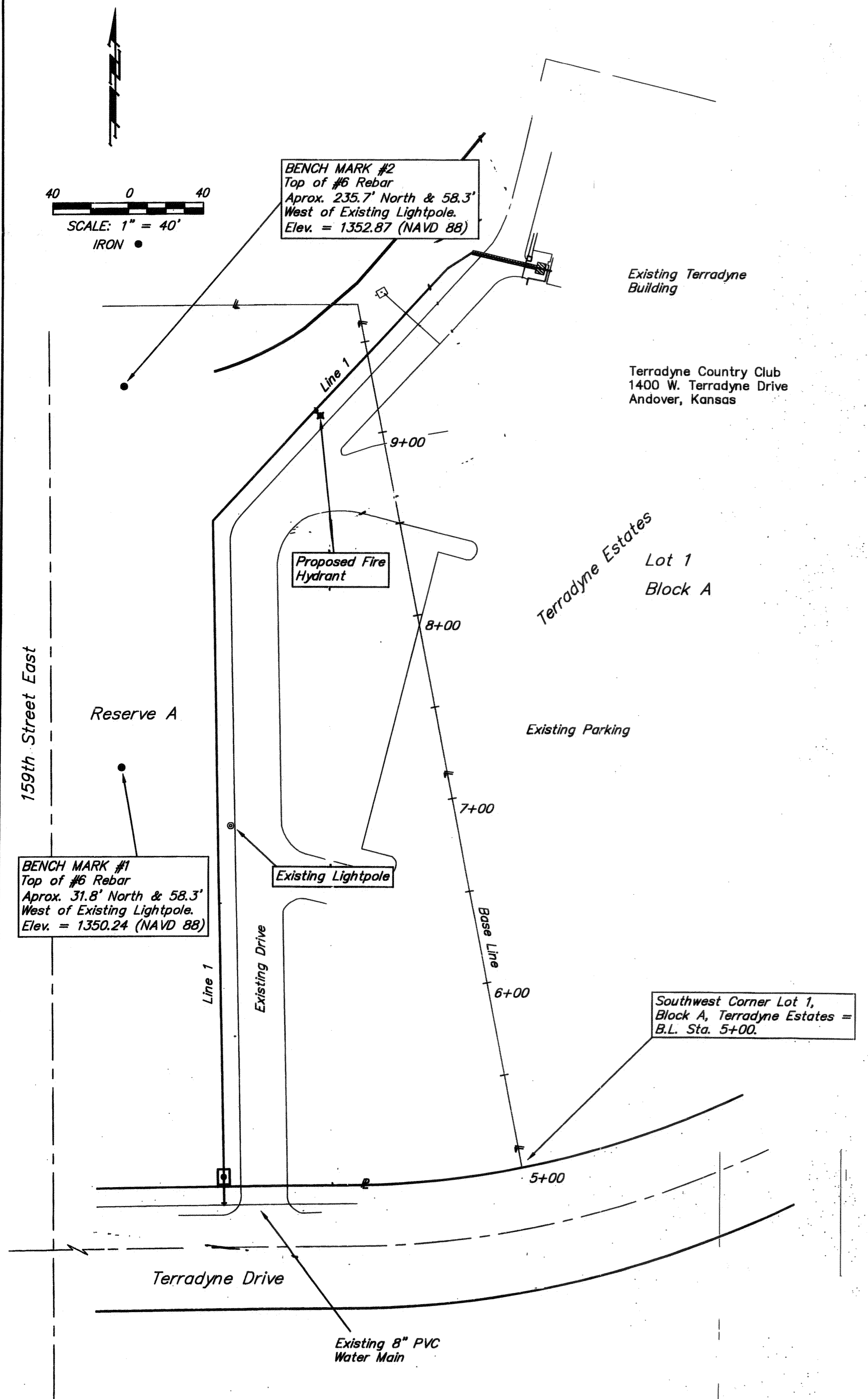


FIRE LINE & FIRE HYDRANT TO SERVE Terradyne Country Club

1400 West Terradyne Drive, Andover, Kansas

**City of Wichita Private Project Number:
1665 PPW (607853)**

May 2012



Benchmarks

BENCH MARK #1
Top of #6 Rebar
Approx. 30' North & 65'
West of Existing Lightpole.
Elev. = 1350.24 (NAVD 88)

BENCH MARK #2
Top of #6 Rebar
Approx. 233.56' North & 65'
West of Existing Lightpole.
Elev. = 1352.87 (NAVD 88)

Index

Title Sheet	1
Detail Sheet	2
Plan/Profile Sheets	3-4

Legal Description

Lot 1, Block A, Terradyne Estates,
An Addition To Andover, Butler
County, Kansas.

General Notes

- Contractor will be required to provide notice to utility companies a minimum of forty-eight (48) hours prior to any excavation, as follows:
Kansas One-Call 687-2470
The Contractor must notify the following in case of an emergency:
Cox Communications 262-4270
Kansas Gas Service Company 1-888-482-4950
Westar Energy (Electric) 383-8650
Black Hills Energy (Gas) 1-800-303-0357
AT&T 268-2245
City of Wichita Water Dept. (Water) 268-4563
City of Andover Public Works 733-1303
- Utility service lines, poles, valve boxes, meters, et cetera 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 and shall be field verified. The contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Contractor shall furnish the inspector with a copy of the manufacturer's certification for any pipe used on this project after completion of pipe installation. The engineer will not certify the project to the city until pipe certification has been received.
- Contractor shall not start work on the project until the project inspector is assigned to the project and is present on the site. Contractor shall not start on the project until all necessary bonds and permits have been obtained. Bonds may include but are not limited to Statutory, Performance & Maintenance. Any work done without inspection will be required to be uncovered for inspection.
- 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. of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location.
- All water lines and appurtenances shall be installed in accordance with the most recent edition of City of Wichita, Kansas Standard Specifications for the Construction of City Projects.

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA,
BY WICHITA WATER & SEWER DEPARTMENT,
& BY WICHITA FIRE DEPARTMENT

