STORM WATER IMPROVEMENTS TO SERVE

# Pawnee And West Industrial Park Second Addition

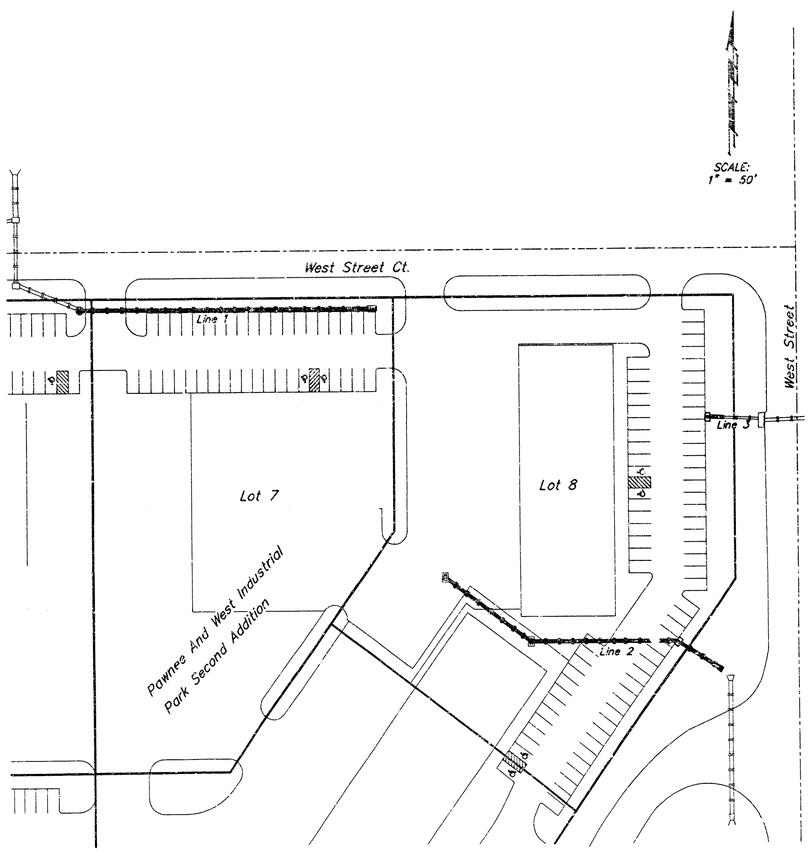
Lots 7 & 8

**Private Project Number: 1381 PPS (507881)**

CITY OF WICHITA, KANSAS

Neil D. Cable, P.E. City Engineer

October 2003




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## Bench Marks:

1. C.O.W. Benchmark in turn island at intersection of West St. and K-42 Highway. Corner of concrete base of traffic signal light pole. Elev. = 110.18 City Datum

2. C.O.W. Benchmark in center of north median, south of K-42 Highway, on centerline of West Street. 17.50' North of south end of median 49.20' North of section corner iron. Elev. = 109.98 City Datum

## Legal Description

Lots 7 & 8, Pawnee & West Industrial Park Second Addition, Wichita, Sedgwick Co., KS

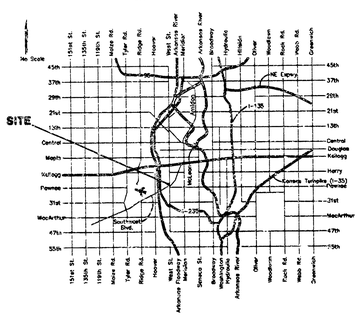
APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

Storm Sewers DRH 10/30/03

NOTE TO CONTRACTORS

Installation, inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).

## Location Map




## 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 587-2470

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

   | | |
   |---|---|
   | Cox Communications | 252-4270 |
   | Kansas Gas Service Company | 1-888-482-4950 |
   | Westar Energy (Electric) | 383-8650 |
   | Aquila Energy (Gas) | 1-800-303-0357 |
   | Southwestern Bell Telephone Company | 1-800-286-[illegible] |
   | City of Wichita Water Department | 264-6000 |
   | City of Wichita Sewer Maint. (San. Sewer) | 265-6000 |
   | City of Wichita Storm Sewer Maint. | 268-4090 |
   | City of Wichita Traffic Maint. | 268-4034 |

2. All disturbed R/W areas not intended for pavement or sidewalk construction shall be seeded with Kansas Premium Fescue Blend at a rate of 8 lb./1000 Sq. Ft., fertilized with a 16-20-6 ratio at a rate of 4 lb./1000 Sq. Ft., and mulched with Prairie Hay at a rate of 92 lb./1000 Sq. Ft. Mulch shall be "patted" with forks or punched into soil to reduce loss due to wind.

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

4. Contractor shall not start work on the project until the project inspector is assigned to the project and is present on the site. Contractor shall not start on the project until all necessary bonds and permits have been obtained. Bonds may include but are not limited to Statutory, Performance & Maintenance for areas in public right-of-way and easement. For projects within the City of Wichita contact Tom Mason (268-4574). Any work done without inspection will be required to be uncovered for inspection.

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

6. All storm sewers and appurtenances shall be installed in accordance with the most recent edition of City of Wichita, Kansas Standard Specifications for the Construction of City Projects.

Booked
E-13
2/19/04
RDL

LEE M. ULLUM
LICENSED
17034
10-30-03
PROFESSIONAL ENGINEER

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

18 08 02 03

Contractor To Use Extreme Caution When Excavating Near Utility Lines. Contractor To Hand Dig To Expose All Utility Lines Prior To Storm Sewer Installation. Verify Depth To Determine Conflict If Any. Report All Conflicts To Lee Ullum Of Baughman Company. (316) 252--7271.

SCALE:
1" = 20' HORIZONTAL
1" = 5' VERTICAL

Sta. 0+00.0, Begin Line 1.
Construct Shallow Type "P" Manhole Over End Of Existing 30" RCP.
Top = 110.70
Extend 15" RCP East.

West Street Ct.

Sta. 1+39.0, End Line 1.
Construct 3'x5' Type 1 Curb Inlet.
Top = 109.80
Install Sediment Barrier.

35' R/W

West Street

Existing 30" RCP

8.1

8.0

20' Drainage Easement

Line 1

104.0'

Pawnee And West Industrial Park Second Addition

Proposed Pavement

Lot 7

Proposed Building

Contractor to grade at 1:1 slope around manholes. Cost of dirt, labor, equipment, etc. to be incidental to cost of manhole.

1:1

Existing Grade

Berming Detail
Not to Scale

West Street Ct.

