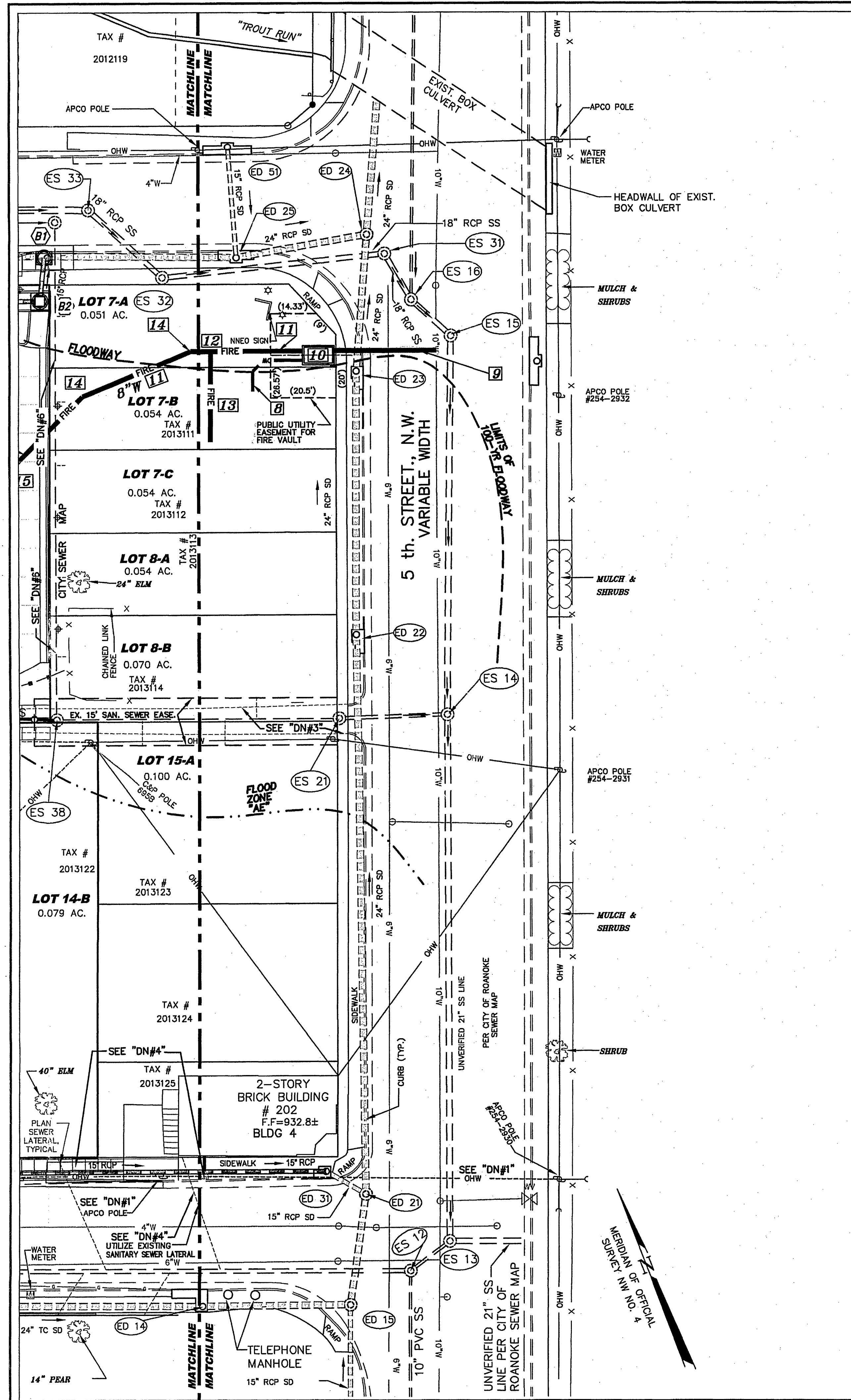




EXISTING STORM SEWER SUMMARY					
STRUCTURE ID	TYPE	TOP ELEV	INVERT ELEV	PIPE SIZE, TYPE, INV TYPE	
ED 12	DRAINAGE MANHOLE	938.0	936.4	8" TC IN	935.9
			934.6	STRUCTURE BENCH	933.7
			933.7	24" TC IN (ED 11)	933.6
				24" TC OUT (ED 13)	
ED 13	DRAINAGE MANHOLE	935.1	931.4	6" PVC IN	931.2
			931.2	24" TC IN (ED 12)	931.1
			931.1	24" TC OUT (ED 14)	
				STRUCTURE FLOOR BOTTOM	
ED 14	CURB INLET	934.1	930.3	24" TC IN (ED 13)	930.3
			930.3	24" RCP OUT (ED 15)	930.3
				STRUCTURE FLOOR BOTTOM	
ED 15	DRAINAGE MANHOLE	934.4	930.4	STRUCTURE BENCH	929.9
			929.9	24" RCP IN (ED 14)	929.9
			929.9	15" RCP IN	929.9
				24" RCP OUT (ED 21)	
ED 21	DRAINAGE MANHOLE	932.9	929.0	24" RCP IN (ED 15)	926.8
			926.8	15" RCP IN (ED 31)	926.5
			926.5	STRUCTURE BENCH	926.4
				24" RCP OUT (ED 22)	
ED 22	CURB INLET	930.0	925.4	24" RCP IN (ED 21)	925.4
			925.4	STRUCTURE FLOOR BOTTOM	925.3
				24" RCP OUT (ED 23)	
ED 23	CURB INLET	929.5	925.0	24" RCP IN (ED 22)	925.0
			925.0	24" RCP OUT (ED 24)	925.0
				STRUCTURE FLOOR BOTTOM	
ED 24	DRAINAGE MANHOLE	929.4	925.3	STRUCTURE BENCH	924.7
			924.7	24" RCP IN (ED 25)	924.7
			924.7	24" RCP IN (ED 23)	924.7
				24" RCP OUT	
ED 25	CURB INLET	929.3	924.9	24" RCP IN (ED 26)	924.9
			924.9	15" RCP IN (ED 31)	924.9
			924.9	24" RCP OUT (ED 24)	924.9
				STRUCTURE FLOOR BOTTOM	
ED 26	DRAINAGE MANHOLE	933.2	928.8	24" TC IN/SILTED (ED 27)	928.6
			928.6	24" TC OUT/SILTED (ED 25)	
ED 27	DRAINAGE MANHOLE	932.9	929.1	18" TC IN/SILTED (ED 28)	929.1
			929.1	24" TC OUT/SILTED (ED 26)	
ED 28	DRAINAGE MANHOLE	932.6	929.5	18" TC OUT (ED 27)	
ED 31	CURB INLET	933.2	928.5	15" RCP OUT (ED 21)	928.5