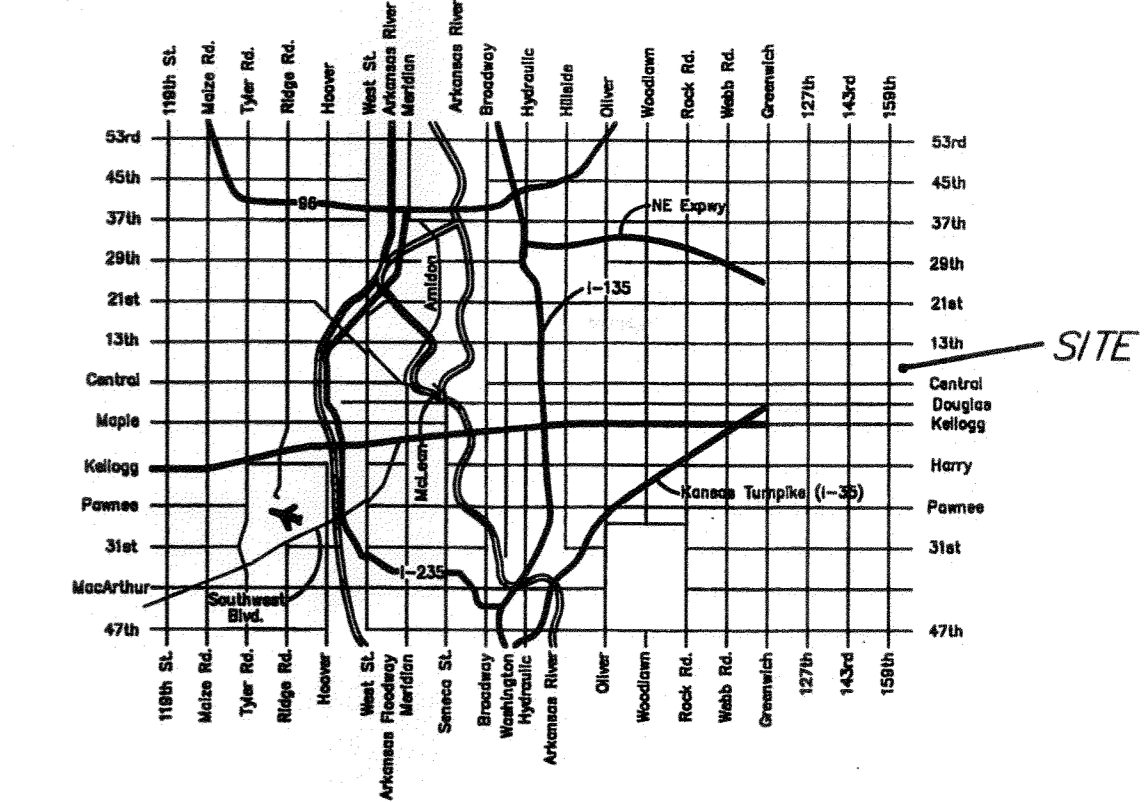
Public Works *Julianne Kallman 5-24-12*
Water & Sewer *Greg Kelly 5-24-12*
Fire NA

NOTE TO CONTRACTORS

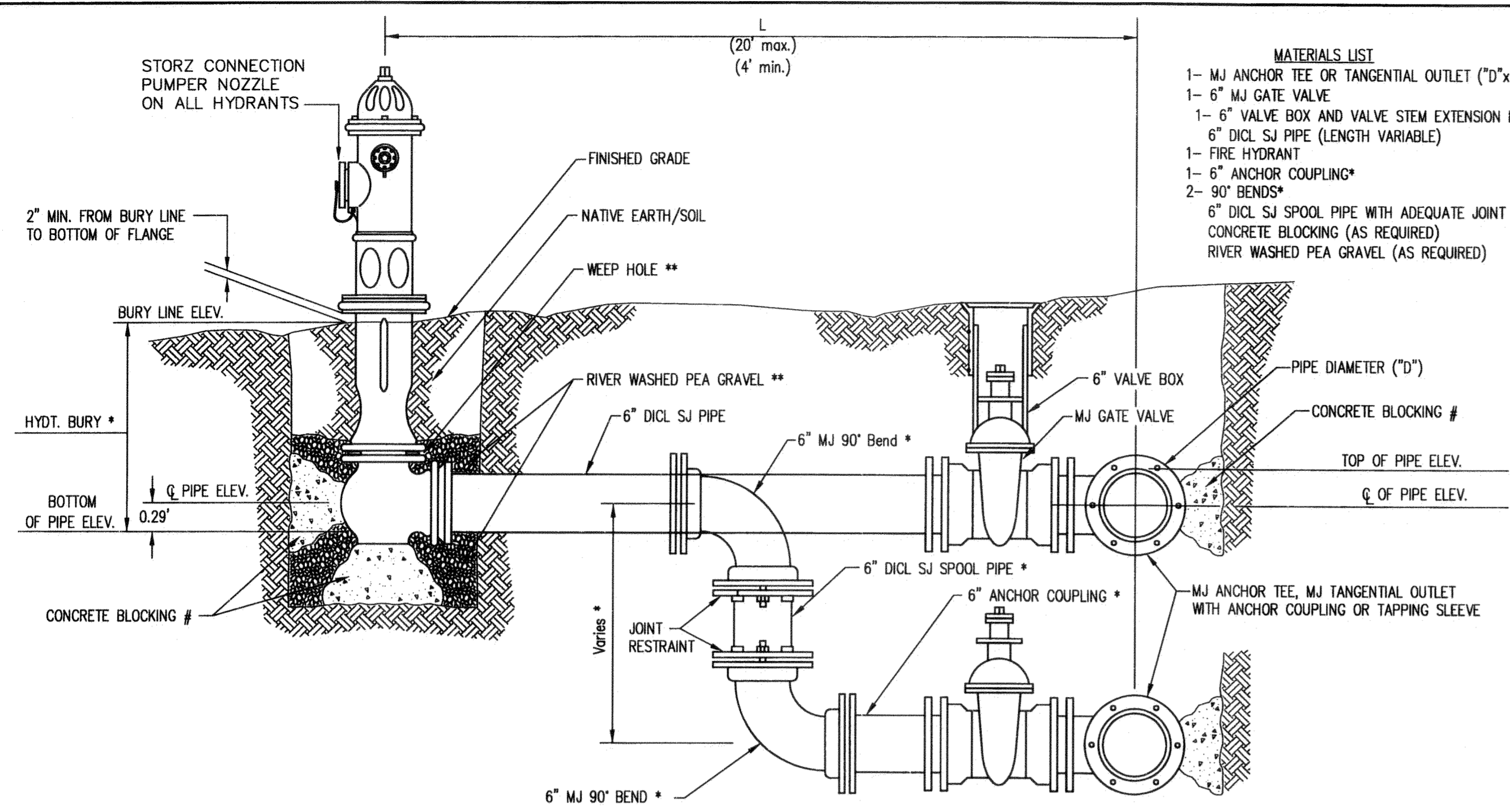
Public Property:
Inspection and testing for the waterline is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Professional Engineer 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 or 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 Andover licensed fire protection contractor in accordance with the fire codes as adopted by the City of Andover. All material and construction practices for the fire protection line shall comply with the fire codes as adopted by the City of Andover. The Contractor shall not commence work without notification and approval of the Andover Fire Department. Inspection of the fire protection line is to be provided by a licensed Engineering Firm under contract with the Owner/Developer and the Fire Department. 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.

RECORD DRAWING
Contractor: Mies Construction, Inc.
Inspector: Robert Koerner/Poe & Associates
As-Built Date 9/11/2012



VICINITY MAP



* 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.

