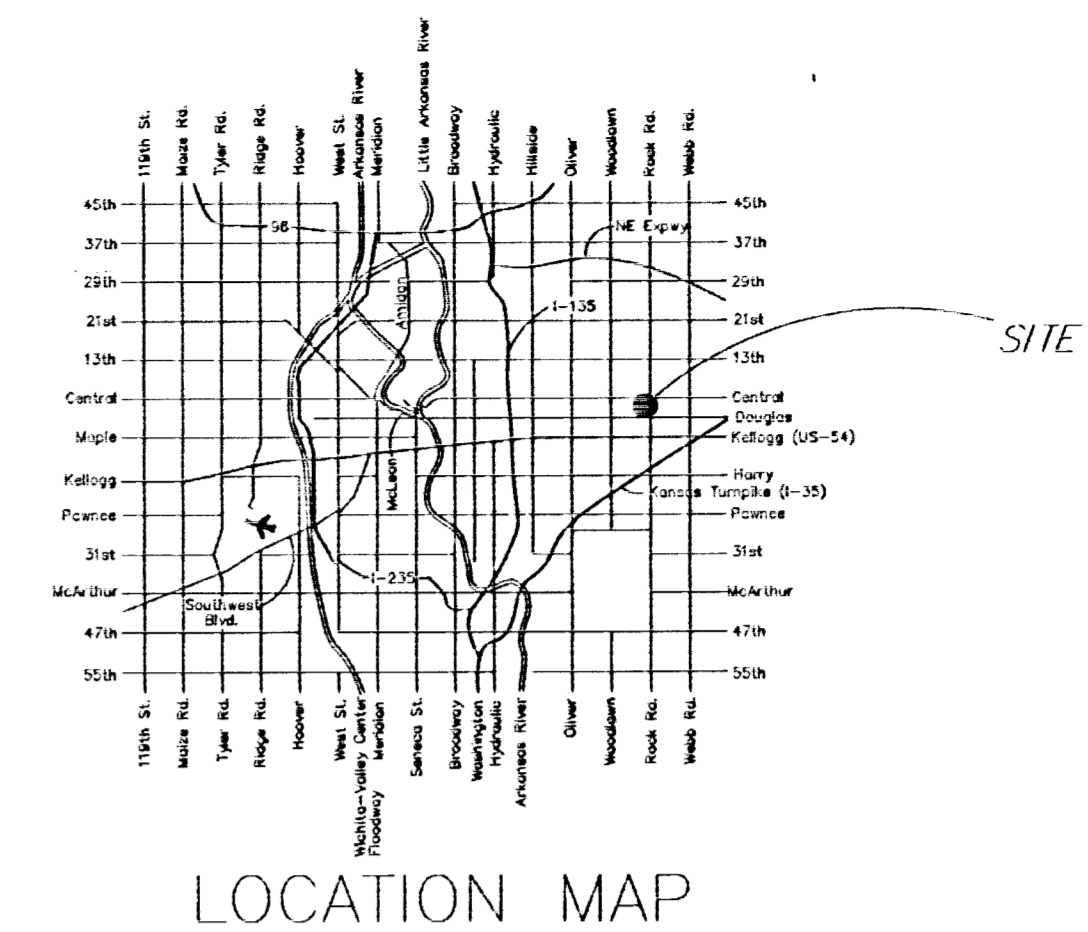


STORM SEWER IMPROVEMENTS TO SERVE PAGENT STREET DRAINAGE IMPROVEMENTS OCA: 660498 CITY OF WICHITA, KANSAS

SHAWN R BRYAN, P.E., ACTING, STORM WATER ENGINEER

468-84075

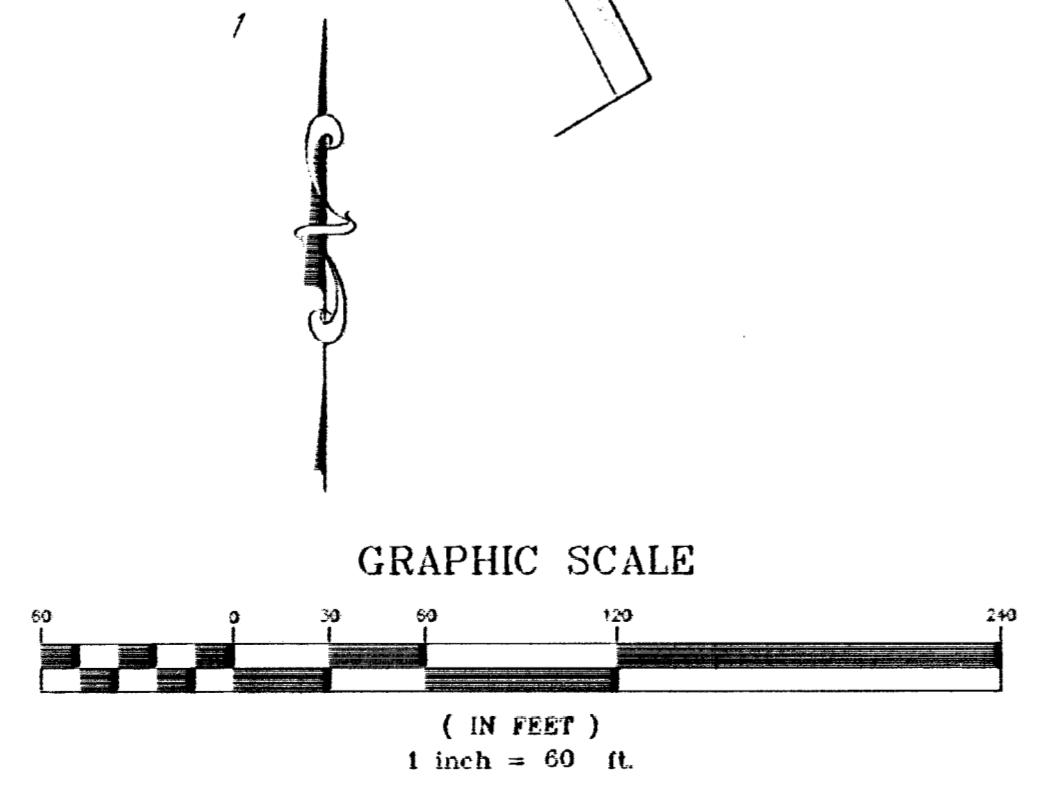
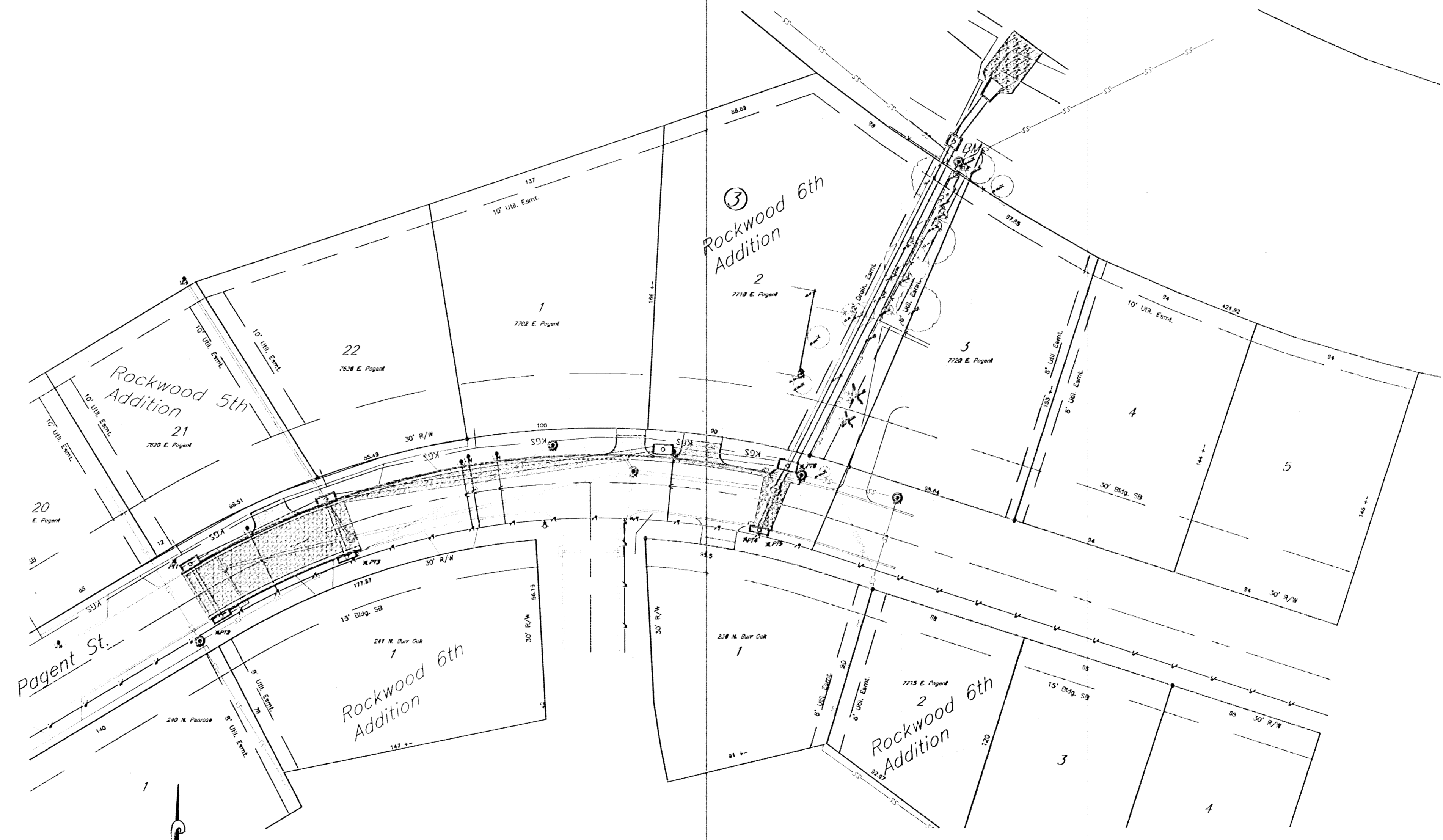


Index of Sheets:

- 1 Cover Sheet
- 2 Demolition and Paving Plan
3. SWS Line 1 & 1A Plan & Profile
4. SWS Line 1 & 1B Plan & Profile
5. Paving Plan & Erosion Plan
6. Type I Curb Inlet
7. Type IA Curb Inlet
8. Type P. Manhole Detail
9. Rein. Conc. Manhole Detail
10. Headwall Details
11. Paving Details
12. Driveway Details
13. BMPs

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
 or 263-2061
 Westar Energy/ Kansas Gas & Electric Company 1-888-482-4950
 Southwestern Bell Telephone Company 1-571-2611
 City of Wichita Water Department 268-4908
 City of Wichita Sewer Department 268-4071
 Aquila Natural Gas 942-8811
 or 1-800-303-0357
2. Exist. utilities and their locations, as shown on the plans, represent the best information obtainable for design. Location information has been obtained from the various utility companies and is either from company record drawings or company-provided field locations. The Contractor will be required to work around existing utilities which do not conflict with proposed construction.
3. The Contractor to verify utility locations prior to construction of this project.
4. Utility service and installation shall be coordinated with the respective utility owners. Contacts are:
 Kansas Gas Service Charlene Pint 852-3121
 Westar Energy Miles Capps 261-6251
 Aquila Networks Calvin Briggs 942-8811
 Wichita Water Paul Bryant 268-4555
 Southwestern Bell Jim Toben 268-2759
 Cox Communications Brian Ring 262-4270
5. All lawn/turf areas disturbed by construction of proposed improvements shall be restored with seed. All seeding work shall be in accordance with the City of Wichita standard specifications and the City of Wichita administrative regulation No. AR78 which governs cleanup and replacement following construction. All costs for this work shall be subsidiary to the lump sum price bid for "Site Restoration."
6. Traffic affected by the construction of this project shall be handled in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.
7. All commercial signs to be moved by others prior to construction.
8. Properties within the project may have underground irrigation systems (lawn sprinklers) which conflict with new construction. Contractor shall remove such components as needed during construction of the project. The irrigation system shall be reinstalled in like kind before project completion. Any irrigation system modifications required because of project improvements shall be coordinated with the property owner. Portions of underground irrigation systems not in conflict with new construction shall be protected from damage and shall remain in place. All work related to underground irrigations/sprinklers shall be subsidiary to Site Restoration.



February 2005

Control Points:

CP#	North	East	Description
CP1	7,512.64	4,691.80	SW PC of 7636 E. Pagent
CP2	7,534.05	4,774.42	SE PC of 7636 E. Pagent
CP3	7,479.11	4,872.38	NW PC of 236 N. Burr Oak
CP4	7,450.63	4,997.08	NE PC of 236 N. Burr Oak
CP5	7,524.29	4,962.57	Sw PC of 7720 E. Pagent
CP6	7,488.21	5,075.01	SE PC of 7720 E. Pagent

"PC"—Property Corner

Benchmark:
 COW BENCHMARK:
 Broadmoor & Central,
 S. Headwall, East Side
 Elev. 159.84 City Datum
 LOCAL BENCHMARK:
 N. rim of SSMH near NW
 Corner of Lot 3, Block A,
 Rockwood 6th Addition,
 Elev. 156.62 City Datum.

516 S. Market,
Wichita, KS 67202

316/264-0242

Control Points:

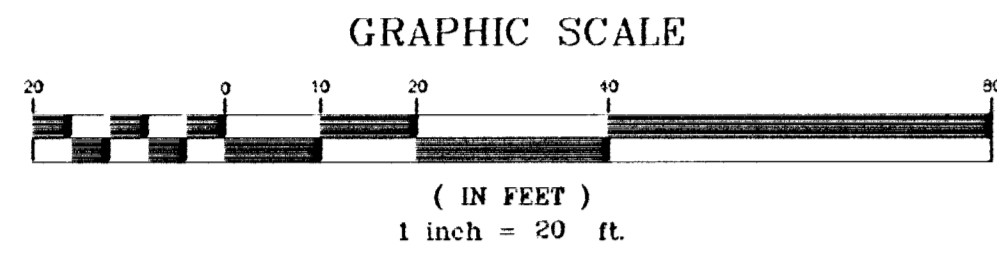
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"PC"—Property Corner

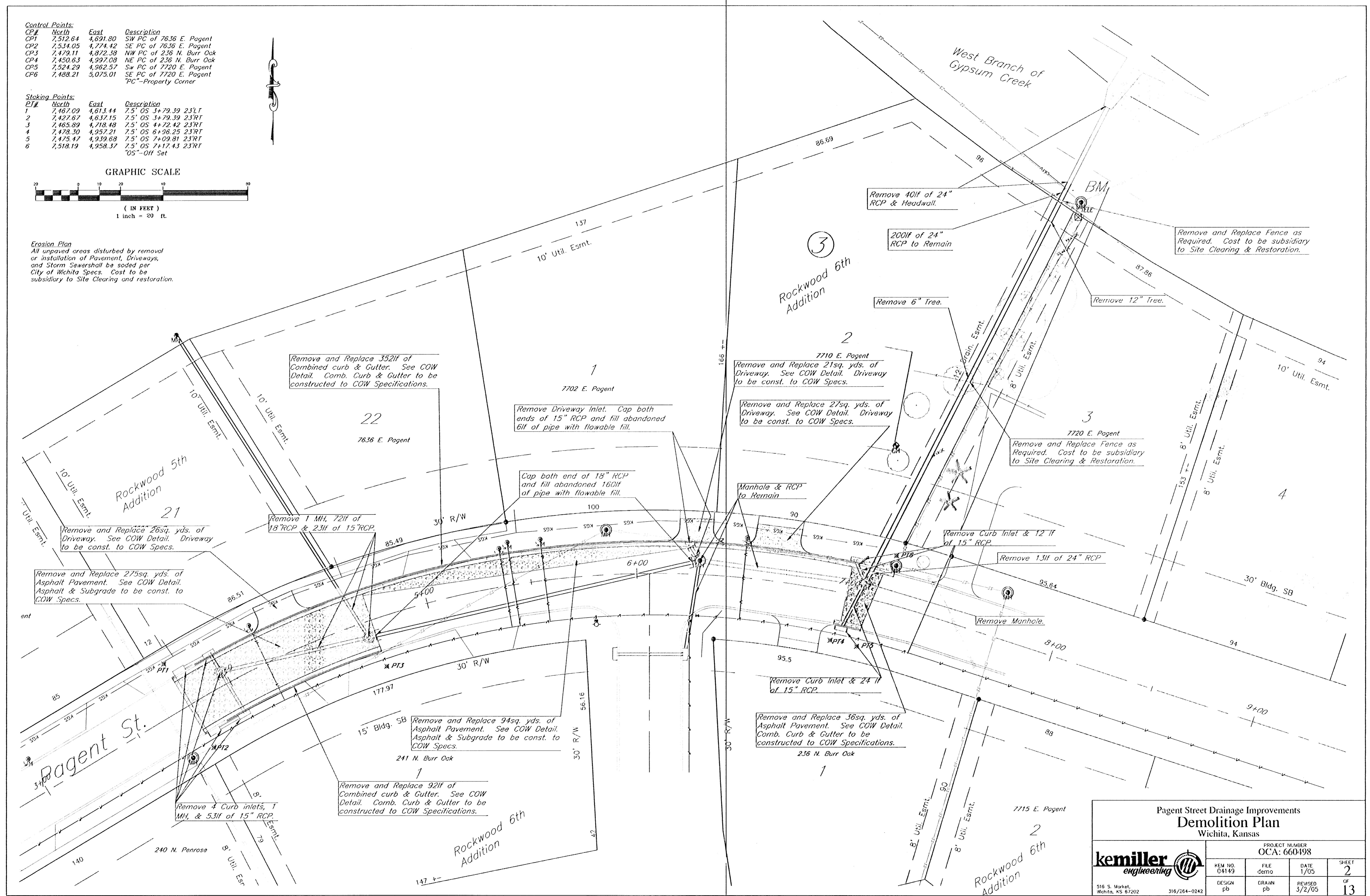
Staking Points:

PT#	North	East	Description
1	7,467.09	4,613.44	7.5' OS 3+79.39 23°LT
2	7,427.67	4,837.15	7.5' OS 3+79.39 23°RT
3	7,465.89	4,718.48	7.5' OS 4+72.42 23°RT
4	7,478.30	4,957.21	7.5' OS 6+96.25 23°RT
5	7,475.17	4,939.68	7.5' OS 7+09.81 23°RT
6	7,518.19	4,958.37	7.5' OS 7+17.43 23°RT

OS—Off Set



Erosion Plan
 All unpaved areas disturbed by removal or installation of Pavement, Driveways, and Storm Sewer shall be sodded per City of Wichita Specs. Cost to be subsidiary to Site Clearing and restoration.

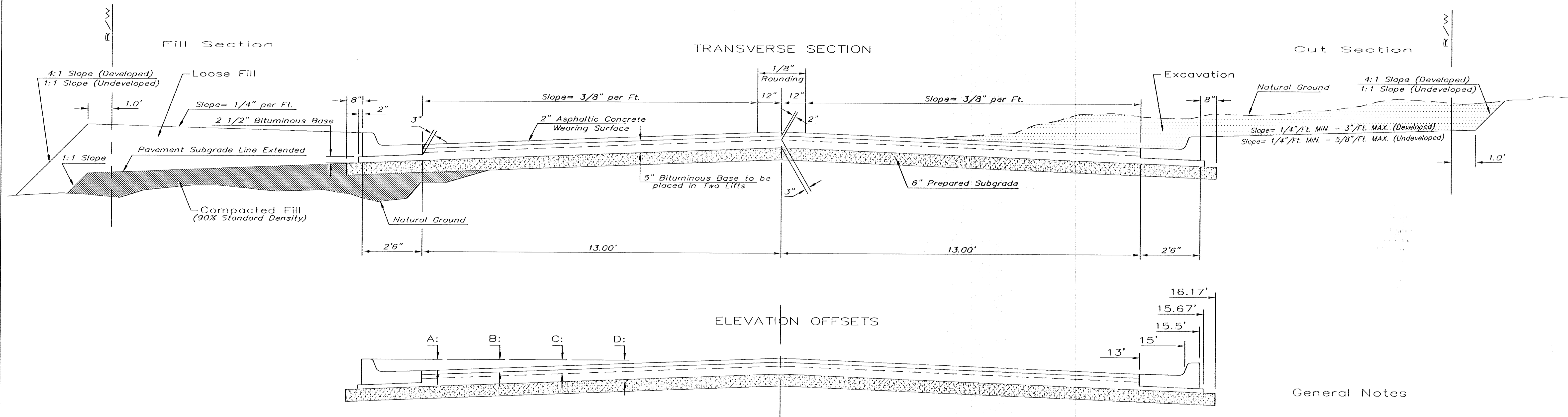


**Pagent Street Drainage Improvements
 Demolition Plan
 Wichita, Kansas**

PROJECT NUMBER OCA: 660498		SHEET 2	
KEM NO. 04149	FILE demo	DATE 1/05	OF 13
DESIGN pb	DRAWN pb	REVISED 3/2/05	

kemiller engineering
 516 S. Market, Wichita, KS 67202 316/264-0242

TYPICAL 31' B-B PAVEMENT DETAILS



General Notes

THE ASPHALTIC CONCRETE PAVEMENT BETWEEN THE COMBINED CURB AND GUTTER SHALL BE PAID AS SQUARE YARDS OF 7" ASPHALTIC CONCRETE W/ (5" BITUMINOUS BASE.)

THE BITUMINOUS BASE UNDER AND BEHIND THE COMB. CURB AND GUTTER SHALL BE PAID AS SQUARE YARDS OF 2 1/2" BITUMINOUS BASE.

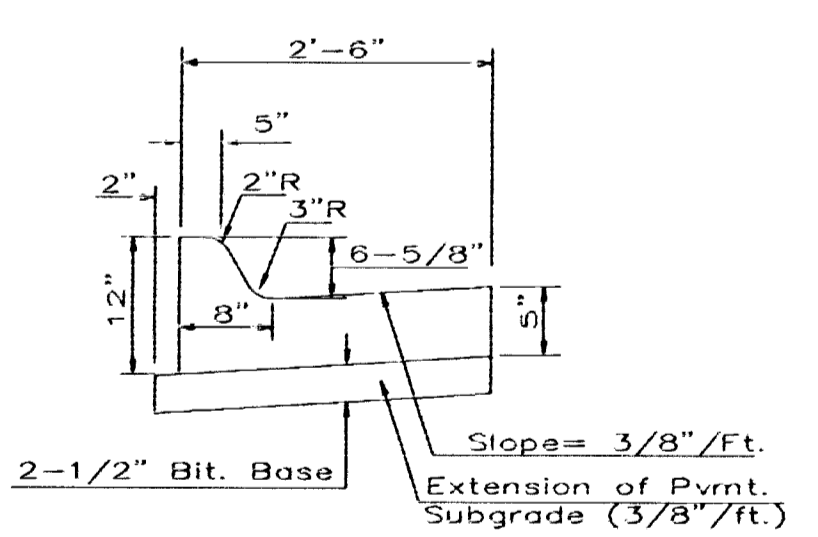
A TACK COAT OF EMULSIFIED ASPHALT (SC-1H OR CSS-1H) SHALL BE APPLIED AT AN APPROXIMATE RATE OF 0.05 GALLONS PER SQUARE YARD BETWEEN EACH LIFT OF ASPHALTIC MATERIAL.

BITUMINOUS BASE AND ASPHALTIC CONCRETE WEARING SURFACE SHALL BE PLACED WITH A LAYDOWN MACHINE HAVING AUTOMATIC CONTROLS FOR LINE AND GRADE.

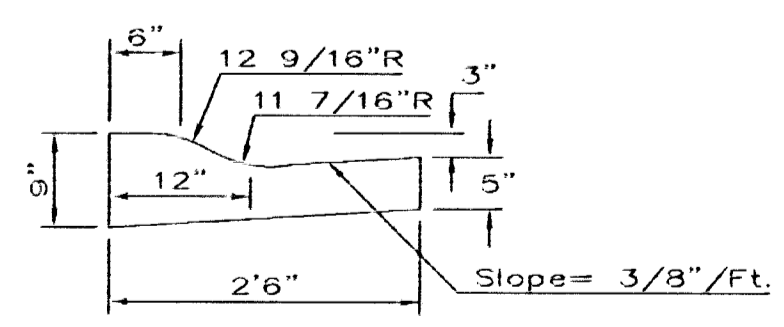
CONSTRUCTION JOINTS IN EACH LIFT SHALL BE STAGGERED A MINIMUM DISTANCE OF ONE (1) FOOT FROM JOINTS IN PRECEDING LIFTS AND PLACED SO THAT A JOINT WILL BE CONSTRUCTED ON THE CENTERLINE OF THE TOP LIFT.

CONTRACTOR TO BID ONLY ONE SUBGRADE TREATMENT ALTERNATE WHEN ALTERNATES ARE PROVIDED IN THE PROPOSAL AND CONTRACT. THE ALTERNATE CHOSEN BY THE SUCCESSFUL BIDDER SHALL BE USED IN CONSTRUCTING THIS PROJECT.

