

# PRIVATE FIRE SERVICE LINE TO SERVE KANSAS MASONIC HOME PRIVATE PROJECT NO. 1690 PPW

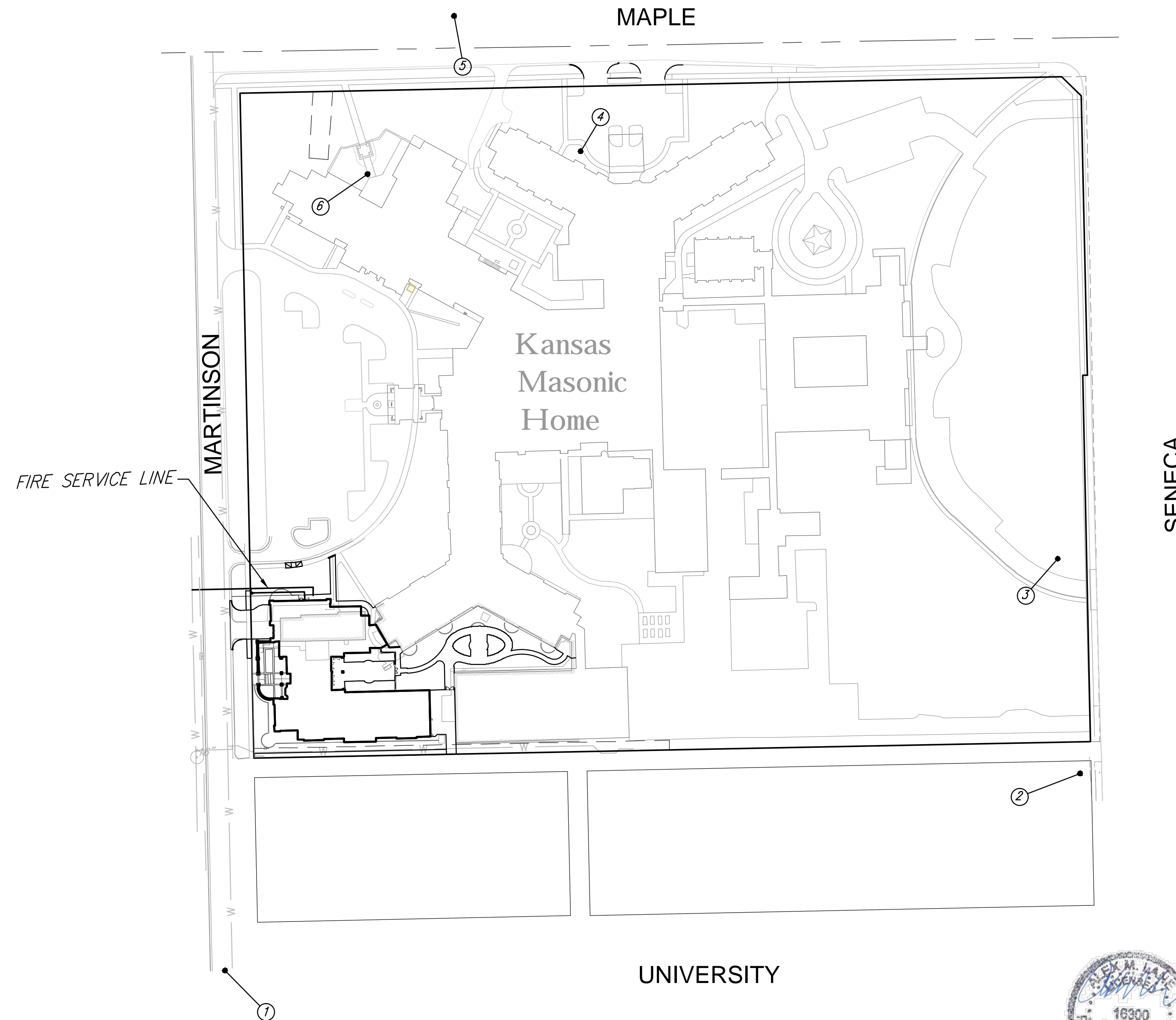
## BENCHMARK

BENCH MARK: CITY OF WICHITA DISC ON TOP OF TRAFFIC SIGNAL LIGHT BASE AT THE SOUTHEAST CORNER OF SENECA AND KELLOGG, ELEVATION = 1296.69 (NAVD88)

ON-SITE BENCH MARK: DIVOT IN CENTER OF CHISELED SQUARE ON THE TOP OF CONCRETE ON THE SOUTH SIDE OF TRAFFIC SIGNAL MANHOLE AT THE SOUTHWEST CORNER OF SENECA AND MAPLE, ELEVATION = 1297.67 (NAVD88)

## GENERAL NOTES

- Contractor will be required to provide a minimum advance notice of seventy-two (72) hours to utility companies prior to starting any excavation as follows:  
Kansas One-Call 687-2470 or 811
- The Contractor must notify the following in case of an emergency:  
Cox Communications 260-7204  
Kansas Gas Service 832-3126  
Westar 383-8600  
Black Hills Energy 1-800-303-0357  
AT&T 1-800-286-8313  
City of Wichita Water Utilities 262-6000
- Underground utility service lines and overhead utility pole lines are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. Location information has been obtained from the various utility companies and is either from company record drawings or company-provided field locations. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved.
- All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps permitting regulations. Any material buried or stockpiled beyond approved of Engineers construction limits would require additional archeological investigations unless buried in a previously approved borrow location.
- The Contractor shall give all property owners and/or tenants of developed property directly abutting the construction of this project a minimum of ten (10) days advance notice prior to start of construction.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
- Construction of this project will be subject to all provisions and requirements of the "Construction of Infrastructure by Private Contract" available from the City of Wichita Public Works Department.



