

**AS-BUILT PLANS**

CONTRACTOR: MIES CONSTRUCTION  
 INSPECTOR: BRIAN BLOYD, SCHWAB-EATON, P.A.  
 .PDF BY: BDB 4-24-09  
 PROJECT WAS CONSTRUCTED AS SHOWN ON  
 AS-BUILTS.

# PRIVATE WATER MAIN AND FIRE SERVICE PRIVATE PROJECT NUMBER 1432 PPW (607853) TO SERVE KOCH - GLITSCH PILOT PLANT (A PORTION OF UNPLATTED PROPERTY C-248-UP)

**INDEX OF SHEETS**

C2.1 TITLE SHEET  
 C2.2 WATER ASSEMBLY DETAILS  
 C2.3 WATER PLAN AND PROFILE  
 C2.4 WATER PLAN DETAIL

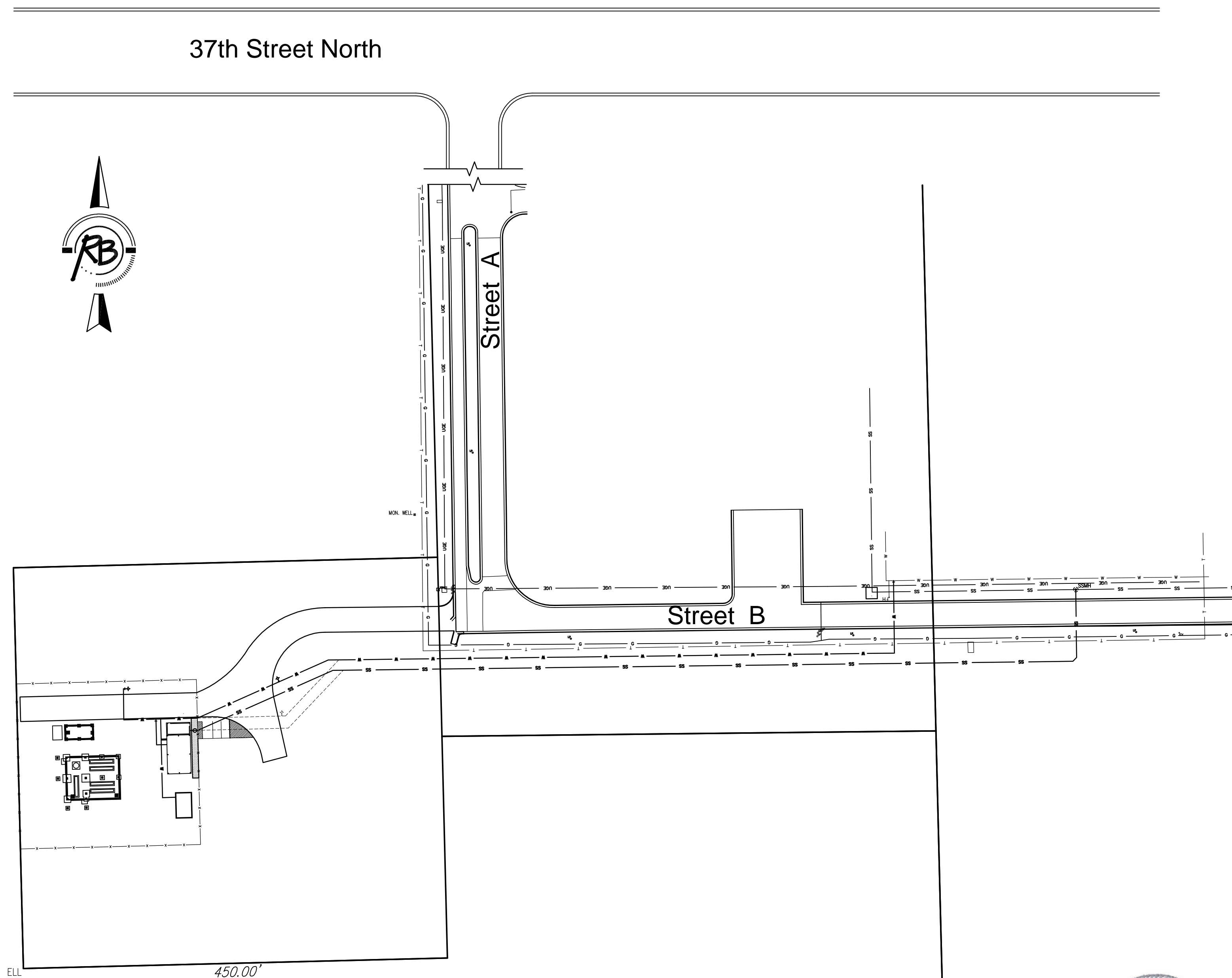
**GENERAL NOTES**

- Contractor will be required to provide a minimum notice of 72 hours to utility companies prior to starting any excavation as follows:  

Kansas One-Call	811
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The Contractor must notify the following in case of an emergency:

Cox Communications	262-0661
Kansas Gas Service	383-8600
Westar Energy	383-8600
Aquila Energy	1-800-303-0357
AT&T	1-800-286-8313
City of Wichita Water Department	268-6000
City of Wichita Sewer Maintenance	268-6000
- All water mains and appurtenances shall be installed in accordance with City of Wichita, Kansas, Standard Specifications for the Construction of City Projects, and current policy on construction of public works improvements by private contract.
- Opening and closing water valves shall be done slowly to prevent damage to the water distribution system from water hammer. All valves closed by the Contractor must be reopened as new construction permits. Project inspector must ascertain that any valve closed by the Contractor is reopened. Contractor will be permitted to operate water valves only when the project inspector assigned to the project is present.
- 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.
- No work shall begin on this project before required bonds are submitted to the City of Wichita, and the project inspector has been notified.



