, P.E.
No. 23273

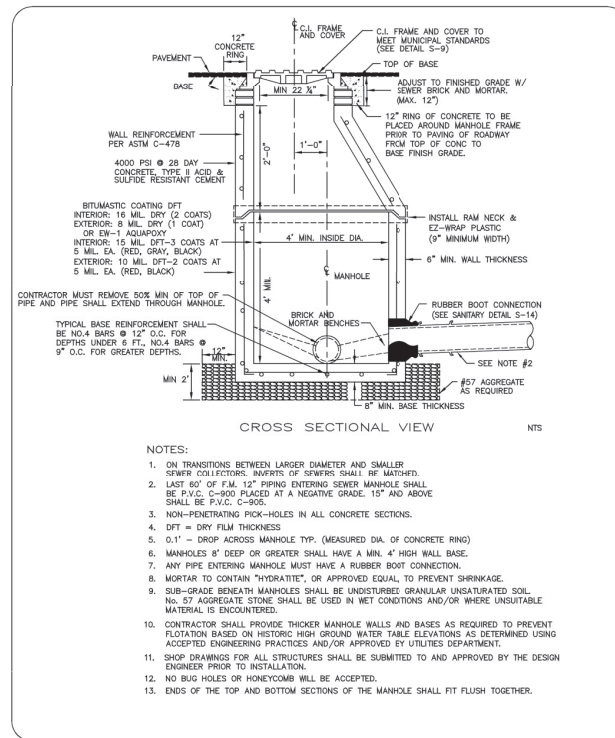
REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2019
A	ISSUE FOR BIDDING	AUGUST 2018



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY LATERAL CLEANOUT DETAIL S-12

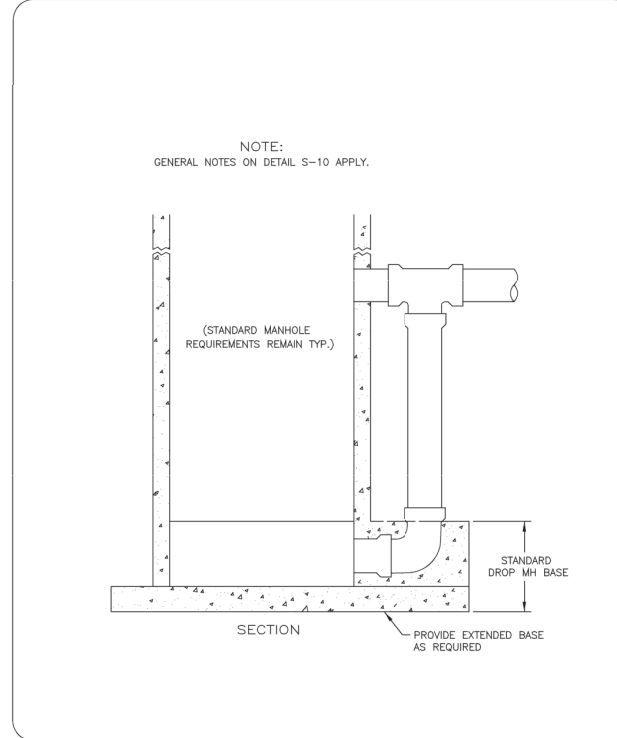
FY-15/16
Drawing Date: 01/08
Drawn By: JAP
Checked By: JAP
Scale: NTS
Revision Date: 08/10
File Name: Sanitary Cleanout S-12
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY SEWER MANHOLE AND GENERAL NOTES S-13

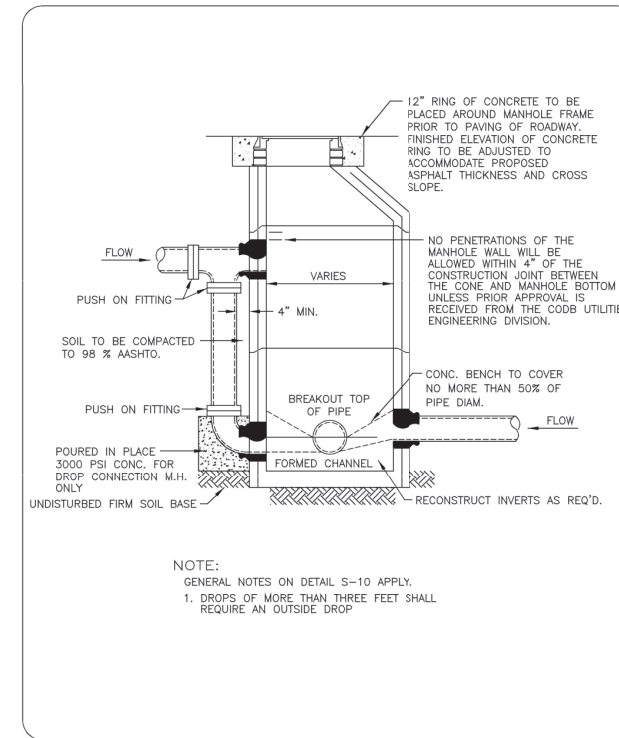
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Scale: NTS
Revision Date: 08/10
File Name: Sanitary Manhole S-13
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

OUTSIDE DROP SANITARY MANHOLE DETAIL (NEW-STANDARD) S-14

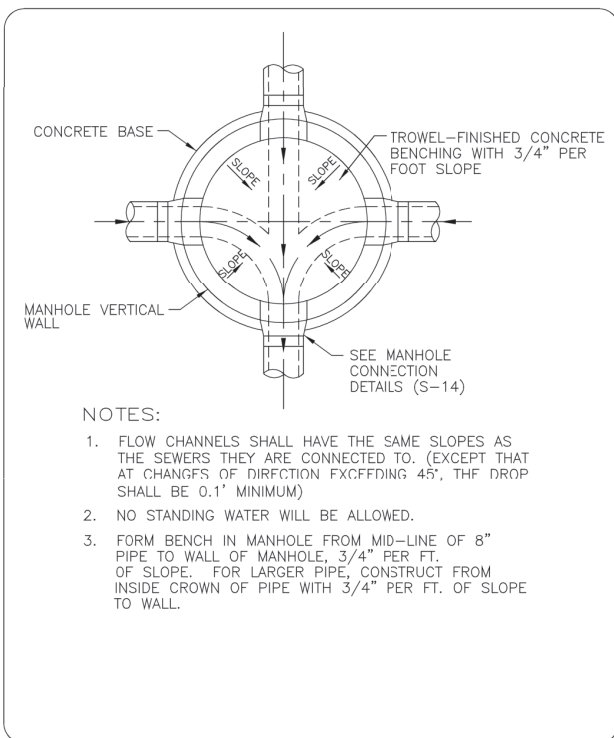
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Drawn By: JAP
Checked By: JAP
Scale: NTS
Revision Date: 08/10
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

OUTSIDE DROP SANITARY MANHOLE DETAIL (EXISTING-RETROFIT) S-15

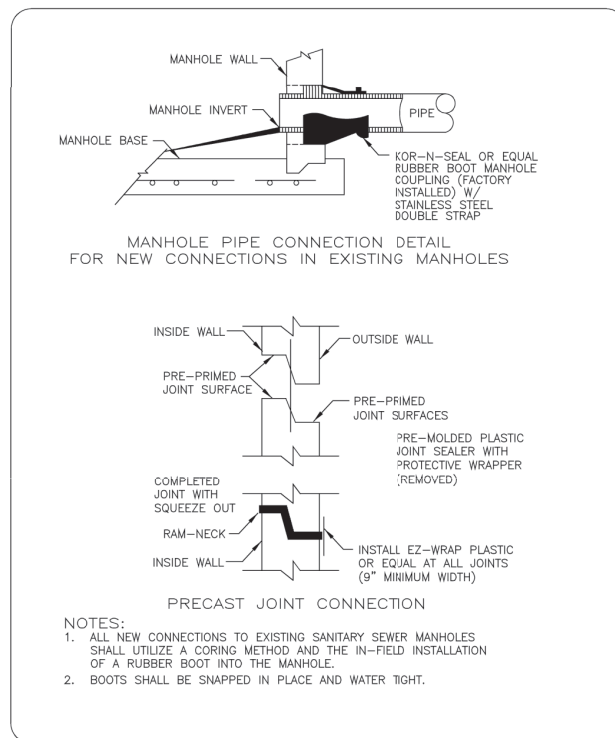
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Drawn By: JAP
Checked By: JAP
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Revision Date: 08/10
File Name: Outside Drop Ret S-15
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY MANHOLE INVERT DETAIL S-16

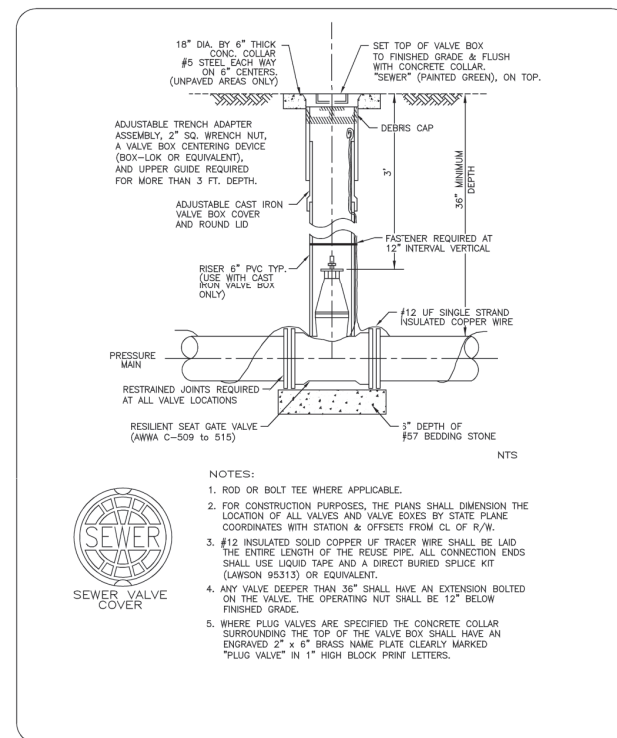
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Drawing Date: 01/08
Drawn By: JAP
Checked By: JAP
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Revision Date: 07/10
File Name: Invert Detail S-16
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL S-17

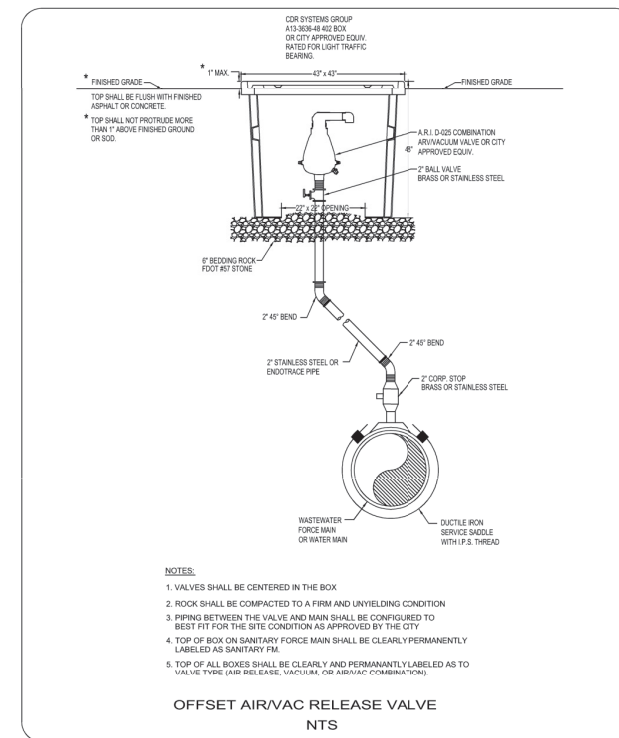
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Drawing Date: 01/08
Drawn By: JAP
Checked By: JAP
Scale: NTS
Revision Date: 07/10
File Name: Rubber Boot and Precast Joint Connection S-17
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY VALVE AND VALVE BOX DETAIL S-19

FY-15/16
Drawing Date: 01/08
Drawn By: JAP
Checked By: JAP
Scale: NTS
Revision Date: 08/10
File Name: Sanitary Valve S-19
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

AUTOMATIC ARV/VACUUM VALVE DETAIL (PAGE 1 OF 2) S-20

FY-15/16
Drawing Date: 01/08
Drawn By: JAP
Checked By: JAP
Scale: NTS
Revision Date: 08/10
File Name: Automatic ARV Valve S-20
Page 18

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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2015
A	ISSUE FOR BIDDING	AUGUST 2013
	REVISIONS	

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THE CITY OF DAYTONA BEACH, FLORIDA

INCORPORATED JULY 1887

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT

SANITARY SEWER DETAILS 2

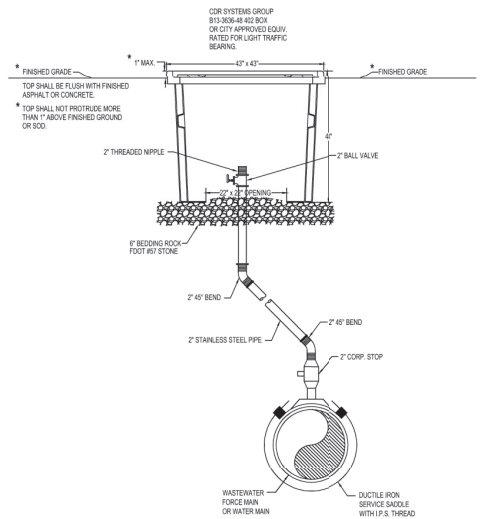
PROJECT NO. 2015-088

DATE: APRIL 2017
MCE PROJ. # 0996-0161
DRAWN: DMP
DESIGNED: P.J.L.
CHECKED: CRB
PROJ. MGR.: SRS

SCALE: HORIZONTAL: 1"=20'
VERTICAL: 1"=4'

M&C FILE NUMBER: D001-09960161
DRAWING NUMBER: CD-6

STATUS: REISSUED FOR BIDDING



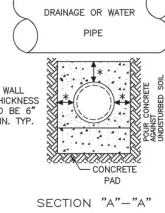
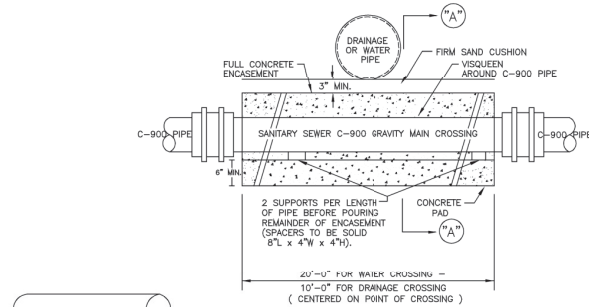
- NOTES:**
1. VALVES SHALL BE CENTERED IN THE BOX.
 2. ROCK SHALL BE COMPACTED TO A FIRM AND UNYIELDING CONDITION.
 3. PIPING BETWEEN THE VALVE AND MAIN SHALL BE CONFIGURED TO BEST FIT FOR THE SITE CONDITION AS APPROVED BY THE CITY.
 4. TOP OF BOX ON SANITARY FORCE MAIN SHALL BE CLEARLY PERMANENTLY LABELED AS SANITARY FM.
 5. TOP OF ALL BOXES SHALL BE CLEARLY AND PERMANENTLY LABELED AS TO VALVE TYPE (AIR RELEASE, VACUUM, OR AIR/VAC COMBINATION).
 6. IF BOX IS TO BE PLACED IN ROAD OR ADJACENT TO THE ROAD USE A HEAVY TRAFFIC RATED CURB SYSTEM GROUP # 80W # 814-3036-48 OR CITY APPROVED EQUIV. RATED FOR HEAVY TRAFFIC BEARING.

OFFSET AIR/VAC RELEASE VALVE
NTS

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

MANUAL AIR RELEASE
VALVE DETAIL
S-21

FW-1516
Drawing Date: 03/10
Drawn By: NLS
Checked By: JAP
Scale: NTS
Revision: 01/10
File Name: Manual Air Valve S-21
Page: 21



- NOTES:**
1. ALL CONCRETE SHALL BE 3000 PSI MINIMUM STRENGTH AT 28 DAYS.
 2. WATER MAIN SHALL BE LOCATED ABOVE OR BELOW ENCASUREMENT AS SHOWN ON PLANS OR AS DETERMINED IN THE FIELD. USE ENCASUREMENT WHERE VERTICAL CLEARANCE WATER MAIN AND SEWER MAIN IS LESS THAN 12 INCHES.

SANITARY SEWER CONCRETE ENCASUREMENT DETAIL
S-7

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT

SANITARY SEWER
CONCRETE ENCASUREMENT
DETAIL
S-7

FW-1516
Drawing Date: 03/10
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Scale: NTS
Revision: 01/10
File Name: Sanitary Encasement S-7
Page: 74

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REVNO.	DESCRIPTIONS	DATE
B	REISSUED FOR BIDDING	JANUARY 2019
A	ISSUE FOR BIDDING	AUGUST 2018
REVISIONS		



Digitally signed by Scott R. Spooner
Date: 2019.01.10 16:14:27 -05'00'

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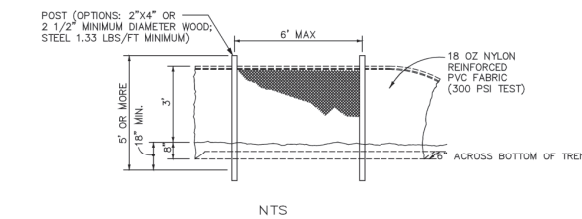
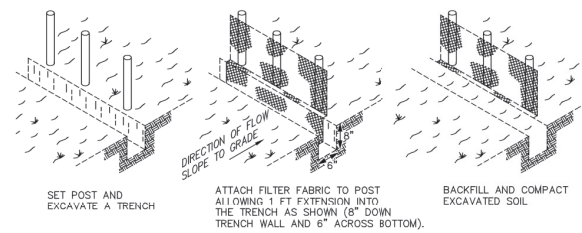
THE CITY OF
DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT

SANITARY SEWER DETAILS 3

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE	M&C FILE NUMBER
MCE PROJ. # 0996-0161	HORIZONTAL: 1"=20'	D001-09960161
DRAWN: DMP	VERTICAL: 1"=4'	DRAWING NUMBER
DESIGNED: P.L.		CD-7
CHECKED: CRB		
PROJ. MGR.: SRS		
STATUS: REISSUED FOR BIDDING		REVISION



- NOTES:
1. MATERIALS, CONSTRUCTION METHODS AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND DESIGN STANDARDS CURRENT EDITION.
 2. CONTRACTOR SHALL PROVIDE SILT FENCES, TURBIDITY BARRIERS OR APPROVED BARRIERS AT ALL STORMWATER DISCHARGE POINTS FOR EROSION CONTROL AND SEDIMENT CONTROL DURING CONSTRUCTION DEPENDING UPON FLOW VELOCITIES AND VOLUME. REDUNDANT (MULTIPLE) PARALLEL FENCES MAY BE NEEDED.
 3. CONTRACTOR SHALL ROUGH GRADE STORMWATER SWALES AND RETENTION AREAS VEGETATING IN COMPLIANCE WITH BEST MANAGEMENT PRACTICES PRIOR TO CONSTRUCTION OF SITE IMPROVEMENTS.
 4. CONTRACTOR SHALL MEET ALL PERMIT CONDITIONS AS ESTABLISHED BY THE CITY OF DAYTONA BEACH AND ALL OTHER APPLICABLE AGENCIES, INCLUDING BUT NOT LIMITED TO COUNTY, FDOT, STATE, FEDERAL, AND THE SJRWMD.