SENECA

UNIVERSITY

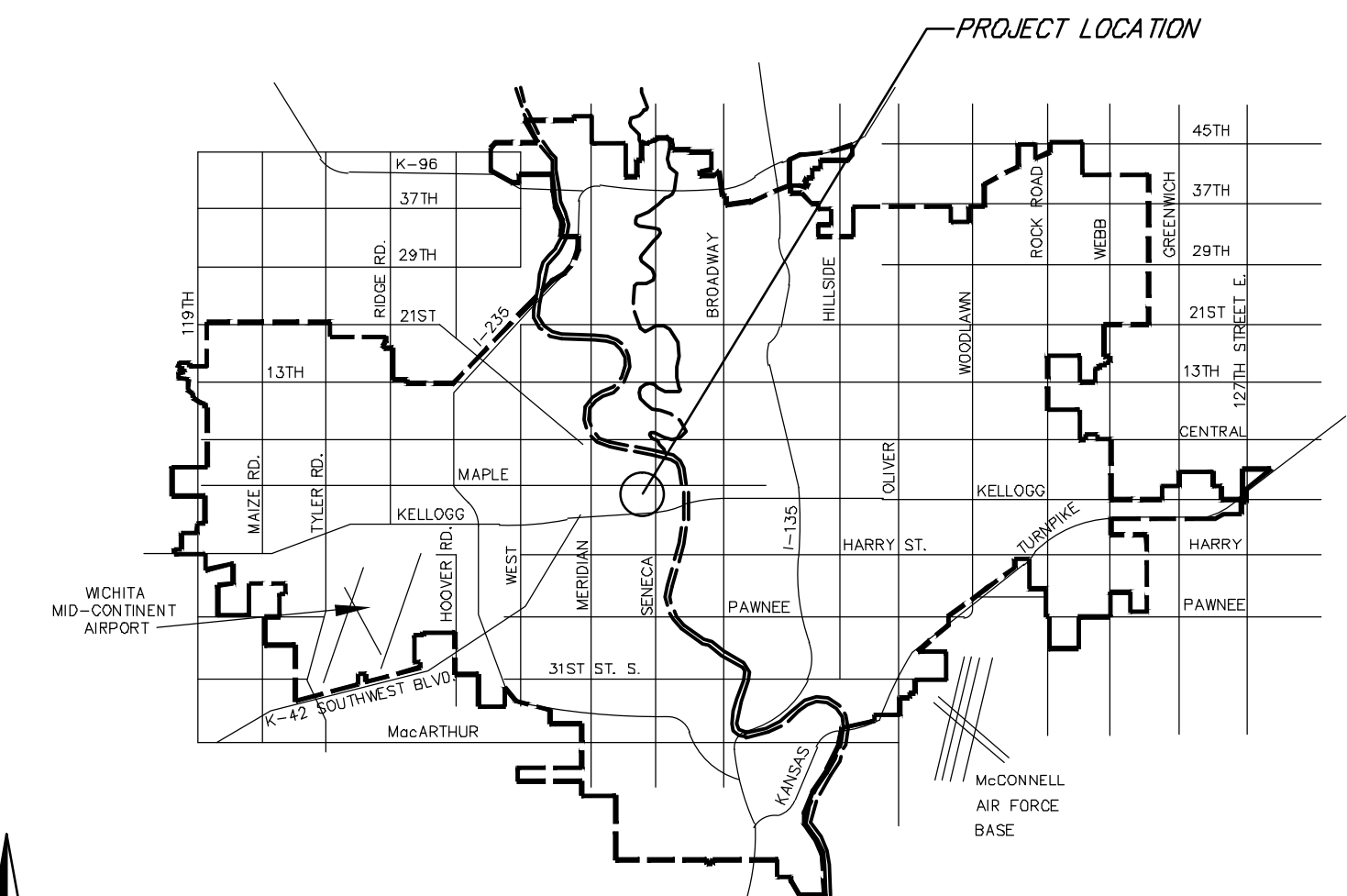
APPROVED AS NOTED  
BY CITY ENGINEER OF WICHITA

Engineering *Juliana Kallman 10-5-12*  
Water  
Fire *RB 10-9-2012*

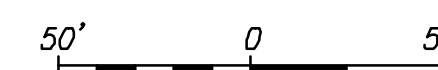
NOTE TO CONTRACTORS

Inspection and testing for this project are to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection, nor shall any work be commenced without written authorization by the City Engineer.

SITE INFORMATION:  
TOTAL SITE AREA = 13.78 AC.  
IMPERVIOUS AREA = 7.64 AC.  
GRASSED AREA = 6.14 AC.



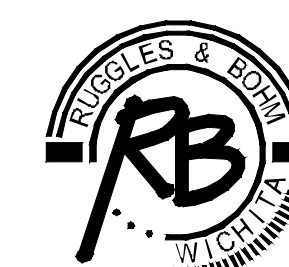
VICINITY MAP



## COORDINATE CONTROL TABLE

CONTROL NO.	LOCATION	DESCRIPTION	NORTHING	EASTING
①	CL UNIVERSITY AND MARTINSON	(3/4" IP THIMBLE)	1682762.85	1643521.75
②	APPROX. 181' N OF UNIVERSITY & 76' W OF SENECA (STA NAIL)		1682967.56	1644409.39
③	APPROX. 404' N OF UNIVERSITY & 95' W OF SENECA (STA NAIL)		1683190.50	1644386.27
④	APPROX. 387' E OF MARTINSON & 109' S OF MAPLE (STA NAIL)		1683613.49	1643890.96
⑤	APPROX. 259' E OF MARTINSON & 35' N OF MAPLE (60D NAIL)		1683754.17	1643759.73
⑥	APPROX. 165' E OF MARTINSON & 127' S OF MAPLE (STA NAIL)		1683589.95	1643669.93

