

WATER DISTRIBUTION SYSTEM IMPROVEMENTS

TO SERVE

**LOT 3, BLOCK A, MID-CONTINENT INDUSTRIAL PARK II
(3610 S. NORMAN ST.)**

PRIVATE PROJECT NO. 1662 PPW (607853)

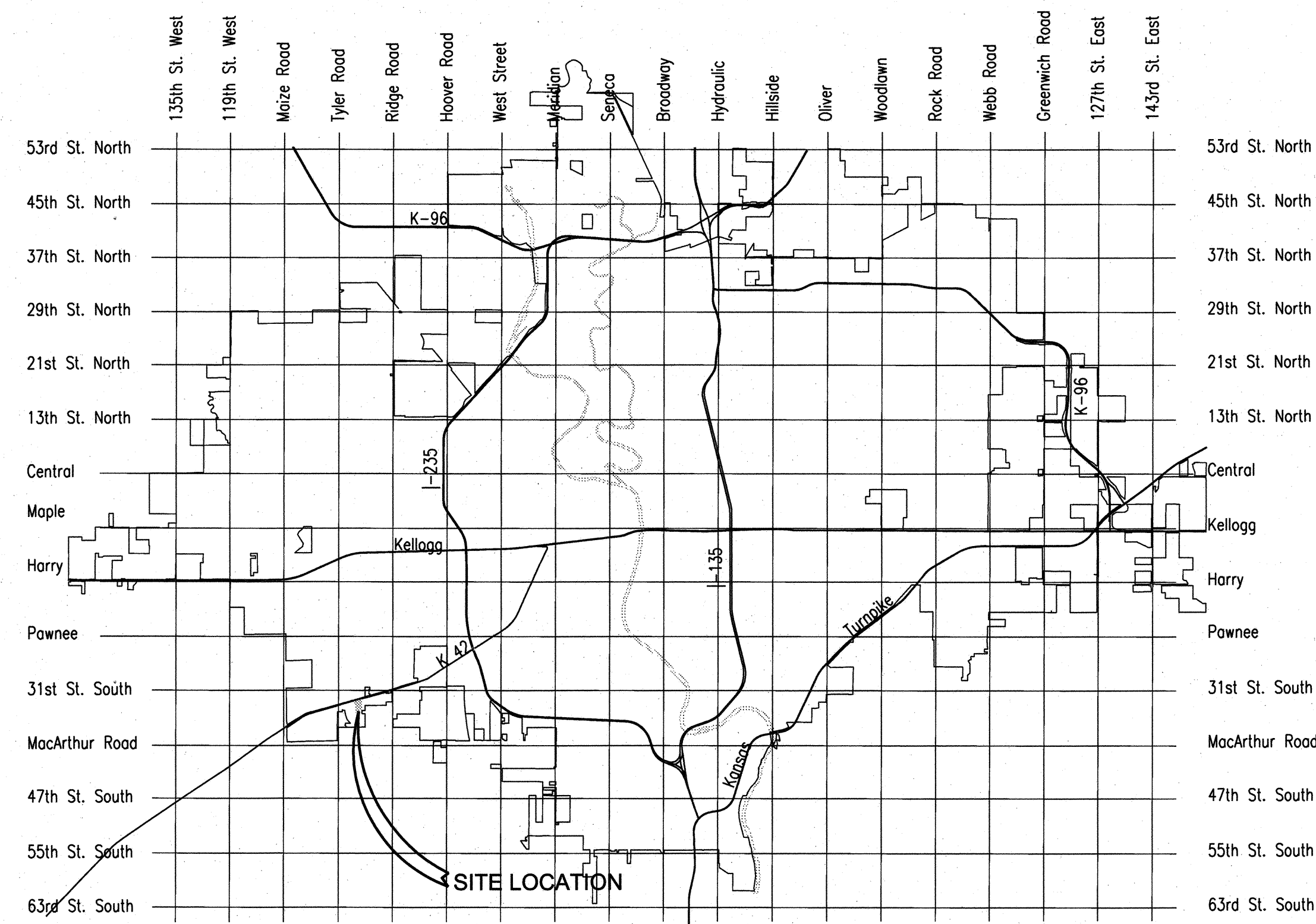
WICHITA, SEDGWICK COUNTY, KANSAS

GARY JANZEN, P.E., INTERIM CITY ENGINEER

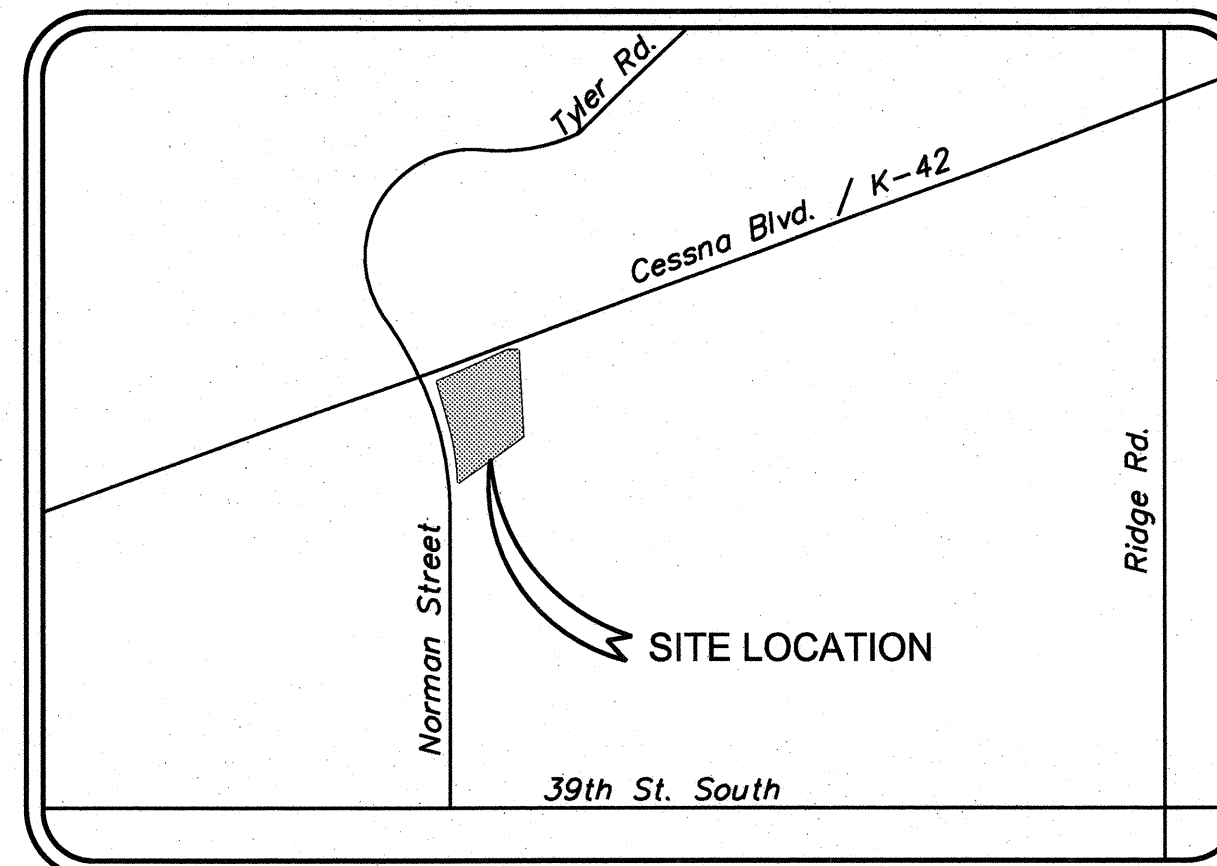
INDEX OF SHEETS

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G-002	GENERAL NOTES AND SITE LAYOUT
C-101	SITE WATER PLAN
C-201	FIRE MAIN AND STUB PROFILES
C-202	FIRE LOOP PROFILE
C-501	STANDARD DETAILS
C-502	STANDARD DETAILS

