FIRE HYDRANT IMPROVEMENTS

TO SERVE

1201 N. WADDINGTON AVE.

WICHITA, SEDGWICK COUNTY, KANSAS

CITY OF WICHITA PRIVATE PROJECT NO.: 1675 PPW (O.C.A. NO. 607853),

GARY JANZEN, P.E., INTERIM CITY ENGINEER

JULY 2012

GENERAL NOTES

1. WATERLINES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF WICHITA STANDARD SPECIFICATIONS, FOR THE "INSTALLATION OF WATER DISTRIBUTION SYSTEMS", NO. 14533.

2. ALL ELEVATIONS SHOWN ARE BASED ON CITY DATUM (MEAN SEA LEVEL – 1187.4)

3. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY–EIGHT(48)HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE CALL	687–2470

THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

COX COMMUNICATIONS	262–4270 OR 263–2061
AT&T	1–800–870–8390
KANSAS GAS SERVICE	1–888–482–4950
WESTAR	1–800–383–1183
BLACK HILLS ENERGY	1–800–303–0752
CITY OF WICHITA (WATER & SEWER)	268–4555

4. ANY EXCESS EXCAVATION WHICH IS TO BE WASTED, SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARENCE, AND SITE LOCATION, AND SHALL BE DISPOSED OF IN ACCORDANCE WITH THE PROVISIONS OF THE KANSAS SOLID WASTE MANAGEMENT STATUTES AND REGULATIONS (KSA 65–3401, KAR 28–29–1 ET SEQ.)

5. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT–OF–WAY. THE CONTRACTOR WILL DELIVER REMOVED FIRE HYDRANTS TO WATER DISTRIBUTION, 1703 SIM PARK DRIVE.

6. CONTRACTOR TO MAINTAIN TRAFFIC USING BARRICADES AND FLAGPERSONS WHILE WORKING WITHIN STREET RIGHT OF WAY.

7. ALL AREAS DISTURBED BY CONSTRUCTION INCLUDING STAGING AREAS, SHALL BE REPLANTED WITH GRASS SEED AT THE APPROPRIATE RATES APPROVED BY THE ENGINEER

8. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST AVAILABLE INFORMATION. IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLE MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES AND CABLES. ANY UTILITIES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING EXISTING PROPERTY IRONS AND RIGHT–OF–WAY MONUMENTS. THE CONTRACTOR SHALL BE REQUIRED TO RE–ESTABLISH ANY PROPERTY IRONS OR RIGHT–OF–WAY MONUMENTS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS OR MONUMENTS SHALL BE RE–ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

10. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION, TYPE, SIZE, AND CLASS OF EXISTING WATERLINES PRIOR TO CONSTRUCTION. EXISTING WATERLINE LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL MAKE ADJUSTMENTS AS REQUIRED AND APPROVED BY THE ENGINEER. PROVISIONS FOR AND INSTALLATION OF PIPE ADAPTORS, SHORT SECTIONS OF PIPE, AND COUPLERS SHALL BE SUBSIDIARY TO OTHER PAY ITEMS OF WORK.

11. THE CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK PERFORMED WITHOUT INSPECTION IS SUBJECT TO BE UNCOVERED FOR INSPECTION.

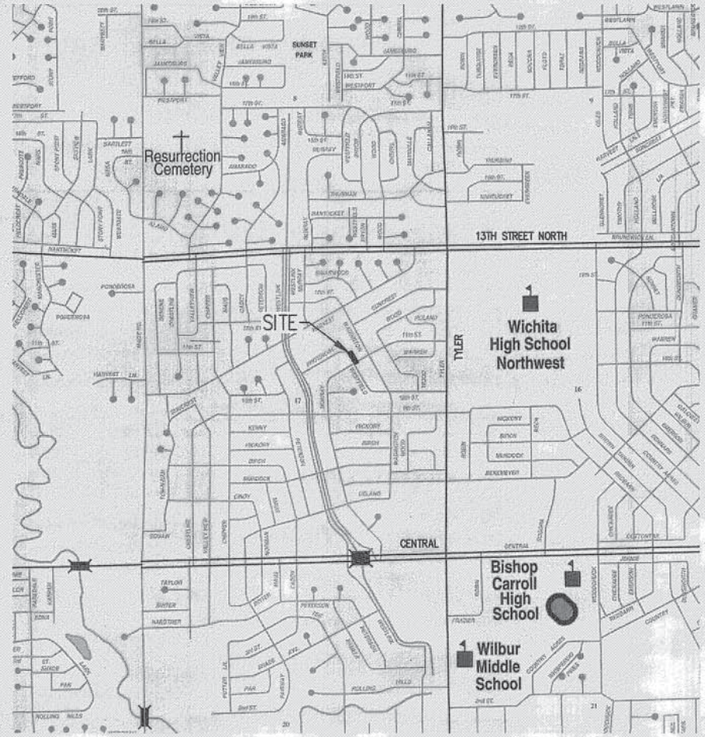
12. OPENING AND CLOSING WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTION SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.

13. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENNANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.

14. EACH BIDDER SHALL VISIT THE SITE OF THE PROJECT BEFORE SUBMITTING THE PROPOSAL FOR THIS WORK SO THAT HE WILL BE FULLY INFORMED OF THE EXISTING FIELD CONDITIONS AND THE OBSTACLES WHICH MIGHT BE ENCOUNTERED. UPON AWARD OF THE CONTRACT THE CONTRACTOR WILL NOT BE GRANTED ANY ADDITIONAL COMPENSATION WITH REGARDS TO TIME AND MONEY FOR CONDITIONS THAT MAY HAVE BEEN EVALUATED DURING ANY INSPECTION OF THE SITE.

15. ALL WATERLINES SHALL HAVE A MINIMUM DEPTH OF BURY OF 48 INCHES. THE WATER MAIN SHALL BE CONSTRUCTED ON THE ALIGNMENT SHOWN BY THE PLANS. THE COST FOR ANY NECESSARY TREE TRIMMING, CLEARING AND/OR GRUBBING SHALL BE INCLUDED IN THE PRICE BID FOR THE INSTALLED WATER MAIN PIPE. TREES AND SHRUBS IN PUBLIC RIGHT OF WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE PRICE BID FOR THE INSTALLED WATER PIPE. TREES AND SHRUBS NOT IN DIRECT CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

16. INSPECTOR WILL NOTE ON AS BUILT PLAN LOCATIONS OF ALL FITTINGS AND VALVES. LOCATIONS WILL BE MEASURED FROM PROPERTY LINES, CURB LINES, AND/OR CENTER LINES. HYDRANT BRANCH LENGTH AND HYDRANT BURY LINE ELEVATION ARE TO MATCH FIELD CONDITIONS AND BE APPROVED BY THE ENGINEER.

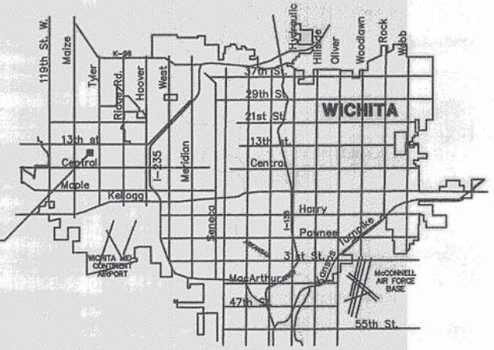


PROJECT LOCATED IN THE NE 1/4, SEC 17, T27S, R1W, WICHITA, SEDGWICK COUNTY, KANSAS

(N)

(Not To Scale)

PROJECT LOCATION



AS BUILT PLANS

CONTRACTOR:	McCullough Excavation
INSPECTOR:	Ryan McCullough P.E., McCullough Excavation
PDF BY:	RDM 12-31-2012

Sheet List Table

Sheet Number	Sheet Title
1	COVER
2	SITE PLAN
3	WATER LINE & HYDRANT P&P
4	WATER ASSEMBLY DETAILS

BENCHMARK:

SBM: CHISELED " " AT BACK OF WALK. ELEV.=155.69 (CITY DATUM)

