

WATER AND SANITARY SEWER SERVICE INSTALLATIONS GENERAL NOTES:

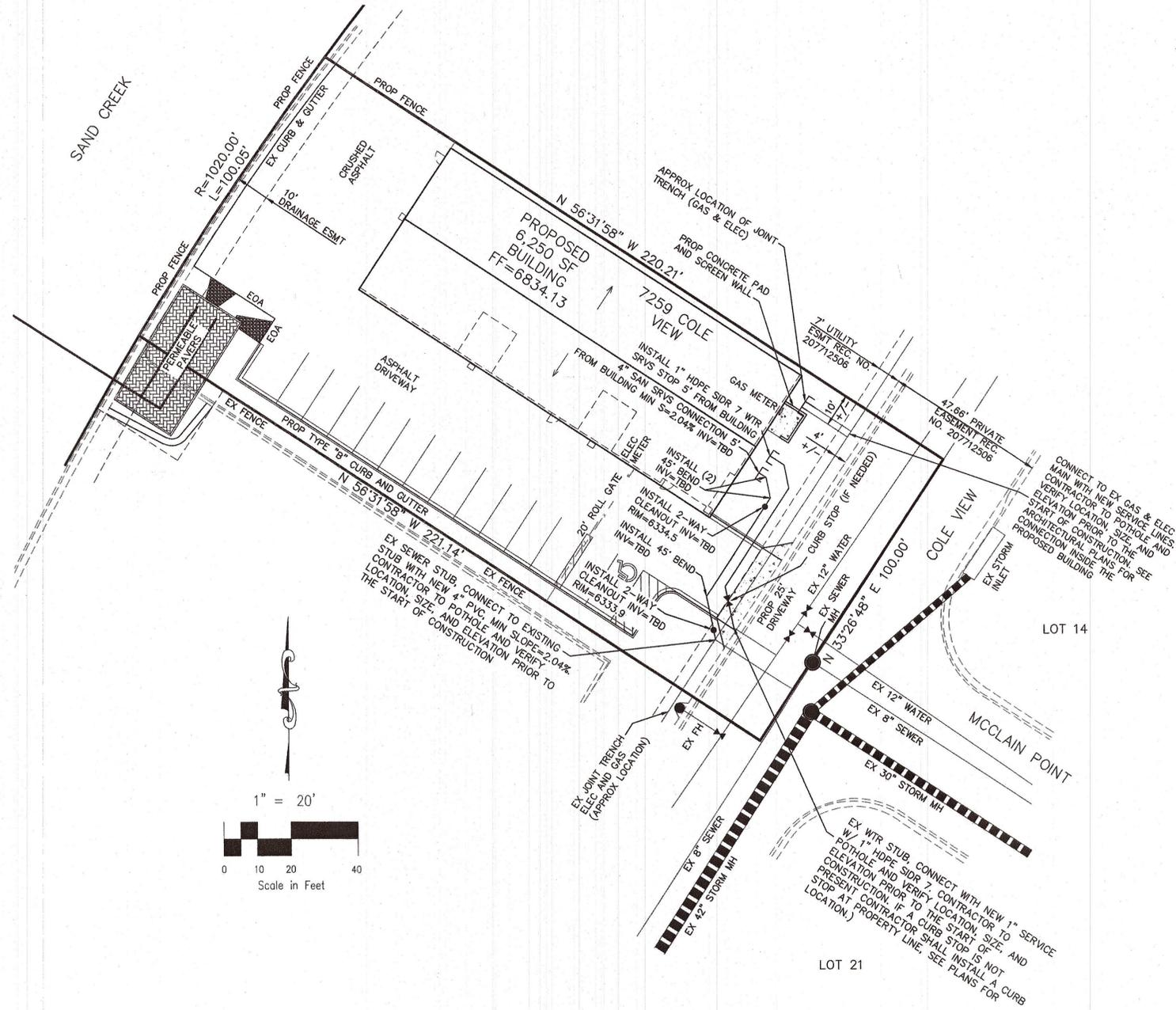
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE CHEROKEE METROPOLITAN DISTRICT STANDARDS AND THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS UNLESS OTHERWISE NOTED. IN THE EVENT OF CONFLICTING STANDARDS CHEROKEE METROPOLITAN DISTRICT STANDARDS SHALL GOVERN.
- ALL WATER SYSTEM MAINS PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) CLASS 200 (DR-14) PER AWWA C-900 AND ASTM D241 SPECIFICATIONS, EXCEPT WHERE NOTED. SPECIFICALLY, SECTIONS OF WATER PIPE THAT CROSS UNDER MAJOR DRAINAGE WAYS (SAND CREEK) OR MAJOR THOROUGHFARES SHALL BE DUCTILE IRON PIPE.
- ALL FITTINGS SHALL BE CONSTRUCTED OF GRAY-IRON MATERIAL AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL BE WRAPPED WITH A 9-MIL THICKNESS POLYETHYLENE MATERIAL PER AWWA STANDARD C105.
- ALL WATER PIPES SHALL BE INSTALLED AT A MINIMUM DEPTH OF FIVE (5) FEET BELOW FINISHED GRADE.
- ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFF, AND PLUGS AT DEAD END MAINS SHALL BE INSTALLED WITH CONCRETE THRUST BLOCKS.
- VALVE BOXES SHALL BE TYLER SLP; TYPE "C" CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE OR APPROVED EQUAL.
- ALL WATER SYSTEM COMPONENTS SHALL BE FLUSHED AND CHLORINATED PER AWWA C-601, "DISINFECTING WATER MAINS" PRIOR TO ACCEPTANCE. THE CONTRACTOR SHALL PRODUCE A 25 MG/L SOLUTION BY ADHERING CHLORINE TABLETS TO THE PIPE SECTION WITH PERMATEX CLEAR TRV INSIDE THE SYSTEM. CHLORINATION SHALL OCCUR PRIOR TO HYDROSTATIC TESTING. THE CONTRACTOR SHALL OBTAIN A BACTERIOLOGICAL SAMPLE AFTER THE SYSTEM HAS BEEN FLUSHED. A CLEAN BACTERIOLOGICAL SAMPLE MUST BE OBTAINED PRIOR TO THE SYSTEM BEING PLACED INTO SERVICE.
- HYDROSTATIC TESTING: ALL WATER SYSTEM MAINS SHALL BE FILED PRESSURE TESTED TO A MINIMUM OF 150 PSI OR 1 1/2 TIMES THE STATIC OPERATING PRESSURE, WHICHEVER IS GREATER. MAXIMUM ALLOWABLE LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINE VALVES SHALL NOT EXCEED THE FOLLOWING: \*10 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.
- ALL VALVES SHALL CONFORM TO OPEN LEFT CONVENTION PER CHEROKEE METROPOLITAN DISTRICT STANDARDS.
- WHEN IT IS NECESSARY TO RAISE OR LOWER WATER MAINS AT OTHER UTILITY CROSSINGS THE CONTRACTOR SHALL INSURE A MINIMUM CLEARANCE OF 18" WHERE POSSIBLE BETWEEN THE OUTSIDE DIAMETERS OF PIPES.
