

SURVEY CONTROL DATA

1. HORIZONTAL DATUM IS TIED TO EXISTING CITY OF TULSA CONTROL MONUMENT # 62RESET WHICH IS ADJUSTED TO THE OKLAHOMA STATE PLANE NAD 83 (1993) COORDINATE SYSTEM, NORTH ZONE, PER MONUMENT # 62 RESET DATA SHEET.
2. BEARINGS:
- THE BEARINGS SHOWN HEREIN OR HEREON ARE GRID BEARINGS DERIVED FROM THE USC & GS OKLAHOMA PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL.
3. VERTICAL CONTROLS:
- A. LEVEL DATUM IS NGS, NAVD 88, PER CONTROL MONUMENT # 62RESET DATA SHEET AND ADJUSTED TO THE OKLAHOMA STATE PLANE COORDINATE SYSTEM UTILIZING DIFFERENTIAL LEVELING TECHNIQUES.
- B. ACCURACY - 3RD ORDER OR BETTER

TULSA BENCHMARK FROM CITY OF TULSA  
CONTROL DATA PREPARED BY AERIAL DATA SERVICE (ADS)

STATION NO. 62 RESET, AUGUST 2010  
TYPE: 3" BRASS CAP SET IN CONCRETE  
N: 429170.415  
E: 2568517.268  
ELEV: 751.597'  
LAT: 36°09'42.21054"  
LONG: 95°58'01.95254"

LEGEND

- PROPOSED ROADS  
SECTION LINES  
QUARTER SECTION LINES  
FENCES (EXISTING)  
EXISTING GRADE  
EXISTING ROADS  
EXISTING INDEX CONTOURS  
EXISTING INTERMEDIATE CONTOURS  
BASE LINE  
PROPOSED GRADE  
COMMUNICATION LINES (EXISTING)  
POWER LINES (EXISTING)  
GAS LINE (EXISTING)  
SANITARY SEWER LINES (EXISTING)  
WATER LINES (EXISTING)  
COMMUNICATION LINES (PROPOSED)  
POWER LINES (PROPOSED)  
GAS LINE (PROPOSED)  
SANITARY SEWER LINES (PROPOSED)  
WATER LINES (PROPOSED)  
BUILDINGS (EXISTING)  
DRAINAGE STRUCTURES (EXISTING)  
DRAINAGE STRUCTURES (PROPOSED)  
RIGHT-OF-WAY LINES (EXISTING)  
RIGHT-OF-WAY LINES (PROPOSED)  
RIGHT-OF-WAY FENCE  
FLOWLINE (EXISTING)  
FLOWLINE (PROPOSED)  
TOE OF SLOPE (EXISTING)

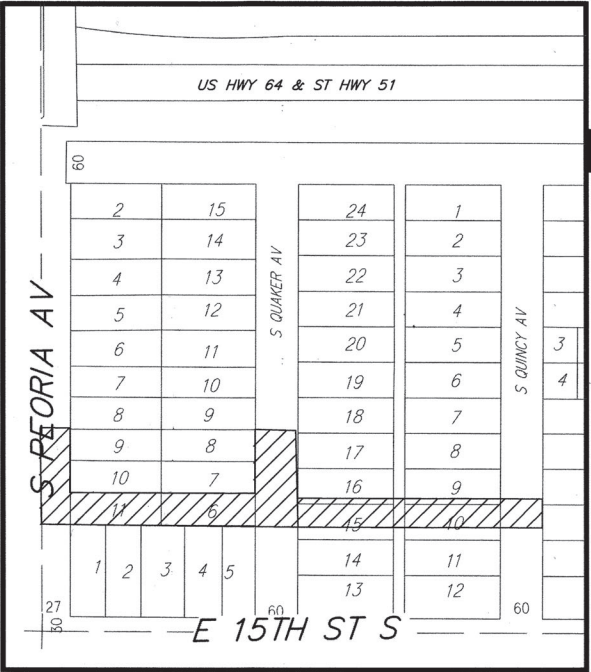
UTILITY COORDINATION

	NUMBER	CONTACT	NOTIFIED	RESPONDED
COX COMMUNICATIONS	(918) 286-4716	BRANDON WADE		
AEP/PSO	(918) 250-6257	ADAM FIELDS		
OKLAHOMA NATURAL GAS CO.	(918) 831-8215	JONATHAN MEADOWS		
AT&T	(918) 596-4237	AL NICHOLS		
CITY OF TULSA	(918) 596-9649	CHRIS KOVAC		

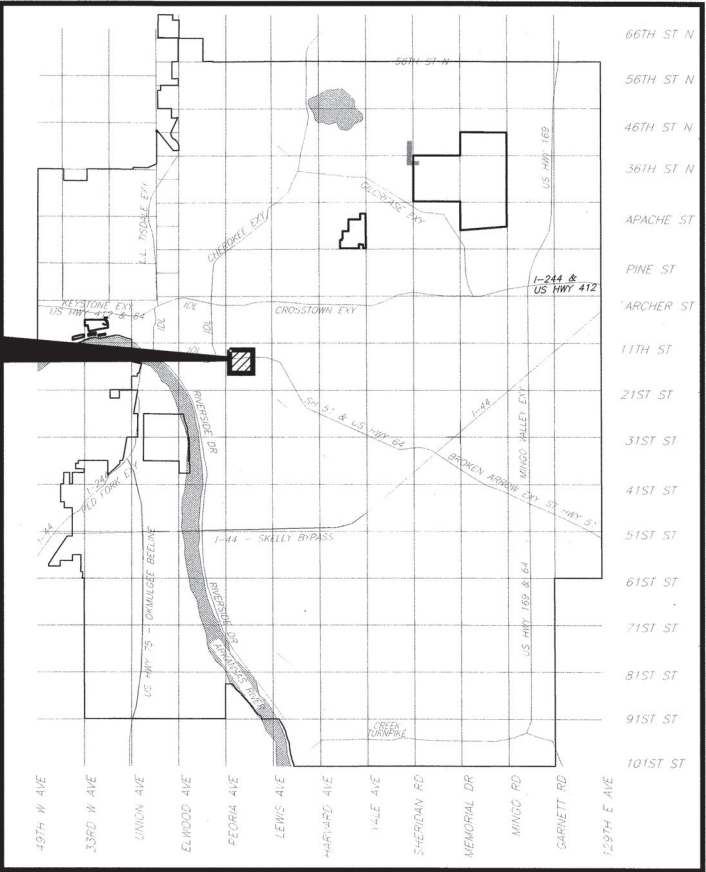
ROADWAY  
CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS GOVERN. ALL OTHER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

WATER & SEWER  
THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS. ENTIRE PROJECT IS WITHIN CORPORATE LIMITS OF CITY OF TULSA. CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND STANDARD DETAILS SHALL GOVERN.

PLANS FOR  
QUAKER AVE. STORM SEWER REALIGNMENT  
ENGINEERING SERVICES DEPARTMENT  
CITY OF TULSA, OKLAHOMA  
MUNIS NO. 19333003Z.STMWTRPOND.56003122-541101  
PROJECT NO. 153120-C1-6  
TMUA-W 17-14  
SWD #11557



PROJECT LOCATION



VICINITY MAP  
1" = 2 MILES

INDEX OF SHEETS

SHT NO.	DESCRIPTION
1.	TITLE
2.	PAY ITEMS AND NOTES (ROADWAY)
3.	PAY ITEMS AND NOTES (WATERLINE)
4.	CONSTRUCTION NOTES AND SUMMARY TABLES
5.	TYPICAL SECTIONS
6.	SURVEY AND ROW DATA
7.	STORM WATER MANAGEMENT PLAN
8.	EROSION CONTROL
9.-12.	PLAN & PROFILES
13.	JOINT LAYOUT
14.	WATERLINE P&P

COT STANDARD DRAWINGS:

102. PROJECT SIGN  
725. STANDARD PAVEMENT PATCH AND REPAIR  
726. ASPHALT PAVEMENT STANDARD DETAILS FOR RESIDENTIAL AND COLLECTOR STREETS  
727. CONCRETE PAVEMENT STANDARD DETAILS FOR RESIDENTIAL AND COLLECTOR STREETS  
751. PIPE BEDDING DETAIL FOR STORM SEWER  
767. STANDARD CAST IRON CURB INLET  
775. STANDARD PRECAST CONCRETE STORMWATER MANHOLE

ODOT STANDARDS:

LTU-4-0

*Valdery*  
CITY ENGINEER

10/22/21  
DATE

ADVERTISEMENT DATE:

10.29.21

ENGINEER'S CERTIFICATION:

*Shannon N Hanks*  
SHANNON N. HANKS, P.E. NO. 21141  
DATE 11/27/15



CEC CORPORATION  
4617 E. 91st Street S.  
Tulsa, Oklahoma 74137  
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C.A. #32 EXPIRES 06/30/20





PLOT DATE: November 20, 2018, DRAWING FILE: N:\TULSA\PROJECTS\TPWD - CITYWIDE DRAINAGE IMPROVEMENTS\TO-6\PROJECT DRAWINGS\4- CONSTRUCTION NOTES AND SUMMARY TABLES.DWG

BASE BID - ROADWAY					
ITEM NO.	SPEC. NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
1	202(A)	UNCLASSIFIED EXCAVATION	2,10,40,60	CY	352
2	221(D)	TEMPORARY SEDIMENT FILTER	12,61,62	EA	8
3	230(A)	SOLID SLAB SODDING	13,14,15	SY	85
4	303(A)	AGGREGATE BASE TYPE A	2,3,4	CY	320
5	310(B)	SUBGRADE, METHOD B	2	SY	1055
6	325	SEPARATOR FABRIC	2,5	SY	1752
7	609(B)	2'-2" COMB. CURB & GUTTER (6" BARRIER)	3,20,22,23,24	LF	113
8	610(A)	4" CONCRETE SIDEWALK	20,23,24,25	SY	22
9	610(B)	6" CONCRETE DRIVEWAY (H.E.S.)	20,23,24,25	SY	76
10	611(A)	MANHOLE (4' DIA.), COMPLETE IN PLACE	26,27,28,30,34,44,57	EA	5
11	611(A)	MANHOLE (5' DIA.), COMPLETE IN PLACE	26,27,28,30,34,44,57	EA	2
12	611(B)	ADDITIONAL DEPTH 4' MANHOLE (STORM SEWER)	44	VF	8
13	611(B)	ADDITIONAL DEPTH 5' MANHOLE (STORM SEWER)	44	VF	3
14	611(G)	INLET CICI DES. 2, COMPLETE IN PLACE	31,32,33,34,35,56	EA	2
15	611(G)	INLET CICI DES. 2(B), COMPLETE IN PLACE	31,32,33,34,35,56	EA	1
16	611(G)	INLET (SMD-TYPE 1)	31, 32, 33, 34	EA	1
17	611(H)	ADDITIONAL DEPTH IN SMD		VF	2
18	619(A)	REMOVAL OF STRUCTURES & OBSTRUCTIONS	10,21,51,53,63,65	LS	1
19	619(B)	REMOVAL OF CURB AND GUTTER	10,21,63,65	LF	111
20	619(B)	REMOVAL OF CONCRETE DRIVEWAY	10,21,63,65	SY	76
21	619(B)	REMOVAL OF CONCRETE SIDEWALK	10,21,63,65	SY	22
22	625(B)	REMOVE AND RECONSTRUCT WOOD PRIVACY FENCE	71	LF	28
23	641	MOBILIZATION	58	EA	1
24	642(B)	CONTRACTOR CONSTRUCTION STAKING	7,47	EA	1
25	855(A)	TRAFFIC STRIPE (THERMOPLASTIC)(4" WIDE)	36,69	LF	325
26	880(B)	CONSTRUCTION SIGNS 0 TO 6.25 SF	37,38,46	SD	100
27	880(B)	CONSTRUCTION SIGNS 6.26 TO 15.99 SF	37,38,46	SD	100
28	880(B)	CONSTRUCTION SIGNS 16.0 TO 32.99 SF	37,38,46	SD	100
29	880(C)	BARRICADES (TYPE III)	37,38,46	SD	100
30	880(E)	WARNING LIGHTS (TYPE A)	38	SD	500
31	880(E)	WARNING LIGHTS (TYPE C)	38	SD	500
32	880(F)	DRUMS	37,38,46	SD	500
33	SPECIAL	PROJECT SIGN (COT STD. 102)	46	EA	1
34	SPECIAL	OWNER ALLOWANCE		ALLOW	1
35	SPECIAL	URBAN RIGHT OF WAY RESTORATION	11,14,59	EA	1
36	SPECIAL	QUICK SET FLOWABLE FILL	19,32	CY	119
37	SPECIAL	TYPE 1 AC PATCH (STREET)	9,16,18,19	CY	53
38	SPECIAL	TYPE 1 AC PATCH (PARKING LOT)	9,16,18	CY	89
39	SPECIAL	TYPE 1 PCC PATCH	9,19,20	CY	52

BASE BID - PIPE OPTION 1					
ITEM NO.	SPEC. NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
40	COT 215	CORRUGATED POLYPROPYLENE PIPE, 15 INCH, COMPLETE IN PLACE	32,45,67,70	LF	8
41	COT 215	CORRUGATED POLYPROPYLENE PIPE, 18 INCH, COMPLETE IN PLACE	32,45,67,70	LF	481
42	COT 215	CORRUGATED POLYPROPYLENE PIPE, 24 INCH, COMPLETE IN PLACE	32,45,67,70	LF	330
43	COT 215	CORRUGATED POLYPROPYLENE PIPE, 30 INCH, COMPLETE IN PLACE	32,45,67,70	LF	59

BASE BID - PIPE OPTION 2					
ITEM NO.	SPEC. NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
44	613(A)	15" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	30,32,45	LF	8
45	613(A)	18" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	30,32,45	LF	481
46	613(A)	24" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	30,32,45	LF	330
47	613(A)	30" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	30,32,45	LF	59

PAY ITEM NOTES (ROADWAY)


- NOT USED.
- THIS QUANTITY INCLUDES AN ADDITIONAL 5% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL OR ADDITIONAL PATCHING AS DIRECTED BY THE ENGINEER.
- TYPE A AGGREGATE BASE WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 90% OF THE PATCHING. QUICK SET FLOWABLE FILL WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 10% OF THE PATCHING. ACTUAL QUANTITIES TO BE DETERMINED BY THE ENGINEER.
- INCLUDES COMPACTION OF AGGREGATE TO 98% AASHTO T180 MODIFIED PROCTOR.
- SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.
- NOT USED.
- CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.
- NOT USED.
- THIS PAY ITEM INCLUDES THE FOLLOWING:

A. SAW CUTTING  
B. REMOVAL OF THE EXISTING CONCRETE AND/OR ASPHALTIC CONCRETE ROADWAY (CY)  
C. ASPHALTIC CONCRETE OR PC CONCRETE COMPLETE IN PLACE PER DETAIL  
D. SEALING OF EDGES AND TACK COAT  
E. REINFORCING STEEL FOR PCC PATCH

