STREET IMPROVEMENTS FOR

HUNTCREST SECOND ADDITION

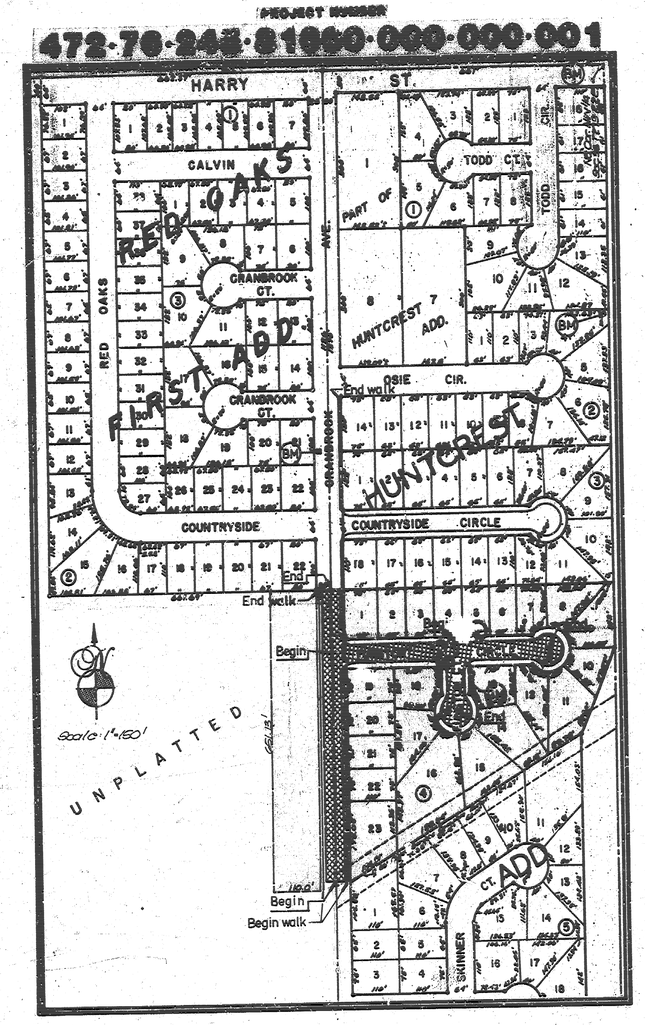
FUNSTON CIRCLE From the E.L. of Cranbrook to and including Cul-de-Sac

FUNSTON COURT From the S.L. of Funston Circle to and including Cul-de-Sac

CRANBROOK STREET From the S.W. Cor. Lot 23, Blk. 4, Huntcrest Second Addn. to the S.L. Red Oaks First Addn.

PROJECT NUMBER

472-70-245-81060-000-000-001



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 6 drives 18 feet in width, or equivalent combinations thereof, are to constructed with this project.
4. Widened gutter section of combined curb and gutter at intersections will not be paid for directly, and this cost shall be considered as subsidiary to the other contract pay items of work.
5. 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.
6. The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
7. 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.
8. 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.
9. 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 / 155.53 City datum.
2. 1/2" Rebar in conc.; N.W. Cor. Lot 4, Blk 2 Huntcrest Second Addn. Elev. = 167.47 City datum
3. 10' cut in Tc. W.S. Cranbrook 104(±) S. of (S) Cranbrook Ct. (Lot 21, Blk 3, Red Oaks 1st Addn) Elev. = 171.80 City datum
4. 1/2" Rebar in conc. 32.0'(±) E. and 28.6'(±) S. of intersection Funston Cir & Funston Ct. (N.W. Lot 8, Block 4, Huntcrest Second Addn) Elev. = 164.08 City datum

CITY of WICHITA, KANSAS

MICHAEL E. LINDEBAK
CITY ENGINEER

INDEX of SHEETS

Title Sheet	1
Typical Section (35'&52' B.O.C.)	2
Typical Section (37'&52' B.O.C.)	3
Plan Sheets	4-6
Plan-Profile-Incidental Drainage	7
Detail Sheet (1-A (Inlet-Grate 6'x6'0") Opening	8
Detail Sheet (1-A (Inlet-Grate 6'x10'0") Opening	9
Earthwork X-Sections	10-12

THOMAS CHARLES HUMBLE
LICENSED
0021
KANSAS
PROFESSIONAL ENGINEER

TITLE SHEET

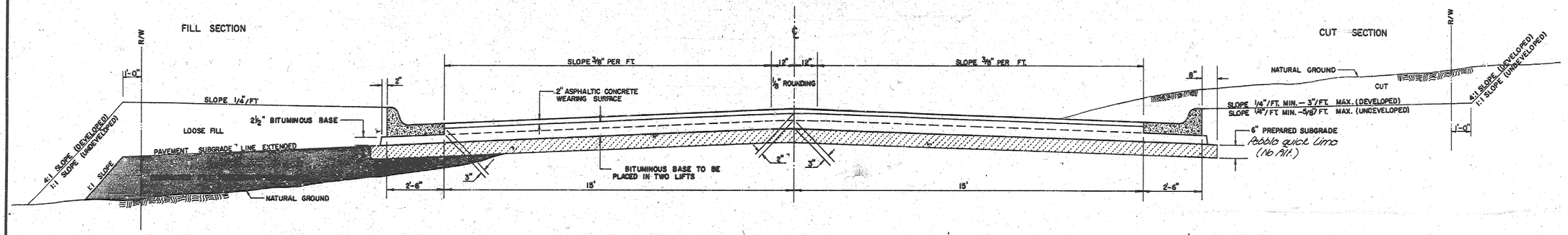
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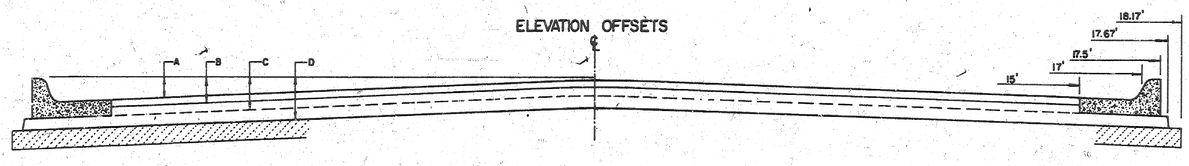
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T.C. Humble	Staff		5 Feb '88	as noted	1	12