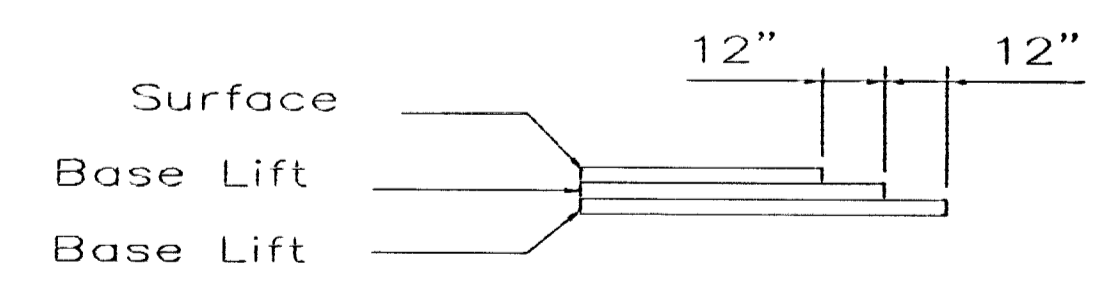
	DISTANCE FROM CENTERLINE (LT. & RT.)												
	0'	2'	4'	6'	7.5'	10'	12'	13'	15'	15.5'	15.67'	16.17'	
A: Top of Curbs to Top of Surface Lift	0.10	0.14	0.21	0.27	0.32	0.39	0.46	0.49	-	-	-	-	
B: Top of Curbs to Top of Upper Base Lift	0.27	0.31	0.38	0.44	0.49	0.56	0.63	0.66	-	-	-	-	
C: Top of Curbs to Top of Lower Base Lift	0.44	0.49	0.57	0.64	0.70	0.79	0.87	0.90	0.98	1.00	1.00	-	
D: Top of Curbs to Top of Subgrade	0.69	0.73	0.80	0.87	0.93	1.01	1.08	1.12	1.19	1.21	1.21	1.23	



COMBINED CURB & GUTTER (6-5/8")



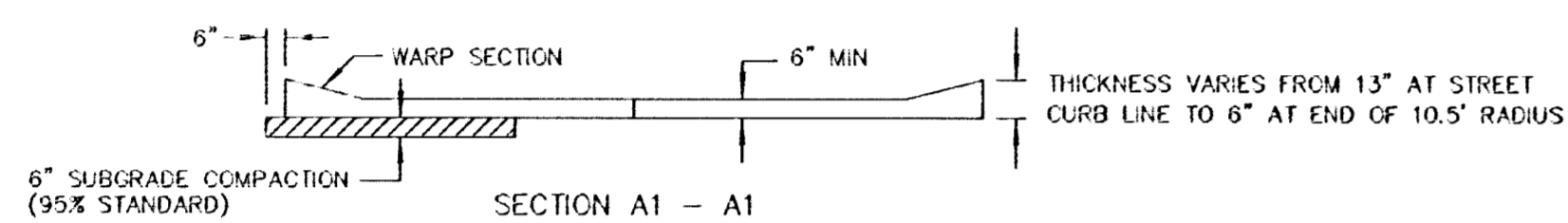
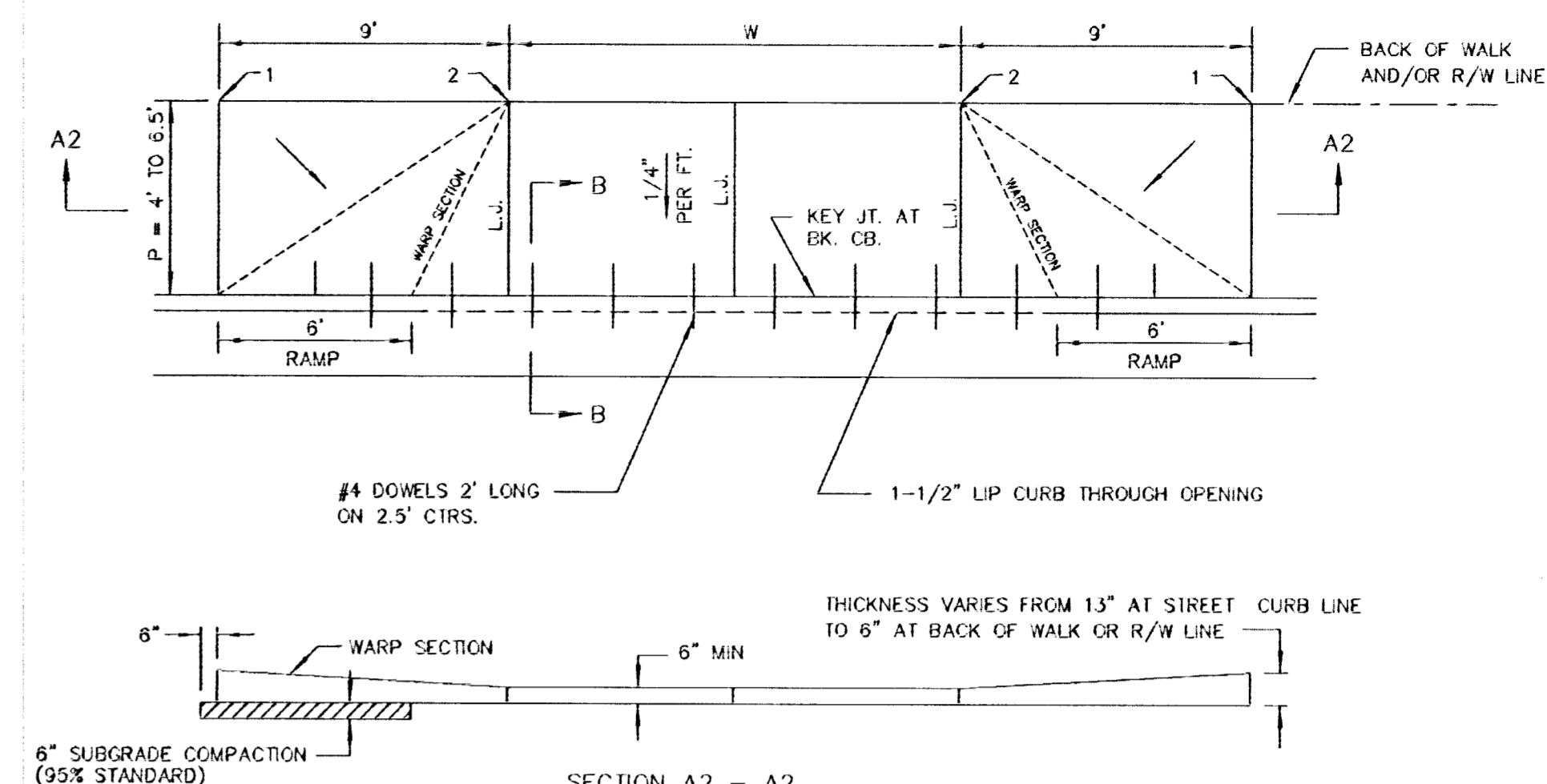
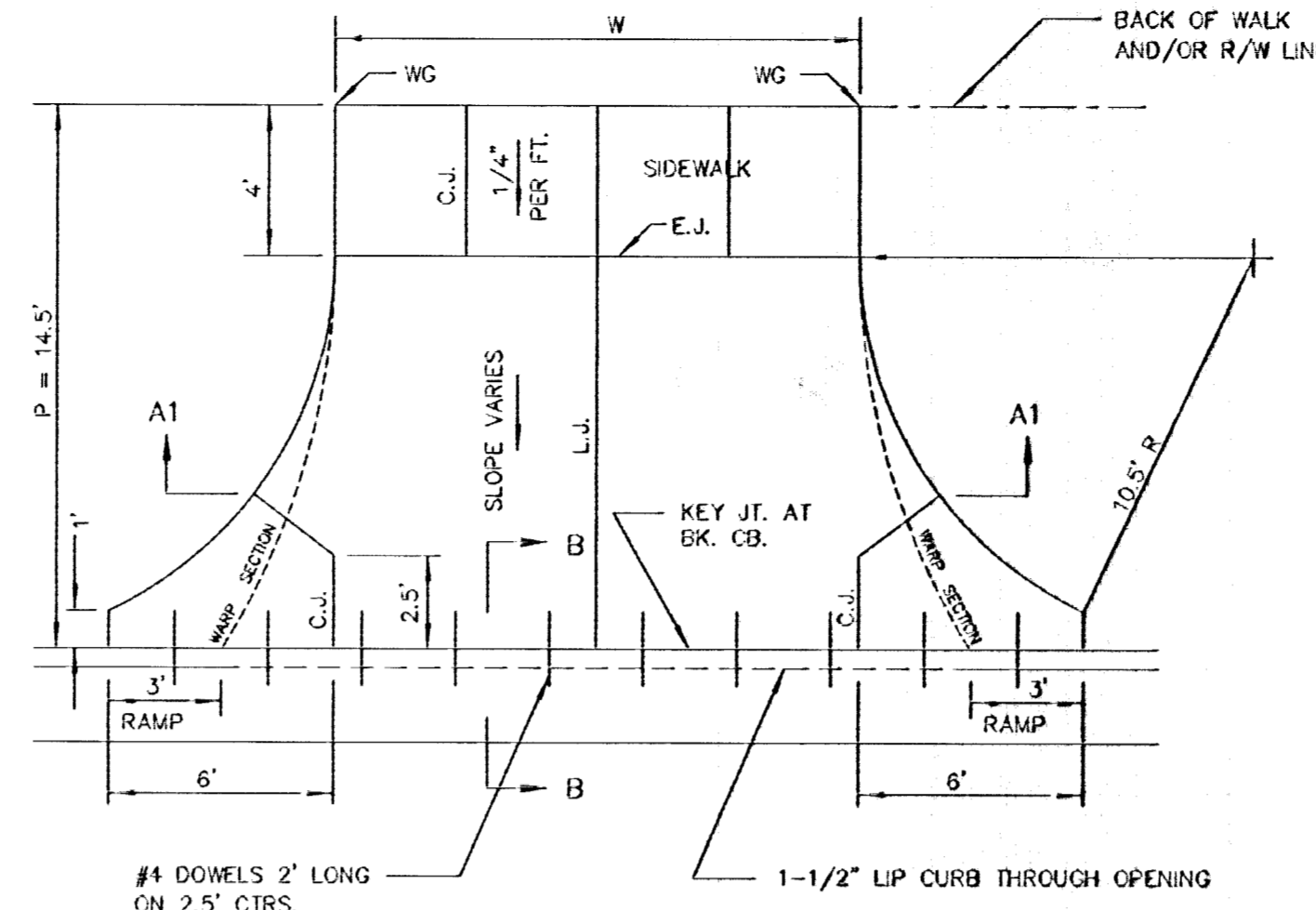
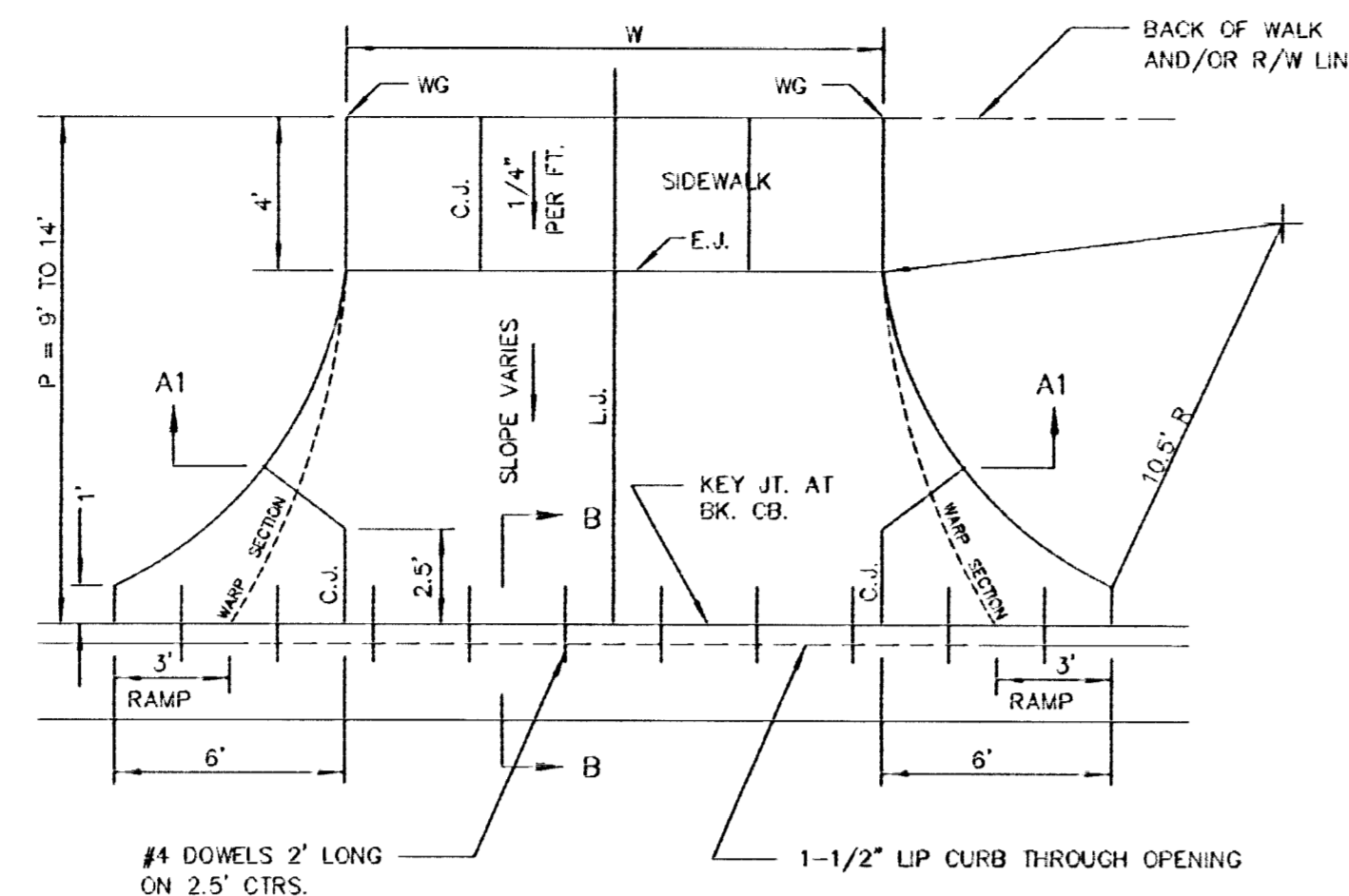
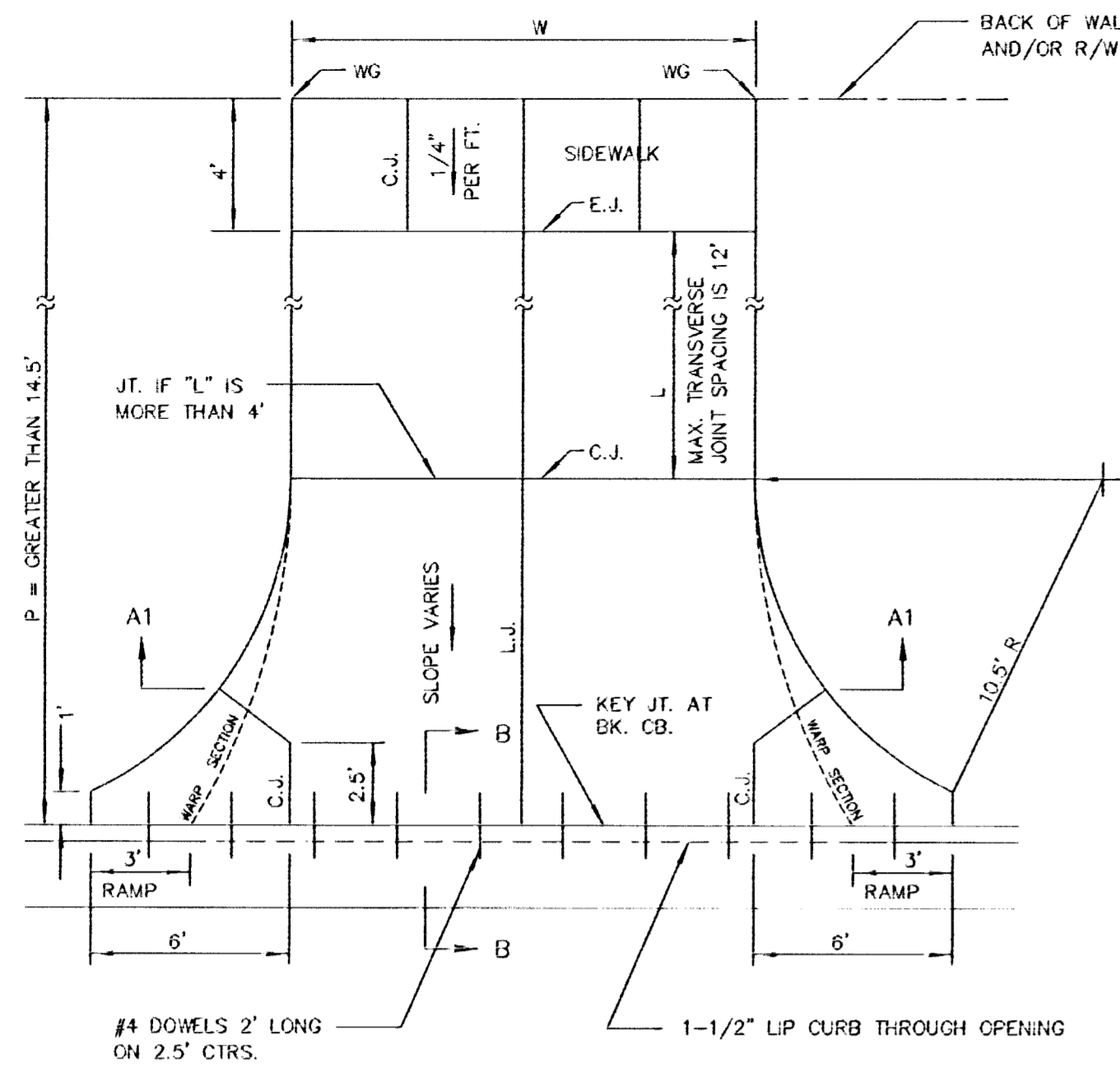
COMBINED ROLL TYPE CURB & GUTTER (3 3/8")



TRANSVERSE CONSTRUCTION JOINTS

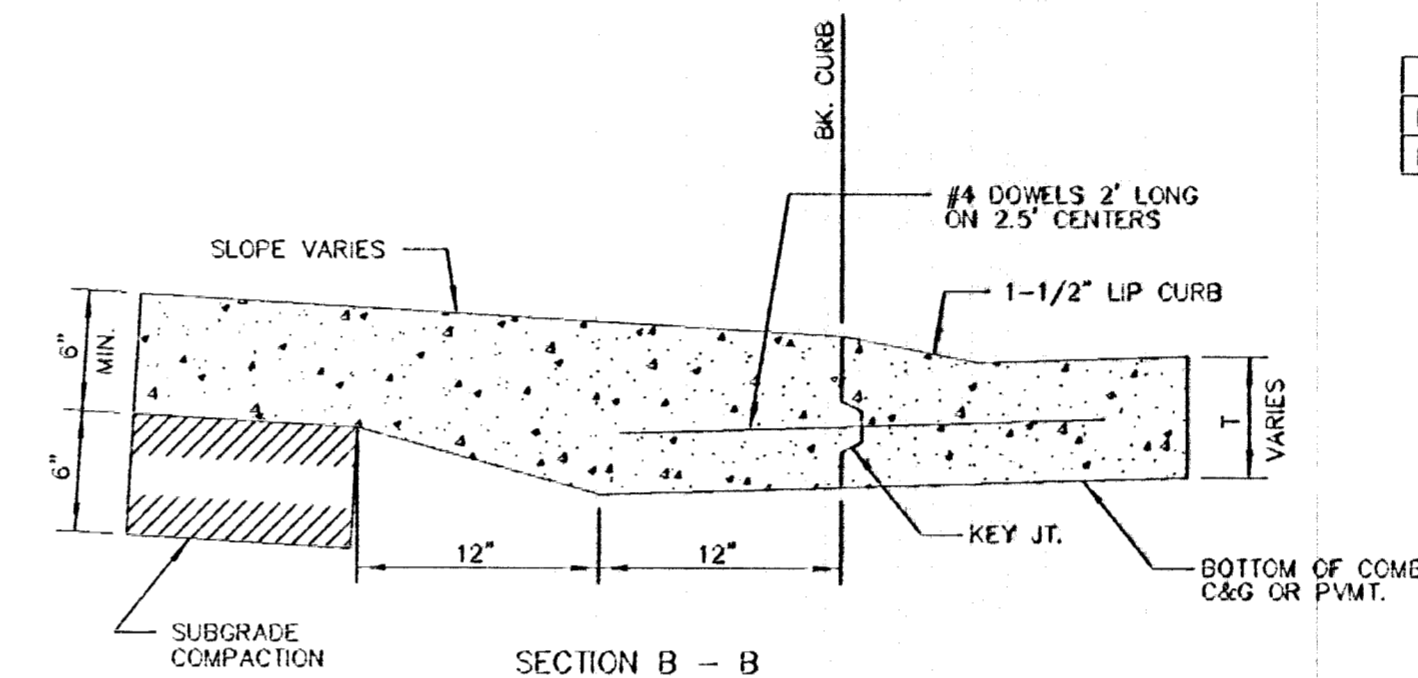
Transverse construction joints shall be constructed in flexible base pavements at locations where pavement joints existing flexible base pavement as shown by the detail. All costs associated with the construction of the transverse joint shall be included in the bid price for Square Yards 7" ASPHALTIC CONCRETE (5" BITUMINOUS BASE).

<p>THE CITY OF WICHITA CITY ENGINEER'S OFFICE 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX</p>	<p>31' PAVEMENT 7" ASPHALTIC CONCRETE W/5" BITUMINOUS BASE</p>	
	<p>JIM ARMOUR P.E. - CITY ENGINEER</p>	
	<p>PROJECT NUMBER</p>	<p>INDEX CODE</p>
	<p>DATE</p>	<p>SHEET 11 OF 13</p>



PARKING WIDTH "P"	9'	10'	11'	12'	13'	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.27'	0.27'	0.32'	0.37'	0.52'	0.80'	1.35'	1.85'	2.35'	2.85'	3.35'	3.85'	4.35'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.27'	0.27'	0.32'	0.37'	0.52'	0.62'	0.96'	1.22'	1.48'	1.74'	2.00'	2.26'	2.52'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.19'	0.21'	0.23'	0.25'	0.30'	0.30'	0.42'	0.52'	0.62'	0.72'	0.82'	0.92'	1.02'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.19'	-0.16'	-0.13'	-0.10'	-0.06'	0.00'	0.00'	0.15'	0.25'	0.35'	0.45'	0.55'	0.65'

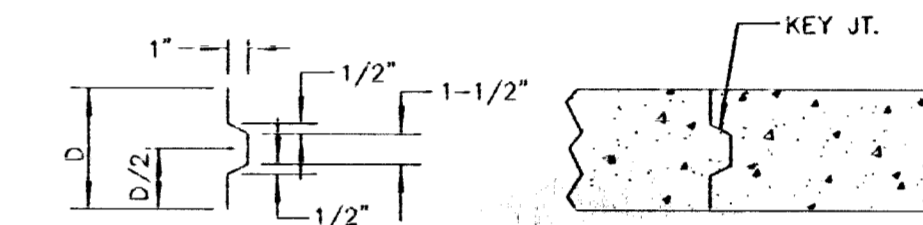
RADIUS RAMP DRIVES (P = 9.0' & GREATER)



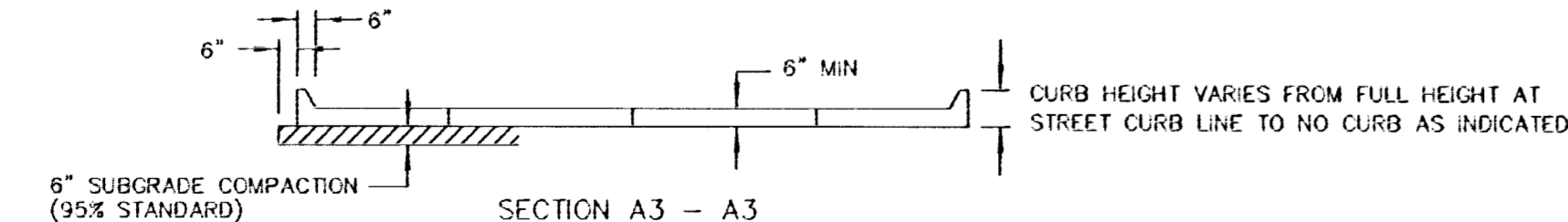
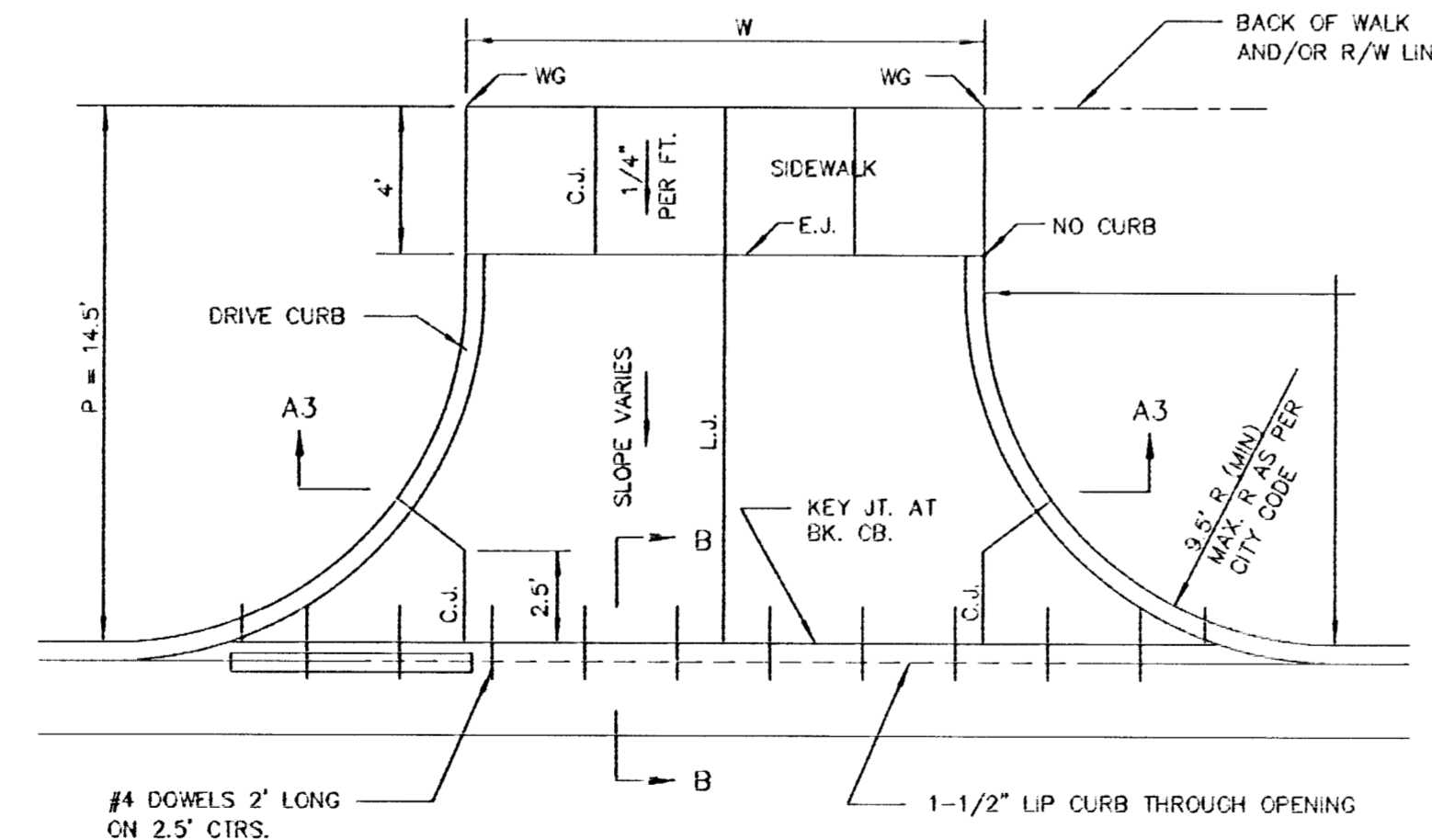
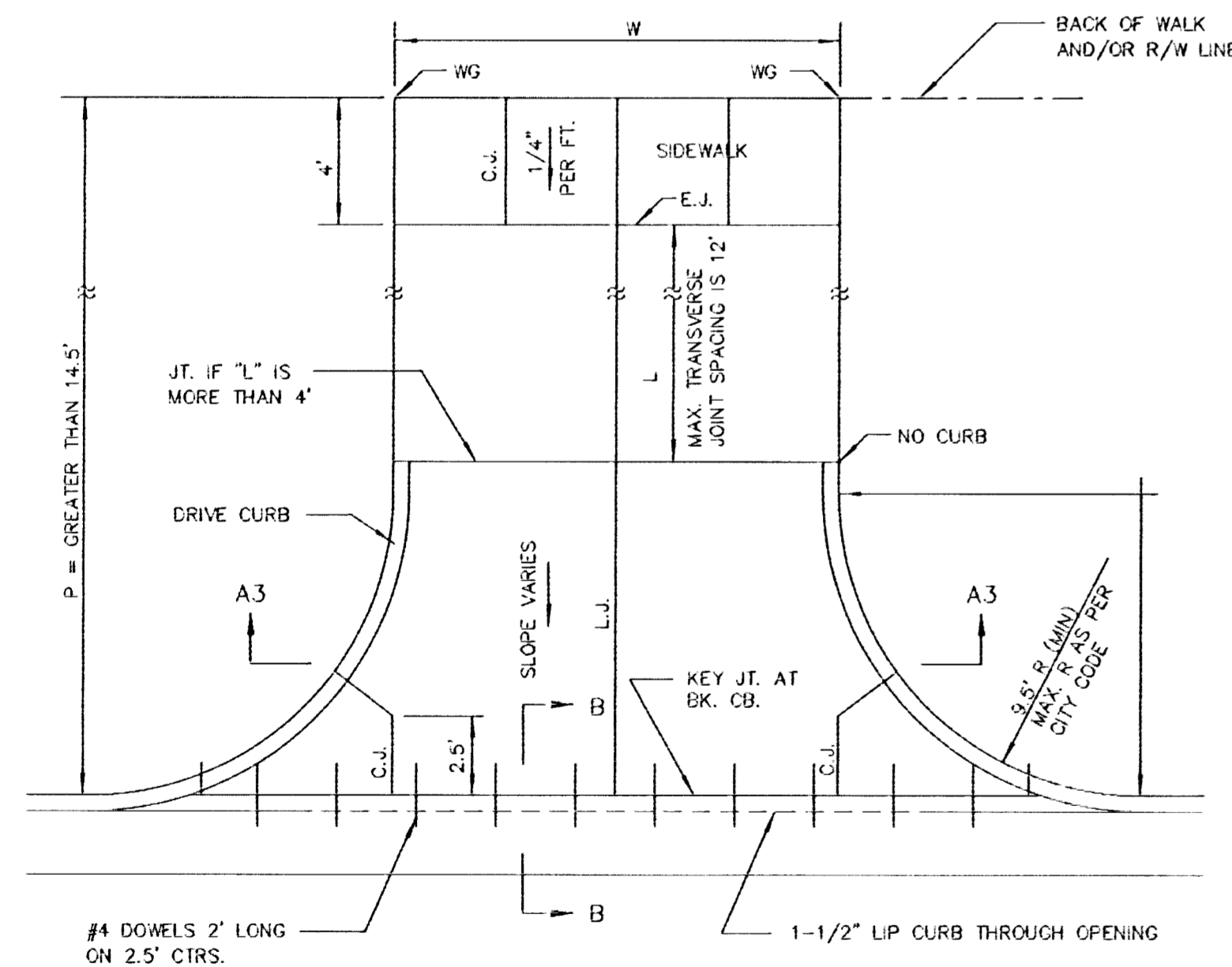
BACK OF CURB DETAIL