Contractor Shall Follow All Applicable Best Management Practices (BMP) For Erosion Control, See Sheet 7

## BENCHMARKS

- C.O.W. Benchmark in turn island at intersection of West St. and K-42 Highway. Corner of concrete base of traffic signal light pole. Elev. = 110.18 City Datum
- C.O.W. Benchmark in center of north median, south of K-42 Highway, on centerline of West Street. 17.50' North of south end of median 49.20' North of section corner iron. Elev. = 108.98 City Datum

Regrade & Place 18 Sq. Yd. Of Light Stone Rip-Rap For Flow From Proposed 18" RCP To Existing 36" RCP.

Existing 36" RCP

Sta. 0+00.0, Begin Line 2
Extend 18" RCP Northwest.
Begin With End Section.

12" Water Main

6" Force Main

10" SS

30' Sewer Easement

Proposed Pavement

102.2'

CAUTION! VERIFY
14" Aquila Gas Main.

CAUTION! VERIFY
SBC Line Crossing. Depth Not Field Verified.

Lot 8

Pawnee And West Industrial Park Second Addition

Proposed Building

CAUTION! VERIFY
2" Aquila Gas Line Crossing.

Sta. 0+39.6, Line 2.
Construct 3'x5' Type 1 Curb Inlet
Top = 106.90
Install Sediment Barrier.

122°31'

35.5'

CAUTION!
Overhead Power Line Crossing.

Line 2

Sta. 2+36.5, End Line 2.
Construct 2'x4' Drop Inlet.
Top = 107.30
Install Sediment Barrier.

West Street

20.0'

CAUTION! VERIFY
12" Water Main Crossing.

CAUTION! VERIFY
10" SS Crossing.

143°54'58"

Sta. 1+55.5, Line 2.
Construct 2'x4' Drop Inlet.
Top = 107.00
Install Sediment Barrier.

12" Water Main

CAUTION! VERIFY
12" SS Force Main Crossing.

Proposed Building

Sta. 0+00.0, Begin Line 3.
Remove End Section.
Connect To Ex. 18" RCP.
Extend 18" RCP West.
Seal Water Tight.

Sta. 0+12.9, End Line 3.
Construct 3'x5' Type 1 Curb inlet.
Top = 106.60
Install Sediment Barrier.

Ex. Inlet

West Street

21.5

Lot 8
Proposed Pavement

Line 3

30' Sewer Easement

CAUTION! VERIFY
12" Force Main & 10" SS Crossing.

West Street Ct.

SCALE:
1" = 20' HORIZONTAL
1" = 5' VERTICAL

Sta. 0+00.0, Begin Line 1.
Construct Shallow Type "P" Manhole Over End Of Existing 30" RCP.
Top = 110.70
Extend 15" RCP East.

Existing Grade

Proposed Grade By Others

Line 1

36 L.F. Flowable Fill

139.0 L.F. 15" RCP @ +0.500%

Sta. 1+39.0, End Line 1.
Construct 3'x5' Type 1 Curb Inlet.
Top = 109.80
Install Sediment Barrier.

Sta. 0+00.0, Begin Line 2.
Extend 18" RCP Northwest.
Begin With End Section.

Sta. 0+39.6, Line 2.
Construct 3'x5' Type 1 Curb Inlet.
Top = 106.90
Install Sediment Barrier.

Sta. 1+55.5, Line 2.
Construct 2'x4' Drop Inlet.
Top = 107.00
Install Sediment Barrier.

Sta. 2+36.5, End Line 2.
Construct 2'x4' Drop Inlet.
Top = 107.30
Install Sediment Barrier.

CAUTION! VERIFY
SBC Line Crossing. Depth Not Field Verified.

2" Gas Line

12" AC Water Main

12" Force Main

CAUTION!
Depth Not Field Verified.

39.6 L.F. 18" RCP @ +0.300%

Existing Grade

Proposed Grade By Others

Line 2

115.9 L.F. 18" RCP @ +0.300%

81.0 L.F. 18" RCP @ +0.300%

Sta. 0+00.0, Begin Line 3.
Remove End Section.
Connect To Ex. 18" RCP.
Extend 18" RCP West.
Seal Water Tight.

Sta. 0+12.9, End Line 3.
Construct 3'x5' Type 1 Curb inlet.
Top = 106.60
Install Sediment Barrier.

12.9 L.F. 18" RCP @ +1.000%

Proposed Grade By Others

Existing 18" RCP

Existing Grade

Line 3

CAUTION!
Depth Not Field Verified.

14" Gas Line

12" Force Main

10" SS

SBC F.O.

105.8' = Flow Out
105.91' = Flow In
106.16' = Flow
106.41' = Flow
106.66' = Flow
103.50' = Flow Out
103.62' = Flow Out
103.72' = Flow In
10" SS
104.07' = Flow Out
104.17' = Flow In
104.41' = Flow Out
103.85' = Flow
103.34' = Flow Out

0+00 0+50 1+00 1+39.0 0+00 0+39.6 1+55.5 2+36.5 0+00 0+12.9

110 105 100 95

REGISTERED PROFESSIONAL ENGINEER
LEE U. ULLUM
No. 11034
10-10-03
KANSAS

Storm Sewer To Serve
**Pawnee And West Industrial Park Second Addition**
Lots 7 & 8

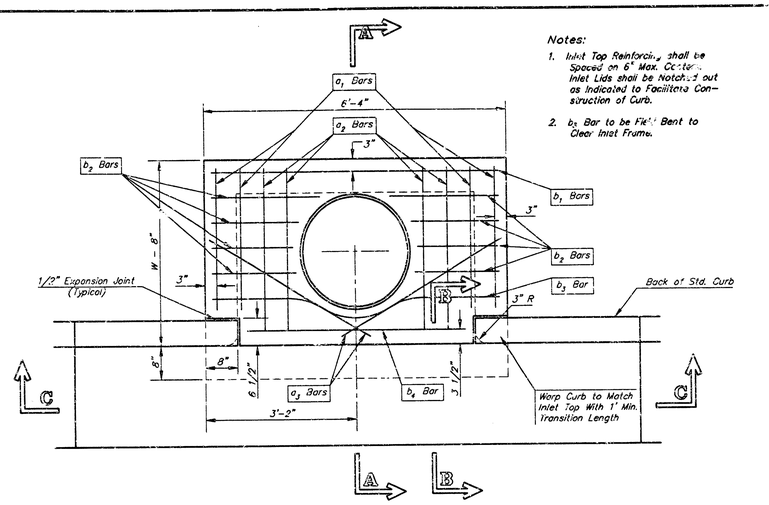
BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER 1381 PPS (307861)