CP1: #4 BAUGHMAN REBAR SET. NE CORNER LOT 24, BLOCK 7, WESTLINK VILLAGE 5TH ADDITION. N: 5324.05 E: 5292.90

CP2: 3/4" IRON PIPE FOUND. NW CORNER LOT 16, BLOCK 8, WESTLINK VILLAGE 5TH ADDITION. N: 5353.35 E: 5345.33

CP3: 1" IRON PIPE FOUND. NW CORNER LOT 18, BLOCK 9, WESTLINK VILLAGE 5TH ADDITION. N: 5169.63 E: 5447.97

APPROVED AS NOTED BY CITY ENGINEER OF WICHITA, WATER & SEWER DEP'T. AND BY WICHITA FIRE DEPARTMENT

PUBLIC WORKS 7-13-12

WATER & SEWER Greg Tally 7-13-12

FIRE DEPARTMENT 7-13-2012

NOTE TO CONTRACTORS

PUBLIC PROPERTY:
INSTALLATION, INSPECTION AND TESTING FOR THE WATERLINE IS TO BE PROVIDED BY A LISCENSED 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 LISCENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT–OF–WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED WITHOUT THE 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 TO AND APPROVAL OF THE WICHITA FIRE DEPARTMENT.

REV.	DESCRIPTION	DATE

FIRE HYDRANT IMPROVEMENTS

McCOLLOM ELEMENTARY

WICHITA, KANSAS

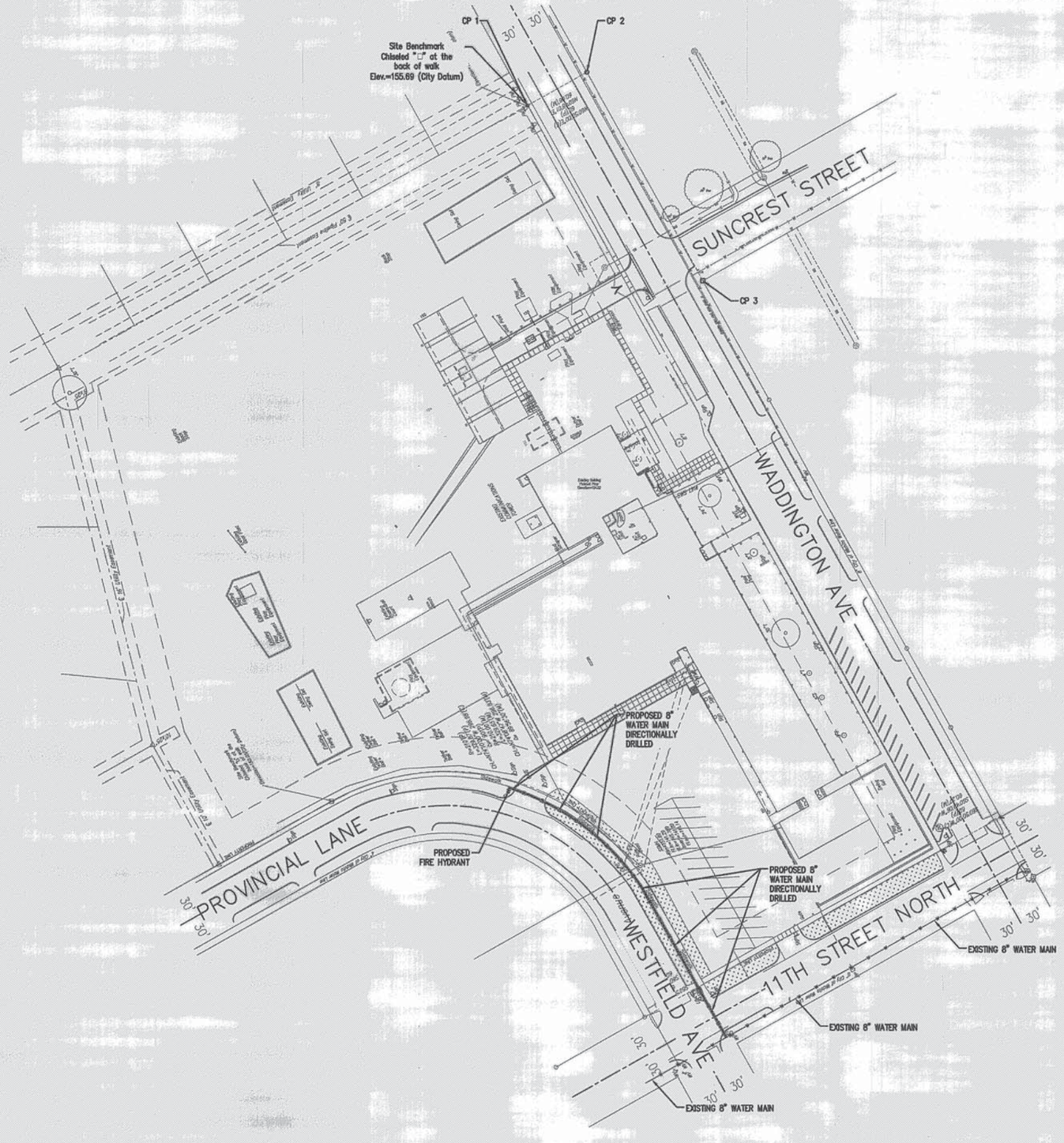
CERTIFIED ENGINEERING DESIGN, P.A.
CIVIL ENGINEERING SERVICES

1935 WEST MAPLE STREET
WICHITA, KANSAS 67213
PH.(316)262-8808 FAX.(316)262-1669

HARLAN DALE FORAKER LICENSED 10891 7-12-12 KANSAS PROFESSIONAL ENGINEER

PROJECT NO.: 20111969
ISSUE DATE: JULY 2012
CONTACT: H FORAKER
DRAWN BY: CC | CHECKED BY: HDF

COVER



GRAPHIC SCALE
50' 0 50'
(IN FEET)
1"=50'

REV.	DESCRIPTION	DATE

FIRE HYDRANT IMPROVEMENTS

McCOLLOM ELEMENTARY

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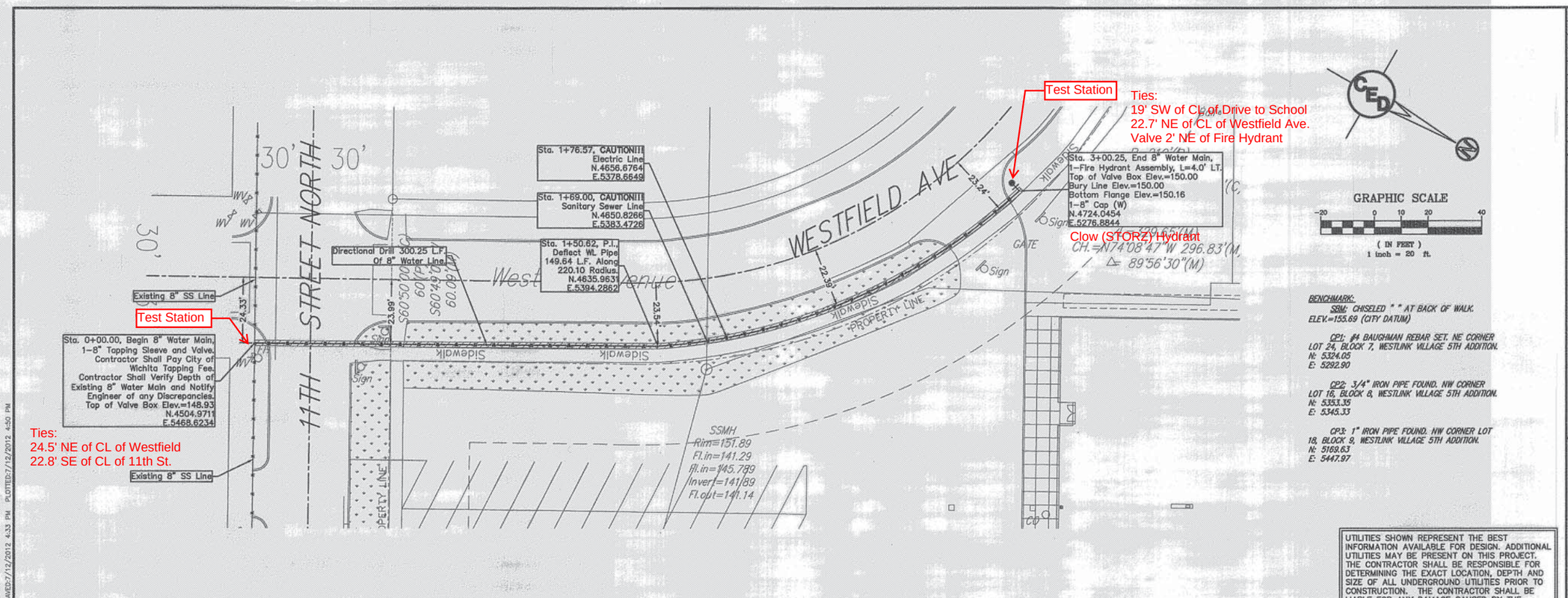
PROFESSIONAL ENGINEER