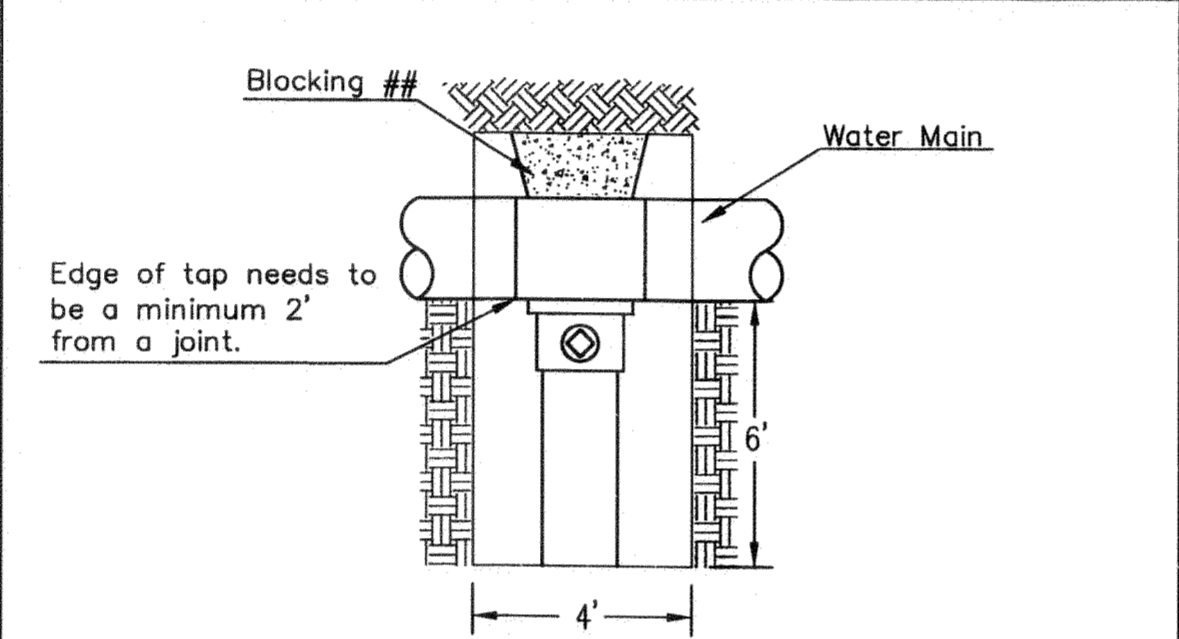
CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

FIRE HYDRANT ASSEMBLY
PER CITY OF WICHITA SPECIFICATIONS

- 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)

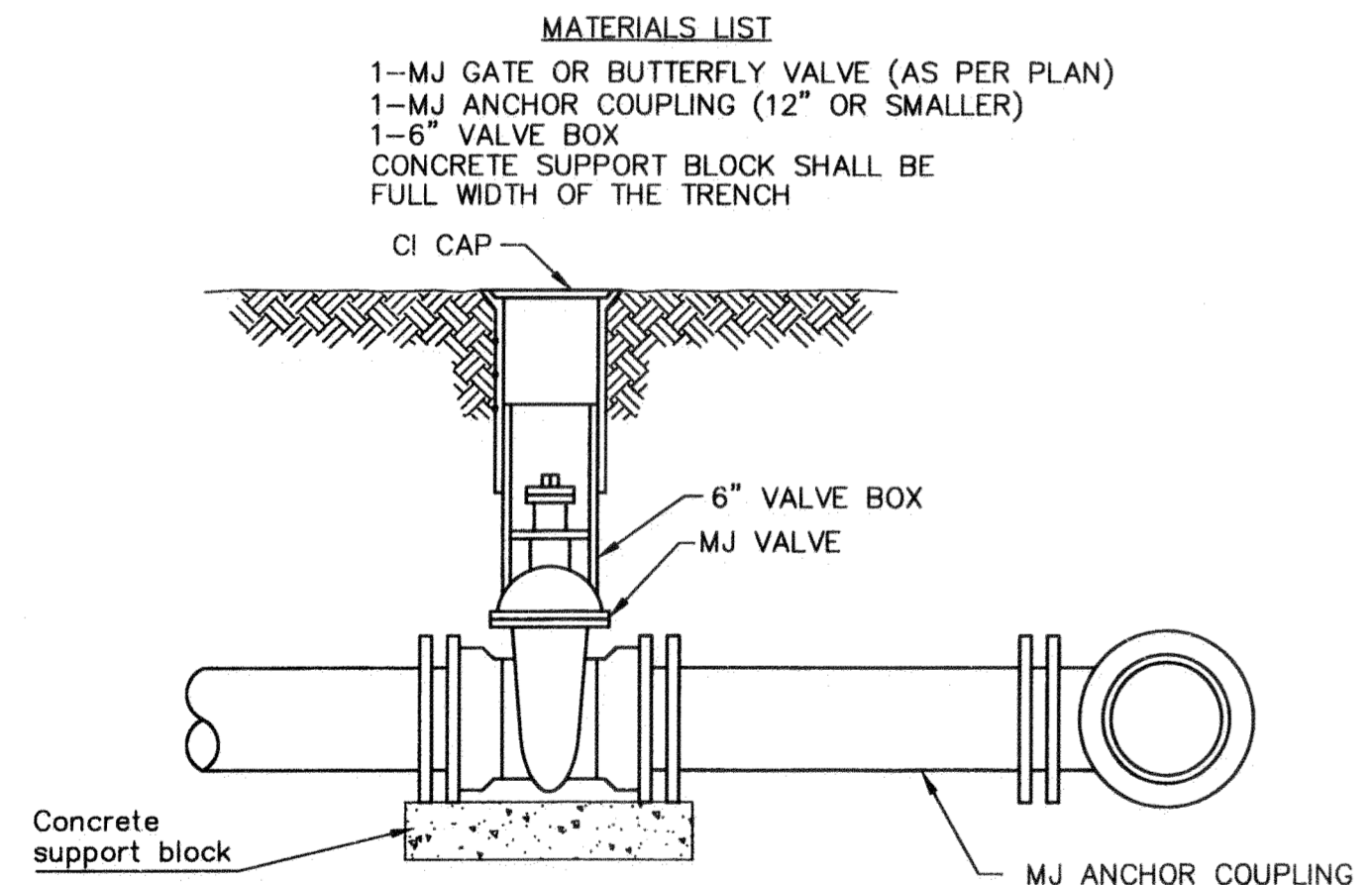
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
4+44.42	1348.50	1345.10	4.0'	0