- WHILE CONSTRUCTING THE WATER AND WASTE WATER SYSTEM THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT LEAST ONE "APPROVED FOR CONSTRUCTION" SET OF UPDATED PLANS AT ALL TIMES. APPROVED FIELD MODIFICATIONS TO THE PLAN SETS SHALL BE CLEARLY IDENTIFIED IN RED INK ON THE PLANS BY THE CONTRACTOR PER FIELD CONSTRUCTION. THESE AS-BUILT CHANGES SHALL BE DATED AND SUBMITTED TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL PREPARE A COMPLETE SET OF "AS CONSTRUCTED" DRAWINGS AND DELIVER THE SETS TO THE CHEROKEE METROPOLITAN DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE WATER SYSTEM.
- PRIOR TO TAPPING ANY EXISTING WATER MAIN THE CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL FOR SAID TAP IN ACCORDANCE WITH THE CHEROKEE METROPOLITAN DISTRICT STANDARDS.
- ALL NONMETALLIC PIPES SHALL HAVE TRACER WIRE ATTACHED TO ITS TOP DURING CONSTRUCTION. THE TRACER WIRE SHALL BE #8 AWG BARE COPPER WIRE WITH NO. 6 TYPE YDS75 COPPER CONNECTIONS AND SHALL BE PERMANENTLY AFFIXED TO THE TOP OF THE PIPE USING TAPE AT 4' INTERVALS. THE TRACER WIRE SHALL ALSO BE PERMANENTLY CONNECTED TO ALL FIRE HYDRANT TEES, METALLIC PIPE BENDS, MAIN VALVE AND OTHER METALLIC FITTINGS AND APPURTENANCES. ALL POINTS OF CONNECTION SHALL BE PROTECTED FROM CORROSION BY AN EPOXY OR SILICON COATING. GROUND TRACER WIRES TO SURFACE AT ALL VALVE BOXES.
- THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES DURING THE WORK. PRIOR TO EXCAVATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT (800) 922-1987 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.
- SANITARY SEWER PIPE SHALL CONFORM TO ASTM D3034 SDR35 PVC.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING INVERTS PRIOR TO INSTALLATION OF NEW SANITARY SEWER SYSTEM.
- ALL SANITARY SEWER MANHOLES, LIDS, BASES AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH (AWW) COLORADO STANDARD MANHOLE DETAIL 1, EXCEPT AS NOTED ON THESE PLANS. WHERE REQUIRED ON THESE PLANS, WATER TIGHT MANHOLES, LIDS AND CONNECTIONS SHALL BE PROVIDED BY COLORADO SPRINGS STANDARDS.
- SANITARY SEWER SERVICE LINES SHALL BE LOCATED PER THE DETAIL ON THE UTILITY SERVICE PLAN, OR AT THE DIRECTION OF THE INSPECTOR.
- OVERLOT GRADING AND STREET SUB-GRADE MUST BE WITHIN +/- ONE (1) FOOT PRIOR TO ANY UTILITY INSTALLATION.