SHEET 2 OF 8

| DESIGN | DRAWN | APPROVED | DATE | SCALE |
|---|---|---|---|---|
| LU | LU | LU | 10/03 | Noted |

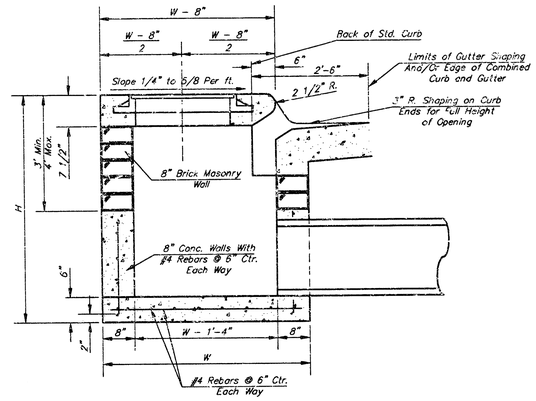
01-02-7512



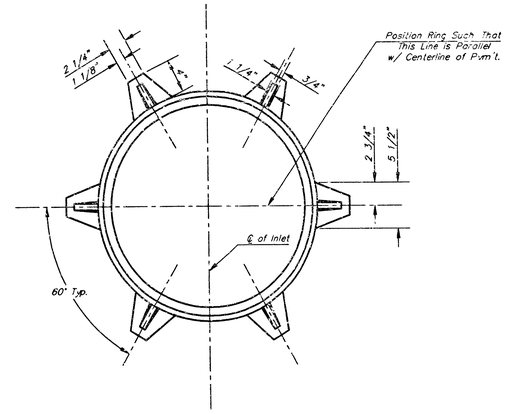

PLAN

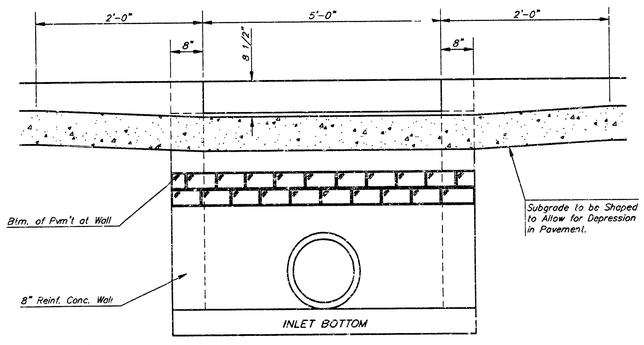
**Notes:**

1. Inlet Top Reinforcing shall be Spaced on 6" Max. Center. Inlet Lids shall be Notched out as Indicated to Facilitate Construction of Curb.
2. $b_4$ Bar to be Field Bent to Clear Inlet Frame.

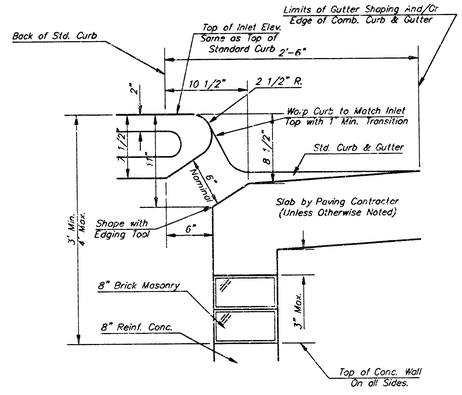



SECTION A–A

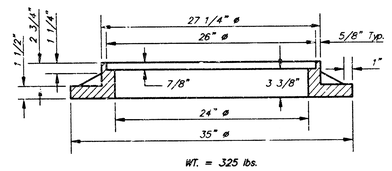



SECTION C–C



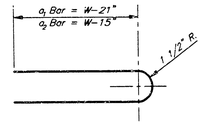

SECTION B–B




WT. = 325 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.




BENDING DIAGRAM

STEEL SCHEDULE

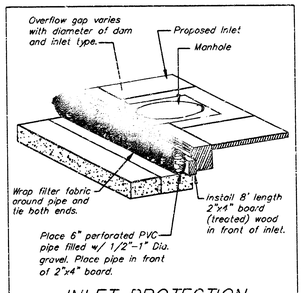
| BAR | | $a_1$ | $a_2$ | $a_3$ | $b_1$ W=4'-4" | $b_1$ W=5'-4" | $b_1$ W=6'-4" | $b_1$ W=7'-4" | $b_1$ W=8'-4" | $b_2$ | $b_3$ | $b_4$ | Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NUMBER | | 4 | 4 | 2 | 1 | 3 | 5 | 7 | 9 | 6 | 1 | 1 | |
| SIZE | | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #6 | |
| LENGTH | W=4'-4" | 5'-7" | 6'-7" | 4'-0" | 6'-1" | – | – | – | – | 1'-9" | 6'-2" | 4'-8" | 60± |
| | W=5'-4" | 7'-7" | 8'-7" | 5'-0" | – | 6'-1" | – | – | – | 1'-9" | 6'-2" | 4'-8" | 81± |
| | W=6'-4" | 9'-7" | 10'-7" | 6'-0" | – | – | 6'-1" | – | – | 1'-9" | 6'-2" | 4'-8" | 101± |
| | W=7'-4" | 11'-7" | 12'-7" | 7'-0" | – | – | – | 6'-1" | – | 1'-9" | 6'-2" | 4'-8" | 121± |
| | W=8'-4" | 13'-7" | 14'-7" | 8'-0" | – | – | – | – | 6'-1" | 1'-9" | 6'-2" | 4'-8" | 141± |

Note: $a_3$ Bars to be Placed Approx. 2" Below Top of Inlet Cover.

| STANDARD CURB INLET PRECAST TOPS | | | |
|---|---|---|---|
| W | PRE-CAST TOP SIZE | PIPE SIZE | CU. YD. CONC. |
| 4'-4" | 3'-8" 6'-4" 7 1/2" | 21" & SMALLER | 0.38± |
| 5'-4" | 4'-8" 6'-4" 7 1/2" | 24" & 30" | 0.51± |
| 6'-4" | 5'-8" 6'-4" 7 1/2" | 36" & 42" | 0.64± |
| 7'-4" | 6'-8" 6'-4" 7 1/2" | 48" & 54" | 0.77± |
| 8'-4" | 7'-8" 6'-4" 7 1/2" | 60" & 66" | 0.90± |

GENERAL NOTES

1. Concrete tops to be installed on thin mortar cushion to insure full support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix.
2. Contractor shall have the option of constructing 8" brick masonry walls between the concrete inlet base and top on this inlet when W=6'-4" and H=7'-0" or less.
3. Inlet invert shall be shaped with 8 suck sand 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.
4. The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall.




