

COUNTY OF PALM BEACH
STATE OF FLORIDA

BOARD OF COUNTY COMMISSIONERS
PBCWUD PROJECT NO. 24-019
LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS
(PBCWUD WM, FM, & RCWM UTILITY RELOCATION)

INDEX OF UTILITY PLANS

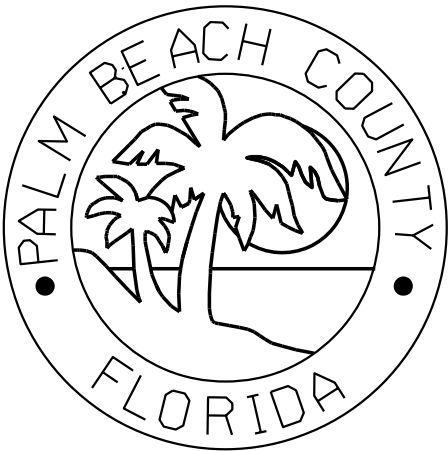
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Gregg K. Weiss
DISTRICT 2

Marci Woodward
DISTRICT 4

Sara Baxter
DISTRICT 6

Maria G. Marino
DISTRICT 1



Joel G. Flores
DISTRICT 3

Maria Sachs
DISTRICT 5

Bobby Powell Jr.
DISTRICT 7

100% DESIGN SUBMITTAL
09/25/2026

MASSE CONSULTING SERVICES, LLC
PROVIDING COST EFFECTIVE & SAFE DESIGNS

PLANS PREPARED BY:
KHAN, MD. ABUL BASHER, P.E.
MASSE CONSULTING SERVICES, LLC
2101 VISTA PARKWAY, SUITE 237
WEST PALM BEACH, FLORIDA 33411
PH. (561) 568-3197
www.masseconsultingfirm.com

- GOVERNING STANDARDS AND SPECIFICATIONS:
- 1) PALM BEACH COUNTY WATER UTILITIES MINIMUM DESIGN AND CONSTRUCTION STANDARDS (LATEST EDITION)
 - 2) THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND BRIDGE CONSTRUCTION (LATEST EDITION)

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

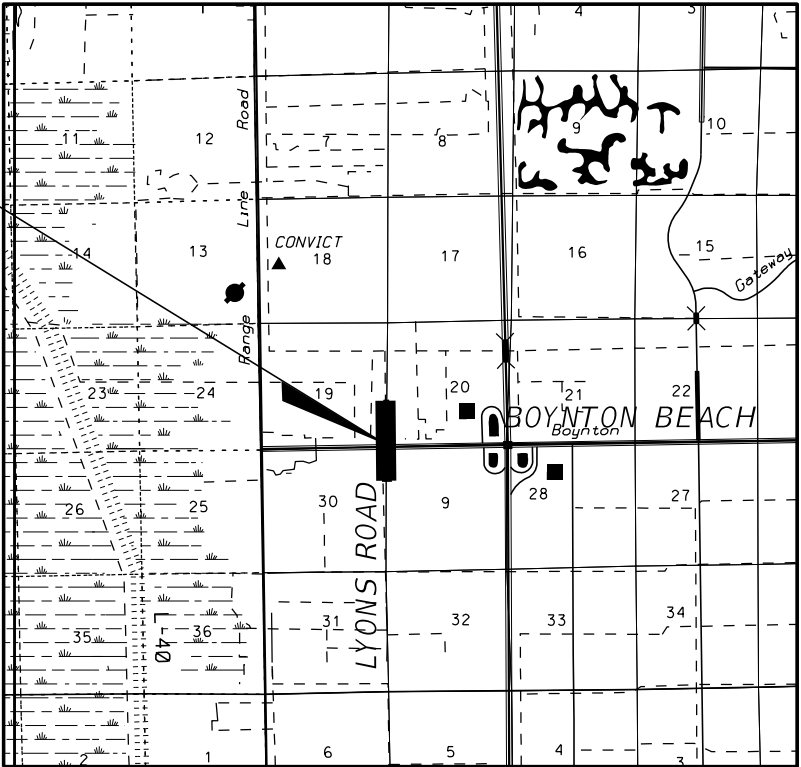
ENGINEERING CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN SUBSTANTIAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR THE PALM BEACH COUNTY WATER UTILITIES DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE

KHAN, MD. ABUL BASHER
PROFESSIONAL ENGINEER
NO. 53863, STATE OF FLORIDA

PROJECT LOCATION
LYONS ROAD



LOCATION MAP
TWP 42E, RNG 42E
N.T.S.

IT'S THE LAW !

CALL 48 HOURS BEFORE YOU DIG

1-800-432-4770

SUNSHINE STATE ONE CALL OF FLORIDA, INC.
UTILITIES NOTIFICATION CENTER

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FLORIDA, 33416
(561) 493-6000



NO.	REVISION	BY	DATE

SCALE: NTS
APPROVED: BK
DRAWN: FM
CHECKED: FM
DATE: 09/26
FIELD BOOK NO.

MASSE CONSULTING SERVICES, LLC
KHAN, MD. ABUL BASHER
PE LICENSE NO.: 53863 & COA 33487
2101 VISTA PARKWAY, SUITE 237
WEST PALM BEACH, FL 33411

PROJECT: LYONS ROAD
AND BBB BLVD
PBCWUD UTILITY
RELOCATION (WM, FM, & RCWM)
COVER SHEET

SHEET:	UT-01
OF:	UT-17
WUD PROJECT	NO. 24-019

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GENERAL NOTES

1. ALL WORK PERFORMED SHALL COMPLY WITH THE FOLLOWING GOVERNING STANDARDS AND SPECIFICATIONS:

PBCWUD MINIMUM DESIGN AND CONSTRUCTION STANDARDS (LATEST EDITION)
FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION)

ANY CONFLICTS BETWEEN GOVERNING STANDARDS, SPECIFICATIONS, AND THE CONTRACT PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD.

2. THE CONTRACTOR IS TO REQUEST A PRE-CONSTRUCTION MEETING FROM PBCWUD SEVEN (7) BUSINESS DAYS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
3. ALL MATERIALS AND PRODUCTS SHALL BE INSPECTED AND APPROVED BY PBCWUD PRIOR TO ANY CONSTRUCTION ACTIVITIES.

4. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN SECURED AND THE CONTRACTOR IS ISSUED A NOTICE TO PROCEED BY PALM BEACH COUNTY WATER UTILITIES DEPARTMENT (PBCWUD). THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND/OR APPROVAL TO COMMENCE CONSTRUCTION. CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN (MOT) TO PALM BEACH COUNTY ENGINEERING DEPARTMENT FOR APPROVAL.

5. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD OR UNDERGROUND UTILITIES. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES AND CHAPTER 556 FOR THE UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT.

6. THE CONTRACTOR SHALL CALL SUNSHINE STATE ONE CALL OF FLORIDA, BY DIALING 811 OR (800) 432-4770 TO REQUEST A LOCATE TICKET A MINIMUM OF 2 FULL BUSINESS DAYS IN ADVANCE OF ANY CONSTRUCTION.

7. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS FOR THE RESIDENTIAL PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

8. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE FOR ANY REQUIRED INSPECTIONS AND SHALL SUPPLY ALL EQUIPMENT AND MATERIAL NECESSARY FOR INSPECTION AND/OR TEST.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED TESTS TO BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY APPROVED BY THE ENGINEER. IF ANY TESTS FAIL TO MEET THEIR SPECIFICATIONS, THE CONTRACTOR, AT HIS EXPENSE, SHALL CORRECT ALL DEFICIENT WORK AND SUBMIT TEST RESULTS INDICATING COMPLIANCE WITH THE PROJECT'S SPECIFICATIONS.

10. CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF ALL EXISTING AND NEWLY INSTALLED ABOVE GROUND, UNDERGROUND STRUCTURES AND UTILITIES FROM DAMAGE OR SERVICE DISRUPTION.

11. THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE THE PROJECT HAS BEEN ACCEPTED. ALL FAULTY CONSTRUCTION AND/OR MATERIALS FOUND DURING AFORESAID PERIOD SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

12. WHERE ENCOUNTERED, UNSUITABLE MATERIAL SHALL BE REMOVED TO A DEPTH AND AREA DETERMINED BY THE ENGINEER AND BACKFILLED WITH CLEAN GRANULAR SAND OR SELECT MATERIAL APPROVED BY THE ENGINEER. BACKFILLING SHALL BE IN LAYERS NOT GREATER THAN 1' THICKNESS AND COMPACTED TO 98 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.

13. BENCHMARK (B.M.) DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (REFER TO THE SURVEY PREPARED BY STANTEC FOR THE ROADWAY PLANS). ANY NAVD 88 MONUMENT WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. ALL SURVEY MONUMENTS WITHIN LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. IF IN DANGER OF DAMAGE THE CONTRACTOR SHALL NOTIFY: NATIONAL GEODETTIC INFORMATION SERVICES CENTER NOAA NATIONAL GEODETTIC SURVEY, N/CG 17 55MC 3, STATION 09202 SILVER SPRING, MARYLAND 20910 TELEPHONE NO: (301) 713-3242.

14. EXISTING SECTION CORNERS, QUARTER SECTION CORNERS, PROPERTY CORNERS, PALM BEACH COUNTY SURVEY CONTROL MONUMENTS AND ALL OTHER PERMANENT MONUMENTS LOCATED WITHIN PROPOSED CONSTRUCTION ARE TO BE REFERENCED PRIOR TO CONSTRUCTION AND RESET AFTER CONSTRUCTION BY A PROFESSIONAL SURVEYOR & MAPPER WITH A MONUMENT BEARING EITHER THE FLORIDA LICENSE NUMBER OR CERTIFICATE OF AUTHORIZATION NUMBER OF THE PARTY IN RESPONSIBLE CHARGE.

15. WHEN UTILITY POLES ARE IN AREAS OF EXCAVATIONS, CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION OF FIVE (5') FEET BETWEEN THE POLE AND ANY EXCAVATION. IF THIS SEPARATION CAN NOT BE MET, CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER TO HOLD AND PROTECT POLE DURING CONSTRUCTION AT HIS EXPENSE.

16. EXISTING SPRINKLERS IN THE RIGHT-OF-WAY SHALL BE PROTECTED OR REPLACED AFTER CONSTRUCTION AT CONTRACTOR'S EXPENSE.

17. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, AS AMENDED BY PALM BEACH COUNTY, AND PBCWUD MINIMUM DESIGN REQUIREMENTS.

18. CONTRACTOR SHALL MINIMIZE THE TRENCH WIDTH UNDER SWALE AREAS USING APPROPRIATE SHORING, IF NECESSARY, AT HIS OWN COST.

19. DENSITY TESTING FOR TRENCHES SHALL BE TAKEN IN ONE (1') FOOT LIFTS MEASURED FROM THE TOP OF PIPE. DENSITY TESTS ARE REQUIRED FOR ALL ROADWAY, DRIVEWAY AND SIDEWALK REPLACEMENT AREAS.

20. ALL PIPE TRENCHES SHALL BE DRY WHILE PIPE IS BEING LAID AND TO BE BEDDED PER DETAILS.

21. APPROVED RECORD DRAWINGS DOCUMENTS ARE REQUIRED ACCORDING TO PBCWUD MINIMUM DESIGN STANDARDS:
A. RECORD DRAWINGS SHALL BE PREPARED IN STATE PLANE COORDINATE SYSTEM.
B. ALL UTILITY FEATURES SHALL BE SHOWN IN THE AS-BUILT LOCATION.
C. STATE PLANE COORDINATES SHALL BE DISPLAYED ON RECORD DRAWINGS FOR ALL FEATURES SPECIFIED IN PBCWUD MINIMUM DESIGN STANDARDS.
D. ALL RECORD DRAWING INFORMATION MUST BE OBTAINED BY A PROFESSIONAL SURVEYOR AND MAPPER, WHO IS LICENSED IN THE STATE OF FLORIDA. THE SURVEYOR WILL BE RETAINED BY THE CONTRACTOR. INFORMATION MUST BE SIGNED AND SEALED.
E. AT THE CONCLUSION OF THE PROJECT, CONTRACTOR SHALL SUBMIT ELECTRONIC FILES AND UP TO THREE (3) SETS OF SIGNED AND SEALED PRINTS TO THE ENGINEER FOR PERMANENT RECORD KEEPING.

WATER, RECLAIMED, AND SEWER CONSTRUCTION NOTES:

1. THESE PLANS PERTAIN SOLELY TO THE CONSTRUCTION AND SPECIFIC REQUIREMENTS OF THE WATER MAIN (WM), RECLAIMED WATER MAIN (RCWM) AND FORCE MAIN (FM). THE CONTRACTOR SHALL COORDINATE WITH THE ROADWAY CONTRACTOR TO SEQUENCE ALL WATER MAIN, RECLAIMED WATER MAIN AND FORCE MAIN WORK IN CONJUNCTION WITH THE ROADWAY CONSTRUCTION ASSOCIATED WITH PALM BEACH COUNTY PROJECT NO. 2018503 & 2020110.

2. CONTRACTOR SHALL SUPPORT AND PROTECT THE EXISTING WATER MAIN, RECLAIMED WATER MAIN, AND FORCE MAIN DURING CONSTRUCTION UNTIL THE NEW WATER MAIN, RECLAIMED WATER MAIN, AND FORCE MAIN ARE CONSTRUCTED. CONTRACTOR MUST SUBMIT A PLAN AND SEQUENCE TO PBCWUD FOR THE PROTECTION OF THE WATER MAIN, RECLAIMED WATER MAIN, AND FORCE MAIN.

3. LOCATIONS OF UTILITIES SHOWN ON THE PLANS ARE BASED ON RECORD DRAWINGS PROVIDED BY PBCWUD AND ENGINEERING SURVEY FOR THE PROPOSED ROADWAY. IF ANY ATTEMPT HAS BEEN MADE TO PROVIDE ACCURATE DATA THE CONTRACTOR SHALL CONSIDER ALL LOCATIONS, ELEVATIONS, EXISTING PIPE SIZES, EXISTING PIPE MATERIALS TYPES, ANY EXISTING UTILITIES FEATURE PROPERTIES, ETC. ARE APPROXIMATE IN NATURE. PRIOR TO THE START OF CONSTRUCTION AND/OR ORDERING OF ANY MATERIALS OR FABRICATED ITEMS, THE CONTRACTOR SHALL CONFIRM THE EXACT LOCATIONS, ELEVATIONS, EXISTING PIPE SIZES, EXISTING PIPE MATERIALS TYPES, ANY EXISTING UTILITIES FEATURE PROPERTIES AT NO ADDITIONAL COST TO THE OWNER. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF OTHER STRUCTURES, UTILITIES, ETC. NOT SHOWN ON THE DRAWINGS EXIST WITHIN THE AREA OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION AND WRITTEN NOTIFICATION OF ALL CONFLICTS WITH THE PROPOSED CONSTRUCTION TO THE ENGINEER. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK UNTIL ALL CONFLICTS HAVE BEEN RESOLVED.

4. WATER MAIN, RECLAIMED WATER MAIN, AND FORCE MAIN CONSTRUCTION SHALL BE IN CONFORMANCE WITH ALL CODES, STANDARDS, AND ORDINANCES CURRENTLY ADOPTED BY THE STATE OF FLORIDA D.E.P., PALM BEACH COUNTY H.R.S. AND PBCWUD.

5. ALL PROPOSED WATER MAIN, RECLAIMED WATER MAIN, AND FORCE MAIN SHALL HAVE MIN. 36" COVER. 30" COVER IS ACCEPTABLE WITH PBCWUD APPROVAL ON A CASE BY CASE BASIS.

6. POUR A 2X2' CONCRETE COLLAR TO GRADE IN VALVES LOCATED IN SODDED AREAS. SEE DETAILS 13W IN THE PBCWUD MINIMUM DESIGN STANDARDS.

7. CHANGES IN PIPE ALIGNMENT MAY BE ACCOMPLISHED USING APPROPRIATE FITTINGS OR THROUGH PIPE DEFLECTION. PIPE DEFLECTION AT THE JOINT IS ALLOWED WITH DUCTILE IRON PIPE AND WITH SPECIALLY DESIGNED PVC PIPES (SEE PBCWUD APPROVED MATERIALS LISTS). THE DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION. NO DEFLECTION AT THE JOINT IS ALLOWED FOR PVC PIPE UNLESS ALLOWED BY THE PIPE MANUFACTURER. IF JOINT DEFLECTION IS NOT ALLOWED, PVC PIPE CURVATURE SHALL BE ACCOMPLISHED BY INSTALLING APPROPRIATE BENDS.

8. CONTRACTOR TO PRESSURE TEST THE NEW WATER MAIN PRIOR TO TIE IN.

9. POTABLE WATERMAIN SHALL BE MARKED WITH ONE CONTINUOUS STRIP OF 6" WIDE MAGNETIC BLUE CODED TAPE IMPRINTED WITH ONE AND ONE-HALF (1.5) INCH HIGH LETTERING READING "CAUTION WATER LINE BELOW" AND LOCATED APPROXIMATELY TWELVE (12) INCHES ABOVE THE CROWN OF THE PIPE. THE WORDING SHALL OCCUR EVERY THREE (3) FEET. BURIED DIP SMALLER THAN 24" SHALL BE PAINTED WITH A 4" WIDE CONTINUOUS BLUE LINE PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ON TOP OF PIPE.

10. FORCEMAIN SHALL BE MARKED WITH ONE CONTINUOUS STRIP OF SIX (6) INCH WIDE, BROWN CODED MAGNETIC TAPE IMPRINTED WITH ONE AND ONE-HALF (1.5) INCH HIGH LETTERING READING "CAUTION FORCE MAIN BELOW" AND LOCATED APPROXIMATELY TWELVE (12) INCHES ABOVE THE CROWN OF PIPE. THE WORDING SHALL OCCUR EVERY THREE (3) FEET.

11. RECLAIMED WATER MAINS SHALL BE MARKED WITH ONE CONTINUOUS STRIP OF 6" WIDE MAGNETIC PURPLE CODED TAPE IMPRINTED WITH ONE AND ONE-HALF (1 1/2) INCH HIGH LETTERING READING "CAUTION RECLAIMED WATER LINE BELOW", AND LOCATED APPROXIMATELY TWELVE (12) INCHES ABOVE THE CROWN OF THE PIPE. THE WORDING SHALL OCCUR EVERY THREE (3) FEET. BURIED DIP SMALLER THAN 24" SHALL BE PAINTED WITH A 4" WIDE CONTINUOUS PURPLE LINE PARALLEL TO THE TOP AXIS OF THE PIPE AND THAT IS LOCATED ON TOP OF PIPE.

12. CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY THE CONTRACTOR'S ACTIVITIES INVOLVING CONSTRUCTION, STAGING AREAS, AND ACCESS ROADS TO ORIGINAL OR BETTER CONDITION. CONTRACTOR TO PROVIDE VIDEO TAPING OF ENTIRE SCOPE OF WORK AREA PRIOR TO PRE-CONSTRUCTION MEETING. ALL DISTURBED NON-PAVED AREAS SHALL BE PLANTED WITH "IN-KIND" VEGETATION. THE CONTRACTOR SHALL GRADE SITE UNIFORMLY AND PROVIDE AN APPROVED FILL MATERIAL, FREE FROM ROCKS, ORGANIC MATERIAL AND OTHER EXTRANEOUS MATERIAL FOR BACKFILLING TO RESTORE AREAS DISTURBED BY CONSTRUCTION.

13. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A CONSTRUCTION SCHEDULE DEPICTING EACH PHASE OF THE WORK.