EROSION & SEDIMENT CONTROL NOTES

1. ALL CONSTRUCTION ACTIVITIES SHALL INCORPORATE BEST MANAGEMENT PRACTICES (BMP'S) TO CONTROL EROSION, SEDIMENTATION, AND THE POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
2. CONTRACTOR SHALL MINIMIZE DISTURBANCE OF EXISTING VEGETATION, (PARTICULARLY AROUND THE PROJECT PERIMETER) AND ADJACENT EXISTING DRAINAGE PATTERNS TO THE MAXIMUM EXTENT PRACTICAL DURING THE CONSTRUCTION PROCESS.
3. SILT FENCES AND TURBIDITY BARRIERS SHALL BE INSTALLED ON SITE AND APPROVED BY THE CITY PRIOR TO CONSTRUCTION, AND SHALL BE INSPECTED WEEKLY BY THE CONTRACTOR AND CORRECTIVE ACTION TAKEN AS NECESSARY.
4. STORMWATER RETENTION, DETENTION, STORAGE AND CONVEYANCE SYSTEMS MUST BE EXCAVATED TO ROUGH GRADE PRIOR TO BUILDING CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACE WITHIN THE AREA SERVED BY THOSE SYSTEMS. ADEQUATE MEASURES MUST BE TAKEN TO PREVENT SILTATION OF THESE TREATMENT SYSTEMS AND CONTROL STRUCTURES DURING CONSTRUCTION. SILTATION MUST BE REMOVED FROM THE STORMWATER SYSTEM WHEN HALF FULL AND IMMEDIATELY PRIOR TO FINAL GRADING AND GRASSING OF THE PROJECT.
5. CONTRACTOR SHALL SOD ALL SWALES AND STORMWATER FACILITIES IN ACCORDANCE WITH TEMPORARY BMP'S WITHIN 14 DAYS AFTER CONSTRUCTION. THIS IS REQUIRED TO STABILIZE THE SLOPES AND MINIMIZE EROSION.
6. DURING ALL CONSTRUCTION OF THE PERMITTED SYSTEM INCLUDING STABILIZATION AND REVEGETATION OF DISTURBED SURFACES, CONTRACTOR IS RESPONSIBLE FOR THE SELECTION, IMPLEMENTATION, AND OPERATION OF ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED TO RETAIN ALL SEDIMENT ONSITE AND PREVENT VIOLATIONS OF THE WATER QUALITY STANDARDS IN ACCORDANCE WITH THE FLORIDA ADMINISTRATIVE CODE AND PROJECT PERMIT REQUIREMENTS.
7. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN A PROTECTIVE COVER (VEGETATIVE OR SUITABLE ALTERNATIVE) FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES EXPOSED OR DISTURBED BY CONSTRUCTION OF THE PERMITTED PROJECT, UNLESS MODIFIED BY ANOTHER CONDITION OF THE PERMIT OR OTHERWISE SPECIFIED ON A DISTRICT APPROVED EROSION AND SEDIMENT CONTROL PLAN. THE PROTECTIVE COVER MUST BE INSTALLED WITHIN FOURTEEN (14) DAYS AFTER FINAL GRADING OF THE AFFECTED LAND SURFACE. A PERMANENT VEGETATIVE COVER MUST BE ESTABLISHED WITHIN 60 DAYS OF IT'S INSTALLATION. THE PERMITEE'S REQUIREMENT TO MAINTAIN COVER ON OFFSITE AND ONSITE SURFACES SHALL NOT BE COMPLETE UNTIL AFTER THE WATER MANAGEMENT DISTRICT RECEIVES THE PERMITEE'S STATEMENT OF COMPLIANCE.
8. AT A MINIMUM, SILT FENCES AND TURBIDITY BARRIERS SHALL BE INSTALLED PER PLAN. ADDITIONAL BMP MEASURES MUST BE TAKEN TO MINIMIZE IMPACTS OF RECEIVING WATERS SUCH AS THE USE OF APPROVED BARRIERS AT INLETS, ADDITIONAL SILT FENCING, SOIL ANTI-TRACKING DEVICES AND SODDING.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE PROJECT LIMITS IN COMPLIANCE WITH ALL JURISDICTIONAL PERMIT AND CITY REQUIREMENTS.
10. ANY TIME THE CONTRACTOR NEEDS TO SUBMIT A NOTICE OF INTENT TO USE A GENERAL PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES, A COPY OF THE PERMIT SHALL ALSO BE SUBMITTED TO THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT.
11. THE CONTRACTOR SHALL AS A MINIMUM PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) GUIDELINES.
12. DEWATERING ACTIVITIES SHALL BE APPROVED BY THE UTILITIES DEPARTMENT BEFORE DISCHARGING INTO THE CITY'S MS4 SYSTEM (ST-1A NOTE 3).

NOTE:
STORM PIPING TO BE INSTALLED PER CITY STANDARDS & INCLUDE LASER PROFILING & VIDEO INSPECTION PRIOR TO CITY ACCEPTANCE.

THE CITY OF DAYTONA BEACH
ENGINEERING DIVISION

STAKED SILT FENCE
DETAIL
ST-9

PT-15/16
Drawing Date: 01/08
Drawn By: KJH
Checked By: JWP
Scale: N/A
Revision Date:
File Name: ST Fence ST-9
Page 138

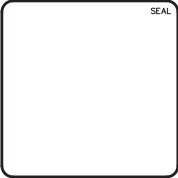
THE CITY OF DAYTONA BEACH
ENGINEERING DIVISION

EROSION AND SEDIMENT CONTROL NOTES
ST-5

PT-15/16
Drawing Date: 01/08
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Revision Date:
File Name: Erosion Notes ST-5
Page 138

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2019.01.10
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THE CITY OF
DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN
IMPROVEMENTS PROJECT

STORM WATER DETAILS

PROJECT NO. 2015-085

DATE: APRIL 2017	SCALE	M&C FILE NUMBER
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DRAWN: DMP	VERTICAL: 1"=4'	DRAWING NUMBER
DESIGNED: P.J.L.		CD-8
CHECKED: CRB		
PROJ. MGR.: SRS		
STATUS: REISSUED FOR BIDDING		REVISION

RECLAIMED WATER CONSTRUCTION NOTES

- THE CITY'S UTILITIES DEPARTMENT (671-8815) SHALL BE GIVEN A MINIMUM OF (2) TWO BUSINESS DAYS (NOT INCLUDING HOLIDAYS) PRIOR TO BEGINNING ANY RECLAIMED WATER SYSTEM CONSTRUCTION.
- ALL DOWATERING ACTIVITIES EITHER DIRECTLY DISCHARGED OR THAT SUBSEQUENTLY USE THE CITY'S STORMWATER SYSTEM TO CONVEY GROUND OR SURFACE WATER FROM A SITE SHALL REQUIRE A STANDARD OR GENERAL USE PERMIT AS PER ARTICLE 7 SECTION 7 OF THE LAND DEVELOPMENT CODE. A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DOWATERING ACTIVITIES, OR IN ANY CONSTRUCTION ACTIVITIES. DOWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHES ALLOWING CONSTRUCTION OR MAINTENANCE TO BE DONE IN THE DRY, OR ANY ACTIVITY WHICH CHANGES THE IMPERVIOUS AREA OF LAND. SITE SPECIFIC PERMITS SHALL REQUIRE THE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE THE PAYMENT OF AN ANNUAL FEE BASED ON ROUTINE SCHEDULE OF MAINTENANCE ACTIVITIES DISCHARGING DIRECTLY OR SUBSEQUENTLY INTO THE CITY'S MSA. DOWATERING PERMIT APPLICATIONS MAY BE FOUND AT <http://codb.us/index.php?ID=252>. FEES ARE SUBJECT TO ARTICLE 20 SECTION 3.1 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED TO THE CITY OF DAYTONA BEACH UTILITY DEPARTMENT AT 125 BASIN STREET SUITE 130, DAYTONA BEACH FL 32114 BEFORE ANY USE OF THE MSA WILL BE ALLOWED. FAILURE TO COMPLY WILL RESULT IN THE TERMINATION OF ACCESS TO THE CITY'S MSA SYSTEM.
- RECLAIMED WATER SERVICE ENDINGS SHALL BE SECURED BY WIRE TO 2" X 4" PRESSURE TREATED STAKES, APPROXIMATELY 2' ABOVE GRADE, OR MAY BE PLACED IN RECLAIMED WATER METER BOXES, PROVIDED BY THE CONTRACTOR, AT THE TIME OF FINAL SUBDIVISION INSPECTION.
- ALL PROPOSED RECLAIMED WATER MAINS SHALL BE FLUSHED, TESTED AND CLEARED FOR SERVICE, WHEN APPROPRIATE, IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED SITE INSPECTOR WHO SHALL COORDINATE WITH CITY PERSONNEL AT THE WASTEWATER PLANT AT LEAST (2) TWO BUSINESS DAYS PRIOR TO THE BEGINNING OF A FULL-DIAMETER FLUSH OF THE MAINS PRIOR TO THE COMMENCEMENT OF PRESSURE TESTING.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM BY THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY "AS-BUILT DRAWINGS" TO THE CITY PRIOR TO ANY USE OF THIS SYSTEM. **SEE CITY OF DAYTONA BEACH AS-BUILT REQUIREMENTS.**
- ALL RECLAIMED WATER SERVICES SHALL BE MARKED ALONG THE OUTSIDE EDGE OF CURB WITH A "O" OR BY METAL TABS SET INTO PAVEMENT. VALVES AND BLOW-OFFS FOR RECLAIMED WATER MAINS SHALL BE MARKED BY AN "X" SET INTO THE PAVEMENT AND PAINTED WITH PURPLE ENAMEL.
- RECLAIMED WATER SERVICES SHALL BE LOCATED AT THE SIDE LOT LINES, ALTERNATING WITH POTABLE WATER SERVICE LOCATIONS, IN INSTANCES WHERE RECLAIMED WATER SERVICES NEED TO BE OFFSET. THESE SERVICES MAY BE OFFSET FROM THE LOT LINE A MAXIMUM DISTANCE OF 2 FEET.
- ALL RECLAIMED WATER, HAND-OPERATED CONNECTIONS AND OUTLETS SHALL BE CONTAINED IN UNDERGROUND SERVICE VAULTS AND SHALL BE APPROPRIATELY TAGGED OR LABELED TO WARN THE PUBLIC AND EMPLOYEES THAT THE WATER IS NOT INTENDED FOR DRINKING OR SWIMMING.



NTS

- VAULTS FOR OUTLETS SHALL BE LOCKED OR REQUIRE A SPECIAL TOOL FOR OPERATION OF OUTLETS.
- A 75 FOOT OBTUSCUM DISTANCE SHALL BE PROVIDED FROM PUBLIC ACCESS/RECLAIMED WETTED AREAS TO ANY PUBLIC AND ANY PRIVATE POTABLE WATER SUPPLY WELLS.
- LOW TRAJECTORY NOZZLES ARE REQUIRED WITHIN 100 FEET OF PUBLIC EATING, DRINKING OR BATHING FACILITIES.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT



DESIGN AND CONSTRUCTION NOTES
PAGE 1 OF 3
RW-1

PC-15/18	Drawing Date: 01/08
Drawn By: JAB	
Checked By: JAB	
Scale: NTS	
Revision Date: 07/10	
File Name: Reclaimed Water RW-1	
Page: 05	

RECLAIMED WATER CONSTRUCTION NOTES (CONT'D)

- ANY SIGNIFICANT IRRIGATION SITE UTILIZING RECLAIMED WATER, SUCH AS AN ATHLETIC FIELD, GOLF COURSE, PARK OR POND, IS REQUIRED TO POST A 12" X 12" RECLAIMED WATER SIGN WARNING THE PUBLIC AND EMPLOYEES THAT RECLAIMED WATER IS NOT INTENDED FOR DRINKING OR SWIMMING. THIS SIGN SHALL BE PLACED AT THE ENTRANCE TO THE SITE AND THE LOCATION OF THE PRIVATE REUSE SYSTEM. SEE SHEET RW-16
- DOWATERING SHALL BE PROVIDED TO KEEP GROUND WATER ELEVATION A MINIMUM OF 6 INCHES BELOW RECLAIMED WATER MAIN BEING LAID.
- ALL RECLAIMED WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 95% IN UNPAVED AREAS AND 98 T-180.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET.
- MAXIMUM OBTAINABLE SEPARATION OF PUBLIC RECLAIMED WATER MAINS, STORM WATER SYSTEMS, POTABLE WATER AND SANITARY SEWER MAINS SHALL BE MAINTAINED. A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET (SIDE TO SIDE), WHERE RECLAIMED WATER AND SANITARY SEWAGE MAINS CROSS WITH LESS THAN TWELVE (12) INCHES VERTICAL CLEARANCE, THE SANITARY SEWER MAIN SHALL BE TWENTY (20) FEET OF EITHER CONCRETE ENCASED PVC PIPE OR ENCASED IN A WATERTIGHT CARRIER PIPE, CENTERED ON THE POINT OF CROSSING (SEE PIPE SEPARATION CHART).
- 3" METALIZED PIPE LOCATION TAPE SHALL BE LOCATED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES, AND UF12 SINGLE STRAND INSULATED COPPER WIRE SHALL BE ATTACHED TO ALL PVC PIPE.
- UF14 SINGLE STRAND INSULATED COPPER WIRE SHALL BE ATTACHED TO ALL PVC PIPE. WIRE RUNS SHALL BE CONNECTED WITH SILICONE FILLED WIRE CONNECTORS. EACH RUN SHALL TERMINATE AT EVERY VALVE. SEE RW-13 FOR INSTALLATION OF WIRE ON RISER PIPE. SERVICES SHALL BE CONNECTED TO THE MAIN CONNECTED TO THE MAIN WIRE WITH WIRE FILLED CONNECTORS. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE CONTINUITY AND TEST FOR CONTINUITY.
- ALL SINGLE RESIDENTIAL WATER SERVICES SHALL BE 1" SERVICES SHALL BE CTS 3408 HIGH DENSITY POLYETHYLENE TUBING RATED FOR A MINIMUM OF 200 PSI WITH SODR 9 (CTS). THE TUBING SHALL HAVE A VIRGIN HIGH DENSITY POLYETHYLENE CENTER FOR WHICH THE MANUFACTURER SHALL FURNISH A CERTIFICATE OF PURITY. THE TUBING SHALL BE LAVENDER IN COLOR AND SHALL HAVE THE WORDS "RECLAIMED WATER" PERMANENTLY PRINTED ON THE OUTSIDE. THE TUBING SHALL HAVE U.V. PROTECTION AND SHALL NOT BE AFFECTED BY DIRECT SUNLIGHT. THE TUBING SHALL COMPLY WITH OR EXCEED THE APPLICABLE STANDARDS OF A.S.T.M. D1248, D3350, D2239, D2737, N.S.F.-14 AND A.W.W.A. C901 AND SHALL COME WITH A LIFETIME WARRANTY. APPROVED SIZES: 1" AND 2" DIAMETERS. SEE APPROVED PRODUCT LIST FOR ACCEPTABLE MANUFACTURERS.
- AS STANDARD PRACTICE AND IF POSSIBLE RECLAIMED WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF THE CURB ON THE OPPOSITE SIDE OF THE ROAD OF THE POTABLE WATER LINES, (NOT UNDER PROPOSED SIDEWALK LOCATION) OR AS APPROVED BY THE CITY.
- ALL RECLAIMED WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON PRESSURE CLASS 350 OR CONCRETE ENCASEMENT/PROTECTIVE SLAB MAY BE USED AT THE DISCRETION OF THE UTILITIES DEPARTMENT.
- RECLAIMED WATER MAINS SHALL BE PURPLE PVC, DR-18 AWWA CLASS C-900 OR C-905, CL 150, OR DIP PRESSURE CLASS 350, STANDARD CEMENT LINED (PAINTED PURPLE) UNLESS APPROVED OTHERWISE BY THE CITY. ALL HORIZONTAL DIRECTIONAL DRILLS USING HOPE SHALL BE DR-11 WORKING PRESSURE RATING 160 OR GREATER. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING DEPENDENT UPON SITE CONDITIONS.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT



DESIGN AND CONSTRUCTION NOTES
PAGE 2 OF 3
RW-2

PC-15/18	Drawing Date: 01/08
Drawn By: JAB	
Checked By: JAB	
Scale: NTS	
Revision Date: 08/10	
File Name: Reclaimed Water RW-1	
Page: 06	

SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)

FITTING	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	81
10"	44	28	18	18	98
12"	51	31	18	18	116
14"	57	34	18	18	132
16"	63	36	18	18	148
18"	69	39	18	18	163
20"	75	41	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.
TABLE APPLIES TO DUCTILE IRON PIPE FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 3 FEET (MIN.)
SAFETY FACTOR: 1.5
TRENCH TYPE: 2

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)

FITTING	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (50)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (52)	22 (25)	18 (18)	18 (18)	94 (141)
14"	59 (52)	25 (25)	18 (18)	18 (18)	107 (150)
16"	66 (60)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (67)	31 (35)	18 (18)	18 (18)	132 (195)
20"	80 (84)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36"	122 (144)	48 (57)	24 (28)	18 (18)	228 (342)
42"	138 (162)	54 (63)	27 (31)	18 (18)	264 (396)
48"	156 (180)	60 (70)	30 (35)	18 (18)	300 (450)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.
TABLE APPLIES TO DUCTILE IRON PIPE FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 3 FEET (MIN.)
SAFETY FACTOR: 1.5
TRENCH TYPE: 2
VALUES IN PARENTHESIS (X) ARE FOR PIPE ENCASED IN POLYETHYLENE.
* VALUES APPLY TO DUCTILE IRON PIPE AT 50 PSI TEST PRESSURE.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT



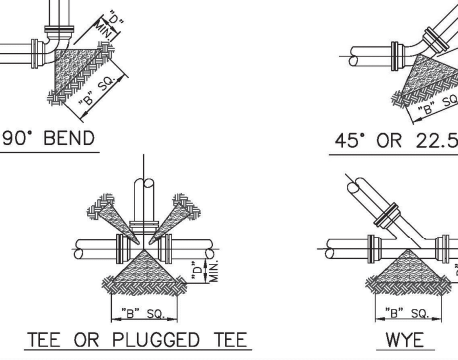
PVC AND DIP RESTRAINED JOINT TABLE
RW-6

PC-15/18	Drawing Date: 01/08
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Checked By: JAB	
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File Name: Reclaimed Water RW-1	
Page: 06	

PIPE SIZE (IN.)	THRUST		BLOCK		DIMENSION (feet)		DEAD END		TEE/WYE	
	B	D	B	D	B	D	B	D	B	D
4	1.5	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0	0.5
6	2.0	0.5	1.5	0.5	1.0	0.5	1.0	0.5	2.0	0.5
8	2.5	0.5	2.0	0.5	1.5	0.5	1.0	0.5	2.0	0.5
10	3.0	0.5	2.5	1.0	2.0	0.5	1.0	0.5	3.0	1.0
12	4.0	1.0	3.0	1.0	2.0	0.5	1.5	0.5	3.0	1.0
14	4.5	1.0	3.0	1.0	2.5	0.5	2.0	0.5	4.0	1.5
16	5.0	1.5	4.0	1.0	3.0	1.0	2.0	0.5	4.5	1.5
18	5.7	1.7	4.2	1.4	3.1	1.4			6.9	1.7
24	7.7	1.7	5.6	1.4	4.1	1.4			9.1	2.1
30	9.5	2.1	7.0	1.7	5.1	1.4			11.3	2.4
36	11.5	2.4	8.4	1.8	6.0	1.7			13.6	2.5

REINFORCEMENT STEEL: SEE CHART. FOR 10" REINFORCEMENT: 1.0" TO 1.5" #3 BAR @ 8" EACH WAY; 1.5" TO 2.0" #3 BAR @ 8" EACH WAY; 2.0" TO 2.5" #3 BAR @ 8" EACH WAY.

NOTES: 1. THRUST BLOCKS TO BE SET AGAINST FIRM UNDISTURBED SOIL.
2. FITTINGS TO BE WRAPPED IN WISQUEEN OR POLYETHYLENE ENCASEMENT PRIOR TO POURING CONCRETE.
3. CONCRETE STRENGTH f' = 3000 P.S.I.