PROJECT NO.:	20111969
ISSUE DATE:	JULY 2012
CONTACT:	H FORAKER
DRAWN BY: CC	CHECKED BY: HDF

SITE PLAN

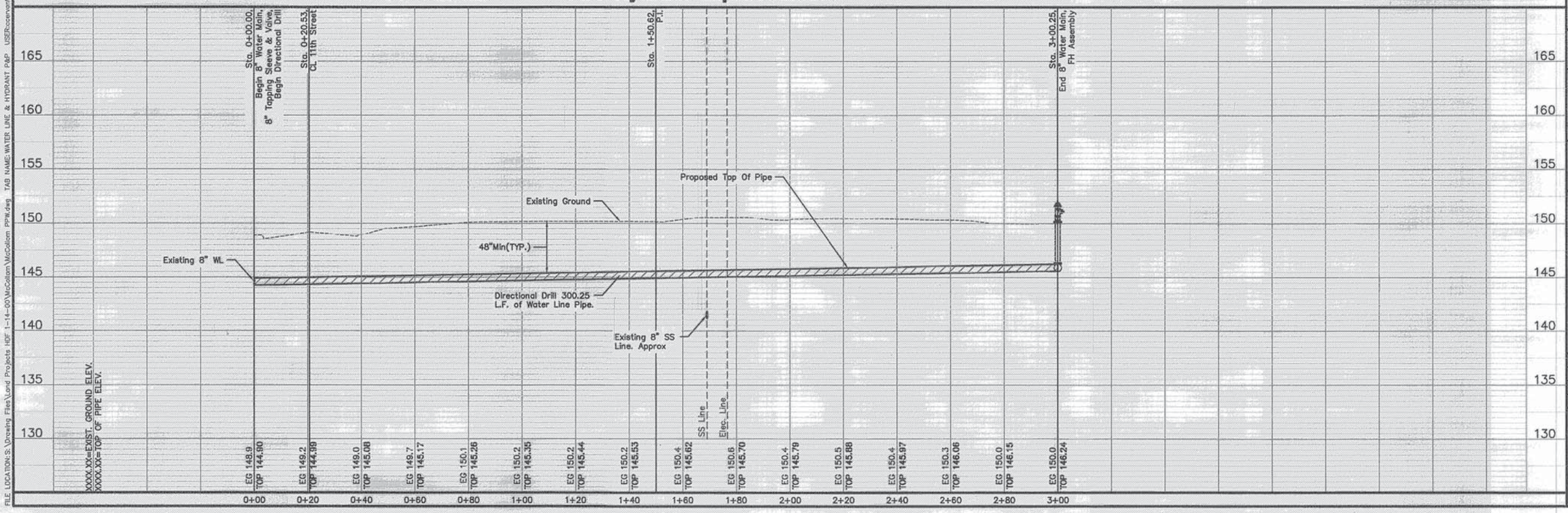
2 OF 4

ONE CALL KANSAS
KS: 1-800-344-7233
WICHITA: 316-687-2470



UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

Fire Hydrant Improvements



REV.	DESCRIPTION	DATE

ONE CALL KANSAS
KS: 1-800-344-7233
WICHITA: 316-687-2470

FIRE HYDRANT IMPROVEMENTS

McCOLLOM ELEMENTARY

WICHITA, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.
CIVIL ENGINEERING SERVICES
1935 WEST MAPLE STREET
WICHITA, KANSAS 67213
PH.(316)262-8808 FAX.(316)262-1669

