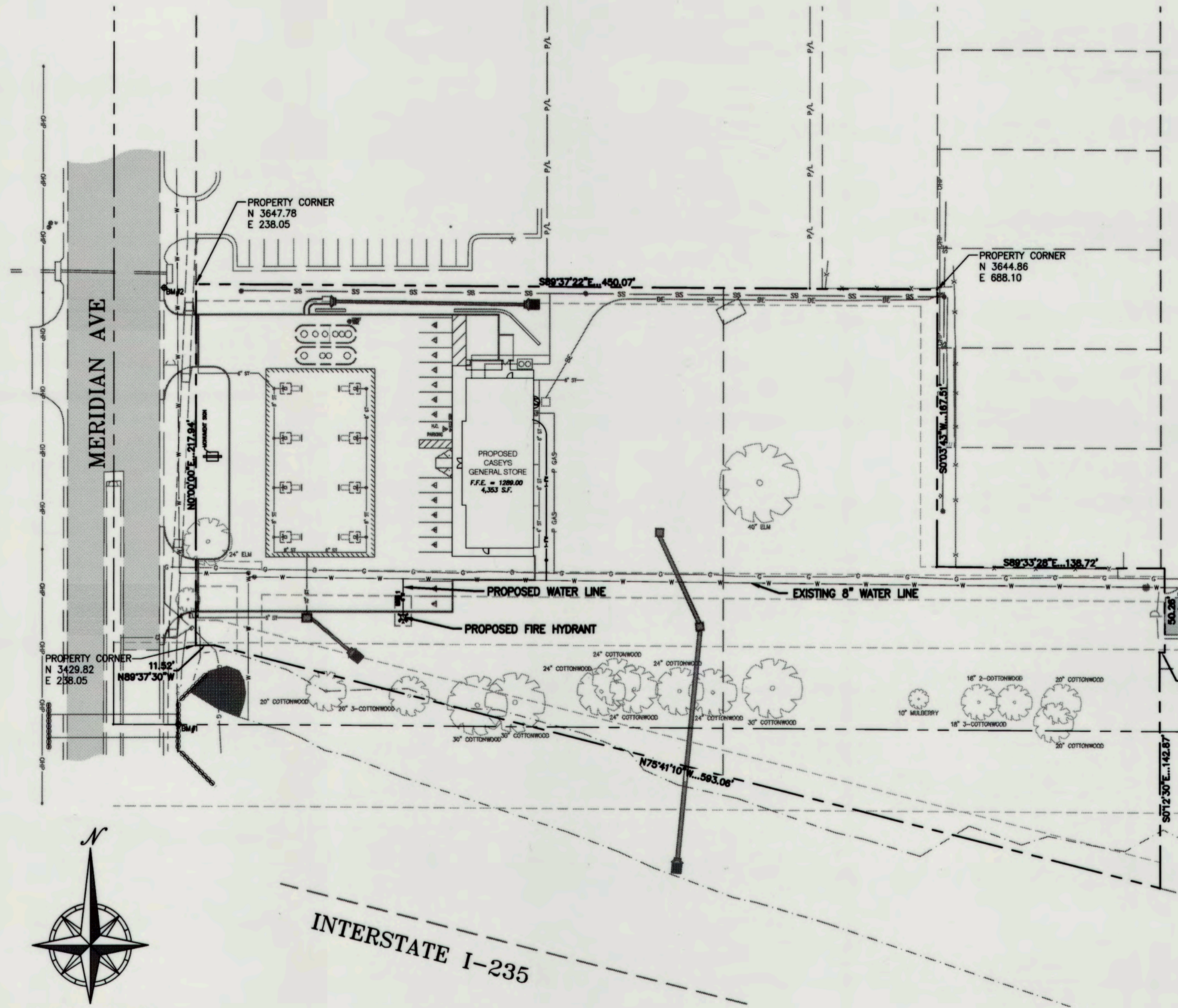


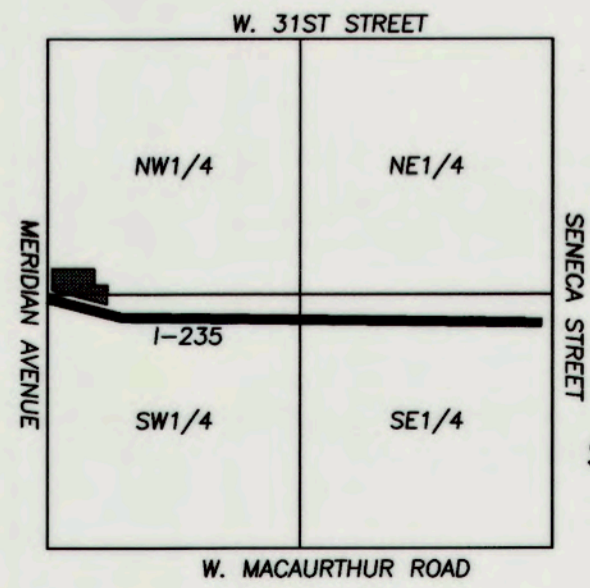
# PUBLIC WATER LINE PLANS FOR CASEY'S GENERAL STORE 3540 S MERIDIAN AVE IN THE CITY OF WICHITA, SEDGWICK COUNTY, KANSAS PROJECT NUMBER 1745PPW (607853)

Clow Valve  
Sigma fittings  
American Darling Hydrant Assembly

Fire Hydrant Assembly  
19LF North 90 Degree Bend  
19LF North 90 Degree Bend  
21.0LF North 6" Valve  
22.19LF Tap



SCALE: 1"=50'  
0' 50' 100'



SCALE: 1"=2000'  
VICINITY MAP  
SEC. 7-28S.-1E.

**LEGAL DESCRIPTION:**  
LOTS 1 AND 2, BLOCK A, SCHAFFT 5TH ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS.  
**NET AREA = ±3.36 ACRES**

**BENCHMARK:**  
1. SET "d" CUT ON CENTER OF HEADWALL SOUTH OF THE SOUTHWEST CORNER OF PROJECT.  
ELEVATION = 1285.89  
2. PROJECT BENCH MARK AS SHOWN ON PLAT, FOUND "d" CUT ON TOP OF EAST CURB OF MERIDIAN OPPOSITE THE N.W. CORNER OF LOT 1, SCHAFFT 5TH ADDITION.  
ELEVATION = 1284.07 NAVD88

**FLOOD NOTE:**  
A PORTION OF THIS PROPERTY LIES WITHIN ZONE AE, DEFINED AS SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD.  
A PORTION OF THIS PROPERTY LIES WITHIN ZONE X (SHADED), DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF WICHITA, COMMUNITY NO. 200321, SEDGWICK COUNTY, KANSAS, MAP NO. 20173C0365E, AND DATED FEBRUARY 2, 2007.

