# SU Project 562-855106

# STORM WATER SEWER IMPROVEMENTS

to serve

# FAIRWAY AVENUE

## CITY OF WICHITA, KANSAS

James L. Armour, P.E. City Engineer

Project Number

**468-84197**

O.C.A. Number:

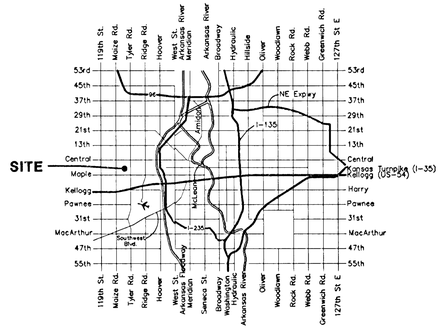
**660516**


Scale: 1" = 150'

## BENCHMARKS

*BM #1: Rail Road Spike in light pole between Lots 9 & 10, Block 13, Westlink Village Addition, Wichita, Sedgwick County, KS. Elevation = 1326.39 MSL*

*BM#2: "□" cut in top of curb, north side of 2nd Street, SW corner of Lot 11, Block 10, Westlink Village Addition, Sedgwick County, KS. Elevation = 1321.62 MSL*




Vicinity Map

## SHEET INDEX



## GENERAL NOTES:

1. Contractor will be required to provide notice to utility companies a minimum of forty-eight (48) hours prior to any excavation, as follows:

   Kansas One-Call 687-2470

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

   | | |
   |---|---|
   | Cox Communications | 262-4270 |
   | Kansas Gas Service | 1-888-482-4950 |
   | Westar Energy | 383-8650 |
   | Aquila Energy | 1-800-303-0357 |
   | SBC | 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 Phillips Pipeline | 1-877-267-2290 |
   | Southern Star Pipeline | 529-6600 |
   | Kinder Morgan Pipeline | 1-888-844-5658 |
   | Enbridge Pipeline | 1-800-323-6241 |

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 off site at sites to be provided by the Contractor. 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 five (5) days notice prior to start of construction. Contractor shall install traffic control measures per MUTCD standard specifications. Signs reading "No thru traffic" shall be installed at the intersections of 2nd Street & Putter Lane and Fairway Avenue & Shade Avenue.

6. 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 "Site Clearing & Restoration."

7. All areas disturbed during construction shall be re-graded to pre-construction elevations and sodded with "in kind" sod. All excess excavation shall be disposed of off-site by the contractor at locations provided by the contractor. All work required to restore elevations, sod, and to move excess excavation shall be incidental to "Site Clearing & Restoration" bid item.


Baughman

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

BM #1: Rail Road Spike in light pole between Lots 9 & 10, Block 13, Westlink Village Addition, Wichita, Sedgwick County, KS.
Elevation = 1326.39 MSL