Cow Fire Hydrants



LOCATION MAP



VICINITY MAP

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA
& BY WICHITA FIRE DEPARTMENT

Water Mains (Engineering) *Johannes Kallman 6-14-12*

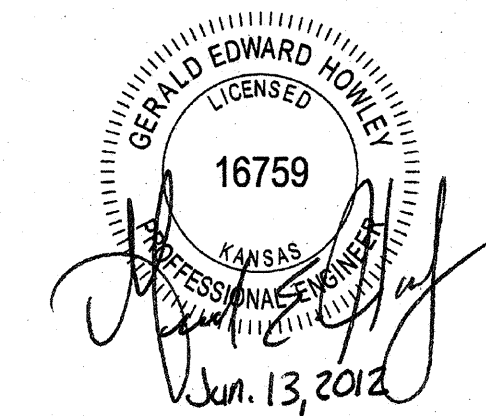
Water Mains (Water) *Greg Jolley 6-14-12*

Fire Prot. Line *[Signature] 6-15-2012*

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 licensed in the State of Kansas. 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 and testing for the fire protection line is to be performed by a City of Wichita licensed 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 and approval of the Wichita Fire Department.
Inspection of the fire protection line is to be provided by the City of Wichita Fire Department and by a licensed Consulting Engineering Firm under contract with the Owner/Developer.
The contractor shall not start work until the project inspector is assigned to the project and present on the site. Any work done without inspection will be required to be uncovered for inspection.



OWNER/DEVELOPER:



ENGINEER:



2400 PERSHING ROAD
SUITE 400
KANSAS CITY, MO 64108
PHONE: 816-329-8600
FAX: 816-329-8602

As-Built Plans
Contractor: Dondlinger & Sons Construction
Inspector: Eric Strecker, Schwab-Eaton, P.A.
PDF By: ELS, 9/10/2012

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CONSULTANTS:

INLAND TRUCK PARTS
 NEW SERVICE STATION
 WICHITA, KANSAS
INLAND TRUCK PARTS COMPANY
 An Employee Owned Company

REVISIONS:	MARK	DATE	DESCRIPTION

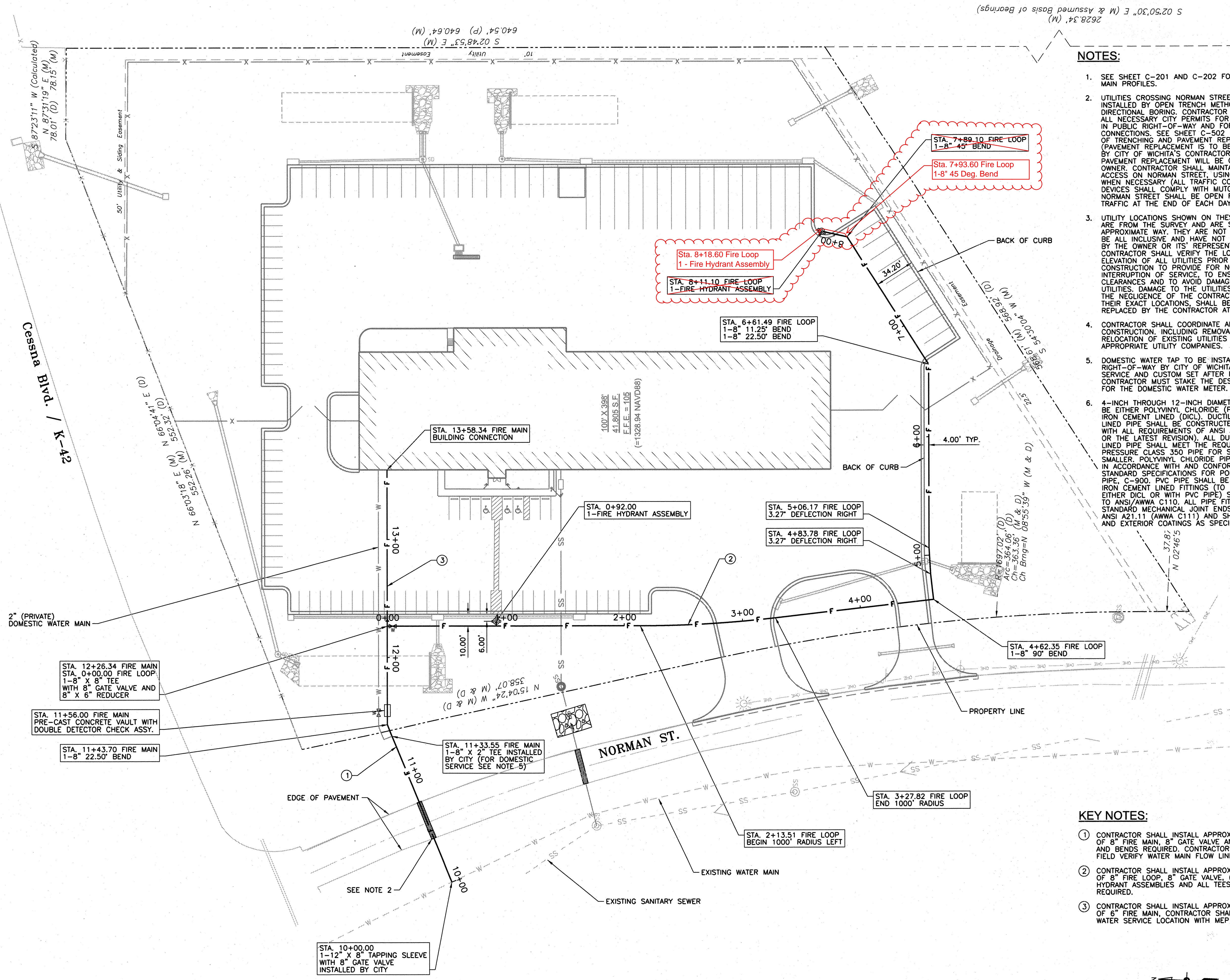
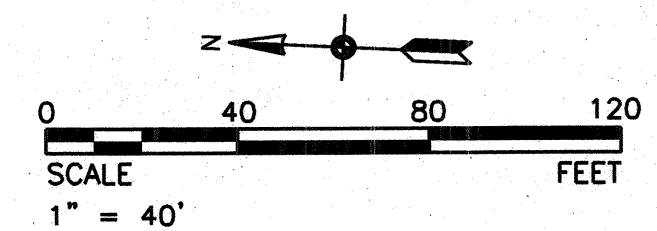
PROJ NO: P101110436
SCALE: 1" = 40'
DATE: 6/13/2012
DESIGNED BY: DLM
DRAWN BY: DLM
CHECKED BY: GEH
SHEET TITLE: SITE WATER PLAN
SHEET NO. C-101
SHEET OF

NOTES:

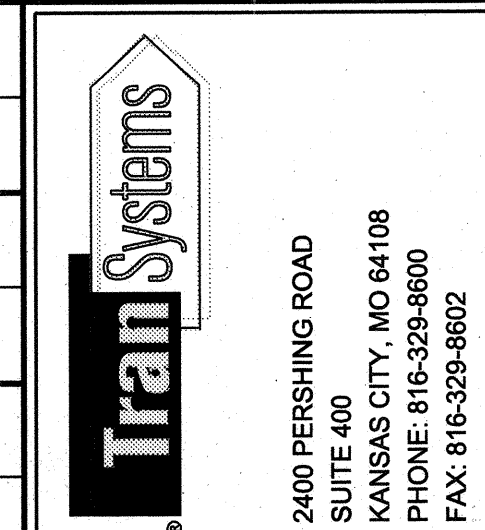
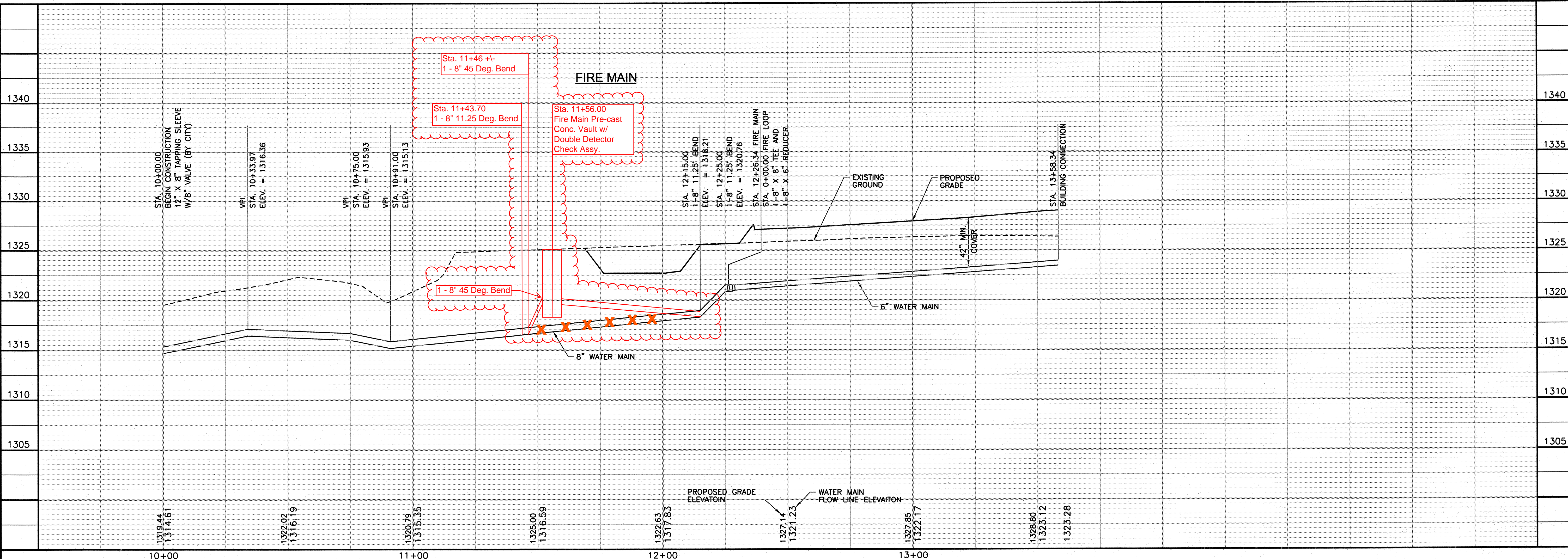
- SEE SHEET C-201 AND C-202 FOR WATER MAIN PROFILES.
- UTILITIES CROSSING NORMAN STREET SHALL BE INSTALLED BY OPEN TRENCH METHOD OR BY DIRECTIONAL BORING. CONTRACTOR SHALL OBTAIN ALL NECESSARY CITY PERMITS FOR CONSTRUCTION IN PUBLIC RIGHT-OF-WAY AND FOR SERVICE CONNECTIONS. SEE SHEET C-502 FOR DETAILS OF TRENCHING AND PAVEMENT REPLACEMENT. (PAVEMENT REPLACEMENT IS TO BE PERFORMED BY CITY OF WICHITA'S CONTRACTOR). COST OF PAVEMENT REPLACEMENT WILL BE CHARGED TO OWNER. CONTRACTOR SHALL MAINTAIN VEHICLE ACCESS ON NORMAN STREET, USING FLAGGERS WHEN NECESSARY. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH MUTCD STANDARDS). NORMAN STREET SHALL BE OPEN FOR NORMAL TRAFFIC AT THE END OF EACH DAYS WORK.
- UTILITY LOCATIONS SHOWN ON THESE PLANS ARE FROM THE SURVEY AND ARE SHOWN IN AN APPROXIMATE WAY. THEY ARE NOT MEANT TO BE ALL INCLUSIVE AND HAVE NOT BEEN VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION TO PROVIDE FOR NON-INTERRUPTION OF SERVICE, TO ENSURE PROPER CLEARANCES AND TO AVOID DAMAGE TO THE UTILITIES. DAMAGE TO THE UTILITIES DUE TO THE NEGLIGENCE OF THE CONTRACTOR TO OBTAIN THEIR EXACT LOCATIONS, SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
- CONTRACTOR SHALL COORDINATE ALL UTILITY CONSTRUCTION INCLUDING REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES WITH THE APPROPRIATE UTILITY COMPANIES.
- DOMESTIC WATER TAP TO BE INSTALLED IN ROAD RIGHT-OF-WAY BY CITY OF WICHITA WITH A 2" SERVICE AND CUSTOM SET AFTER FEES ARE PAID. CONTRACTOR MUST STAKE THE DESIRED LOCATION FOR THE DOMESTIC WATER METER.
- 4-INCH THROUGH 12-INCH DIAMETER PIPE SHALL BE EITHER POLYVINYL CHLORIDE (PVC) OR DUCTILE IRON CEMENT LINED (DICT). DUCTILE IRON CEMENT LINED PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL REQUIREMENTS OF ANSI A 21.51 (AWWA C151 OR THE LATEST REVISION). ALL DUCTILE IRON CEMENT LINED PIPE SHALL MEET THE REQUIREMENTS OF PRESSURE CLASS 350 PIPE FOR SIZES 12" AND SMALLER. POLYVINYL CHLORIDE PIPE SHALL BE MADE IN ACCORDANCE WITH AND CONFORMING TO AWWA STANDARD SPECIFICATIONS FOR POLYVINYL CHLORIDE PIPE. C-900. PVC PIPE SHALL BE DR-18. DUCTILE IRON CEMENT LINED FITTINGS (TO BE USED WITH EITHER DICTL OR WITH PVC PIPE) SHALL CONFORM TO ANSI/AWWA C110. ALL PIPE FITTINGS SHALL HAVE STANDARD MECHANICAL JOINT ENDS CONFORMING TO ANSI A21.11 (AWWA C111) AND SHALL HAVE INTERIOR AND EXTERIOR COATINGS AS SPECIFIED FOR DICTL PIPE.

KEY NOTES:

- CONTRACTOR SHALL INSTALL APPROX. 230 L.F. OF 8" FIRE MAIN, 8" GATE VALVE AND ALL TEES AND BENDS REQUIRED. CONTRACTOR SHALL FIELD VERIFY WATER MAIN FLOW LINE.
- CONTRACTOR SHALL INSTALL APPROX. 811 L.F. OF 8" FIRE LOOP, 8" GATE VALVE, (2) FIRE HYDRANT ASSEMBLIES AND ALL TEES AND BENDS REQUIRED.
- CONTRACTOR SHALL INSTALL APPROX. 128 L.F. OF 6" FIRE MAIN, CONTRACTOR SHALL VERIFY WATER SERVICE LOCATION WITH MEP PLANS.