- Notes For All Services - 3" thru 12":
- When the standard vault dimensions are not applicable, such as when additional space is required for special pipe, fittings, additional meters, etc. the design engineer shall design a vault with the required dimensions for Public Works and Utilities approval.
 - The vault shall be poured concrete, cement blocks (voids to be completely filled with 2500 P.S.I. concrete), or approved precast structure (such as Clutter Inc. vaults approved 8/1/2000). The intent of these details shall not be limited by drawings or standards of precast structures.
 - Vault location to be determined by Public Works and Utilities prior to construction and approved by Department's field supervisor prior to installation. A final inspection will be required for acceptance. Vault location standards include but not limited to: not to be located where subjected to vehicular loads, not to be located in any right-of-way or utility easement, and must be located on the property being served.
 - The manhole ring and lid shall be Neenah R-6034 Frame with Type "C" Solid Lid and Drop Down Handle or US Foundry APS-30x30 (Aluminum). Where applicable the standard 10" Public Works and Utilities pattern meter reading lid and ring shall be located directly above water meter register. All meter registers shall have an approved lid directly vertical above. All joints of concrete to concrete or metal to concrete in the construction of the vault shall have an approved water tight mastic joint seal.
 - Any fittings or appurtenances required to achieve proper elevation of pipe through the vault shall be provided by the contractor and appropriately noted on as-builts submitted by the inspecting engineer. Such fittings shall be a minimum of 2' from the exterior wall of vault.
 - For all domestic services larger than 3" the contractor shall provide an outlet flange connection as shown 8" from the inside wall. Inlet and outlet wall sleeves shall be provided and installed by the contractor and shall be in alignment with one another. The inlet and outlet pipe shall be ductile iron pipe, cement lined, Class 150 per Standard Specifications and shall be continuous through vault wall and joint no less than 2' from the exterior wall of vault. Flanges of inlet and outlet pipes shall be in proper alignment and bolt pattern shall be rotated in such a way that valves and other fittings shall be in their proper vertical alignment when installed.
 - For all services 4" and larger the contractor shall install a mega lug, restrained joint, or approved equal on the exterior walls of the vault, which shall be manufactured of ductile iron conforming to ASTM A 536-80, heat treated to a minimum hardness of 370 BHN and have a working pressure of at least 250 P.S.I. For all services smaller than 4" the contractor shall install an approved vault clamp on the exterior walls of the vault.
 - All valves, meters, assemblies, and fittings shall be provided with sufficient concrete or other approved supports to the vault floor.
 - The "Confined Space Warning" sign shall be fastened to the top of all vaults. If necessary for landscaping or site considerations, the sign may be fastened to the vault lid if it does not impede access to the handle. Acceptable materials: Aluminum 73415HH, Plastic 73439HH, or S.A. Vinyl 73463HH.
 - All meters shall have an electronic read register compatible with the current City of Wichita meter reading system. All detector meters shall be an 5/8 cubic foot Badger meter with ERT register or approved equal. Gallon meters shall not be accepted.
 - Additional Notes For Fire Services:
 - A post indicator valve (PIV) is an option for the outlet valve and may be requested by the architect or owner. The PIV is not required by City of Wichita ordinance.
 - When Siamese connections are required by the Wichita Fire Department, refer to the current City Code Section 15.
 - If due to any reason the completed vault retains ground or drainage water in excess of 4" in depth from the floor of the vault, the property owner shall be responsible for providing and installing an appropriate automatic sump pump or approved equal, as well as any other appurtenances required to make such system function as intended.
 - The property owner is responsible for completing an "Application for Private Fire Protection" prior to final acceptance of the project.

