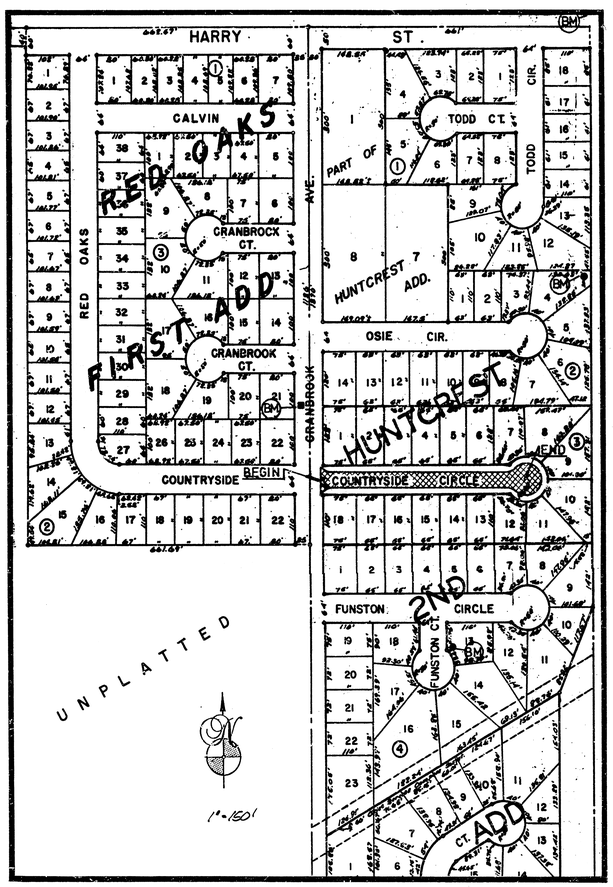
STREET IMPROVEMENTS FOR

HUNTCREST SECOND ADDITION

COUNTRYSIDE CIRCLE From the E.L. of Cranbrook to and including Cul-de-Sac

PROJECT NUMBER

472 76 245 81654 000 000 001



IMPROVEMENT DISTRICT

GENERAL NOTES

1. 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.

2. 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.

3. No more than 5 drives 18 feet in width, or equivalent combinations thereof, are to constructed with this project.

4. Limits of earthwork shall match existing ground elevations at the right-of-way line unless otherwise noted on the plans with a new finished grade elevation. When a new finished grade elevation is shown, the earthwork shall extend one foot beyond the right-of-way line and then sloped up or down using permissible slopes to match the existing ground surface.

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

6. Trees and shrubs in public right-of-way which are in direct conflict with the proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs not in conflict with proposed construction shall be saved and protected from damage. The cost of all such removal shall be included in the lump sum price bid for rightof-way clearing.

7. All water main relocation included in this project shall be constructed in accordance with City of Wichita Standard Specifications for Water Main Installations no. 14533.

8. The Water Department shall field locate water valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, water valve boxes or fire hydrants damaged during construction shall be repaired by the Contractor at his own expense.

BENCHMARKS

1. City disc. 1/2 mi. E. Webb Road @ 37.6'N, @ Harry St. and 1.0' W. of N.E. Cor. NW1/4, Sec. 33, T-27-S, R-2-E. Elev. = 1348.18 USGS / 1356.53 City datum.
2. 1/2" Rebar in conc. N.W. Cor. Lot 4, Blk 2 Huntcrest Second Addn. Elev. = 1357.47 City datum
3. 10' cut in Tc. W.S. Cranbrook 104(±) S. E(G) Cranbrook Ct. (Lot 21, Blk 3, Red Oaks 1st Addn) Elev. = 1371.60 City datum
4. 1/2" Rebar in conc. 32.0'(±) E. and 28.6'(±) S. E. intersection Funston Cir. & Funston Ct. (N.S. Lot 18, Block 4, Huntcrest Second Addn) Elev. = 1404.05 City datum

As Builts
11/98
MG

INDEX of SHEETS

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Typical Section (35'66', 74'PC)	2
Plan Sheet	3
Plan-Profile - SWS	4
Detail Sheet (Typ. Inlet @ 100' Spacing)	5
Earthwork X-Sections	6-7

CITY of WICHITA, KANSAS

MICHAEL E. LINDEBAK
CITY ENGINEER

TITLE SHEET

1/1

BAUGHMAN COMPANY, P.A.
SURVEYING & ENGINEERING
316/202-7271 • 315 ELLIS • WICHITA, KANSAS 67211

Design:	Drawn:	Approved:	Date:	Scale:	Sheet:
Bugles	Galr.		5 Feb. 98	as noted	1 of 7