- UTILITY COMPANIES:**
- CITY OF WICHITA PUBLIC WORKS (316) 268-4422
  - CITY OF WICHITA WATER UTILITIES (316) 265-1300
  - BLACK HILLS ENERGY (888) 890-5554
  - KANSAS GAS SERVICE (800) 794-4780
  - WESTAR ENERGY (800) 401-5666
  - AT&T (888) 944-0447
  - BIRCH COMMUNICATIONS (866) 238-7041
  - COX COMMUNICATIONS (800) 620-6196

OTHER UTILITIES  
HTTP://WWW.WICHITA.GOV/RESIDENTS/LINKS/UTILITIES.HTM

INDEX	
W1	COVER
W2	WATER LINE PLAN & PROFILE
W3	WATER LINE DETAILS

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

Water Mains (Engineering) *Julianne Kallman* 5-28-13  
Water Mains (Water) *Greg Kelly* 07-11-13  
Fire Prot. Line *Bob Thompson* 07-11-2013

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.

AS BUILTS	
Contractor: Utilities Plus 10/24/2013	Project Inspector: Tom Jones <b>KEMILLER</b> ENGINEERING P.A. 117 E. Lewis, Wichita, KS 67202 (316)264-0242



VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES: CALL 1-800-344-7233, KANSAS

<p>Consultant Information:</p> <p><b>PE</b> PLANNING ENGINEERING IMPLEMENTATION</p> <p>1202 N. Winchester Dodge, Kansas 66068 (913) 399-7950 Fax (913) 399-1666 www.peengineering.com</p>	<p>Licensed: Jeffrey M. Luebke, P.E. License Number: 18824 Licensed As: Professional Engineer</p> <p><b>18824</b> 5/23/13 KANSAS PROFESSIONAL ENGINEER</p>
<p>Project: Wichita, Kansas '02' Style Store</p> <p>Location: NE Corner of S. Meridian Ave. &amp; I-235 Wichita, Kansas</p> <p>CASEY'S CONSTRUCTION DIVISION One Cornerstone Blvd., Anthony, IA 50021 Phone: 515-965-6100</p>	<p>Publication Date: 05.22.13 With Revisions On:</p> <p><b>PERMIT PLANS</b> COVER SHEET W1</p>



**LEGEND:**

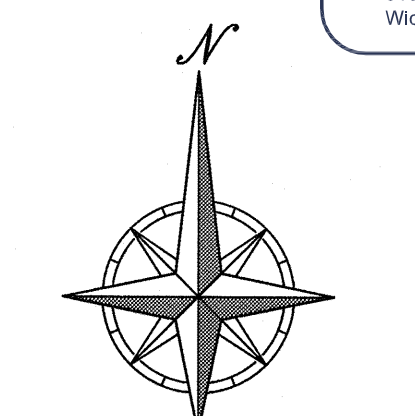
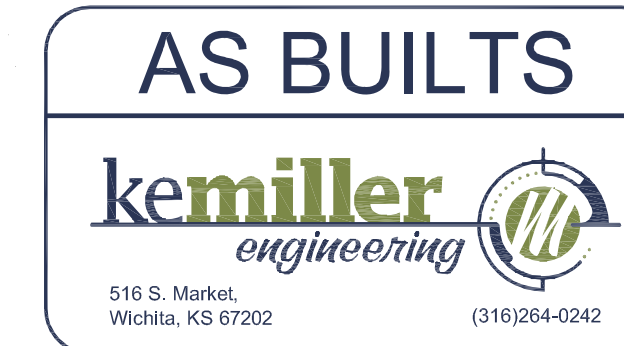
- W- EXISTING WATERLINE
- 6"W- PROPOSED WATERLINE

**LEGAL DESCRIPTION:**

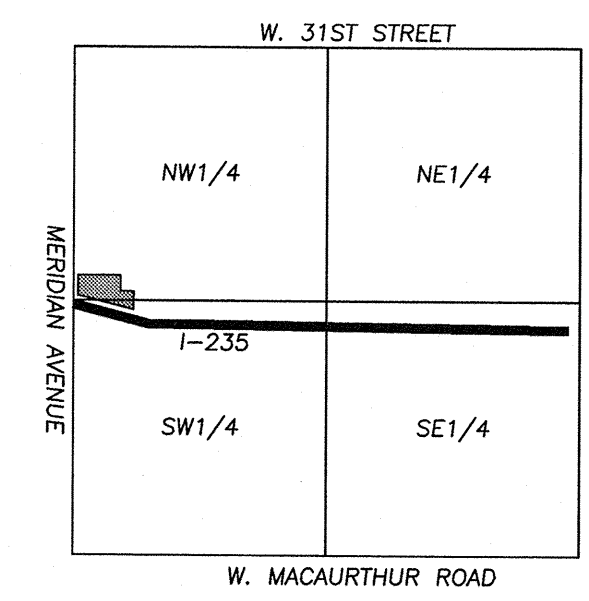
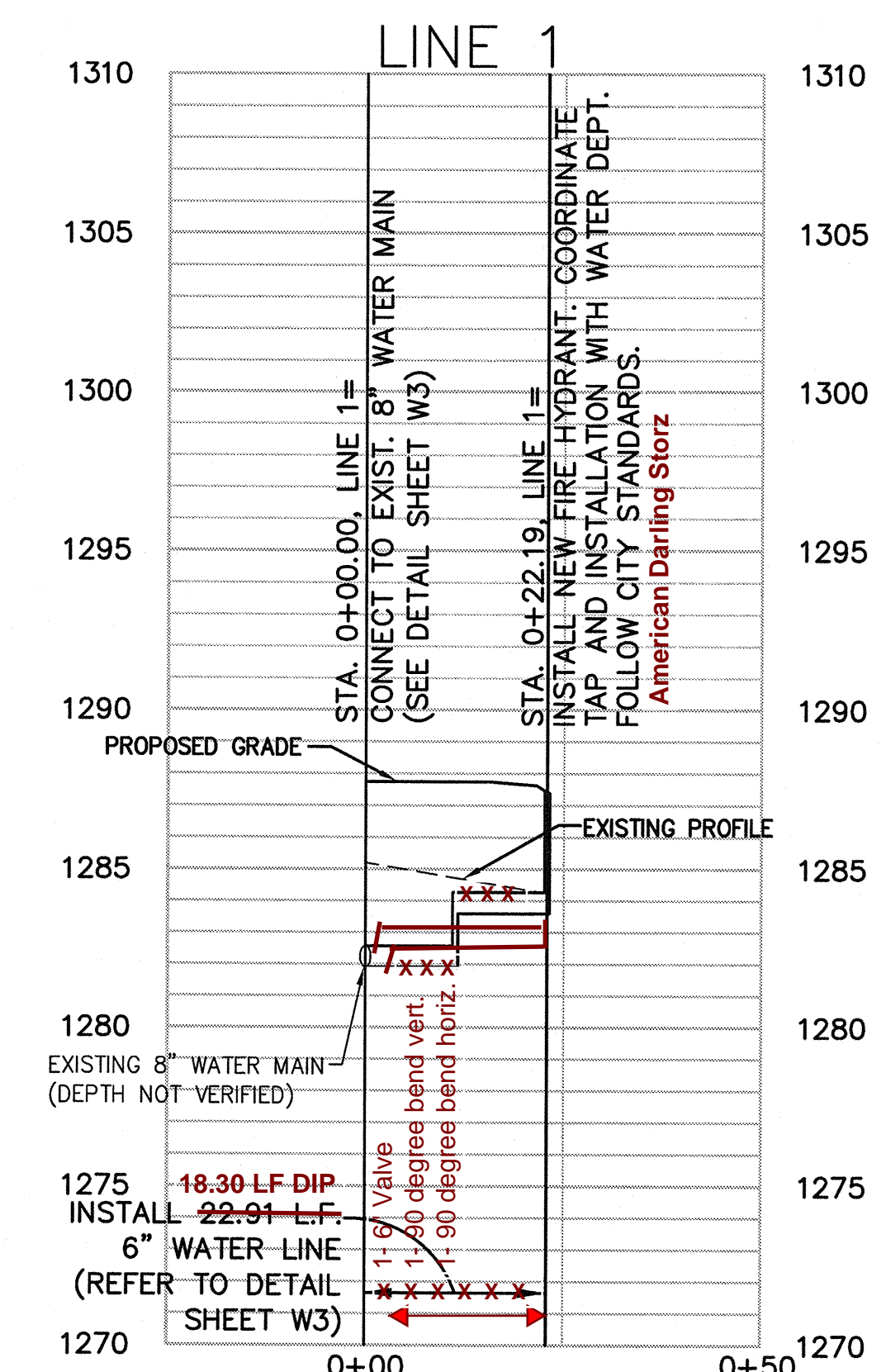
LOTS 1 AND 2, BLOCK A, SCHAFF 5TH ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS.  
**NET AREA = ±3.35 ACRES**

