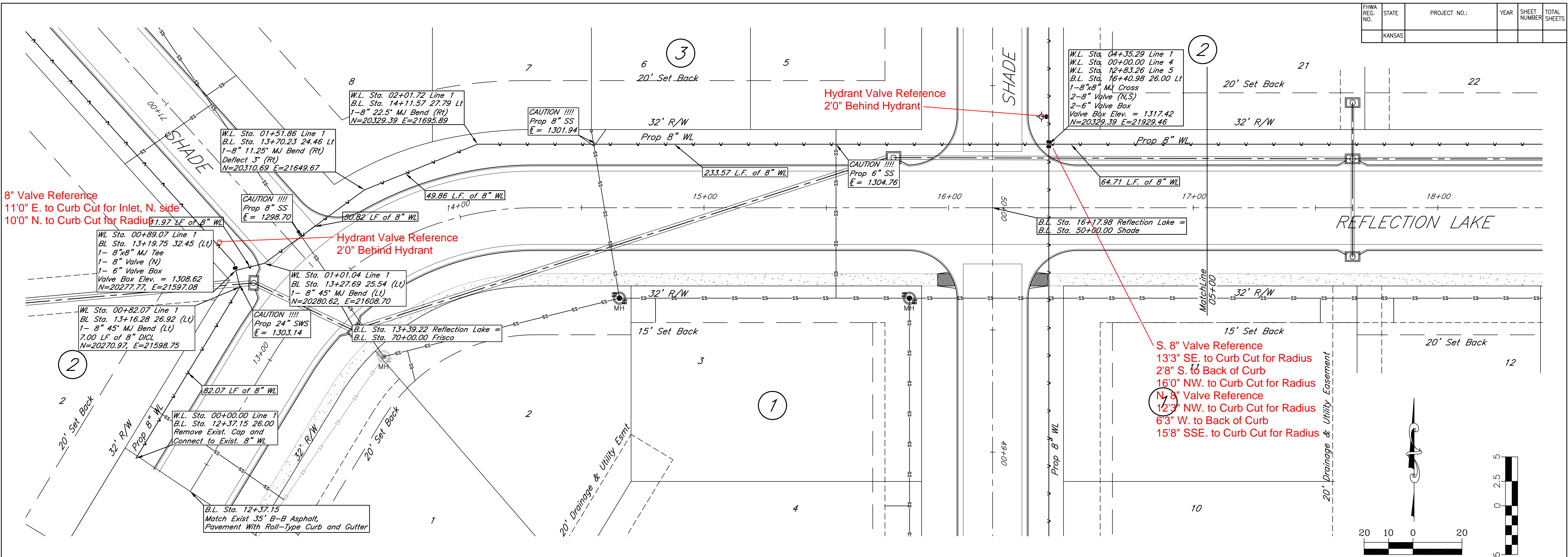


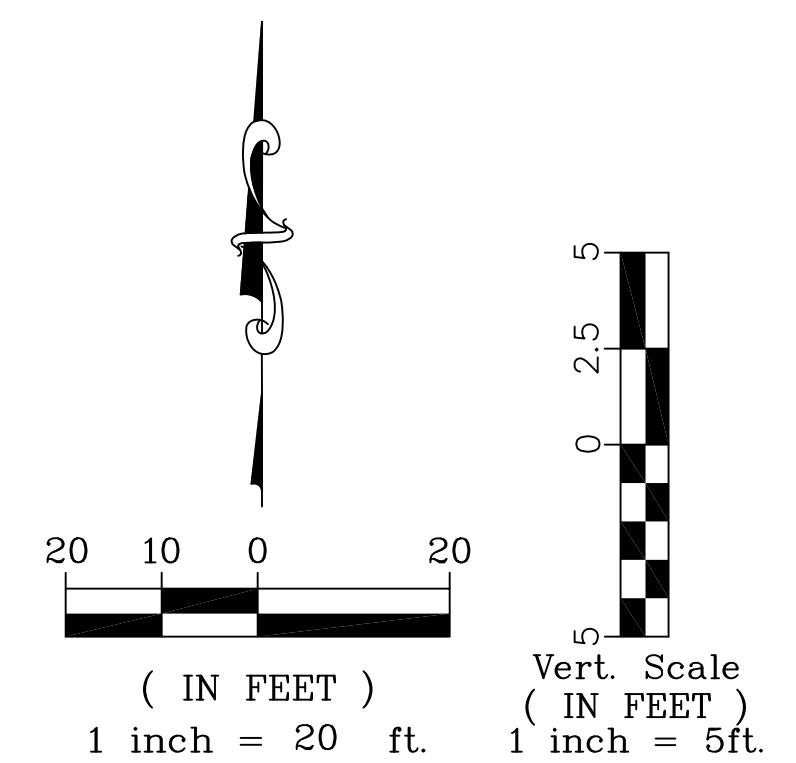
FHWA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS			2	11



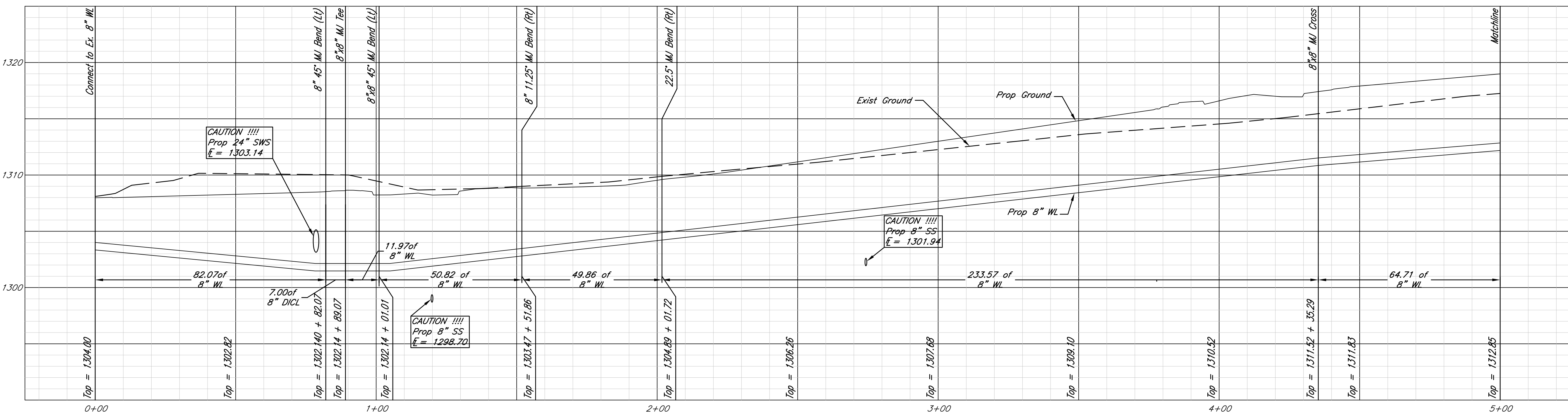
8" Valve Reference
11'0" E. to Curb Cut for Inlet, N. side
10'0" N. to Curb Cut for Radius


Hydrant Valve Reference
2'0" Behind Hydrant

S. 8" Valve Reference
13'3" SE. to Curb Cut for Radius
2'8" S. to Back of Curb
16'0" NW. to Curb Cut for Radius
N. 8" Valve Reference
12'3" NW. to Curb Cut for Radius
6'3" W. to Back of Curb
15'8" SSE. to Curb Cut for Radius



RECORD DRAWING
3-29-2010



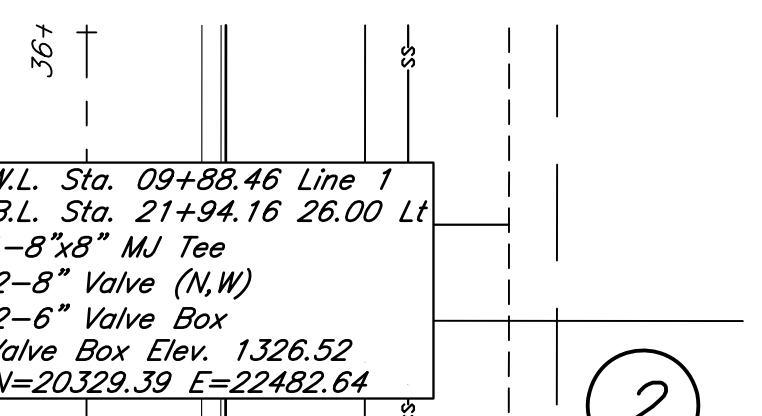
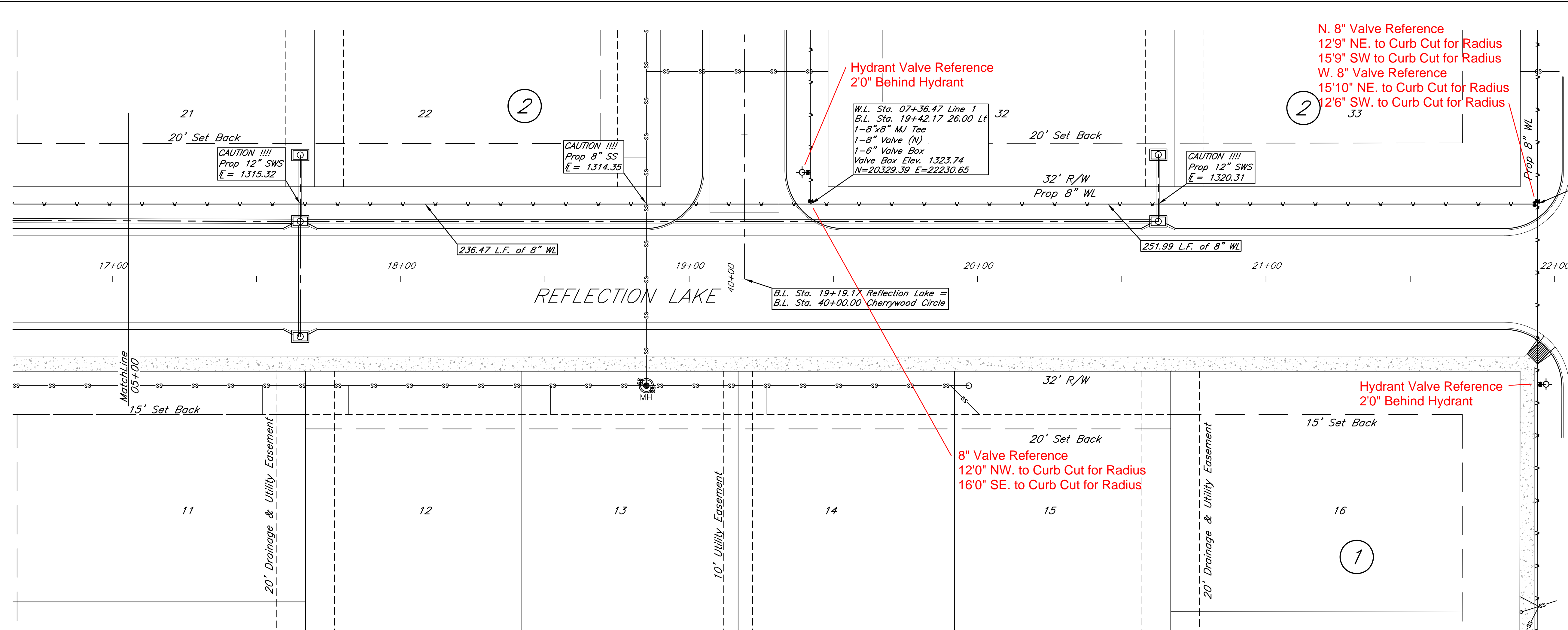
 316/284-0242
 515 S. Wichita
 Wichita, KS 67202

