


PROJECT REFERENCE NO.		SHEET NO.	
U-4405		UC-3B	
DESIGNED BY:	AMH		6/12/2018
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UTILITY CONSTRUCTION

UC-10 UTILITY NOTES:

- EXISTING IN LINE VALVE TO FACILITATE SHUTDOWN FOR RECONNECTION OF THE EXISTING WATER MAIN IN ARRAN CIRCLE IS APPROXIMATELY 760 LF FROM PROPOSED RECONNECTION POINT.
- CONTRACTOR SHALL LAY BACK A MINIMUM OF 1 FULL JOINT OF RESTRAINED DUCTILE IRON PIPE.
- FULLY GROUT MIN. 60LF OF 24" EXIST MAIN. PLUG EACH END OF ABANDONED MAIN PER PWC DETAIL W-22
- KILL OUT OF BRANCH SIDE OF TAPPING SLEEVE SHALL BE COORDINATED WITH 24" MAIN SHUTDOWN FOR LAYING BACK NEW 24" MAIN INTO EXIST ALIGNMENT
- REFERENCE UTILITY NOTES ON SHEET UC-8 FOR SEQUENCE OF WL-10 AND ABANDONMENT OF EXISTING 24" MAIN.
- WL-13 UP TO PROPOSED IN LINE VALVE NEAR STATION -WL-13- STA 24+00 AND THE EXISTING CROSS-LINE THAT SERVES OAK FOREST DRIVE SHALL BE INSTALLED AND IN OPERATION PRIOR TO RECONNECTING TO THE EXISTING 12" IN BUNCE ROAD. ADHERE TO PROVISIONS FOR OPEN CUTTING PAVEMENT AND WORKING WITHIN TRAFFIC TO RECONNECT PROPOSED 12" MAIN TO EXISTING MAIN. EXISTING MAIN AT POINT OF CONNECTION IS RESTRAINED. CONNECT TO EXISTING RESTRAINED JOINT PIPE WITH FULL BODY MJ x MJ SLEEVE AND RESTRAINING GLANDS.
- CONNECT WL-13 TO EXISTING MAIN UNDER SERVICE INTERRUPTION. ADHERE TO PWC'S PROCEDURES FOR SHUTDOWN. EXISTING VALVES EV-20, BRANCH VALVE AT EV-21, EXISTING IN LINE VALVE AT EV-21A, NEW TAPPING VALVE ON WL-12 THAT LOOPED TO EXISTING MAIN (SEE PREVIOUS SHEET) TO FACILITATE SHUTDOWN. SHUTDOWN SHALL BE PERFORMED BETWEEN 11:00 P.M. AND 5:00 A.M. SERVICE SHALL BE RESTORED TO EXISTING 12" MAIN TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS BETWEEN 1103 BUNCE RD AND 1165 BUNCE RD.
- AFTER RECONNECTION, ABANDON CROSS-OVER LINE FROM WL-12 TO EXISTING WATER MAIN. SEE PREVIOUS SHEET AND KILL OUT EXISTING 12" MAIN AT VALVE EV-20.
- TEMPORARY SHORING IF REQUIRED FOR BUILDING FOUNDATION PROTECTION OR MAINTENANCE OF TRAFFIC WILL BE PAID AS TEMPORARY SHORING IN SQUARE FEET BELOW GROUND SURFACE

UC-11 UTILITY NOTES:

- FULLY GROUT MIN. 60 LF OF 24" EXIST. MAIN. PLUG EACH END OF ABANDONED MAIN PER PWC DETAIL W-22.
- KILL OUT OF LINE SIDE OF TAPPING SLEEVE SHALL BE COORDINATED WITH 24" MAIN SHUTDOWN FOR LAYING BACK NEW 24" MAIN INTO EXISTING ALIGNMENT (SEE SHEET UC-13).
- INSTALL AND HAVE OPERATIONAL THE FOLLOWING SEGMENTS: WL-14 TO LAST IN LINE VALVE, WL-15, WL-17 AND CROSS LINES AT BINGHAM DRIVE, REVERE STREET AND WILDWOOD DRIVE. RECONNECT ALL METERS TO WL-14 AND WL-17. SEE ADDITIONAL SEQUENCING FOR WL-15 ON SHEET UC-12 AND WL-17 ON SHEET UC-13 AND UC-14.
- KILL OUT OF LINE SIDE OF TAPPING SLEEVE FOR WL-14 SHALL BE COORDINATED WITH CUT IN CONSTRUCTION (SLEEVE IN) OF WL-14 TO EXISTING 24" MAIN (SEE SHEET UC-13). KILL OUT SHALL BE PERFORMED UNDER PLANNED SHUTDOWN OF EXISTING 24" MAIN AND SHALL BE PERFORMED BETWEEN 6:00 P.M. AND 9:00 A.M. ON SUNDAY. EXISTING 4" MAIN SHALL BE BACK IN OPERATION SO WATER SERVICE TO PARCELS 107, 112, 113 AND 115 ARE NOT IMPACTED DURING NORMAL BUSINESS HOURS. ADHERE TO PWC'S PROCEDURES FOR SHUTDOWN. EXISTING VALVES EV-22, EV-28, EV-31 AND EV-28A SHALL FACILITATE SHUTDOWN. AFTER COMPLETION OF KILLOUTS AND CUT IN CONSTRUCTION, RESUME OPERATION OF EXISTING 24" WATER MAIN BY RE-OPENING EV-22 AND EV-31.
- RECONNECTION OF EXISTING 24" MAIN ON BINGHAM DRIVE SHALL BE BY PLANNED SHUTDOWN. EXISTING VALVES TO FACILITATE SHUTDOWN INCLUDE EV-23A AND EV-23B. LAY BACK 20 LF OF RESTRAINED JOINT DUCTILE IRON PIPE AND RECONNECT TO EXISTING MAIN USING FULL BODY MJ SLEEVE WITH RESTRAINING GLANDS. RECONNECTION SHALL BE PERFORMED BETWEEN 6:00 P.M. AND 6:00 A.M. ONLY ON A WEEKNIGHT.

UC-12 UTILITY NOTES:

- CONNECTION OF WL-15 TO EXISTING WATER MAIN SHALL BE UNDER PLANNED SHUTDOWN. EXISTING VALVE EV-28 AND EV-28A SHALL FACILITATE SERVICE INTERRUPTION. REMOVE PLUG AND CONNECT TO EXISTING MAIN USING FULL BODY MJ SLEEVE AND RESTRAINING GLANDS. WL-15 SHALL BE INSTALLED AND OPERATIONAL TO MAINTAIN SERVICE TO THE NORTH SIDE AND FACILITATE KILL OUT OF THE 24" MAIN ON THE SOUTH SIDE.
- PURSUANT TO TRAFFIC CONTROL REQUIREMENTS, NO WORK ON THE SOUTH SIDE SHALL BE IN PROGRESS WHILE INSTALLING WL-15 AND CONNECTING IT TO THE EXISTING ON THE NORTH SIDE. CONTRACTOR SHALL NOT BE PERFORMING WATER MAIN INSTALLATION LONGITUDINALLY TO THE ROAD ON BOTH SIDES.
- TEMPORARY SHORING IF REQUIRED FOR BUILDING FOUNDATION PROTECTION OR MAINTENANCE OF TRAFFIC WILL BE PAID AS TEMPORARY SHORING IN SQUARE FEET BELOW GROUND SURFACE

UC-13 UTILITY NOTES:

- INSTALL WL-14 AND HAVE IT OPERATIONAL TO LAST IN LINE VALVE. ALL EXISTING METERS THAT OVERLAP THESE RELOCATION SEGMENTS SHALL BE SWITCHED OVER TO THESE NEW SEGMENTS. ALL CROSS-LINES FOR WL-14 SHALL BE FULLY RESTRAINED THROUGH BRANCH VALVES. BINGHAM DRIVE, WL-15, WL-15A AND WILDWOOD DRIVE RECONNECTIONS SHALL BE COMPLETED AND OPERATIONAL CONCURRENT WITH WL-14 INSTALLATION. EXISTING BRANCH VALVES FOR THESE CROSS LINES SHALL BE PERMANENTLY CLOSED AND PROPERLY ABANDONED. SEE UTILITY NOTES ON UC-12 FOR ADDITIONAL SEQUENCING PROVISIONS FOR WL-15 THAT SHALL BE PERFORMED BEFORE SHUTDOWN FOR WL-14.
 - PRIOR TO SHUTTING DOWN 24" MAIN TO FACILITATE KILL OUT OF EXISTING 24" MAIN AT WL-14 TAPPING SLEEVE AND CUT IN CONSTRUCTION FOR WL-14 TIE BACK TO EXISTING 24" MAIN, INSTALL WL-16 AND HAVE IT OPERATIONAL. RECONNECT ALL SERVICES TO WL-16. SEE UC-13 FOR ADDITIONAL SEQUENCING PROVISIONS FOR WL-16 THAT SHALL BE PERFORMED BEFORE SHUTDOWN FOR WL-14.
 - BORE AND JACK FOR WL-15A SHALL BE INSTALLED AHEAD OF WL-14 SO BORE PIT WILL NOT BE IN CONFLICT WITH WL-14. BORE INSTALLATION IS ANTICIPATED TO BE IN CONFLICT WITH EXISTING SEWER. INSTALL TEMPORARY DOGHOUSE SSMH FOR RECEIVING SEWAGE BYPASS. READY SEWER BYPASS TO MAINTAIN SEWER SERVICE. UPON COMPLETION OF ENGAGEMENT INSTALLATION AND THREADING OF 2-INCH MAIN, COMPLETE SEWER REPLACEMENT AS SHOWN ON UC-13A WHILE SEWER FLOW IS UNDER BYPASS. SEE ADDITIONAL PROVISIONS ON SHEET UC-13A.
 - PROTECT WORK AREA TO MAINTAIN INGRESS/EGRESS TO BUSINESS AND STORE FRONT PARKING.
 - REMOVE INSITU MATERIAL COMPLETELY FOR 2" WATER MAIN ACROSS PARCEL 140 DUE TO POTENTIAL OF PRIOR CONTAMINATION. MINIMUM TRENCH WIDTH FOR INSITU MATERIAL AND SELECT BACKFILL SHALL BE 2 FEET WIDE BY 4 FEET DEEP.
 - TEMPORARY SHORING IF REQUIRED FOR BUILDING FOUNDATION PROTECTION OR MAINTENANCE OF TRAFFIC WILL BE PAID AS TEMPORARY SHORING IN SQUARE FEET
- METER RECONNECTION NOTES FOR PARCEL NO. 136
- PROVIDE 2" TAP WITH 2" CURB STOP AND 2" BLOW OFF ASSEMBLY. 4-1" STD. PWC METER ASSEMBLIES SHALL BE PROVIDED.
 - RECONNECT TO CUSTOMER'S EXIST. 3-1" PVC WATER LATERALS. FIELD COORDIANTE WATER SERVICE PIPING ROUTE.
 - RECONNECT PROPOSED IRRIGATION METER TO CUSTOMERS EXIST. RPZ. FIELD COORDINATE IRRIGATION PIPING TO ENCLOSURE.

UC-13A UTILITY NOTES:

- PLUG EXISTING 8" OPENING IN SSMH AFTER PROPOSED SEWER IS OPERATIONAL.
- PROP. SSMH SHALL BE CUT IN (DOG-HOUSE STYLE). EXISTING LINE FOR TEMPORARY SEWAGE BYPASS. IT SHALL BE OPERATIONAL PRIOR TO INITIATING BORE AND JACK AND SETTING PROPOSED UPSTREAM SSMH. PROP. SSMH SHALL BE ABANDONED AFTER NEW SEWER IS OPERATIONAL AND BYPASS PUMPING CAN BE DISCONTINUED.
- PROP. SSMH SHALL BE 4' DIA. RECONNECT EXISTING DI AT SAME SLOPE USING DI COUPLING RATED FOR SEWER SERVICE.
- CONNECTION TO EXISTING SSMH SHALL BE BY FIELD CORE. CORE SHALL BE NEAT AND EQUIPPED WITH BOOTED CONNECTION.
- LOCATE ELECTRICAL CIRCUITRY TO LIGHTS PRIOR TO SEWER INSTALLATION. ALL CIRCUITRY SHALL BE PROTECTED. ANY DAMAGE SHALL BE REPAIRED AND SHALL MEET LOCAL ELECTRICAL REQUIREMENTS.
- REMOVE INSITU MATERIAL COMPLETELY FOR 2" WATER MAIN ACROSS PARCEL 140 DUE TO POTENTIAL OF PRIOR CONTAMINATION. MINIMUM TRENCH WIDTH FOR INSITU MATERIAL AND SELECT BACKFILL SHALL BE 2 FEET WIDE BY 4 FEET DEEP.
- TEMPORARY SHORING IF REQUIRED FOR BUILDING FOUNDATION PROTECTION OR MAINTENANCE OF TRAFFIC WILL BE PAID AS TEMPORARY SHORING IN SQUARE FEET BELOW GROUND SURFACE
- CONTRACTOR SHALL VERIFY SEWER SERVICE DEPTH AND LOCATION PRIOR TO ORDERING MATERIALS.
- CONTRACTOR SHALL REPLACE EXISTING CLEAN OUT AND SEWER SEVICE LINE AT SAME DEPTH AND SLOPE.
- CONTRACTOR SHALL REMOVE EXISTING CLEAN OUT AND EXISTING SEWER SERVICE TO PROPOSED CLEAN OUT LOCATION. CONTRACTOR SHALL GROUT FILL EXISTING SERVICE CORE IN MANHOLE WITH NON-SHRINK GROUT.

UC-14 UTILITY NOTES:

- CONNECTION OF WL-16 TO EXISTING 8" SHALL BE PERFORMED UNDER PLANNED SERVICE INTERRUPTION. LENGTH OF BURIED PIPE BETWEEN DEAD END PLUG AND EV-33A IS LESS THAN 95 LF FOR BURIAL DEPTH OF 3 FEET. EXISTING VALVE EV-33A, EV-33B AND EXISTING HYDRANT BETWEEN THESE TWO VALVES SHALL FACILITATE SHUTDOWN TO REMOVE EXISTING DEAD END PLUG. INSTALL PROPOSED 8" RJ GATE VALVE AND MINIMUM OF THREE JOINTS OF PROPOSED PIPE. PROPOSED VALVE AND MINIMUM OF THREE JOINTS OF PIPE INSTALLATION SHALL BE PERFORMED DURING NON-BUSINESS HOURS (BETWEEN 10:00 P.M. AND 6:00 A.M.). COORDINATE WITH PWC PROJECT COORDINATOR. EV-33A AND EV-33B SHALL BE TEMPORARILY CLOSED AND EXISTING HYDRANT SHALL BE UTILIZED TO LOWER PRESSURE SO EXISTING 8" PLUG CAN BE SAFELY REMOVED AND CONNECTION CAN BE MADE. REFERENCE PWC DETAIL M.15.
- AFTER INSTALLATION OF 8" RJ GATE VALVE AND MINIMUM OF 60 LF OF PIPE, COORDINATE WITH PWC PROJECT COORDINATOR TO RESTORE OPERATION OF EV-33B. MAINTAIN CLOSURE OF EV-33A UNTIL WATER MAIN LENGTH EXCEEDS 125 LF FROM NEW 8" RJ VALVE. AT THAT POINT, DISINFECT EXISTING MAIN BETWEEN EV-33A AND NEW VALVE AND PERFORM BACTERIOLOGICAL TESTING BEFORE PLACING IT BACK IN OPERATION. UTILIZE EXISTING 2" BLOW ASSEMBLY TO FLUSH EXISTING MAIN. MAINTAIN CLOSURE OF NEW 8" RJ GATE VALVE AND RESUME OPERATION OF EV-33A AND CONTINUE INSTALLATION OF WL-16.
- AFTER EXISTING SEGMENT BETWEEN EV-33A AND NEW VALVE HAS BEEN PLACED BACK IN SERVICE, ABANDON EXISTING 2" TAP AND REMOVED BLOW ASSEMBLY.
- WL-16 SHALL BE IN OPERATION BEFORE CUT IN CONSTRUCTION FOR WL-14. SEE SEQUENCE NOTES ON UC-13.
- ADHERE TO NCDOT TRAFFIC CONTROL PROVISIONS. WL-16 INSTALLATION SHALL BE COORDINATED SO THAT IT IS PERFORMED WHEN LONGITUDINAL WORK ON THE SOUTH SIDE OF RAEFORD ROAD IS NOT OCCURRING.
- COORDINATE WITH PWC'S PROJECT COORDINATOR FOR EXISTING VALVES TO FACILITATE TEMPORARY SHUT DOWN.
- PROP. 8" GATE VALVE SHALL BE CUT IN AND MIN. 40 LF OF 8" PVC PIPE SHALL BE REMOVED AND REPLACED WITH RESTRAINED JOINT DIP AND SLEEVED BACK TO EXISTING PVC. WORK SHALL BE PERFORMED UNDER SERVICE INTERRUPTION. SERVICE INTERRUPTION SHALL BE CONSISTENT WITH PWC'S REQUIREMENTS. THIS WORK SHALL BE PERFORMED AND COMPLETED PRIOR TO BEGINNING WORK ON EXTENSION OF EXISTING 84" CMP AND TRENCHLESS 72" STORM CROSSINGS.
- CUT IN VALVE AND EXISTING 8" VALVE AT 8" CONNECTION TO EXISTING 24" MAIN SHALL BE UTILIZED TO ISOLATE EXISTING 8" FOR DRAINAGE WORK.
- WL-18 SHALL BE INSTALLED AND OPERATIONAL PRIOR TO EXTENDING 84" CULVERTS AND INSTALLING 72". WL-18 WILL BE REQUIRED TO BACK FEED CUSTOMERS WHEN ISOLATING EXISTING 8" MAIN AS DEFINED IN NOTE 3.
- FULLY GROUT MIN. 60 LF OF 24" EXIST. MAIN. PLUG EACH END OF ABANDONED MAIN PER PWC DETAIL W-22.
- KILL OUT OF LINE SIDE OF TAPPING SLEEVE SHALL BE COORDINATED WITH 24" MAIN SHUTDOWN FOR LAYING BACK NEW 24" MAIN INTO EXISTING ALIGNMENT (SEE SHEET UC-14).

UC-15 UTILITY NOTES:

- FULLY GROUT MIN. 60LF OF 24" EXIST MAIN. PLUG EACH END OF ABANDONED MAIN PER PWC DETAIL W-22.
- KILL OUT OF BRANCH LINE SIDE OF TAPPING SLEEVE SHALL BE COORDINATED WITH 24" MAIN SHUTDOWN FOR LAYING BACK NEW 24" MAIN INTO EXIST ALIGNMENT

UC-17 UTILITY NOTES:

- PRIOR TO BEGINNING WORK ON PORTION OF WL-18 BETWEEN EUCALYPTUS AND HOPE MILLS ROAD, CONTRACTOR SHALL COMPLETE FOLLOWING:
 - WL-18 BETWEEN SANDALWOOD AND EUCALYPTUS SHALL BE OPERATIONAL.
 - WL-19 BETWEEN HOPE MILLS ROAD AND CONNECTION TO EXISTING 8" AT FRED ANDERSON SHALL BE OPERATIONAL.
 - TEMPORARY 2" MAIN TO MAINTAIN WATER SERVICES FOR PARCEL 21 SHALL BE OPERATIONAL.
- PARCEL 25 HAS 2-1" METERS AND 6" FIRELINE THAT WILL NEED TO BE REPLACED AND RECONNECTED
- TEMPORARY SHORING IF REQUIRED FOR BUILDING FOUNDATION PROTECTION OR MAINTENANCE OF TRAFFIC WILL BE PAID AS TEMPORARY SHORING IN SQUARE FEET BELOW GROUND SURFACE

UTILITY CONSTRUCTION