DOES NOT INCLUDE THE FOLLOWING:  
A. UNCLASSIFIED EXCAVATION  
B. SUBGRADE METHOD B (SY)  
C. SEPARATOR FABRIC (SY)  
D. AGGREGATE BASE (TYPE A)
- WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.
- CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THIS PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER AND CITY ARBORIST. COST SHALL BE INCLUDED IN THE PRICE BID.
- EROSION PROTECTION SHALL BE PLACED AROUND DRAINAGE INLETS AS REQUIRED TO PREVENT ENTRANCE OF EROSION MATERIAL. EROSION PROTECTION SHALL BE PLACED AS NECESSARY TO PREVENT EROSION WASH TO ADJACENT PROPERTY. ALL EROSION PROTECTION INSTALLED MUST BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT. EROSION PROTECTION SHALL BE REMOVED AT THE END OF THE PROJECT AS DIRECTED BY THE ENGINEER, COST TO BE INCLUDED IN THE PRICE BID. THE PRICE INCLUDES THE COST OF SEDIMENT REMOVAL PER THE STORMWATER MANAGEMENT PLAN
- NOT USED.
- PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION.
- NOT USED.
- THE COST OF TACK COAT, EDGE JOINT SEAL MATERIAL AND SCREENINGS FOR BLOTING, AND ALL LABOR ASSOCIATED WITH THESE ITEMS, SHALL BE INCLUDED IN ASPHALT CONCRETE.
- NOT USED
- ODOT PAY FACTOR FOR AVERAGE LOT DENSITY SHALL NOT BE USED FOR THIS PROJECT. FAILURE TO REACH AVERAGE LOT DENSITY OF 92%-97% WILL RESULT IN REJECTION OF WORK.
- LOCATIONS TO BE DETERMINED IN THE FIELD AND WORK TO BE PERFORMED AT THE DIRECTION OF THE FIELD ENGINEER. QUANTITY IS ESTIMATED AND MAY BE OMITTED IN ITS ENTIRETY.
- THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.
- ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.
- THIS ITEM SHALL BE MEASURED AS THE ACTUAL AMOUNT OF CURB AND/OR GUTTER INSTALLED. NO PAYMENT WILL BE MADE FOR CURB AND/OR GUTTER THROUGH DRIVEWAYS AND INLETS.
- INCLUDES ALL COST OF SAWED JOINTS AND SEALING OF ALL JOINTS INCLUDING LONGITUDINAL JOINTS.
- CURB, GUTTER, AND/OR SIDEWALK ASSOCIATED WITH THE DRIVEWAY AND THROUGH THE DRIVEWAY IS INCLUDED IN THE COST OF THE DRIVEWAY.
- ONE SIDEWALK PANEL ON EACH SIDE OF DRIVEWAYS SHALL BE A MINIMUM OF 6" THICK OR MATCH EXISTING DRIVEWAY THICKNESS, WHICHEVER IS GREATER. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE COST OF THE THICKENED SIDEWALK THROUGH THIS AREA.
- THIS ITEM SHALL INCLUDE THE COST OF NEW MANHOLE FRAME AND COVER PER CITY OF TULSA STD NO. 752, STD NO. 753, STD NO. 754, STD NO. 761, AND STD NO. 762.
- ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BINS IN THE STOCKROOM AREA AT SEWER OPERATIONS AND MAINTENANCE, 9319 E. 42ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.
- THE TOTAL COST FOR RUBBERIZED ASPHALT AND/OR SILICONE AT MANHOLES, VALVE BOXES, INLETS, AND INLET APRONS, SHALL BE INCLUDED.
- NOT USED.
- REINFORCED CONCRETE PIPE TO BE CLASS III. ALL REINFORCED CONCRETE PIPE AND MANHOLES TO BE SUPPLIED WITH AN OMNI-FLEX JOINT GASKET OR APPROVED EQUAL. MASTIC JOINT SEALANT SHALL NOT BE ALLOWED.
- INCLUDES THE COST REQUIRED TO MAKE CONNECTION AND REMOVAL OF EXISTING INLETS. THE COST OF PC CONCRETE CURB AND GUTTER THROUGH THE INLET, 5' EACH SIDE OF THE INLET, AND THE PC CONCRETE INLET APRON SHALL BE INCLUDED. GRATE AND FLOWLINE ELEVATIONS SHALL MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED IN THE PLANS.
- QUICK SET FLOWABLE FILL TO BE USED TO BACKFILL AROUND STREET CURB INLETS AND PIPES AS DIRECTED BY THE ENGINEER.
- ALL INLETS COMPLETE IN PLACE SHALL BE CAST IN PLACE CONCRETE OR PRECAST CONCRETE. NO BRICK INLETS SHALL BE ALLOWED. THIS PAY ITEM INCLUDES INLET FRAME, GRATE, HOOD AND CONCRETE.
- NO MASONRY STRUCTURES SHALL BE CONSTRUCTED WITHIN THE RIGHT OF WAY.
- ADDITIONAL DEPTH IN INLET SHALL BE MEASURED AND PAID FOR ALL INLETS EXCEEDING 3.71 VERTICAL FT, CALCULATED FROM THE CENTER ELEVATION OF THE LOWEST CAST IRON CURB TO THE FLOWLINE OF THE OUTLET PIPE.
- ALL PLASTIC PAVEMENT MARKINGS SHALL BE EXTRUDED-APPLIED THERMOPLASTIC. THERMOPLASTIC PAVEMENT MARKINGS SHALL ONLY BE APPLIED WHEN THE SURFACE TEMPERATURE EXCEED 55°F FOR ALL OF THE SIX HOURS PRIOR TO INSTALLATION AND MAXIMUM WIND GUSTS ARE BELOW 15 MPH AT THE TIME OF APPLICATION. PRICE BID TO INCLUDE FLEX TABS OR LIKE KIND FOR POST CONSTRUCTION LANE MARKINGS/SEPARATION. MECHANICALLY APPLIED PREFORMED PLASTIC TAPE ("COLD TAPE") WILL NOT BE ACCEPTED.

- REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.
- IF WARNING LIGHTS ARE TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A" LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WAY, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.
- NOT USED.
- THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.
- NOT USED.
- NOT USED.
- NOT USED.
- ADDITIONAL DEPTH IN A MANHOLE SHALL BE MEASURED FROM 6FT AS MEASURED FROM THE TOP OF RIM TO THE LOWEST FLOWLINE.
- THIS PAY ITEM SHALL BE COMPLETE IN PLACE AND SHALL INCLUDE ALL PIPE, STANDARD BEDDING MATERIAL AND TRENCH EXCAVATION, JOINT GASKETS AND ALL OTHER INCIDENTALS. NO ADDITIONAL COST WILL BE MADE.
- PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL REQUIRED FOR COMPLETION OF THE PROJECT.
- THE COST TO REPLACE DAMAGED SECTION CORNERS AND ALL OTHER PERMANENT RIGHT OF WAY MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.
- NOT USED.
- NOT USED.
- NOT USED.
- PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.
- NOT USED.
- INCLUDES SAWING NOT INCLUDED IN OTHER ITEMS OF WORK.
- NOT USED.
- NOT USED.
- FOR INLET DESIGN NUMBERS AND CONFIGURATIONS REFER TO CITY OF TULSA STANDARD NO. 755. INLET DETAIL / LIST WILL BE PROVIDED IN THE PLANS FOR CONFIGURATIONS NOT SHOWN IN CITY OF TULSA STANDARDS.
- ALL MANHOLES SHALL BE COMPLETE IN PLACE. THIS PAY ITEM INCLUDES FRAME, COVER, CONCRETE AND ALL OTHER INCIDENTALS REQUIRED FOR PLACEMENT.
- MOBILIZATION FOR THE PROJECT (EXCLUDING WATER MOBILIZATION) IS TO BE INCLUDED IN THIS PAY ITEM. THE MAXIMUM ALLOWABLE AMOUNT WILL BE IN ACCORDANCE WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION TABLE 641:1.
- CONTRACTOR SHALL COORDINATE WITH HOMEOWNERS TO RESET ALL PAVERS, LANDSCAPE STONE, PRIVATE SIDEWALKS AND FENCES THAT ARE DISTURBED DURING CONSTRUCTION OPERATIONS. ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR RESETTING OF SUCH ITEMS IS TO BE INCLUDED IN PRICE BID FOR URBAN RIGHT OF WAY RESTORATION.
- UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED
- PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.
- INCLUDES 8 TYPE "B" FILTERS.
- SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM.
- ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.
- NOT USED.
- CONNECTIONS TO EXISTING PIPES SHALL BE MADE WITH INSERTA TEE CONNECTOR, OR APPROVED EQUAL.
- NOT USED.
- QUANTITY INCLUDES BOTH YELLOW AND WHITE STRIPING AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE. MATCH EXISTING STRIPING COLOR WHEN REPLACING.
- WHERE CORRUGATED POLYPROPYLENE PIPE CONNECTS TO REINFORCED CONCRETE STRUCTURES, CONTRACTOR SHALL ENSURE CONNECTIONS ARE WATER-TIGHT AND FULLY SEALED AGAINST SOIL INFILTRATION.
- PAY ITEM TO INCLUDE THE REMOVAL AND REPLACEMENT OF THE WOOD PRIVACY FENCE AND GATE IN LIKE KIND AROUND DUMPSTER AREA.



PAY ITEMS AND NOTES (ROADWAY)					
PROJECT NO. 153120-C1-6 TMUA-W 17-14					
QUAKER AVE. STORM SEWER REALIGNMENT					
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT					
 <b>CEC CORPORATION</b> 4617 E. 91st Street S. Tulsa, OK 74137 (918) 663-9401					
REVISION	BY	DATE	PLAN SCALE:	DRAWN	M.K.R. 03/2017
-	-	-	N/A	DESIGNED	S.N.H. 03/2017
-	-	-		SURVEY	B.B. 03/2017
-	-	-	PROFILE SCALES:	PROJ. MGR.	EMS 12/18
-	-	-		LEAD ENGR.	POC 10/21
-	-	-	HORIZONTAL:	FIELD MGR.	BBV 12/18
-	-	-	N/A	RECOMMENDED:	12-18
-	-	-	VERTICAL	DESIGN MANAGER	
-	-	-	N/A		
-	-	-	DRAWING: 4 Construction Notes and Summary Tables	DATE	10.29.21
-	-	-	ATLAS PAGE NO: 3		SHEET 2 OF 14



PLOT DATE: November 20, 2018, DRAWING FILE: N:\TULSA\PROJECTS\TPWD - CITYWIDE DRAINAGE IMPROVEMENTS\TO-6\PROJECT DRAWINGS\4 CONSTRUCTION NOTES AND SUMMARY TABLES.DWG

BASE BID - WATERLINE					
ITEM NO.	SPEC. NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
48	COT 307	6 INCH DIP, CL51 POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11,27	LF	66
49	COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	2,8	EA	4
50	COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	2,8,12	EA	2
51	COT 315	3/4 INCH WATER METER CAN, LID, & RIM		EA	1
52	COT 315	3/4 INCH WATER SERVICE CONNECTION (SHORT)	15,16	EA	1
53	COT 315	1 INCH WATER METER CAN, LID & RIM		EA	1
54	COT 315	1 INCH WATER METER SERVICE CONNECTION (LONG)	15,16	EA	1
55	COT 326	STREET WASHDOWN		LF	80
56	SPECIAL	CONSTRUCTION AS-BUILT	24,25,27	EA	1

NOTE: WORK WILL BE PERFORMED AT THE DISCRETION OF THE ENGINEER AND MAY BE OMITTED IN ITS ENTIRETY.


PAY ITEM NOTES (WATER)

1. TESTING AND CHLORINATION OF WATER MAINS SHALL BE PERFORMED BY THE CITY OF TULSA. TESTING, CHLORINATION, AND FLUSHING SHALL BE DONE IN ACCORDANCE WITH SECTION 109.3 OF THE GENERAL SPECIFICATIONS.
- A. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PLUGS WITH ADEQUATE BLOCKING OR RESTRAINTS, PLUS CORPORATION STOPS, AS DIRECTED BY CITY TESTING PERSONNEL, THEN, ONCE TESTING, CHLORINATION AND FLUSHING BY CITY PERSONNEL IS COMPLETED, REMOVE TEMPORARY BLOCKING AND TIE INTO EXISTING SYSTEM, USING FITTINGS SWABBED INTERNALLY WITH 2% BLEACH SOLUTION.
- B. TESTING, CHLORINATION, AND FLUSHING OF NEW WATER MAIN SHALL BE PERFORMED BY CITY PERSONNEL ON MAINS WHICH ARE PHYSICALLY DISCONNECTED FROM THE EXISTING WATER SYSTEM. TESTING, CHLORINATION, AND FLUSHING OF NEW WATER MAINS SHALL NOT BE PERFORMED AGAINST VALVES WHICH ARE PHYSICALLY CONNECTED TO EXISTING SYSTEM.
- C. ALL COSTS FOR TEMPORARY PLUGS, BLOCKING, RESTRAINING, CORPORATION STOPS, TUBING, THREADED CONNECTIONS, BLEACH AND OTHER INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.
2. BURIED BOLTS, HARNESS LUGS, AND COUPLINGS SHALL BE GIVEN TWO COATS OF KOPPER’S BITUMASTIC 300–M (DRY MIL THICKNESS OF 16 MILS) OR EQUAL. COST TO BE INCLUDED IN UNIT PRICE BID FOR PIPE AND FITTINGS.
3. CONTRACTOR TO EXCAVATE ALL UTILITY CROSSINGS AHEAD OF PIPE LAYING SO THAT THE GRADES CAN BE ADJUSTED ON THE PROPOSED WATER MAIN TO AVOID UTILITY CONFLICTS. FAILURE TO DO SO SHALL NOT ENTITLE THE CONTRACTOR TO CLAIM EXTRA COMPENSATION FOR ADJUSTMENTS TO THE PROPOSED WATER MAIN. COST FOR EXCAVATING UTILITY CROSSINGS SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE.
4. NOT USED.
5. NOT USED.
6. NOT USED.
7. NOT USED.
8. ALL COSTS FOR COMPONENTS NECESSARY TO RESTRAIN JOINTS FOR PIPE AND FITTINGS DESIGNATED RESTRAINED JOINT ("RJ") SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE OR FITTINGS.
- A. DUCTILE IRON PIPE RESTRAINED JOINT SYSTEMS: US PIPE TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, AMERICAN FLEXRING, EBAA MEGALUG, SMITH–BLAIR CAMLOCK, CLOW TUGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. SHOULD RJ PIPE BE SPECIFIED THROUGH UNCASED BORES, ONLY USPIPE TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, OR AMERICAN FLEXRING IS TO BE USED. LOCKING GASKETS NOT PERMITTED.
- B. NOT USED.
- C. NOT USED.
- NO ADDITIONAL PAYMENT SHALL BE MADE.
9. ALL CUT ENDS AND WHERE SALVAGED FITTINGS HAVE BEEN REMOVED FROM ABANDONED WATER LINES LEFT IN PLACE, SHALL BE PLUGGED WITH 24–IN OF CONCRETE INSIDE THE PIPE. COST OF CONCRETE PLUGGING TO BE INCLUDED IN UNIT PRICE BID FOR PIPE. NO ADDITIONAL PAYMENT SHALL BE MADE.
10. NOT USED.
11. DETECTABLE MYLAR MARKING TAPE SHALL BE INSTALLED OVER DUCTILE IRON PIPE AS PER CONST SPEC 307.3 AND 307.4. COST WILL BE INCLUDED IN COST OF DUCTILE IRON PIPE.
12. ALL LABOR, MATERIALS, AND EQUIPMENT TO CONNECT PROPOSED WATER MAINS TO EXISTING WATER MAINS ARE INCLUDED IN COST OF SLEEVES/ADAPTORS. CONTRACTOR TO EXCAVATE ALL EXISTING WATER MAINS AHEAD OF PIPE LAYING SO THAT THE GRADES CAN BE ADJUSTED ACCORDINGLY. FAILURE TO DO SO SHALL NOT ENTITLE THE CONTRACTOR TO CLAIM EXTRA COMPENSATION FOR ADJUSTMENTS TO THE PROPOSED WATER MAIN. COST FOR EXCAVATING EXISTING WATER MAINS SHALL BE INCLUDED IN UNIT PRICE BID FOR SLEEVES. NO ADDITIONAL PAYMENT SHALL BE MADE.
13. NOT USED.
14. NOT USED.
15. WATER SERVICE CONNECTIONS SHALL INCLUDE COST OF MATERIAL, LABOR AND EQUIPMENT TO REMOVE AND INSTALL SADDLES, SERVICE CLAMPS, CORPORATION STOPS, BENDS, 3–PART UNIONS, COUPLINGS, SETTERS AND ANY OTHER INCIDENTALS REQUIRED FOR A COMPLETE WATER SERVICE CONNECTION WITH EXCEPTION OF METER CANS, RIMS AND LIDS. NO ADDITIONAL PAYMENT SHALL BE MADE. METER CANS, LIDS AND RIMS SHALL BE PAID AS A SEPARATE BID ITEM.
- A. SHORT SERVICE SHALL BE ANY SERVICE LINE THAT IS 25–FEET OR LESS IN LENGTH. SHORT SERVICES DO NOT INCLUDE PAVEMENT REPLACEMENT. I.E. 3/4–INCH WATER SERVICE CONNECTIONS (SHORT SERVICE)
- B. LONG SERVICE SHALL BE ANY SERVICE LINE THAT IS GREATER THAN 25–FEET UP TO 80–FEET IN LENGTH. LONG SERVICES INCLUDE PAVEMENT REPLACEMENT AND/OR COST TO BORE. EXAMPLE: 3/4–IN WATER SERVICE CONNECTIONS (LONG SERVICE)
- C. SHORT AND LONG SERVICE LINES EXCEEDING THE ABOVE PARAMETERS WILL BE COMPENSATED FOR LINEAR FOOTAGE ABOVE AND BEYOND. COMPENSATION SHALL BE PAID AS "SERVICE LINES, EXTENSION", PER LF
16. SERVICE LINES ON NON–ARTERIALS SHALL BE EITHER COPPER TUBING (TYPE K SOFT ANNEALED CONFORMING TO ASTM B 88) OR PEX TUBING (UPONOR AQUA PEX 5206 BLUE CONFORMING TO ASTM F876/F877/F2023). PEX TUBING IS NOT PERMITTED WITHIN ARTERIAL RIGHT OF WAY. WHEN CONTRACTOR ELECTS TO USE PEX TUBING:
- A. 3/4–INCH WATER SERVICE CONNECTION SHALL USE 1–INCH PEX TUBING MINIMUM
- B. 1–INCH WATER SERVICE CONNECTION SHALL USE 1 1/4–IN PEX TUBING MINIMUM
17. NOT USED.
18. NOT USED.
19. NOT USED.
20. NOT USED.
21. NOT USED.
22. NOT USED.
23. NOT USED.
24. SPOT ELEVATIONS ON THE MAIN WATER LINE RELATIVE TO FINISHED GRADE SHALL BE PROVIDED AT EACH 100 FOOT INTERVAL COMPLETE WITH STATION AND OFFSET IN ADDITION, ALL VALVES, FITTINGS, FIRE HYDRANTS (TOP OF NUT) AND OTHER MAJOR APPURTENANT ITEMS SHALL BE SHOWN WITH THE PROPER DESCRIPTION, STATION, OFFSET, AND ELEVATION.