THRUST BLOCK DETAIL

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B	REISSUED FOR BIDDING	JANUARY 2018
A	ISSUE FOR BIDDING	AUGUST 2018

SEAL

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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

THE CITY OF DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT

REUSE WATER DETAILS

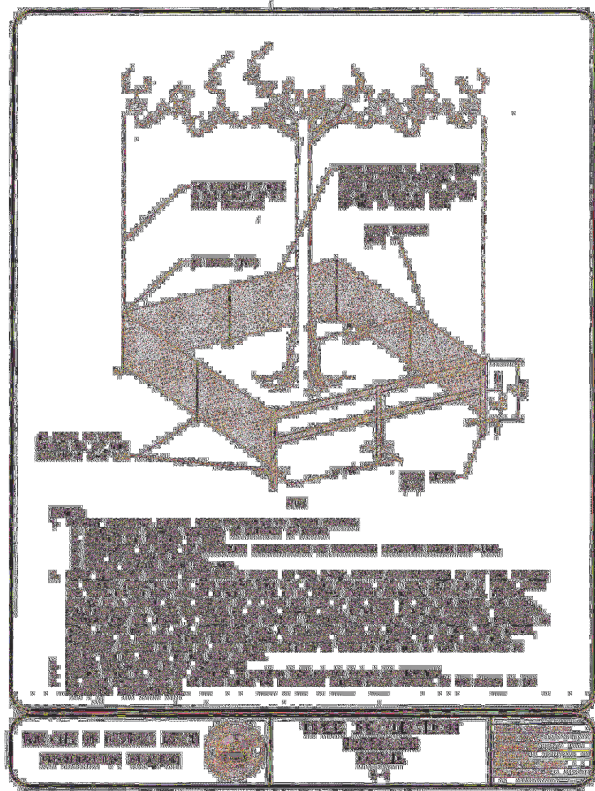
PROJECT NO. 2015-085

DATE: APRIL 2017
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SCALE: HORIZONTAL: 1"=20'
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M&C FILE NUMBER: D001-09960161
DRAWING NUMBER: CD-9

STATUS: REISSUED FOR BIDDING



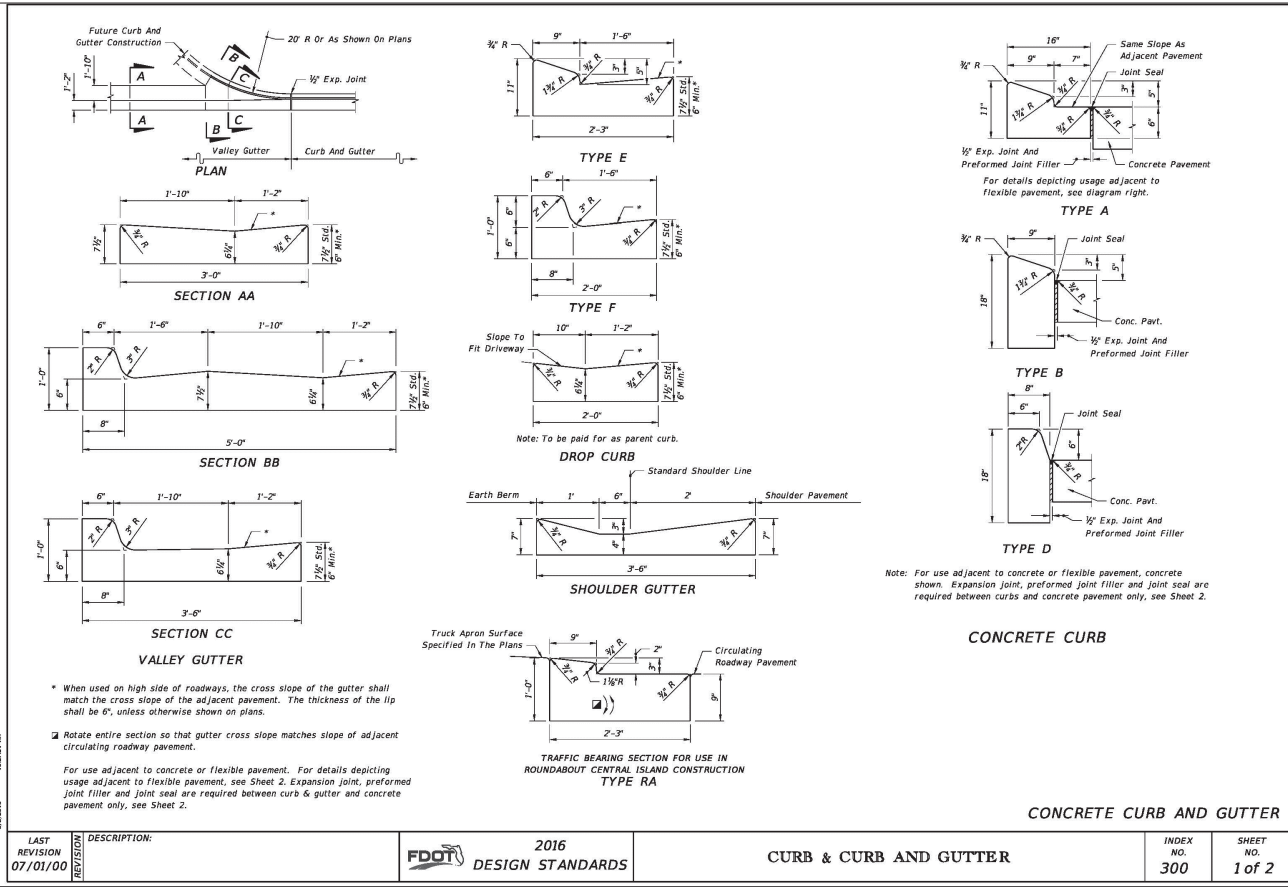
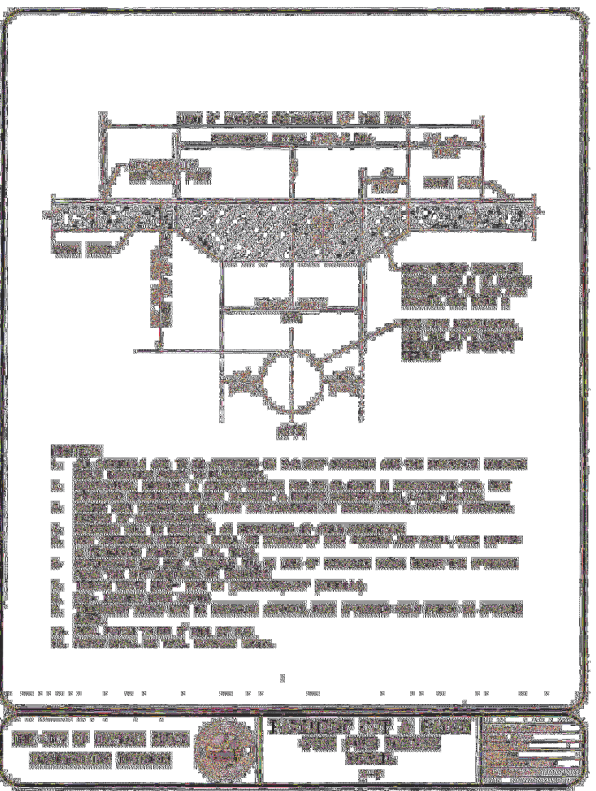
BIDDING, SEEDING & MULCHING NOTES

NOTE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF DAYTONA BEACH AND THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) FOR THE CONSTRUCTION OF THE TREE PIT AND CURB AND GUTTER. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) FOR THE CONSTRUCTION OF THE TREE PIT AND CURB AND GUTTER.

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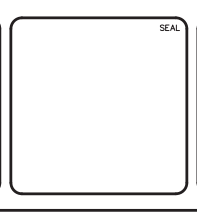
20-DAILY DRIVING REQUIREMENTS

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1/17/2019 10:28:27 AM, Drawing Project
 1/17/2019 10:28:27 AM, Drawing Project
 1/17/2019 10:28:27 AM, Drawing Project

REVNO.	DATE	DESCRIPTION
B	JANUARY 2018	REISSUED FOR BIDDING
A	AUGUST 2018	ISSUE FOR BIDDING



Digitally signed by Scott R. Spooner
 Date: 2019.01.10 16:19:17-05'00'
 SCOTT R. SPOONER, P.E.
 No. 23273

139 Executive Circle, Suite 201
 Daytona Beach, Florida 32114
 Phone: (386)274-2828, Fax: (386)274-1393
 CA License No. 29588
 www.mckimcreed.com

THE CITY OF
 DAYTONA BEACH, FLORIDA

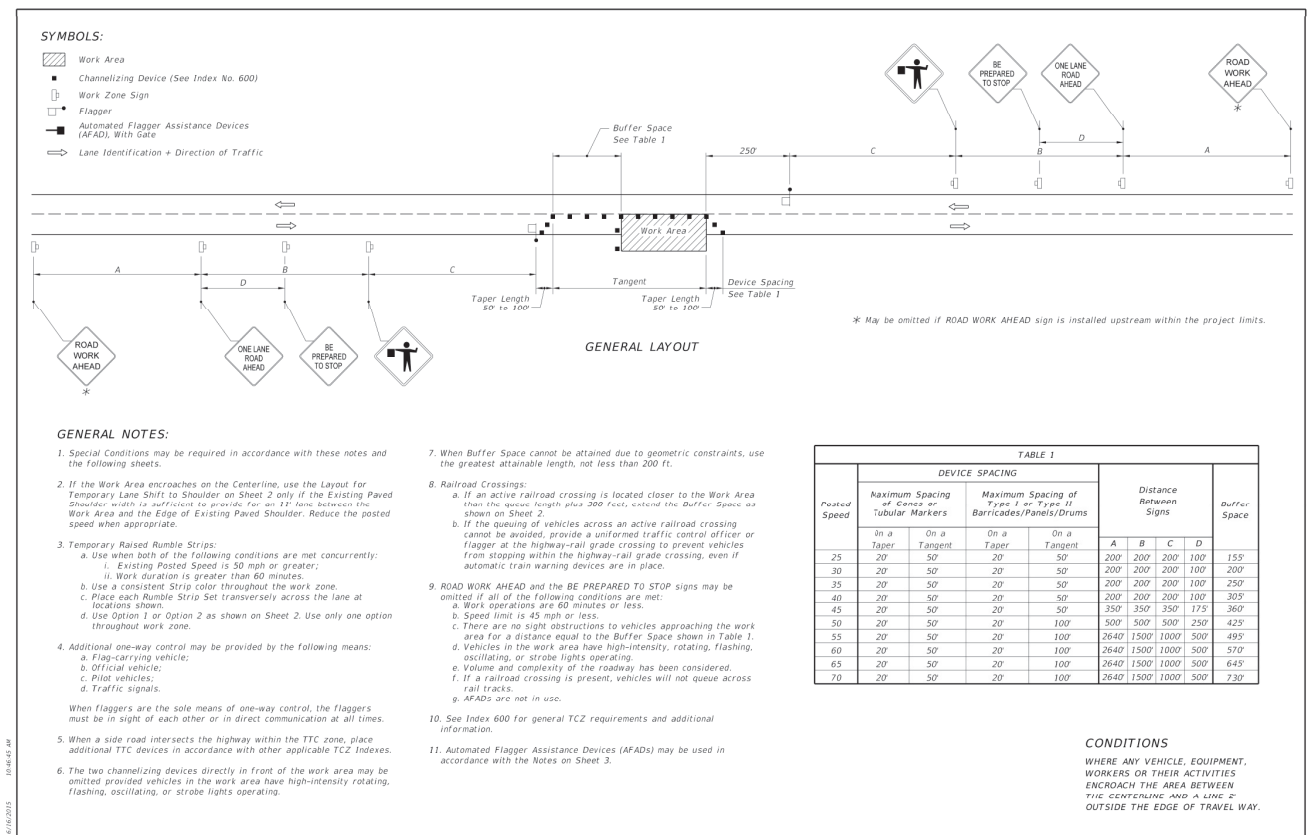
DR. MARTIN LUTHER KING, JR.
 BOULEVARD-ROADWAY AND PEDESTRIAN
 IMPROVEMENTS PROJECT

MISCELLANEOUS DETAILS

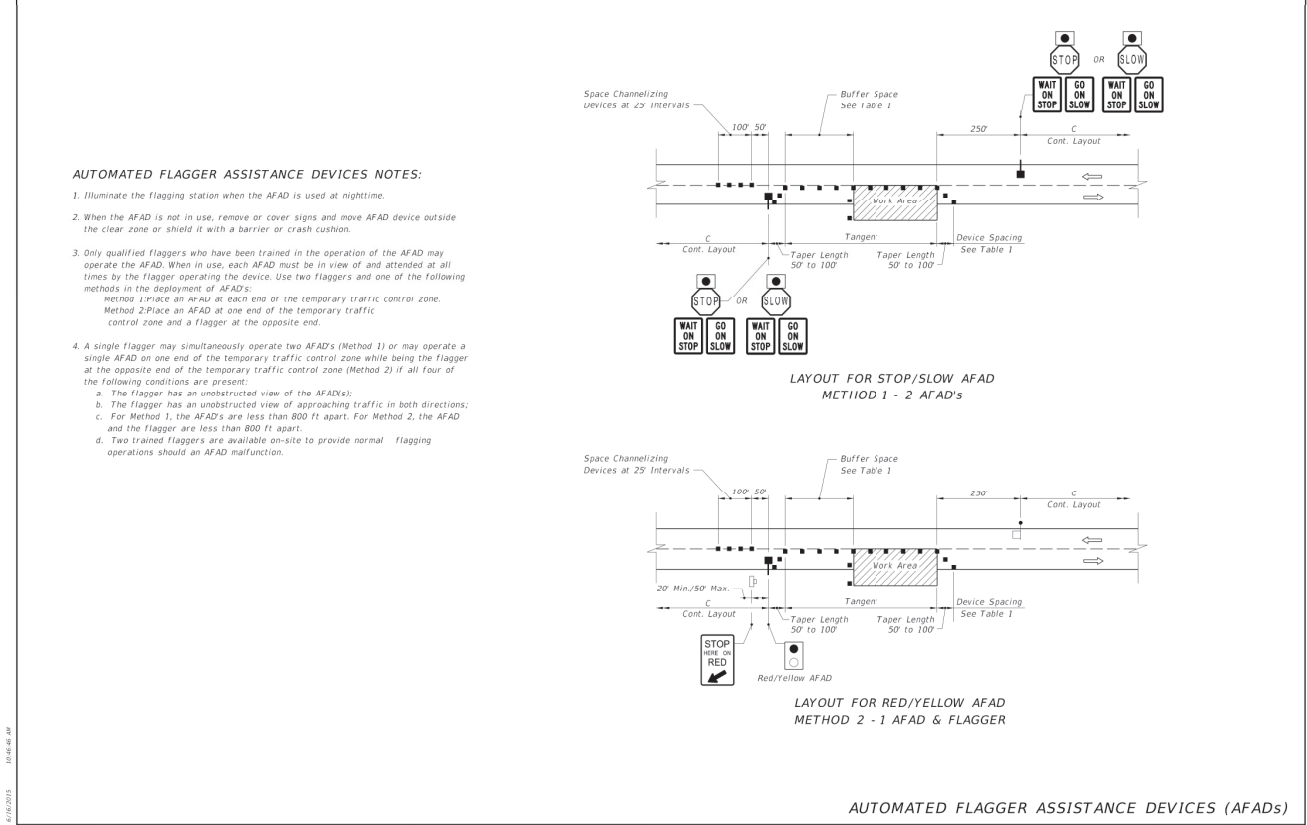
PROJECT NO. 2015-085

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DRAWN: DMP	VERTICAL: 1"=4'	REVISION:
DESIGNED: P.J.L.		
CHECKED: CRB		
PROJ. MGR.: SRS		

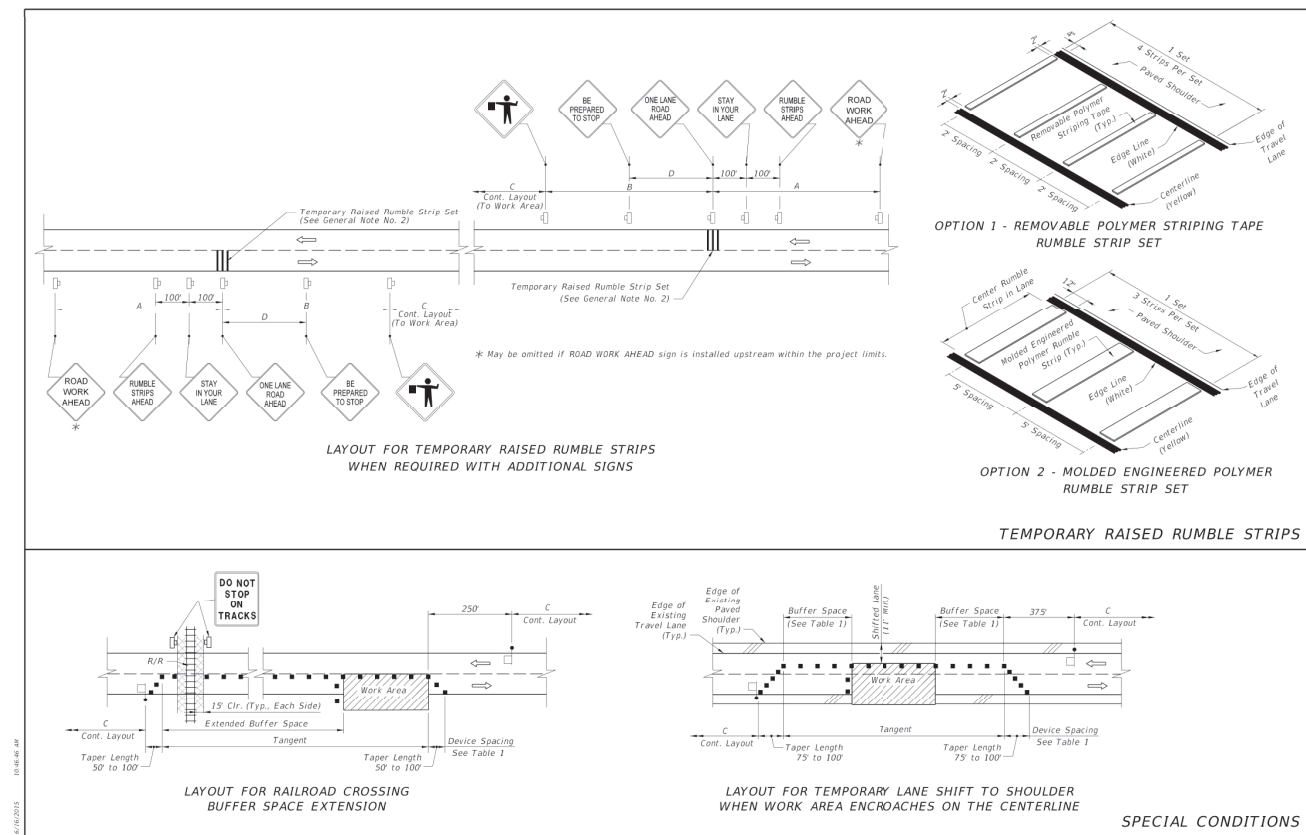
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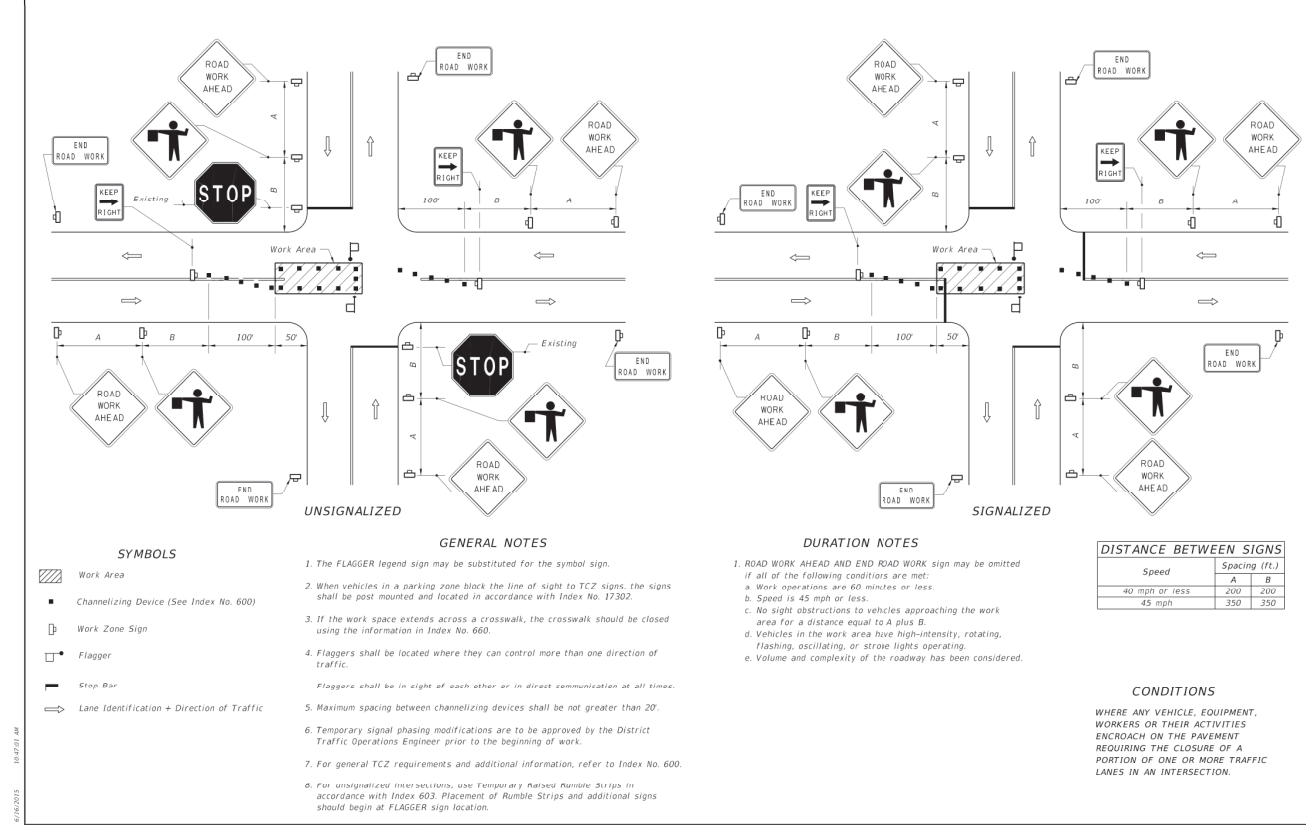
LAST REVISION 07/01/15	DESCRIPTION:	2016 DESIGN STANDARDS	TWO-LANE, TWO-WAY, WORK WITHIN THE TRAVEL WAY	INDEX NO. 603	SHEET NO. 1 of 3
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LAST REVISION 07/01/15	DESCRIPTION:	2016 DESIGN STANDARDS	TWO-LANE, TWO-WAY, WORK WITHIN THE TRAVEL WAY	INDEX NO. 603	SHEET NO. 3 of 3
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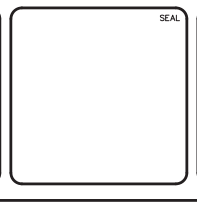
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LAST REVISION 07/01/15	DESCRIPTION:	2016 DESIGN STANDARDS	TWO-LANE, TWO-WAY, WORK IN INTERSECTION	INDEX NO. 604	SHEET NO. 1 of 1
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REVISION	DESCRIPTION	DATE
B	REISSUED FOR BIDDING	JANUARY 2016
A	ISSUE FOR BIDDING	AUGUST 2015



