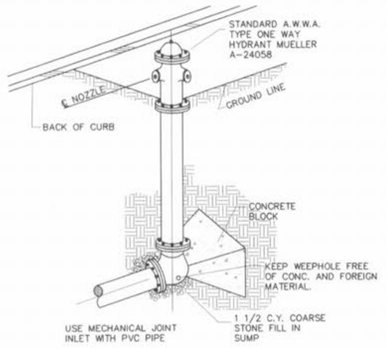
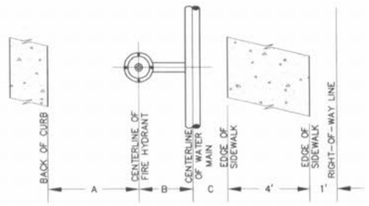


FLUSHING HYDRANT DETAIL

NOT TO SCALE

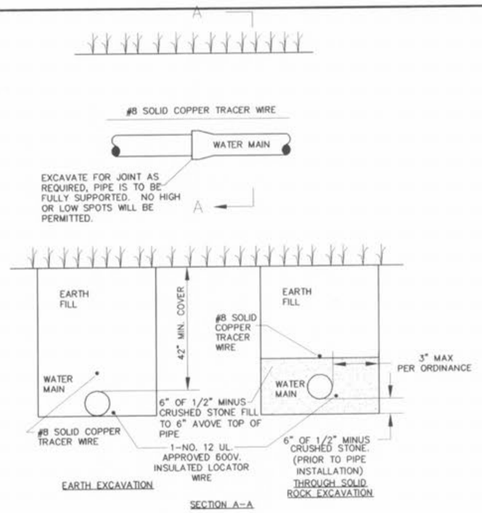


CONFIGURATION

	A	B	C
50' RIGHT-OF-WAY/26' PAVEMENT/WITHOUT SIDEWALK	4'	2'	N/A
50' RIGHT-OF-WAY/26' PAVEMENT/WITH SIDEWALK	4'	2'	1'

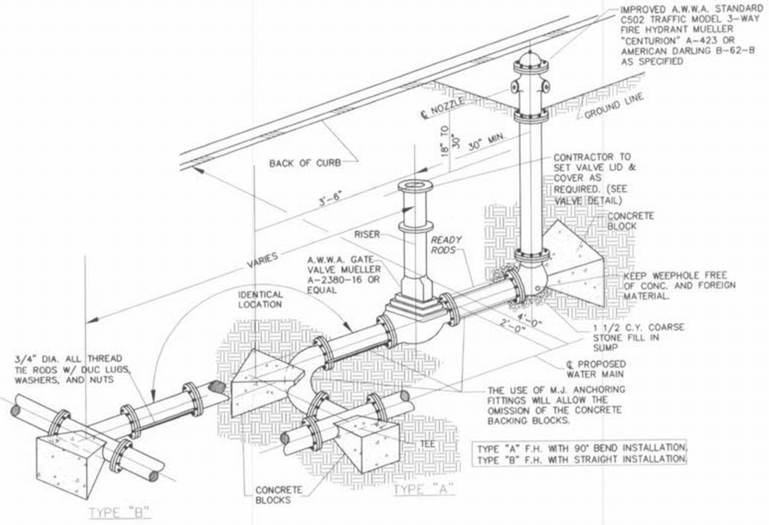
TYPICAL WATER MAIN AND FIRE HYDRANT LOCATIONS