PAY ITEM NOTES (WATER) (CONT'D)

25. SPOT ELEVATIONS ON WATER CANS, VAULTS, SHALL BE SHOWN WITH THE PROPER DESCRIPTION (METER TYPE, METER SIZE, METER NUMBER, SERVICE MATERIAL, SERVICE SIZE), STATION, OFFSET AND ELEVATION PER PLAN SURVEY CONTROL DATUM.
26. NOT USED.
27. PRESSURE TESTING AND CHLORINATION OF WATER MAINS SHALL NOT BE PERFORMED UNTIL THE CITY INSPECTOR HAS RECEIVED REQUIRED CONSTRUCTION AS BUILT RECORDS.
1. THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT SHALL INSPECT ALL TRENCHING, BEDDING, PIPE INSTALLATION, BACKFILL AND COMPACTION.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATIONS AND STANDARD DRAWINGS FOR WATER AND WASTEWATER, CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.
3. EXISTING SERVICE CONNECTIONS ARE TO BE KEPT IN SERVICE UNTIL CONNECTIONS TO NEW MAIN ARE MADE. ALL SERVICE LINE RECONNECTIONS SHALL BE MADE BY THE CONTRACTOR. SERVICE RECONNECTIONS SHALL BE INSTALLED AS PER CITY OF TULSA WATER AND WASTEWATER STANDARDS. METERS ON THE SAME SIDE OF THE STREET AS THE PROPOSED MAIN SHALL HAVE THE SERVICE LINE ENTIRELY REPLACED FROM THE PROPOSED MAIN TO THE METER. METERS SERVED ON THE OPPOSITE SIDE OF THE STREET FROM THE PROPOSED MAIN SHALL HAVE THEIR EXISTING SERVICE LINES ADJACENT TO THE PROPOSED MAIN CONNECTED TO A NEW SERVICE LINE FROM THE PROPOSED MAIN BY A FLARED–END 3–PART UNION.
4. MINIMUM COVER OVER WATER LINES SHALL BE AS SHOWN ON PLANS.
5. CONTRACTOR SHALL REPLACE EXISTING GRASS WITH SEED/SOD OF SAME TYPE AND VARIETY OR AS NOTED ON PLANS.
6. CONTRACTOR SHALL BORE EXISTING TREES UNDER DRIP LINE, UNLESS DIRECTED OTHERWISE BY ENGINEER.
7. CONTRACTOR SHALL BORE EXISTING DRIVEWAYS, UNLESS DIRECTED OTHERWISE BY ENGINEER.
8. CITY CREWS ONLY ARE TO OPERATE ALL VALVES. CONTRACTOR SHALL NOTIFY CITY THRU INSPECTOR.
9. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOUR NOTICE TO ALL RESIDENTS OR BUSINESSES AFFECTED BEFORE TURNING OFF ANY WATER. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING DOOR HANGERS ON AFFECTED HOMES AND BUSINESSES.
10. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE–CALL SYSTEM, INC, NOTICE OF ANY EXCAVATION NO SOONER THAN 48 HOURS OR LATER THAN 10 DAYS, EXCLUDING SATURDAYS, SUNDAYS, LEGAL HOLIDAYS PRIOR TO COMMENCEMENT OF WORK, PHONE 1–800–522–6543.
11. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH PROJECT AT ALL TIMES. OPEN CUT STREET CROSSINGS REQUIRE AN APPROVED TRAFFIC CONTROL PLAN WITH TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH CURRENT MUTCD REQUIREMENTS.
12. ANY DAMAGE CAUSED BY CONTRACTOR TO ADJACENT TRAFFIC SIGNAL INFRASTRUCTURE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE TRAFFIC ENGINEER.
13. PRIOR TO PAVEMENT SAWING AND EXCAVATION NEAR SIGNALIZED INTERSECTION, CONTRACTOR SHALL CONTACT PUBLIC WORKS, TRAFFIC OPERATIONS, 596–9766, FOR SITE SPECIFIC, UNDERGROUND TRAFFIC UTILITY LOCATES.
14. CONSTRUCTION FOR ALL PUBLIC WORKS FACILITIES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF TITLE 252, DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 626, PUBLIC WATER SUPPLY CONSTRUCTION STANDARDS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ).
15. ALL EXCAVATED MATERIAL NOT REQUIRED IN OTHER AREAS OF THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY EXCESS MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS OF TULSA.
16. ANY CHANGES FROM APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF TULSA FOR WRITTEN APPROVAL PRIOR TO INSTALLATION.
17. WATERLINE CONSTRUCTION MUST BE PERFORMED DURING THE NIGHT OR WEEKEND TO MINIMIZE DISRUPTION.



PAY ITEMS AND NOTES (WATERLINE)					
PROJECT NO. 153120–C1–6 TMUA–W 17–14					
QUAKER AVE. STORM SEWER REALIGNMENT					
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT					
<div><div> <b>CEC CORPORATION</b></div><div>4617 E. 91st Street S. Tulsa, OK 74137 (918) 663–9401</div></div>					
REVISION	BY	DATE	PLAN SCALE:		
			N/A		
			DRAWN		
			DESIGNED		
			SURVEY		
			PROJ. MGR.		
			HORIZONTAL:		
			N/A		
			VERTICAL		
			N/A		
			DRAWING: 4 CONSTRUCTION NOTES AND SUMMARY TABLES		
			ATLAS PAGE NO: 3		
			APPROVED:		
			M.K.R. 03/2017		
			S.N.H. 03/2017		
			B.B. 03/2017		
			LEAD ENGR. 6/21		
			FIELD MGR. 12/7/18		
			RECOMMENDED: 12/18		
			DESIGN MANAGER: HNS 12-18		
			CITY ENGINEER: [Signature]		
			DATE: 10.29.21		
			SHEET 3 OF 14		

TMUA–W 17–14



## GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT'S STANDARD SPECIFICATIONS AND STANDARD DETAILS AND STANDARD DRAWINGS AND THE CITY OF TULSA SPECIAL PROVISIONS.
2. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.
3. PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.
4. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
5. THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT TO WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS: AT&T, PUBLIC SERVICE COMPANY OF OKLAHOMA (AEP), OKLAHOMA NATURAL GAS (ONG), COX COMMUNICATIONS, MCI/VERIZON, EASYTEL COMMUNICATIONS, WELLSCO VALLOR TELECOM, CITY OF TULSA WATER AND SEWER, CITY OF TULSA TRAFFIC OPERATIONS, SEE TITLE SHEET FOR CONTACT INFORMATION.
6. THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO THE COMMENCEMENT OF WORK. PHONE 1-800-522-6543.
7. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCLEMENT WEATHER OR OTHER SOURCES FROM ENTERING ANY STREET EXCAVATION. IF EXCESS MOISTURE DOES ENTER THE EXCAVATION THROUGH THE NEGLIGENCE OF THE CONTRACTOR AND THE ADJOINING PAVEMENT IS ADVERSELY EFFECTED BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.
8. THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER STRUCTURES AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.
9. THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL FLAGMEN, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE FIELD ENGINEERING REPRESENTATIVE.
10. CONSTRUCTION SIGNAGE WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER. IN ACCORDANCE WITH CHAPTER 10 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT ADDITION, AND APPLICABLE ODOT STANDARD DRAWINGS, THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK.
11. THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA FIELD ENGINEERING, 918-596-9404, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK OR PRIOR TO REMOVING TRAFFIC SIGNS. ALL SIGNS SHALL BE HANDLED IN A MANNER SO AS NOT TO DAMAGE THE SIGN AND/OR POST. ALL TRAFFIC SIGNS REMOVED DUE TO CONSTRUCTION SHALL BE REINSTALLED BY THE CITY/CONTRACTOR.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL EXISTING TRAFFIC SIGNS AND MARKINGS REMOVED OR DAMAGED AS LISTED IN THE SIGNAGE SCHEDULE FOR THE PROJECT. ALL SIGNS AND POLES PROVIDED SHALL BE NEW AND UNDAMAGED AND SHALL MEET THE REQUIREMENTS OF COT SPECIFICATION 608 TRAFFIC SIGNS. ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.
13. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARATION AND DISTRIBUTION OF A WRITTEN NOTICE TO RESIDENTS 48 HOURS PRIOR TO BEGINNING PAVEMENT REMOVAL AND MILLING AND OVERLAY OPERATIONS.
14. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES.
15. ALL PUBLIC AND PRIVATE STREETS AND DRIVES SHALL BE ACCESSIBLE AT ALL TIMES.
16. ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
17. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY MATERIAL IS STORED ON THE PROJECT SITE AND/OR DISPOSED OF WITHIN THE CITY LIMITS.

## GENERAL CONSTRUCTION NOTES (CONT'D)

18. ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER IS TO BE CLEANED OUT TO THE RIGHT-OF-WAY LINE IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK. TREES OUTSIDE THE FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.
19. WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.
20. ANY DAMAGE TO THE ROADWAY PAVEMENT, CURB, DRIVEWAYS OR SIDEWALK CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE ENGINEER'S SATISFACTION AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE.
21. IF THE CONTRACTOR ENCOUNTERS VOIDS WHEN PATCHING STREETS, THE CONTRACTOR SHALL CALL FIELD ENGINEERING AT 918-596-9404 FOR AN INSPECTION BEFORE PROCEEDING WITH WORK.
22. THE PROJECT SHALL BE CONSTRUCTED WITH CONTINUOUS FLOW OF MATERIAL SUPPLIED TO THE PROJECT SUCH THAT THE LAYDOWN MACHINE WILL REMAIN IN MOTION. ANY DELAY IN FORWARD PROGRESSION OF THE LAYDOWN MACHINE MAY REQUIRE A TRANSVERSE JOINT AS DIRECTED BY THE ENGINEER.
23. NO FLY ASH IS ALLOWED TO BE USED ON THIS PROJECT.
24. PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.
25. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.
26. MASONRY STRUCTURES SHALL NOT BE CONSTRUCTED WITHIN THE STREET RIGHT-OF-WAY.
27. ALL CONCRETE CURB AND GUTTERS SHALL BE MONOLITHIC POURS, DOWELED-ON CURBS WILL NOT BE ALLOWED.
28. NO LIFTING HOLES WILL BE ALLOWED ON ANY REINFORCED CONCRETE PIPES OR REINFORCED CONCRETE BOXES.
29. CURB RAMP CONSTRUCTION SHALL COMPLY WITH THE CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
30. ERECTED AT THE CONTRACTOR'S EXPENSE.
31. ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BINS IN THE STOCKROOM AREA AT SEWER OPERATIONS AND MAINTENANCE, 9319 E. 42ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.
32. THE SIGN PLACEMENT STATIONING AND LOCATIONS SHOWN ON THE PLAN SHEETS AND SUMMARY SHEETS ARE APPROXIMATE. EXACT STATIONING AND LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH CITY OF TULSA STANDARDS, CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES, OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.
33. POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE. EXACT LENGTHS SHALL BE DETERMINED BY A FIELD SURVEY CONDUCTED BY THE CONTRACTOR.
34. ALL ASPHALT STREETS THAT ARE TO BE RECONSTRUCTED SHALL BE LEFT WITH A DRIVABLE SURFACE AT ALL TIMES. THE CONTRACTOR WILL NOT BE ALLOWED TO MILL OFF ALL THE ASPHALT BEFORE EXCAVATION BEGINS.
35. THE CONTRACTOR SHALL REPLACE ANY SECTION CORNERS OR OTHER PERMANENT RIGHT OF WAY MARKERS REMOVED OR DISTURBED AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT. REPLACEMENT OF SECTION CORNERS OR ANY THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC. OTHER MONUMENTS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR AUTHORIZED TO PERFORM WORK IN THE STATE OF OKLAHOMA.
36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MAINTENANCE OF THE STORMWATER DRAINAGE. STORMWATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED.
37. STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.
38. THE CONTRACTOR MUST CALL 1-800-458-4251 IMMEDIATELY IF A NATURAL GAS PIPELINE IS CUT, DAMAGED, OR OTHERWISE DISTURBED.
39. PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.
40. ALL FEATURES OF THIS PROJECT INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS, AND CROSSWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY, PUBLISHED ON JULY 26, 2011 BY THE U.S. ACCESS BOARD, WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURES. THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK IN FULL COMPLIANCE WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER, ANY WORK, WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.


## GENERAL CONSTRUCTION NOTES (CONT'D)

41. ALL TRENCH WIDTHS & BEDDING MATERIAL SHALL BE AS SHOWN ON COT STANDARD PIPE BEDDING DETAIL, STANDARD NO. 751. SPECIFIED TRENCH WIDTHS SHALL BE MAINTAINED FULL DEPTH FROM THE FLOWLINE TO THE GRADING TEMPLATE. THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED.
42. THE CONTRACTOR SHALL NOTIFY THE METROPOLITAN TULSA TRANSIT AUTHORITY (MTTA), ERIC SMITH 918-830-0024, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK, LANE CLOSURES OR PRIOR TO DETOURING TRAFFIC.
43. CONTRACTOR SHALL NOT STORE ANY MATERIAL OR EQUIPMENT IN THE FLOODPLAIN.