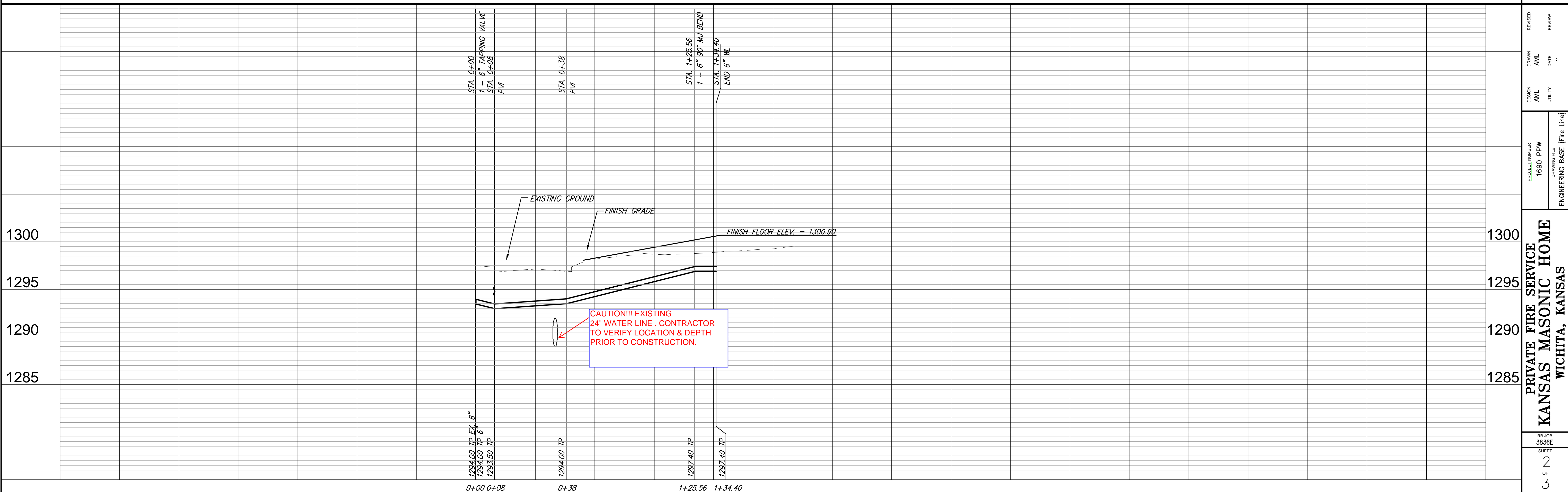
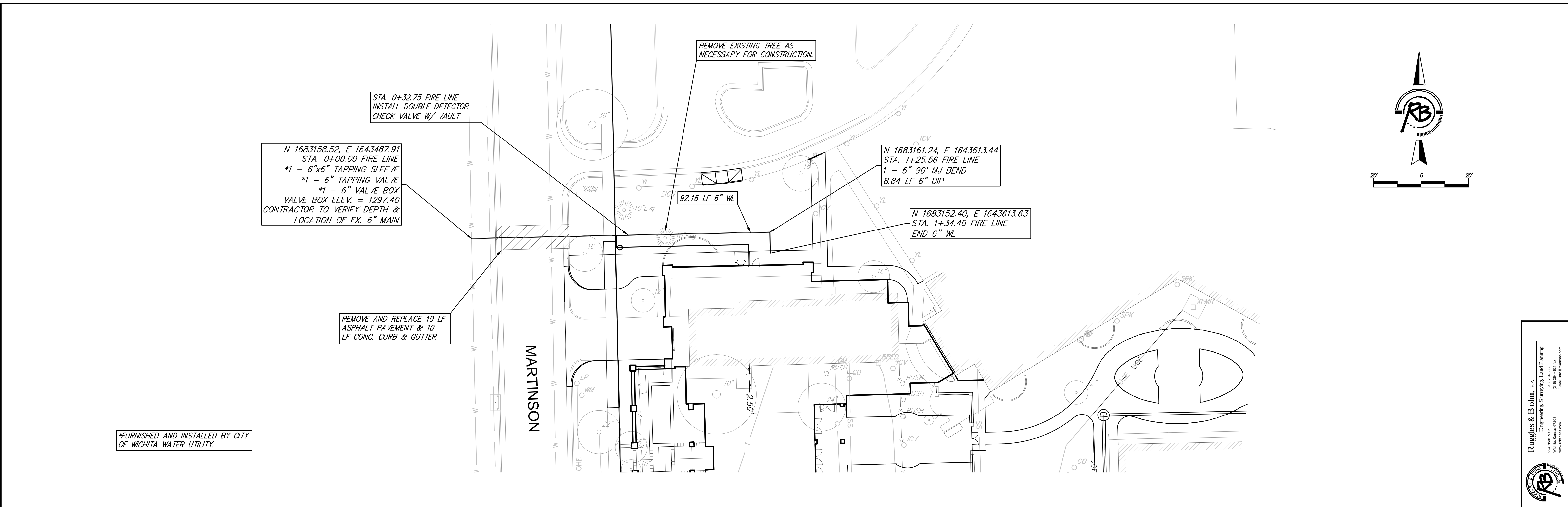
CITY OF WICHITA, KANSAS  
GARY JANZEN, P.E. - INTERIM CITY ENGINEER



Ruggles & Bohm, P.A.

Engineering, Surveying, Land Planning

924 North Main (316) 264-8008  
Wichita, Kansas 67203 (316) 264-4621 fax  
www.rbkansas.com E-mail: info@rbkansas.com



**Ruggles & Bohm, P.A.**  
Engineering, Surveying, Land Planning  
202 North Main, Suite 200  
Wichita, Kansas 67203  
www.ruggles.com  
E-mail: info@ruggles.com

