WATER DISTRIBUTION SYSTEM

to serve

RIVENDALE ADDITION - PH. III

CITY OF WICHITA, KANSAS

James L. Armour, P.E. City Engineer

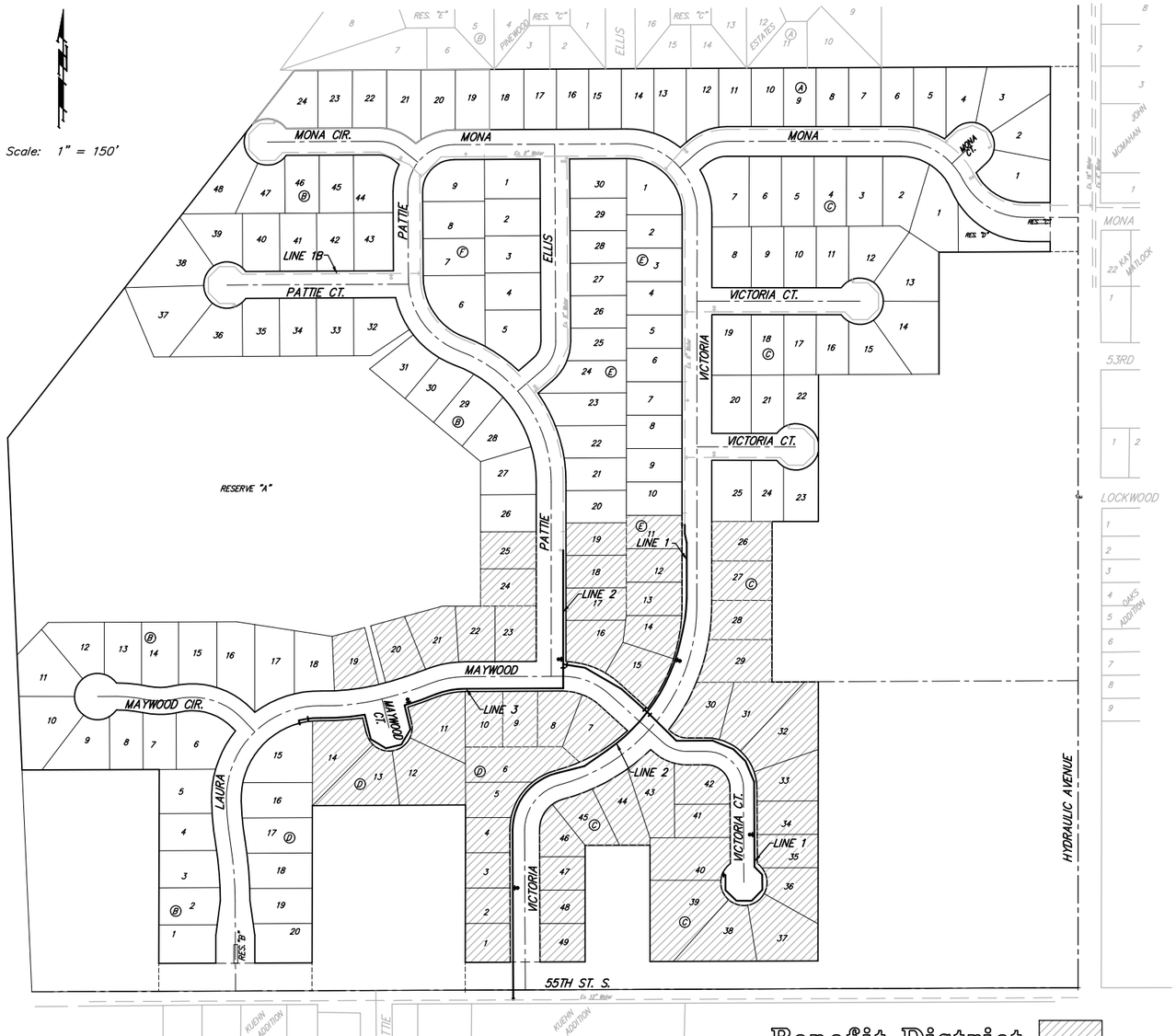
Project Number

448-89889

O.C.A. Number

735352

Scale: 1" = 150'



Benefit District

GENERAL NOTES:

1. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

   Kansas One-Call 687-2470

   The Contractor must notify the following in case of an emergency:

Cox Communications	262-4270
Kansas Gas Service	1-888-482-4950
Westar Energy	383-8650
Aquila Energy	1-800-303-0357
AT&T	268-2245
City of Wichita Water Dept.	268-4563
City of Wichita Sewer Maint.	268-4024
City of Wichita Storm Sewer Maint.	268-4090
City of Wichita Traffic Maint.	268-4034
Conoco Pipeline Co.	1-800-231-2551
Southern Star Pipeline Co.	529-6600
Phillips Pipeline Co.	1-800-766-8230
Jayhawk Pipeline Co.	1-888-542-9575

2. Utility service lines, poles, valve boxes, meters, and etcetera are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

3. Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance an site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps. of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location.

4. Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.

5. The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days advance notice prior to start of construction.

6. The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws

7. The Contractor shall adjust water valve boxes and fire hydrants as directed by the Engineer at the price bid for said adjustments. The Water Department shall field locate water valves one time during construction when requested by Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, water valve boxes or fire hydrants damaged during construction shall be repaired by the Contractor at his own expense.

8. All water mains and appurtenances shall be installed in accordance with City of Wichita, Kansas Standard Specifications for Water Main Installations.

9. Opening and closing of water valves shall be done slowly to prevent damage to the water distributions system from water hammer. All valves closed by the contractor must be reopened as new construction permits. Project inspector must ascertain that any valve closed by the Contractor is reopened. Contractor will be permitted to operate water valves only when the project inspector assigned to the project is present.

10. All existing and proposed erosion control measures including silt fencing, erosion control mat, straw bales, inlet barriers, and const. entrance shall be maintained throughout construction by the contractor and until project is accepted by the City of Wichita. The on-site engineer shall complete weekly reports on the status of erosion control measures. The contractor shall be required to comply with maintenance and/or replacement of erosion control measures as determined by the on-site engineer until project is accepted by City of Wichita. Maintenance and/or replacement of erosion control measures to be paid by L.S. bid item "Erosion Control BMP's."

11. The developer for this project is Tim Malone, and may be reached at (316) 263-4623.

12. All areas disturbed within 55th St. S R/W during construction shall be seeded, mulched, and fertilized as follows (Permanent Seeding):

    Seed: Kansas Premium Fescue Blend: 8 lbs./1000 sq. ft.
    Mulch: Prairie Hay: 2 tons/acre
    Fertilizer: 12-24-12: 850 lbs./acre

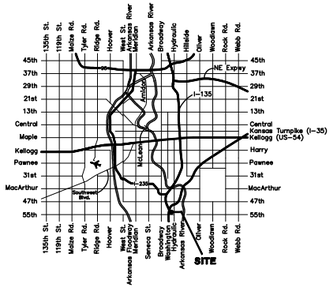
    All costs associated with seeding, mulching, and fertilizing shall be included in bid item "Project Seeding." All seeding operations shall conform to City of Wichita Standard Specifications. All other areas disturbed during construction shall be seeded at 300 lbs./acre with Rye Grass immediately following construction in that area. Contractor shall prepare ground per City Specifications.

SHEET INDEX:

BENCHMARK:

City of Wichita Benchmark Disc,
Hydraulic and 55th Street South.
42.00' North of Centerline, 40.70'
West of Centerline, 3.70' North of
centerline of Power Pole, 58.20'
Northwest of Southeast Corner, Sec.
21, Twp. 28-S, R-1-E.
Elev. = 76.19 City Datum
Elev. = 1263.59 (NGVD29)

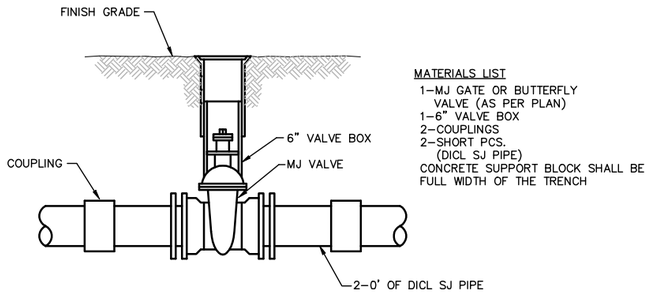
VICINITY MAP:



February, 2007

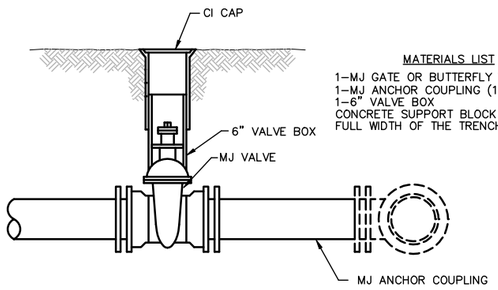
Baughman

Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE



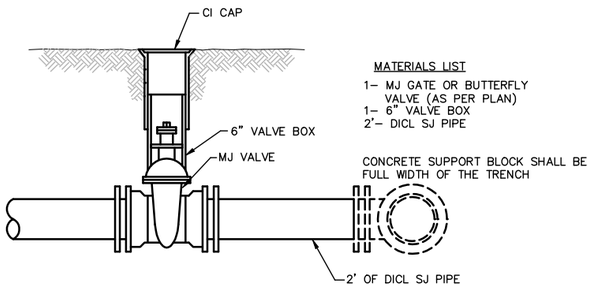
MATERIALS LIST
1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1-6" VALVE BOX
2-COUPLINGS
2-SHORT PCS. (DICL SJ PIPE)
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

LINE 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

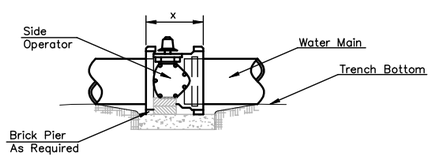
ANCHORED VALVE ASSEMBLY



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

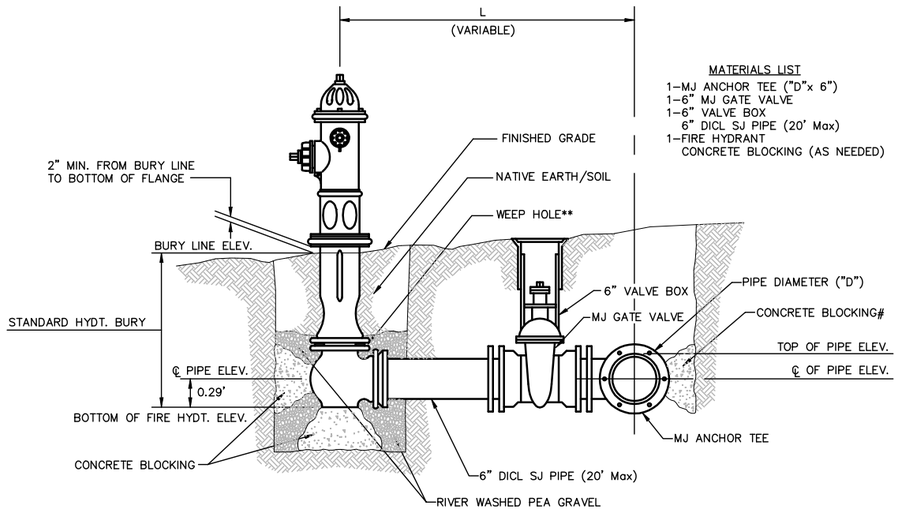
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

VALVE ASSEMBLY



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

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



MATERIALS LIST
1-MJ ANCHOR TEE ("D"x 6")
1-6" MJ GATE VALVE
1-6" VALVE BOX
6" DICL SJ PIPE (20' Max)
1-FIRE HYDRANT
CONCRETE BLOCKING (AS NEEDED)

** 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.

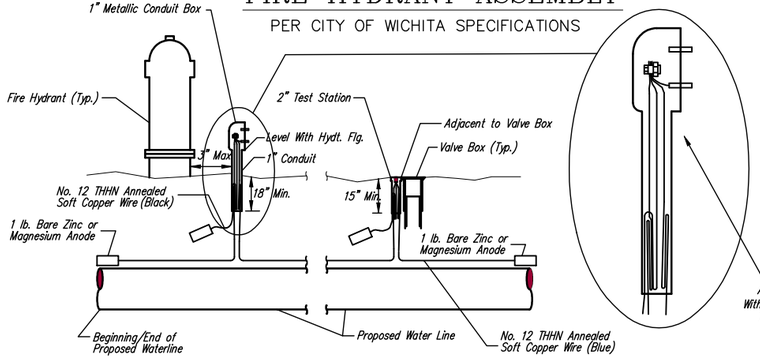
* IF HYDRANT BURY IS IN EXCESS OF 5', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY.