Reflection Lake 3rd Addition
 Line 1 00+00 - 05+00
 Andover, Kansas

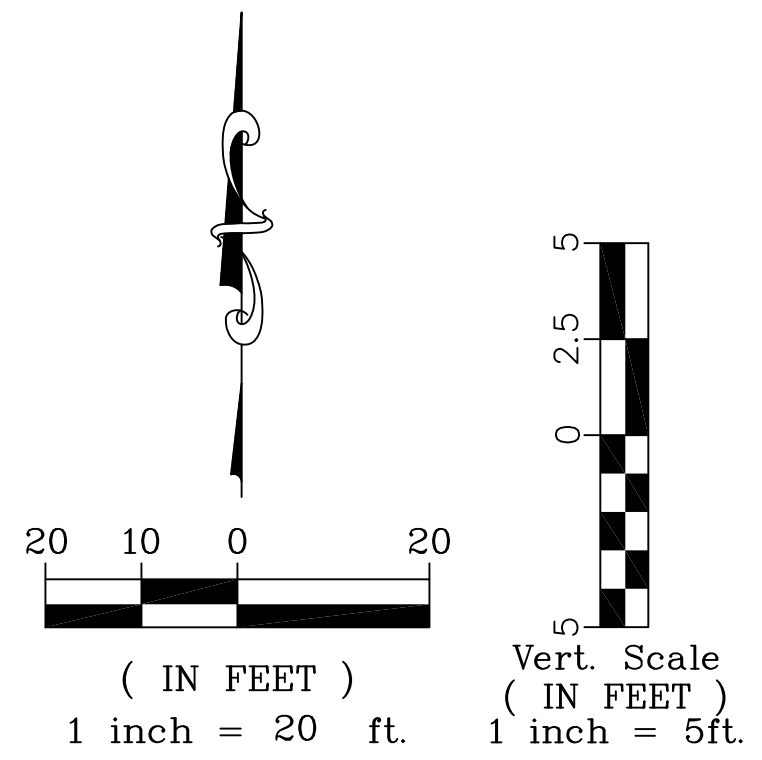
KEM NO. 06128	FILE water
DESIGN KM	DRAWN NS
DATE 5/2008	REVISED 03/13/09

SHEET
2
 OF
11

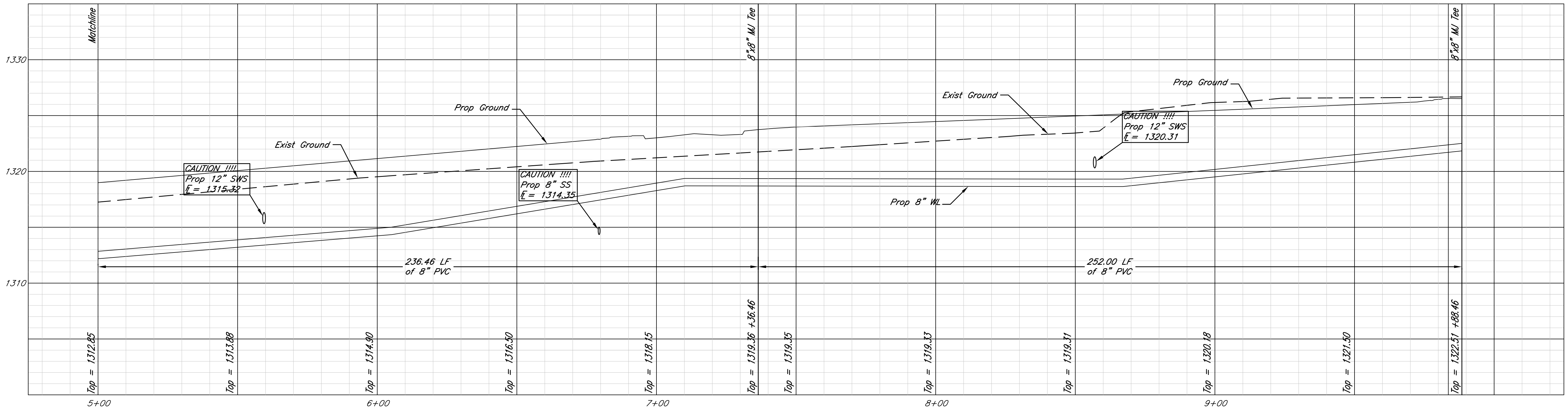
FHWA REG. NO.	STATE	PROJECT NO.	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS				



B.L. Sta. 22+17.14 Reflection Lake =
B.L. Sta. 35+30.55 Hedgewood Circle



RECORD DRAWING
3-29-2010

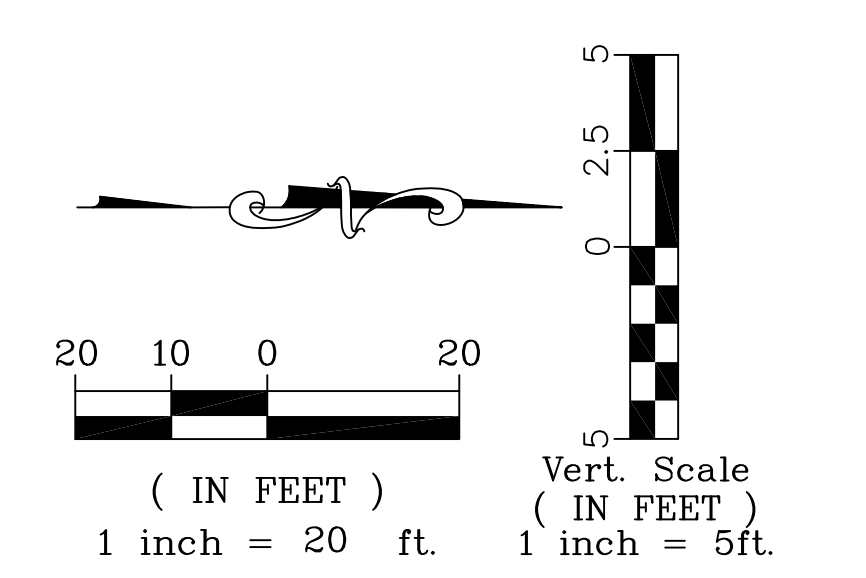
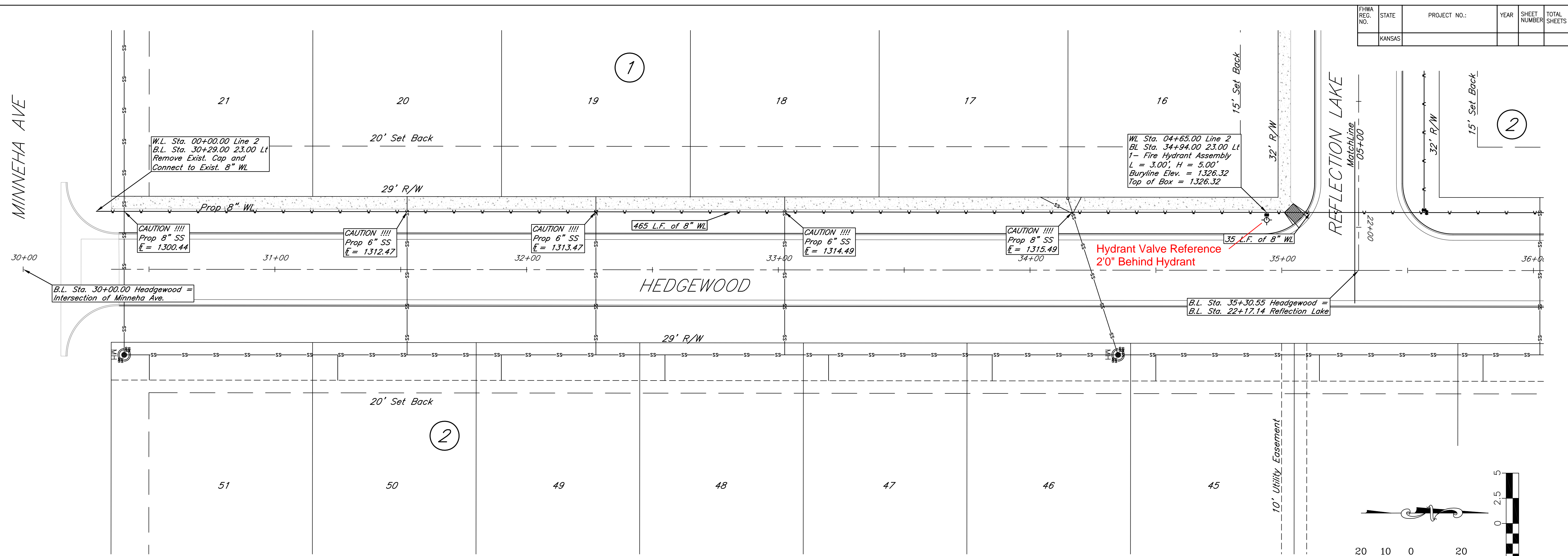


Reflection Lake 3rd Addition
Line 1 05+00 - 09+84
Andover, Kansas

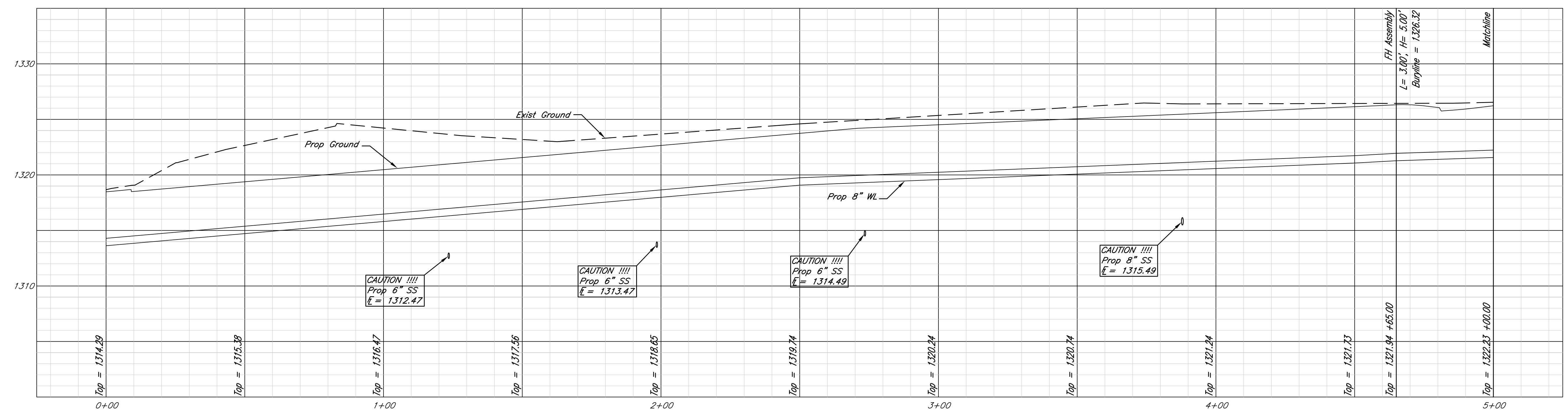
KEM NO 06128	FILE water
DESIGN KM	DRAWN NS
DATE 5/2008	REVISED
PROJECT NUMBER	
SHEET 3 of 11	