TYPICAL 35' PAVEMENT DETAILS

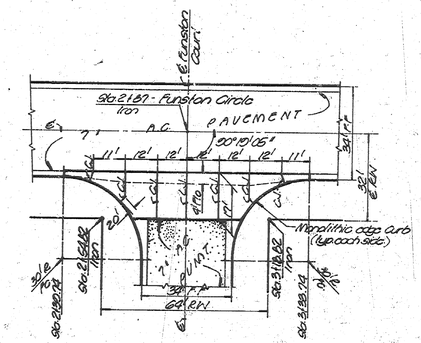
TRANSVERSE SECTION



ELEVATION OFFSETS

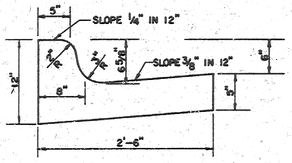


	DISTANCE FROM CENTERLINE (LT. & RT.)												
	0'	2'	4'	6'	8.5'	10'	12'	14'	15'	17'	17.5'	17.67'	18.17'
A: TOP OF CURBS TO TOP OF SURFACE LIFT	0.04	0.08	0.14	0.21	0.29	0.33	0.39	0.46	0.49	---	—	—	—
B: TOP OF CURBS TO TOP OF UPPER BASE LIFT	0.21	0.25	0.31	0.37	0.45	0.50	0.56	0.62	0.65	—	—	—	—
C: TOP 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

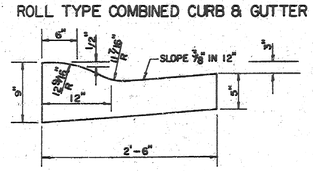


"VALLEY GUTTER JOINT DETAIL"

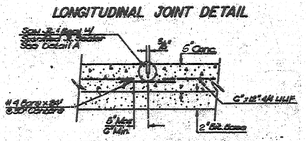
COMBINED CURB & GUTTER



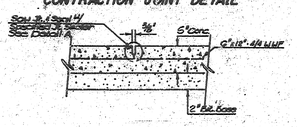
ROLL TYPE COMBINED CURB & GUTTER



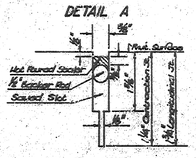
LONGITUDINAL JOINT DETAIL



CONTRACTION JOINT DETAIL



DETAIL A



GENERAL NOTES

1) THE ASPHALTIC CONCRETE PAVEMENT BETWEEN 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.

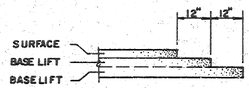
3) A TACK COAT OF EMULSIFIED ASPHALT (SC-1H OR CSS-1H) SHALL BE APPLIED AT AN APPROXIMATE RATE OF 0.05 GALLONS PER SQUARE YARD BETWEEN EACH LIFT OF ASPHALTIC MATERIAL.

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 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).

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

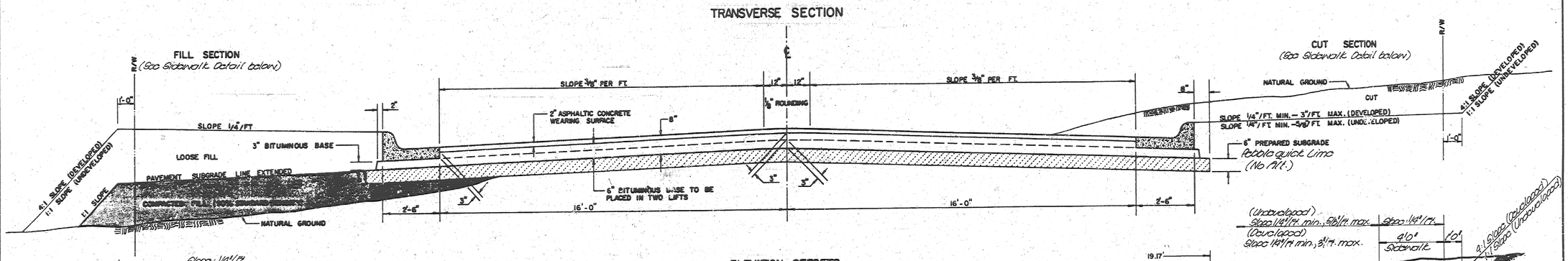
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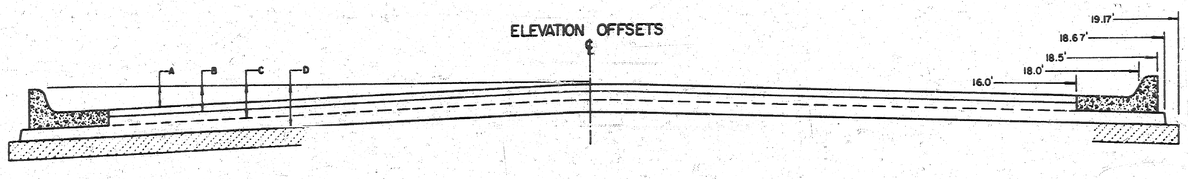
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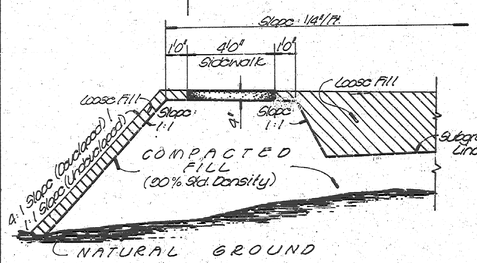
TYPICAL 37' PAVEMENT DETAILS

TRANSVERSE SECTION



ELEVATION OFFSETS



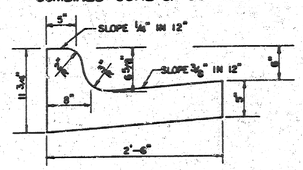


"SIDEWALK DETAIL"
(In Fill)

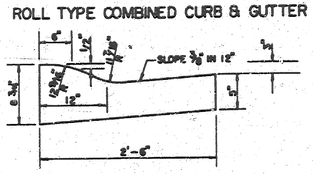
"SIDEWALK DETAIL"
(In cut)

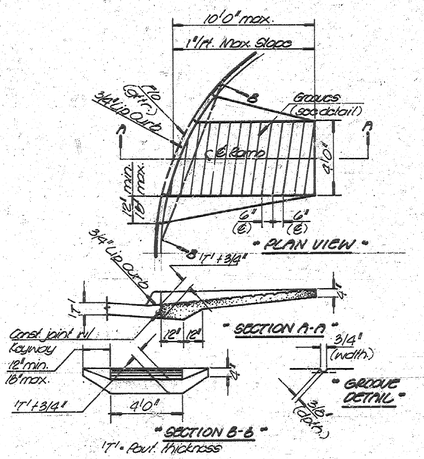
	DISTANCE FROM CENTERLINE (LT. & RT.)												
	0	2	4	6	8	10	12	14	16	18	18.5	18.67	19.17
A: TOP OF CURBS TO TOP OF SURFACE LIFT	.00	.05	.11	.18	.24	.30	.36	.43	.49	—	—	—	—
B: TOP OF CURBS TO TOP OF UPPER BASE LIFT	.17	.22	.28	.34	.40	.47	.53	.59	.65	—	—	—	—
C: TOP OF CURBS TO TOP OF LOWER BASE LIFT	.42	.47	.53	.59	.65	.72	.78	.84	.90	.97	.98	.99	—
D: TOP OF CURBS TO TOP OF SUBGRADE	.67	.72	.78	.84	.90	.97	1.03	1.09	1.15	1.22	1.23	1.24	1.25

COMBINED CURB & GUTTER



ROLL TYPE COMBINED CURB & GUTTER





"WHEELCHAIR RAMP DETAILS"

GENERAL NOTES

1) THE ASPHALTIC CONCRETE PAVEMENT BETWEEN THE COMBINED CURB AND GUTTER SHALL BE PAID AS SQUARE YARDS OF 8" ASPHALTIC CONCRETE (6" BITUMINOUS BASE).