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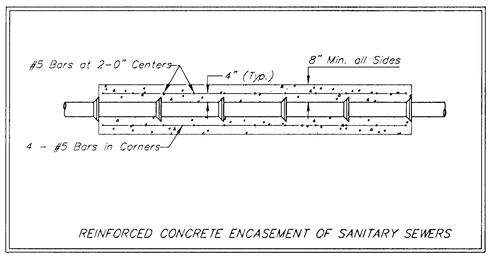
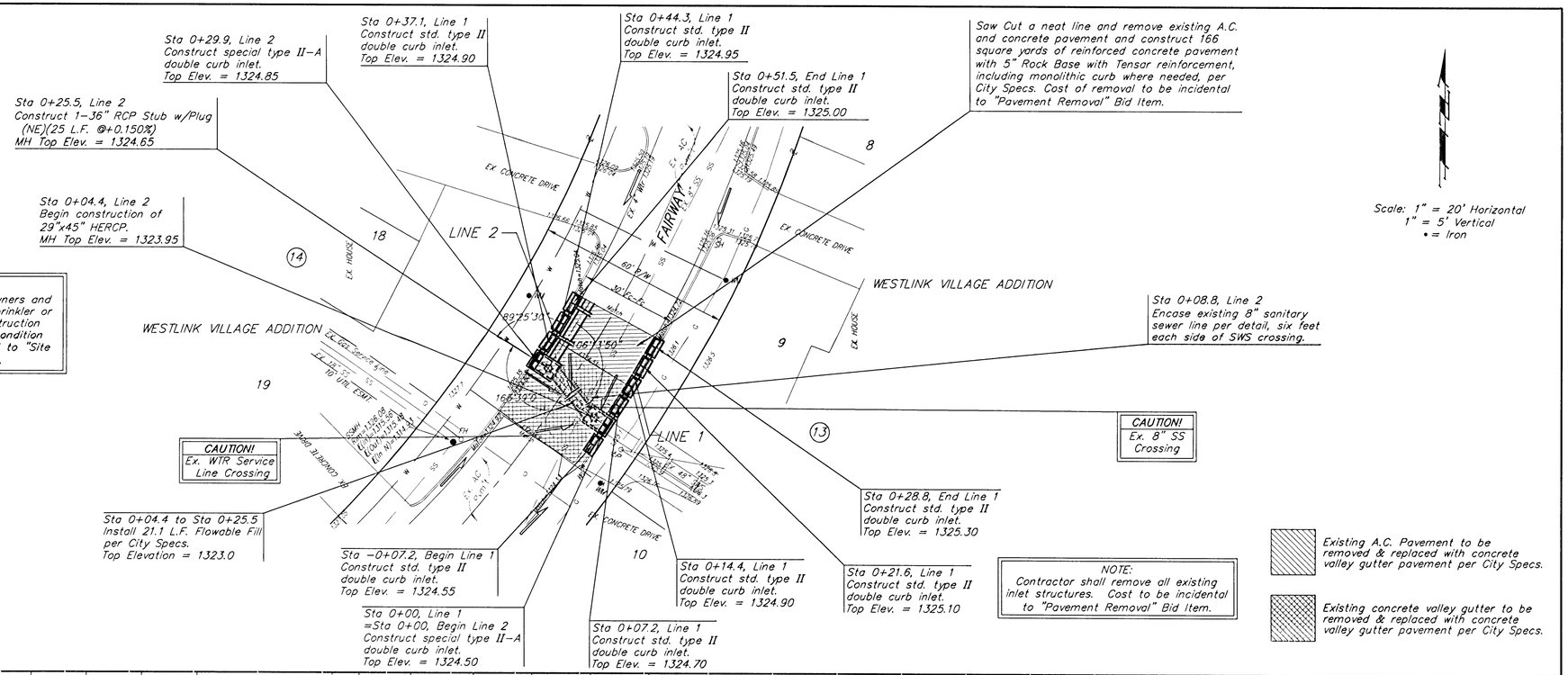
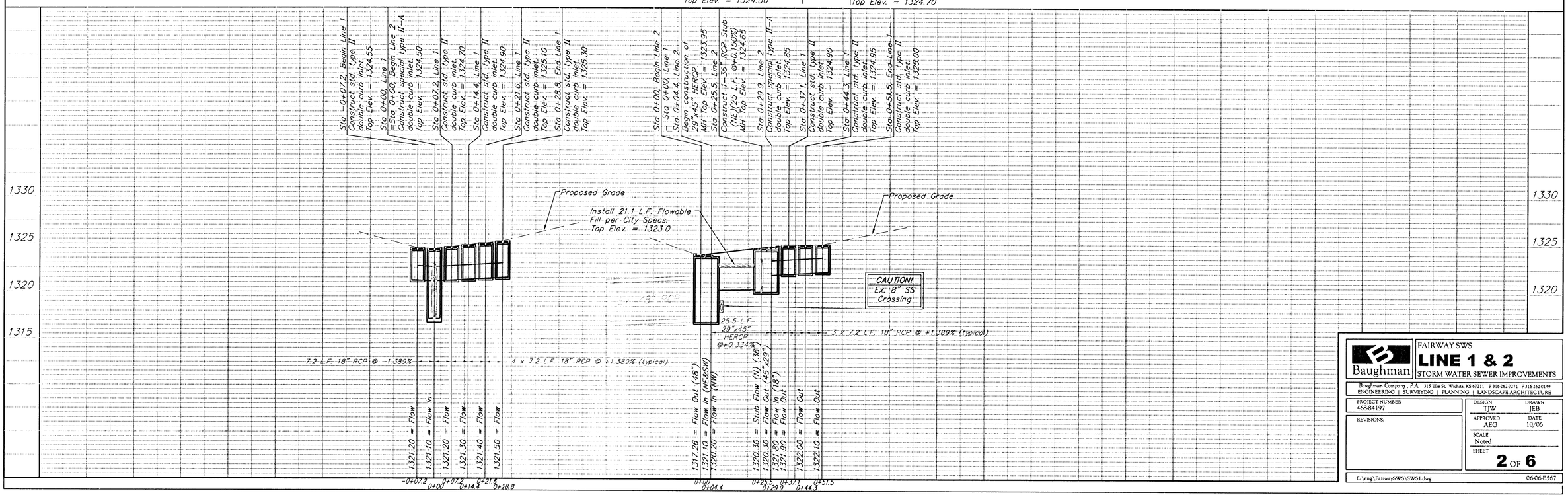



REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWERS




Baughman

FAIRWAY SWS

# LINE 1 & 2

STORM WATER SEWER IMPROVEMENTS


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 468841.97

REVISIONS:

DESIGN TJW | DRAWN JEB

APPROVED AEG | DATE 10/06

SCALE Noted

SHEET 2 OF 6

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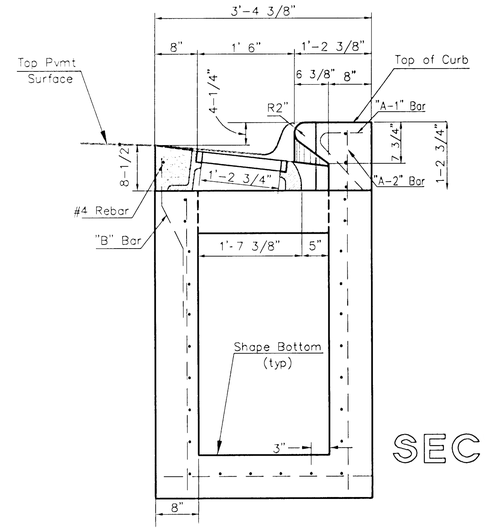
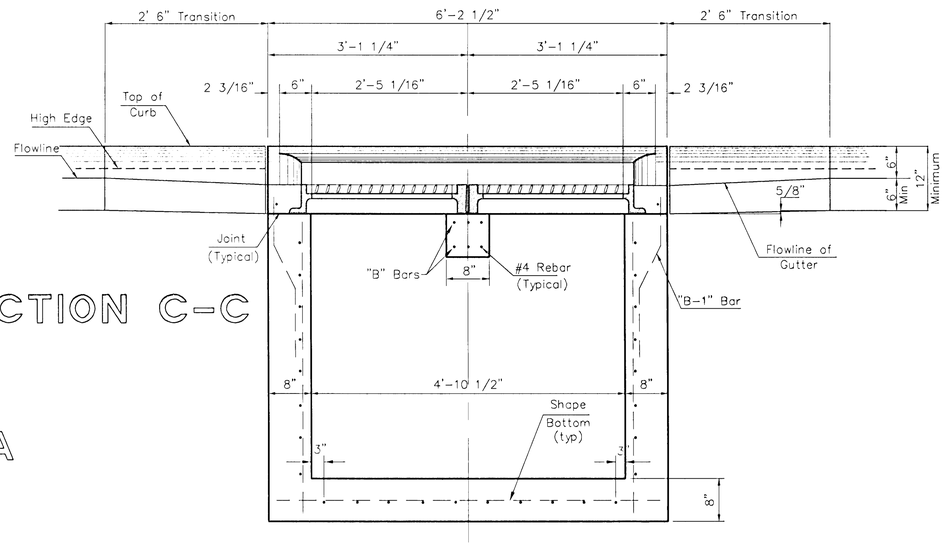
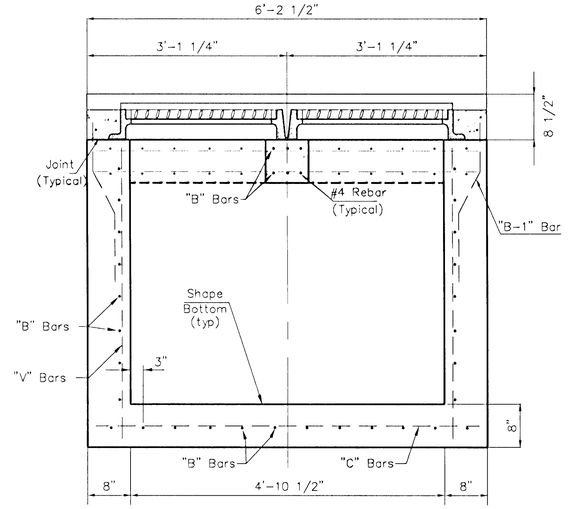