14. CONTRACTOR SHALL MAINTAIN A NEAT, ORDERLY, AND SAFE SITE AT ALL TIMES.

15. CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS AND DEVICES SUCH AS SILT FENCES AND INLET PROTECTION WHERE NECESSARY IN ORDER TO COMPLY WITH THE STATE AND LOCAL WATER QUALITY STANDARDS AND NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS.

16. IF DEWATERING IS REQUIRED, CONTRACTOR MUST SUBMIT A DEWATERING PLAN TO SFWMU FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE EXISTING FLOW CAPACITY, STORMWATER CONVEYANCE, AND FLOOD PROTECTION SYSTEMS FOR IMPACTED AREAS AT ALL TIMES DURING CONSTRUCTION.

17. ALL WORK SHALL BE OPEN AND SUBJECT TO INSPECTION BY AUTHORIZED PERSONNEL OF PBCWUD, PALM BEACH COUNTY ENGINEERING DEPARTMENT, ENGINEER, AND REGULATORY AGENCIES.

18. THE CONTRACTOR SHALL PROMPTLY REMOVE ALL MUD, DIRT OR OTHER MATERIALS TRACKED OR SPILLED ONTO EXISTING PUBLIC ROADS AND FACILITIES DUE TO CONSTRUCTION.

19. THE CONTRACTOR SHALL COORDINATE WITH PBCWUD FOR THE SELECTION OF PROPOSED CONSTRUCTION STAGING AREAS AND/OR STOCKPILING OF MATERIALS.

20. WORK HOURS AS ALLOWED BY PALM BEACH COUNTY AND/OR PERMITTING AGENCY.

21. CONTRACTOR SHALL LIMIT ACCESS AND CONSTRUCTION OPERATIONS TO WITHIN LIMITS OF THE ROADWAY AND CANAL RIGHT OF WAY AND THE UTILITY EASEMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGES OUTSIDE THE LIMITS OF THE RIGHT-OF-WAY.

22. AREAS FOR THE STORAGE OF EXCAVATED MATERIAL ARE LIMITED. SUCH MATERIAL MAY BE REMOVED AND STORED OFFSITE AND IF NECESSARY, RETURNED FOR BACKFILLING. UNSUITABLE MATERIAL SHALL NOT BE RETURNED FOR BACKFILLING. ALL COSTS ARE INCIDENTAL TO THE PROJECT.

23. ALL EXCESS FILL FROM THE SITE SHALL BE LEGALLY DISPOSED OF OFF SITE BY THE CONTRACTOR.

24. CONTRACTOR SHALL HAVE NO TRENCHES OPEN AT THE END OF EACH WORKDAY. IF NECESSARY, TRENCHES SHALL BE TEMPORARILY BACKFILLED AND BARRICADED.

26. ALL NEW PIPE FITTINGS, VALVES AND MATERIALS SHALL COMPLY WITH THE LATEST PBCWUD MINIMUM DESIGN STANDARDS AND APPROVED MATERIALS LIST.

27. CONTRACTOR SHALL BE REQUIRED TO FURNISH WATER AND COORDINATE WITH THE PBCWUD FOR USE OF A HYDRANT METER FOR POTABLE WATER. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS AND EQUIPMENT.

28. COORDINATE WITH PBCWUD TO CLOSE OR OPEN ANY EXISTING VALVES REQUIRED TO FACILITATE CONSTRUCTION, ONE WEEK IN ADVANCE.

29. ALL BRASS COMPONENTS IN CONTACT WITH POTABLE WATER SHALL BE LEAD FREE.

30. ALL STRUCTURE COORDINATES ARE FOR THE CENTER OF THE STRUCTURE, UNLESS OTHERWISE NOTED.

31. ALL WATERMAIN SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651 AND FLORIDA ADMINISTRATIVE CODE, CHAPTER 62-555. CONTRACTOR SHALL REPEAT THIS PROCEDURE, IF NECESSARY, UNTIL ALL WATERMAIN PASSES BACTERIOLOGICAL TESTING. THE COST FOR ALL DISINFECTION SHALL BE INCLUDED IN THE COST PER LINEAR FOOT OF THE PIPE.

32. ALL NEWLY INSTALLED WATERMAIN SHALL NOT BE PLACED INTO SERVICE UNTIL APPROVAL BY THE PALM BEACH COUNTY HEALTH DEPARTMENT OR PBCWUD. BEFORE RECEIVING THIS APPROVAL, THE FOLLOWING ARE REQUIRED:
A. FLUSHING AND PRESSURE TEST.
B. DISINFECTION AND PASSING BACTERIOLOGICAL TESTS FOR TWO CONSECUTIVE DAYS (WATERMAIN ONLY).
C. RECORD DRAWINGS PREPARED BY THE CONTRACTOR'S REGISTERED LAND SURVEYOR DETAILING RECORD ELEVATIONS, LOCATION INFORMATION, AND OTHER CHANGES MADE DURING CONSTRUCTION.

33. PIPELINES SHALL BE INSTALLED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE PIPELINE SHALL BE INSTALLED WITHOUT ADDITIONAL LOW POINTS OR HIGH POINTS EVEN THOUGH THE DEPTH OF COVER MAY INCREASE FOR A DISTANCE. FAILURE TO FOLLOW THIS CRITERIA MAY RESULT IN THE REQUIREMENT FOR AIR RELEASE VALVES AND MANHOLES WHICH SHALL BE INSTALLED AT THE CONTRACTOR'S EXPENSE. DURING CHANGES IN PIPELINE VERTICAL GRADE, MAINTAIN A CONSTANT UP-SLOPE OR DOWN-SLOPE TO THE MAXIMUM EXTENT POSSIBLE.

34. ALL AFFECTED UTILITY MANHOLES AND VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE AND PROPERLY SET TO PAVEMENT CROSS SLOPE. CONTRACTOR SHALL ADJUST MANHOLE COVERS AND VALVE BOXES WITHIN THE LIMITS OF CONSTRUCTION, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE INSTALLING PAVEMENT OR FINAL LIFT OF ASPHALT.

35. EXISTING STORM PIPES AND/OR STRUCTURES AFFECTED BY CONSTRUCTION OF UTILITIES SHALL INCLUDE CLEANING AND FULL RESTORATION OF THE AFFECTED SYSTEMS TO LIKE OR BETTER CONDITION IN ACCORDANCE WITH THE SYSTEM OWNER REQUIREMENTS.

36. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE ROAD CONTRACTOR SHALL SURVEY AND DOCUMENT THE EXISTING HORIZONTAL LOCATIONS OF ALL WUD FACILITIES WITHIN THE ROAD PROJECT LIMITS, INCLUDING BUT NOT LIMITED TO, VALVE BOXES, MANHOLE COVERS, METER BOXES, FIRE HYDRANTS, AND OTHER WUD APPURTENANCES, IN COORDINATION WITH THE PALM BEACH COUNTY WATER UTILITIES DEPARTMENT (WUD). THE ROAD CONTRACTOR SHALL PROVIDE WUD WITH A SURVEY REPORT IDENTIFYING THE GPS COORDINATES FOR EACH WUD FACILITY.

37. DURING ROADWAY CONSTRUCTION, THE ROAD CONTRACTOR SHALL PROTECT ALL WUD FACILITIES AND ADJUST THEM, AS NECESSARY, TO MATCH THE FINAL ROADWAY GRADES AND MAINTAIN PROPER ACCESS.

38. UPON COMPLETION OF ROADWAY CONSTRUCTION, INCLUDING FINAL GRADING AND PAVING, THE ROAD CONTRACTOR SHALL RE-SURVEY ALL WUD FACILITIES IN COORDINATION WITH WUD TO VERIFY THAT THEY HAVE NOT BEEN COVERED, BURIED, PAVED OVER, OR OTHERWISE OBSTRUCTED BY ASPHALT, DIRT, OR OTHER CONSTRUCTION MATERIALS, AND THAT THEY REMAIN READILY ACCESSIBLE TO WUD.

39. THE ROAD CONTRACTOR SHALL ENSURE THAT NO WUD FACILITY IS COVERED, BURIED, PAVED OVER, OBSTRUCTED, OR OTHERWISE RENDERED INACCESSIBLE AT ANY TIME DURING OR AFTER CONSTRUCTION. ALL WUD FACILITIES SHALL REMAIN READILY ACCESSIBLE TO WUD PERSONNEL AND EQUIPMENT FOR OPERATION, MAINTENANCE, EMERGENCY RESPONSE, AND REPAIR.

40. ANY WUD FACILITY REQUIRING ADJUSTMENT SHALL BE COORDINATED WITH WUD PRIOR TO PERFORMING THE ADJUSTMENT. THE ROAD CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING OR ADJUSTING ANY WUD FACILITY AFFECTED BY THE CONSTRUCTION.

RECORD DRAWING NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED. THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS WITH CURRENT FIELD CHANGES ACCURATELY MARKED AND SHALL DELIVER THESE PLANS TO THE ENGINEER UPON COMPLETION OF CONSTRUCTION. THE CURRENT MARKINGS SHALL BE REVIEWED WITH THE ENGINEER DAILY, OR AS NEEDED. THE CONTRACTOR WILL PROVIDE IN-PROGRESS PROJECT RECORD DRAWING FOR THE WORK THAT HAS BEEN COMPLETED THAT IS PREPARED BY A STATE OF FLORIDA CERTIFIED PROFESSIONAL SURVEYOR AND MAPPER EVERY MONTH WITH THE PAY APPLICATION OR UPON REQUEST FROM THE ENGINEER OF RECORD OR THE OWNER; OTHERWISE THE OWNER MAY WITHHOLD THE MONTHLY PAY APPLICATION UNTIL THE CONTRACTOR SUBMITS AN APPROVED IN-PROGRESS AS-BUILTS. THE CONTRACTOR WILL PREPARE A COMPLETE SET OF PROJECT RECORD DRAWINGS AT THE CONCLUSION OF THE PROJECT BASED ON THE MARK-UP DRAWINGS TO REFLECT ACTUAL "AS-BUILT" CONDITIONS.

2. RECORD DRAWINGS SHALL BE PREPARED IN THE STATE PLAN COORDINATE SYSTEM.

3. ALL UTILITY FEATURES SHALL BE SHOWN IN THEIR AS-BUILT LOCATION.

4. STATE PLANE COORDINATES SHALL BE DISPLAYED ON RECORD DRAWINGS FOR ALL FEATURES SPECIFIED IN PBCWUD MINIMUM DESIGN AND CONSTRUCTION STANDARDS SECTION 6, PROJECT COMPLETION REQUIREMENTS.

5. STATE PLANE COORDINATE SHALL BE SHOWN ON PROPERTY CORNERS AS REQUIRED BY PBCWUD.

LEGENDS

- BE(D)--- EXIST. BURIED ELECTRIC CABLE (LEVEL D)
- BF0C(D)--- EXIST. BURIED FIBER OPTIC CABLE (LEVEL D)
- BT(D)--- EXIST. BURIED TELEPHONE CABLE (LEVEL D)
- BTV(D)--- EXIST. BURIED TELEPHONE TV CABLE (LEVEL D)
- G(D)--- EXIST. GAS MAIN (LEVEL D)
- OE--- EXIST. OVERHEAD ELECTRIC CABLE
- OT--- EXIST. OVERHEAD TELEPHONE CABLE
- S(B)--- EXIST. FORCE MAIN (LEVEL B)
- S(D)--- EXIST. FORCE MAIN (LEVEL D)
- W(B)--- EXIST. WATER MAIN (LEVEL B)
- W(D)--- EXIST. WATER MAIN (LEVEL D)
- ✕ EXISTING VALVE
- ➡ PROPOSED VALVE
- 📍 SAMPLE POINT
- 🕒 TEST HOLE
- 🔥 FIRE HYDRANT (EXIST.)
- 🔥 FIRE HYDRANT (PROP.)

ABBREVIATIONS

- ARV AIR RELEASE VALVE
- BOP BOTTOM OF PIPE
- BFV BUTTERFLY VALVE
- CLR CLEARANCE
- DIP DUCTILE IRON PIPE
- E EASTING
- EL ELEVATION
- ELEV. ELEVATION
- EOP EDGE OF PAVEMENT
- EX. EXISTING
- EXIST. EXISTING
- FM FORCEMAIN
- GV GATE VALVE
- HORIZ. HORIZONTAL
- MH MANHOLE
- MJ MECHANICAL JOINT
- N NORTHING
- PROP. PROPOSED
- PVC POLYVINYL CHLORIDE PIPE
- PBCWUD PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
- SP SAMPLE POINT
- SS SANITARY SEWER
- SEP. SEPARATION
- RJ RESTRAIN JOINTS
- RCWM RECLAIMED WATER MAIN
- TOP TOP OF PIPE
- TH TEST HOLE
- VERT. VERTICAL
- WM WATERMAIN



MASSE CONSULTING SERVICES, LLC
KHAN, MD. ABUL BASHER
PE LICENSE NO.: 53863 & COA 33487
2101 VISTA PARKWAY, SUITE 237
WEST PALM BEACH, FL 33411

NO.	REVISION	BY	DATE



PALM BEACH COUNTY
ENGINEERING AND PUBLIC WORKS
ROADWAY PRODUCTION
P.O. BOX 21229, WEST PALM BEACH, FL 33406

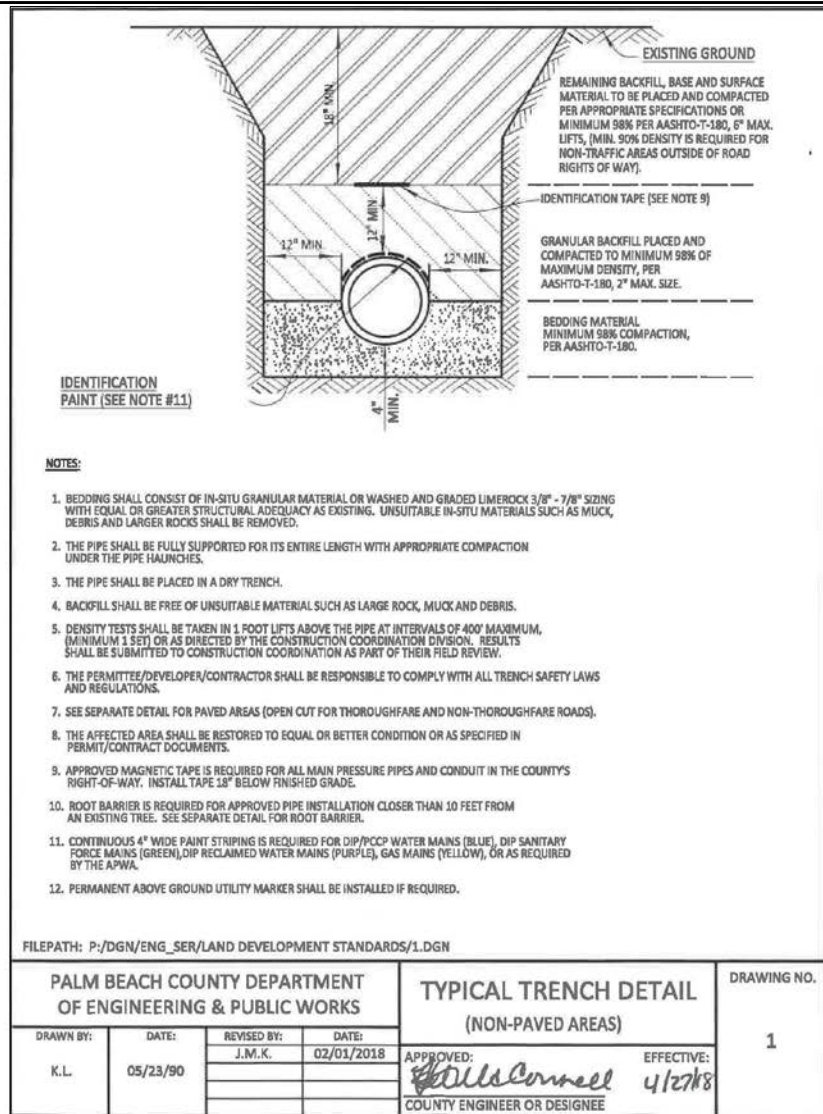
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GENERAL NOTES

LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-02
OF: UT-17
WUD PROJECT
NO. 24-019

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



PBC TRAFFIC DIVISION NOTES

1 - CONTRACTOR SHALL CONTACT PALM BEACH COUNTY TRAFFIC OPERATIONS AT 561-233-3900 FORTY-EIGHT (48) HOURS PRIOR TO CONSTRUCTION IF WORK IS BEING DONE WITHIN 10 FEET OF ANY SIGNAL EQUIPMENT.

2 - DAMAGE TO LOOPS OR ANY SIGNAL EQUIPMENT CAUSED BY THE CONSTRUCTION OF THIS PROJECT MUST BE REPAIRED OR REPLACED TO ORIGINAL OR BETTER CONDITION AT NO COST TO PALM BEACH COUNTY.

3 - NO EXCAVATION AROUND PALM BEACH COUNTY SIGNAL POLES WITHIN A 6 FOOT RADIUS FROM THE CENTER OF THE POLE AND 6 FEET AROUND THE GUY WIRE ANCHOR ROD. NO EXCAVATION BETWEEN PBC SIGNAL POLES AND SUPPORTING GUY WIRE ANCHOR ROD. PLEASE SEE PALM BEACH COUNTY TRAFFIC SIGNAL INSTALLATION STANDARDS AND DETAILS 2024 DRAWING T-5.4.

PBC ROAD & BRIDGE DIVISION NOTES

1. ANY AND ALL PB COUNTY STREET / DRAIN / SIDEWALK / PATHWAY / C&G / ADA AND OR ADDITIONAL ROADWAY THAT IS AFFECTED BY THE PROPOSED CONSTRUCTION MUST BE RESTORED TO LIKE OR BETTER THAN LIKE CONDITION TO INCLUDE ALL APPLICABLE FDOT / PB COUNTY DETAILS AND SPECIFICATIONS (APPLICABLE THOROUGHFARE / NON-THOROUGHFARE).

2. SIDEWALK AFFECTED TO INCLUDE ONE FLAG ON EITHER SIDE OF THE DISTURBED AREA. SIDEWALKS WILL BE RESTORED BY REPLACING TWO FLAGS IF THE POINT OF CONSTRUCTION IS LOCATED AT A CONTROL JOINT AND THREE FLAGS IF THE POINT OF CONSTRUCTION IS LOCATED BETWEEN CONTROL JOINTS. NO PARTIAL JOINTS ACCEPTED. (PER SITUATION)

3. ROADWAY LANES AFFECTED WILL REQUIRE THE AFFECTED LANES AND/OR ADDITIONAL LANES BE RESTORED TO LIKE OR BETTER THAN LIKE CONDITION AND TO EQUAL DIMENSIONS AS THE ADJACENT LANES (EOP TO EOP).