PARKING WIDTH "P"	4'	4.5'	5'	5.5'	6'	6.5'
DIST. OF PT. "1" ABOVE TOP OF FULL CURB	-0.08'	0.02'	0.18'	0.22'	0.18'	0.22'
DIST. OF PT. "2" BELOW TOP OF FULL CURB	-0.08'	0.02'	0.18'	0.22'	0.18'	0.22'

FULL RAMP DRIVE (P = 4.0' TO 6.5')

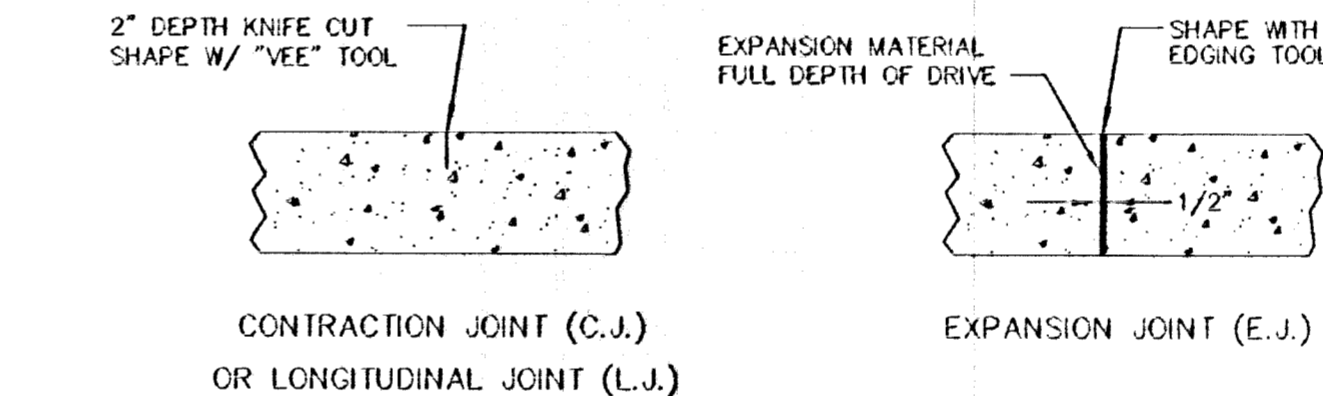


ALT. LONGITUDINAL CONSTRUCTION JOINT



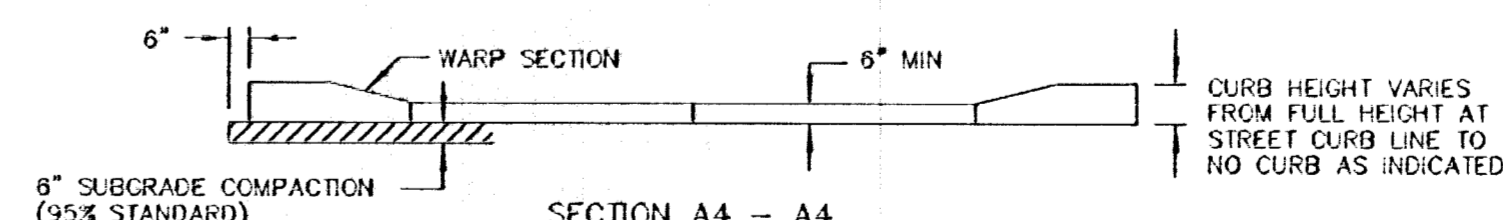
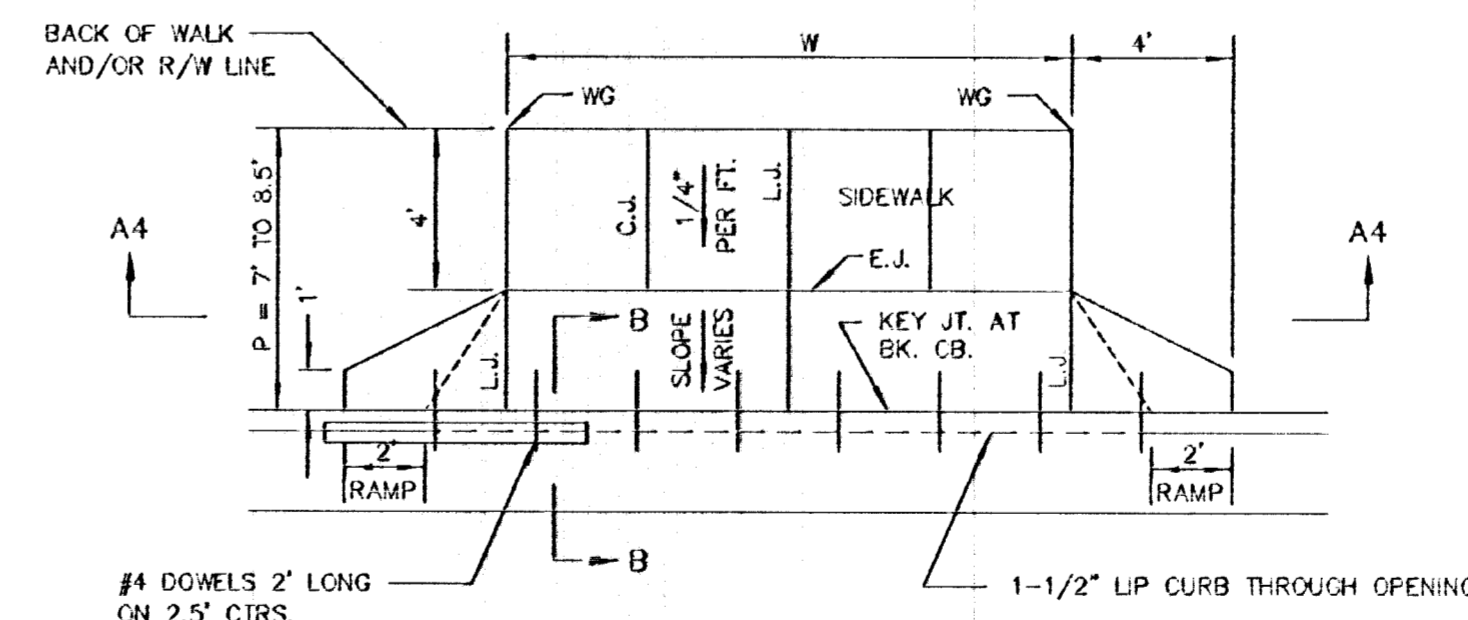
PARKING WIDTH "P"	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.72'	1.27'	1.77'	2.27'	2.77'	3.27'	3.77'	4.27'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.70'	1.04'	1.30'	1.56'	1.82'	2.08'	2.34'	2.60'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.30'	0.42'	0.52'	0.62'	0.72'	0.82'	0.92'	1.02'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.00'	0.00'	0.15'	0.25'	0.35'	0.45'	0.55'	0.65'

FULL RADIUS DRIVES (P = 14.5' & GREATER)



CONTRACTION JOINT (C.J.) OR LONGITUDINAL JOINT (L.J.)


EXPANSION JOINT (E.J.)



PARKING WIDTH "P"	7'	7.5'	8'	8.5'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.08'	0.02'	0.18'	0.22'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.08'	0.02'	0.18'	0.22'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.15'	-0.16'	-0.17'	-0.17'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.25'	-0.20'	-0.20'	-0.20'

FULL RAMP DRIVE (P = 7.0' TO 8.5')

- GENERAL NOTES**
- DRIVEWAY CONSTRUCTION DETAILED ON THIS SHEET IS FOR USE WITH FULL HEIGHT STREET CURBS AND IN AREAS WITHOUT FULL WALK CONSTRUCTION IN THE PARKING. SEE OTHER DETAIL SHEETS FOR DRIVEWAY CONSTRUCTION WITH ROLL CURB AND/OR FULL WALK.
 - ONE LONGITUDINAL JOINT SHALL BE CONSTRUCTED ALONG THE CENTERLINE OF DRIVES HAVING A "W" DIMENSION OF 24' OR LESS. TWO LONGITUDINAL JOINTS SHALL BE CONSTRUCTED WITH EQUAL SPACINGS NOT TO EXCEED 10' FOR DRIVES WITH A "W" DIMENSION GREATER THAN 24'.
 - DRIVEWAY WIDTH DENOTED AS "W" ON THE DETAIL DRAWINGS SHALL BE A MINIMUM OF 10' AND A MAXIMUM OF 30'. THE MAXIMUM OPENING FOR RADIUS TYPE DRIVES WITH CURBS THROUGH THE RADIUS SHALL NOT EXCEED 52' AT THE STREET CURB LINE.
 - CONTRACTION JOINT SPACING IN THE DRIVEWAY WALK SECTION SHALL BE A MINIMUM OF 3' AND A MAXIMUM OF 6' AND ARE TO BE EQUALLY SPACED WITHIN THIS RANGE. WALK SECTION SHALL BE CONSTRUCTED TO THE SAME THICKNESS AS THE DRIVEWAY.
 - DOVEL BARS SHALL BE OMITTED FROM THE KEYED CONSTRUCTION JOINT ALONG THE BACK OF THE STREET CURB LINE WHEN DRIVEWAYS ARE CONSTRUCTED IN CONJUNCTION WITH NEW CONCRETE PAVEMENT CONSTRUCTION.
 - ADDITIONAL THICKNESS OF DRIVE AS INDICATED IN THE DRAWINGS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE DRIVEWAY CONSTRUCTION.
 - ONE HALF INCH EXPANSION JOINTS SHALL BE INSTALLED WHEREVER DRIVE CONSTRUCTION ABUTS SIDEWALK. ONE HALF INCH EXPANSION JOINTS SHALL ALSO BE INSTALLED ALONG THE PROPERTY LINE AND/OR BACK OF WALK LINE WHEN DRIVE CONSTRUCTION ALONG THIS LINE ABUTS CONCRETE PARKING LOTS OR CONCRETE DRIVE EXTENSION.
 - ALL DRIVEWAYS SHALL BE A MINIMUM OF 6" IN THICKNESS AND SHALL BE WITHOUT REINFORCEMENT. DRIVEWAYS MAY BE CONSTRUCTED THICKER THAN 6" AND THEY MAY BE REINFORCED WITH 6"x12" W4-W4 WELDED WIRE FABRIC WHEN PROPERLY AUTHORIZED BY THE PROPERTY OWNER WITH THE ENGINEER'S CONCURRENCE.
 - OPTIMUM DRIVEWAY ELEVATIONS SHOWN IN THE TABLES ARE TO BE USED WHEREVER POSSIBLE. ABSOLUTE MAXIMUM AND MINIMUM ELEVATIONS ARE TO BE USED ONLY WHEN THESE VALUES WILL PERMIT NEW CONSTRUCTION TO MATCH EXISTING DRIVES OR PARKING LOTS. VALUES SHOWN IN THE TABLES ARE BASED ON A FULL CURB HEIGHT ELEVATION OF 0.55' ABOVE THE GUTTER FLOW LINE AND MUST BE ADJUSTED ACCORDINGLY FOR OTHER CURB HEIGHTS. VALUES SHOWN IN THE TABLES WITH MINUS SIGNS INDICATE ELEVATIONS BELOW TOP OF FULL HEIGHT CURB.



THE CITY OF WICHITA
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
450 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4200
(316) 268-4114 FAX

STANDARD DRIVE ENTRANCES
FULL HEIGHT CURB

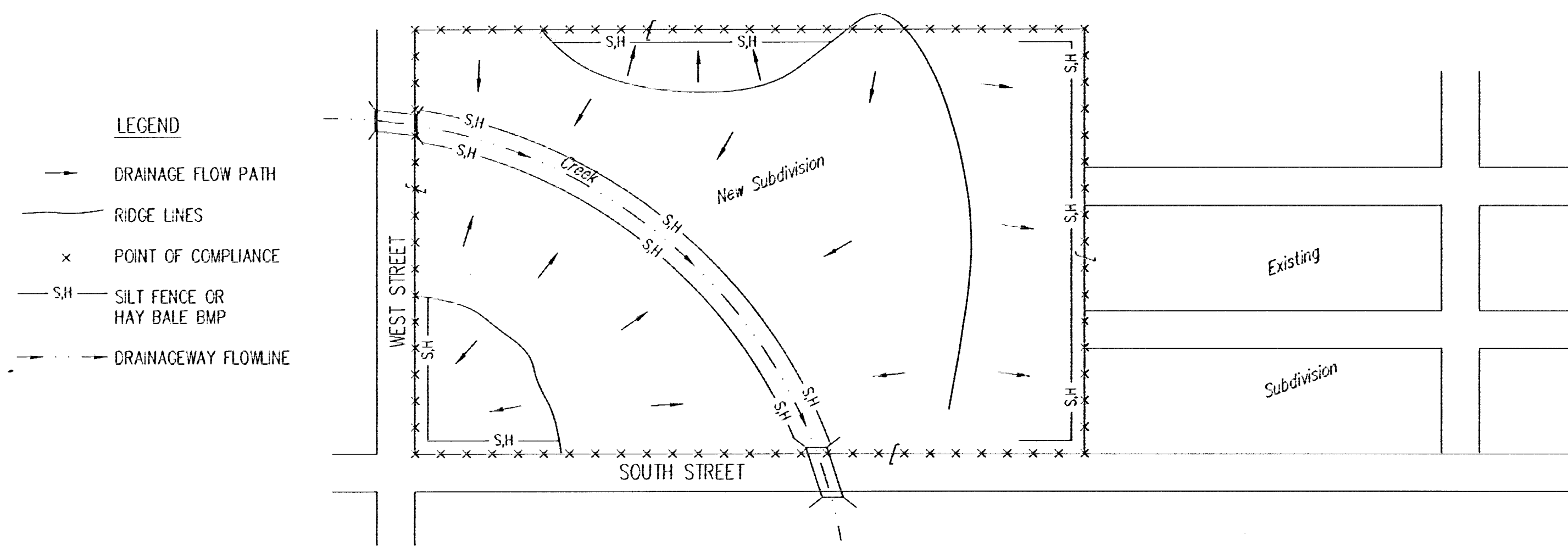
JIM ARMOUR P.E. - CITY ENGINEER

PROJECT NUMBER: _____ INDEX CODE: _____

PROJECT NUMBER: 660498

DATE: MAR 96 SHEET 12 OF 13

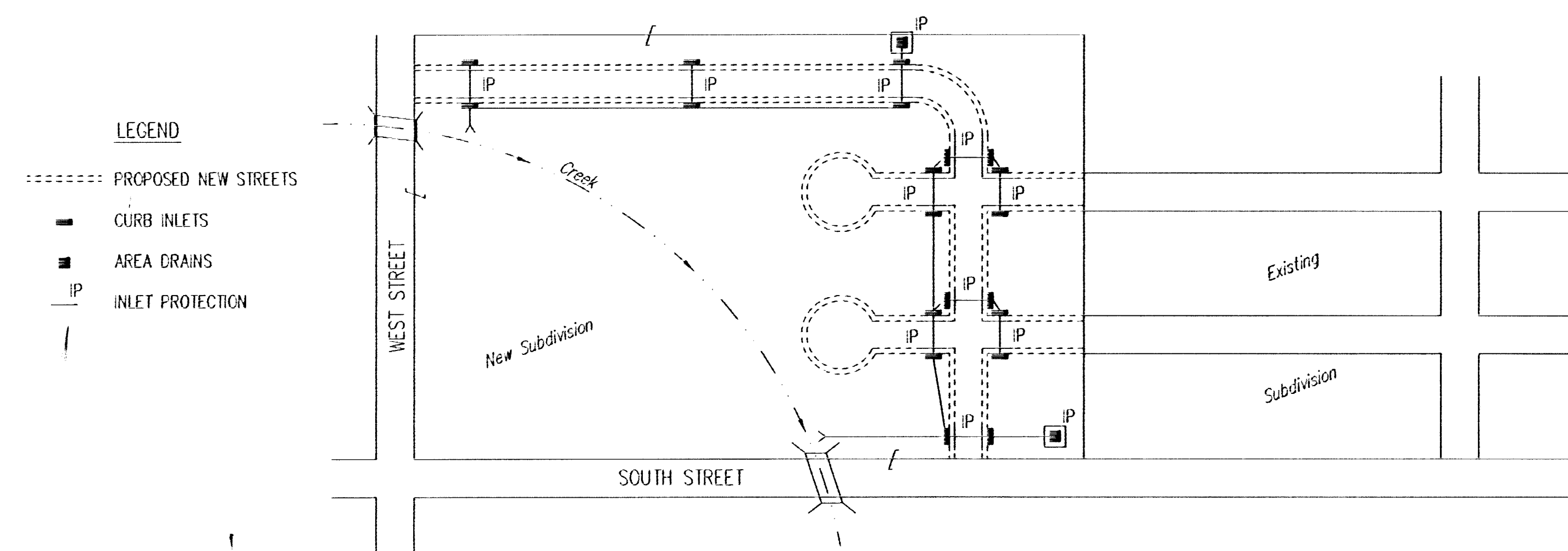
PHASE 1 - INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



- LEGEND**
- > DRAINAGE FLOW PATH
 - RIDGE LINES
 - x POINT OF COMPLIANCE
 - SH SILT FENCE OR HAY BALE BMP
 - - - DRAINAGEWAY FLOWLINE

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. HAYBALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE BMP'S WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR GUTTERLINES ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE BMP'S WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED AT THE END OF EACH WORK DAY.
5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL BMP'S 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 BMP'S AT THEIR WORK LOCATIONS, AS NEEDED.
6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
7. THE SUBDIVISION DEVELOPER (OWNER) SHALL INSTALL AND MAINTAIN THE ON-SITE BMP'S.

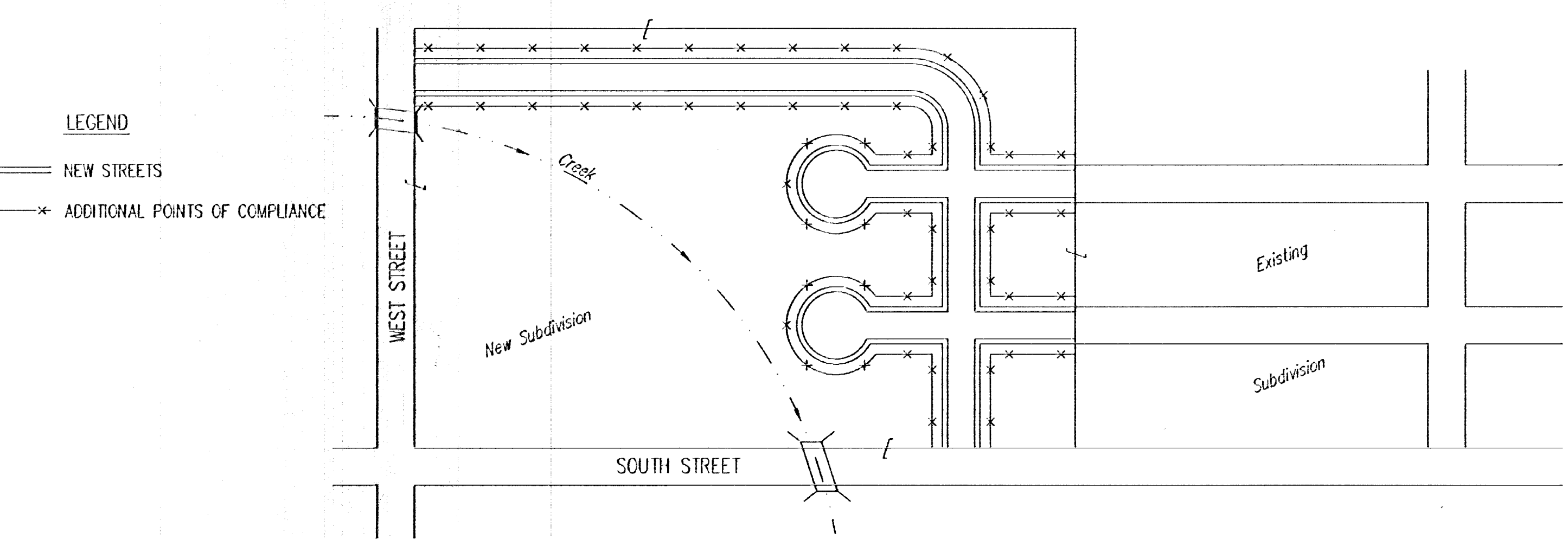
PHASE 2 - INSTALLATION OF STORM SEWER



- LEGEND**
- - - PROPOSED NEW STREETS
 - CURB INLETS
 - AREA DRAINS
 - IP INLET PROTECTION

1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL BMP'S 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, HAYBALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
4. CURB OPENING INLETS - AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION BMP'S MUST BE INSTALLED. SEE PHASE 3 - STREET CONSTRUCTION.
5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE BMP'S. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION.
6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE BMP'S ONCE INSTALLED.
7. ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOG, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

PHASE 3 - STREET CONSTRUCTION



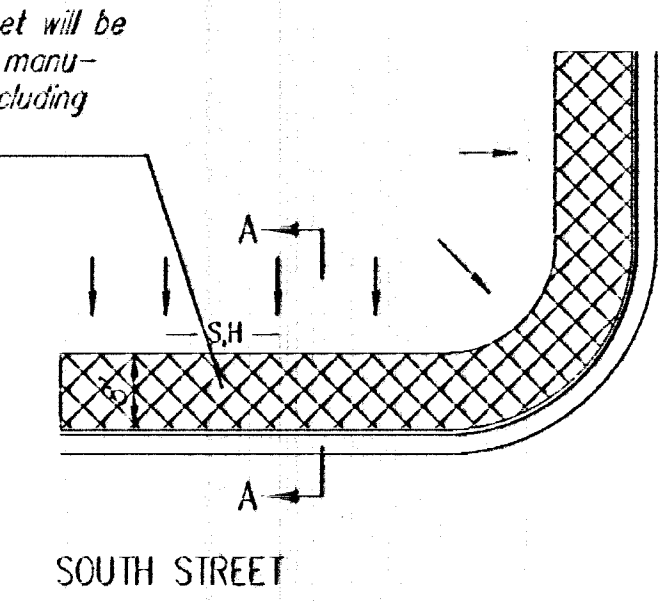
- LEGEND**
- == NEW STREETS
 - x-x-x ADDITIONAL POINTS OF COMPLIANCE

1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL BMP'S 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. BMP'S 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), BMP'S WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
4. SEE DETAIL THIS SHEET ON BACK OF CURB PROTECTION.
5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAYBALE OR SILT FENCE BMP'S 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 BMP'S.
7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB BMP'S IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOG.

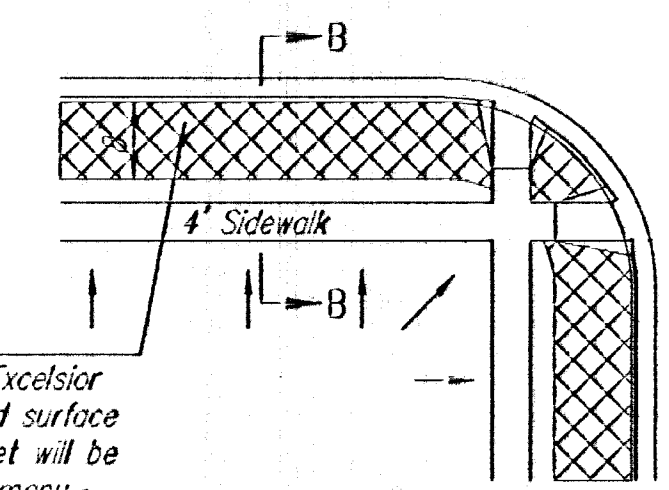
GENERAL NOTES:

1. THE INTENT OF ALL BEST MANAGEMENT PRACTICES (B.M.P.'S) IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, OR ANY OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF BMP'S WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. BMP'S SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON THE BMP DETAIL SHEETS.
4. PERSONS DESTROYING BMP'S SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT BMP'S.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 5 ACRES OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL BMP'S ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLAN.
6. FOR SUBDIVISIONS SMALLER THAN 5 ACRES, SOIL EROSION BMP'S 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 BMP'S 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 BMP'S SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT BMP OTHER THAN THAT SHOWN. BMP'S, 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.