SECTION A-A




SECTION C-C

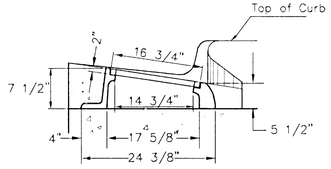
SECTION D-D

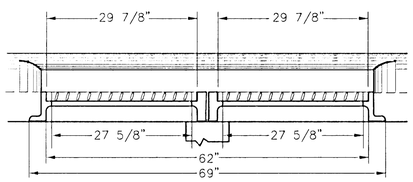






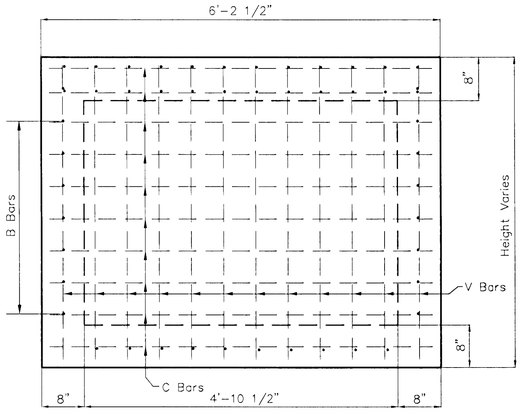
PLAN VIEW



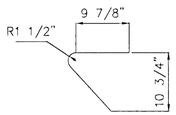




INLET FRAME WITH TWO-PIECE GRATE

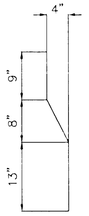
(Neenah R-3288 HV2 Inlet)




REAR WALL




"A-1" Bar




"B-1" Bar

## General Notes

1. Use class A mix specified for the City of Wichita concrete pavement throughout curb inlet. All exposed edges shall be finished with an edging tool. Reinforcing bars shall be bent around pipe.
2. Inlet invert shall be shaped with 8 sack mix concrete to create flow channels and to increase hydraulic efficiency such that the inlet will be self cleaning between all inlet and/or outlet pipes.
3. All bars are #4 with 6" spacing and shall have a minimum clearance of 1 1/2" inches unless otherwise noted on the plans.
4. No deductions will be made in pay length of curb, gutter, or curb and gutter through the inlet area.
5. Use Neenah R-3288 HV2 Double Inlet Frame w/ two piece grate or approved equal. Inlet frame to be proof load tested to 40,000 lbs. on the unsupported side.
6. Reinforcing bars shall be cut or bent around pipes. No deduction in concrete quantities shall be made for pipe openings.
7. The vanes of the grate shall be oriented with respect to the flow arrows shown on the plans.
8. All castings shall be gray iron and shall comply with KDOT Standard Specifications.
9. All exposed cast iron surfaces shall be painted either in the shop topcoat or a field coat of organic zinc, each coat to be 3 to 4 mils.

Revised - Dec. 1995 - SGSJR

Baughman

City of Wichita Special Type II

**Curb Inlet Details**

Inlet Opening = 6" x 4'-10 1/8"

Baughman Company, P.A. 315 E. Ella St. Wichita, KS 67211 P 316.262.2221 F 316.262.0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

| PROJECT NUMBER | DESIGN | DRAWN |
|---|---|---|
| 468-84197 | C.O.W. | Staff |
| REVISIONS: | APPROVED | DATE |
| | | 10/06 |
| | SCALE | None |
| | SHEET | 3 OF 6 |