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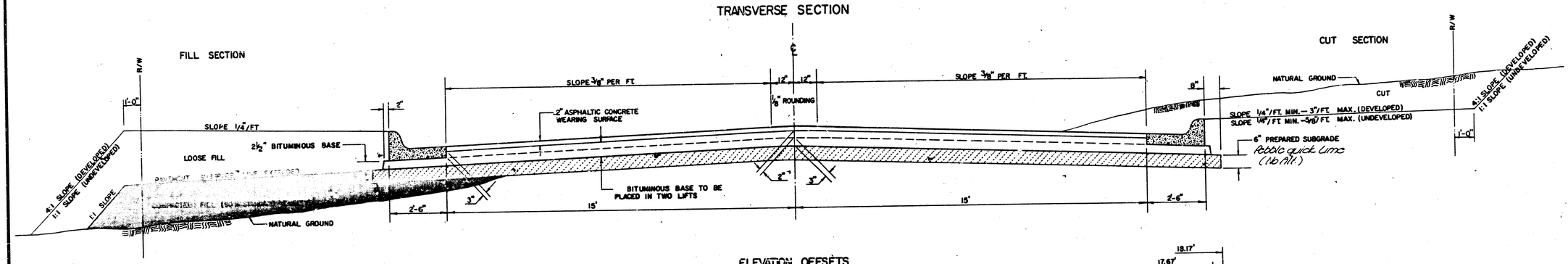
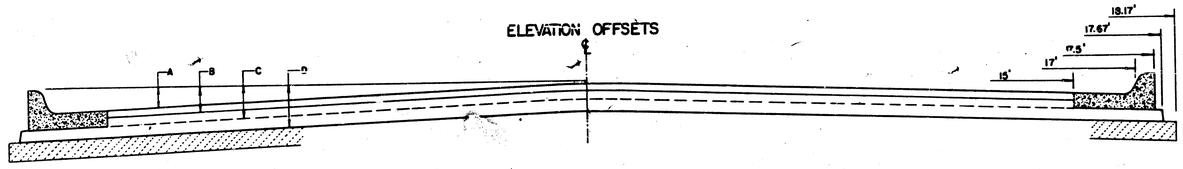
TYPICAL 35' PAVEMENT DETAILS

TRANSVERSE SECTION

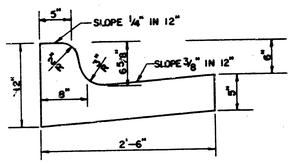


ELEVATION OFFSETS

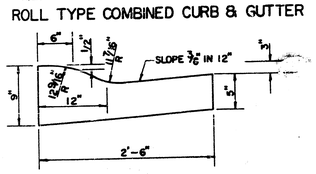


	DISTANCE FROM CENTERLINE (LT. & RT.)												
	0'	2'	4'	6'	8.5'	10'	12'	14'	15'	17'	17.5'	17.67'	18.17'
A: TOP OF CURBS TO TOP OF SURFACE LIFT	0.04	0.08	0.14	0.21	0.29	0.33	0.39	0.46	0.49	—	—	—	—
B: TOP OF CURBS TO TOP OF UPPER BASE LIFT	0.21	0.25	0.31	0.37	0.45	0.50	0.55	0.62	0.65	—	—	—	—
C: TOP OF CURBS TO TOP OF LOWER BASE LIFT	0.37	0.43	0.50	0.57	0.67	0.72	0.79	0.87	0.90	0.98	1.00	1.00	—
D: TOP OF CURBS TO TOP OF SUBGRADE	0.62	0.67	0.74	0.81	0.90	0.95	1.02	1.08	1.12	1.19	1.21	1.21	1.23

COMBINED CURB & GUTTER



ROLL TYPE COMBINED CURB & GUTTER



GENERAL NOTES

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

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

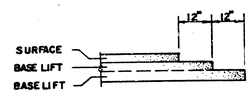
3) A TACK COAT OF EMULSIFIED ASPHALT (SS-1H OR CSS-1H) SHALL BE APPLIED AT AN APPROXIMATE RATE OF 0.05 GALLONS PER SQUARE YARD BETWEEN EACH LIFT OF ASPHALTIC MATERIAL.

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

5) 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.

6) 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.