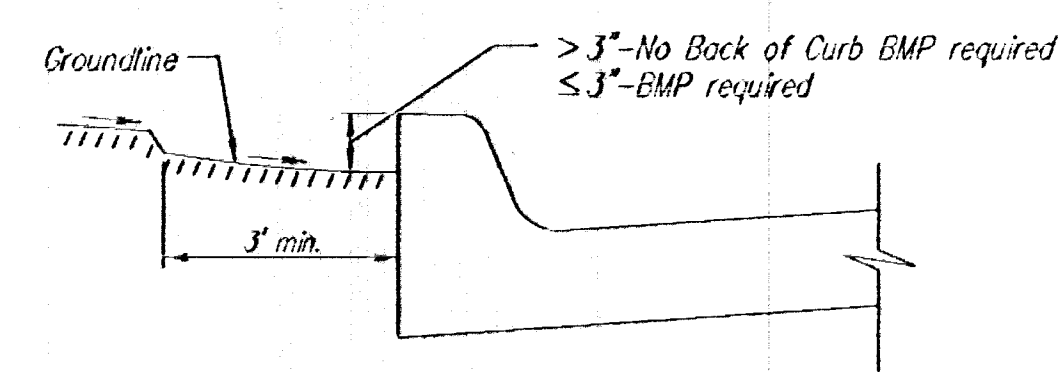
BMP-Install 8' wide Curtex / Excelsior Blanket, or equal, on prepared surface back of curb. Edge of blanket will be at back of curb. Install per manufacturer's recommendation, including staples.



BMP-Install 8' wide Curtex / Excelsior Blanket, or equal, on prepared surface back of curb. Edge of blanket will be at back of curb. Install per manufacturer's recommendation, including staples.

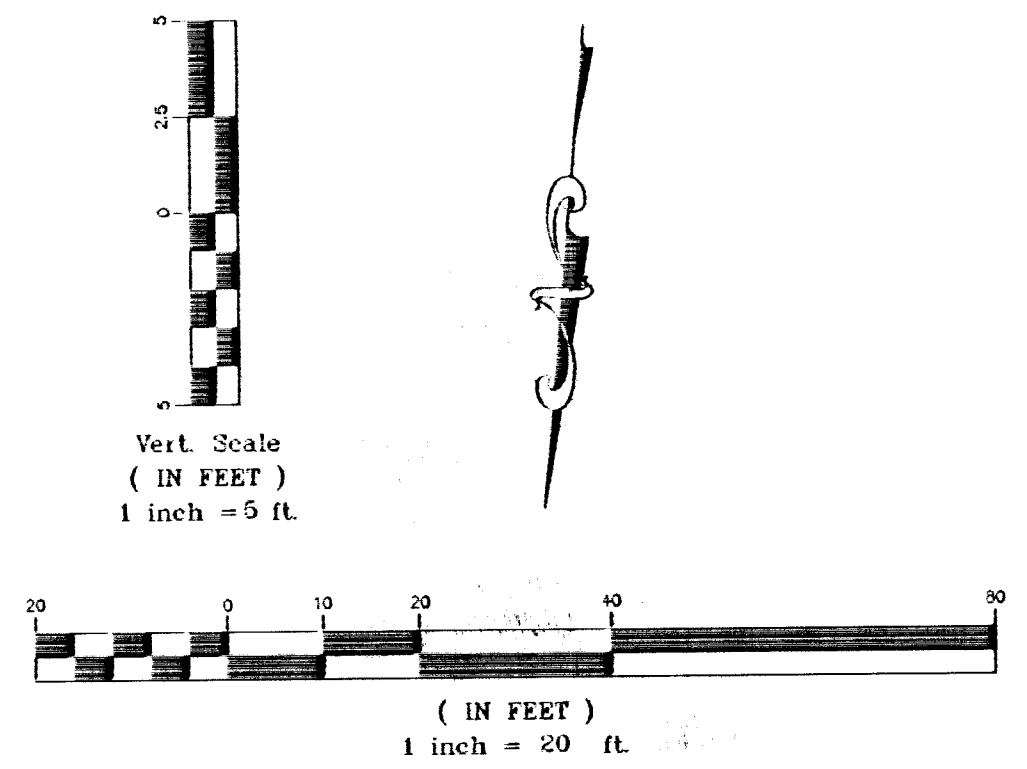
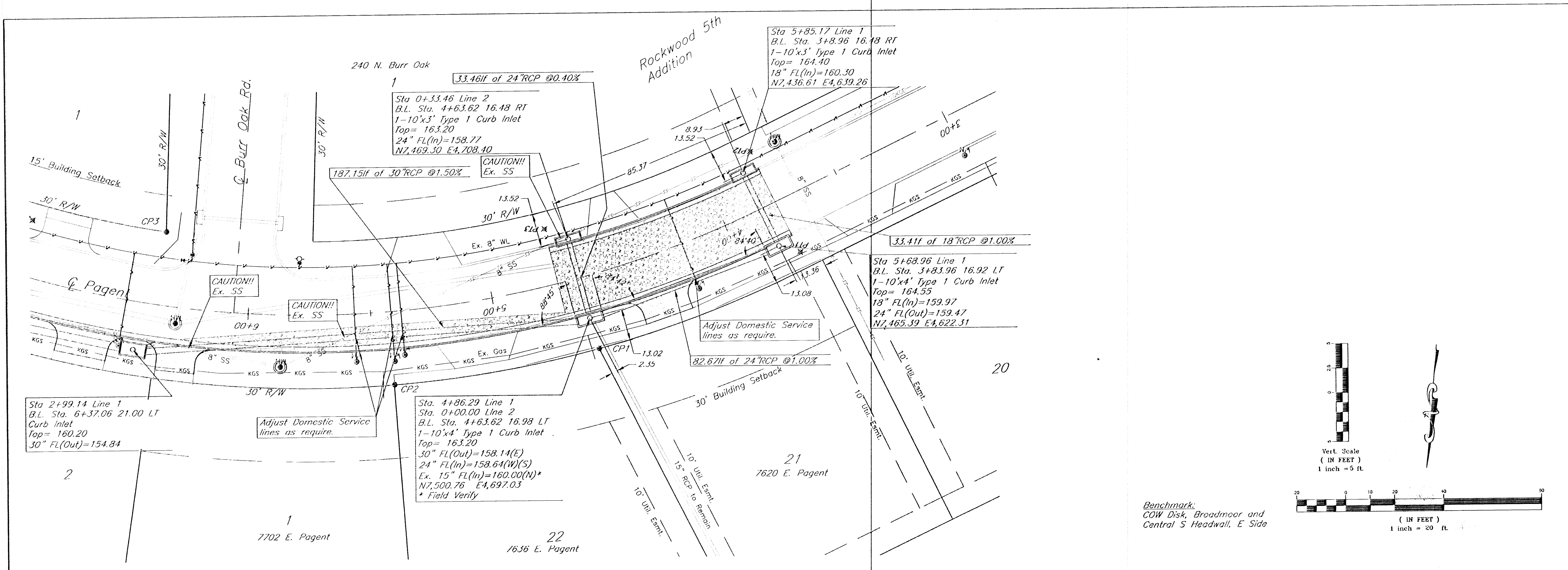


BACK OF CURB PROTECTION DETAIL

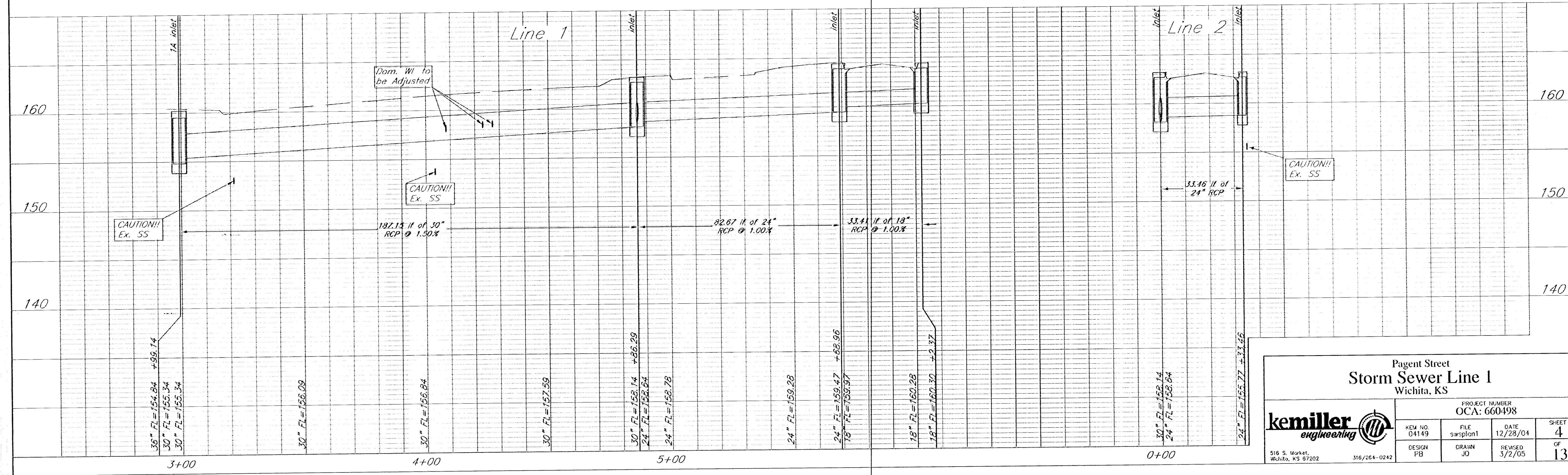


CURB BACKFILL DETAIL

	SOIL EROSION BMP'S	
	SUBDIVISION DEVELOPMENT PROCESS	
SHAWN R. BRYAN, P.E. STORM WATER ENGINEER		
PROJECT NUMBER	O&A NO.	
	660498	
DATE	SHEET 13 OF 13	
MAY 2001		



Benchmark:
COW Disk, Broadmoor and
Central S Headwall, E Side



**Pagent Street
Storm Sewer Line 1
Wichita, KS**

kemiller <i>engineering</i>		PROJECT NUMBER OCA: 660498	
		KEY NO. 04149	FILE swsplan1
DESIGN PB	DRAWN JO	REVISED 3/2/05	OF 13

516 S. Market, Wichita, KS 67202 316/264-0242

Control Points:

CP#	North	East	Description
CP1	7,512.64	4,691.80	SW PC of 7636 E. Pagent
CP2	7,534.05	4,774.42	SE PC of 7636 E. Pagent
CP3	7,479.11	4,872.38	NW PC of 236 N. Burr Oak
CP4	7,450.63	4,997.08	NE PC of 236 N. Burr Oak
CP5	7,524.29	4,962.57	SW PC of 7720 E. Pagent
CP6	7,488.21	5,075.01	SE PC of 7720 E. Pagent

PC-Property Corner


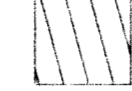
Staking Points:

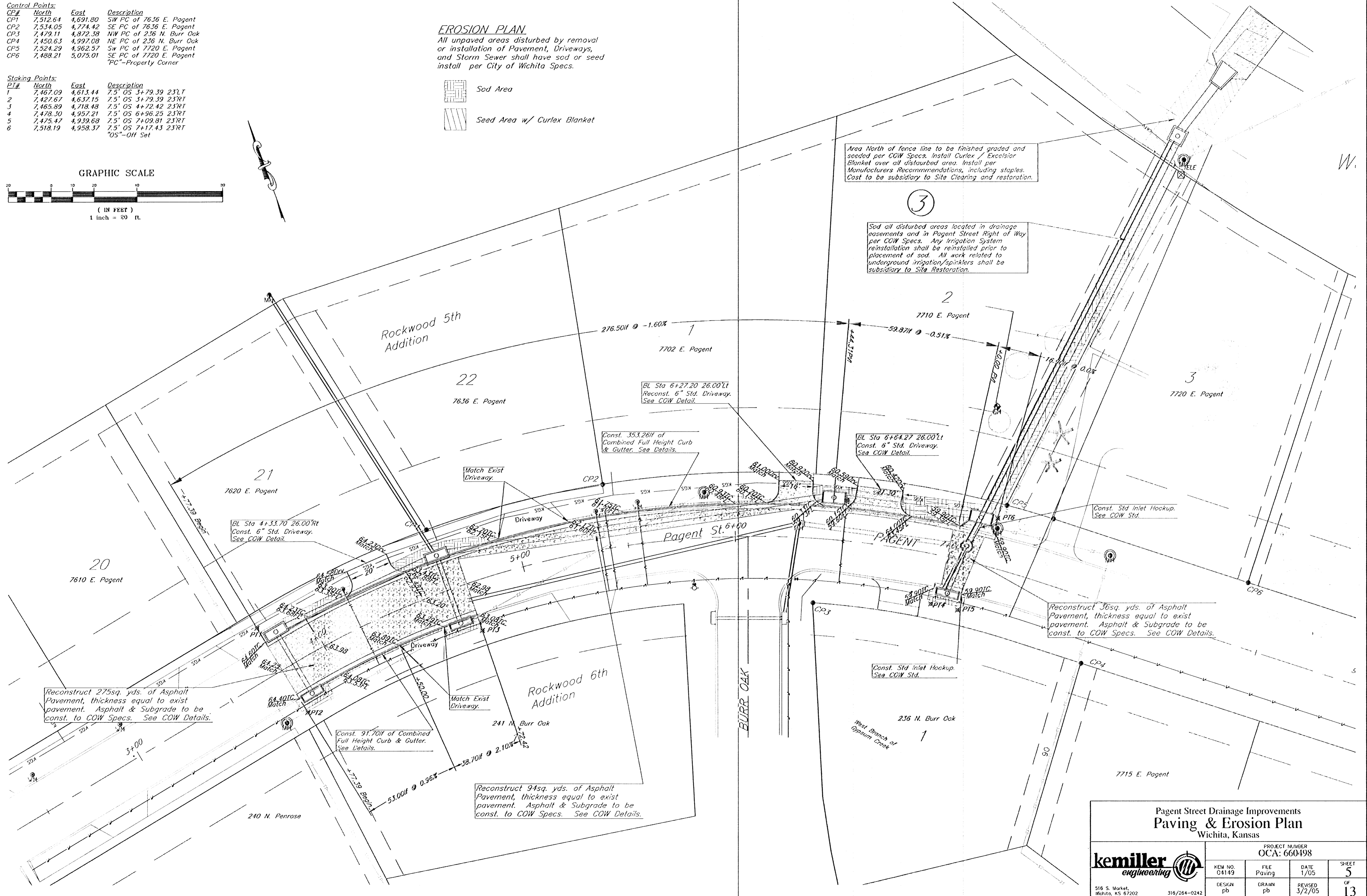
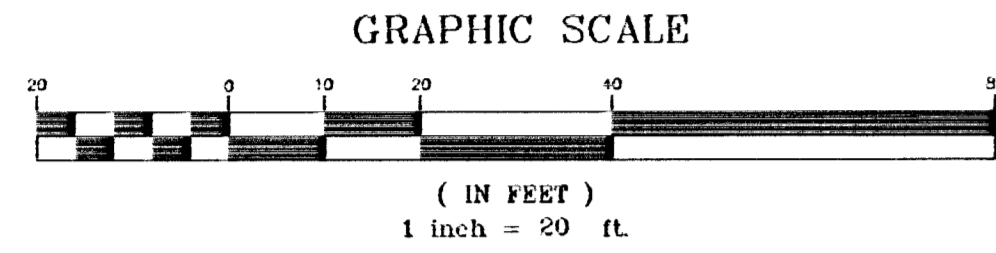
PT#	North	East	Description
1	7,467.09	4,613.44	7.5' OS 3+79.39 23°LT
2	7,427.67	4,637.15	7.5' OS 3+79.39 23°RT
3	7,465.89	4,718.48	7.5' OS 4+72.42 23°RT
4	7,478.30	4,957.21	7.5' OS 6+96.25 23°RT
5	7,475.47	4,939.69	7.5' OS 7+09.81 23°RT
6	7,518.19	4,958.37	7.5' OS 7+17.43 23°RT

OS-Off Set


EROSION PLAN

All unpaved areas disturbed by removal or installation of Pavement, Driveways, and Storm Sewer shall have sod or seed install per City of Wichita Specs.

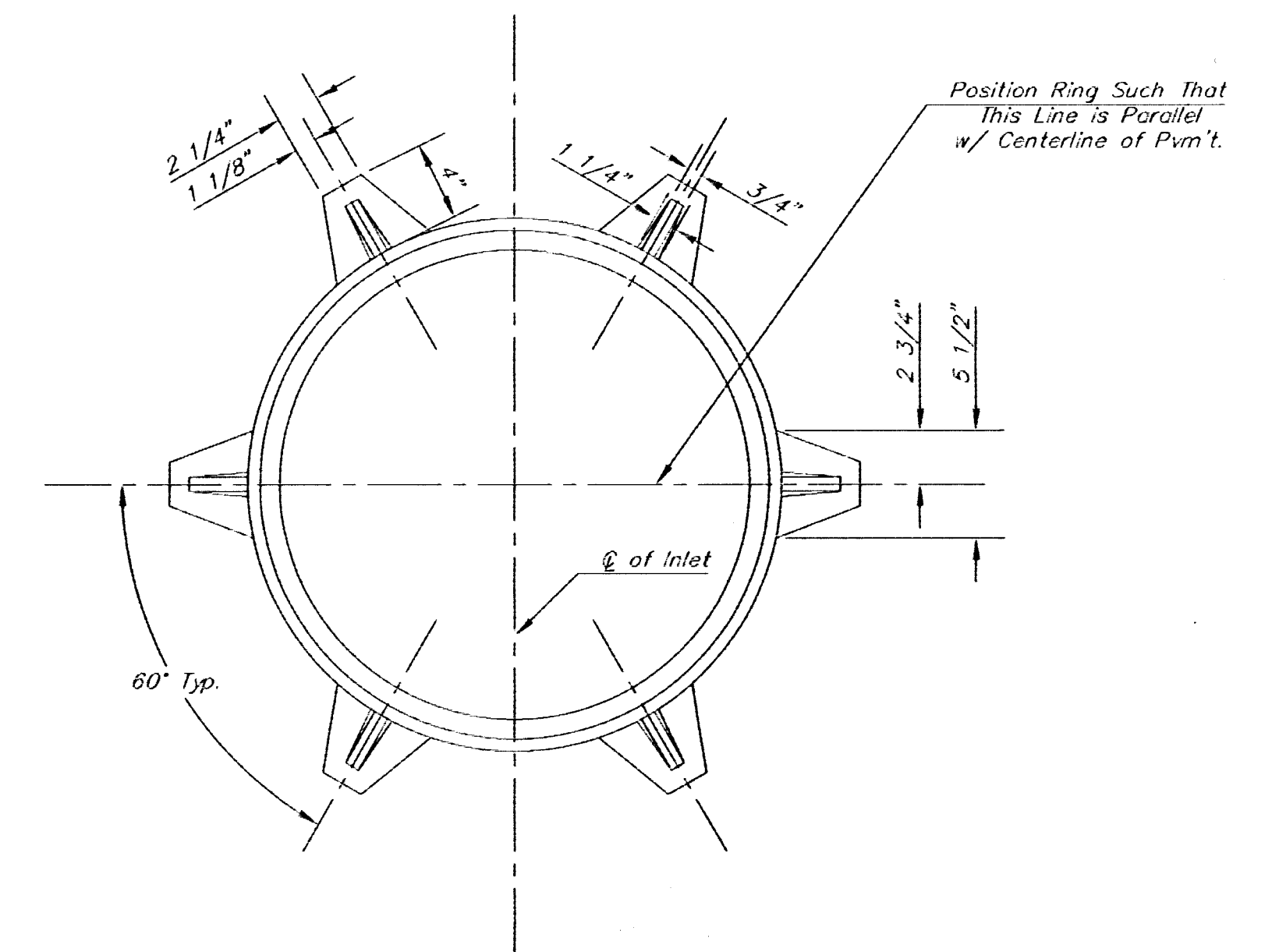
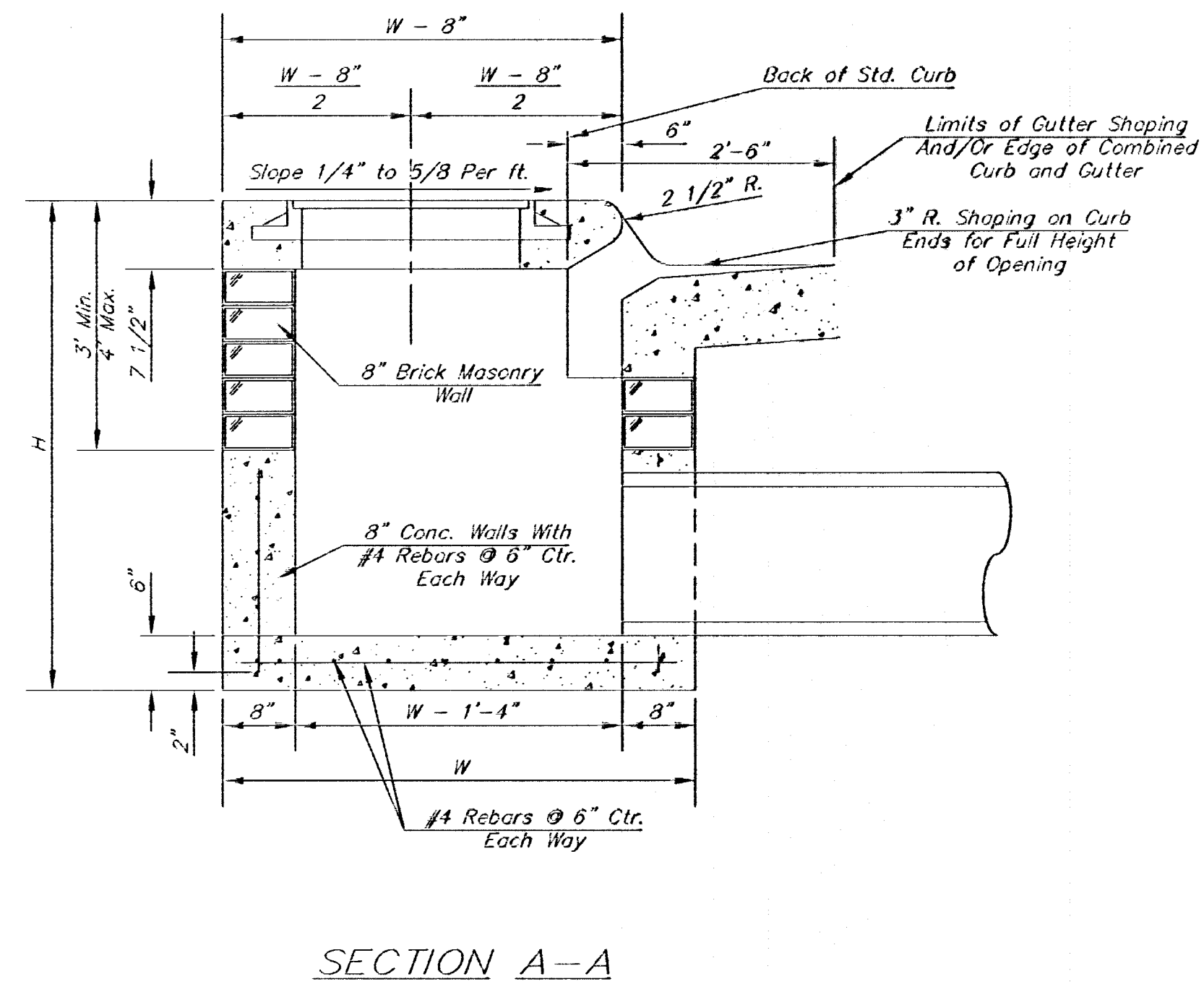
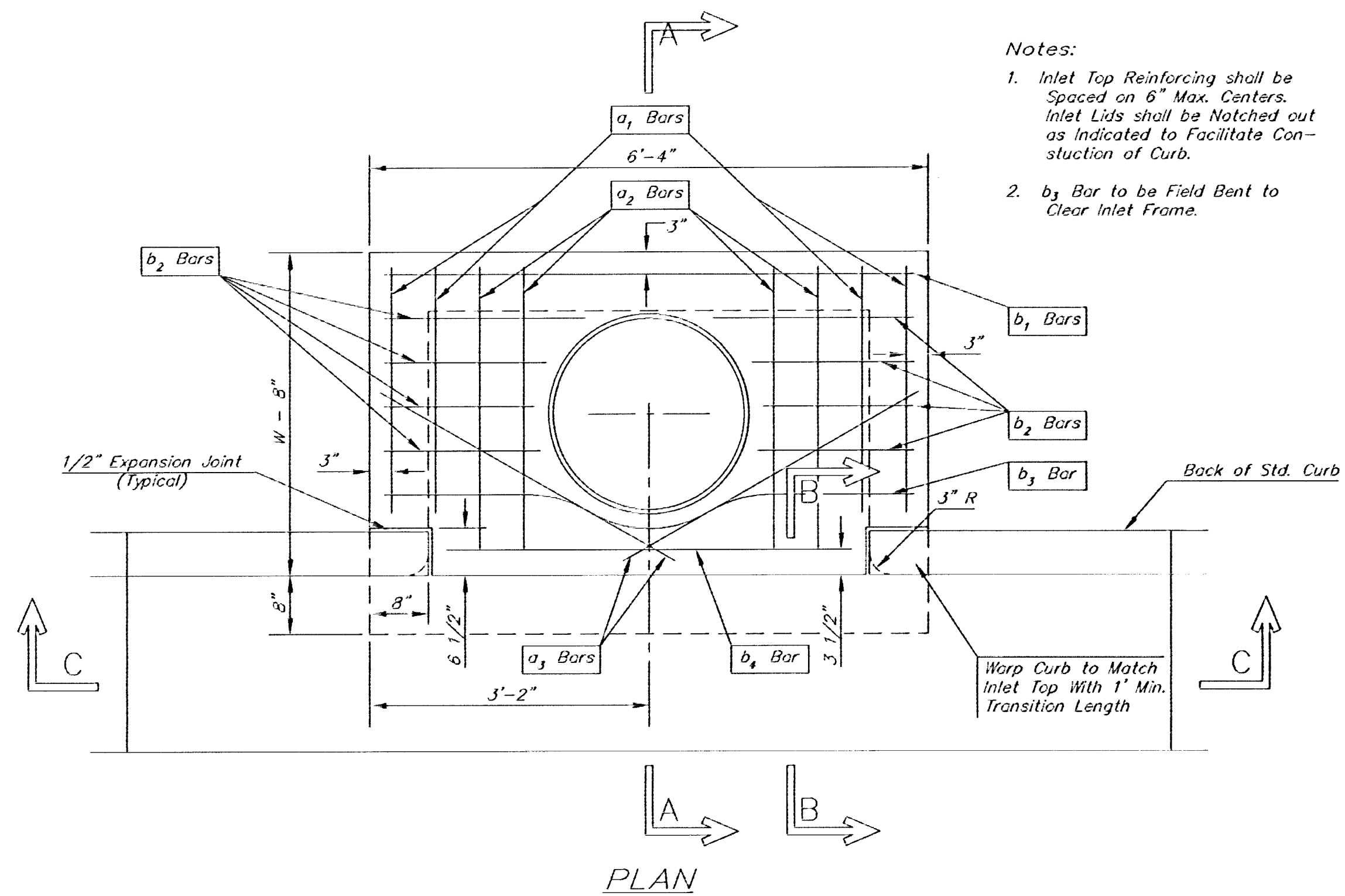
-  Sod Area
-  Seed Area w/ Curlex Blanket