SUMMARY OF DRAINAGE STRUCTURES																									
DRAINAGE STRUCTURE NUMBER	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION	DESIGN	INLET TOP OF GRATE	INVERT ELEVATION	INVERT ELEVATION DOWNSTREAM	INNER STR. HEIGHT	4' DIA. MANHOLE	5' DIA. MANHOLE	COT DES 2	COT DES 2B	SMD-TYPE 1	4' DIA. MANHOLE ADD'L DEPTH	5' DIA. MANHOLE ADD'L DEPTH	SMD ADDITIONAL DEPTH	INLET FRAME AND GRATE (TYPE A)	6" CAST IRON HOOD	15" PIPE	18" PIPE	24" PIPE	30" PIPE	
							MH TOP OF RIM																		
							(FT)																		(FT)
MH-1	10+00.00	0'	421727.9600	2566191.8000	MANHOLE (5' DIA.), COMPLETE IN PLACE	COT 775	727.18	720.48		6.70		1					0.7								
MH-2	10+63.73	0'	421664.2400	2566192.9800	CONSTRUCT 5' MANHOLE, STUB 58.7 LF 30" PIPE INTO MH-1	COT 775	729.36	721.07	720.78	8.29		1					2.24					8		59	
MH-3	11+08.11	0'	421633.4500	2566224.9400	CONSTRUCT 4' MANHOLE, STUB 39.9 LF 24" PIPE INTO MH-2	COT 775	731.93	721.48	721.28	10.45	1					3.85						40			
MH-4	14+01.72	0'	421638.9100	2566518.5000	CONSTRUCT 4' MANHOLE, STUB 289.6 LF 24" PIPE INTO MH-3	COT 775	738.80	728.73	725.81	10.07	1					4.07						290			
MH-5	15+04.87	0'	421742.0300	2566516.4100	CONSTRUCT 4' MANHOLE, STUB 99.2 LF 18" PIPE INTO MH-4	COT 775	734.51	729.23	728.73	5.28	1									8	100				
MH-6	20+00.00	0'	421631.2052	2566518.6541	CONSTRUCT 4' MANHOLE, STUB 3.7 LF 18" PIPE INTO MH-4	COT 775	739.24	733.60	733.50	5.64	1										12				
MH-7	23+10.20	0'	421633.8503	2566828.8427	CONSTRUCT 4' MANHOLE, STUB 132.9 LF 18" PIPE INTO STR-2	COT 775	747.90	742.41	740.60	5.49	1										133				
1	15+18.32	1.75' LT	421741.4000	2566502.9700	CONSTRUCT CICI DES. 2B, STUB 9.09 LF 18" PIPE INTO MH-5	COT 764	733.89	730.14	730.04	3.75				1					2	4		10			
2	21+74.37	0'	421633.0046	2566693.9316	CONSTRUCT SMD-TYPE 1, STUB 171.5 LF 18" PIPE INTO MH-6	ODOT SMD-3-1	744.95	740.50	733.70	4.45					1			1.39				172			
3	23+26.50	0'	421630.2944	2566843.8308	CONSTRUCT CICI DES. 2, STUB 13.4 LF 18" PIPE INTO MH-7	COT 764	746.39	742.90	742.51	3.49			1						2	2		13			
4	23+61.29	0'	421624.5522	2566879.7234	CONSTRUCT CICI DES. 2, STUB 32.7 LF 18" PIPE INTO STR-3	COT 764	746.74	744.09	743.00	2.65			1						2	2		33			
TOTALS												5	2	2	1	1	7.92	2.94	1.39	6	8	8	481	330	59

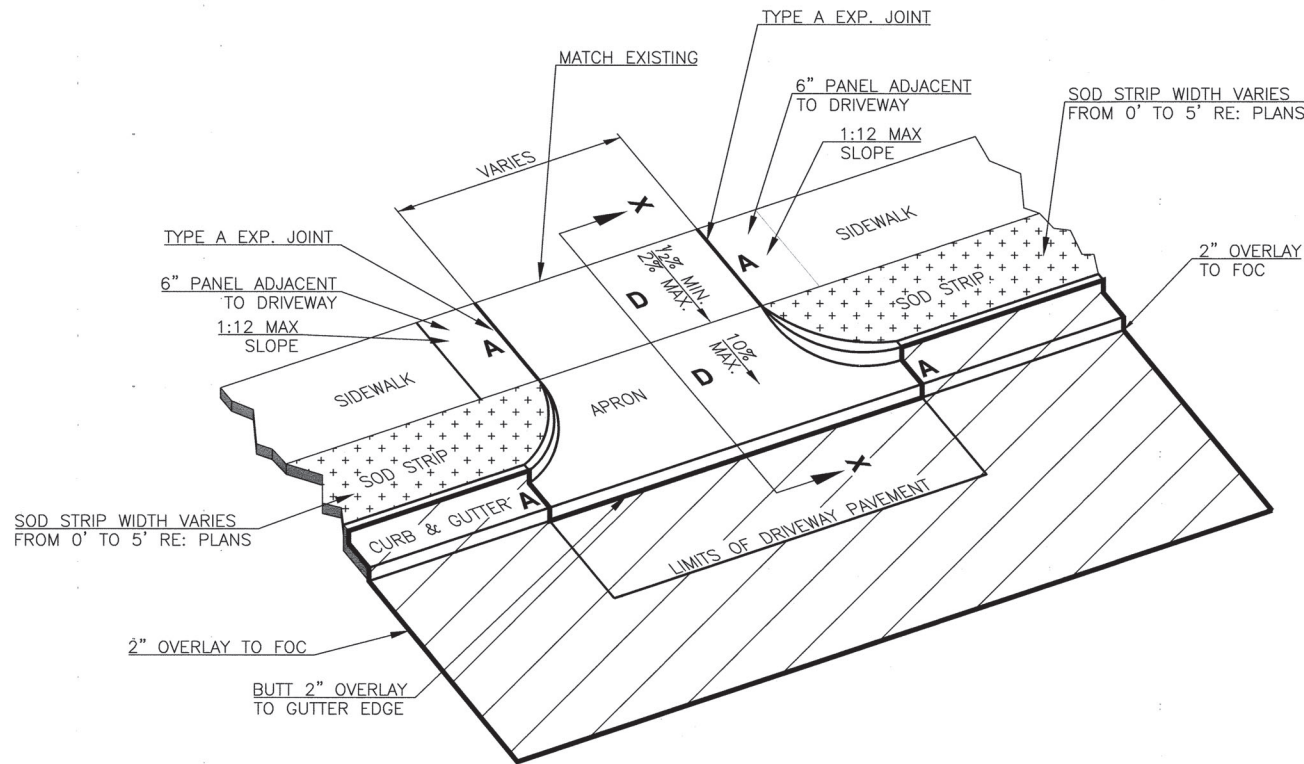
SUMMARY OF WATERLINE FITTINGS*						
POINT	DESCRIPTION	STATION	OFFSET	INVERT	NORTHING	EASTING
1	6" SOLID SLEEVE	50+28.45	0.00'	727.05'	421962.8927	2656911.4044
2	6" 45° BEND	50+48.45	0.00'	726.29'	421959.8391	2656931.1699
3	6" 45° BEND	50+50.80	0.00'	719.26'	421931.7366	2656933.7541
4	6" 45° BEND	50+70.80	0.00'	718.50'	421928.6794	2656953.5190
5	6" 45° BEND	50+81.50	0.00'	725.00'	421954.6797	2656964.4525
6	6" SOLID SLEEVE	51+01.50	0.00'	724.24'	421951.6425	2656984.2249

\* WATERLINE WORK TO BE PERFORMED AT THE DISCRETION OF THE ENGINEER AND MAY BE OMITTED IN ITS ENTIRETY

REVISION	BY	DATE	PLAN SCALE:	DRAWN	M.K.R.	03/2017	APPROVED:   CITY ENGINEER	
-	-	-	N/A	DESIGNED	S.N.H.	03/2017		
-	-	-		SURVEY	B.B	03/2017		
-	-	-	PROFILE SCALES:	PROJ. MGR.	ENS	12/18		
-	-	-	HORIZONTAL:	LEAD ENGR.	BBC	10/18		
-	-	-	N/A	FIELD MGR.	BBY	12/18		
-	-	-	VERTICAL:	RECOMMENDED:	HAS	12-18		
-	-	-	N/A	DESIGN MANAGER				
-	-	-	DRAWING: 4 CONSTRUCTION NOTES AND SUMMARY TABLE					10-29-21
-	-	-	ATLAS PAGE NO: 3					SHEET 4 OF 14

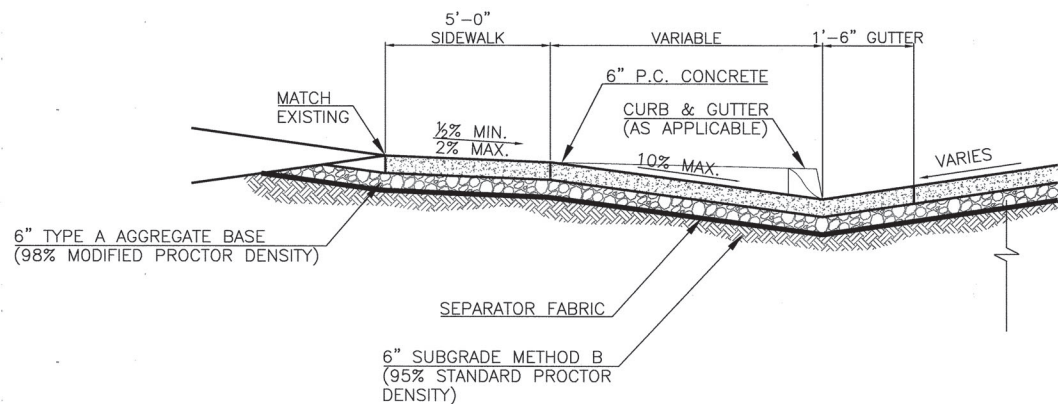


PLOT DATE: November 20, 2018, DRAWING FILE: N:\TULSA\PROJECTS\TPWD - CITYWIDE DRAINAGE IMPROVEMENTS\TO-6\PROJECT DRAWINGS\4 CONSTRUCTION NOTES AND SUMMARY TABLES.DWG



CATCHING AREA ONLY

6" P.C. CONCRETE DRIVEWAY

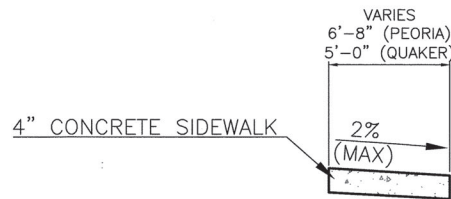


DRIVEWAY DETAILS

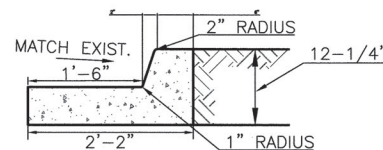
N.T.S.

CITY STREET RETURNS SHALL BE REPLACED TO FULL DEPTH OF ARTERIAL TYPICAL SECTION.

TYPE D SAWED CONTRACTION JOINT REQUIRED THROUGH CENTER FOR DRIVES 15' WIDE & OVER. SAW CUT 2" DEEP AND FILL WITH BACKER ROD AND SILICONE SEALANT.

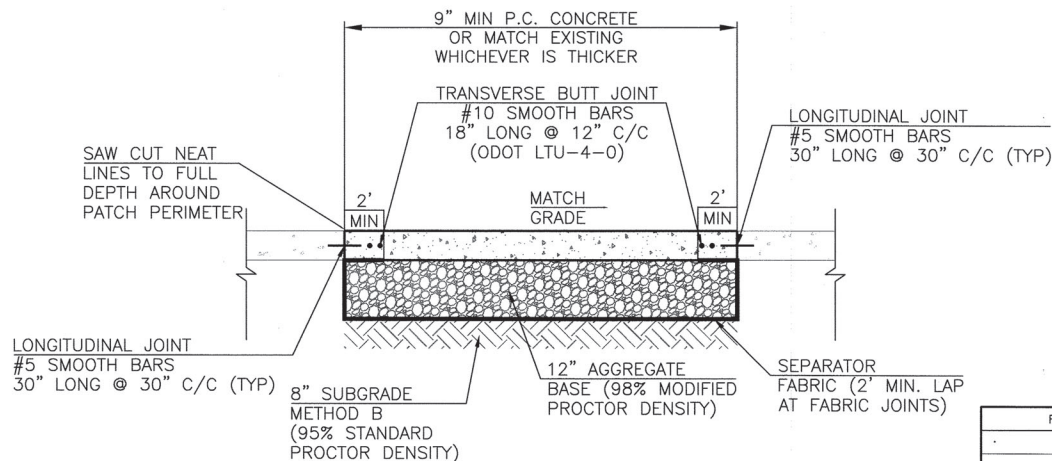


4" CONCRETE SIDEWALK DETAIL

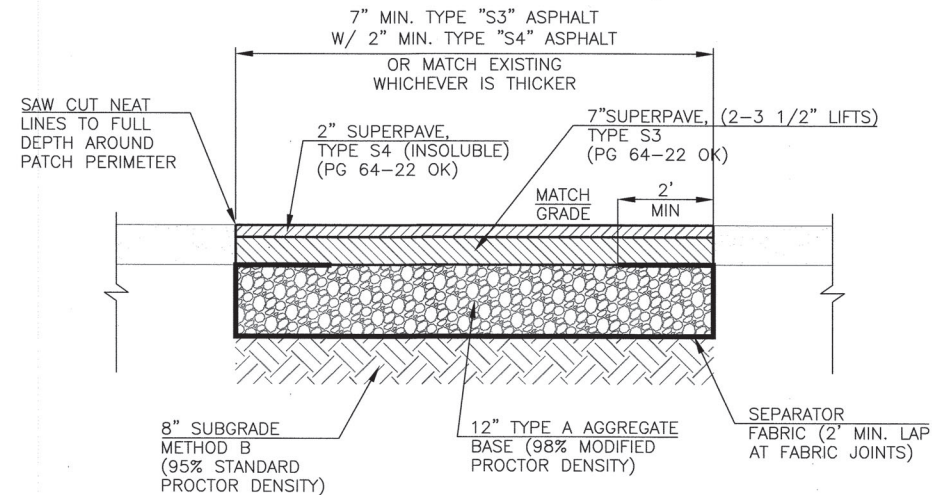


CURB AND GUTTER DETAIL

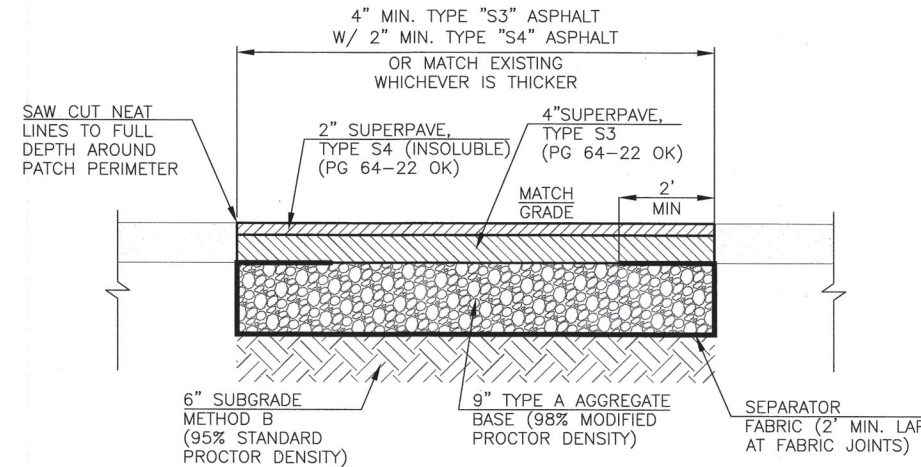
6" BARRIER CURB



TYPE 1 PCC PATCH DETAIL  
(ARTERIAL STREET)





TYPICAL ASPHALT PATCH DETAIL  
(NON-ARTERIAL STREET)

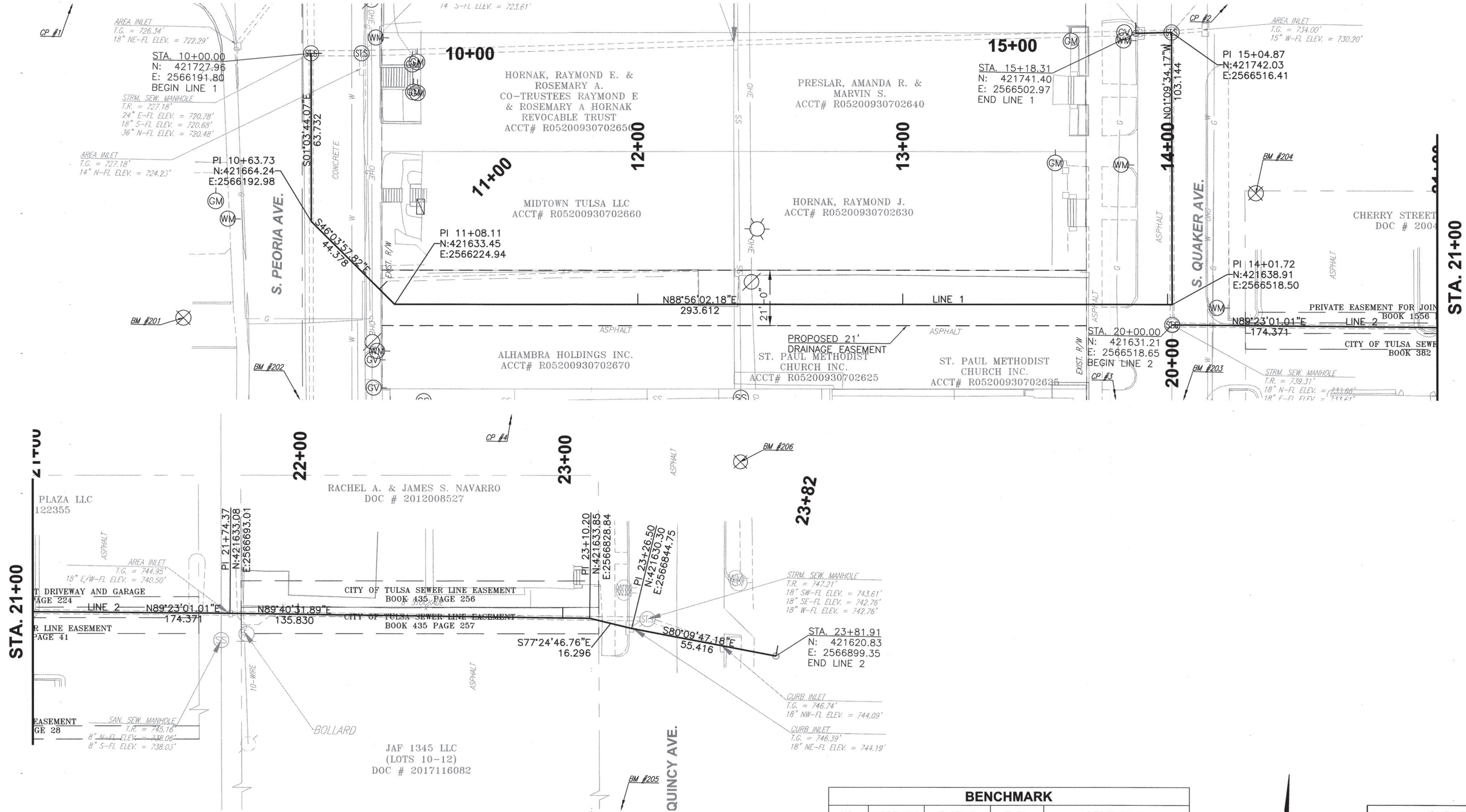


TYPICAL ASPHALT PATCH DETAIL  
(PARKING LOT)