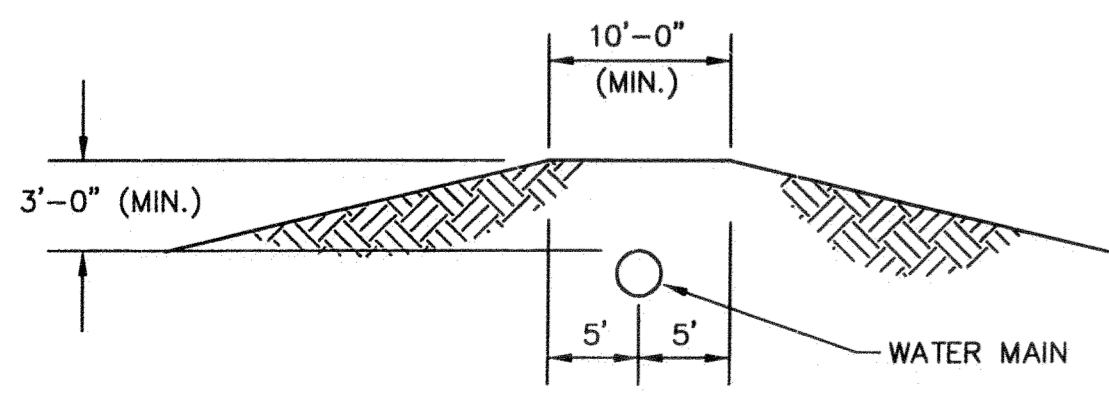


CITY TAP

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

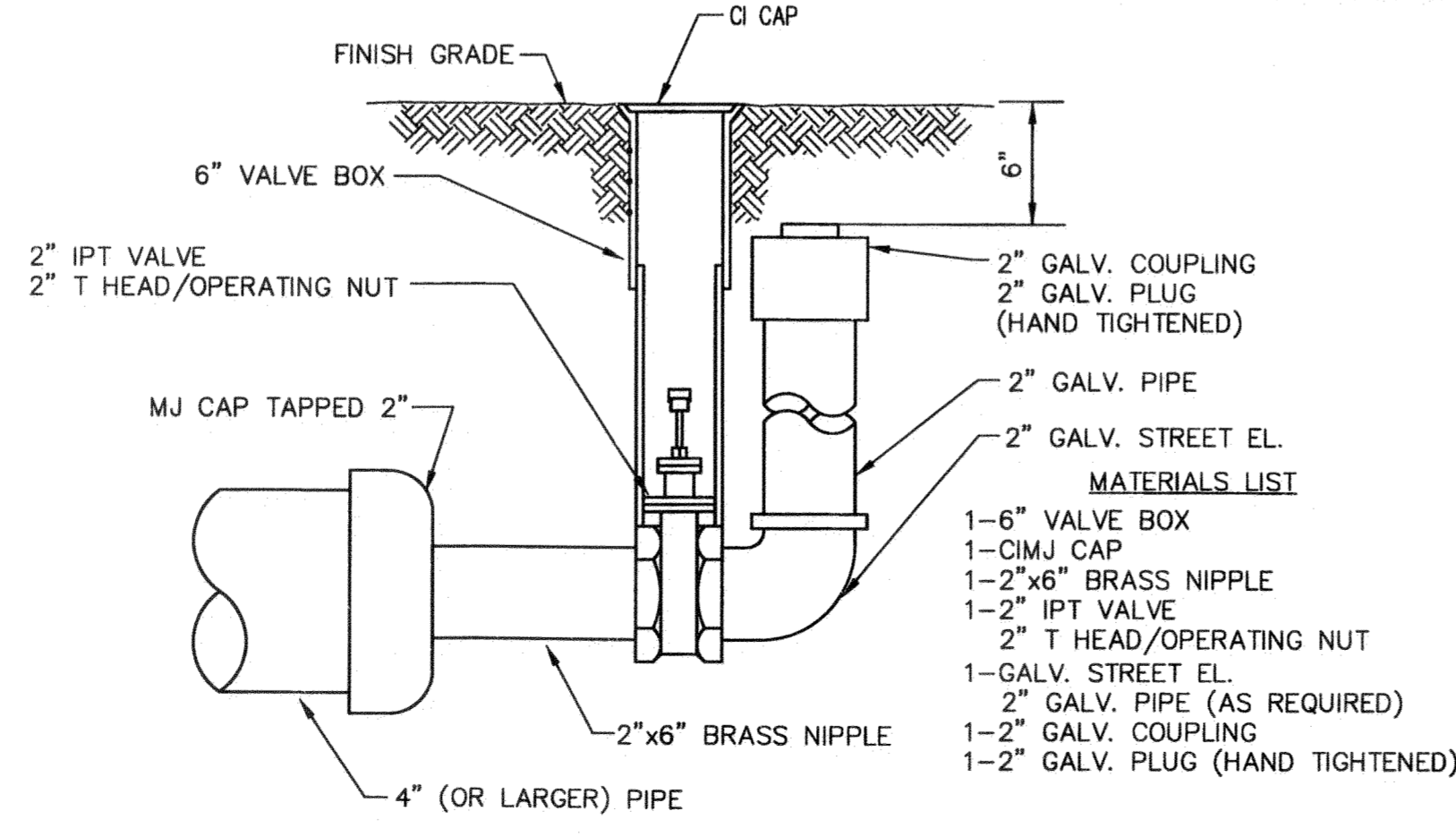


ANCHORED VALVE ASSEMBLY

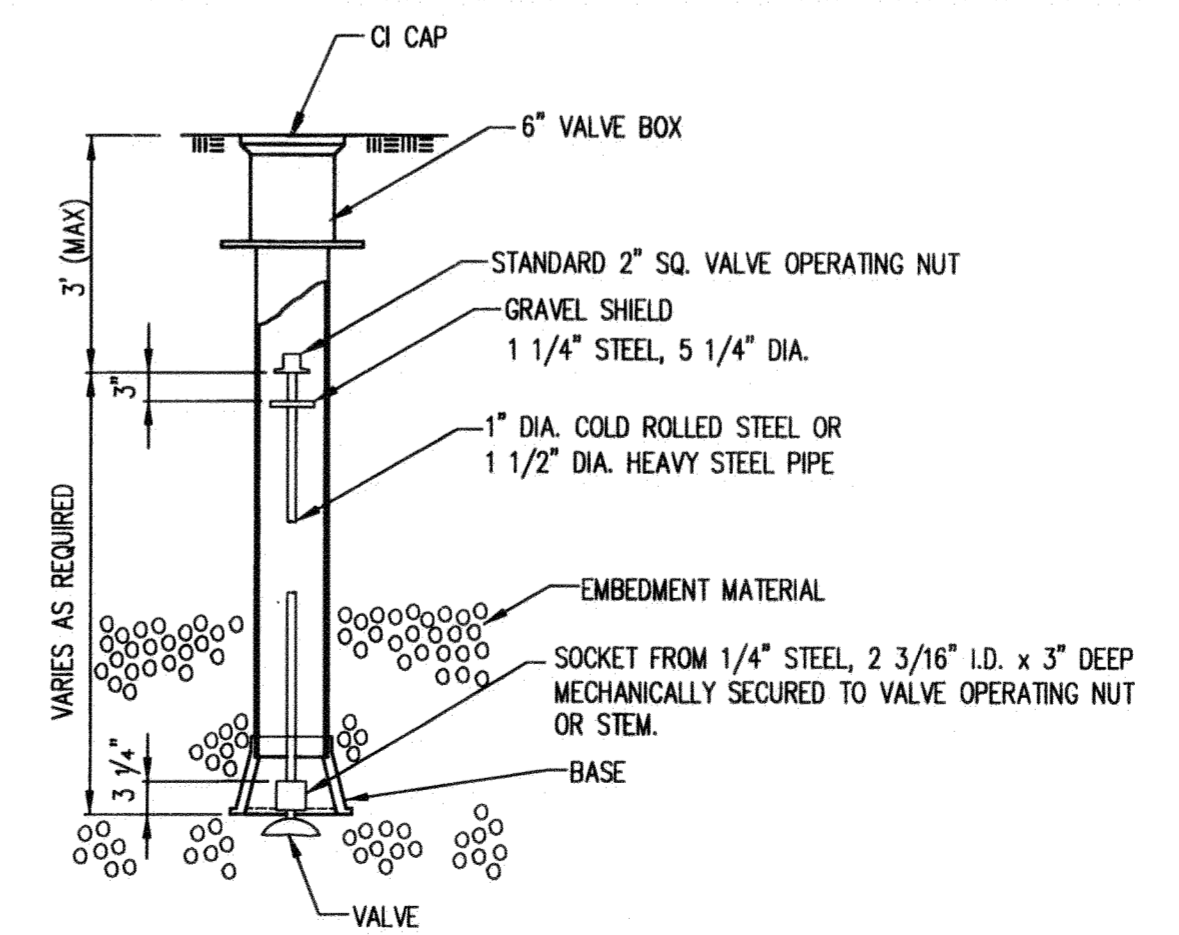


PROTECTIVE FILL DETAIL

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)