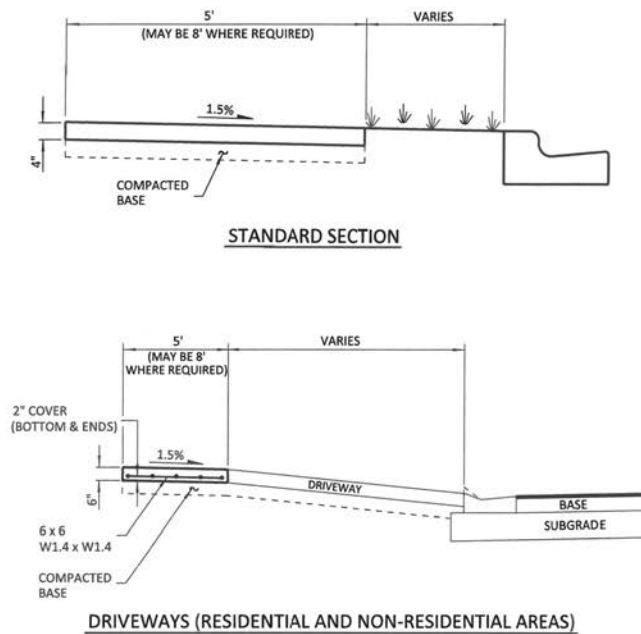
4. ALL AFFECTED ROADWAYS ARE TO BE RESTORED FROM EOP TO EOP, LANE WIDTH MIN. AND 50 FT IN EITHER DIRECTION (THOROUGHFARE) AND 25FT MIN. RESTORATION (NON-THOROUGHFARE).

5. MILL AND PAVE TRANSITION AREA IN PALM BEACH COUNTY R/W, (ADD NAME OF STREET(S)) WILL BE REQUIRED TO INCLUDE THE INTERSECTION IN ITS ENTIRETY. (25 FT IN ALL DIRECTIONS).

6. FLOW ABLE FILL IS NOT AN APPROVED WEAR COURSE IN PB COUNTY. PBC THOROUGHFARE ROAD RESTORATION DETAIL / LANE WIDTH NEEDS TO REFLECT A MIN. 50' OUTSIDE THE PC IN ALL DIRECTIONS.

7. IF PROPOSED CONSTRUCTION/CROSSING ANY EXISTING PB COUNTY STORM DRAIN PIPE/STRUCTURES ARE AFFECTED IN ANY WAY, PB COUNTY R&B REQUIRES FULL RESTORATION OF THE AFFECTED SYSTEM TO LIKE OR BETTER THEN LIKE CONDITION AND TO PB COUNTY/FDOT STANDARD.

8. ANY DRAINAGE SWALES AFFECTED BY THE PROPOSED CONSTRUCTION, SHALL BE RESTORED TO LIKE OR BETTER THEN LIKE CONDITION TO INCLUDE ORIGINAL DESIGN ELEVATIONS.

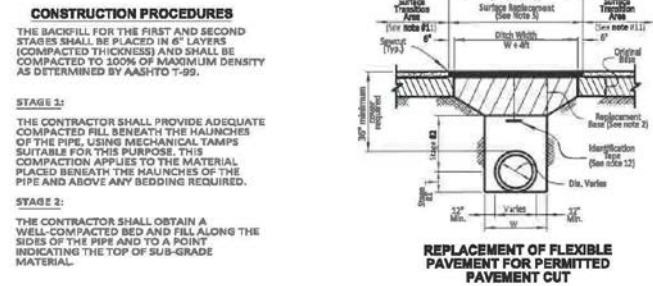


NOTES:

1. SIDEWALKS TO BE PORTLAND CEMENT CONCRETE, MIN. 2500 P.S.I. @ 28 DAYS.
2. BASE TO BE A MINIMUM 4 INCHES OF CLEAN SAND OR SANDY LOAM, FULLY COMPACTED, FULL WIDTH.
3. SIDEWALKS TO BE BROOM FINISHED WITH EVEN, DUSTLESS SURFACE.
4. MAXIMUM LONGITUDINAL SLOPE IS 1.0%
5. SIDEWALK THICKNESS TO BE 6 INCHES MINIMUM IN ALL AREAS SUBJECT TO VEHICULAR TRAFFIC.

FILEPATH: P:/DGN/ENG SER/LAND DEVELOPMENT STANDARDS/DWF FORMAT/400.1A

PALM BEACH COUNTY DEPARTMENT OF ENGINEERING & PUBLIC WORKS				PATHWAY: CONCRETE SIDEWALK		DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:	APPROVED:  COUNTY ENGINEER OR DESIGNEE	EFFECTIVE:	400.1
K.L.	05/23/90	J.M.K.	02/01/2018			



NOTES

- 1) BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIME ROCK 3/8" - 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING, UNSTABILIZED IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
- 2) REPLACEMENT BASE MATERIAL OVER DITCH SHALL BE 16" LIME ROCK (LBR100) MINIMUM FOR THOROUGHFARE PLAN ROADS. REPLACEMENT BASE MATERIAL REQUESTED BY THE ENGINEER OF RECORD REQUIRES APPROVAL BY THE ROADWAY PRODUCTION DIVISION.
- 3) ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED AND BUTT-JOINTED.
- 4) BASE MATERIAL (PER ROADWAY PRODUCTION DESIGN STANDARDS) SHALL BE PLACED IN TWO OR THREE LAYERS (8" MAX. PER LAYER) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO THE SPECIFIED DENSITY. (MINIMUM 98% AASHTO - T-180)
- 5) 1" FRICTION COURSE FC-9 TO 5/8" 1-1/2" TYPE SP STRUCTURAL COURSE (TRAFFIC LANE), C1 WITH TACK COAT AT 0.05 GAL/TON AND RC-70 PRIME COAT AT 0.20 GAL/TON FOR LIME ROCK BASE. FOLLOW THE LATEST FDOT SPECIFICATIONS FOR APPLICATION RATES OF PRIME AND TACK COATS. CONTRACTOR TO SUBMIT MATERIALS AND PAVES TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
- 6) PIPE SHALL BE PLACED IN A DRY TRENCH.
- 7) ALL ROADWAY REPAIR WORK SHALL BE PERFORMED IN CONFORMANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND COUNTY PRM 110-3605.
- 8) DENSITY TESTS SHALL BE TAKEN IN 1 FT LIFTS ABOVE THE PIPE AT INTERVALS OF 400 FT MAXIMUM (1 SET MINIMUM) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION DIVISION AS PART OF THEIR FIELD REVIEW.
- 9) ENGINEER-OF-RECORD SHALL PROVIDE FULL-TIME INSPECTION DURING THE ENTIRETY OF THE OPEN-CUT OPERATION, BEGINNING WITH THE EXCAVATION AND CONTINUING THROUGH THE COMPLETION OF THE PAVES.
- 10) IF THE PAVEMENT IS NOT COMPLETELY RESTORED, IMMEDIATELY FOLLOWING THE OPEN CUT, A SMOOTH TEMPORARY PATCH (APPROXIMATELY 1.5' TO 2.5' LONG) SHALL BE INSTALLED. COURSE ASPHALT SHALL BE MATCHING THE EXISTING GRADINGS OF THE ROADWAY. THE TEMPORARY PATCH SHALL BE ALLOWED TO REMAIN IN PLACE AND BE USED FOR AT LEAST 7 DAYS. THE COUNTY RETAINS THE RIGHT TO USE POSTED SIGNS TO COMPLETE ANY RESTORATION WORK THAT HAS NOT BEEN COMPLETED IN THE 45 DAY PERIOD. ALTERNATIVE TEMPORARY TRENCH PROTECTION (STEEL PLATES OR OTHERS) MAY BE APPROVED BY THE CONSTRUCTION COORDINATION DIVISION.
- 11) FOR FINAL RESTORATION (INCLUDES THE PATCHED/SURFACE REPLACEMENT AREA OVER THE TRENCH), THE ROAD SHALL BE MILLED/SURFPAVED PER NOTE 5 ABOVE FOR A FULL LANE WIDTH OF THE TRAVEL LANES ENCOMPASSED BY THE TRENCH AREA, INCLUDING A TRANSITION AREA OF 50 FT ON EACH SIDE MEASURED FROM TOP OF TRENCH.
- 12) APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 24" BELOW FINISHED GRADE.
- 13) CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCP/PAVE WATER MAINS (BLUE), SANITARY MAINS (GREEN), DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE ADA.

FILEPATH: P:/DGN/ENG_SER/LAND DEVELOPMENT STANDARDS/2.DGN

PALM BEACH COUNTY DEPARTMENT OF ENGINEERING & PUBLIC WORKS				OPEN CUT DETAIL FOR THOROUGHFARE ROADS (PAVED AREAS)		DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:	APPROVED:	EFFECTIVE:	2
K.L.	06/25/93	J.M.K.	02/01/2018	<i>[Signature]</i>	4/27/06	
				COUNTY ENGINEER OR DESIGNEE		



MASSE CONSULTING SERVICES, LLC
 KHAN, MD. ABUL BASHER
 PE LICENSE NO.: 53863 & COA 33487
 2101 VISTA PARKWAY, SUITE 237
 WEST PALM BEACH, FL 33411



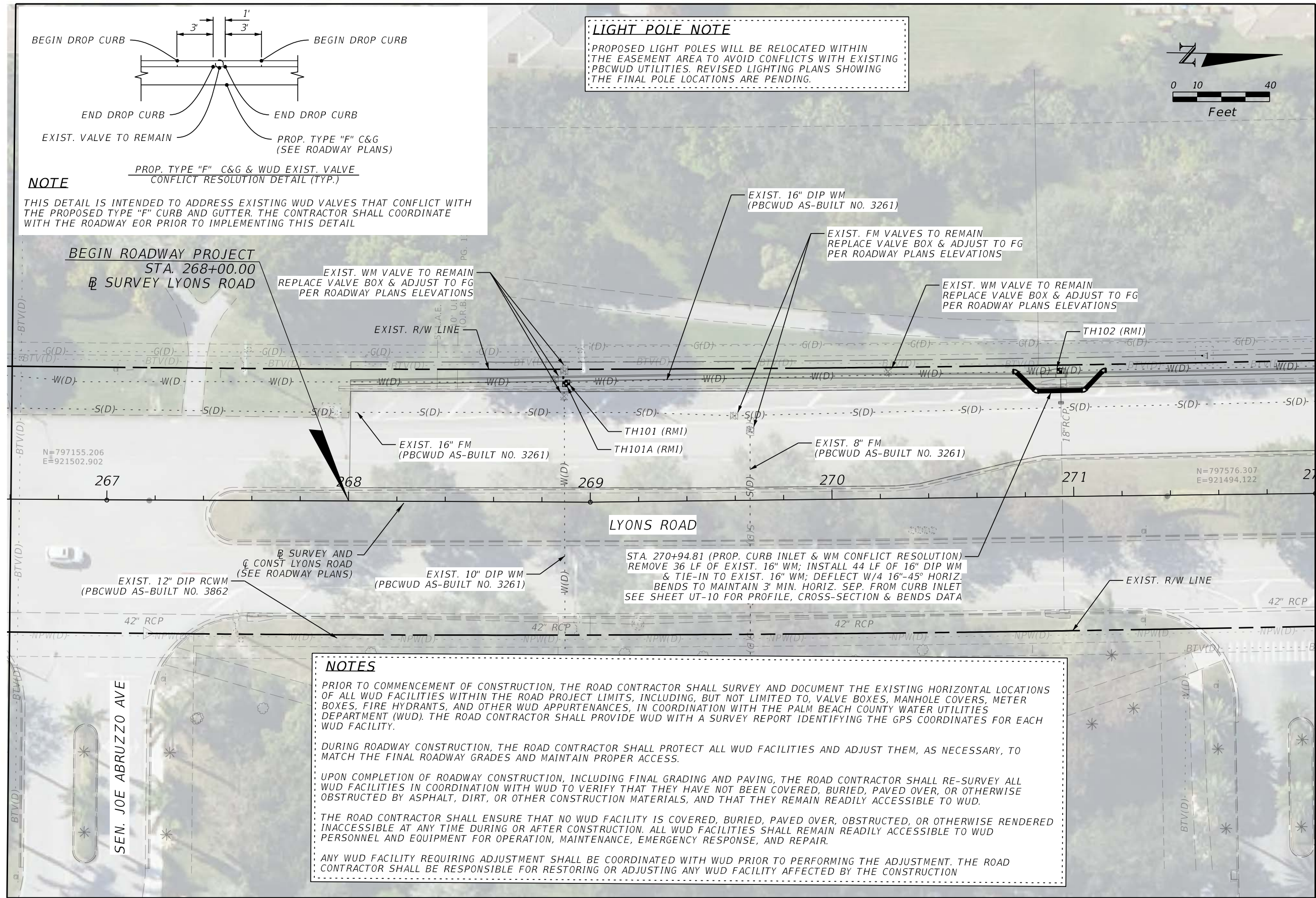
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APPROVED: BK
DRAWN: FM
CHECKED: FM
DATE: 09/26

GENERAL NOTES

LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-03
OF: UT-17
WUD PROJECT
NO. 24-019

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MASSE CONSULTING SERVICES, LLC
Khan, Md. Abul Basher
PE License No.: 53863 & COA 33487
2101 Vista Parkway, Suite 237
West Palm Beach, FL 33411

NO.	REVISION	BY	DATE



PALM BEACH COUNTY
ENGINEERING AND PUBLIC WORKS
ROADWAY PRODUCTION
P.O. BOX 21229, WEST PALM BEACH, FL 33406

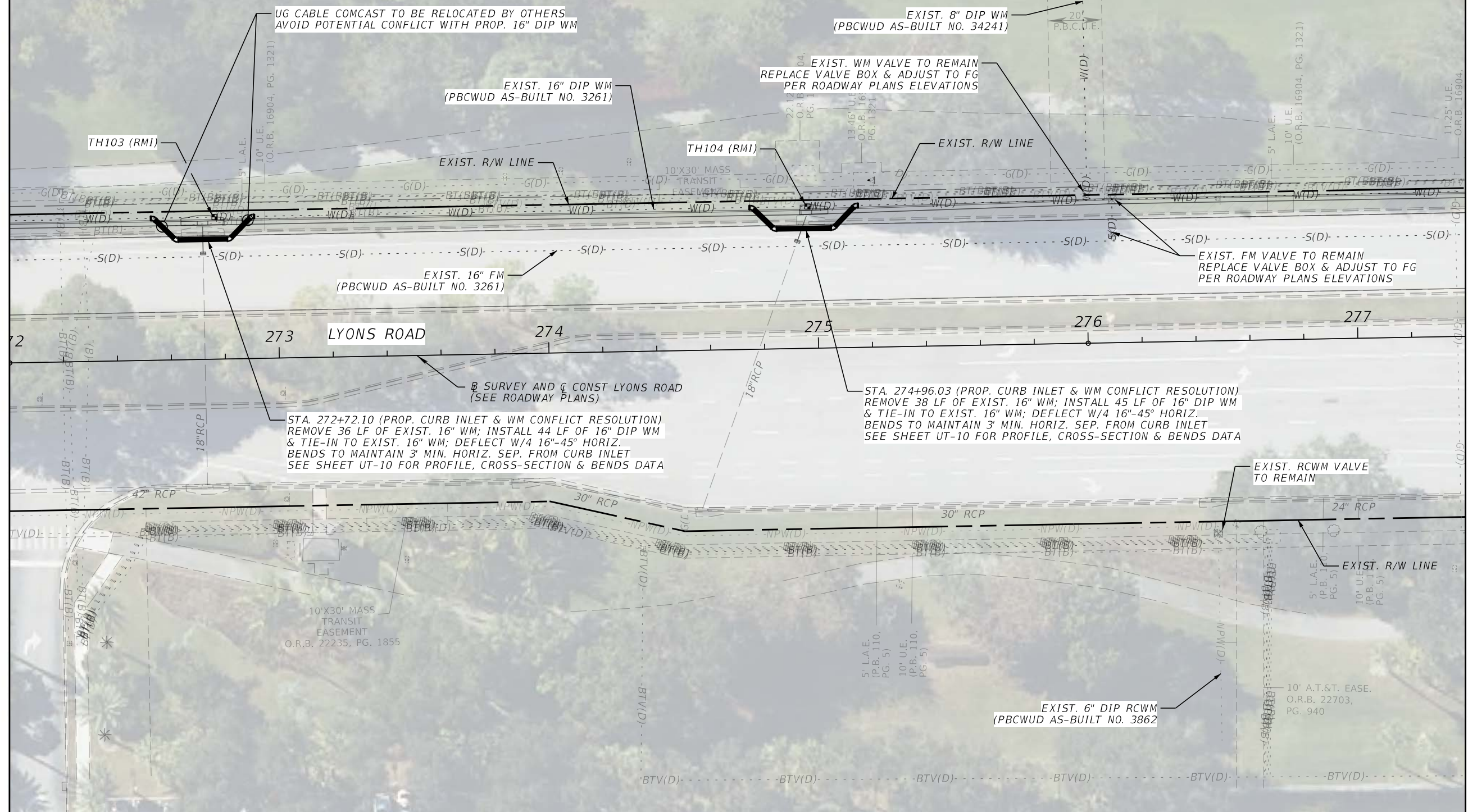
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DATE: 09/26

UTILITY PLAN
LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-04
OF: UT-17
WUD PROJECT
NO. 24-019

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PROPOSED LIGHT POLES WILL BE RELOCATED WITHIN THE EASEMENT AREA TO AVOID CONFLICTS WITH EXISTING PBCWUD UTILITIES. REVISED LIGHTING PLANS SHOWING THE FINAL POLE LOCATIONS ARE PENDING.