**SITE UTILITY NOTES:**

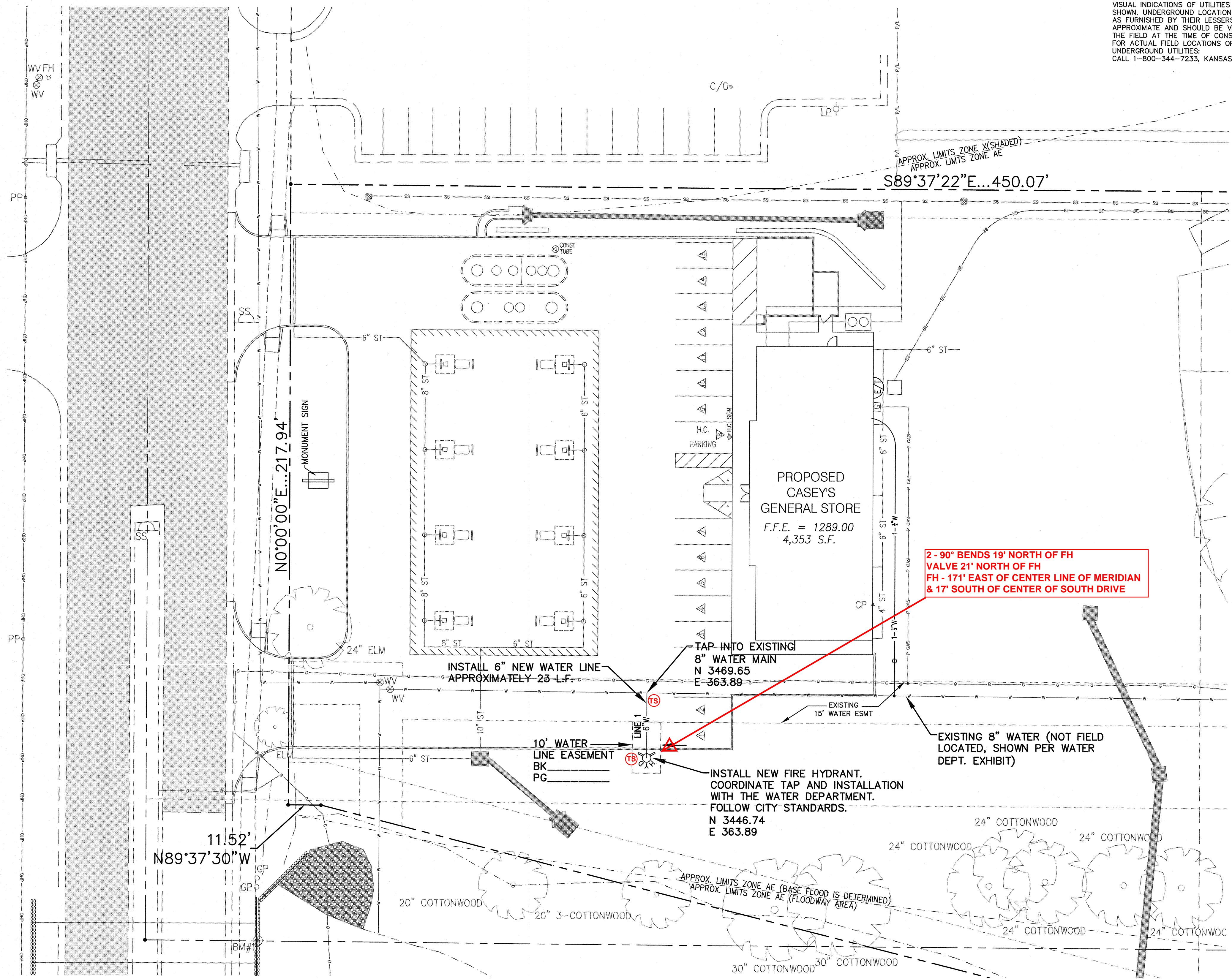
- The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies, and where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to coordinate with and relocate &/or remove all existing utilities which conflict with the proposed improvements shown on the plans.
- The construction of storm sewers on this project shall conform to the requirements of the City of Wichita, Kansas Technical Specifications and Design Criteria.
- The contractor shall field verify the exact location and elevation of the existing storm sewer lines and the existing elevation at locations where the proposed storm sewer collects or releases to existing ground. If discrepancies are encountered from the information shown on the plans, the contractor shall contact the design engineer. No pipes shall be laid until direction is received from the design engineer.
- It will be the contractor's responsibility to field adjust the top of all manholes and boxes as necessary to match the grade of the adjacent area. Tops of existing manholes shall be raised as necessary to be flush with proposed pavement elevations, and to be 6-inches above finished ground elevations in non-paved areas. No separate or additional compensation will be made to the contractor for making final adjustments to the manholes and boxes.
- Inlet locations, horizontal pipe information and vertical pipe information is shown to the center of the structure. Deflection angles shown for storm sewer pipes are measured from the center of curb inlets and manholes. The contractor shall adjust the horizontal location of the pipes to go to the face of the boxes. All roof drains shall be connected to storm sewer structures. Provide cleanouts on roof drain lines at 100' max. Spacing and at all bend points. Do not connect roof drains directly to storm sewer pipe.
- The contractor shall be responsible for furnishing and installing all fire and domestic water lines, meters, backflow devices, pits, valves and all other incidentals required for a complete operable fire protection and domestic water system. All costs associated with the complete water system for the buildings shall be the responsibility of the contractor. All work shall conform to the requirements of City of Wichita, Kansas.
- The contractor shall be responsible for furnishing and installing all sanitary sewer service lines from the buildings to the public line. The contractor shall refer to the architectural plans for specific locations and elevations of the service lines of the building connection. All work shall conform to the requirements of the City of Wichita, Kansas.
- The contractor will be responsible for securing all permits, bonds and insurance required by the contract documents, City of Wichita, Kansas, and all other governing agencies (including local, county, state and federal authorities) having jurisdiction over the work proposed by these construction documents. The cost for all permits, bonds and insurance shall be the contractor's responsibility and shall be included in the bid for the work.
- By the use of these construction documents the contractor hereby agrees that he/she shall be solely responsible for the safety of the construction workers and the public. The contractor agrees to hold the engineer and owner harmless for any and all injuries, claims, losses or damages related to the project.
- The Contractor shall be responsible for furnishing all materials, tools and equipment and installation of electrical power, telephone and gas service from a point of connection from the public utility lines to the building structures. This will include all conduits, service lines, meters, concrete pads and all other incidentals required for a complete and operational system as required by the owner and the public utilities. Refer to building plans for exact tie-in locations of all utilities. Contractor shall verify connection points prior to installation of utility line.
- All fill material is to be in place, compacted, and consolidated before installation of proposed utilities. On-site geotechnical engineer shall provide written confirmation that this requirement has been met and that utilities may proceed in the fill areas. All utilities are to be placed in trench conditions.
- Contractor shall notify the utility authorities inspectors 48 hours before connecting to any existing line.
- Storm sewer roof drains (s) shall be as follows (unless otherwise shown on plans):
  - PVC SDR 35 per ASTM D 3034, for pipes less than 12" deep.
  - PVC SDR 26 per ASTM D 3034, for pipes 12" to 20" deep.
- Water lines shall be as follows (unless otherwise shown on plans):
  - Pipe sizes less than 3-inches that are installed below grade and outside building shall comply with the following:
    1. Seamless Copper Tubing: Type "K" soft copper, ASTM B88.
    2. Fittings: Wrought copper (#5.5 Tin Antimony solder joint), ASME B 16.22.
  - Gray Cast Iron Water Pipe or Ductile Iron Water Pipe may be used for Pipe sizes 3-inches Through 48-inches that are installed below grade and outside building shall comply with the following:
    1. Gray Cast Iron Water Pipe: ANSI A21.6, thickness class 52.
    - a. Fittings: Either mechanical joint or push-on joint, AWWA C110 or AWWA C111.
      - a. Elastomeric gaskets and lubricant: ASTM F477.
      - b. Cement Mortar Lining, AWWA C104
      - c. Cement Mortar Lining, AWWA C104
    2. Ductile Iron Water Pipe: AWWA C151, thickness class 50.
      - a. Fittings: Either mechanical joint or push-on joint, AWWA C110 or AWWA C111.
      - b. Elastomeric gaskets and lubricant: ASTM F477.
      - c. Cement Mortar Lining, AWWA C104
  - Polyvinyl Chloride (PVC) Water Pipe may be used for Pipe sizes 4-inches Through 12-inches that are installed below grade and outside building shall comply with the following:
    1. Polyvinyl Chloride (PVC) Water Pipe: Pipe, AWWA C900, rated DR 18 (Class 150), continuously marked as required.
      - a. Elastomeric gaskets and lubricant: ASTM F477 for smaller pipes.
      - b. Pipe joints: Integrally molded bell ends, ASTM D3139.
      - c. Trace wire: Magnetic detectable conductor, (#12 Copper) brightly colored plastic covering imprinted with "Water Service" in large letters.
- Minimum trench width shall be 2 feet.
- Contractor shall maintain a minimum of 42" cover on all waterlines. All water line joints are to be mechanical joints with thrust blocking as called out in specifications and construction plans. Water mains and service lines shall be constructed in accordance to City's standards.
- All waterlines shall be kept min. ten (10') apart (parallel) from sanitary sewer lines or manholes. Or when crossing, on 24" vertical clearance (outside edge of pipe to outside edge of pipe) of the water line above the sewer line is required.
- In the event of a vertical conflict between waterlines, sanitary lines, storm lines and gas lines (existing and proposed), the sanitary line shall be ductile iron pipe with mechanical joints at least 10 feet on both sides of crossing (or encased in concrete this same distance), the waterline shall have mechanical joints with appropriate thrust blocking as required to provide a minimum of 24" clearance. Meeting requirements of ANSI A21.10 or ANSI 21.11 (AWWA C-151) (CLASS 50).
- All underground storm, sanitary, water and other utility lines shall be installed, inspected and approved before backfilling. Failure to have inspection approval prior to backfill will constitute rejection of work.
- All necessary inspections and/or certifications required by codes and/or utility service companies shall be performed prior to announced building possession and the final connection of service. Contractor shall coordinate with all utility companies for installation requirements and specifications.
- Refer to building plans for site lighting electrical plan, irrigation, parking lot security system and associated conduit requirements. Coordinate with Owner that all required conduits are in place & tested prior to paving.
- When a building utility connection from site utilities leading up to the building cannot be made immediately, temporarily mark all such site utility terminations.