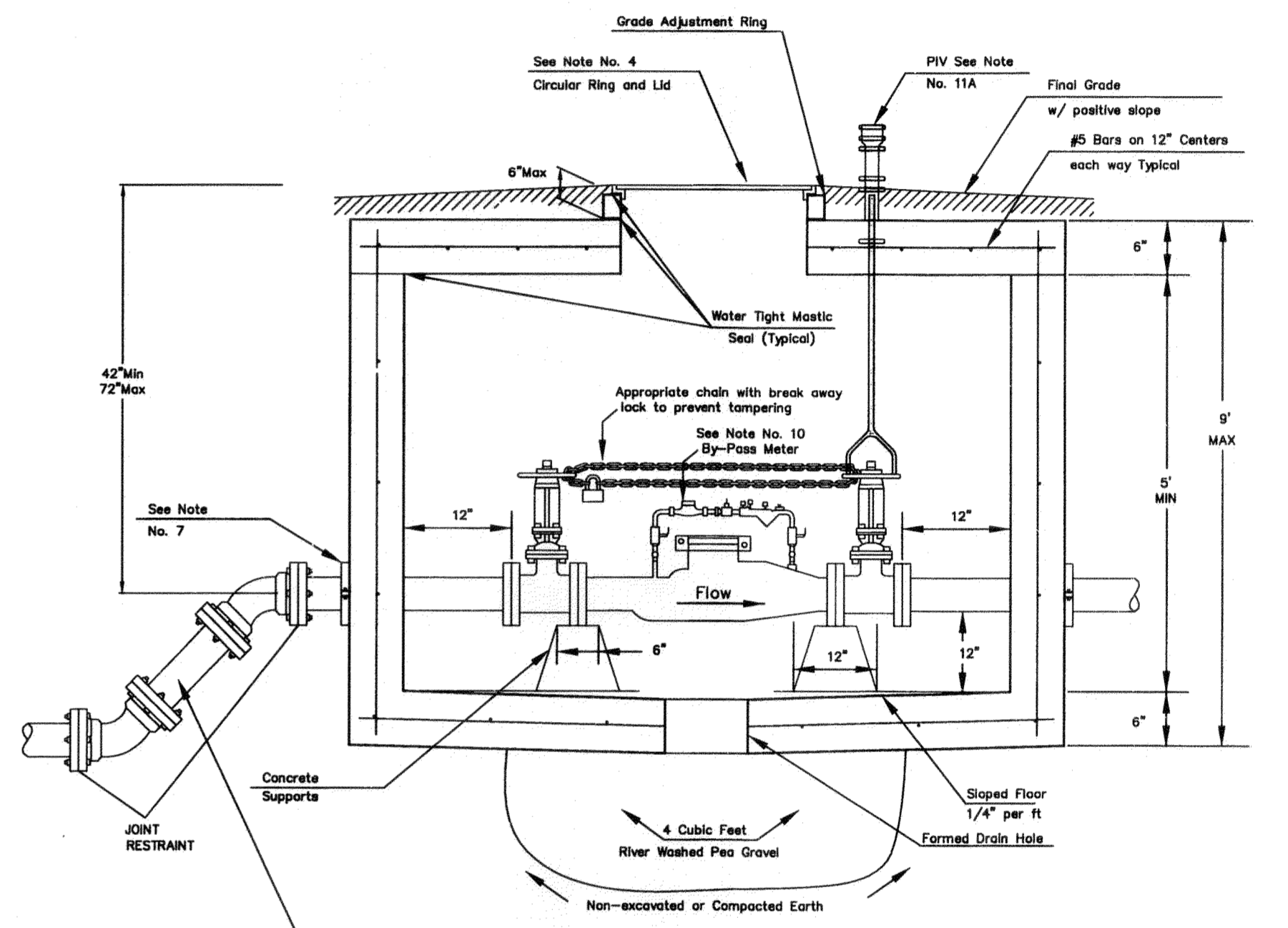
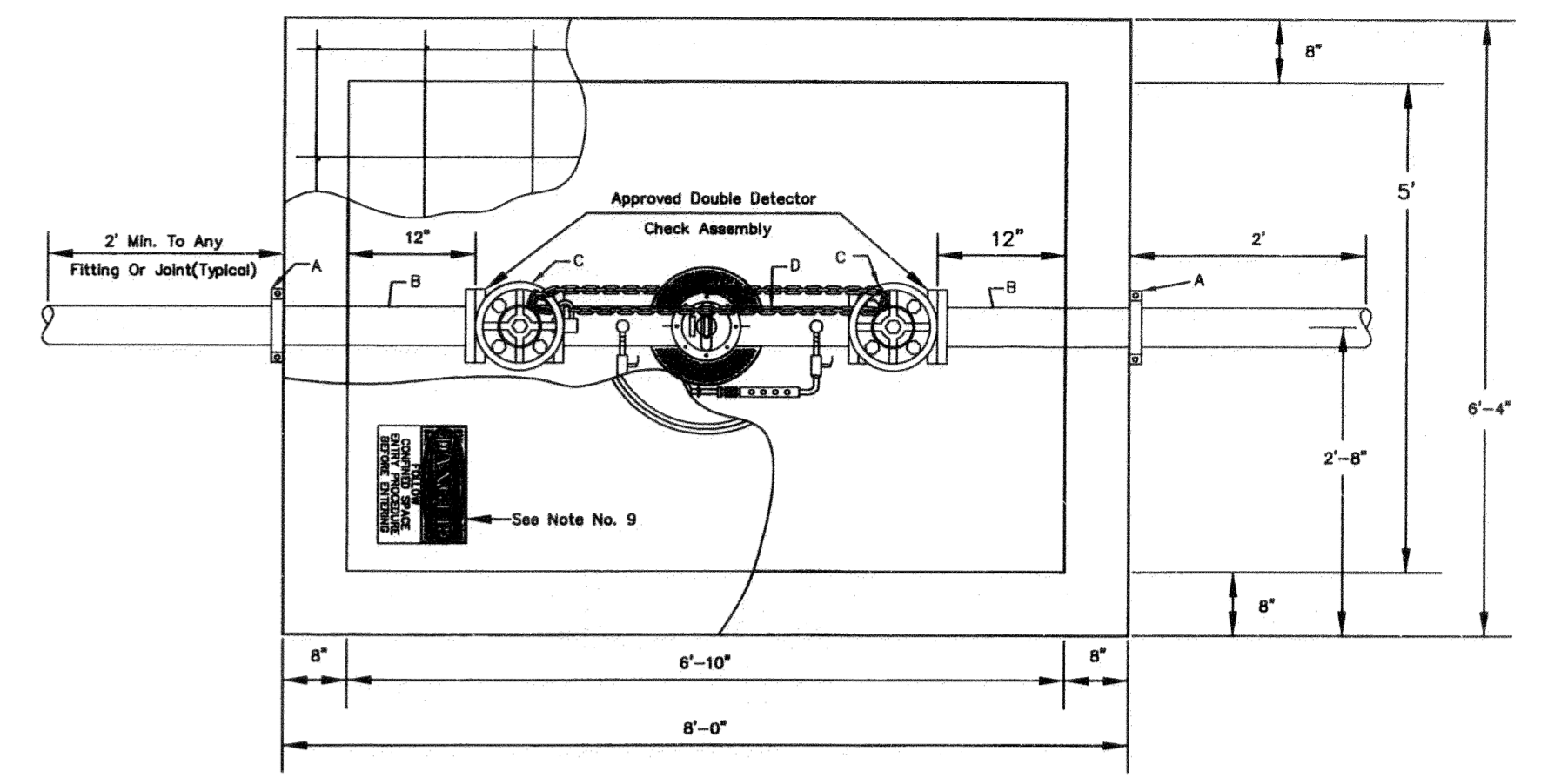


2" BLOWOFF ASSEMBLY



VALVE STEM EXTENSION DETAIL

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



Use 45 degree fittings as necessary to keep depth of vault within 76 inch maximum. All fittings should be mega lug, restrained joint or approved equal.

- A - Mega Lug (See Note 7)
- B - Min. 3'-8" Piece of FL x PE DICL Pipe
- C - Flange Gate Valve, Wheel Operated
- D - Ames Model 3001SS or approved equal with metered (cubic foot) by-pass assembly

4" thru 8" Fire Service

NOTE:
INSPECTOR FROM PUBLIC WORKS AND UTILITIES TO BE CONTACTED 24 HOURS PRIOR TO INSTALLATION TO SET VAULT.
CONTACT: 316-219-8828 OR 316-219-8929



STANDARD WATER ASSEMBLY DETAIL		
INTERIM CITY ENGINEER Gary Janzen, PE		
PROJECT NUMBER 1665 PPW	OCA NUMBER NA	DATE 5/12
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 2 of 4

RECORD DRAWING
As-Built Date 9/11/2012

E:\Projects\Terradyne Waterline\PPW with vault.dwg

W.L. Sta. 0+00.00, Begin Line 1 =
 B.L. Sta. 5+11.40, 159.30' Lt.
 Tap Existing 8" PVC Water Line.
 1-8"x8" Tapping Sleeve.
 1-8" Tapping Valve W/Valve Box.
 Tapping Sleeve, Tapping Valve &
 Valve Box To Be Furnished & Installed
 By The City Of Wichita (\$1830.00)
 Valve Box Elevation = 1343.60
 Extend 8" Water Line North.

Valve located:
 11.2' W and 8.1' N of Curb
 (approx. Sta. 0+02.50)

14.56 L.F. 8"
 DICAL Pipe.

W.L. Sta. 0+14.56, Line 1 =
 B.L. Sta. 5+25.74, 156.83' Lt.
 Center of Vault.
 1-Ames Model 3001SS Detector
 Check or Approved Equal w/8"x6"4"
 Vault w/6" Tall Ring & Cover.
 (Heavy Type Casting)
 To Be Grouted to Vault Top.
 Install Per City of Wichita Specs.
 Vault Top Elev. = 1343.44
 Top of Manhole = 1343.94

Delivered vault was 6" low. 2
 Brick layers added to raise to
 grade matching 1/4" per ft. off
 curb.