2) THE BITUMINOUS BASE UNDER AND BEHIND THE COMBINED CURB AND GUTTER SHALL BE PAID AS SQUARE YARDS OF 3" BITUMINOUS BASE.

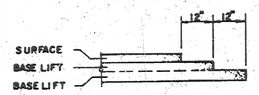
3) A TACK COAT OF EMULSIFIED ASPHALT (SC-1H OR CSS-1H) SHALL BE APPLIED AT AN APPROXIMATE RATE OF 0.05 GALLONS PER SQUARE YARD BETWEEN EACH LIFT OF ASPHALTIC MATERIAL.

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 THE DETAIL. ALL COSTS ASSOCIATED WITH THE CONSTRUCTION OF THE TRANSVERSE JOINT SHALL BE INCLUDED IN THE BID PRICE FOR SQUARE YARDS 8" ASPHALTIC CONCRETE (6" BITUMINOUS BASE).

8" RESIDENTIAL ASPHALTIC CONCRETE PAVEMENT w/ 6" BITUMINOUS BASE

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Project Number: 472-76-245-81660-000-000-001

Scale: 1"=20'

HUNTCREST SECOND ADDITION (4)

-2.501 %

-1.432 %

-1.116 %

-2.600 %

-0.303 %

-1.301 %

-0.682 %

0+00 | 0+48.27 | 1+00 | 2+00 | 2+39.74 | 2+87 | 3+33.74 | 4+00 | 4+63.14 | 5+10

℄ FUNSTON CT.

℄ 10' Util. Esmt.

Sta. 0+35 Begin constr. 7" A.C. Pavement w/ Std Combined Curb & Gutter Section (6 5/8" & 11 1/2"). End 6" A.C. Pvmt.

Construct Std. W.C.R. (as per City Specs.)

Sta. 0+48.27 Construct Std. Type 1-A Ctr. Inlet (6'4" x 6'4"). Elev. = 169.69 Top.

Construct 7" A.C. Pvmt. w/ Std. Combined curb & gutter (6 5/8" & 11 1/2").

Sta. 3+37.84 Construct Std. Type 1-A Inlet (6'4" x 6'4"). Elev. = 164.69 Top.

Sta. 3+37.74 Construct Std. Type 1-A Ctr. Inlet (6'4" x 6'4") Elev. = 164.69 Top.

Sta. 4+71.58

Drip line

FUNSTON (257.01' N89°40'55"E)

FUNSTON CIRCLE (223.01')

FUNSTON COURT (182.01' S89°40'55"W)

CRANBROOK

15'x15' Drng. Esmt. (by separate instr.)

Sta. 0+51.78 Construct Std. Type 1-A Ctr. Inlet (6'4" x 6'4") Elev. = 170.70 Top

Non-Std. Curb & Gutter to be paid as Std. Comb. Crb. & Gtr. (6 5/8" & 11 1/2")

Remove Barbed Wire Fence to be Relocated (CALF)

Construct 7" Reinf. Conc. w/ 2" bit. base) & Monolithic edge Crb (6 5/8"). See Sht. 2 for joint detail.

Construct 7" A.C. Pavement w/ Std. Combined Curb & Gutter (6 5/8" & 11 1/2").

Construct Std. Type 1-A Ctr. Inlet (6'4" x 11'4") Elev. = 161.68 Top.

Clear right-of-way & 20' drainage esmt. of trees and underbrush in this area. (Existg. partial hedgerow) Clearing to be paid as lump sum. (See Note 9, Sheet 1).

Proposed 8" A.C. Pavement (See Sheet 5)

Construct Std. W.C.R. (as per City specs.) See detail, Sheet 3.

20' Drng. Esmt.

Sta. 30+00.00 P.I. Elev. = 162.00

H.P. Elev. = 160.00

Drng. Esmt.

24" ECP

SAN. SEW.

Fence

Ditch

Creek

Barn

Pond

Water

Gas

Elm

Oak

Sycamore

Walnut

Cedar

Hackberry

Cottonwood

Willow

Locust

Mulberry

Pecan

Hickory

Ash

Maple

Poplar

Birch

Beech

Chestnut

Dogwood

Redbud

Magnolia

Holly

Pine

Spruce

Fir

Juniper

Cypress

Redwood

Sequoia

Palm

Bamboo

Vine

Shrub

Flower

Grass

Weed

Moss

Fern

Mushroom

Toadstool

Acorn

Nut

Seed

Root

Stem

Leaf

Bud

Flower

Fruit

Berry

Cone

Needle

Bark

Wood

Lumber

Timber

Log

Stump

Branch

Twig

Trunk

Crown

Canopy

Shade

Sunlight

Moonlight

Starlight

Daylight

Twilight

Dawn

Dusk

Midnight

Noon

Morning

Afternoon

Evening

Night

Day

Week

Month

Year

Century

Millennium

Era

Epoch

Period

Age

Time

Space

Universe

Galaxy

Solar System

Sun

Moon

Earth

Mars

Venus

Mercury

Jupiter

Saturn

Uranus

Neptune

Pluto

Asteroid

Comet

Meteor

Meteorite

Star

Constellation

Zodiac

Horoscope

Astrology

Astronomy

Physics

Chemistry

Biology

Geology

Meteorology

Oceanography

Ecology

Environment

Pollution

Conservation

Preservation

Restoration

Rehabilitation

Reclamation

Recycling

Reuse

Reduce

Repair

Replace

Refuse

Rethink

Redesign

Rebuild

Remanufacture

Recondition

Refurbish

Renovate

Remodel

Restore

Revive

Resurrect

Reincarnate

Reborn

Renew

Regenerate

Rejuvenate

Revitalize

Reinvigorate

Reenergize

Recharge

Refuel

Replenish

Restock

Refill

Reload

Rearm

Regroup

Reorganize

Restructure

Reengineer

Reinvent

Rethink

Redesign

Rebuild

Remanufacture

Recondition

Refurbish

Renovate

Remodel

Restore

Revive

Resurrect

Reincarnate

Reborn

Renew

Regenerate

Rejuvenate

Revitalize

Reinvigorate

Reenergize

Recharge

Refuel

Replenish

Restock

Refill

Reload

Rearm

Regroup

Reorganize

Restructure

Reengineer

Reinvent

• Funston Circle •

• INTERSECTION QUANTITIES •

2767	SY	8	" Asphaltic Conc. Pavement (6" Bituminous Base)
460	SY	7	" Asphaltic Conc. Pavement (5" Bituminous Base)
200	SY	5	" Bituminous Base
649	LF		Combined Curb & Gutter
80	SY	2½	" Bituminous Base
–	SF		4' Wheelchair Ramp
–	SF		4' Walk
–	CY		Excavation
–	CY		Compacted Fill
–	Lbs.		Reinforcing Steel
455.0	SY		Manipulation
–	Tons		Lime or Cement
–	SY		Valley Gttr. ___" Concrete & ___" Asphaltic Conc. Base