**Pagent Street Drainage Improvements
Paving & Erosion Plan
Wichita, Kansas**

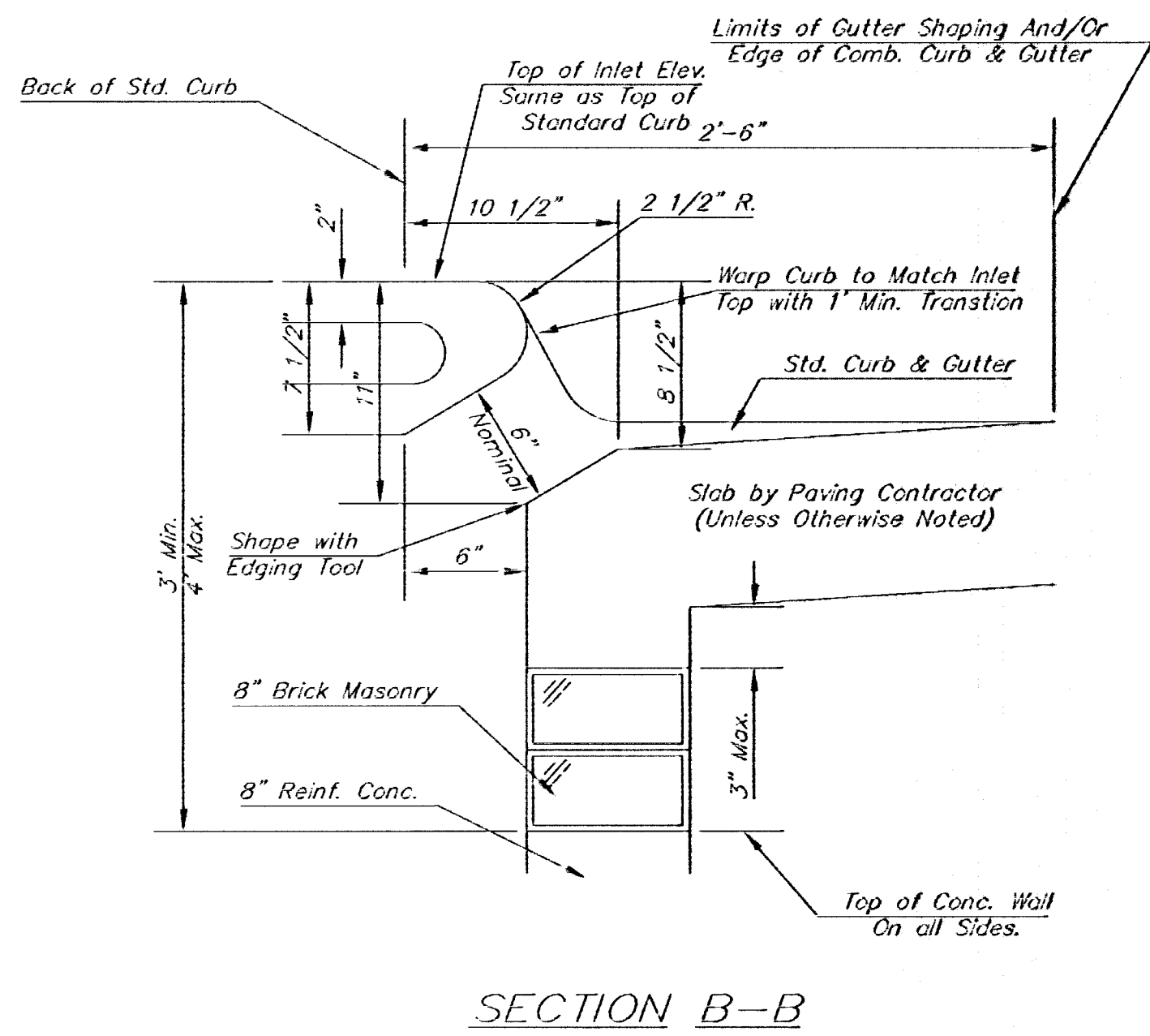
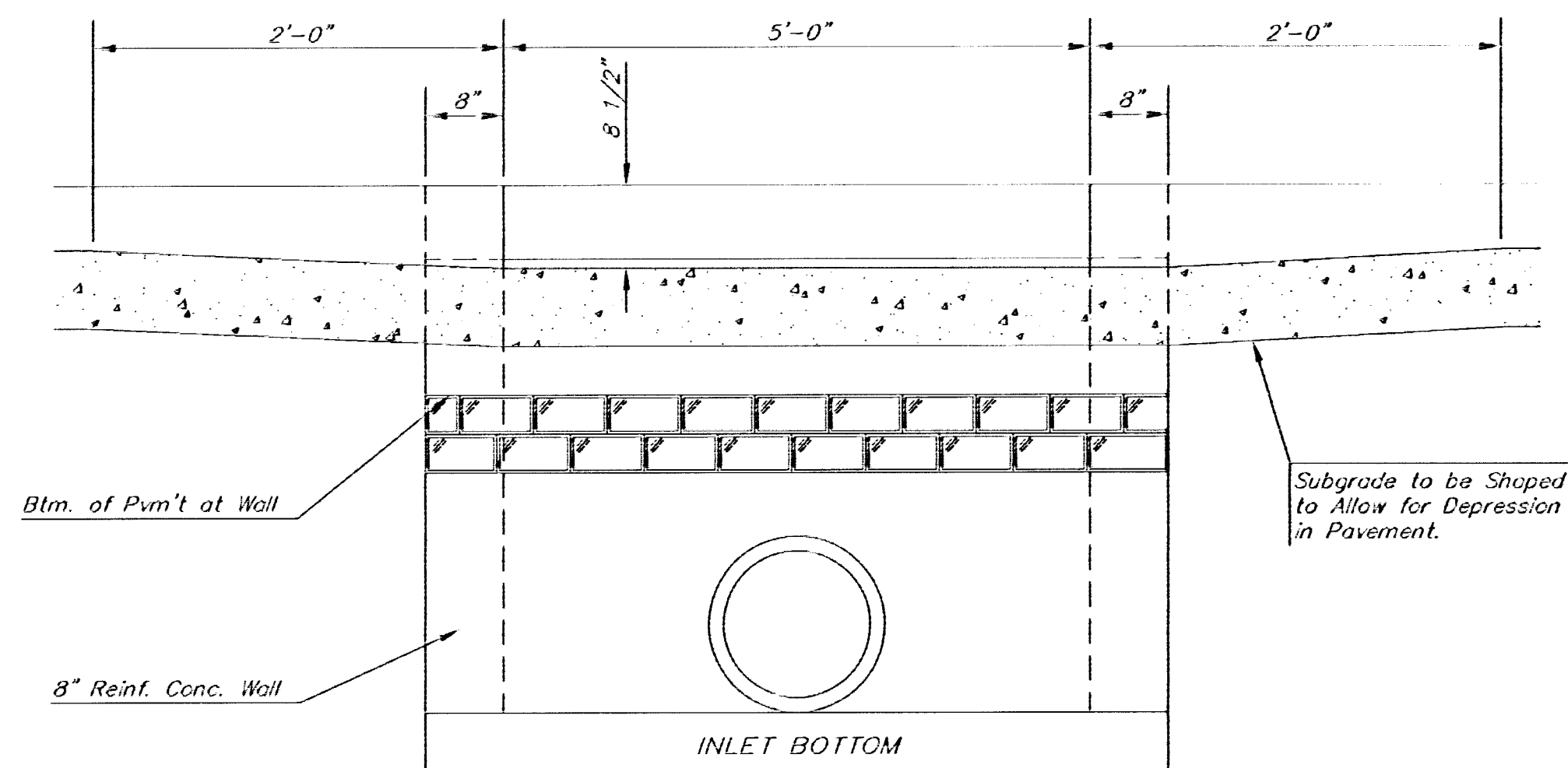
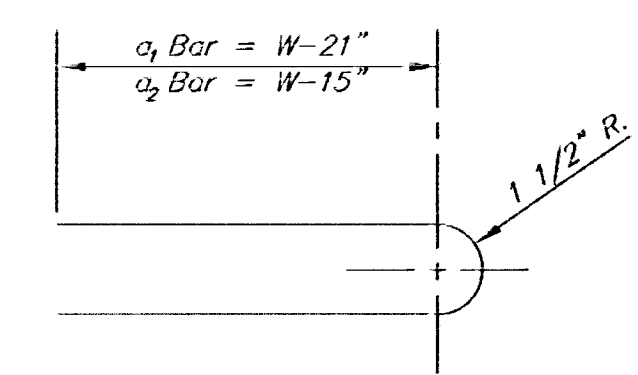
		PROJECT NUMBER OCA: 660498	
		KEM NO. 04149	FILE Paving
DESIGN pb	DRAWN pb	DATE 1/05	SHEET 5 OF 13

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



MANHOLE RING AND COVER

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



STEEL SCHEDULE

BAR NUMBER	a ₁	a ₂	a ₃	b ₁					b ₂	b ₃	b ₄	WT. Lbs.
				#4-1'	#4-5'	#4-6'	#4-7'	#4-8'				
4	4	2	1	3	5	7	9	6	1	1		
SIZE	#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: a₁ Bars to be Placed Approx. 2" Below Top of Inlet Cover.

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

- 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.
- 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.
- Inlet invert shall be shaped with 8 sack 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.
- The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall.

THE CITY OF WICHITA

STANDARD TYPE 1 CURB INLET

OPENING = 6" x 5'-0"

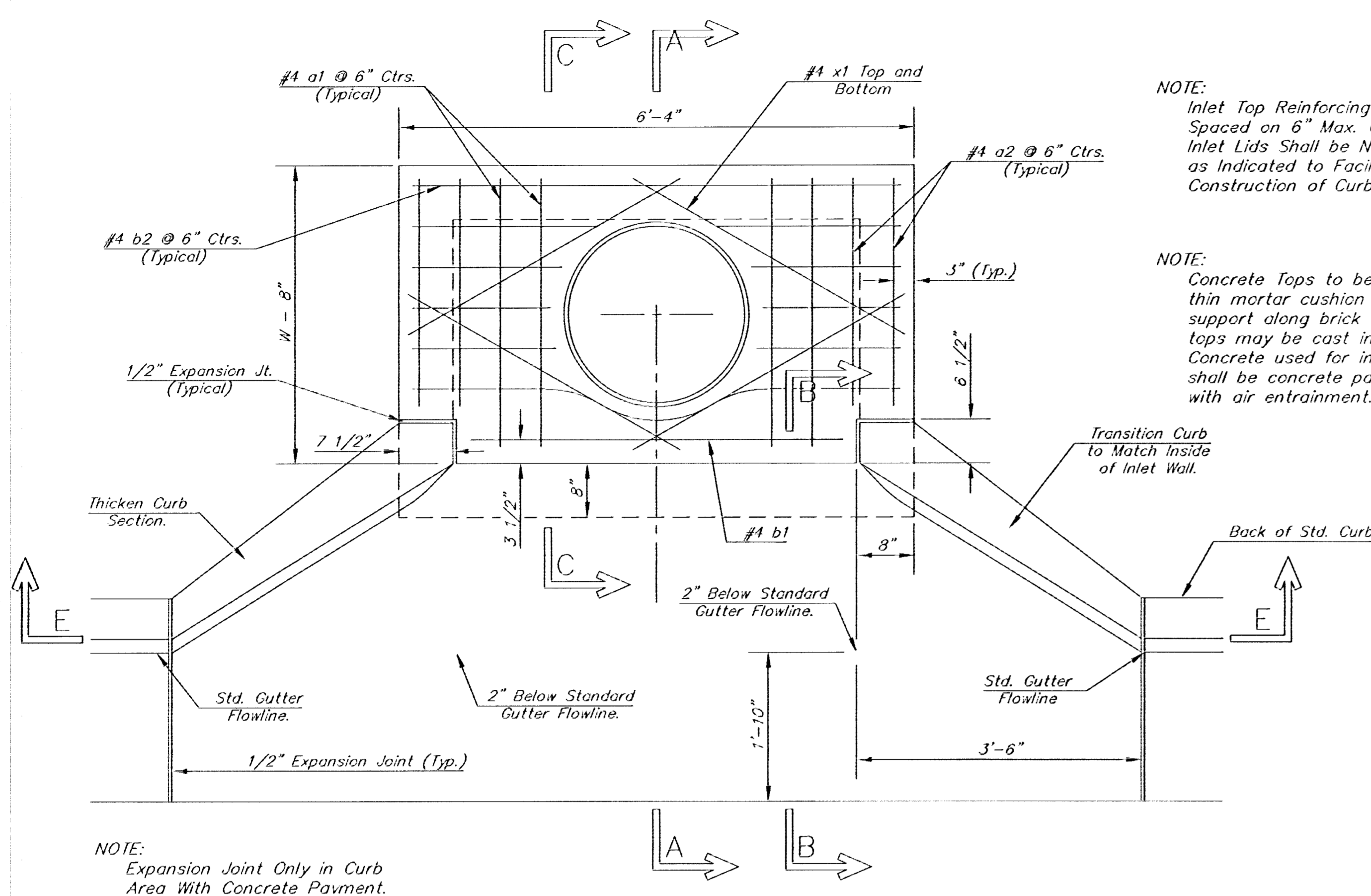
JIM ARMOUR P.E. - CITY ENGINEER

INDEX CODE
660498

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-1501
(316) 268-4114 FAX

DATE
MAR 96

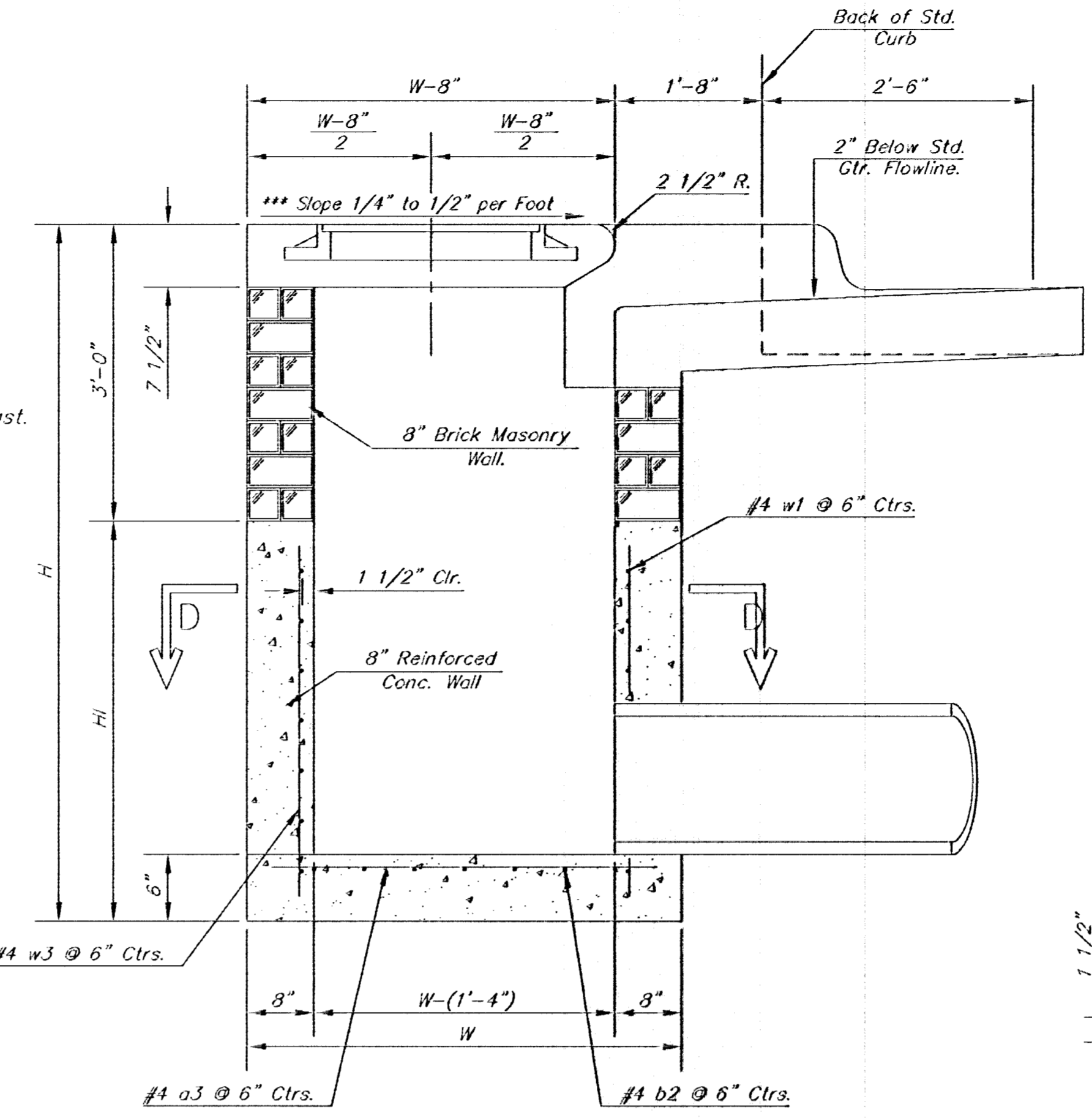
SHEET 6 OF 13



NOTE: Expansion Joint Only in Curb Area With Concrete Pavement.

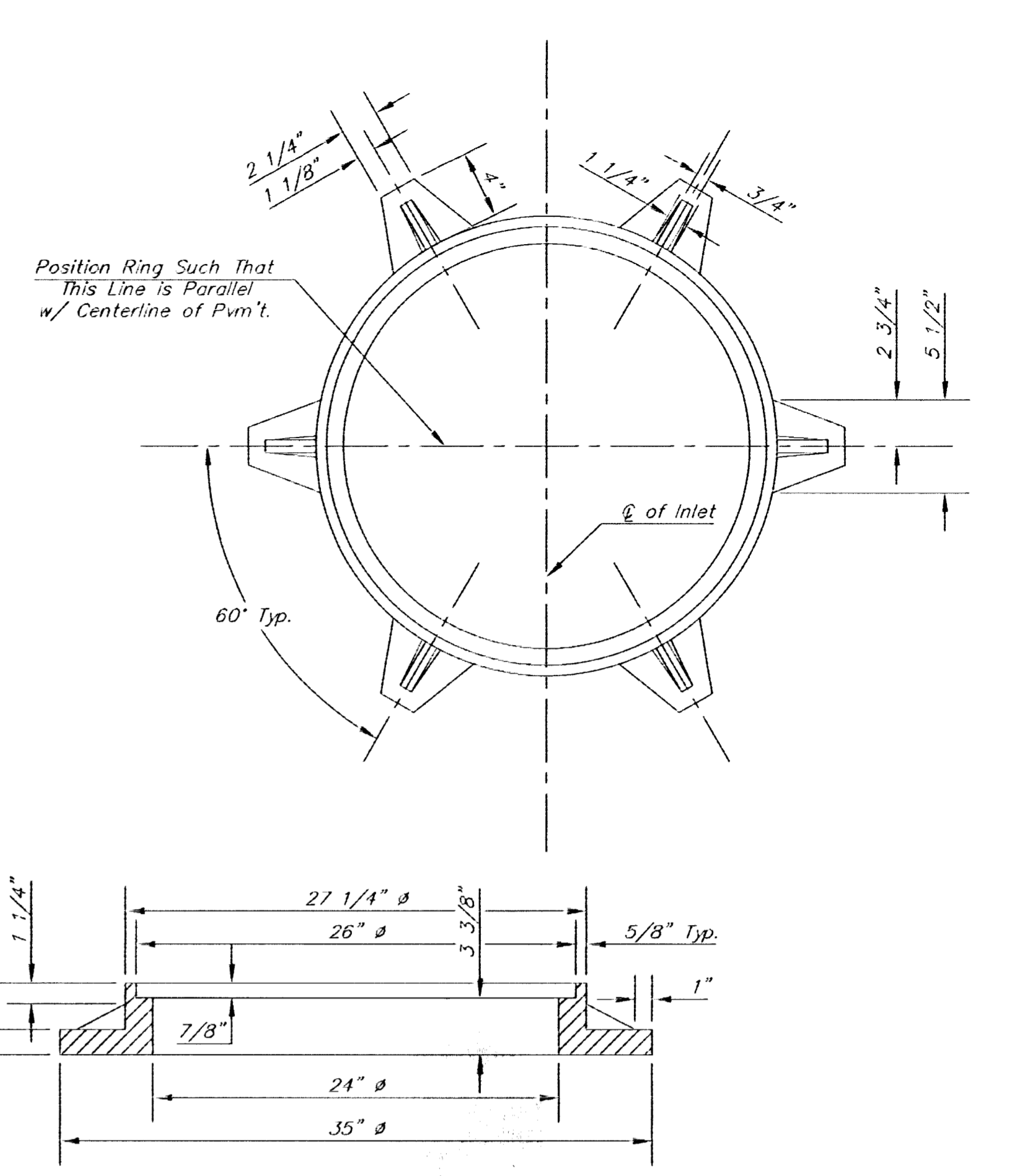
NOTE: Inlet Top Reinforcing shall be Spaced on 6" Max. Centers. Inlet Lids Shall be Notched Out as Indicated to Facilitate Construction of Curb.

NOTE: Concrete Taps 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 with air entrainment.



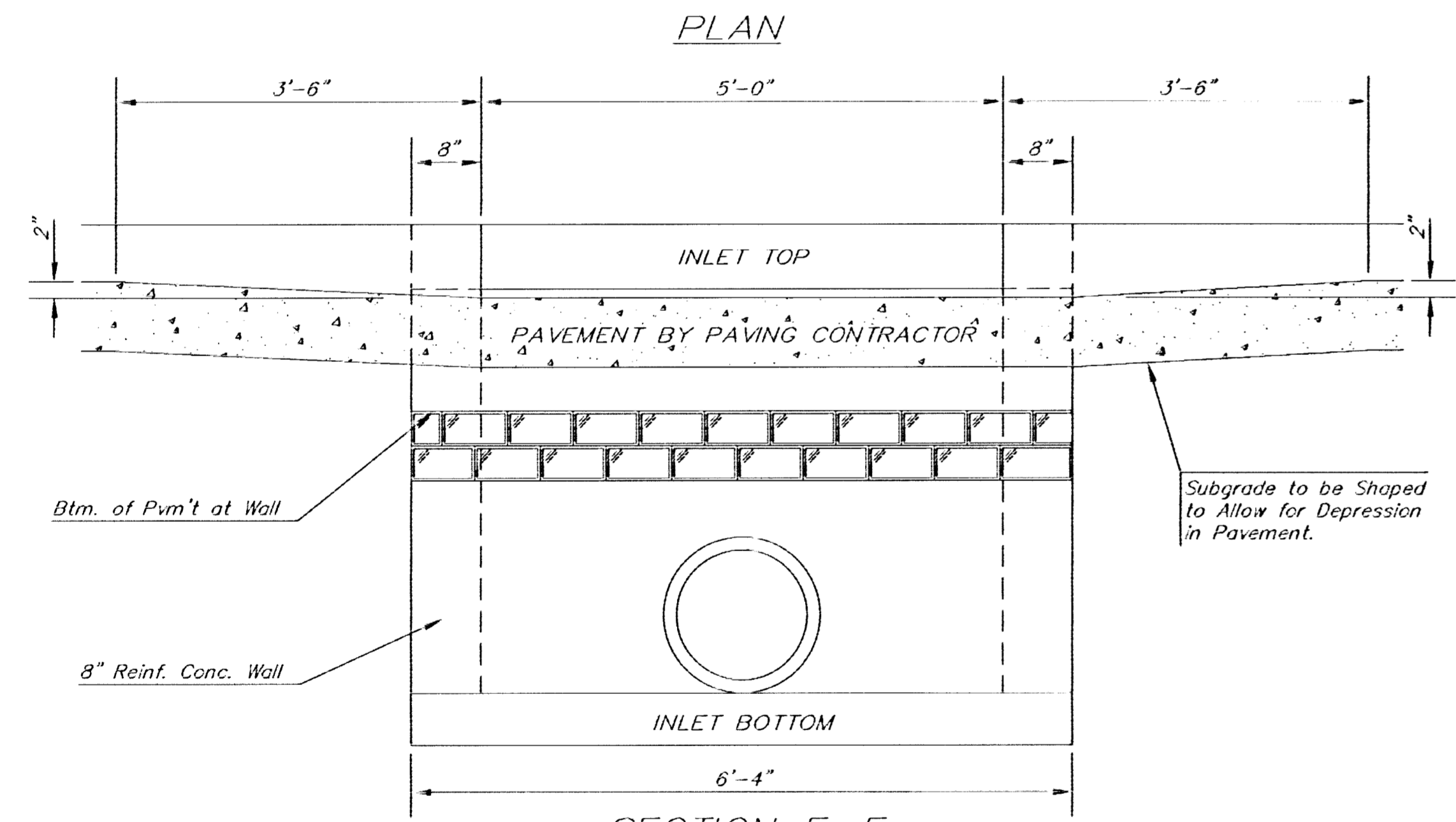
SECTION A-A

***NOTE: Slope of Inlet tops to Match Sidewalk or Parking Slopes within Limits Indicated.

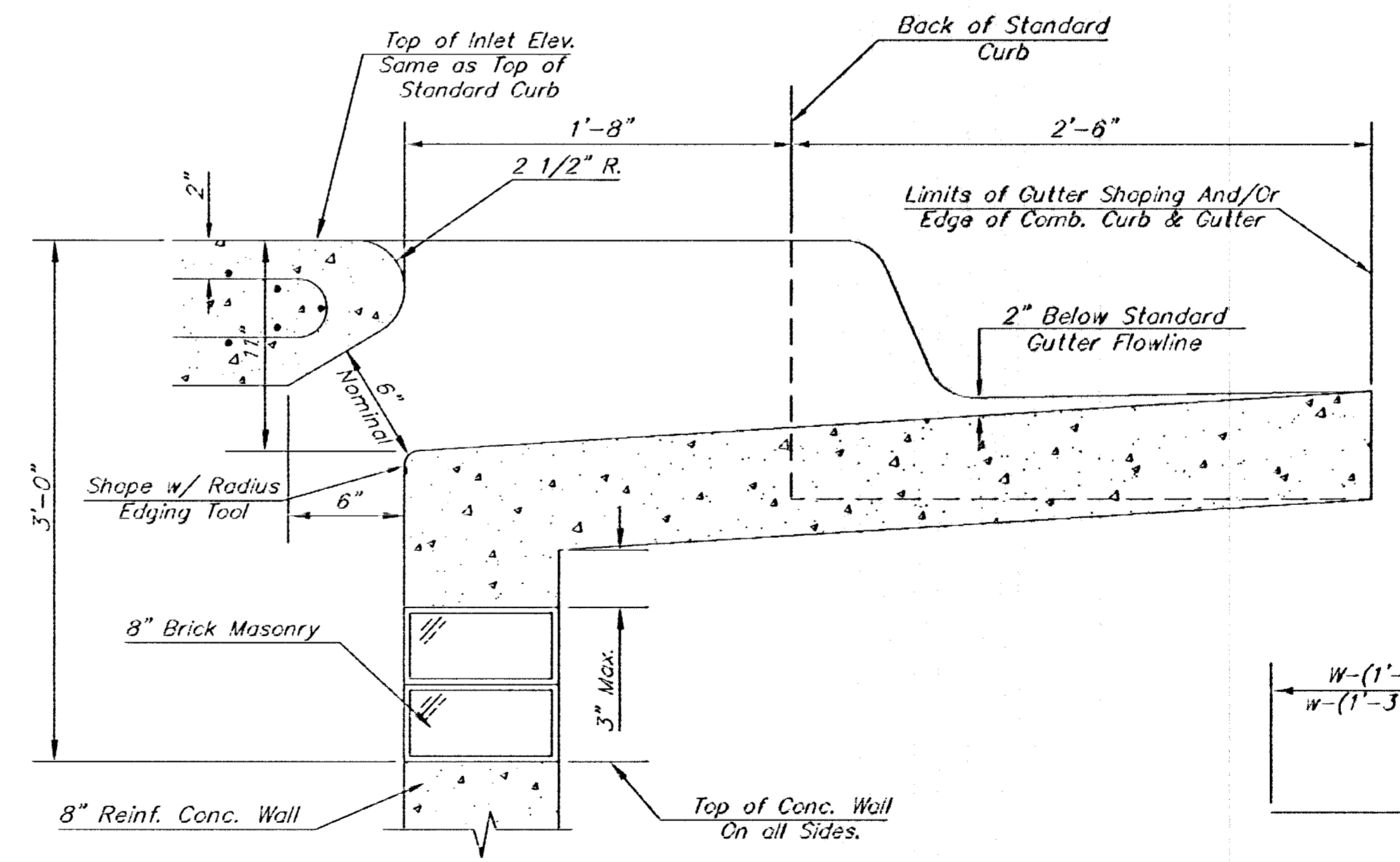


MANHOLE RING AND COVER

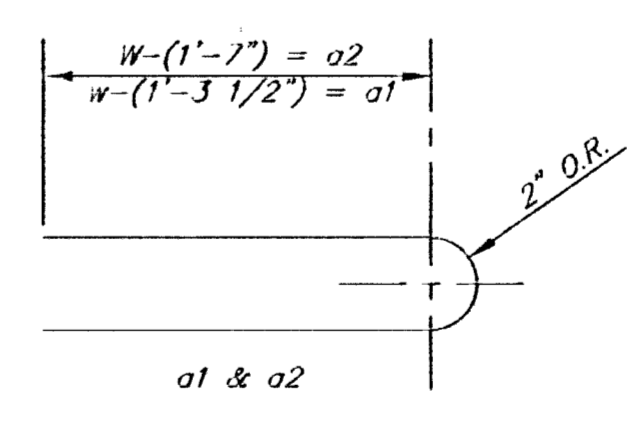
Weight = 180 Lbs.
*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.