SCALE: 1"=20' HORIZ.  
 1"=5' VERT.



SCALE: 1"=2000'  
 VICINITY MAP  
 SEC. 7-285.-1E.



2 - 90° BENDS 19' NORTH OF FH  
 VALVE 21' NORTH OF FH  
 FH - 171' EAST OF CENTER LINE OF MERIDIAN  
 & 17' SOUTH OF CENTER OF SOUTH DRIVE

TAP INTO EXISTING  
 8" WATER MAIN  
 N 3469.65  
 E 363.89

INSTALL NEW FIRE HYDRANT.  
 COORDINATE TAP AND INSTALLATION  
 WITH THE WATER DEPARTMENT.  
 FOLLOW CITY STANDARDS.  
 N 3446.74  
 E 363.89

Z:\PA\190720\DWG\PERMIT PLANS\Water Line Plans\WATERLINE PLANS.dwg Layout:2 May 22, 2013 1:23pm JEFF LAUBACH

Consultant Information:

**PEI** PLANNING ENGINEERING IMPLEMENTATION

Jeffrey W. Laubach, P.E.  
 License Number: 19824  
 Licensed as: Professional Engineer

PHILIPS ENGINEERING, INC.  
 1402 N. Vinland  
 Olathe, Kansas 66061  
 (913) 393-1155  
 Fax: (913) 393-1168  
 www.peiengineering.com