TRANSVERSE CONSTRUCTION JOINTS



TRANSVERSE CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN FLEXIBLE BASE PAVEMENTS AT LOCATIONS WHERE PAVEMENT JOINS EXISTING FLEXIBLE BASE PAVEMENT AS SHOWN BY THIS 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).

7" RESIDENTIAL ASPHALTIC CONCRETE PAVEMENT w/ 5" BITUMINOUS BASE

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

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C of W		C of W		none

Sheet: 2 of: 7

Project Number: 472-76-245-81654-000-000-001

HUNTCREST SECOND ADDITION

③

Scale: 1"=20'

-2.746%

0+00 | 0+53.29 | 1+00 | 2+00 | 3+00 | 4+00 | 4+63.14 | 5+10

Sta. 0+31.0 End exstg. 9' A.C. Pvmt. Begin Construction 7" A.C. Pvmt. w/ Std. Comb. Curb & Gutter (6%)

Saw cut exstg. 9' Pvmt. and remove. Saw cut and removal to be incidental to excavation.

Match exstg. Grades.

Construct 7" A.C. Pavement w/ Std. Combined Curb & Gutter (6%)

COUNTRYSIDE CIRCLE

CRANBROOK (Horace Ave.)

-2.741 %

0+52.71

-0.866%

Prop. 15" RCP Storm Sewer

Prop. 18" RCP Storm Sewer

Elev. 1120.70

Construct Std. Type I A.D.O.T. Inlet (9'9"x11'9")
Elev. = 1120.77 Top

* NOTE
Sidewalk & Wheelchair ramp construction E.S. Cranbrook by "Others"

* NOTE
Clearing of Right of Way & 20' Drng. Easement to be paid as Lump Sum bid Item. (See Note 9, Sht. 1)

35' R/W ℄

℄ L. Red Oaks Addition

• INTERSECTION QUANTITIES •

—	SY	* Concrete Pavement
84.6	SY	7 * Asphaltic Conc. Pavement (5" Bituminous Base)
14.1	SY	2½ * Bituminous Base
47.6	LF	Combined Curb & Gutter
—	LF	Monolithic Edge Curb
—	SF	4" Wheelchair Ramp
—	SF	4" Walk
—	CY	Excavation
—	CY	Compacted Fill
—	Lbs.	Reinforcing Steel
101.4	SY	Manipulation
—	Tons	Lime or Cement
—	SY	Valley Gtr. ___" Concrete & ___" Asphaltic Conc. Base

• EARTHWORK QUANTITIES •

Excavation	156 c.y.	Compacted Fill	96 c.y.
+ 10%	16	+ 10%	10
Total	172 c.y.	Total	106 c.y.

Subgrade Manipulation 2257 s.y.

Borrow Material 1057 c.y.

Project Number:
472-76-245-81664-000-000-001

COUNTRYSIDE CIRCLE: From the E.L. Cranbrook to, and including C.U. de Sac.