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MASSE CONSULTING SERVICES, LLC
KHAN, MD. ABUL BASHER
PE LICENSE NO.: 53863 & COA 33487
2101 VISTA PARKWAY, SUITE 237
WEST PALM BEACH, FL 33411

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**PALM BEACH COUNTY
ENGINEERING AND PUBLIC WORKS
ROADWAY PRODUCTION
P.O. BOX 21229, WEST PALM BEACH, FL 33406**

SCALE: 1"=40'
APPROVED: BK
DRAWN: FM
CHECKED: FM
DATE: 09/26

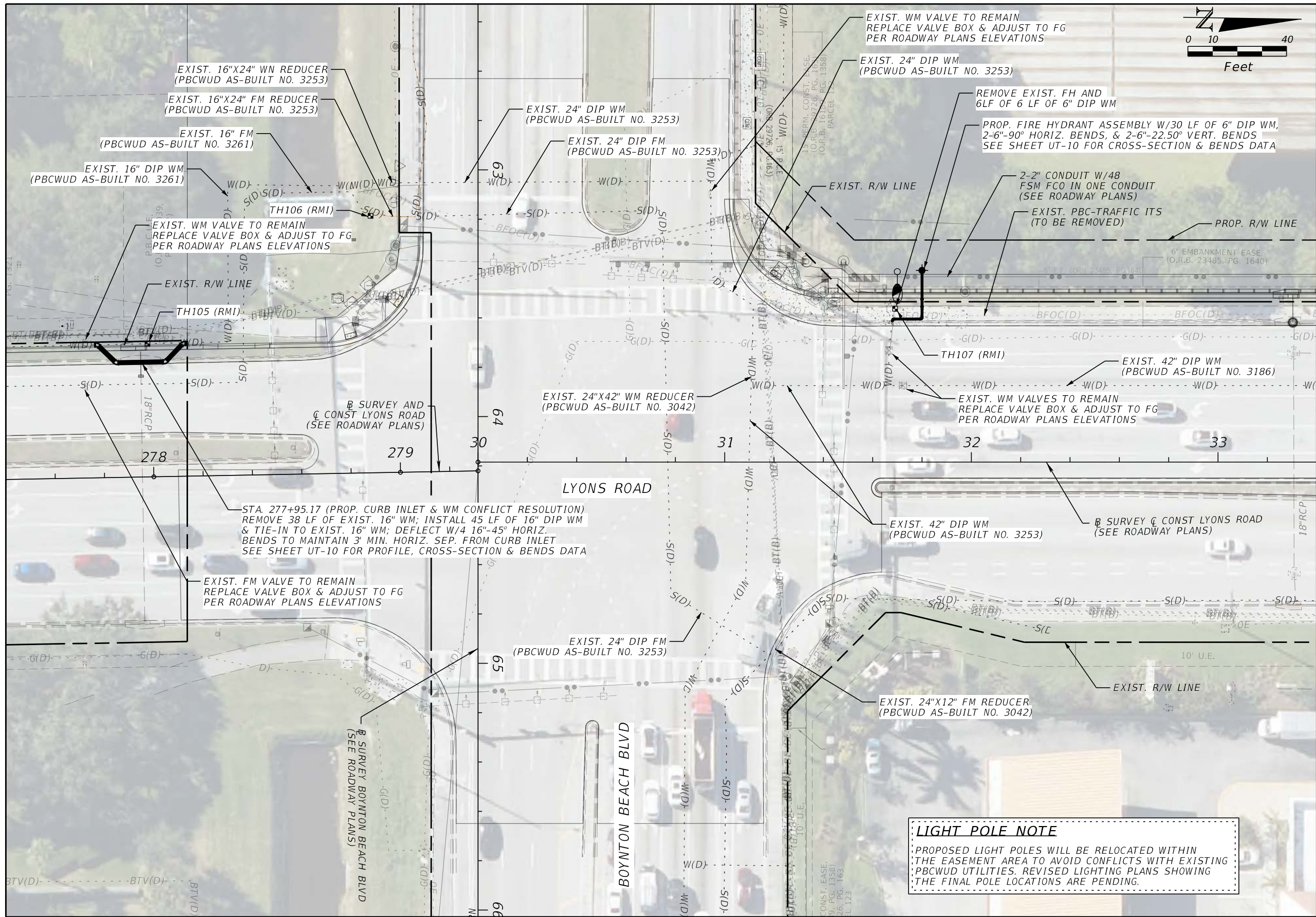
UTILITY PLAN

LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-05
OF: UT-17
WUD PROJECT
NO. 24-019

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MASSE CONSULTING SERVICES, LLC
Khan, Md. Abul Basher
PE License No.: 53863 & COA 33487
2101 Vista Parkway, Suite 237
West Palm Beach, FL 33411

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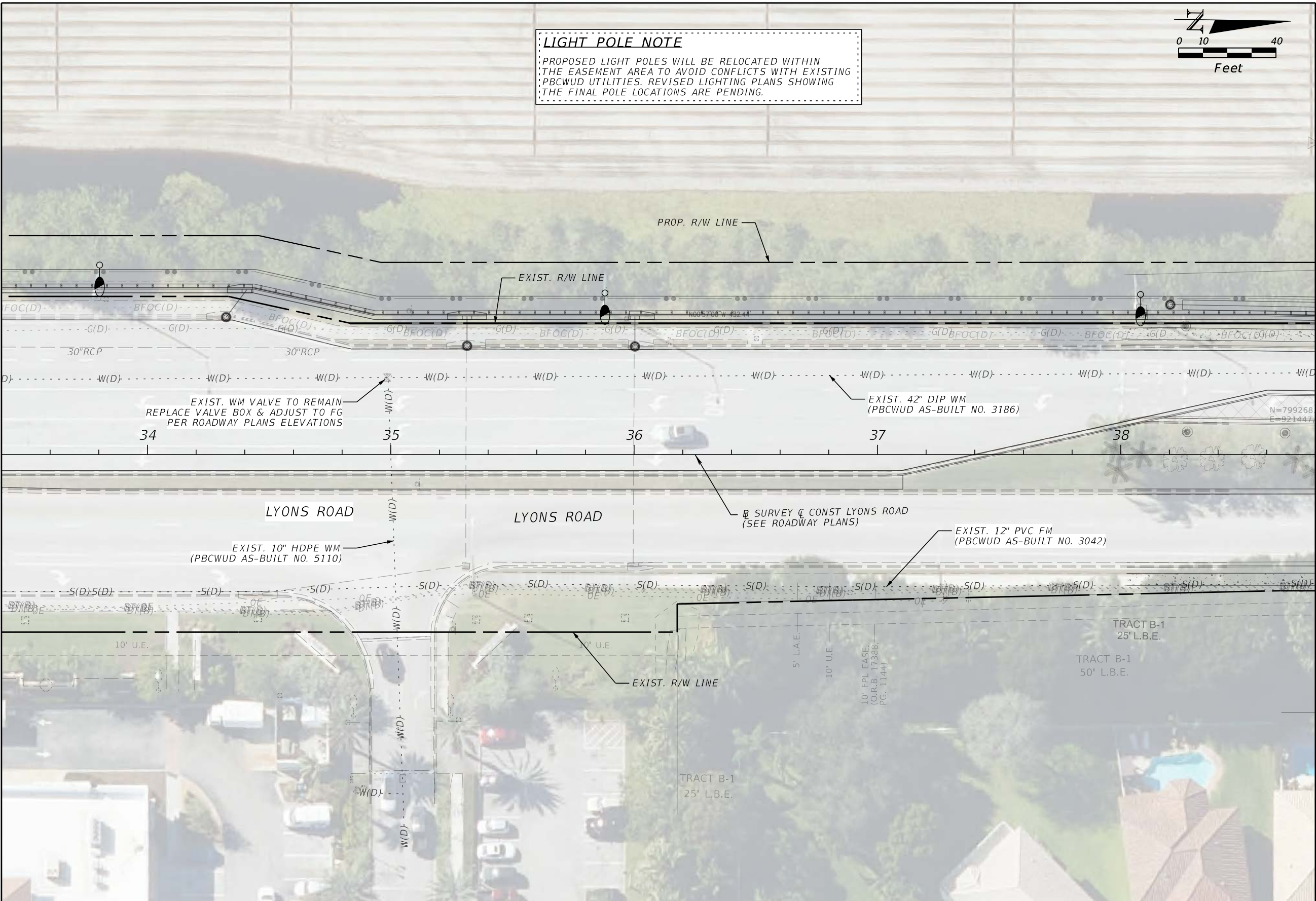


PALM BEACH COUNTY
ENGINEERING AND PUBLIC WORKS
ROADWAY PRODUCTION
P.O. BOX 21229, WEST PALM BEACH, FL 33406

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DRAWN: FM
CHECKED: FM
DATE: 09/26

UTILITY PLAN
LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-06
OF: UT-17
WUD PROJECT
NO. 24-019



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 PE LICENSE NO.: 53863 & COA 33487
 2101 VISTA PARKWAY, SUITE 237
 WEST PALM BEACH, FL 33411

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ENGINEERING AND PUBLIC WORKS
ROADWAY PRODUCTION
P.O. BOX 21229, WEST PALM BEACH, FL 33406**

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APPROVED: BK
DRAWN: FM
CHECKED: FM
DATE: 09/26

UTILITY PLAN

LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-07

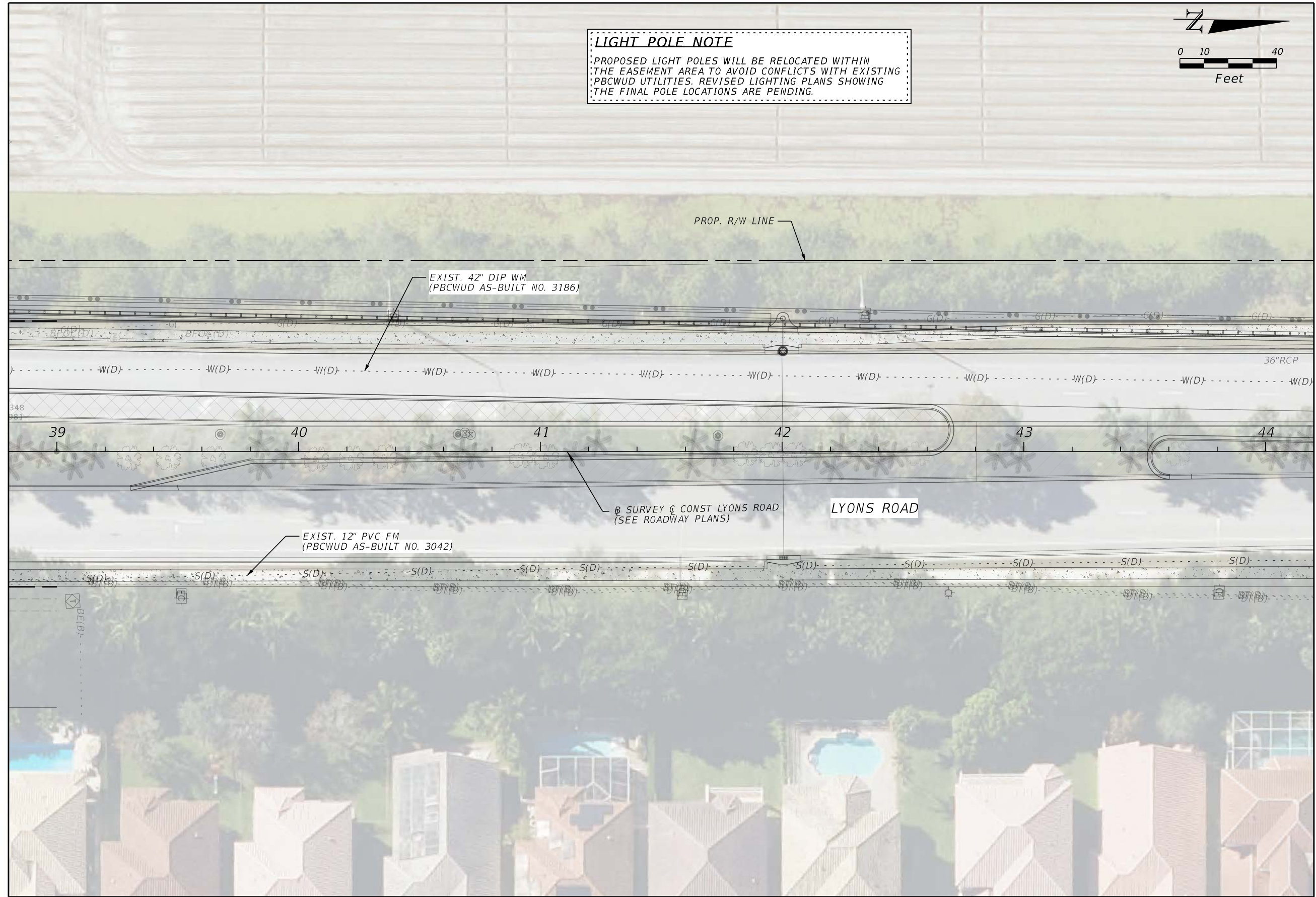
OF: UT-17

WUD PROJECT
NO. 24-019

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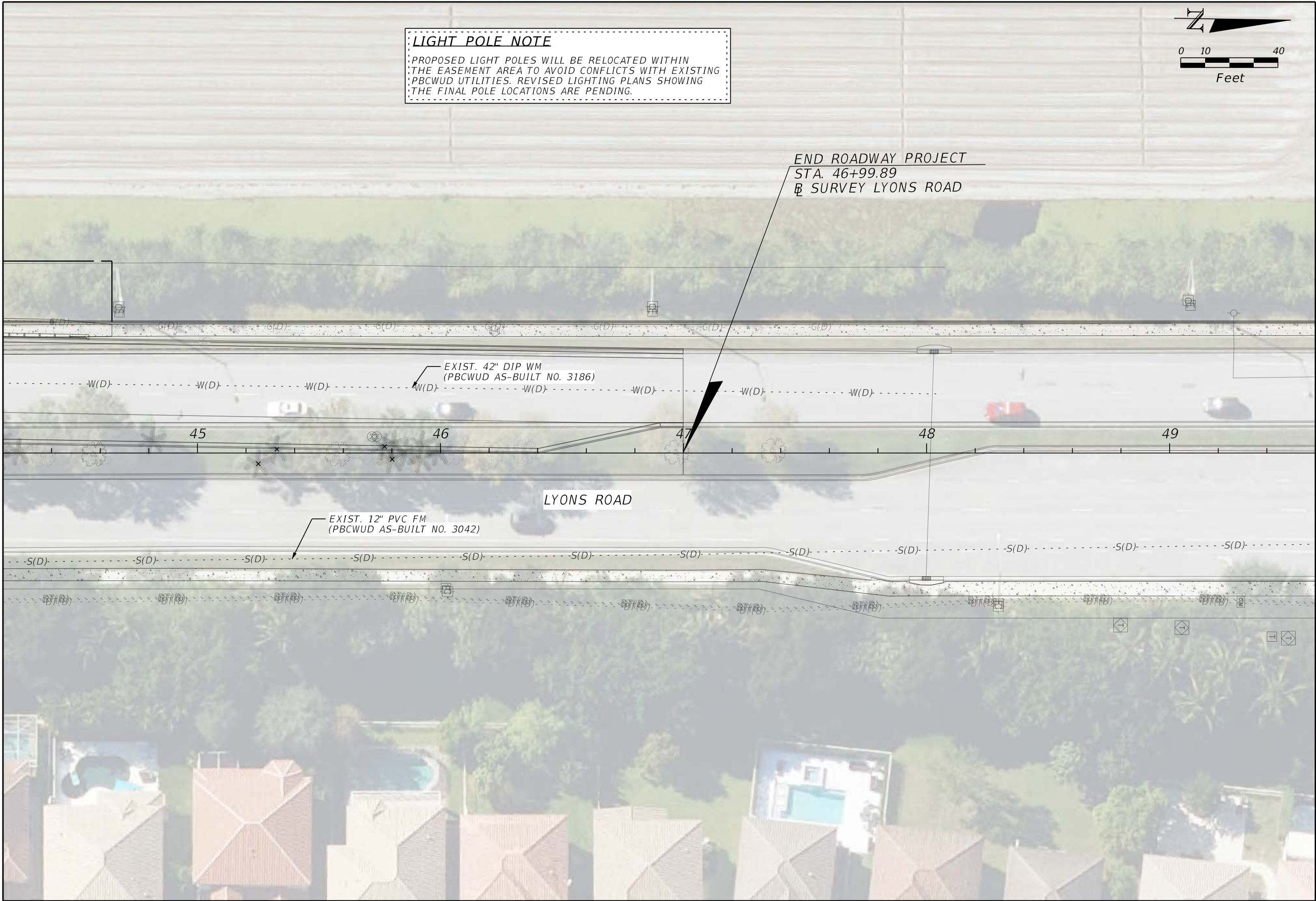
UTILITY PLAN

LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-08
OF: UT-17
WUD PROJECT
NO. 24-019

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ENGINEERING AND PUBLIC WORKS
ROADWAY PRODUCTION
P.O BOX 21229, WEST PALM BEACH, FL 33406

SCALE: 1"=40'

APPROVED: BK

DRAWN: FM

CHECKED: FM

DATE: 09/26

UTILITY PLAN

LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-09
OF: UT-17

WUD PROJECT
NO. 24-019

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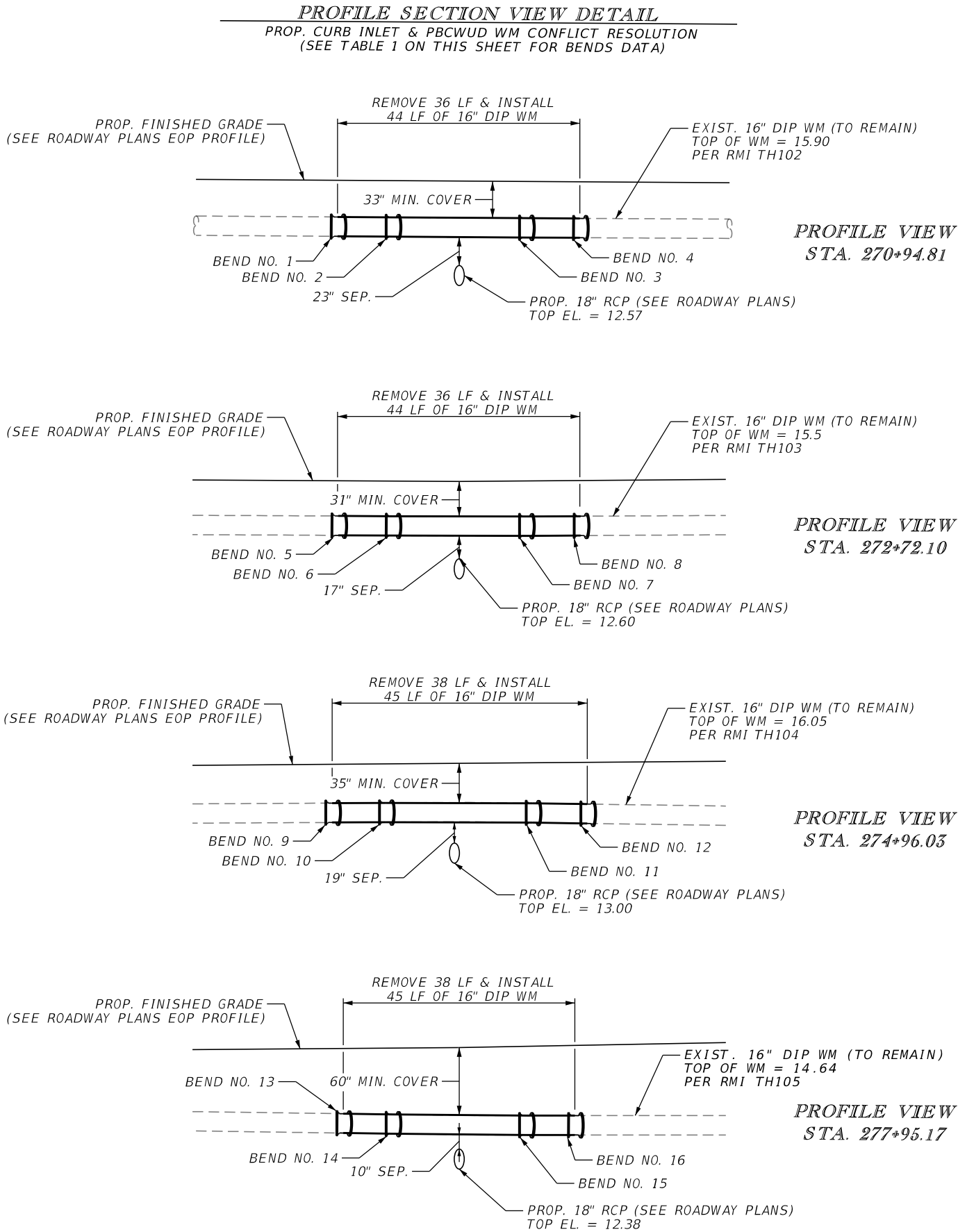
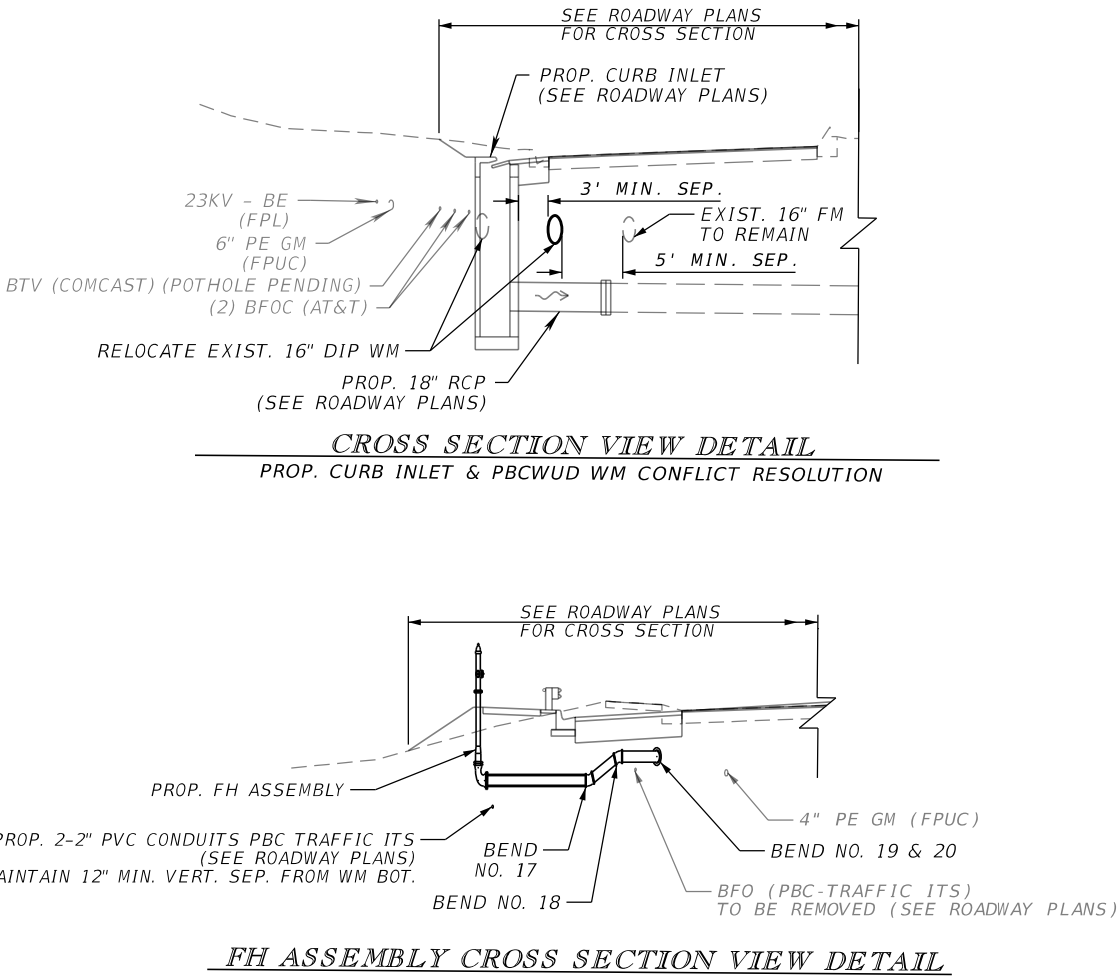