- TRACER WIRE IS TO BE INSTALLED WITH ALL SANITARY SEWER MAIN LINES AND SERVICES (FROM THE MAIN LINE TO THE BUILDING STRUCTURE), AS OUTLINED IN COMMENT #13.
- MINIMUM DEPTH OF SANITARY SEWER IS 6 FEET OF COVER. IF THIS MINIMUM CANNOT BE ACHIEVED DUE TO SHALLOW SEWER STUB THEN THE FOLLOWING APPLIES: OTHERWISE THE SEWER SERVICE MUST HAVE 6 FEET OF COVER:  
DEPTH GREATER THAN 6 FEET: MATERIAL TYPE SDR 35  
DEPTH BETWEEN 4 FEET AND 6 FEET: MATERIAL TYPE SCH 40 OR CAST IRON (CIP)  
DEPTH LESS THAN 4 FEET: MATERIAL TYPE SCH 40 OR CIP WITH CONCRETE CAP.
- WATER SERVICE MUST BE OVER THE SEWER AT ALL TIMES, SEWER SERVICE PIPE LOCATED WITHIN ONE FOOT OF THE WATER SERVICE LINE MUST BE CONSTRUCTED WITH SCH 40 PIPE OR CIP.
- ALL EXTERIOR SEWER CLEAN OUTS (CO) MUST HAVE A CAST IRON, TRAFFIC RATED COVER, OR EQUIVALENT CONCRETE COLLAR.
- AFTER COMPLETION OF CONSTRUCTION AND PRIOR TO ACCEPTANCE BY THE DISTRICT, TWO (2) COPIES OF "AS-CONSTRUCTED" PLANS AND TWO (2) SETS OF ELECTRONIC DATA FILES OF THE PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR RECORD.
  - THE TWO (2) COPIES SHALL BE COMPLETE WITH ALL "AS-CONSTRUCTED" INFORMATION TOGETHER WITH A CERTIFICATION BY THE PARTY RESPONSIBLE FOR CONSTRUCTION THAT ALL DATA THEREON IS ACCURATE AND REPRESENTS ACTUAL CONSTRUCTED CONDITIONS.
  - THE TWO PLAN SETS SHALL BE SUBMITTED ON SHEETS THAT ARE 24" X 36" IN SIZE.
  - THE PLAN SET SHALL BE ON A DURABLE MEDIA THAT CAN BE RUN THROUGH PHOTOCOPIING EQUIPMENT.
  - THE TWO ELECTRONIC DATA FORMATS SHALL BE SUBMITTED. THE FIRST ELECTRONIC DATA FILE SET SHALL BE IN AUTOCAD 2006 OR NEWER FORMAT WITH NO EXTERNAL REFERENCE DRAWINGS. ALL EXTERNAL REFERENCES MUST BE BOUND INTO THE DRAWING SET. THE SECOND SET OF ELECTRONIC DATA FILES SHALL BE IN ADOBE ADOBE .PDF FORMAT.
  - "AS-CONSTRUCTED" PLANS SHALL BE SUBMITTED WITHIN TWO WEEKS OF COMPLETION OF THE WATER AND/OR SANITARY SEWER UTILITIES.
  - NO AUTHORIZATION TO CONNECT TO THE SYSTEM OR DISCHARGE TO THE SYSTEM WILL BE ALLOWED UNTIL THE "AS-CONSTRUCTED" DOCUMENTS HAVE BEEN RECEIVED AND ACCEPTED BY THE DISTRICT.
  - ALL PLANS, SPECIFICATIONS AND SUPPORTING DOCUMENTS SHALL BE PREPARED BY OR UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF COLORADO. ALL PLANS AND SPECIFICATIONS SHALL BEAR THE SEAL AND SIGNATURE OF SAID LICENSED PROFESSIONAL ENGINEER.