City Comments 1-14-09

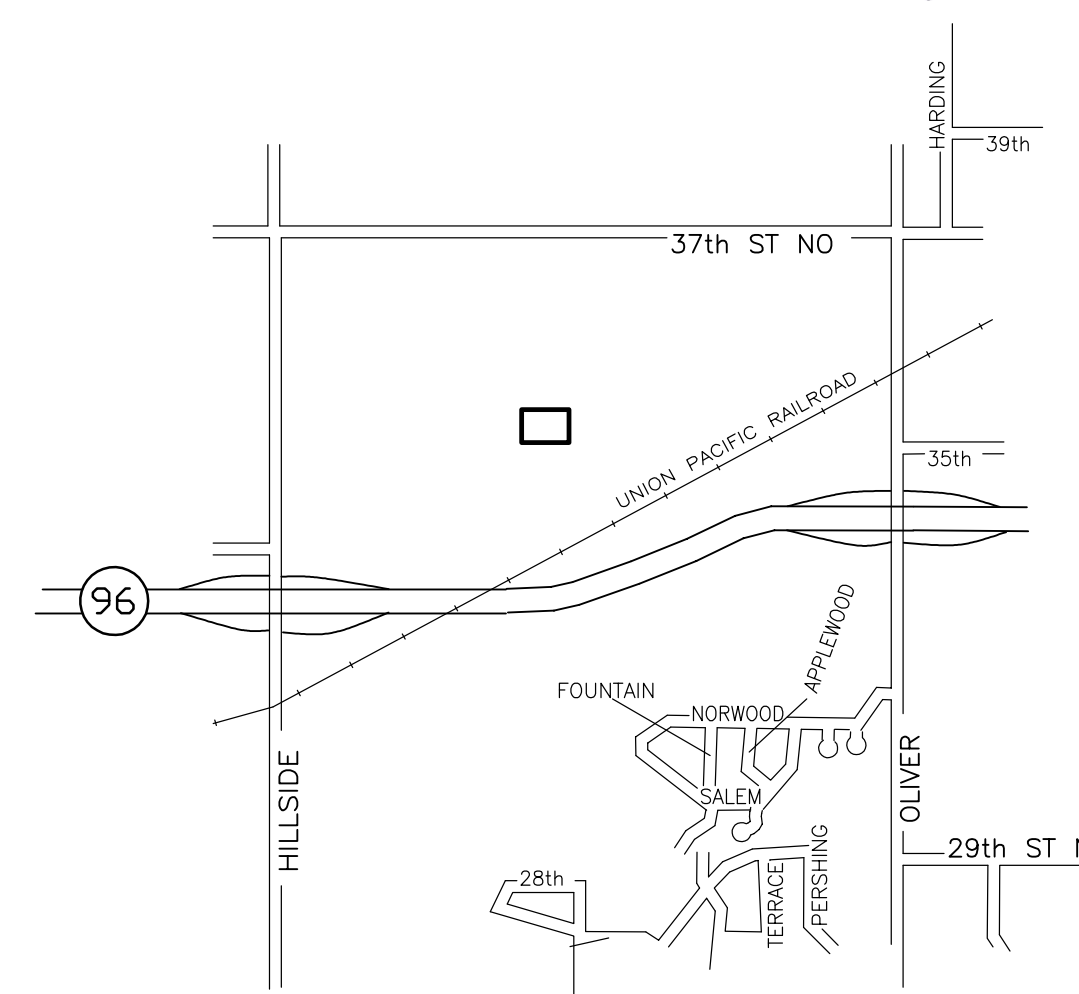
APPROVED AS NOTED  
 BY CITY OF WICHITA

Public Works *[Signature]* 1/27/09  
 Water & Sewer *[Signature]* 2-9-09  
 Fire Dept. *[Signature]* 2-9-09

NOTE TO CONTRACTORS

**PUBLIC PROPERTY:**  
 Inspection and testing for the waterline is 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. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).

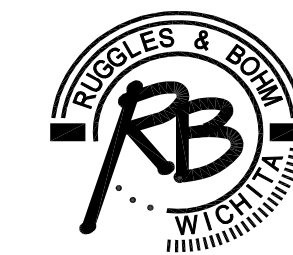
**PRIVATE PROPERTY**  
 Installation, inspection and testing for the fire protection line is to be performed by a City of Wichita certified fire protection contractor in accordance with the fire codes as adopted by the City of Wichita. All materials and construction practices for the fire protection line shall comply with the fire codes as adopted by the City of Wichita (available from the City of Wichita Fire Department). The contractor shall not commence work without notification of and approval of the Wichita Fire Department.