• Funston Court •

• INTERSECTION QUANTITIES •

–	SY		" Concrete Pavement
2067	SY	7	" Asphaltic Conc. Pavement (5" Bituminous Base)
18.4	SY	2½	" Bituminous Base
540	LF		Combined Curb & Gutter
68.9	LF		Monolithic Edge Curb
–	SF		4' Wheelchair Ramp
–	SF		4' Walk
–	CY		Excavation
–	CY		Compacted Fill
–	Lbs.		Reinforcing Steel
541.6	SY		Manipulation
–	Tons		Lime or Cement
1196	SY		Valley Gttr. 5" Concrete & 2" Asphaltic Conc. Base

• EARTHWORK QUANTITIES •

Excavation	1745 C.Y.	Compacted Fill	620 C.Y.
+ 10%	175	+ 10%	62
Total	1920 C.Y.	Total	682 C.Y.
Subgrade Manipulation	5890 S.Y.		
Borrow Material	837 C.Y.		

FUNSTON CIRCLE : E.L. of Cranbrook to and including Cul-de-Sac.

FUNSTON COURT : S.L. of Funston Circle to and including Cul-de-Sac.

Project Number: 472-76-245-81620-000-000-001

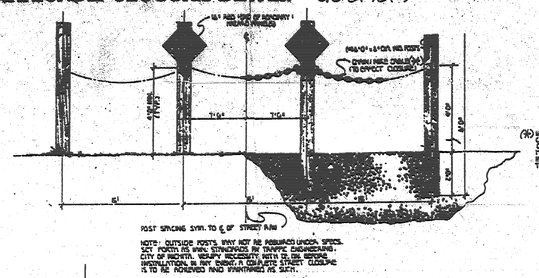
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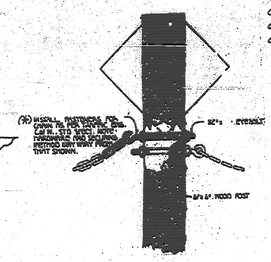
Designed: Ruggles | Drawn: Scallin | Approved: | Date: 10 Jan 86 | Scale: 1"=20' | Sheet 4 of 12

Surveyed | Drawn | Checked | Approved

PLAN NOTE BOOK No. B-22

BARRICADE/CLOSURE DETAIL - Sta. 8+78(±)





(A) Chain/wire cable to be optional at the discretion of the Traffic Engineer, City of Wichita (or his representative) on this project.

Scale: 1"=20'

Sta. 13+28.10 Construct Std. Type 1.A Ca. Inlet (4'4" x 6'4") Elev. = 171.60

Sta. 13+25.30 Construct Std. Type 1.A Ca. Inlet (4'4" x 11'4") Elev. = 171.70 Top

P.U.E. 25' U.G. Elev. = 171.60

-0.582 %

0.30 Walk Grade

+0.661 %

0.70 Wk. Grd.

Sta. 8+80.97

9+00

10+00

11+00

12+00

13+00

13+32.19

13+78.83

14+26.19

Sta. 8+80.78 Begin construction of N.C. Pavement with Std. Combined Curb & Gutter (C-6 3/8" & 1 1/2")

Begin construction 4'0" Sidewalk (4" thk.) U & E. Sides on Cranbrook.

U N P L A T T E D

Sta. (Future)

(Proposed Red Oaks Second Addition)

CAUTION! 8' Gen. Const. X-ing

CAUTION! Gutter X-ing

℄ FUNSTON CIR.

24' (Future)

Adjust Valve Box to Elev. 172.4 Top

Construct 4'0" x 4" Conc. Sidewalk.

Elev. = 171.1(±) Top

25'

Match Line

Pipe mkr.

℄ 16" 20' Pipe - Sta. deep

880.53' ℄ Huntcrest 2nd Addn.

Sta. 8+78(±) Install 4 Traffic barricades as per MUTCD and City Stds. (Traffic Eng. - Cont'n.) See "Barricade/Closure Detail" this sheet.

CRANBROOK

315.00' (M) (N&S to ℄ of E)

(NO to ℄ of E)

4'0" Walk

175.05'

N 62°07' 50" E

20' Util. Easement

60' Cable Service Gas Co. Easement (Film 210, Pg 876 and Film 1571, Pg 782)

Construct 6" P.C. Pavement w/ Std. Comb. Curb & Gutter (C-6 3/8")

Construct 4'0" x 4' Conc. Sidewalk.

Construct Std. N.C.P. as per City Specs. **

Remove exist'g. 8-wire Fence from R/W. (Paid as Lump Sum R/W clearing. (See Note 9, Sht. 1)

Construct Std. Type 1.A Ca. Inlet (See Sht. 9)

15' x 15' Drng. Easmt. (by separate instrumt.)

End 6" P.C. Pavement at ℄ - Begin 7" P.C. Pavement. (See Sht. 9)

** See detail - Sht. 3 for Std. Conc. Wheel Chair Ramp.

FUNSTON CIRCLE

HUNTCREST SECOND ADDITION

23 22 21 20 19

④ 0.30 Walk Grade

-0.582 %

Sidewalk (N.S. Cranbrook): From a point 651.13' So. of the SL. Red Oaks First Addn. to SL. Red Oaks First Addn.

Sidewalk (E.S. Cranbrook): From S.W. Cor. Lot 23, Block 9, of Huntcrest Second Addition to N.L. Circle Circle.

CRANBROOK: From S.W. Cor. lot 23, Block 9, Huntcrest 2nd Addn to SL. Red Oaks 1st. Addition.

Project Number: 472-76-215-81660-000-000-001

BAUGHMAN COMPANY, P.A. SURVEYING & ENGINEERING 316/682-7271 • 315 ELLIS • WICHITA, KANSAS 67211

Design: T. Rankin | Drawn: Sed Jr. | Approved: | Date: 8 June 88 | Scale: 1"=20'

Sheet 5 of 12

Scale: 1"=20'

10.66% | 10.40% ± (Exstg.)

