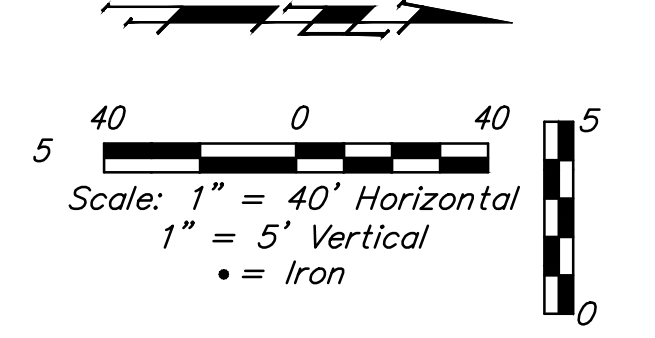


BENCHMARKS:
 BM #1: "□" on top of curb inlet, NE Cor. N side of W Central Ave, 27.5'± S. & 90.2'± W. of SW Cor., Lot 1, Block 1, Castlegate 3rd. Elev. = 1342.00 NAVD88

BM #2: City of Wichita Benchmark disc, E side of N 135th St W, 13.2'± S. & 37.7'± E. of W1/4 Cor., Sec. 13, Twp. 27-S, R-2-W. Elev. = 1347.48 NAVD88



WL Sta. 0+00.00, Begin Line 1
 BL Sta. -2+45.37, 33.50' Lt.
 1 - 16"x8" Tapping Saddle
 1 - 8" Tapping Valve & Valve Box
 Tapping saddle, tapping valve & valve box to be furnished and installed by the City of Wichita Water Dept. Contractor to set valve box to grade. Valve Box Elev. = 1340.60
 N=1,687,466.33 E=1,603,670.38

WL Sta. 1+26.69, Line 1
 BL Sta. -1+58.16, 47.00' Lt.
 1 - 8" CIMJ 45° Bend
 N=1,687,553.16 E=1,603,654.69

WL Sta. 2+49.05, Line 1
 BL Sta. -0+35.80, 47.00' Lt.
 Begin installation of RJPVC pipe under road by directional drilling*
 N=1,687,675.48 E=1,603,651.62

WL Sta. 3+68.46, Line 1
 BL Sta. 0+83.60, 47.00' Lt.
 1 - 8" CIMJ 11.25° Bend
 N=1,687,794.85 E=1,603,648.62

WL Sta. 4+76.10, Line 1
 BL Sta. 1+89.17, 26.00' Lt.
 1 - 8" CIMJ 11.25° Bend
 N=1,687,900.92 E=1,603,666.97

WL Sta. 5+23.92, Line 1
 BL Sta. 2+37.00, 26.00' Lt.
 = WL Sta. 0+00.00, Line 2
 1 - 8"x8" CIMJ Tee
 1 - Valve Assembly, Gate 8" (E)
 Valve Box Elev. = 1348.20
 N=1,687,948.73 E=1,603,665.77

WL Sta. 6+38.96, Line 1
 BL Sta. 3+52.04, 26.00' Lt.
 1 - 8" CIMJ 45° Bend (V)
 N=1,688,063.73 E=1,603,662.88

WL Sta. 7+77.92, Line 1
 BL Sta. 4+91.00, 26.00' Lt.
 1 - 8" CIMJ 45° RJ Bend (V)
 N=1,688,202.65 E=1,603,659.39

WL Sta. 7+80.92, Line 1
 BL Sta. 4+94.00, 26.00' Lt.
 = WL Sta. 0+00.00, Line 3
 1 - 8" CIMJ 45° Bend (V)
 1 - 8"x8" CIMJ Tee
 2 - Valve Assemblies, Gate 8" (N&E)
 Match Point
 Valve Box Elev. = 1347.20
 N=1,688,205.65 E=1,603,659.32

Pipe layout is shown with horizontal and vertical deflections. Contractor to use short pipe lengths, high deflection couplers, and manufacturer recommended pipe deflections to meet planned alignment.

Contractor to maintain a minimum of 10' of horizontal separation (O.D.-O.D.) between sanitary sewer and water line.

Contractor to maintain a minimum of 2' of vertical separation (O.D.-O.D.) between sanitary sewer and water line.

Contractor to verify depth and location of existing utilities. Contractor to relocate any existing utilities as necessary for construction.

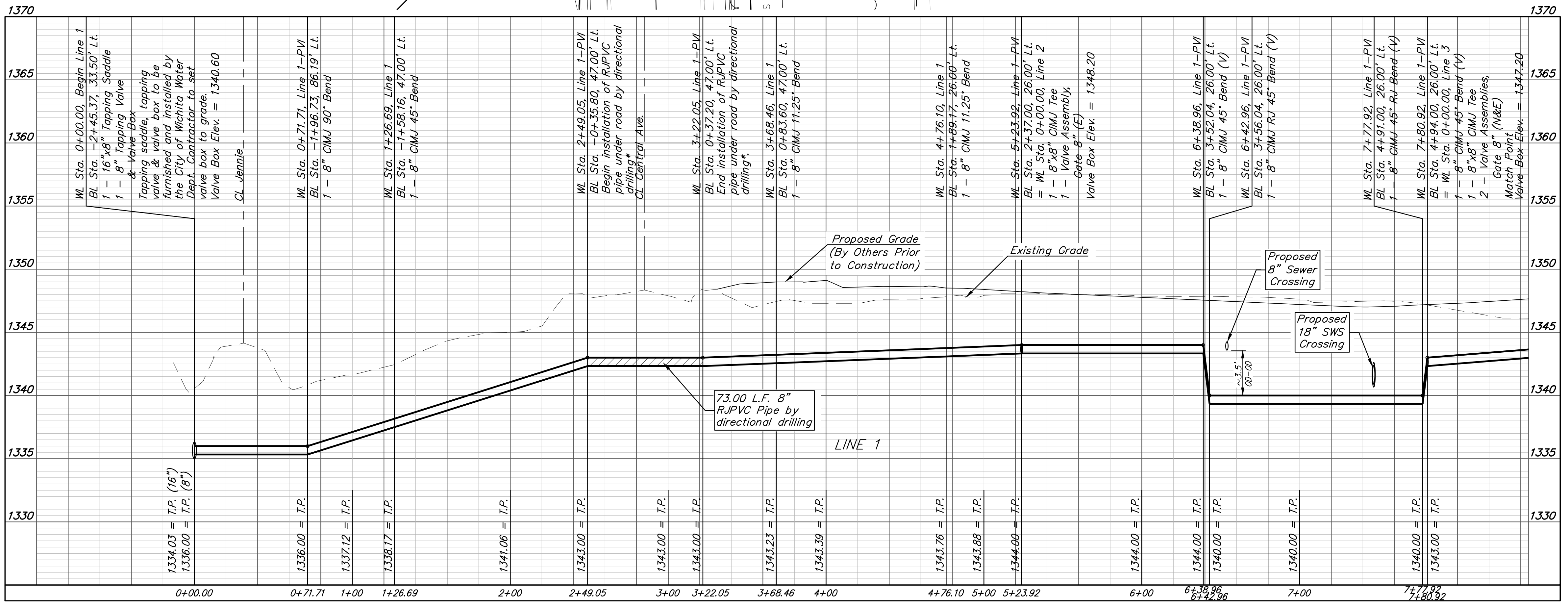
Most trees have been removed prior to construction by storm water drain project.

All other trees shall remain and be protected from damage during construction. Overhanging limbs shall be trimmed by the Contractor using a chain saw only as necessary for construction and with approval of the Engineer. Cost of tree trimming to be included in bid item "Site Clearing"

Contact utility companies 3 weeks prior to construction to coordinate temporary removal/replacement.
 Heide Bryan, Every, (316) 261-6354
 Shannon Brinkmeyer, AT&T (316) 268-2931
 Travis Taylor, Cox Comm., Travis.taylor@cox.com

Baseline = CL Rainbow Lake

*All connections to directional drill pipe must be restrained joint



DEPTH UNKNOWN
 Contractor to Verify Depth & Location of Existing Water Line Prior to Construction.

BAUGHMAN COMPANY
 315 Ellis St.
 Wichita, KS 67211
 316-262-7271
 BaughmanCo.com

BRIDGER AT CENTRAL ADDITION - Ph. I
LINE 1
 WATER DISTRIBUTION SYSTEM
 PROJECT NUMBER:
 23-09-600
 DESIGN: NBW DRAWN: TMS
 DATE: August 27, 2024
 SHEET OF
2 19

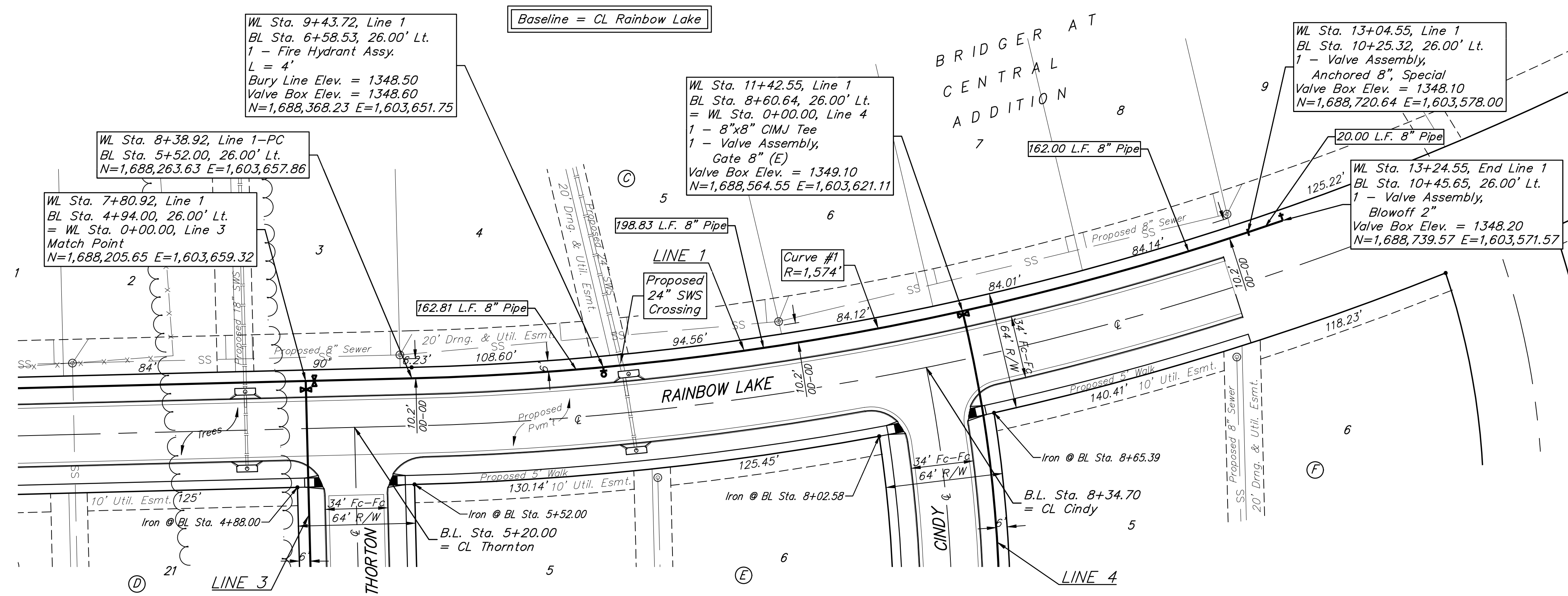
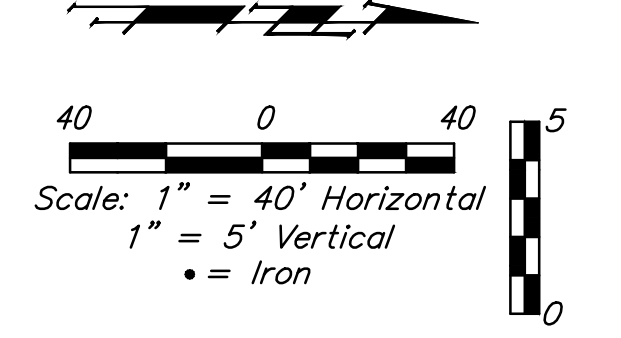
File: E:\Projects\Bridger At Central Addition\Albent\Engineering\Phase 1\WTR_23-09-600\Water.dwg

BENCHMARKS:
 BM #1: "□" on top of curb inlet, NE Cor. N side of W Central Ave, 27.5± S. & 90.2± W. of SW Cor., Lot 1, Block 1, Castlegate 3rd.
 Elev. = 1342.00 NAVD88

BM-#2: City of Wichita Benchmark disc, E side of N 135th St W, 13.2± S. & 37.7± E. of W1/4 Cor., Sec. 13, Twp. 27-S, R-2-W.
 Elev. = 1347.48 NAVD88

Pipe layout is shown with horizontal and vertical deflections. Contractor to use short pipe lengths, high deflection couplers, and manufacturer recommended pipe deflections to meet planned alignment.

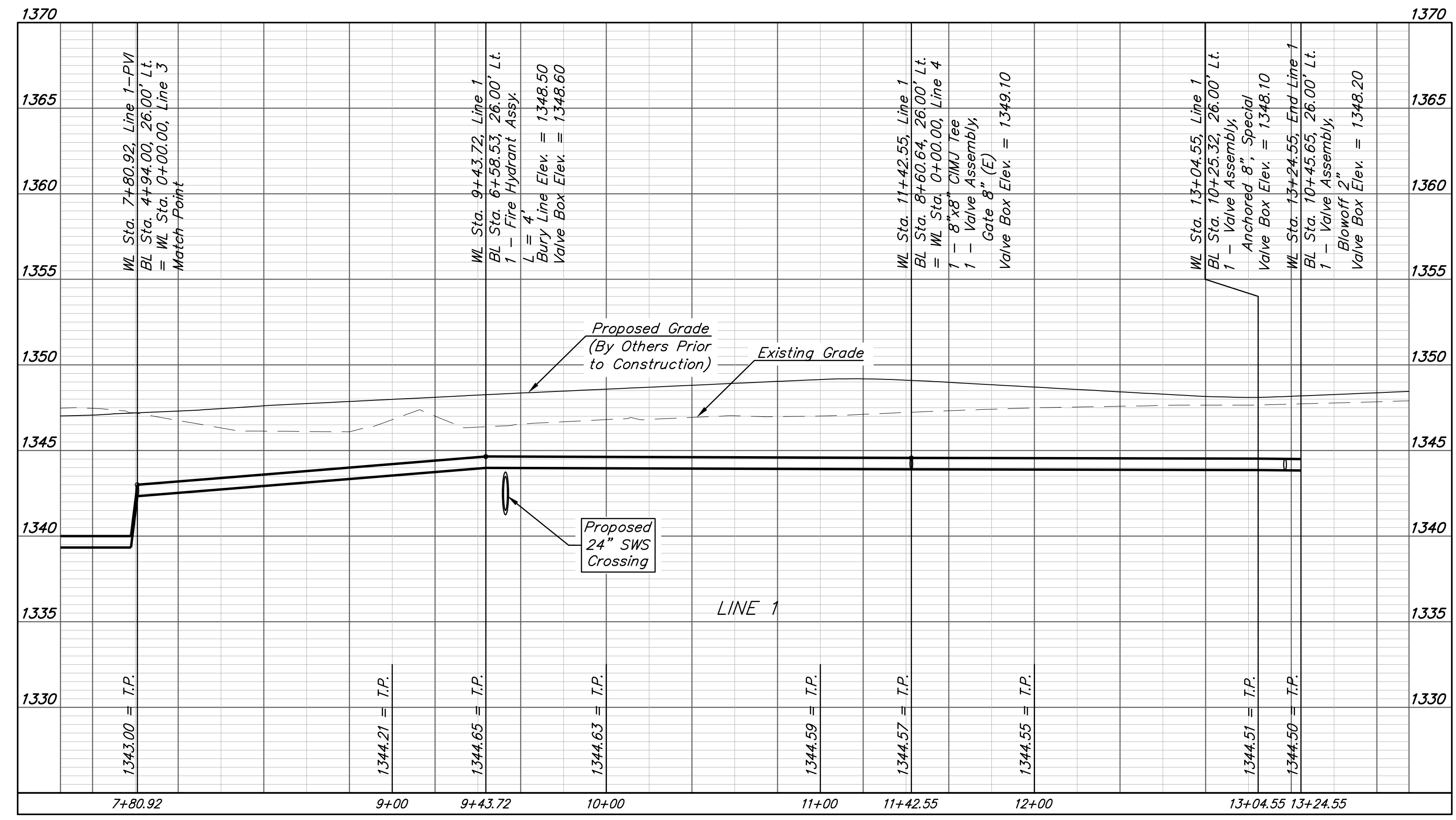
Contractor to maintain a minimum of 10' of horizontal separation (O.D.-O.D.) between sanitary sewer and water line.



Contractor to verify depth and location of existing utilities. Contractor to relocate any existing utilities as necessary for construction.

Contact utility companies 3 weeks prior to construction to coordinate temporary removal/replacement.
 Heide Bryan, Evergy, (316) 261-6354
 Shannon Brinkmeyer, AT&T (316) 268-2931
 Travis Taylor, Cox Comm., Travis.taylor@cox.com

Curve #1				
Curve Data Based on Waterline				
Rad. = 1574' Delta = 17°40'39" Tangent = 244.76'				
Arc = 485.63' L.C. = 483.70' Def./Ft. = 1.09204 Min.				
Chord Lengths				
Station	Arc	8' Left	Defl.	Total Defl.
8+19.96	-	-	0°00'00"	0°00'00"
8+25.00	5.04'	5.01'	0°05'30"	0°05'30"
8+50.00	25.00'	24.87'	0°27'18"	0°32'48"
8+75.00	25.00'	24.87'	0°27'18"	1°00'06"
9+00.00	25.00'	24.87'	0°27'18"	1°27'24"
9+24.77	24.77'	24.64'	0°27'03"	1°54'27"
9+50.00	25.23'	25.10'	0°27'33"	2°22'00"
9+75.00	25.00'	24.87'	0°27'19"	2°49'19"
10+00.00	25.00'	24.87'	0°27'18"	3°16'37"
10+25.00	25.00'	24.87'	0°27'18"	3°43'55"
10+50.00	25.00'	24.87'	0°27'18"	4°11'13"
10+75.00	25.00'	24.87'	0°27'18"	4°38'31"
11+00.00	25.00'	24.87'	0°27'18"	5°05'49"
11+23.59	23.59'	23.47'	0°25'45"	5°31'34"
11+25.00	1.41'	1.40'	0°01'33"	5°33'07"
11+50.00	25.00'	24.87'	0°27'18"	6°00'25"
11+75.00	25.00'	24.87'	0°27'18"	6°27'43"
12+00.00	25.00'	24.87'	0°27'18"	6°55'01"
12+25.00	25.00'	24.87'	0°27'18"	7°22'19"
12+50.00	25.00'	24.87'	0°27'18"	7°49'37"
12+75.00	25.00'	24.87'	0°27'18"	8°16'55"
12+85.59	10.59'	10.54'	0°11'34"	8°28'29"
13+00.00	14.41'	14.34'	0°15'44"	8°44'13"
13+05.59	5.59'	5.56'	0°06'06"	8°50'19"



BAUGHMAN COMPANY

315 Ellis St.
 Wichita, KS 67211
 316-262-7271
 BaughmanCo.com

BRIDGER AT CENTRAL ADDITION - Ph. I

LINE 1

WATER DISTRIBUTION SYSTEM

PROJECT NUMBER:
23-09-600

DESIGN: NBW DRAWN: TMS
 DATE: August 27, 2024

SHEET **3** OF **19**

File: E:\Projects\Bridger At Central Addition\Albert\Engineering\Phase 1\WTR_23-09-600\Water.dwg

BENCHMARKS:

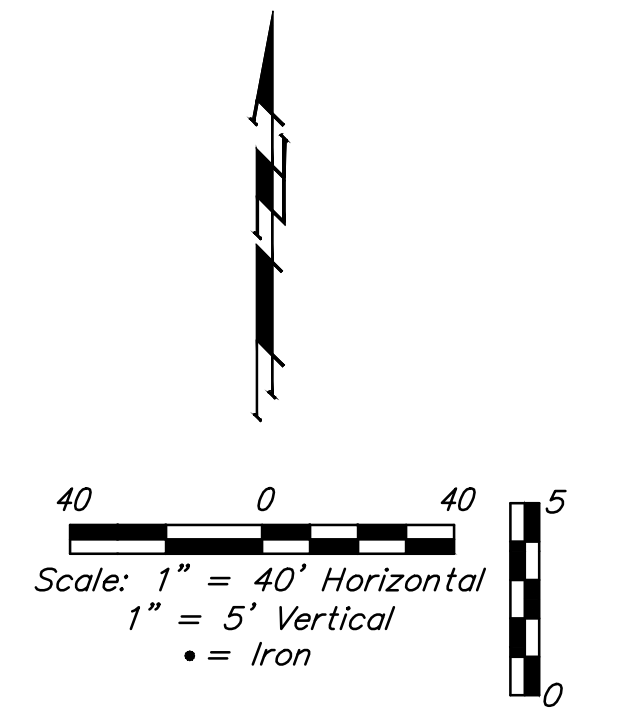
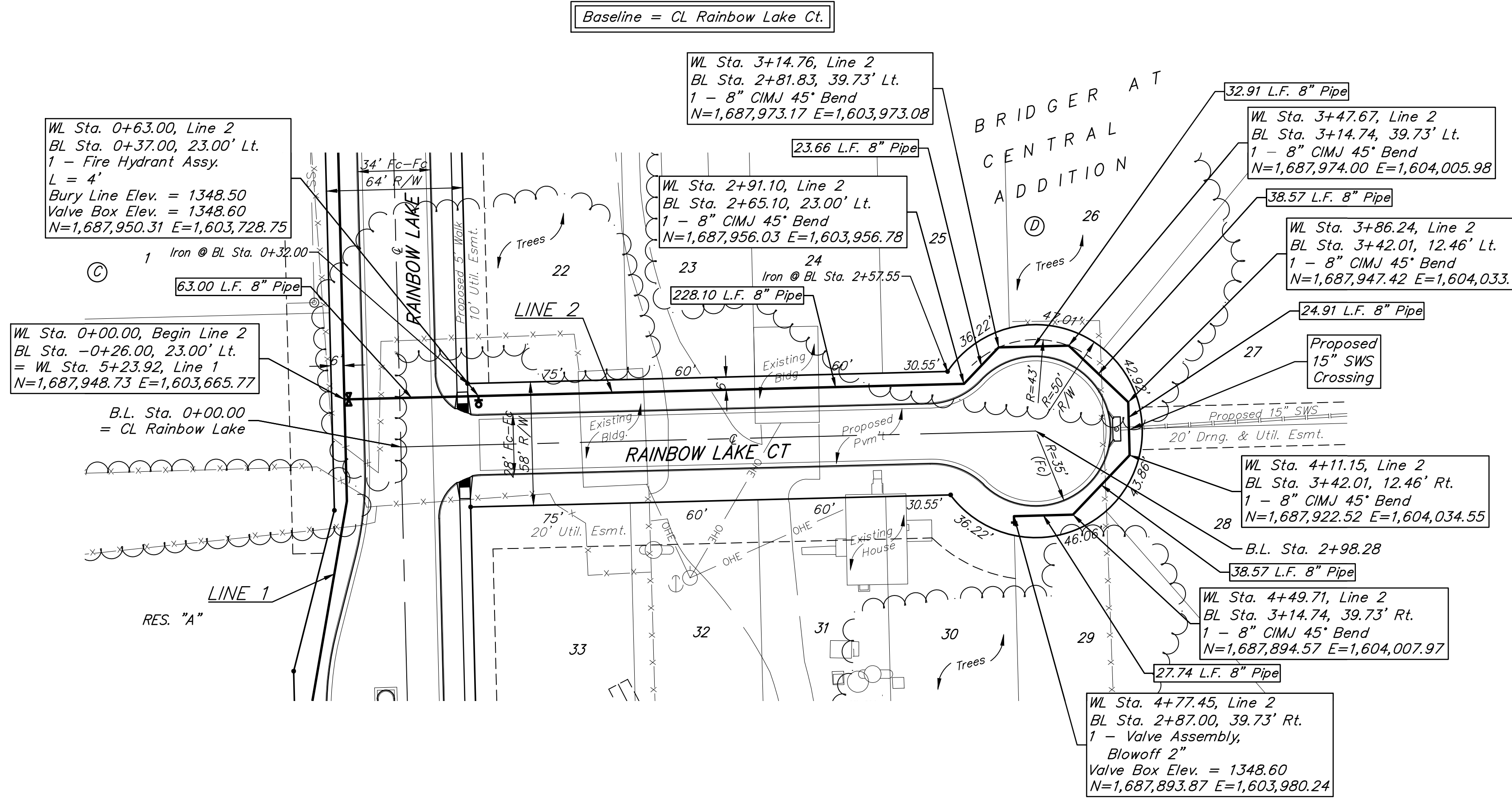
BM #1: "□" on top of curb inlet, NE Cor. N side of W Central Ave, 27.5± S. & 90.2± W. of SW Cor., Lot 1, Block 1, Castlegate 3rd.
Elev. = 1342.00 NAVD88

BM-#2: City of Wichita Benchmark disc, E side of N 135th St W, 13.2± S. & 37.7± E. of W1/4 Cor., Sec. 13, Twp. 27-S, R-2-W.
Elev. = 1347.48 NAVD88

Existing house, buildings, fences, and most trees have been removed prior to construction by storm water drain project.

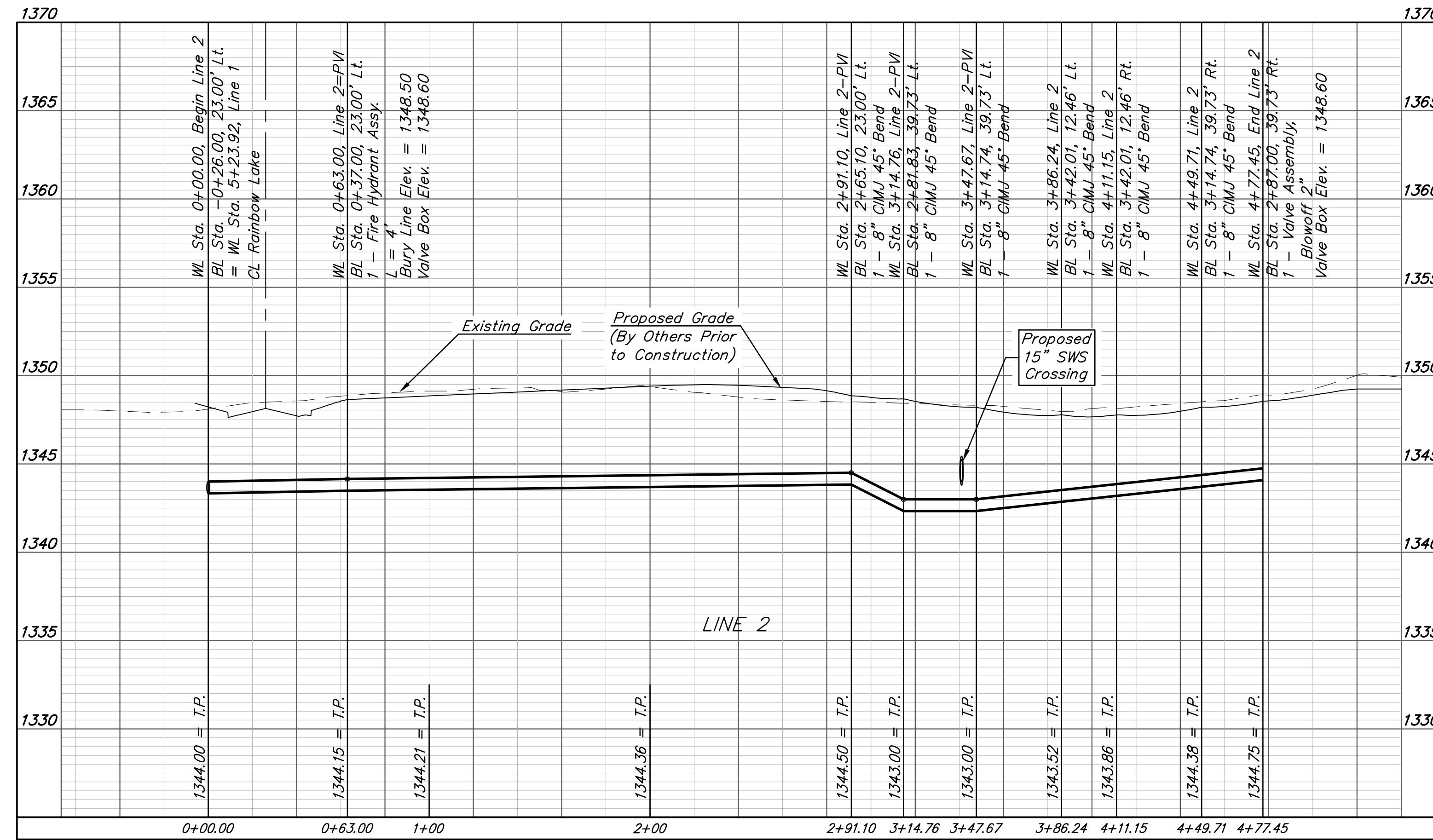
All other trees shall remain and be protected from damage during construction. Overhanging limbs shall be trimmed by the Contractor using a chain saw only as necessary for construction and with approval of the Engineer. Cost of tree trimming to be included in bid item "Site Clearing"

Pipe layout is shown with horizontal and vertical deflections. Contractor to use short pipe lengths, high deflection couplers, and manufacturer recommended pipe deflections to meet planned alignment.