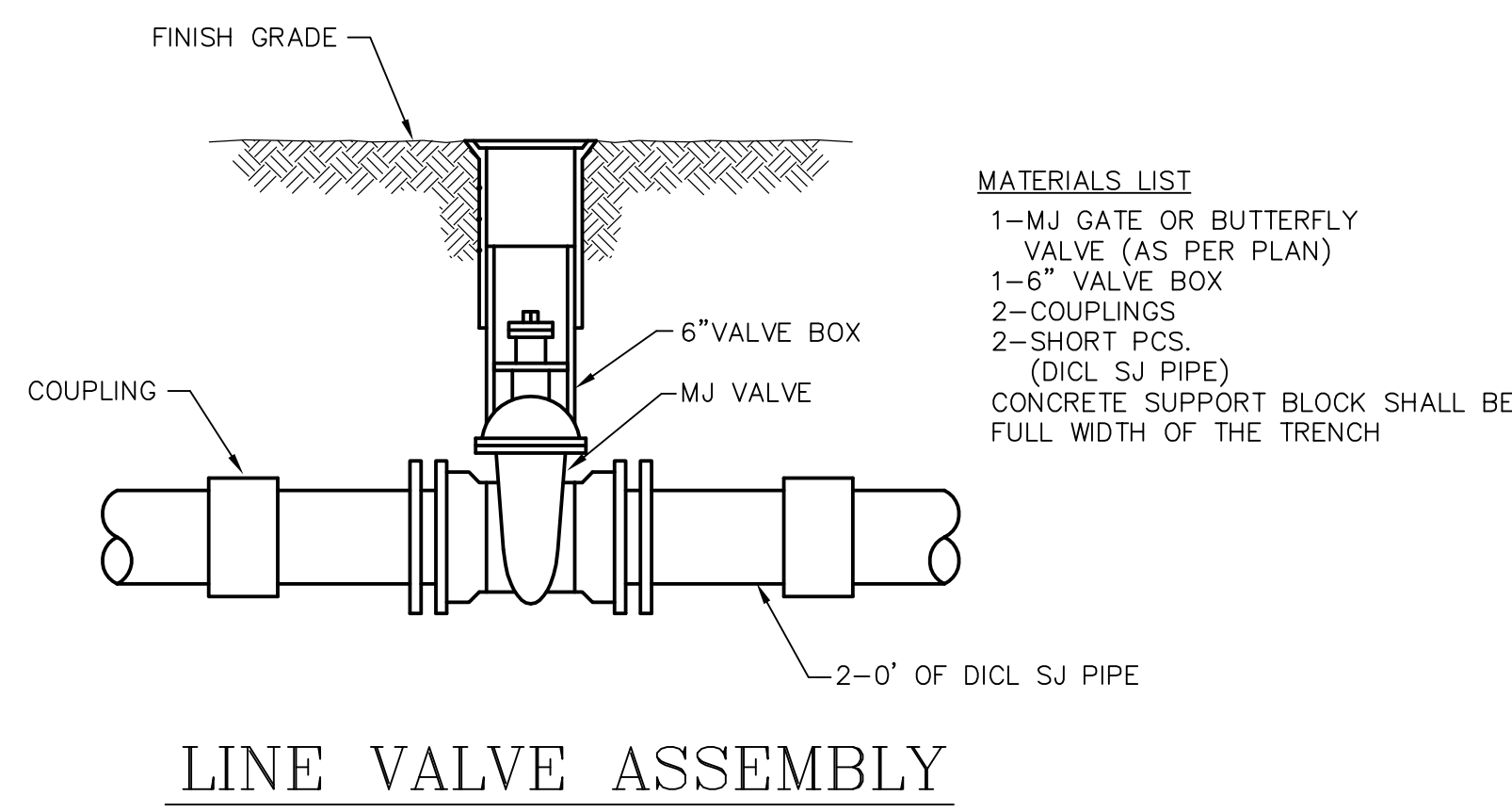
**VICINITY MAP**



**CITY OF WICHITA, KANSAS**  
**JAMES L. ARMOUR, P.E. - CITY ENGINEER**

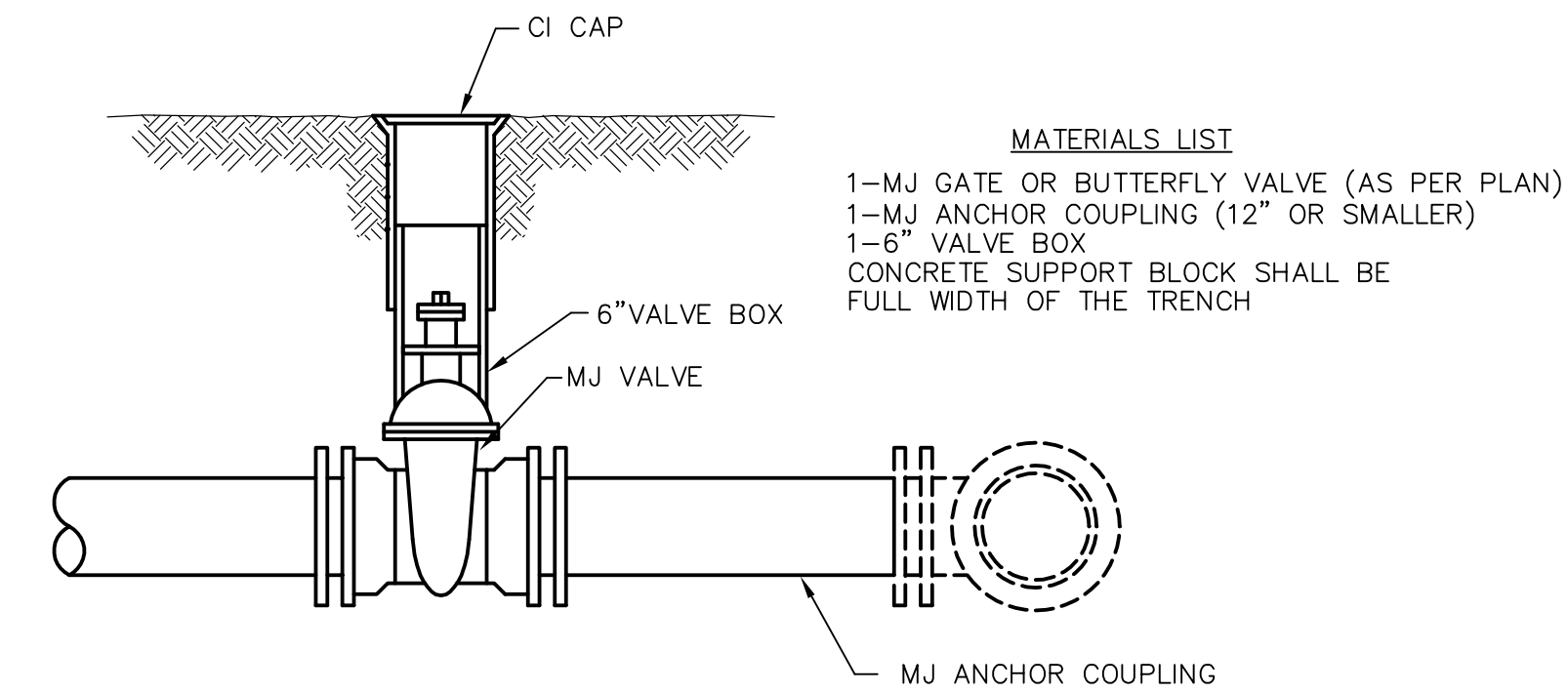


**Ruggles & Bohm, P.A.** C2.1  
 Engineering, Surveying, Land Planning  
 924 North Main (316) 264-8008  
 Wichita, Kansas 67203 (316) 264-4621 fax  
 www.rbkansas.com E-mail: info@rbkansas.com



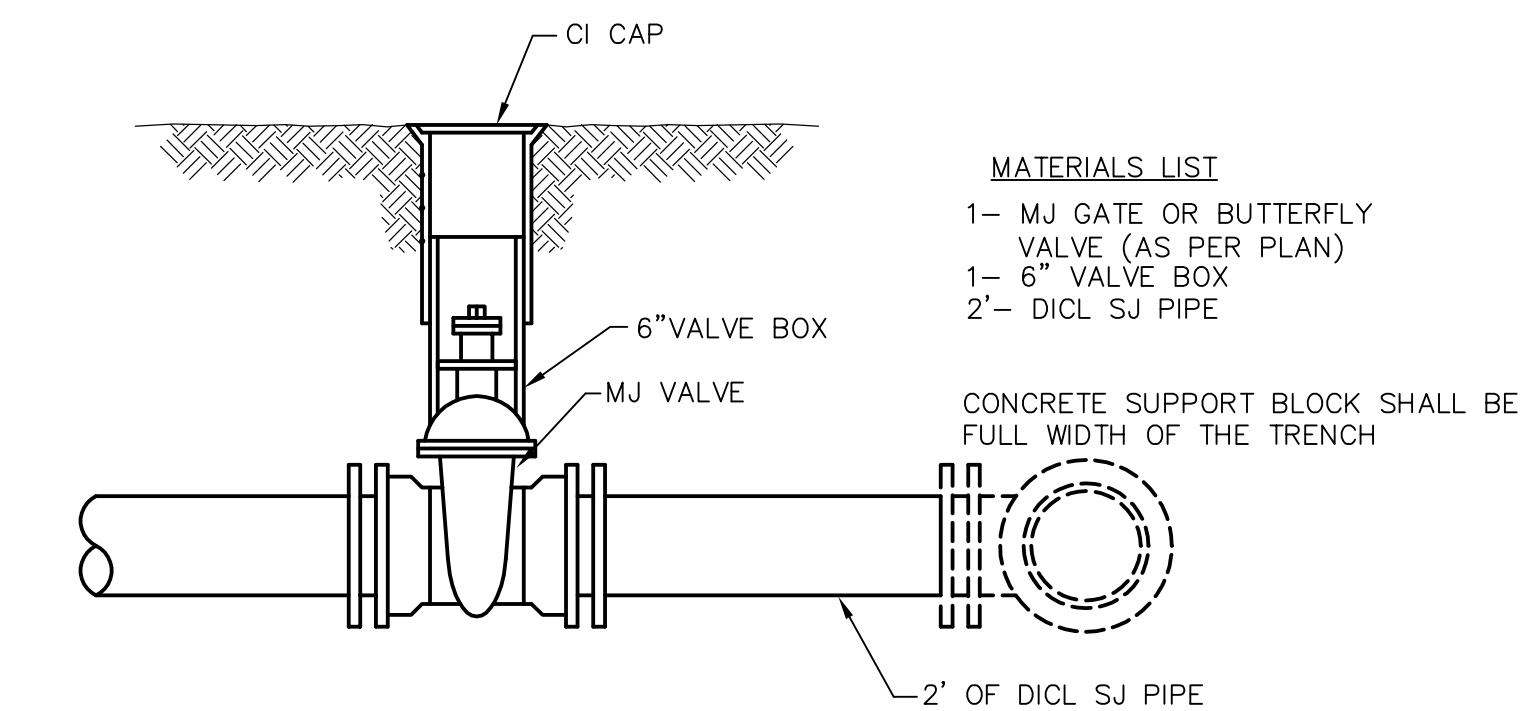
- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1-6" VALVE BOX
  - 2-COUPPLINGS
  - 2-SHORT PCS. (DICTL SJ PIPE)
  - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