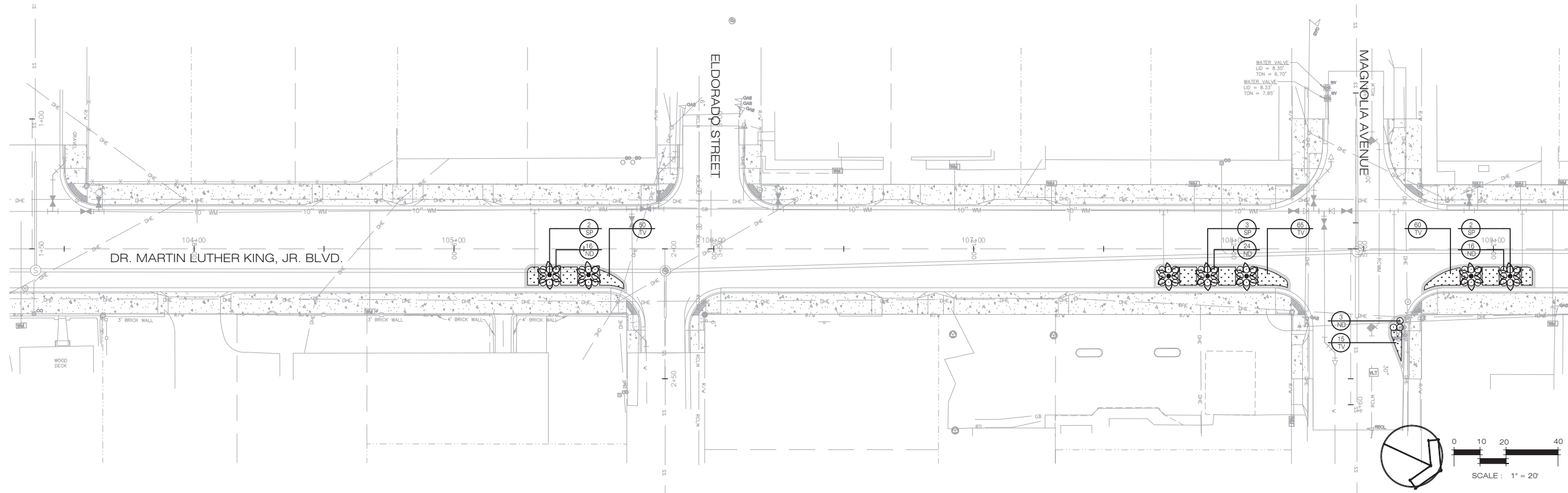
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 Date: 2019.01.10 16:20:55 -05'00'
 SCOTT R. SPOONER, P.E.
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THE CITY OF DAYTONA BEACH
 INCORPORATED JULY 1887
 THE CITY OF DAYTONA BEACH, FLORIDA

DR. MARTIN LUTHER KING, JR.
BOULEVARD-ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT
 MAINTENANCE OF TRAFFIC PLAN

PROJECT NO. 2015-085
 DATE: APRIL 2017
 MCE PROJ. # 0996-0161
 DRAWN: DMP
 DESIGNED: P.J.L.
 CHECKED: CRB
 PROJ. MGR.: SRS
 SCALE: HORIZONTAL: 1"=20', VERTICAL: 1"=4'
 M&C FILE NUMBER: D001-09960161
 DRAWING NUMBER: CD-11
 STATUS: REISSUED FOR BIDDING



MATCHLINE SEE SHEET L-3.02 FOR CONTINUATION

PLANT LIST				
SYM.	QTY.	SPECIES	COMMON NAME	SPECIFICATIONS
PALMS				
SP	10	SABAL PALMETTO	CABBAGE PALM	14" CLEAR TRUNK, SLICK
SHRUBS & GROUND COVER				
ND	83	NANDINA DOMESTICA 'FIREPOWER'	FIREPOWER NANDINA	3 GAL., 18" HT., 30" OC.
TV	265	TULBAGHIA VIOLACEA	SOCIETY GARLIC	1 GAL., 12" SPRD., 18" O.C.

LANDSCAPE GENERAL NOTES

- FLORIDA #1:** ALL PLANT MATERIAL SHALL BE GRADE FLORIDA NO. 1 OR BETTER IN QUALITY AS DESIGNATED IN THE MOST RECENT PUBLICATION OF 'GRADES AND STANDARDS FOR NURSERY PLANTS', PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.
- MULCH:** ALL PLANTING BEDS SHALL BE TOP DRESSED WITH 3" PINE BARK MULCH. ALL TREES NOT IN BEDS SHALL HAVE A 5' DIAMETER MULCH RING. ALL PALMS NOT IN BEDS SHALL HAVE A 3' DIAMETER MULCH RING.
- QUANTITIES:** IN THE EVENT OF A VARIATION BETWEEN THE QUANTITIES SHOWN ON THE PLANT LIST AND THE ACTUAL QUANTITY OF PLANTS SHOWN ON THE PLAN, THE PLAN SHALL CONTROL. SOD QUANTITY TAKEOFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- UNFORESEEN CONFLICTS:** CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY PORTION OF THE LANDSCAPE PLAN AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNFORESEEN OBSTRUCTIONS, GRADE DIFFERENCES, STANDING WATER, SOIL CONDITIONS OR OTHER CONFLICTS EXIST. SUCH UNFORESEEN CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- SUBSTITUTIONS:** NO SUBSTITUTIONS OR VARIATIONS OF ANY PLANT MATERIAL OR ITS INSTALLED LOCATION WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT AND APPROVAL FROM THE LANDSCAPE ARCHITECT.
- CONTAINERS:** IF GALLONAGE FOR PLANTS OR TREES IS SHOWN THEY SHALL BE CONTAINER GROWN AND THE SIZE SHOWN SHALL REPRESENT THE MINIMUM ALLOWABLE GALLONAGE ACCEPTED. IN ALL CASES THE PLANT SPECIFIED SIZE SHALL GOVERN OVER THE GALLONAGE INDICATED.
- PLANTING SOIL:** CONTRACTOR SHALL VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO THE PLANT SPECIES SPECIFIED. IF SOIL CONDITIONS ARE DEEMED UNSUITABLE FOR PROPER PLANT HEALTH, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND PROPER SUBSTITUTIONS SHALL BE SPECIFIED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. ADDITIONALLY, IF PRESENT, THE CONTRACTOR SHALL REMOVE LIME ROCK, CONCRETE AND OTHER DELETERIOUS DEBRIS FROM PLANTING BEDS. IF DEBRIS IS INTEGRATED IN THE SOIL, THE SOIL MUST BE EXCAVATED AND REPLACED WITH ACCEPTABLE SOIL. LASTLY, ALL FILL TO BE PLACED IN LANDSCAPE AREAS MUST HAVE A pH RANGE BETWEEN 5.8 AND 7.5, BE ORGANIC IN NATURE, AND BE FREE OF ROCKS AND DEBRIS.
- TOPSOIL:** TOPSOIL MATERIAL, IF REQUIRED, SHALL BE FREE FROM ALL HARD CLODS, WEEDS, STONES OVER 1" IN DIAMETER, CLAY, HARD PAN, NOXIOUS PLANTS, SOD, INSECTS, OR OTHER UNDESIRABLE PLANTS, SEEDS, OR MATERIAL WHICH MAY BE HARMFUL FOR GROWTH AND SHALL BE CERTIFIED AS STERILE.
- WEEDS:** IF PRESENT, THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ANY WEEDS FROM PLANTING AREAS PRIOR TO THE INSTALLATION OF PROPOSED PLANT MATERIAL AND MULCH COVER. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP BEDS FREE OF WEEDS FOR THE DURATION OF THE 90 DAY MAINTENANCE PERIOD.
- GRADING:** UNLESS OTHERWISE STATED ON THESE PLANS, THE LANDSCAPE CONTRACTOR SHALL FINE GRADE ALL AREAS TO BE PLANTED AND SODDED IN ORDER TO ELIMINATE BUMPS AND DEPRESSIONS. FINE GRADING SHALL BE DEFINED AS THE FINAL 2" OF GRADE TO BE ACHIEVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND REGRADING WASHOUT AREAS CAUSED BY EROSION UNTIL FINAL ACCEPTANCE OF THE PROJECT.
- STAKING:** ALL TREES, AND PALMS ARE TO BE STAKED ACCORDING TO THE DETAILS IN THESE PLANS. IF THE CONTRACTOR PREFERENCES TO USE OTHER STAKING METHODS THAN SHOWN IN THE DETAILS, HE OR SHE MUST SUBMIT PROPOSED STAKING DETAILS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN, REPAIR, AND/OR REPLACE ANY PLANTS DAMAGED BY FAILURE TO PROPERLY STAKE OR GUY ANY TREES ON SITE, AT THEIR OWN EXPENSE.
- CURVILINEAR:** CURVILINEAR LANDSCAPE BEDS ARE TO BE EDGED WITH SMOOTH FLOWING CURVES. STRAIGHT-LINE LANDSCAPE BEDS ARE TO BE EDGED IN A STRAIGHT LINE PARALLEL TO PARKING LOTS AND STRUCTURES UNLESS DESIGNED OTHERWISE.
- FERTILIZER:** OSMOCOTE SLOW RELEASE FERTILIZER OR EQUIVALENT SHALL BE APPLIED TO ALL TREE, SHRUB, AND GROUND COVER PLANTING AREAS AT THE RATE OF THREE (3) TABLESPOONS PER 2 S.F. OF PLANTING AREA.
- DRAINAGE:** THE LANDSCAPE CONTRACTOR SHALL ASSURE THAT THIS WORK DOES NOT INTERRUPT EXISTING OR PROPOSED DRAINAGE PATTERNS AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHALL A CONFLICT ARISE.
- SPECIFICATIONS:** THE LANDSCAPE ARCHITECT SHALL BE PERMITTED THE RIGHT DURING INSTALLATION, TO REJECT ANY AND ALL PLANT MATERIAL AND WORKMANSHIP WHICH IN HIS OR HER OPINION DOES NOT MEET THE REQUIREMENTS OF THESE SPECIFICATIONS.
- TURNOVER:** CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE FOR A TURNOVER DATE TO INCLUDE A WALK-THROUGH AND ACCEPTANCE OF WORK BY THE LANDSCAPE ARCHITECT. ANY WORK DEEMED UNACCEPTABLE SHALL BE CORRECTED IMMEDIATELY AND REINSPECTED AS SCHEDULED.
- MAINTENANCE:** CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE TO BEGIN AFTER EACH PLANT HAS BEEN INSTALLED AND SHALL CONTINUE 90 DAYS AFTER FINAL WRITTEN ACCEPTANCE BY THE OWNER. MAINTENANCE SHALL INCLUDE WATERING, PRUNING, WEEDING, MULCHING, MOWING, REPLACEMENT OF SICK OR DEAD PLANTS, AND ANY OTHER CARE NECESSARY IN ORDER TO MAINTAIN PROPER PLANT HEALTH AND SOIL MOISTURE CONTENT.
- WARRANTY:** CONTRACTOR SHALL GUARANTEE ALL INSTALLED PLANT MATERIAL FOR ONE (1) CALENDAR YEAR STARTING FROM THE TURNOVER DATE SHOULD WORK BE FOUND ACCEPTABLE. ANY CORRECTED WORK SHALL HAVE A PROPORTIONAL EXTENSION OF WARRANTY ONCE APPROVED. ANY SICK OR DEAD MATERIAL SHALL BE REPLACED IMMEDIATELY. THE LANDSCAPE CONTRACTOR SHALL NOT BE RESPONSIBLE TO HONOR ANY WARRANTY FOR THE LOSS OF ANY PLANT MATERIAL CAUSED BY FLOODING, FIRE, FREEZING TEMPERATURES, WINDS OVER 50 MPH, LIGHTNING, ANY OTHER NATURAL DISASTER, OR ANY LOSS/DAMAGE CAUSED BY VANDALISM OR NEGLIGENCE ON THE PART OF THE OWNER.

IRRIGATION GENERAL NOTES

- AN AUTOMATIC TIME CONTROLLED IRRIGATION SYSTEM WITH A RAIN SENSOR SHALL BE INSTALLED TO PROVIDE 100% HEAD TO HEAD COVERAGE OF ALL NEW PLANTINGS. SEE IRRIGATION PLAN L-4.01 - L-4.02.

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	3/30/17	JD	ISSUE FOR BIDDING
2	5/26/17	JD	REVISED PER CLIENT REQUEST

DR. MARTIN LUTHER KING, JR. BOULEVARD ROAD RECONSTRUCTION
LANDSCAPE PLAN
 DAYTONA BEACH, FLORIDA

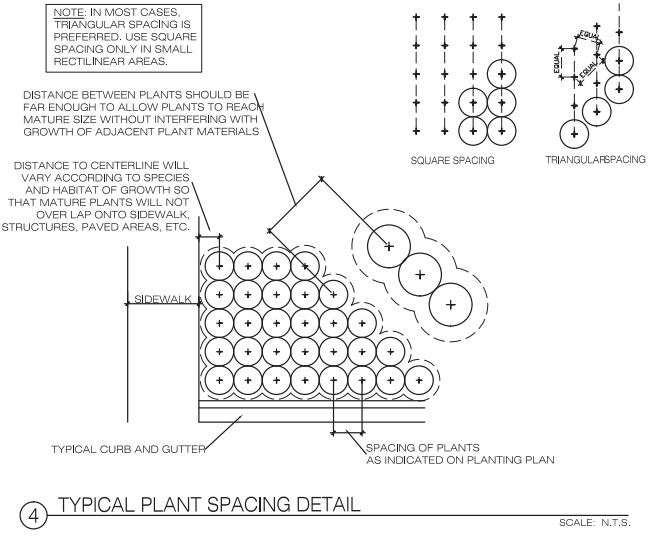
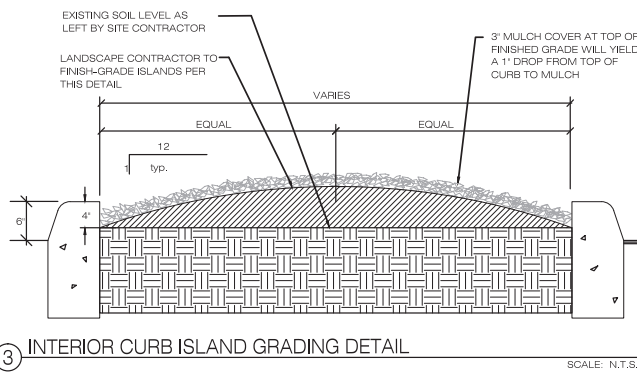
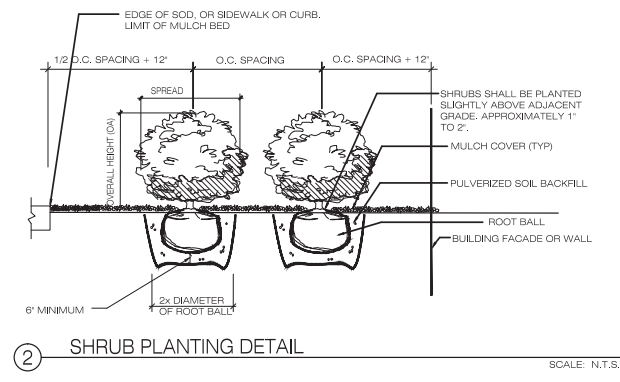
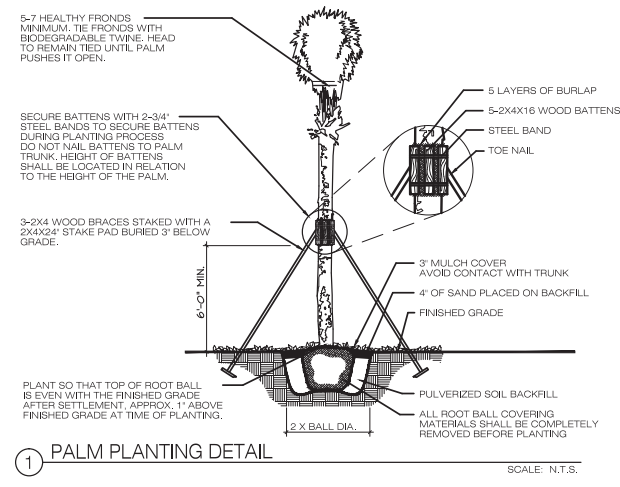
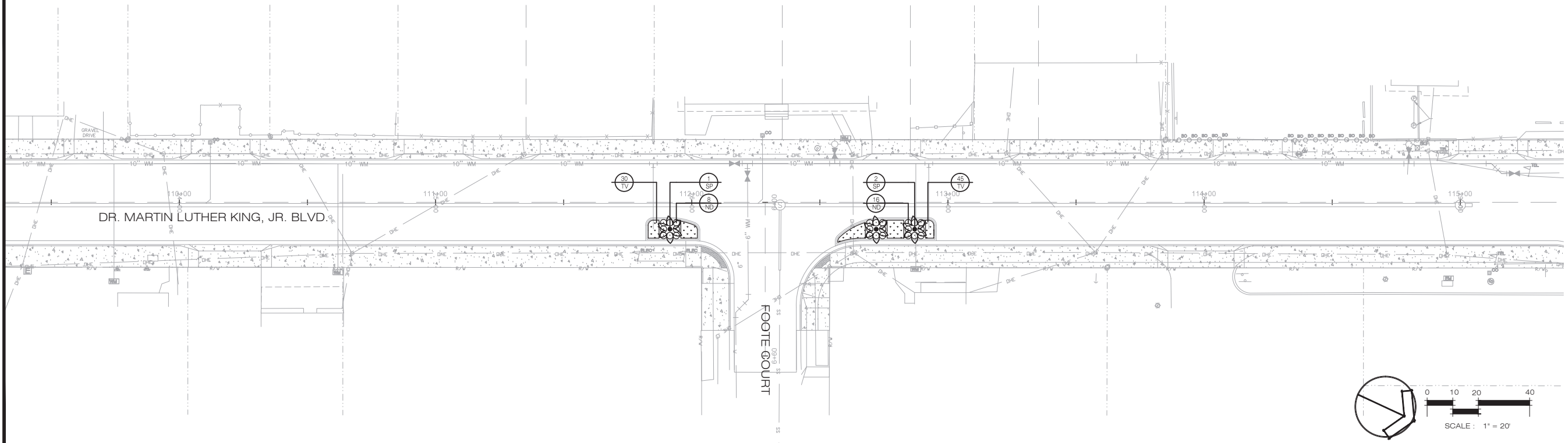


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 ISSUE DATE: 3/30/2017
 DRAWING FILE: MLK BLVD. XREFS:
 DRAFTED BY: JD
 DESIGNED BY: JDISBK
 CHECKED BY: SBK
 SCALE: 1" = 20'

NOT VALID WITHOUT SEAL

Jonathan D. Daniels
 2017.05.2
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 -04'00"