FIRE HYDRANTS REQUIRED

LINE	STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
1	2+95.69	79.15	75.30	4.5'
1	8+38.54	78.60	74.75	4.5'
2	2+35.39	81.60	77.75	4.5'
2	9+92.68	82.70	78.85	4.5'
3	3+89.45	80.70	76.35	5.0'

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

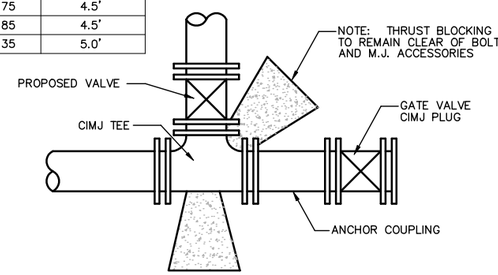
The test station for fire hydrant applications shall be a 1 inch galvanized conduit style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station T2PSJB 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

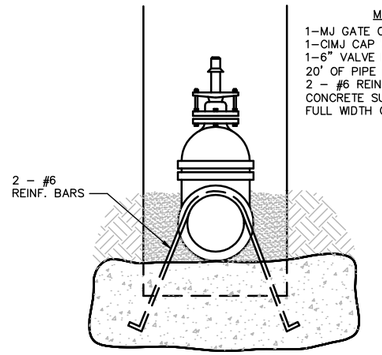
The anodes shall be 1 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

TRACER WIRE DETAIL

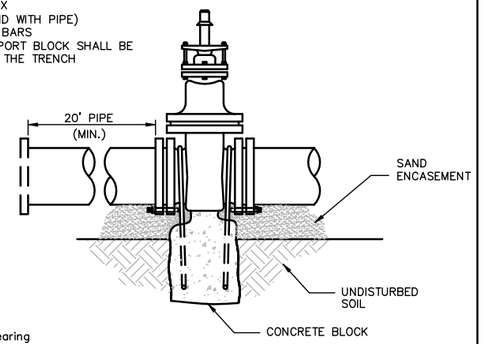
COST IS SUBSIDIARY TO PIPE INSTALLATION



KEY BLOCK DETAIL



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

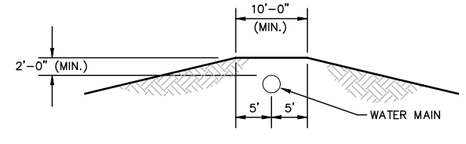


Notes:
1. Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
2. The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.
3. All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

THRUST AT VALVES

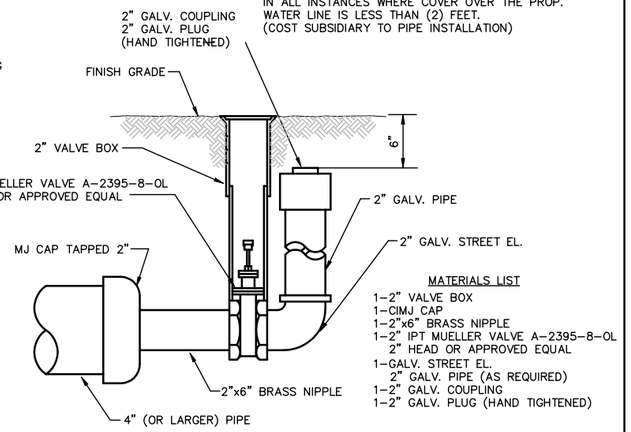
VALVE	THRUST AT 150 #/in²
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

ANCHORED VALVE ASSEMBLY, SPECIAL



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)



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)

2" BLOWOFF ASSEMBLY

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

STANDARD WATER ASSEMBLY DETAILS

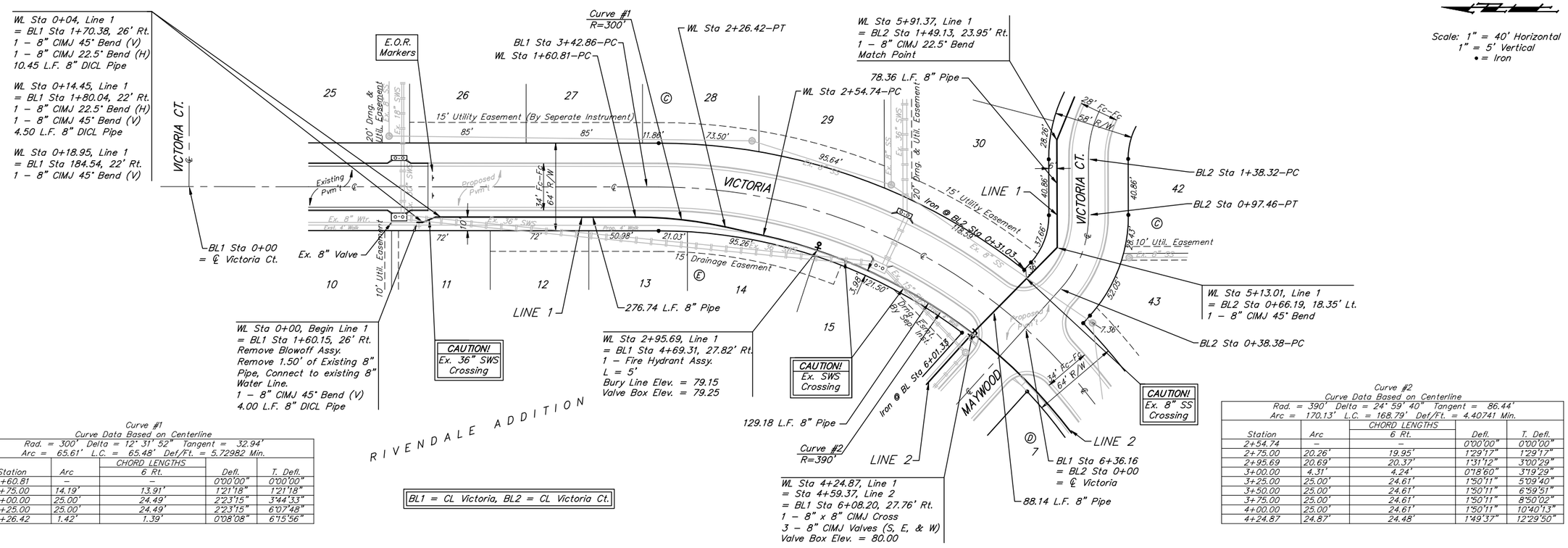
JAMES L. ARMOUR, P.E. - CITY ENGINEER

PROJECT NUMBER	INDEX CODE
448-89889	735352
DATE 2/21/07	SHEET 2 OF 14

Revised: 6-7-00, MCG

Benchmark:
City of Wichita Benchmark Disc, Hydraulic and 55th Street South. 42.00' North of Centerline, 40.70' West of Centerline, 3.70' North of centerline of Power Pole, 58.20' Northwest of Southeast Corner, Sec. 21, Twp. 28-S, R-1-E. Elev. = 76.19 City Datum Elev. = 1263.59 (NGVD29)

Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

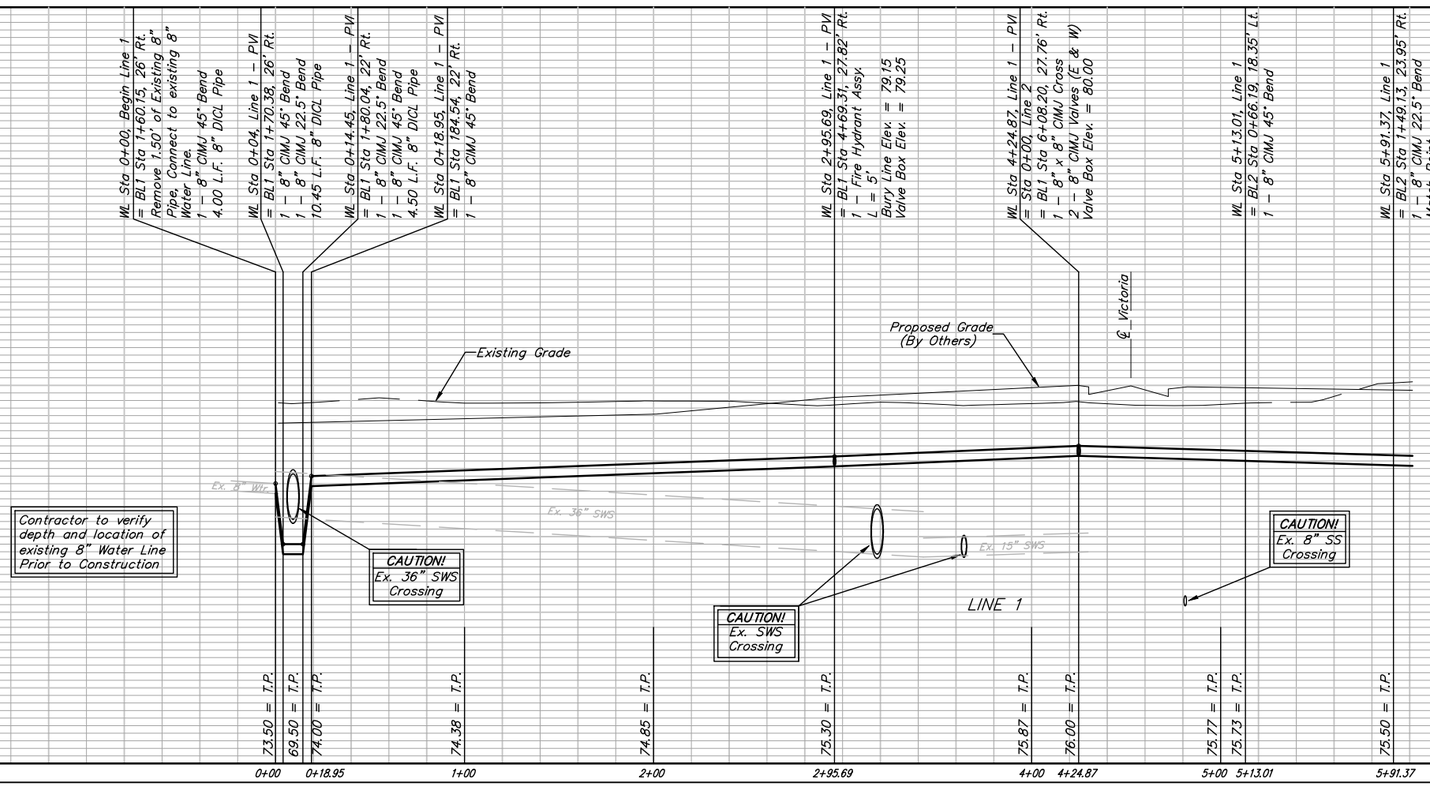


Curve #1
Curve Data Based on Centerline
Rad. = 300' Delta = 12° 31' 52" Tangent = 32.94'
Arc = 65.61' L.C. = 65.48' Def/Ft. = 5.72982 Min.