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2400 PERSHING ROAD
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PHONE: 816-329-8600
FAX: 816-329-8602

CONSULTANTS:

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NEW SERVICE STATION
WICHITA, KANSAS

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'An Employee Owned Company'

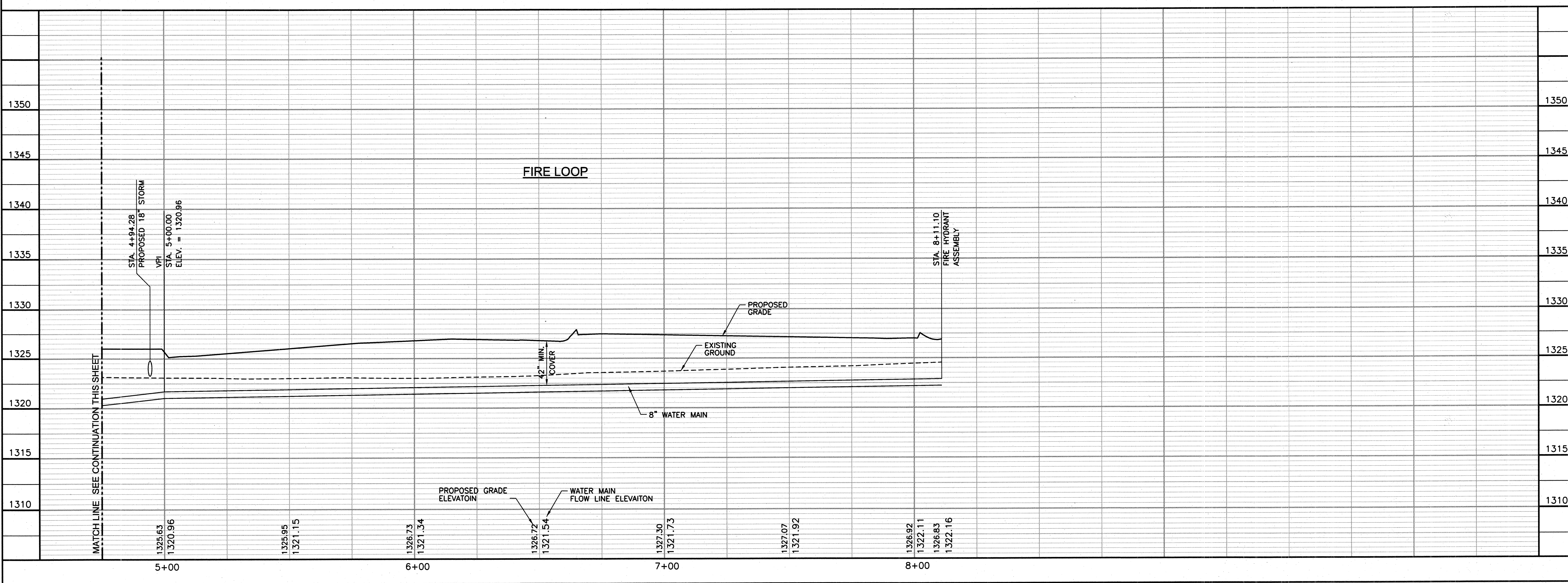
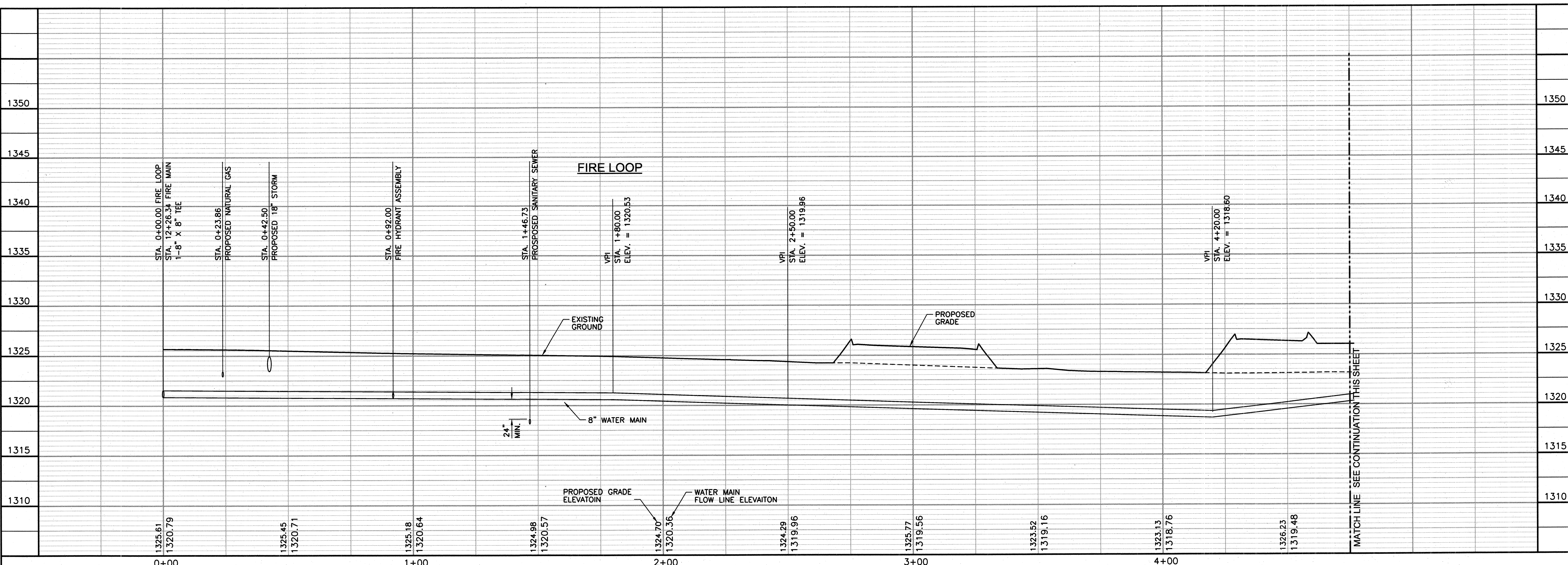
REVISIONS:	MARK	DATE	DESCRIPTION

PROJ NO: P101110436
SCALE: H 1" = 20' / V 1" = 5'
DATE: 6/13/2012
DESIGNED BY: DLM
DRAWN BY: DLM
CHECKED BY: GEH

SHEET TITLE:
**FIRE MAIN AND
FIRE STUB
PROFILES**

SHEET NO.
C-201
SHEET OF

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TranSystems

2400 PERSHING ROAD
SUITE 400
KANSAS CITY, MO 64108
PHONE: 816-329-8600
FAX: 816-329-8602

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PROJ NO: P101110436
SCALE: H 1" = 20' / V 1" = 5'
DATE: 6/13/2012
DESIGNED BY: DLM
DRAWN BY: DLM
CHECKED BY: GEH

SHEET TITLE:
FIRE LOOP PROFILE

SHEET NO. **C-202**
SHEET OF

CONSULTANTS:

INLAND TRUCK PARTS
 NEW SERVICE STATION
 WICHITA, KANSAS

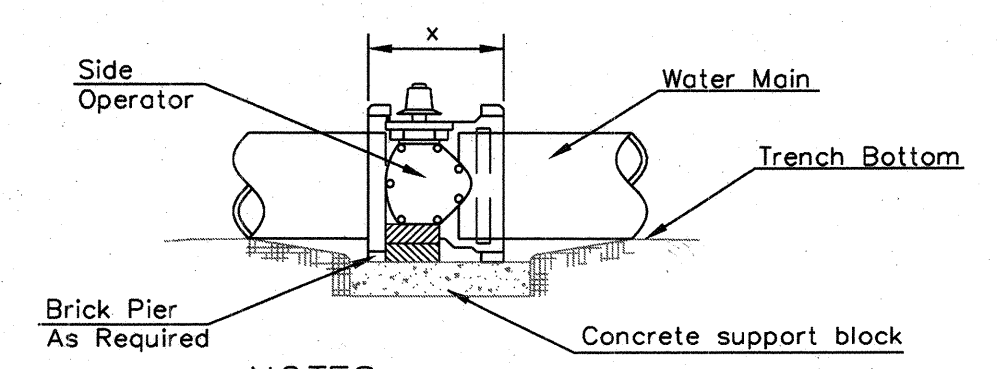
INLAND TRUCK PARTS COMPANY
 An Employee Owned Company

REVISIONS:	MARK	DATE	DESCRIPTION

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SCALE: NONE
DATE: 6/13/2012
DESIGNED BY: DLM
DRAWN BY: DLM
CHECKED BY: GEH
SHEET TITLE:

STANDARD DETAILS
SHEET NO. C-501
SHEET OF

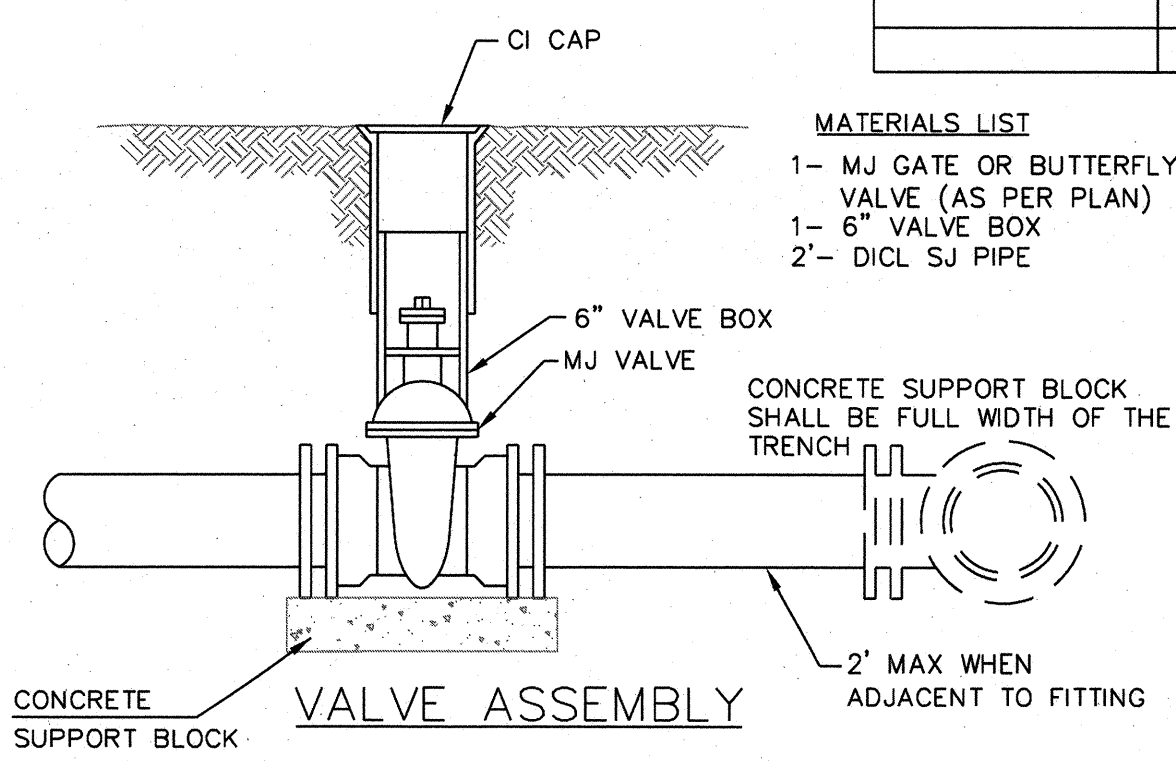
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
0+92.00	1325.66	1321.39	4.93'	0
8+11.10	1326.83	1322.82	4.67'	0



NOTES

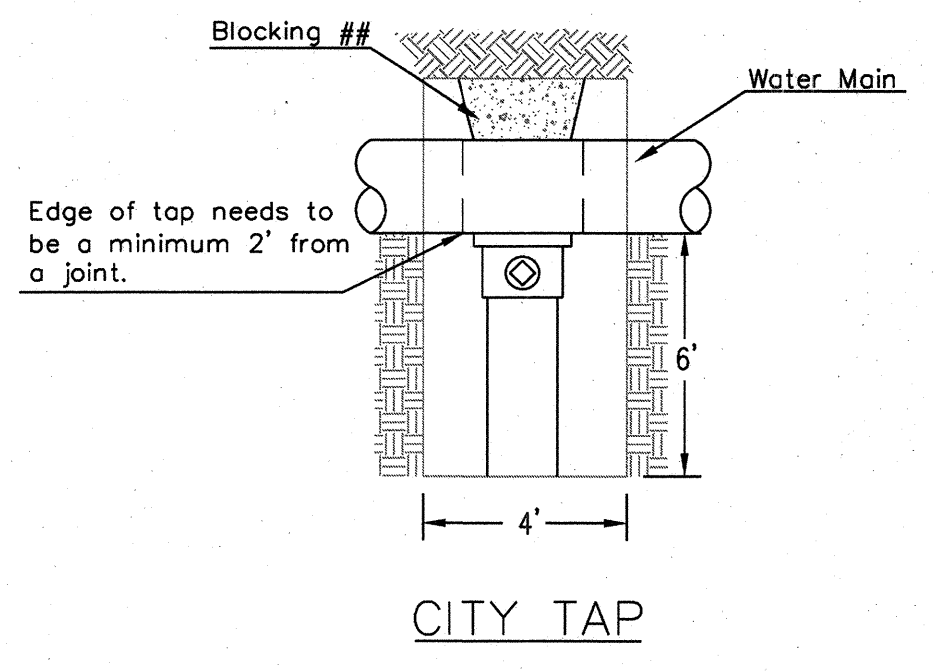
- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
- 6" Valve Box and Cover required per City of Wichita Std. Specifications.
- Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION

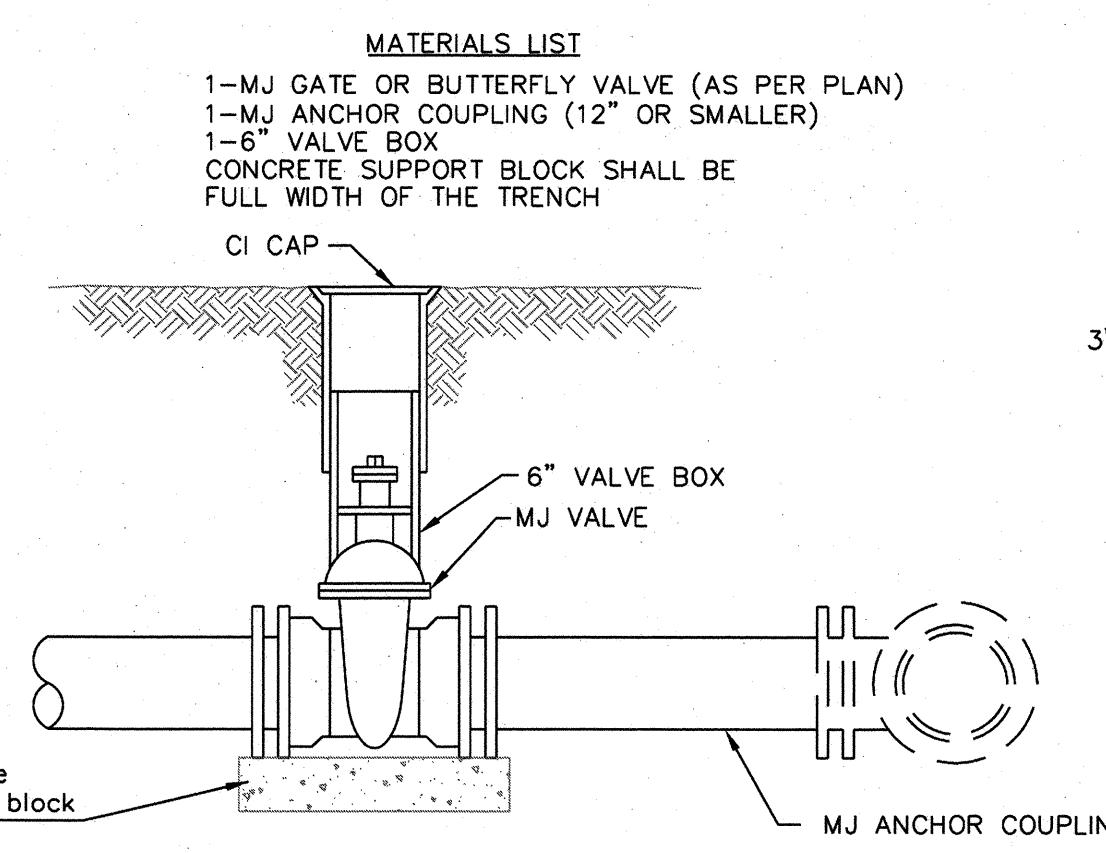


MATERIALS LIST

- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
- 1- 6" VALVE BOX
- 2- 6" DICL SJ PIPE