NOT TO SCALE



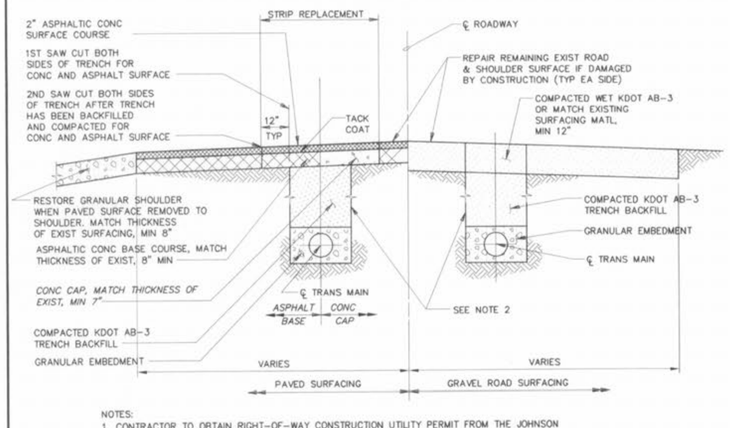
TYPICAL WATER MAIN INSTALLATION DETAILS

NOT TO SCALE



FIRE HYDRANT DETAIL

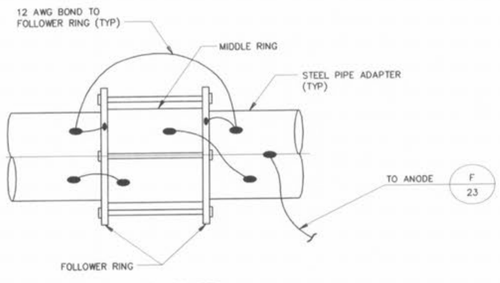
NOT TO SCALE



NOTES:
1. CONTRACTOR TO OBTAIN RIGHT-OF-WAY CONSTRUCTION UTILITY PERMIT FROM THE JOHNSON COUNTY KANSAS PUBLIC WORKS DEPARTMENT AND NOTIFY THEM FOR INSPECTION PRIOR TO ANY REPAIRS. SEE APPENDIX C OF THE SPECIFICATIONS FOR COPY OF UTILITY PERMIT FORM.
2. ACTUAL TRENCH SIDESLOPE TO BE DETERMINED BY CONTRACTOR IN ACCORDANCE WITH OSHA STANDARDS.
3. SEE PLAN SHEETS FOR LOCATION OF TRANSMISSION MAIN WITHIN STREET AND ROADWAYS.
4. THE DIMENSION OF THE GRANULAR EMBEDMENT ABOVE THE TOP OF THE TRANSMISSION MAIN SHALL BE 1/8 TIMES COVER, 6" MIN.
5. ASPHALTIC CONC BASE COURSE OR CONC CAP AS REQUIRED BY APPLICABLE CITY OR COUNTY.

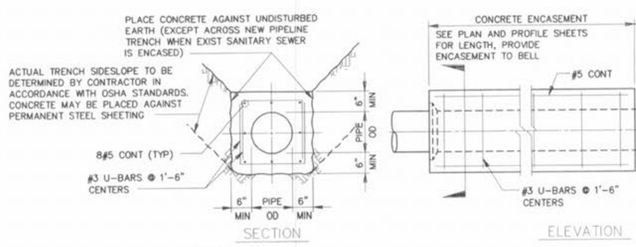
STREET TRENCHING DETAIL AND CROSSING SECTION (D)

NO SCALE



JOINT BONDING OF STEEL PIPE ADAPTERS FOR PCCP ALTERNATIVE (H)

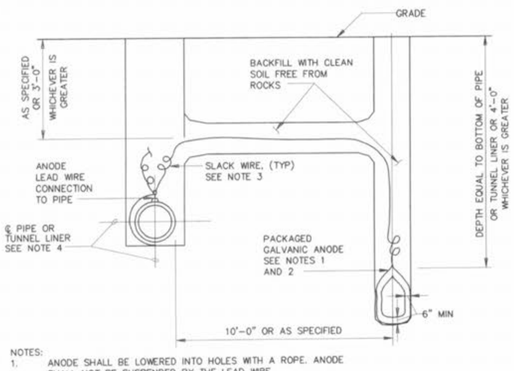
NO SCALE



NOTES:
1. AT LOCATIONS WHERE THE TRANSMISSION MAIN CROSSES AN EXIST SANITARY SEWER, SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. WHEN THE PIPELINE IS PROTECTED WITH POLYETHYLENE TUBE ENCASEMENT, THE CONCRETE ENCASEMENT IS TO COVER THE POLYETHYLENE ENCASEMENT.

CONCRETE ENCASEMENT (G)

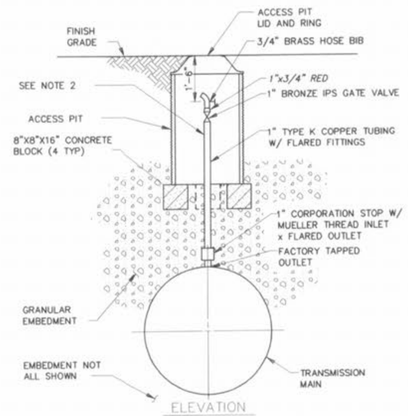
NO SCALE



NOTES:
1. ANODE SHALL BE LOWERED INTO HOLES WITH A ROPE. ANODE SHALL NOT BE SUSPENDED BY THE LEAD WIRE.
2. AT LEAST 5 GALLONS OF WATER SHALL BE POURED OVER THE ANODE BEFORE BACKFILLING.
3. ALL LEAD WIRES SHALL INSTALLED WITH A MINIMUM OF 18 INCHES OF SLACK IN EACH PLACE INDICATED TO PREVENT BREAKAGE OF WIRE DUE TO BACKFILL SETTLEMENT.
4. A SACRIFICIAL ANODE IS TO BE INSTALLED AT EACH END OF TUNNEL LINER. WHEN THE TRANS MAIN IS PCCP, AN ANODE IS ALSO TO BE INSTALLED ON THE PCCP AT EACH END OF THE TUNNEL LINER.