MATCHLINE SEE SHEET L-3.01 FOR CONTINUATION



1 PALM PLANTING DETAIL SCALE: N.T.S.

2 SHRUB PLANTING DETAIL SCALE: N.T.S.

3 INTERIOR CURB ISLAND GRADING DETAIL SCALE: N.T.S.

4 TYPICAL PLANT SPACING DETAIL SCALE: N.T.S.

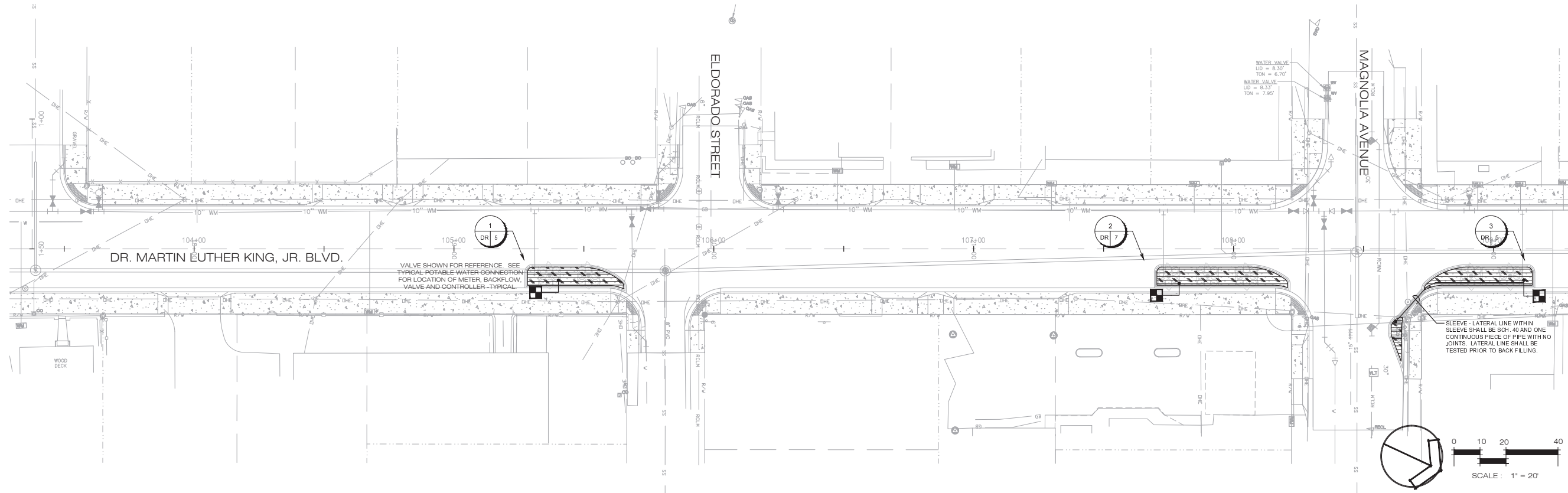
REVISIONS	
NO.	DATE
1	3/30/17
2	5/26/17

DR. MARTIN LUTHER KING, JR. BOULEVARD
ROAD RECONSTRUCTION
LANDSCAPE PLAN
DAYTONA BEACH, FLORIDA



PROJECT NO: MLK BLVD.
ISSUE DATE: 3/30/2017
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MATCHLINE SEE SHEET L-4.02 FOR CONTINUATION

REVISIONS	
NO.	DATE
1	3/30/17
2	5/20/17

DR. MARTIN LUTHER KING, JR. BOULEVARD
ROAD RECONSTRUCTION
IRRIGATION PLAN
DAYTONA BEACH, FLORIDA

CASTLE BAY DESIGN + STUDIO
CASTLE BAY DESIGN STUDIO, LLC 2017
 1100 W. UNIVERSITY AVENUE, SUITE 100
 DAYTONA BEACH, FLORIDA 32117
 386.247.1320 • LIC# 00006258 • www.castlebaydesign.com

PROJECT NO: MLK BLVD.
 ISSUE DATE: 3/30/2017
 DRAWING FILE: MLK BLVD.
 XREFS:
 DRAFTED BY: JD
 DESIGNED BY: JDISBK
 CHECKED BY: SBK
 SCALE: 1" = 20'

NOT VALID WITHOUT SEAL

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 D. Daniels
 2017.05.2
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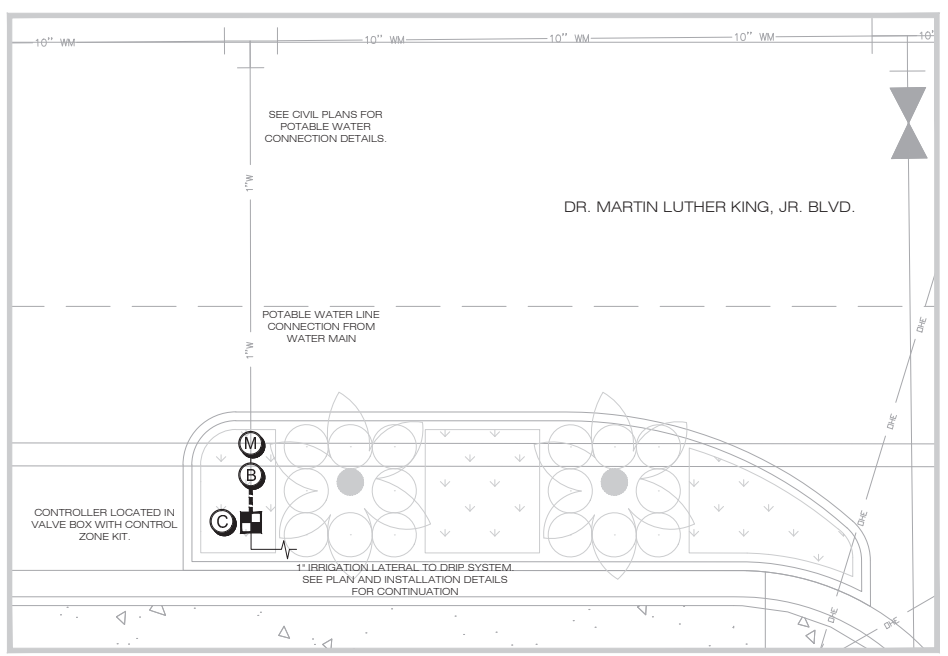
SHEET L-4.01

LEGEND

	RAIN BIRD XFS-09-12 SUB-SURFACE DRIPLINE INSTALLED AT 12" O.C. WITH EMITTERS IN A TRIANGULAR PATTERN 1" BELOW GRADE. SEE SHEET L-308 FOR TYPICAL INSTALLATION DETAILS. RAIN BIRD COMPRESSION FITTINGS AND BARBED TUBING STAKES SHALL BE USED. EACH ZONE SHALL HAVE A MIN. OF ONE FLUSH VALVE, ONE AIR RELIEF VALVE, AND ONE OPERATION INDICATOR. INSTALL ALL DRIPLINE PER RAIN BIRD SPECIFICATIONS AND DETAILS.
	HUNTER INDUSTRIES IC2-101-40 DRIP CONTROL ZONE KIT WITH 40 PSI REGULATOR (CONTRACTOR TO INSTALL NODE-100 AND REMOVE/REPLACE CONVENTIONAL SOLENOID WITH DC LATCHING SOLENOID). INSTALL VALVE IN A RAIN BIRD V5-JMB JUMBO VALVE BOX WITH LOCKING LID. VALVE LOCATION SHOWN FOR REFERENCE. INSTALL ALL VALVES IN A LANDSCAPE AREA WITH A MINIMUM 24" CLEARANCE FROM SIDEWALK/CURB.
	ZONE NUMBER
	ZONE TAG
	VALVE SIZE DR = DRIP
	SCHEDULE 40 PVC MAINLINE - 1"
	1" SCHEDULE 40 PVC LATERAL LINE.
	2" SCHEDULE 40 PVC SLEEVE.
	HUNTER INDUSTRIES NODE-100 BATTERY POWERED IRRIGATION CONTROLLER. CONTRACTOR TO REMOVE/REPLACE EXISTING CONVENTIONAL SOLENOID WITH DC LATCHING SOLENOID PROVIDED WITH NODE-100 (SEE VALVE SPECIFICATION ABOVE). CONTRACTOR TO PROVIDE TWO 9-VOLT BATTERIES (ALKALINE) FOR EACH CONTROLLER. INSTALL CONTROLLER PER DETAIL ON SHEET L-4.02.
	5/8" IRRIGATION METER. INSTALL IN A LANDSCAPE AREA WITH A MINIMUM 24" CLEARANCE FROM SIDEWALK/CURB.
	1" REDUCED PRESSURE BACKFLOW PREVENTER. INSTALL IN A LANDSCAPE AREA WITH A MINIMUM 24" CLEARANCE FROM SIDEWALK/CURB.

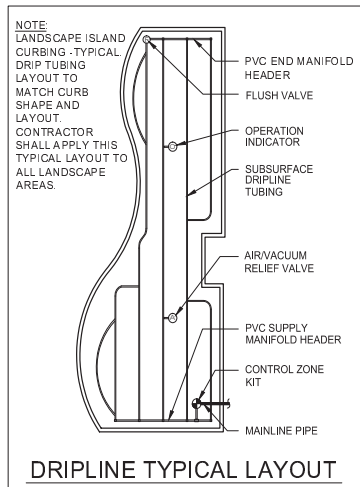
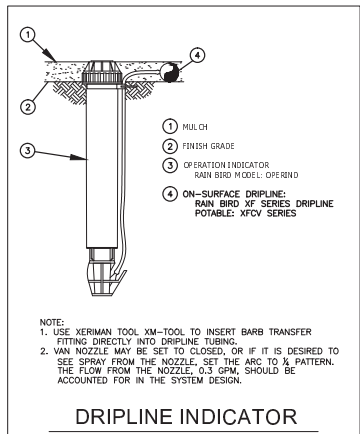
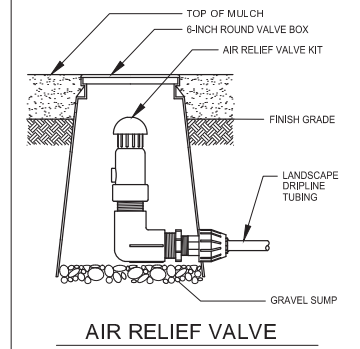
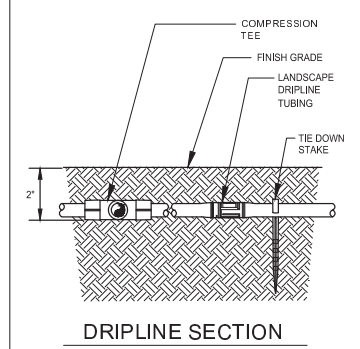
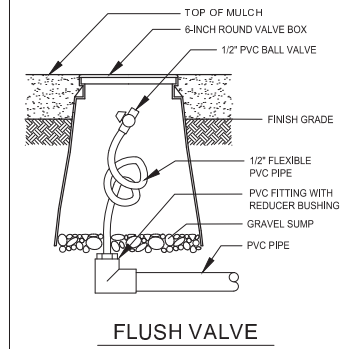
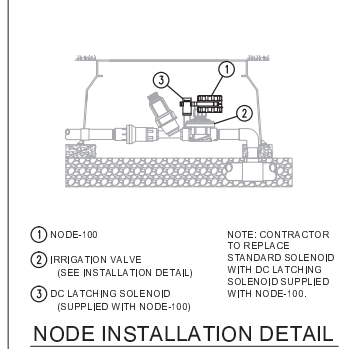
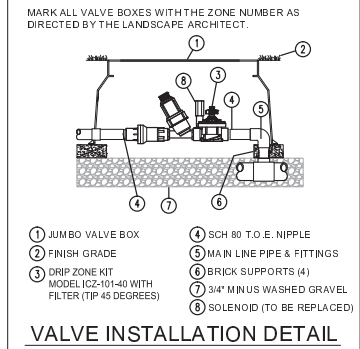
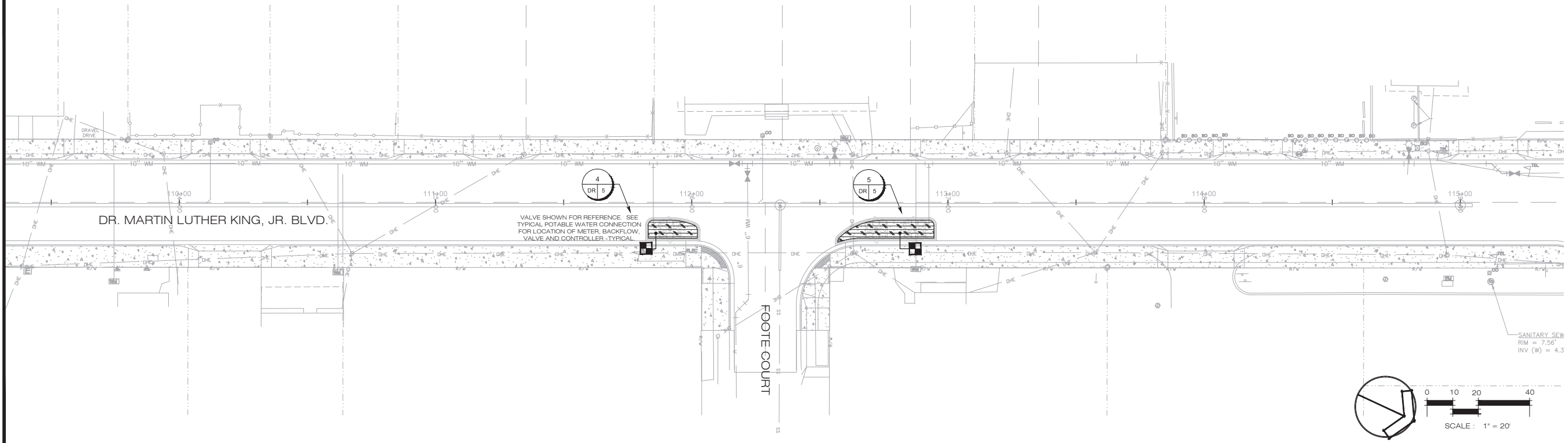
GENERAL NOTES

- IRRIGATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS REQUIRED TO PERFORM WORK.
- REFER TO THE LANDSCAPE PLANS WHEN TRENCHING TO AVOID TREE AND SHRUB LOCATIONS.
- ALL MAINLINE PIPING SHALL BE BURIED TO A MINIMUM DEPTH OF 18" OF COVER AND ALL LATERAL PIPING SHALL BE BURIED TO A MINIMUM DEPTH OF 12" OF COVER.
- PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. THE SMALLEST LATERAL PIPE SIZE TO A SINGLE SPRAY OR ROTOR HEAD SHALL BE 3/4".
- ALL REMOTE CONTROL VALVES, GATE VALVES AND QUICK COUPLERS SHALL BE INSTALLED IN VALVE BOXES.
- ANY PIPING OR VALVES SHOWN OUTSIDE THE PROPERTY LINE OR OUTSIDE OF A LANDSCAPE AREA IS SHOWN THERE FOR DESIGN CLARITY ONLY. ALL PIPING AND VALVES SHALL BE INSTALLED ON THE PROPERTY AND WITHIN LANDSCAPE AREAS.
- IT IS THE RESPONSIBILITY OF ALL SITE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH, AND EXERCISE CARE SO AS TO NOT DAMAGE ANY EXISTING IRRIGATION COMPONENTS (TO REMAIN), BERMS, WALLS, STRUCTURES, PLANT MATERIALS AND UTILITIES. ANY CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REPAIR OR REPLACEMENT OF ALL ITEMS DAMAGED BY HIS WORK. HE SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF SLEEVES AND PIPING THROUGH WALLS, UNDER ROADWAYS AND PAVING, ETC.
- DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS.
- FINAL LOCATION OF THE AUTOMATIC CONTROLLER(S) SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION.
- THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES TO PROVIDE OPTIMUM COVERAGE WITH MINIMAL OVERSPRAY ONTO WALKS, STREETS, WALLS, ETC. IN ORDER TO ACCOMPLISH THIS, THE CONTRACTOR MAY SUBSTITUTE VARIABLE ARC NOZZLES IN PLACE OF THE SPECIFIED FIXED ARC NOZZLES WHERE NECESSARY. PRESSURE COMPENSATING SCREENS MAY ALSO BE USED TO REDUCE SPRAY DISTANCE.
- THE CONTRACTOR SHALL COMPLETE ALL WORK IN ACCORDANCE WITH ALL PREVAILING LAWS, CODES AND REGULATIONS.
- ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL PREPARE AN AS-BUILT DRAWING IN AUTOCAD FORMAT SHOWING ALL IRRIGATION INSTALLATION. THE AS-BUILT DRAWING SHALL LOCATE ALL MAINLINE AND VALVES BY SHOWING EXACT MEASUREMENTS FROM HARD SURFACES.
- ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE AGAINST ALL DEFECTS IN EQUIPMENT AND WORKMANSHIP.



1 TYPICAL POTABLE WATER CONNECTION (ONE CONNECTION PER ISLAND)
 L-4.01 SCALE: NOT TO SCALE

MATCHLINE SEE SHEET L-4.01 FOR CONTINUATION



DRIPLINE NOTES

- 1) INSTALL ALL DRIPLINE TUBING 2" BELOW GRADE. USE STAKES TO HOLD THE TUBING IN PLACE.
- 2) KEEP DRIPLINE TUBING CLEAN AT ALL TIMES BEFORE THE FINAL CONNECTION. TAPE ALL TUBE ENDS OR USE DIRTCAPS.
- 3) AVOID SHARP BENDS IN THE TUBING. DO NOT BEND THE TUBING WITH LESS THAN A 12" RADIUS.
- 4) ALL DRIPLINE TUBING SHALL HAVE UNIFORM SPACING AND BURIAL DEPTH.
- 5) IN STALL DRIPLINE TUBING IN ALL AREAS THAT SHALL RECEIVE PLANT MATERIAL. REFER TO THE PLAN FOR THE EXACT LOCATIONS.
- 6) SPACE TUBING AS NOTED ON THE PLANS AND/OR DETAILS. THE PLAN DOES NOT ALWAYS SHOW ALL DRIPLINE TUBING. THE PLAN LAYOUT IS SHOWN FOR CLARITY ONLY.
- 7) REFER TO THE MANUFACTURER'S DRIPLINE INSTALLATION MANUAL FOR SPECIFIC INSTALLATION INSTRUCTIONS AND DETAILS.
- 8) ALWAYS FLUSH ALL LINES BEFORE FINAL CONNECTION.
- 9) REFER TO THE LANDSCAPE PLAN TO AVOID LAYOUT WHERE TREES SHALL BE INSTALLED WITHIN LANDSCAPE BEDS.
- 10) INSTALL ALL AIR RELIEF AND FLUSH VALVES INSIDE A VALVE BOX.
- 11) CLEARLY AND NEATLY MARK THE TOP OF EACH VALVE BOX WITH THE TYPE OF EQUIPMENT THAT IT CONTAINS. (IE. AIR RELIEF VALVE, FLUSH VALVE, ETC.)
- 12) ALL VALVE BOXES SHALL HAVE A 6" LAYER OF PEA GRAVEL IN THE BASE.

REVISIONS		DATE	BY	DESCRIPTION
1	ISSUE FOR BIDDING	3/30/2017	JD	
2	REVISED PER CLIENT REQUEST	5/20/17	JD	

DR. MARTIN LUTHER KING, JR. BOULEVARD
ROAD RECONSTRUCTION
IRRIGATION PLAN
DAYTONA BEACH, FLORIDA



PROJECT NO: MLK BLVD.
ISSUE DATE: 3/30/2017
DRAWING FILE: MLK BLVD.
XREFS:
DRAFTED BY: JD
DESIGNED BY: JD/SBK
CHECKED BY: SBK
SCALE: 1" = 20'

NOT VALID WITHOUT SEAL
Jonathan D. Daniels
2017.05.2
6 14:20:53
-04'00"

THE CITY OF DAYTONA BEACH DR. MARTIN LUTHER KING, JR. BOULEVARD

ROADWAY AND PEDESTRIAN IMPROVEMENTS PROJECT

LIGHTING & ITS PLANS

PROJECT NO. 2015-085

INDEX OF ROADWAY LIGHTING & ITS PLANS

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
RL-1	KEY SHEET
RL-2	SIGNATURE SHEET
RL-3	TABULATION OF QUANTITIES
RL-4	GENERAL NOTES
RL-5	LEGEND & POLE DATA
RL-6 THRU RL-11	DR. MARTIN LUTHER KING JR. BLVD.-LIGHTING & ITS PLANS
RL-12	LOAD CENTER DETAILS
RL-13	POLE & WIRING DETAILS
RL-14 THRU RL-15	SPLICE DIAGRAM

END PROJECT
STA. 115+60



BEGIN PROJECT
STA. 101+30

GOVERNING STANDARDS AND SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION, 2018-2019 DESIGN STANDARDS AND REVISED INDEX DRAWINGS AS APPENDED HEREIN, AND 2018 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS AMENDED BY CONTRACT DOCUMENTS.