				STRUCTURE FLOOR BOTTOM	
ED 51	CURB INLET	929.4	926.1	15" RCP OUT (ED 25)	926.1
				STRUCTURE FLOOR BOTTOM	

EXISTING SANITARY SEWER SUMMARY					
STRUCTURE ID	CITY SEWER MAP ID	TYPE	TOP ELEV	INVERT ELEV	PIPE SIZE, TYPE, INV TYPE
ES 11	473	SEWER MANHOLE	937.4	932.1	STRUCTURE BENCH
				931.5	12" TC IN
				931.4	12" TC OUT (ES 12)
ES 12	18	SEWER MANHOLE	934.2	927.2	STRUCTURE BENCH
				927.0	10" PVC IN
				926.9	15" PVC IN (ES 11)
				925.6	10" PVC OUT
ES 13	2	SEWER MANHOLE	934.1	NO INFORMATION OBTAINED	
ES 14		SEWER MANHOLE	930.3	NO INFORMATION OBTAINED	
ES 15	4	SEWER MANHOLE	929.8	NO INFORMATION OBTAINED	
ES 16	5	SEWER MANHOLE	929.6	NO INFORMATION OBTAINED	
ES 21		SEWER MANHOLE	930.3	924.8	STRUCTURE BENCH
				924.3	12" RCP IN
				923.7	12" RCP OUT (DRY) (ES 14)
ES 31	25-A	SEWER MANHOLE	929.4	923.9	STRUCTURE BENCH
				922.8	18" RCP IN (ES 32)
				922.6	18" RCP OUT (ES 16)
ES 32		SEWER MANHOLE	929.8	923.9	STRUCTURE BENCH
				922.8	18" RCP IN (ES 33)
				922.7	18" RCP OUT (ES 31)
ES 33		SEWER MANHOLE	929.9	924.3	STRUCTURE BENCH
				923.1	18" RCP IN (ES 34)
				922.9	18" RCP OUT (ES 32)
ES 34	26	SEWER MANHOLE	931.1	925.0	STRUCTURE BENCH
				923.5	24" RCP IN (ES 35)
				923.8	24" RCP OUT (ES 33)
ES 35	27	SEWER MANHOLE	933.4	927.1	12" METAL IN (ES 36)
				925.1	24" RCP IN (ES 41)
				924.9	24" RCP OUT (ES 34)
ES 36		SEWER MANHOLE	933.5	928.0	STRUCTURE BENCH
				927.3	12" TC IN (ES 37)
				927.1	12" METAL OUT (35)
ES 37		SEWER MANHOLE	934.8	929.8	STRUCTURE BENCH
				929.3	8" TC IN
				929.2	10" TC OUT (ES 36)
ES 38	REAR, LOT 8-B	SEWER MANHOLE	932.1	925.7	STRUCTURE BENCH
				925.0	12" TC IN (FROM LOUDON)
				925.7	12" TC OUT (ES 21)