Station	Arc	CHORD LENGTHS 6 Rt.	Defl.	T. Defl.
1+60.81	–	–	0°00'00"	0°00'00"
1+75.00	14.19'	13.91'	1°21'18"	1°21'18"
2+00.00	25.00'	24.49'	2°23'15"	3°44'33"
2+25.00	25.00'	24.49'	2°23'15"	6°07'48"
2+26.42	1.42'	1.39'	0°08'08"	6°15'56"

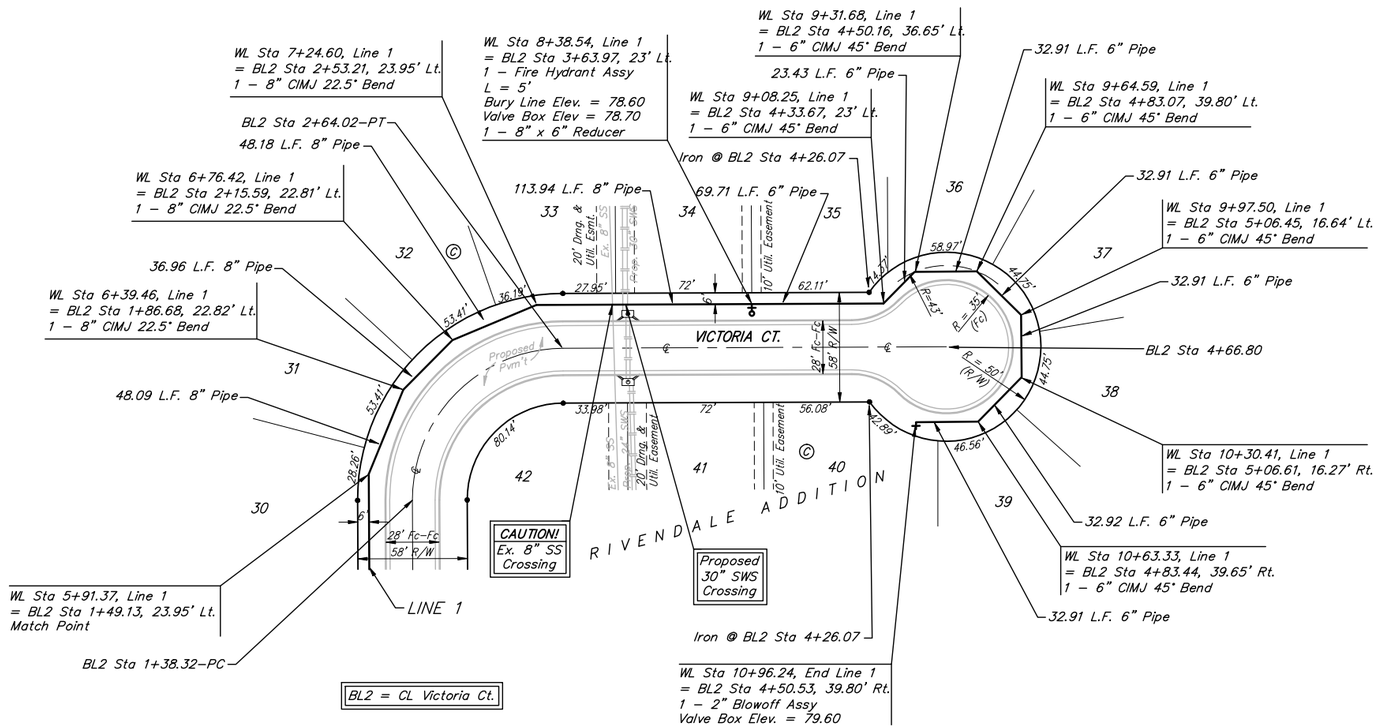
Curve #2
Curve Data Based on Centerline
Rad. = 390' Delta = 24° 59' 40" Tangent = 86.44'
Arc = 170.13' L.C. = 168.79' Def/Ft. = 4.40741 Min.

Station	Arc	CHORD LENGTHS 6 Rt.	Defl.	T. Defl.
2+54.74	–	–	0°00'00"	0°00'00"
2+75.00	20.26'	19.95'	1°29'17"	1°29'17"
2+95.69	20.69'	20.37'	1°31'12"	3°00'29"
3+00.00	4.31'	4.24'	0°18'60"	3°19'29"
3+25.00	25.00'	24.61'	1°50'11"	5°09'40"
3+50.00	25.00'	24.61'	1°50'11"	6°59'51"
3+75.00	25.00'	24.61'	1°50'11"	8°50'02"
4+00.00	25.00'	24.61'	1°50'11"	10°40'13"
4+24.87	24.87'	24.48'	1°49'37"	12°29'50"

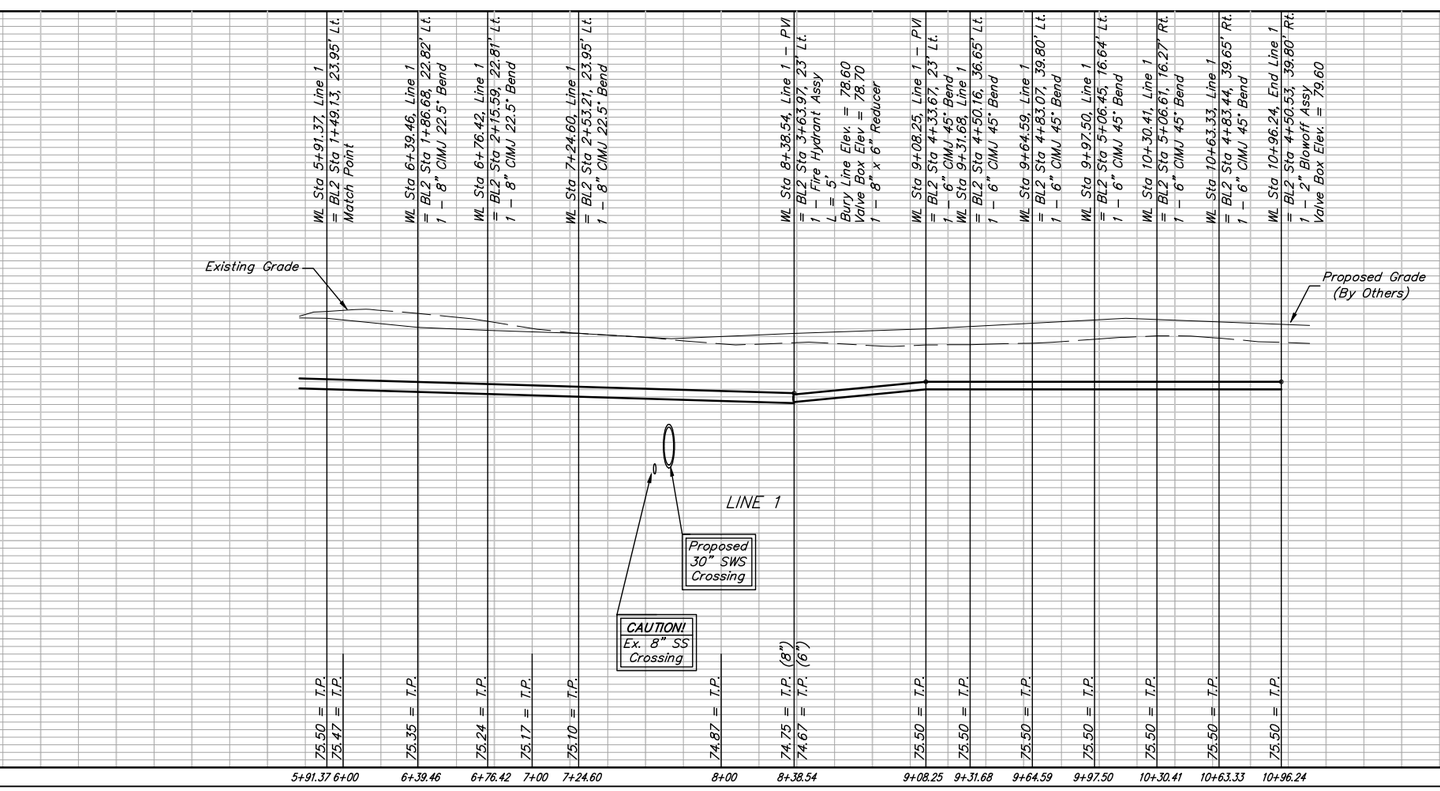


Baughman	RIVENDALE ADDITION - PHASE III **LINE 1** WATER DISTRIBUTION SYSTEM
Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-263-7271 F 316-263-0149 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE	
PROJECT NUMBER 448-89889	DSIGN RDM/MWS · DRAWN RDM
REVISIONS:	APPROVED MWS · DATE 2/21/07
	SCALE Noted
	SHEET **3 OF 14**
Rivendale\Phase 3\WTR_1	0601-E477

Benchmark:
City of Wichita Benchmark Disc,
Hydraulic and 55th Street South.
42.00' North of Centerline, 40.70'
West of Centerline, 3.70' North of
centerline of Power Pole, 58.20'
Northwest of Southeast Corner, Sec.
21, Twp. 28-S, R-1-E.
Elev. = 76.19 City Datum
Elev. = 1263.59 (NGVD29)



Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron



Baughman

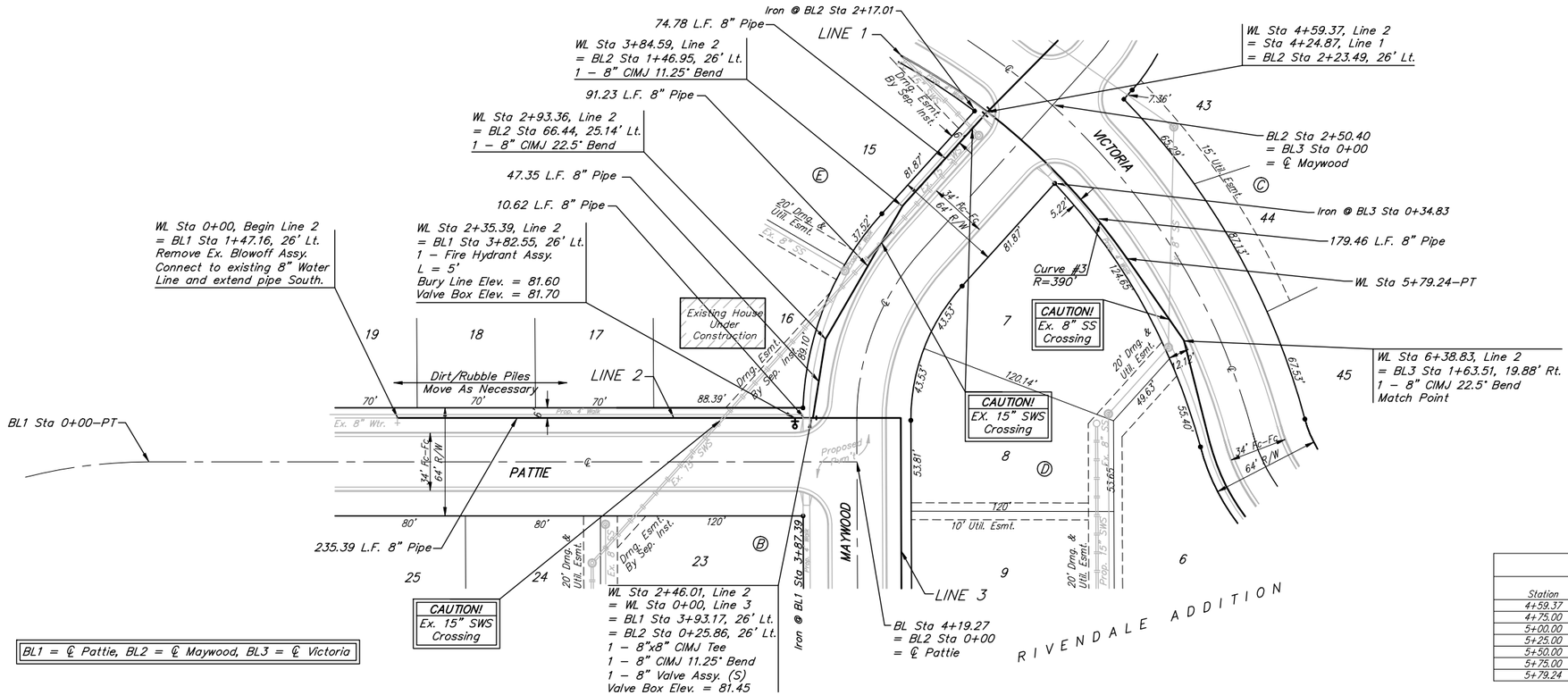
RIVENDALE ADDITION - PHASE III
LINE 1
WATER DISTRIBUTION SYSTEM

Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-263-7271 F 316-263-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

PROJECT NUMBER	DESIGN	DRAWN
448-89889	RDM/MWS	RDM
REVISIONS:	APPROVED MWS	DATE 2/21/07
	SCALE Noted	
	SHEET 4 OF 14	

Rivendale\Phase 3\WTR_2 0601-E477

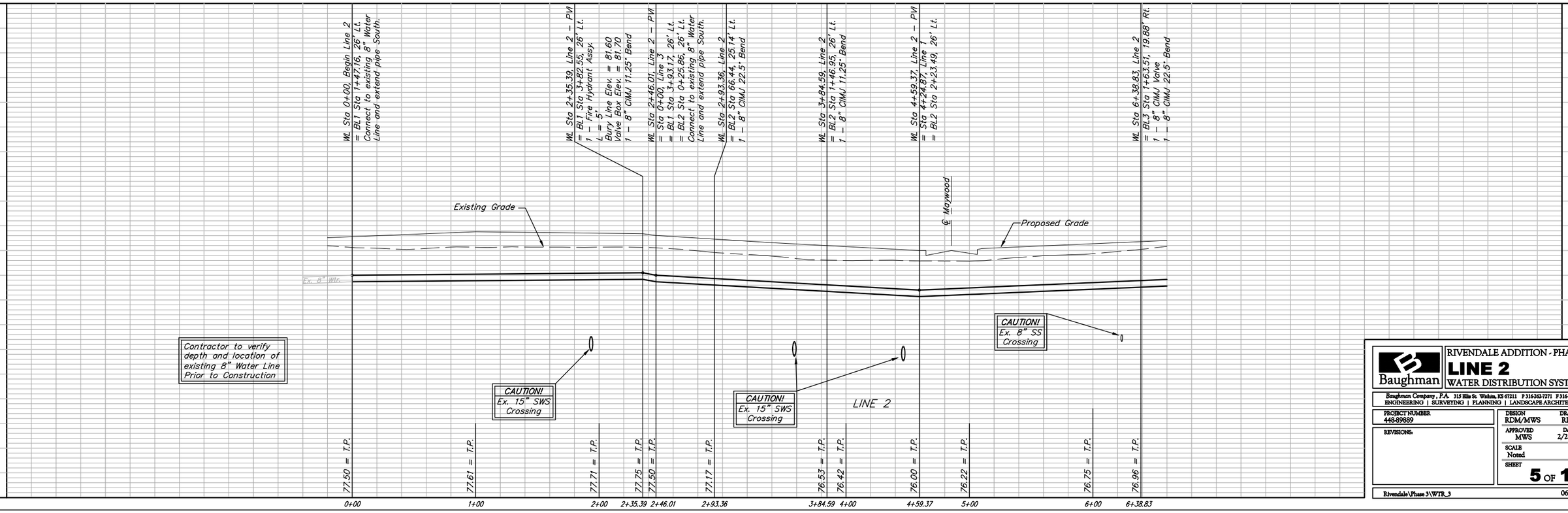
Benchmark:
City of Wichita Benchmark Disc,
Hydraulic and 55th Street South.
42.00' North of Centerline, 40.70'
West of Centerline, 3.70' North of
centerline of Power Pole, 58.20'
Northwest of Southeast Corner, Sec.
21, Twp. 28–S, R–1–E.
Elev. = 76.19 City Datum
Elev. = 1263.59 (NGVD29)



Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

Curve #3
Curve Data Based on Centerline
Rad. = 390' Delta = 17° 36' 39" Tangent = 60.41'
Arc = 119.87' L.C. = 119.40' Def/Ft. = 4.40748 Min.

Station	Arc	CHORD LENGTHS 6 Rt.	Defl.	T. Defl.
4+59.37	–	–	0°00'00"	0°00'00"
4+75.00	15.63'	15.39'	1°08'53"	1°08'53"
5+00.00	25.00'	24.61'	1°50'11"	2°59'04"
5+25.00	25.00'	24.61'	1°50'12"	4°49'16"
5+50.00	25.00'	24.61'	1°50'11"	6°39'27"
5+75.00	25.00'	24.61'	1°50'11"	8°29'38"
5+79.24	4.24'	4.17'	0°18'41"	8°48'19"



Baughman

RIVENDALE ADDITION - PHASE III
LINE 2
WATER DISTRIBUTION SYSTEM

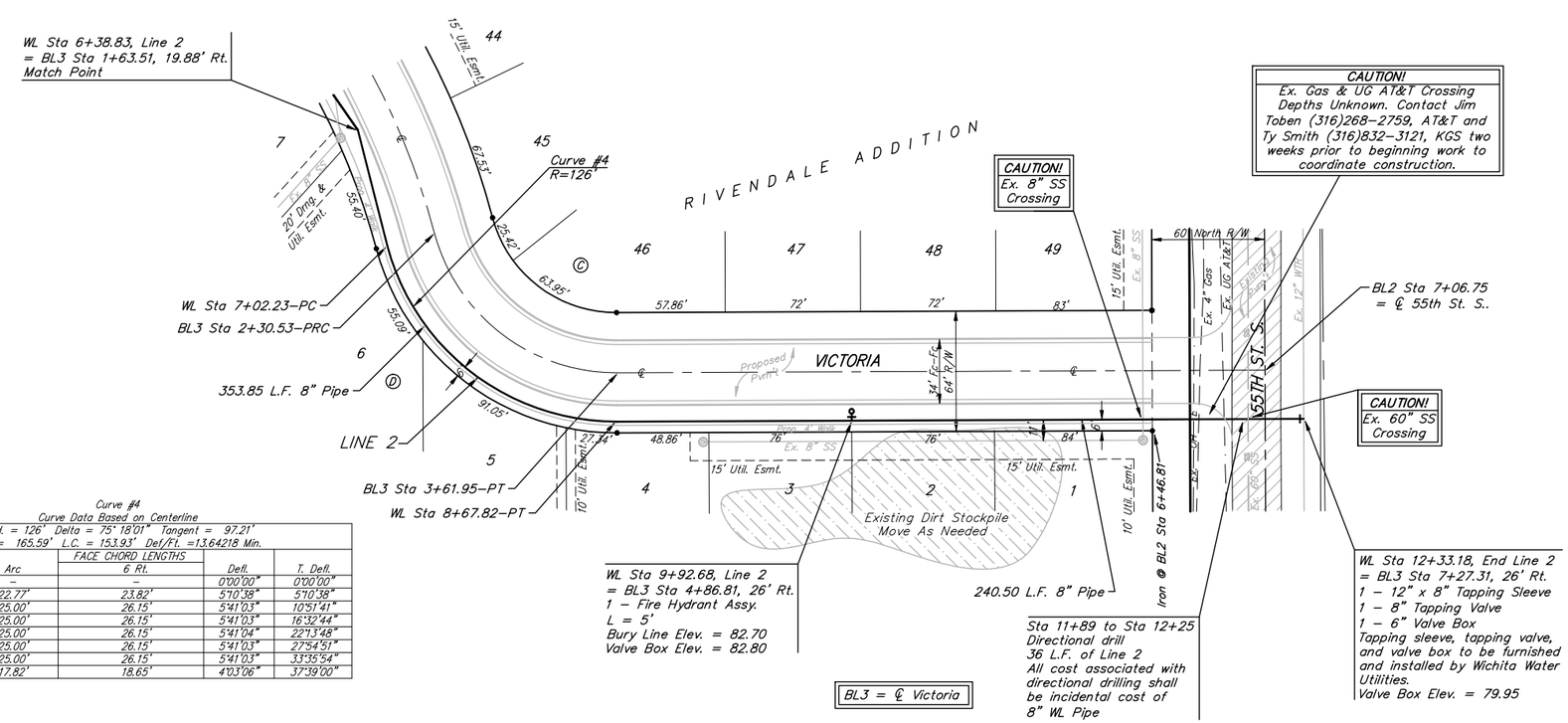
Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-263-7271 F 316-263-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

PROJECT NUMBER 448-89889
DESIGN RDM/MWS
DRAWN RDM
APPROVED MWS
DATE 2/21/07
SCALE Noted
REVISIONS:
SHEET **5 OF 14**

Rivendale\Phase 3\WTR_3
0601-E477

Benchmark:
City of Wichita Benchmark Disc,
Hydraulic and 55th Street South.
42.00' North of Centerline, 40.70'
West of Centerline, 3.70' North of
centerline of Power Pole, 58.20'
Northwest of Southeast Corner, Sec.
21, Twp. 28-S, R-1-E.
Elev. = 76.19 City Datum
Elev. = 1263.59 (NGVD29)