FHWA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS				

MINNEHA AVE



RECORD DRAWING
3-29-2010



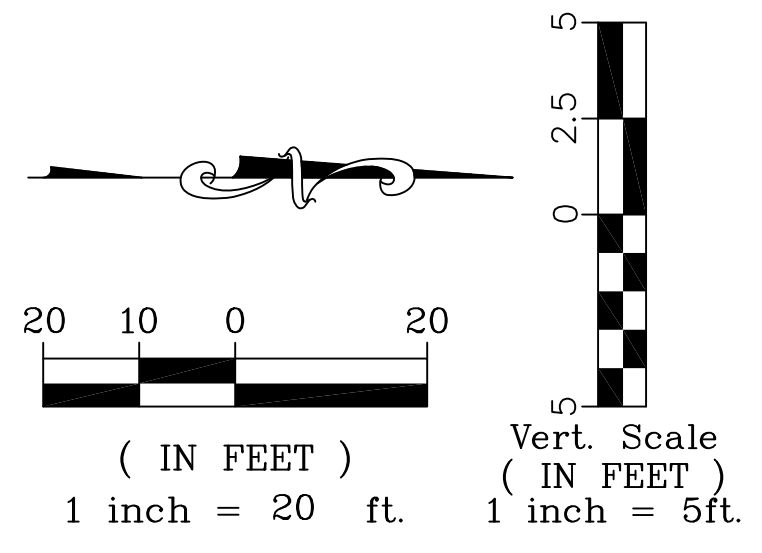
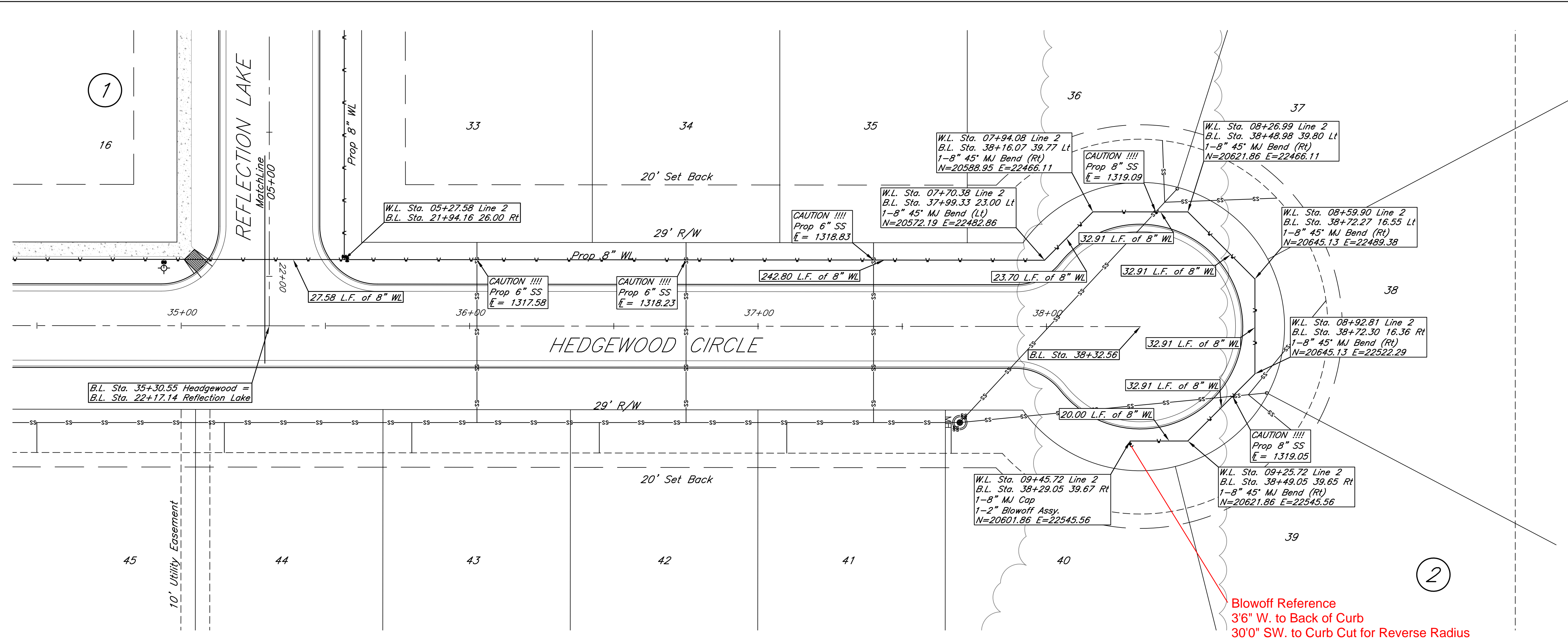
kemiler engineering
516 S. Market, Winona, KS 67202
316/284-0242

Reflection Lake 3rd Addition
Line 2 00+00 - 05+00
Andover, Kansas

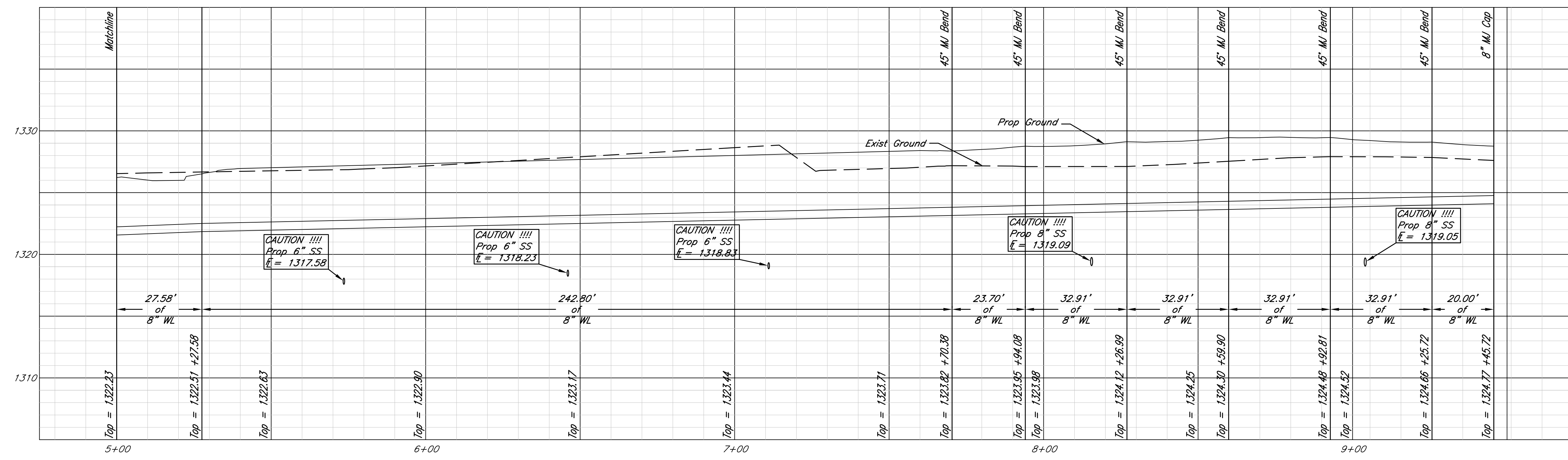
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05128	WCT01F
DESIGN KM	DRAWN NS
DATE 5/2008	REVISED 03/05/09

PROJECT NUMBER: _____
SHEET 4 OF 11

FHWA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS				



RECORD DRAWING
3-29-2010

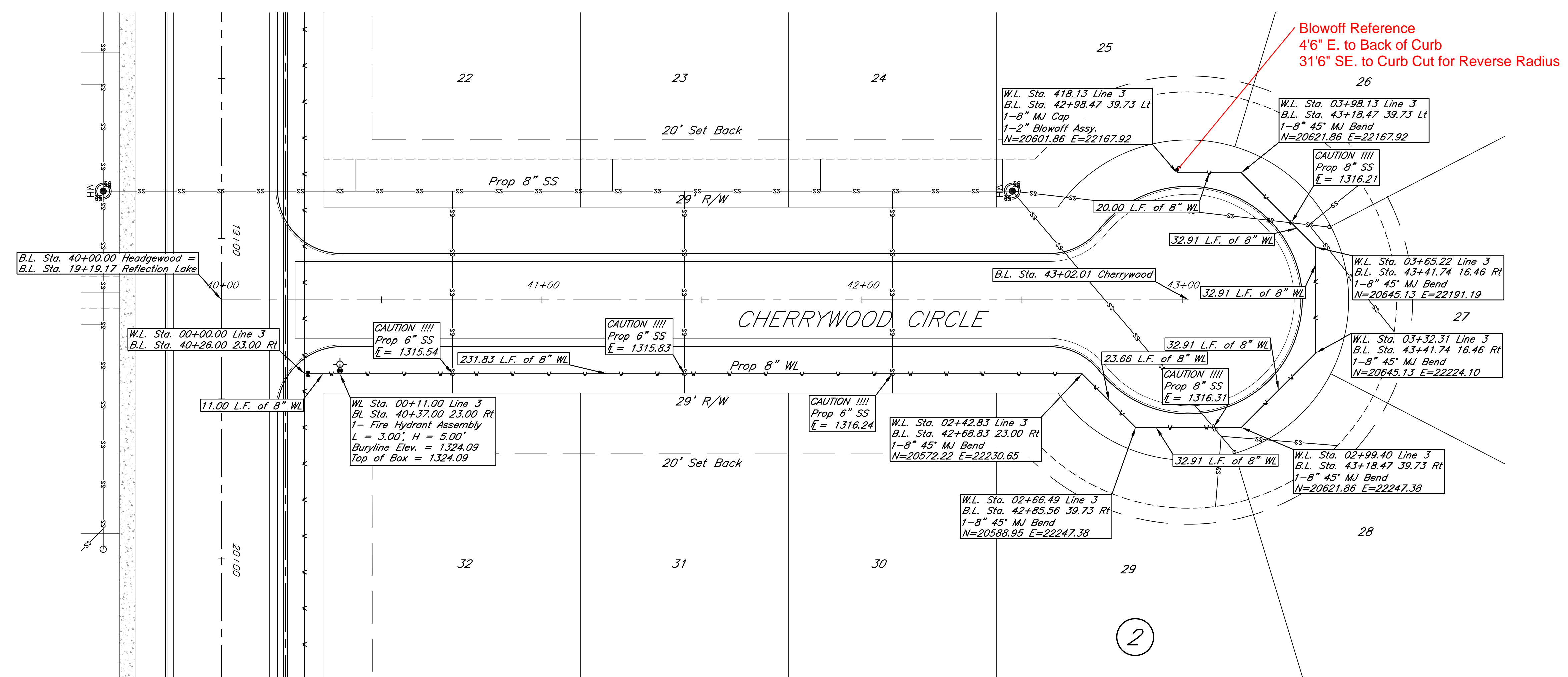


Reflection Lake 3rd Addition
Line 2 05+00 - 09+46
Andover, Kansas

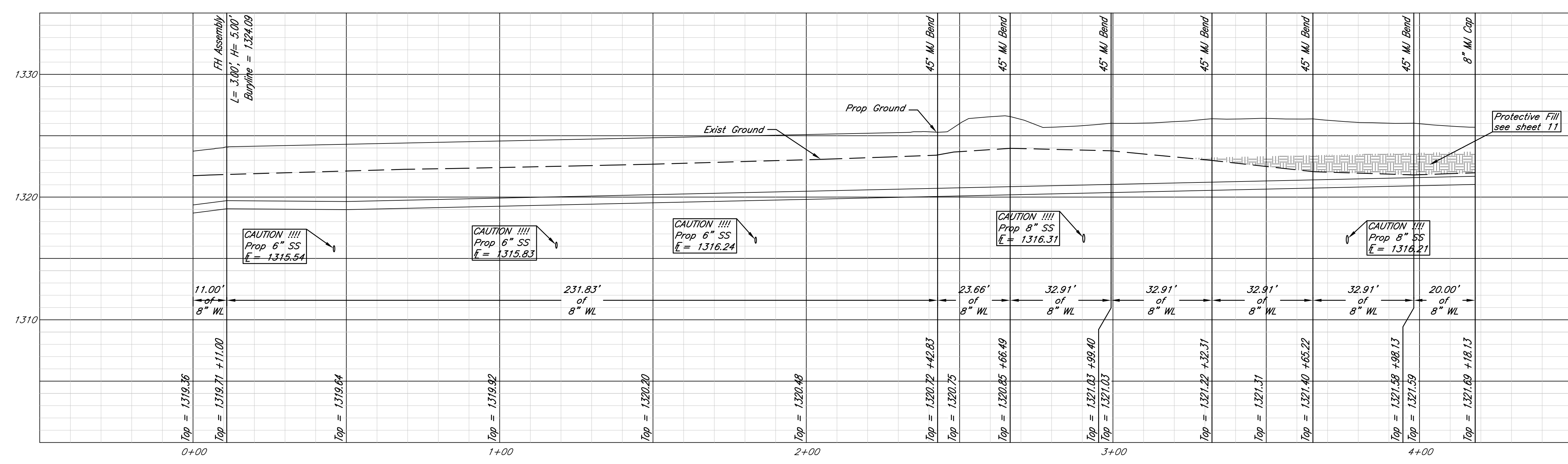
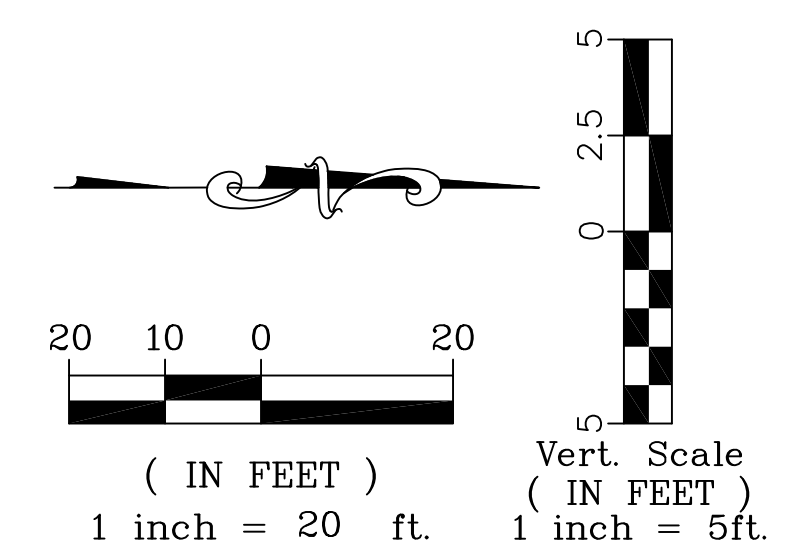
DESIGN	DATE	PROJECT NUMBER	PROJECT NUMBER
KM	5/2008		
DRAWN	REVISED		
NS			