O.30 Wk. Grd.

UNPLATTED

(Proposed Red Oaks Second Addn.)

(Platted Line)

St. Red Oaks First Addn.

13+78.83 | 14+26.19 | 15+00 | 15+21

Sta. 15+21 Left: End const. 4'10"x4' Conc. Sidewalk

4' Sidewalk

8" W Water

Match Exstg. Wk.

CRANBROOK

Construct: 4'0"x4' Conc. Sidewalk

Exstg. Wk. & N.C.E.

Exstg. 8" N.C. Water

Construct 8" N.C. Pavemnt. w/Std. Comb. Curb & Gutter (G-9(b))

CAUTION! 8" San. Sewer X-ing & Manhole (5' dia. E.O.) Elev. = 173.0 Top

8" San. Sewer (E) 20' U.E. & I. Esmt.

14+26.19

Match Exstg. Wk.

Sta. 15+21 End Pavement Construction. (8" N.C.) Match exstg. pvmt. grades.

San. cross exstg. 8" N.C. Pvmt., Pavement removal & San. Jt. to be incidental to excavation.

HUNTCREST

16+11.39 Begin exstg. return

Construct Std. W.C.R.(6) as per City Specs. **

COUNTRYSIDE CIR. (E. 15+22.83)

Exstg. Wk. & N.C.E.

4' K.R.C. Gutter

COUNTRYSIDE (E. 15+22.83)

Exstg. Wk. & N.C.E.

16+35.02 Iron

020° (Calcd.) 0.17' (Meas.)

Exstg. 8" N.C. Water

Exstg. Wk. & N.C.E.

35'

Exstg. Wk. & N.C.R.

10'x10' Sidewalk Esmt. by separate instr. (typical)

Exstg. 8" N.C. Water

CRANBROOK

Exstg. Wk. & N.C.R.

CRANBROOK CT. (E. 15+27.)

Exstg.

Exstg. Wk. & N.C.E.

Exstg. Wk. & N.C.E.

Exstg. Wk. & N.C.E

* NOTE: Coordinate storm sewer construction with Storm Water Drain #54. DO NOT construct storm sewer P.I.10.8 TO COMPLETION of channel earth-work to a point upstream from storm sewer this project.

1" = 40' horz.
1" = 5' vert.

Sta. 0-29.8 Begin Construction. Install Std. 36" Conc. End section (Lat.) = 154.00

Construct Conc. Apron as per detail this sheet.

Sta. 1+07.8 6' PVC Water X-ing. Cover as per detail 1, this sheet. Clear = 1.0' min.

Sta. 1+13.4 Construct Std Type 1-A Dbl. Inlet (4'4" x 11'4") Elev. = ~~154.64~~ Top 161.74 (See detail, Sht. 8)

Sta. 3+24.6 Construct Std Type 1-A Inlet (8'4" x 6'4") Elev. = 164.64 Top ~~166.64~~ (See detail, Sht. 8)

Sta. 3+24.6

9.5' offset ℄ pipe

CAUTION! 6' Water X-ing.

15' x 15' Long. Esmt. (by Separate Instrmnt.)

℄ Sta. 0+20.0 (50.0' Rt.) = Sta. 6+61.1. Construct Std Type 1-A Cb. Inlet (W = 7'4" x 6'4") Elev. = ~~171.90~~ Top 171.90

Sta. 0+21.45 (50.61' Rt.) = Sta. 6+62.7. Construct Std Type 1-A Dbl. Cb. Inlet (W = 7'4", L = 11'4") Elev. = ~~171.90~~ Top 171.90

Sta. 0+00 Baseline = Intersection ℄ Funston Cir. & Cranbrook. (℄ = ℄ Funston Circle)

Sta. 6+54.4 (0+20.00 (50.85' Rt.) = ℄)

184°50'32"

185°08'37"

Sta. 6+10.6

Note: Station points for locating inlets are to center of inlet box. For dbl. inlets, use center of compartment with main pipe.

Sta. 6+10.6 Construct Std. Type 1-A Cb. Inlet. (W = 9'4", L = 6'4") Elev. = ~~170.98~~ Top 170.98

Sta. 2+87.8 (℄) = Iron = ℄ Intersection Funston Cir. & Funston Cir.

Sta. 3+24.6 (43.3' Rt.) Construct Std. Type 1-A Inlet (8'4" x 6'4") Elev. = ~~164.60~~ Top 168.76

CAUTION: 6' Water Main.

Iron = Sta. 0+00 (50.21' Rt.) = ℄ Sta. 6+61.60

NOTE: Tree & underbrush removal (clearing R/W & 20' Drng. Esmt.) to be paid as lump sum R/W clearing. See Note 9, Sheet 1. (General Notes).

Sta. 1+07.8 6' PVC Water X-ing. Cover as per detail 1, this sheet. Clear = 1.0' min.

Sta. 1+13.4 Construct Std Type 1-A Dbl. Inlet (4'4" x 11'4") Elev. = ~~154.64~~ Top 161.74 (See detail, Sht. 8)

Sta. 3+24.6 Construct Std Type 1-A Inlet (8'4" x 6'4") Elev. = 164.64 Top ~~166.64~~ (See detail, Sht. 8)

Sta. 3+24.6 (43.3' Rt.) Construct Std. Type 1-A Inlet (8'4" x 6'4") Elev. = ~~164.60~~ Top 168.76

CAUTION: 6' Water Main.

Sta. 2+87.8 (℄) = Iron = ℄ Intersection Funston Cir. & Funston Cir.

Sta. 0+00 Baseline = Intersection ℄ Funston Cir. & Cranbrook. (℄ = ℄ Funston Circle)

Sta. 6+54.4 (0+20.00 (50.85' Rt.) = ℄)

184°50'32"

185°08'37"

Sta. 6+10.6

Note: Station points for locating inlets are to center of inlet box. For dbl. inlets, use center of compartment with main pipe.

Sta. 6+10.6 Construct Std. Type 1-A Cb. Inlet. (W = 9'4", L = 6'4") Elev. = ~~170.98~~ Top 170.98

NOTE: Tree & underbrush removal (clearing R/W & 20' Drng. Esmt.) to be paid as lump sum R/W clearing. See Note 9, Sheet 1. (General Notes).

- 5' CONC. APRON DETAIL -

(No Scale)

C.J. (Note). Saw 3/8' x 1 1/4' deep & seal w/ joint sealer per std. specifications.

- CONTRACTION JOINT / TOC WALL DETAIL -

Note: Construct Toe wall under and section and along N. edge of slab. Cost incidental to S.F. 5' Conc. Ditch Lining.
(K) = #4 bars, vertical @ 2.0' cntrs., thus: 1'4" / 1'6"
(KK) = #4 bars (x2) horizontal @ 2.0' cntrs.