Project: Wichita, Kansas '02 Style Store

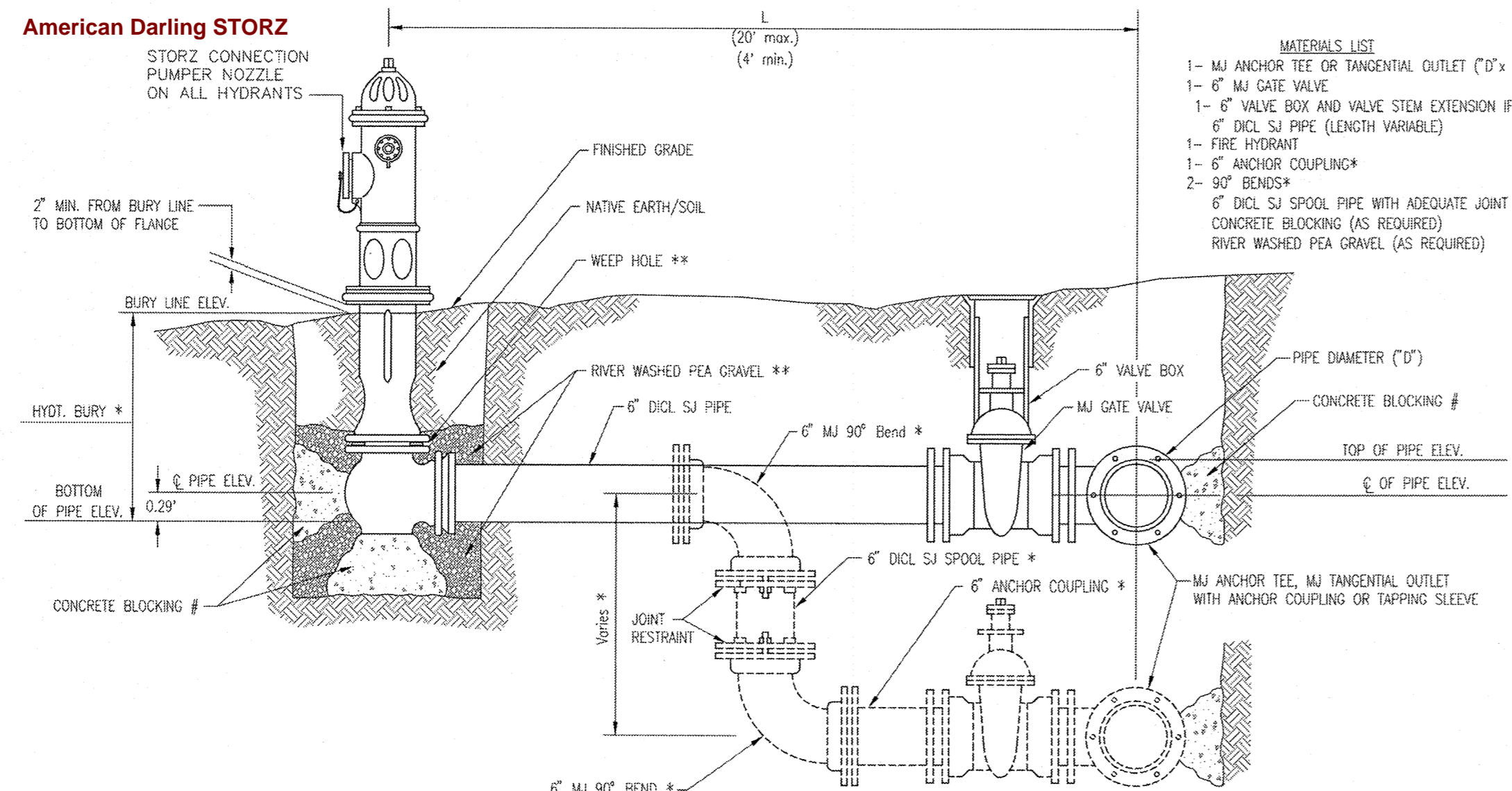
Publication Date: 05.22.13  
 With Revisions On:

Location: NE Corner of S. Meridian Ave. & I-235 Wichita, Kansas

CASEY'S CONSTRUCTION DIVISION  
 One Convenience Blvd., Ankeny, IA 50021  
 Phone: 515-965-8100

**PERMIT PLANS**  
 WATER LINE PLAN & PROFILE  
 W2

PEI NO. 120730



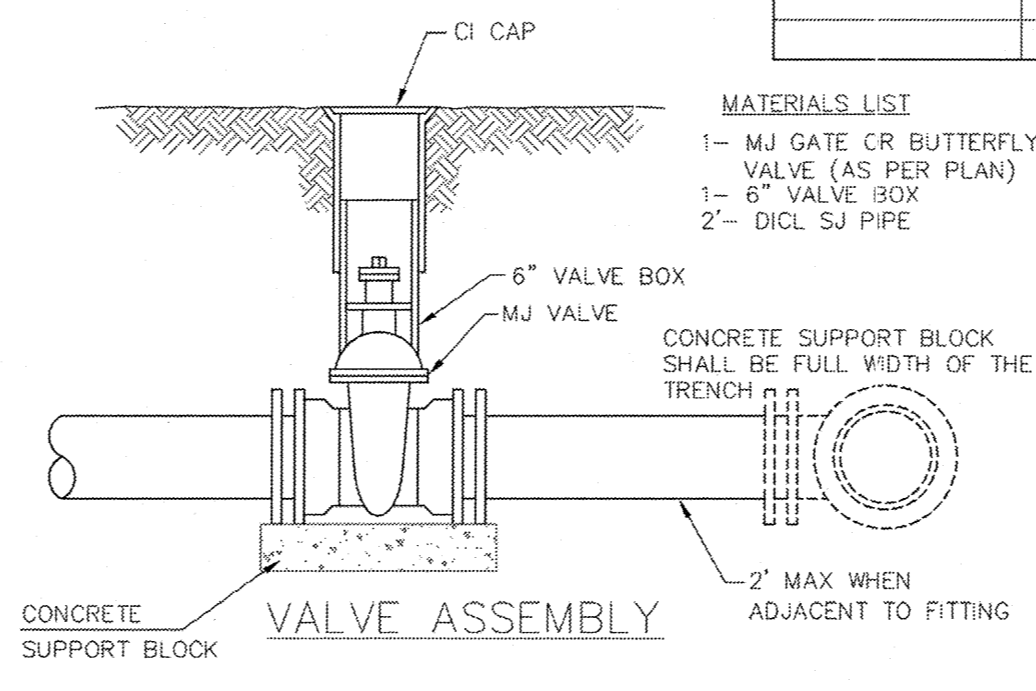
- MATERIALS LIST**
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET (10" x 6")
  - 1- 6" MJ GATE VALVE
  - 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED \*
  - 6" DI CL SJ PIPE (LENGTH VARIABLE)
  - 1- FIRE HYDRANT
  - 1- 6" ANCHOR COUPLING\*
  - 2- 90° BENDS\*
  - 6" DI CL SJ SPOOL PIPE WITH ADEQUATE 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" DI CL 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.