SHEET
5
OF
11

FHWA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS				



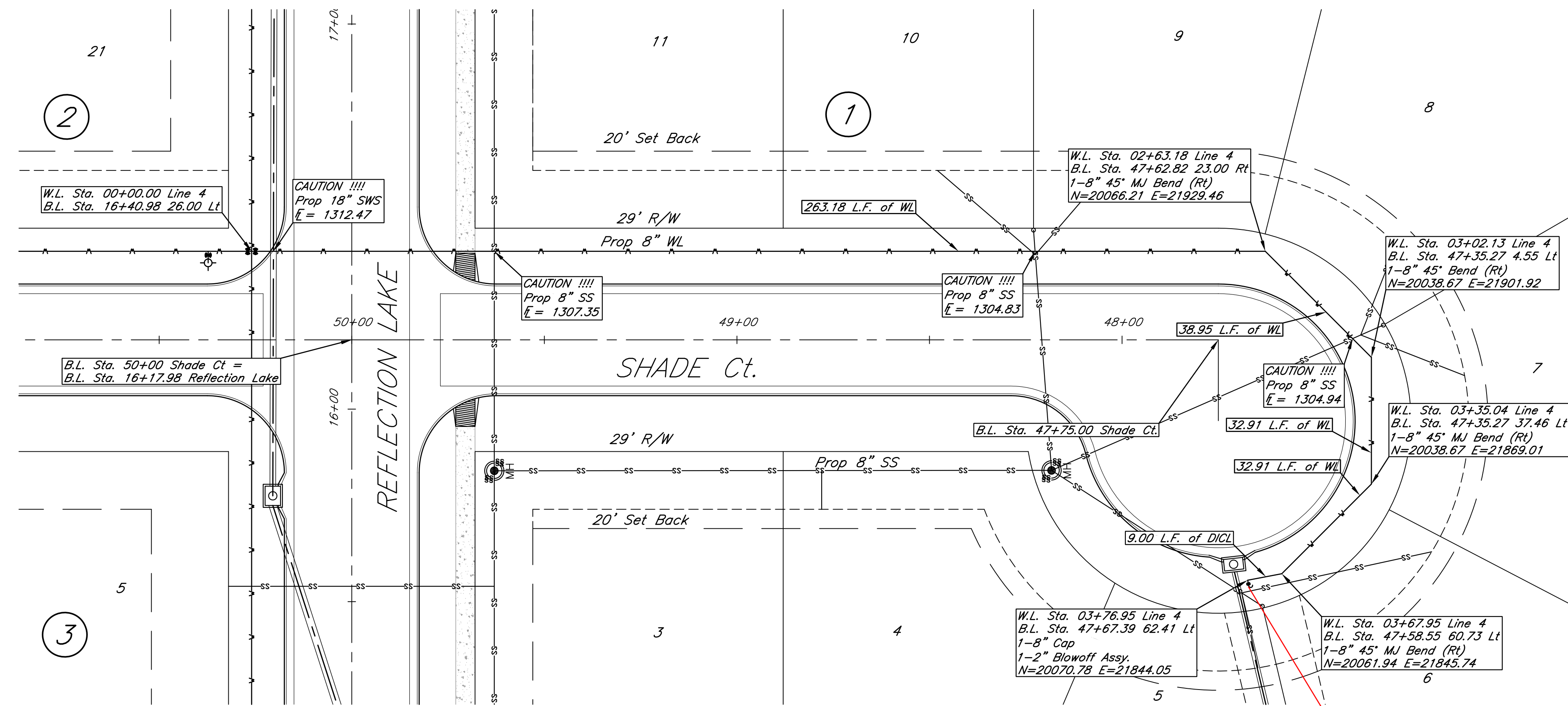
RECORD DRAWING
3-29-2010



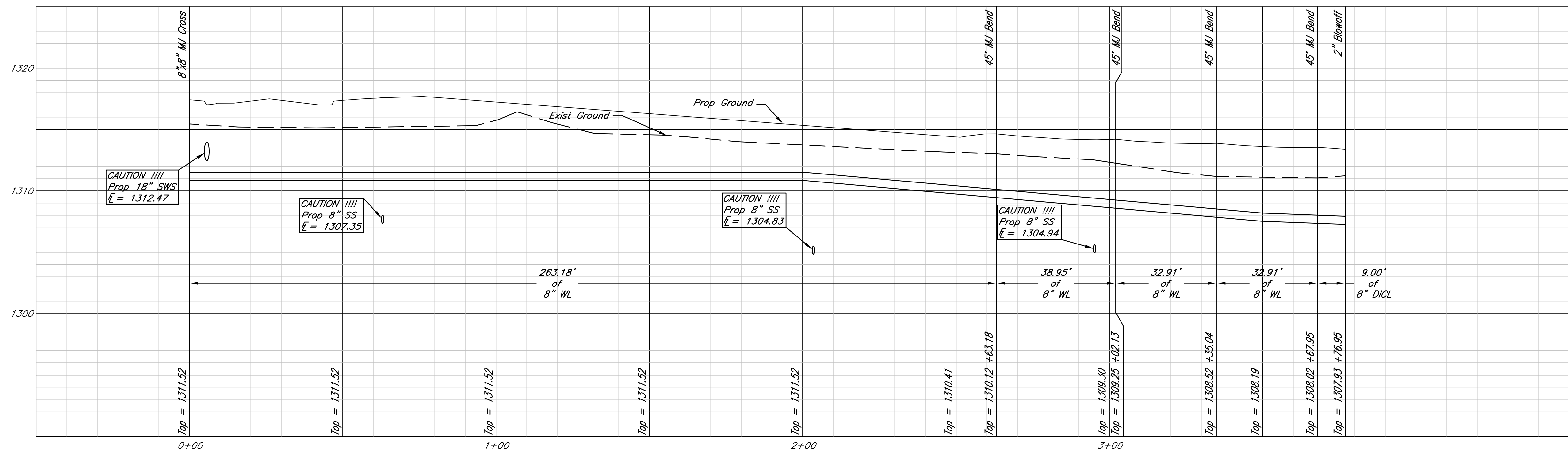
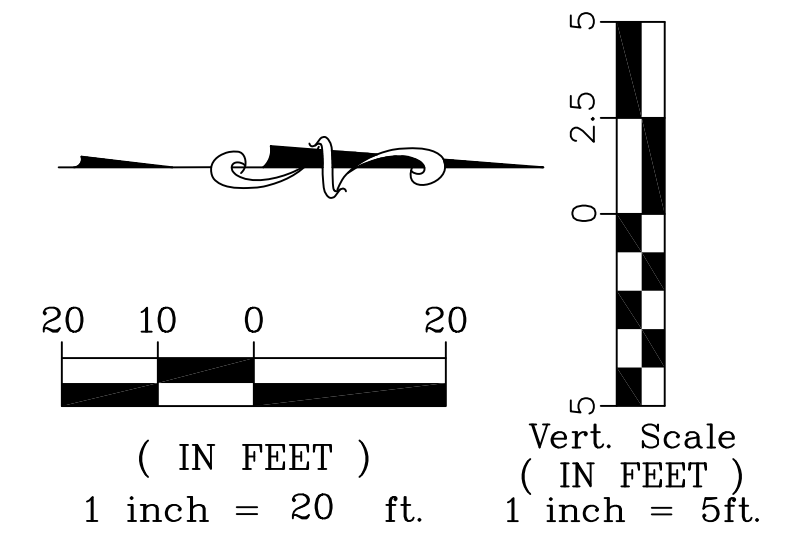
Reflection Lake 3rd Addition
Line 3 00+00 - 04+19
Andover, Kansas