- 6" WATER MAIN LOWERING DETAIL -

(No Scale)

Note: Contractor to field verify 6" C.I.W.L. elevations (Add 4 ft. depth)

As Built 11/89 MB

PROFILE — SURVEYED BY: ; DRAWN BY: ; CHECKED BY: ; NOTE BOOK: ; No. 89-29 ; ALIGNMENT CHECKED BY: ; ALL NOTED STRUCTURE LOCATIONS CHECKED BY: ; DATE: ; BY:

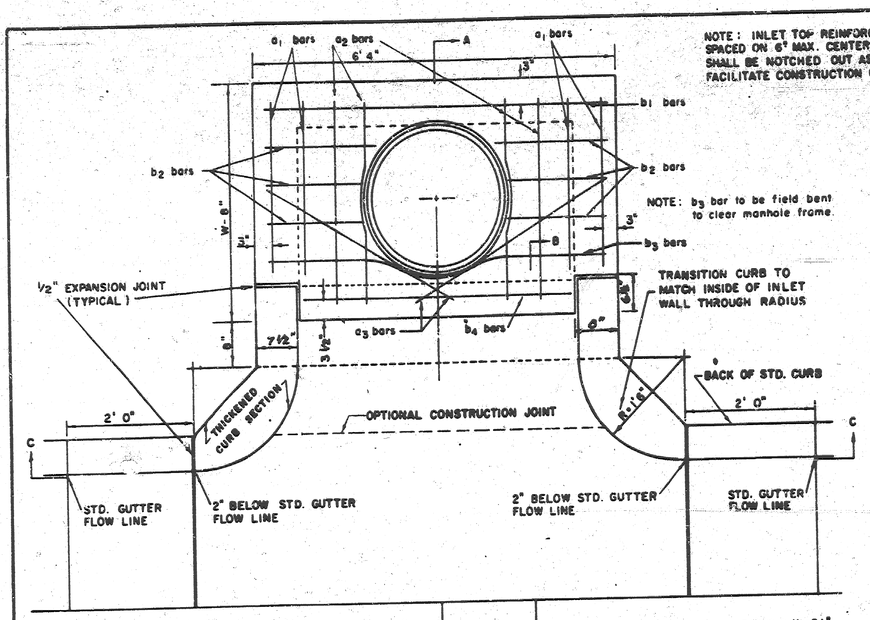
PLAN — SURVEYED BY: ; DRAWN BY: ; CHECKED BY: ; NOTE BOOK: ; No. ; ALIGNMENT CHECKED BY: ; ST. OF WAY CHECKED BY: ; DATE: ; BY:

Title
INCIDENTAL DRAINAGE IMPROVEMENTS TO STREETS IN HUNTCREST 2nd ADDN.
472-76-245-81660-000-000-001

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

Sheet 7 of 12

Design: Riggins | Drawn: Sadjr. | Approved: | Date: Nov 88 | Scale: 1"=40'/1"=5' | 12

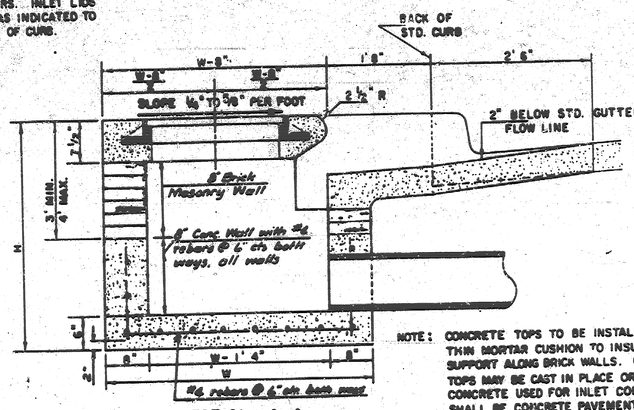


NOTE: EXPANSION JOINT ONLY IN CURB AREA WITH CONC. PAVEMENT.

PLAN

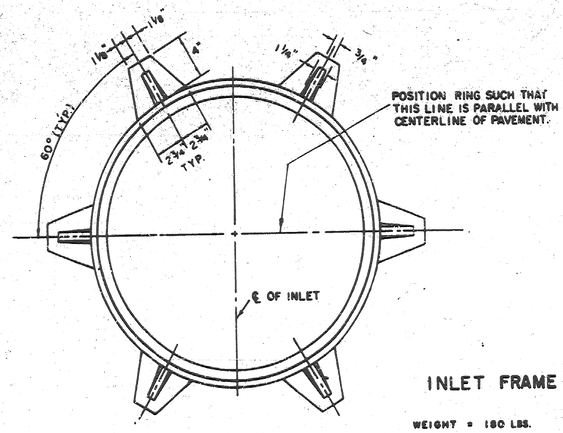
NOTE: INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB.

NOTE: b_3 bar to be field bent to clear manhole frame.



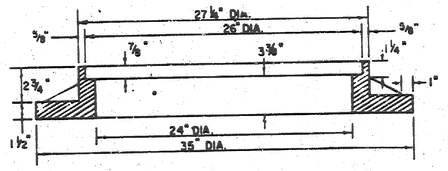
SECTION A-A

NOTE: 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.

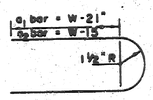


INLET FRAME

WEIGHT = 180 LBS.



SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.



BENDING DIAGRAM

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 W = 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 A 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.

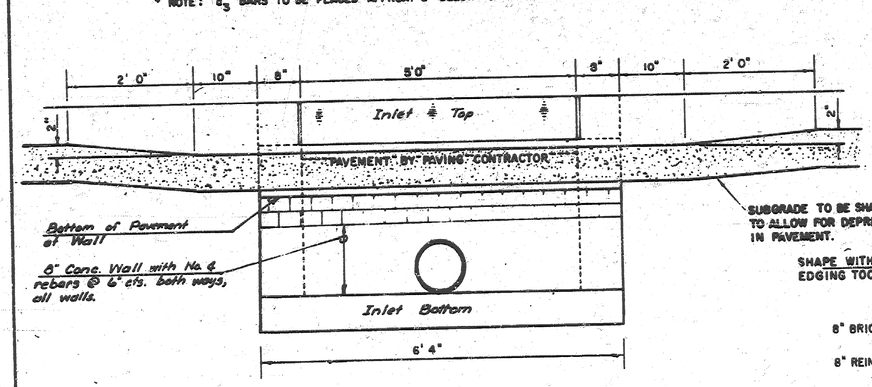
THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