TYPICAL SECTIONS			
PROJECT NO. 153120-C1-6			
TMUA-W 17-14			
QUAKER AVE. STORM SEWER REALIGNMENT			
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
<div> <b>CEC CORPORATION</b> 4617 E. 91st Street S. Tulsa, OK 74137 (918) 663-9401</div>			
PLAN SCALE:	DRAWN	M.K.R. 03/2017	APPROVED:
N/A	DESIGNED	S.N.H. 03/2017	
	SURVEY	B.B. 03/2017	
PROFILE SCALES:	PROJ. MGR.	EMS 12/18	 CITY ENGINEER
HORIZONTAL:	LEAD ENGR.	DOC 10/21	
N/A	FIELD MGR.	2/21 12/18	
VERTICAL	RECOMMENDED:	11/12/18	
N/A	DESIGN MANAGER		
DRAWING: 4 CONSTRUCTION NOTES AND SUMMARY TABLES			DATE 10-29-21
ATLAS PAGE NO: 3			SHEET 5 OF 14





**SURVEY CONTROL DATA**

- HORIZONTAL DATUM IS TIED TO EXISTING CITY OF TULSA CONTROL MONUMENT # 62 RESET WHICH IS ADJUSTED TO THE OKLAHOMA STATE PLANE NAD 83 (1993) COORDINATE SYSTEM, NORTH ZONE, PER MONUMENT # 62 RESET DATA SHEET.
- BEARINGS:  
THE BEARINGS SHOWN HEREIN OR HEREON ARE GRID BEARINGS DERIVED FROM THE USC & GS OKLAHOMA PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL.
- VERTICAL CONTROLS:  
A. LEVEL DATUM IS NGS, NAVD 88, PER CONTROL MONUMENT # 62 RESET DATA SHEET AND ADJUSTED FROM PRIMARY CONTROL UTILIZING DIFFERENTIAL LEVELING TECHNIQUES.  
B. ACCURACY - 3RD ORDER OR BETTER

PREPARED BY:  
**CEC CORPORATION**

4555 W. MEMORIAL ROAD  
OKLAHOMA CITY, OK 73142-2013  
(405) 753-4200

11-27-18  
DATE  
BRIAN C. BIRD, P.L.S.  
OKLAHOMA REG. NO. 1869



SURVEYOR'S CERTIFICATION:  
I HEREBY CERTIFY THAT THE HORIZONTAL AND VERTICAL CONTROL FOR THIS PROJECT WERE BASED UPON THE TULSA COUNTY ADS CONTROL NETWORK AND THAT THE VALUES SHOWN MEET SECOND ORDER CLASS II HORIZONTAL (1:20,000) AND THIRD ORDER VERTICAL (1:5,000) STANDARDS. AT A MINIMUM.

**BENCHMARK**

NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
201	421626.8	2566145.4	732.24'	CUT "X" IN TOP OF CURB
202	421552.1	2566215.7	734.01'	CUT "X" IN TOP OF CURB
203	421549.5	2566506.9	742.99'	CUT "X" IN TOP OF CURB
204	421681.8	2566549.3	738.23'	CUT "X" IN TOP OF CURB
205	421473.9	2566818.7	750.76'	CUT "X" IN TOP OF CURB
206	421694.2	2566884.7	748.45'	CUT "X" W EDGE SIDEWALK

**CONTROL POINTS**

NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
1	421753.9891	2566104.4423	724.746'	SET 5/8IN IRON PIN W/CEC CAP
2	421760.3547	2566543.5531	735.85'	SET 5/8IN IRON PIN W/CEC CAP
3	421362.7066	2566536.7250	750.02'	SET 5/8IN IRON PIN W/CEC CAP
4	421953.4070	2566833.9664	751.21'	SET 5/8IN IRON PIN W/CEC CAP



**SURVEY AND ROW DATA**

PROJECT NO. 153120-C1-6  
TMUA-W 17-14

QUAKER AVE. STORM SEWER REALIGNMENT

CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

**CEC CORPORATION**  
4617 E. 91st Street S. Tulsa, OK 74137  
(918) 663-9401

REVISION	BY	DATE	PLAN SCALE:	DRAWN	M.K.R.	03/2017	APPROVED:
-	-	-	1" = 20'	DESIGNED	S.N.H.	03/2017	-
-	-	-	-	SURVEY	B.B.	03/2017	-
-	-	-	PROFILE SCALES:	PROJ. MGR.	EMS	12/18	-
-	-	-	HORIZONTAL:	LEAD ENGR.	BDC	12/21	-
-	-	-	N/A	FIELD MGR.	EMS	12/18	-
-	-	-	VERTICAL:	RECOMMENDED	AMS	12-18	-
-	-	-	N/A	DESIGN MANAGER	-	-	-
-	-	-	DRAWING: 6 SURVEY AND ROW DATA.DWG	-	-	-	DATE 10.29.21
-	-	-	ATLAS PAGE NO: 3	-	-	-	SHEET 6 OF 14





PLOT DATE: November 20, 2018, DRAWING FILE: N:\TULSA\PROJECTS\TPWD - CITYWIDE DRAINAGE IMPROVEMENTS\TO-6\PROJECT DRAWINGS\7 STORM WATER MANAGEMENT PLAN.DWG

# STORMWATER MANAGEMENT PLAN

## SITE DESCRIPTION

PROJECT LIMITS: S. PEORIA AVE, E. 15TH ST, & S. QUINCY AVE IN TULSA, OKLAHOMA

PROJECT DESCRIPTION: REALIGN STORM WATER PIPE, CONSTRUCT 7 MANHOLES, 3 CICI INLETS, 1 SMD INLET, ROADWAY PATCHING ALONG PIPE AND AT MANHOLE AND INELT LOCATIONS.

SUGGESTED SEQUENCE OF CONSTRUCTION:

1. VEGETATIVE STRIPPING
2. UNDERCUT & STOCKPILE EXISTING TOPSOIL, PRESERVE AS MUCH NATIVE VEGETATION AS POSSIBLE
3. INSTALL SEDIMENT CONTROLS
4. REMOVE EXISTING PAVEMENT
5. PERFORM PATCHING AND FINISH STREET PAVING
6. SPREAD TOPSOIL
7. INSTALL SOLID SLAB SOD

RUNOFF COEFFICIENT 0.49 PRE 0.49 POST

SOIL TYPE: SILTY CLAY, SILTY CLAY LOAM, LOAMY FINE SAND

AREA TO BE DISTURBED: 0.24 ACRES

OFFSITE AREA TO BE DISTURBED: N/A

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: (FOR CONTRACTORS USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36°8'27.90"N, 95°58'30.12"W

NAME OF RECEIVING WATERS: ELM CREEK, ARKANSAS RIVER

SENSITIVE WATERS OR WATERSHEDS: YES NO

303(d) IMPAIRED WATERS: YES NO

NOTE:  
THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

## EROSION AND SEDIMENT CONTROLS

### SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- ☒ PERMANENT SODDING, SPRIGGING OR SEEDING
- VEGETATIVE MULCHING
- SOIL RETENTION BLANKET
- ☒ PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS ARE TO BE USED ON ALL DISTURBED AREAS WHERE CONST. ACTIVITIES HAVE CEASED FOR OVER 21 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

### STRUCTURAL PRACTICES:

- TEMPORARY BRUSH SEDIMENT BARRIERS
- TEMPORARY SILT FENCE
- TEMPORARY SILT DIKES
- DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- SANDBAG BERMS
- ROCK FILTER DAMS
- TEMPORARY SLOPE DRAIN
- PAVED DITCH W/ DITCH LINER PROTECTION
- TEMPORARY DIVERSION CHANNELS
- RIP RAP
- TEMPORARY STREAM CROSSINGS
- TEMPORARY SEDIMENT BASINS
- TEMPORARY SEDIMENT TRAPS
- ☒ TEMPORARY SEDIMENT FILTERS
- ☒ TEMPORARY SEDIMENT REMOVAL
- INLET SEDIMENT FILTER
- STABILIZED CONSTRUCTION EXIT

### OFFSITE VEHICLE TRACKING:

- ☒ HAUL ROADS DAMPENED FOR DUST CONTROL
- ☒ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- ☒ EXCESS DIRT ON ROAD REMOVED DAILY

### NOTES:

## OTHER EROSION AND SEDIMENT CONTROLS

### THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

#### MAINTENANCE AND INSPECTION:

All erosion and sediment controls will be maintained in good working order from the beginning of construction until an acceptable vegetative cover is established. Inspection by the Contractor and any necessary repairs shall be performed once every 7 calendar days and within 24 hours after any storm event greater than 0.5 inches as recorded by a non-freezing rain gauge to be located on site. Potentially erodible areas, drainageways, material storage, structural devices, construction entrances and exits along with erosion and sediment control locations are examples of sites that need to be inspected.

#### WASTE MATERIALS:

Proper management and disposal of construction waste material is required by the Contractor. Materials include stockpiles, surplus, debris and all other by-products from the construction process. Practices include disposal, proper materials handling, spill prevention and cleanup measures. Controls and practices shall meet the requirements of all Federal, State and Local agencies.

#### HAZARDOUS MATERIALS:

Proper management and disposal of hazardous waste materials is required. The Contractor is responsible for following manufacturer's recommendations, State and Federal regulations to ensure correct handling, disposal, spill prevention and cleanup measures. Examples include but are not limited to: paints, acids, cleaning solvents, chemical additives, concrete curing compounds and contaminated soils.

#### GENERAL NOTES:

A Storm Water Pollution Prevention Plan (SW3P) is required to comply with the Oklahoma Pollution Discharge Elimination System (OPDES) regulations. This plan is initiated during the design phase, confirmed in the pre-work meetings and available on the job site along with copies of the Notice of Intent (NOI) form and permit certificate that have been filed with Oklahoma Department of Environmental Quality (ODEQ). The plan must be kept current with up-to-date amendments during the progression of the project. All Contractor off-site operations associated with the project must be documented in the SW3P, i.e., borrow pits, work roads, disposal sites, asphalt/concrete plants, etc. The basic goal of storm water management is to improve water quality by reducing pollutants in storm water discharges. Runoff from construction sites has a potential for pollution due to exposed soils and the presence of hazardous materials used in the construction process. The prevention of soil erosion, containment of hazardous materials and/or the interception of these pollutants before leaving the construction site are the best practices for controlling storm water pollution.

### THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

- 103.05 BONDING REQUIREMENTS
- 104.10 FINAL CLEANING UP
- 104.12 CONTRACTOR'S RESPONSIBILITY FOR WORK
- 104.13 ENVIRONMENTAL PROTECTION
- 106.08 STORAGE AND HANDLING MATERIALS
- 107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
- 107.20 STORM WATER MANAGEMENT
- 220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
- 221 TEMPORARY SEDIMENT CONTROL

#### IN ADDITION:

"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2017.

REVISION	BY	DATE
-	-	-
-	-	-
-	-	-
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-	-	-
-	-	-
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STORM WATER MANAGEMENT PLAN

PROJECT NO. 153120-C1-6  
TMUA-W 17-14

QUAKER AVE. STORM SEWER REALIGNMENT

CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

CEC

CEC CORPORATION

4617 E. 91st Street S. Tulsa, OK 74137  
(918) 663-9401

PLAN SCALE: N/A

PROFILE SCALES: HORIZONTAL: N/A VERTICAL: N/A

DRAWING: STORM WATER MANAGEMENT PLAN  
ATLAS PAGE NO: 3

DRAWN: DESIGNED: SURVEY: PROJ. MGR. LEAD ENGR. FIELD MGR. RECOMMENDED: DESIGN MANAGER

M.K.R. 03/2017 S.N.H. 03/2017 B.B. 03/2017 EMS 12/18 BOC 10/21 BSV 12/18 HW 12-18

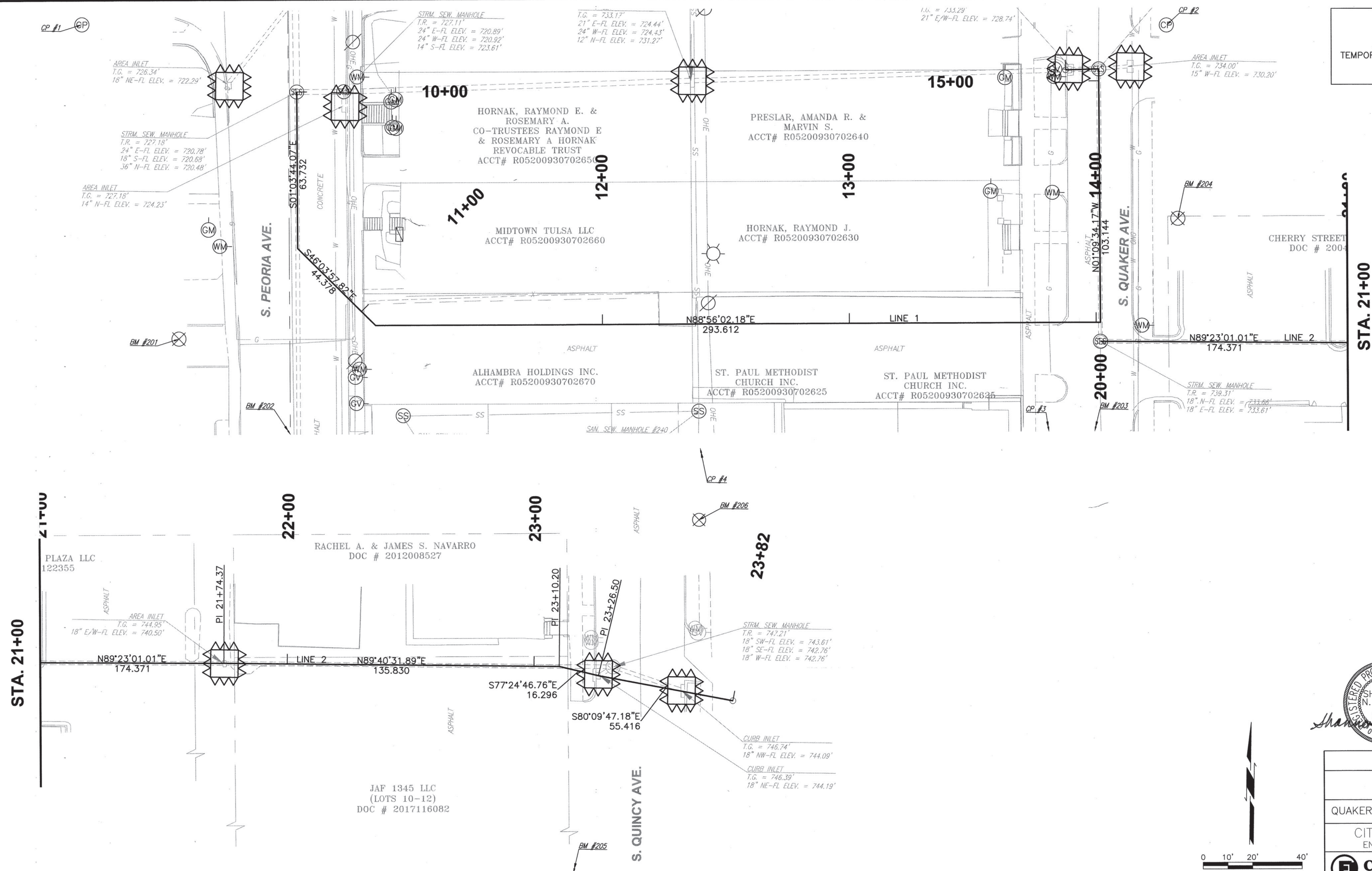
APPROVED: CITY ENGINEER DATE 10.29.21

9186639401

SHANNON N. HANKS 21141 OKLAHOMA

BEFORE YOU DIG CALL 811






BENCHMARK				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
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BENCHMARK				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
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205	421473.9	2566818.7	750.76'	CUT "X" IN TOP OF CURB
206	421694.2	2566884.7	748.45'	CUT "X" W EDGE SIDEWALK