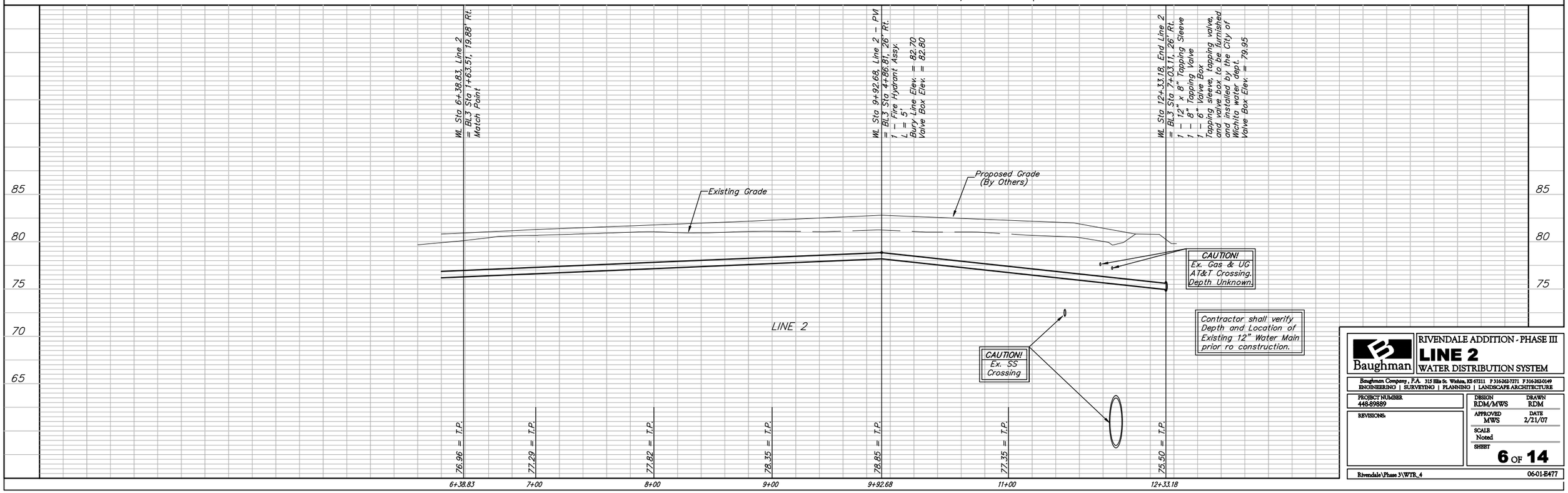
Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron



Curve #4
Curve Data Based on Centerline
Rad. = 126' Delta = 75°18'01" Tangent = 97.21'
Arc = 165.59' L.C. = 153.93' Def/Ft. =13.64218 Min.

Station	Arc	FACE CHORD LENGTHS 6 Rt.	Defl.	T. Defl.
7+02.23	–	–	0°00'00"	0°00'00"
7+25.00	22.77'	23.82'	5°10'38"	5°10'38"
7+50.00	25.00'	26.15'	5°41'03"	10°51'41"
7+75.00	25.00'	26.15'	5°41'03"	16°32'44"
8+00.00	25.00'	26.15'	5°41'04"	22°13'48"
8+25.00	25.00'	26.15'	5°41'03"	27°54'51"
8+50.00	25.00'	26.15'	5°41'03"	33°35'54"
8+67.82	17.82'	18.65'	4°03'06"	37°39'00"

The Contractor shall protect traffic by use of proper and necessary flags, lights, signals, barricades or other warning devices as needed, all in accordance with the latest edition of the Manual On Uniform Traffic Control Devices, U.S. Department of Transportation, Federal Highway Administration. Cost of all necessary traffic control measures shall be included in "Site Clearing and Restoration."



Baughman

RIVENDALE ADDITION - PHASE III
LINE 2
WATER DISTRIBUTION SYSTEM

Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-263-7271 F 316-263-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

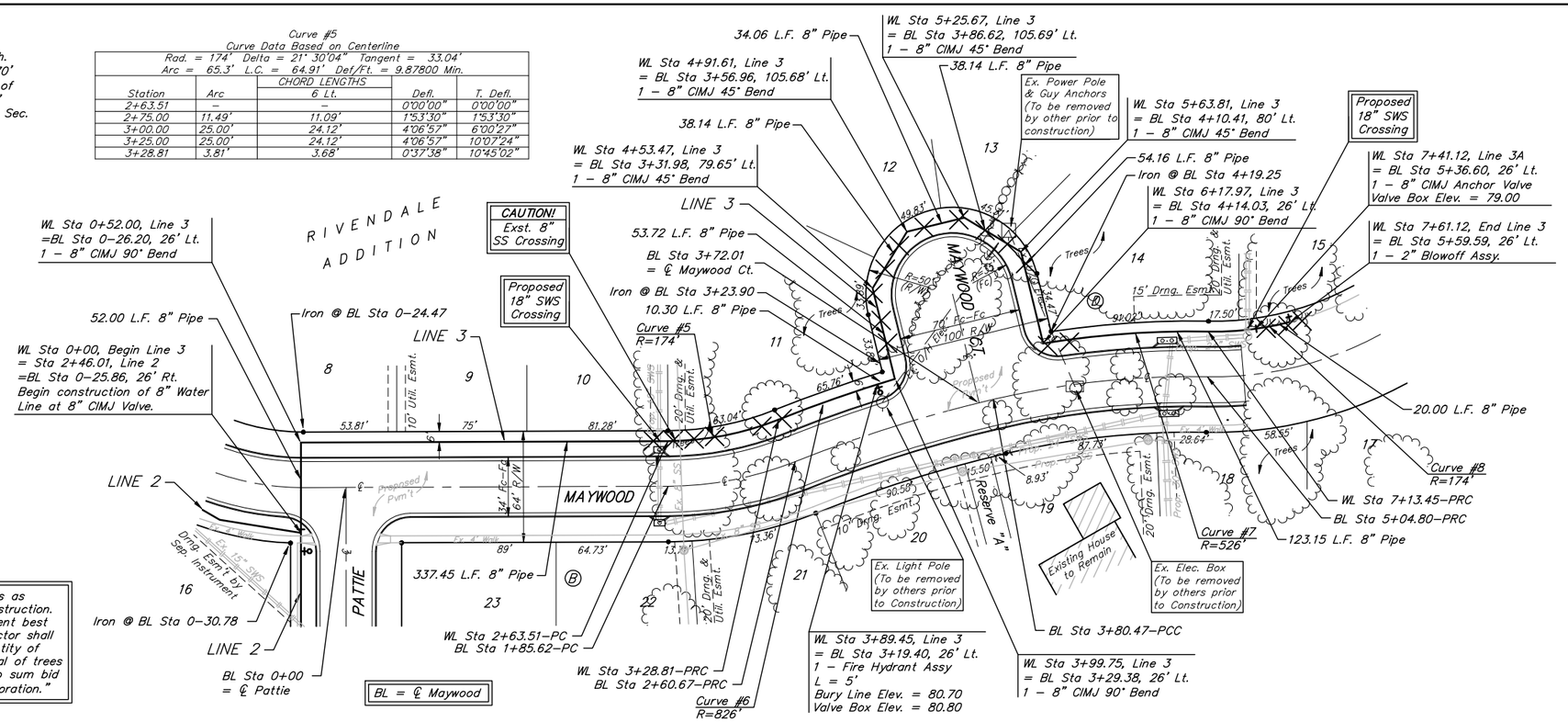
PROJECT NUMBER 448-89889
REVISIONS:
DSIGN RDM/MWS
DRAWN RDM
APPROVED MWS
DATE 2/21/07
SCALE Noted
SHEET **6 OF 14**

Rivendale\Phase 3\WTR_4
0601-E477

Benchmark:
City of Wichita Benchmark Disc,
Hydraulic and 55th Street South.
42.00' North of Centerline, 40.70'
West of Centerline, 3.70' North of
centerline of Power Pole, 58.20'
Northwest of Southeast Corner, Sec.
21, Twp. 28-S, R-1-E.
Elev. = 76.19 City Datum
Elev. = 1263.59 (NGVD29)

Curve #5
Curve Data Based on Centerline
Rad. = 174' Delta = 21° 30'04" Tangent = 33.04'
Arc = 65.3' L.C. = 64.91' Def/Ft. = 9.87800 Min.

Station	Arc	CHORD LENGTHS 6 Lt.	Defl.	T. Defl.
2+63.51	–	–	0°00'00"	0°00'00"
2+75.00	11.49'	11.09'	1°53'30"	1°53'30"
3+00.00	25.00'	24.12'	4°06'57"	6°00'27"
3+25.00	25.00'	24.12'	4°06'57"	10°07'24"
3+28.81	3.81'	3.68'	0°37'38"	10°45'02"



Contractor shall remove trees as necessary for water line construction. Trees shown on plans represent best information available. Contractor shall field verify location and quantity of trees to be removed. Removal of trees shall be included in the lump sum bid item "Site Clearing and Restoration."

BL = ℄ Maywood

Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

Curve #6
Curve Data Based on Centerline
Rad. = 826' Delta = 8° 34' 48" Tangent = 61.96'
Arc = 123.69' L.C. = 123.58' Def/Ft. = 2.08101 Min.

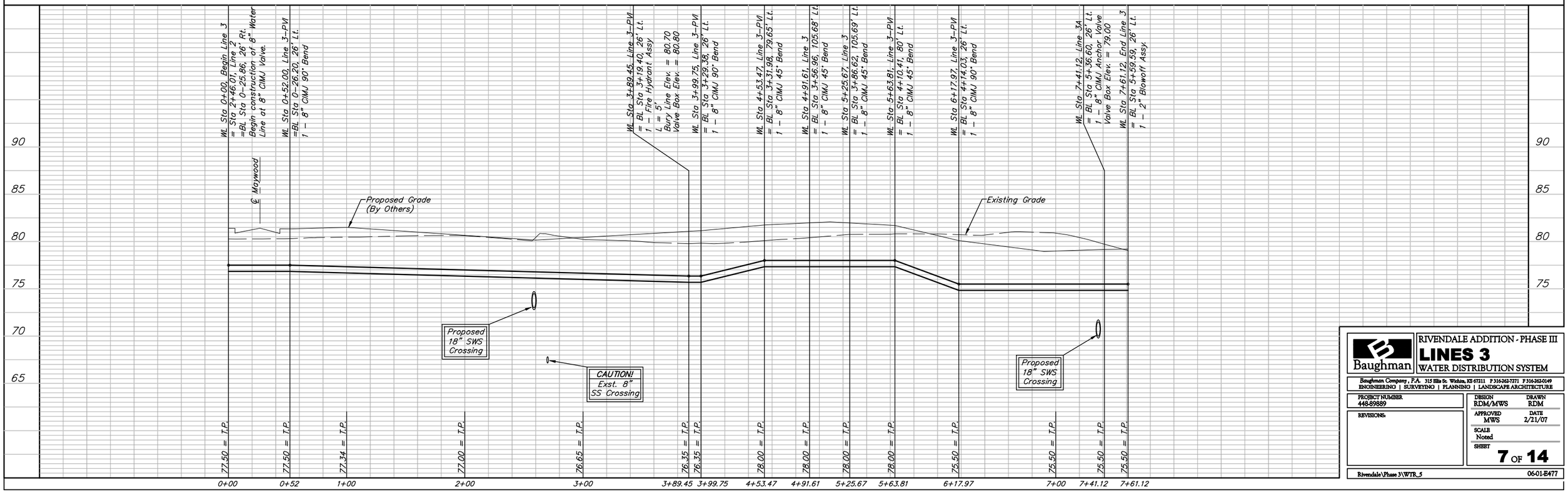
Station	Arc	CHORD LENGTHS 6 Lt.	Defl.	T. Defl.
3+28.81	–	–	0°00'00"	0°00'00"
3+50.00	21.19'	21.34'	0°44'06"	0°44'06"
3+75.00	25.00'	25.18'	0°52'01"	1°36'07"
3+89.45	14.45'	14.56'	0°30'04"	2°06'11"
3+99.75	10.30'	10.37'	0°21'26"	2°27'37"

Curve #7
Curve Data Based on Centerline
Rad. = 526' Delta = 10° 24'03" Tangent = 47.87'
Arc = 95.49' L.C. = 95.35' Def/Ft. = 3.26762 Min.