INLET PROTECTION

Perforated Pipe w/ Gravel

CITY OF WICHITA, KANSAS

**TYPE 1 CURB INLET**

INLET OPENING = 8'X5'-0"

BAUGHMAN COMPANY P.A.

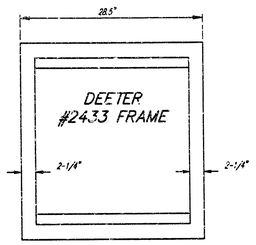
ENGINEERING, SURVEYING, & PLANNING

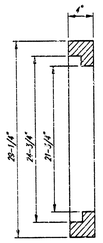
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

| PROJECT NUMBER | SHEET |
|---|---|
| 1381 PPS (607861) | 3 of 8 |

| DESIGN | DRAWN | APPROVED | DATE | SCALE |
|---|---|---|---|---|
| C.O.W. | STAFF | STAFF | 10/03 | NONE |

BAUGHMAN Drawing 2001/Dgn1-1 01-02-1511




DEETER #2433 GRATE

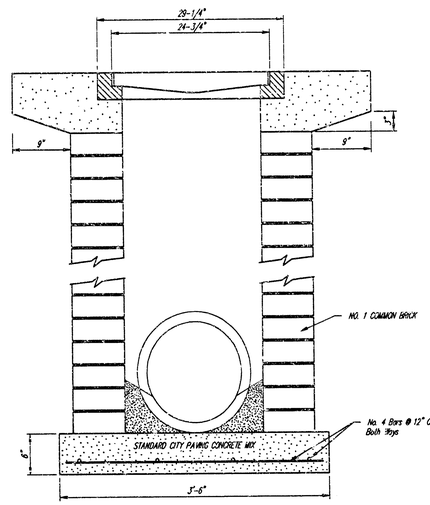


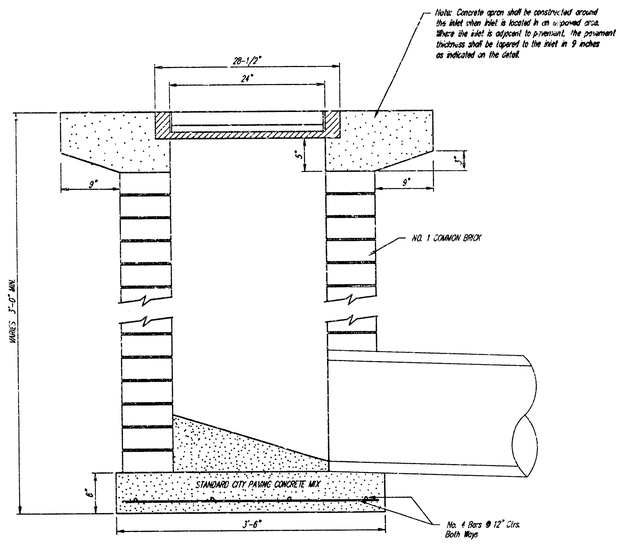


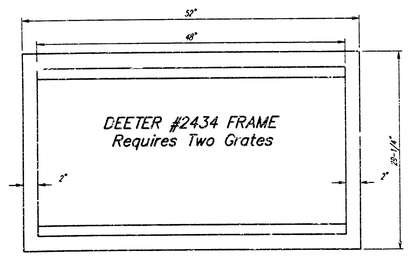


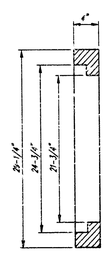
24" x 24" Frame and Grate Detail

NOTE: Grates shall be imprinted on the top surface with "CITY OF WICHITA" using letters at least 1" in height. Other marking methods may be approved by the engineer.

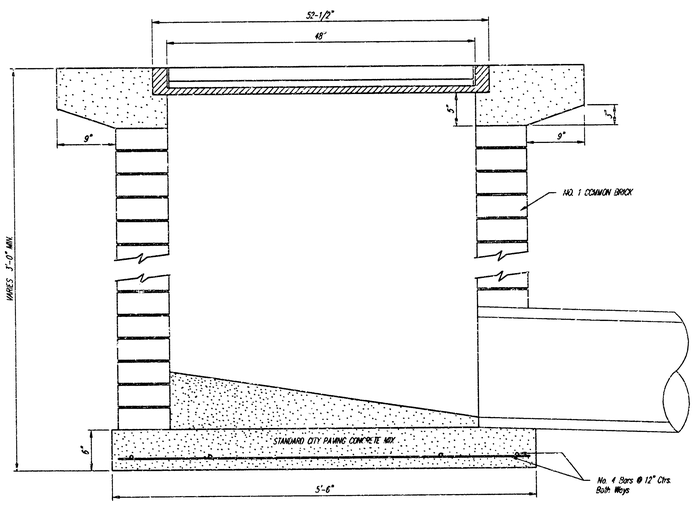



Double 24" x 24" Frame Detail




NOTES:

Surface of grate must be clean and free of dirt and debris.

Position Verti-Pro squarely on the inlet grate.

Install toggle bolt assembly ( See Figure 2), the hold down plate must contact both the lower frame flange and grate. The toggle bolt must engage two bars on grate. Repeat on opposite sides.

The Verti-Pro has four (4) legs that unfold just like a card table (See Figure 3). Rotate legs to upright position on diagonal corners, this will support the upper framework on the Verti-Pro.

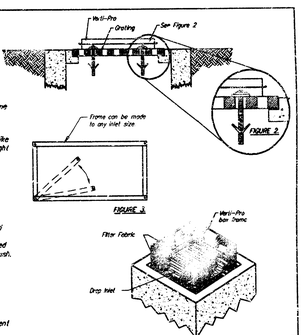
Align holes in each leg with the two (2) holes in upper frame. Insert a plastic retainer (or equal) in each of the holes from the outside in.

MAINTENANCE:

Inspect after each rain event. Remove debris and captured sediment when deposits reach 1" or 1/2 the height of the Verti-Pro. Remove captured debris from the filter fabric with a stiff bristle brush. (Frames are reusable and easy to install).

ORDERING:

ALPINE STORMWATER MANAGEMENT COMPANY
4727 Dragoway, Suite B
Grand City, Ohio 43123
Phone: 888-539-8240, Dan Strawser, Sr., President




DROP INLET PROTECTION – The 'Verti-Pro' by Alpine"

For Yard and Parking Lot Inlet Usage

Note: Contractor can install and "or equal" inlet protection with approval of engineer.