Sht. 3/7

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SURVEYING & ENGINEERING
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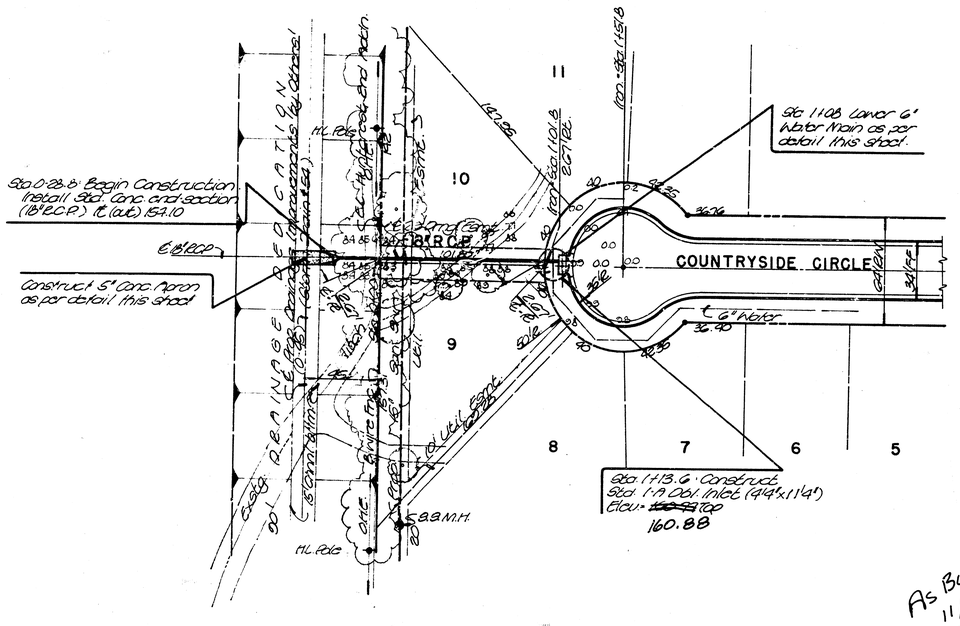
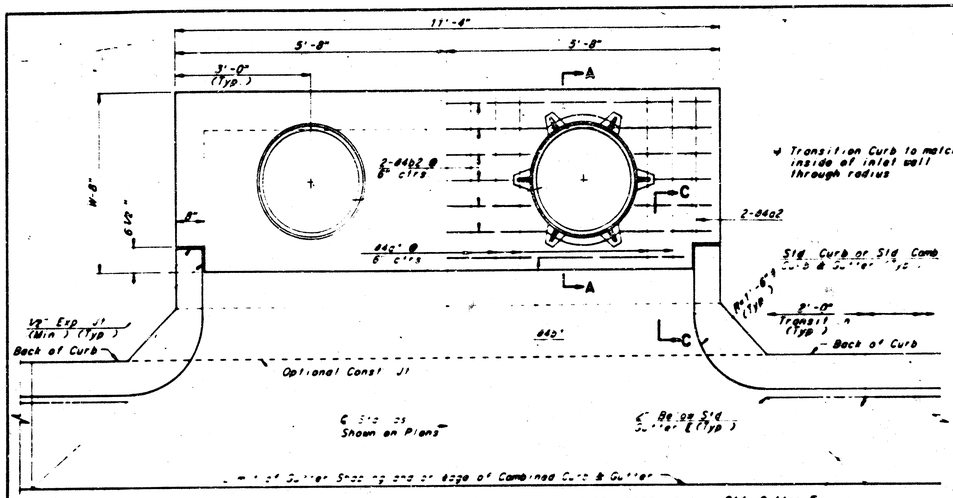
Design	Drawn	Approved	Date	Scale	Sht.
Eagles	Sealy		87	1"=20'	7

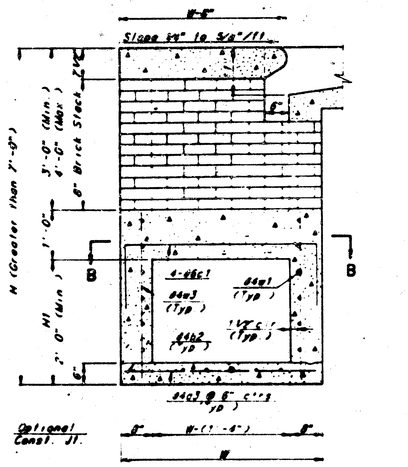

Sta 0+28.8 Begin Construction Install Std. Conc. end section (18" RCP) ℄ (at) 154.10
℄ 18" RCP
Construct 5' Conc Apron as per detail this sheet
Sta 1+13.6 Construct Std. 1-9 Dbl. Inlet (4'9"x1'9") Flow: 155.88 Top 160.88
Sta 11+08 Lower 6" Water Main as per detail this sheet.
℄ 6" Water
COUNTRYSIDE CIRCLE
R.C.P.
Existing 20' Drainage Easement (Grantor's Lot Lines)
Existing 30' Drainage Easement (Grantor's Lot Lines)
Existing Water
Existing Gas
Existing Sanitary Sewer
Existing Storm Sewer
Existing Telephone
Existing Overhead Electric
Existing Underground Electric
Existing Curb Inlet
Existing Fire Hydrant
Existing Water Valve
Existing Gas Valve
Existing Telephone Pedestal
Existing Electric Transformer
Existing Electric Meter
Existing Gas Meter
Existing Light Standard
Existing Mail Box
Existing Sign
Existing Power Pole
Existing Guy Wire
Existing Fence
Existing Concrete
Existing Asphalt
Existing Gravel
Existing Brick
Existing Building
Existing Trees
Existing Shrubs
Existing Grass
Existing Contours
Existing Spot Elevations
Existing Flow Arrows
Existing Property Lines
Existing Easements
Existing Right-of-Way
Existing Curb & Gutter
Existing Sidewalk
Existing Driveway
Existing Parking Lot
Existing Street Name
Existing Lot Number
Existing Block Number
Existing Subdivision Name
Existing Section Line
Existing Quarter Section Line
Existing Township Line
Existing Range Line
Existing Meridian
Existing Baseline
Existing Benchmark
Existing Control Point
Existing Survey Monument
Existing Property Corner
Existing Lot Corner
Existing Block Corner
Existing Subdivision Corner
Existing Section Corner
Existing Quarter Section Corner
Existing Township Corner
Existing Range Corner
Existing Meridian Corner
Existing Baseline Corner
Existing Benchmark Corner
Existing Control Point Corner
Existing Survey Monument Corner