FOR DESIGN STANDARDS CLICK ON THE "DESIGN STANDARDS" LINK AT THE FOLLOWING WEB SITE:
[HTTP://WWW.DOT.STATE.FL.US/RDDESIGN](http://www.dot.state.fl.us/rddesign)

FOR THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CLICK ON THE "SPECIFICATIONS" LINK AT THE FOLLOWING WEB SITE:
[HTTP://WWW.DOT.STATE.FL.US/SPECIFICATIONSOFFICE/](http://www.dot.state.fl.us/specificationsoffice/)



THE CITY OF DAYTONA BEACH
PUBLIC WORKS

TECHNICAL SERVICES DIVISION

DERRICK L. HENRY-MAYOR
RUTH TRAGER, COMMISSIONER - ZONE 1
AARON DELGADO, COMMISSIONER - ZONE 2
KELLY WHITE, COMMISSIONER - ZONE 3
ROBERT A. GILLILAND - ZONE 4
DANNETTE HENRY, COMMISSIONER - ZONE 5
PAULA R. REED, COMMISSIONER - ZONE 6
JAMES V. CHISHOLM - CITY MANAGER
DAVID WALLER, DEPUTY PUBLIC WORKS DIRECTOR
FRANK VANPELT, TECHNICAL SERVICES DIRECTOR
JIM NELSON, PE, CITY ENGINEER
JO ANN J. MACRINA, PE, DEPUTY DIRECTOR OF UTILITIES
MICHELLE MARTIN, TECHNICAL SERVICES PROJECT MANAGER

SHOP DRAWINGS
TO BE SUBMITTED TO:

GIL RAMIREZ, P.E.
LTG, INC.
1970 DAIRY ROAD
WEST MELBOURNE FLORIDA, 32904
PH. 321.466.4679 FAX: 321.499.4680

PLANS PREPARED BY:

LTG Engineering
& Planning
1450 WEST GRANADA BLVD. SUITE 2
ORMOND BEACH FLORIDA, 32174
PH. 386.257.2571 FAX: 386.257.6996
E-MAIL: ltg@ltg-inc.us
CERTIFICATE OF AUTHORIZATION 9227

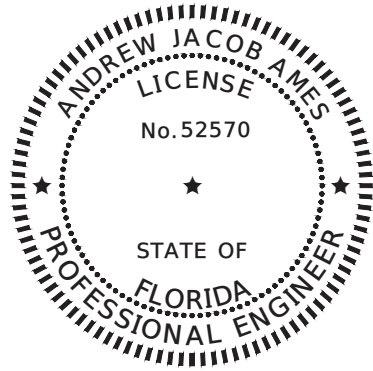
NOTE: THE SCALE OF THESE PLANS MAY
HAVE CHANGED DUE TO REPRODUCTION.

LIGHTING & ITS PLANS
ENGINEER OF RECORD:

GIL RAMIREZ, P.E.
P.E. NO.: 62600

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
	2018	RL-1

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23-004, F.A.C.



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED
AND SEALED BY ANDREW J. AMES, P.E. ON DATE
SHOWN USING A DIGITAL SIGNATURE

1450 WEST GRANADA BOULEVARD, SUITE 2
ORMOND BEACH FL. 32174
CERTIFICATE OF AUTHORIZATION NO. 9227
ANDREW J. AMES P.E. NO. 52570


PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED
AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY
ELECTRONIC COPIES.

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN
ACCORDANCE WITH RULE 61G15-23.003, F.A.C.

INDEX OF ROADWAY LIGHTING PLANS

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
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RL-2	SIGNATURE SHEET
RL-3	TABULATION OF QUANTITIES
RL-4	GENERAL NOTES
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RL-6 THRU RL-11	DR. MARTIN LUTHER KING JR. BLVD.-LIGHTING PLANS
RL-12	LOAD CENTER DETAILS
RL-13	POLE AND WIRING DETAILS

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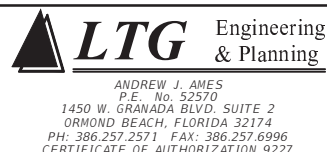
REVISIONS				 <small>ANDREW J. AMES P.E. No. 52570 1450 W. GRANADA BLVD. SUITE 2 ORMOND BEACH, FLORIDA 32174 PH: 386.257.2571 FAX: 386.257.6996 CERTIFICATE OF AUTHORIZATION 9227</small>	THE CITY OF DAYTONA BEACH, FLORIDA			SIGNATURE SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		RL-2
					MLK BLVD.	VOLUSIA			

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS (ROADWAY LIGHTING)												TOTAL THIS SHEET		GRAND TOTAL	
			RL-6		RL-7		RL-8		RL-9		RL-10		RL-11		PLAN	FINAL	PLAN	FINAL
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL				
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	116		520		564		596		560		102		2458		2458	
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	2		2		5		3		3		1		16		16	
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO.8 - 6	LF	492		1704		2218		2220		1896		378		8908		8908	
715-4-11	LIGHT POLE COMPLETE, FURNISH & INSTALL STANDARD POLE STANDARD FOUNDATION, 27.5' MOUNTING HEIGHT	EA	2		2		3		3		3		1		14		14	
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA							1						1		1	

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION



LTG Engineering & Planning
 ANDREW J. AMES
 P.E. No. 52570
 1450 W. GRANADA BLVD. SUITE 2
 ORMOND BEACH, FLORIDA 32174
 PH: 386.257.2571 FAX: 386.257.6996
 CERTIFICATE OF AUTHORIZATION 9227

THE CITY OF DAYTONA BEACH, FLORIDA		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
MLK BLVD.	VOLUSIA	

TABULATION OF QUANTITIES

SHEET NO.
RL-3

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23-004, F.A.C.


GENERAL NOTES

1. SPARE CONDUIT AT MAINLINE AND ARTERIAL ROAD PAVEMENT CROSSINGS SHALL BE CAPPED AT THE PULL BOX.
2. PRIOR TO ANY EQUIPMENT ORDER, SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT. THESE MUST SPECIFICALLY INCLUDE:
 - A) LUMINAIRE PHOTOMETRICS
 - B) POLE STRENGTH CALCULATIONS
 - C) POLE FRANGIBILITY TEST
 - D) BOLT SPECIFICATIONS AND BOLT CIRCLE DIAMETER
 - E) POLE SHOP DRAWINGS
 - F) LOAD CENTER ELECTRICAL EQUIPMENT
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WHICH MAY BE AFFECTED BY THE WORK. THE FOLLOWING IS A PARTIAL LISTING:
 FPL: MATT SAUEY, W: (407)328-1920
 FPL FIBERNET: DANNY HASKETT W: (305)552-2939, CELL: (786)246-7827
 TECO PEOPLE GAS: JERROD CARTER (904)443-7355
 ATT: KIRBY SPENCER (386)366-4588
 LEVEL 3 COMMUNICATIONS: PATRICK PROVOST (720)888-4686
4. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE APPROXIMATE AND BASED ON THE INFORMATION FURNISHED TO THE ENGINEER BY THE UTILITY OWNERS AND ARE SHOWN AS NOTICE TO THE CONTRACTOR THAT UNDERGROUND UTILITIES EXIST. BEFORE EXCAVATING, NOTIFY THE UTILITY COMPANY OWNERS AND REQUEST THEM TO LOCATE AND STAKE THEIR UNDERGROUND FACILITIES. UTILITIES ARE TO BE ADJUSTED BY OTHERS AS DIRECTED BY THE ENGINEER.
5. PROVIDE NOTICE TO THE UTILITY OWNERS PER FLORIDA STATUTE 553.851 AND 556. THESE STATUTES REQUIRE THAT BEFORE EXCAVATION, NOTICE BE GIVEN TO THE UTILITY OWNER A MINIMUM OF TWO (2) DAYS AND A MAXIMUM OF FIVE (5) DAYS, EXCLUDING SATURDAY, SUNDAY AND LEGAL HOLIDAYS. NOT ALL UTILITY COMPANIES ARE MEMBERS OF "SUNSHINE" CALL 811 WWW.CALLSUNSHINE.COM.
6. THE LOCATION OF THE POLES, CONDUCTORS, CONDUITS, JUNCTION BOXES AND SERVICE POLES ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED BY THE ENGINEER TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS.
7. ALUMINUM POLES, LUMINAIRES AND BASES SHALL BE FABRICATED IN ACCORDANCE WITH AASHTO'S "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" AND SHALL HAVE BEEN TESTED BY FHWA-APPROVED METHODS. CERTIFICATION FOR TESTS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.
8. ALL ELECTRICAL WORK SHALL MEET ALL REQUIREMENTS OF THE LATEST ADOPTED EDITIONS OF THE NATIONAL ELECTRICAL CODE, THE NATIONAL ELECTRICAL SAFETY CODE, AND THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL COMPONENTS SHALL BE PROPERLY GROUNDED PER N.E.C. REQUIREMENTS.
9. INSTALL SURGE PROTECTIVE DEVICES PROPERLY GROUNDED IN POWER (SECONDARY) ENTRANCES.
10. IN ACCORDANCE WITH N.E.C., IDENTIFY ALL CIRCUITS AND EQUIPMENT WITH "LAMACOID TAGS". INSTALL SIMILAR TAGS OF STAINLESS STEEL, IDENTIFYING CIRCUIT FOR EACH LUMINAIRE AT ACCESS HANDHOLE FOR EACH POLE.
11. NOTIFY FPL AT LEAST 48 HOURS PRIOR TO ANY INSTALLATION THAT IS WITHIN 10 FEET OF ENERGIZED ELECTRICAL CONDUCTORS. FPL, AT ITS OPTION, SHALL ASSIST THE FDOT CONTRACTOR TO COVER UP ENERGIZED CONDUCTORS AT INSTALLATION SITE OR TAKE OTHER SAFETY PRECAUTIONS AS NECESSARY. EXTREME CAUTION SHALL BE EXERCISED AT ALL TIMES IN PERFORMANCE OF WORK AROUND THE PRIMARY, HIGH VOLTAGE COMPONENTS.
12. PULLING INSTRUCTIONS: CONNECT PULLING DEVICES TO COPPER WIRE AND NOT TO JACKET AND MEET MANUFACTURER'S REQUIREMENTS. USE PULLING COMPOUND PER MANUFACTURER'S REQUIREMENTS. ALL BENDS SHALL NOT BE LESS THAN RECOMMENDED BY N.E.C. OR N.E.S.C. FOR CABLE USED.
13. ALL ROADWAY LIGHTING SHALL HAVE AN IDENTIFICATION TAG. TAGS SHALL HAVE BLACK LETTERS ON YELLOW BACKGROUND ATTACHED WITH APPROVED ADHESIVE (NO RIVETS OR SCREWS). COST OF TAGS SHALL BE INCLUDED IN THE BID ITEMS FOR LIGHT POLE COMPLETE. TAGS SHALL BE PLACED 5 FEET ABOVE GRADE AND FACING THE ROADWAY. BEFORE ORDERING TAGS, COORDINATE WITH THE CITY OF DAYTONA BEACH FOR PROPER NUMBERING SEQUENCE OF LOAD CENTER AND CIRCUITS. SEQUENCE OF LOAD CENTER AND CIRCUITS.
14. JACK AND BORE OPERATIONS IF USED SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION FDOT UTILITY ACCOMMODATION GUIDE.
15. AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE IN CLOSE PROXIMITY TO THE LIGHTING POLE FOUNDATIONS OR CONDUIT RUN, AS DETERMINED BY THE ENGINEER, HAND DIG THE FIRST 4 FEET OF THE HOLE FOR THE POLE FOUNDATION AND CONDUIT RUN.
16. ALL CIRCUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF EACH WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. DO NOT OPEN ANY AREA THAT CANNOT BE BACKFILLED IN THE SAME DAY/NIGHT OPERATION.
17. ALL EXCESS DIRT AND DEBRIS EXCAVATED FROM POLE FOUNDATIONS SHALL BE REMOVED.
18. MAINTAIN ACCESS TO ALL SIDE STREETS, PRIVATE AND COMMERCIAL DRIVEWAYS AT ALL TIMES DURING THE CONSTRUCTION OPERATION.
19. THE LIGHTING SYSTEM WILL BE MAINTAINED BY THE CITY OF DAYTONA BEACH ACCEPTANCE.
20. ANY EXISTING SIGNALIZATION LOOPS SYSTEM DAMAGED DURING THE CONDUIT INSTALLATION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
21. SOIL EXPOSED DURING INSTALLATION OF LIGHTING FOUNDATIONS SHALL BE STABILIZED AS SOON AS POSSIBLE. IN NO CASE SHALL THE TIME BE GREATER THAN SEVEN (7) CALENDAR DAYS.
22. EXISTING LIGHTING EQUIPMENT SOURCES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING DEMOLITION/REMOVAL WORK.
23. ALL ROADSIDE LIGHTING PULL BOXES SHALL BE MARKED "STREET LIGHTING". ALL PULL BOX COVERS SHALL BE MARKED "STREET LIGHTING" MADE OF POLYMER MATERIAL, FLUSH WITH THE GROUND, AND SHALL BE WITH A MINIMUM ANSI TIER 22 RATING.
24. CONDUIT LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. CONDUIT MUST BE PLACED WITHIN THE RIGHT-OF-WAY BUT CAN BE ADJUSTED TO FIT AROUND THE EXISTING AND PROPOSED UTILITIES. WHERE PLANNED LOCATION OF LIGHTING CONDUIT RUNNING 30" UNDER PAVEMENT IS FOUND TO CONFLICT WITH UNDERGROUND UTILITIES, THE LIGHTING CONDUIT SHALL BE ALTERED VERTICALLY OR HORIZONTALLY TO AVOID THE CONFLICT AS RECOMMENDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. A 24" ABSOLUTE MINIMUM DEPTH SHALL BE MAINTAINED WHERE LIGHTING CONDUITS ARE RELOCATED CLOSER THAN 30" BELOW THE GROUND SURFACE AND SHALL BE PLACED IN AN ADDITIONAL 3" PVC SLEEVE OR BACKFILLED WITH A MIN. OF 4"x4" OF CONCRETE.
25. LIGHTING CONDUIT SHALL BE 2" SCHEDULE 40 PVC WITH THWN-2 CONDUCTORS INSIDE.
26. INSPECT ALIGNMENT OF EACH INDIVIDUAL POLE AND FIXTURE AS FOLLOWS:
 ALIGNMENT VIEWING FROM ADJACENT SERIES OF POLES IN BOTH DIRECTIONS.
 FIXTURE ALIGNMENT: WITHIN ONE DEGREE OF HORIZONTAL +/-, USING CALIBRATED LEVEL ALONG BOTH AXES OF CUT-OFF FIXTURE FACE, WITH LENS ONLY.
27. ALL CONDUITS SHALL BE MANDREL TESTED AND CLEANED. CONDUITS PLACED FOR FUTURE USE SHALL HAVE 3/4" POLYESTER CORD PULLED IN PLACE AND CAPPED WITH NOTATION INSIDE CONDUIT AS TO LOCATION OF OPPOSITE END. PLACE DUCT MARKER OR PULL BOXES TO MARK END OF EMPTY CONDUITS.
28. TAKE RESPONSIBILITY FOR LOCATING ANY UNDERGROUND CONDUIT FOR ROADWAY LIGHTING.
29. ALL LIGHT POLES, PULL BOXES AND LOAD CENTERS SHALL NOT BE INSTALLED WITHIN ANY DITCH AREAS THAT MAY CAUSE WATER INTRUSION.
30. AS PART OF THE 7 DAY TEST BURNING PERIOD, EACH CIRCUIT SHALL BE LABELED WITH THE LOAD AMPERAGE READING AT THE LOAD CENTER PANEL.
31. ONE CONDUIT RUN SHALL HAVE NO MORE THAN THREE LIGHTING CIRCUITS INSTALLED.
32. CONTRACTOR SHALL PREPARE ACCURATELY DIMENSIONED "AS BUILT" PLANS OF FINAL POLE, CONTROLLER, CABLE AND CONDUIT PULL BOX LOCATIONS. PLANS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER AND SUBMITTED TO THE RESIDENT ENGINEER. COST OF SUCH PREPARATION SHALL BE INCIDENTAL TO PAY ITEMS PROVIDED.
33. ALL SPLICES SHALL BE MADE IN PULL BOXES ONLY WITH COMPRESSION SLEEVES OR SPLIT BOLT CONNECTIONS, PROPERLY TAPED AND WATERPROOF.
34. SPLICES AND CONNECTIONS MADE IN PULL BOXES SHALL BE LIMITED TO THE SERVER POINT AND CONDUIT JUNCTION WITH MULTI-DIRECTIONAL CONDUITS AS INDICATE ON PLANS. THE CONNECTION MADE AT THESE POINTS SHOULD BE PROPERLY TAPED AND HEAT SHRINK TUBES OR CAPS SHALL BE USED TO WATERPROOF THESE CONNECTIONS.
35. SCREW TYPE ANCHOR FOUNDATIONS ARE NOT TO BE USED ON THIS PROJECT.
36. NECESSARY CARE SHALL BE TAKEN SUCH THAT EXISTING POLES AND LUMINAIRES TO REMAIN OR TO BE RELOCATED ARE NOT DAMAGE DURING CONSTRUCTION. DAMAGED POLES AND LUMINAIRES, AS DETERMINED BY THE RESIDENT ENGINEER, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
37. PULL BOXES AND LOAD CENTERS SHALL NOT BE PLACED IN DITCHES OR LOW LYING AREAS IN ORDER TO AVOID WATER INTRUSION.
38. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE POLES PRIOR TO INSTALLATION. IF OUTDOOR STORAGE, THEN THE CONTRACTOR SHALL UNPACKED AND UNCOVERED POLES IN ORDER TO AVOID DAMAGE FROM ANY PACKING MATERIAL.

ITS

1. ITS CONDUIT SHALL BE 4" SCHEDULE 40 PVC AND SHALL INCLUDE A 14 AWG LOCATE WIRE, PULL STRING AND CAP OPEN CONDUIT IN ALL VAULTS.
2. CONDUIT SHALL US LARGE RADIUS SWEEPS WHEN ENTERING PULL BOXES.
3. FIBER PULL BOXES SHALL MEASURE 24X36X24, SHALL BE HS-20 RATED, WITH THE WORDS "FIBER OPTICS" CAST INTO THE COVER.


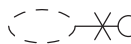
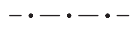




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REVISIONS				 <small>GIL RAMIREZ P.E. No. 62600 1970 DAIRY ROAD WEST MELBOURNE FLORIDA, 32904 PH: 321.499.4679 FAX: 321.499.4680 CERTIFICATE OF AUTHORIZATION 9227</small>	THE CITY OF DAYTONA BEACH, FLORIDA			<p style="text-align: center; font-size: 1.2em;">GENERAL NOTES</p>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	PROJECT ID		
					MLK BLVD.	VOLUSIA	2015-085		RL-4

LIGHTING DESIGN CRITERIA


AVERAGE LEVEL OF ILLUMINATION 1.0 AVERAGE INITIAL HORIZONTAL FOOT-CANDLES
 AVERAGE TO MINIMUM RATIO 4:1 OR LESS
 MAX./MIN. RATION 10:1 OR LESS
 WIND SPEED 130 MPH
 VEILING LUMINANCE RATIO 0.4 OR LESS
 ALLOWABLE VOLTAGE DROP 7 % OR LESS

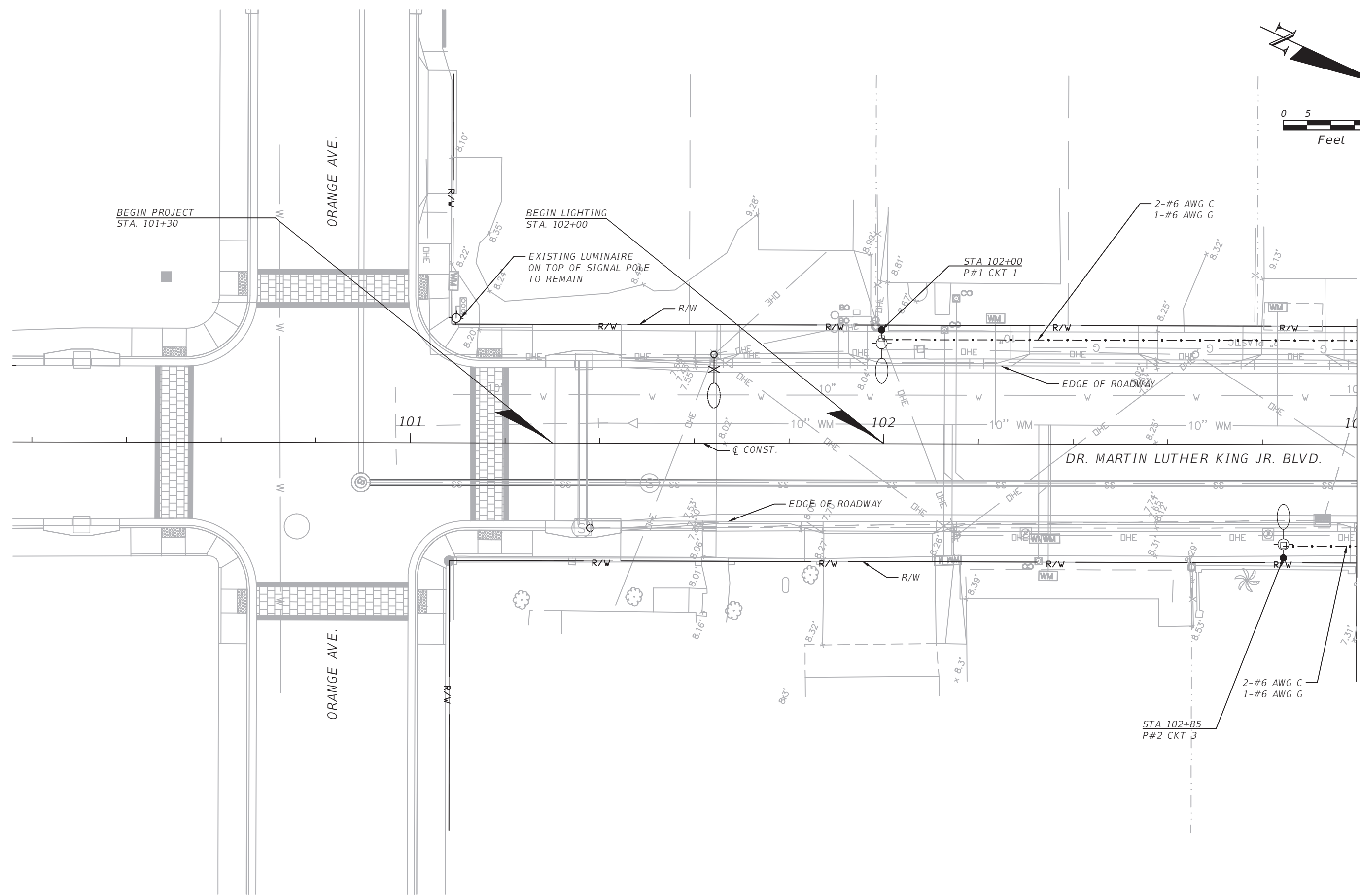
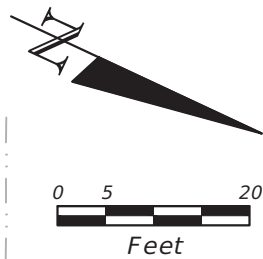
LEGEND

-  NEW K803 SOLITAIRE SR. LUMINAIRE EXTERNAL LED PENDANT, 100 WATTS AND NEW K124 PARAGON LUMINAIRE, 60 WATTS.
NEW LUMINAIRE BY KING OR APPROVED EQUAL. THE LUMINAIRE SHALL BE POLE-MOUNTED ON A VERTICAL TENON, WITH VIBRATION DAMPER AND BREAKAWAY BASE.
-  EXISTING LUMINAIRE TO BE REMOVED
-  2" SCHEDULE 40 PVC CONDUIT WITH THWN-2 CONDUCTORS INSIDE PER FTE MAINTENANCE; RHW/XLP CONDUCTORS
-  NEW PULL BOX.
-  NEW LOAD CENTER.
-  NEW FPL POWER SOURCE.
-  EXISTING FPL POWER SOURCE.

