



CONDUIT/SERVICE BOX ASSEMBLY

The Contractor shall install a continuous conduit from WL Sta. 10+00.00 to WL Sta. 70+50.00. The conduit shall be CARLON OPTIC-GARD 1-1/4" diameter, SDR 11, PE Pipe or approved equal. The pipe shall be ribbed/smooth, orange in color, and shall contain a pre-installed poly pull rope. Where necessary, the pipe shall be jointed with metallic threaded sleeve couplings as manufactured by Carlon, or approved equal. Stainless Steel bands shall be installed every 20 feet along the 48" Waterline to secure the conduit to the top of the waterline.

The service box assembly shall be QUAZITE COMPOSITE Part No. PG3048BA18 service box (30" W x 48" L x 18" D) with a QUAZITE COMPOSITE Part No. PG3048HA00 heavy duty locking cover, or approved equal. The locking cover for the service box shall be imprinted with "CITY OF WICHITA".

The conduit entering and exiting the service box assembly shall extend to an elevation approximately 12" below grade. The pre-installed poly rope shall extend a minimum of 3' inside the service box. The service box shall be placed on a 6" crushed rock base (compacted to 95% of ASTM D698) extending a minimum of 12" around the box perimeter. A 12" wide x 12" thick concrete border (COW concrete pavement mix) shall be placed flush around the top of the service box assembly.

Service Boxes shall be installed along the route of the waterline as listed in the Service Box Location table. The locations of the service boxes shown in the Service Box Location table are approximate. Maximum spacing for service boxes shall be 1,000 feet. The service boxes shall be placed along the outside limits of the waterline excavation except where such placement would fall within a paved or unpaved vehicular travelway. Service boxes shall be situated at least 5' outside of all vehicle travelways, and in locations as approved by the Field Engineer.

SERVICE BOX LOCATION TABLE

APPROX. WATERLINE STATION	OFFSET
20+10	11.5' Lt.
29+20	10.5' Lt.
34+90	7' Rt.
45+35	8' Lt.
51+10	8' Rt.
63+50	8' Lt.
70+25	10' Rt.

(Approx. 6,100 L.F. conduit required.)

**SEQUENCE OF CONSTRUCTION:**  
 CONTRACTOR SHALL NOT COMMENCE CONSTRUCTION ACTIVITIES ON U.S.D. 259 (EAST HIGH SCHOOL) PROPERTY, WL NO. 1 STATION 50+80 TO WL NO. 1 STATION 63+45 BEFORE MAY 29, 2009 AND SHALL COMPLETE ALL CONSTRUCTION, INCLUDING ALL FINAL LANDSCAPING BY AUGUST 15, 2009. SEE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

GENERAL NOTES

- ALL ELEVATIONS SHOWN ARE BASED ON NGVD 29 DATUM.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:  

KANSAS ONE-CALL	687-2470
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THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:  