**PROJECT NUMBER**  
1690 PPW  
DRAWING FILE  
ENGINEERING BASE {Fre Line}

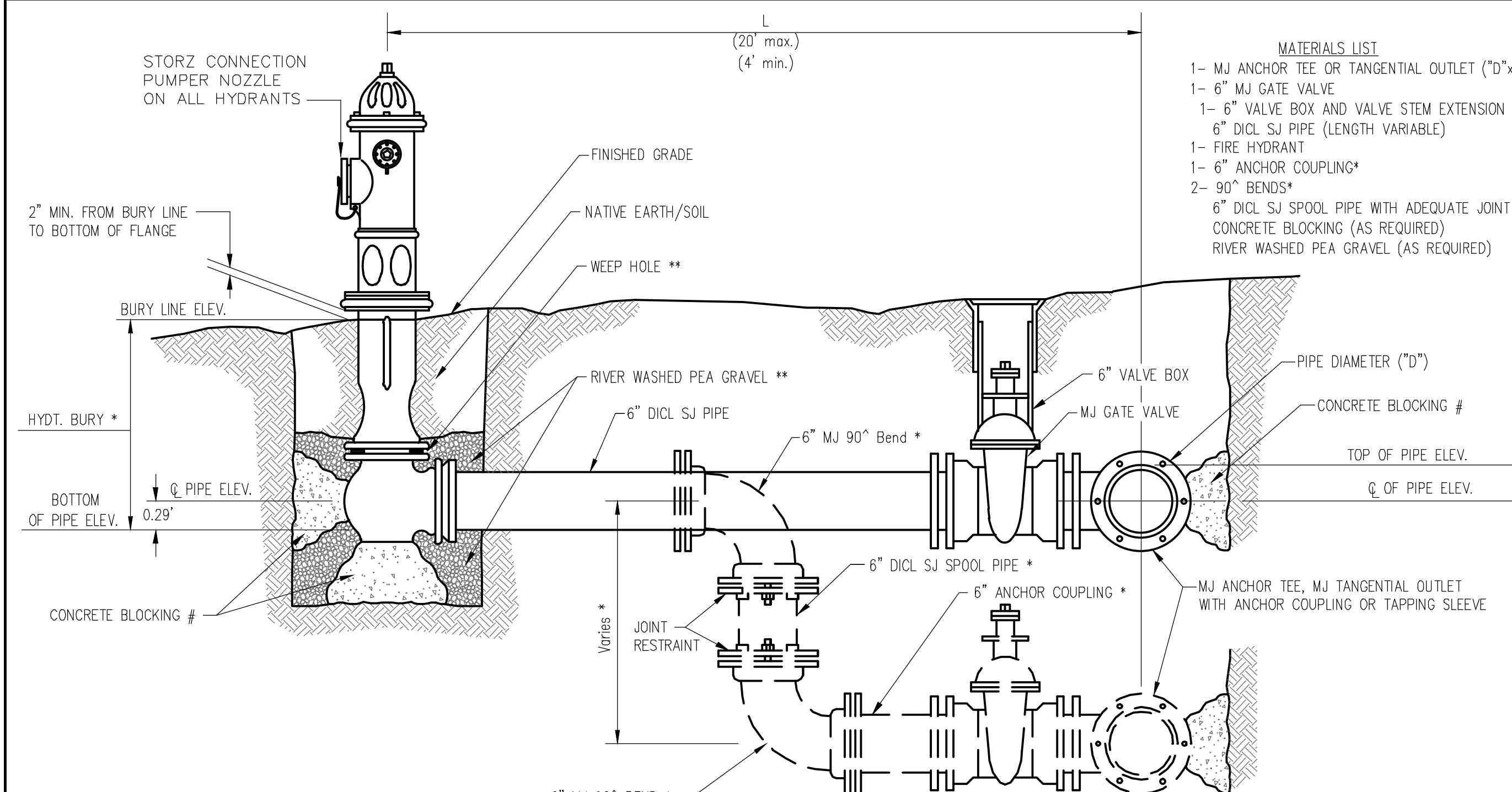
**DESIGN**  
AML  
UTILITY

**DRAWN**  
AML  
DATE ..

**REVIEW**  
REVIEW

**PRIVATE FIRE SERVICE  
KANSAS MASONIC HOME  
WICHITA, KANSAS**

REVISION  
3836E  
SHEET  
2  
OF  
3



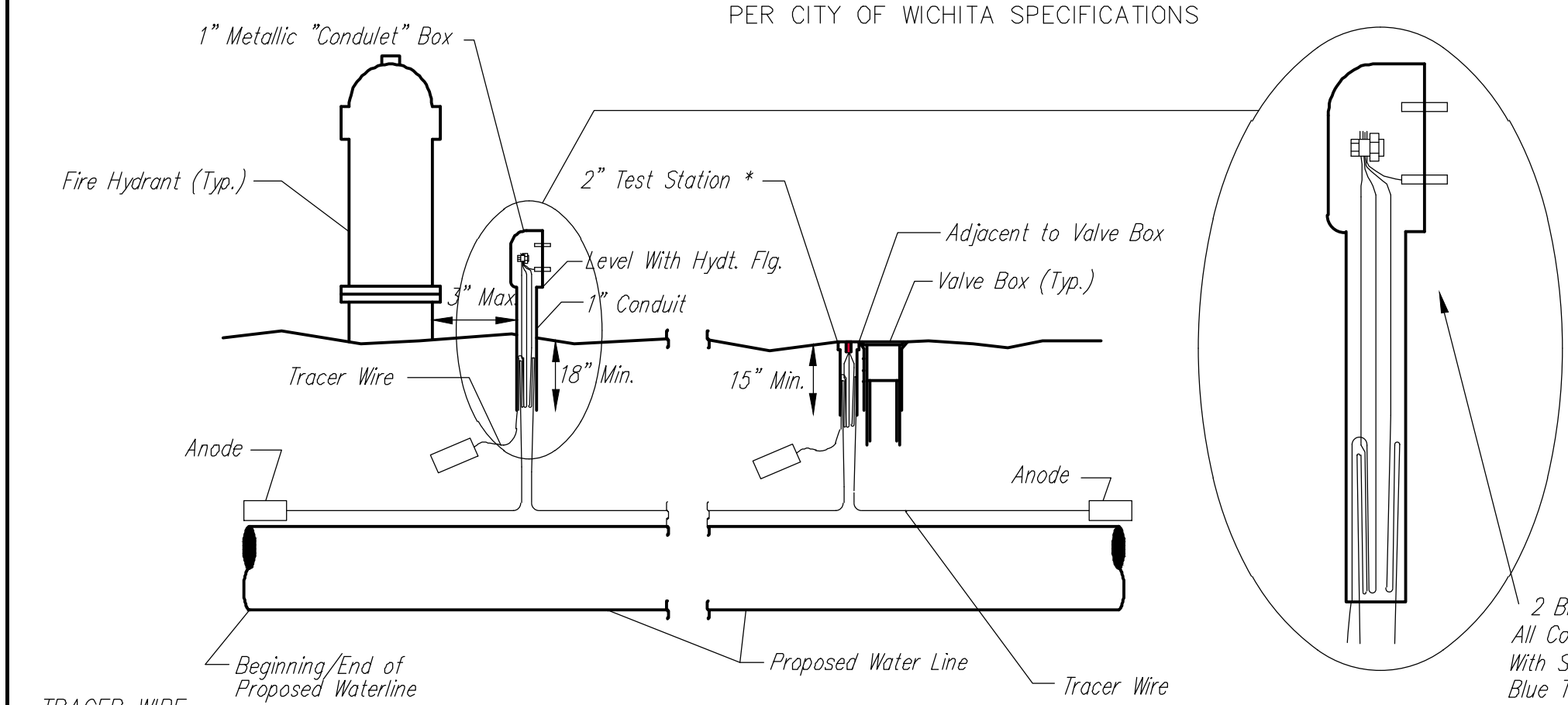
- MATERIALS LIST**
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D"x 6")
  - 1- 6" MJ GATE VALVE
  - 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED \*
  - 6" Dicl SJ PIPE (LENGTH VARIABLE)
  - 1- FIRE HYDRANT
  - 1- 6" ANCHOR COUPLING\*
  - 2- 90° BENDS\*
  - 6" Dicl SJ SPOOL PIPE WITH ADEQUATE JOINT RESTRAINT \*
  - CONCRETE BLOCKING (AS REQUIRED)
  - RIVER WASHED PEA GRAVEL (AS REQUIRED)

\* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2-MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" Dicl SPOOL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, ROD AND LUG OR SIMILAR RESTRAINT BETWEEN 90° BENDS TO SECURE ALL FITTINGS DURING TESTING AND OPERATION. THE CONTRACTOR SHALL PROVIDE A VALVE STEM EXTENSION PER DETAIL THIS SHEET.

\*\* CAUTION WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

# CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

**FIRE HYDRANT ASSEMBLY**  
PER CITY OF WICHITA SPECIFICATIONS



\* FLUSH STYLE TEST STATIONS SHALL ONLY BE USED IN PAVEMENT.

2 Blue Wires and 1 Black Wire All Connected to Single Test Lead With Split Bolt Connection and Blue Tracer Wire

**TRACER WIRE**  
Conductive type pipe locator/tracer wire shall be installed to locate all waterline pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. Split-bolt connectors shall be used at splice locations. Electrical tape shall cover all splices so no bare wire is exposed. Test stations shall be installed adjacent to all fire hydrants along the waterline and at blowoffs or valves near the ends of the waterlines. Any exceptions to the location of test stations shall be approved by the engineer. At each test station, the tracer wire shall be connected to a 3 lb. Zinc or magnesium anode. Anodes shall also be attached to the tracer wire at both the beginning and the end of the proposed waterline. A typical layout of the tracer wire and test station is provided in the above figure.