STEEL SCHEDULE

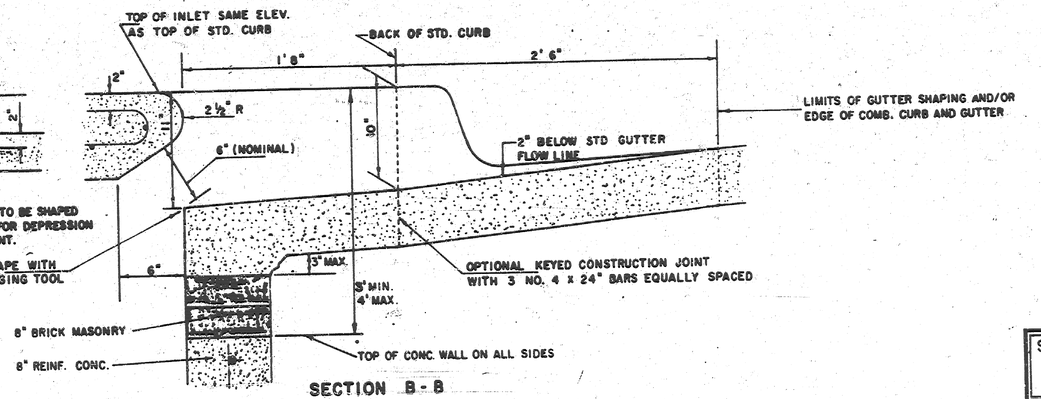
BAR		a_1	a_2	a_3*	b_1 W=4'4"	b_1 W=5'4"	b_1 W=6'4"	b_1 W=7'4"	b_1 W=8'4"	b_2	b_3	b_4	WT. LBS.
NUMBER		4	4	2	1	3	5	7	9	6	1	1	
SIZE		#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#6	
LENGTH	W=4'4"	5'7"	6'7"	4'0"	6'1"	–	–	–	–	1'9"	6'2"	4'8"	90±
	W=5'4"	7'7"	8'7"	5'0"	–	6'1"	–	–	–	1'9"	6'2"	4'8"	81±
	W=6'4"	9'7"	10'7"	6'0"	–	–	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"	5'8"± 6'4" ×7 1/2"	21" & SMALLER	0.38 ±
5' 4"	6'8"± 6'4" ×7 1/2"	24" & 30"	0.51 ±
6' 4"	8'8"± 6'4" ×7 1/2"	36" & 42"	0.64 ±
7' 4"	9'8"± 6'4" ×7 1/2"	48" & 54"	0.77±
8' 4"	7'8"± 6'4" ×7 1/2"	60" & 66"	0.90±



SECTION C-C



SECTION B-B

STANDARD TYPE I-A CURB INLET DETAIL
CITY of WICHITA, KANSAS
Inlet Opening = 6" x 5'0"

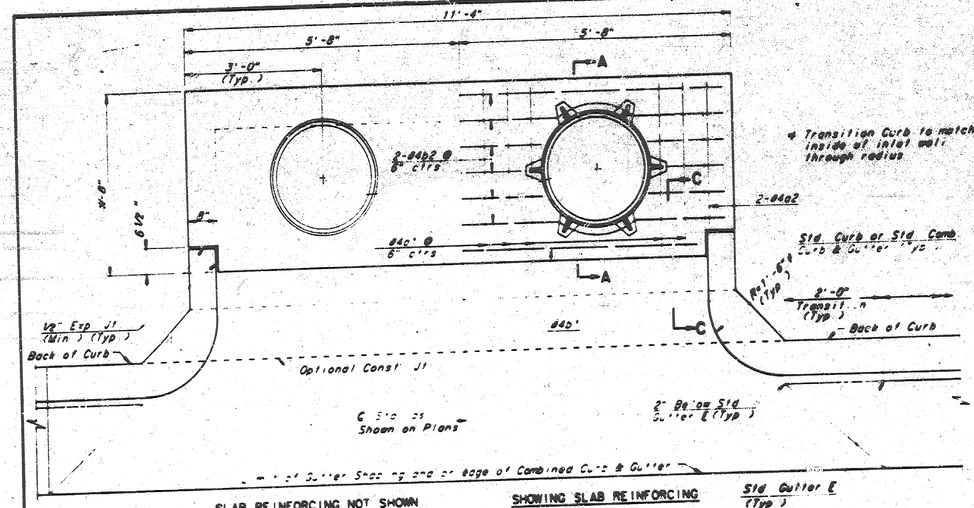
BAUGHMAN COMPANY, P.A.
SURVEYING & ENGINEERING
316/262-7271 • 315 ELLIS • WICHITA, KANSAS 67

Design:	Drawn:	Approved:	Date:	Scale:
C of W		C of W	12-21-84	8/12 =

Sheet: 8 of: 12

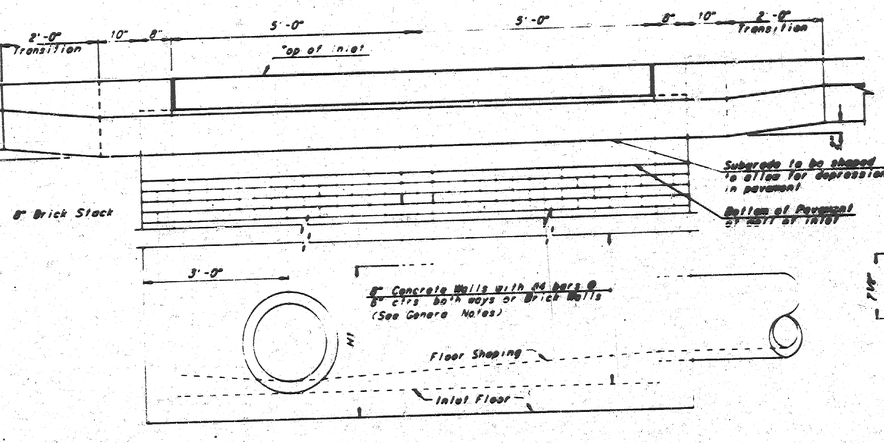
Project Number: 472-76-245-81660-000-000-001