TABLE 1: PROPOSED WM BENDS DATA							
CURB INLET STATION	16" DIP WM DATA						REMARKS/NOTES
	BEND			STATION	OFFSET (+/-)	TOP WM EL.(FT)	
	NO.	ANGLE	TYPE				
270+94.81	1	45	HORIZ.	270+76.57	52.74' LT	15.9+/-	ROTATE BENDS AS REQUIRED
	2	45	HORIZ.	270+84.81	44.50' LT	15.9+/-	
	3	45	HORIZ.	271+04.81	44.50' LT	15.9+/-	
	4	45	HORIZ.	271+12.91	52.60' LT	15.9+/-	
272+72.10	5	45	HORIZ.	272+53.97	52.63' LT	15.5+/-	ROTATE BENDS AS REQUIRED
	6	45	HORIZ.	272+62.10	44.50' LT	15.5+/-	
	7	45	HORIZ.	272+82.10	44.50' LT	15.5+/-	
	8	45	HORIZ.	272+90.30	52.70' LT	15.5+/-	
274+96.03	9	45	HORIZ.	274+75.97	52.56' LT	16.0+/-	ROTATE BENDS AS REQUIRED
	10	45	HORIZ.	274+84.03	44.50' LT	16.0+/-	
	11	45	HORIZ.	275+04.03	44.50' LT	16.0+/-	
	12	45	HORIZ.	275+14.23	52.70' LT	16.0+/-	
277+95.17	13	45	HORIZ.	277+77.78	53.89' LT	14.6+/-	ROTATE BENDS AS REQUIRED
	14	45	HORIZ.	277+85.17	46.50' LT	14.6+/-	
	15	45	HORIZ.	278+05.17	46.50' LT	14.6+/-	
	16	45	HORIZ.	278+12.52	53.85' LT	14.6+/-	
NOTE: CONTRACTOR TO FIELD VERIFY THE LOCATION AND DEPTH OF PBCWUD FACILITIES AND COORDINATE WITH PBCWUD REGARDING ANY DISCREPANCIES.							





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KHAN, MD. ABUL BASHER
PE LICENSE NO.: 53863 & COA 33487
2101 VISTA PARKWAY, SUITE 237
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NO.	REVISION	BY	DATE



PALM BEACH COUNTY
ENGINEERING AND PUBLIC WORKS
ROADWAY PRODUCTION
P.O BOX 21229, WEST PALM BEACH, FL 33406

SCALE: NTS

APPROVED: BK

DRAWN: FM

CHECKED: FM

DATE: 09/26

CONFLICT RESOLUTION DATA

LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-10

OF: UT-17

WUD PROJECT
NO. 24-019

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TEST HOLE DATA FORM			
Proj. No.	24-099	Test Hole No.	TH101
Client Proj. No.		Date Excavated	10/15/2024
Proj. City / State	BOYNTON BEACH, FLORIDA	Truck No.	VACMASTER
County	PALM BEACH	Site Crew	HR, GM, EF
Project Name	LYONS & L-30 CANAL	Prepared By	KK
Project Location	LYONS ROAD	Checked By	DR
IMAGES			
PLAN VIEW		UTILITIES FOUND	
		Size: 10 INCH Material (*): DUCTILE IRON Type: WATER MAIN Manual Depth: 2.95 FEET Direction: N/S Owner: PBC WUD Marked By: GM Thickness: N/A Type: NATURAL GROUND Soil Conditions: DRY UT By: REBAR & CAP COORDINATES AT TOP OF UTILITY Northing: 797328.99 Easting: 921451.18 Elevation: 18.63 Datum: NAVD83 Units: US Survey Feet Metric	
NOTES			
(*): UTILITY MATERIALS Duct: PE (Polyethylene Pipe) Lead: HDPE (High Density PE) Steel: VCP (Vitrified Clay Pipe) Copper: PVC (Polyvinyl Chloride) AC (Transite): DBC (Direct Buried Cable) CI (Cast Iron): CMP (Corrugated Metal Pipe) FG (Fiberglass): CPP (Corrugated Plastic Pipe) Cone: (Concrete) RCP (Reinforced Concrete Pipe) Unk. (Unknown) Galv. (Galvanized Pipe) DIP (Ductile Iron Pipe)			

TEST HOLE DATA FORM			
Proj. No.	24-099	Test Hole No.	TH102A
Client Proj. No.		Date Excavated	10/15/2024
Proj. City / State	BOYNTON BEACH, FLORIDA	Truck No.	VACMASTER
County	PALM BEACH	Site Crew	HR, GM, EF
Project Name	LYONS & L-30 CANAL	Prepared By	KK
Project Location	LYONS ROAD	Checked By	DR
IMAGES			
PLAN VIEW		UTILITIES FOUND	
		Size: 10 INCH Material (*): DUCTILE IRON Type: WATER MAIN Manual Depth: 3.15 FEET Direction: N/S Owner: PBC WUD Marked By: GM Thickness: N/A Type: NATURAL GROUND Soil Conditions: DRY UT By: REBAR & CAP COORDINATES AT TOP OF UTILITY Northing: 797328.99 Easting: 921451.04 Elevation: 18.51 Datum: NAVD83 Units: US Survey Feet Metric	
NOTES			
(*): UTILITY MATERIALS Duct: PE (Polyethylene Pipe) Lead: HDPE (High Density PE) Steel: VCP (Vitrified Clay Pipe) Copper: PVC (Polyvinyl Chloride) AC (Transite): DBC (Direct Buried Cable) CI (Cast Iron): CMP (Corrugated Metal Pipe) FG (Fiberglass): CPP (Corrugated Plastic Pipe) Cone: (Concrete) RCP (Reinforced Concrete Pipe) Unk. (Unknown) Galv. (Galvanized Pipe) DIP (Ductile Iron Pipe)			

TEST HOLE DATA FORM			
Proj. No.	24-099	Test Hole No.	TH103
Client Proj. No.		Date Excavated	10/15/2024
Proj. City / State	BOYNTON BEACH, FLORIDA	Truck No.	VACMASTER
County	PALM BEACH	Site Crew	HR, GM, EF
Project Name	LYONS & L-30 CANAL	Prepared By	KK
Project Location	LYONS ROAD	Checked By	DR
IMAGES			
PLAN VIEW		UTILITIES FOUND	
		Size: 10 INCH Material (*): DUCTILE IRON Type: WATER MAIN Manual Depth: 3.15 FEET Direction: N/S Owner: PBC WUD Marked By: GM Thickness: N/A Type: NATURAL GROUND Soil Conditions: DRY UT By: REBAR & CAP COORDINATES AT TOP OF UTILITY Northing: 797328.99 Easting: 921442.95 Elevation: 18.50 Datum: NAVD83 Units: US Survey Feet Metric	
NOTES			
(*): UTILITY MATERIALS Duct: PE (Polyethylene Pipe) Lead: HDPE (High Density PE) Steel: VCP (Vitrified Clay Pipe) Copper: PVC (Polyvinyl Chloride) AC (Transite): DBC (Direct Buried Cable) CI (Cast Iron): CMP (Corrugated Metal Pipe) FG (Fiberglass): CPP (Corrugated Plastic Pipe) Cone: (Concrete) RCP (Reinforced Concrete Pipe) Unk. (Unknown) Galv. (Galvanized Pipe) DIP (Ductile Iron Pipe)			

TEST HOLE DATA FORM			
Proj. No.	24-099	Test Hole No.	TH104
Client Proj. No.		Date Excavated	10/15/2024
Proj. City / State	BOYNTON BEACH, FLORIDA	Truck No.	VACMASTER
County	PALM BEACH	Site Crew	HR, GM, EF
Project Name	LYONS & L-30 CANAL	Prepared By	KK
Project Location	LYONS ROAD	Checked By	DR
IMAGES			
PLAN VIEW		UTILITIES FOUND	
		Size: 10 INCH Material (*): DUCTILE IRON Type: WATER MAIN Manual Depth: 2.80 FEET Direction: N/S Owner: PBC WUD Marked By: GM Thickness: N/A Type: NATURAL GROUND Soil Conditions: DRY UT By: REBAR & CAP COORDINATES AT TOP OF UTILITY Northing: 797328.99 Easting: 921450.63 Elevation: 18.49 Datum: NAVD83 Units: US Survey Feet Metric	
NOTES			
(*): UTILITY MATERIALS Duct: PE (Polyethylene Pipe) Lead: HDPE (High Density PE) Steel: VCP (Vitrified Clay Pipe) Copper: PVC (Polyvinyl Chloride) AC (Transite): DBC (Direct Buried Cable) CI (Cast Iron): CMP (Corrugated Metal Pipe) FG (Fiberglass): CPP (Corrugated Plastic Pipe) Cone: (Concrete) RCP (Reinforced Concrete Pipe) Unk. (Unknown) Galv. (Galvanized Pipe) DIP (Ductile Iron Pipe)			

TEST HOLE DATA FORM			
Proj. No.	24-099	Test Hole No.	TH105R
Client Proj. No.		Date Excavated	10/15/2024
Proj. City / State	BOYNTON BEACH, FLORIDA	Truck No.	VACMASTER
County	PALM BEACH	Site Crew	HR, GM, EF
Project Name	LYONS & L-30 CANAL	Prepared By	KK
Project Location	LYONS ROAD	Checked By	DR
IMAGES			
PLAN VIEW		UTILITIES FOUND	
		Size: 10 INCH Material (*): DUCTILE IRON Type: WATER MAIN Manual Depth: 3.60 FEET Direction: N/S Owner: PBC WUD Marked By: GM Thickness: N/A Type: NATURAL GROUND Soil Conditions: DRY UT By: REBAR & CAP COORDINATES AT TOP OF UTILITY Northing: 797333.99 Easting: 921429.05 Elevation: 18.05 Datum: NAVD83 Units: US Survey Feet Metric	
NOTES			
(*): UTILITY MATERIALS Duct: PE (Polyethylene Pipe) Lead: HDPE (High Density PE) Steel: VCP (Vitrified Clay Pipe) Copper: PVC (Polyvinyl Chloride) AC (Transite): DBC (Direct Buried Cable) CI (Cast Iron): CMP (Corrugated Metal Pipe) FG (Fiberglass): CPP (Corrugated Plastic Pipe) Cone: (Concrete) RCP (Reinforced Concrete Pipe) Unk. (Unknown) Galv. (Galvanized Pipe) DIP (Ductile Iron Pipe)			

TEST HOLE DATA FORM			
Proj. No.	24-099	Test Hole No.	TH105B
Client Proj. No.		Date Excavated	10/15/2024
Proj. City / State	BOYNTON BEACH, FLORIDA	Truck No.	VACMASTER
County	PALM BEACH	Site Crew	HR, GM, EF
Project Name	LYONS & L-30 CANAL	Prepared By	KK
Project Location	LYONS ROAD & BOYNTON BEACH BLVD	Checked By	DR
IMAGES			
PLAN VIEW		UTILITIES FOUND	
		Size: 10 INCH Material (*): DUCTILE IRON Type: WATER MAIN Manual Depth: 5.50 FEET Direction: N/S Owner: PBC WUD Marked By: GM Thickness: N/A Type: NATURAL GROUND Soil Conditions: DRY UT By: REBAR & CAP COORDINATES AT TOP OF UTILITY Northing: 798233.35 Easting: 921427.17 Elevation: 14.64 Datum: NAVD83 Units: US Survey Feet Metric	
NOTES			
(*): UTILITY MATERIALS Duct: PE (Polyethylene Pipe) Lead: HDPE (High Density PE) Steel: VCP (Vitrified Clay Pipe) Copper: PVC (Polyvinyl Chloride) AC (Transite): DBC (Direct Buried Cable) CI (Cast Iron): CMP (Corrugated Metal Pipe) FG (Fiberglass): CPP (Corrugated Plastic Pipe) Cone: (Concrete) RCP (Reinforced Concrete Pipe) Unk. (Unknown) Galv. (Galvanized Pipe) DIP (Ductile Iron Pipe)			

TEST HOLE DATA FORM			
Proj. No.	24-099	Test Hole No.	TH106
Client Proj. No.		Date Excavated	10/15/2024
Proj. City / State	BOYNTON BEACH, FLORIDA	Truck No.	VACMASTER
County	PALM BEACH	Site Crew	HR, GM, EF
Project Name	LYONS & L-30 CANAL	Prepared By	KK
Project Location	LYONS ROAD & BOYNTON BEACH BLVD	Checked By	DR
IMAGES			
PLAN VIEW		UTILITIES FOUND	
		Size: 10 INCH Material (*): DUCTILE IRON Type: FORCE MAIN Manual Depth: 8.92 FEET Direction: N/S Owner: PBC WUD Marked By: GM Thickness: N/A Type: NATURAL GROUND Soil Conditions: DRY UT By: REBAR & CAP COORDINATES AT TOP OF UTILITY Northing: 798232.88 Easting: 921382.98 Elevation: 13.84 Datum: NAVD83 Units: US Survey Feet Metric	
NOTES			
UNABLE TO OBTAIN PHOTO AND PIPE SIZE IN TEST HOLE OBTAINED UTILITY SIZE AT NEARBY CANAL			
(*): UTILITY MATERIALS Duct: PE (Polyethylene Pipe) Lead: HDPE (High Density PE) Steel: VCP (Vitrified Clay Pipe) Copper: PVC (Polyvinyl Chloride) AC (Transite): DBC (Direct Buried Cable) CI (Cast Iron): CMP (Corrugated Metal Pipe) FG (Fiberglass): CPP (Corrugated Plastic Pipe) Cone: (Concrete) RCP (Reinforced Concrete Pipe) Unk. (Unknown) Galv. (Galvanized Pipe) DIP (Ductile Iron Pipe)			

TEST HOLE DATA FORM			
Proj. No.	24-099	Test Hole No.	TH107
Client Proj. No.		Date Excavated	10/15/2024
Proj. City / State	BOYNTON BEACH, FLORIDA	Truck No.	VACMASTER
County	PALM BEACH	Site Crew	HR, GM, EF
Project Name	LYONS & L-30 CANAL	Prepared By	KK
Project Location	LYONS ROAD & BOYNTON BEACH BLVD	Checked By	DR
IMAGES			
PLAN VIEW		UTILITIES FOUND	
		Size: 10 INCH Material (*): DUCTILE IRON Type: WATER MAIN Manual Depth: 6.64 FEET Direction: N/S Owner: PBC WUD Marked By: GM Thickness: 3 INCH Type: CONCRETE Soil Conditions: DRY UT By: N/A & DISC COORDINATES AT TOP OF UTILITY Northing: 798236.13 Easting: 921387.98 Elevation: 18.19 Datum: NAVD83 Units: US Survey Feet Metric	
NOTES			
(*): UTILITY MATERIALS Duct: PE (Polyethylene Pipe) Lead: HDPE (High Density PE) Steel: VCP (Vitrified Clay Pipe) Copper: PVC (Polyvinyl Chloride) AC (Transite): DBC (Direct Buried Cable) CI (Cast Iron): CMP (Corrugated Metal Pipe) FG (Fiberglass): CPP (Corrugated Plastic Pipe) Cone: (Concrete) RCP (Reinforced Concrete Pipe) Unk. (Unknown) Galv. (Galvanized Pipe) DIP (Ductile Iron Pipe)			



RITZEL-MASON INC.
DENNIS A. RITZEL
PSM LICENSE NO.: LS6953
5330 VAN BUREN ROAD
DELRAY BEACH, FL 33484
PHONE: 786.472.0358

NO.	REVISION	BY	DATE



PALM BEACH COUNTY
ENGINEERING AND PUBLIC WORKS
ROADWAY PRODUCTION
P.O. BOX 21229, WEST PALM BEACH, FL 33406

SCALE: NTS
APPROVED: DR
DRAWN: LF
CHECKED: DR
DATE: 09/29

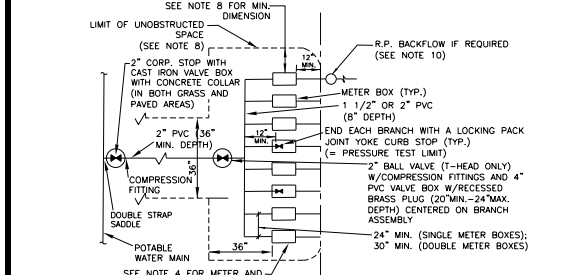
TEST HOLE INFORMATION DATA

LYONS ROAD AND BOYNTON BEACH BLVD
INTERSECTION IMPROVEMENTS

SHEET: UT-11

OF: UT-17

WUD PROJECT
NO. 24-019



- SERVICE PIPING LARGER THAN 2" WILL NOT BE ACCEPTED. FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE 4" DIAMETER BLACK IRON, PVC SCH 40, OR HOPE SDR 9 CASING. CASING SHALL EXTEND 24" BEYOND EDGE OF PAVEMENT. END OF CASING TO BE SEALED WITH FOAM SEALANT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
- METER LOCATION MUST CORRESPOND TO UNIFORM CONFIGURATION TO AVOID SERVICE LINE CROSSLINGS.
- METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
 - ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN REPAIRED BY THE DEPARTMENT.
 - MINIMUM UNOBSTRUCTED SPACE AS SHOWN IN NOTE 2 AND ON THE PLAN VIEW IS PROVIDED WITH 12" MINIMUM VERTICAL SEPARATION REQUIRED TO ALL OTHER UTILITIES.
 - THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
- TYPICAL METER INSTALLATION DETAILS 1W AND 4W AS APPLICABLE.
- THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR SERVICE INSTALLATION BEYOND PRESSURE TEST LIMITS AS SPECIFIED BY THE DEPARTMENT.
- THREADED AREAS OF CORROSION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE.
- MAX. (8) 5/8" METERS OR MAX. (4) 1" METERS, OR MAX. (2) 5/8" METERS WITH (2) 1" METERS MAY BE CONNECTED TO A SINGLE 2" SERVICE LINE.
- MINIMUM UNOBSTRUCTED SPACE FROM SIZE OF WATER METER BOX SHALL BE 5" MINIMUM FOR SHRUBS AND SIMILAR OBSTRUCTIONS WITH 10" MINIMUM FOR TREES, WALLS, AND OTHER SIMILAR OBSTRUCTIONS.
- PVC PIPE SHALL BE SCHEDULE 40 PIPE WITH SCHEDULE 80 FITTINGS. ALL BRASS FITTINGS SHALL BE "LEAD FREE".
- NON-RESIDENTIAL SERVICES AND RESIDENTIAL SERVICES WITH SEPARATE METERED RECLAIMED WATER SERVICE SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.P.). THE INITIAL TEST OF THE R.P.P. SHALL BE PERFORMED BY THE DEPARTMENT. THE R.P.P. SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE NOT TO EXCEED 48" WITHOUT PRIOR DEPARTMENT APPROVAL. THE R.P.P. DEVICE SHALL BE USED APPROVED PER FAC 62-555.360.4