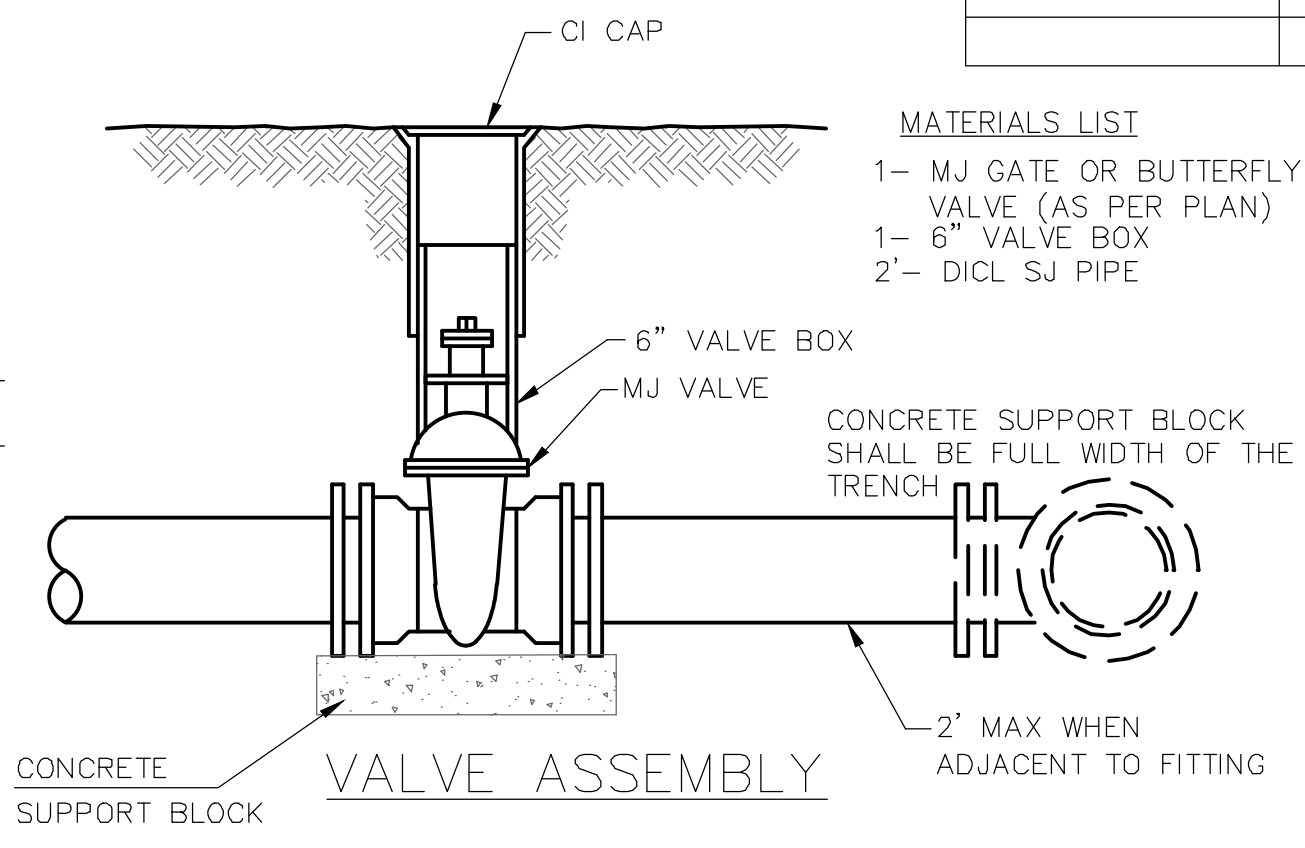
**WIRES**  
The tracer wire shall be Blue No. 12 THHN annealed soft copper wire with thermal plastic insulation or Blue No. 12 AWG CCS with 30 mil HDPE insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom of the test station for all wires. The insulation sheathing shall be removed such that 1" bare copper wire at all points of connection. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

**TEST STATIONS**  
The test station for fire hydrant applications shall be a 1 inch galvanized "condulet" style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station T2PS3B as manufactured by HANDLEY Industries or approved equal. The "condulet" style test station shall be attached to a 1 inch rigid galvanized conduit with a minimum length of 36" and plastic end bushing. The flush style shall have the word "WATER" stamped or molded into the lid. All test stations shall be manufactured using molded blue tops or sufficiently coated with blue enamel paint. The tracer wire and the anode wire shall be installed to allow 10 inches of wire within the test station. In concrete environments such as sidewalks or in the downtown area the contractor shall use the flush style test station. The location of all test stations shall be approved by the engineer, recorded, and shown in the as-built drawings.

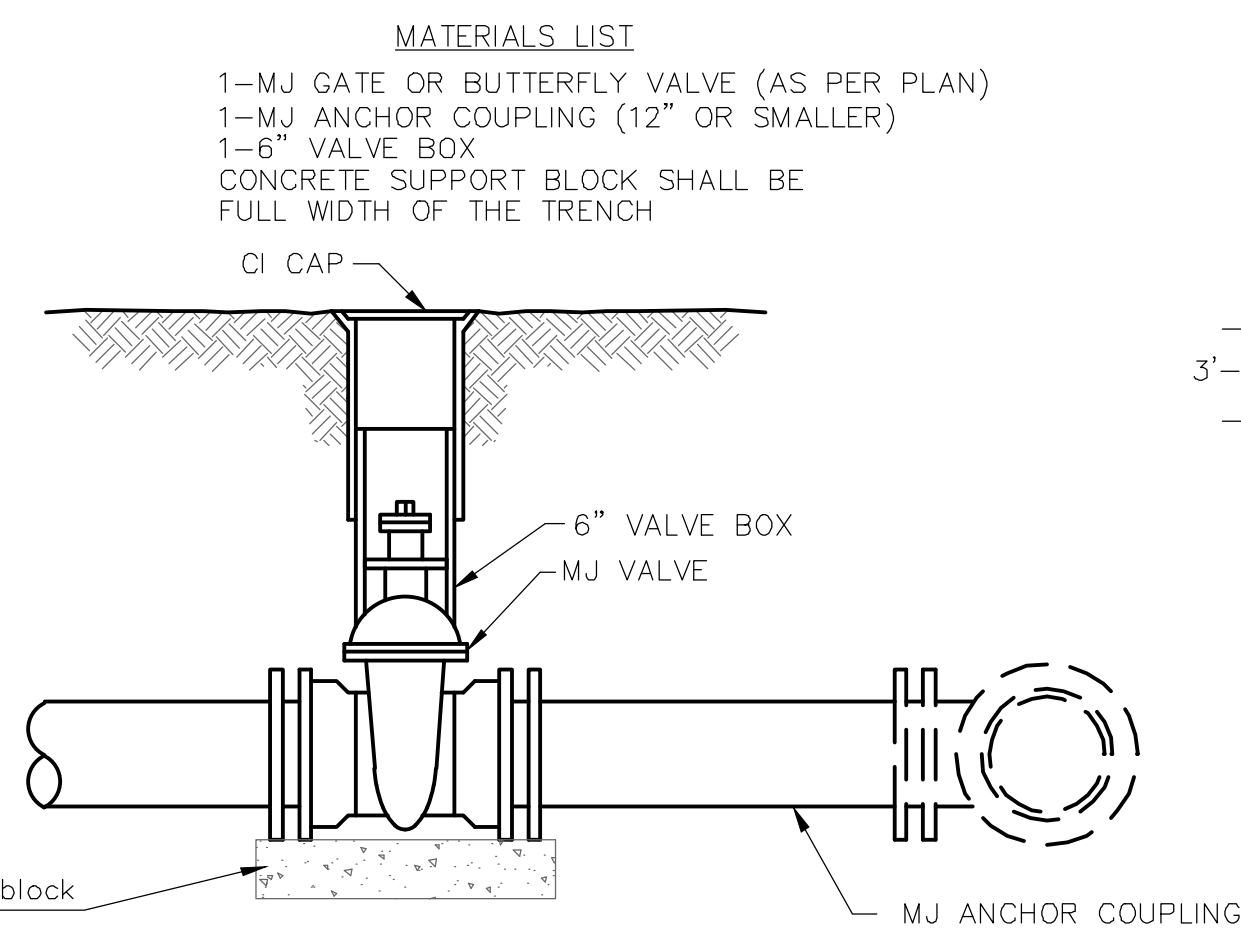
**ANODES**  
The anodes shall be 3 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