COX COMMUNICATIONS	262-0661
KANSAS GAS SERVICE	832-3169
WESTAR ENERGY	383-8600
BLACK HILLS ENERGY	1(800)-527-0357
AT&T	1(800)-870-8390
CITY OF WICHITA WATER DEPARTMENT	262-6000
CITY OF WICHITA SEWER MAINTENANCE	262-6000
- ALL WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF WICHITA, KANSAS STANDARD SPECIFICATIONS, AND PROJECT SUPPLEMENTAL SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.
- OPENING AND CLOSING WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTION SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.
- EACH BIDDER SHALL VISIT THE SITE OF THE PROJECT BEFORE SUBMITTING THE PROPOSAL FOR THIS WORK SO THAT HE WILL BE FULLY INFORMED OF THE EXISTING FIELD CONDITIONS AND THE OBSTACLES WHICH MIGHT BE ENCOUNTERED. UPON AWARD OF THE CONTRACT THE CONTRACTOR WILL NOT BE GRANTED ANY ADDITIONAL COMPENSATION WITH REGARDS TO TIME AND MONEY FOR CONDITIONS THAT MAY HAVE BEEN EVALUATED DURING ANY INSPECTION OF THE SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS FLOW OF SEWAGE THROUGH CONSTRUCTION. THE COST OF MAINTAINING FLOW OF SEWAGE THROUGH CONSTRUCTION WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE OTHER RELATED ITEMS OF WORK.
- THE TEST PRESSURE FOR THE NEWLY CONSTRUCTED WATERLINE SHALL BE 150 PSI, AND ALL FITTINGS, PIPE, AND APPURTENANCES INSTALLED SHALL HAVE A MINIMUM PRESSURE RATING OF 150 PSI (MIN.) OR AS SPECIFIED.
- UNLESS NOTED OTHERWISE IN THE PLANS, THE CONTRACTOR MAY USE 48" DUCTILE IRON OR 48" PCCP (PRESTRESSED CONCRETE CYLINDER PIPE) FOR THE WATERLINE AS SPECIFIED IN THE PROJECT SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL RESTRAIN ALL BENDS, VALVES, AND TEES THROUGH THE USE OF RESTRAINED JOINT PIPE AS SPECIFIED. ALL PIPE/FITTINGS FOR THIS PROJECT SHALL BE RESTRAINED JOINT TO THE LIMITS SHOWN BY THESE PLANS AS A MINIMUM LENGTH. OTHER METHODS OF RESTRAINT MAY BE SUBMITTED IN WRITING TO THE DESIGN ENGINEER FOR APPROVAL AT LEAST 7 DAYS PRIOR TO BIDDING. RESTRAINED JOINT PIPE SHALL BE INCLUDED IN THE PRICE BID FOR PIPE IN PLACE.
- PIPE DEFLECTIONS SHOWN IN THE PLANS MAY EXCEED THE MAXIMUM PIPE DEFLECTIONS ALLOWABLE PER THE PIPE MANUFACTURERS RECOMMENDATIONS. THESE PIPE DEFLECTIONS MAY BE ACCOMPLISHED THROUGH MORE THAN ONE JOINT. PIPE DEFLECTIONS AT A JOINT SHALL NOT EXCEED THE MANUFACTURERS RECOMMENDATIONS.
- ALL FITTINGS INSTALLED SHALL NOT BE BACKFILLED UNTIL THE FIELD ENGINEER ESTABLISHES TIES TO ESTABLISHED LANDMARKS.
- ALL COUPLINGS INSTALLED PER THE DETAIL SHEETS SHALL INCLUDE A 1/2" GAP BETWEEN THE PLAIN END PIPES BEING JOINED.
- THE CONTRACTOR SHALL PROVIDE CORROSION CONTROL ITEMS AS OUTLINED IN THE SUPPLEMENTAL SPECIFICATIONS FOR EACH TYPE OF PIPE BID. ALL PIPE CONNECTIONS MADE WITH PIPING OF DISSIMILAR MATERIALS SHALL INCLUDE DIELECTRIC ISOLATION. ALL CORROSION CONTROL MEASURES REQUIRED SHALL BE INCLUDED IN THE PRICE BID FOR PIPE.
- THE CONTRACTOR SHALL PROVIDE THREADED RODS AND COLLARS TO ANCHOR VALVES AND SLEEVES TO PROPOSED RESTRAINED JOINT PIPING, AS SHOWN IN THE PLANS. THREADED RODS AND COLLARS SHALL BE HIGH STRENGTH, HEAT TREATED CORTEN STEEL AND SHALL CONFORM TO ASTM A242, TYPE 2, AS MANUFACTURED BY STAR NATIONAL PRODUCTS OR APPROVED EQUAL. THE NUMBER OF TIEBOLT RESTRAINERS AND FASTENING METHOD SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. THE BOLTS SHALL BE DESIGNED FOR A TOTAL DESIGN PRESSURE OF 200 PSI.
- ALL WATERLINE AND SANITARY SEWER EXCAVATION WITHIN EXISTING PAVEMENT SECTIONS SHALL BE SAND FILLED AND FLUSHED (JETTED AND VIBRATED) WITH WATER PER THE REQUIREMENTS LISTED IN THE STANDARD SPECIFICATIONS FOR THE CITY OF WICHITA, UNLESS FLOWABLE FILL OR OTHER IMPROVED BACKFILL MATERIAL IS OTHERWISE SPECIFIED. THE SAND FILL SHALL BE BROUGHT UP UNIFORMLY TO AN ELEVATION 12 INCHES ABOVE THE TOP OF THE PIPE OR 2 FEET BELOW THE BOTTOM OF PROPOSED PAVEMENT, WHICHEVER IS HIGHER. ALL COSTS FOR SAND FILLING AND FLUSHING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "SAND FILL, FLUSH AND VIBRATE". THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID PER LINEAR FOOT OF TRENCH FILLED REGARDLESS OF TRENCH DEPTH AND/OR PIPE SIZES UNLESS INDICATED OTHERWISE BY PLANS OR CONTRACT. THE ESTIMATED LENGTH OF WATERLINE TRENCH TO BE SAND FILLED AND FLUSHED FOR THIS PROJECT IS:  