POLE DATA							
POLE NO.	CIRCUIT	STATION & OFFSET	ARM LENGTH (ROAD/SIDEWALK)	LUMINAIRE WATTAGE	MOUNTING HEIGHT (ROAD/SIDEWALK)	POLE SETBACK (FROM EDGE OF CURB)	TILT
1	1	102+00, 24.06' LT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
2	3	102+85, 23.99' RT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
3	3	103+84, 24.01' RT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
4	1	104+77, 23.93' LT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
5	3	106+04, 24.15' RT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
6	1	106+99, 23.77' LT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
7	3	108+00, 24.26' RT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
8	2	108+97, 23.63' LT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
9	4	109+83, 24.38' RT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
10	2	110+77, 24.56' LT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
11	4	111+88, 24.46' RT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
12	2	112+93, 23.41' LT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
13	4	113+77, 24.56' RT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0
14	2	114+82, 23.13' LT	8 FT / 1 FT	160	25 FT / 14 FT	7.4 FT	0

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REVISIONS				 ANDREW J. AMES P.E. No. 52570 1450 W. GRANADA BLVD. SUITE 2 ORMOND BEACH, FLORIDA 32174 PH: 386.257.2571 FAX: 386.257.6996 CERTIFICATE OF AUTHORIZATION 9227	THE CITY OF DAYTONA BEACH, FLORIDA			LEGEND & POLE DATA	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						MLK BLVD.	VOLUSIA		



MATCH LINE STA. 103+00

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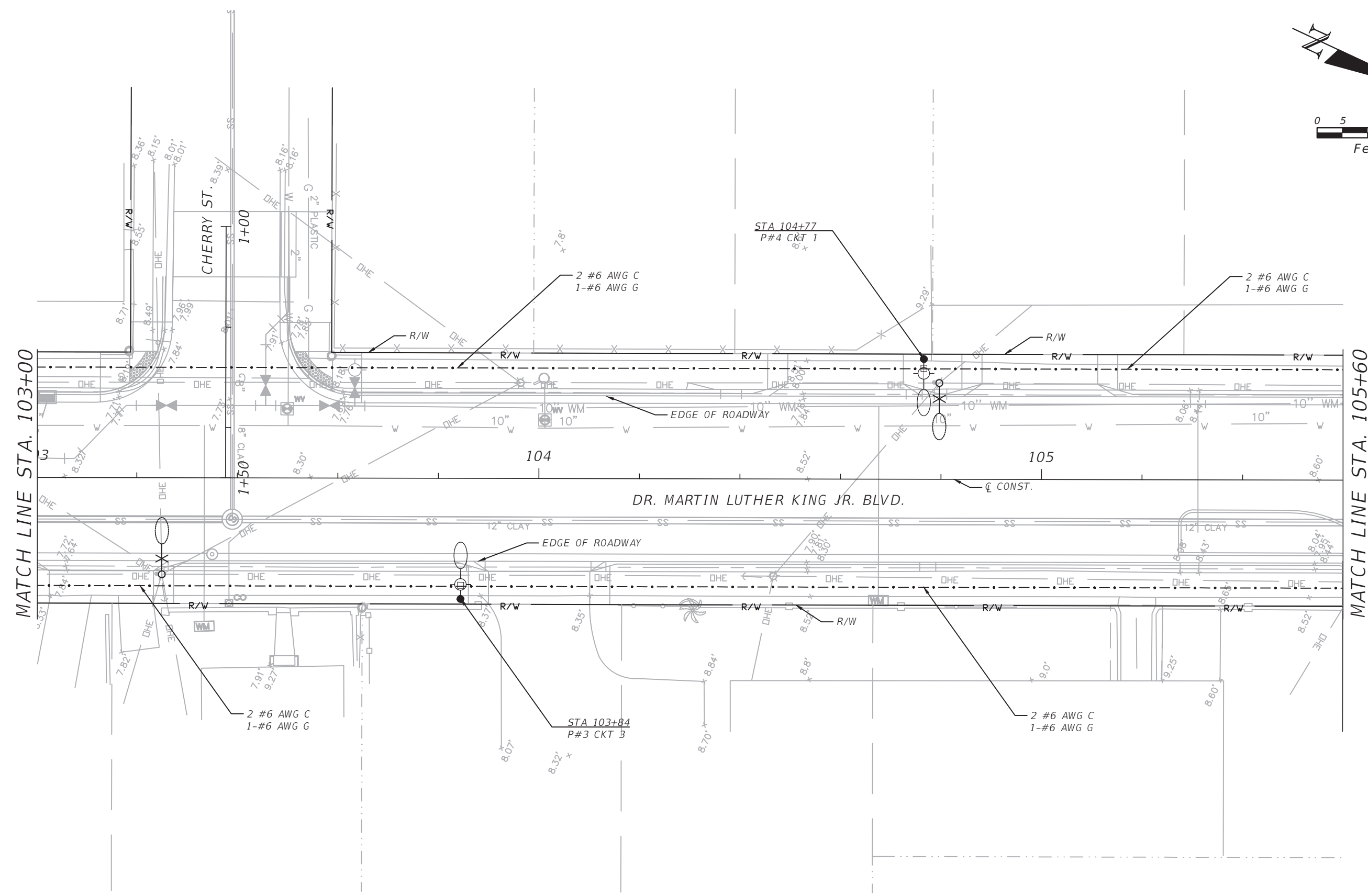
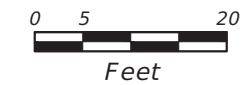
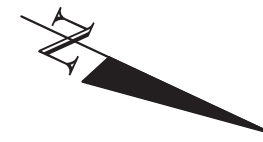
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

LTG Engineering & Planning
 ANDREW J. AMES
 P.E. No. 52570
 1450 W. GRANADA BLVD. SUITE 2
 ORMOND BEACH, FLORIDA 32174
 PH: 386.257.2571 FAX: 386.257.6996
 CERTIFICATE OF AUTHORIZATION 9227

THE CITY OF DAYTONA BEACH, FLORIDA		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
MLK BLVD.	VOLUSIA	

**DR. MARTIN LUTHER KING, JR. BLVD.
LIGHTING PLANS**


SHEET NO.
RL-6



MATCH LINE STA. 103+00

MATCH LINE STA. 105+60

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

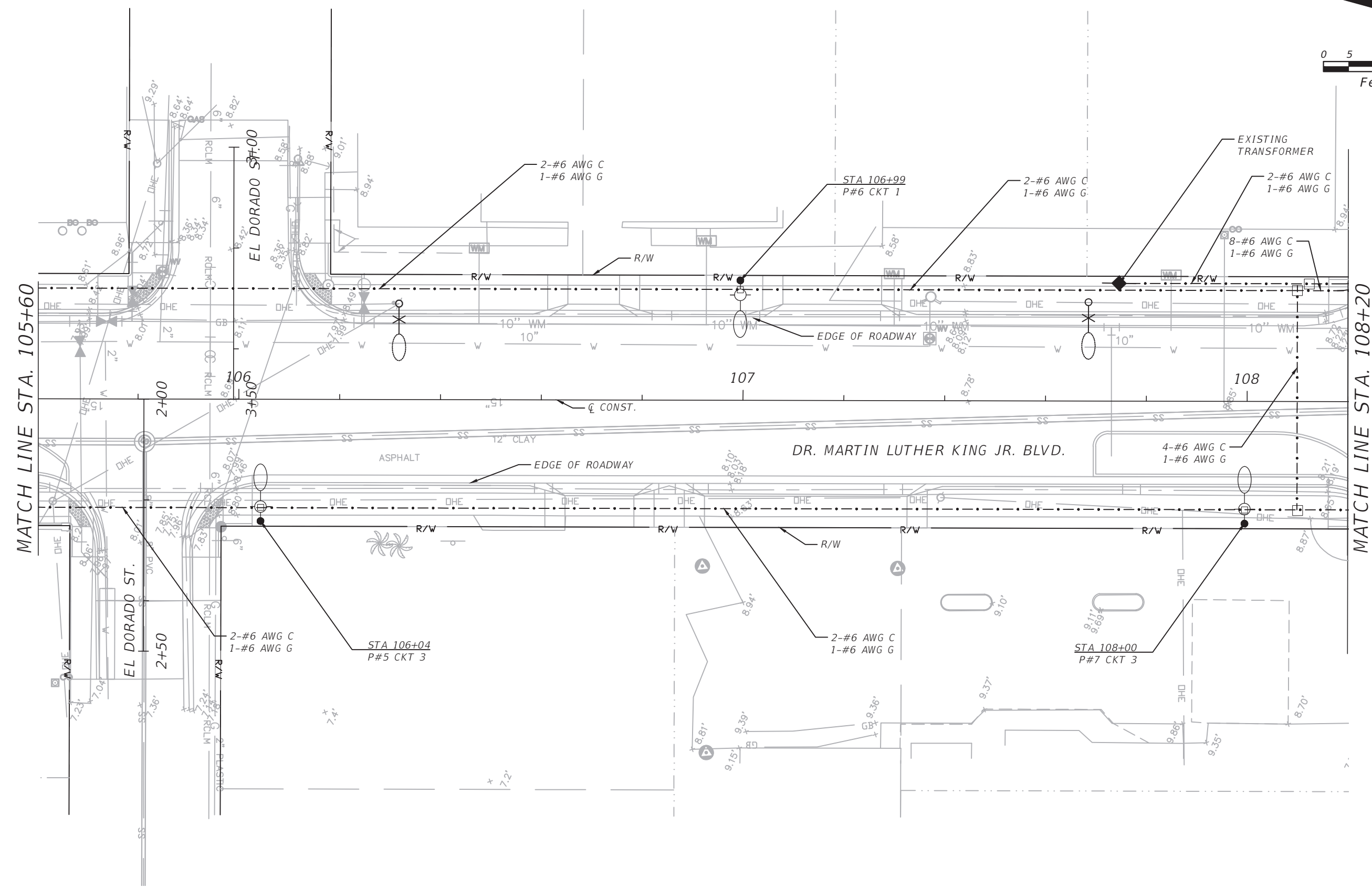
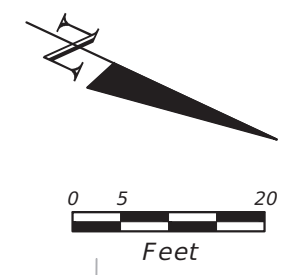

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THE CITY OF DAYTONA BEACH, FLORIDA		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
MLK BLVD.	VOLUSIA	

DR. MARTIN LUTHER KING, JR. BLVD.
LIGHTING PLANS

SHEET NO.
RL-7

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MATCH LINE STA. 105+60

MATCH LINE STA. 108+20

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

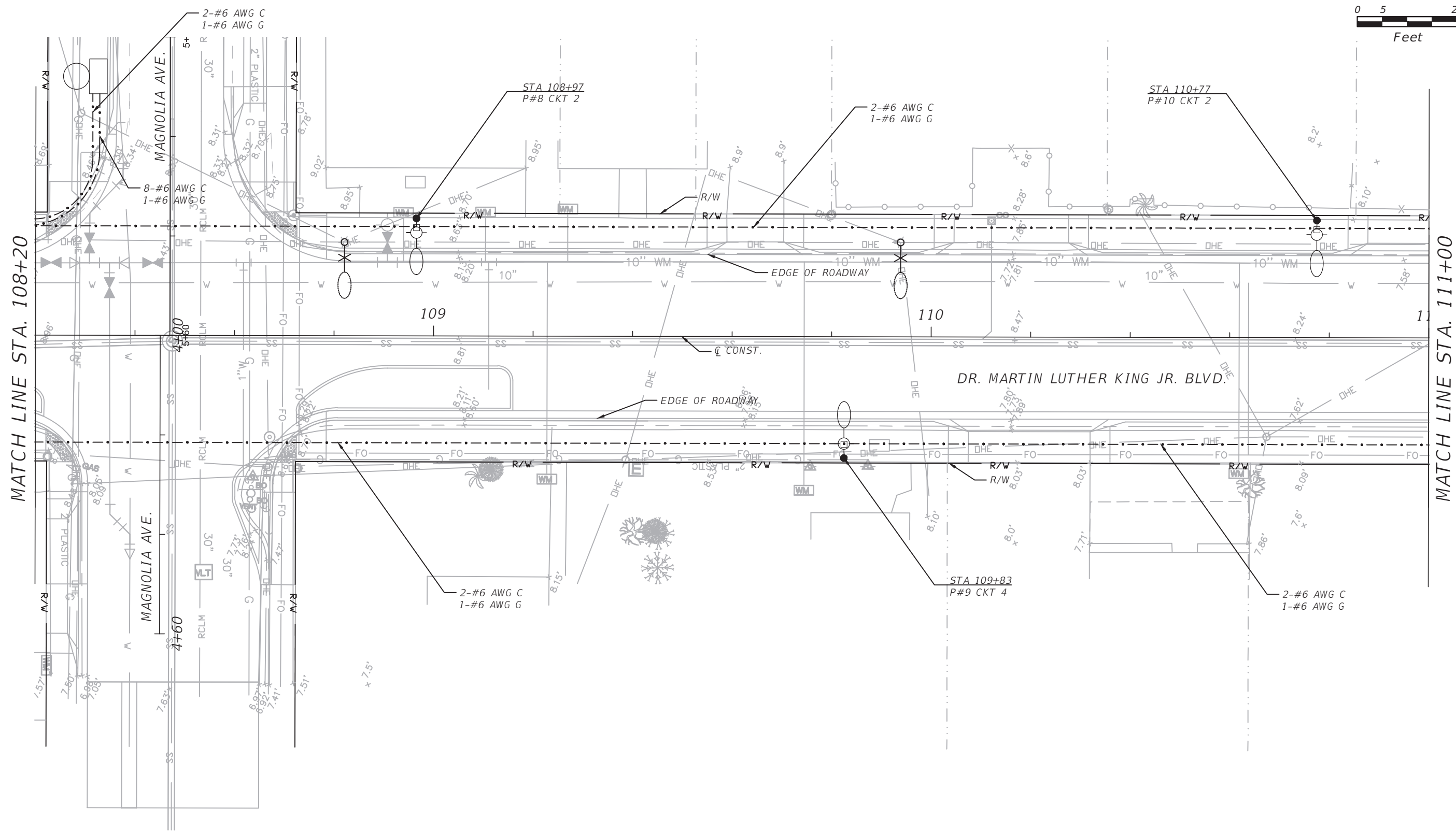
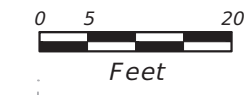
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**DR. MARTIN LUTHER KING, JR. BLVD.
 LIGHTING PLANS**

SHEET NO.
RL-8

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MATCH LINE STA. 108+20

MATCH LINE STA. 111+00

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

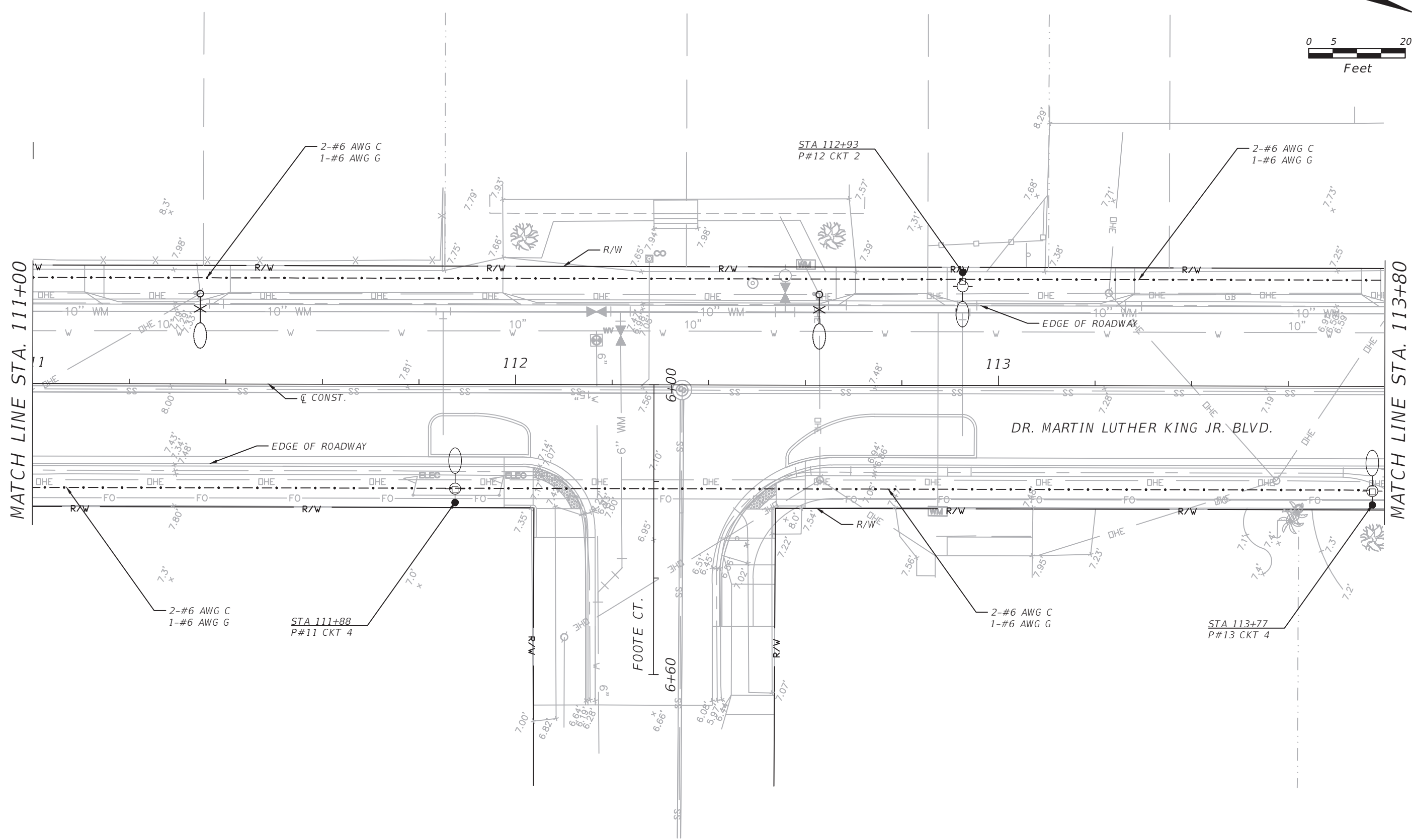
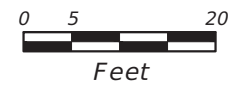
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**DR. MARTIN LUTHER KING, JR. BLVD.
LIGHTING PLANS**