CONTROL POINTS					
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION	
1	421753.9891	2566104.4423	724.746'	SET 5/8IN CAP	IRON PIN W/CEC
2	421760.3547	2566543.5531	735.85'	SET 5/8IN CAP	IRON PIN W/CEC
3	421362.7066	2566536.7250	750.02'	SET 5/8IN CAP	IRON PIN W/CEC
4	421953.4070	2566833.9664	751.21'	SET 5/8IN CAP	IRON PIN W/CEC

REVISION	BY	DATE	PLAN SCALE:	DRAWN	M.K.R. 03/2017	APPROVED:   CITY ENGINEER  DATE 10.29.21 SHEET 8 OF 14
-	-	-	1" = 20'	DESIGNED	S.N.H. 03/2017	
-	-	-		SURVEY	B.B. 03/2017	
-	-	-	PROFILE SCALES:	PROJ. MGR.	EMS 12/18	
-	-	-	HORIZONTAL:	LEAD ENGR.	BDD 4/21	
-	-	-	N/A	FIELD MGR.	CBV 12/18	
-	-	-	VERTICAL	RECOMMENDED	12-18	
-	-	-	N/A	DESIGN MANAGER		
-	-	-	DRAWING: 9 EROSION CONTROL.DWG			
-	-	-	ATLAS PAGE NO: 3			

**LEGEND**

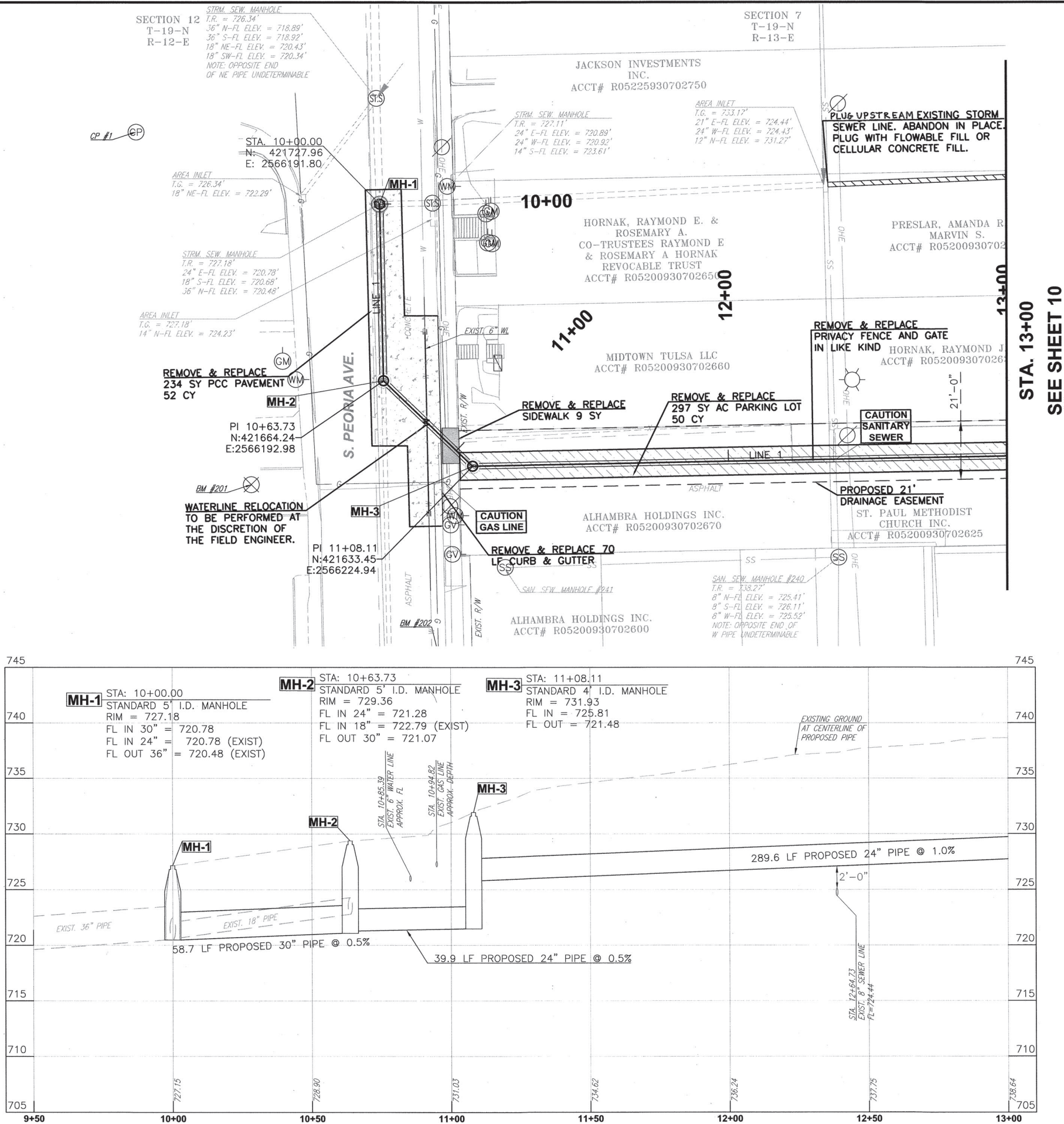
TEMPORARY SEDIMENT FILTER



 				
EROSION CONTROL				
PROJECT NO. 153120-C1-6 TMUA-W 17-14				
QUAKER AVE. STORM SEWER REALIGNMENT				
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT				
 <b>CEC CORPORATION</b> 4617 E. 91st Street S. Tulsa, OK 74137 (918) 663-9401				
DATE	PLAN SCALE:	DRAWN	M.K.R.	APPROVED:
•	1" = 20'	DESIGNED	S.N.H. 03/2017	 CITY ENGINEER
•		SURVEY	B.B. 03/2017	
•	PROFILE SCALES:	PROJ. MGR.	EMS 12/18	
•	HORIZONTAL:	LEAD ENGR.	BDC 6/21	
•	N/A	FIELD MGR.	EBV 12/18	
•	VERTICAL	RECOMMENDED	11/8 12-18	
•	N/A	DESIGN MANAGER		
•	DRAWING: 9 EROSION CONTROL DWG			DATE
•	ATLAS PAGE NO: 3			10.29.21
•				SHEET 8 OF 14



PLOT DATE: November 20, 2018, DRAWING FILE: N:\TULSA\PROJECTS\TPWD - CITYWIDE DRAINAGE IMPROVEMENTS\TO-6\PROJECT DRAWINGS\12 P&P 22+00.00.DWG



BENCHMARK				
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**LEGEND**

- TYPE 1 PCC PATCH
- TYPE 1 AC STREET PATCH
- TYPE 1 AC PARKING LOT PATCH
- REMOVE AND REPLACE CURB
- PROPOSED DRIVE
- PROPOSED SIDEWALK
- ABANDON EXISTING STORM SEWER

**NOTE:**  
SEE TYPICAL SECTIONS FOR PAVEMENT DEPTH AND OTHER DETAILS

NOTE: CONSTRUCTION EQUIPMENT WILL NOT BE PARKED OR INTERFERE WITH PARKING SPACES NOT AFFECTED BY CONSTRUCTION. ALL SPACES WHERE STORM PIPE IS NOT BEING INSTALLED WILL REMAIN OPEN FOR CUSTOMER USE.

EXISTING HORIZONTAL UTILITY LOCATIONS AND DEPTHS ARE APPROXIMATE AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION



LINE 1 P&P 10+00.00

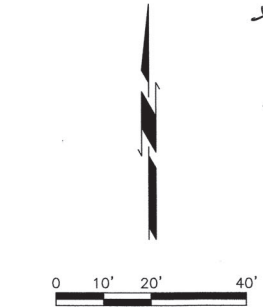
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TMUA-W 17-14

QUAKER AVE. STORM SEWER REALIGNMENT

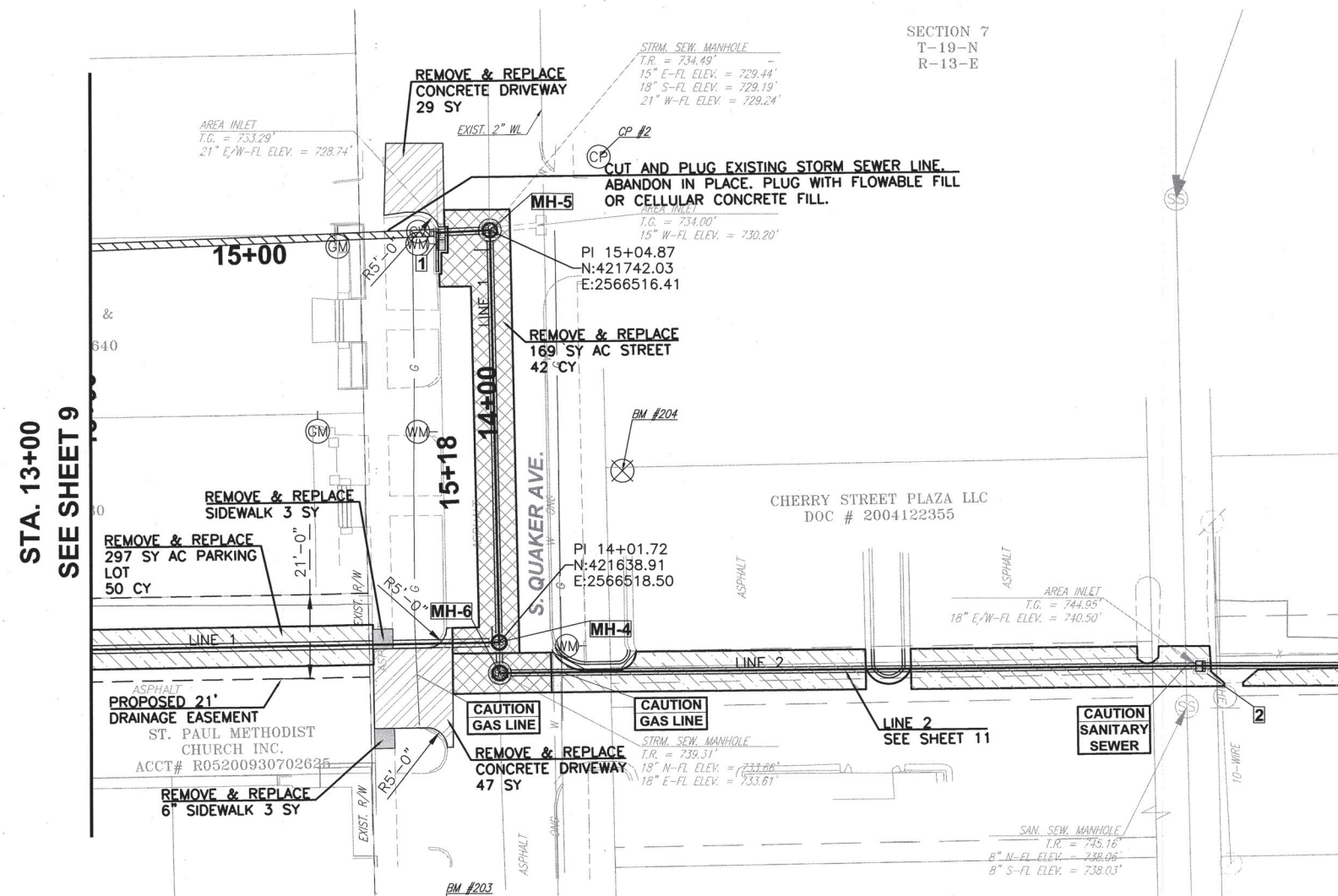
CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

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	FIELD MGR.	EBV 12/18	
	RECOMMENDED	MHI 12/18	
	DESIGN MANAGER		
DRAWING: 12 P&P 22+00.00.DWG			DATE 10-29-21
ATLAS PAGE NO: 3			SHEET 9 OF 14














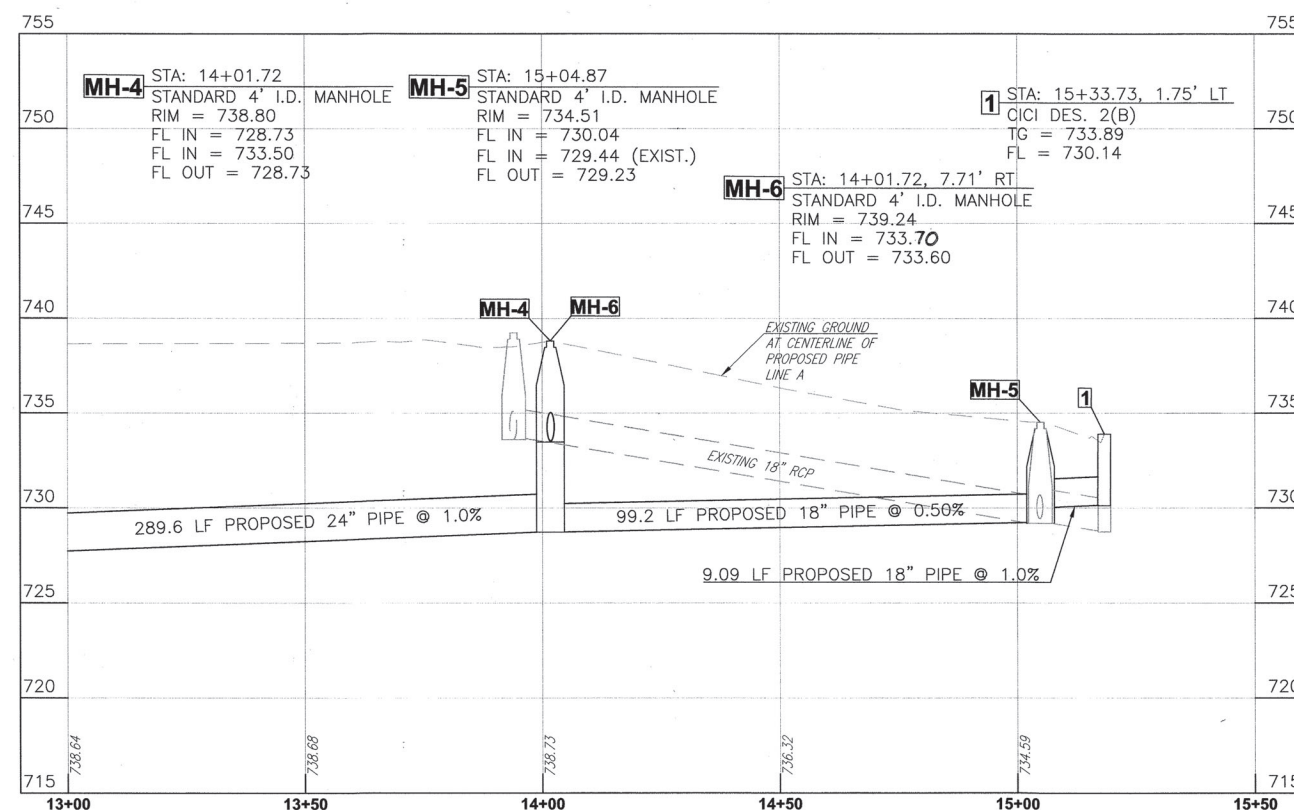
BENCHMARK				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
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NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
2	421760.3547	2566543.5531	735.85'	SET 5/8IN IRON PIN W/CEC CAP

### LEGEND


	TYPE 1 PCC PATCH
	TYPE 1 AC STREET PATCH
	TYPE 1 AC PARKING LOT PATCH
	REMOVE AND REPLACE CURB
	PROPOSED DRIVE
	PROPOSED SIDEWALK
	ABANDON EXISTING STORM SEWER