SANITARY SEWER LATERALS AND CERTAIN SEWER LINES WERE OBTAINED FROM THE CITY SEWER MAP #201. PARKER DESIGN GROUP DOES NOT GUARANTEE THE LOCATION OF SANITARY SEWER LATERALS, MANHOLES, OR LINES NOT VISIBLE.

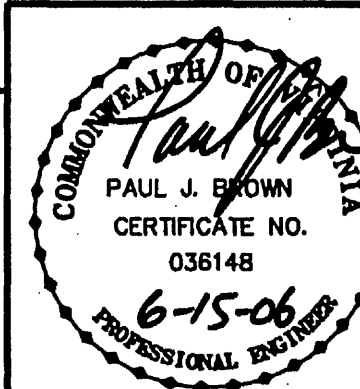
CONSTRUCTION NOTES FOR WATERLINE PLACEMENT

- THE CONTRACTOR SHALL PROVIDE AT LEAST 3 FEET MINIMUM COVER OVER THE PROPOSED WATER MAINS.
- ALL WATER MAINS AND WATER LATERALS SHALL BE PLACED ABOVE DRAINAGE LINES AT CROSSINGS. ALL UTILITY CROSSINGS SHALL MAINTAIN 18-INCH MINIMUM VERTICAL SEPARATION EXCEPT WHERE NOTED ON THE PROFILE. WHERE A MINIMUM SEPARATION OF 6 INCHES IS SHOWN BETWEEN WATER MAINS AND OTHER UTILITIES, BOTH UTILITIES SHALL BE PROVIDED CONCRETE PIERS.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 10 FEET OF HORIZONTAL SEPARATION BETWEEN THE WATERLINE AND OTHER UTILITIES, EXCEPT WHERE SHOWN ON THE PLAN TO BE CLOSER.
- THE CONTRACTOR SHALL CONSTRUCT ALL WATERLINE IN ACCORDANCE WITH THE WESTERN VIRGINIA WATER AUTHORITY (WVWA) WATER & SEWER DESIGN & CONSTRUCTION STANDARDS, AS REVISED MARCH 1, 2006.
- SEE "WATER PROFILES" FOR ADDITIONAL INFORMATION REGARDING BLOW OFF VALVES AND AUTOMATIC AIR RELEASE ASSEMBLIES. SEE "WESTERN VIRGINIA WATER AUTHORITY WATER DETAILS" FOR MORE SPECIFIC INFORMATION, INCLUDING 8-INCH FIRE VALVE WITH 3-INCH DOMESTIC SERVICE.
- THE CONTRACTOR SHALL COORDINATE WITH THE WESTERN VIRGINIA WATER AUTHORITY FOR THE ACTUAL CONNECTION TO EXISTING WATER LINES. THE CONTRACTOR SHALL PROVIDE AT LEAST 3 DAYS NOTICE, PRIOR TO SCHEDULED CONNECTIONS. THE CONTRACTOR SHALL CONTACT THE CITY OF ROANOKE FOR SPECIFICS OF COORDINATED WORK INCLUDING ITEMS PROVIDED, EXCAVATION, ROAD CLOSINGS, ETC.
- ALL EXISTING WATER LINES ARE SHOWN BASED ON FIELD LOCATION OF VISIBLE VALVES AND COORDINATION WITH THE CITY WATER MAPS. DEPTH, TYPE, AND EXACT LOCATION OF THE WATERLINES ARE UNKNOWN. THE CONTRACTOR SHALL VERIFY LOCATION PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE FIRE PROTECTION TO ALL BUILDINGS SHOWN. THE WORK MAY BE CONSTRUCTED IN PHASES. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT FOR ACTUAL PHASE WORK.
- IN 2003, THE CITY OF ROANOKE WATER DEPARTMENT DIRECTED EACH INDIVIDUAL BUILDING TO BE SERVED FROM DOMESTIC CONNECTIONS RATHER THAN FROM THE FIRE LINE. THE OWNER HAS REQUESTED A MASTER METER FOR EACH BUILDING OR COMBINATION OF BUILDINGS. SHOULD EACH RESIDENCE REQUIRE A METER, 34 RESIDENTIAL METERS (5/8-INCH) WOULD BE REQUIRED WITH AN ADDITIONAL 2 COMMERCIAL METERS (3/4-INCH).
- THE CONTRACTOR SHALL REFER TO THE ADJACENT "UTILITY SHEET" FOR WATERLINE INFORMATION AND THE ADJACENT "DRAINAGE & SPOT ELEVATION" SHEETS FOR DRAINAGE INFORMATION AND PAVEMENT/CURB INFORMATION.