KEM NO. 06128	FILE water
DESIGN KM	DRAWN NS
DATE 5/2008	REVISED 03/05/09
PROJECT NUMBER	
PROJECT NUMBER	
SHEET 6 OF 11	

FHWA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS			7	11



RECORD DRAWING
3-29-2010



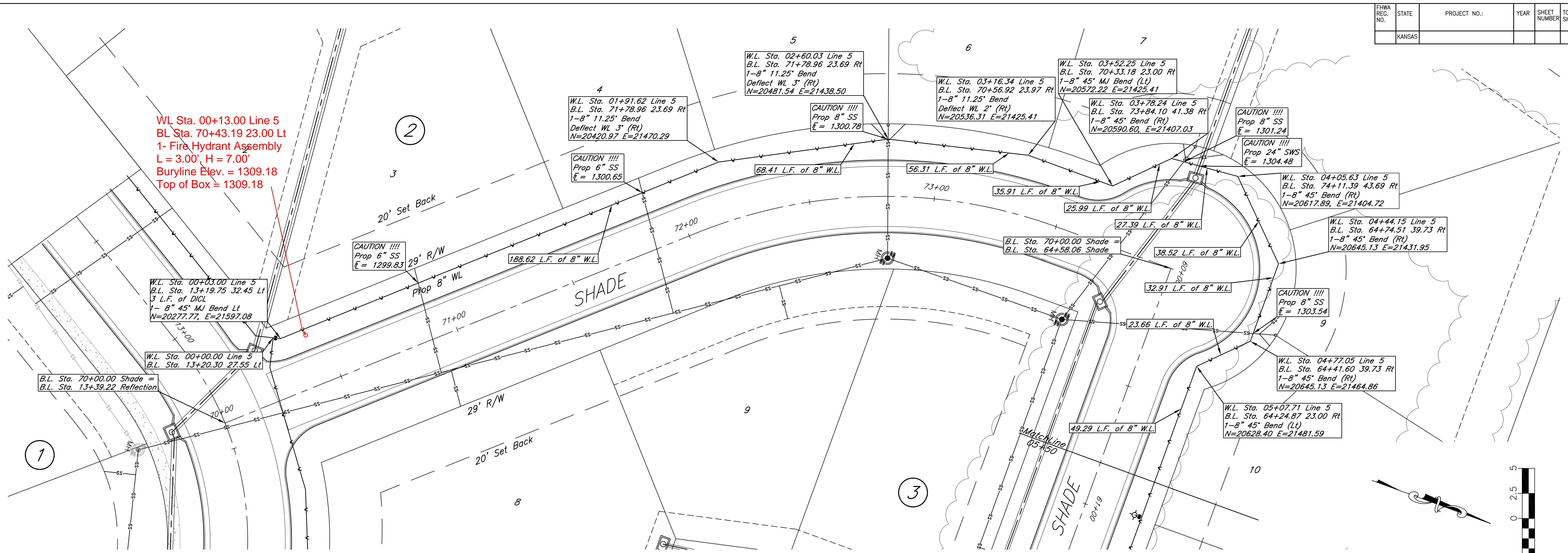

 316/284-0242
 516 S. Market,
 Wichita, KS 67202

Reflection Lake 3rd Addition
Line 4 00+00 - 03+88
 Andover, Kansas

KEM NO. 06128	FILE water
DESIGN KM	DRAWN NS
DATE 5/2008	REVISED

PROJECT NUMBER
 SHEET
7
 OF
11

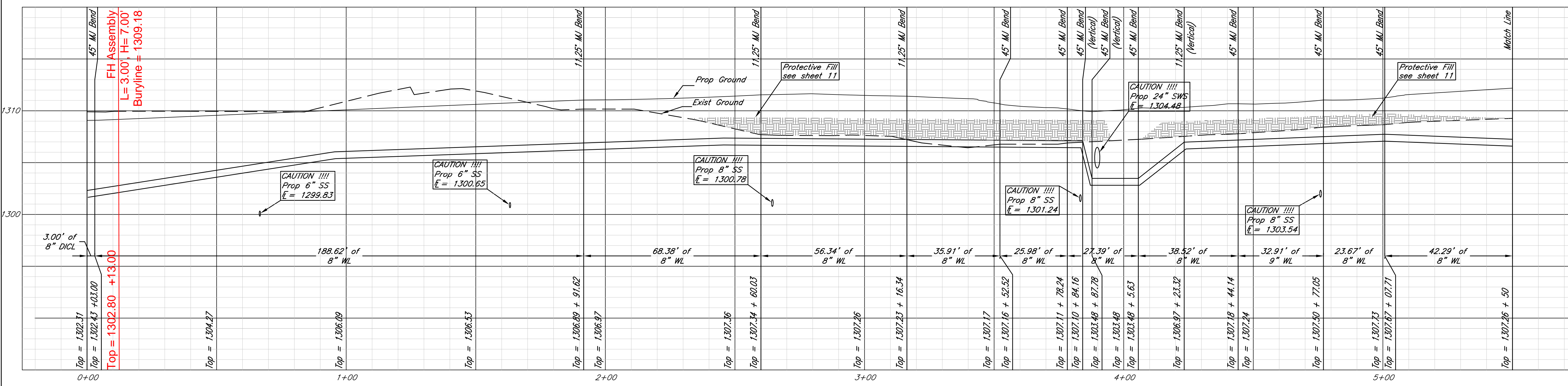
FHWA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS				



WL Sta. 00+13.00 Line 5
 BL Sta. 70+43.19 23.00 Lt
 1- Fire Hydrant Assembly
 L = 3.00', H = 7.00'
 Buryline Elev. = 1309.18
 Top of Box = 1309.18



RECORD DRAWING
 3-29-2010



kemiller engineering
 515 S. Wichita, Wichita, KS 67202
 316/284-0242

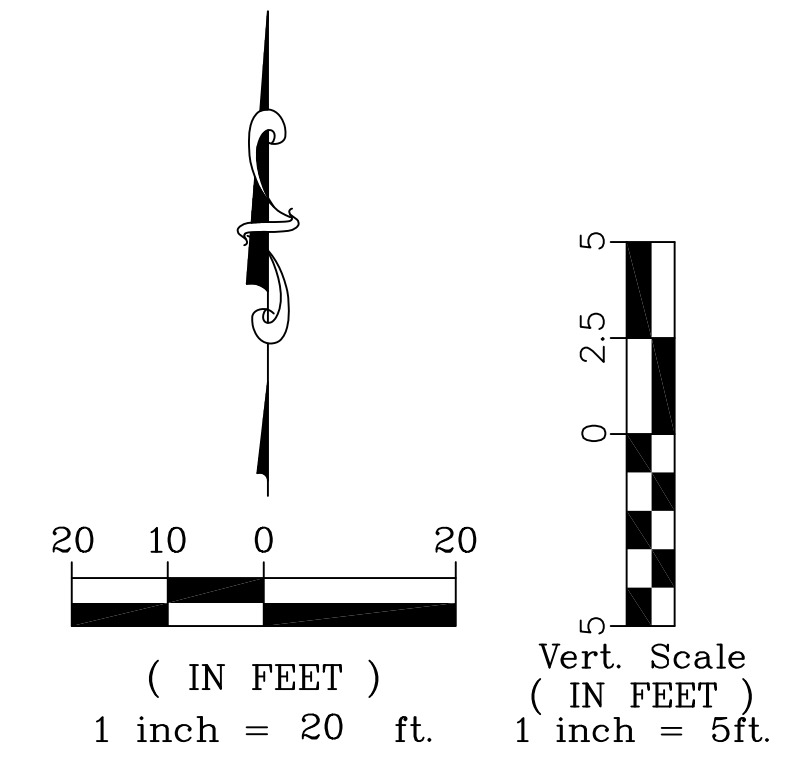
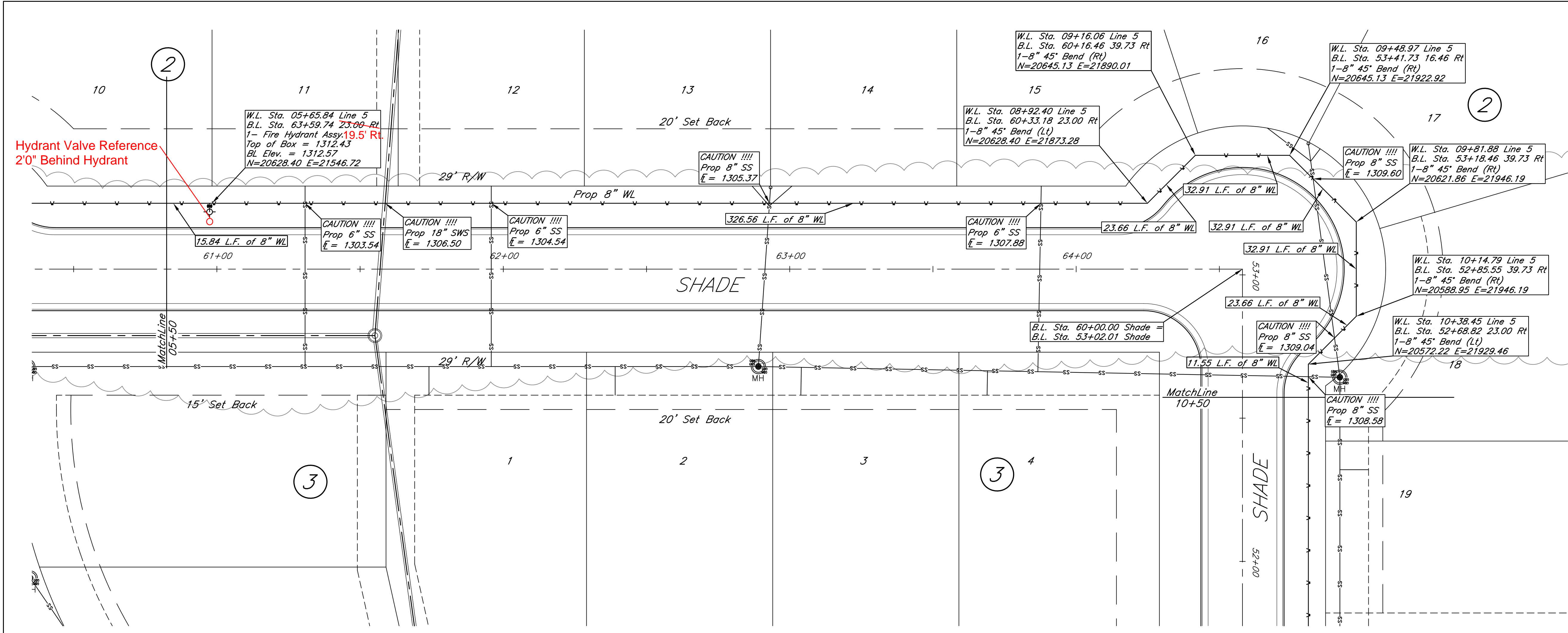
PROJECT NUMBER

Reflection Lake 3rd Addition
 Line 5 00+00 - 05+50
 Andover, Kansas

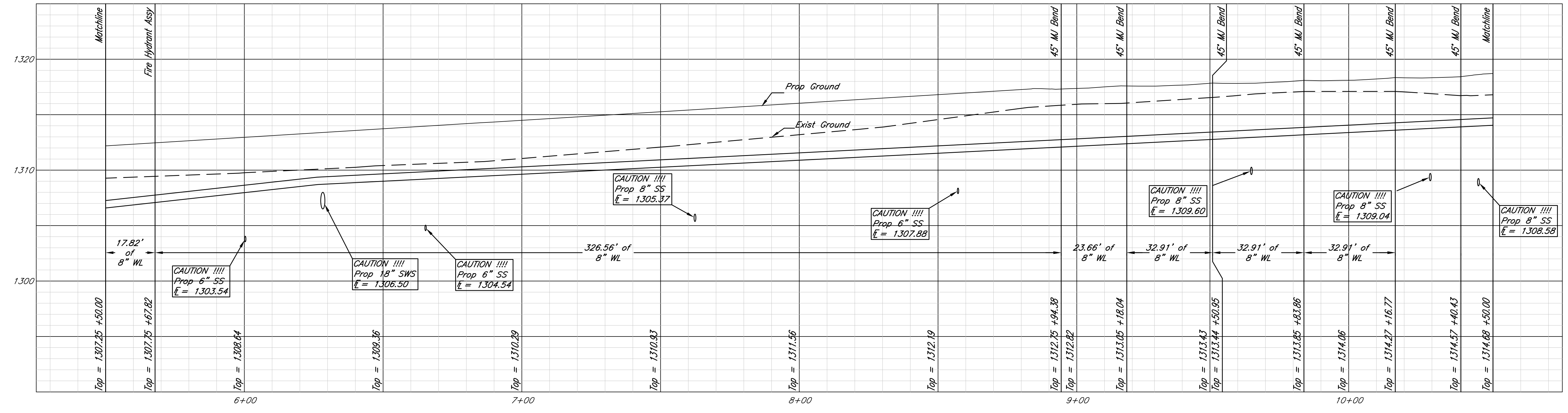
DESIGN KM	DRAWN NS
DATE 5/2008	REVISED 03/13/09