**NOTE:**  
SEE TYPICAL SECTIONS FOR PAVEMENT DEPTH AND OTHER DETAILS



**EXISTING HORIZONTAL UTILITY LOCATIONS  
AND DEPTHS ARE APPROXIMATE AND MUST  
BE FIELD VERIFIED PRIOR TO CONSTRUCTION**

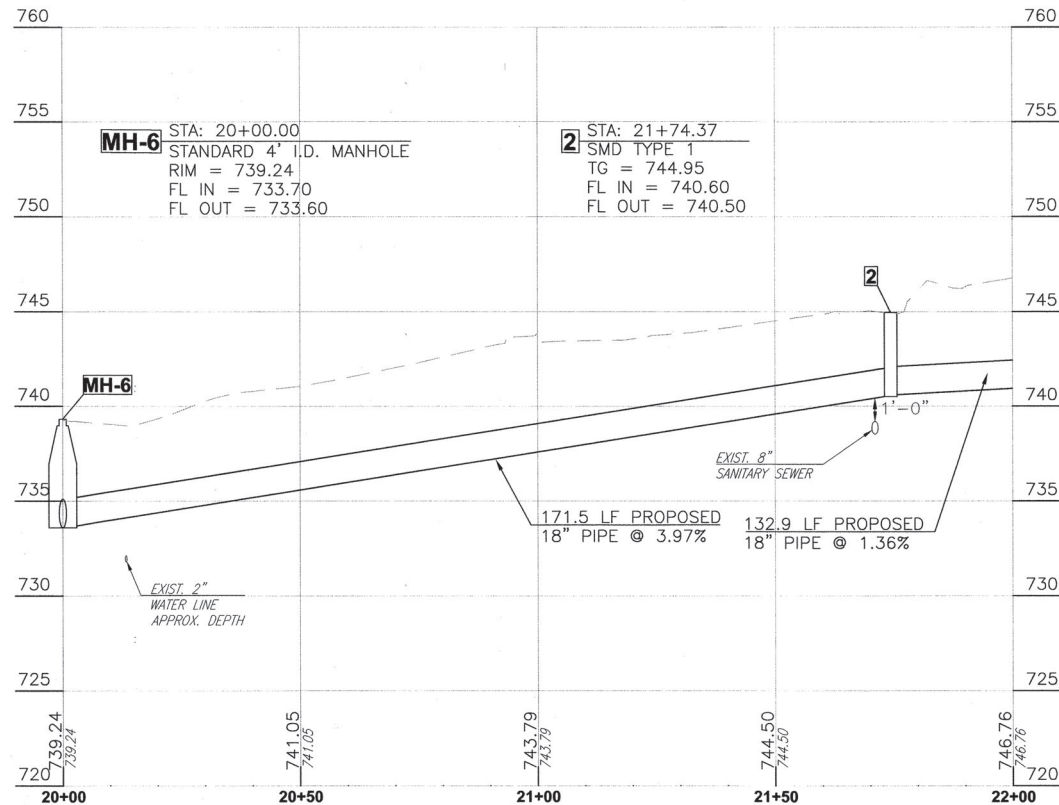
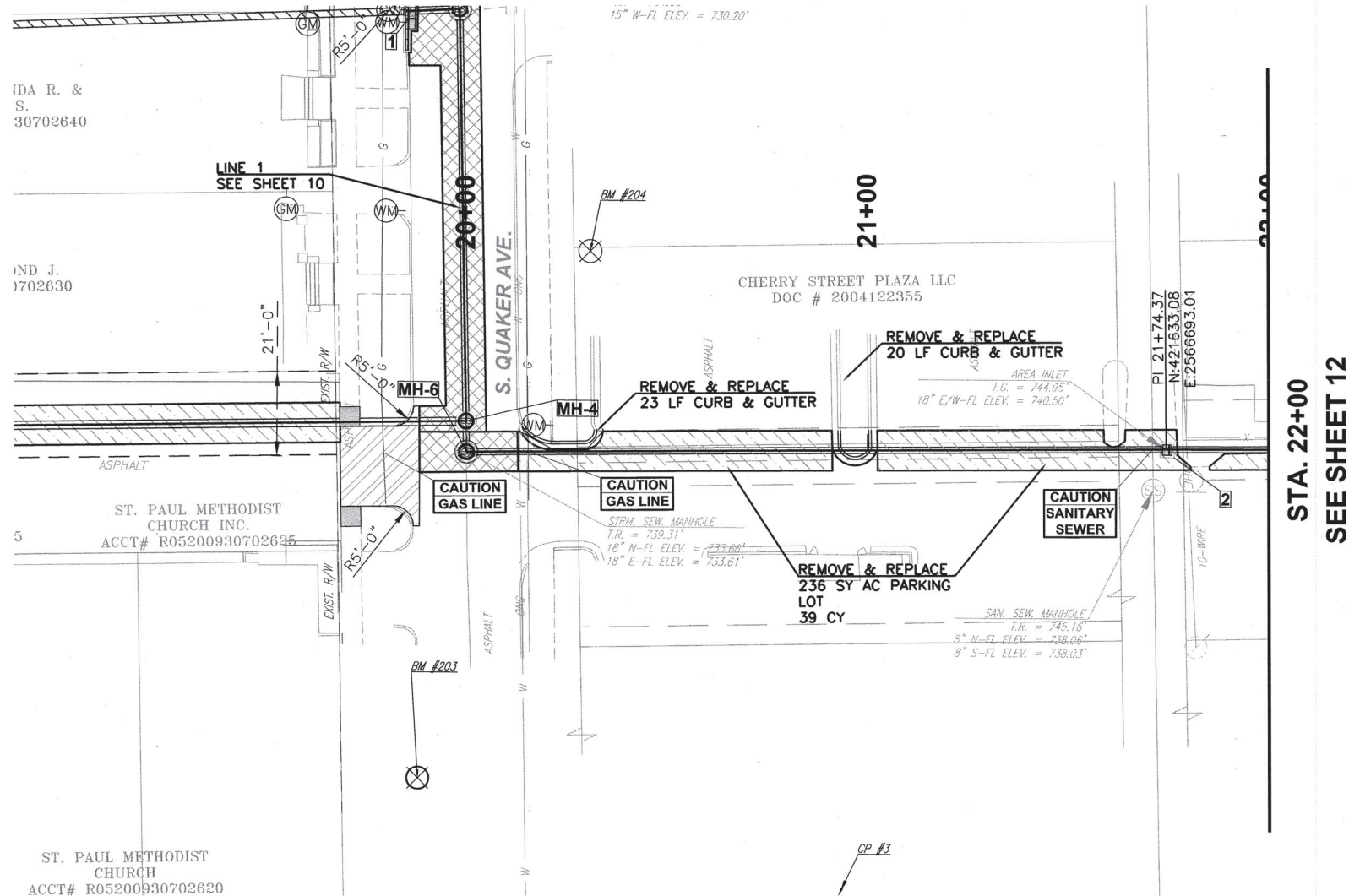


LINE 1 P&P 13+00.00	
PROJECT NO. 153120-C1-6 TMUA-W 17-14	
QUAKER AVE. STORM SEWER REALIGNMENT	
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT	
 <b>CEC</b>	<b>CEC CORPORATION</b> 4617 E. 91st Street S. Tulsa, OK 74137 (918) 663-9401

REVISION	BY	DATE	PLAN SCALE:	DRAWN	M.K.R. 03/2017	APPROVED:
-	-	-	1" = 20'	DESIGNED	S.N.H. 03/2017	
-	-	-		SURVEY	B.B. 03/2017	
-	-	-	PROFILE SCALES:	PROJ. MGR.	EMS 12/18	
-	-	-	HORIZONTAL:	LEAD ENGR.	BOY 10/21	
-	-	-	1"=20'	FIELD MGR.	BBN 12/18	
-	-	-	VERTICAL	RECOMMENDED		
-	-	-	1"=5'	DESIGN MANAGER	HW 12/18	
-	-	-	DRAWING: 12 P&P 22+00.00.DWG			
-	-	-	ATLAS PAGE NO: 3			
						CITY ENGINEER
						DATE 10-29-21
						SHEET 10 OF 14



PLOT DATE: November 20, 2018, DRAWING FILE: N:\TULSA\PROJECTS\TPWD - CITYWIDE DRAINAGE IMPROVEMENTS\TO-6\PROJECT DRAWINGS\12 P&P 22+00.00.DWG



BENCHMARK				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
203	421549.5	2566506.9	742.99'	CUT "X" IN TOP OF CURB
204	421681.8	2566549.3	738.23'	CUT "X" IN TOP OF CURB

CONTROL POINTS				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
3	421362.7066	2566536.7250	750.02'	SET 5/8IN IRON PIN W/CEC CAP

**LEGEND**

- TYPE 1 PCC PATCH
- TYPE 1 AC STREET PATCH
- TYPE 1 AC PARKING LOT PATCH
- REMOVE AND REPLACE CURB
- PROPOSED DRIVE
- PROPOSED SIDEWALK
- ABANDON EXISTING STORM SEWER

**NOTE:**  
SEE TYPICAL SECTIONS FOR PAVEMENT DEPTH AND OTHER DETAILS

EXISTING HORIZONTAL UTILITY LOCATIONS AND DEPTHS ARE APPROXIMATE AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION



LINE 2 P&P 20+00.00

PROJECT NO. 153120-C1-6  
TMUA-W 17-14

QUAKER AVE. STORM SEWER REALIGNMENT

CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

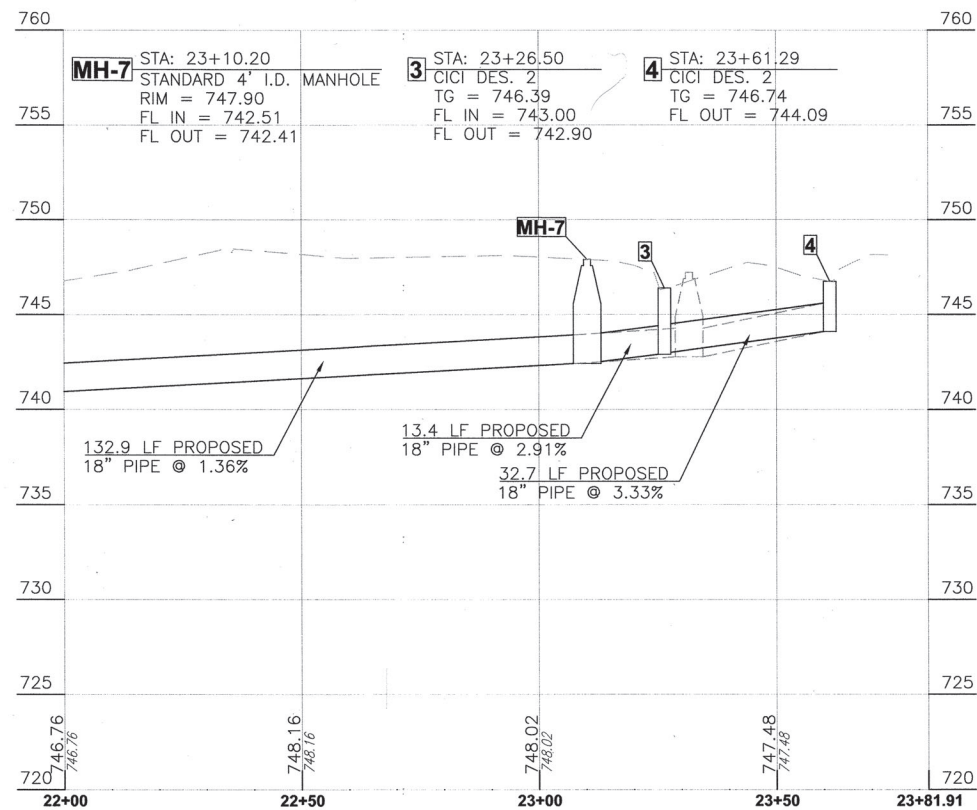
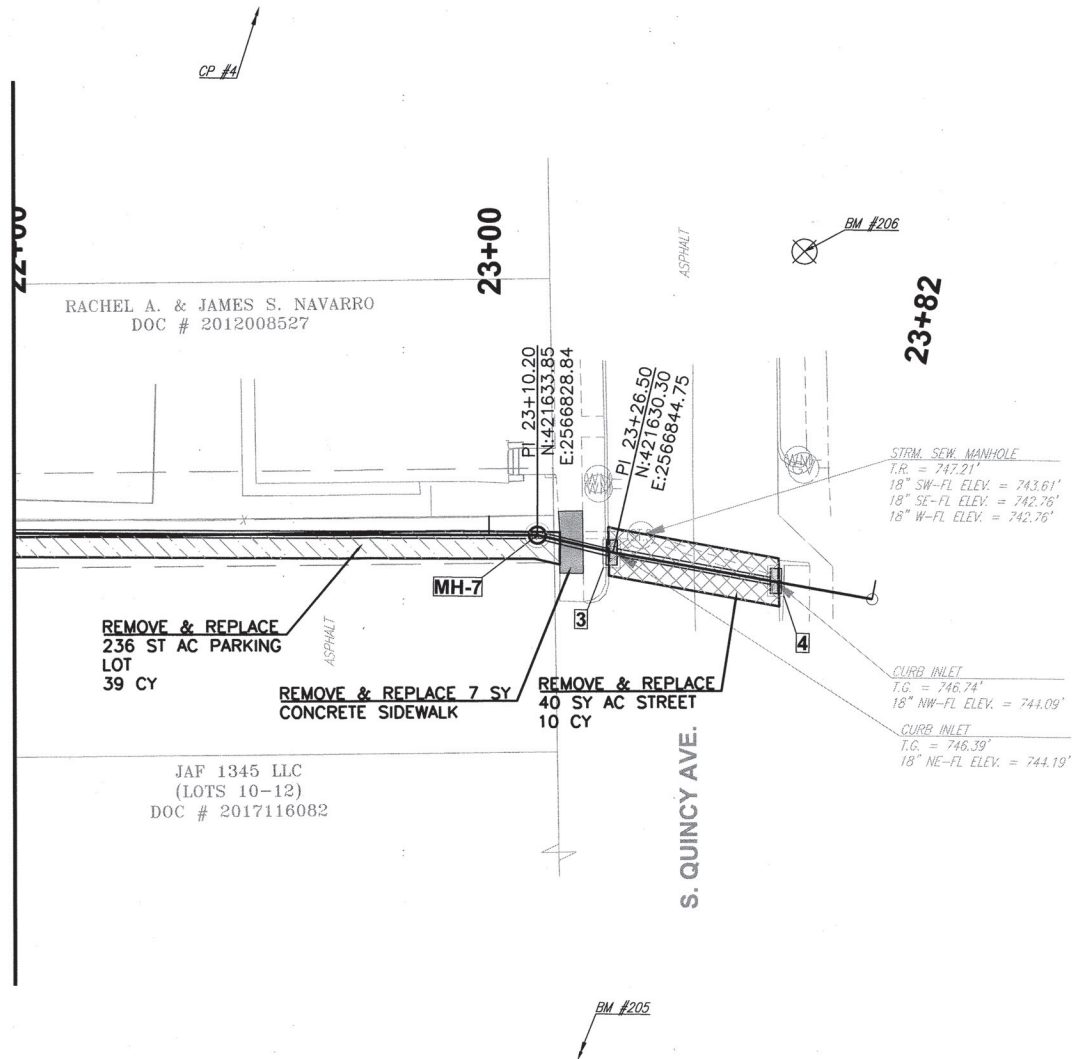
**CEC CORPORATION**  
4617 E. 91st Street S. Tulsa, OK 74137  
(918) 663-9401

REVISION	BY	DATE	PLAN SCALE:	DRAWN	M.K.R. 03/2017	APPROVED:
-	-	-	1" = 20'	DESIGNED	S.N.H. 03/2017	
-	-	-		SURVEY	B.B. 03/2017	
-	-	-	PROFILE SCALES:	PROJ. MGR.	ENS 12/18	
-	-	-		LEAD ENGR.	BOC 10/21	
-	-	-	HORIZONTAL:	FIELD MGR.	EBV 12/18	
-	-	-	1"=20'	RECOMMENDED	12/18	
-	-	-	VERTICAL	DESIGN MANAGER		
-	-	-				
-	-	-	DRAWING: 12 P&P 22+00.00.DWG			CITY ENGINEER
-	-	-	ATLAS PAGE NO: 3			DATE 10-27-21
-	-	-				SHEET 11 OF 14