**LINE VALVE ASSEMBLY**



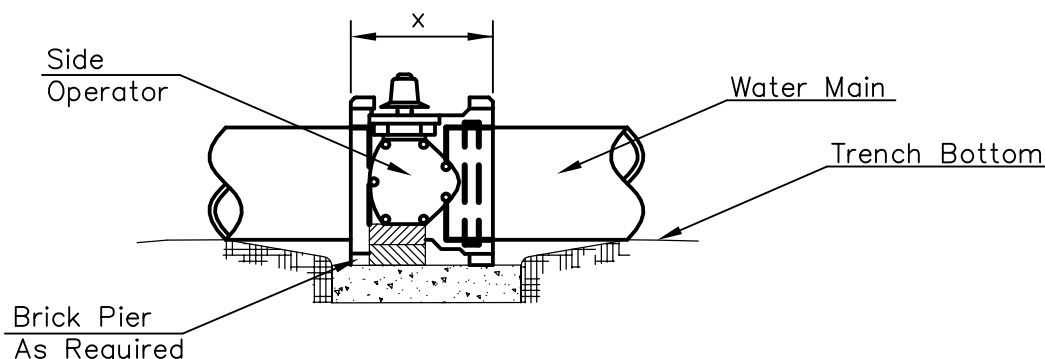
- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1-MJ ANCHOR COUPLING (12" OR SMALLER)
  - 1-6" VALVE BOX
  - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

**ANCHORED VALVE ASSEMBLY**



- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1- 6" VALVE BOX
  - 2'- DICTL SJ PIPE
  - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

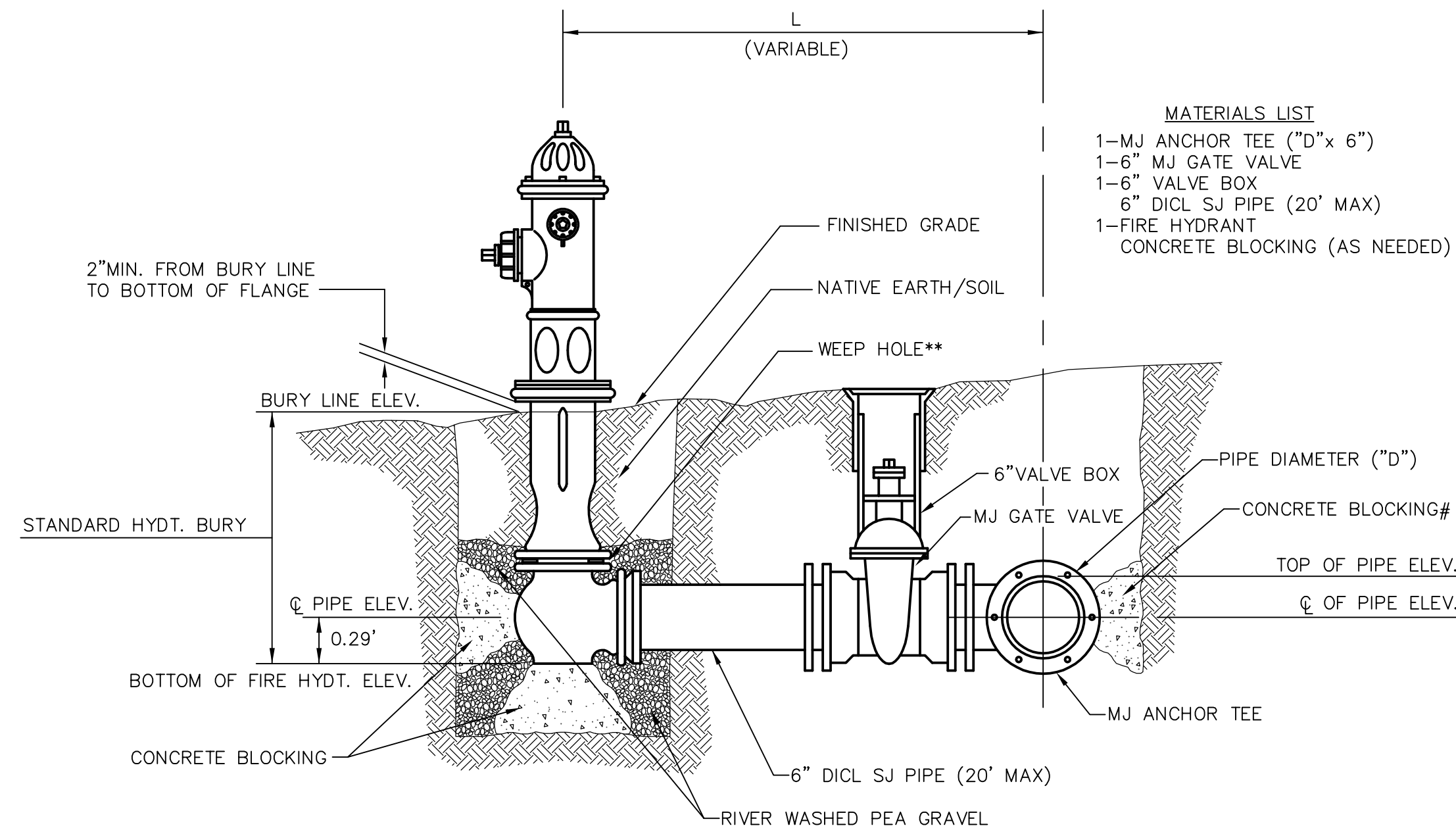
**VALVE ASSEMBLY**



**NOTES**

- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 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**



- MATERIALS LIST**
- 1-MJ ANCHOR TEE ("D"x 6")
  - 1-6" MJ GATE VALVE
  - 1-6" VALVE BOX
  - 6" DICTL SJ PIPE (20' MAX)
  - 1-FIRE HYDRANT
  - CONCRETE BLOCKING (AS NEEDED)

\*\* CAUTION! WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES.