SHEET 8 OF 11

FHWA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS			9	11



RECORD DRAWING
3-29-2010



kemiller engineering
516 S. Market, Wichita, KS 67202
316/784-0242

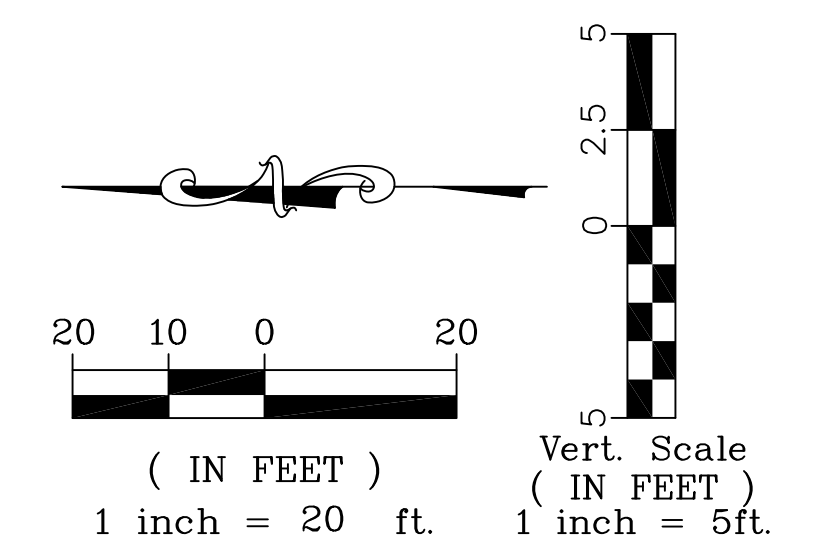
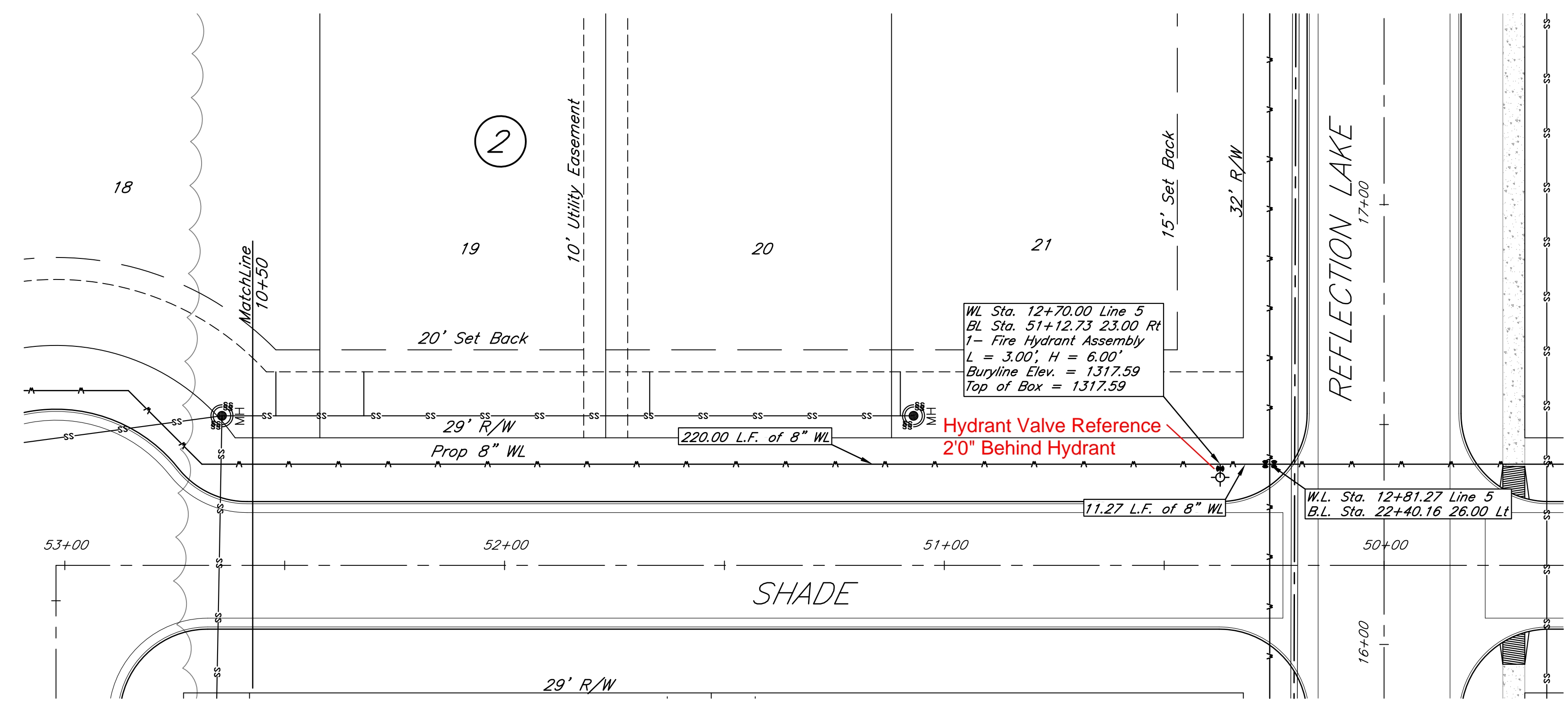
Reflection Lake 3rd Addition
Line 5 05+50 - 10+50
Andover, Kansas

KEM NO. 06128	FILE water
DESIGN KM	DRAWN NS
DATE 5/2008	REVISED

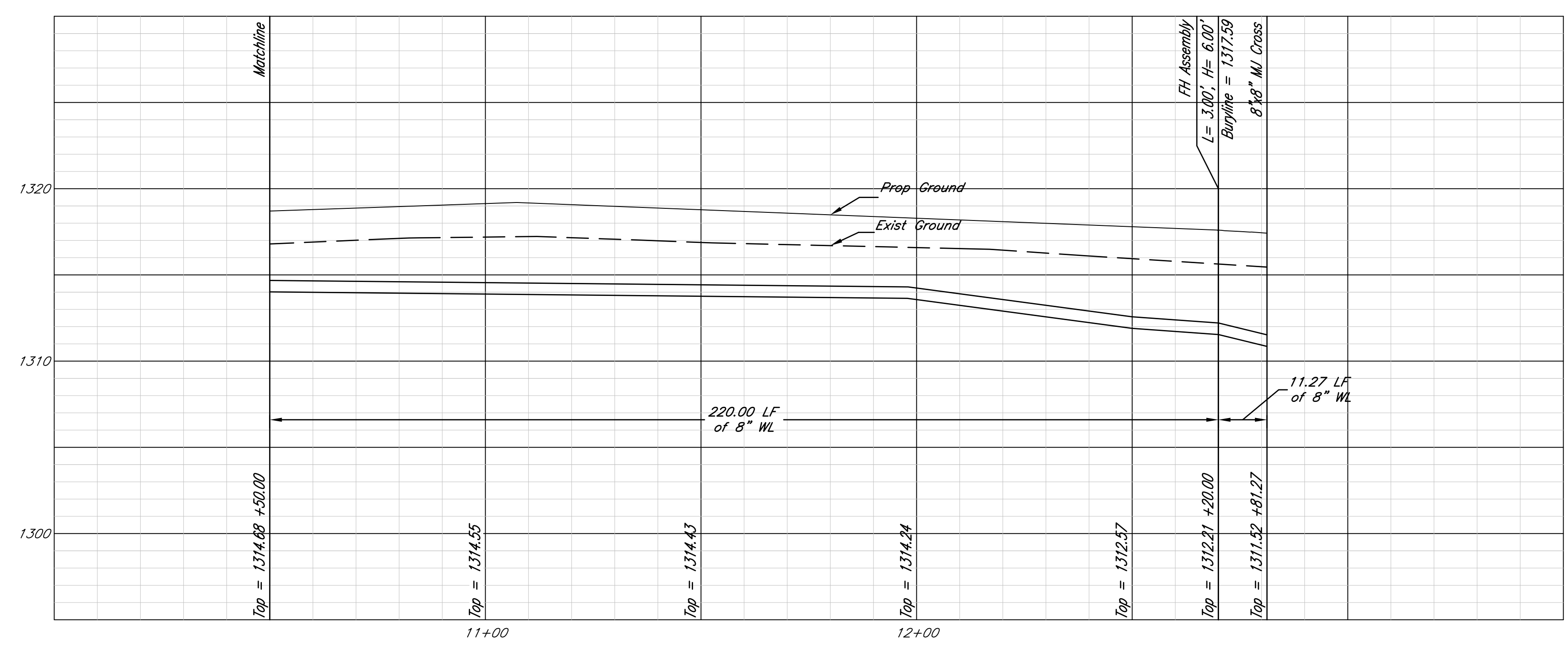
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PROJECT NUMBER: _____

SHEET 9 OF 11

FWHA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
	KANSAS				



RECORD DRAWING
3-29-2010



kemiller
engineering

514 S. Market,
Wichita, KS 67202

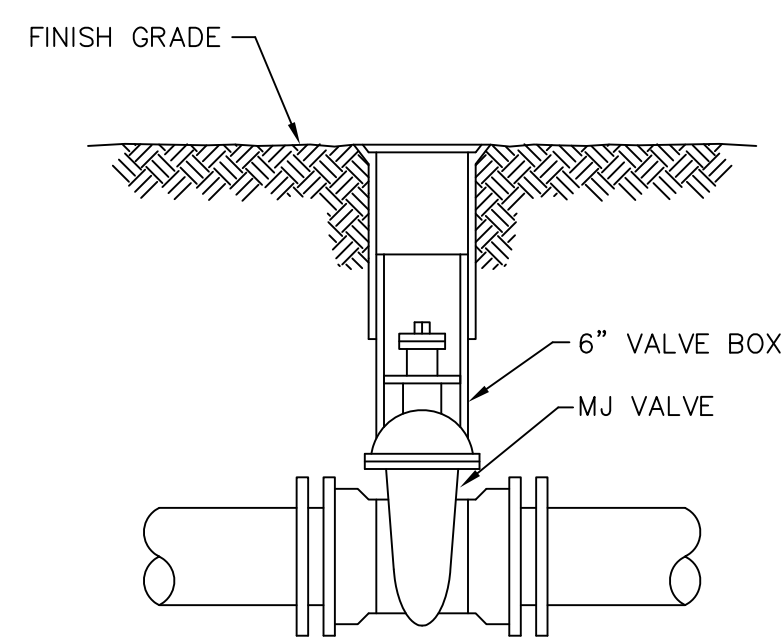
316/284-0242

Reflection Lake 3rd Addition
Line 5 10+50 - 12+84
Andover, Kansas

KEM NO. 06128	FILE water
DESIGN KM	DRAWN NS
DATE 5/2008	REVISED 03/05/09

PROJECT NUMBER PROJECT NUMBER PROJECT NUMBER

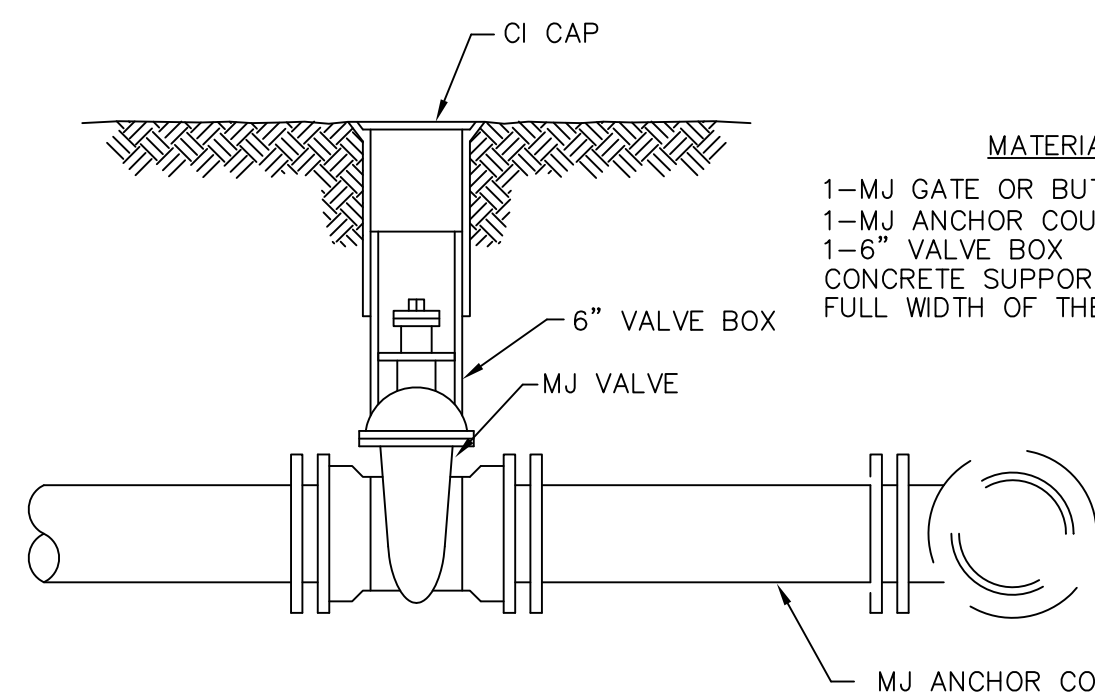
SHEET
10
OF
11



LINE VALVE ASSEMBLY

MATERIALS LIST

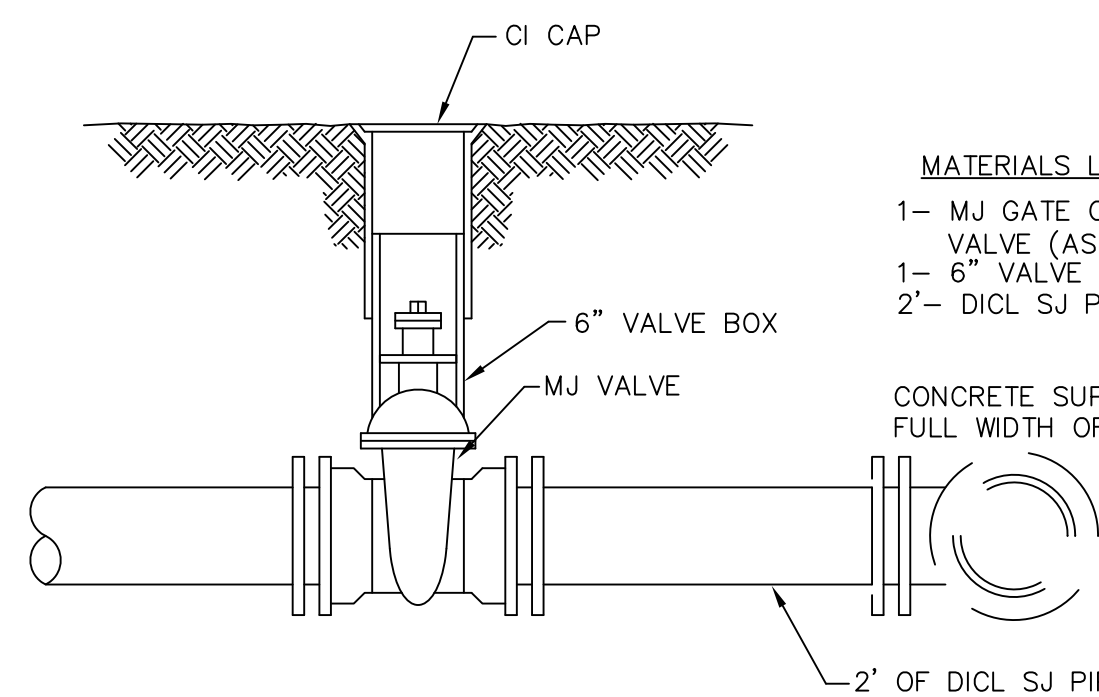
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
- 1-6" VALVE BOX
- CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