CONSTRUCTION NOTES FOR SANITARY SEWER LATERALS

- SANITARY SEWER MANHOLE ES38 AND LINE TO ES21, (ADJACENT TO LOT 8-B, FLOWING TOWARD 5TH STREET) MAY BE USEABLE FOR BUILDING #6. THE EXISTING LINE SHALL HAVE A CAMERA PASS THROUGH THE LINE TO INSURE THERE ARE NO OBSTRUCTIONS. PORTIONS OF THE LINE HAVE BEEN ABANDONED; HOWEVER, THERE IS EVIDENCE THAT THIS PORTION OF THE LINE IS USABLE.
- THE CONTRACTOR SHALL PROVIDE AT LEAST 3 FEET MINIMUM COVER OVER THE PROPOSED SANITARY SEWER LATERALS.
- THE LOCATION OF EXISTING SANITARY SEWER LINES ARE BASED UPON FIELD SURVEY OF MANHOLES AND COORDINATION WITH CITY SEWER MAPS. ALL LATERALS AND DASHED SANITARY SEWER MAINS SHOULD BE CONSIDERED APPROXIMATE.
- EACH BUILDING CAN BE SERVED BY 4" SANITARY SEWER LATERALS ON MINIMUM SLOPE (1/4-INCH PER FOOT); HOWEVER, SOME BUILDINGS WILL BE BETTER SERVED BY A 6-INCH SANITARY SEWER LATERAL PLACED ON A 1% MINIMUM SLOPE. THE ONE PERCENT MINIMUM SLOPE WILL ALLOW FOR UTILITY CROSSING SEPARATION. REFER TO DRAINAGE PROFILES AND WATER PROFILES FOR SANITARY SEWER LATERAL CROSSINGS.
- WHERE EXISTING LATERAL CAN BE LOCATED, THE CONTRACTOR SHALL UTILIZE THE EXISTING LATERAL. WHERE NO LATERAL CAN BE FOUND, THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF ROANOKE FOR A NEW SANITARY SEWER LATERAL TO BE BROUGHT TO THE PROPERTY LINE.
- AN EXISTING BUILDING AT THE INTERSECTION OF CENTRE AVENUE AND 5TH STREET HAS AN EXISTING SANITARY SEWER LATERAL AND WATER METER. THESE SERVICES MAY BE ENCOUNTERED DURING THE PLACEMENT OF A NEW DRAINAGE LINE. THE CONTRACTOR SHALL COORDINATE WITH THE WVWA FOR REPLACEMENT OR RELOCATION OF THESE ITEMS.
- REFERENCE IS DIRECTED TO THE SANITARY SEWER TABLE OF EXISTING SANITARY SEWER.
- ALL 4-INCH SANITARY SEWER LATERALS SHALL HAVE A CLEANOUT AT THE RIGHT OF WAY AND EVERY 50 FEET. ALL 6-INCH SANITARY SEWER LATERALS SHALL HAVE A CLEANOUT AT THE RIGHT OF WAY AND EVERY 100 FEET.

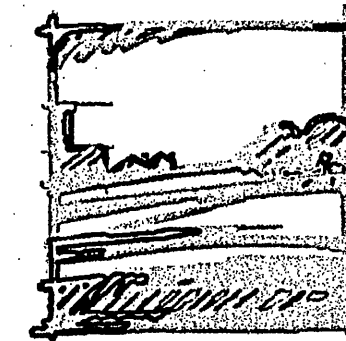
DESIGNED BY: P.J. BROWN
 DRAWN BY: PJB
 CHECKED BY: PJB
 W.O. #: 06-0021-02
 N.B.: JR-217
 TAX NO.: AS SHOWN



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PARK STREET SQUARE
 UTILITY PLAN - 5TH STREET
 ROANOKE, VIRGINIA

Date: JUNE 13, 2006
 Scale: 1" = 20'
 Revisions:

Drawn By: PJB/TPPS
 Review By: PJB
 Project No: 06-0021-02
 HILL STUDIO NO. 0539

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