Station	Arc	CHORD LENGTHS 6 Lt.	Defl.	T. Defl.
6+17.97	–	–	0°00'00"	0°00'00"
6+25.00	7.03'	7.11'	0°22'58"	0°22'58"
6+50.00	25.00'	25.28'	1°21'41"	1°44'40"
6+75.00	25.00'	25.28'	1°21'41"	3°06'21"
7+00.00	25.00'	25.28'	1°21'41"	4°28'02"
7+13.45	13.45'	13.60'	0°43'57"	5°11'59"

Curve #8
Curve Data Based on Centerline
Rad. = 174' Delta = 15° 41' 48" Tangent = 23.98'
Arc = 47.67' L.C. = 47.52' Def/Ft. = 9.87833 Min.

Station	Arc	CHORD LENGTHS 6 Lt.	Defl.	T. Defl.
7+13.45	–	–	0°00'00"	0°00'00"
7+25.00	11.55'	11.15'	1°54'05"	1°54'05"
7+41.12	16.12'	15.56'	2°39'14"	4°33'20"
7+50.00	8.88'	8.57'	1°27'43"	6°01'03"
7+61.12	11.12'	10.73'	1°49'51"	7°50'54"



Baughman	RIVENDALE ADDITION - PHASE III **LINES 3** WATER DISTRIBUTION SYSTEM
Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-263-7271 F 316-263-0149 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE	
PROJECT NUMBER 448-89889	DESIGN RDM/MWS; DRAWN RDM
REVISIONS:	APPROVED MWS; DATE 2/21/07
	SCALE Noted
	SHEET **7 OF 14**
Rivendale\Phase 3\WTR_5	0601-E477

Trees shown on plans represent best information available at time of design, actual locations and quantity of trees may differ from plans. Remove trees Only as necessary for construction. Cost of removal to be incidental to lump sum bid item "Site Clearing & Restoration".

NOTE: Contractor shall remove & replace existing erosion control measures as necessary for construction. Contractor shall be required to maintain all on-site erosion control items until final acceptance by the City of Wichita.

NOTES:
1. This Plan Is Not To Be Used As A Comprehensive Grading Plan. All Spot Elevations Are Proposed & Subject To Change.

2. Each Lot Area Disturbed By Construction Shall Be the Responsibility of Each Individual Homeowner. Owner Responsible to Follow All SWPP Plans & Guidelines For The Area.

Maintain 190 L.F. Existing silt fence.

Buried structure barrier.

Maintain curb inlet sediment barrier.

Maintain curb inlet sediment barriers.

Buried structure barrier.

Maintain 345 L.F. Silt Fence

Maintain 650 L.F. Silt Fence

Maintain 970 L.F. Silt Fence

Maintain construction entrance onto existing paved roadway at this location per detail, sheet 12. Construction Related Traffic shall use this entrance ONLY!! No construction related traffic on Existing Paved Roads in Subdivision.

Dirt stockpile and rubble pile locations shown on plans is approximate, actual locations may differ. Contractor shall move dirt/rubble piles as necessary for construction, all costs of which shall be included in "Site Clearing and Restoration"

Scale: 1" = 60'

EROSION CONTROL PLAN LEGEND

- LIGHT STONE RIP-RAP
- DROP INLET PROTECTION
- CURB INLET PROTECTION
- STRAW BALE BARRIERS
- SILT FENCING
- BURIED STRUCTURE
- CURLEX BLANKET

NO SCALE

RESERVE "A"

MAYWOOD

MAYWOOD CIR.

MAYWOOD CT.

PATTIE

VICTORIA

VICTORIA CT.

LAURA

55TH ST. S.

RES. "B"

KUEHN 1 1 ADDITION

PATTIE

GREENHOUSE

HOUSE TO REMAIN

Baughman

RIVENDALE ADDITION

EROSION CONTROL PLAN

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

PROJECT NUMBER 448-89889

REVISIONS:

DESIGN RDM/MWS

DRAWN MWS

APPROVED MWS

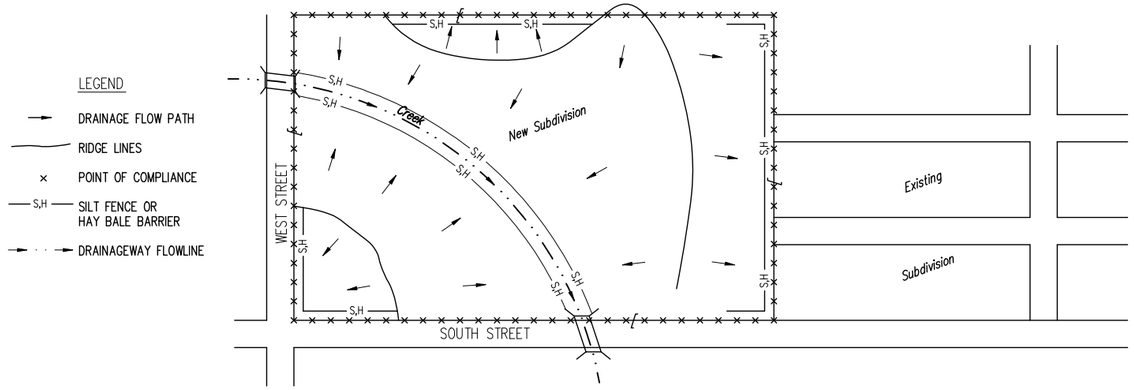
DATE 2/21/07

SCALE Noted

SHEET 8 OF 14

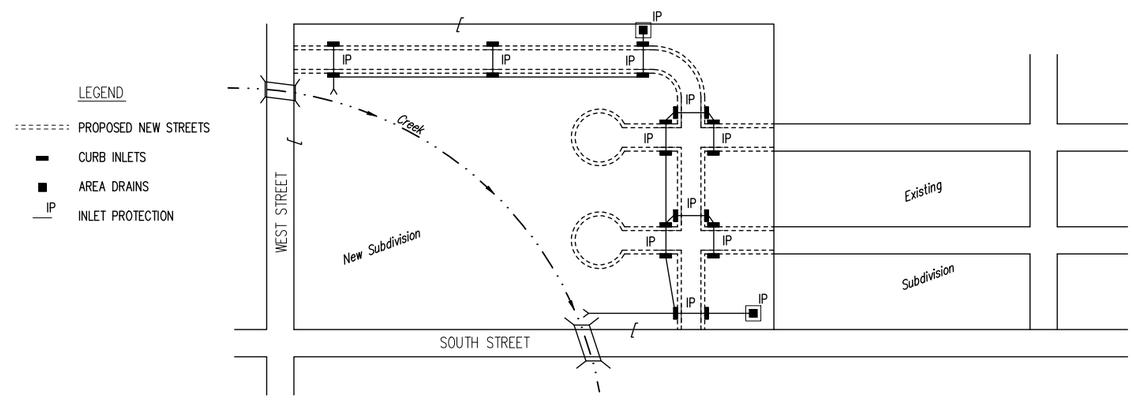
e:\eng\Rivendale\Phase 3\WTR_ecplan.dwg

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



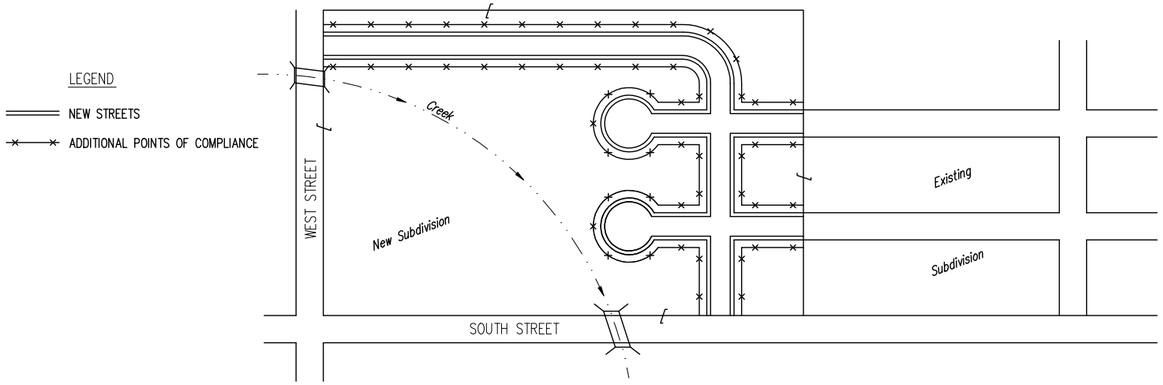
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. 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.
3. 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.
4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
5. 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.
6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
7. 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.
8. WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

PHASE 2 – INSTALLATION OF STORM SEWER



1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
3. AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
4. 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.
5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
7. 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.
8. 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.

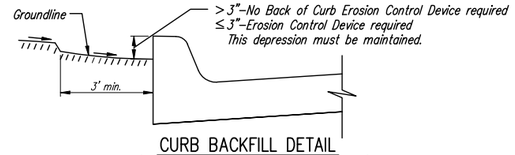
PHASE 3 – STREET CONSTRUCTION



1. 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.
2. 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.
3. 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.
4. SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
5. 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.
6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
7. 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.

GENERAL NOTES:
1. 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.
2. 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.
3. 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.
4. PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.

SEE DETAIL SHEET FOR
BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL
(STREET CONSTRUCTION ONLY)

CITY OF WICHITA

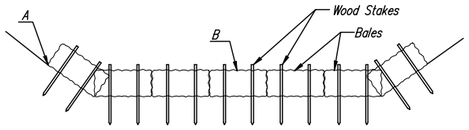
SOIL EROSION BMPs

SUBDIVISION DEVELOPMENT PROJECTS

JIM ARMOUR, P.E.
CITY ENGINEER

PROJECT NUMBER	OCA NO.
448-89889	735352
DATE: FEB 2007	SHEET 9 OF 14

NOTE: Point A must be higher than Point B so that water flows over the bales and not around them.