ANCHORED VALVE ASSEMBLY

MATERIALS LIST

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

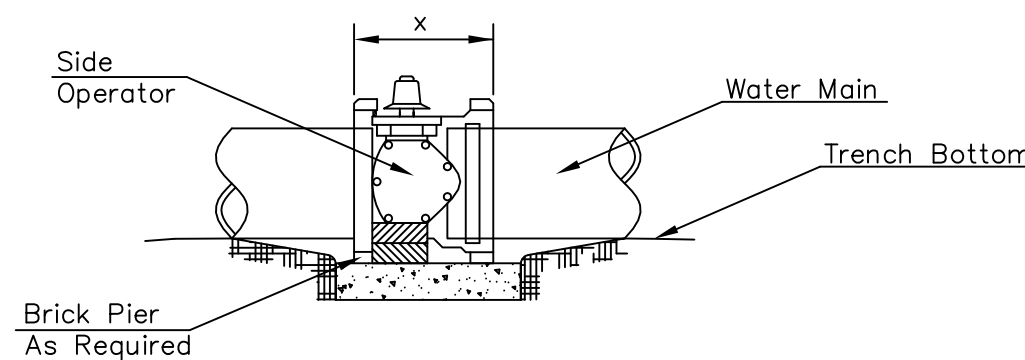


VALVE ASSEMBLY

MATERIALS LIST

- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
- 1- 6" VALVE BOX
- 2- D.I. S.J. PIPE

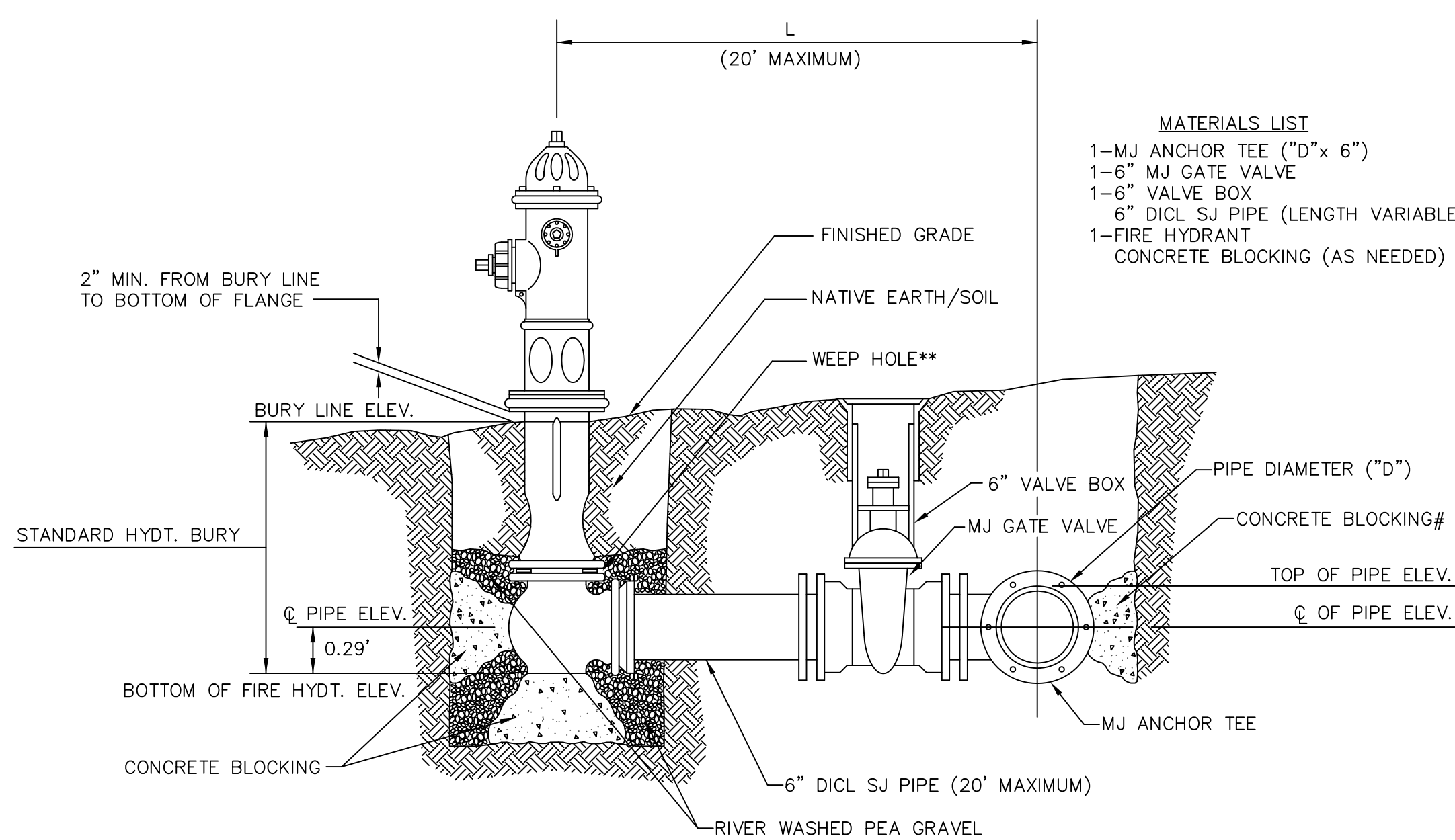
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



NOTES

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



** 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.

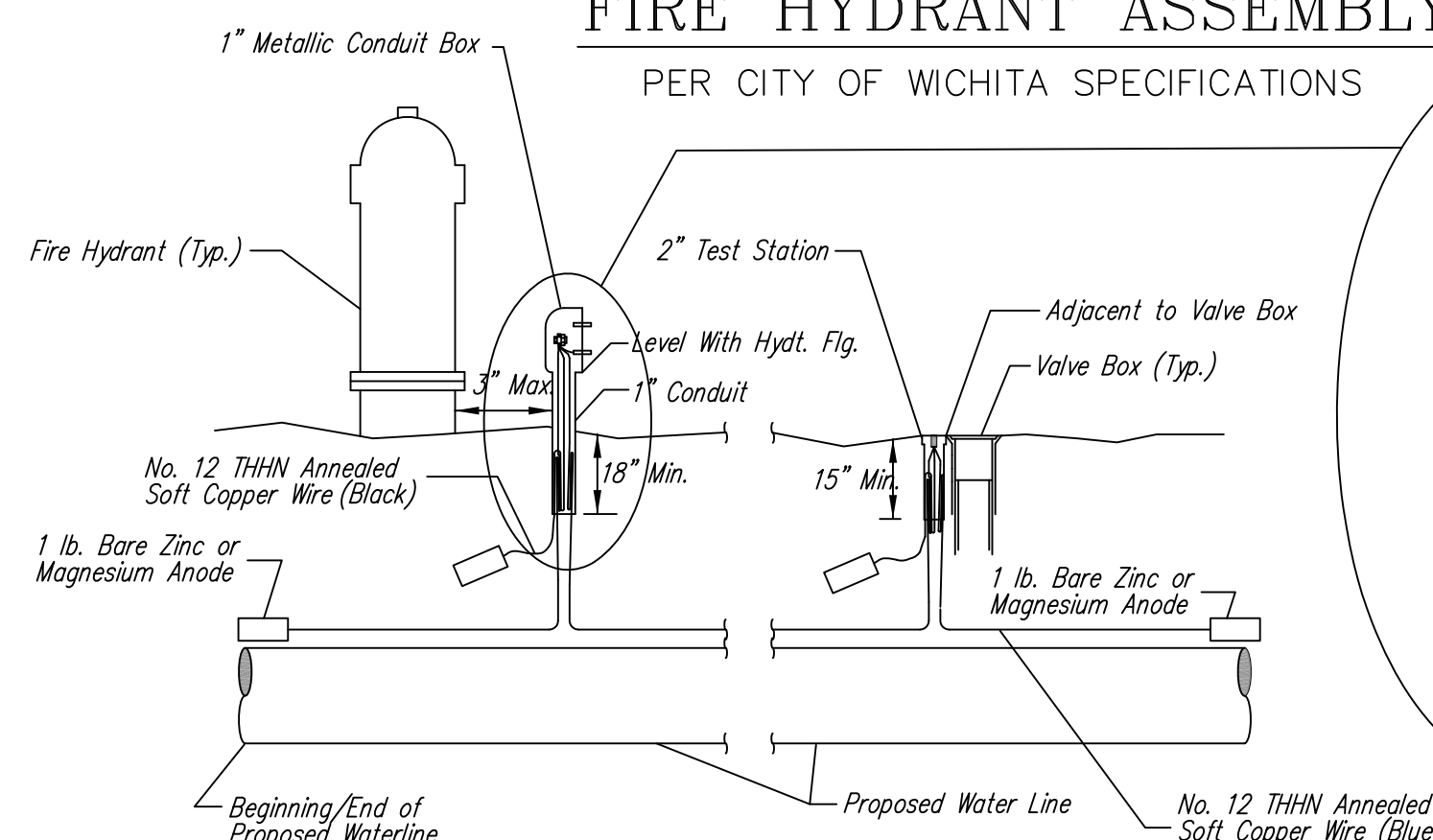
MATERIALS LIST

- 1-MJ ANCHOR TEE ("D"x 6")
- 1-6" MJ GATE VALVE
- 1-6" VALVE BOX
- 6" D.I. S.J. PIPE (LENGTH VARIABLE)
- 1-FIRE HYDRANT
- CONCRETE BLOCKING (AS NEEDED)

FIRE HYDRANTS REQUIRED			
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
04+65.00 Line 2	1326.32	1321.94	5.00'
00+11.00 Line 3	1324.09	1319.71	5.00'
00+13.00 Line 5	1309.18	1302.80	7.00'
05+67.82 Line 5	1312.57	1307.69	5.50'
12+70.00 Line 5	1317.59	1312.21	6.00'

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 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