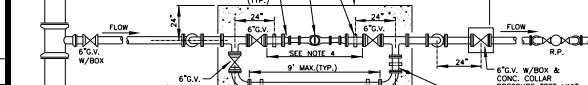
POTABLE WATER TYPICAL CONNECTION FOR MULTIPLE SERVICES

1W

5W



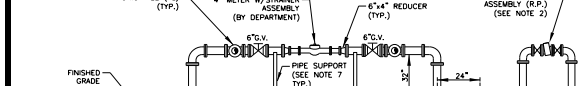
- ALL NON-RESIDENTIAL SERVICES AND RESIDENTIAL SERVICES WITH SEPARATE METERED RECLAIMED WATER SERVICE SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.P.). THE INITIAL TEST OF THE R.P.P. SHALL BE PERFORMED BY THE DEPARTMENT. THE R.P.P. SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE NOT TO EXCEED 48" WITHOUT PRIOR DEPARTMENT APPROVAL. THE R.P.P. DEVICE SHALL BE USED APPROVED PER FAC 62-555.360.4
- METER BOX SHALL BE LOCATED 12" MINIMUM FROM EDGE OF SIDEWALK, BACK OF CURB, OR EDGE OF DRIVEWAY WITH SDO ONLY WITHIN 5" MINIMUM AND NO TREES WITHIN 10" MINIMUM. IF METER BOX IS 18" OR LESS FROM A DRIVEWAY, THE BOX AND LID MUST BE RATED TIER 15.9
- FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE MIN. 3" DIAMETER BLACK IRON, PVC SCH 40 OR HOPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. END OF CASING TO BE SEALED WITH FOAM SEALANT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" APART. TAPS ON SAME SIDE OF A PVC PIPE SECTION SHALL BE MIN. 10" APART.
- METER SHALL NOT BE PLACED IN SIDEWALK OR DRIVEWAY AREAS. WATER SERVICE LINES AND TAPS SHALL NOT BE PLACED UNDER DRIVEWAYS WHENEVER POSSIBLE AND IF REQUIRED, ONLY WITH PRIOR DEPARTMENT APPROVAL.
- MAXIMUM SERVICE LENGTH IS 100' TO METER.
- BEEDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
- METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
 - ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN REPAIRED BY THE DEPARTMENT.
 - MINIMUM UNOBSTRUCTED SPACE AS SHOWN IN NOTE 2 AND ON THE PLAN VIEW IS PROVIDED WITH 12" MINIMUM VERTICAL SEPARATION REQUIRED TO ALL OTHER UTILITIES.
 - THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
- METER TO BE INSTALLED BY DEPARTMENT. THE PIPING BEYOND THE CONTROL VALVE SHALL BE INSTALLED BY THE DEVELOPER OR THE DEPARTMENT DEPENDING ON THE TYPE OF SERVICE INSTALLATION REQUIRED.
- THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR INSTALLATION OF SERVICES BEYOND PRESSURE TEST LIMITS AS SPECIFIED BY THE DEPARTMENT.
- THREADED AREAS OF CORROSION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE.
- METER BOXES IN NON-GRASS AREAS SHALL HAVE TRAFFIC RATED LIDS.
- A 12" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED FOR METER BOXES OUTSIDE OF GRASS AREA. THE BASE SHALL EXTEND MINIMUM 12" BEYOND THE METER BOX PERIMETER.
- STAINLESS STEEL INSERTS ARE REQUIRED FOR ALL COMPRESSION FITTINGS.
- PVC SHALL BE SCHEDULE 40 PIPE WITH SCHEDULE 80 FITTINGS. ALL BRASS FITTINGS SHALL BE "LEAD FREE".



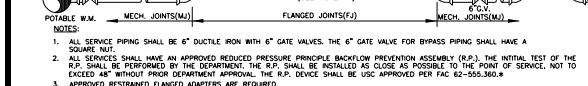
POTABLE WATER SERVICE DUAL 5/8" x 3/4" METER INSTALLATION DETAIL (POLYETHYLENE)

4W

6W



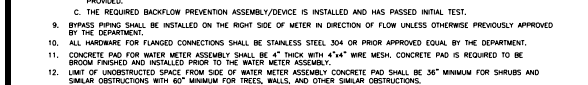
- ALL NON-RESIDENTIAL SERVICES AND RESIDENTIAL SERVICES WITH SEPARATE METERED RECLAIMED WATER SERVICE SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.P.). THE INITIAL TEST OF THE R.P.P. SHALL BE PERFORMED BY THE DEPARTMENT. THE R.P.P. SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE NOT TO EXCEED 48" WITHOUT PRIOR DEPARTMENT APPROVAL. THE R.P.P. DEVICE SHALL BE USED APPROVED PER FAC 62-555.360.4
- METER BOX SHALL BE LOCATED 12" MINIMUM FROM EDGE OF SIDEWALK, BACK OF CURB, OR EDGE OF DRIVEWAY WITH SDO ONLY WITHIN 5" MINIMUM AND NO TREES WITHIN 10" MINIMUM. IF METER BOX IS 18" OR LESS FROM A DRIVEWAY, THE BOX AND LID MUST BE RATED TIER 15.9
- FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE MIN. 3" DIAMETER BLACK IRON, PVC SCH 40 OR HOPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. END OF CASING TO BE SEALED WITH FOAM SEALANT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" APART. TAPS SPACED BETWEEN 18" AND 48" SHALL BE OFFSET TO EACH SIDE OF THE MAIN TAPS ON THE SAME SIDE OF A PVC PIPE SECTION SHALL BE MIN. 10" APART.
- METER SHALL NOT BE PLACED IN SIDEWALK OR DRIVEWAY AREAS. WATER SERVICE LINES AND TAPS SHALL NOT BE PLACED UNDER DRIVEWAYS WHENEVER POSSIBLE AND IF REQUIRED, ONLY WITH PRIOR DEPARTMENT APPROVAL.
- MAXIMUM SERVICE LENGTH IS 100' TO METER.
- BEEDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
- METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
 - ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN REPAIRED BY THE DEPARTMENT.
 - MINIMUM UNOBSTRUCTED SPACE AS SHOWN IN NOTE 2 AND ON THE PLAN VIEW IS PROVIDED WITH 12" MINIMUM VERTICAL SEPARATION REQUIRED TO ALL OTHER UTILITIES.
 - THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
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- THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR INSTALLATION OF SERVICES BEYOND PRESSURE TEST LIMITS AS SPECIFIED BY THE DEPARTMENT.
- THREADED AREAS OF CORROSION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE.
- METER BOXES IN NON-GRASS AREAS SHALL HAVE TRAFFIC RATED LIDS.
- A 12" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED FOR METER BOXES OUTSIDE OF GRASS AREA. THE BASE SHALL EXTEND MINIMUM 12" BEYOND THE METER BOX PERIMETER.
- STAINLESS STEEL INSERTS ARE REQUIRED FOR ALL COMPRESSION FITTINGS.
- PVC SHALL BE SCHEDULE 40 PIPE WITH SCHEDULE 80 FITTINGS. ALL BRASS FITTINGS SHALL BE "LEAD FREE".



POTABLE WATER SERVICE DUAL 5/8" x 3/4" METER INSTALLATION DETAIL (POLYETHYLENE)

4W

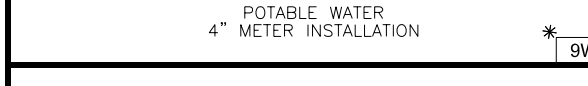
6W



POTABLE WATER SERVICE SINGLE 5/8" x 3/4" METER INSTALLATION DETAIL (POLYETHYLENE)

1W

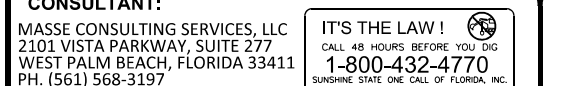
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POTABLE WATER SERVICE DUAL 5/8" x 3/4" METER INSTALLATION DETAIL (POLYETHYLENE)

4W

6W



POTABLE WATER SERVICE SINGLE 5/8" x 3/4" METER INSTALLATION DETAIL (POLYETHYLENE)

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6W

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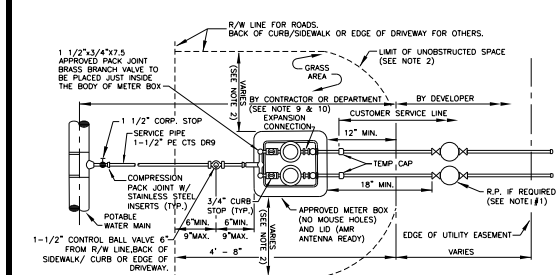
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- ALL NON-RESIDENTIAL SERVICES AND RESIDENTIAL SERVICES WITH SEPARATE METERED RECLAIMED WATER SERVICE SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.P.). THE INITIAL TEST OF THE R.P.P. SHALL BE PERFORMED BY THE DEPARTMENT. THE R.P.P. SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE NOT TO EXCEED 48" WITHOUT PRIOR DEPARTMENT APPROVAL. THE R.P.P. DEVICE SHALL BE USED APPROVED PER FAC 62-555.360.4
- METER BOX SHALL BE LOCATED 12" MINIMUM FROM EDGE OF SIDEWALK, BACK OF CURB, OR EDGE OF DRIVEWAY WITH SDO ONLY WITHIN 5" MINIMUM AND NO TREES WITHIN 10" MINIMUM. IF METER BOX IS 18" OR LESS FROM A DRIVEWAY, THE BOX AND LID MUST BE RATED TIER 15.9
- FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE MIN. 3" DIAMETER BLACK IRON, PVC SCH 40 OR HOPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. END OF CASING TO BE SEALED WITH FOAM SEALANT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" APART. TAPS ON SAME SIDE OF A PVC PIPE SECTION SHALL BE MIN. 10" APART.
- METER SHALL NOT BE PLACED IN SIDEWALK OR DRIVEWAY AREAS. WATER SERVICE LINES AND TAPS SHALL NOT BE PLACED UNDER DRIVEWAYS WHENEVER POSSIBLE AND IF REQUIRED, ONLY WITH PRIOR DEPARTMENT APPROVAL.
- MAXIMUM SERVICE LENGTH IS 100' TO METER.
- BEEDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
- METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
 - ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN REPAIRED BY THE DEPARTMENT.
 - MINIMUM UNOBSTRUCTED SPACE AS SHOWN IN NOTE 2 AND ON THE PLAN VIEW IS PROVIDED WITH 12" MINIMUM VERTICAL SEPARATION REQUIRED TO ALL OTHER UTILITIES.
 - THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
- METER TO BE INSTALLED BY DEPARTMENT. THE PIPING BEYOND THE CONTROL VALVE SHALL BE INSTALLED BY THE DEVELOPER OR THE DEPARTMENT DEPENDING ON THE TYPE OF SERVICE INSTALLATION REQUIRED.
- THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR INSTALLATION OF SERVICES BEYOND PRESSURE TEST LIMITS AS SPECIFIED BY THE DEPARTMENT.
- THREADED AREAS OF CORROSION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE.
- METER BOXES IN NON-GRASS AREAS SHALL HAVE TRAFFIC RATED LIDS.
- A 12" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED FOR METER BOXES OUTSIDE OF GRASS AREA. THE BASE SHALL EXTEND MINIMUM 12" BEYOND THE METER BOX PERIMETER.
- STAINLESS STEEL INSERTS ARE REQUIRED FOR ALL COMPRESSION FITTINGS.
- PVC SHALL BE SCHEDULE 40 PIPE WITH SCHEDULE 80 FITTINGS. ALL BRASS FITTINGS SHALL BE "LEAD FREE".

POTABLE WATER SERVICE SINGLE 5/8" x 3/4" METER INSTALLATION DETAIL (POLYETHYLENE)

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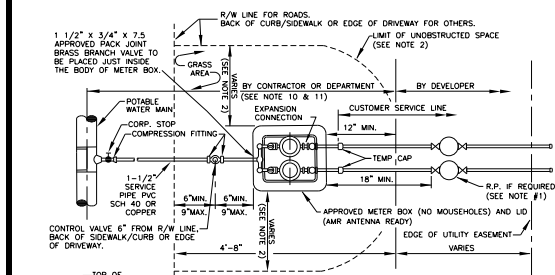
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- ALL NON-RESIDENTIAL SERVICES AND RESIDENTIAL SERVICES WITH SEPARATE METERED RECLAIMED WATER SERVICE SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.P.). THE INITIAL TEST OF THE R.P.P. SHALL BE PERFORMED BY THE DEPARTMENT. THE R.P.P. SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE NOT TO EXCEED 48" WITHOUT PRIOR DEPARTMENT APPROVAL. THE R.P.P. DEVICE SHALL BE USED APPROVED PER FAC 62-555.360.4
- METER BOX SHALL BE LOCATED 12" MINIMUM FROM EDGE OF SIDEWALK, BACK OF CURB, OR EDGE OF DRIVEWAY WITH SDO ONLY WITHIN 5" MINIMUM AND NO TREES WITHIN 10" MINIMUM. IF METER BOX IS 18" OR LESS FROM A DRIVEWAY, THE BOX AND LID MUST BE RATED TIER 15.9
- FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE MIN. 3" DIAMETER BLACK IRON, PVC SCH 40 OR HOPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. END OF CASING TO BE SEALED WITH FOAM SEALANT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" APART. TAPS ON SAME SIDE OF A PVC PIPE SECTION SHALL BE MIN. 10" APART.
- METER SHALL NOT BE PLACED IN SIDEWALK OR DRIVEWAY AREAS. WATER SERVICE LINES AND TAPS SHALL NOT BE PLACED UNDER DRIVEWAYS WHENEVER POSSIBLE AND IF REQUIRED, ONLY WITH PRIOR DEPARTMENT APPROVAL.
- MAXIMUM SERVICE LENGTH IS 100' TO METER.
- BEEDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
- METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
 - ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN REPAIRED BY THE DEPARTMENT.
 - MINIMUM UNOBSTRUCTED SPACE AS SHOWN IN NOTE 2 AND ON THE PLAN VIEW IS PROVIDED WITH 12" MINIMUM VERTICAL SEPARATION REQUIRED TO ALL OTHER UTILITIES.
 - THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
- METER TO BE INSTALLED BY DEPARTMENT. THE PIPING BEYOND THE CONTROL VALVE SHALL BE INSTALLED BY THE DEVELOPER OR THE DEPARTMENT DEPENDING ON THE TYPE OF SERVICE INSTALLATION REQUIRED.
- THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR INSTALLATION OF SERVICES BEYOND PRESSURE TEST LIMITS AS SPECIFIED BY THE DEPARTMENT.
- THREADED AREAS OF CORROSION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE.
- METER BOXES IN NON-GRASS AREAS SHALL HAVE TRAFFIC RATED LIDS.
- A 12" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED FOR METER BOXES OUTSIDE OF GRASS AREA. THE BASE SHALL EXTEND MINIMUM 12" BEYOND THE METER BOX PERIMETER.
- STAINLESS STEEL INSERTS ARE REQUIRED FOR ALL COMPRESSION FITTINGS.
- PVC SHALL BE SCHEDULE 40 PIPE WITH SCHEDULE 80 FITTINGS. ALL BRASS FITTINGS SHALL BE "LEAD FREE".