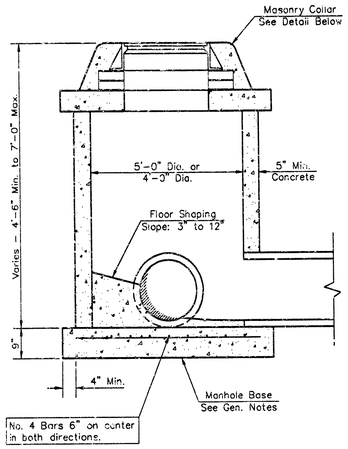
City of Wichita Standard

# Drop Inlet

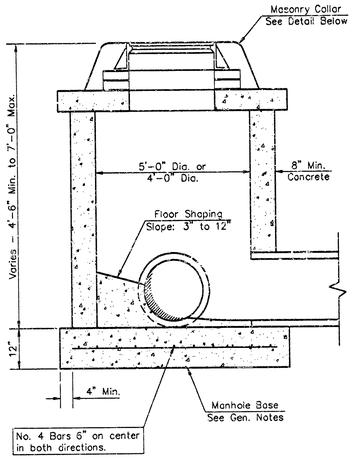
BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

| PROJECT NUMBER | | | | | SHEET |
|---|---|---|---|---|---|
| 1381 PPS (607861) | | | | | 4 OF 8 |
| DESIGN | DRAWN | APPROVED | DATE | SCALE | |
| C.O.W. | Staff | Staff | 10/03 | NONE | |

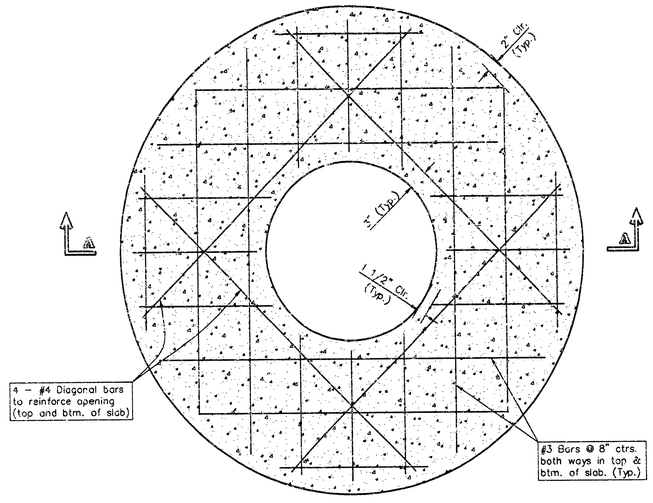
Plotted/Drawn: Building 300\Drop1r2 03-02-03




SHALLOW TYPE "P" MANHOLE




SHALLOW TYPE "C" MANHOLE




PLAN

## GENERAL NOTES

1. Mortar used in masonry construction shall contain 8 sacks of cement per cubic yard. Concrete used in manhole bases shall conform to the requirements of concrete for concrete pavement construction as specified in the city standard paving specifications using city concrete cement mix without air entraining admixture. Mortar shall be placed around the manhole ring as shown on the drawings when manholes are constructed in unpaved areas. Manholes constructed where pipe sizes are smaller than 24" shall have an inside diameter of 4'. Manholes constructed where pipe sizes are 24" or larger shall have an inside diameter of 5'. Completed manhole shall be without leaks and water tight.

2. Reinforcing steel shall be installed in the manhole bases and shall consist of no. 4 bars placed on 6" centers in both directions. The manhole base reinforcement shall be placed 6" above the bottom of the manhole base. All costs for furnishing and installing reinforcing steel shall be included in the unit price bid for the manhole.

3. The floors of all manholes shall be shaped with flow channels such that the manholes will be self cleaning and free of areas where solids could be deposited as sewage flows through the manhole from all inlet pipes to the outlet pipe. Flow channels shall be formed to match the bottom halves of the inflowing pipes and the outflowing pipe as shown by the drawings. Manhole floors shall have slopes of 3 inches per foot in the areas outside of the flow channels sloped toward the flow channels. Pipes laid through manholes shall have the top half removed to neat lines for the full inside diameter of the manhole. Manhole floors shall then be shaped around the bottom half of the pipe which forms the flow channel.

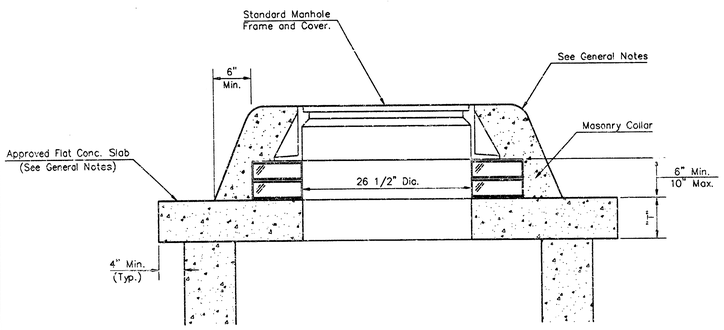
4. Pipes installed within the excavation made for the manhole shall be cradled with concrete to the limits of the manhole excavation. When clay pipe is used, the cradle shall extend to the first joint outside the manhole. The cradle shall be terminated at the clay pipe joint in a manner which will maintain the flexibility of the joint. Cost of cradle within manhole excavation or to clay pipe joints adjacent to manhole shall be included in the unit price bid for the manhole.

5. Manhole cover castings and manhole frame castings shall conform to the requirements as indicated in the standard specifications and as shown in the standard detail drawings.

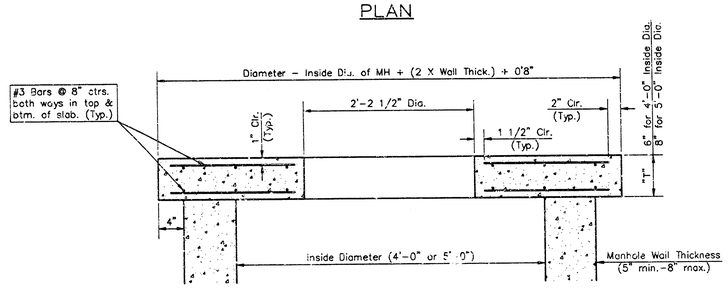
6. The crowns of inflowing pipes shall never be set lower than the crown of the outflowing pipe.

7. Standard shallow manholes type "P" and "C" shall be paid for at the unit price bid per each for the type and diameter indicated. All standard shallow manhole diameters will be 4' unless indicated otherwise.