STRAW BALE DITCH CHECKS

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".

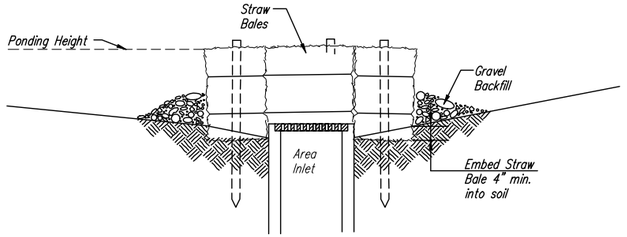
List of common placement/installation mistakes to avoid:

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.

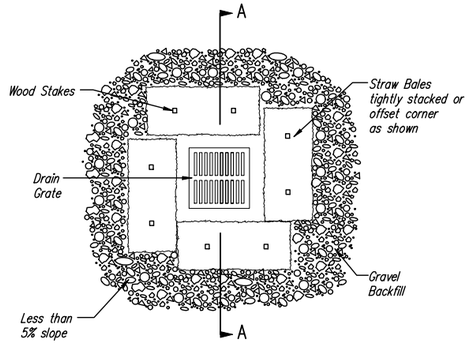
Inspection and Maintenance:

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?



SECTION A-A



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.

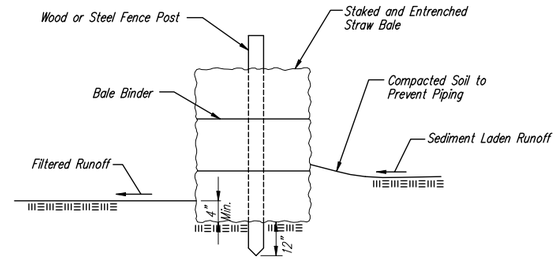
List of common placement installation mistakes to avoid:

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 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?

CITY OF WICHITA

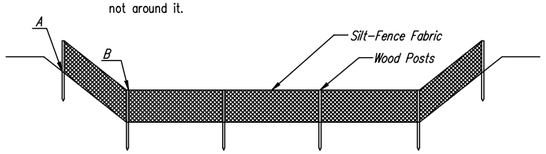
SOIL EROSION BMPs

STRAW BALE DITCH CHECK AND BARRIER DETAILS

JIM ARMOUR, P.E.
CITY ENGINEER

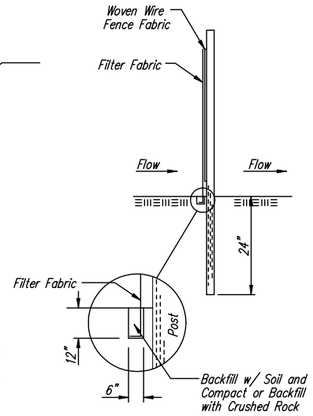
PROJECT NUMBER	OCA NO.
448-89889	735352
DATE: FEB 2007	SHEET 10 OF 14

NOTE: Point A must be higher than Point B so that water flows over the silt fence fabric and not around it.



ELEVATION

SILT FENCE DITCH CHECKS
(STREAM PROTECTION)



ANCHOR TRENCH DETAIL

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 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 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 downstream side of the trench.
Place the edge of the fabric in the trench starting at the top upstream 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 upstream side of the trench to clear an area for driving in the posts. Just downstream 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.

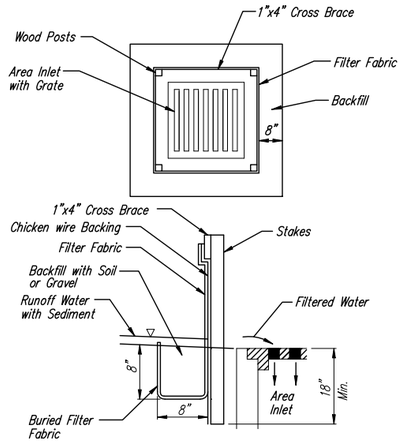
List of common placement/installation mistakes to avoid:

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 upstream 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?



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.

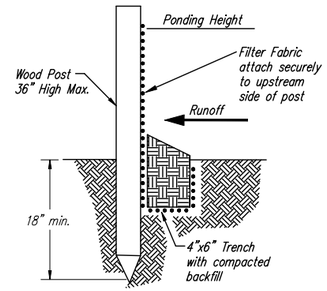
List of common placement/installation mistakes to avoid:

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 resisted 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 slope 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?

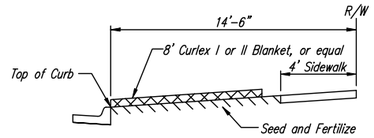
CITY OF WICHITA

SOIL EROSION BMPs

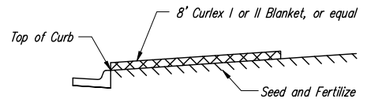
SILT FENCE DITCH CHECK AND BARRIER DETAILS

JIM ARMOUR, P.E.
CITY ENGINEER

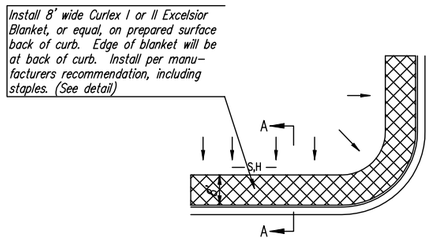
PROJECT NUMBER	OCA NO.
448–89889	735352
DATE: FEB 2007	SHEET 11 OF 14



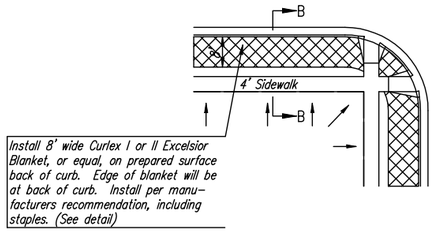
SECTION B-B



SECTION A-A



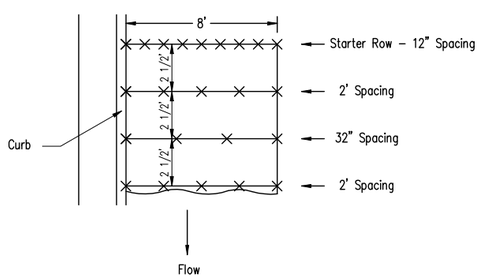
SOUTH STREET



NOTES:

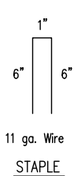
1. EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
2. EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
3. AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE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

BACK OF CURB PROTECTION DETAIL



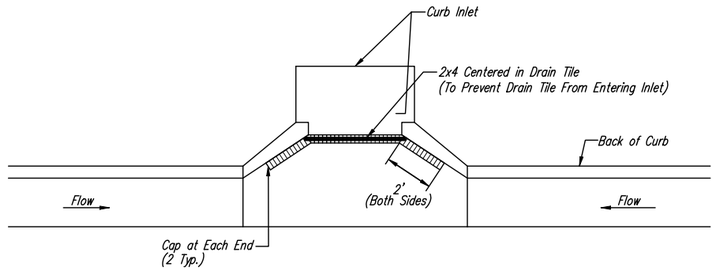
STAPLE PATTERN

NOTES: Use 6" seam overlap



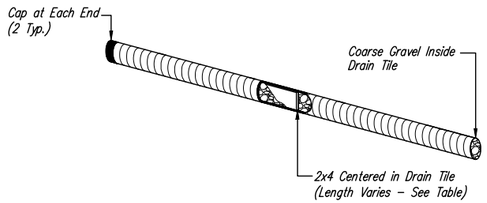
STAPLE

DETAILS FOR CURLEX I OR II BLANKETS



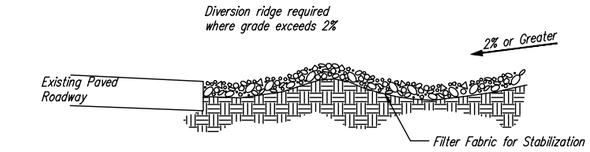
Note:
Place 4" perforated PVC pipe, filled with 1/2"-1" dia. gravel, in front of curb inlet as shown.

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

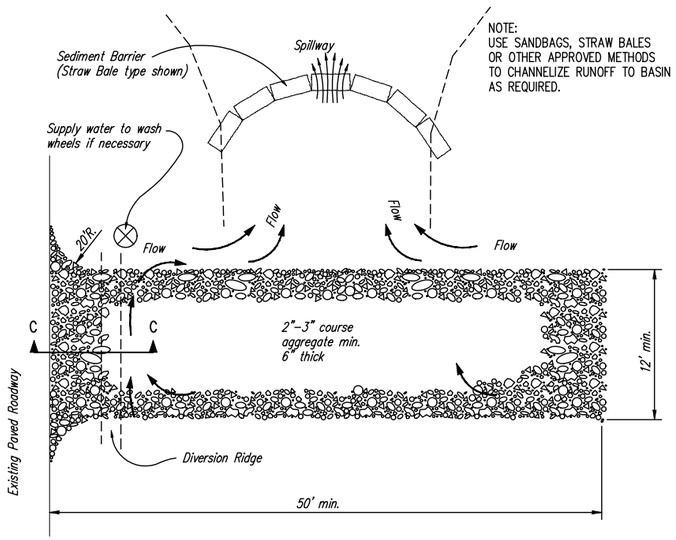


CURB INLET PROTECTION

4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. 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.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. 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.
4. 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.