POTABLE WATER SERVICE SINGLE 5/8" x 3/4" METER INSTALLATION DETAIL (POLYETHYLENE)

1W

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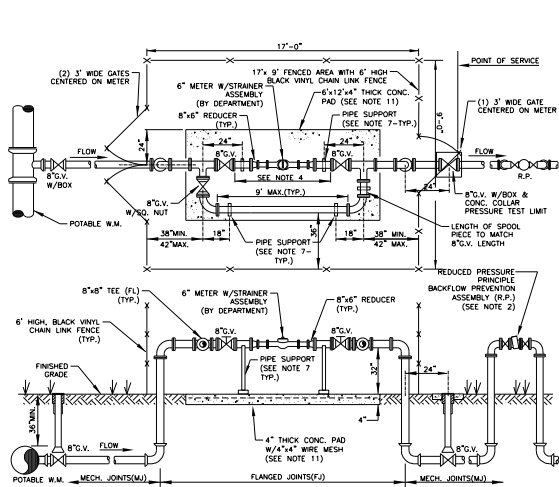
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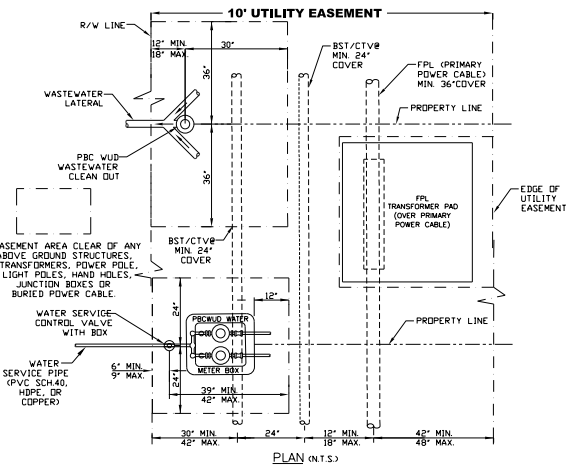
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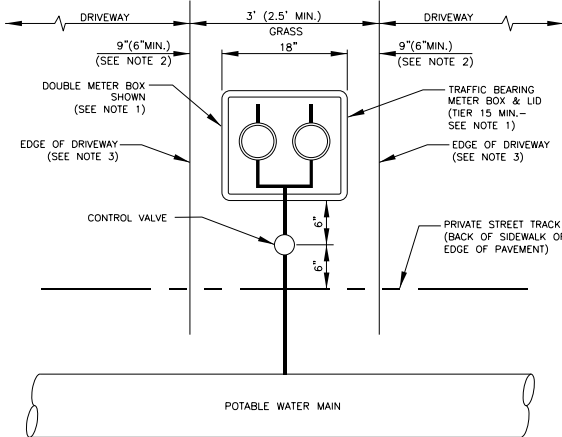
POTABLE WATER
6" METER INSTALLATION

*10W



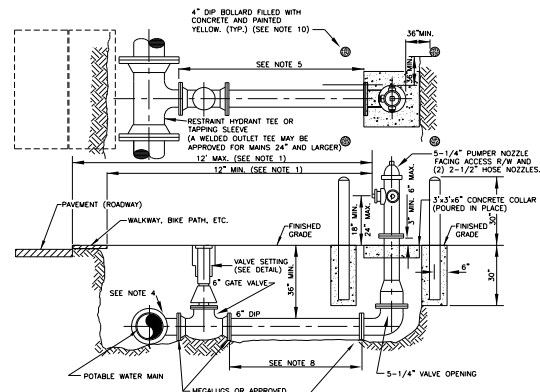
TYPICAL UTILITY INSTALLATION DETAIL IN A
10' UTILITY EASEMENT ADJACENT TO R/W

*11WA



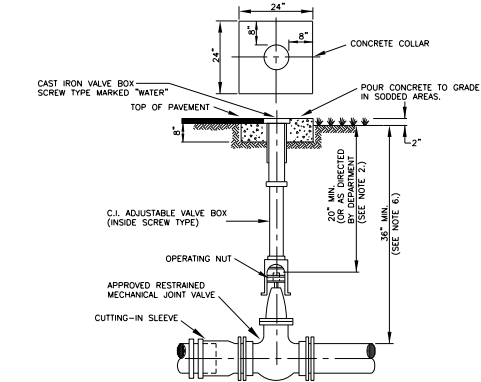
WATER METER BOX
BETWEEN TOWNHOME DRIVEWAYS DETAIL

*11WB



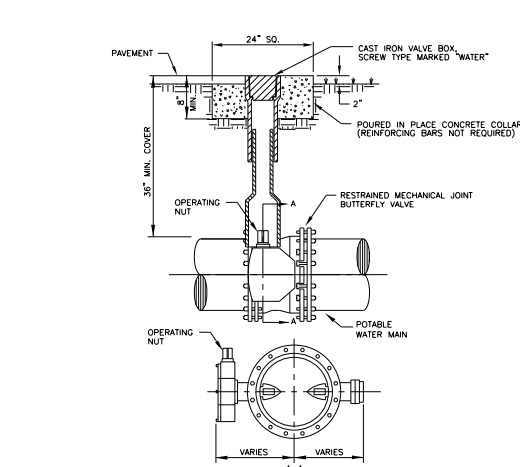
TYPICAL FIRE HYDRANT INSTALLATION WITH
BOLLARDS DETAIL

*12W



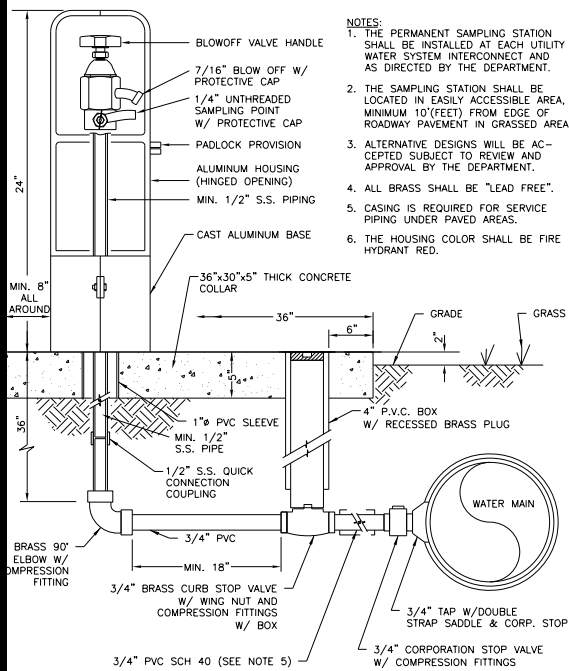
POTABLE WATER MAIN TYPICAL GATE VALVE
SETTING AND MAIN CUT-IN DETAIL

*13W



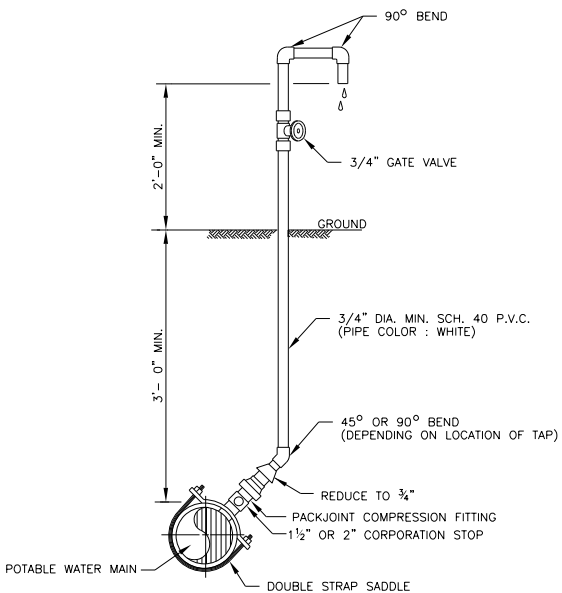
POTABLE WATER MAIN
TYPICAL BUTTERFLY VALVE SETTING

*14W



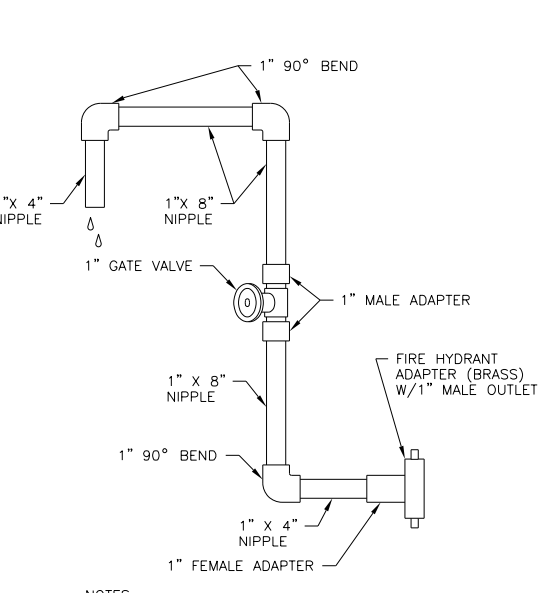
PERMANENT SAMPLING POINT

*15W



POTABLE WATER MAIN TEMPORARY SAMPLING POINT

*16W



POTABLE WATER MAIN FIRE HYDRANT SAMPLING POINT

*17W

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POTABLE WATER #2
STANDARD DETAILS

CONSULTANT:
MASSE CONSULTING SERVICES, LLC
2101 VISTA PARKWAY, SUITE 277
WEST PALM BEACH, FLORIDA 33411
PH. (561) 568-3197
www.masseconsultingfirm.com

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UTILITIES NOTIFICATION CENTER

DESIGNED BY: WUD
DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD
Palm Beach County
Water Utilities Department
P.O. Box 16097
West Palm Beach, FL 33416-6097

WUD PROJECT NO.
24-019

LYONS ROAD AND BOYNTON BEACH BLVD INTERSECTION IMPROVEMENTS
(PBC/WUD WM, FM, & RCWM UTILITY RELOCATION)



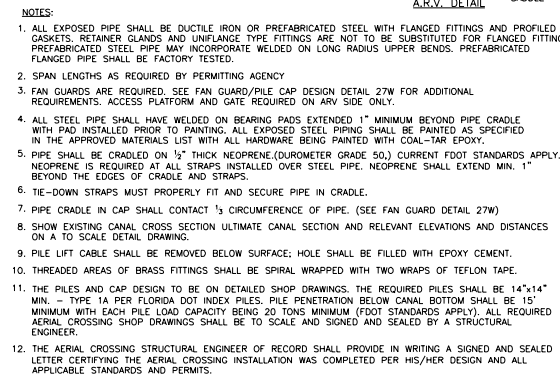
PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561) 493-6000

NO.	DATE	REVISION / REMARKS
1	JUNE 2019	J.L.
2	JAN 2023	J.L.

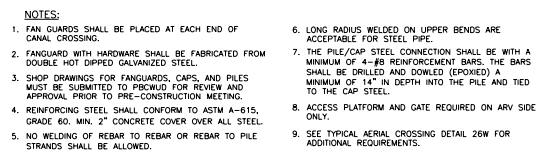
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DETAILS

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UT-13
OF
UT-17

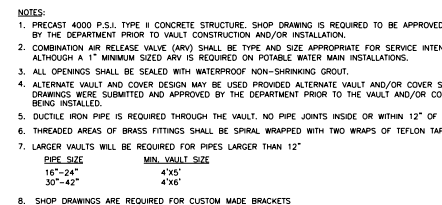
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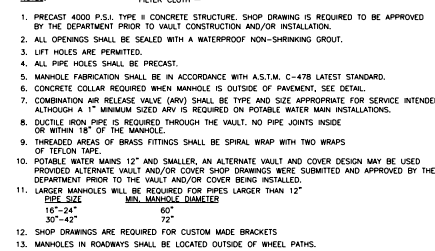
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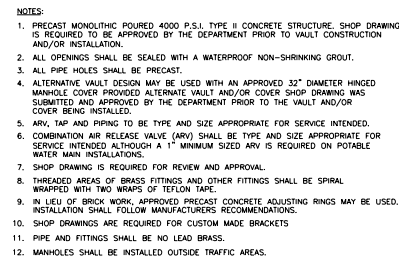
* 27W



28W



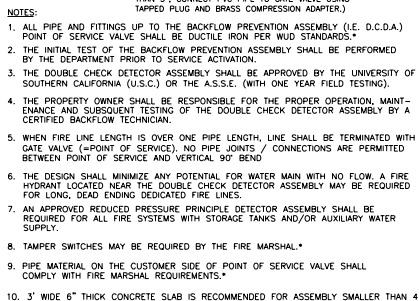
29W



30W

FORMULA BASIS: $L = \frac{(S) \times (D) \times (P)^{1/2}}{148,000} \times 1/2$

L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
 S = LENGTH OF PIPE TESTED (FEET)
 D = DIAMETER OF PIPE (INCHES)
 P = TEST PRESSURE (P.S.I.)



DOUBLE CHECK DETECTOR ASSEMBLY

1. ENSURE PROPER RESTRAINT OF EXISTING VALVE AND EXISTING PIPE PRIOR TO NEW PIPE CONNECTION.
2. ENSURE PROPER OPERATION OF EXISTING VALVE.
3. INSTALL BY-PASS PUMPING AS SHOWN. A NEARBY HYDRAULIC SERVICE TAP MAY BE USED AS A WATER SOURCE FOR DISINFECTION.
4. LEGGING BY-PASS AND CHARGING INJECTION PUMP, DISCONNECT NEW WATER MAIN (MAY SO CHLORINE PUMP IS REQUIRED FOR DISINFECTION).
5. COMPLETE FILLING OF THE NEW WATER MAIN AND PERFORM BACTERIOLOGICAL TESTING.
6. REMOVE EXISTING BLOW OFF (IF APPLICABLE) AND EXISTING PLUG. CONNECT NEW WATER MAIN (EXISTING PRESENCE IS REQUIRED).
7. CRACK OPEN EXISTING FLOW VALVE AFTER DISINTEGRATION AND FLUSH THE NEW WATER MAIN (EXISTING PRESENCE IS REQUIRED).
8. REMOVE BY-PASS PUMPING, CAP CORPORATION STOPS WITH BRASS CAPS.
9. PRESSURE TESTING IS REQUIRED AFTER SUCCESSFUL COMPLETION OF BACTERIOLOGICAL TESTING AND HEALTH DEPARTMENT RELEASE FOR "CONTINUATION WATER MAIN CONSTRUCTION" PROJECT. TEST TO BE PERFORMED AFTER BACKFILL ROAD BEDS AND ROAD ROCK BEDS INSTALLATION/COMPLETION.
10. AN ALTERNATIVE TIE-IN PROCEDURE (PRESSURE TESTING) PRIOR TO BACTERIOLOGICAL TESTING MAY BE CONSIDERED WITH PRIOR APPROVAL. (SEE SEPARATE SCHEDULE).
11. RECORD DRAWINGS TO SHOW DATA FOR ALL TEST TAPS.
12. ALL BRASS SHALL BE "LEAD FREE".

STANDARD POTABLE WATER MAIN TIE-IN

NOTES:

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
SOIL TYPE-SAND TEST PRESSURE-150 PSI/200 PSI DEPTH OF BURIAL-5'
TRENCH TYPE-3 SAFETY FACTOR-1.5 VERTICAL OFFSET-3"
MINIMUM PIPE LENGTH ALONG TIE RUN-5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENCHES SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.
5. MULTIPLY PIPE LENGTH BY 1.4 FOR POLYETHYLENE ENCASED PIPE.
6. RESTRAINED PIPE LENGTHS EQUAL TO AN "INLINE VALVE" CONDITION ARE REQUIRED AT EACH END OF A TIE RUN FROM HOLE PIPE TO OTHER BENCHES.
7. THE DESIGN ENGINEER IS RESPONSIBLE TO PROPERLY SIZE THE RESTRAINT PIPE LENGTHS FOR THE PROJECT.

MECHANICAL THRUST RESTRAINT MINIMUM PIPE LENGTHS

PRESSURE PIPE NOTES

1. THERE SHALL BE 36" MINIMUM COVER FROM FINISHED GRADE TO TOP OF PIPE.
2. DUCTILE IRON PIPE (DIP) THICKNESS SHALL CONFORM TO THE DEPARTMENT'S APPROVED MATERIAL LIST. POTABLE WATER AND RECLAIMED WATER MAINS DIP SHALL BE CEMENT LINER (C/L) OR CEMENT LINER (C/L) LINED.
3. PVC PRESSURE PIPE SHALL BE C-900, SDR=18, 150 PSI.
4. ALL FITTINGS SHALL BE DUCTILE IRON WITH MECHANICAL JOINTS AND CEMENT OR APPROVED EXPOS. LINING.
5. POTABLE WATER, RECLAIMED WATER AND WASTEWATER FORCE MAIN VALVES 10 LARGER THAN 12" SHALL BE RESILIENT SEAT GATE VALVES. TWELVE-INCH (12") OR SMALLER FORCE MAIN VALVES SHALL BE RESILIENT SEAT GATE VALVES OR ECCENTRIC PLUG VALVES (IF APPROVED IN ADVANCE BY DEPARTMENT). POTABLE WATER AND RECLAIMED WATER VALVES SHALL BE 150 PSI RATED.
6. ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, COUNTY AND HEALTH DEPARTMENT REGULATIONS.

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POTABLE WATER #4 STANDARD DETAILS

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UTILITIES NOTIFICATION CENTER

DRAWN BY: M. BUC

CHECKED BY: J. LAMM

APPROVED BY: _____ WUC

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416-6097

WUD PROJECT NO.
24-019

LYONS ROAD AND BOYNTON BEACH BLVD INTERSECTION IMPROVEMENTS
(PBCWUD WM, PM, & RCTM UTILITY RELOCATION)



**PALM BEACH COUNTY
SEWER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561) 493-6000**

NO.	DATE	REVISION / REMARKS		BY
		GENERAL	REVISION	
	JUNE 2019		GENERAL REVISION	J.L.
*	JAN 2023		GENERAL REVISION	J.L.

STD
DETAILS

SHEET

LIT 1E

OF

UT-17

SEAL

POTABLE WATER MAIN PRESSURE TEST CRITERIA

31W

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32W

STANDARD POTABLE WATER MAIN TIE-IN

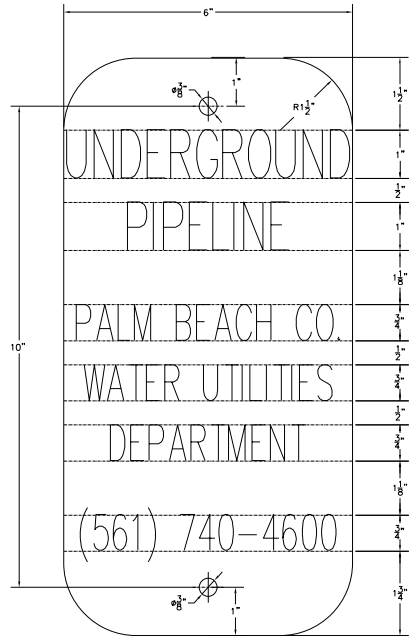
33W

MECHANICAL THRUST RESTRAINT MINIMUM PIPE LENGTHS

34W

PRESSURE PIPE NOTES

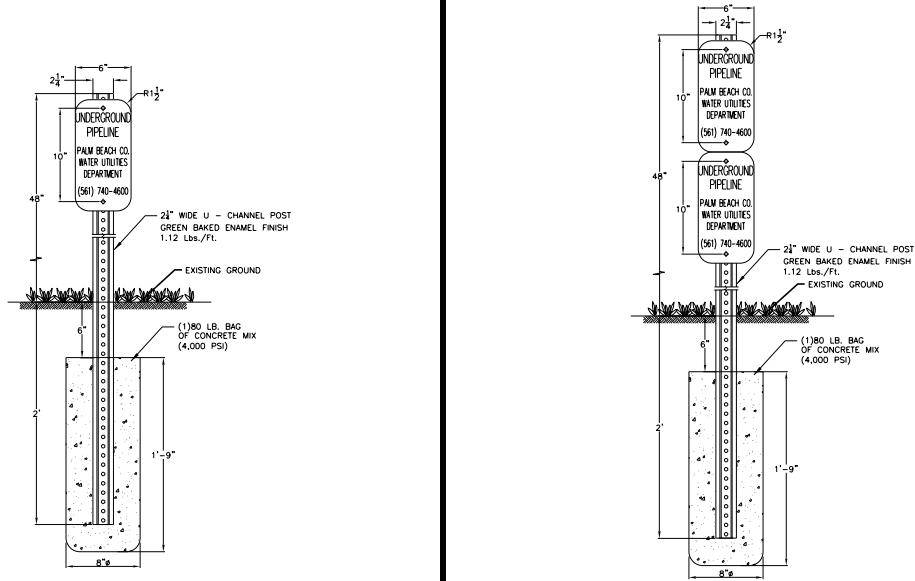
1. THERE SHALL BE 36" MINIMUM COVER FROM FINISHED GRADE TO TOP OF PIPE.
2. DUCTILE IRON PIPE (DIP) THICKNESS SHALL CONFORM TO THE DEPARTMENT'S APPROVED MATERIAL LIST. POTABLE WATER AND RECLAIMED WATER MAINS DIP SHALL BE CEMENT LINER OR POLYURETHANE LINER (PUL).
3. PVC PRESSURE PIPE SHALL BE C-900, SDR=18, 150 PSI.
4. ALL FITTINGS SHALL BE DUCTILE IRON WITH MECHANICAL JOINTS AND CEMENT OR APPROVED EXPOS. LINING.
5. POTABLE WATER, RECLAIMED WATER AND WASTEWATER FORCE MAIN VALVES 10 INCHES AND LARGER SHALL BE RESILIENT SEAT GATE VALVES. TWELVE-INCH (12") OR LARGER FORCE MAIN VALVES SHALL BE RESILIENT SEAT GATE VALVES OR ECCENTRIC PLUG VALVES (IF APPROVED IN ADVANCE BY DEPARTMENT). POTABLE WATER AND RECLAIMED WATER VALVES SHALL BE BALL VALVES.
6. ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, COUNTY AND HEALTH DEPARTMENT REGULATIONS.



NOTE:
SIGN SHALL BE 6" WIDE X 12" LONG, ALUMINUM (0.080 GA.). SIGN COLOR IS WHITE WITH BLACK LETTERING. ROUNDED CORNERS (1.5" RAD.), 2 HOLES (3/8" DIA.), 10" O.C.