8. All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.

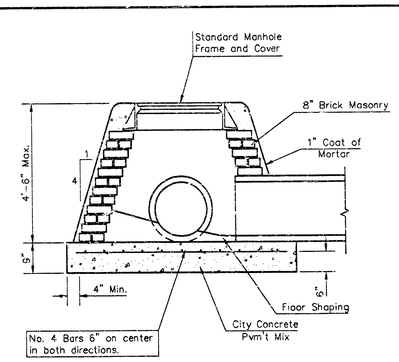



MASONRY COLLAR DETAIL

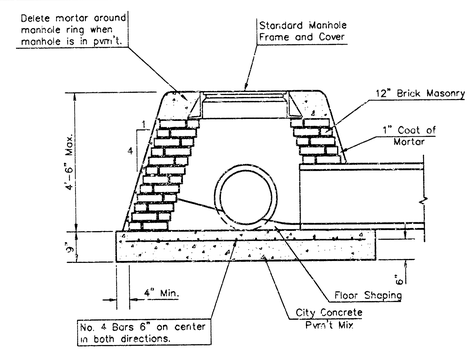



SECTION A-A

FLAT CONCRETE SLAB DETAILS




SPECIAL SHALLOW TYPE "A" MANHOLE




SPECIAL SHALLOW TYPE "B" MANHOLE

CITY OF WICHITA, KANSAS

**STD. SHALLOW MANHOLES**

TYPE 'P' AND TYPE 'C'

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

| PROJECT NUMBER | SHEET |
|---|---|
| 1381 PPS (607881) | 5 of 8 |

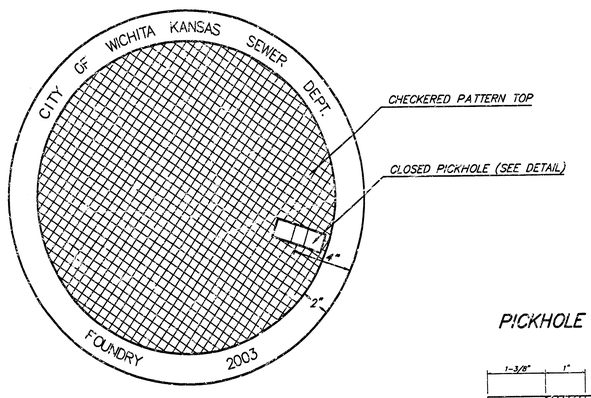
| DESIGN | DRAWN | APPROVED | DATE | SCALE |
|---|---|---|---|---|
| STAFF | STAFF | STAFF | 10/03 | NONE |

P:\Baughman Building 2001 Drawings\ 01-12-131

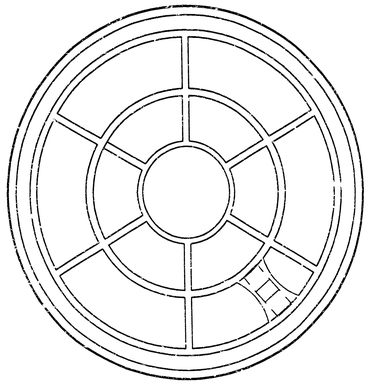
# MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

## MANHOLE COVER
**Weight = 180 Lbs.**

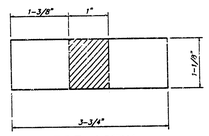



TOP VIEW

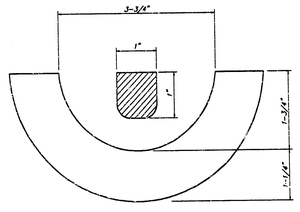


BOTTOM VIEW

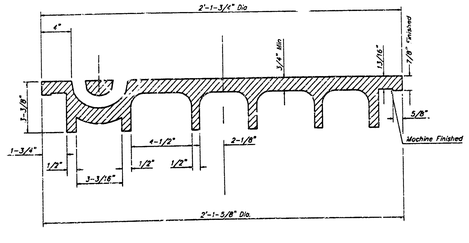
## PICKHOLE DETAIL




TOP VIEW

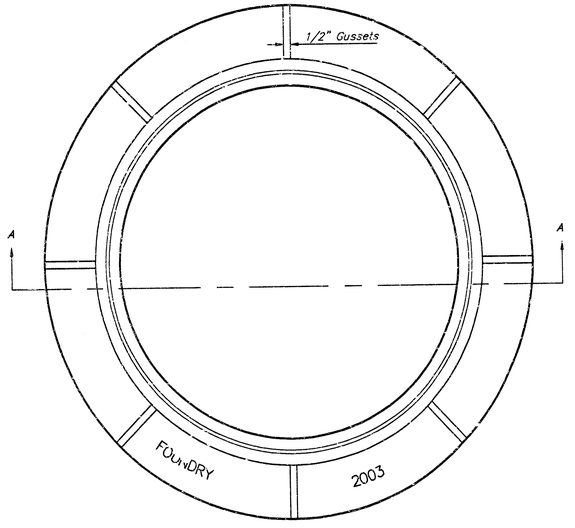



SECTION VIEW

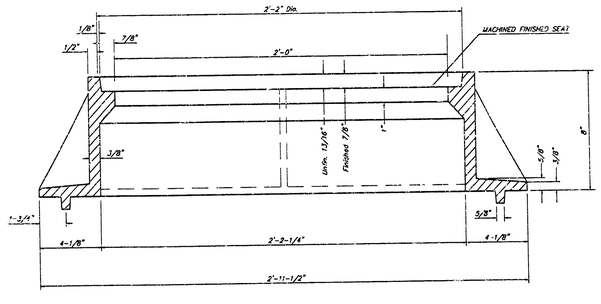



SECTION VIEW

## MANHOLE FRAME
**Weight = 145 Lbs.**




TOP VIEW




SECTION A-A

## GENERAL NOTES

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.

MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.

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.

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 AS THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

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 SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. 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.