SHEET NO.
RL-9

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MATCH LINE STA. 111+00

MATCH LINE STA. 113+80

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

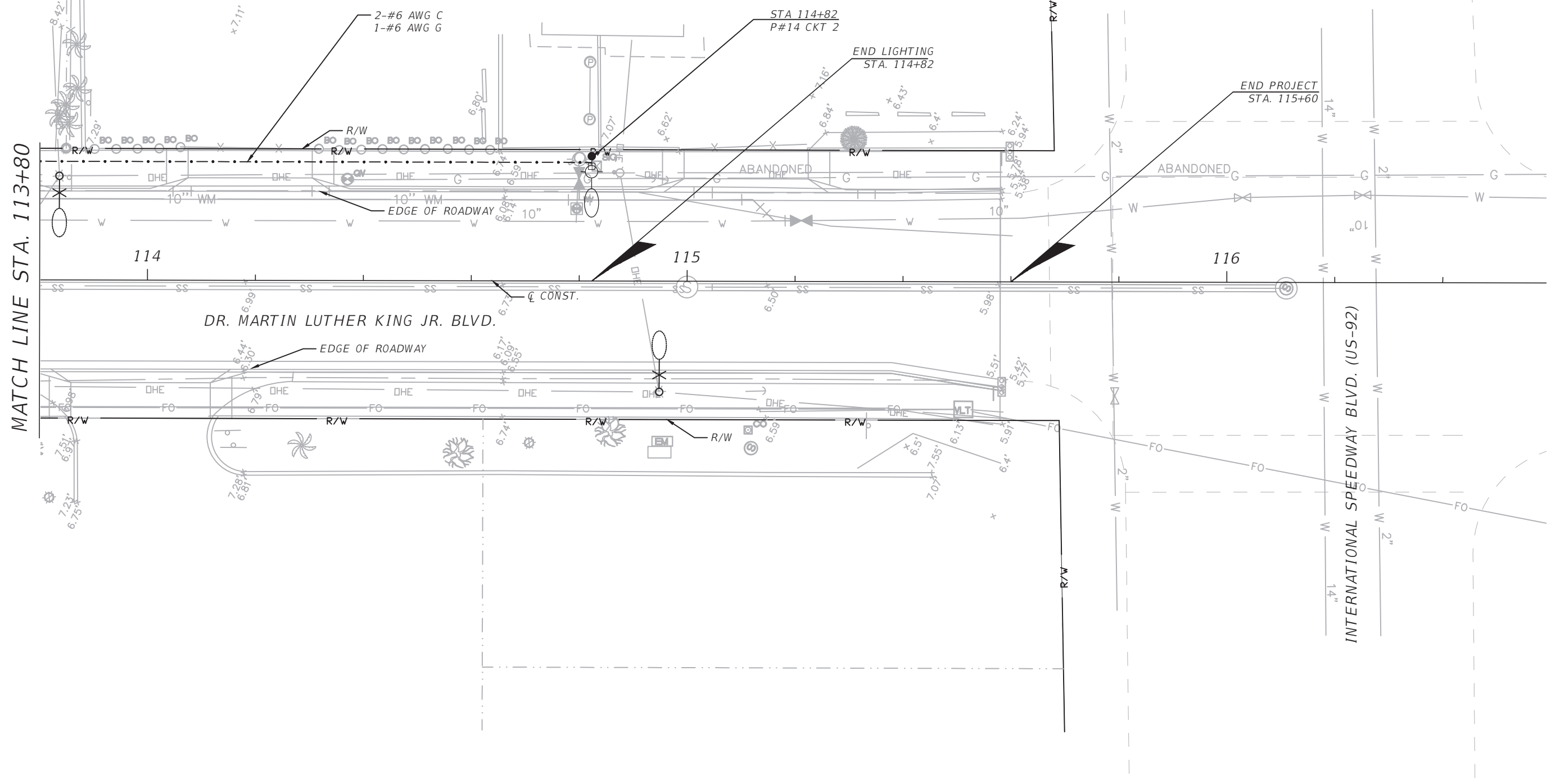
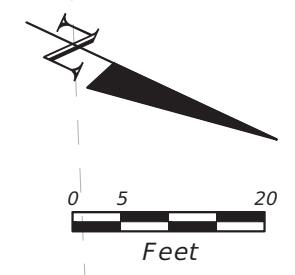
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THE CITY OF DAYTONA BEACH, FLORIDA		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
MLK BLVD.	VOLUSIA	

**DR. MARTIN LUTHER KING, JR. BLVD.
 LIGHTING PLANS**

SHEET NO.
RL-10

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MATCH LINE STA. 113+80

INTERNATIONAL SPEEDWAY BLVD. (US-92)

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
MLK BLVD.	VOLUSIA	

**DR. MARTIN LUTHER KING, JR. BLVD.
LIGHTING PLANS**

SHEET NO.
RL-11

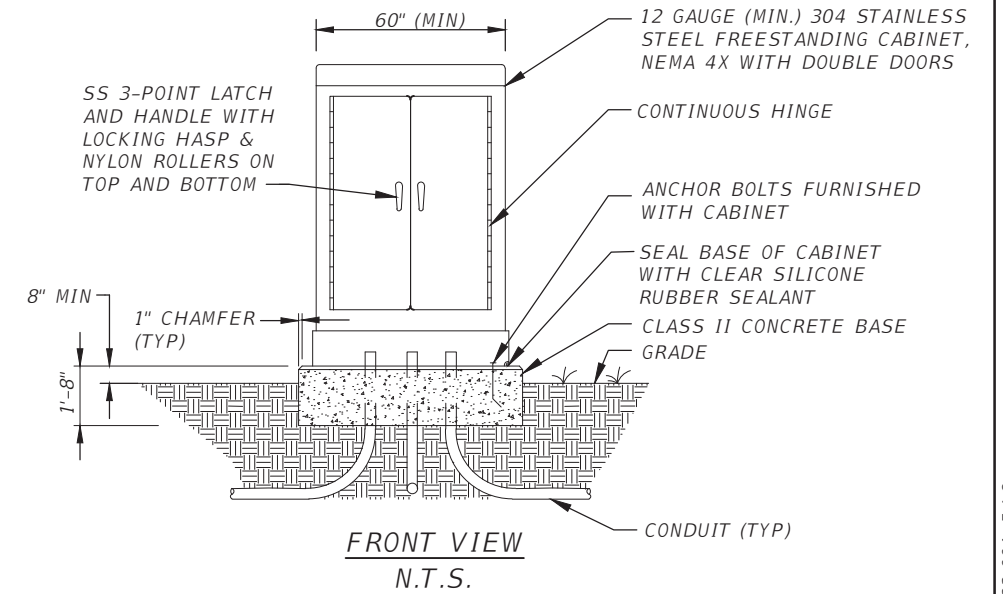
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KEYED NOTES:

- 1 120/240 V SINGLE PHASE 3-WIRE UNDERGROUND SERVICE DROP.
- 2 2#3 XHHW INSULATED CONDUCTORS IN 2" CONDUIT.
- 3 METER CAN WITH BLANK PANEL BY CONTRACTOR.
- 4 100A, 240V, 2-POLE S/N HEAVY DUTY NEMA 3R SAFETY SWITCH.
- 5 PANEL BOARD, 60A, 120/240V, SINGLE PHASE, 3-WIRE WITH GROUND BAR CIRCUIT BREAKERS AS INDICATED.
- 6 LUMINAIRE CONNECTED TO CIRCUIT (TYPICAL)
- 7 COPPER CLAD GROUND ROD 5/8" DIA. 40 FT LONG.
- 8 #4 INSULATED COPPER GROUND IN 3/4" PVC.
- 9 CONTROL TRANSFORMER 1 KVA SINGLE PHASE, 240V PRIMARY 120V SECONDARY.
- 10 LIGHTNING ARRESTER.
- 11 #6 INSULATED COPPER GROUND WIRE IN 3/4" RIGID GALVANIZED STEEL.
- 12 60A, 2-POLE, ELECTRICAL HELD CONTACTOR.
- 13 FREE STANDING NEMA 4X STAINLESS STEEL ENCLOSURE WITH TWO DOORS AND BACK PANEL DIMENSIONS AS NECESSARY, AND PER NEC.
- 14 PHOTO ELECTRIC SWITCH INSTALL BOTTOM OF PE SWITCH ABOVE TOP CABINET.
- 15 HANDS-OFF AUTOMATIC SELECTOR SWITCH.
- 16 MAIN CIRCUIT BREAKER 60A, 2-POLE, 240V

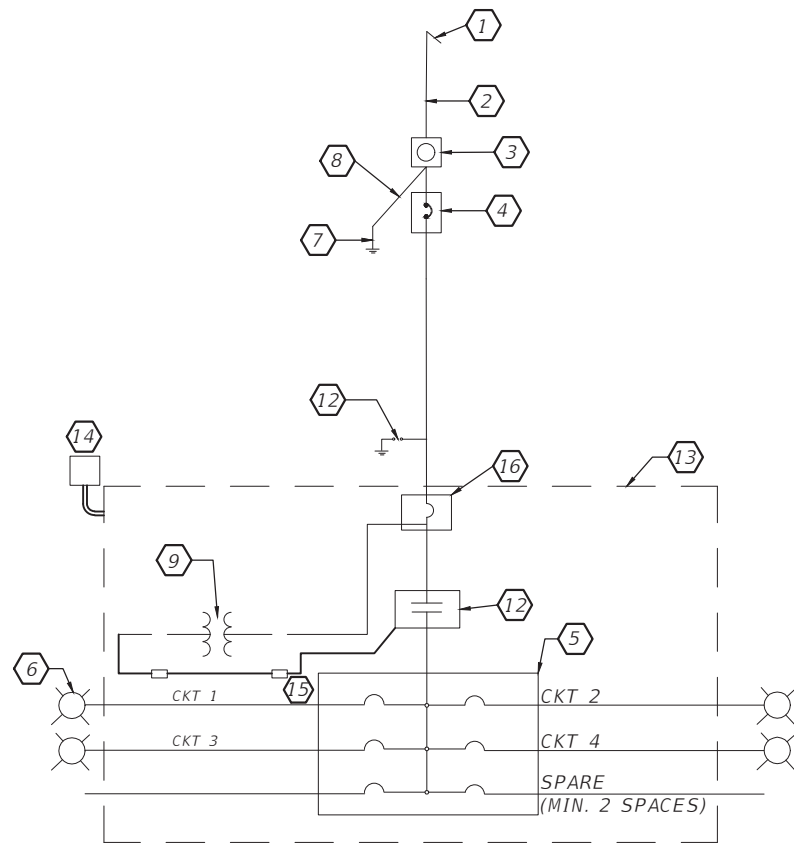
LOAD CENTER	CKT #	AMPS	POLE
A	1	10	1
		10	4
		10	6
	2	10	8
		10	10
		10	12
		10	14
	3	10	2
		10	3
		10	5
		10	7
	4	10	9
		10	11
		10	13

CIRCUIT DETAILS

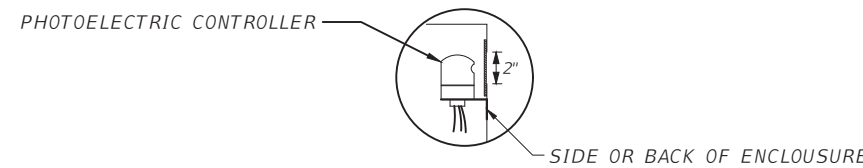


GENERAL NOTES

1. CABINET SHALL BE GROUNDED PER NEC AND FDOT STANDARDS AND DETAILED IN THE PLANS.
2. STUB-OUT ONE (1) SPARE 2" PVC CONDUIT BELOW GRADE AND BEYOND CONCRETE BASE. CAP ENDS AND INDICATE LOCATION OF STUB-OUT INSIDE CABINET

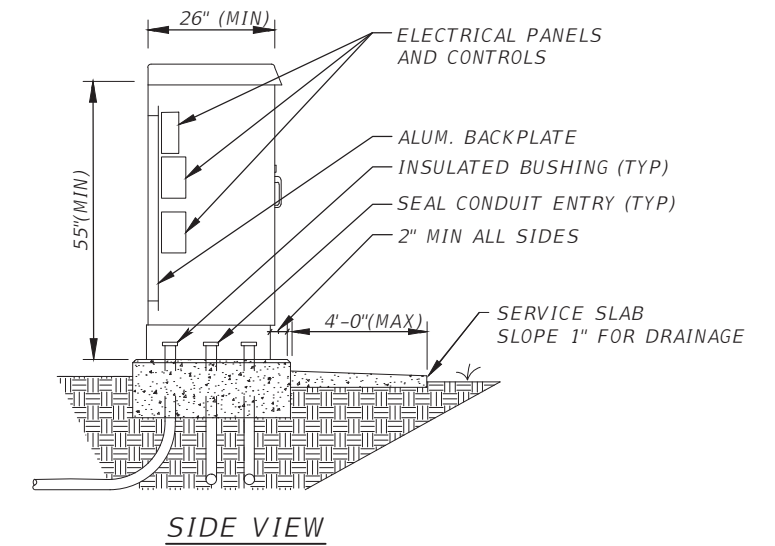


LOAD CENTER SCHEMATIC DIAGRAM
N.T.S.



CUT A 2" HOLE IN THE SIDE OF THE LIGHTING CONTROL PANEL ENCLOSURE FOR THE OPERATION AND MOUNTING OF THE P.E. CONTROLLER. USE PLEXIGLASS AND A CLEAR SILICONE SEALANT TO COVER HOLE, INSTALL P.E. CONTROLLER.

PHOTO ELECTRIC CONTROLLER DETAIL
N.T.S.



LOAD CENTER ENCLOSURE DETAIL
N.T.S.

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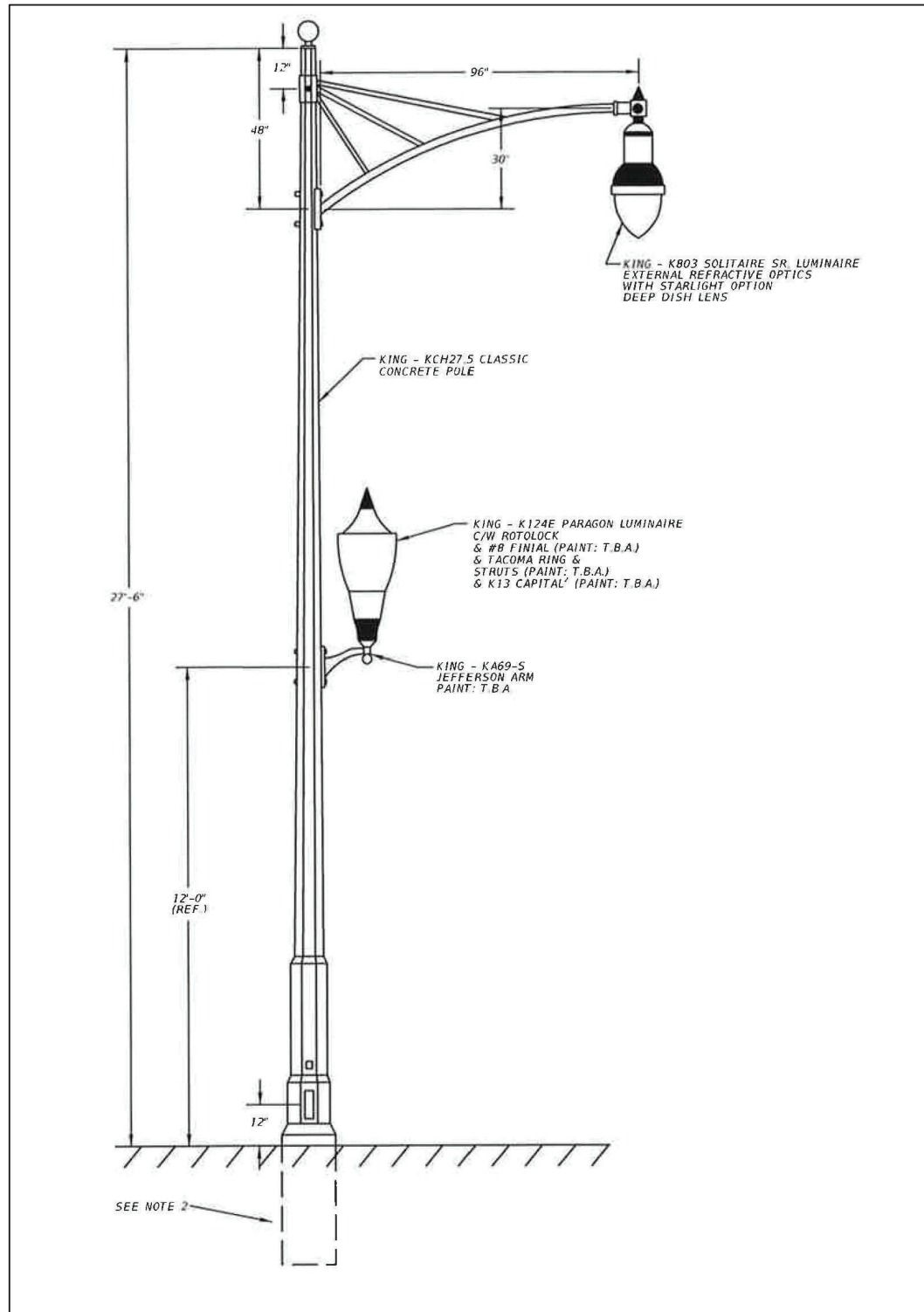
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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LOAD CENTER DETAILS

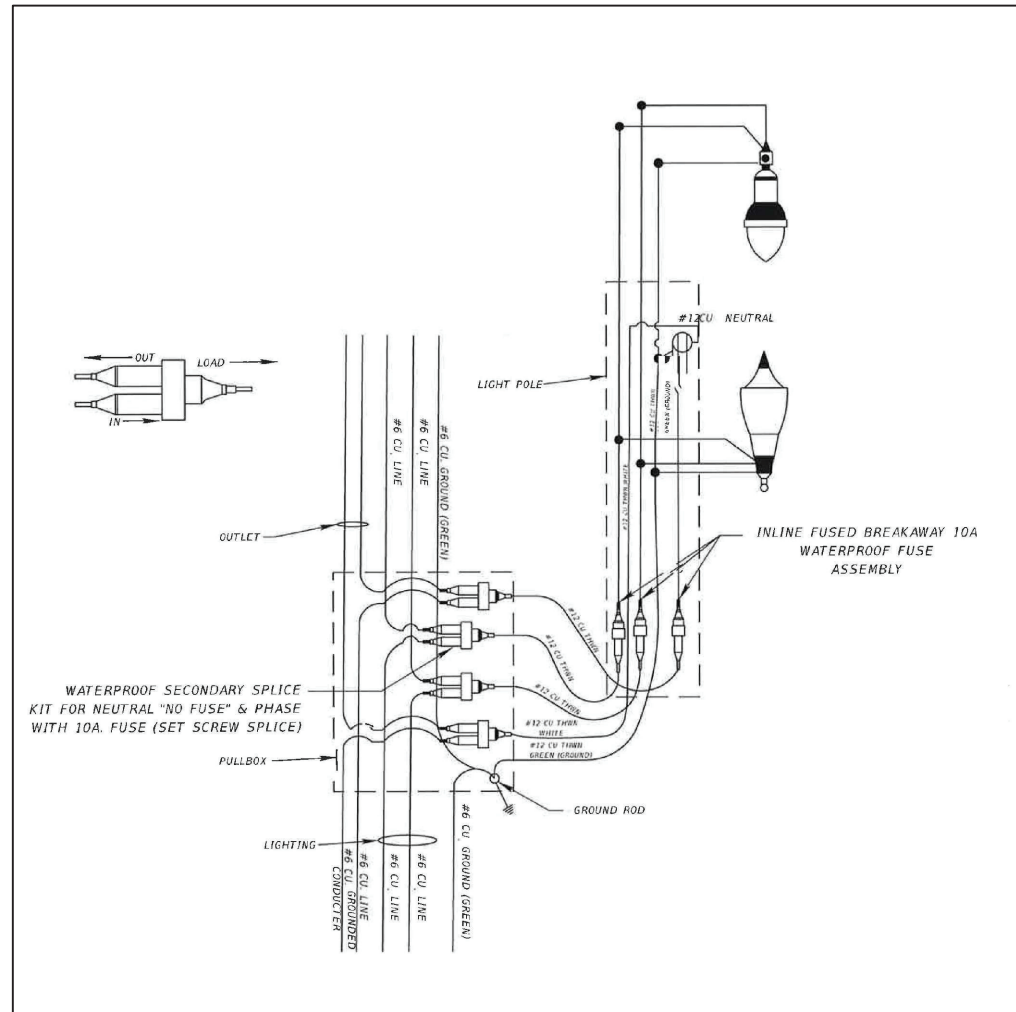
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RL-12

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TYPICAL POLE DETAIL



TYPICAL WIRING DETAIL

NOTES:

1. ALL POLES SHALL BE SUBMITTED FOR APPROVAL BY THE CITY BEFORE ORDERING.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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POLE & WIRING DETAILS

SHEET NO.

RL-13

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