PROJECT NO.	SHEET NO.	TOTAL SHEETS

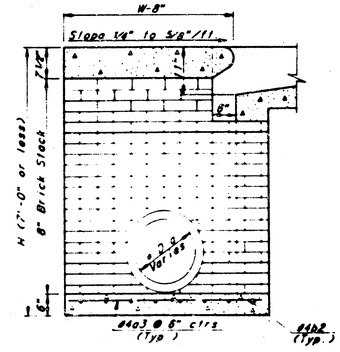


SLAB REINFORCING NOT SHOWN SHOWING SLAB REINFORCING

PLAN

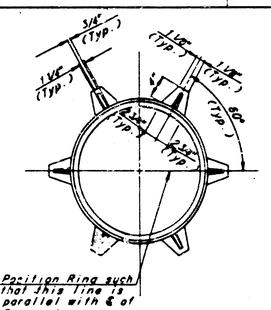


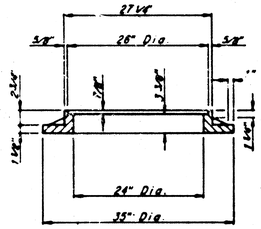
TYPICAL INLET SECTION AT CENTER WALL
(REINFORCED CONCRETE WALLS)



TYPICAL INLET SECTION AT CENTER WALL
(MASONRY WALLS)

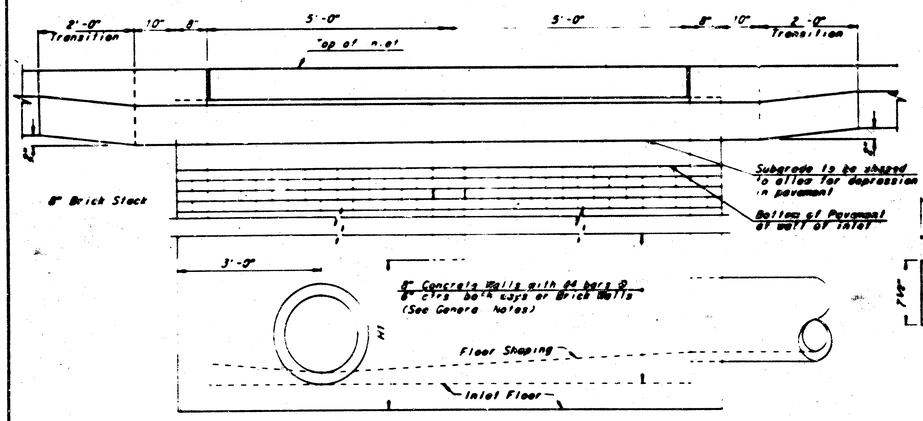
* A center wall opening shall be provided by means of a section of reinforced concrete pipe. The minimum diameter used shall be that of the outlet pipe.



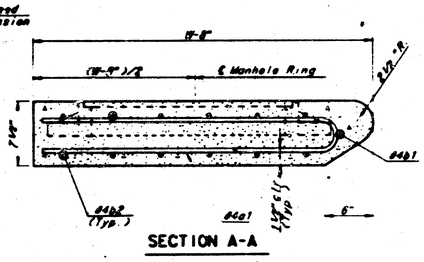


CAST IRON INLET RING
Wt. ≈180 lbs.

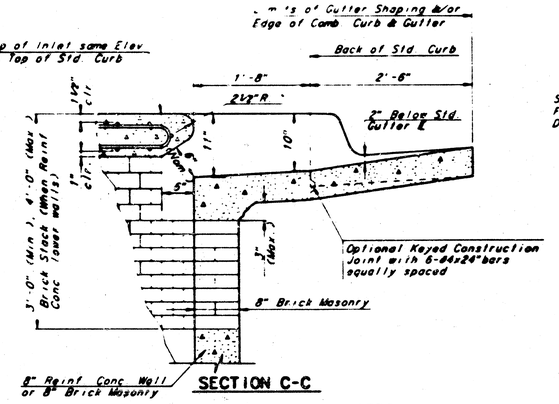
See City of Wichita Standard Manhole Frame and Cover Detail Sheet for Cover Details to be used with Inlet Frame.