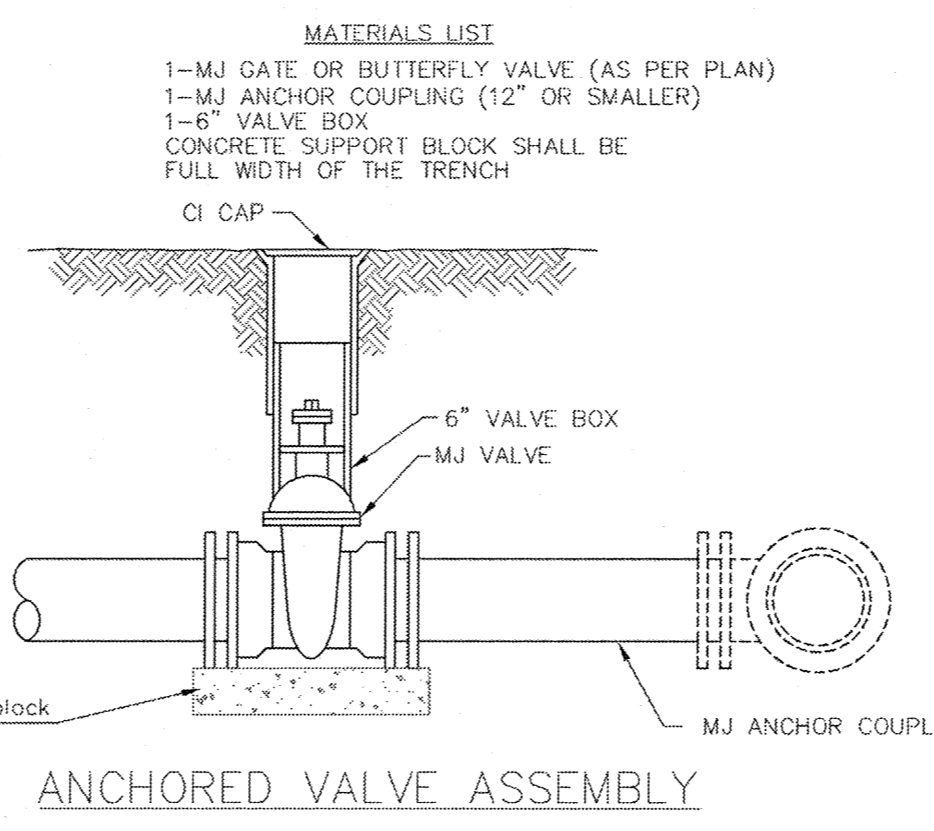
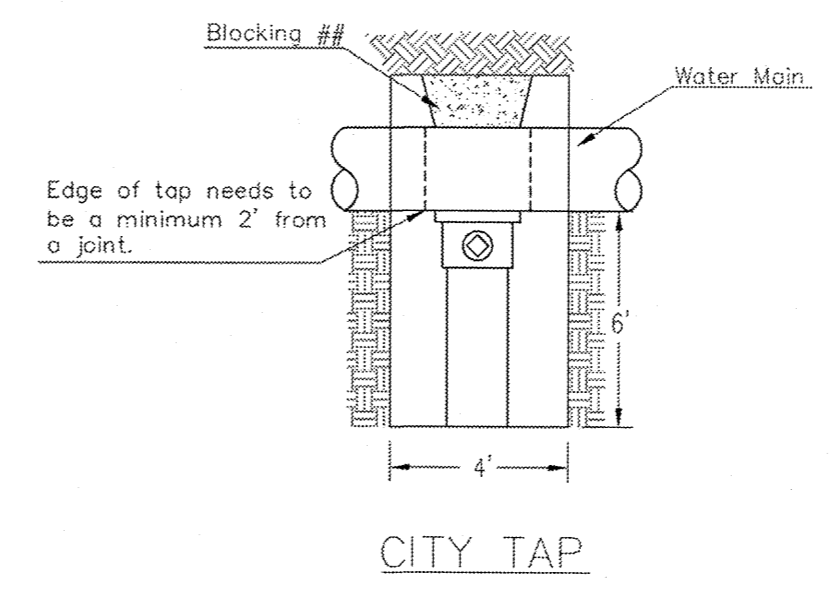
\*\* CAUTION!!! WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

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

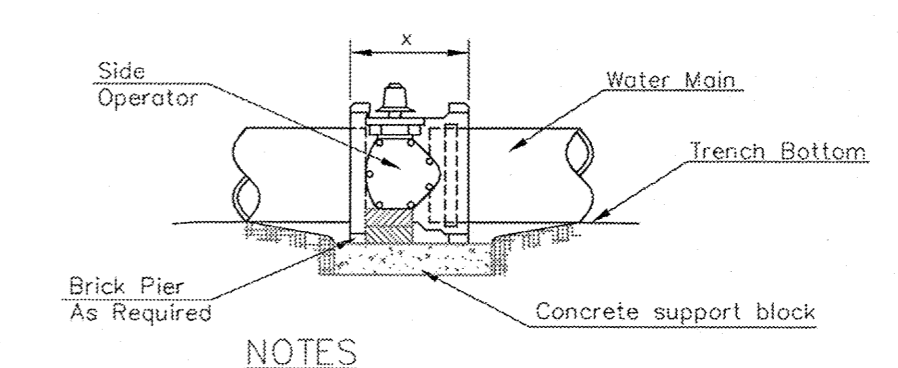
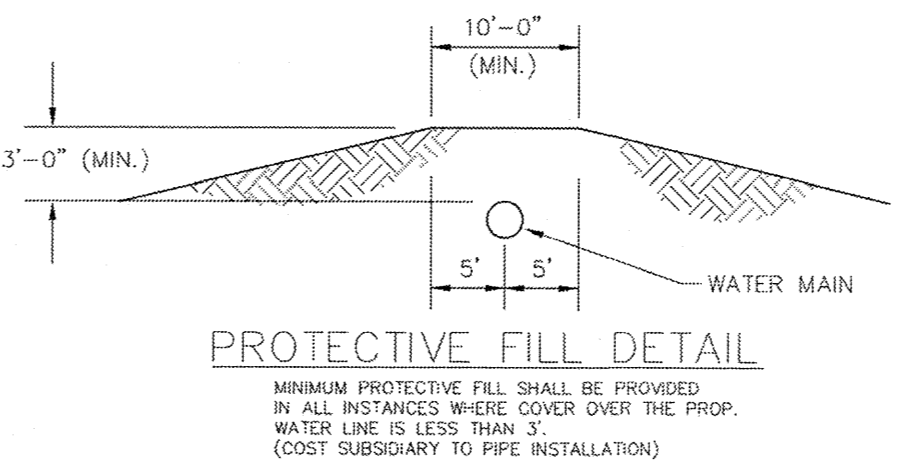
FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
0+22.19			6.0LF	