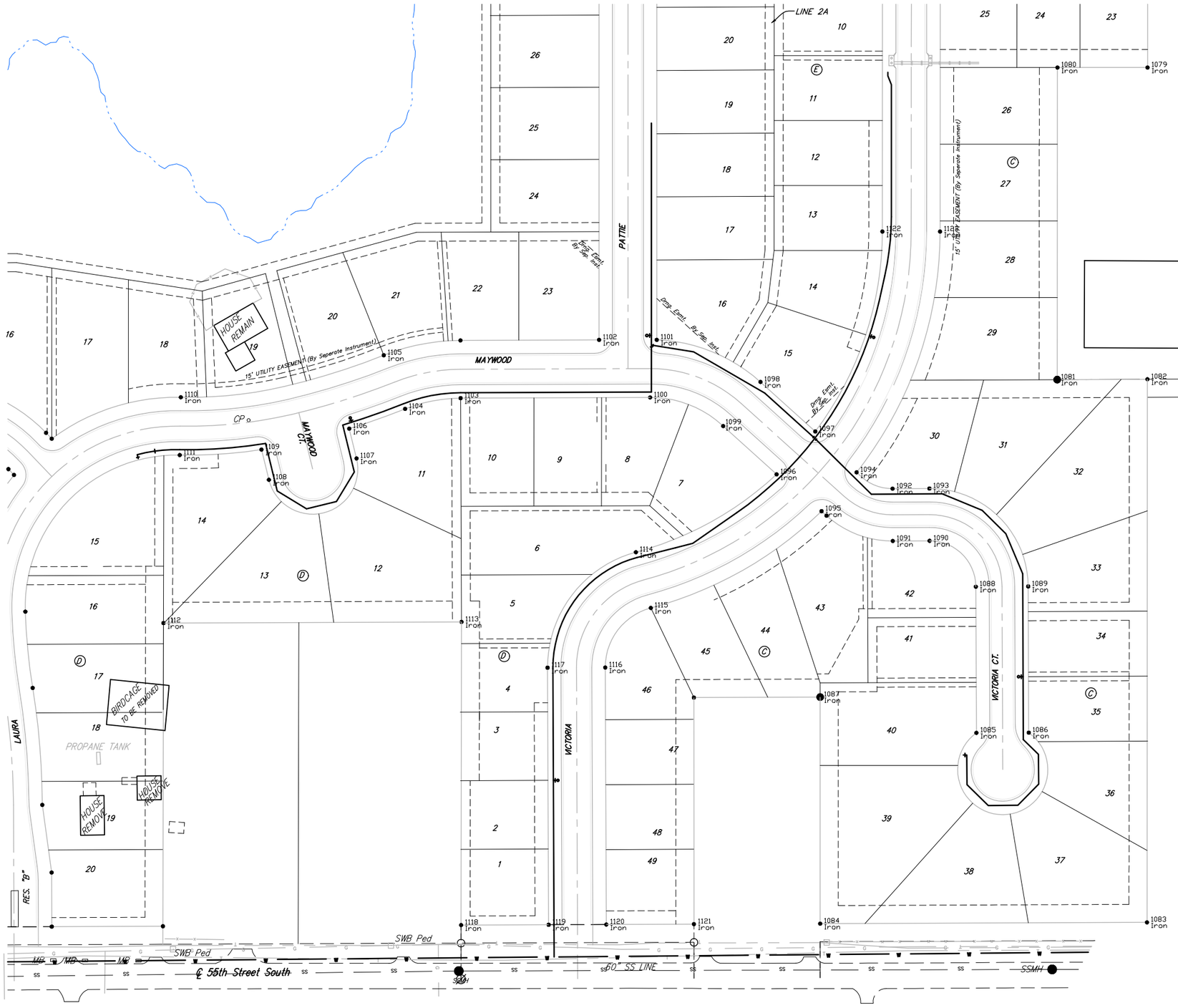
CITY OF WICHITA

SOIL EROSION BMPs

BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

JIM ARMOUR, P.E.
CITY ENGINEER

PROJECT NUMBER	OCA NO.
448-89889	735352
DATE: FEB 2007	SHEET 12 OF 14



POINT #	NORTHING	EASTING	DESC.
1079	21005.18	9440.08	Iron
1080	21005.18	9340.08	Iron
1081	20659.22	9339.85	Iron
1082	20659.66	9439.85	Iron
1083	20057.76	9439.43	Iron
1084	20056.31	9077.01	Iron
1085	20267.73	9250.29	Iron
1086	20267.97	9308.29	Iron
1087	20307.45	9077.01	Iron
1088	20429.79	9249.65	Iron
1089	20430.02	9307.64	Iron
1090	20480.58	9198.42	Iron
1091	20480.40	9157.55	Iron
1092	20538.40	9157.30	Iron
1093	20538.58	9198.16	Iron
1094	20556.45	9117.44	Iron
1095	20513.39	9078.60	Iron
1096	20554.31	9028.75	Iron
1097	20601.83	9071.62	Iron
1098	20656.66	9010.82	Iron
1099	20609.14	8967.96	Iron
1100	20639.52	8888.47	Iron
1101	20703.39	8895.88	Iron
1102	20703.30	8831.88	Iron
1103	20638.72	8678.39	Iron
1104	20626.79	8616.86	Iron
1105	20686.25	8593.17	Iron
1106	20604.90	8554.86	Iron
1107	20571.97	8562.92	Iron
1108	20548.21	8465.78	Iron
1109	20581.70	8457.59	Iron
1110	20639.67	8368.12	Iron
1111	20575.68	8366.88	Iron
1112	20389.46	8348.96	Iron
1113	20390.72	8679.33	Iron
1114	20468.03	8872.76	Iron
1115	20406.19	8889.25	Iron
1116	20340.22	8838.77	Iron
1117	20339.96	8774.77	Iron
1118	20055.10	8775.91	Iron
1120	20055.36	8839.91	Iron
1121	20055.75	8937.12	Iron
1122	20823.36	9145.96	Iron
1123	20823.32	9209.96	Iron

Baughman

RIVENDALE ADDITION
Coordinate Sheet
Water Distribution System

Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-263-7271 F 316-263-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

PROJECT NUMBER 448-89889

REVISIONS:

DESIGN MWS | DRAWN RDM | APPROVED | DATE 2/21/07

SCALE Noted

SHEET **13** OF **14**

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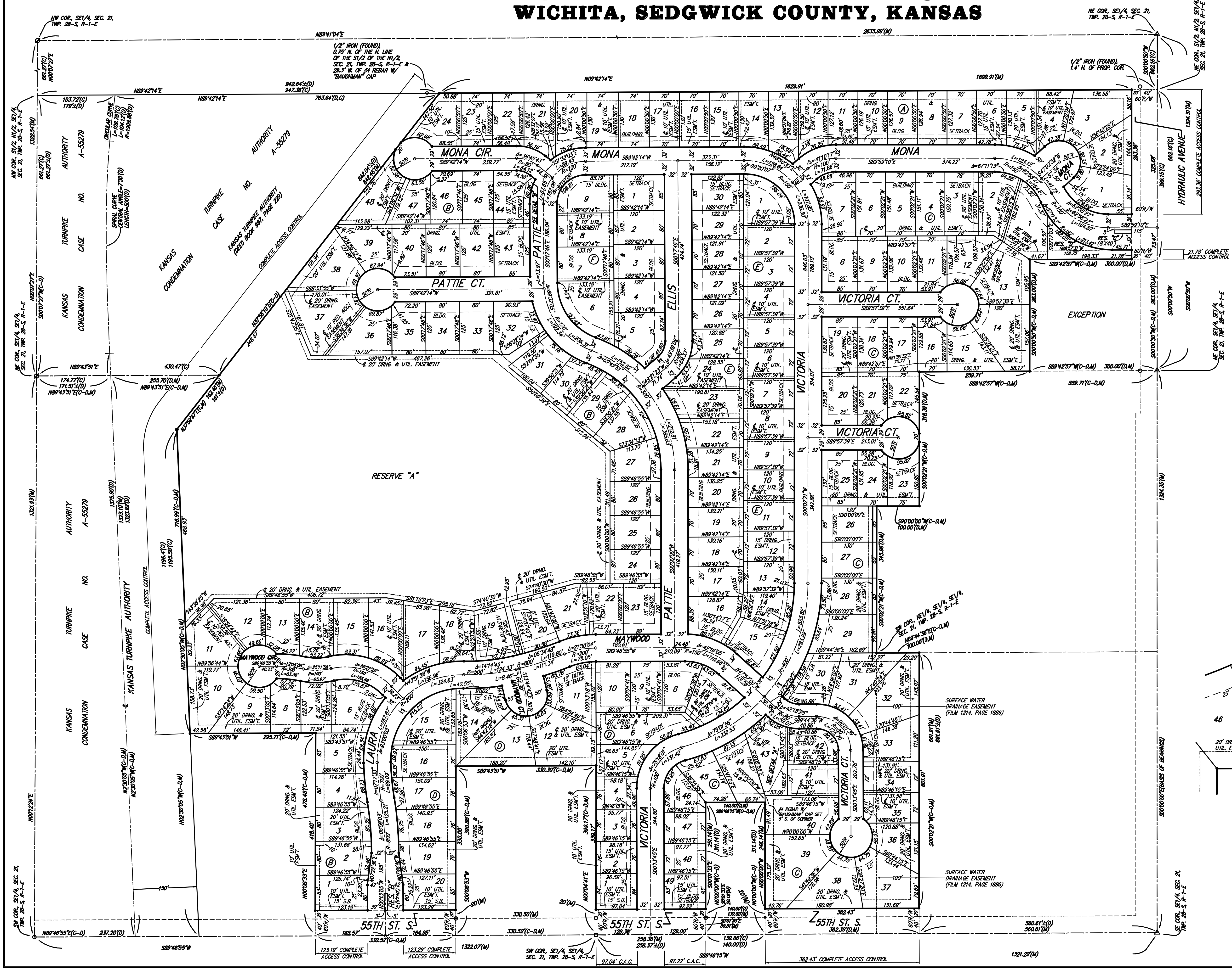
RIVENDALE ADDITION
WICHITA, SEDGWICK COUNTY, KANSAS



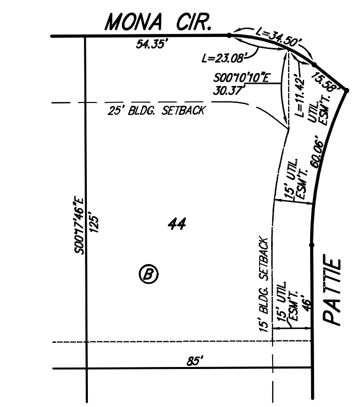
- ● = #4 REBAR W/ "BAUGHMAN" CAP (SET)
- △ = 3/4" IRON IN THIMBLE (FOUND)
- ○ = 1/2" IRON (FOUND)
- Ø = 3/4" IRON (FOUND)
- □ = "P-K" NAIL (FOUND)

(M) = MEASURED
(D) = DESCRIBED
(C) = CALCULATED
(C-D) = CALCULATED PER DESCRIBED INFO.

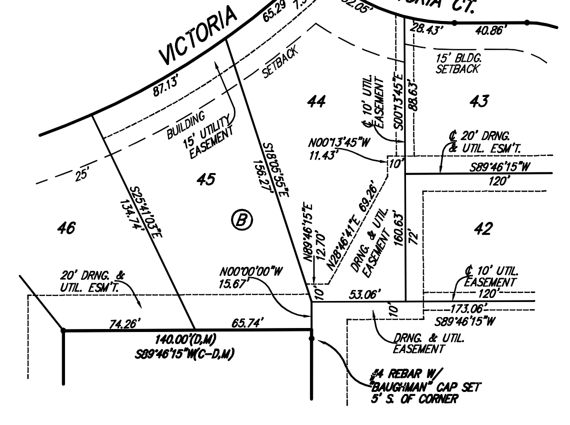
0 100 200

MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES		
LOT	BLOCK	ELEVATION CITY DATUM
11-38	B	76.0

BENCHMARK:
CITY OF WICHITA BENCHMARK DISC,
HYDRAULIC AND 55TH STREET SOUTH
42.00' N. OF ℄
40.70' W. OF ℄
3.70' N. OF ℄ OF POWER POLE
58.20' NW. OF SE. COR., SEC. 21,
TWP. 28-S, R-1-E
ELEV. = 76.19 CITY DATUM
(1263.59 NGVD29)



DETAIL "B"
(NO SCALE)



DETAIL "A"
(NO SCALE)

NOTE:
A master grading plan for drainage has been developed for this subdivision and is on file with the City of Wichita, Kansas. All drainage easements, right-of-ways, or reserves shall remain at established grades or as modified with the approval of the City Engineer of the City of Wichita, Kansas. No obstructions which impede the flow of this drainage system be allowed.

BAUGHMAN COMPANY P. A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 * 315 ELLIS * WICHITA, KANSAS 67211

F: \PLAT\RIVENDALE ADDITION\DWG\RIVENDALEF.DWG-MGC