Contractor to verify depth and location of existing utilities. Contractor to relocate any existing utilities as necessary for construction.

Contact utility companies 3 weeks prior to construction to coordinate temporary removal/replacement.
Heide Bryan, Evergy, (316) 261-6354
Shannon Brinkmeyer, AT&T (316) 268-2931
Travis Taylor, Cox Comm., Travis.taylor@cox.com



BAUGHMAN COMPANY

315 Ellis St.
Wichita, KS 67211
316-262-7271
BaughmanCo.com

BRIDGER AT CENTRAL ADDITION - Ph. I

LINE 2

WATER DISTRIBUTION SYSTEM

PROJECT NUMBER:
23-09-600

DESIGN: NBW DRAWN: TMS
DATE: August 27, 2024

SHEET **4** OF **19**

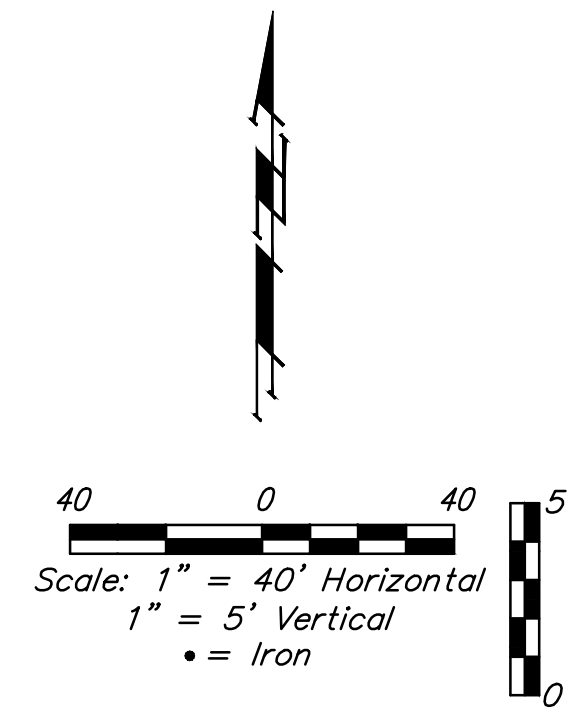
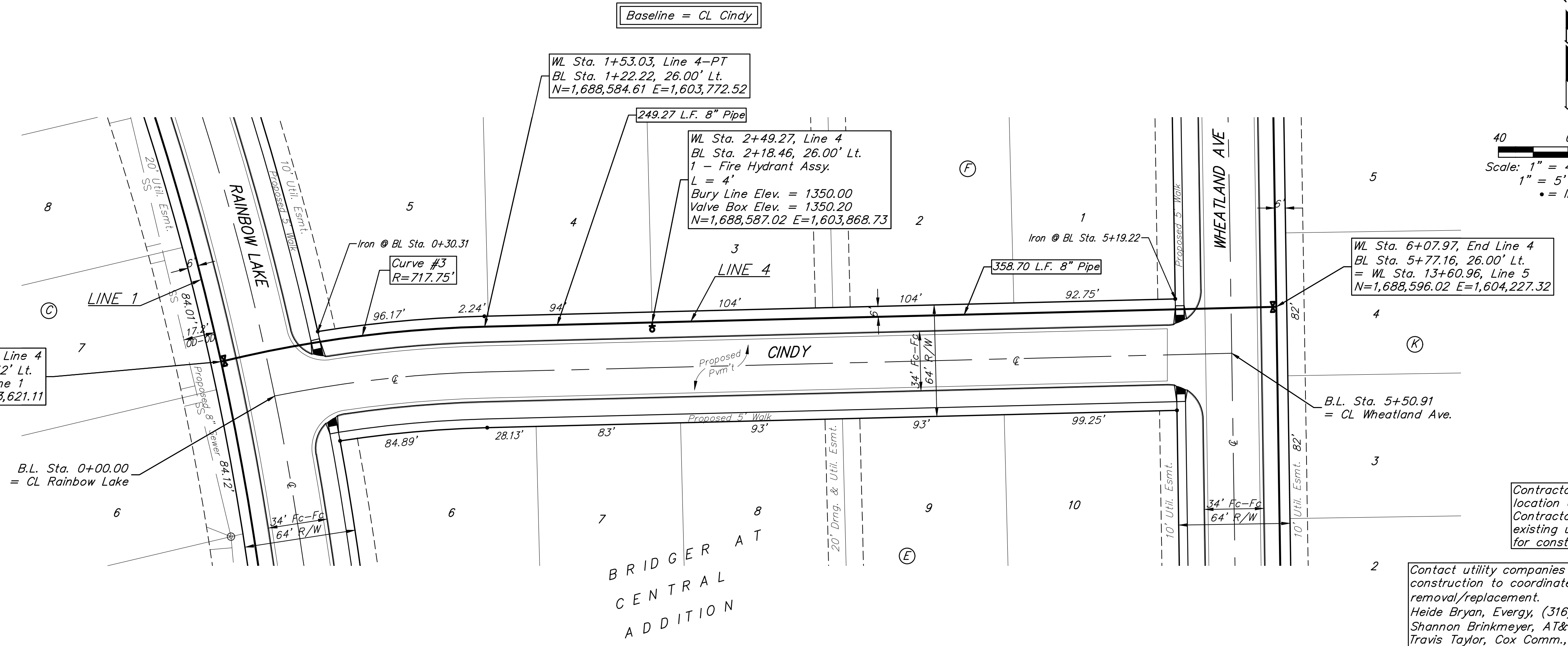
File: E:\Projects\Bridger At Central Addition\Albert\Engineering\Phase 1\WTR_23-09-600\Water.dwg

BENCHMARKS:
 BM #1: "□" on top of curb inlet, NE Cor. N side of W Central Ave, 27.5'± S. & 90.2'± W. of SW Cor., Lot 1, Block 1, Castlegate 3rd.
 Elev. = 1342.00 NAVD88

BM #2: City of Wichita Benchmark disc, E side of N 135th St W, 13.2'± S. & 37.7'± E. of W1/4 Cor., Sec. 13, Twp. 27-S, R-2-W.
 Elev. = 1347.48 NAVD88

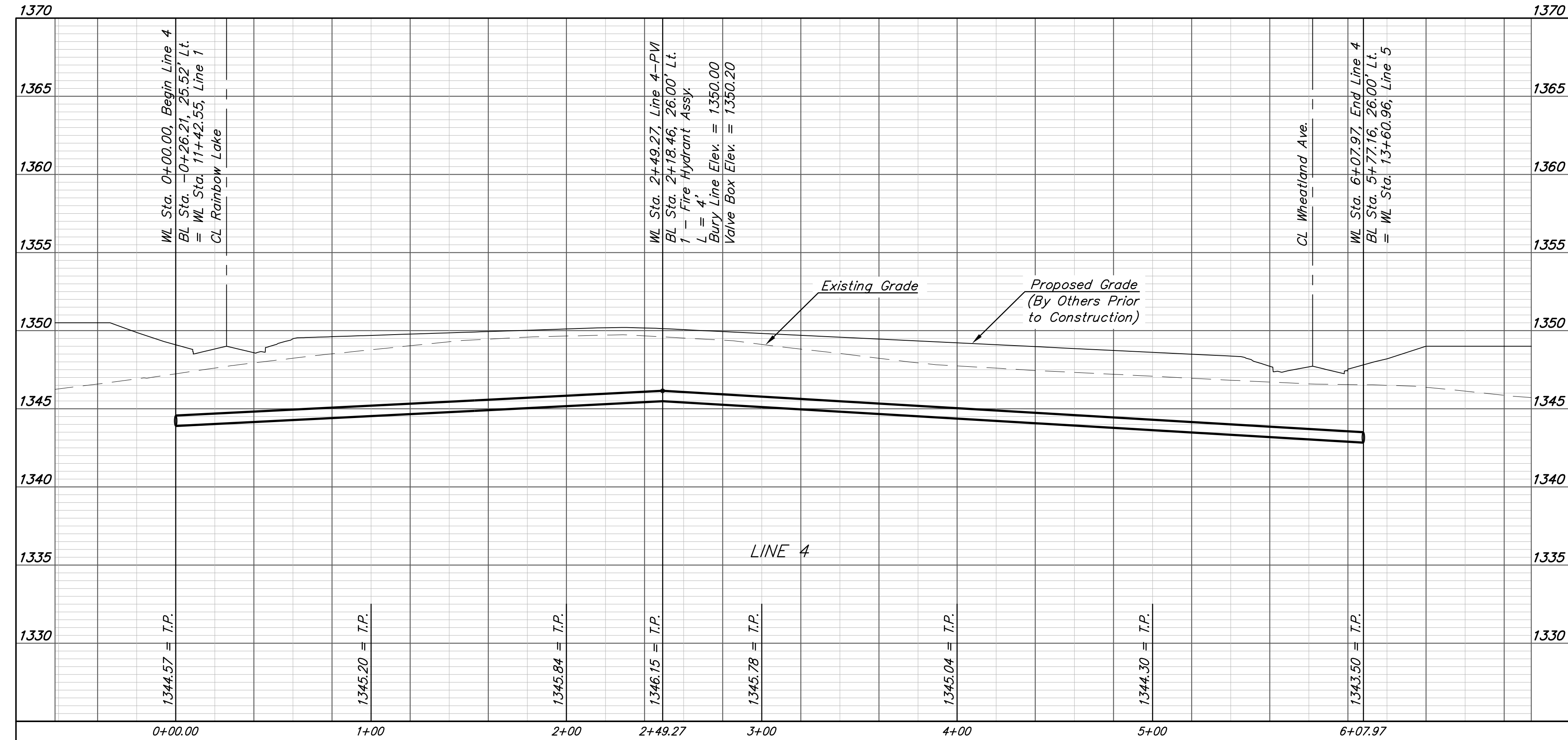
Pipe layout is shown with horizontal and vertical deflections. Contractor to use short pipe lengths, high deflection couplers, and manufacturer recommended pipe deflections to meet planned alignment.

Curve #3				
Curve Data Based on Waterline				
Rad. = 717.75' Delta = 12°12'57" Tangent = 76.81'				
Arc = 153.03' L.C. = 152.74' Def./Ft. = 2.39479 Min.				
Chord Lengths				
Station	Arc	8' Left	Defl.	Total Defl.
0+00.00	-	-	0°00'00"	0°00'00"
0+25.00	25.00'	25.28'	0°59'52"	0°59'52"
0+50.00	25.00'	25.28'	0°59'52"	1°59'44"
0+75.00	25.00'	25.28'	0°59'53"	2°59'37"
1+00.00	25.00'	25.28'	0°59'52"	3°59'29"
1+25.00	25.00'	25.28'	0°59'52"	4°59'21"
1+50.00	25.00'	25.28'	0°59'52"	5°59'13"
1+53.03	3.03'	3.06'	0°07'16"	6°06'29"



Contractor to verify depth and location of existing utilities. Contractor to relocate any existing utilities as necessary for construction.

Contact utility companies 3 weeks prior to construction to coordinate temporary removal/replacement.
 Heide Bryan, Evergy, (316) 261-6354
 Shannon Brinkmeyer, AT&T (316) 268-2931
 Travis Taylor, Cox Comm., Travis.taylor@cox.com



BAUGHMAN COMPANY
 315 Ellis St.
 Wichita, KS 67211
 316-262-7271
 BaughmanCo.com

BRIDGER AT CENTRAL ADDITION - Ph. I

LINE 4

WATER DISTRIBUTION SYSTEM

PROJECT NUMBER:
23-09-600

DESIGN: NBW DRAWN: TMS
 DATE: August 27, 2024

SHEET OF
6 19

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BENCHMARKS:

BM #1: "□" on top of curb inlet, NE Cor. N side of W Central Ave, 27.5'± S. & 90.2'± W. of SW Cor., Lot 1, Block 1, Castlegate 3rd.
Elev. = 1342.00 NAVD88

BM #2: City of Wichita Benchmark disc, E side of N 135th St W, 13.2'± S. & 37.7'± E. of W1/4 Cor., Sec. 13, Twp. 27-S, R-2-W.
Elev. = 1347.48 NAVD88

Pipe layout is shown with horizontal and vertical deflections. Contractor to use short pipe lengths, high deflection couplers, and manufacturer recommended pipe deflections to meet planned alignment.

Contractor to maintain a minimum of 2' of vertical separation (O.D.-O.D.) between sanitary sewer and water line.

WL Sta. 0+00.00, Begin Line 5
BL Sta. -0+42.49, 73.50' Lt.
1 - 16"x8" Tapping Saddle
1 - 8" Tapping Valve
& Valve Box
Begin installation of RJPVC pipe under road by directional drilling. Tapping saddle, tapping valve & valve box to be furnished and installed by the City of Wichita Water Dept. Contractor to set valve box to grade.
Valve Box Elev. = 1342.80
N=1,687,691.63 E=1,604,561.57

WL Sta. 0+97.49, Line 5
BL Sta. 0+55.00, 73.50' Lt.
End installation of RJPVC pipe under road by directional drilling.
1 - 8" CIMJ 90° Bend
N=1,687,789.09 E=1,604,559.13

Iron @ BL Sta. 1+85.00
99.50 L.F. 8" Pipe
10' Util. Esmt.
120' SS
Proposed 5' Walk

WL Sta. 1+96.99, Line 5
BL Sta. 0+55.00, 26.00' Rt.
1 - 8" CIMJ 90° Bend
N=1,687,791.59 E=1,604,658.59

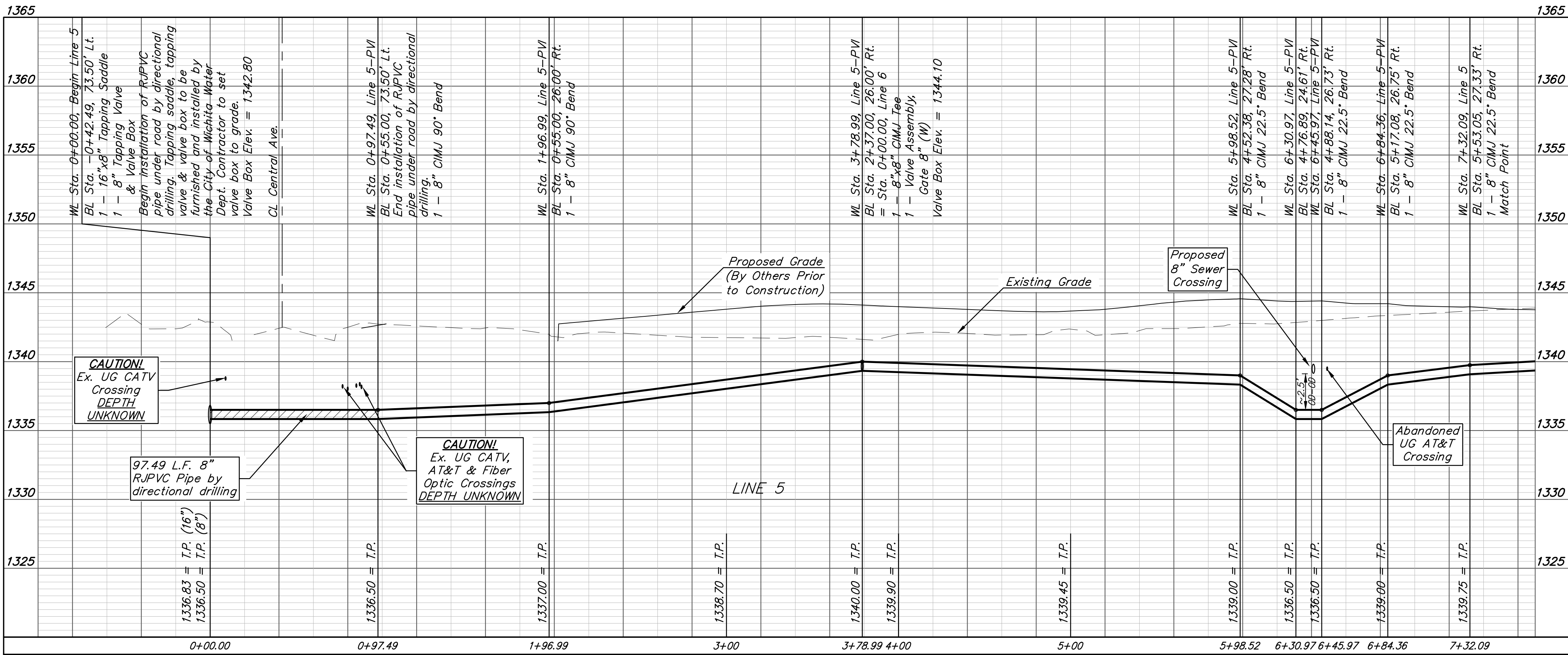
WL Sta. 3+78.99, Line 5
BL Sta. 2+37.00, 26.00' Rt.
= Sta. 0+00.00, Line 6
1 - 8"x8" CIMJ Tee
1 - Valve Assembly, Gate 8" (W)
Valve Box Elev. = 1344.10
N=1,687,973.53 E=1,604,654.02

WL Sta. 5+98.52, Line 5
BL Sta. 4+52.38, 27.28' Rt.
1 - 8" CIMJ 22.5° Bend
N=1,688,193.00 E=1,604,648.52

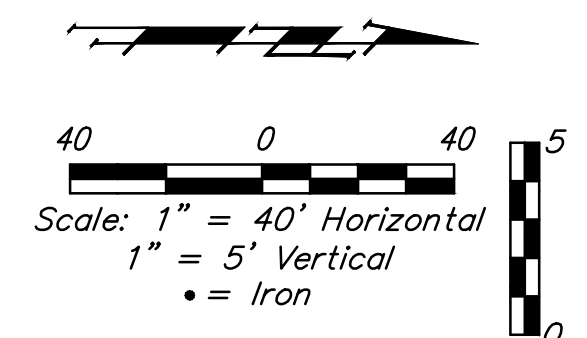
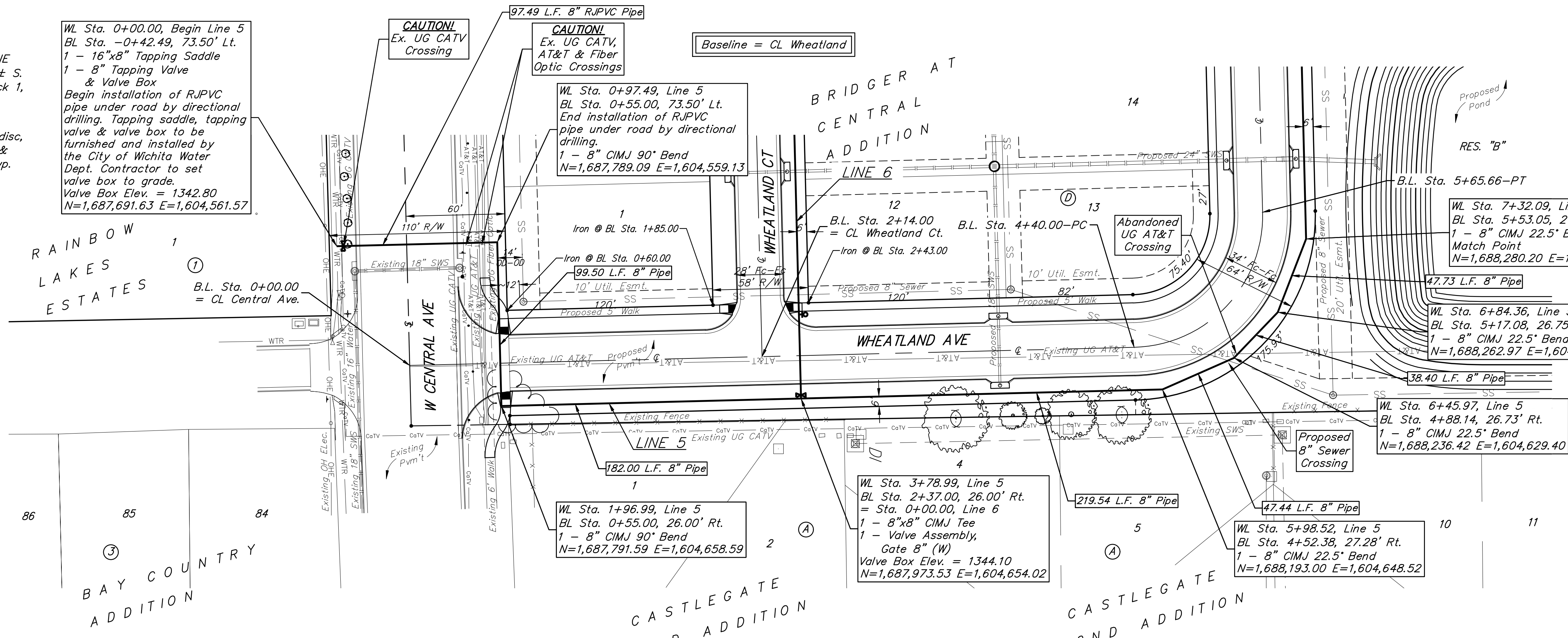
WL Sta. 6+45.97, Line 5
BL Sta. 4+88.14, 26.73' Rt.
1 - 8" CIMJ 22.5° Bend
N=1,688,236.42 E=1,604,629.40

WL Sta. 7+32.09, Line 5
BL Sta. 5+53.05, 27.33' Rt.
1 - 8" CIMJ 22.5° Bend
Match Point
N=1,688,280.20 E=1,604,557.15

WL Sta. 6+84.36, Line 5
BL Sta. 5+17.08, 26.75' Rt.
1 - 8" CIMJ 22.5° Bend
N=1,688,262.97 E=1,604,601.66



DEPTH UNKNOWN
Contractor to Verify Depth & Location of Existing Water Line Prior to Construction.



Contractor to verify depth and location of existing utilities. Contractor to relocate any existing utilities as necessary for construction.

Contact utility companies 3 weeks prior to construction to coordinate temporary removal/replacement.
Heide Bryan, Evergy, (316) 261-6354
Shannon Brinkmeyer, AT&T (316) 268-2931
Travis Taylor, Cox Comm., Travis.taylor@cox.com



BAUGHMAN COMPANY
315 Ellis St.
Wichita, KS 67211
316-262-7271
BaughmanCo.com

BRIDGER AT CENTRAL ADDITION - Ph. I

LINE 5

WATER DISTRIBUTION SYSTEM

PROJECT NUMBER:
23-09-600

DESIGN: NBW DRAWN: TMS
DATE: August 27, 2024

SHEET OF
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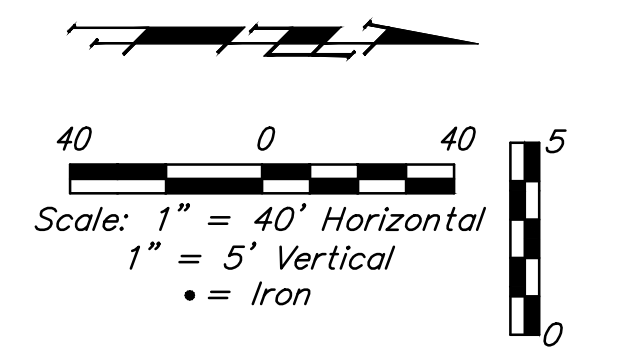
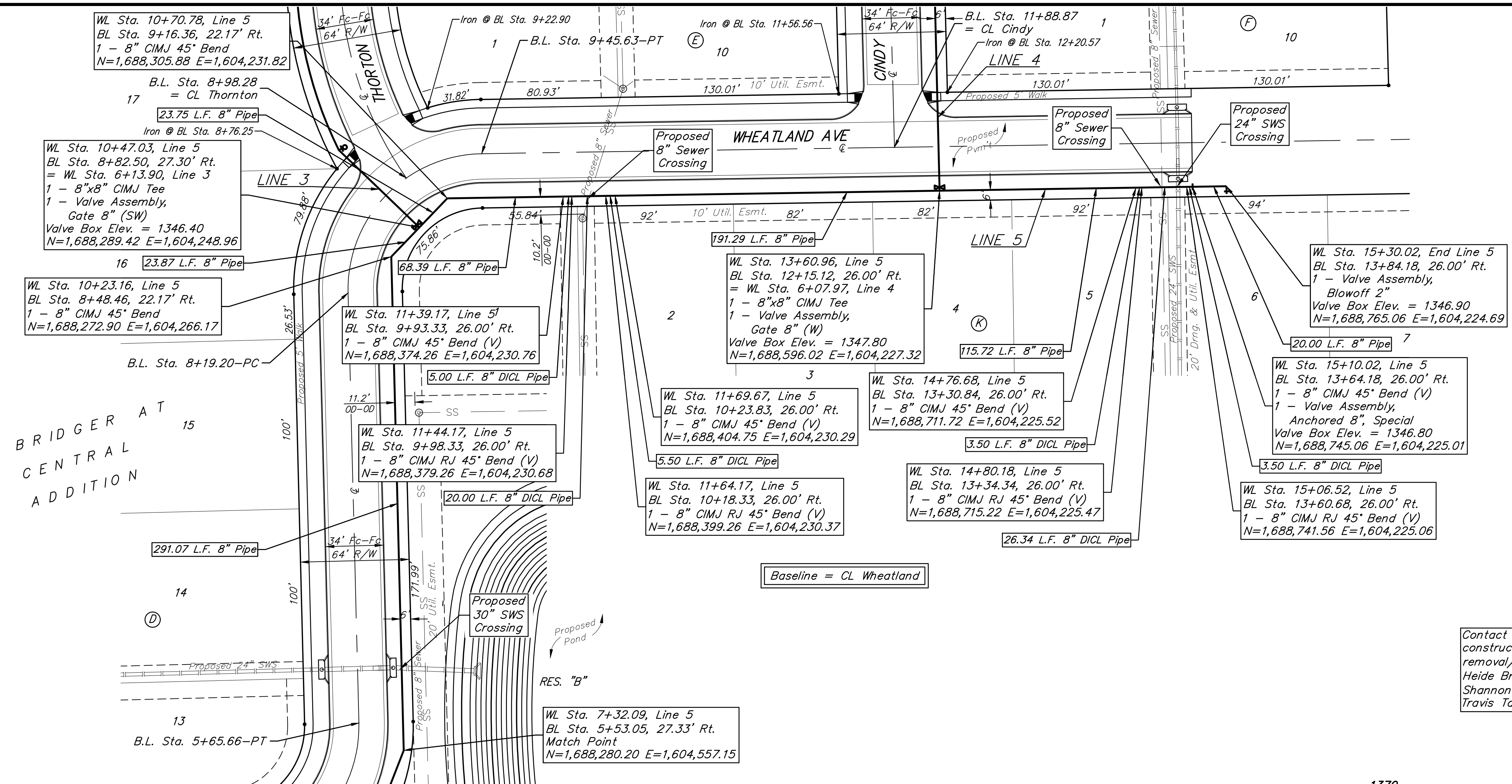
BENCHMARKS:
 BM #1: "□" on top of curb inlet, NE Cor. N side of W Central Ave, 27.5'± S. & 90.2'± W. of SW Cor., Lot 1, Block 1, Castlegate 3rd.
 Elev. = 1342.00 NAVD88

BM #2: City of Wichita Benchmark disc, E side of N 135th St W, 13.2'± S. & 37.7'± E. of W1/4 Cor., Sec. 13, Twp. 27-S, R-2-W.
 Elev. = 1347.48 NAVD88

Pipe layout is shown with horizontal and vertical deflections. Contractor to use short pipe lengths, high deflection couplers, and manufacturer recommended pipe deflections to meet planned alignment.