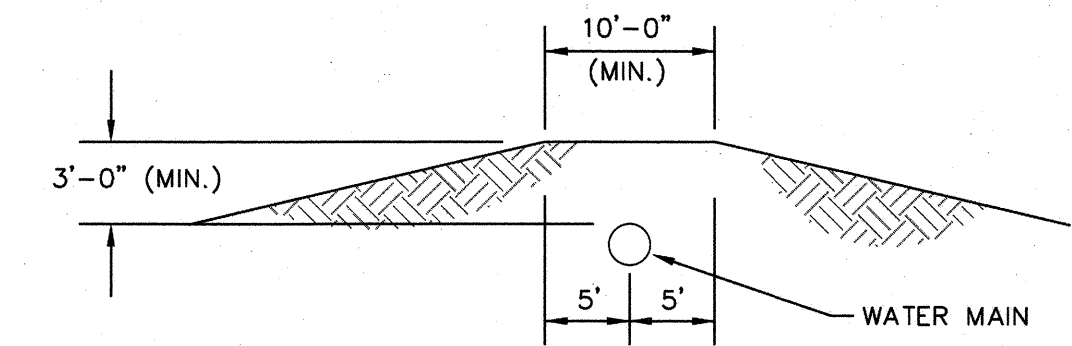


When the City of Wichita makes tap, blocking is to be done by Contractor

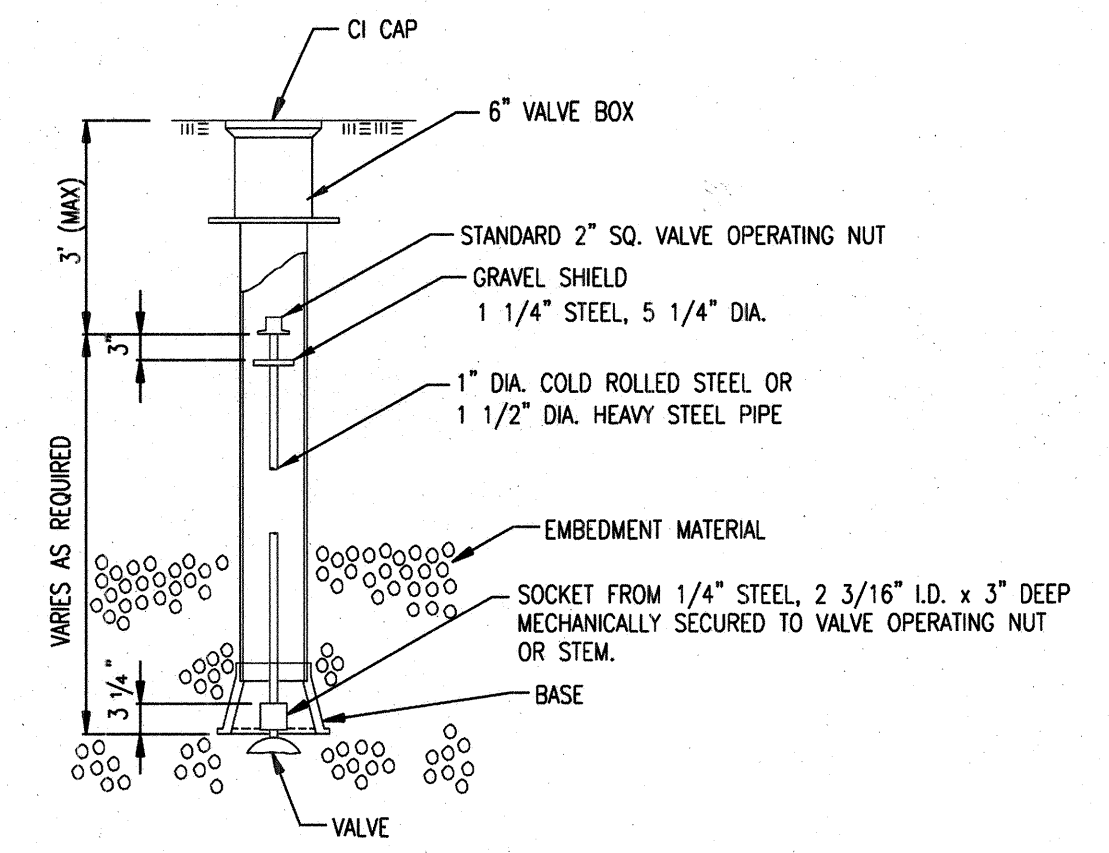


MATERIALS LIST

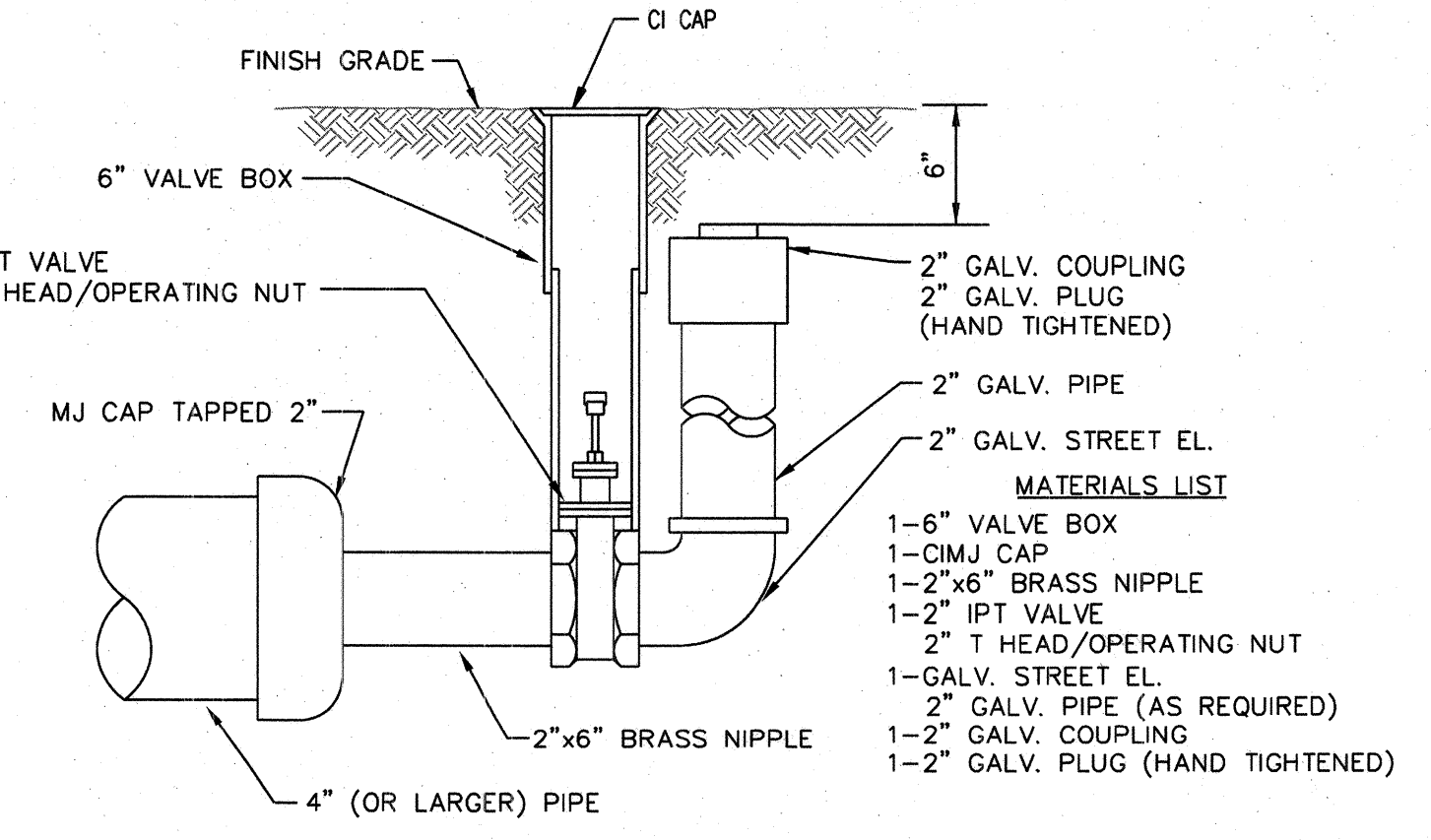
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
- 1- MJ ANCHOR COUPLING (12" OR SMALLER)
- 1- 6" VALVE BOX
- CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



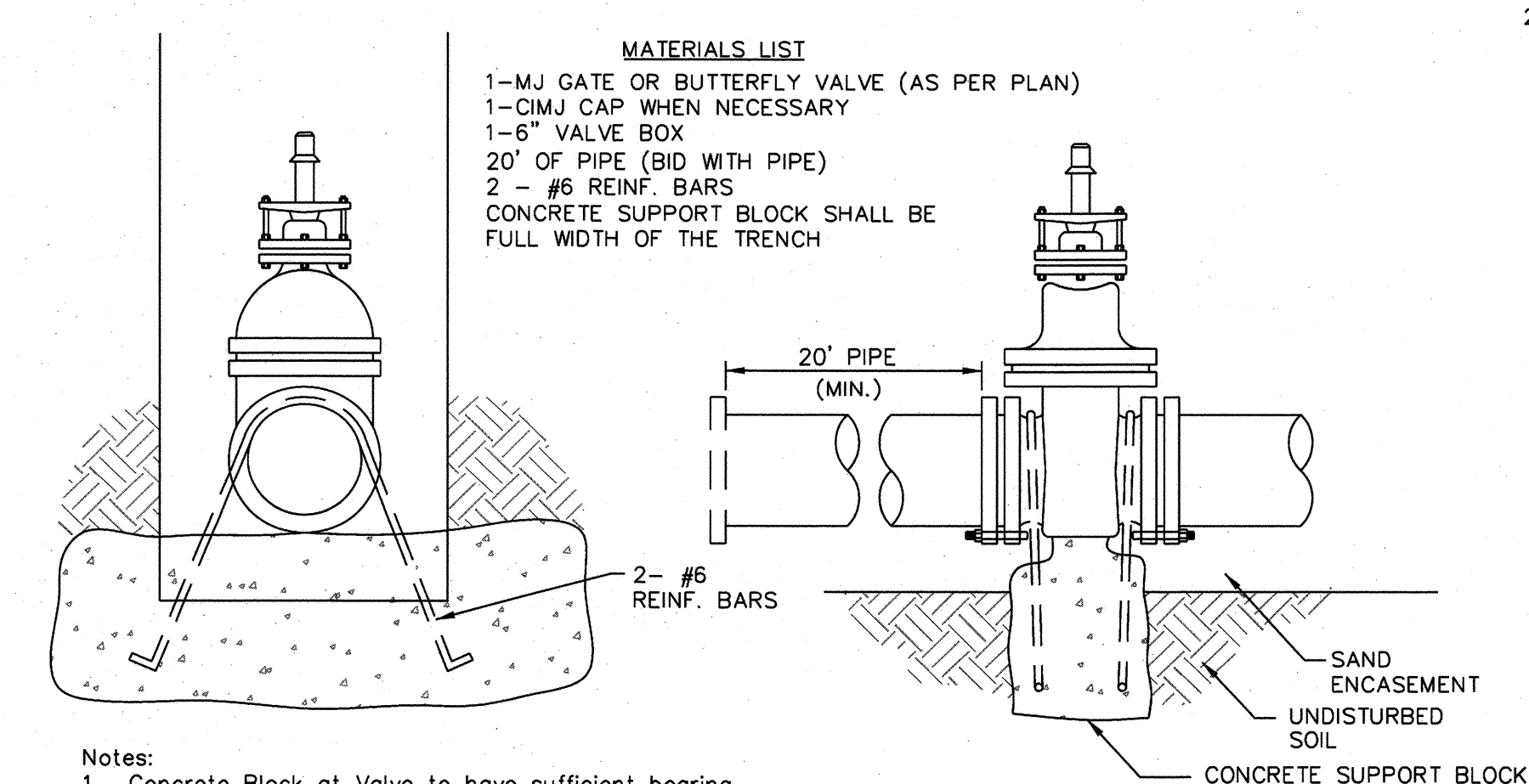
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