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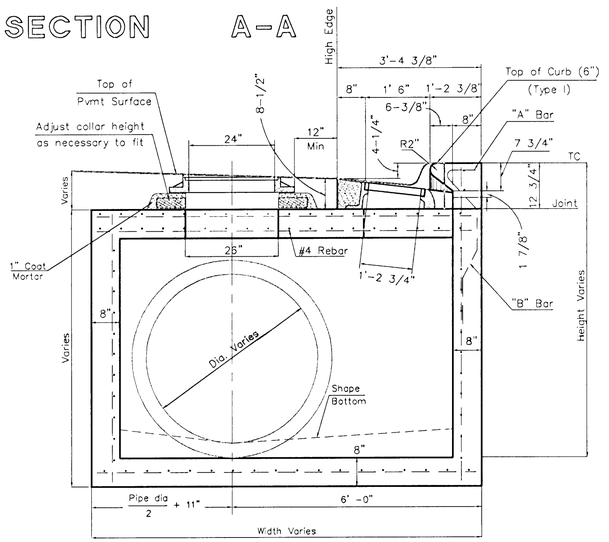
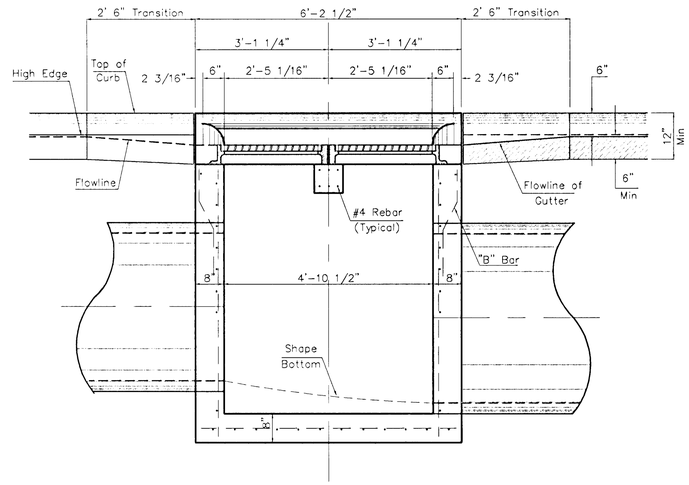
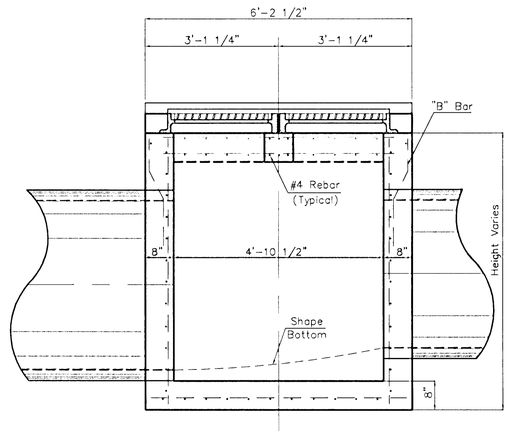
## SECTION A-A