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



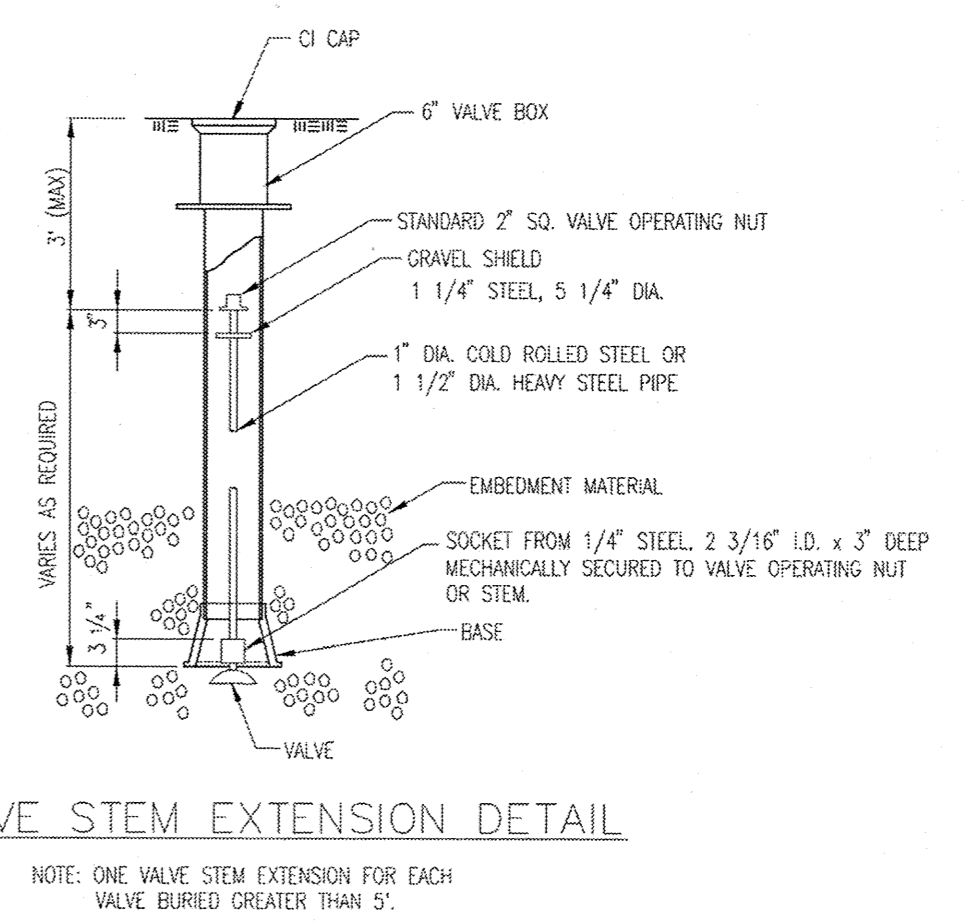
- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1- MJ ANCHOR COUPLING (12" OR SMALLER)
  - 1- 6" VALVE BOX
  - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