SAND FILL, FLUSH AND VIBRATE = 3,180 L.F. (WATERLINE)
SAND FILL, FLUSH AND VIBRATE = 512 L.F. (SANITARY SEWER)
- IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLE MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES AND CABLES. ANY UTILITIES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- WHERE THE IMPROVEMENTS CROSS EXISTING PUBLIC OR PRIVATE UTILITIES WHICH ARE NOT TO BE ADJUSTED BY OTHERS, THE CONTRACTOR SHALL PROVIDE THE MATERIAL AND MEANS TO PROTECT AND SUPPORT SAID UTILITIES DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN WATER DISTRIBUTION DURING ALL PHASES OF CONSTRUCTION. REQUESTS FOR SHORT-TERM WATER SERVICE INTERRUPTIONS SHALL BE MADE AT LEAST 72 HOURS IN ADVANCE TO THE CITY OF WICHITA AND WILL BE SUBJECT TO APPROVAL BY THE ENGINEER. SUBJECT TO APPROVAL, THE CONTRACTOR SHALL NOTIFY ALL AFFECTED WATER CUSTOMERS OF PENDING CONSTRUCTION AT LEAST 48 HOURS IN ADVANCE. THE CONTRACTOR SHALL COORDINATE THE SHUT DOWN AND THE ISOLATION OF EXISTING WATER MAINS FOR CONNECTIONS TO THE NEW MAIN WITH THE WICHITA WATER DEPARTMENT.
- THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ADJUTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO "SITE RESTORATION".
- THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO 50 FEET.
- THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES, AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED AND TREE TRIMMINGS AND EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED OF BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
- ACCESS IS TO BE MAINTAINED AT ALL TIMES EXCEPT IN THE IMMEDIATE AREA OF CONSTRUCTION. IMMEDIATE AREA OF CONSTRUCTION IS DEFINED AS A MAXIMUM OF 3 BLOCKS IN WHICH PAVEMENT REMOVAL, TRENCHING, PIPE LAYING, BACKFILLING AND PAVEMENT REPLACEMENT IS OCCURRING. TRAFFIC IS TO BE MAINTAINED USING FLAG PERSONS AS NECESSARY. SIDE STREET INTERSECTIONS MAY BE CLOSED WHILE PIPE IS BEING LAID ACROSS THE INTERSECTION, HOWEVER, NO TWO CONSECUTIVE INTERSECTIONS MAY BE CLOSED AT THE SAME TIME. THE CONTRACTOR SHALL UTILIZE BARRICADES, SIGNS, GUARDS, AND FLAGMEN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AS INDICATED BY THE PROJECT PLANS AND DETAILS. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE OWNER FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- PAVEMENT REMOVAL AND/OR REPLACEMENT WILL BE MEASURED AND PAID FOR ON THE LINEAL FOOT BASIS AS MEASURED ALONG THE CENTERLINE OF THE WATER LINE REGARDLESS OF WIDTH, OR PAVEMENT THICKNESS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE AS INDICATED BY THE PROJECT PLANS. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS.
- EROSION CONTROL (BMP'S)  
 THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL METHODS AS SPECIFIED ON SHEETS 30-32. THE GENERAL LOCATION OF THE REQUIRED EROSION CONTROL IS ILLUSTRATED IN THE PLANS. THE WATERLINE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE EROSION CONTROL SHOWN THROUGH THE COMPLETION OF THE PROJECT. INSTALLATION OF THESE BMP'S DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF ABATING SOIL EROSION. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE STORM WATER PERMIT.