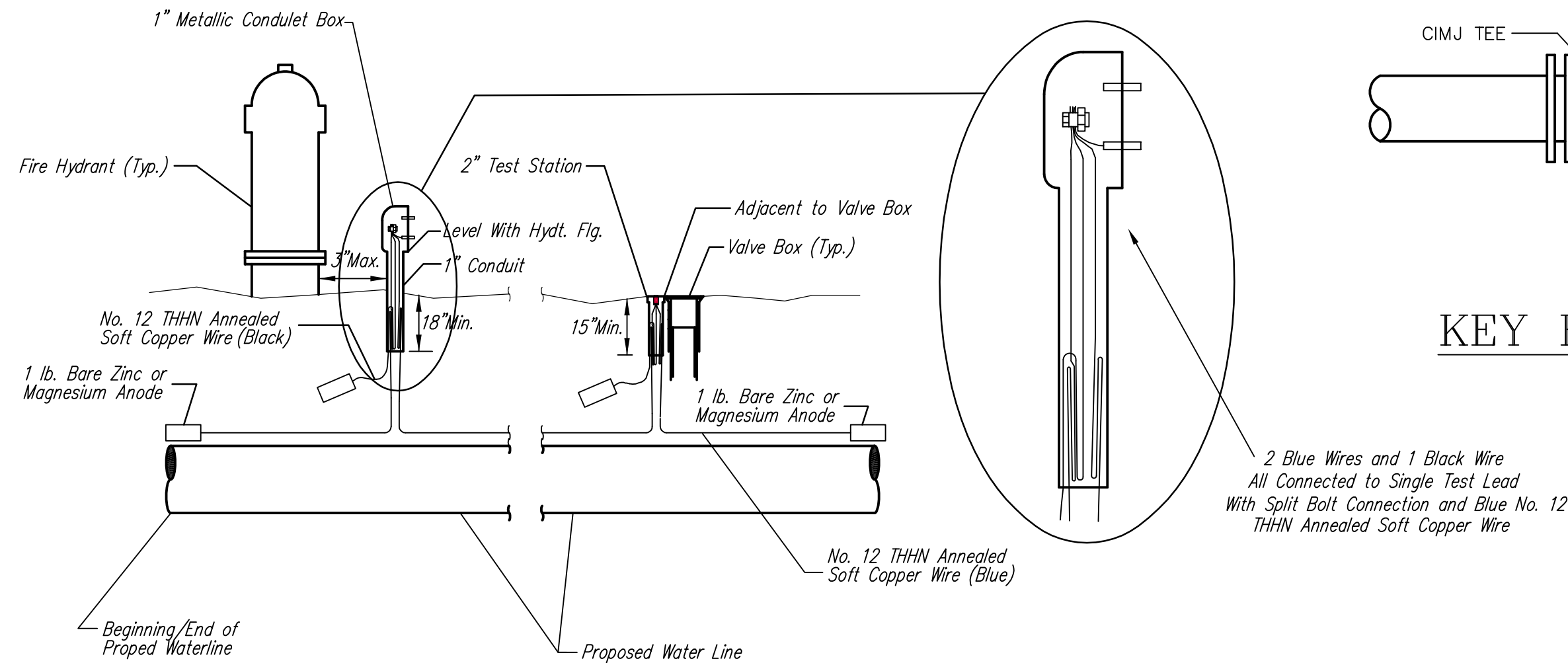
# CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

\* IF HYDRANT BURY IS IN EXCESS OF 5', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY.

FIRE HYDRANTS REQUIRED			
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
7+34.58	1353.42	1349.10	5.0'
9+40.44	1351.34	1347.53	4.5'

**FIRE HYDRANT ASSEMBLY**

PER CITY OF WICHITA SPECIFICATIONS



**TRACER WIRE**

Conductive type pipe locator/tracer wire shall be installed to locate Polyvinyl Chloride (PVC) or any nonmetallic waterline pipes. 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 1 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.

**WIRE**

The tracer wire shall be Blue No. 12 THHN annealed soft copper wire with thermal plastic 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 is exposed 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**

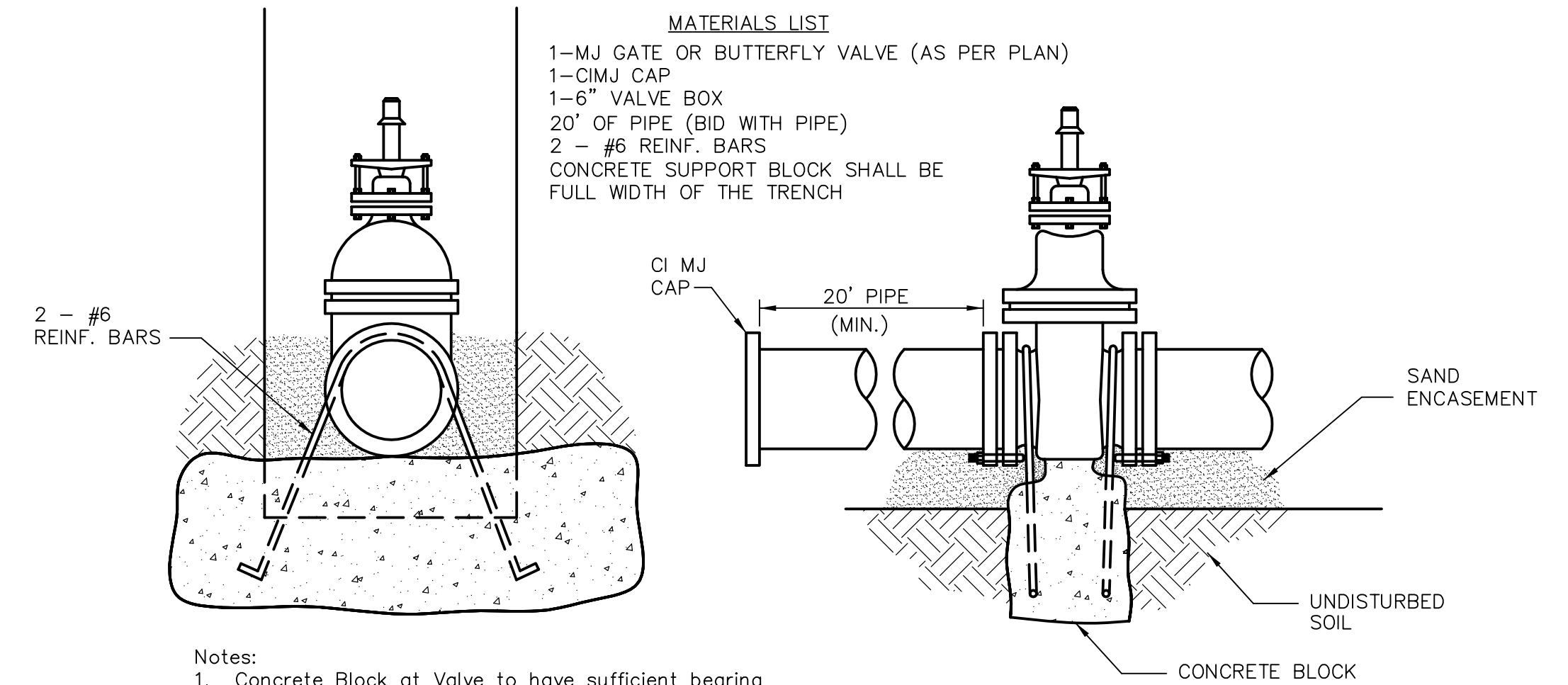
The test station for fire hydrant applications shall be a 1 inch galvanized conduit style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station I2PS3B as manufactured by HANDLEY Industries or approved equal. The conduit style 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 1 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