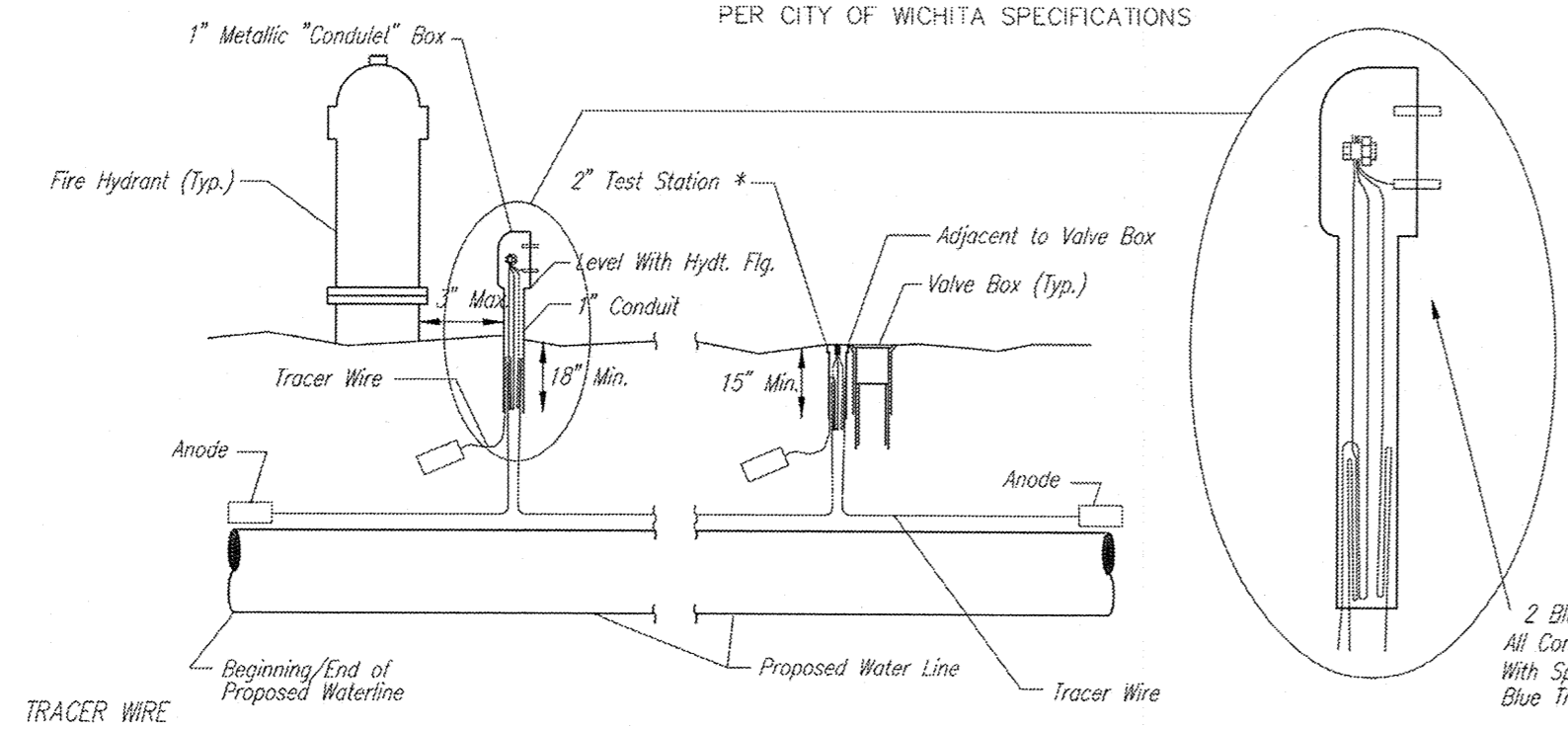
**NOTES**

- 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**



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



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

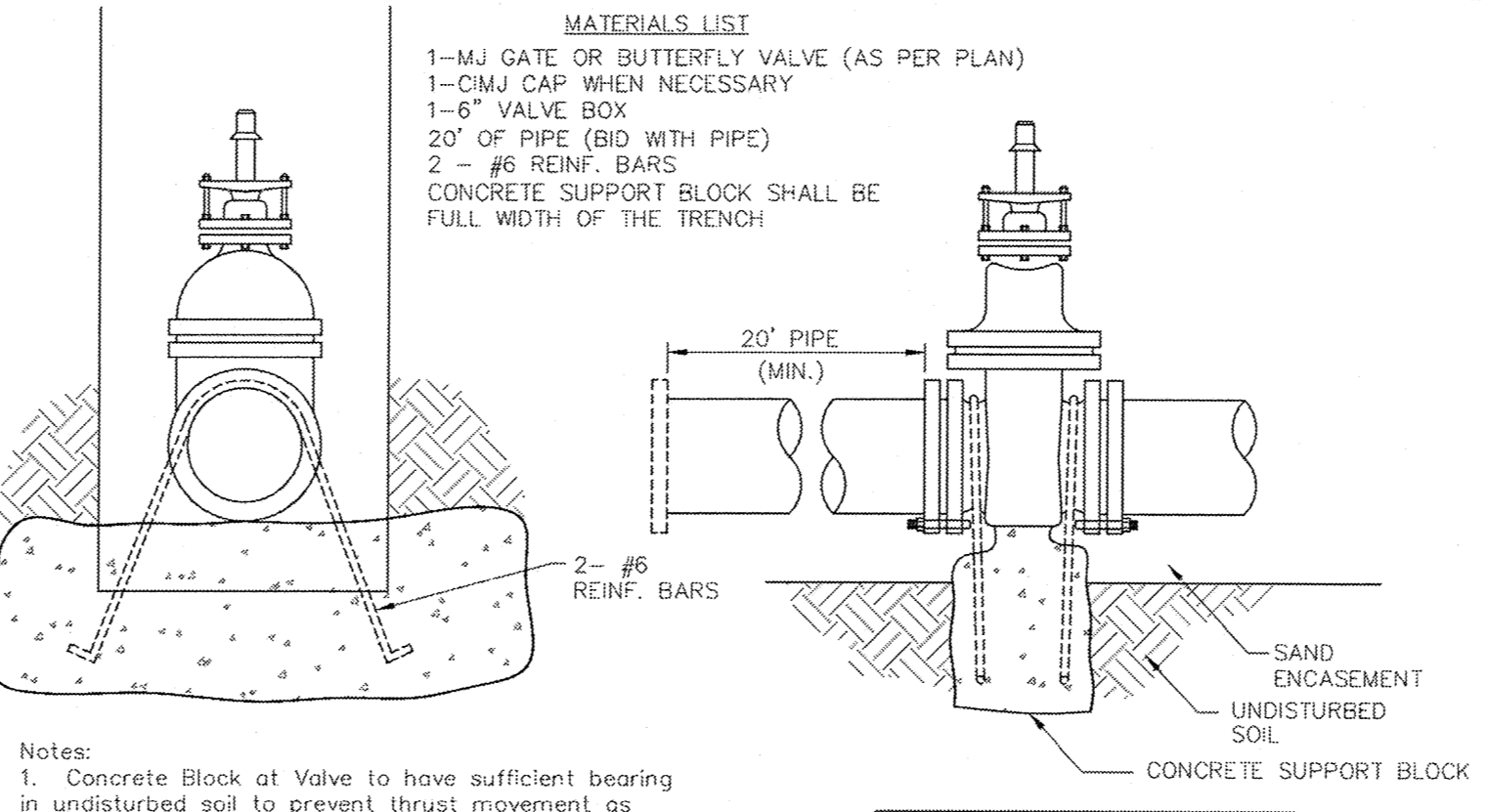
**TRACER WIRE**  
Conductive type pipe locator/tracer wire shall be installed to locate all waterline pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. Split-bolt connectors shall be used 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 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 is 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



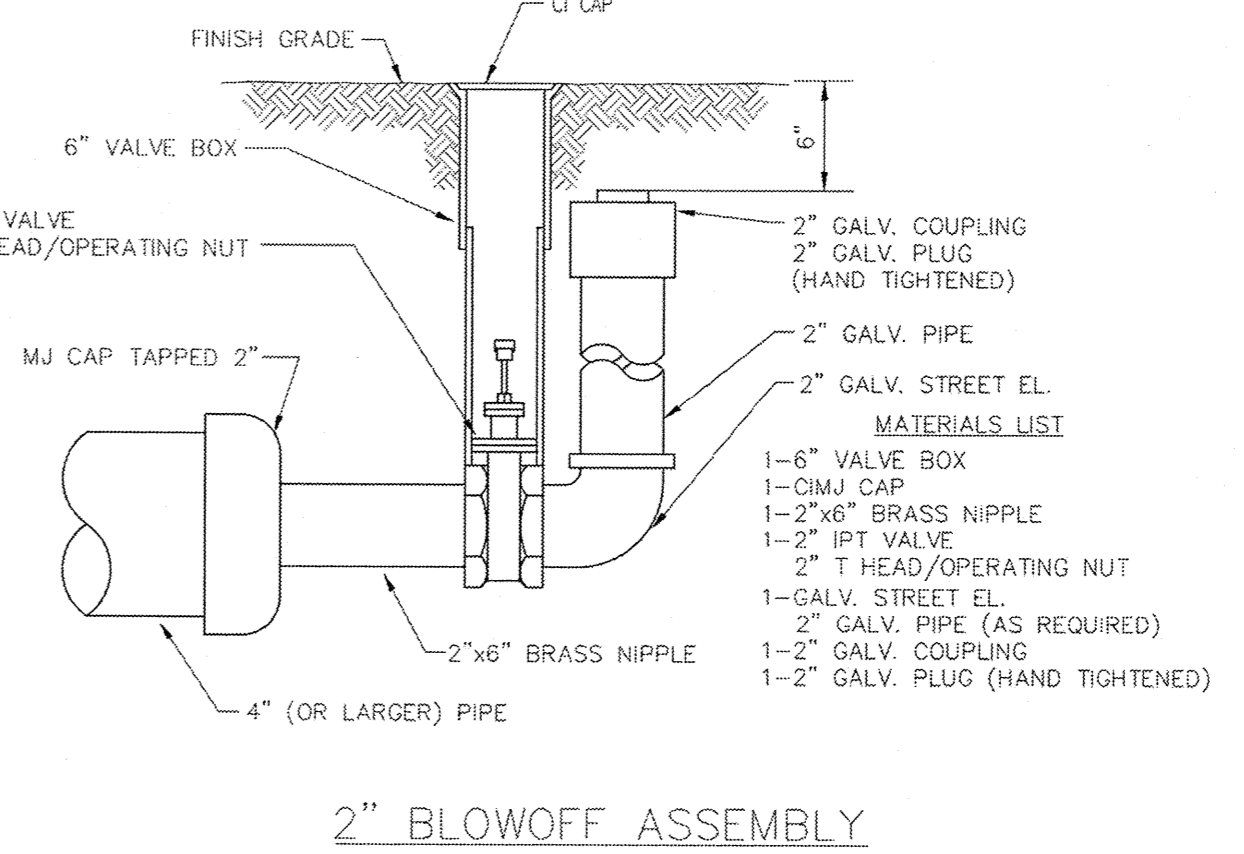
- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1- CI MJ CAP WHEN NECESSARY
  - 1- 6" VALVE BOX
  - 20" OF PIPE (BID WITH PIPE)
  - 2 - #6 REINF. BARS
  - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

**Notes:**

- 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 #/sq
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16955 lbs.

**ANCHORED VALVE ASSEMBLY, SPECIAL**



**STANDARD WATER ASSEMBLY DETAIL**

CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER	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  
\_ of \_

Consultant Information:

**PEI** PLANNING ENGINEERING IMPLEMENTATION

Jeffrey W. Laubach, P.E.  
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Licensed as Professional Engineer

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www.philipsengineering.com

18824  
1/15/13  
KANSAS  
PROFESSIONAL ENGINEER

Project: Wichita, Kansas '02' Style Store

Publication Date: 05.22.13  
With Revisions On:

Location: NE Corner of S. Meridian Ave. & I-235 Wichita, Kansas

CASEY'S CONSTRUCTION DIVISION  
One Convenience Blvd., Ankeny, IA 50021  
Phone: 515-966-8100

PERMIT PLANS  
WATER LINE DETAILS  
W3