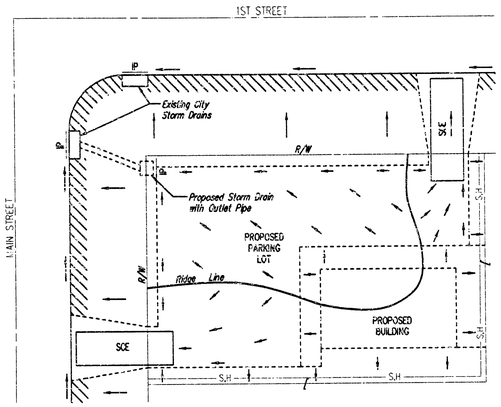
MANHOLE FRAME AND COVER DETAIL
**ADOPTED AS STANDARD DESIGN BY**
CITY OF WICHITA, KANSAS


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


| PROJECT NUMBER | SHEET |
|---|---|
| 1381 PPG (907861) | 6 OF 8 |

| DESIGN | DRAWN | APPROVED | DATE | SCALE |
|---|---|---|---|---|
| STAFF | STAFF | STAFF | 10/03 | NONE |


M:\MANHOLES\Building 300\Drawings 03-02-751

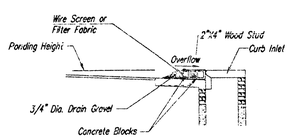



LEGEND

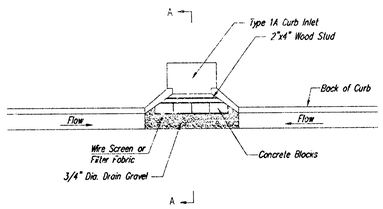
| | |
|---|---|
| ⟶ | Flow Direction |
| IP | Inlet Protection – to be provided at all inlets subject to silt laden runoff. |
| –S.H– | Silt Fence or Hay Bale Barrier – to be installed along property lines where runoff from construction site can run onto other properties. |
| SCE | Stabilized Construction Entrance – to be used at all locations where vehicles or equipment enter or exit property. |
| ▨ | Back of Curb Protection – to be installed whenever curb is backfilled to less than 3 inches from top and disturbed earth exists adjacent thereto. (See City Standard Details.) |

General Notes

1. This standard detail sheet is a part of your building permit. The BMP's shown on this sheet are considered minimum standards. Whenever sediment enters the streets, storm sewers, ditches, or ponds, contractor will install additional BMP's, as needed, to correct the problem.
2. Follow these general principals on all commercial building sites.
3. The soil erosion BMP's shown hereon must be in place at all times during construction until such time as the site is re-established with paving or grass.
4. Failure to install, protect, and maintain BMP's are violations of Section 16.32 of the City Code and will subject the contractor to the penalties provided therein. Included with your permit is an orange "notice" sign that must be posted on-site in a conspicuous place at all times during construction. This sign is provided to assist you in the maintenance of BMP'S.
5. Back of Curb Protection: Can include hay bale, silt fence, or Curlex barrier, as shown on City BMP standard details. This BMP must remain in place until the area between the curb and right-of-way line has been permanently stabilized.
6. The General Contractor is responsible for the installation and maintenance of all BMP's.
7. Should the site abut a lake, BMP's will be installed to prevent sediment from entering the lake.
8. Any mud inadvertently tracked onto any street will be cleaned up by the general contractor at the end of each day's work.




SECTION A-A




CURB INLET GRAVEL FILTERS

(INLET PROTECTION–RESIDENTIAL STREETS ONLY)

NOTE: Other types of curb inlet protection may be approved by the city so long as equal protection is provided.

A gravel inlet filter shall be installed at sump locations on residential streets. This type of protection is not to be used on arterial or collector streets at any time that it would pose an undue traffic hazard.

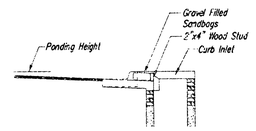
Instructions for installing:

STEP 1: Place concrete blocks around the inlet as shown on drawing. Insert 2x4 board as shown.
STEP 2: Wrap 1/2" mesh wire screen around the concrete blocks.
STEP 3: Place 1" to 1-1/2" diameter rock around the blocks and wire screen. Be sure the rock extends down from the top of the concrete block.
STEP 4: To prevent damage to vehicles, signs warning drivers about the structures may be necessary. An alternative installation is the use of gravel bags supported by a 2"x4" board to prevent collapsing.

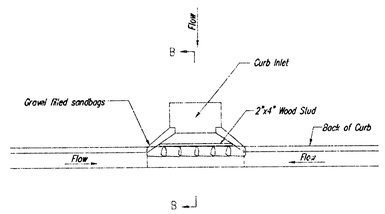
Use of rock with diameters smaller than 1" in the bag may result in clogging of pores and reduce the amount of water flowing into an inlet.

Maintenance:

All curb inlet gravel filters shall be inspected and repaired after each runoff event. Sediment deposits are to be removed once material is within 8 cm (3 inches) of the top of any block. Periodically, the gravel shall be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets.



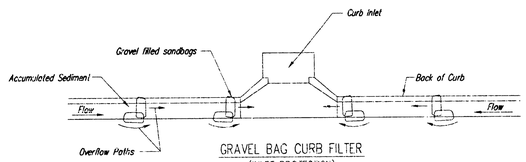

SECTION B-B




CURB INLET SANDBAG FILTERS

(INLET PROTECTION)

NOTE: Other types of curb inlet protection may be approved by the City so long as equal protection is provided.




GRAVEL BAG CURB FILTER

(INLET PROTECTION)

NOTE: Place two or more sets of bags in a manner that results in maximum support. The flow line bag must be lower than top of curb.

CURB SEDIMENT TRAPS

When inlets are located on streets having a grade (i.e., sump conditions do not exist), installing gravel (or sand) bags in the gutter flow line to create small sediment traps can be considered. Gravel bags are recommended over sand bags to allow for drainage.

If the spacing between bags becomes too large, little sediment may be trapped. Spacing of bags should be completed using the table or graph that illustrates placement distances based upon street slope. When installed in the gutter, bag tops must be lower than the sidewalk.

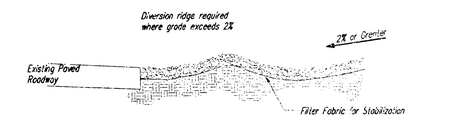
Spacing:

Gravel bags are to be placed according to street grades using the following table or graph that appears below.

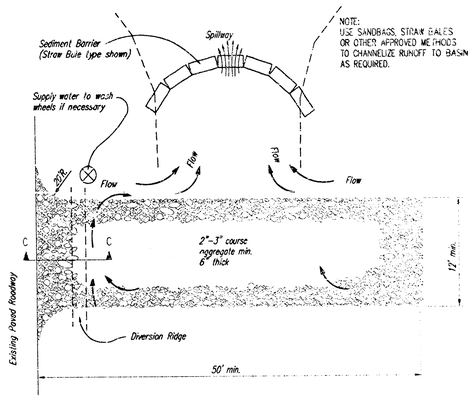
| GRADE (%) | SPACING (FEET) |
|---|---|
| 0.5 | 75 |
| 1.0 | 45 |
| 2.0 | 18 |
| 3.0 | 12 |
| 4.0 | 9 |
| 5.0 | 6 |

Maintenance:

Collected sediment shall be removed after every runoff event. Bags that are destroyed by vehicular traffic or through natural deterioration are to be immediately replaced.