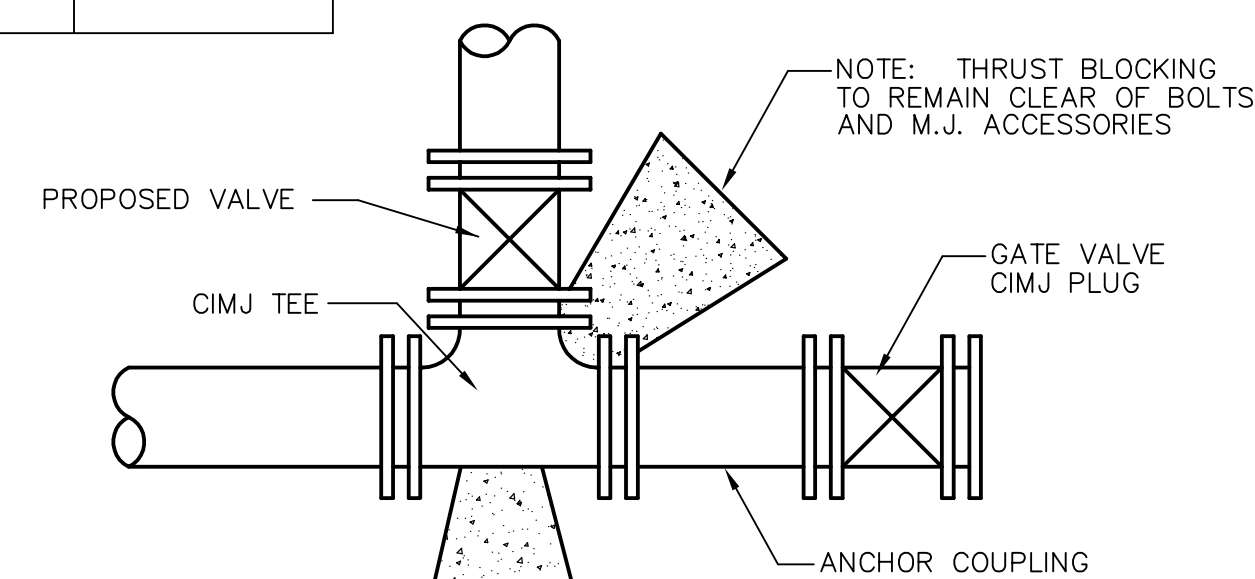
- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1-CIMJ CAP
  - 1-6" VALVE BOX
  - 20' OF PIPE (BID WITH PIPE)
  - 2 - #6 REINF. BARS
  - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

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.

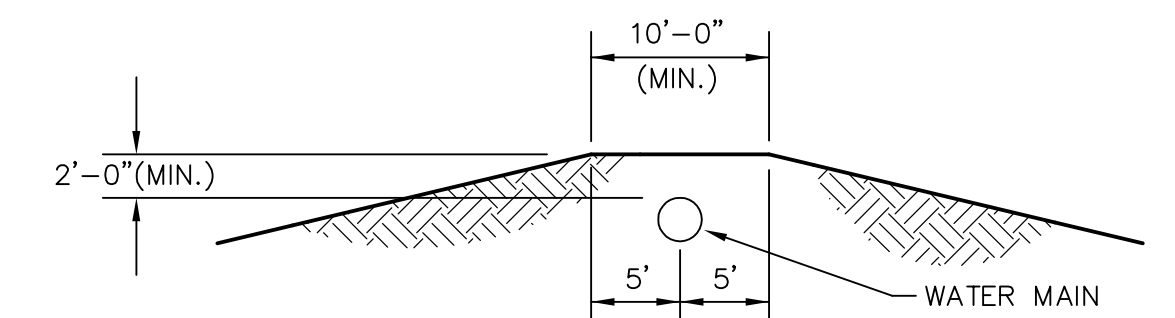
- The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.
- All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