# MASTER BLASTER

EL PASO COUNTY, STATE OF COLORADO

UTILITY SERVICE PLAN

LOT 35 OF CLAREMONT BUSINESS PARK FIL. NO. 2



## CONTACTS

OWNER	HAMMER'S CONSTRUCTION, INC 1411 WOOLSEY HEIGHTS COLORADO SPRINGS, CO 80915
CIVIL ENGINEER	MS CIVIL CONSULTANTS, INC 20 BOULDER CRESCENT, ST 110 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ, P.E. 719-491-0818
WATER AND WASTEWATER	CHEROKEE METROPOLITAN DISTRICT 6250 PALMER PARK BOULEVARD COLORADO SPRINGS, CO 80915-1721 JONATHAN SMITH 719-597-5080
FIRE DEPARTMENT	CIMARRON HILLS FIRE DEPARTMENT 1835 TUSKEGEE PLACE COLORADO SPRINGS, CO 80915 719-591-0960
TELEPHONE COMPANY	U.S. WEST COMMUNICATIONS (LOCATORS) 800-922-1987 AT&T (LOCATORS) 719-635-3674

## WATER INSTALLATION CORROSION CONTROL REQUIREMENTS

REQUIRED, DESCRIBED AS FOLLOWS: PROVIDE CATHODIC PROTECTION & WRAP ALL METAL JOINTS, VALVES, PIPES AND HYDRANTS.

## WATER WASTEWATER PLAN APPROVAL

*Jonathan Smith*  
(CHEROKEE METROPOLITAN DISTRICT) DATE: 04/26/18

## CIMARRON HILLS FIRE DEPARTMENT

ACCORDING TO THE MODELED CALCULATIONS REVIEWED BY THE GOVERNING WATER DISTRICT AND/OR COLORADO REGISTERED CIVIL ENGINEER/DESIGNER, THE THEORETICAL AVAILABLE FIRE FLOW AT NODE "A" IS 2105 GALLONS AT NODE "B" IS 2190 GALLONS PER MINUTE UNDER MAXIMUM DAILY DEMAND CONDITIONS AT 20PSI RESIDUAL. THE ACTUAL FIRE FLOW MAY VARY DUE TO VARIOUS PARAMETERS. UPON DETAILED REVIEW OF THE AVAILABLE WATER SUPPLY, FIRE HYDRANT LOCATIONS AND HOSE LAY DISTANCES, THESE PLANS ARE HEREBY CONSIDERED APPROVED.

FIRE DEPARTMENT SIGNATURE: *N/A* DATE: 4/24/18

## PRIVATE WATER MAIN EXTENSIONS

THE UNDERSIGNED OWNER/DEVELOPER AGREES THAT THE INSTALLATION OF THESE PROPOSED WATER FACILITIES WILL BE MADE IN ACCORDANCE WITH THE DISTRICTS SPECIFICATIONS AND SHALL PROVIDE A MINIMUM OF FIVE FEET (5' 0") AND A MAXIMUM OF SIX (6' 0") OF COVER OVER THE WATER MAINS. THE UNDERSIGNED UNDERSTANDS THAT ALL WATER MAINS, FIRE HYDRANTS, AND APPURTENANCES AS INDICATED ON THIS INSTALLATION PLAN SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE MAINTAINED BY THE OWNER.

SIGNED: *David L. Lott* DATE: 4-24-18

DBA: HAMMER'S CONSTRUCTION  
ADDRESS: 1411 WOOLSEY HEIGHTS COLORADO SPRINGS, CO 80915

## ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLANS HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE CHEROKEE METROPOLITAN DISTRICT. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS REPORT.



VIRGIL A. SANCHEZ, COLORADO P.E. #37160 DATE: 4-24-18  
FOR AND ON BEHALF OF M & S CIVIL CONSULTANTS, INC.

## SPECIAL NOTES:

- CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION. DISCREPANCIES TO BE REPORTED TO CHEROKEE METROPOLITAN DISTRICT AND ENGINEER BEFORE CONTINUING WORK.

UTILITY SERVICE PLAN  
MASTER BLASTER  
JOB NO. 44-029  
DATE PREPARED: OCTOBER 30, 2017  
DATE REVISED: APRIL 4, 2018

EL PASO COUNTY FILE NO. PPR 17-056



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