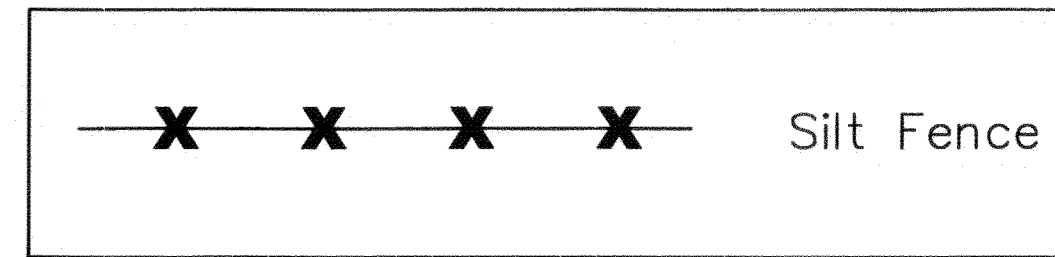
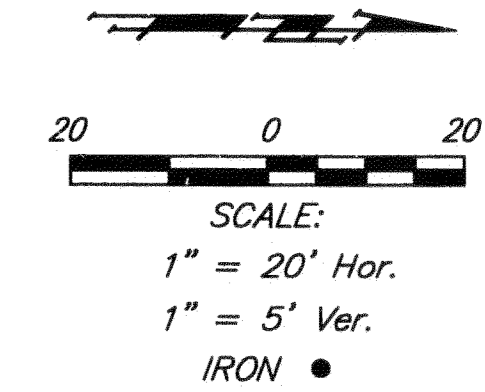
7.00 L.F. 8"
 DICAL Pipe.

City Maintenance Ends
 At Property Line.

342.37 L.F. 8"
 Water Pipe.

Install 387.5 L.F.
 Of Silt Fence Along
 Curb.

W.L. Sta. 3+63.93, PVI, Line 1 =
 B.L. Sta. 8+70.08, 97.70' Lt.
 1-CIMJ 45' Bend Rt.
 Deflect Pipe 1'25'33" Lt.
 Match Point.

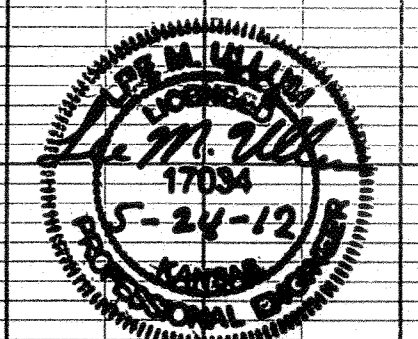
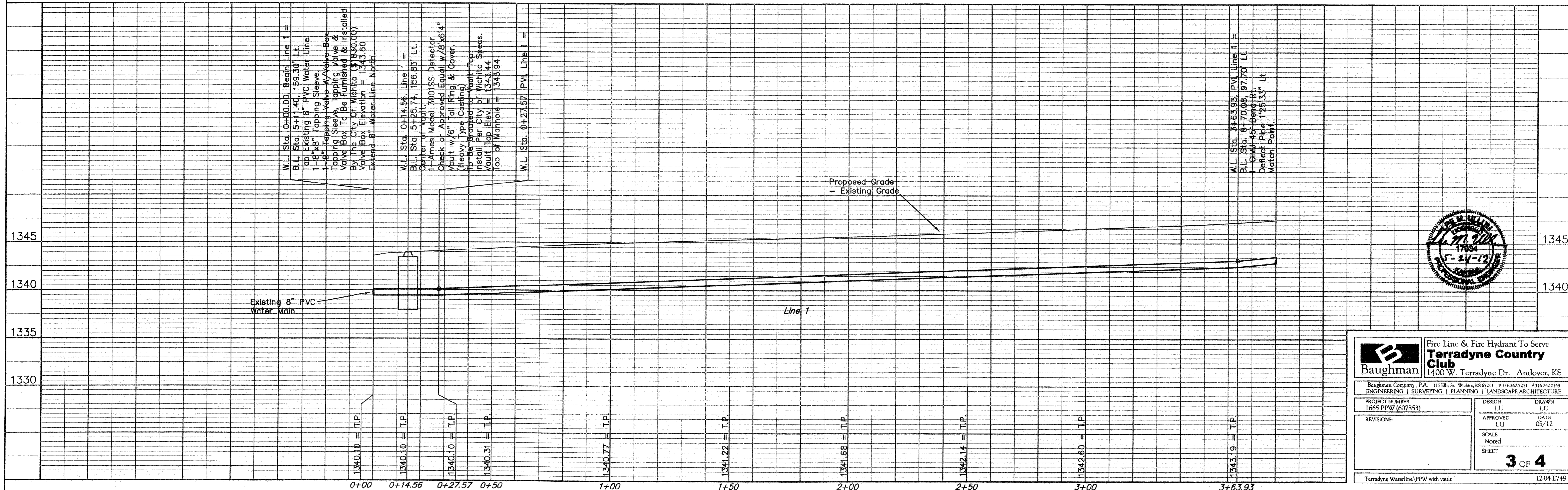


Benchmarks

BENCH MARK #1
 Top of #6 Rebar
 Approx. 30' North & 65' West of Existing Lightpole.
 Elev. = 1350.24 (NAVD 88)

BENCH MARK #2
 Top of #6 Rebar
 Approx. 233.56' North & 65' West of Existing Lightpole.
 Elev. = 1352.87 (NAVD 88)