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

**ANCHORED VALVE ASSEMBLY, SPECIAL**

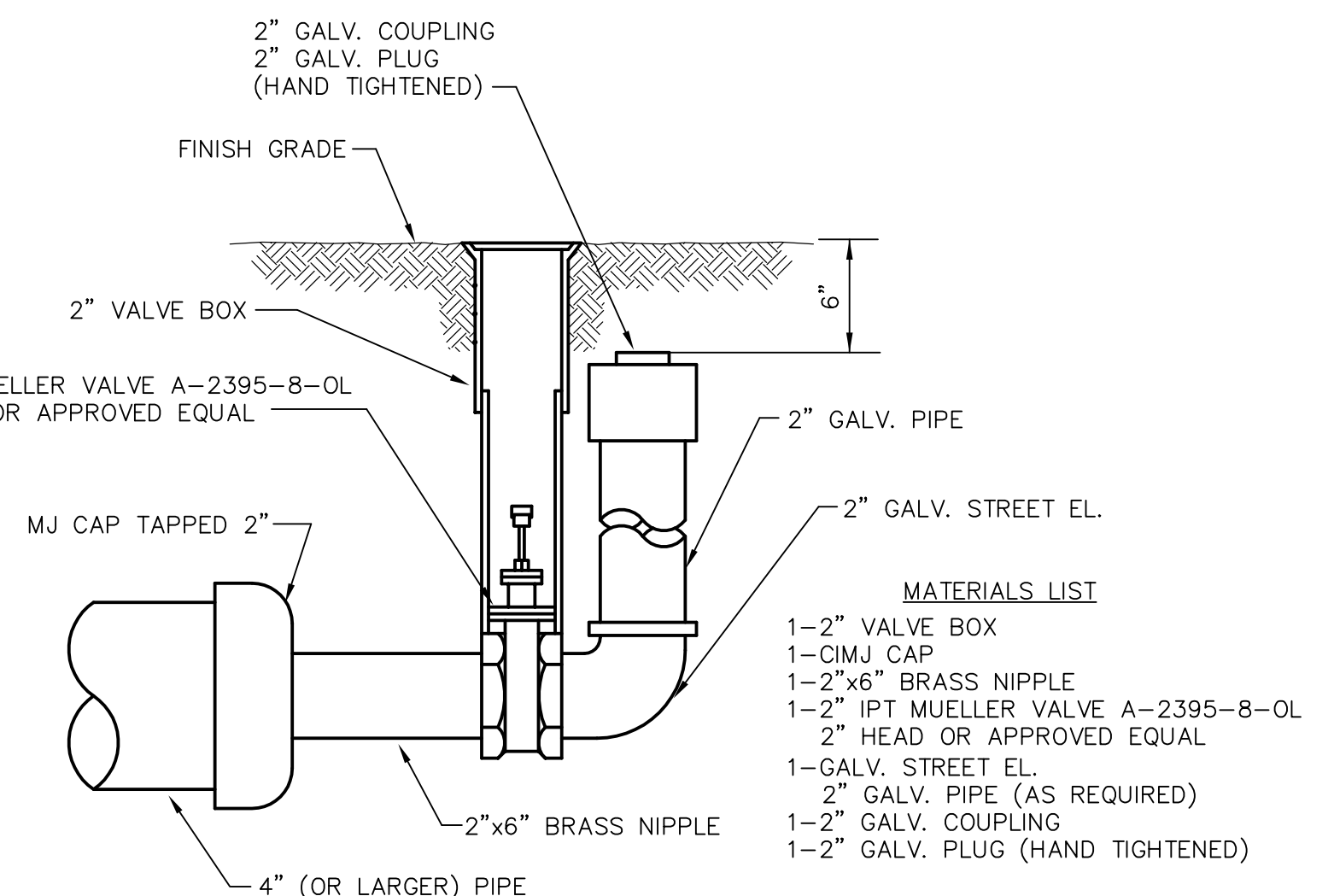


**KEY BLOCK DETAIL**



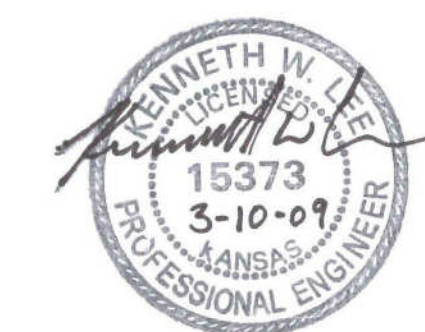
**PROTECTIVE FILL DETAIL**

MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN (2) FEET. (COST SUBSIDIARY TO PIPE INSTALLATION)



- MATERIALS LIST**
- 1-2" VALVE BOX
  - 1-CIMJ CAP
  - 1-2"x6" BRASS NIPPLE
  - 1-2" IPT MUELLER VALVE A-2395-8-OL
  - 2" HEAD OR APPROVED EQUAL
  - 1-GALV. STREET EL.
  - 2" GALV. PIPE (AS REQUIRED)
  - 1-2" GALV. COUPLING
  - 1-2" GALV. PLUG (HAND TIGHTENED)

**2" BLOWOFF ASSEMBLY**



**THE CITY OF WICHITA**

**CITY ENGINEER'S OFFICE**  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202  
(316) 268-4501  
(316) 268-4114 FAX

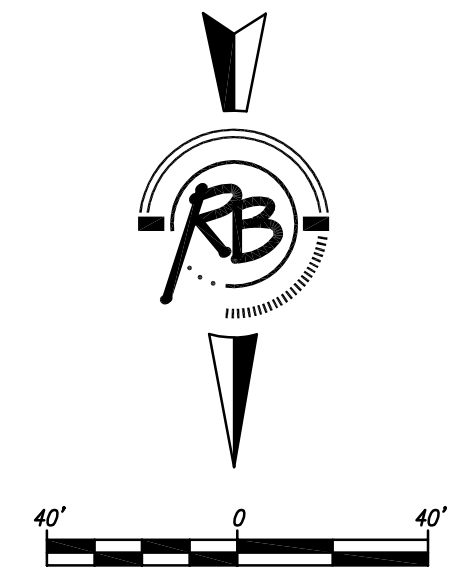
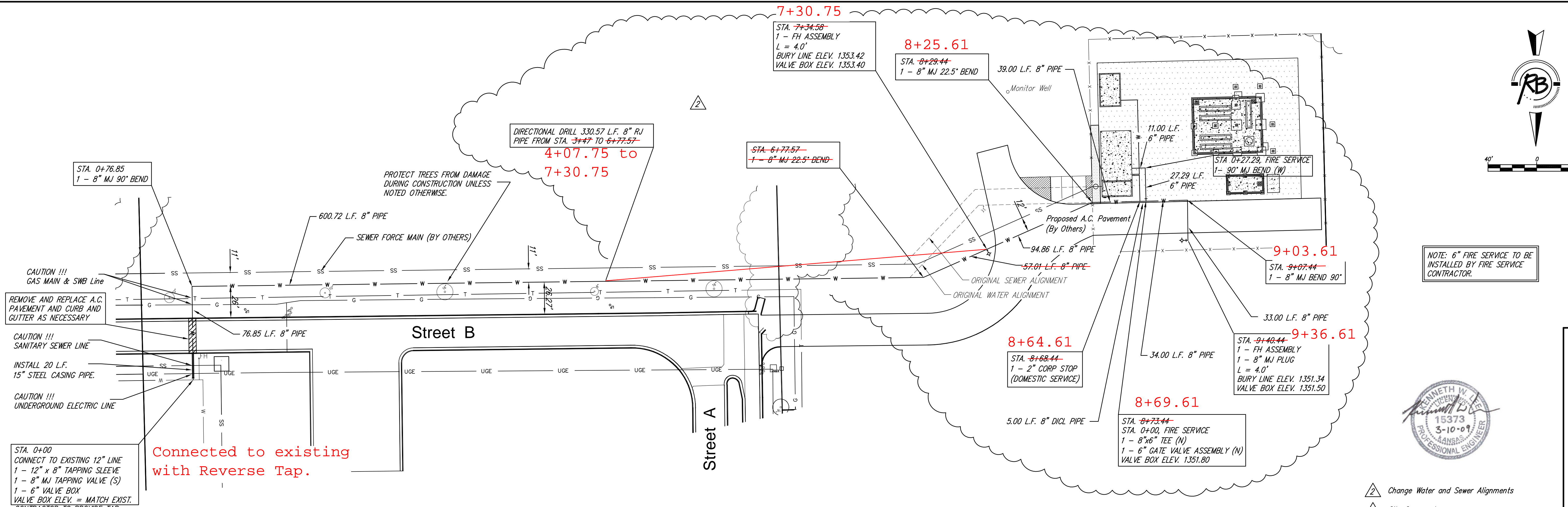
**STANDARD WATER ASSEMBLY DETAILS**

JAMES L. ARMOUR, P.E. - CITY ENGINEER

PROJECT NUMBER OCA #

DATE SHEET C2.2 OF  
DEC 98

Revised: 6-7-00, MCG



NOTE: 6" FIRE SERVICE TO BE INSTALLED BY FIRE SERVICE CONTRACTOR.