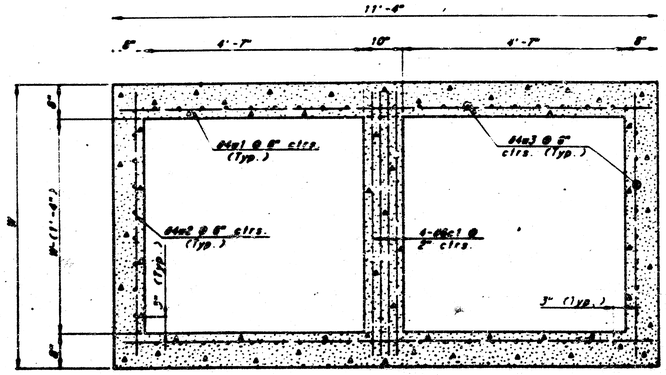
ELEVATION



SECTION A-A



SECTION C-C



SECTION B-B

SLAB AND FLOOR REINFORCING

		W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
a1	#4	13	8'-7 1/4"	13	8'-7 1/4"	13	10'-7 1/4"	13	12'-7 1/4"	13	14'-7 1/4"
a2	#4	2	8'-0"	2	8'-0"	2	10'-0"	2	12'-0"	2	14'-0"
a3	#4	20	4'-1"	20	5'-1"	20	6'-1"	20	7'-1"	20	8'-1"
b1	#4	1	3'-8"	1	3'-8"	1	3'-8"	1	3'-8"	1	3'-8"
ab2	#4	18	11'-1"	24	11'-1"	30	11'-1"	36	11'-1"	42	11'-1"

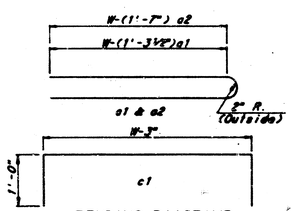
WALL REINFORCING

		W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
c1	#8	4	8'-1"	4	7'-1"	4	8'-1"	4	9'-1"	4	10'-1"
w1	#4	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	②	③	②	③	②	③	②	③	②	③

* Field bend or cut Reinforcing as required for clearance
① 4(W1-8")+4 (H1-8") Rounded down to nearest 0.5'
② 40+4(W - 15") ③ H1+(8")

GENERAL NOTES

1. THE CONTRACTOR SHALL BE REQUIRED TO CONSTRUCT 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W=6'-4" OR LESS AND H=7'-0" OR LESS. WHEN W IS GREATER THAN 6'-4" AND H IS LESS THAN 7'-0" THE OUTSIDE INLET WALLS BELOW THE BRICK STACK SHALL BE REINFORCED CONCRETE CONSTRUCTION AND THE CENTER WALL SHALL BE OF MASONRY CONSTRUCTION, AS SHOWN FOR THE MASONRY WALL OPTION.
2. 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.
3. 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.
4. INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB. BARS IN INLET TOP TO BE FIELD BENT OR CUT TO CLEAR MANHOLE RING.
5. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.



BENDING DIAGRAMS

STANDARD TYPE I-A CURB INLET DETAIL
CITY of WICHITA, KANSAS
Inlet Opening = 6" x 11'0"