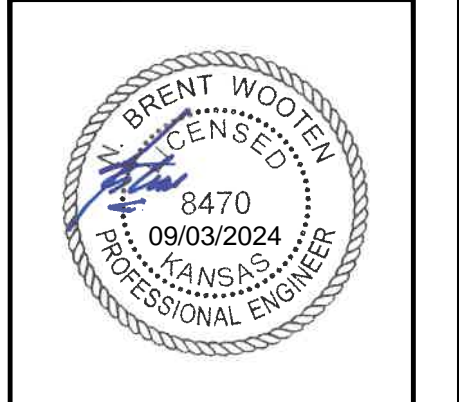
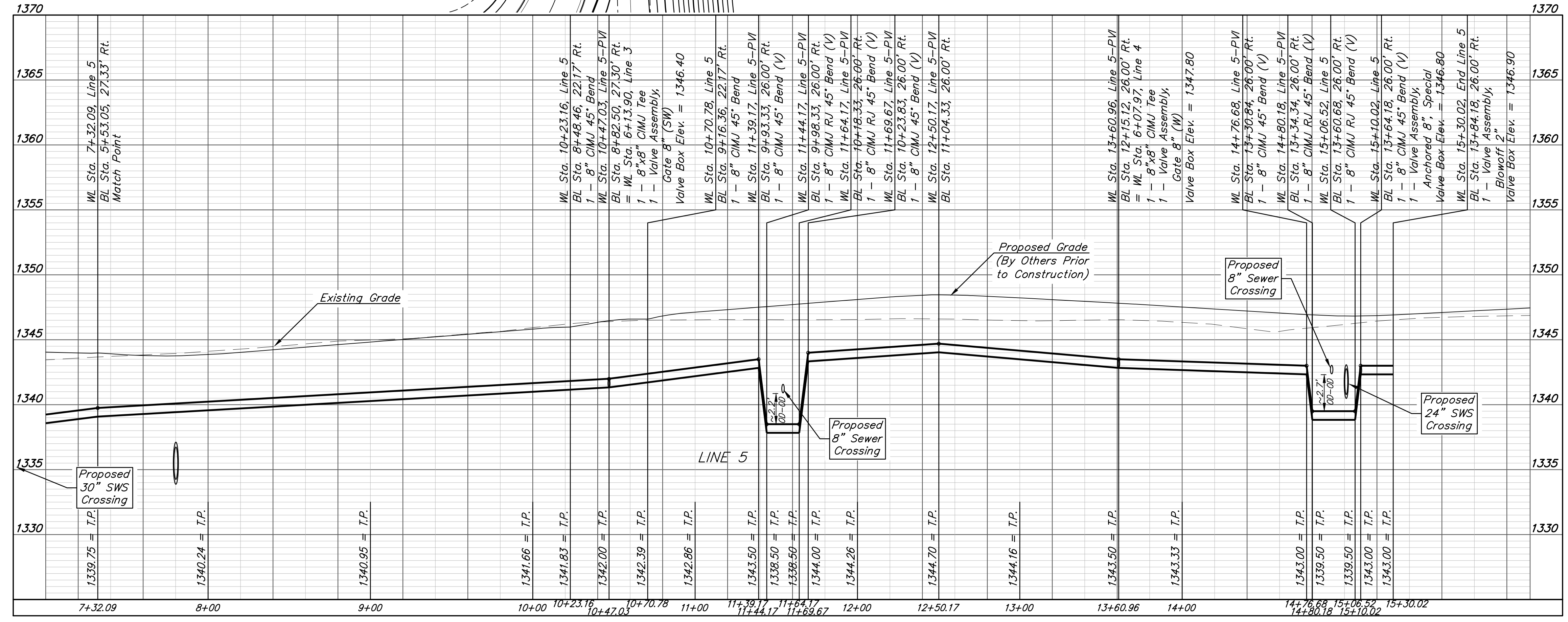
Contractor to maintain a minimum of 2' of vertical separation (O.D.-O.D.) between sanitary sewer and water line.

BRIDGER AT
 CENTRAL
 ADDITION



Contractor to verify depth and location of existing utilities. Contractor to relocate any existing utilities as necessary for construction.

Contact utility companies 3 weeks prior to construction to coordinate temporary removal/replacement.
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 BaughmanCo.com

BRIDGER AT CENTRAL
 ADDITION - Ph. I

LINE 5

WATER DISTRIBUTION
 SYSTEM

PROJECT NUMBER:
 23-09-600

DESIGN: NBW DRAWN: TMS
 DATE: August 22, 2024

SHEET OF
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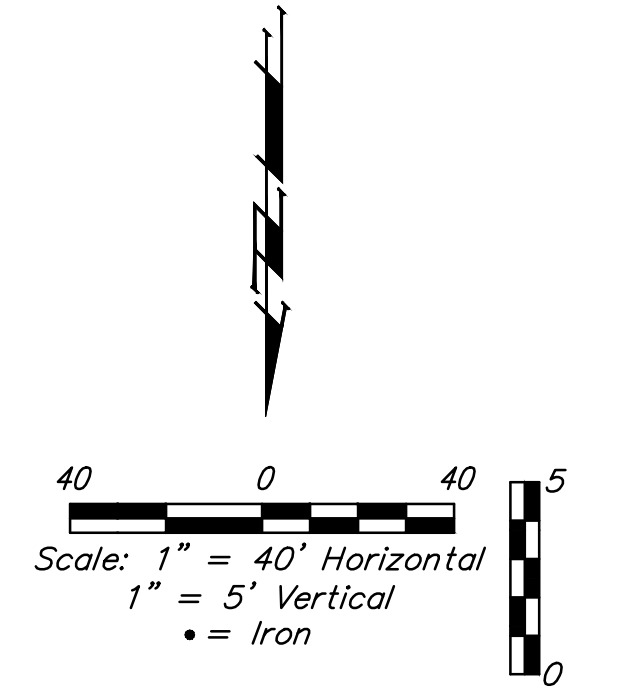
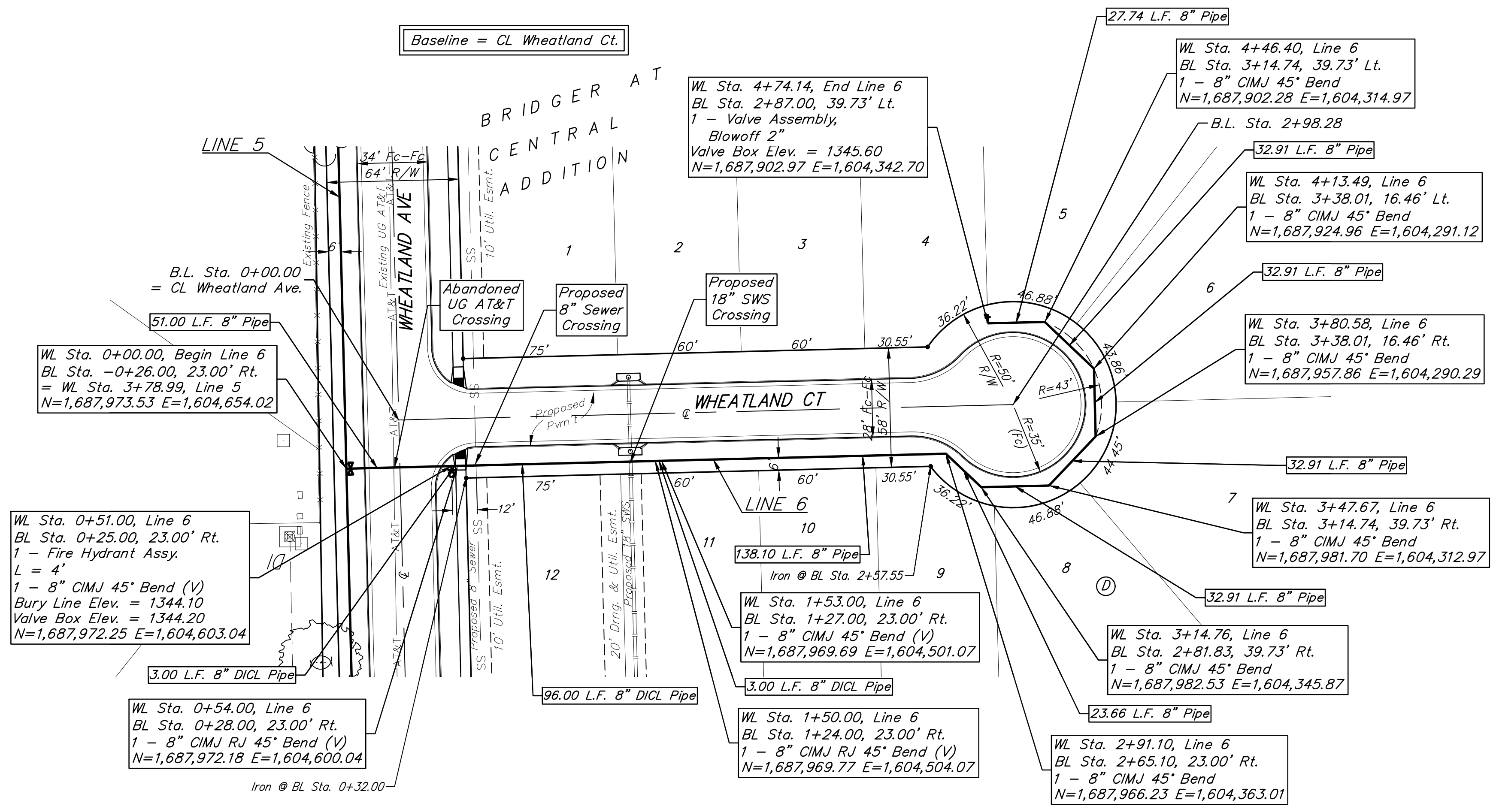
File: E:\Projects\Bridger At Central Addition\AIBent_Engineering\Phase 1\WTR_23-09-600\Water.dwg

BENCHMARKS:
 BM #1: "□" on top of curb inlet, NE Cor. N side of W Central Ave, 27.5'± S. & 90.2'± W. of SW Cor., Lot 1, Block 1, Castlegate 3rd.
 Elev. = 1342.00 NAVD88

BM #2: City of Wichita Benchmark disc, E side of N 135th St W, 13.2'± S. & 37.7'± E. of W1/4 Cor., Sec. 13, Twp. 27-S, R-2-W.
 Elev. = 1347.48 NAVD88

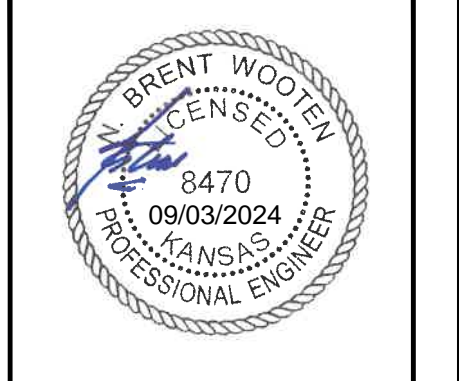
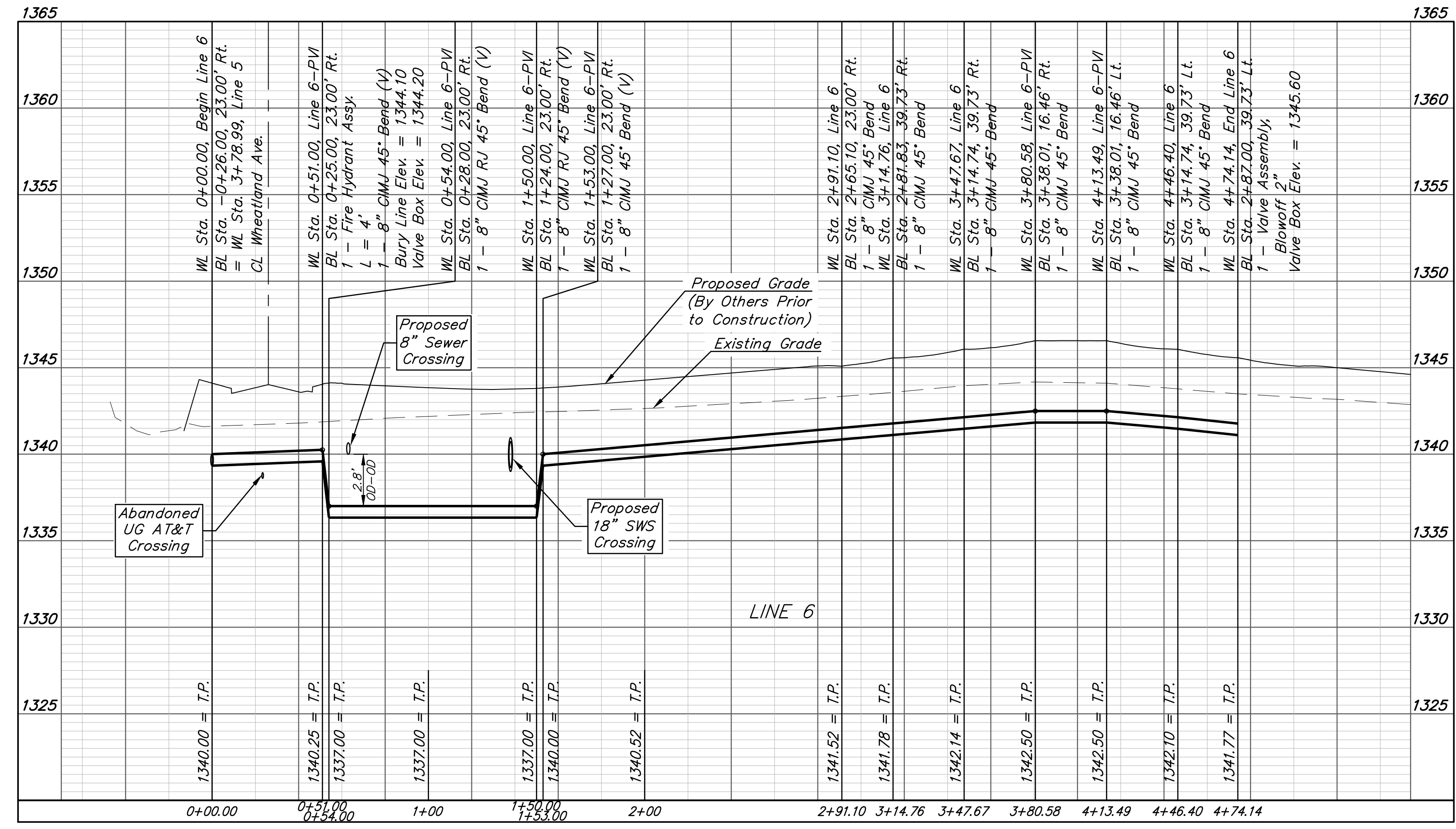
Pipe layout is shown with horizontal and vertical deflections. Contractor to use short pipe lengths, high deflection couplers, and manufacturer recommended pipe deflections to meet planned alignment.

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BAUGHMAN COMPANY

315 Ellis St.
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BRIDGER AT CENTRAL ADDITION - Ph. I

LINE 6

WATER DISTRIBUTION SYSTEM

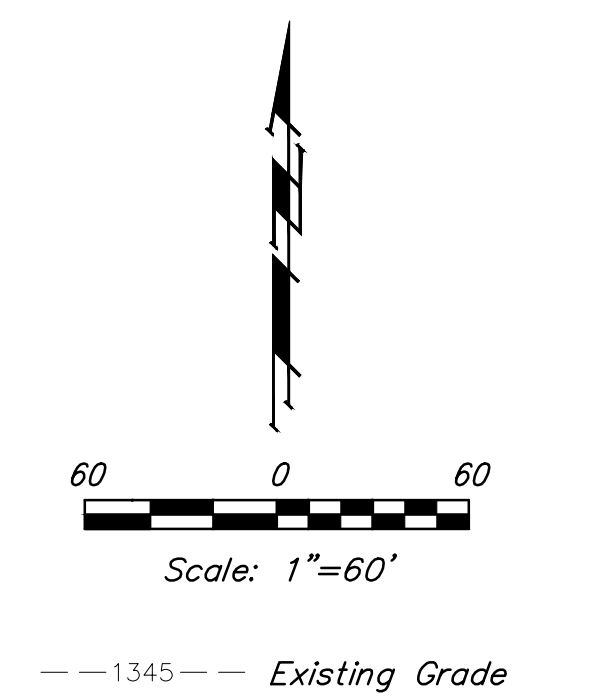
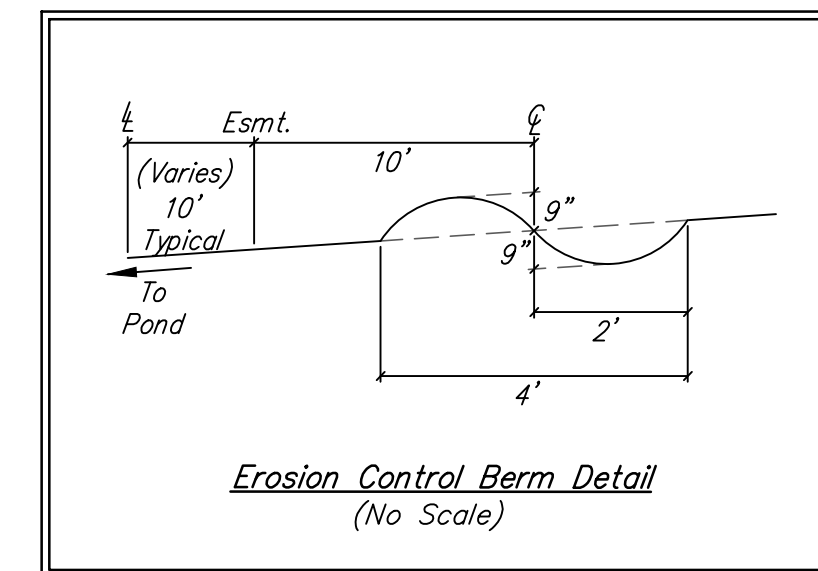
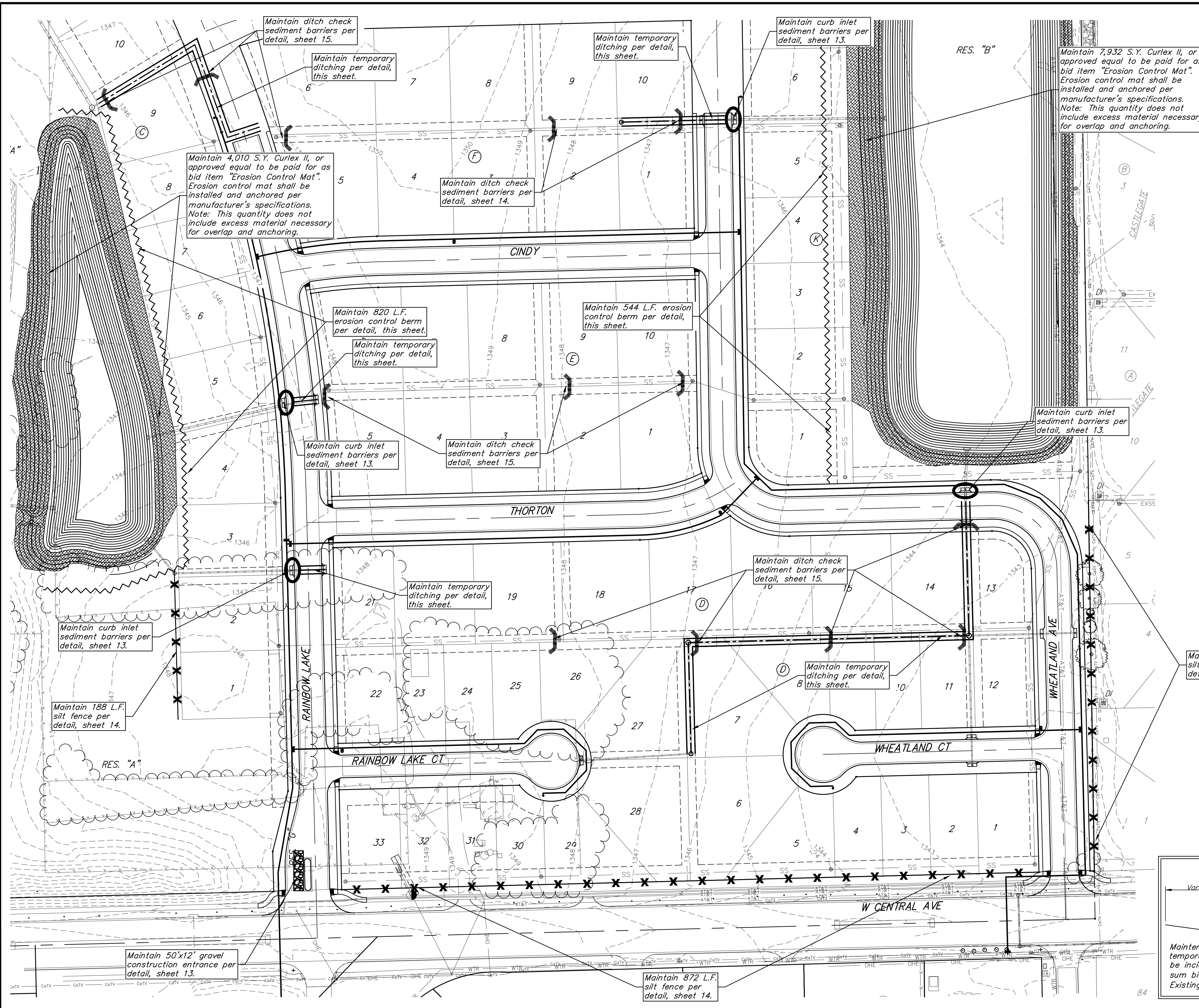
PROJECT NUMBER:
 23-09-600

DESIGN: NBW DRAWN: TMS

DATE: August 22, 2024

SHEET OF
9 19

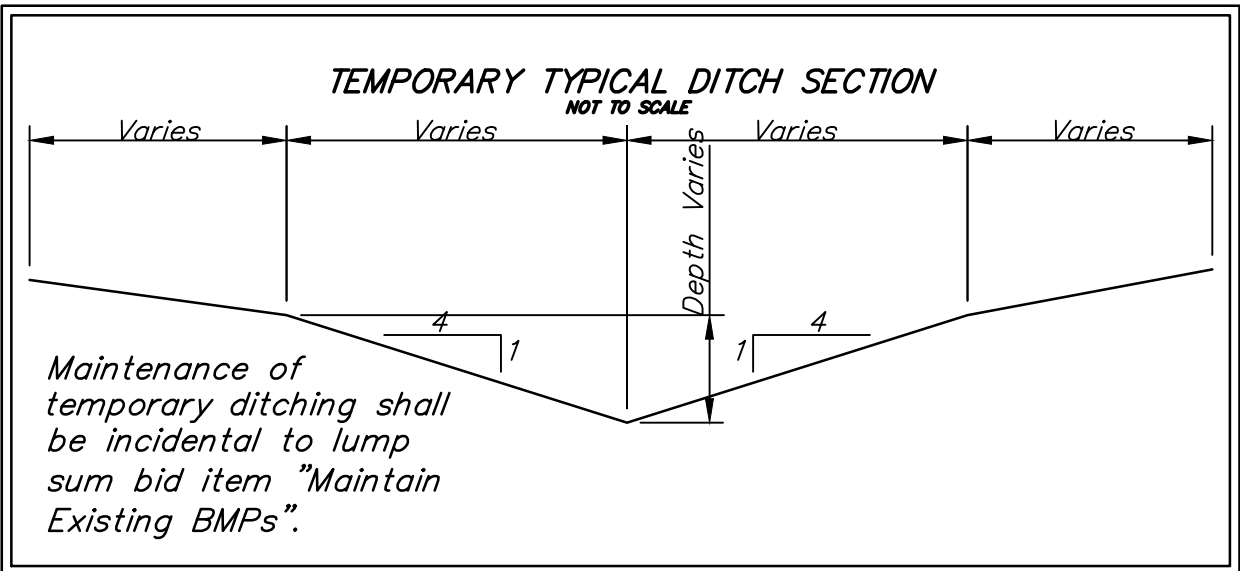
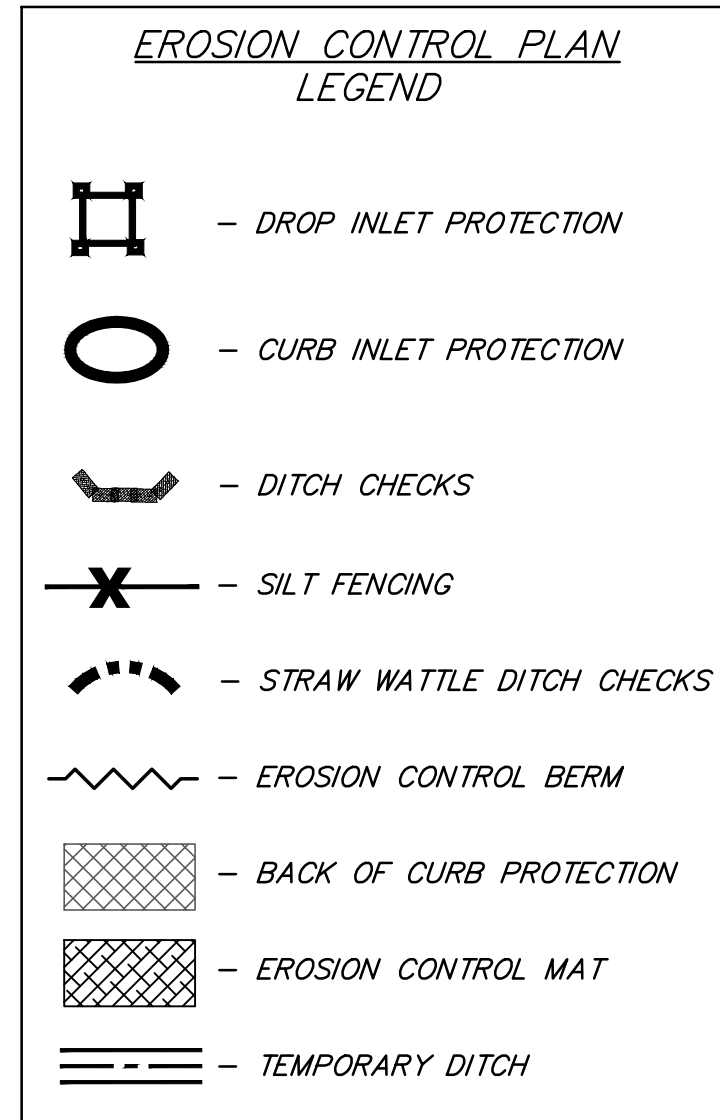
File: E:\Projects\Bridger At Central Addition\Bent_Engineering\Phase 1\WTR_23-09-600\Water.dwg



EROSION CONTROL MEASURE	INSTALL	MAINTAIN	REMOVE
BACK OF CURB PROTECTION (LF)	0	0	0
CONSTRUCTION ENTRANCE (EA)	0	1	0
CURB INLET BARRIER (EA)	0	4	0
DITCH CHECK (EA)	0	13	0
DROP INLET PROTECTION (EA)	0	0	0
EROSION CONTROL (LS)	0	0	0
EROSION CONTROL BERM (LF)	0	1,364	0
SILT FENCE (LF)	0	1,524	0
EROSION CONTROL MAT (SY)	0	11,942	0

QUANTITIES ARE FOR INFORMATION ONLY! CONTRACTOR SHALL VERIFY QUANTITIES PER FINAL BID QUANTITY SHEET.