**TRACER WIRE DETAIL**  
COST IS SUBSIDIARY TO PIPE INSTALLATION

FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*

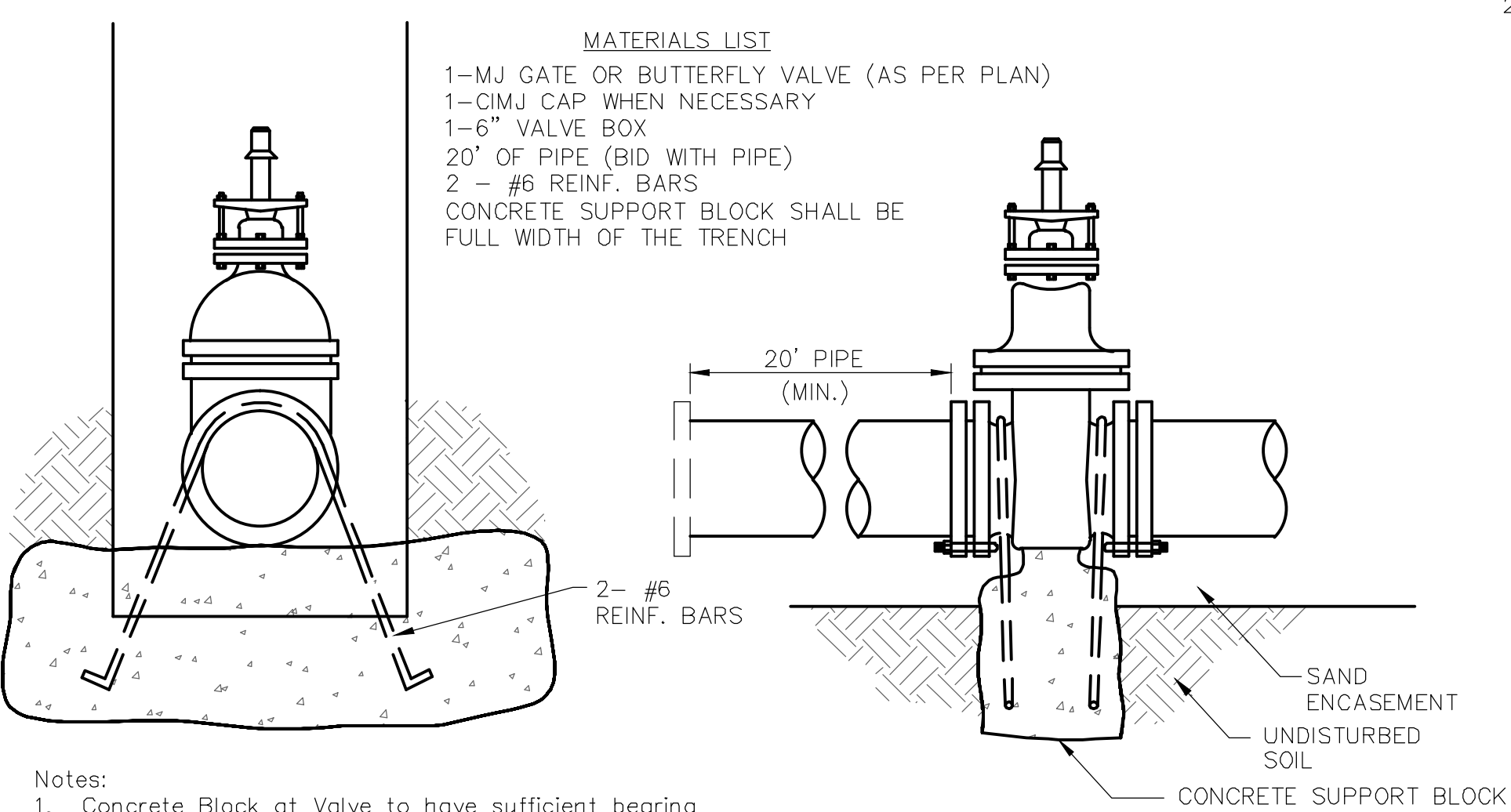


- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1- 6" VALVE BOX
  - 2'- Dicl SJ PIPE



- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1-MJ ANCHOR COUPLING (12" OR SMALLER)
  - 1-6" VALVE BOX
  - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