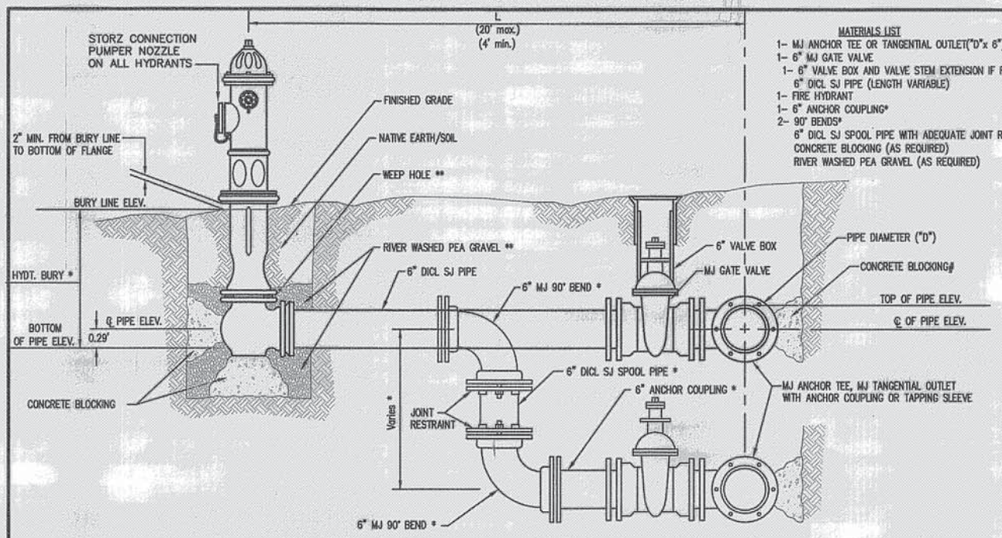
HARLAN DALE FORAKER LICENSED 10891 7.12.12 KANSAS PROFESSIONAL ENGINEER

PROJECT NO.: 20111969
ISSUE DATE: JULY 2012
CONTACT: H FORAKER
DRAWN BY: CC | CHECKED BY: HDF

WATER LINE & HYDRANT P&P

3 OF 4

FILE LOCATION: S:\Drawing Files\Land Projects HDF 1-14-00\McCollom\McCollom PPW.dwg TAB NAME: WATER LINE & HYDRANT P&P USER: cvantes SAVED: 7/12/2012 4:33 PM PLOTTED: 7/12/2012 4:50 PM



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 RESTAINT *
CONCRETE BLOCKING (AS REQUIRED)
RIVER WASHED PEA GRAVEL (AS REQUIRED)

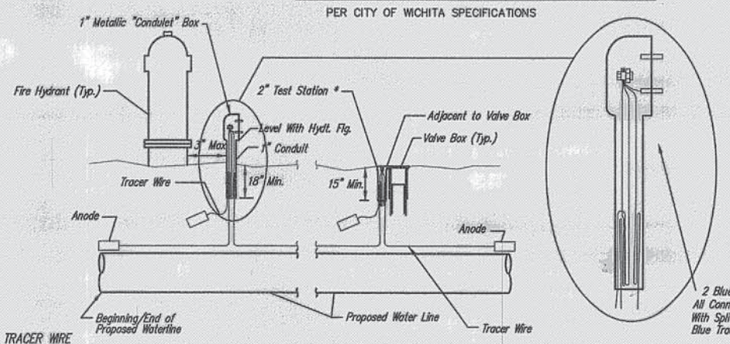
* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2–MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DICL SPOOL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUFS, 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.

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 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 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 "conduiet" 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 "conduiet" 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.

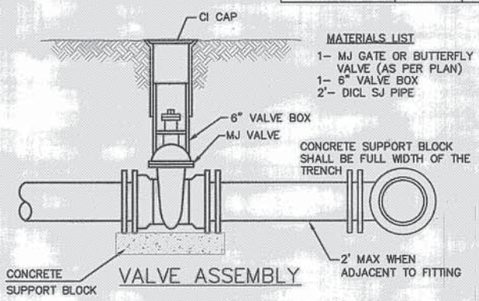
ANODES

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

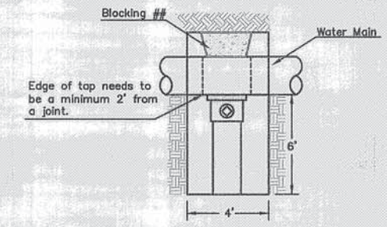
COST IS SUBSIDIARY TO PIPE INSTALLATION

FIRE HYDRANTS REQUIRED			
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
3+00.25	150.00	146.24	4.5'