- ALL LANDSCAPING, AND FENCING DISTURBED DURING CONSTRUCTION SHALL BE REMOVED AND RESET/REPLACED IN KIND OR AS INDICATED BY THE PROJECT PLANS. THE CONTRACTOR SHALL PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO THE AFFECTED PROPERTY OWNERS PRIOR TO BEGINNING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING" AND "SITE RESTORATION".
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO ALL KANSAS DEPARTMENT OF TRANSPORTATION PERMIT REQUIREMENTS FOR THE I-135 CROSSING. A COPY OF THE APPROVED PERMIT WILL BE PROVIDED TO THE CONTRACTOR.
- IF IN THE OPINION OF THE CONTRACTOR, EXISTING STORM SEWER PIPE, STORM SEWER STRUCTURES, SANITARY SEWER PIPE, AND/OR WATERLINES NEED TO BE REMOVED AND REPLACED TO FACILITATE CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL OBTAIN THE CONCURRENCE OF THE INSPECTOR PRIOR TO REMOVING SUCH UTILITIES AND SHALL REPLACE TO THE SAME LINES AND GRADES AS EXISTING. BEDDING AND BACKFILL REQUIREMENTS SHALL BE IN ACCORDANCE TO THE CITY OF WICHITA STANDARD SPECIFICATIONS. ALL MATERIALS (INCLUDING WATERLINE VALVES) AND LABOR NECESSARY FOR THE REMOVAL AND REPLACEMENT OF EXISTING UTILITIES SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING" AND "SITE RESTORATION".
- THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO 50 FEET.
- ALL LAWN/TURF AREAS OUTSIDE THE USD 259 (EAST HIGH SCHOOL) PROPERTY DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME SOIL AS EXISTING OR AS INDICATED BY THE PROJECT PLANS. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, AND SOODING. ALL SOODING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR6.5 WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION". ALL LAWN/TURF AREAS INSIDE THE USD 259 (EAST HIGH SCHOOL) PROPERTY SHALL BE RESOODED AS INDICATED BY THE PROJECT PLANS AND SHALL BE PAID FOR SEPARATELY.
- CONTRACTOR SHALL COORDINATE WORK ON U.S.D. 259 PROPERTY TO MAINTAIN ACCESS FOR ACTIVITIES AND SCHEDULED CONTRACT WORK ON TRACK FACILITIES BY U.S.D. 259.

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- PROPOSED AIR VALVE VAULT
- EXISTING HYDRANT
- PROPOSED HYDRANT
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY SEWER w/MANHOLE
- EXISTING SANITARY SEWER
- EXISTING SANITARY SEWER w/MANHOLE

NOTE: WATERLINE VALVES TO BE OPERATED BY CONTRACTOR ONLY IF WATER DEPARTMENT REPRESENTATIVE IS ON SITE.

No.	Revision	By	Date
<b>SOUTHEAST 48" WATERLINE - PHASE 2A</b> <b>LEWIS/IDA TO LEWIS/GREEN</b> <b>KEY MAP AND GENERAL NOTES</b> JAMES L. ARMOUR, P.E. - CITY ENGINEER CITY OF WICHITA PROJECT NO. 448-90417 <b>Professional Engineering Consultants, P.A.</b> 303 S. TOPKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	MDK, EJB	Job No.	35-07704-000
Drawn by	CSL, JAN	Date	March 2008
			Sht. 2 of 38

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