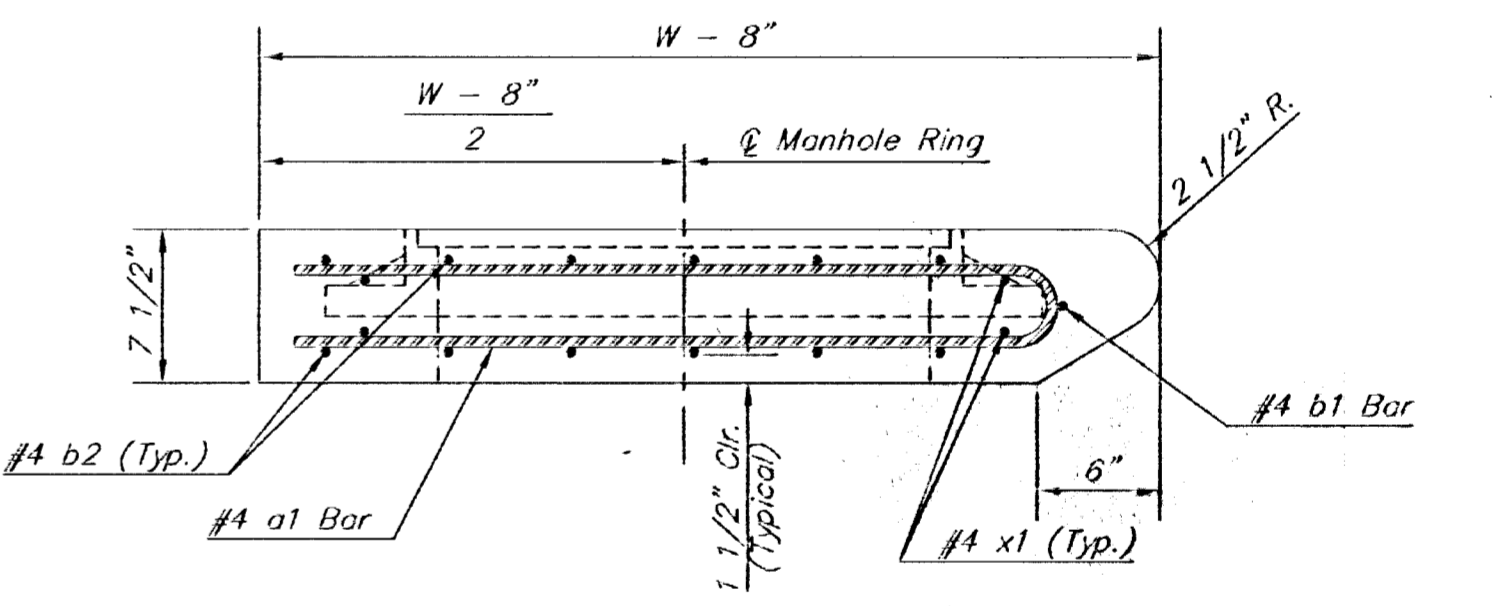
SECTION E-E



SECTION B-B



BENDING DIAGRAM

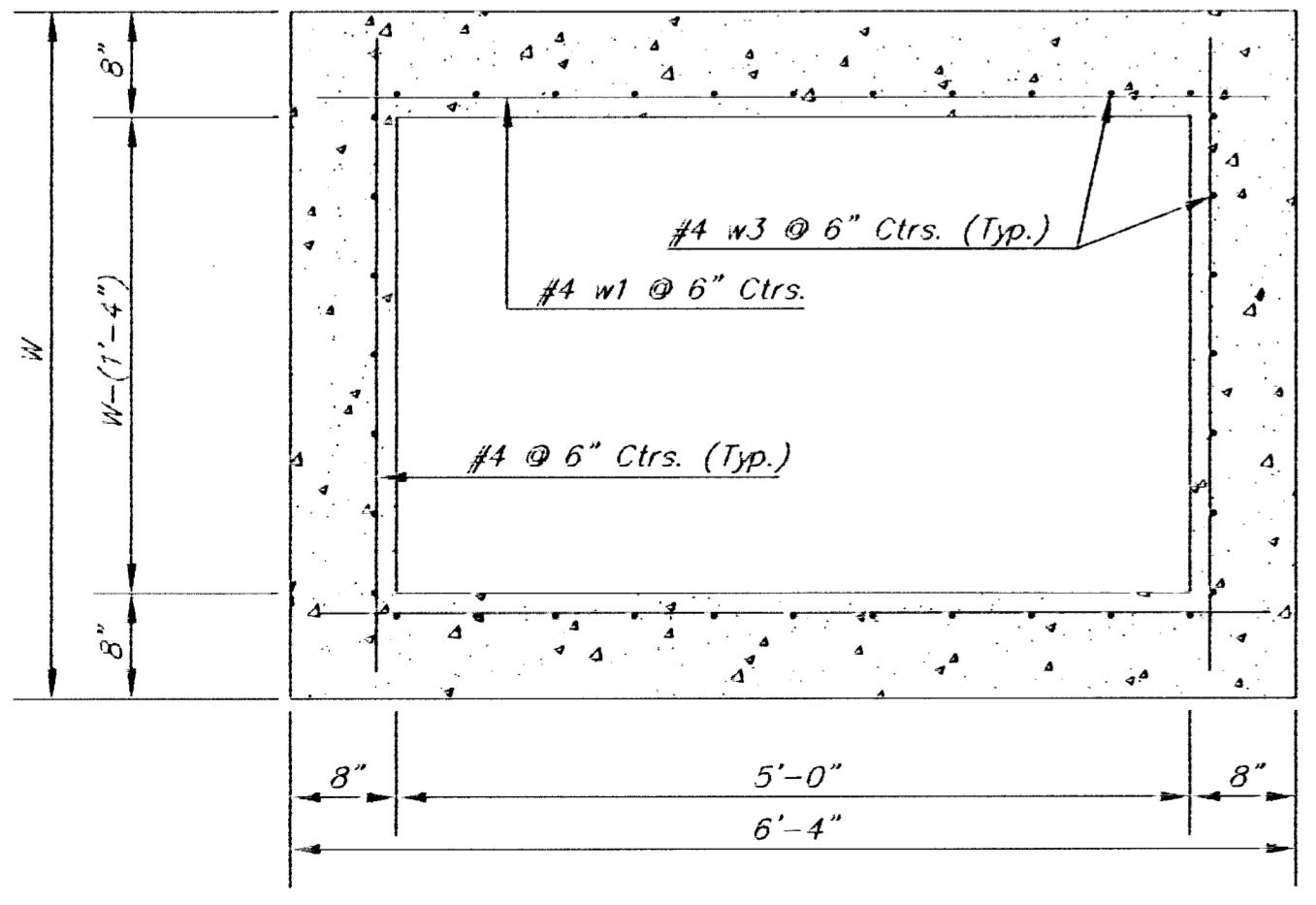


SECTION A-A

PRECAST SLAB AND FLOOR REINFORCING											
MARK	SIZE	W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
* a1	#4	6	6'-7"	6	8'-7"	6	10'-7"	6	12'-7"	6	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	13	4'-1"	13	5'-1"	13	6'-1"	13	7'-1"	13	8'-1"
b1	#4	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"
* b2	#4	23	6'-1"	29	6'-1"	35	6'-1"	41	6'-1"	47	6'-1"
x1	#4	8	3'-10"	8	4'-2"	8	4'-6"	8	4'-10"	8	5'-2"

WALL REINFORCING											
MARK	SIZE	W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
w1	#4	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	32	②	36	②	40	②	44	②	48	②

* Field Bend or Cut Reinforcing as Required for Clearance.
① 4 (H - 12") (H - 21") Rounded down to nearest 0.5"
② H - 3"




SECTION D-D

NOTE: 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.

Additional curb and gutter construction necessary to connect set-back inlet to pavement will be paid for at the unit price bid for each inlet hookup.

Inlet invert shall be shaped with 8 sack 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.

The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall



THE CITY OF WICHITA
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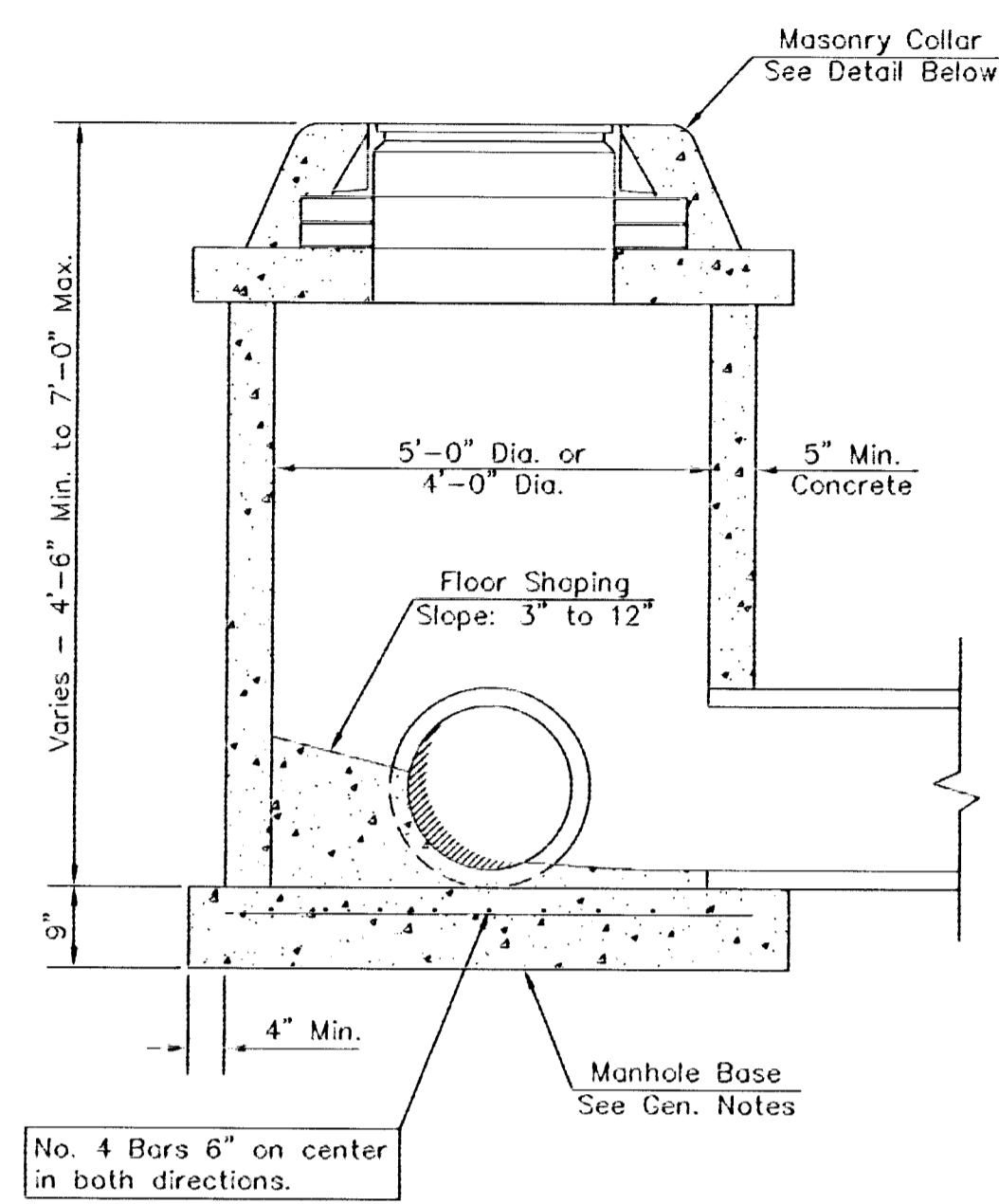
**STANDARD TYPE 1-A
CURB INLET**

OPENING = 6" x 5'-0"