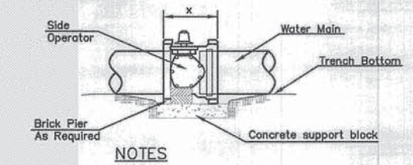
MATERIALS LIST
1– MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1– 6" VALVE BOX
2'– DICL SJ PIPE
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH
2' MAX WHEN ADJACENT TO FITTING

VALVE ASSEMBLY



CITY TAP

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

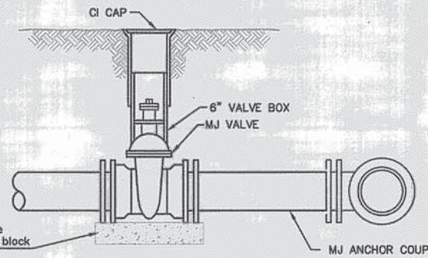


NOTES

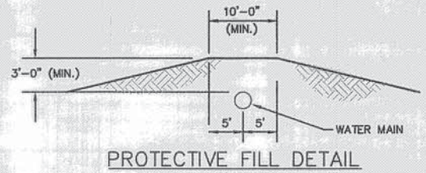
1. This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
2. 6" Valve Box and Cover required per City of Goddard Std. Specifications.
3. Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION

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

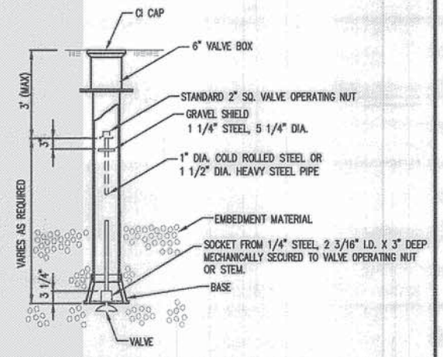


ANCHORED VALVE ASSEMBLY



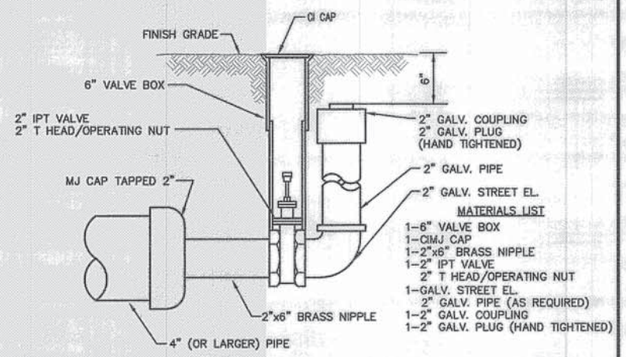
PROTECTIVE FILL DETAIL

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)



VALVE STEM EXTENSION DETAIL

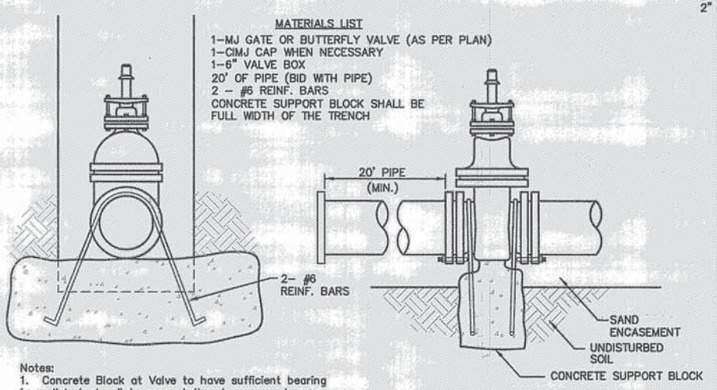
NOTE: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



MATERIALS LIST
1–6" VALVE BOX
1–CIMJ CAP
1–2"x6" BRASS NIPPLE
1–2" IPT VALVE
2" T HEAD/OPERATING NUT
1–GALV. STREET EL.
2" GALV. PIPE (AS REQUIRED)
1–2" GALV. COUPLING
1–2" GALV. PLUG (HAND TIGHTENED)

2" BLOWOFF ASSEMBLY

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 #/in²
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

ANCHORED VALVE ASSEMBLY, SPECIAL

CITY OF WICHITA PUBLIC WORKS ENGINEERING

STANDARD WATER ASSEMBLY DETAIL

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

PROJECT NUMBER | GCA NUMBER | DATE: 7/2012

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

DESIGN | DRAWN

SHEET 4 of 4

WE-101