* ALL EXISTING BMPs INCLUDING CONSTRUCTION ENTRANCE, SEDIMENT BARRIERS, SILT FENCE, EROSION CONTROL BERM, AND EROSION CONTROL MAT SHALL BE MAINTAINED AND REPAIRED IF NECESSARY. REPLACEMENT OR REMOVAL OF EROSION CONTROL MEASURES TO BE PAID FOR BY L.S. BID ITEM "MAINTAIN EXISTING BMPs"



BAUGHMAN COMPANY

315 Ellis St.
Wichita, KS 67211
316-262-7271
BaughmanCo.com

BRIDGER AT CENTRAL ADDITION - Ph. I

EROSION CONTROL PLAN

WATER DISTRIBUTION SYSTEM

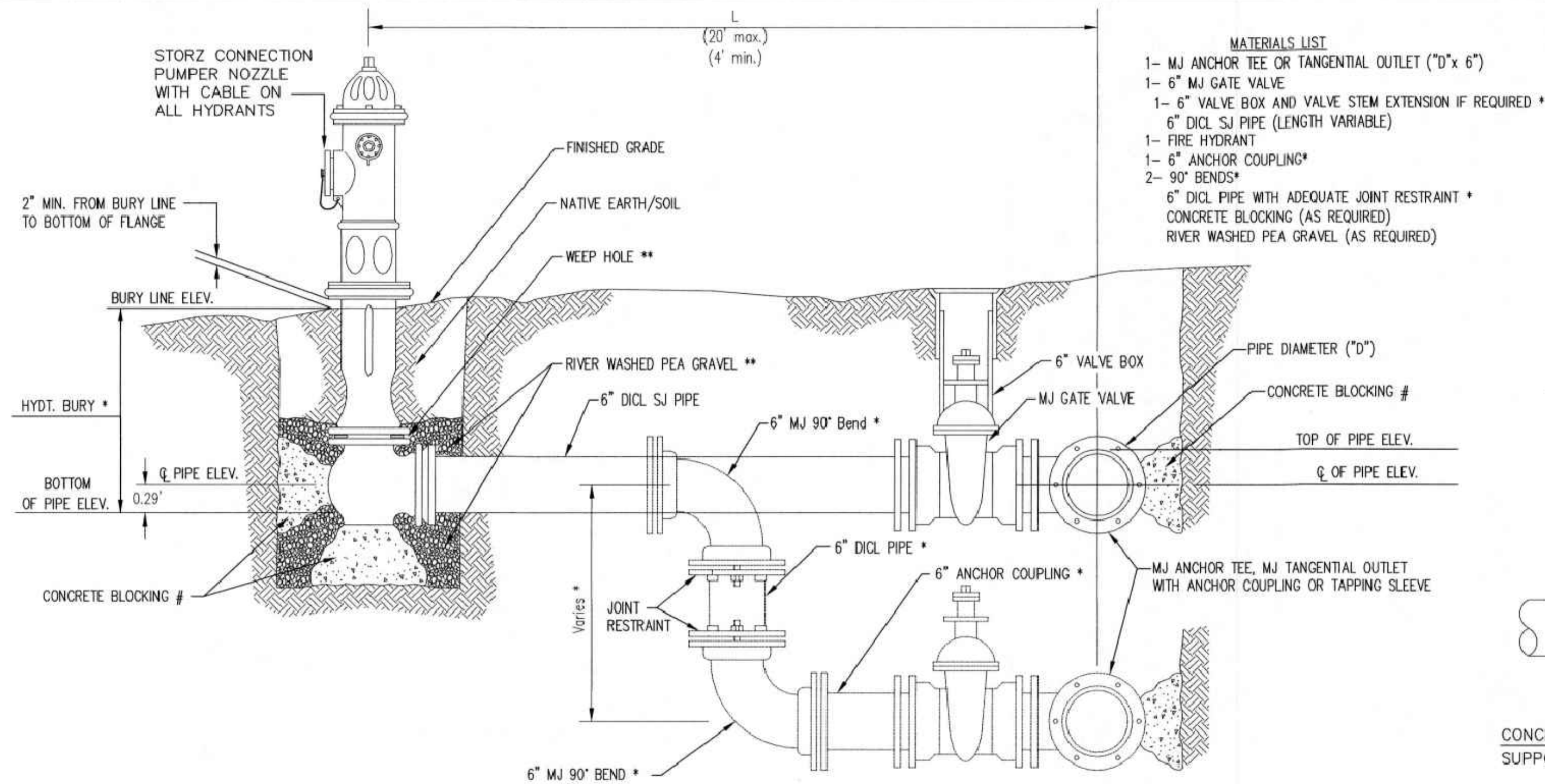
PROJECT NUMBER:
23-09-600

DESIGN: NBW DRAWN: TMS

DATE: August 27, 2024

SHEET **10** OF **19**

File: E:\Projects\Bridger At Central Addition\Brent Wooten\Engineering\Phase 1\WTR_23-09-600\Water.dwg



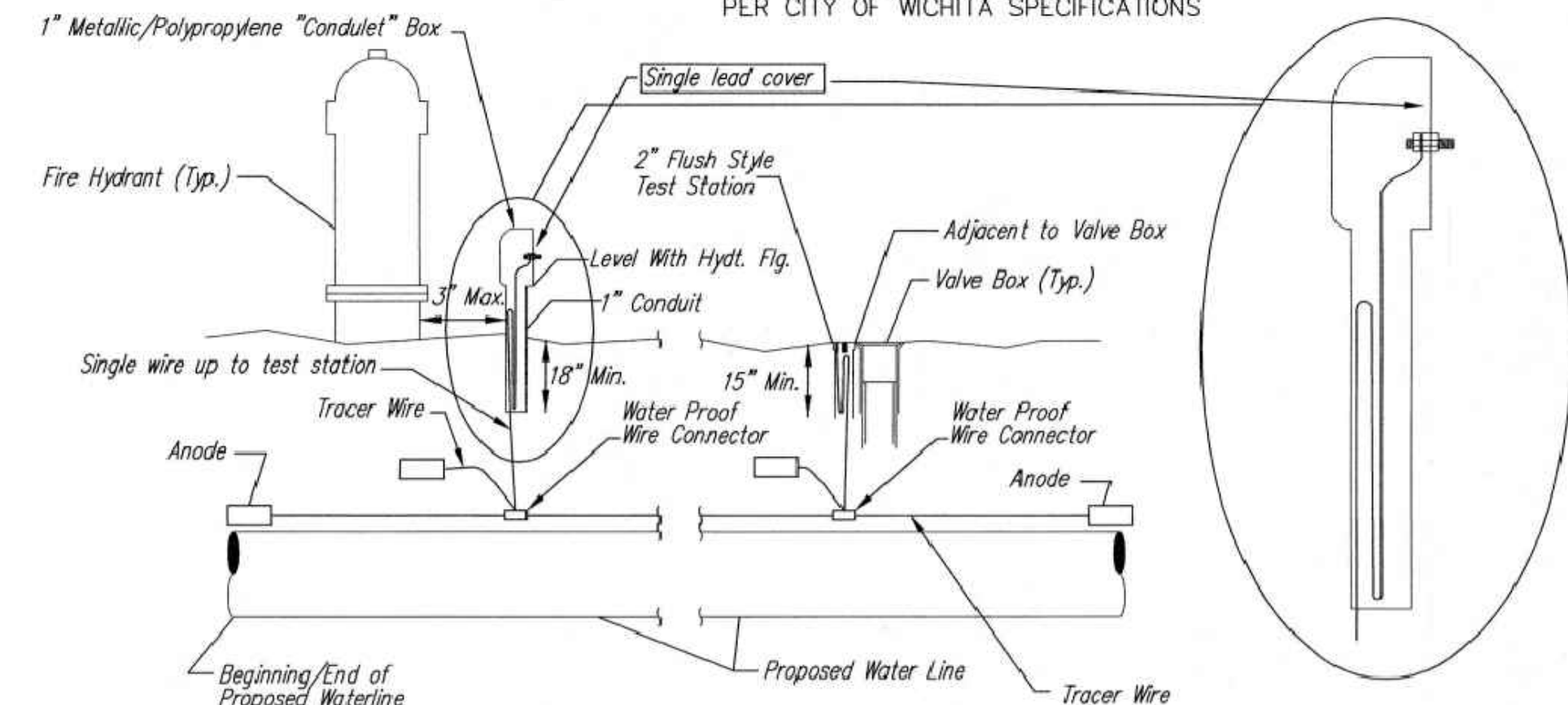
- MATERIALS LIST**
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET (10" x 6")
 - 1- 6" MJ GATE VALVE
 - 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED *
 - 6" DI CL SJ PIPE (LENGTH VARIABLE)
 - 1- FIRE HYDRANT
 - 1- 6" ANCHOR COUPLING*
 - 2- 90° BENDS*
 - 6" DI CL PIPE WITH ADEQUATE JOINT RESTRAINT *
 - 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 PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, 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 install 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. A waterproof connector shall be used at splice locations. A complete list of approved tracer wire and waterproof connectors can be found on the City of Wichita's website at www.wichita.gov.

WIRES
The tracer wire shall be Blue No. 12 AWG CCS with 45 mil HDPE insulation. 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. Wire connectors shall be installed per manufacturer recommendations. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

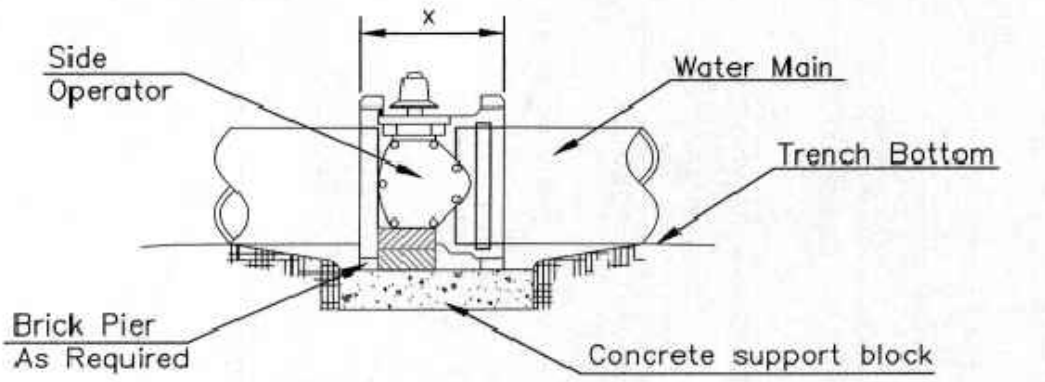
TEST STATIONS
The test station for fire hydrant application shall be a 1" "conduit" style station as manufactured by AGRA Industries with a removable solid cover having a single lead extending from the face or approved equal. The "conduit" style test station shall be attached to a 1" rigid galvanized 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. The test station for valve applications shall be a 2" flush style test station with wire connector on lid. Model # T2PH7B1LP Handley Industries or CD14*TP SnakePit as manufactured by Copperhead Industries or approved equal. 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 install to allow 12" of wire within the test station. The location of all test stations shall be recorded, and shown in the as-built drawings. Flush style test stations shall not be installed in pavement or sidewalk unless approved by the Engineer. Contractor shall extend tracer wire & move flush mount test station to nearest location out of pavement or sidewalk.

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 12 AWG CCS which shall be extended to the test station.

TRACER WIRE DETAIL

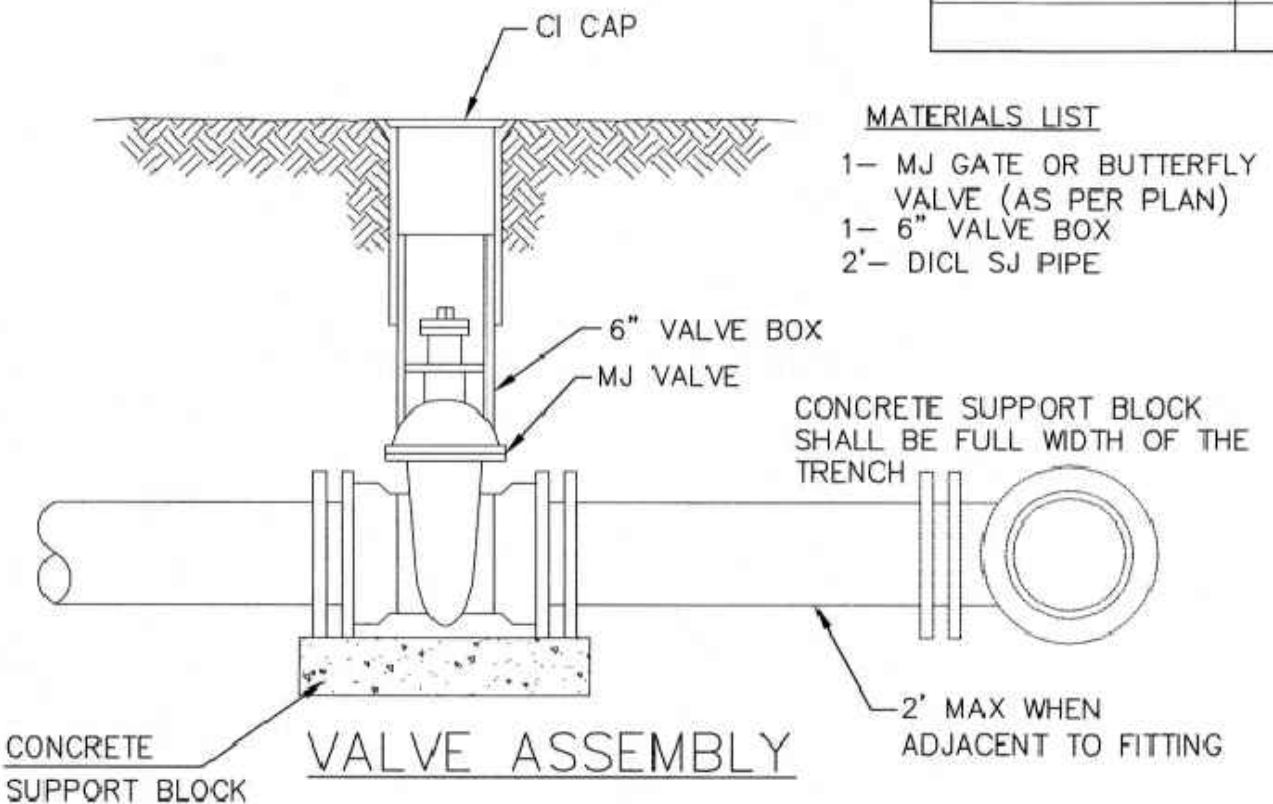
COST IS SUBSIDIARY TO PIPE INSTALLATION

FIRE HYDRANTS REQUIRED					
LINE	STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
1	9+24.77	1348.50	1344.65	4.5'	-
2	0+63.00	1348.50	1344.15	5.0'	-
3	5+48.07	1346.70	1342.35	5.0'	-
4	2+49.27	1350.00	1346.15	4.5'	-
6	0+51.00	1344.10	1340.25	4.5'	-

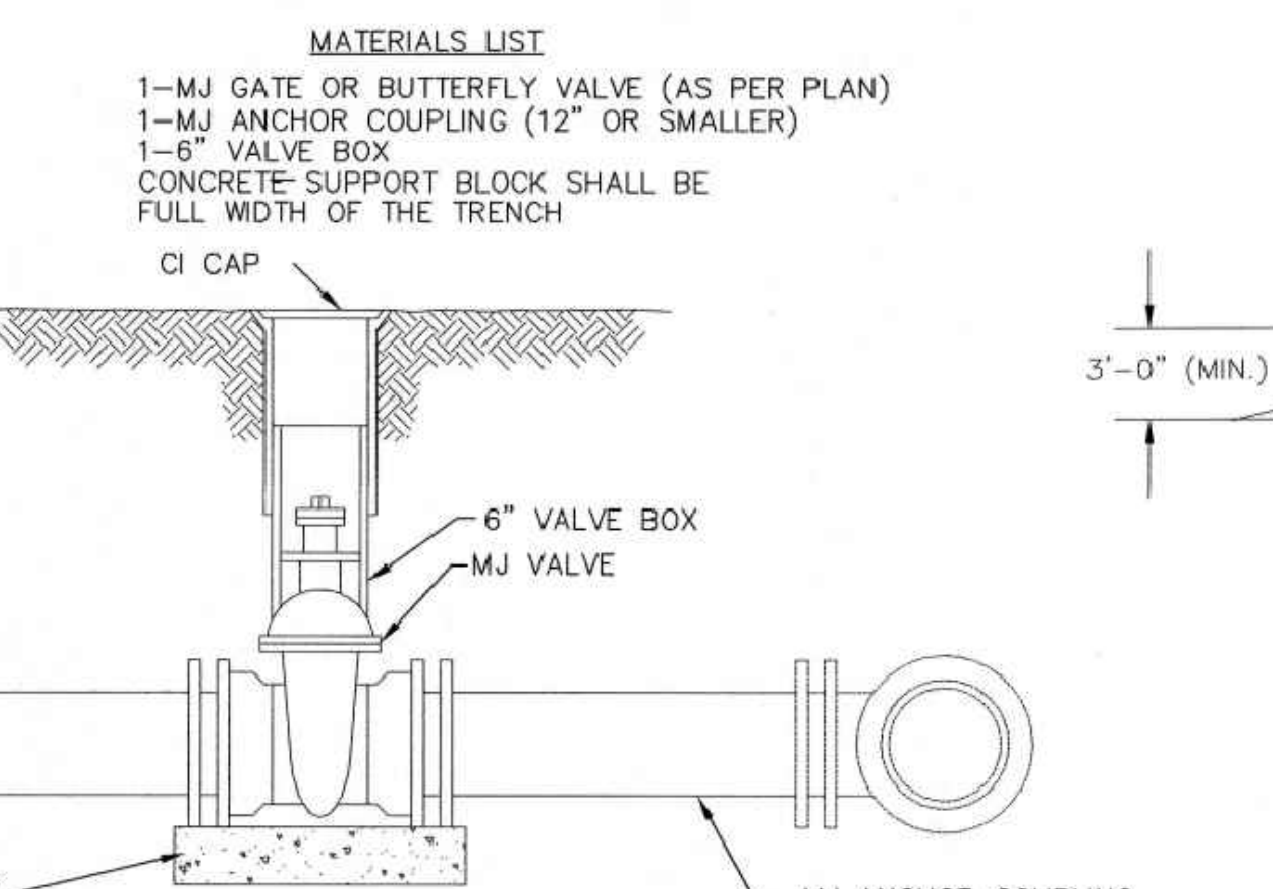


- NOTES**
- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
 - 6" Valve Box and Cover required per City of Wichita Std. Specifications.
 - Conc. Support Block to be full width of trench.

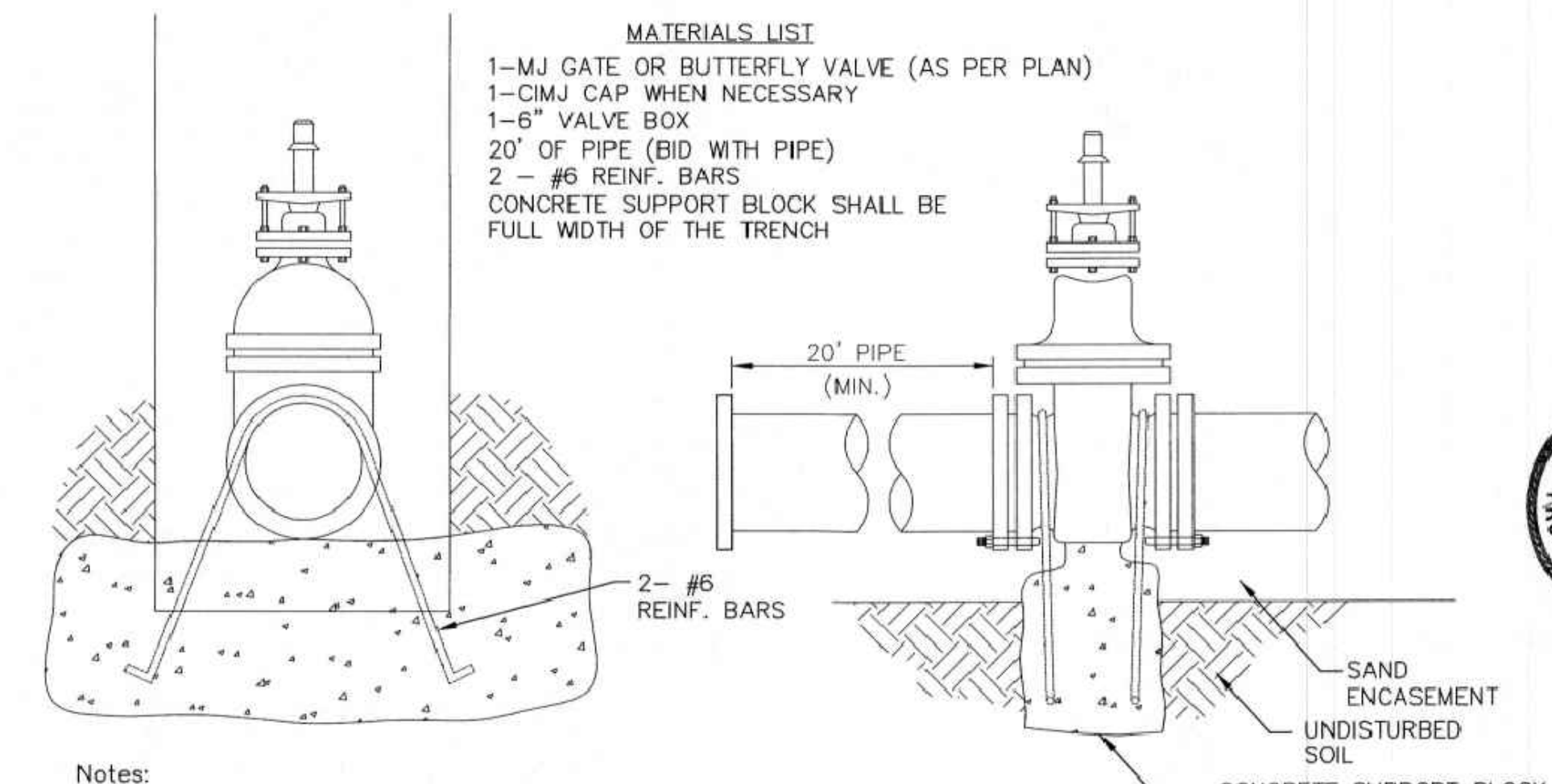
CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



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

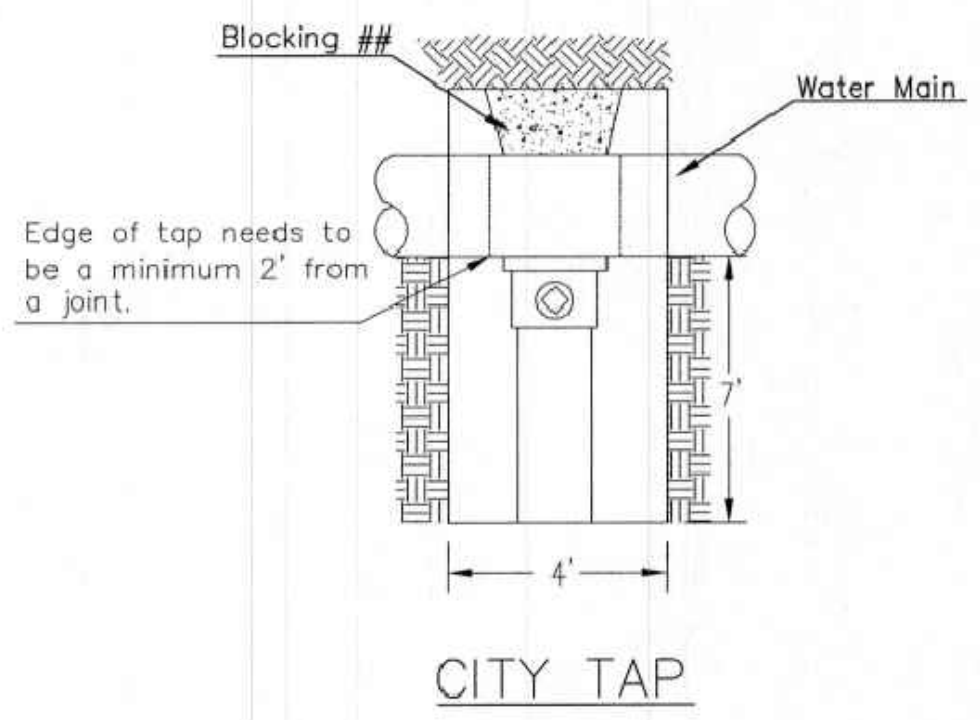


ANCHORED VALVE ASSEMBLY, SPECIAL



- 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.

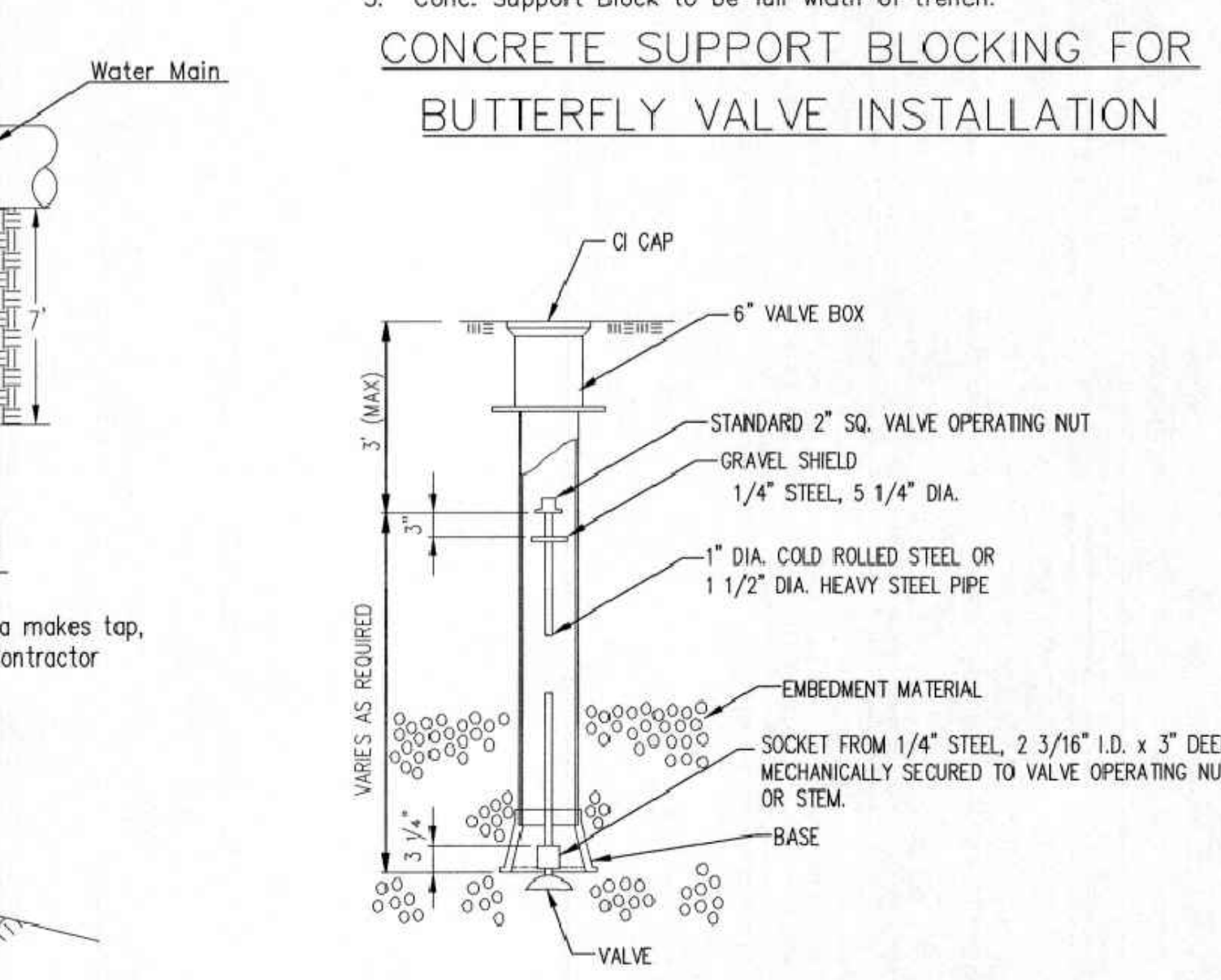
THRUST AT VALVES	
VALVE	THRUST AT 150 #/sq
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.