SECTION C-C




STABILIZED CONSTRUCTION ENTRANCE

NOTES:

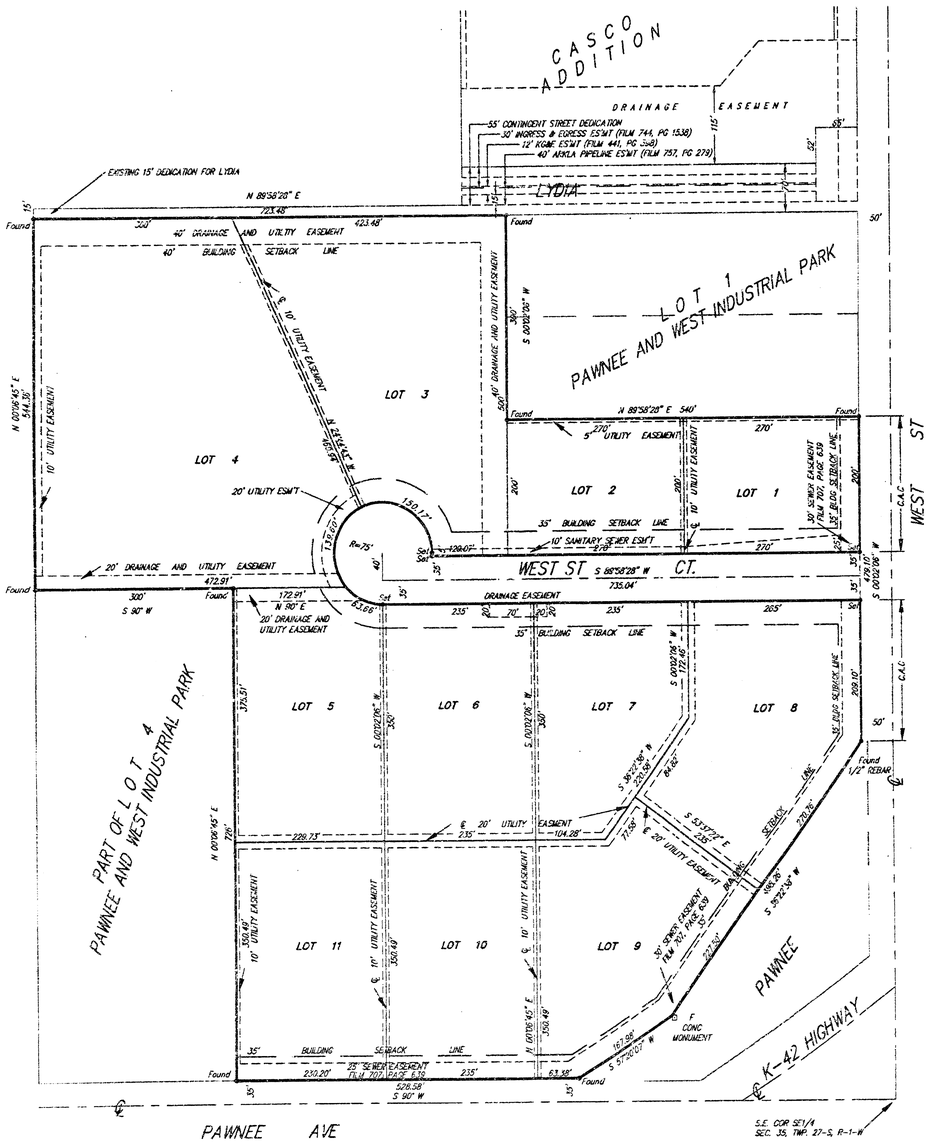
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF 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 BMP DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER: 1381 PPS (607061)
DCE NO.: NA
DATE: 10/03
SHEET 7 OF 8




# PAWNEE AND WEST INDUSTRIAL PARK SECOND ADDITION

## WICHITA, SEDGWICK COUNTY, KANSAS

State of Kansas)
Sedgwick County) SS

We, Savoy, Ruggles & Bohm, P.A., Surveyors in aforesaid county and state do hereby certify that, under the supervision of the undersigned, we have surveyed and platted "PAWNEE AND WEST INDUSTRIAL PARK SECOND ADDITION", Wichita, Sedgwick County, Kansas and that the accompanying plat is a true and correct exhibit of the property surveyed, described as

All of Lots 2, 3 and 4, except the south 726 feet of said Lot 4, Pawnee and West Industrial Park, Wichita, Sedgwick County, Kansas.

All being situated in the SE1/4, Sec. 35, Twp. 27-S, R-1-W of the 6th P.M., Sedgwick County, Kansas.

Existing public easements and dedications being vacated by virtue of KSA 12-512(b).

Savoy, Ruggles & Bohm, P.A.

Date 23 Mar 1995

Mark A. Savoy
L.S. #788

Surveyor

Know all men by these presents that we, the undersigned, have caused the land described in the surveyors certificate to be platted into Lots and Streets to be known as "PAWNEE AND WEST INDUSTRIAL PARK SECOND ADDITION", Wichita, Sedgwick County, Kansas. The utility easements are hereby granted as indicated for the construction and maintenance of all public utilities. The drainage and utility easements are hereby granted as indicated for drainage purposes and for the construction and maintenance of all public utilities. The sanitary sewer easement is hereby granted as indicated for the construction and maintenance of sanitary sewer. Access controls are hereby granted as indicated on the face of the plat to the appropriate governing body with the location of the openings being subject to the approval of the Engineer of the appropriate governing body.

#1449245

John Dugan

Marilyn Dugan

State of Kansas)
Sedgwick County) SS

The foregoing instrument acknowledged before me, this 23rd day of March 1995, by John Dugan and Marilyn Dugan, husband and wife.

Yvonne Steadham
Notary Public

This plat of "PAWNEE AND WEST INDUSTRIAL SECOND ADDITION", Wichita, Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas. Dated this 23rd day of March, 1995.

Wichita-Sedgwick County Metropolitan Area Planning Commission

John McKay, Jr. Chairman

Marvin S. Krout Secretary

This plat approved and all dedications shown hereon, accepted by the City Council of the City of Wichita, Kansas, this 18th day of April, 1995.

Elma Broadfoot Mayor

Pat Burnett City Clerk

Entered on transfer record this 25th day of April, 1995

Susan E. Crockett-Spoon County Clerk

State of Kansas)
Sedgwick County) SS

This is to certify that this plat has been filed for record in the office of the Register of Deeds, this 25th day of APRIL 1995, at 3:00 o'clock P.M. and is duly recorded.

Pat Kettler Register of Deeds

Ed Resa Deputy

18 08 05 03