PLOT DATE: November 20, 2018, DRAWING FILE: N:\TULSA\PROJECTS\TPWD - CITYWIDE DRAINAGE IMPROVEMENTS\TO-6\PROJECT DRAWINGS\12 P&P 22+00.00.DWG

STA. 22+00  
SEE SHEET 11



BENCHMARK				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
205	421473.9	2566818.7	750.76'	CUT "X" IN TOP OF CURB
206	421694.2	2566884.7	748.45'	CUT "X" W EDGE SIDEWALK

CONTROL POINTS				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
4	421953.4070	2566833.9664	751.21'	SET 5/8IN IRON PIN W/CEC CAP

**LEGEND**

- TYPE 1 PCC PATCH
- TYPE 1 AC STREET PATCH
- TYPE 1 AC PARKING LOT PATCH
- REMOVE AND REPLACE CURB
- PROPOSED DRIVE
- PROPOSED SIDEWALK
- ABANDON EXISTING STORM SEWER

**NOTE:**  
SEE TYPICAL SECTIONS FOR PAVEMENT DEPTH AND OTHER DETAILS

EXISTING HORIZONTAL UTILITY LOCATIONS AND DEPTHS ARE APPROXIMATE AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION



LINE 2 P&P 22+00.00

PROJECT NO. 153120-C1-6  
TMUA-W 17-14

QUAKER AVE. STORM SEWER REALIGNMENT

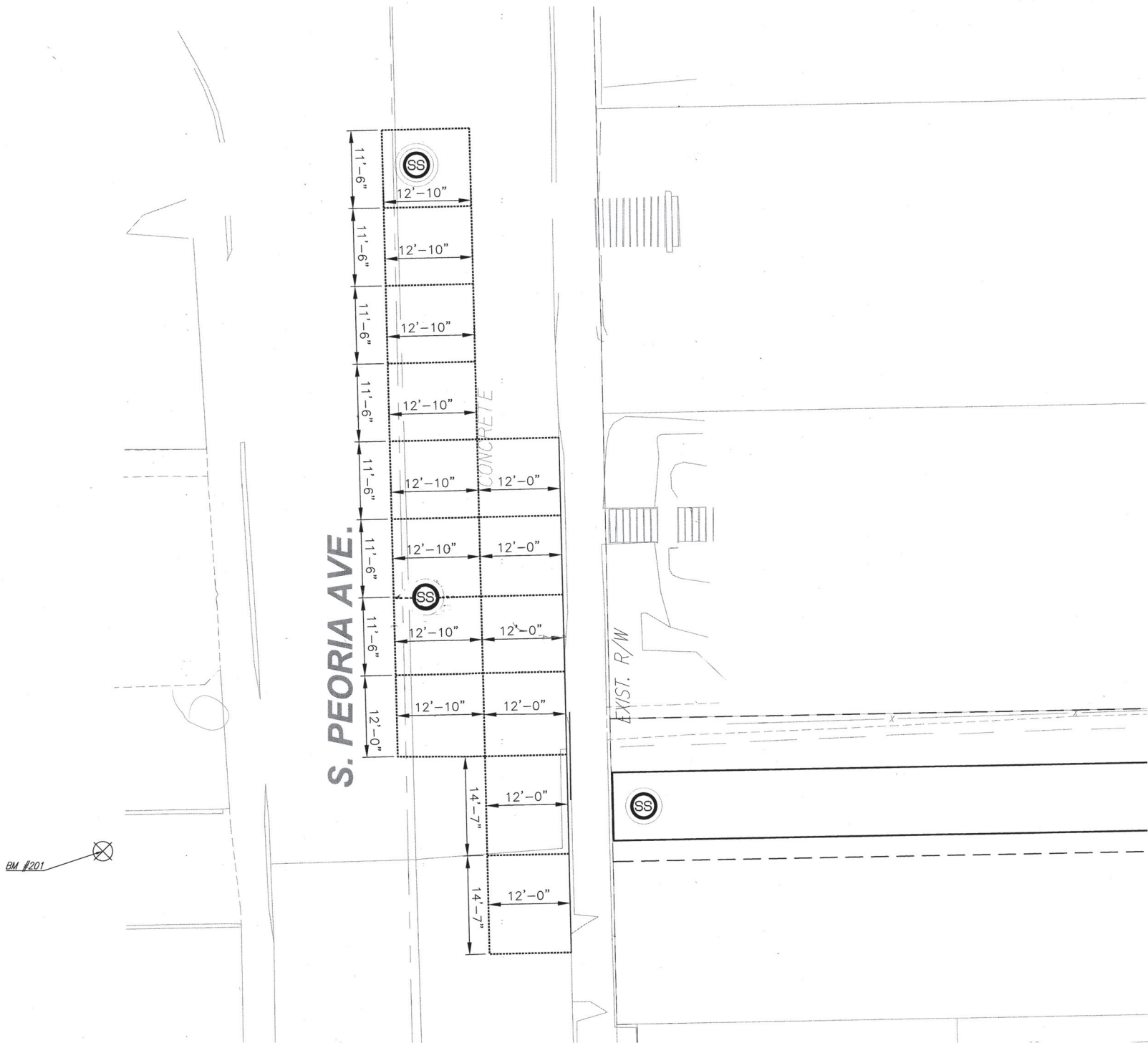
CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

**CEC CORPORATION**  
4617 E. 91st Street S. Tulsa, OK 74137  
(918) 663-9401

REVISION	BY	DATE	PLAN SCALE:	DRAWN	M.K.R. 03/2017	APPROVED:
-	-	-	1" = 20'	DESIGNED	S.N.H. 03/2017	
-	-	-		SURVEY	B.B. 03/2017	
-	-	-	PROFILE SCALES:	PROJ. MGR.	EMS 12/18	
-	-	-		LEAD ENGR.	BOC 10/21	
-	-	-	HORIZONTAL:	FIELD MGR.	BOC 12/18	
-	-	-	1"=20'	RECOMMENDED	HAS 12/18	
-	-	-	VERTICAL	DESIGN MANAGER		
-	-	-	1"=5'			
-	-	-	DRAWING: 12 P&P 22+00.00.DWG			CITY ENGINEER
-	-	-	ATLAS PAGE NO: 3			DATE 10.29.21
-	-	-				SHEET 12 OF 14



PLOT DATE: November 20, 2018, DRAWING FILE: N:\TULSA\PROJECTS\TPWD - CITYWIDE DRAINAGE IMPROVEMENTS\TO-6\PROJECT DRAWINGS\PATCHING JOINT LAYOUT.DWG





BENCHMARK				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
201	421626.8	2566145.4	732.24'	CUT "X" IN TOP OF CURB
202	421552.1	2566215.7	734.01'	CUT "X" IN TOP OF CURB

CONTROL POINTS				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
1	421753.9891	2566104.4423	724.746'	SET 5/8IN IRON PIN W/CEC CAP

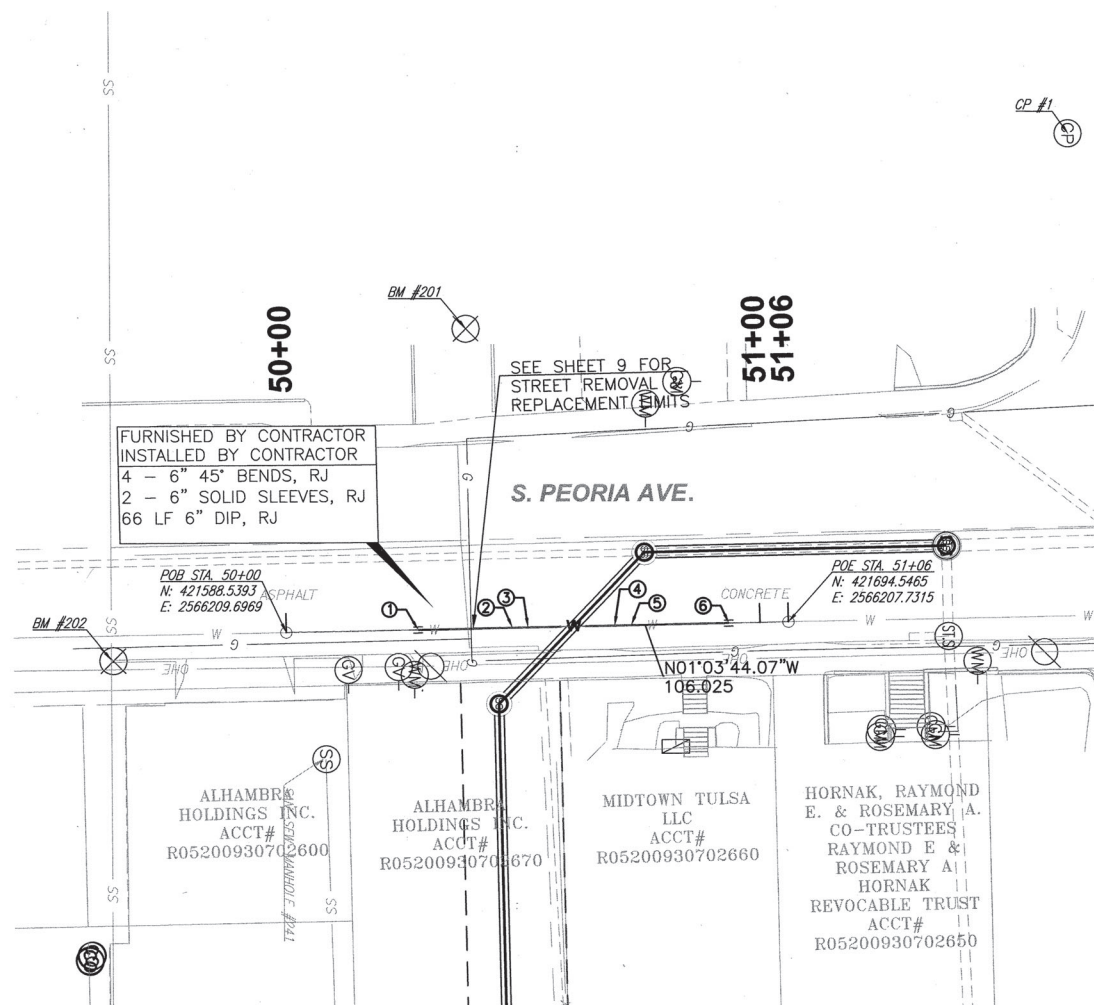
LEGEND	
	TYPE A EXPANSION JOINT
	TYPE CC DOWELED SAWED LONGITUDINAL JOINT (#4 DEFORMED BARS @ 30" C/C TYP.)
	TYPE D SAWED CONTRACTION JOINT
	TYPE DD SAWED CONTRACTION JOINT
	REINFORCED CONCRETE PANEL (NO.4 REINFORCING STEEL @ 12" C/C BOTH DIRECTIONS)

NOTE: CONSTRUCTION EQUIPMENT WILL NOT BE PARKED OR INTERFERE WITH PARKING SPACES NOT AFFECTED BY CONSTRUCTION. ALL SPACES WHERE STORM PIPE IS NOT BEING INSTALLED WILL REMAIN OPEN FOR CUSTOMER USE.



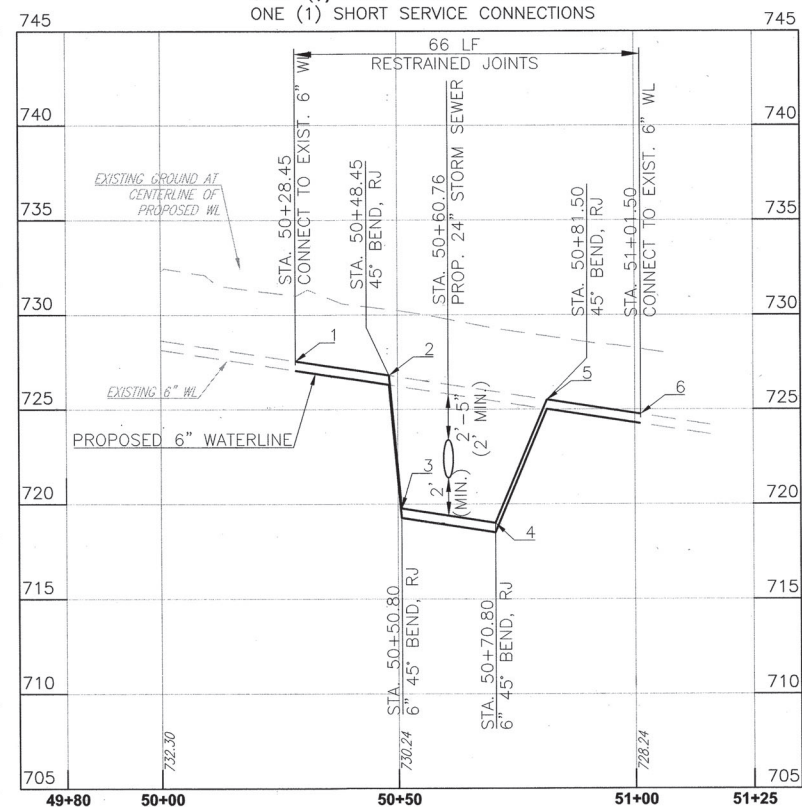
JOINT LAYOUT					
PROJECT NO. 153120-C1-6 TMUA-W 17-14					
QUAKER AVE. STORM SEWER REALIGNMENT					
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT					
<div> <b>CEC CORPORATION</b> 4617 E. 91st Street S. Tulsa, OK 74137 (918) 663-9401</div>					
PLAN SCALE:		DRAWN		M.K.R. 03/2017	APPROVED:
1" = 10'		DESIGNED		S.N.H. 03/2017	
		SURVEY		B.B. 03/2017	
PROFILE SCALES:		PROJ. MGR.		EMS 12/18	 CITY ENGINEER
HORIZONTAL:		LEAD ENGR.		BDC 12/21	
N/A		FIELD MGR.		BB 12/18	
VERTICAL		RECOMMENDED:		HAS 12-18	
N/A		DESIGN MANAGER			
DRAWING: PATCHING JOINT LAYOUT.DWG					DATE 10.29.21
ATLAS PAGE NO: 3					SHEET 13 OF 14





## SERVICE CONNECTIONS

ONE (1) LONG SERVICE CONNECTIONS  
ONE (1) SHORT SERVICE CONNECTIONS



BENCHMARK				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
201	421626.8	2566145.4	732.24'	CUT "X" IN TOP OF CURB
202	421552.1	2566215.7	734.01'	CUT "X" IN TOP OF CURB

CONTROL POINTS				
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
1	421753.9891	256610.4423	724.746'	SET 5/8IN IRON PIN W/CE CAP

NOTE: WATERLINE CONSTRUCTION MUST BE PERFORMED DURING THE NIGHT OR WEEKEND TO MINIMIZE DISRUPTION.

WATERLINE WORK TO BE PERFORMED AT THE  
DISCRETION OF THE ENGINEER AND MAY BE  
OMITTED IN IT'S ENTIRETY.

**EXISTING HORIZONTAL UTILITY LOCATIONS  
AND DEPTHS ARE APPROXIMATE AND MUST  
BE FIELD VERIFIED PRIOR TO CONSTRUCTION**



WATERLINE P&amp;P

PROJECT NO. 153120-C1-6  
TMUA-W 17-14

QUAKER AVE. STORM SEWER REALIGNMENT

CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

**CEC** 4617 E. 91st Street S. Tulsa, OK 74137  
(918) 663-9401

REVISION	BY	DATE	PLAN SCALE:	DRAWN	M.K.R.' 03/2017	APPROVED:
*	*	*	1" = 20'	DESIGNED	S.N.H. 03/2017	
*	*	*		SURVEY	B.B. 03/2017	
*	*	*	PROFILE SCALES:	PROJ. MGR.	<i>Jo</i> 6/24	
*	*	*	HORIZONTAL:	LEAD ENGR.	<i>Tom</i> 12/18	
*	*	*	1"=20'	FIELD MGR.	<i>BB</i> 12/18	
*	*	*	VERTICAL	RECOMMENDED	<i>HHB</i> 12/18	
*	*	*	1"=5'	DESIGN MANAGER		<i>HHB</i> CITY ENGINEER
*	*	*	DRAWING: 14 WATERLINE P&P.DWG			DATE <i>10.29.21</i>
*	*	*	ATLAS PAGE NO: 3			SHEET 14 OF 14

EMILIA W 17-14