BAUGHMAN COMPANY, P.A.
SURVEYING & ENGINEERING
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Design:	Drawn:	Approved:	Date:	Scale:
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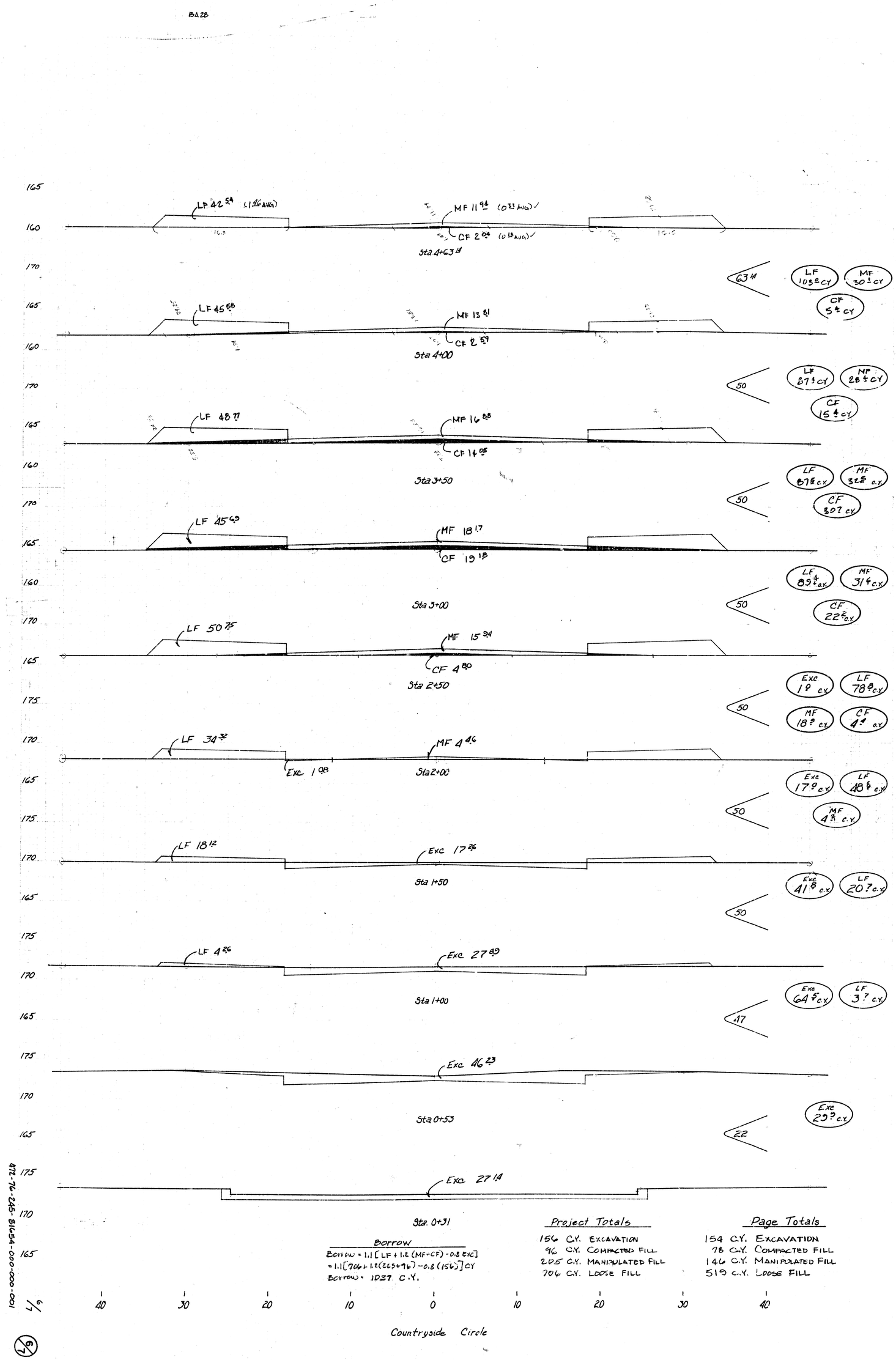
Sheet: 5 of: 7

Project Number: 472-76-245-81654-000-000-001



Borrow

Borrow = 1.1 [LF + 1.2 (MF+CF) - 0.8 EXC]
= 1.1 [706 + 1.2 (205+96) - 0.8 (156)] CY
Borrow = 1037 C.Y.

Project Totals

156 C.Y. EXCAVATION
96 C.Y. COMPACTED FILL
205 C.Y. MANIPULATED FILL
706 C.Y. LOOSE FILL

Page Totals

154 C.Y. EXCAVATION
78 C.Y. COMPACTED FILL
146 C.Y. MANIPULATED FILL
519 C.Y. LOOSE FILL

472-76-245-81654-000-000-001

6/7

6/7

165
160
155
150
145

DD

MF = $\left(\frac{28+32}{2}\right)^2 \pi \times \left(\frac{45}{360}\right) \times (0.288+0.288)/27 = 15.7$ cy

CF = $(15+19)^2 \pi \times \left(\frac{45}{360}\right) \times (0.255+0.25)/27 = 1.1$ cy

MF 10.9 (0.35'Avg)
CF 5.7 (0. Avg)
Bdy 0.8 (0.1 Avg)
LF 19.5 (1.29 Avg)