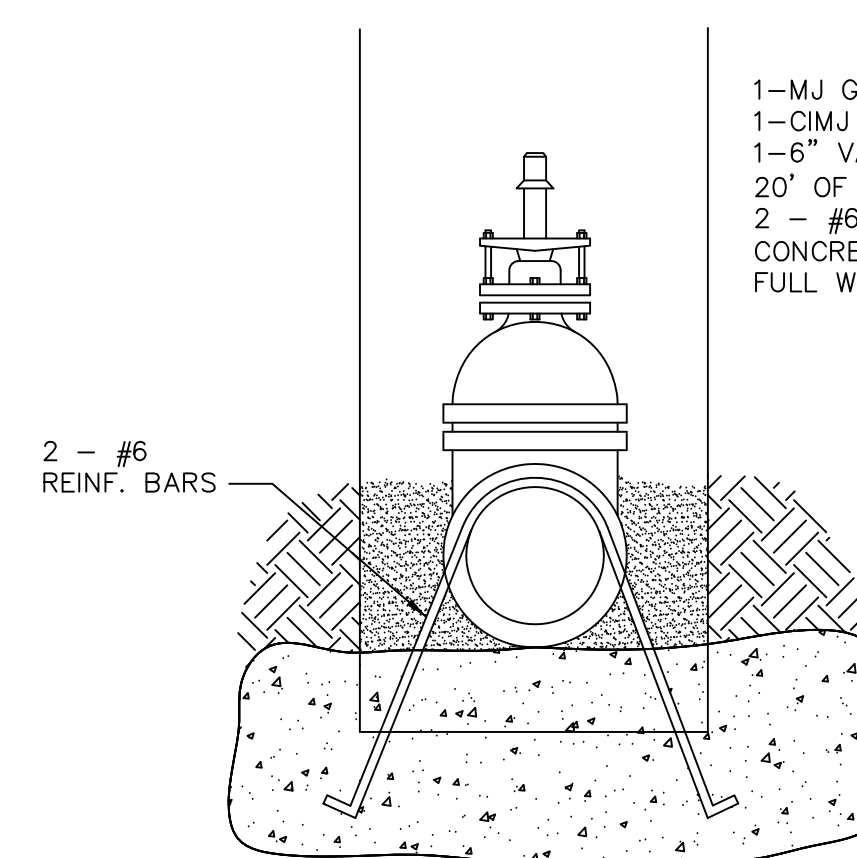
The test station for fire hydrant applications shall be a 1 inch galvanized conduit style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station T2PS3B 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



Notes:

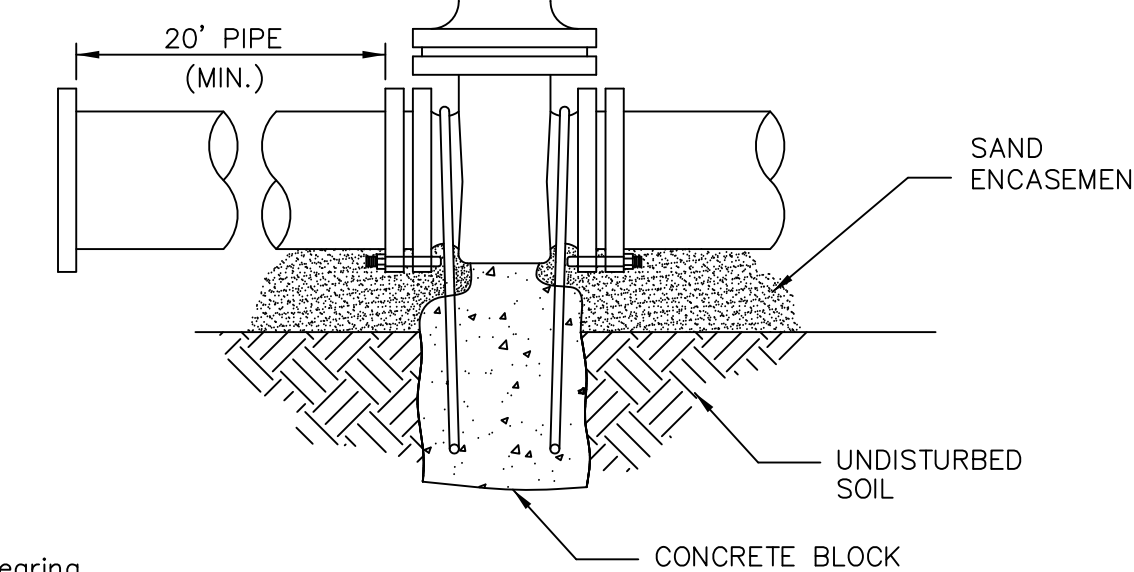
1. Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.

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.

MATERIALS LIST

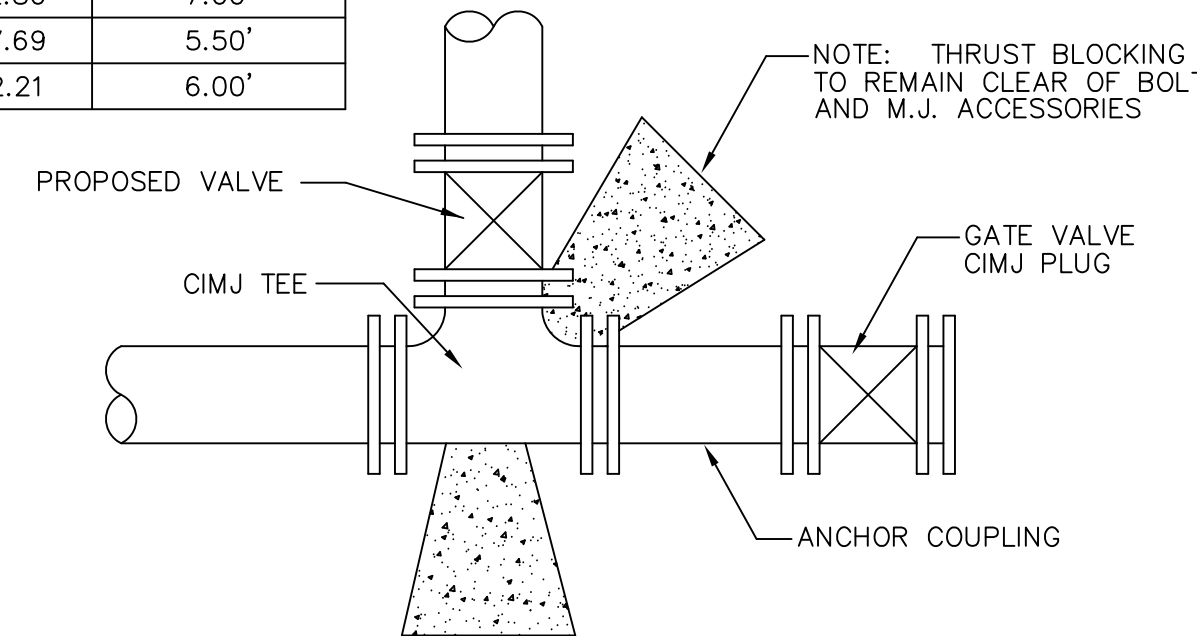
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
- 1-CIMJ CAP WHEN NECESSARY
- 1-6" VALVE BOX
- 20' OF PIPE (BID WITH PIPE)
- 2 - #6 REINF. BARS
- CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



THRUST AT VALVES

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

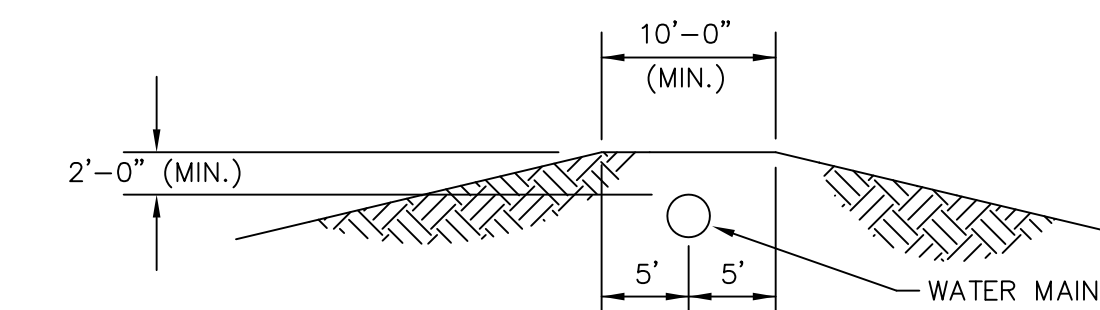
ANCHORED VALVE ASSEMBLY, SPECIAL



KEY BLOCK DETAIL

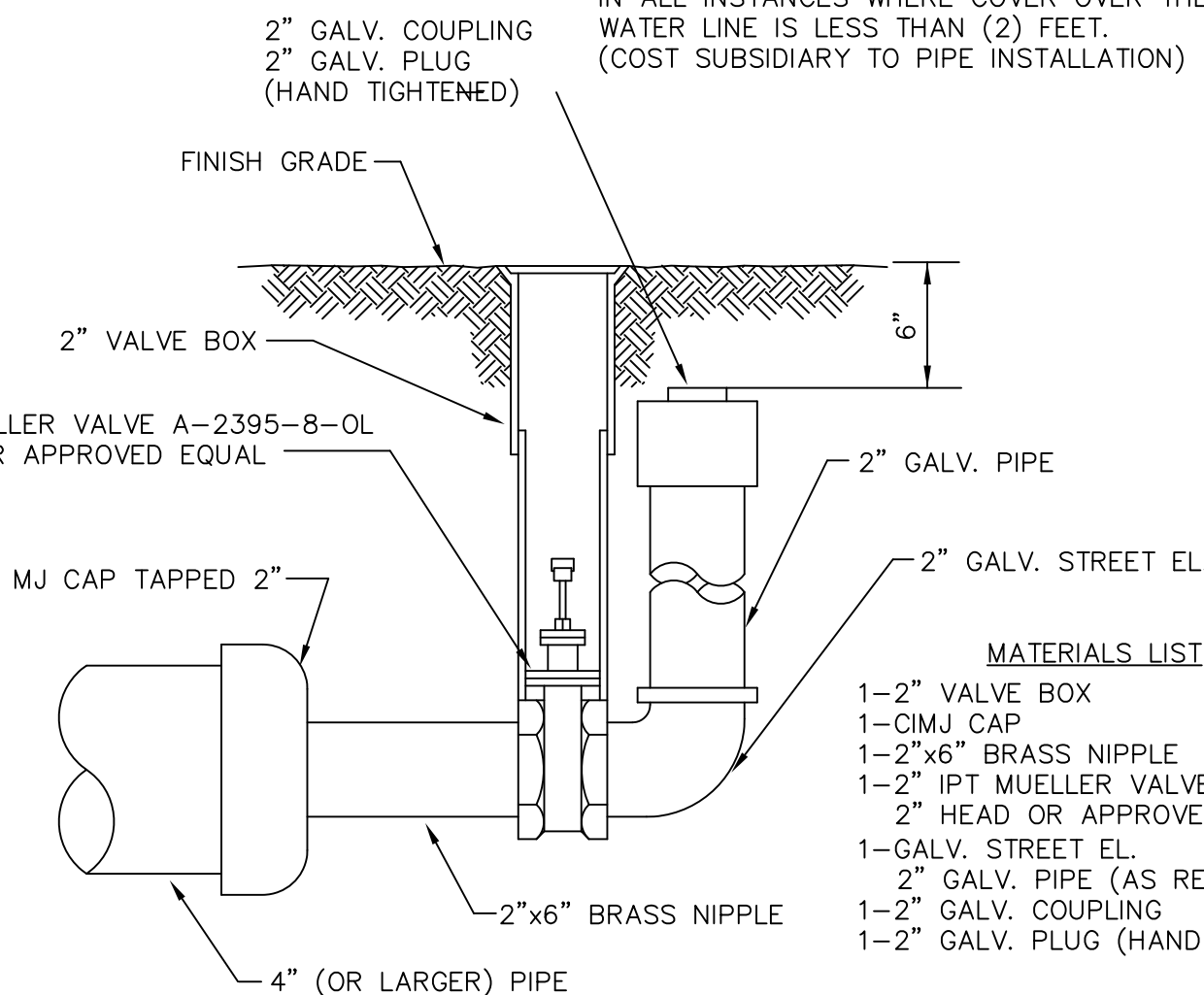
NOTE: THRUST BLOCKING TO REMAIN CLEAR OF BOLTS AND M.J. ACCESSORIES

2 Blue Wires and 1 Black Wire
All Connected to Single Test Lead
With Split Bolt Connection and Blue No. 12 THHN Annealed Soft Copper Wire



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)



2" BLOWOFF ASSEMBLY

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)

RECORD DRAWING
3-29-2010

REV: 8-14-01, MCG

	STANDARD WATER ASSEMBLY DETAILS	
	CITY ENGINEER JAMES L. ARMOUR, P.E., L.S.	
	PROJECT NUMBER	DATE
	OCA NUMBER	03/05/09
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 (316) 268-4114 FAX	DESIGN KM	DRAWN NS
	SHEET 11 of 11	