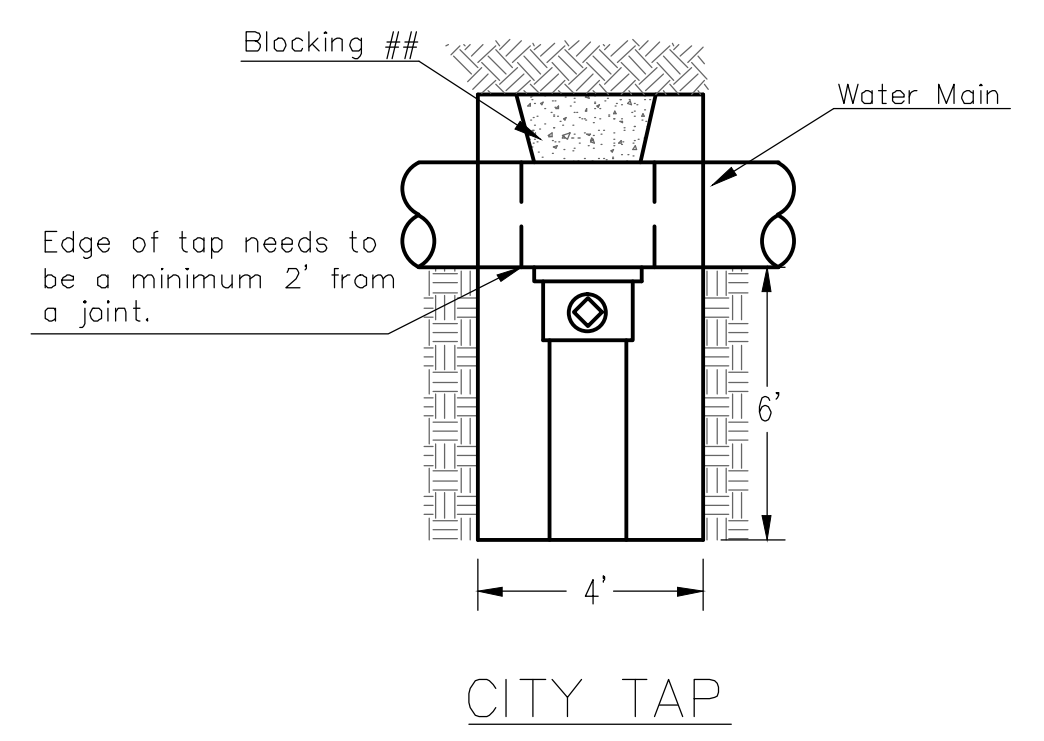
**ANCHORED VALVE ASSEMBLY, SPECIAL**



- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1-CIMJ CAP WHEN NECESSARY
  - 1-6" VALVE BOX
  - 20' OF PIPE (BID WITH PIPE)
  - 2 - #6 REINF. BARS
  - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

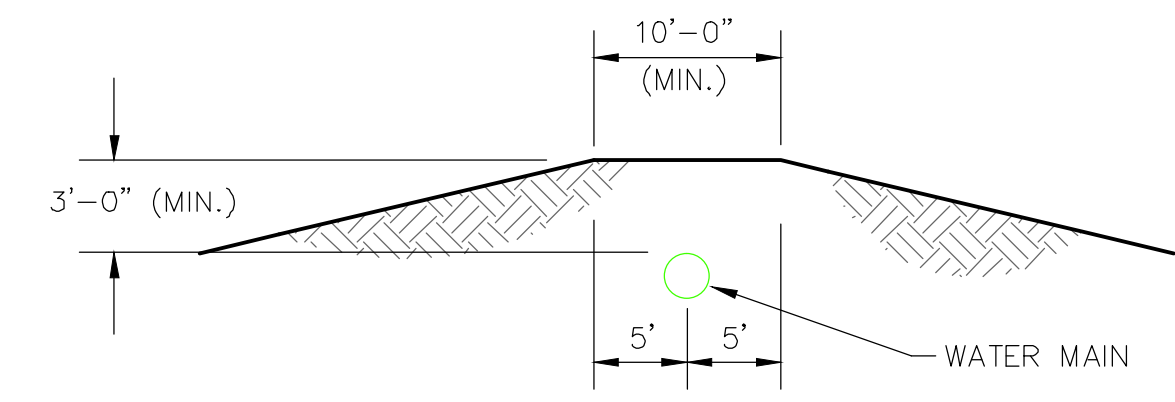
Notes:  
1. Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.  
2. The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.  
3. All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

THRUST AT VALVES	
VALVE	THRUST AT 150 #/in <sup>2</sup>
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.



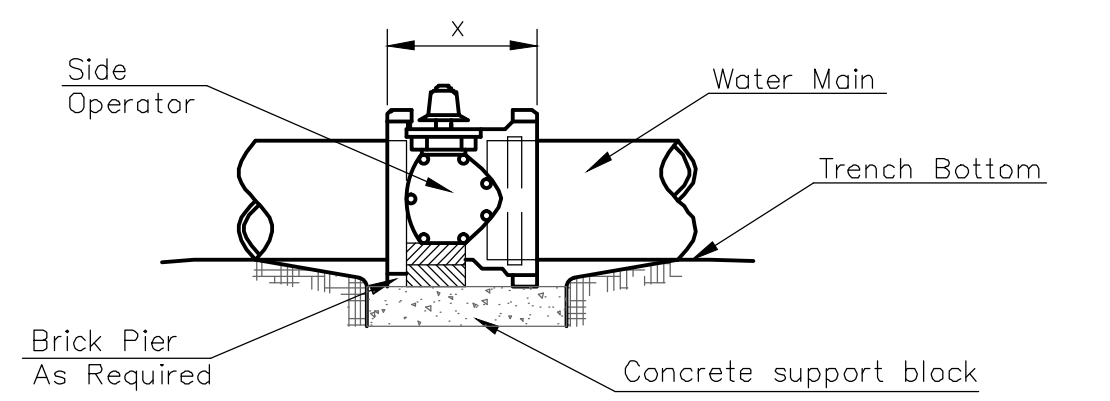
## When the City of Wichita makes tap, blocking is to be done by Contractor