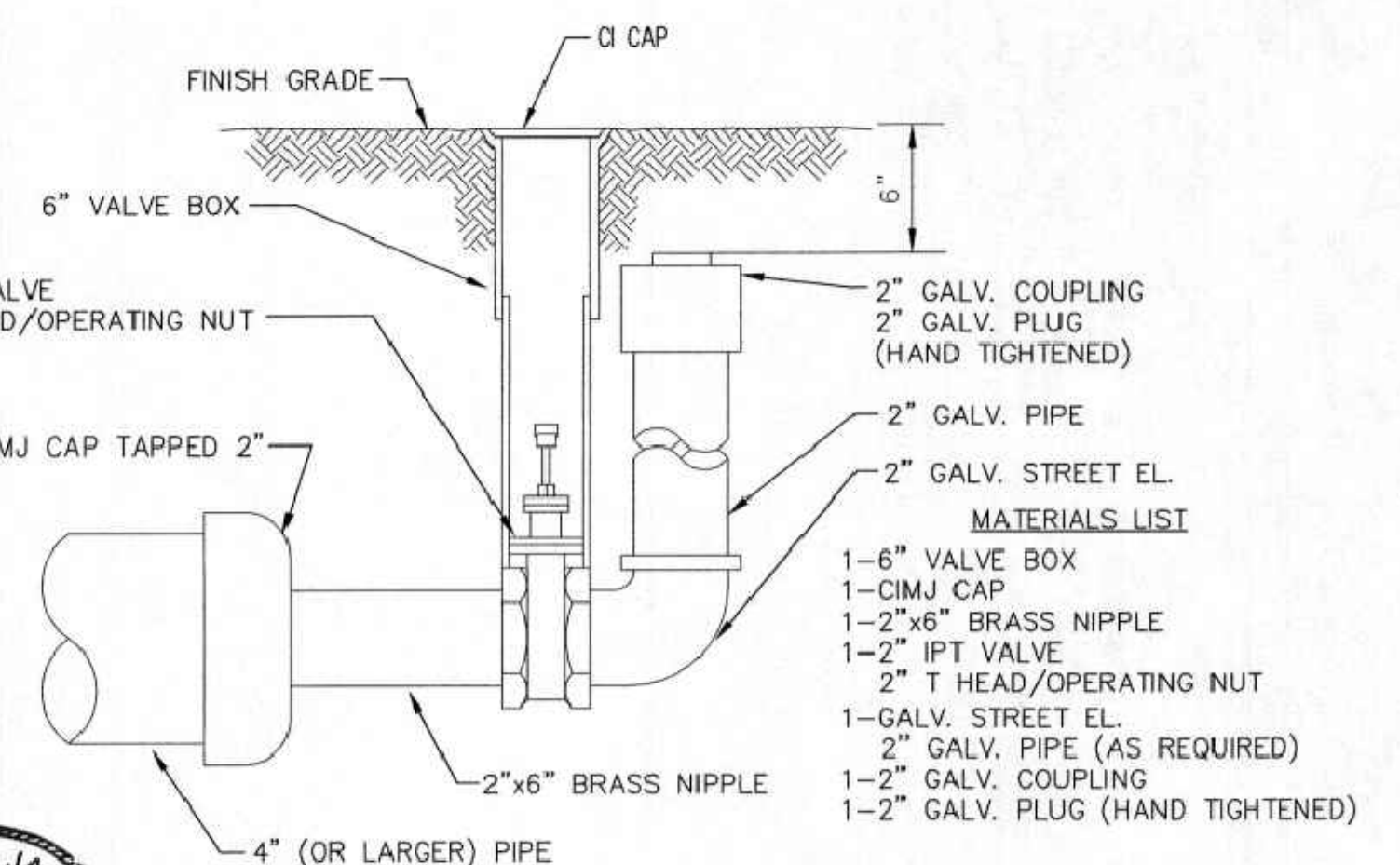
When the City of Wichita makes tap, blocking is to be done by Contractor

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'.



2" BLOWOFF ASSEMBLY



STANDARD WATER ASSEMBLY DETAIL

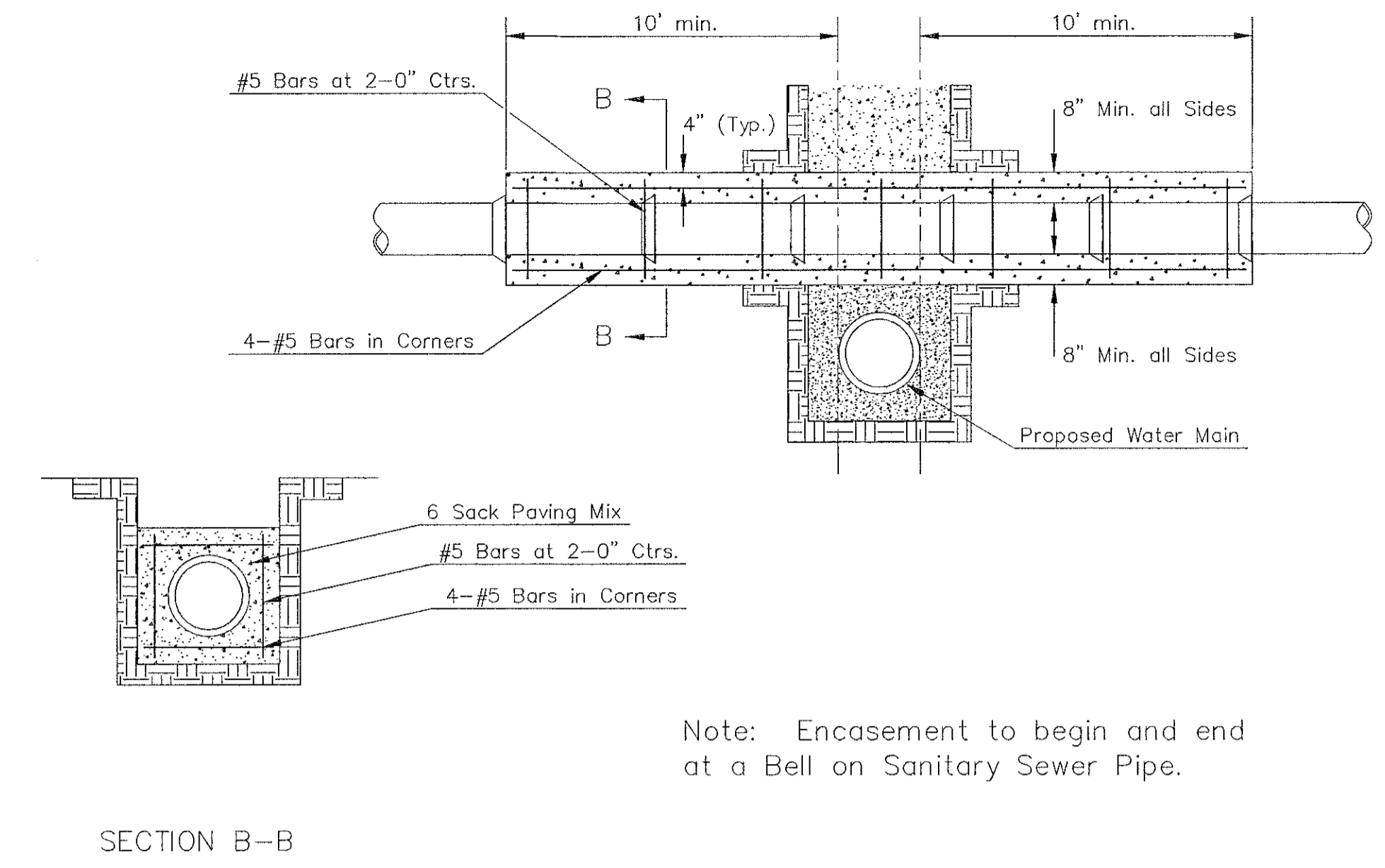
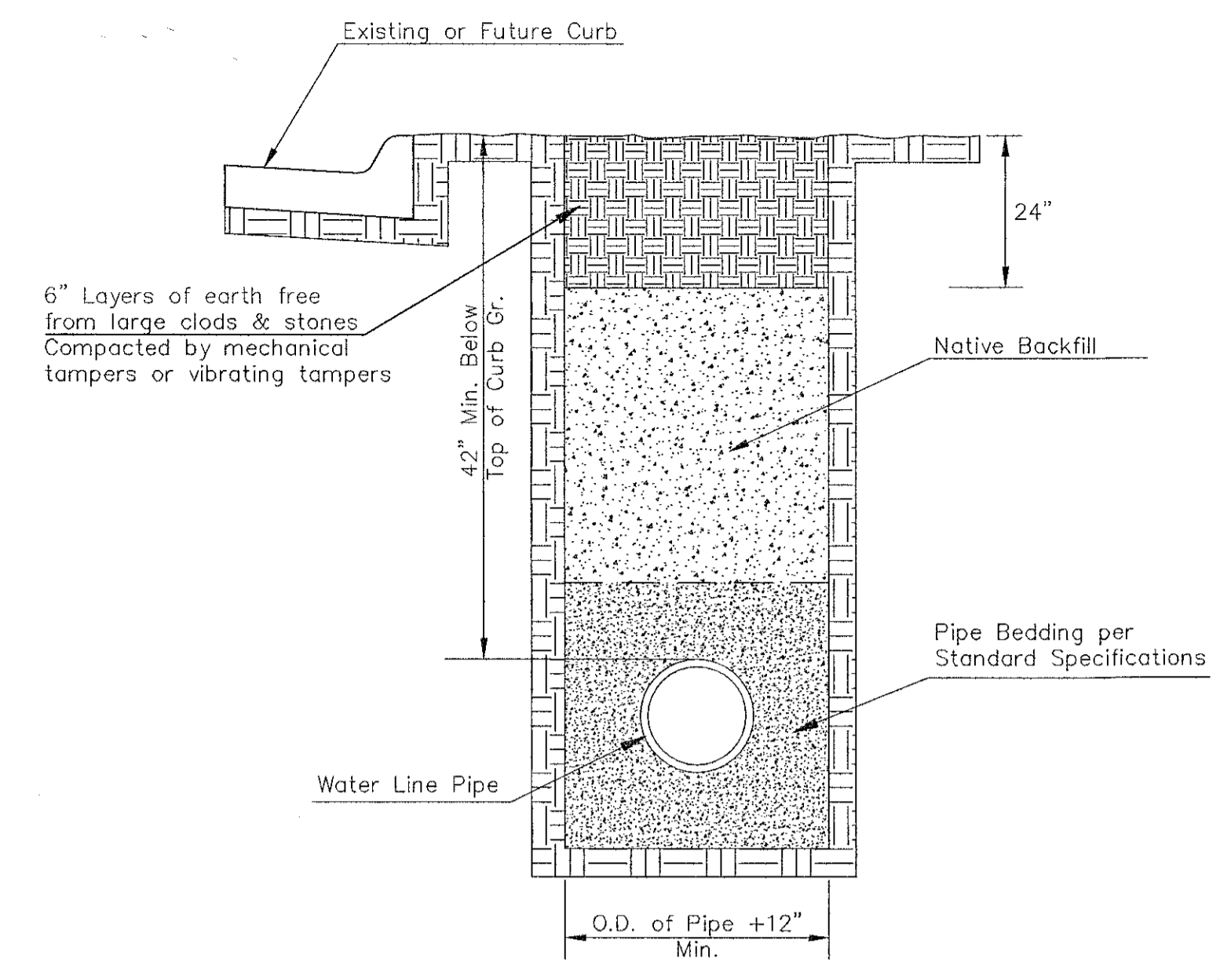
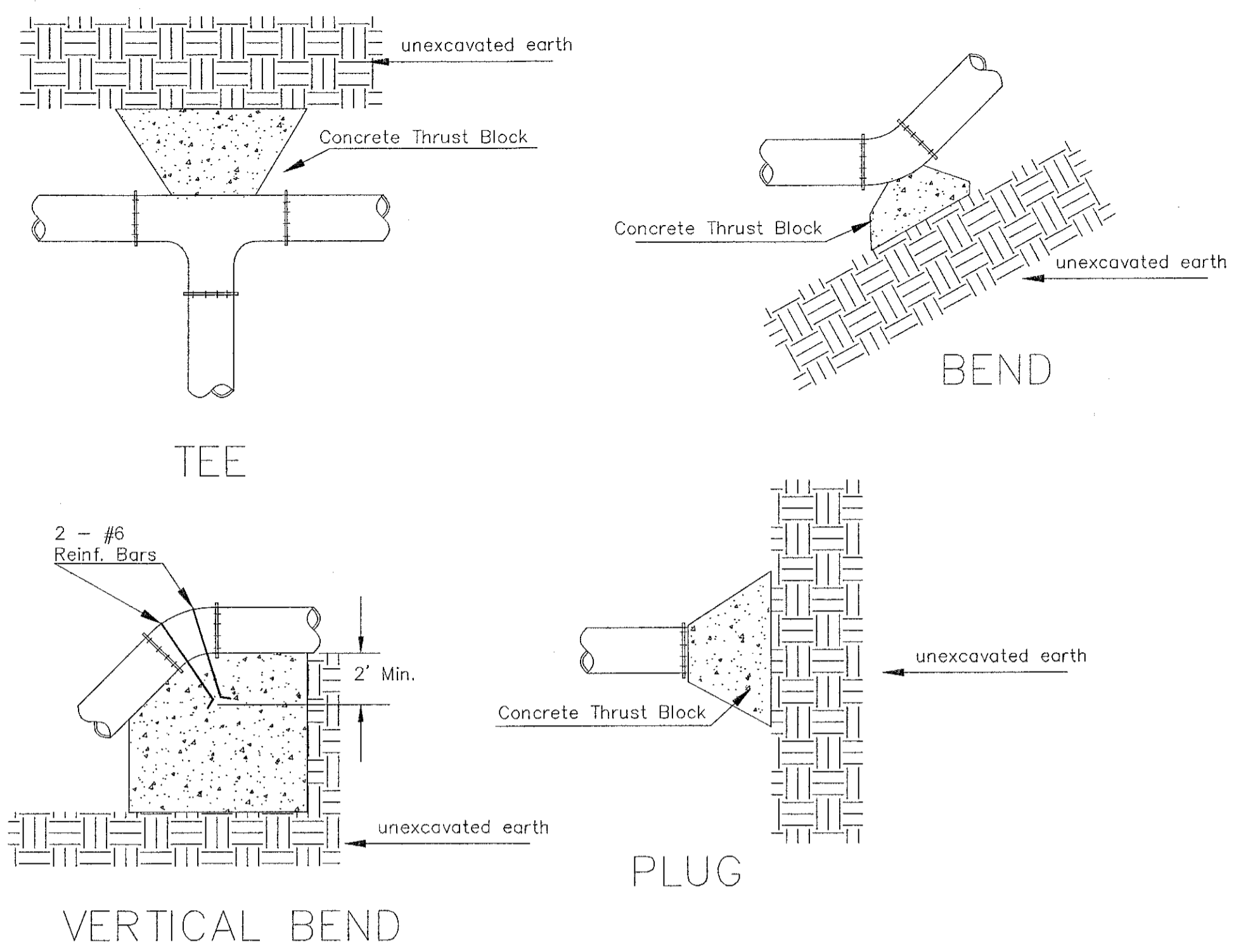
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER: OCA NUMBER: DATE:

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

SHEET
11 of 19

REVISED: OCTOBER 2016



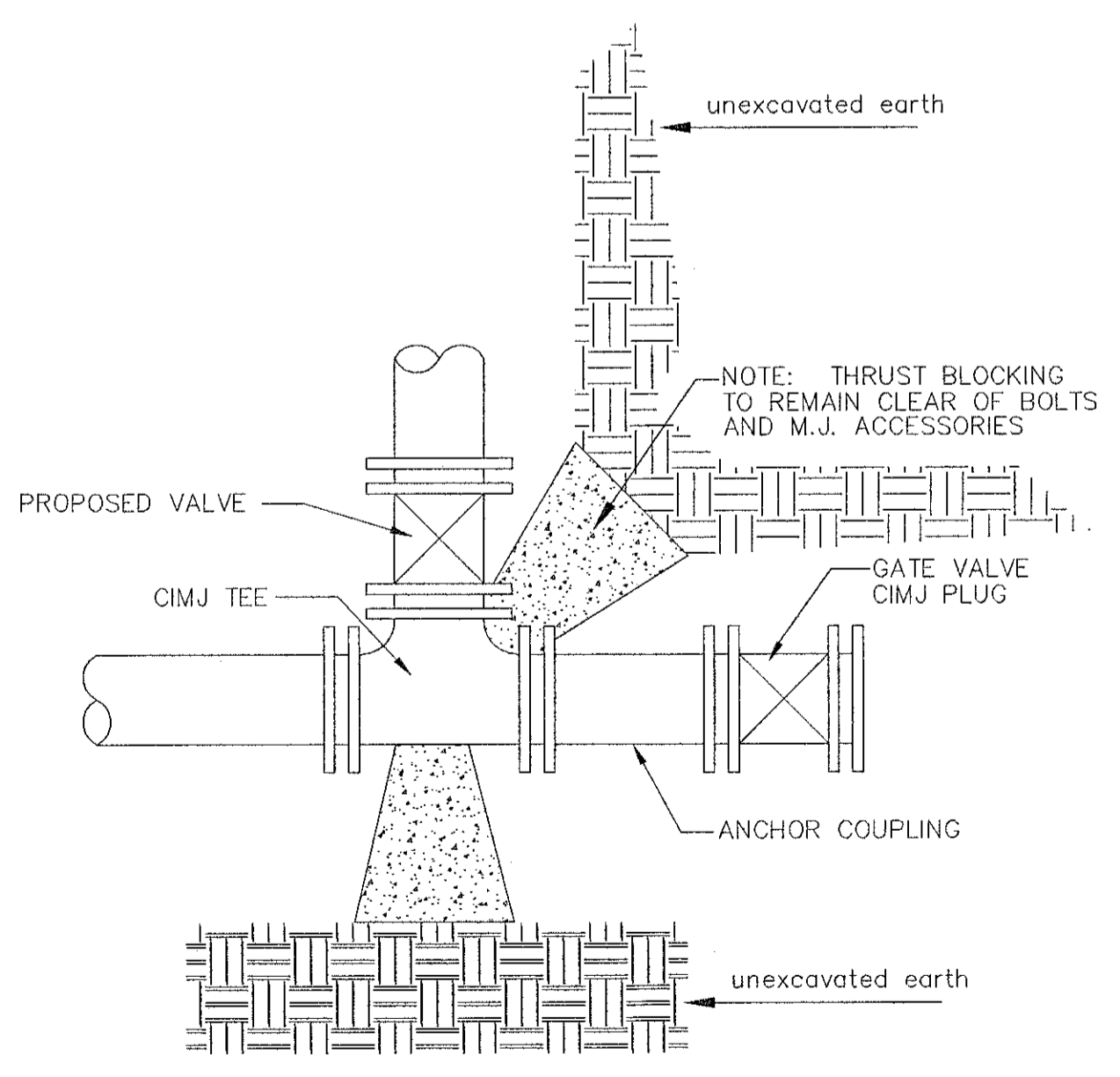
Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

TRENCH COMPACTION IN ROAD RIGHT-OF-WAY

REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER

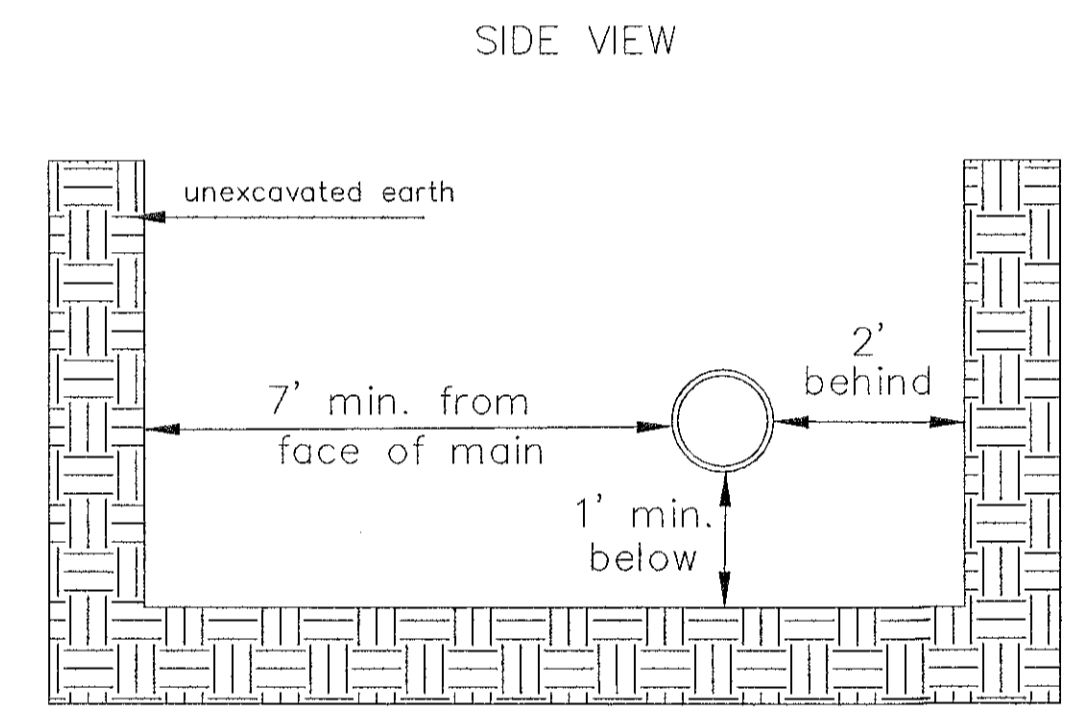
PIPE SIZE	THRUST AT FITTINGS IN TONS--AT 150#/IN ² P					
	PLUG	90°	45°	22 1/2'	11 1/4'	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

TYPICAL THRUST BLOCKS

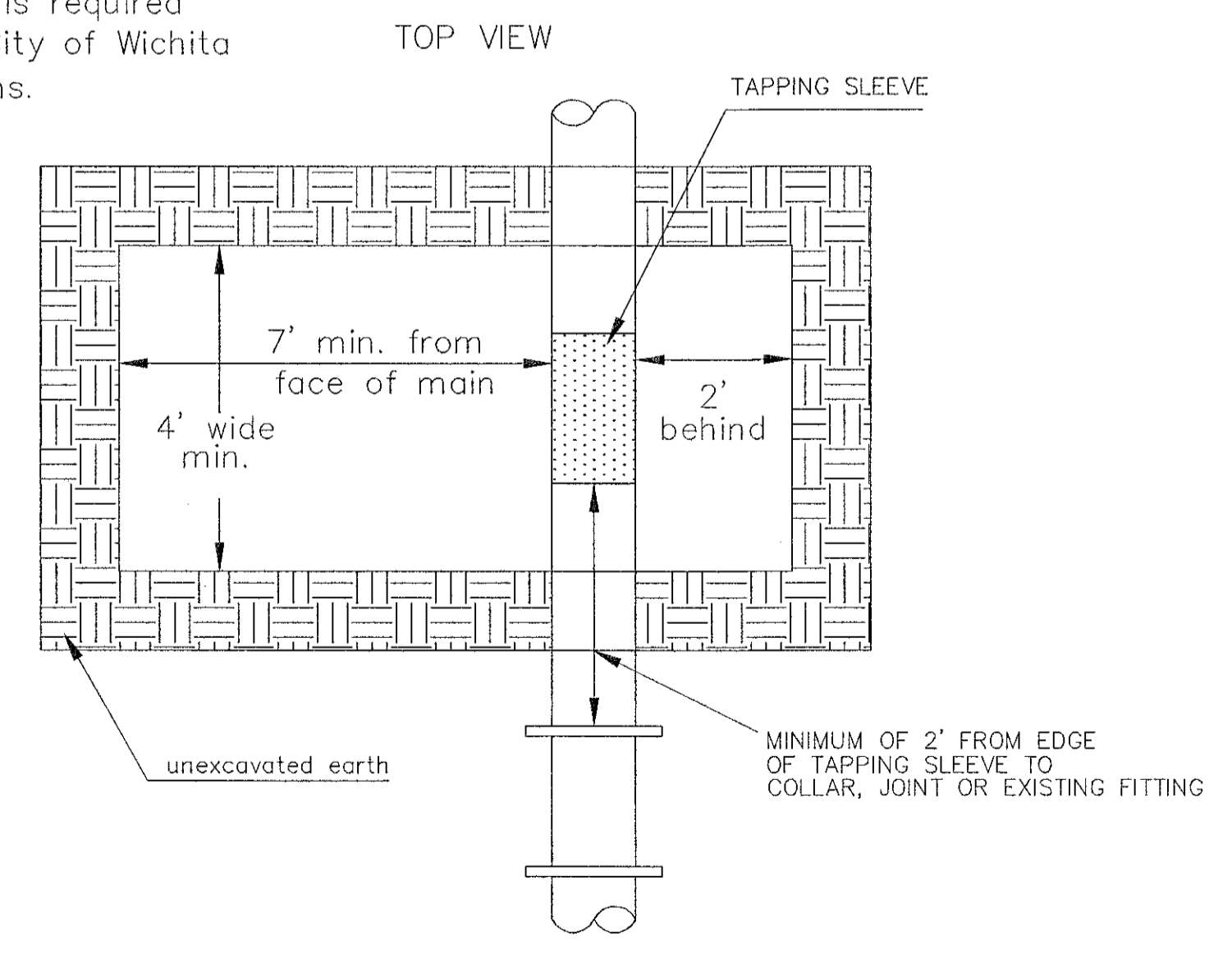


KEY BLOCK DETAIL

* PLANS GOVERN UNLESS OTHERWISE NOTED ON PLANS

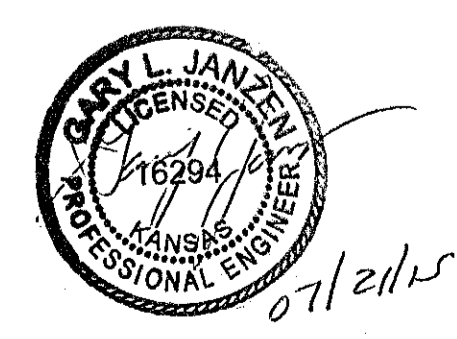
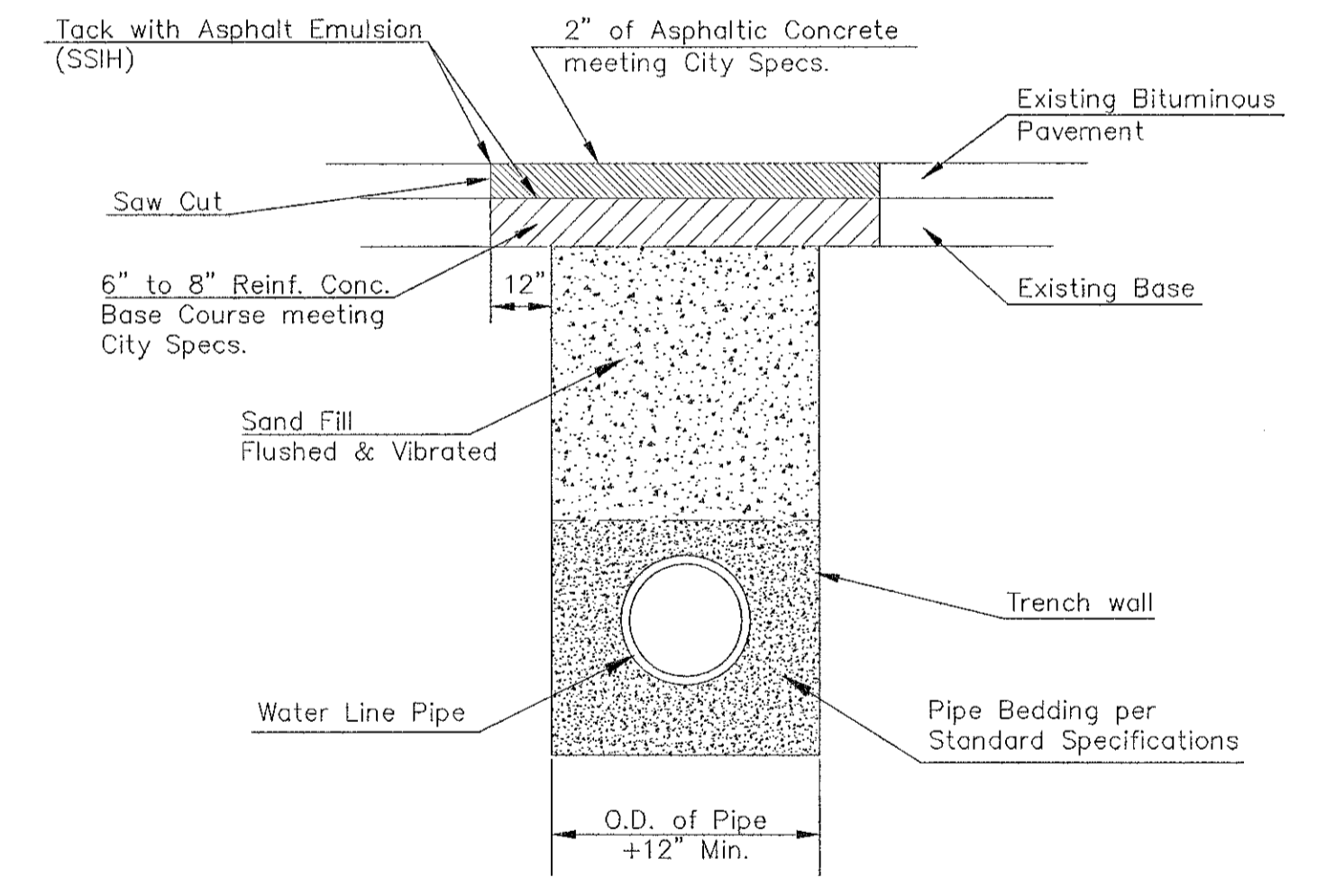


Note: When shoring is required it is to be per The City of Wichita Standard Specifications.