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



2" BLOWOFF ASSEMBLY

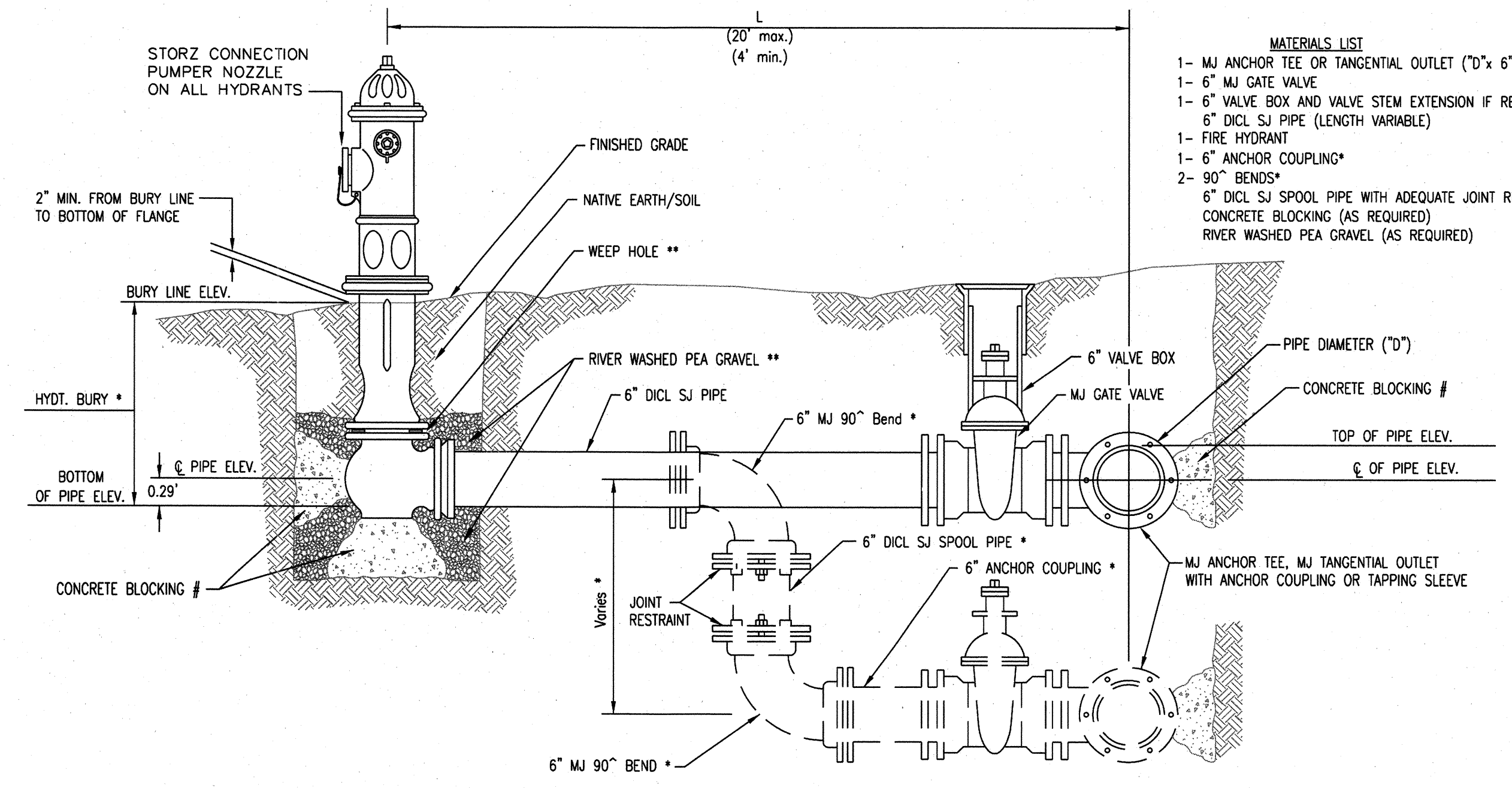


VALVE	THRUST AT 150 #/sq. ft.
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

Notes:

- 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.

ANCHORED VALVE ASSEMBLY, SPECIAL



MATERIALS LIST

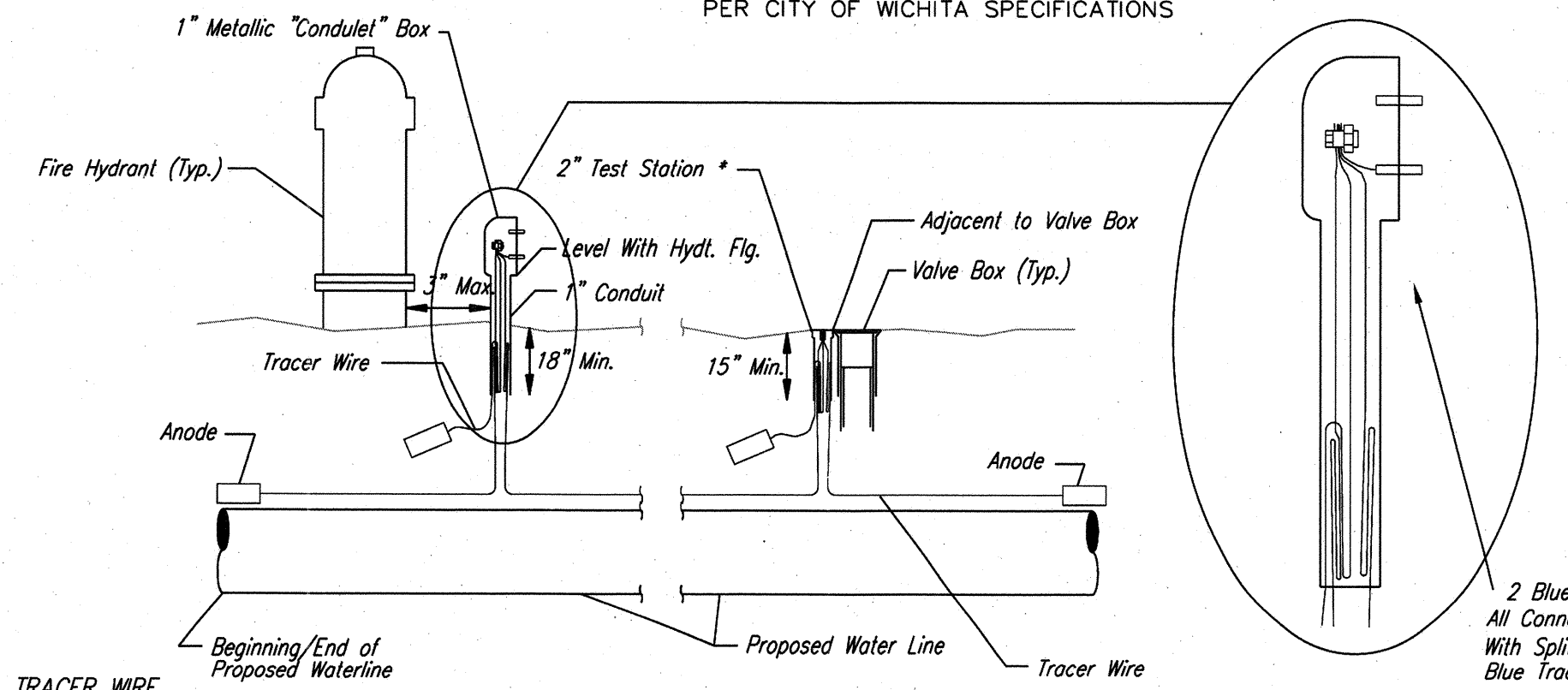
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D"x 6")
- 1- 6" MJ GATE VALVE
- 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED *
- 6" DICL SJ PIPE (LENGTH VARIABLE)
- 1- FIRE HYDRANT
- 1- 6" ANCHOR COUPLING*
- 2- 90° BENDS*
- 6" DICL SJ SPOOL PIPE WITH ADEQUATE JOINT RESTRAINT *
- CONCRETE BLOCKING (AS 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 MEAGALUGS, 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



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.

WIRE

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

CITY OF WICHITA
 PUBLIC WORKS & UTILITIES
 ENGINEERING DIVISION

STANDARD WATER ASSEMBLY DETAIL		
CITY ENGINEER JAMES L. ARMOUR, P.E., L.S.		
PROJECT NUMBER 448-XXXX	OCA NUMBER XXXXXX	DATE 12/2011
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET _ of _

WL-101