- 2 Change Water and Sewer Alignments
- 1 City Comments

STA. 0+00  
CONNECT TO EXISTING 12" LINE  
1 - 12" x 8" TAPPING SLEEVE  
1 - 8" MJ TAPPING VALVE (S)  
1 - 6" VALVE BOX  
VALVE BOX ELEV. = MATCH EXIST.  
CONTRACTOR TO PROVIDE TAP.

Connected to existing with Reverse Tap.

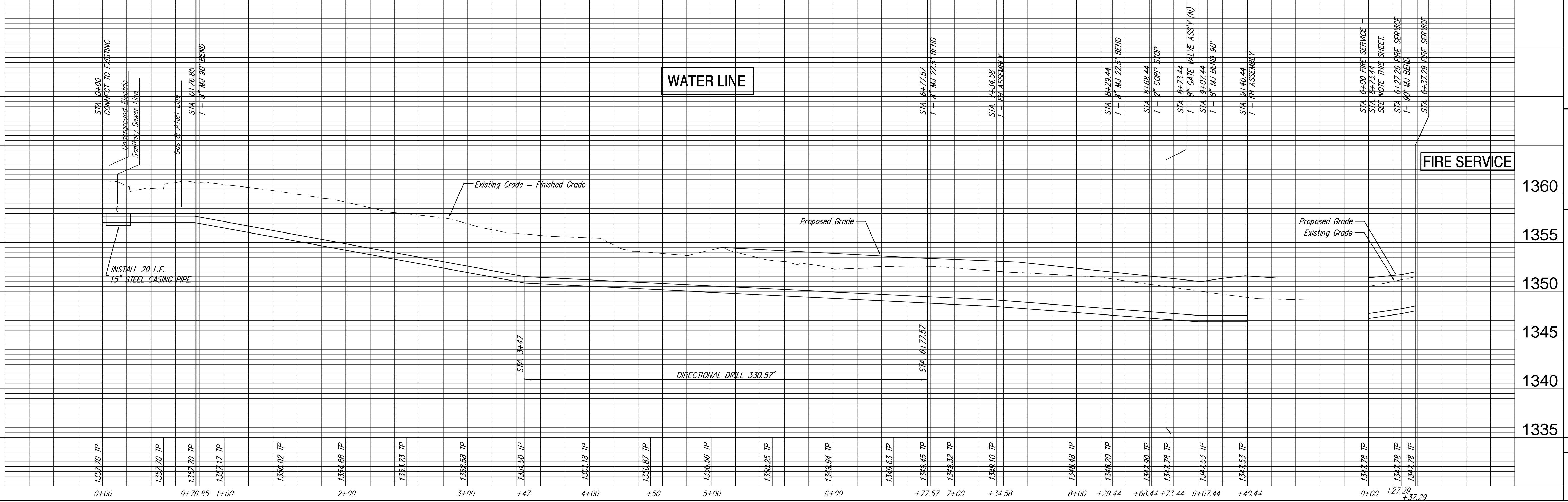
CAUTION !!!  
GAS MAIN & SMB Line

REMOVE AND REPLACE A.C. PAVEMENT AND CURB AND GUTTER AS NECESSARY

CAUTION !!!  
SANITARY SEWER LINE

INSTALL 20 L.F. 15" STEEL CASING PIPE.

CAUTION !!!  
UNDERGROUND ELECTRIC LINE



REVISIONS

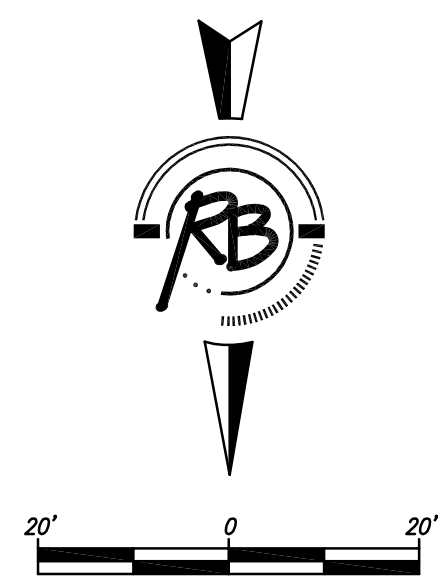
NO.	DATE	DESCRIPTION
1	Jun. 23, 2009	REVISED

DESIGN: KWL  
DRAWN: RA  
DATE: Jun. 23, 2009

PROJECT NUMBER: [Blank]  
DRAWING FILE: Eng Base [Water]

KOCH INDUSTRIES  
WATER LINE  
WICHITA KANSAS

RB JOB 3329E  
SHEET C2.3



STA. 0+00, FIRE SERVICE  
 1 - 8"x6" TEE (N)  
 1 - 6" GATE VALVE ASSEMBLY (N)  
 VALVE BOX ELEV. 1351.80

NOTE:  
 COORDINATE 2" DOMESTIC SERVICE CONNECTIONS WITH MECHANICAL CONTRACTOR.

COORDINATE FIRE SERVICE LINES WITH FIRE SPRINKLER CONTRACTOR FOR FINAL SIZE AND LOCATION.

2" AND 4" LINES SHOWN ON THIS SHEET SHALL BE INSTALLED WITH 42" COVER.

STA. 9+00.54  
 1 - 8" MJ BEND 90°

STA. 9+33.54  
 1 - FH ASSEMBLY  
 1 - 8" MJ PLUG  
 L = 4.0'  
 BURY LINE ELEV. 1351.34  
 VALVE BOX ELEV. 1351.50



- 3 Change Water and Sewer Alignments
- 2 Added 2" Domestic Service
- 1 City Comments (New Sheet)

<b>Koch Industries</b>			
<b>SERVICE LINE DETAILS</b>			
<b>WICHITA, KANSAS</b>			
 <b>Ruggles &amp; Bohm, P.A.</b> Engineering, Surveying, Land Planning	DESIGN	KWL	SHEET 29855 OF C2.4
	DRAWN	RA	
REVIEW	UTILITY	DATE	Jan. 23, 2009
DRAWING FILE Eng Base {Water & SS}		PROJECT NUMBER	

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