EXCAVATION FOR WET TAP

PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS



REVISD: JULY 2015

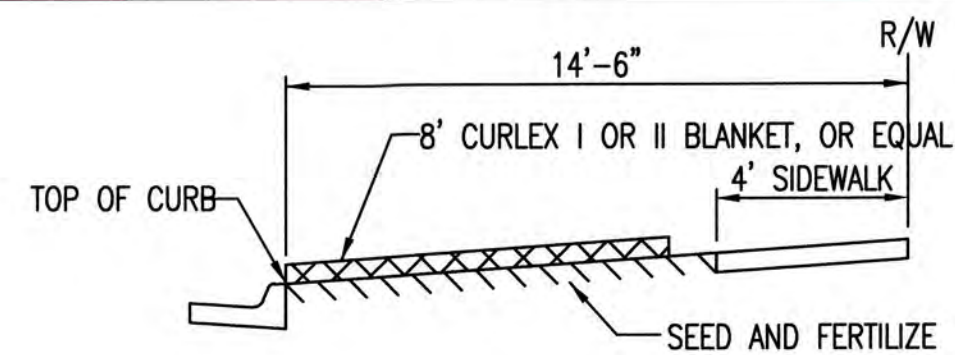
MISCELLANEOUS WATER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

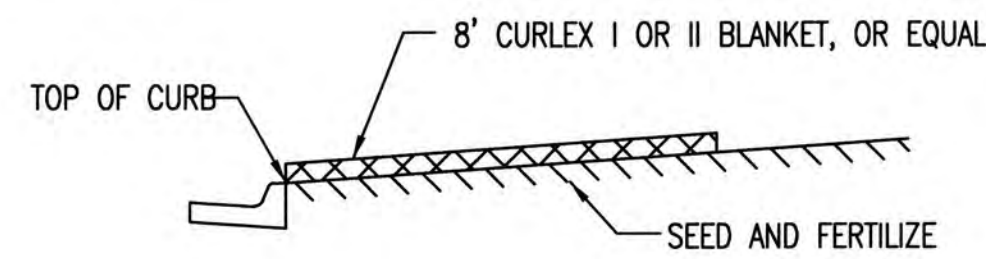
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

PROJECT NUMBER: _____ OCA NUMBER: _____ DATE: _____

SHEET
12 of 19

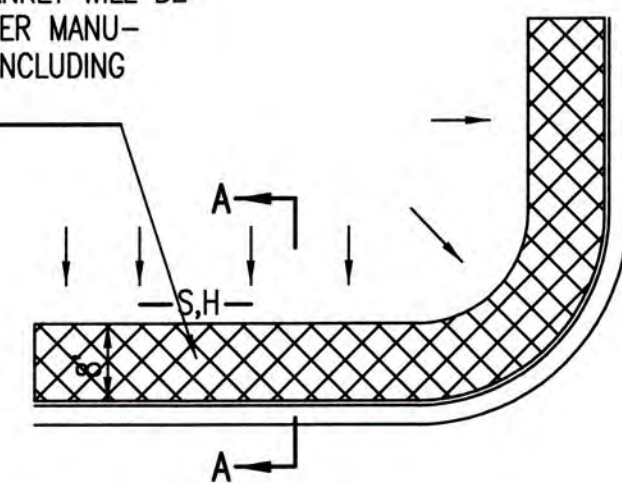


SECTION B-B

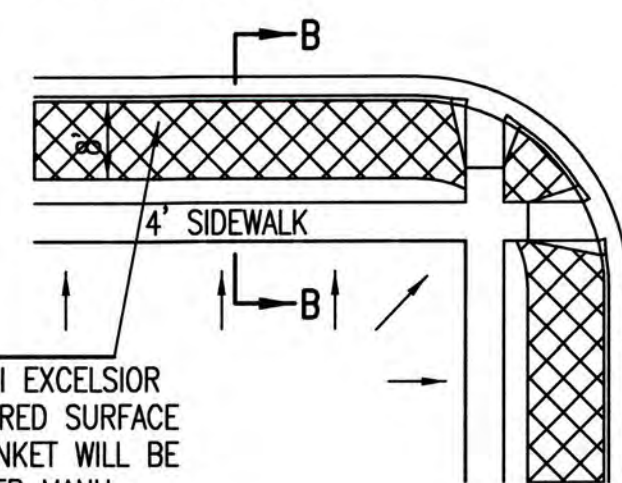


SECTION A-A

INSTALL 8" WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURERS RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)



SOUTH STREET

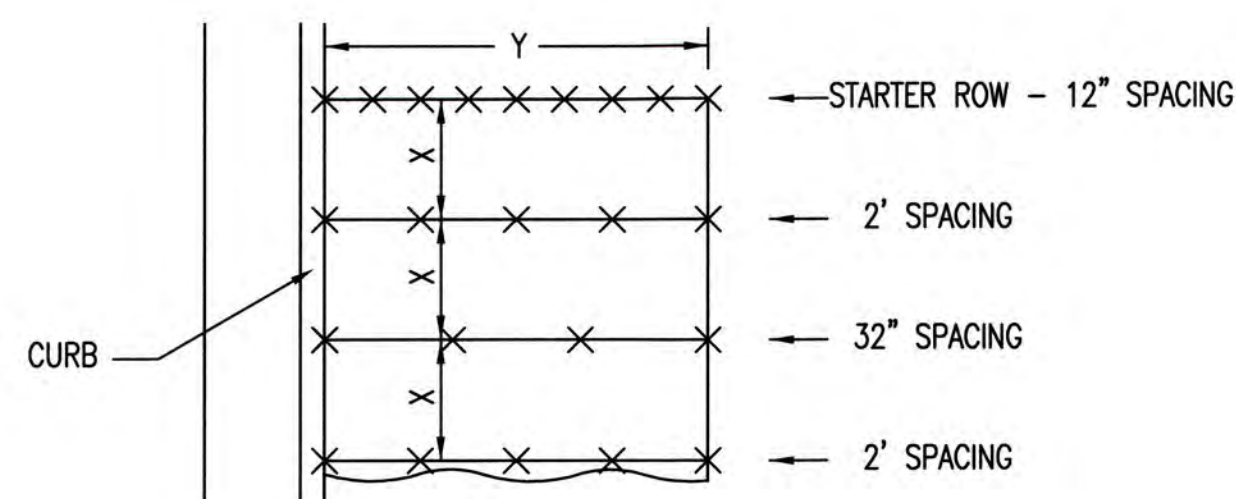


INSTALL 8" WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURERS RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)

GENERAL NOTES

- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
- EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

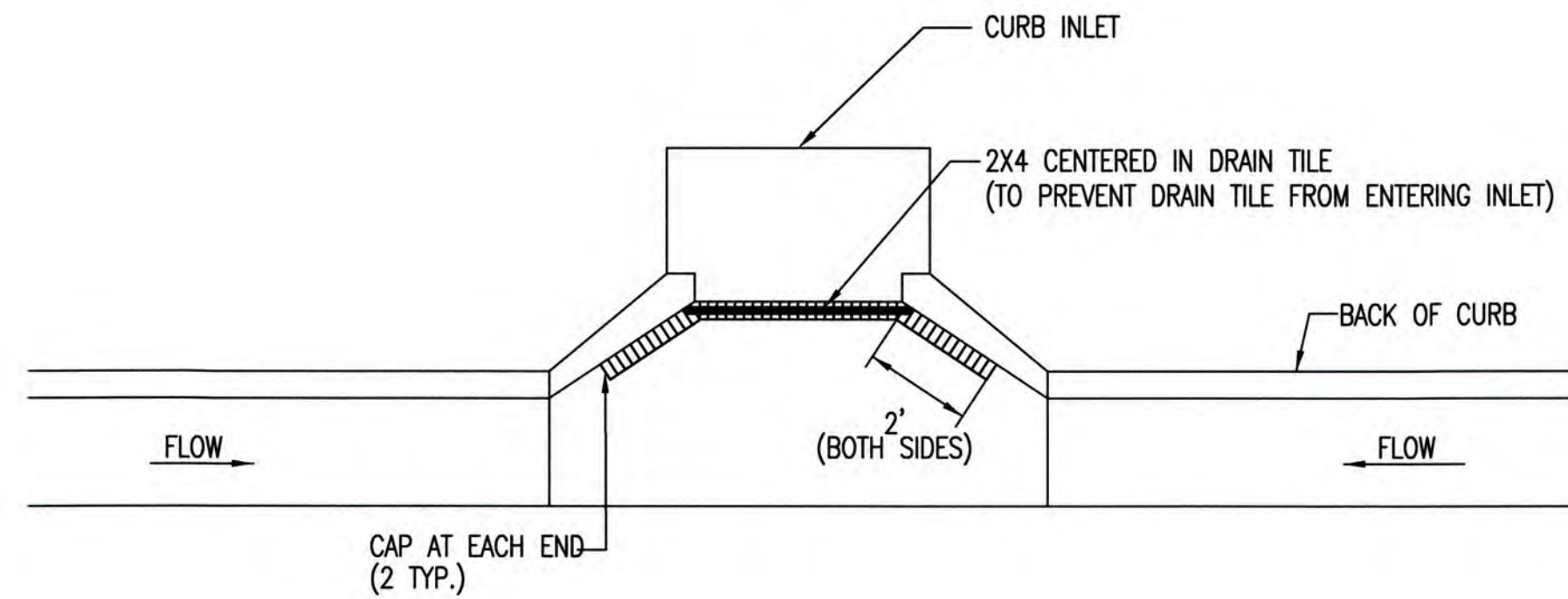
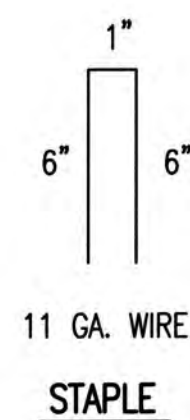
BACK OF CURB PROTECTION DETAIL



STAPLE PATTERN

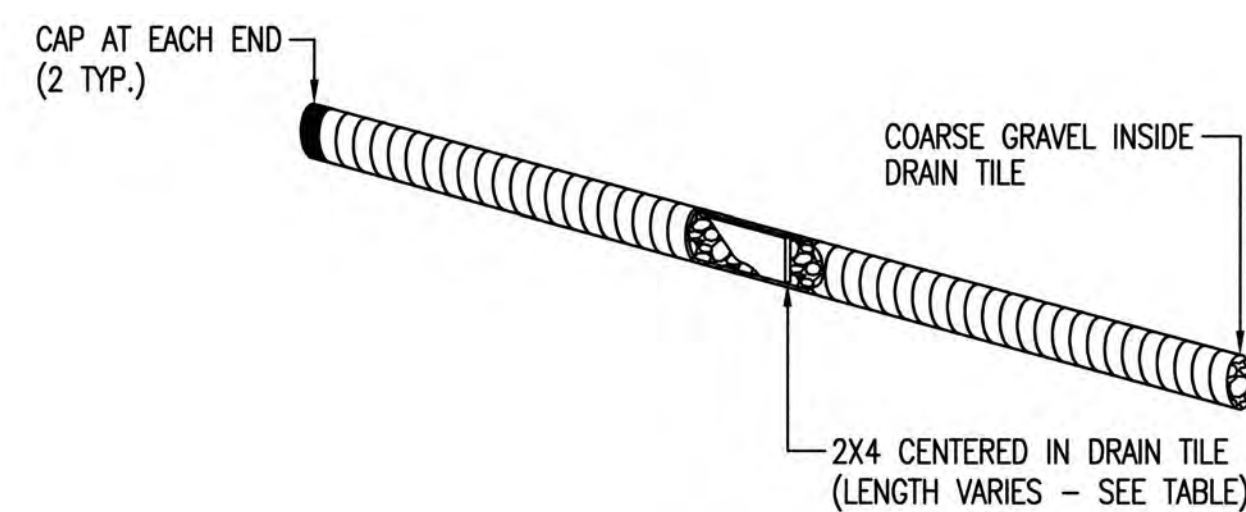
NOTES: USE 6" SEAM OVERLAP
(X & Y = RECOMMENDED BY MANUFACTURE)

DETAILS FOR APPROVED EROSION CONTROL MAT

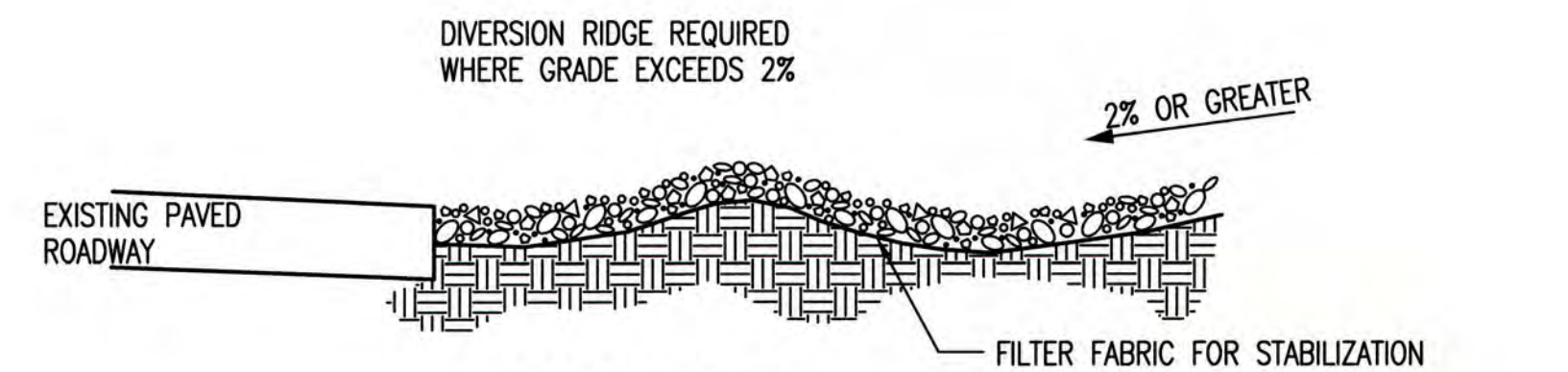


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

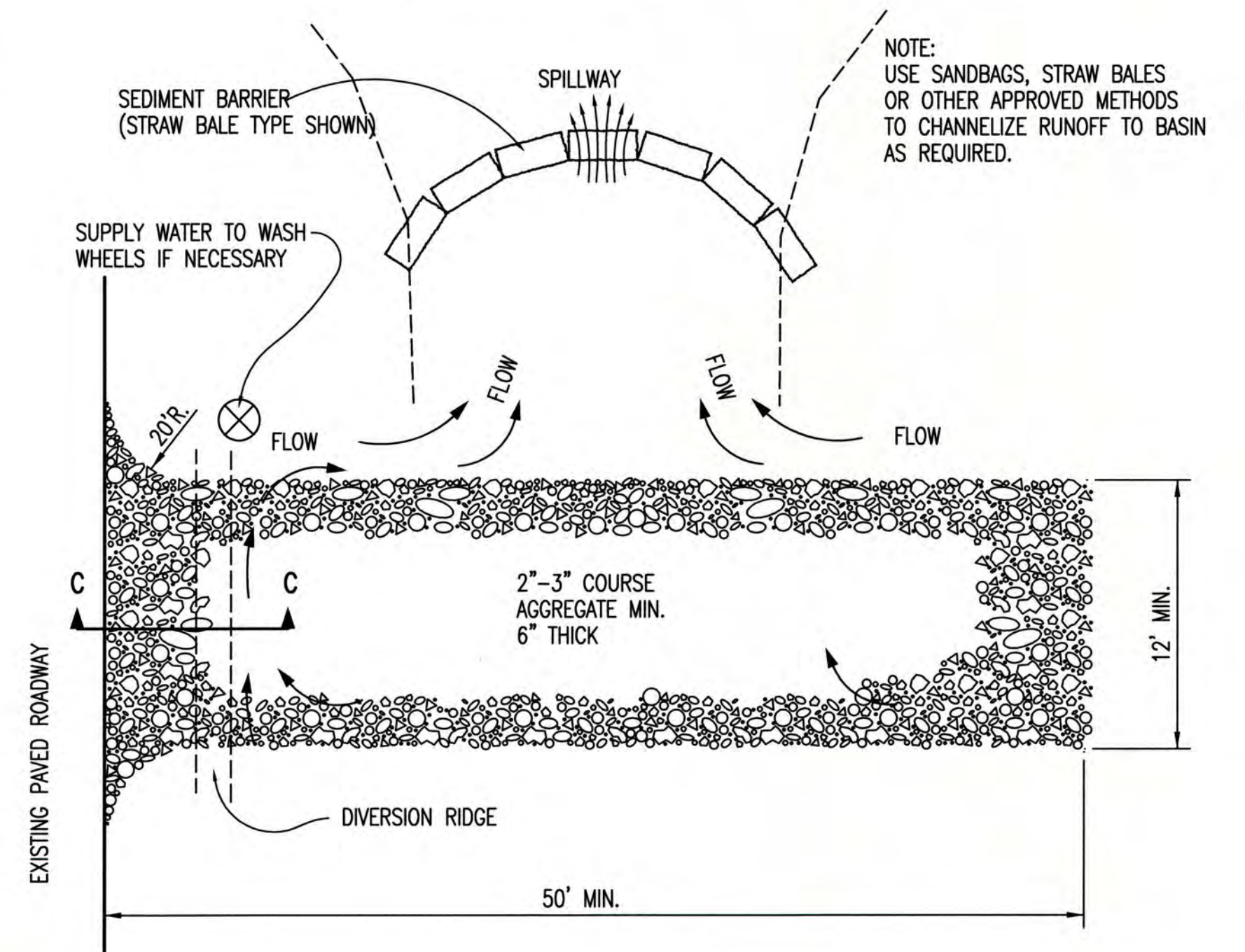
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
- DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

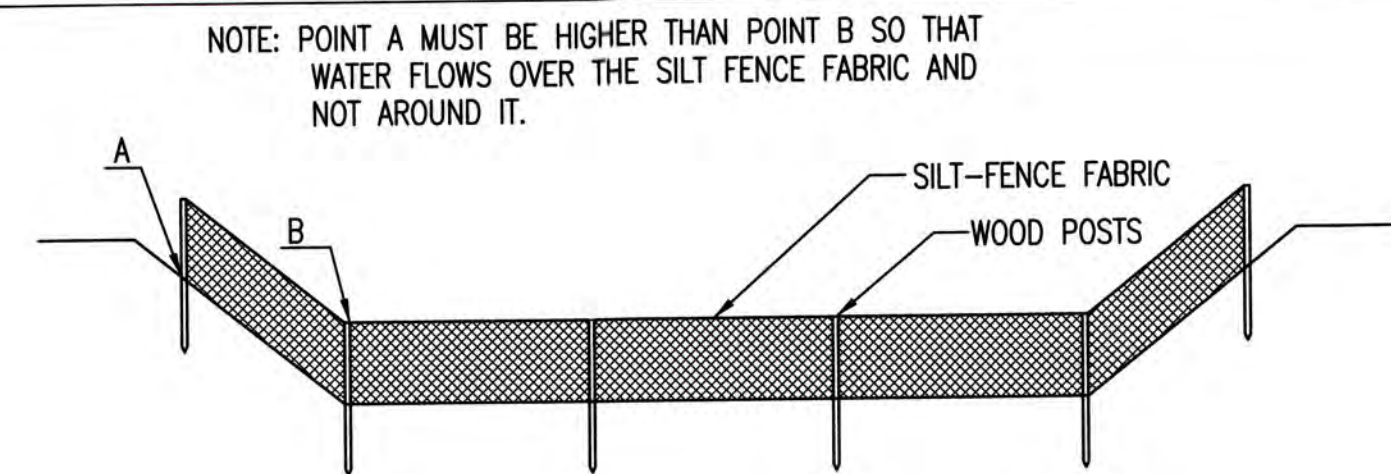
REVISION DATE: MAY 2013



05/30/13

BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE 5/2013
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 13 of 19



ELEVATION
SILT FENCE DITCH CHECKS
(STREAM PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED. SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. SILT FENCE SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK DITCH GRADE (%)	SPACING CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE ON THE UPSLOPE SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

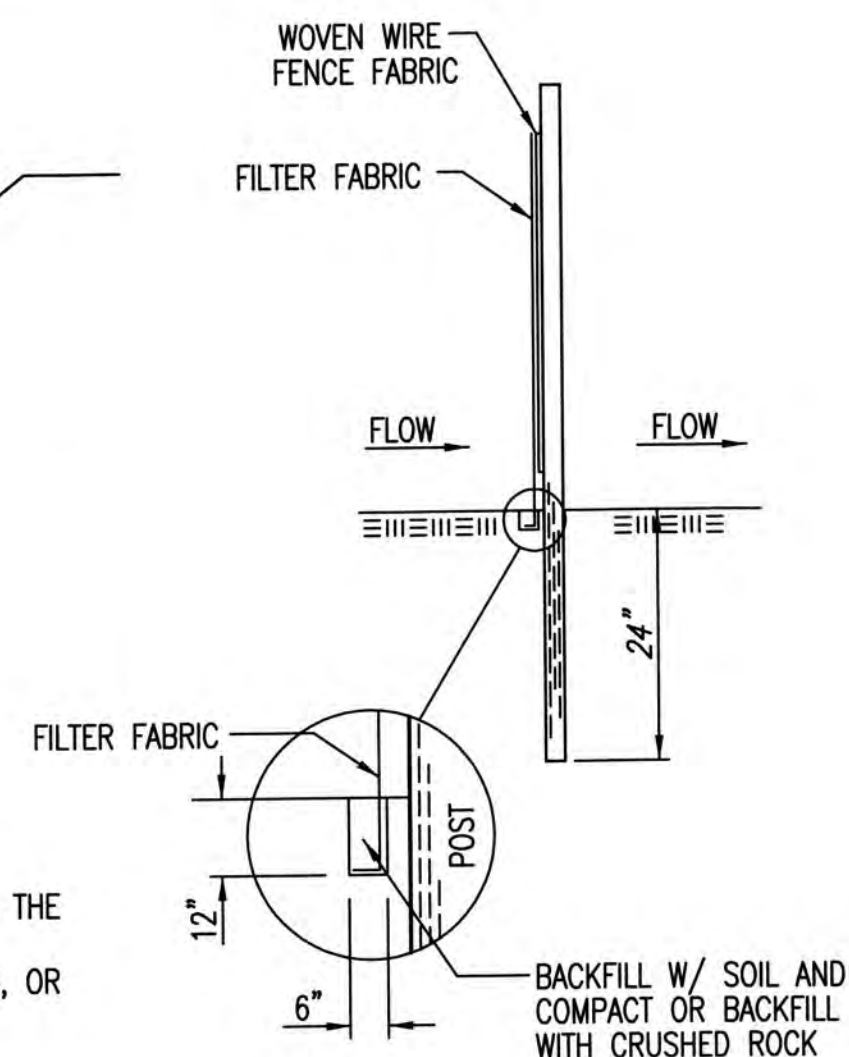
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK—NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM. DO NOT PLACE SILT FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE. DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

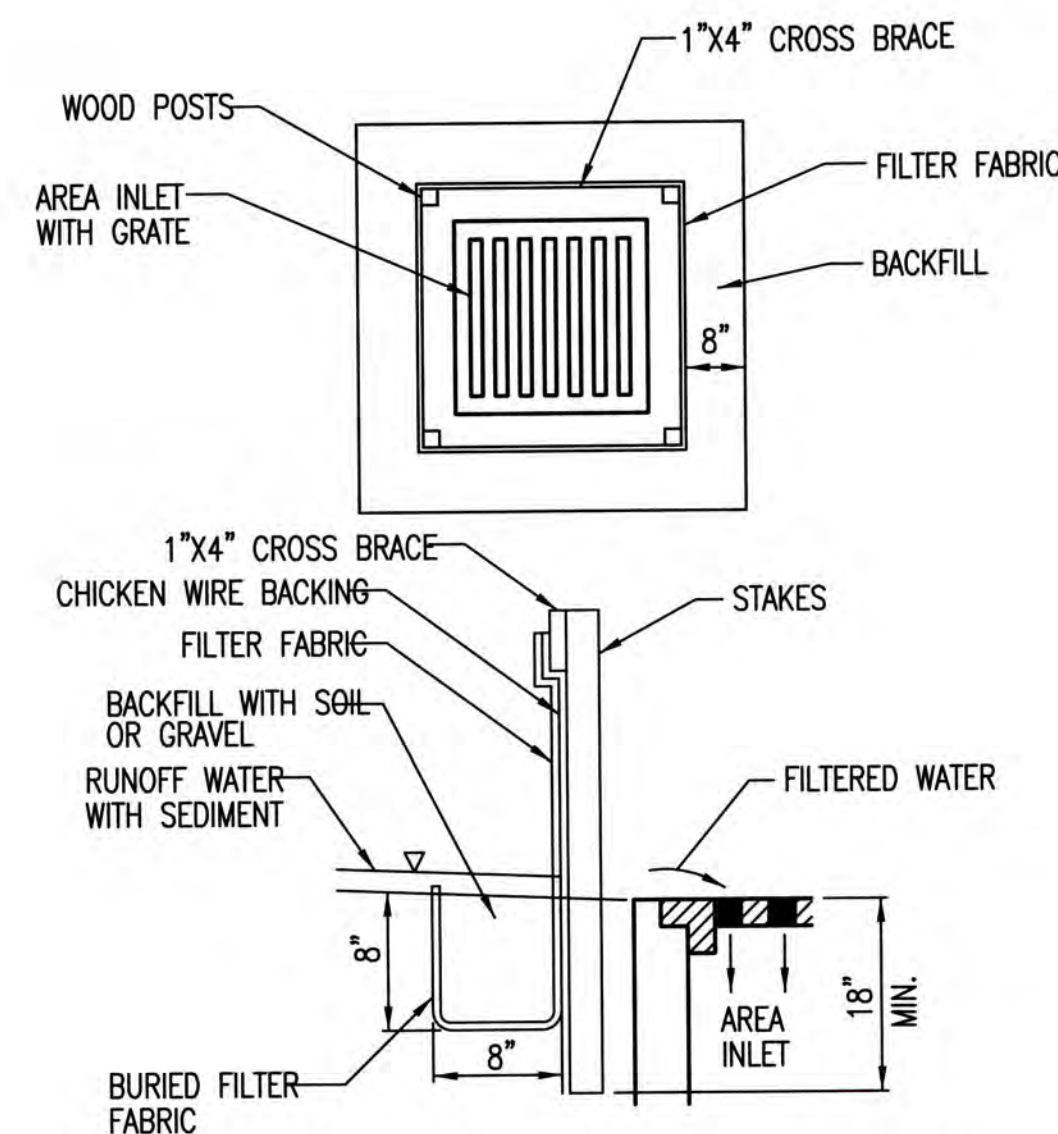
INSPECTION AND MAINTENANCE:

SILT FENCE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



ANCHOR TRENCH DETAIL



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE WIRE OR POLYMERIC MESH BACKING USED TO HELP SUPPORT THE SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. THE MATERIAL USED TO FRAME THE TOPS OF THE POSTS SHOULD BE 1" BY 4" BOARDS. SILT FENCE FABRIC AND SUPPORT BACKING SHOULD BE ATTACHED TO THE WOODEN POSTS AND FRAME WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS MUST BE SUPPORTED AT THE TOP BY A WOODEN FRAME. WHEN A SILT FENCE BARRIER FOR AREA INLETS IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 8" DEEP BY 8" WIDE. DRIVE POSTS TO A DEPTH OF AT LEAST 18" AROUND THE PERIMETER OF THE AREA INLET. THE DISTANCE BETWEEN POSTS SHOULD BE 4' OR LESS. IF THE DISTANCE BETWEEN TWO ADJACENT CORNER POSTS IS MORE THAN 4', ADD ANOTHER POST(S) BETWEEN THEM. CONNECT THE TOPS OF ALL THE POSTS WITH A WOODEN FRAME MADE OF 1" BY 4" BOARDS. USE NAILS OR SCREWS FOR FASTENING. ATTACH THE WIRE OR POLYMERIC-MESH BACKING TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC LONG ENOUGH TO WRAP AROUND THE PERIMETER OF THE AREA INLET. ADD MORE LENGTH FOR OVERLAPPING THE FABRIC JOINT. PLACE THE EDGE OF THE FABRIC IN THE TRENCH, STARTING AT THE OUTSIDE EDGE OF THE TRENCH. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. ATTACH THE SILT FENCE TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. THE JOINT SHOULD BE OVERLAPPED TO THE NEXT POST.