**CITY TAP**



**PROTECTIVE FILL DETAIL**

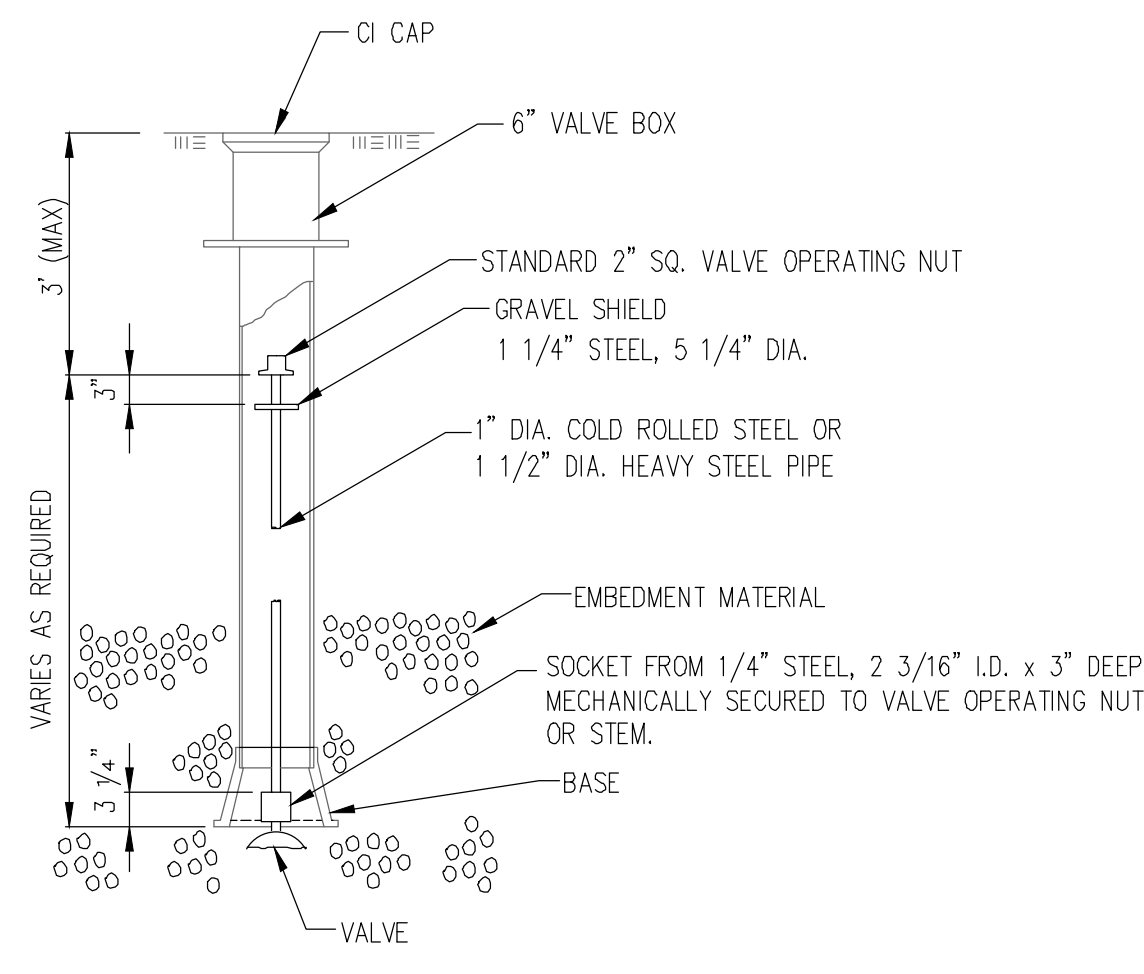
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



**NOTES**

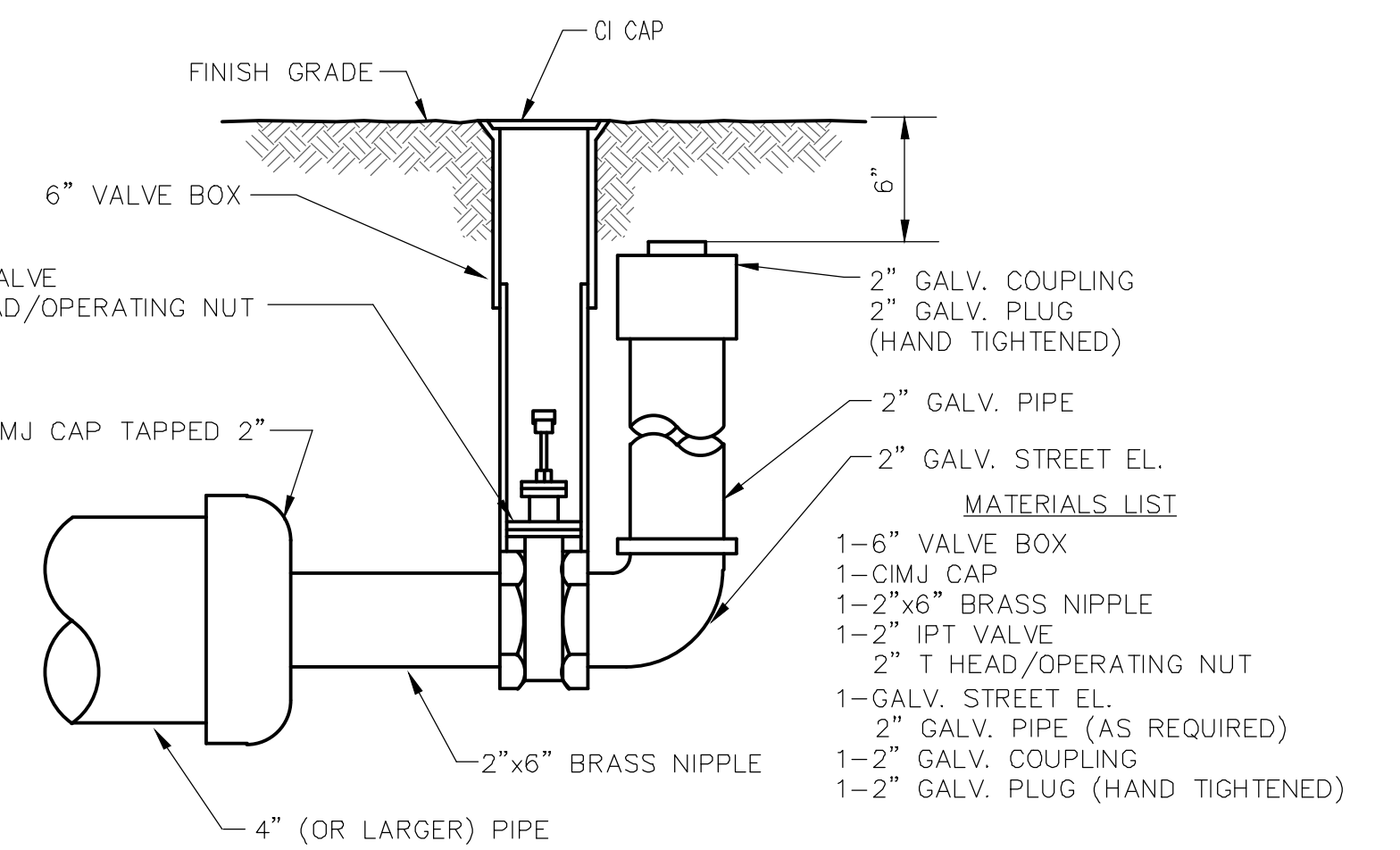
- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
- 6" Valve Box and Cover required per City of Wichita Std. Specifications.
- Conc. Support Block to be full width of trench.

**CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION**



**VALVE STEM EXTENSION DETAIL**

NOTE: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



**2" BLOWOFF ASSEMBLY**

**STANDARD WATER ASSEMBLY DETAIL**

CITY ENGINEER  
**JAMES L. ARMOUR, P.E., L.S.**

PROJECT NUMBER 1690 PPW	OCA NUMBER	DATE 12/2011
----------------------------	------------	-----------------

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

SHEET  
3 of 3