UNDERGROUND PIPELINE SIGN DETAIL

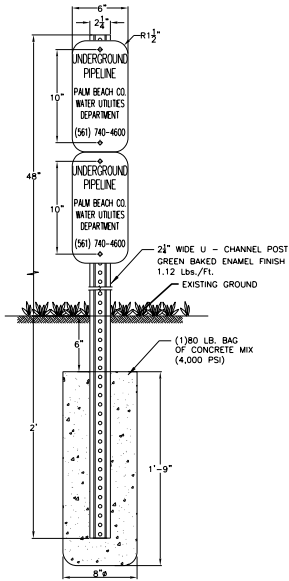
35W



NOTE:
SIGNS SHALL BE 6" WIDE X 12" LONG, ALUMINUM (0.080 GA.). SIGN COLOR IS WHITE WITH BLACK LETTERING. ROUNDED CORNERS (1.5" RAD.), 2 HOLES (3/8" DIA.), 10" O.C.

SINGLE UNDERGROUND PIPELINE SIGN DETAIL

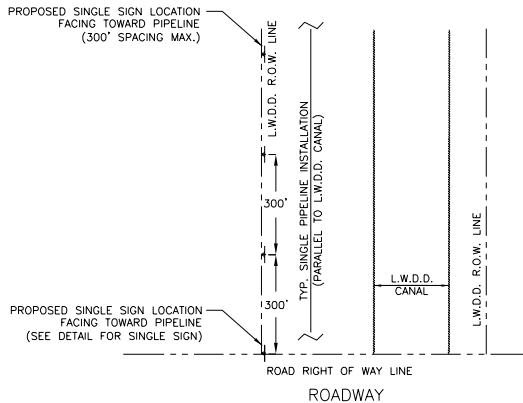
36W



NOTES:
1. SIGNS SHALL BE 6" WIDE X 12" LONG, ALUMINUM (0.080 GA.). SIGN COLOR IS WHITE WITH BLACK LETTERING. ROUNDED CORNERS (1.5" RAD.), 2 HOLES (3/8" DIA.), 10" O.C.
2. THE DUAL UNDERGROUND PIPELINE SIGN SHALL BE UTILIZED FOR TWO UNDERGROUND PIPELINES WITHIN THE L.W.D.D. RIGHT-OF-WAY.

DUAL UNDERGROUND PIPELINE SIGN DETAIL

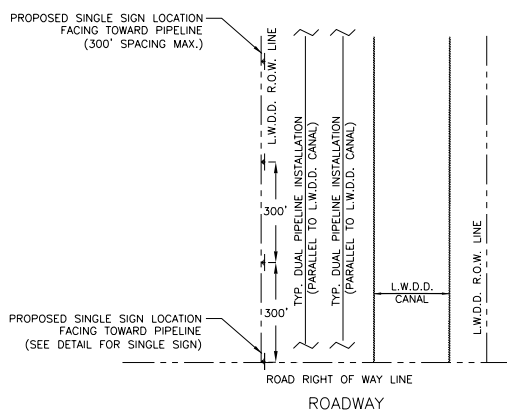
37W



NOTE:
1. UNDERGROUND PIPELINE WARNING SIGNS ARE TO BE PLACED AT THE POINT IN WHICH THE LINE INGRESSES AND EGRESSES THE L.W.D.D. RIGHT-OF-WAY.
2. SIGN SPACING IS TO BE A MAXIMUM OF 300' ALONG THE L.W.D.D. RIGHT-OF-WAY, AS CLOSE AS POSSIBLE TO THE L.W.D.D. RIGHT-OF-WAY.

L.W.D.D. - SINGLE PIPE PARALLEL INSTALLATION UNDERGROUND PIPELINE SIGN INSTALLATION DETAIL

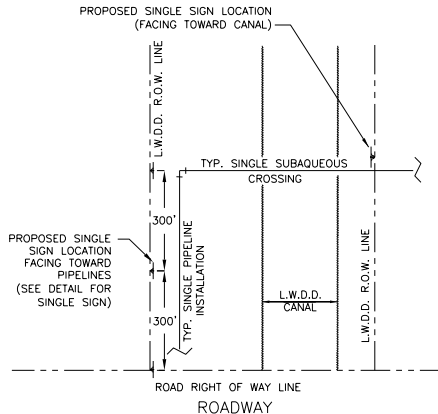
38W



NOTE:
1. UNDERGROUND PIPELINE WARNING SIGNS ARE TO BE PLACED AT THE POINT IN WHICH THE LINE INGRESSES AND EGRESSES THE L.W.D.D. RIGHT-OF-WAY.
2. SIGN SPACING IS TO BE A MAXIMUM OF 300' ALONG THE L.W.D.D. RIGHT-OF-WAY, AS CLOSE AS POSSIBLE TO THE L.W.D.D. RIGHT-OF-WAY.

L.W.D.D. - DUAL PIPE PARALLEL INSTALLATION UNDERGROUND PIPELINE SIGN INSTALLATION DETAIL

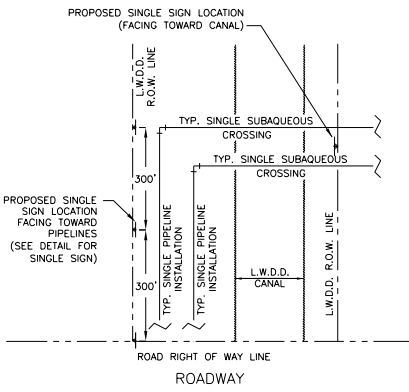
39W



NOTE:
1. UNDERGROUND PIPELINE WARNING SIGNS ARE TO BE PLACED ON BOTH SIDES OF THE CANAL CROSSING, AT THE INSIDE EDGE OF THE RIGHT-OF-WAY.
2. SIGN POST IS NOT TO BE PLACED DIRECTLY OVER PIPELINE. OFFSET SIGN POST 5' FROM PIPELINE.

L.W.D.D. - SINGLE PIPE SUBAQUEOUS CROSSING UNDERGROUND PIPELINE SIGN INSTALLATION DETAIL

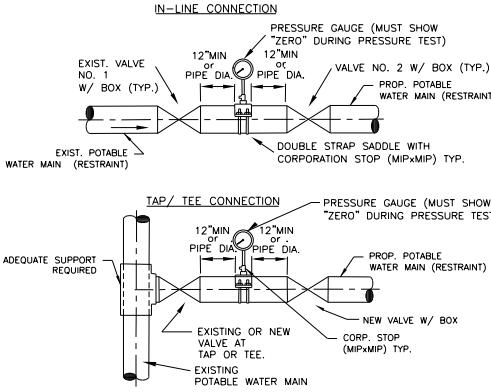
40W



NOTE:
1. UNDERGROUND PIPELINE WARNING SIGNS ARE TO BE PLACED ON BOTH SIDES OF THE CANAL CROSSING, AT THE INSIDE EDGE OF THE RIGHT-OF-WAY.
2. SIGN POST IS NOT TO BE PLACED DIRECTLY OVER PIPELINE. OFFSET SIGN POST 5' FROM PIPELINE.

L.W.D.D. - DUAL PIPE SUBAQUEOUS CROSSING UNDERGROUND PIPELINE SIGN INSTALLATION DETAIL

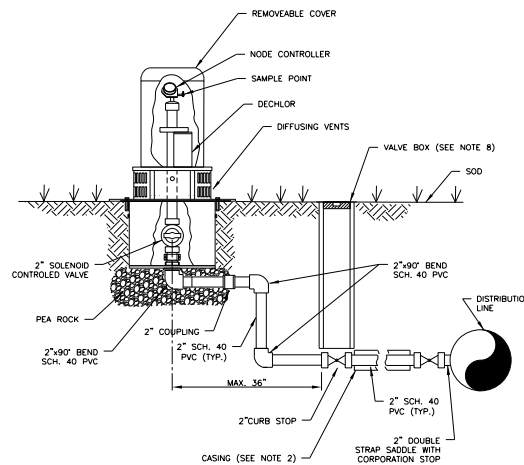
41W



NOTES:
1. THE "ALTERNATIVE" PROCEDURE MUST BE APPROVED BY WUD IN ADVANCE. IT ALLOWS THE NEW PIPE TO BE PRESSURE TESTED PRIOR TO BACTERIOLOGICAL TESTING.
2. BOTH VALVES SHALL BE KEPT CLOSED EXCEPT FOR FILLING AND FLUSHING.
3. WUD SHALL BE NOTIFIED BEFORE FILLING AND FLUSHING.
4. PRESSURE TEST PUMP MAY BE CONNECTED TO SERVICE LINE, FIRE HYDRANT OR BLOWOFF IN THE TESTED WATER MAIN. NO EXTRA TAPS ARE PERMITTED UNLESS UNAVOIDABLE.
5. GAUGE AND RISER TO BE REMOVED AFTER PRESSURE TEST. HOLE TO BE PLUGGED AT SADDLE WITH BRASS PLUG. A BRASS CAP IS REQUIRED.
6. THREAD AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
7. ENSURE PROPER RESTRAINT OF EXISTING VALVE(S) AND PIPE PRIOR TO NEW CONNECTION.
8. SEE ALSO DETAIL FOR "STANDARD POTABLE WATER MAIN TIE-IN PROCEDURE"
9. RECORD DRAWINGS TO SHOW DATA FOR ALL TEST TAPS.
10. ALL BRASS SHALL BE "LEAD FREE".

ALTERNATIVE WATER MAIN TIE-IN

42W



NOTES:
1. AUTOMATIC FLUSHING ASSEMBLY TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.
2. FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS, USE MIN. 4" DIAMETER BLACK IRON, PVC SCH 40, OR HDPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. CASING TO BE SEALED WITH CEMENT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
3. AUTOMATIC FLUSHING ASSEMBLY TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE WATER MAIN WITHIN AN UTILITY EASEMENT OR ROAD RIGHT-OF-WAY WITH PRIOR DEPARTMENT APPROVAL. IF AUTOMATIC FLUSHING ASSEMBLY HOUSING IS INSTALLED IN ROAD RIGHT-OF-WAY IT SHALL NOT INTERFERE WITH CLEAR ZONE REQUIREMENTS AS SPECIFIED BY ROAD OWNER.
4. BEDDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
5. ALL HARDWARE (I.E. BOLTS, ETC.) REQUIRED FOR ASSEMBLY INSTALLATION SHALL BE 304 STAINLESS STEEL.
6. THREADED AREAS OF CORPORATION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE. ALL BRASS SHALL BE "LEAD FREE".
7. A 4" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED. THE BASE SHALL EXTEND MINIMUM 12" BEYOND AUTOMATIC FLUSHING ASSEMBLY PAD PERIMETER.
8. WHEN VALVE BOX IS LOCATED IN GRASS A CONCRETE COLLAR IS REQUIRED PER DEPARTMENT STANDARDS.

AUTOMATIC FLUSHING ASSEMBLY (TYPE A)

43W

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POTABLE WATER #5
STANDARD DETAILS

CONSULTANT:
MASSE CONSULTING SERVICES, LLC
2101 VISTA PARKWAY, SUITE 277
WEST PALM BEACH, FLORIDA 33411
PH. (561) 568-3197
www.masseconsultingfirm.com

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DRAWN BY: M. BUCKNER
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APPROVED BY: WUD
Palm Beach County
Water Utilities Department
P.O. Box 16097
West Palm Beach, FL 33416-6097

WUD PROJECT NO.
24-019

LYONS ROAD AND BOYNTON BEACH BLVD INTERSECTION IMPROVEMENTS
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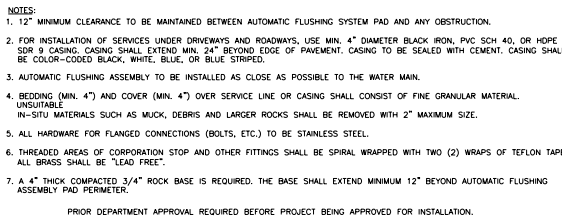
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WEST PALM BEACH, FL 33416
(561) 483-6000

NO.	DATE	REVISION / REMARKS
1	JUNE 2019	GENERAL REVISION
2	JAN 2023	GENERAL REVISION

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DETAILS

SHEET
NUMBER
UT-16
OF
UT-17

SEAL



44W



1. RIP-RAP RUBBLE AND ITS INSTALLATION MUST MEET CANAL OWNERSHIP SPECIFICATIONS AND PERMITTING REQUIREMENTS.
2. DUMP RUBBLE IN PLACE FORMING A COMPACT LAYER CONFORMING TO THE CANAL DESIGN SECTION SLOPE. ENSURE THAT RUBBLE DOES NOT SEGREGATE SO THAT SMALLER PIECES EVENLY FILL THE VOIDS BETWEEN LARGER PIECES.
3. AN ALTERNATIVE DESIGN WILL BE CONSIDERED AND MUST RECEIVE PRIOR APPROVAL FROM THE CANAL PROPERTY OWNER.

RIP-RAP RUBBLE DETAIL



3. THE TREE SHALL BE MAINTAINED IN ACCORDANCE WITH THE CITY OF LOS ANGELES TREES AND UNDERGROUND UTILITIES, IN ANY CASE THE TREE SHALL BE LOCATED IN THE FIELD IN SPACING WITH THE EXISTING SHEDS.
4. TREES ARE TO BE INSTALLED WITH A TEN FOOT (10') SEPARATION FROM ANY WATER OR SEWER MAIN AND/OR SERVICE LINES, AND LEFT STANDING; IF A TEN FOOT (10') SEPARATION CANNOT BE ACHIEVED, THE TREE CAN BE INSTALLED USING A PROTECTIVE SYSTEM, HOWEVER, IN NO CASE SHALL THE TREE ENCRUST INTO A PILEUP WITHOUT PRIOR DEPARTMENT APPROVAL.
5. ONLY SOO CAN BE INSTALLED WITHIN 7.5' MINIMUM OF A FIRE HYDRANT UNLESS OTHERWISE APPROVED BY THE FIRE DEPARTMENT.
6. SOO ONLY SHALL BE INSTALLED WITHIN 5.0' MINIMUM OF ANY DEPARTMENT WATER METER.
7. WHEN INSTALLING A SOLID ROOT BARRIER PANEL SYSTEM THE PANEL RIBS MUST FACE THE TREE ROOT BALL &

LANDSCAPE AND ROOT BARRIER DETAIL



1. SHOP DRAWING FOR THE METER ASSEMBLY PIPE SUPPORT IS REQUIRED TO BE SUBMITTED FOR APPROVAL BY THE DEPARTMENT PRIOR TO THE PIPE SUPPORT BEING CONSTRUCTED AND/OR INSTALLED. ALL PIPE SUPPORTS FOR EACH METER ASSEMBLY INSTALLATION SHALL BE THE SAME.
2. ALL PIPE SUPPORT MATERIALS AND MOUNTING HARDWARE ARE REQUIRED TO BE 304 STAINLESS STEEL.
3. THE REQUIRED WEDGE ANCHORS FOR EACH SUPPORT SHALL BE 3/8" DIAMETER WITH NOMINAL EMBEDMENT OF 2-3/8". EACH ANCHOR SHALL HAVE A WASHER, LOCK WASHER, AND NUT.

ABOVE GROUND WATER METER INSTALLATION
PIPE SUPPORT



1. STEEL CASING PER WUD STANDARD DETAIL 22W (SOLID CASING) OR WUD STANDARD DETAIL 22AW (SPLIT CASING) AS APPLICABLE.
2. STEEL CASING SHALL EXTEND TEN (10) FEET MINIMUM PAST FENCE OR WALL. FIVE (5) FEET MINIMUM MAY BE ACCEPTABLE ON A CASE-BY-CASE BASIS DUE TO SITE CONDITIONS AND ONLY WITH PRIOR DEPARTMENT APPROVAL.
3. STEEL CASING SHALL EXTEND THREE (3) FEET MINIMUM PAST THE TOE OF THE BERM. IF BERM IS NOT PRESENT, STEEL CASING SHALL EXTEND THREE (3) FEET MINIMUM PAST THE TOE OF THE BERM OR TEN (10) FEET MINIMUM PAST THE WALL OR FENCE WHICH EVER IS GREATER.
4. STEEL CASING INSTALLATION REQUIRED WHEN A BERM IS TWO (2) FEET OR HIGHER ABOVE SURROUNDING GRADE.
5. TOP OF STEEL CASING SHALL BE THREE (3) FEET MINIMUM BELOW THE TOE OF THE BERM OR BASE OF WALL OR FENCE ELEVATION WHICHEVER IS LOWER.

POTABLE WATER MAIN CROSSING
FENCE, WALL, OR BERM CASING DETAIL*



WUD MAIN SIZE	DIAMETER OF STEEL CASING SIZE	OPENING SIZE FOR SOLID CASING	OPENING SIZE FOR SPLIT CASING
6"	14"	18"	20"
8"	20"	24"	26"
10"	20"	24"	26"
12"	24"	28"	30"

- NOTES:**
1. THE CONFLICT STRUCTURE IS TO BE DESIGNED PER CURRENT FDOT UTILITY CONFLICT THRU DRAINAGE STRUCTURE STANDARDS.
 2. A SHOP DRAWING TO SCALE FOR EACH CONFLICT STRUCTURE INSTALLATION IS REQUIRED TO BE APPROVED BY THE DISTRICT ENGINEER PRIOR TO CONSTRUCTION.
 3. STEEL CASING SHALL BE WUD STANDARD DIAL 22W (SOLID CASING) OR WUD STANDARD DIAL 22AW (SPLIT CASING) FOR EXISTING WATER MAIN ONLY.
 4. STEEL CASING SHALL BE THREE (3) FEET PAST EACH SIDE OF STRUCTURE. CASING CAN EXTEND THRU PAST STRUCTURE WHEN EXISTING CONDITIONS WARRANT AND ONLY WITH PRIOR DISTRICT APPROVAL.
 5. STEEL CASING SHALL BE GROUTED IN PLACE WITH NON-SHRINKABLE CEMENT GROUT TO PROVIDE A WATERPROOF SEAL TO PREVENT ANY LEAKAGE IN THE STRUCTURE.
 6. NON-SHRINKABLE CEMENT GROUT IS TO BE INSTALLED AT EACH END OF CASING TO OBTAIN WATERPROOF SEAL.

POTABLE WATER MAIN CONFLICT STRUCTURE DETAIL*

* 49W

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POTABLE WATER #6 STANDARD DETAILS

CONSULTANT:

MASSE CONSULTING SERVICES, LLC
2101 VISTA PARKWAY, SUITE 277
WEST PALM BEACH, FLORIDA 33411
PH. (561) 568-3197
www.masseconsultingfirm.com

IT'S THE LAW! 
CALL 48 HOURS BEFORE YOU DIG
1-800-432-4770
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
UTILITIES NOTIFICATION CENTER

DESIGNED BY: WUD

DRAWN BY:	M. BUCKNER	Palm Beach County
CHECKED BY:	J. LAMMERT	Water Utilities Department
APPROVED BY:	WUD	P.O.Box 16097
		West Palm Beach, FL 33411

APPROVED BY: WUD P.O.Box 16097
West Palm Beach, FL 33416-6097

WUD PROJECT No.

24-019

LYONS ROAD AND BOYNTON BEACH BLVD INTERSECTION IMPROVEMENTS
(PBCWUD WM, FM, & RCWM UTILITY RELOCATION)



**PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000**

NO.	DATE	REVISION / REMARKS		BY
		GENERAL	REVISION	
*	JUNE 2019	GENERAL	REVISION	J.L.
	JAN 2023	GENERAL	REVISION	J.L.

STD DETAILS

SHEET
NUMBER
UT-17
OF
UT-17

SEAL