RECORD DRAWING
 As-Built Date 9/11/2012

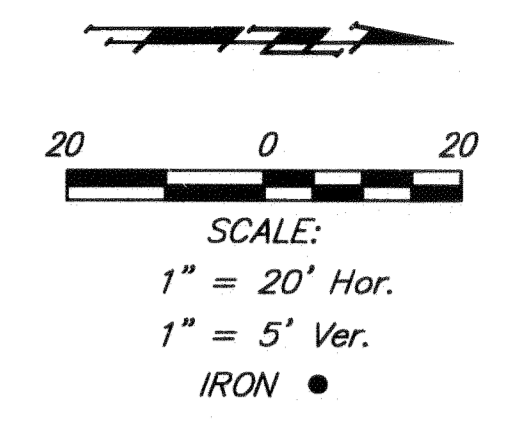
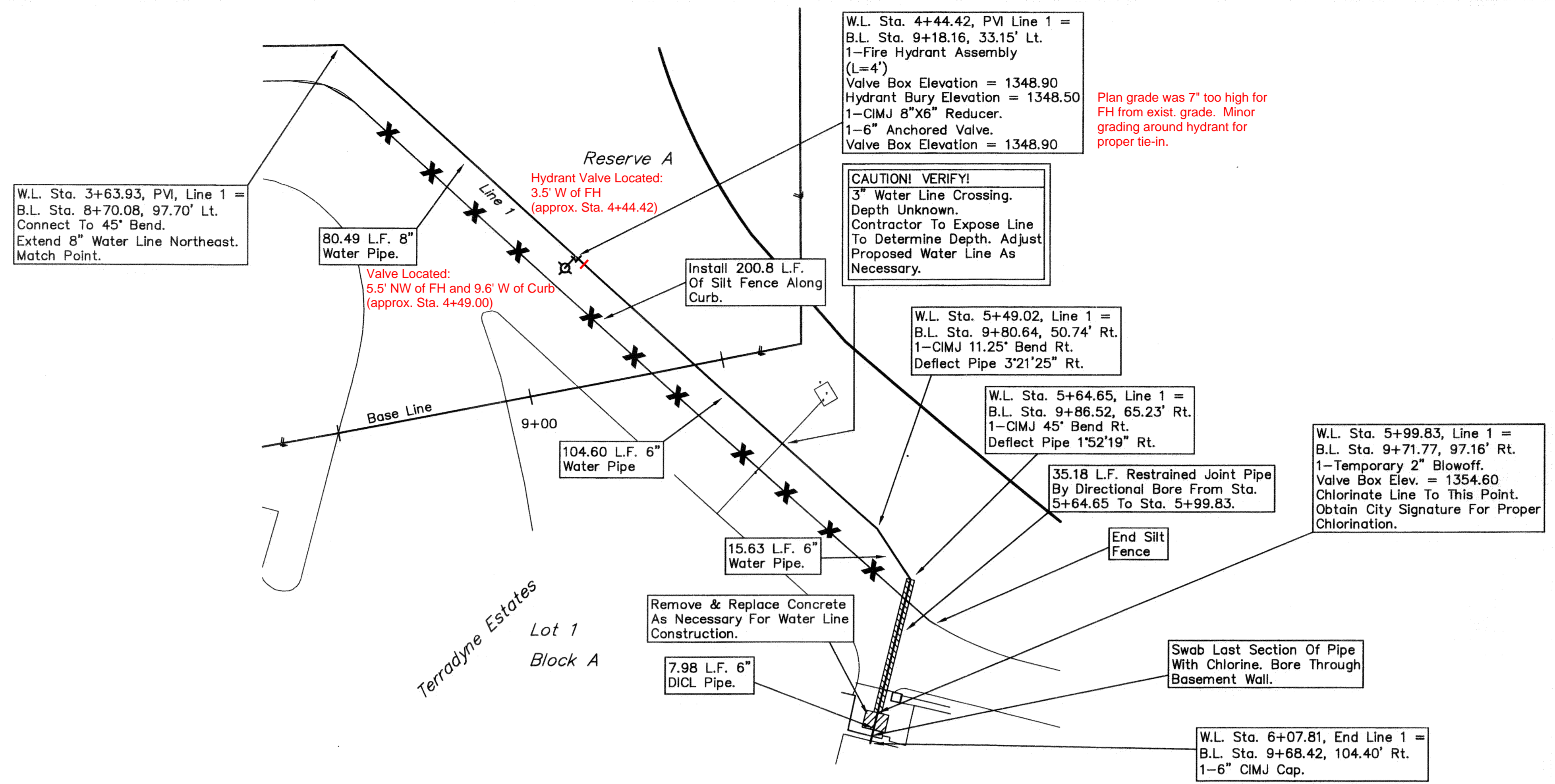


Baughman Fire Line & Fire Hydrant To Serve
Terradyne Country Club
 1400 W. Terradyne Dr. Andover, KS

Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316.262.7271 F 316.262.0149
 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

PROJECT NUMBER 1665 PPW (607853)	DESIGN LU	DRAWN LU
REVISIONS:	APPROVED LU	DATE 05/12
SCALE Noted		SHEET 3 OF 4

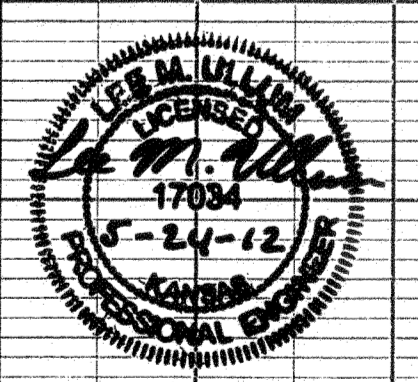
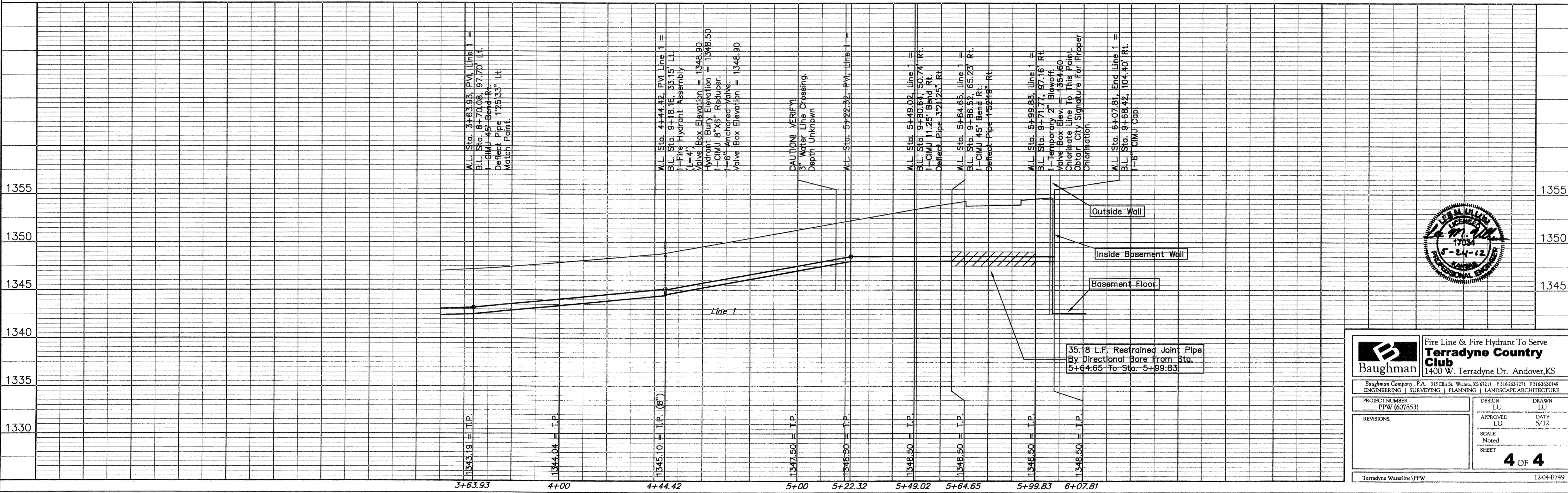
Terradyne Waterline\PPW with vault 12-04-E749



Benchmarks

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Fire Line & Fire Hydrant To Serve Terradyne Country Club 1400 W. Terradyne Dr. Andover, KS	
<small>Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P.316.262.7171 F.316.262.0149 ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE</small>	
PROJECT NUMBER PPW (607853)	DESIGN LU
REVISIONS:	DRAWN LU
	APPROVED LU
	DATE 5/12
	SCALE Noted
	SHEET 4 OF 4
<small>Terradyne Waterline/PPW 12-04-E749</small>	

RECORD DRAWING
 As-Built Date 9/11/2012