ANODE INSTALLATION FOR STEEL PIPE ADAPTERS FOR PCCP ALTERNATIVE AND FOR TUNNEL LINERS (F)

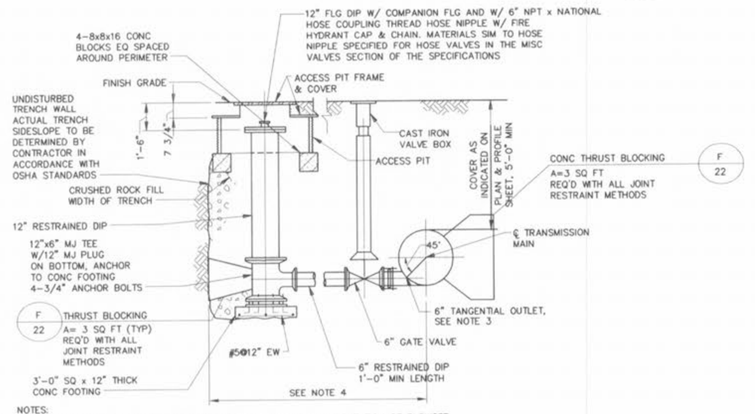
NO SCALE



NOTES:
1. SEE PLAN AND PROFILE SHEETS FOR LOCATIONS OF MANUAL AIR RELEASE VALVE ASSEMBLIES. WHERE THE TRANSMISSION MAIN IS UNDER PAVEMENT, MANUAL AIR RELEASE VALVE ASSEMBLY IS TO BE INSTALLED REMOTE FROM TRANSMISSION MAIN AS DETERMINED IN THE FIELD BY THE ENGINEER BASED UPON THE CONDITIONS ENCOUNTERED.
2. EXPOSED PIPING, FITTINGS, AND VALVES IN ACCESS PIT TO BE WRAPPED WITH 1" THICK INSULATION.

MANUAL AIR RELEASE VALVE ASSEMBLY (J)

NO SCALE



NOTES:
1. SEE PLAN & PROFILE SHEETS FOR APPROXIMATE LOCATION AND ORIENTATION OF BLOWOFF FACILITY. PRECISE LOCATION OF OUTLET, RISER PIPE, AND ACCESS PIT IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER BASED UPON THE CONDITIONS ENCOUNTERED.
2. ALL JOINTS TO BE RESTRAINED.
3. AT THE OPTION OF THE CONTRACTOR, THE VALVE CONNECTION TO THE TANGENTIAL OUTLET MAY BE MADE BY ONE OF THE FOLLOWING METHODS: A) A TYTON JOINT GATE VALVE AND FIELD LOCK RESTRAINED PUSH-ON JOINT, B) A MJ GATE VALVE AND GRIP RING PIPE RESTRAINER BY ROMAC INDUSTRIES, INC., C) A MJ GATE VALVE AND A PLAIN END OUTLET WITH A WELDED GLAND AND ANCHORED COUPLING.
4. SEE PLAN FOR MAXIMUM DISTANCE FROM ℄ TRANSMISSION MAIN TO PERMANENT EASEMENT. IF BLOWOFF FACILITY CANNOT BE INSTALLED WITHIN THE MAXIMUM DISTANCE, ADD A 90° BEND AFTER THE VALVE AND INSTALL 6" PIPING PARALLEL TO THE TRANSMISSION MAIN.

BLOWOFF FACILITY (E)

NO SCALE

PICKETT RAY & SILVER
CIVIL ENGINEERS
PLANNERS
LAND SURVEYORS
333 Mid Rivers Mall Drive
St. Peters, MO 63376
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Fax (636) 397-1104

WELLINGTON PARK

Prepared For: THE JONES COMPANY, Building Homes Since 1927, A CENTEX Company

14240 CLAYTON HILLS GROVE BLVD. CHESTERFIELD, MO 63005 (314) 225-7587

CONSTRUCTION DETAILS

REVISIONS NO.	DATE

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.
PICKETT, RAY & SILVER, INC

DRAWN	DATE
E.J.S.	03-04-03
CHECKED	DATE

PROJECT # 02077.JCH.00R
TASK # 6 FIELD 1997B BOOK 821

WELLINGTON PARK CONSTRUCTION DETAILS

SHEET 22 OF 23