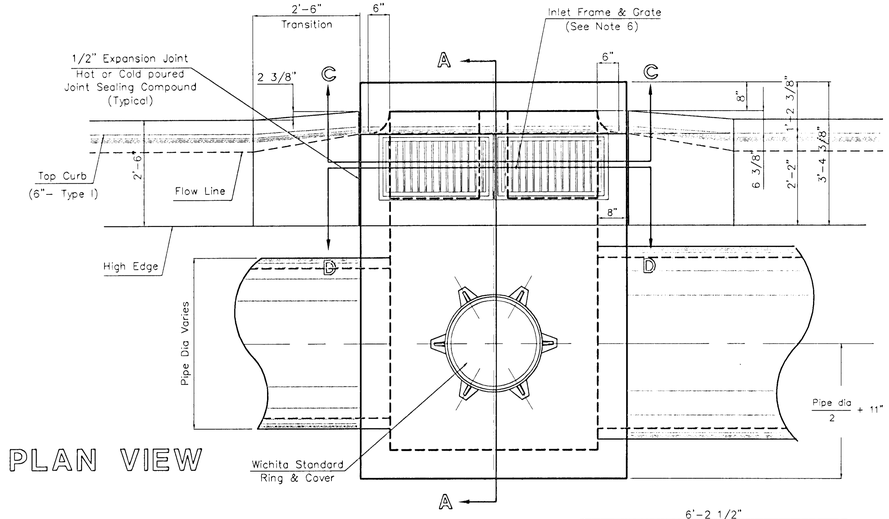

## SECTION C-C

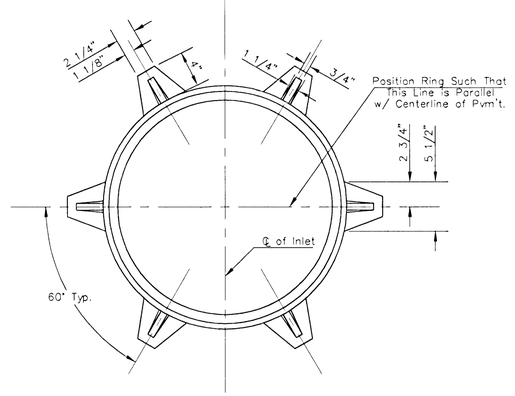


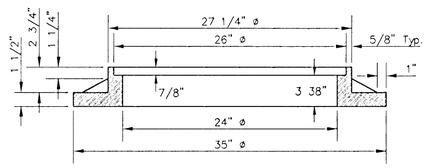

## SECTION D-D




## PLAN VIEW



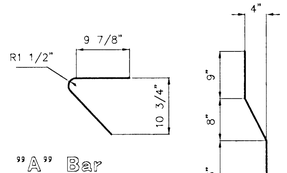




Inlet Frame Weight = 180 lbs

MANHOLE RING AND COVER

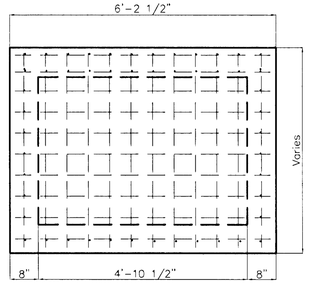
*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.




"A" Bar




"B" Bar




REAR WALL

## General Notes

1. Use the concrete mix specified for the City of Wichita concrete pavement throughout. All exposed edges shall be finished with an edging tool. Reinforcing bars shall be bent around pipe.
2. Inlet invert shall be shaped with 8 sack mix concrete to create flow channels and to increase hydraulic efficiency such that the inlet will be self cleaning between all inlet and/or outlet pipes.
3. All bars are #4 with 6" spacing and shall have a minimum clearance of 1 1/2" inches unless otherwise noted on the plans.
4. No deductions will be made in pay length of curb, gutter, or curb and gutter through the inlet area.
5. Use Neenah R-3288 HV Inlet Frame w/ two piece Grate or approved equal. Inlet frame to be proof load tested to 40,000 lbs. on unsupported side.
6. Reinforcing bars shall be cut or bent around pipes. No deduction in concrete quantities shall be made for pipe openings.
7. The vanes of the grate shall be oriented with respect to the flow arrows shown on the plans.
8. Around manhole opening in top slab use #5 bar @ 45° angle to other bars. Length = MH opening + 2'0"

Baughman

City of Wichita Special Type II

**Curb Inlet Details**

Inlet Opening = 6" x 4'-10 1/8"


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


| PROJECT NUMBER | DESIGN | DRAWN |
|---|---|---|
| 468-84197 | C.O.W. | Staff |
| REVISIONS: | APPROVED | DATE 10/06 |
| | SCALE None | |
| | SHEET 4 OF 6 | |

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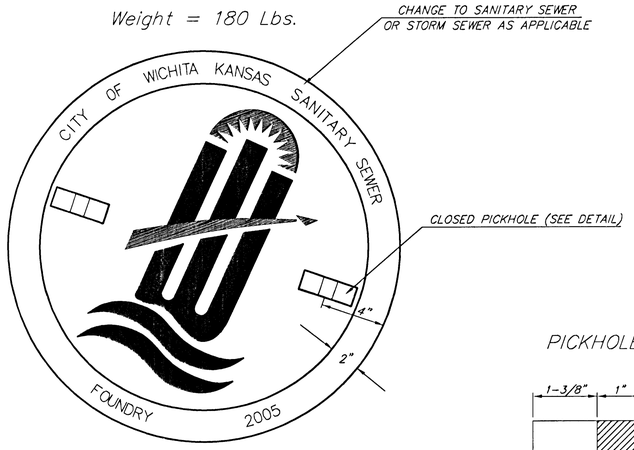
# STANDARD AND LIGHT WEIGHT MANHOLE FRAME AND COVER DETAIL

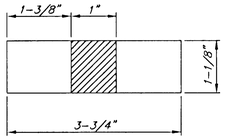
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