LF = $[57^2 - 28.5^2]\pi \times \frac{45}{360} \times \left(\frac{1.29+1.44}{2}\right)/27 = 2.51$ cy

BxC = $[5.4^2 - 28.5^2]\pi \times \frac{45}{360} \times \left(\frac{0.1+0}{2}\right)/27 = 0.4$ cy

MF 52 cy	LF 253 cy
CF 1.1 cy	BxC 0.4 cy

DC

MF = $\left(\frac{5.0+2.5}{2}\right)^2 \pi \times \left(\frac{45}{360}\right) \times \left(\frac{0.28+0.28}{2}\right)/27 = 7.9$ cy

CF = $\left(\frac{7+2.5}{2}\right)^2 \pi \times \left(\frac{45}{360}\right) \times \left(\frac{0.28+0.25}{2}\right)/27 = 2.2$ cy

+ $[44^2 - 36^2]\pi \times \left(\frac{45}{360}\right) \times \left(\frac{0.1+0.0}{2}\right)/27 = 0.4$ cy

CF = 2.6 cy

CF 5.0 (0.26'Avg)
MF 13.5 (0.36'Avg)
LF 21.0 (1.44'Avg)

LF = $[51^2 - 36^2]\pi \times \frac{45}{360} \times \left(\frac{1.44+1.44}{2}\right)/27 = 2.75$ cy

MF 79 cy	LF 278 cy
CF 2.6 cy	

DB

MF = $\left(\frac{5.0+5.0}{2}\right)^2 \pi \times \left(\frac{62.0^2/29}{360^\circ}\right) \times (2.46+2.46)/27 = 6.5$ cy

CE = $\left(\frac{2.45+1.9}{2}\right)^2 \pi \times \left(\frac{49^\circ}{360^\circ}\right) \times (0.83+0.81)/27 = 2.8$ cy

+ $[44^2 - 24^2]\pi \times \left(\frac{44^\circ}{360}\right) \times (0.1+0.0)/27 \cdot 0.4$ CF = $\frac{4.4}{2.6}$ cy

CF 8.8 (0.33'Avg)
MF 12.6 (0.34'Avg)
LF 21.9 (1.44'Avg)
Bdy 0.8 (0.10'Avg)

LF = $[51^2 - 36^2]\pi \times \left(\frac{49^\circ}{360^\circ}\right) \times \left(\frac{1.44+1.45}{2}\right)/27 = 2.3.4$ cy

BxC = $[5.4^2 - 28.5^2]\pi \times \left(\frac{45^\circ}{360}\right) \times \left(\frac{0.1+0}{2}\right)/27 \cdot 0.3$ cy

MF 65 cy	LF 234 cy
BxC 0.3 cy	CF 2.6 cy

DA

MF 12.7 (0.42'Avg)
CF 5.8 (0.31'Avg)
Exc 0.6 (0.1'Avg)
LF 17.9 (1.19'Avg)

0 10 20 30 40 50

Ignore Exc. This Area
Assume LF to Rad. Points "A", "B", "C"
Fill Areas Symmetrical About ℄ (Multiply A × 2)

LF = $2\left[\frac{(35.83^2}{360^\circ}\pi \times \frac{42.02^2}{360^\circ} \times \left(\frac{1.46 \cdot 1.3^2 \cdot 1.15}{3}\right)\right]/27 =$ **41.2 C.Y.**

CF = $2\left[\left(\frac{46.8^2}{2} \times 5.2\right) - \left(46^2\pi \times \frac{42.46.47}{360^\circ}\right) \times \left(\frac{0.3.1+0.3.8}{2}\right)\right]/27 =$ **8.0 cy**

MF = $2\left[\left(\frac{46.8^2}{2} \times 5.2\right) - (51.82^2\pi \times \frac{42.00.07}{360^\circ}) \times \left(\frac{0.42+0.3.5+0.3.5}{3}\right)\right]/27 =$ **21.9 CY**

A F.O.S Axis
CF 0.3.1 Axis
℄ F
MF 0.8.2 Axis
D
B' Bearing Curb
R = 58.83'
Δ = 42° 01'29"
LF 1.33 Axis
LF 1.46 Axis
LF 1.46 Axis
A
Bdy 44.5'
CF 0.1.8 Avg
MF 0.35 Avg
52'

MF 219 cy	LF 41.2 cy
CF 8.0 cy	

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Page Totals

2	CY EXCAVATION
18	CY COMPACTED FILL
59	CY MANIPULATED FILL
187	CY LOOSE FILL

Country side Circle