NOTE: WHEN A SILT FENCE BARRIER FOR AREA INLET IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

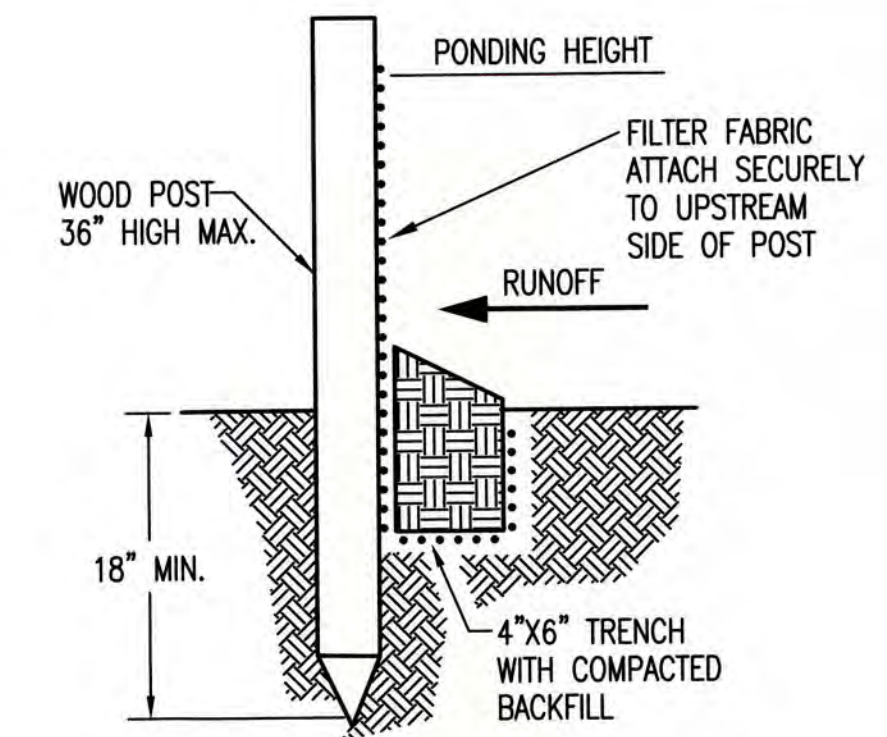
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET—NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIER FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER FOR AREA INLET. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT INSTALL SILT FENCE BARRIER FOR AREA INLETS WITHOUT FRAMING THE TOP OF THE POSTS. THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

INSPECTION AND MAINTENANCE:

SILT FENCE BARRIER FOR AREA INLETS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW UNDER THE SILT FENCE?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



SILT FENCE BARRIERS

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, SILT FENCE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. SILT FENCE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT-FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE SILT FENCE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT. SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND—SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

INSPECTION AND MAINTENANCE:

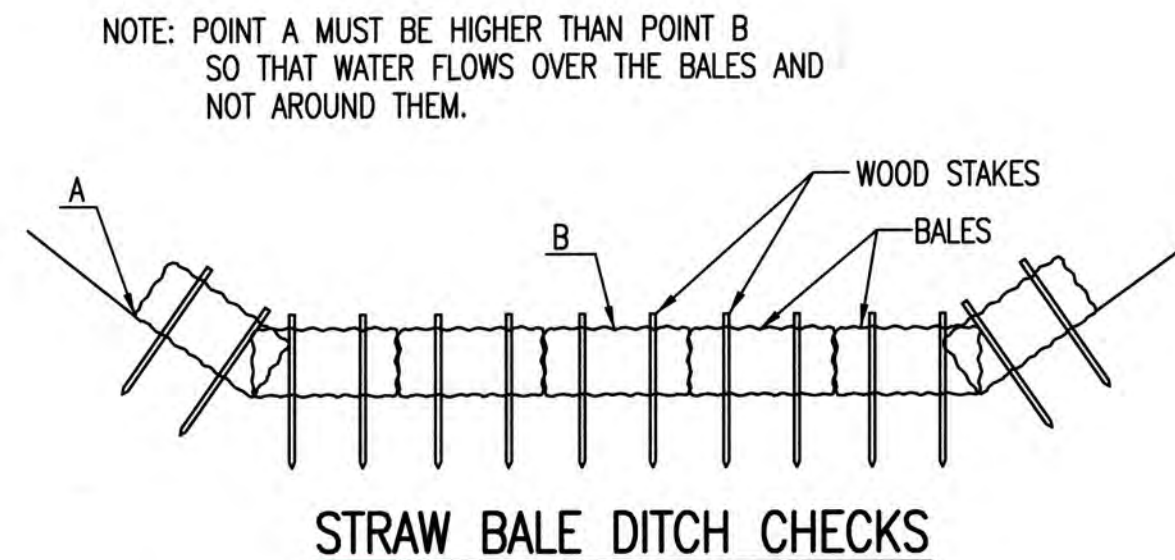
SILT FENCE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DO THE SILT FENCES SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013



SILT FENCE DITCH CHECK AND BARRIER DETAILS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE 5/2013
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 14 of 19



MATERIAL SPECIFICATION:

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE. OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

PLACEMENT:

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. STRAW BALE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. BALES SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED. THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH GRADE (%)	CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH-IT WILL BE USED LATER. OPTIONAL: ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM EDGE OF THE TRENCH. THE EROSION CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8" LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT LYING IN THE TRENCH) WILL SERVE AS THE DOWNSTREAM SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8" LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8" LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

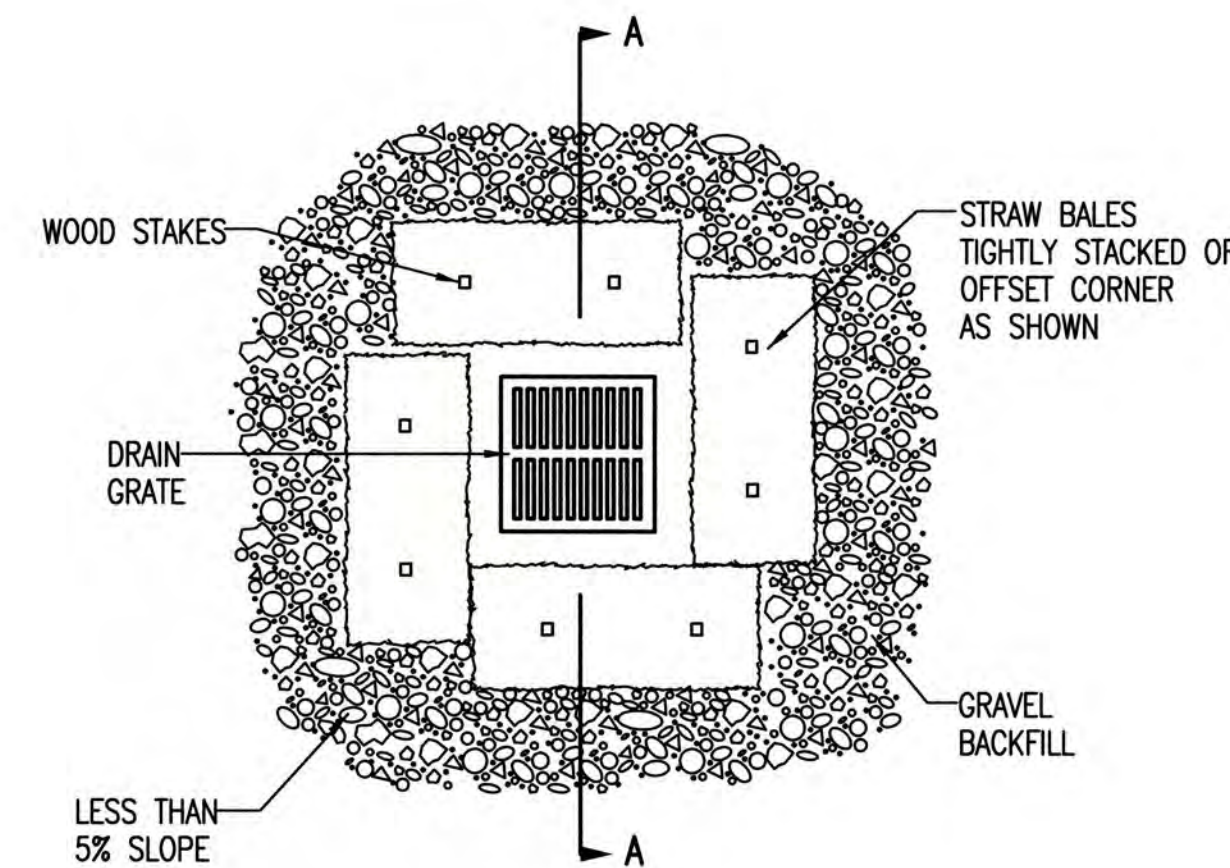
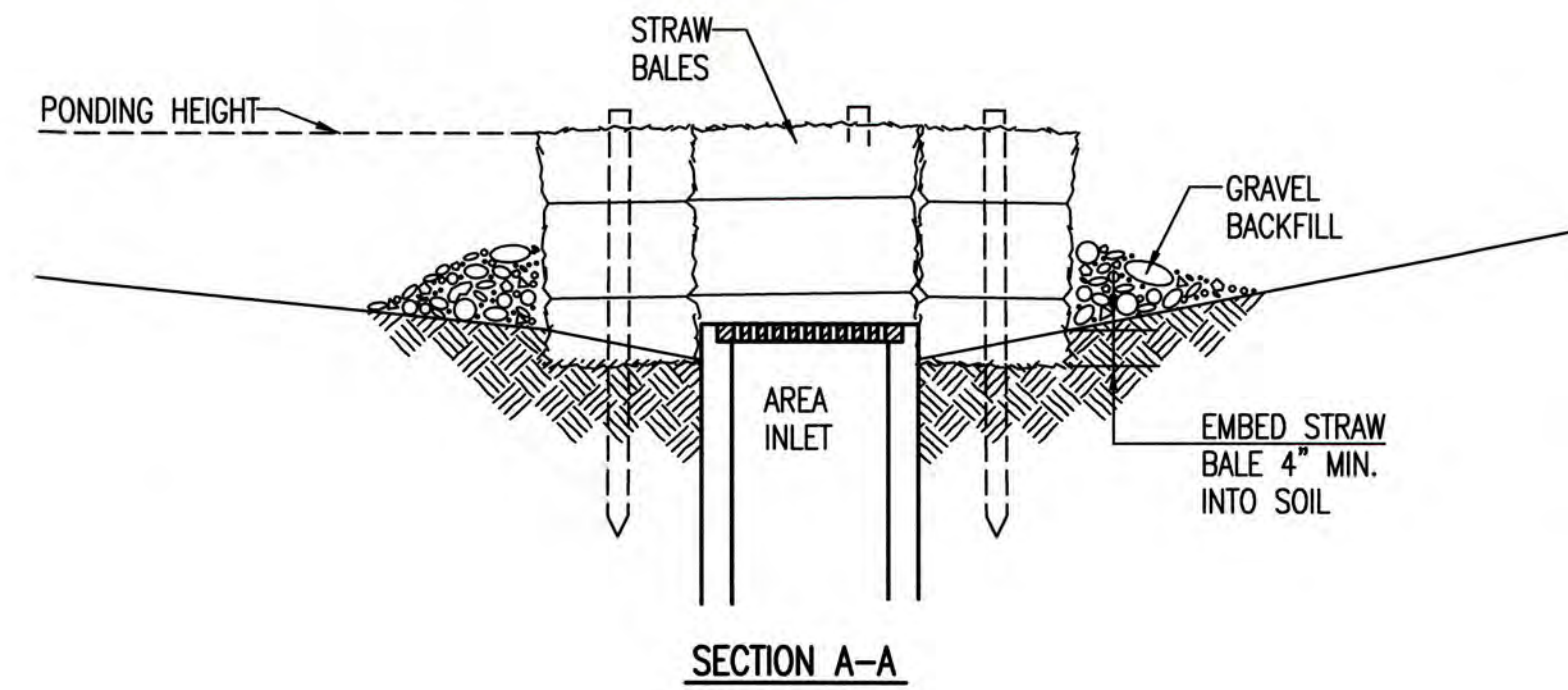
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE DITCH CHECKS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

INSPECTION AND MAINTENANCE:

BALE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)

MATERIAL SPECIFICATION:

BALE AREA INLET BARRIERS SHOULD BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET. WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP. NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

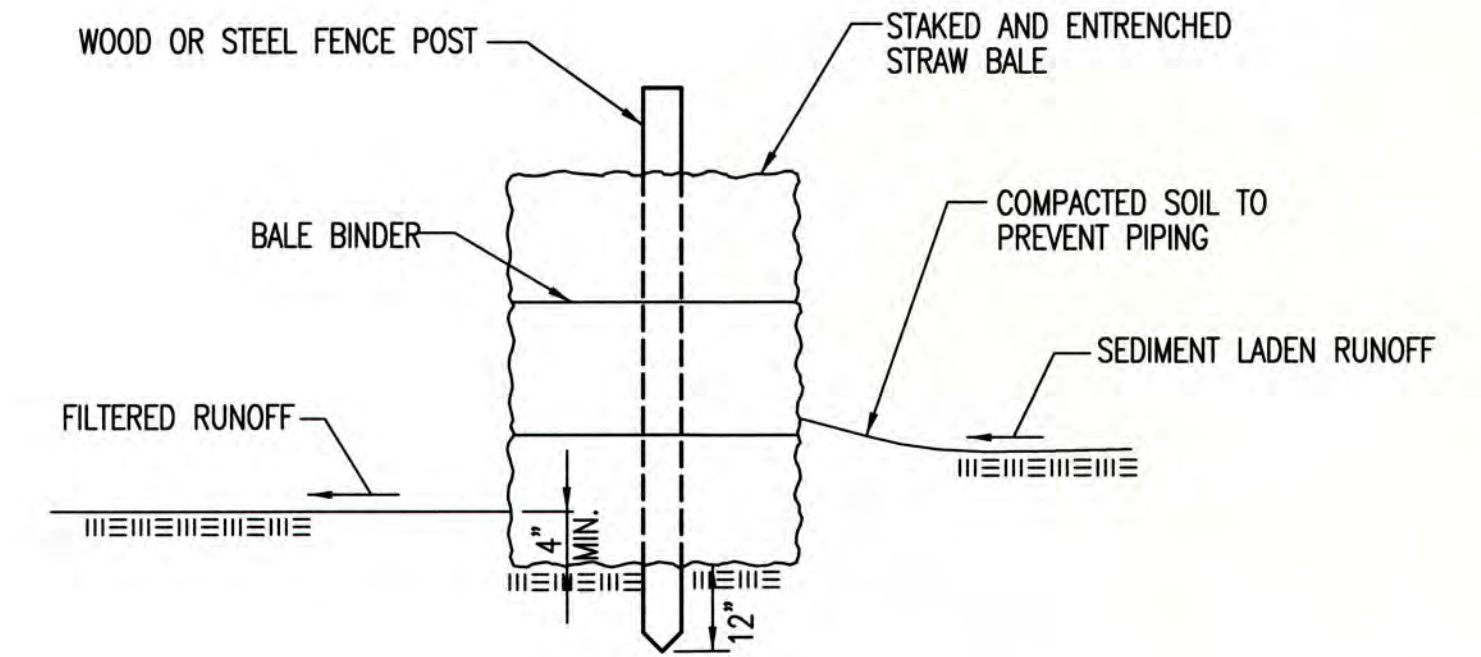
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR. BALE AREA INLET BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE AREA INLET BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW UNDER THE AREA INLET BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

BALE SLOPE BARRIERS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS. DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE SLOPE BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013



STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

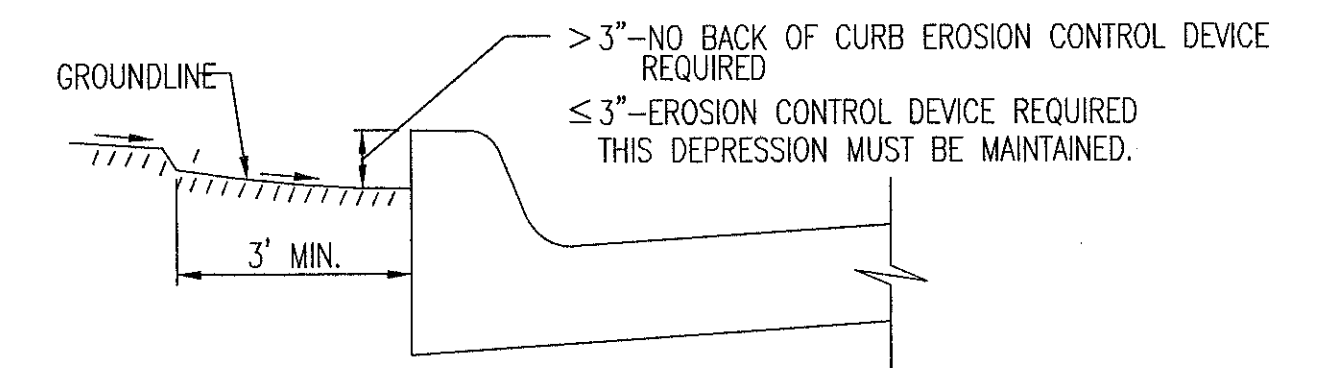
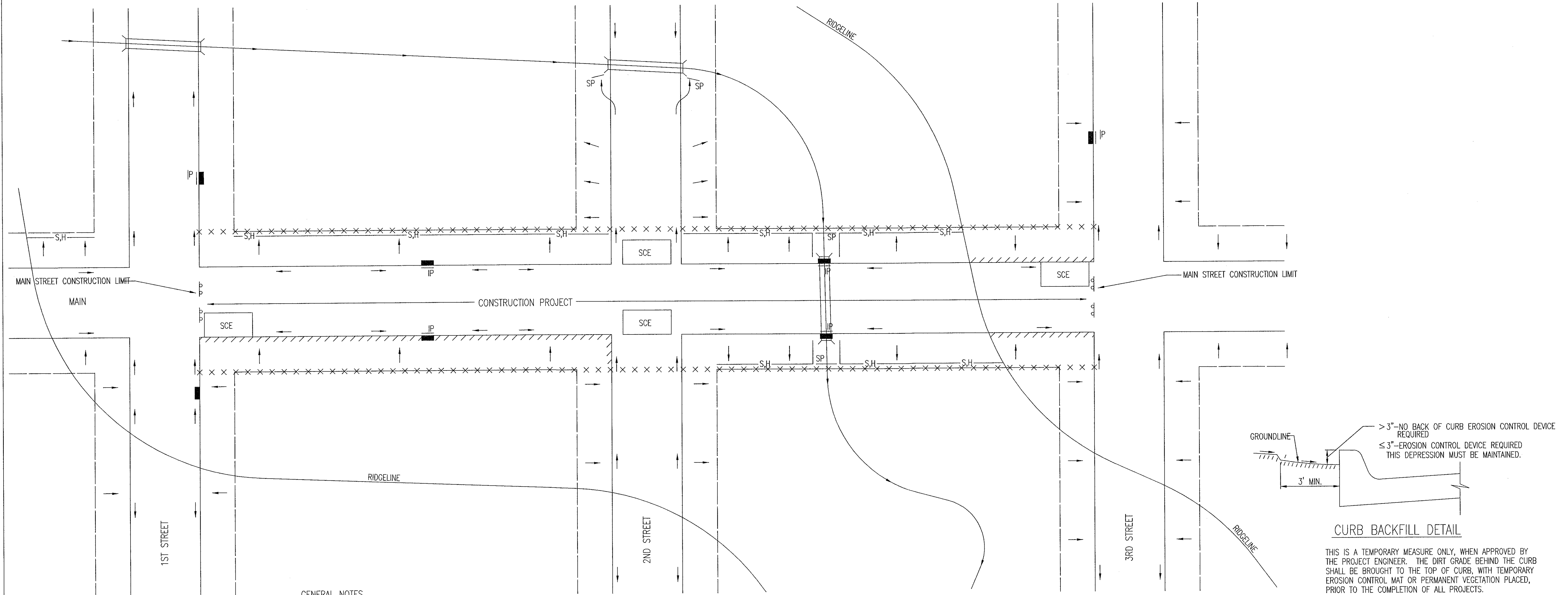
PROJECT NUMBER	OCA NUMBER	DATE
		5/2013

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

SHEET
15 of 19

GENERAL NOTES

- THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
- EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
- IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.
- FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.
- FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.
- THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.



THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

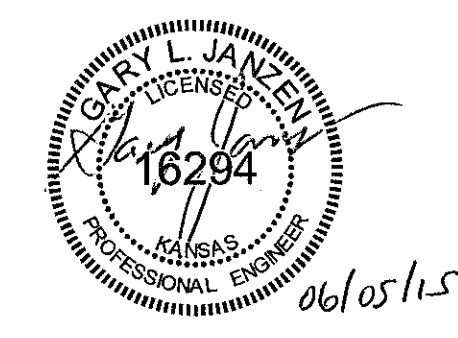
GENERAL NOTES

- THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
- THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
- EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
- INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
- EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.
- ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
- THE CONTRACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
 - THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs - BACK OF CURB SEDIMENT BARRIER DETAILS)
 - THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
 - ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
 - SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)

LEGEND

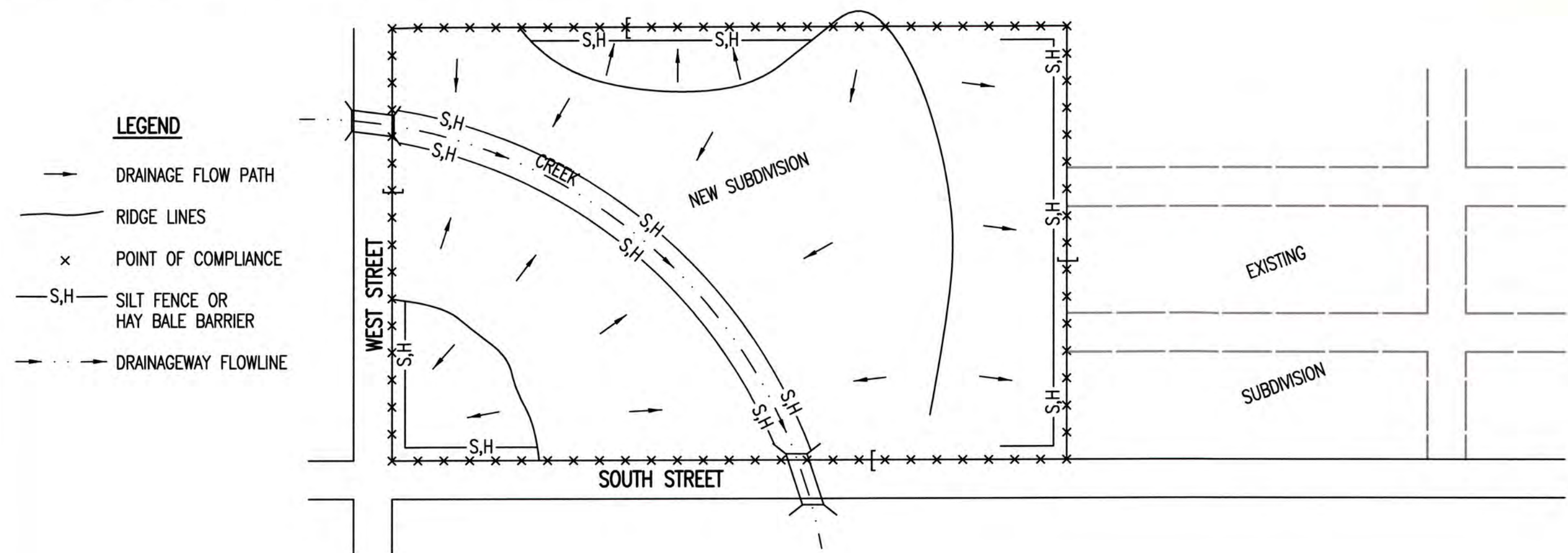
- R-O-W LIMITS
- DRAINAGE FLOW PATH
- × × × × R/W LIMIT WITHIN CONSTRUCTION LIMIT
- STORM WATER INLETS
- IP INLET PROTECTION
- S,H— SILT FENCE OR HAY BALE BARRIER
- SP STREAM PROTECTION
- SCE STABILIZED CONSTRUCTION ENTRANCE
- //// BACK OF CURB PROTECTION

REVISION: JUNE 2015



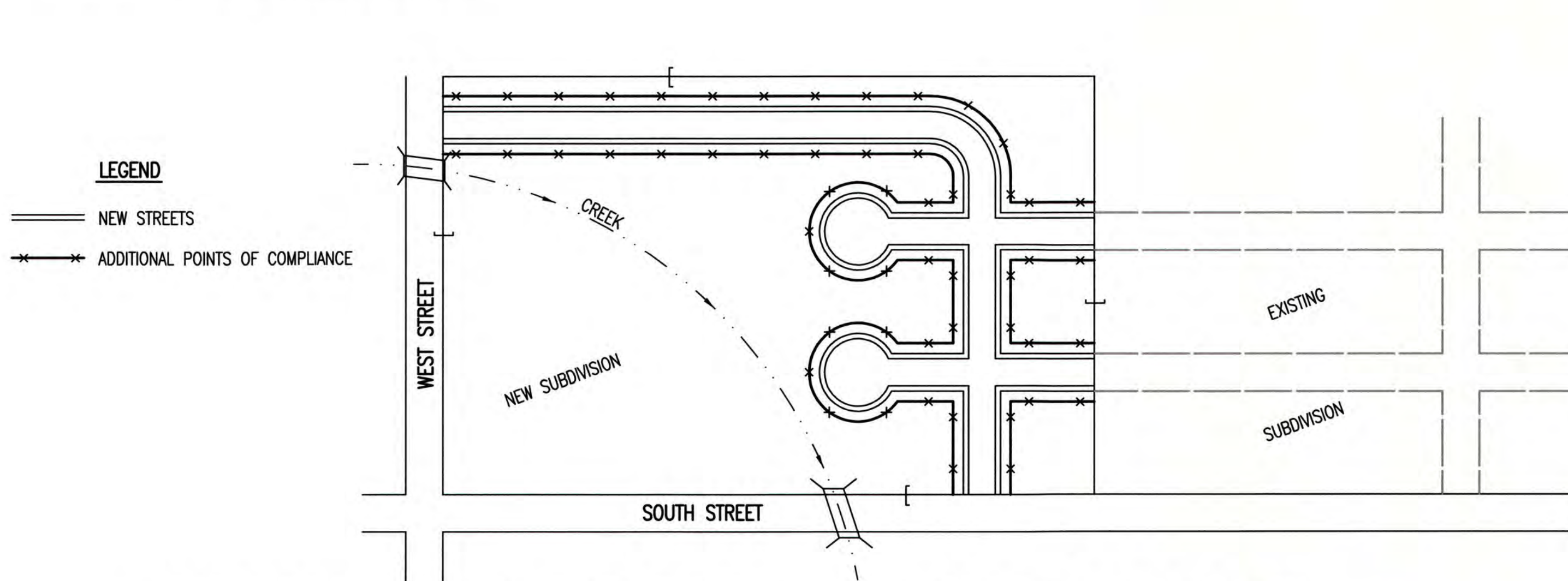
<p>CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION</p>			<p>STREET IMPROVEMENT PROJECTS</p>		
			<p>CITY ENGINEER GARY JANZEN, P.E.</p>		
PROJECT NUMBER	OCA NUMBER	DATE			
		11/2015			
CITY ENGINEER'S OFFICE			SHEET		
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501			16 of 19		

PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



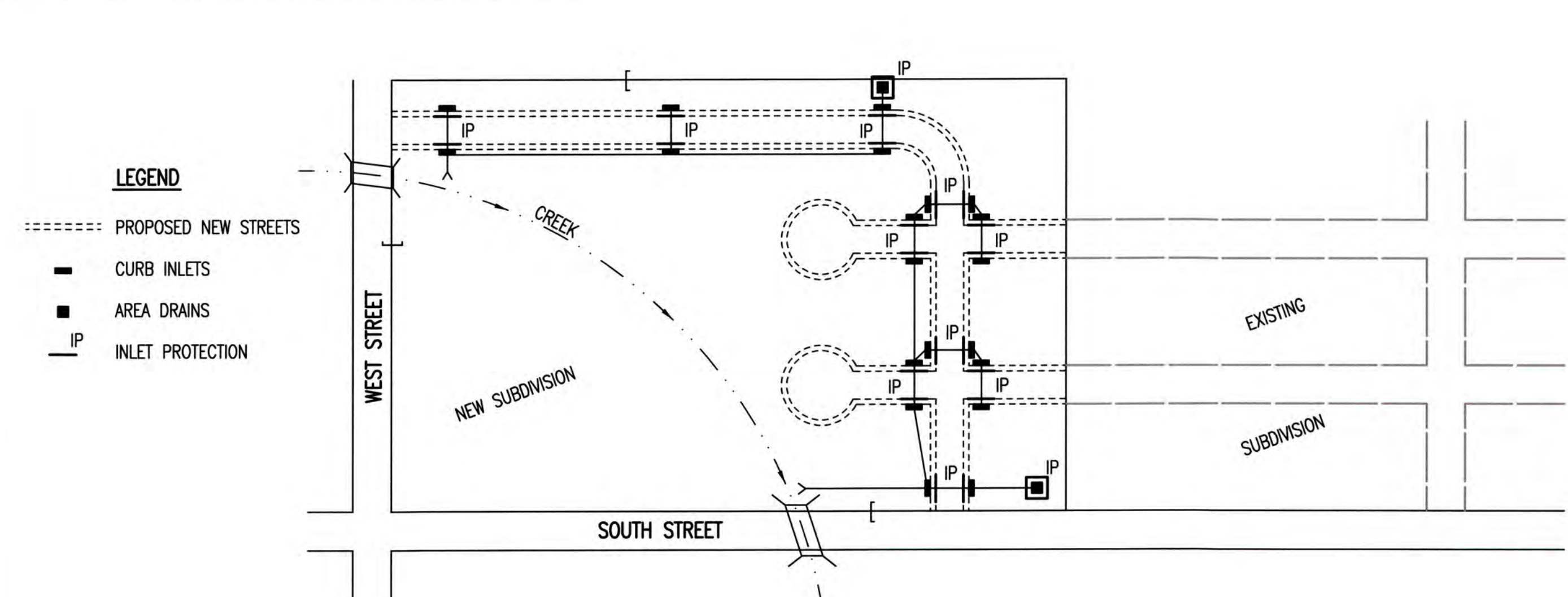
- LEGEND**
- DRAINAGE FLOW PATH
 - RIDGE LINES
 - x POINT OF COMPLIANCE
 - S.H. SILT FENCE OR HAY BALE BARRIER
 - DRAINAGEWAY FLOWLINE
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
 - HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
 - SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
 - ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
 - CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
 - UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
 - IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
 - WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

PHASE 3 – STREET CONSTRUCTION



- LEGEND**
- NEW STREETS
 - x-x-x-x ADDITIONAL POINTS OF COMPLIANCE
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
 - CURB OPENING INLET PROTECTION:
 - A. SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
 - B. NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
 - EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
 - SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
 - THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
 - THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
 - THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

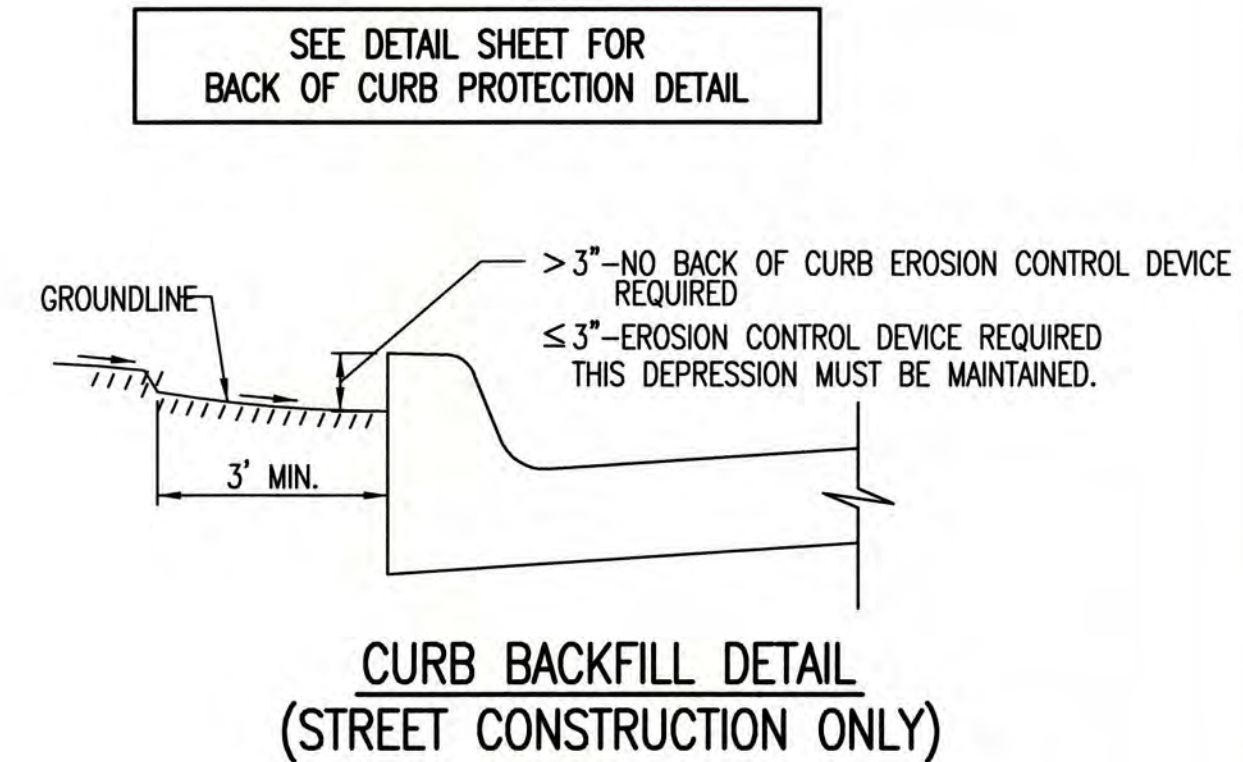
PHASE 2 – INSTALLATION OF STORM SEWER



- LEGEND**
- - - - - PROPOSED NEW STREETS
 - CURB INLETS
 - AREA DRAINS
 - IP INLET PROTECTION
- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
 - AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
 - AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
 - CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 – STREET CONSTRUCTION.
 - THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
 - THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
 - ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
 - ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

GENERAL NOTES

- THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER OTHER DRAINAGE FEATURE.
- THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
- EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
- PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
- THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
- FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
- FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
- THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
- A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.



THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

REVISION DATE: MAY 2013



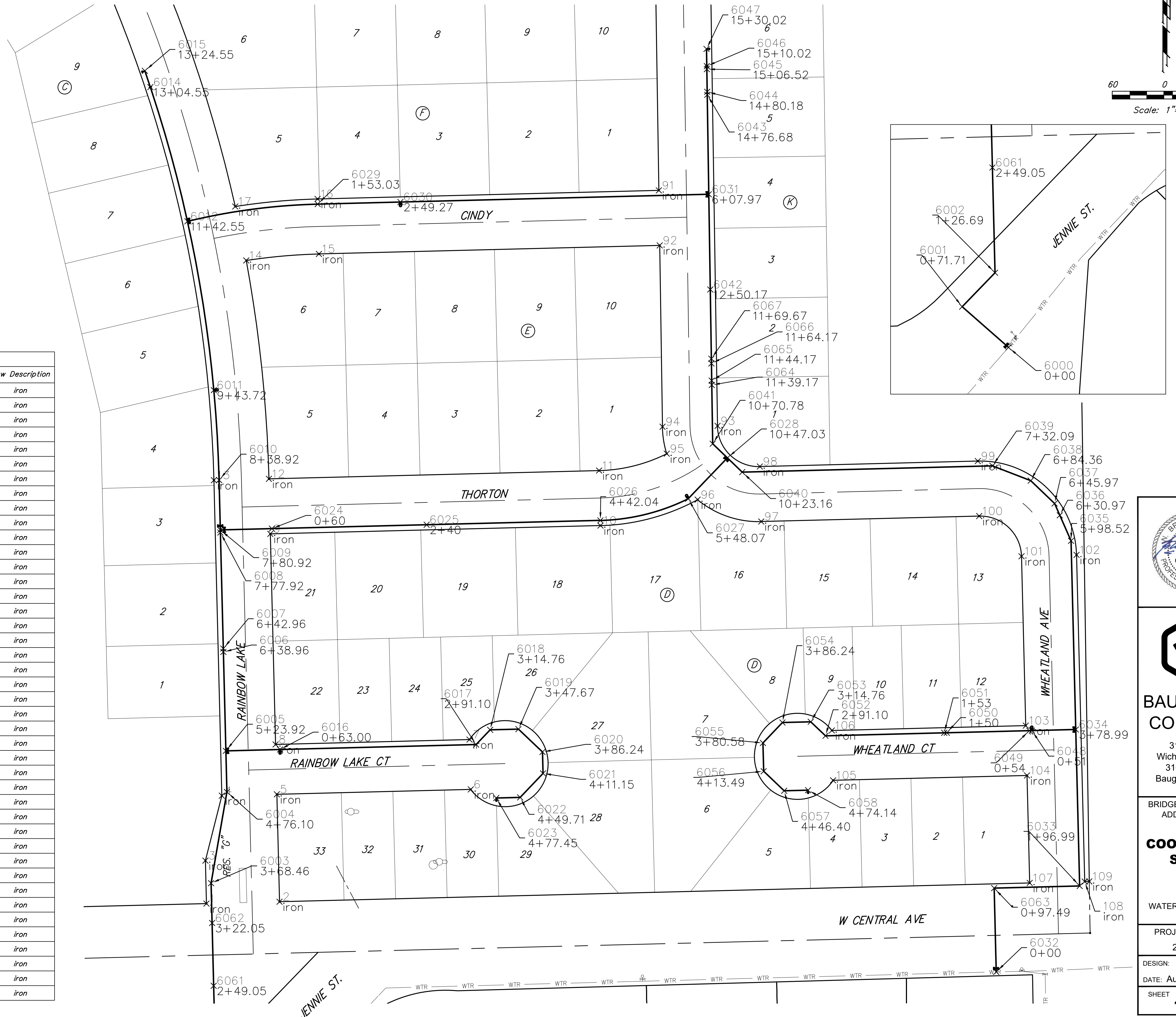
CITY OF WICHITA
 PUBLIC WORKS & UTILITIES
 ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
		5/2013
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 17 of 19

Point #	Northing	Easting	Raw Description
6000	1687466.33	1603670.38	0+00
6001	1687513.63	1603616.48	0+71.71
6002	1687553.16	1603654.69	1+26.69
6003	1687794.85	1603648.62	3+68.46
6004	1687900.92	1603666.97	4+76.10
6005	1687948.73	1603665.77	5+23.92
6006	1688063.73	1603662.88	6+38.96
6007	1688067.73	1603662.78	6+42.96
6008	1688202.65	1603659.39	7+77.92
6009	1688205.65	1603659.32	7+80.92
6010	1688263.63	1603657.86	8+38.92
6011	1688368.23	1603651.75	9+43.72
6012	1688564.55	1603621.11	11+42.55
6014	1688720.64	1603578.00	13+04.55
6015	1688739.57	1603571.57	13+24.55
6016	1687950.31	1603728.75	0+63.00
6017	1687956.03	1603956.78	2+91.10
6018	1687973.17	1603973.08	3+14.76
6019	1687974.00	1604005.98	3+47.67
6020	1687947.42	1604033.93	3+86.24
6021	1687922.52	1604034.55	4+11.15
6022	1687894.57	1604007.97	4+49.71
6023	1687893.87	1603980.24	4+77.45
6024	1688207.15	1603719.30	0+60
6025	1688211.67	1603899.24	2+40
6026	1688216.74	1604101.22	4+42.04
6027	1688241.94	1604203.36	5+48.07
6028	1688289.42	1604248.96	10+47.03
6029	1688584.61	1603772.52	1+53.03
6030	1688587.02	1603868.73	2+49.27
6031	1688596.02	1604227.32	6+07.97
6032	1687691.63	1604561.57	0+00
6033	1687791.59	1604658.59	1+96.99
6034	1687973.53	1604654.02	3+78.99
6035	1688193.00	1604648.52	5+98.52
6036	1688222.69	1604635.44	6+30.97
6037	1688236.42	1604629.40	6+45.97
6038	1688262.97	1604601.66	6+84.36
6039	1688280.20	1604557.15	7+32.09
6040	1688272.90	1604266.17	10+23.16
6041	1688305.88	1604231.82	10+70.78
6042	1688485.25	1604229.04	12+50.17
6043	1688711.72	1604225.52	14+76.68
6044	1688715.22	1604225.47	14+80.18
6045	1688741.56	1604225.06	15+06.52
6046	1688745.06	1604225.01	15+10.02
6047	1688765.06	1604224.69	15+30.02
6048	1687972.25	1604603.04	0+51
6049	1687972.18	1604600.04	0+54
6050	1687969.77	1604504.07	1+50
6051	1687969.69	1604501.07	1+53
6052	1687966.23	1604363.01	2+91.10
6053	1687982.53	1604345.87	3+14.76
6054	1687981.70	1604312.97	3+86.24
6055	1687957.86	1604290.29	3+80.58
6056	1687924.96	1604291.12	4+13.49
6057	1687902.28	1604314.97	4+46.40
6058	1687902.97	1604342.70	4+74.14
6061	1687675.48	1603651.62	2+49.05
6062	1687748.46	1603649.79	3+22.05
6063	1687789.09	1604559.13	0+97.49
6064	1688374.26	1604230.76	11+39.17
6065	1688379.26	1604230.68	11+44.17
6066	1688399.26	1604230.37	11+64.17
6067	1688404.75	1604230.29	11+69.67

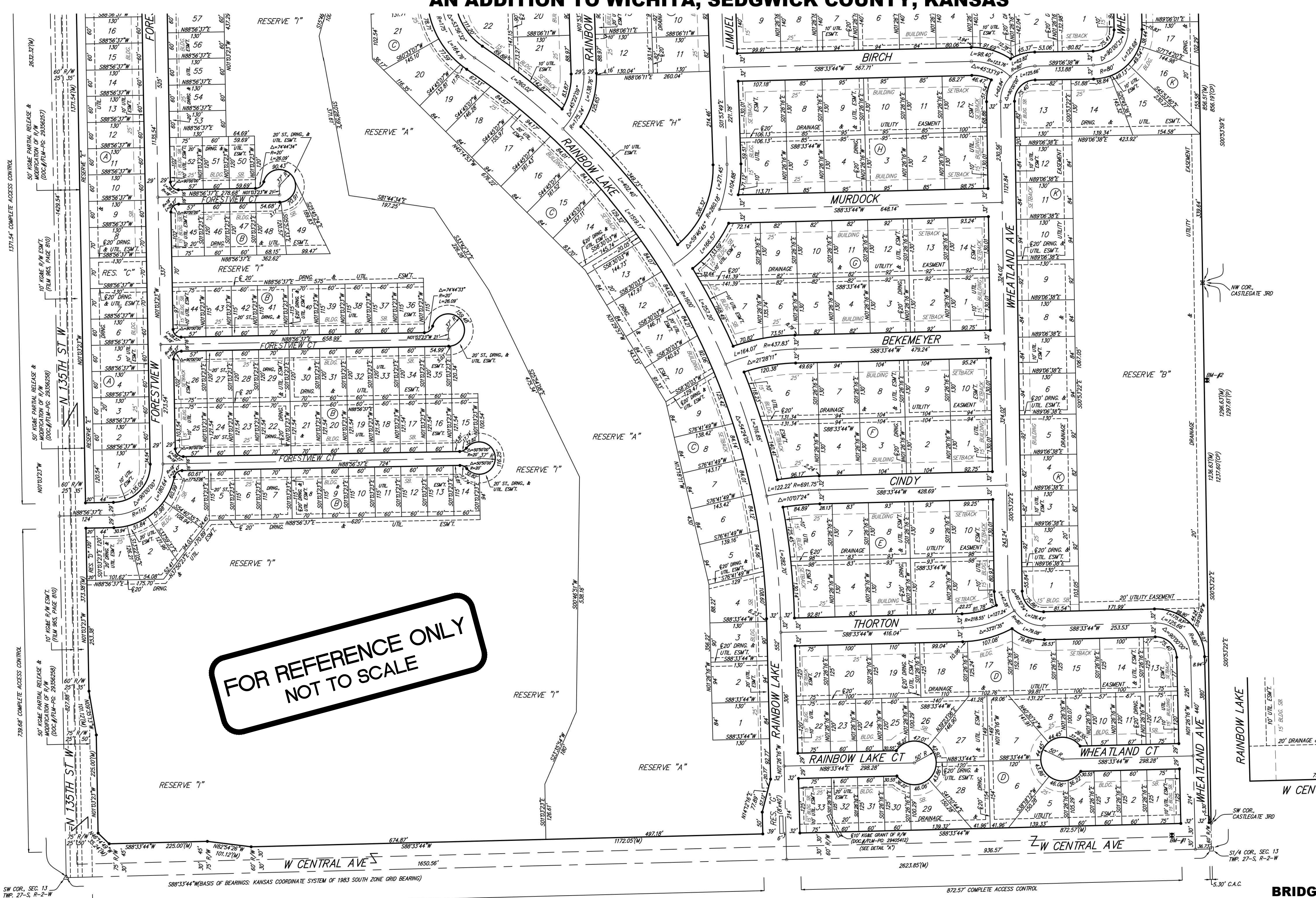
IRONS

Point #	Northing	Easting	Raw Description
1	1687771.11	1603643.22	iron
2	1687773.24	1603728.19	iron
3	1687821.09	1603641.96	iron
4	1687896.59	1603661.07	iron
5	1687898.20	1603725.05	iron
6	1687903.86	1603950.54	iron
7	1687961.84	1603949.08	iron
8	1687956.18	1603723.60	iron
9	1688201.10	1603717.45	iron
10	1688210.74	1604101.37	iron
11	1688274.72	1604099.75	iron
12	1688265.08	1603715.85	iron
13	1688263.48	1603651.87	iron
14	1688519.05	1603689.49	iron
15	1688526.63	1603773.98	iron
16	1688590.61	1603772.37	iron
17	1688581.82	1603676.68	iron
18	168828.64	1603600.27	iron
19	1688849.33	1603718.42	iron
20	1688913.31	1603716.81	iron
21	1688887.76	1603575.34	iron
22	1688924.54	1604164.21	iron
23	1688860.55	1604165.21	iron
24	1688600.57	1604169.24	iron
25	1688536.57	1604170.24	iron
26	1688326.65	1604237.50	iron
27	1688325.66	1604173.51	iron
28	1688294.34	1604178.48	iron
29	1688240.88	1604214.37	iron
30	1688215.43	1604288.31	iron
31	1688279.41	1604286.70	iron
32	1688285.77	1604540.15	iron
33	1688221.79	1604541.76	iron
34	1688175.01	1604590.95	iron
35	1688176.62	1604654.93	iron
36	1687978.08	1604595.89	iron
37	1687920.09	1604597.35	iron
38	1687914.43	1604371.86	iron
39	1687972.42	1604370.41	iron
40	1687795.13	1604600.48	iron
41	1687796.74	1604664.46	iron
42	1687796.87	1604669.76	iron

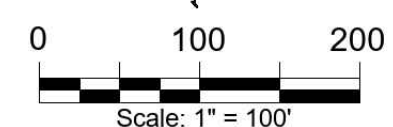


BRIDGER AT CENTRAL

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



FOR REFERENCE ONLY
NOT TO SCALE

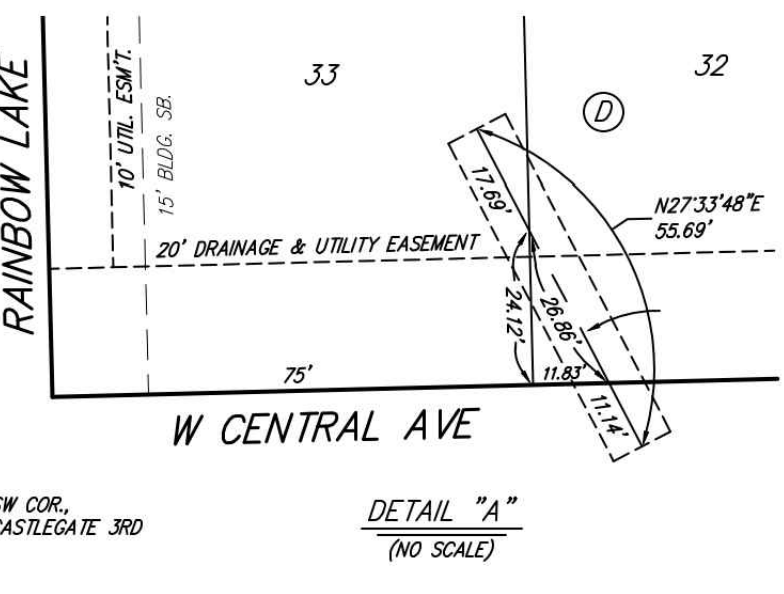


- (M) = MEASURED
(P) = PLATTED
(CM) = CALCULATED PER MEASURED INFO.
(CS) = CALCULATED PER DESCRIBED INFO.
- = #4 REBAR W/ "BAUGHMAN" CAP (SET)
 - = #4 REBAR W/ "BAUGHMAN" CAP (FOUND)
 - ⊙ = #4 REBAR W/ "ARMSTRONG" CAP (FOUND)
 - ⊚ = #4 REBAR (FOUND) (ORIGIN UNKNOWN)
 - △ = 1/2" IRON PIPE (FOUND) (ORIGIN UNKNOWN)
 - = 3/4" IRON PIPE (FOUND) (ORIGIN UNKNOWN)
 - = BENCHMARK
- BENCHMARK:**
 BM-#1: SQUARE CUT NORTHEAST CORNER OF CURB INLET, NORTH SIDE OF W CENTRAL AVE, 271.5' S. & 90.2' E. OF SW COR. LOT 1, BLOCK A, CASTLEGATE 3RD. ELEV. = 1342.00 NAVD88
 BM-#2: SQUARE CUT ON TOP OF ROP PIPE, 223.5' S. & 64.2' E. OF NW COR. LOT 7, BLOCK B, CASTLEGATE 3RD. ELEV. = 1341.75 NAVD88
 BM-#3: CITY OF WICHITA BENCHMARK DISC, EAST SIDE OF N 135TH ST W, 132.2' S. & 37.2' E. OF W/4 COR. SEC. 13, TWP. 27-S, R-2-W. ELEV. = 1347.48 NAVD88

MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES

LOT	BLOCK	ELEVATION NAVD88
1-15	B	1350.0
35-64	C	1350.0
1-25	B	1350.0
27-30	C	1350.0
11, 12	J	1353.5
1-15	K	1349.0

Note:
Existing Blanket Phillips Pipe Line Company Easement for Telephone and Telegraph Lines over the Southwest Quarter of Sec. 13, Twp. 27-S, R-2-W, (Misc. Book 88, Page 132), now assigned to Phillips 66 Gas Line System, LLC. (DOC #FLM-PC 2946453).



DRAINAGE PLAN NOTE:
 A master drainage plan has been developed for this plot. All drainage easements, rights-of-way, and reserves shall remain at established grades (unless modified with the approval of the City Engineer) and shall be unobstructed to allow for the conveyance of stormwater in accordance with the Stormwater Manual. The maintenance of all drainages and drainage facilities in backyard drainage easements and reserves shall be the responsibility of the property owner, and shall be enforced by the Homeowners' Association and be provided for in the Homeowners' Association covenants.

BRIDGER AT CENTRAL

PAGE 2 OF 2

BAUGHMAN COMPANY
 315 Ellis St. Wichita, KS 67211 316-262-7271
 BaughmanCo.com

BAUGHMAN COMPANY

315 Ellis St.
Wichita, KS 67211
316-262-7271
BaughmanCo.com

BRIDGER AT CENTRAL
ADDITION - Ph. I

COPY OF PLAT

WATER DISTRIBUTION SYSTEM

PROJECT NUMBER:
23-09-600

DESIGN: DRAWN:
DATE: April 24, 2024

SHEET **19** OF **19**