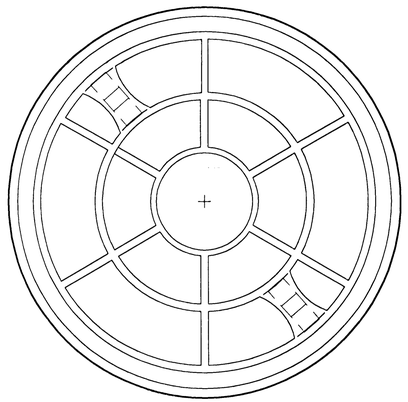



TOP VIEW

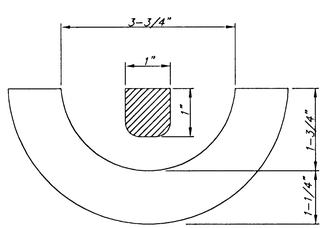
PICKHOLE DETAIL




TOP VIEW

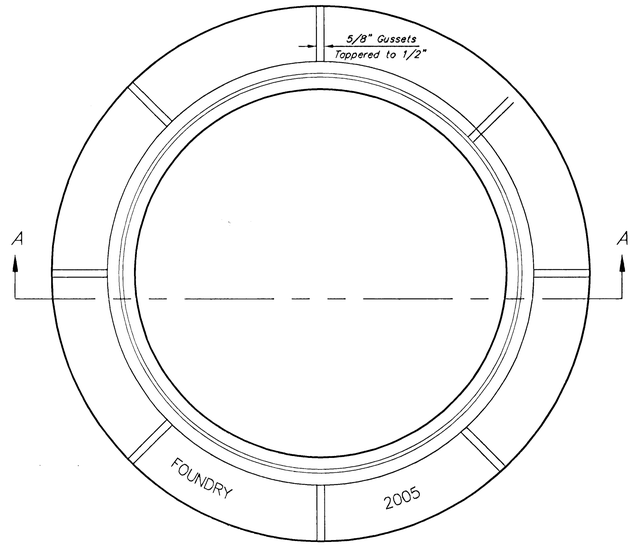


BOTTOM VIEW

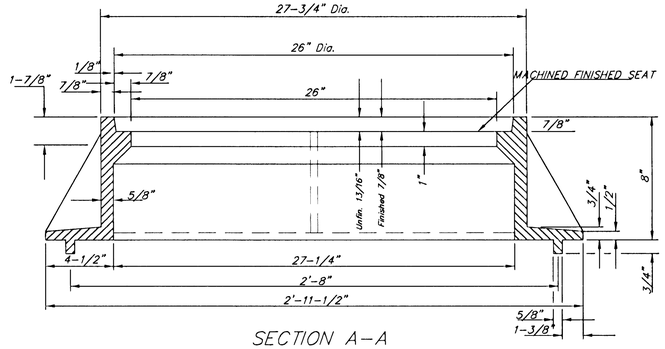



SECTION VIEW

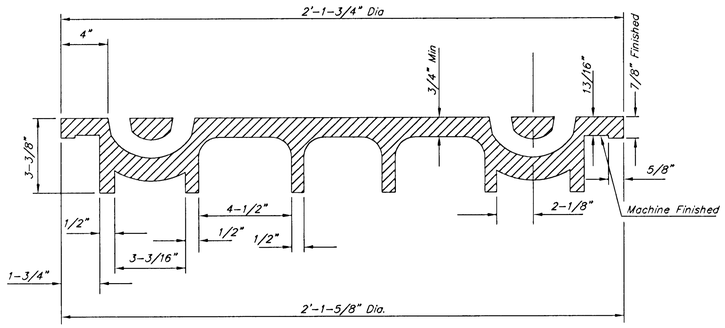
LIGHT WEIGHT
MANHOLE FRAME
Weight = 161 Lbs.




TOP VIEW



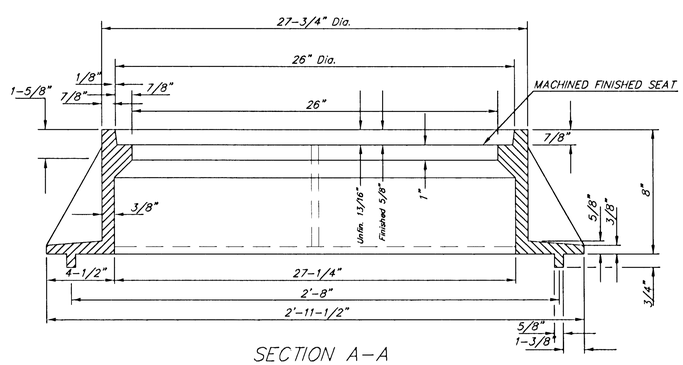

SECTION A-A
STANDARD
MANHOLE FRAME
Weight = 250 Lbs.




SECTION VIEW

## GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. LIGHT WEIGHT MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 161 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 341 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
3. STANDARD MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 430 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 430 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
4. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
5. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
6. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SANITARY SEWER", OR "CITY OF WICHITA STORM SEWER". THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.
7. MANHOLE FRAME WITHOUT MUDRING TO BE USED ONLY ON RECONSTRUCTION PROJECTS WHERE ADDITIONAL CLEARANCE IS NEEDED.