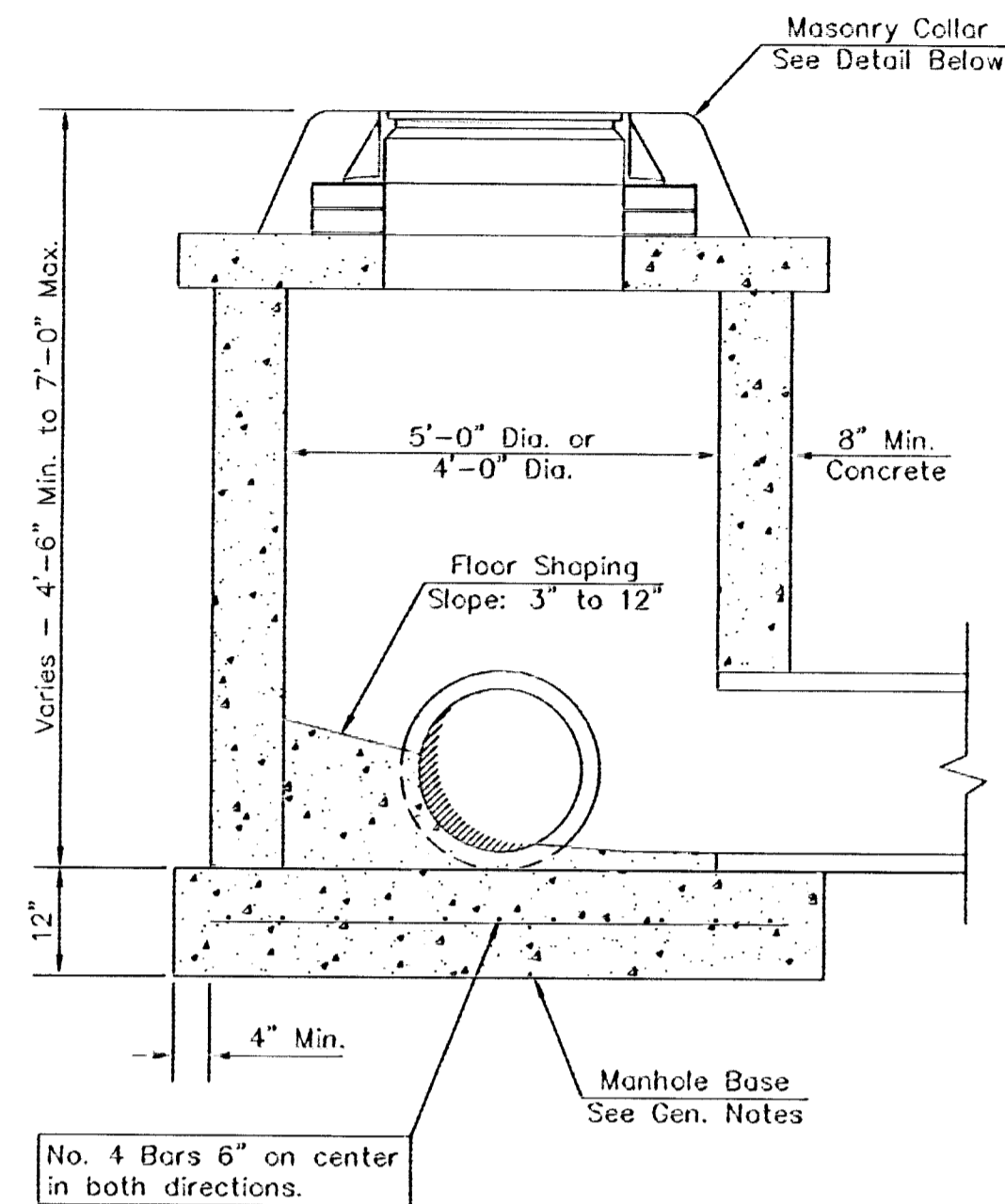
JIM ARMOUR P.E. - CITY ENGINEER

PROJECT NUMBER INDEX CODE
660498

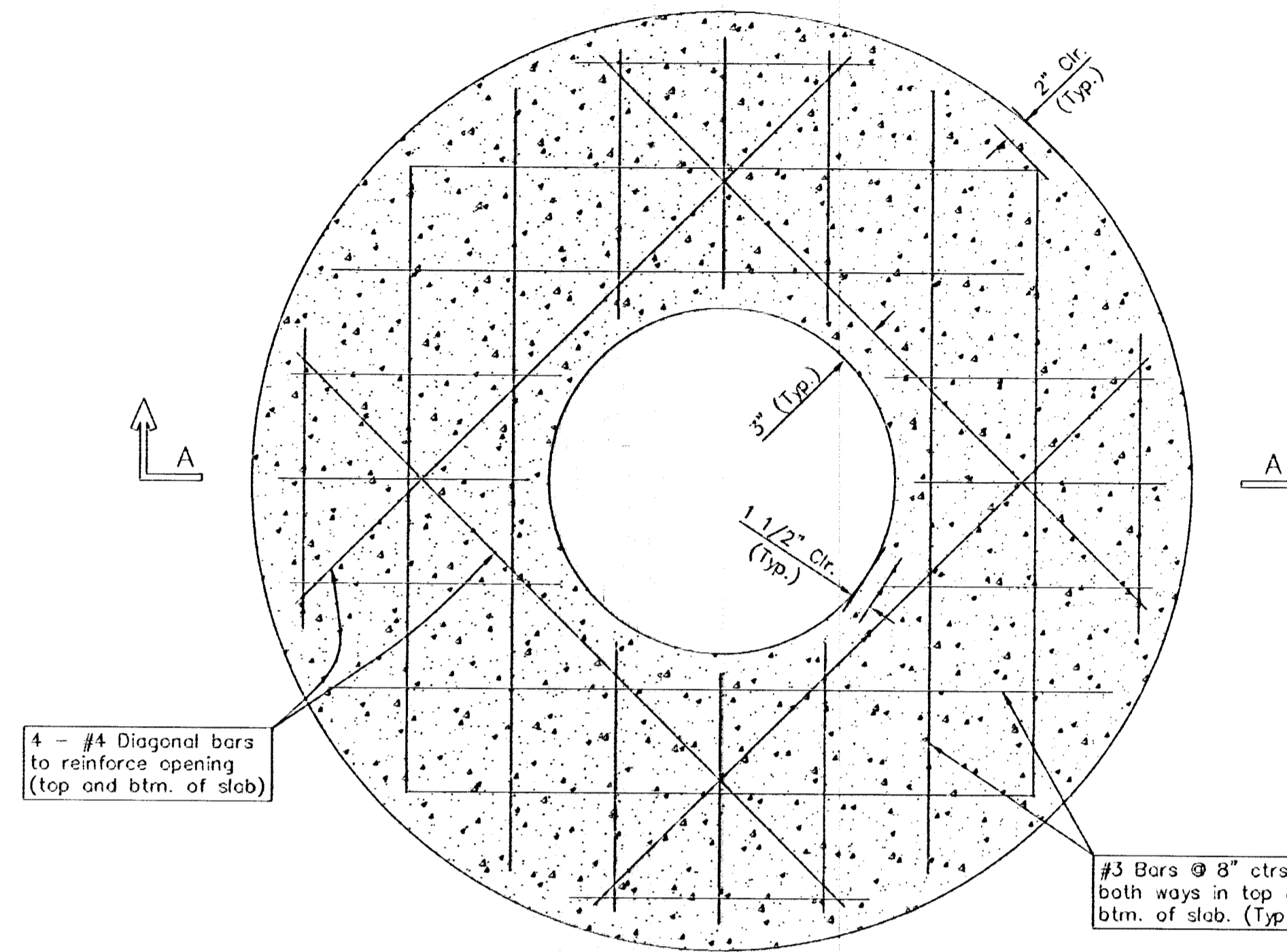
DATE SHEET 7 OF 13
MAR 96



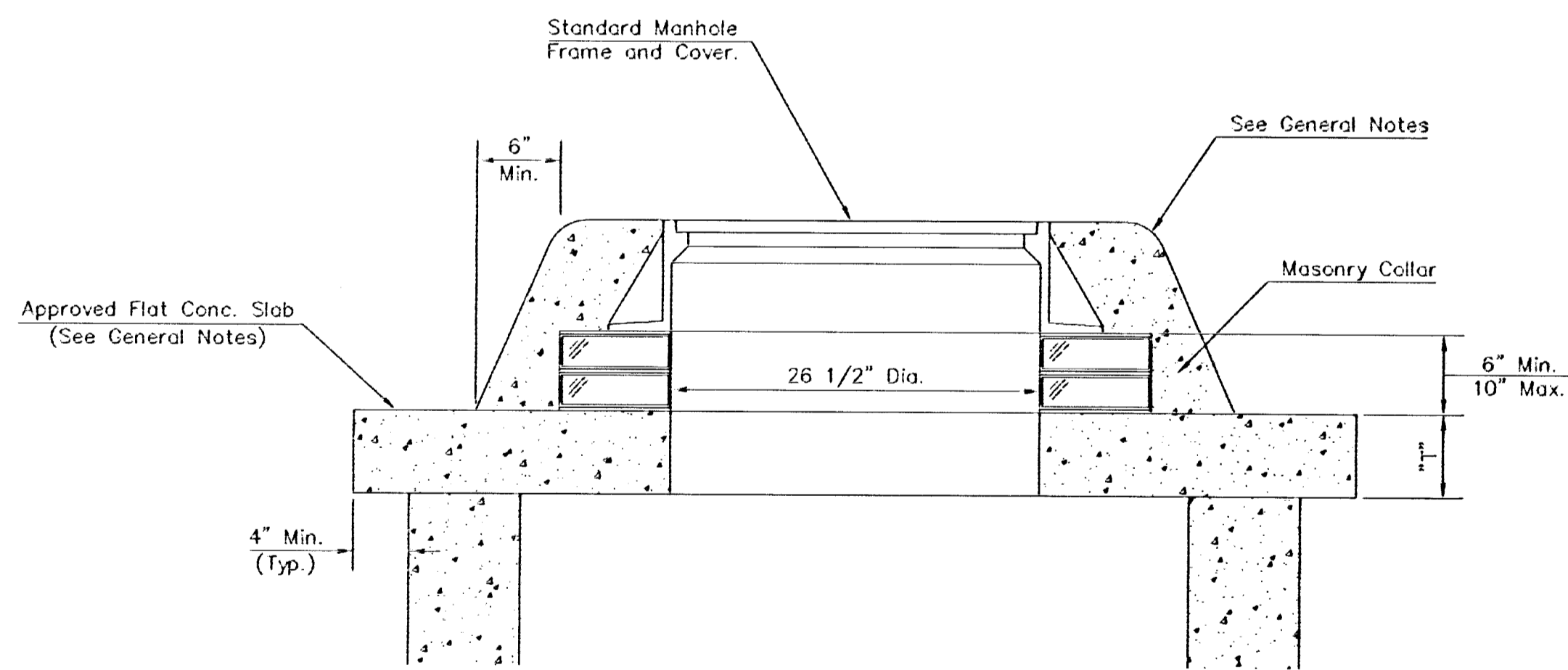
SHALLOW TYPE "P" MANHOLE



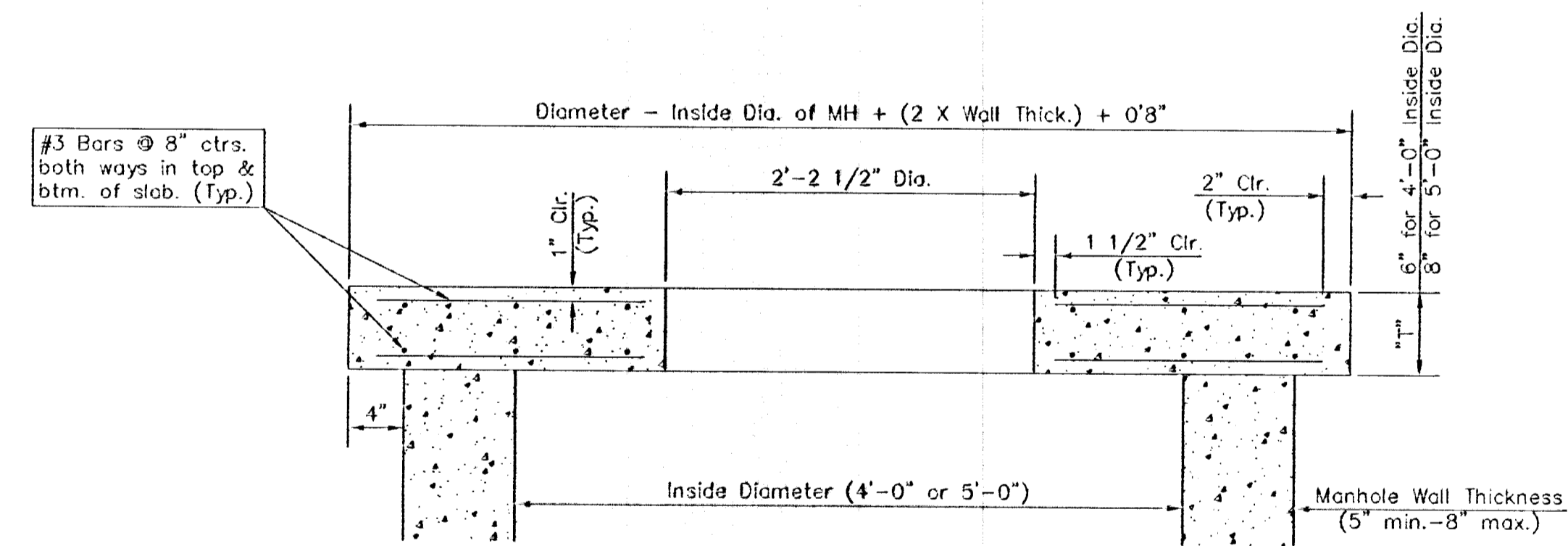
SHALLOW TYPE "C" MANHOLE



PLAN



MASONRY COLLAR DETAIL



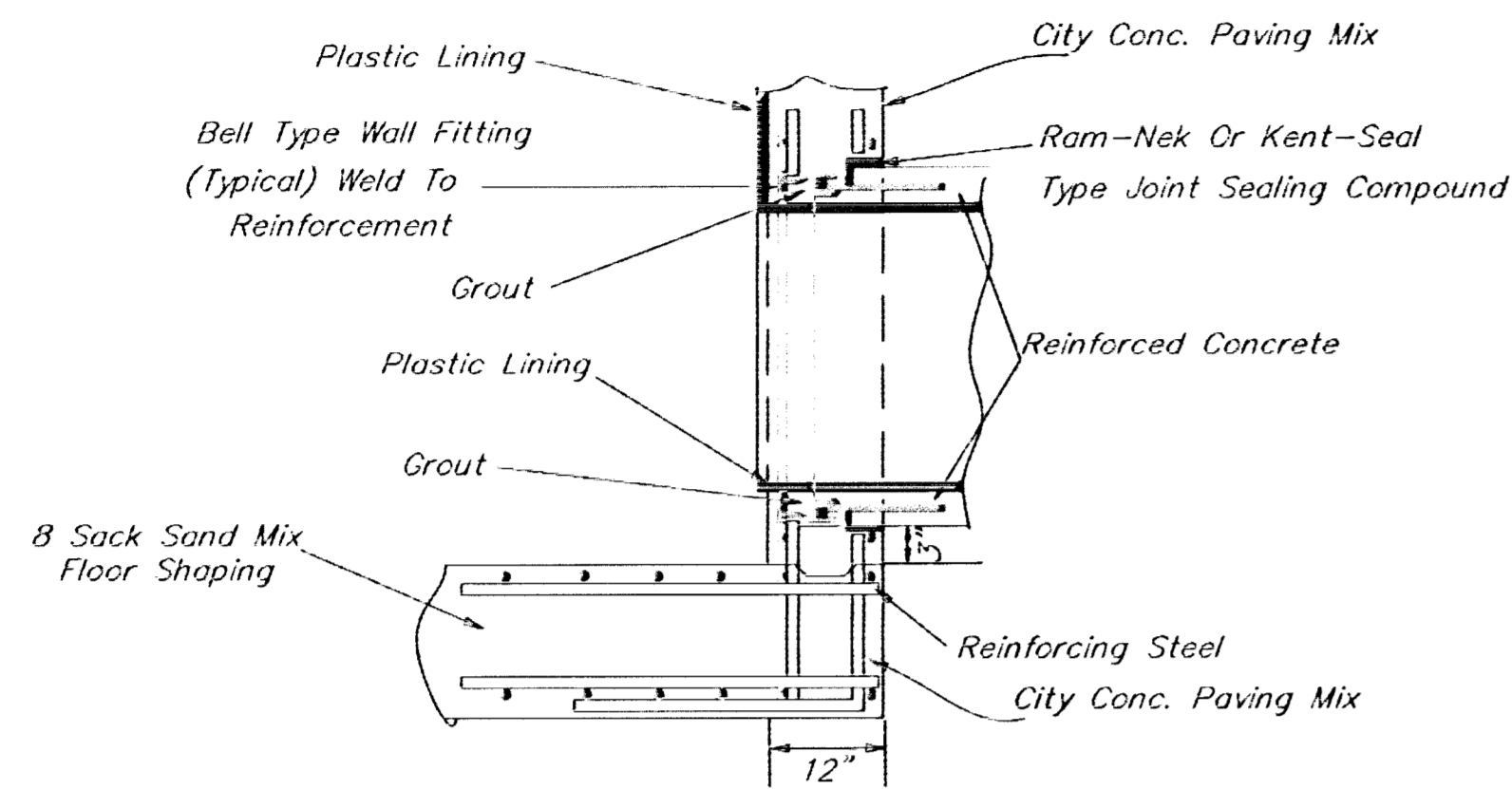
SECTION A-A

FLAT CONCRETE SLAB DETAILS

GENERAL NOTES

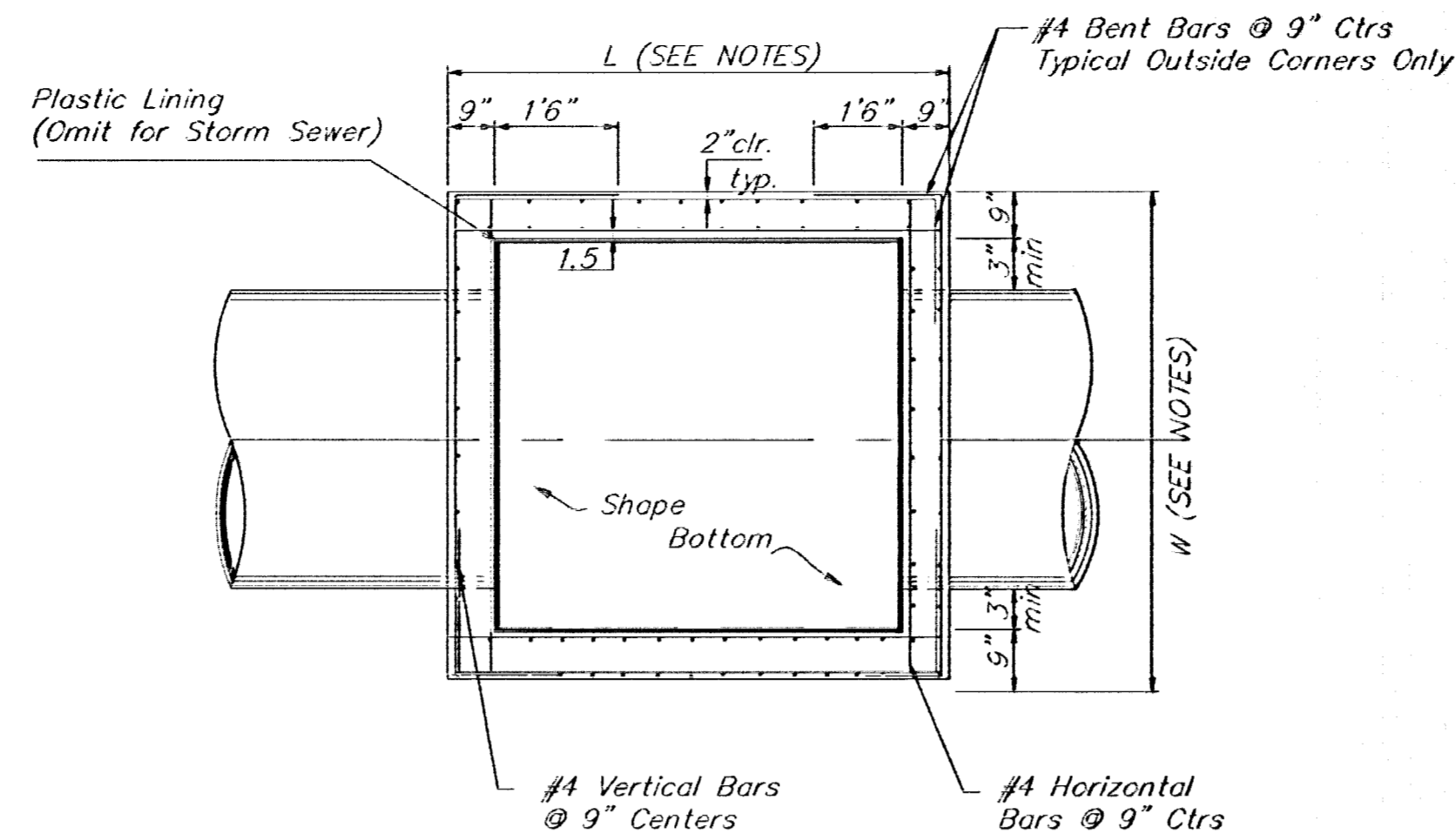
- Mortar used in masonry construction shall contain 8 sacks of cement per cubic yard. Concrete used in manhole bases shall conform to the requirements of concrete for concrete pavement construction as specified in the city standard paving specifications using city concrete cement mix without air entraining 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.
- 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.
- 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.
- 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.
- 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.
- The crowns of inflowing pipes shall never be set lower than the crown of the outflowing pipe.
- 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.
- All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.

<p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX</p>	SHALLOW MANHOLES	
	TYPE 'P' & 'C'	
	JIM ARMOUR P.E. - CITY ENGINEER	
	PROJECT NUMBER	INDEX CODE
		660498
DATE	SHEET 8 OF 13	
MAR 96		



R.C.P. CONNECTION DETAIL

SANITARY SEWER ONLY

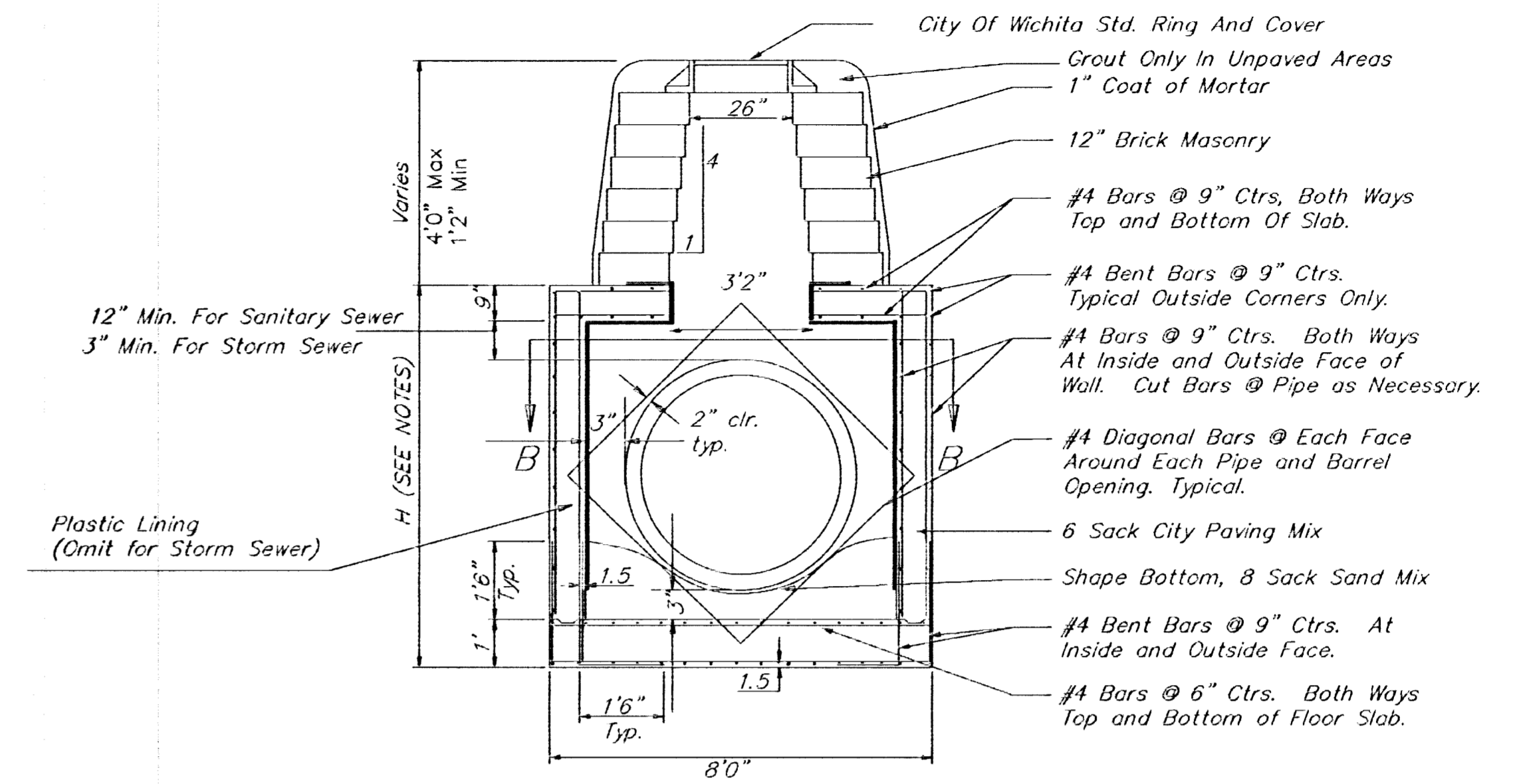


TOP VIEW

NOTE:
Bend Bars Not More Than 8" to Clear Pipes, or Cut Bars 2" Clear of Pipe, as Necessary.

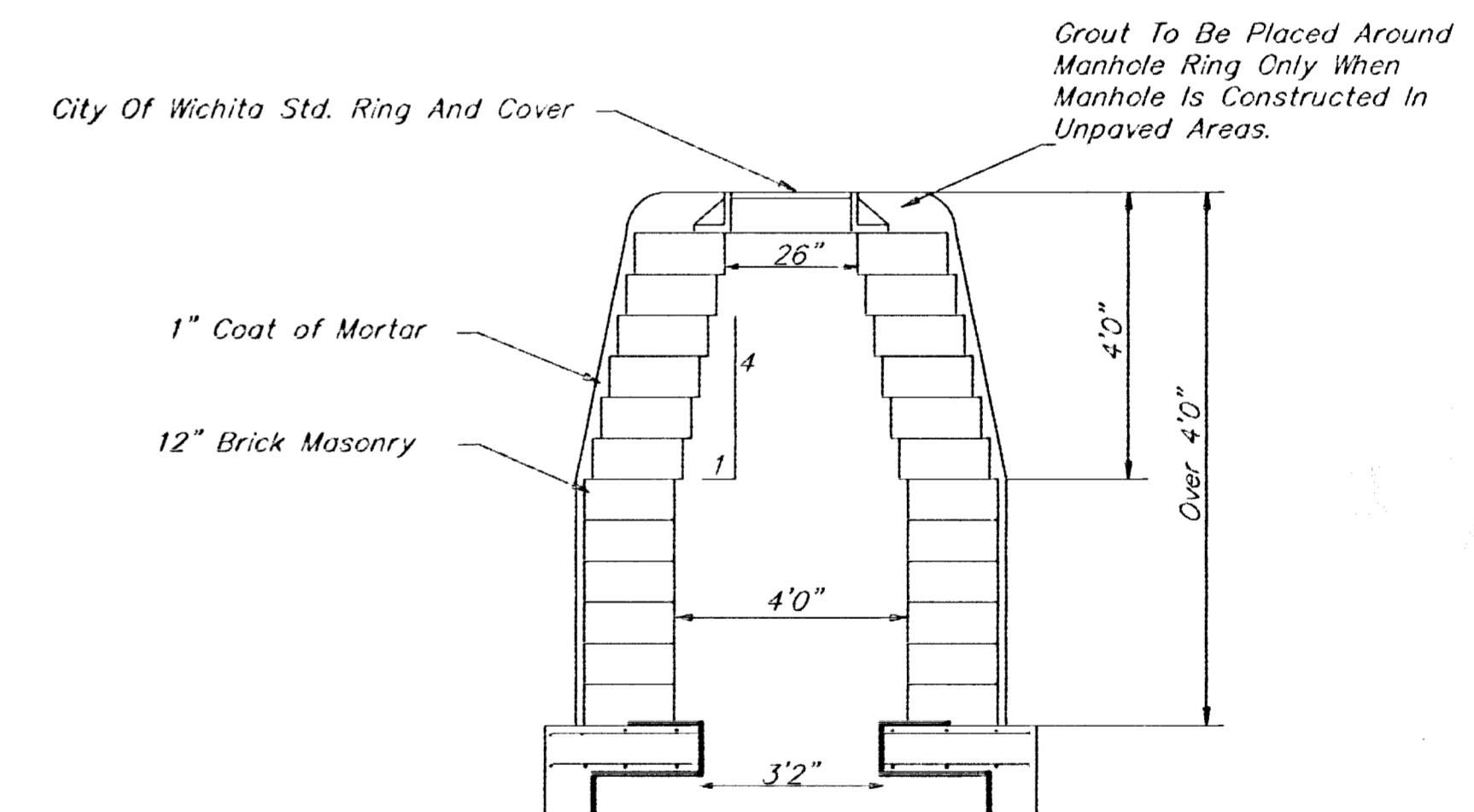
GENERAL NOTES:

- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS, USING CITY CONCRETE PAVING 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. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING. USING 8-SACK SAND MIX CONCRETE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS.
- 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 DRAWING.
- THE ENDS OF ALL PIPES IN MANHOLES SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF MANHOLE WALL.



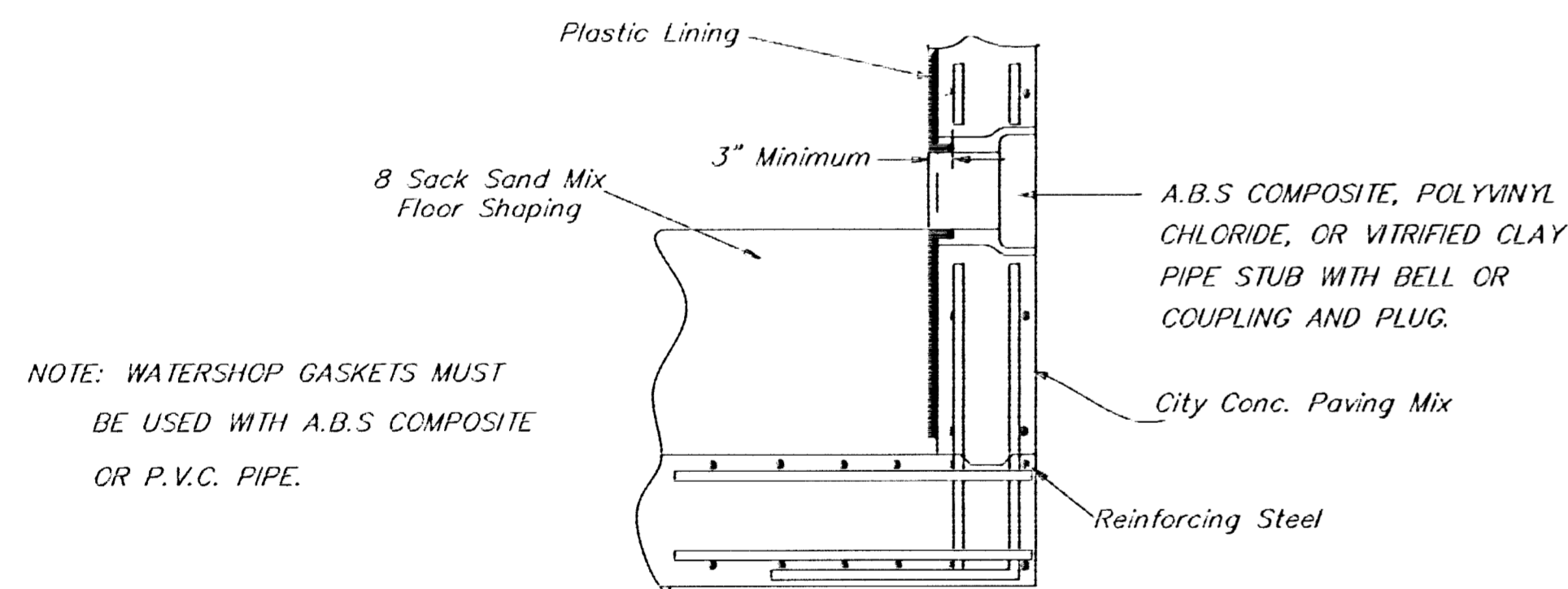
REINFORCED CONCRETE MANHOLE

MANHOLE STACK 2.33' TO 4'0"



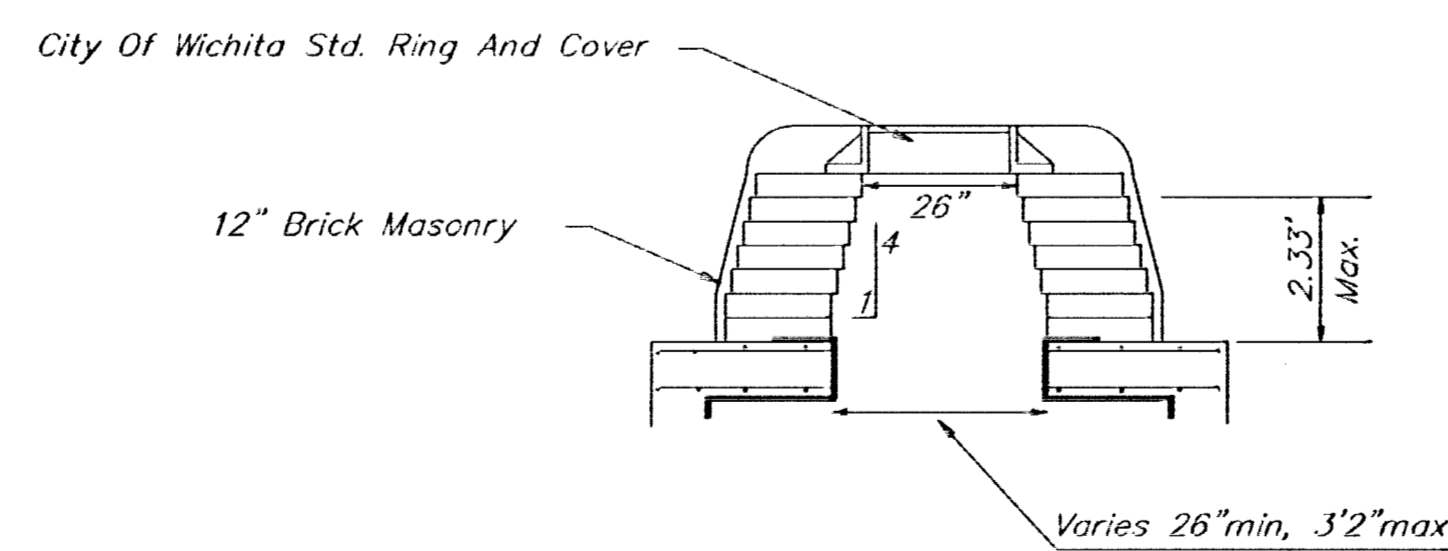
REINFORCED CONCRETE MANHOLE

MANHOLE STACK OVER 4'0"



PIPE STUB DETAIL

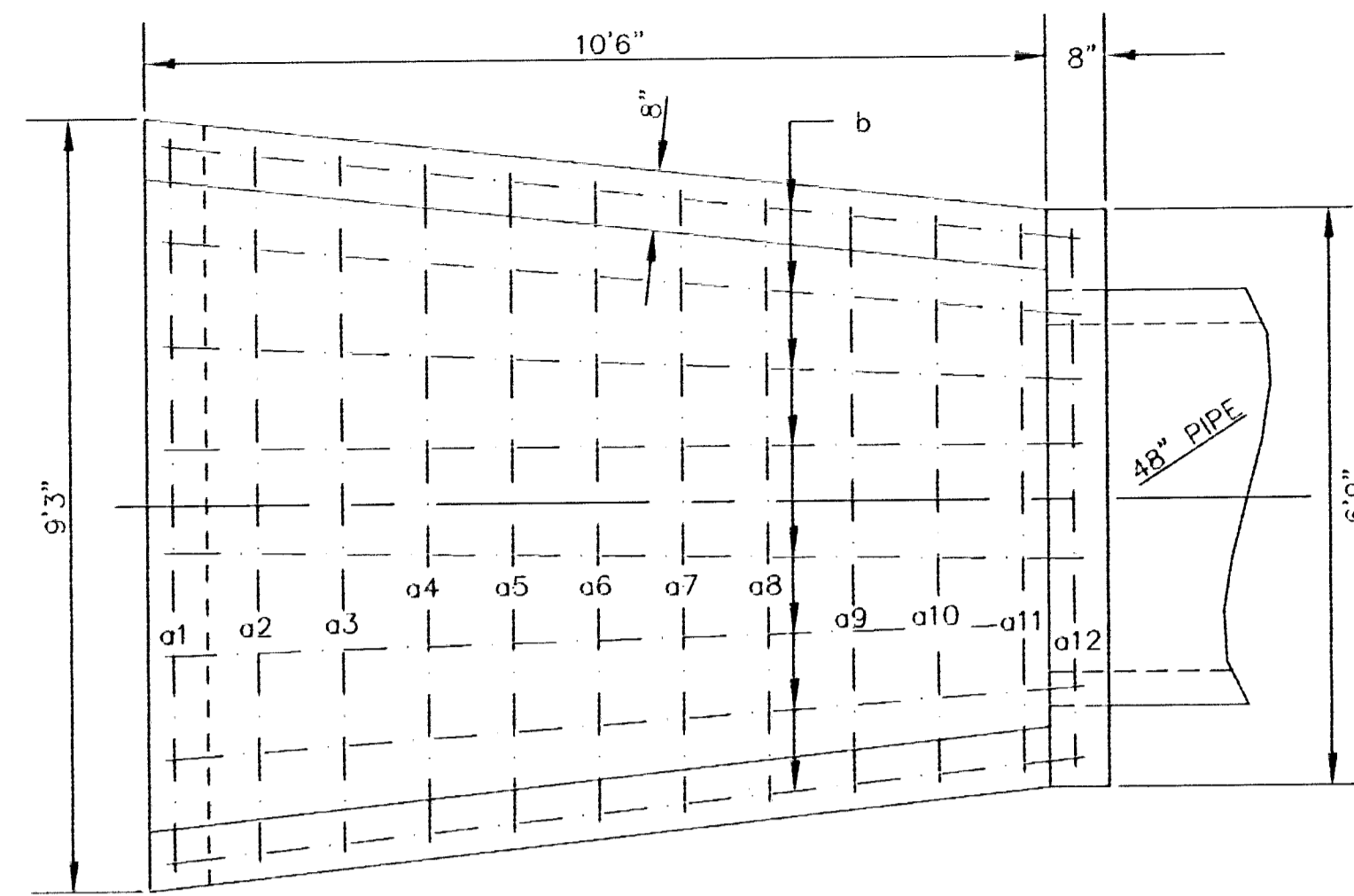
SANITARY SEWER ONLY



REINFORCED CONCRETE MANHOLE

MANHOLE STACK LESS THAN 2.33'

<p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 453 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX</p>	REINFORCED CONCRETE MANHOLE	
	JIM ARMOUR P.E. - CITY ENGINEER	
PROJECT NUMBER	INDEX CODE 660498	
DATE APRIL 99	SHEET 9 OF 13	

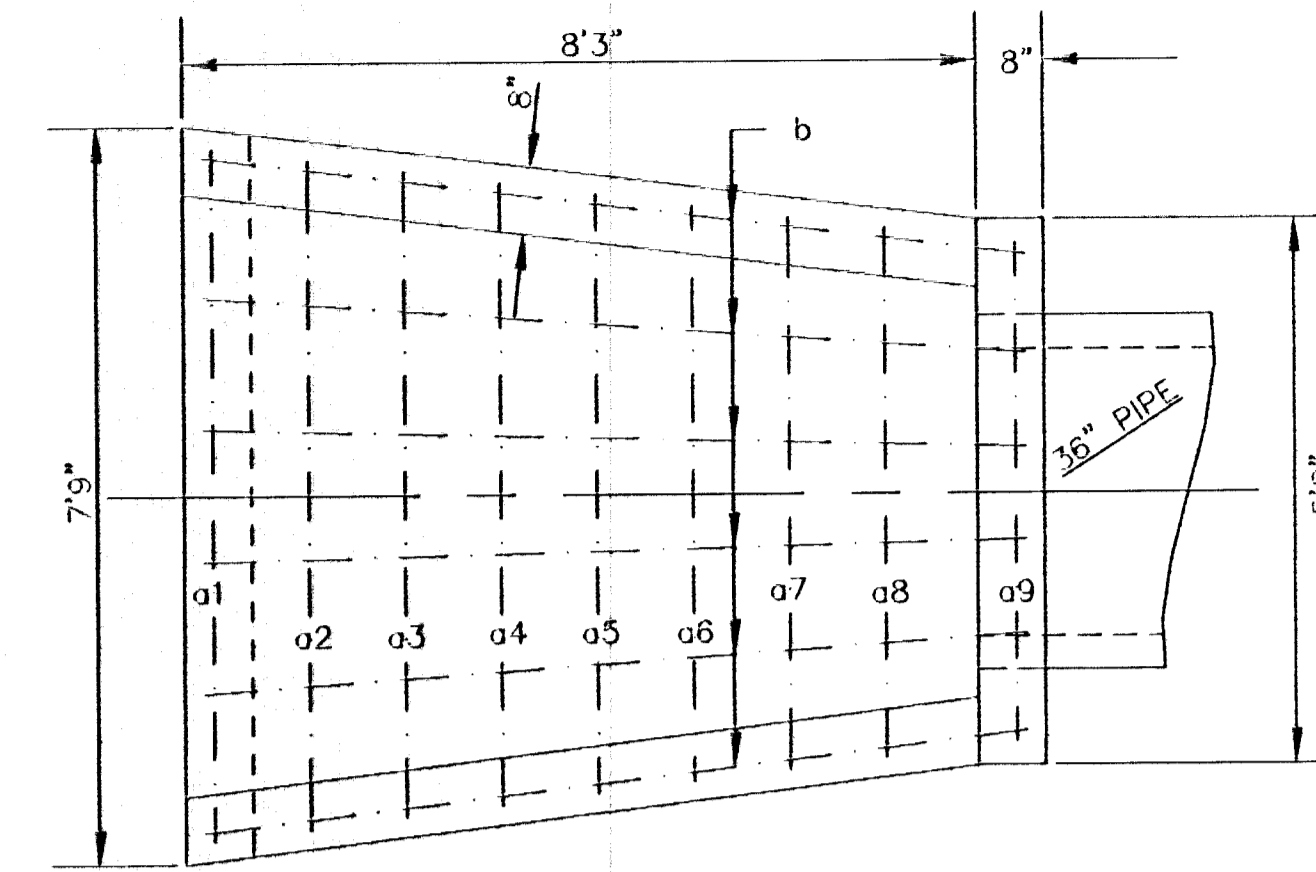


All exposed edges to have 1/2" bevel

PLAN

TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	10'10"		7.24
a2	1	11'3"		7.52
a3	1	11'8"		7.79
a4	1	12'1"		8.07
a5	1	12'6"		8.35
a6	1	13'0"		8.68
a7	1	13'5"		8.96
a8	1	13'10"		9.24
a9	1	14'3"		9.52
a10	1	14'8"		9.80
a11	1	15'2"		10.13
a12	1	16'10"		11.24
b	8	12'7"		67.25
c	2	8'6"		11.36
d	2	11'6"		15.36
e	3	6'5"		12.91
f	2	10'9"		14.36
g	2	9'0"		12.02
h1	4	1'2"		3.12
h2	4	8"		1.78
j	4	3'3"		8.68
k	7	2'6"		11.69
Total Rebar, lbs				265.07
Concrete, C.Y.				4.75

All rebar to be #4.

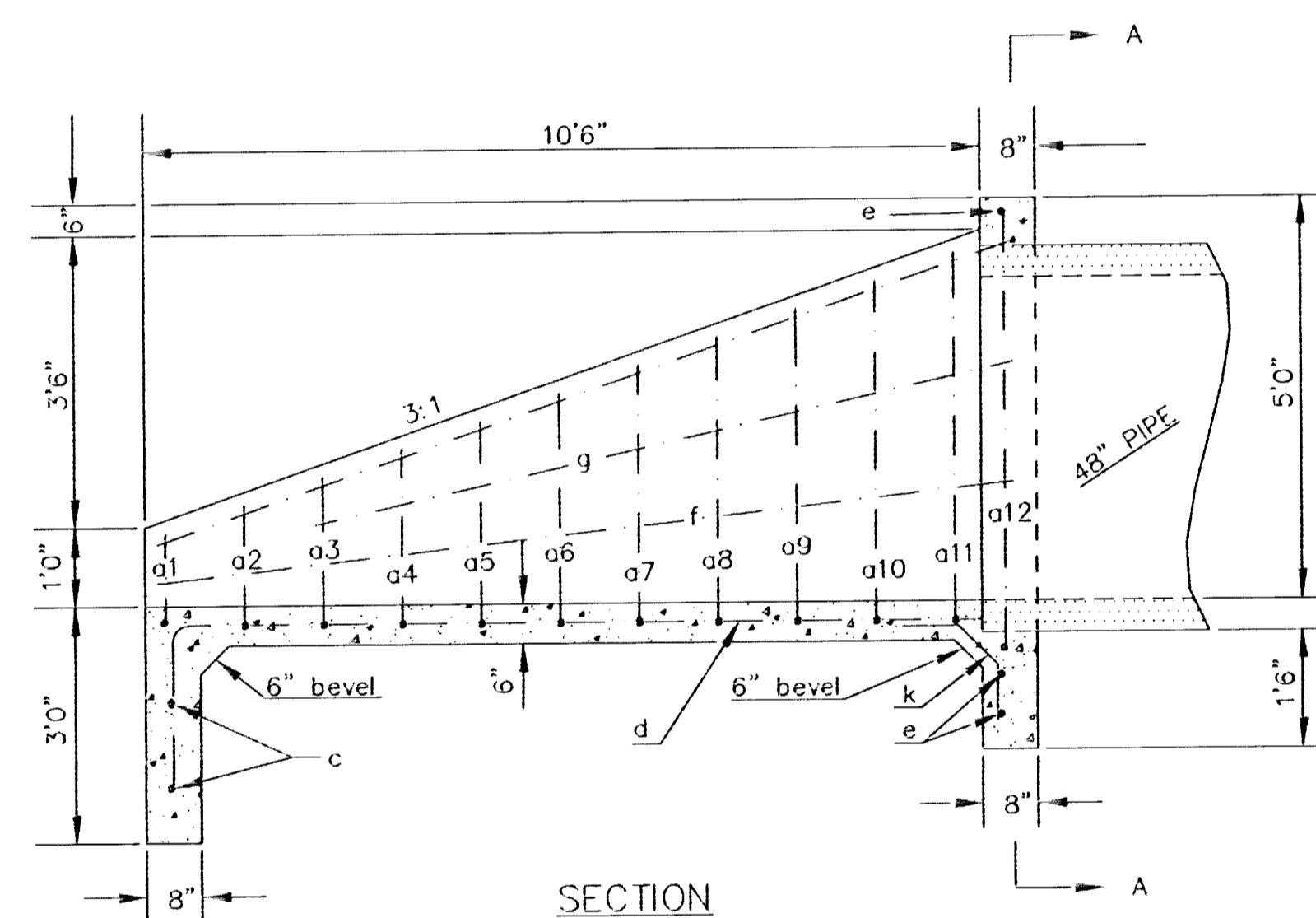


All exposed edges to have 1/2" bevel

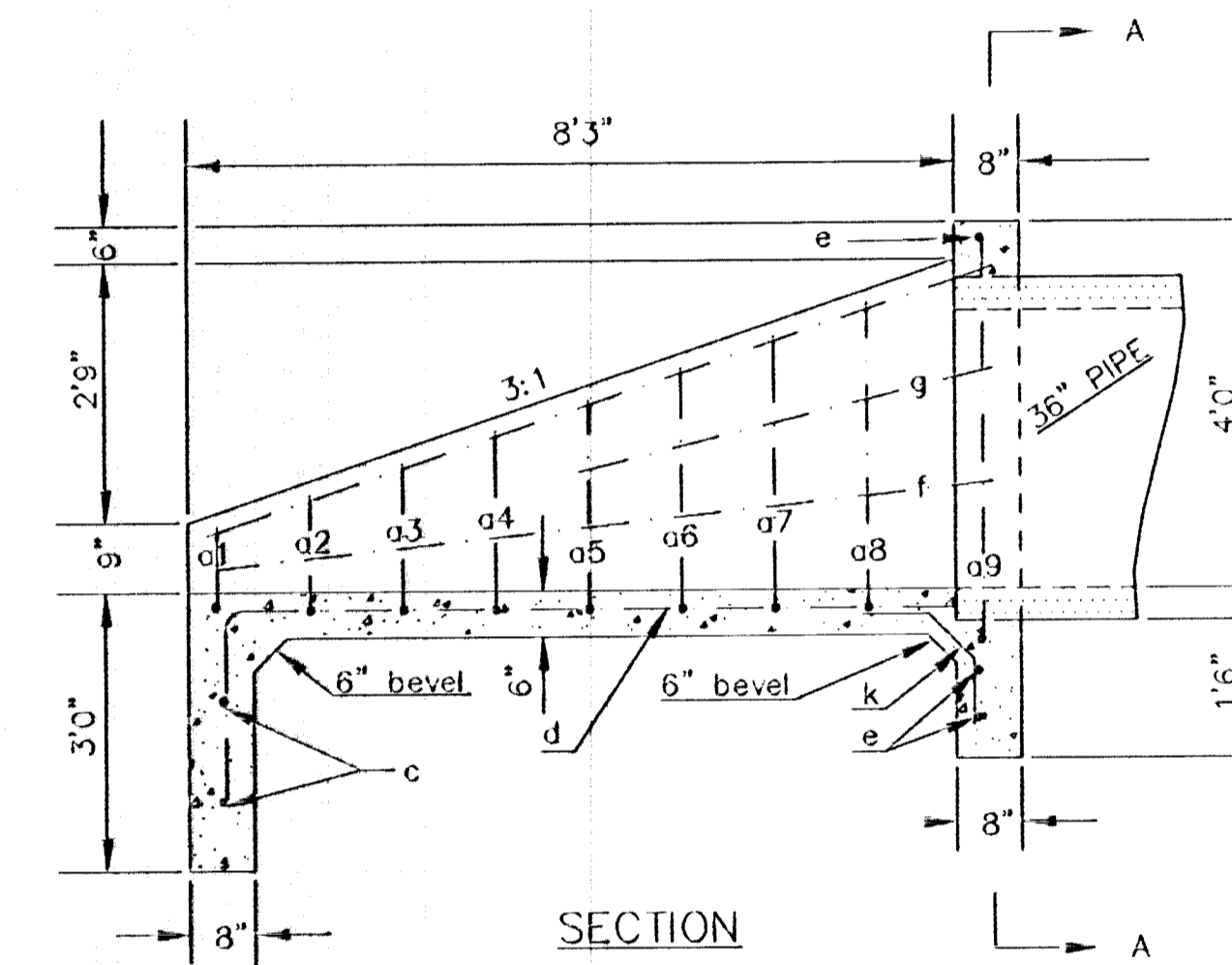
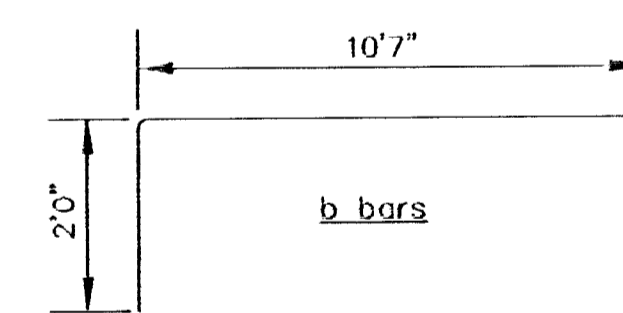
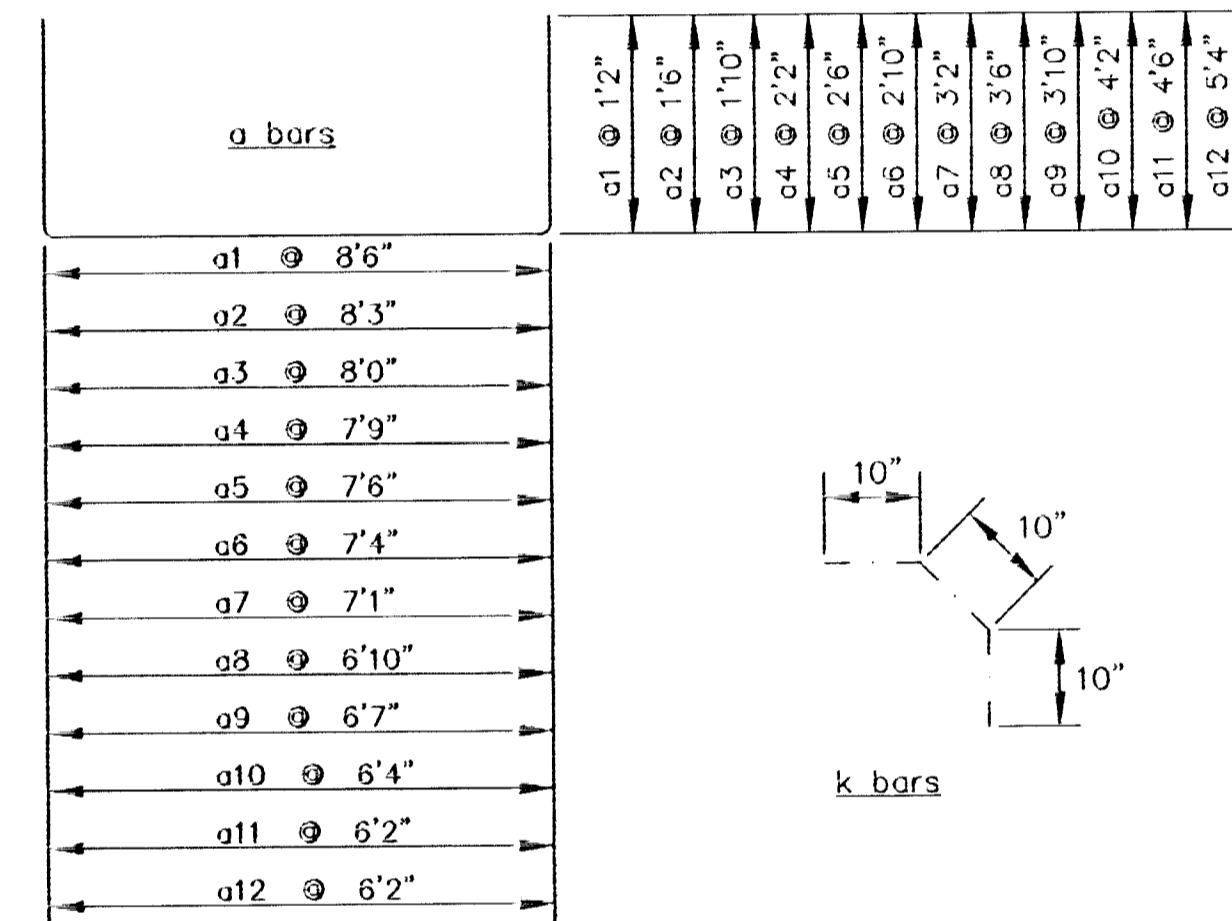
PLAN

TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	8'7"		5.73
a2	1	9'0"		6.01
a3	1	9'7"		6.40
a4	1	10'0"		6.68
a5	1	10'5"		6.96
a6	1	10'10"		7.24
a7	1	11'3"		7.52
a8	1	11'10"		7.90
a9	1	14'0"		9.35
b	6	10'4"		41.42
c	2	7'0"		9.35
d	2	9'0"		12.02
e	3	5'4"		10.69
f	2	8'5"		11.24
g	2	4'7"		6.12
h1	4	1'6"		4.01
h2	4	10"		2.23
j	4	3'0"		8.02
k	6	2'6"		10.02
Total Rebar, lbs				178.91
Concrete, C.Y.				3.2

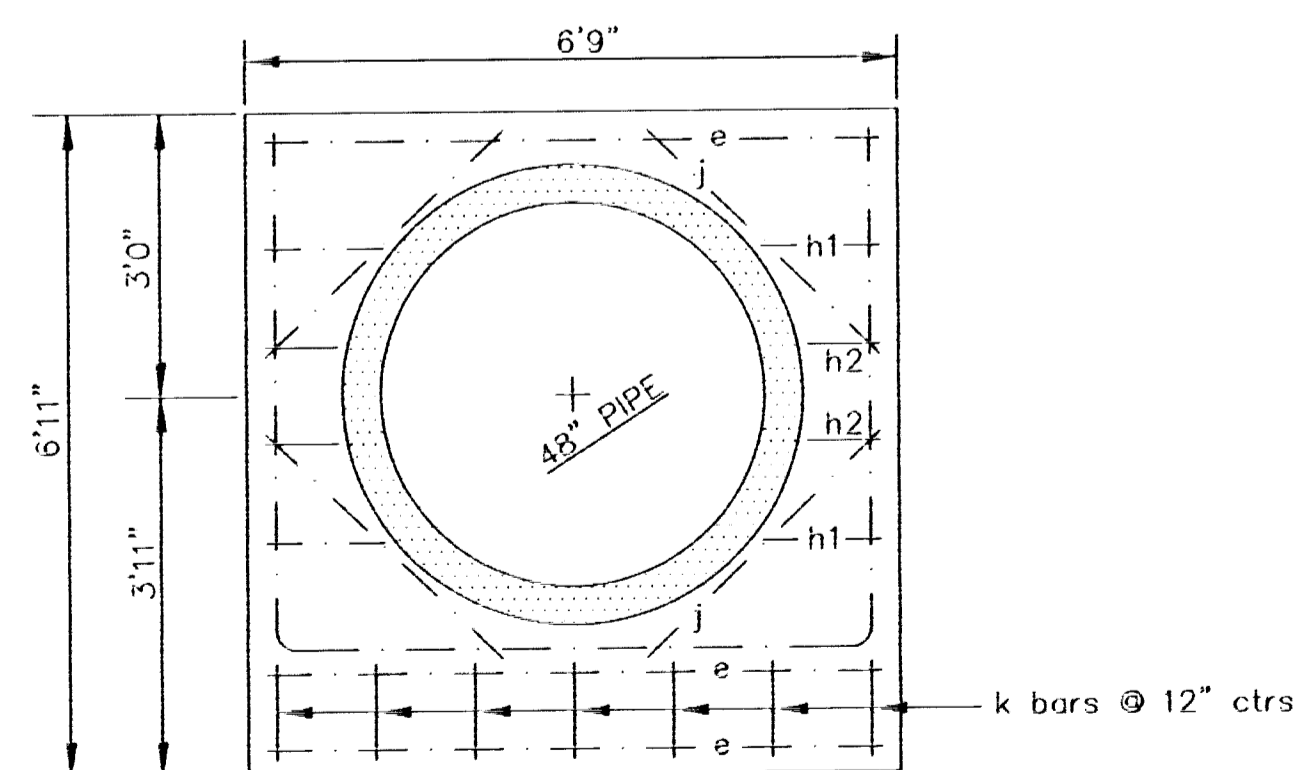
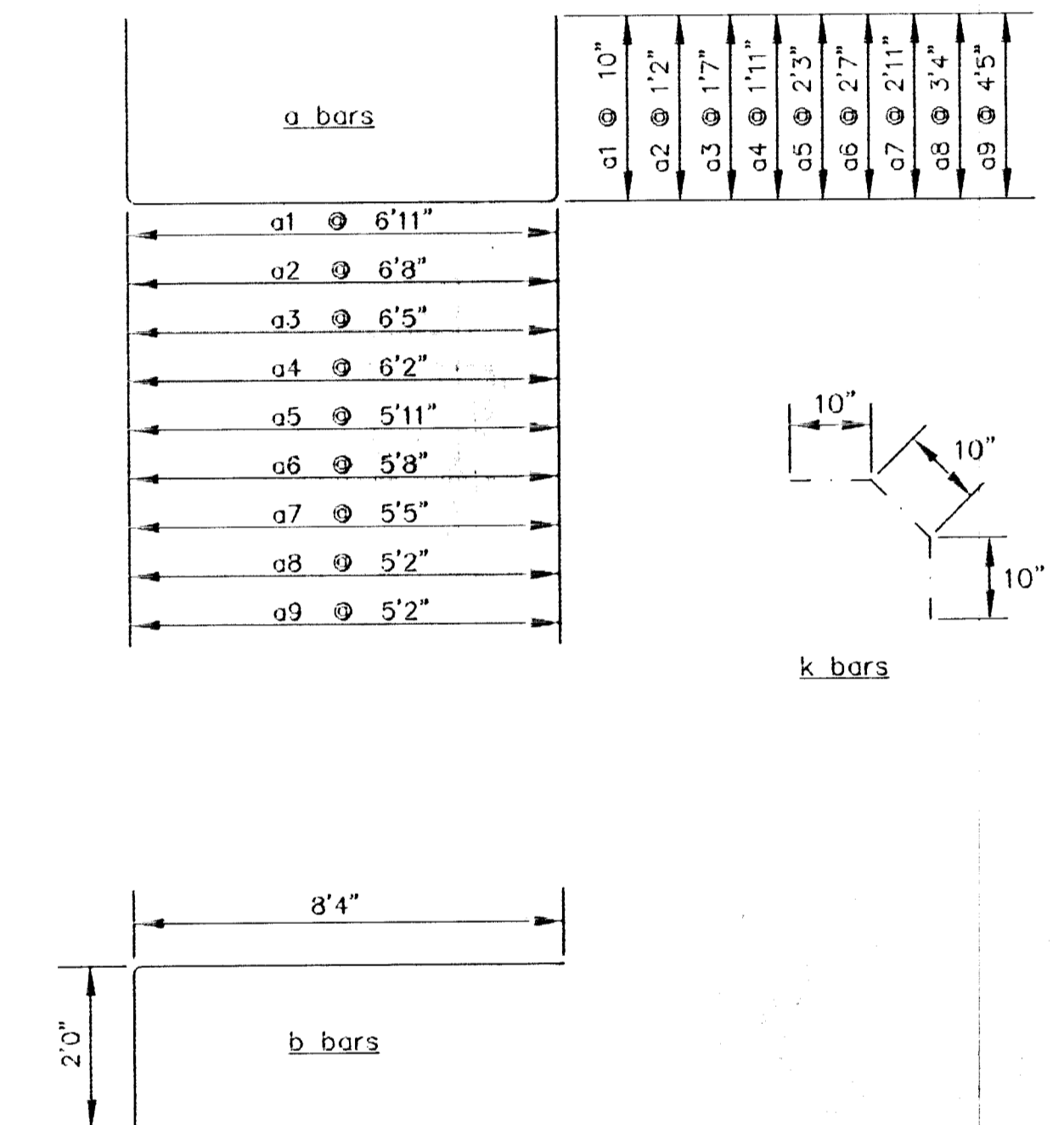
All rebar to be #4.



SECTION

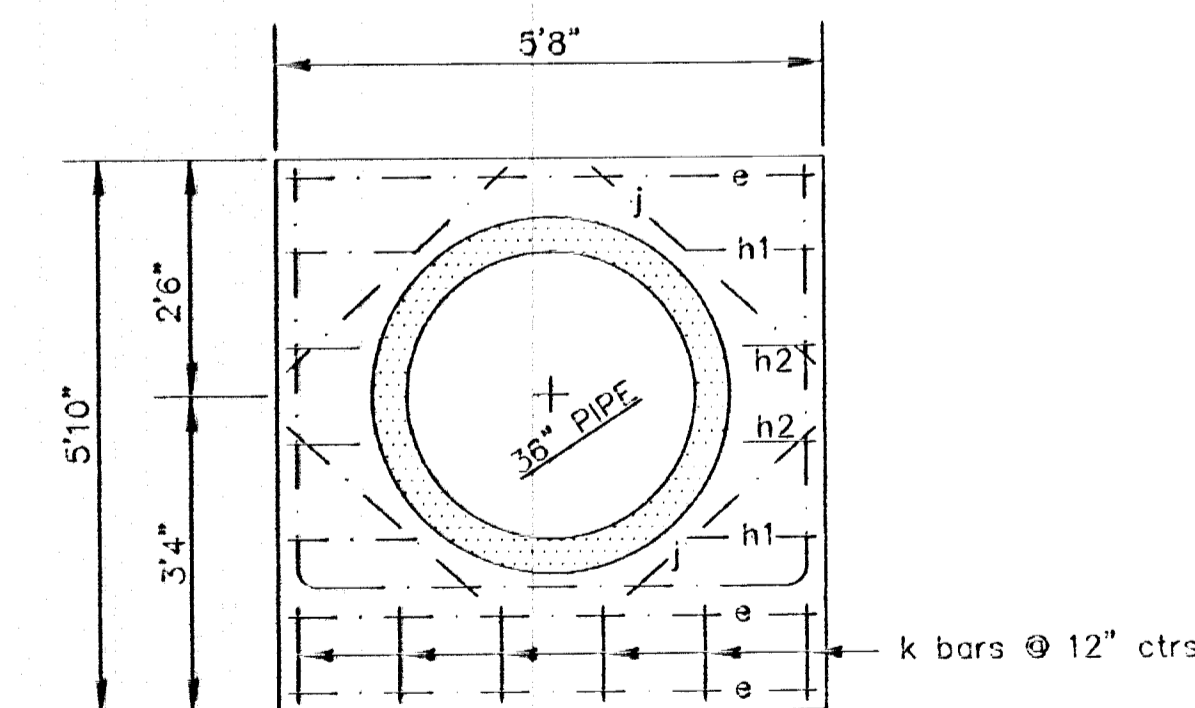


SECTION



A-A SECTION

HEADWALL FOR 48" PIPE



A-A SECTION

HEADWALL FOR 36" PIPE

	HEADWALL DETAILS FOR 36" & 48" PIPE	
	JIM ARMOUR P.E. - CITY ENGINEER	
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 425 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX	PROJECT NUMBER INDEX CODE 660498	DATE MAR 96 SHEET 10 OF 13