SECTION A-A
LIGHT WEIGHT
MANHOLE FRAME
Weight = 161 Lbs.

REV. 3-13-02, MCG

L:\Sewers\Manhole Frame Cover Light Weight R.dwg

CITY OF WICHITA
PUBLIC WORKS
ENGINEERING

**STANDARD & LIGHT WEIGHT MANHOLE FRAME AND COVER**

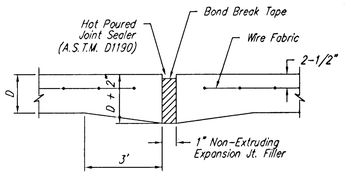
CITY ENGINEER
JAMES L. ARMOUR, P.E. CITY ENGINEER

| PROJECT NUMBER | OCA NUMBER | DATE |
|---|---|---|
| 468-841967 | 660516 | 10/2006 |

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501
(316) 268-4114 FAX

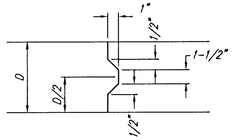
| DESIGN | DRAWN |
|---|---|
| COW | COW |

SHEET
5 OF 6

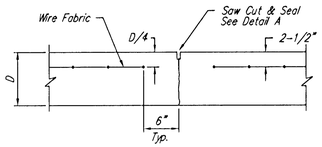



## EXPANSION JOINT

NOTE: Extra Thickness to be Subsidiary to Price of Square Yards Pavement



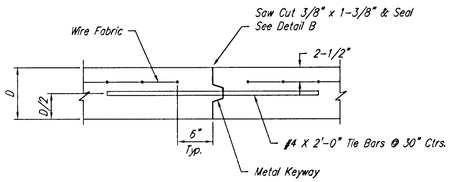

## KEYWAY DETAIL



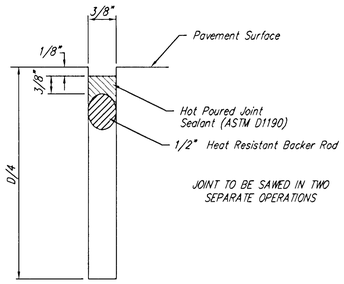

## CONTRACTION JOINT DETAIL (C.J.)



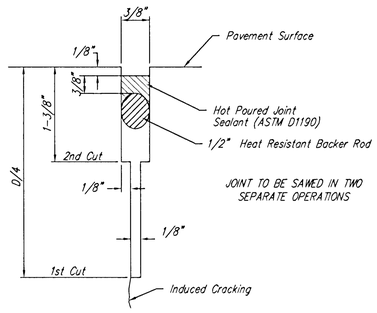

## LONGITUDINAL JOINT DETAIL (L.J.)



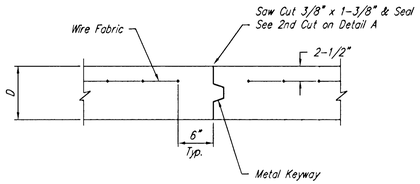

## OPTIONAL LONGITUDINAL JOINT DETAIL (L.J.)
(CONSTRUCTION JOINT)



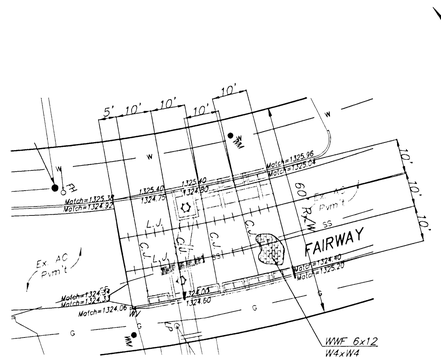

## SAW JOINT DETAIL "B"




## SAW JOINT DETAIL "A"




## OPTIONAL CONTRACTION JOINT
(CONSTRUCTION JOINT)




NOTE: 6" X 12" W4XW4 Wire Fabric Reinforcing Shall Be Placed So That The Wires With The 6" Spacing Will Run Parallel With The Longitudinal Joints.

Baughman

# VALLEY GUTTER DETAILS


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


| | |
|---|---|
| PROJECT NUMBER 468-84197 | DESIGN STAFF / DRAWN STAFF |
| REVISIONS: | APPROVED / DATE 10/06 |
| | SCALE NONE |
| | SHEET 6 OF 6 |

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