PROJECT NO.	SHEET NO.	TOTAL SHEETS

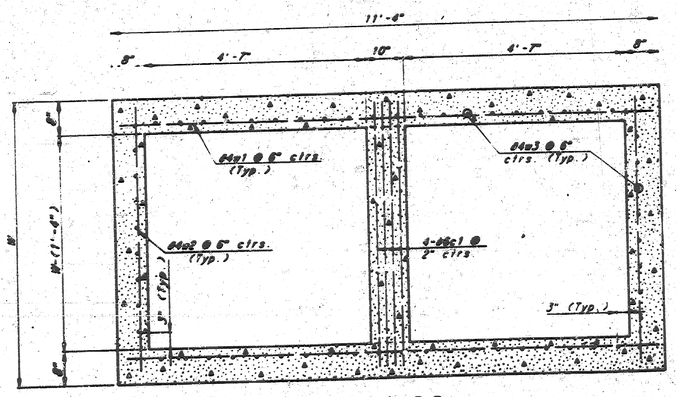


SLAB REINFORCING NOT SHOWN — SHOWING SLAB REINFORCING

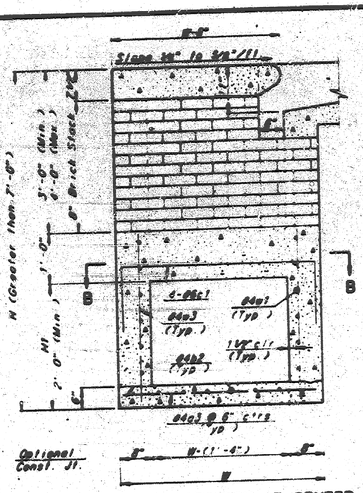
PLAN



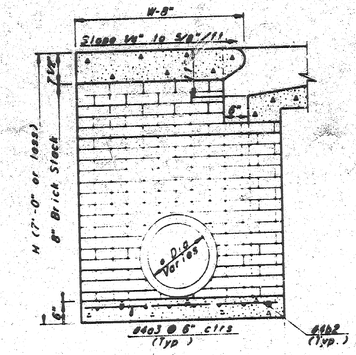
ELEVATION



SECTION B-B

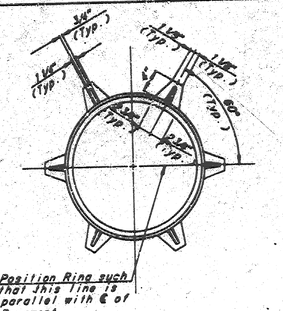


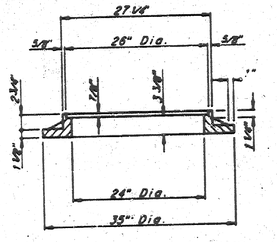
TYPICAL INLET SECTION AT CENTER WALL
(REINFORCED CONCRETE WALLS)



TYPICAL INLET SECTION AT CENTER WALL
(MASONRY WALLS)

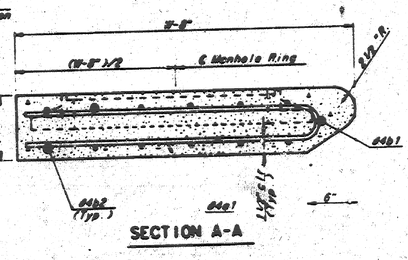
* A center wall opening shall be provided by means of a section of reinforced concrete pipe. The minimum o.d. greater used shall be that of the outlet pipe.



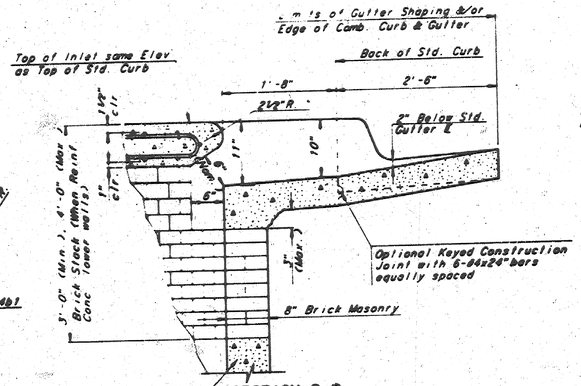


CAST IRON INLET RING
Wt.=180 lbs.

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



SECTION A-A



SECTION C-C

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=8'-4" OR LESS AND H=7'-0" OR LESS. WHEN W IS GREATER THAN 8'-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.

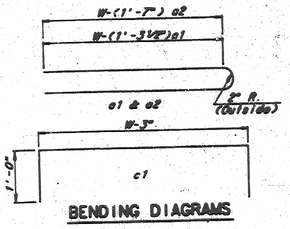
SLAB AND FLOOR REINFORCING

		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	6'-7½"	13	8'-7½"	13	10'-7½"	13	12'-7½"	13	14'-7½"
a2	#4	2	6'-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	8'-8"	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"
*b2	#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	#6	4	6'-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	②	4'-1"	②	5'-1"	②	6'-1"	②	7'-1"	②	8'-1"
w3	#4	③	③	③	③	③	③	③	③	③	③

* Field bend or cut Reinforcing as required for clearance
① 4(H1-6")+6 (H1-6") Rounded down to nearest 0.5'
② 40+4(H - 16") ③ H1+(8")



BENDING DIAGRAMS

STANDARD TYPE I-A CURB INLET DETAIL
CITY of WICHITA, KANSAS
Inlet Opening = 6" x 10'0"

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

Design:	Drawn:	Approved:	Date:	Scale:
C of W		C of W	12-21-84	9/12 = 1

Sheet: 9 of: 12

Project Number: 472-76-245-81660-000-000-001

SA 28

MF = $\left(\frac{25+26}{2}\right)^2\pi\left(\frac{45}{360}\right)\left(\frac{0.87+0.91}{2}\right)/27 = 3^{82}$

Exc = $\left[(36)^2-\left(\frac{26+25}{2}\right)^2\right]\pi\left(\frac{45}{360}\right)\left(\frac{0.38+0.33}{2}\right)/27 = 3^{33}$

LF = $\left[(51)^2-(36)^2\right]\pi\left(\frac{45}{360}\right)\left(\frac{0.39+0.60}{2}\right)/27 = 9^{64}$

CF = $\left(\frac{16.5+18}{2}\right)^2\pi\left(\frac{45}{360}\right)\left(\frac{0.42+0.42}{2}\right)/27 = 1^{80}$

MF	Exc	CF	LF
3^82	3^33 ✓	1^80	9^64

OD

MF = 10^{71} (0.91 Avg) CF = 7^{00} (0.42 Avg)

MF = $\left(\frac{26+36}{2}\right)^2\pi\left(\frac{45}{360}\right)\left(\frac{0.41+0.46}{2}\right)/27 = 6^{82}$

Exc = $\left[(36)^2-(26^{25})^2\right]\pi\left(\frac{45}{360}\right)\left(\frac{0.33+0}{2}\right)/27 = 1^{25}$

LF = 8^{21} (0.60 Avg) Exc = 3^{39} (0.33 Avg)

LF = $\left[(61)^2-(36)^2\right]\pi\left(\frac{45}{360}\right)\left(\frac{0.60+1.70}{2}\right)/27 = 21^{82}$

CF = $\left[(45.5)^2-(36)^2\right]\pi\left(\frac{45}{360}\right)\left(\frac{0.15+0}{2}\right)/27 + \left(\frac{16.5+30.5}{2}\right)^2\pi\left(\frac{45}{360}\right)\left(\frac{0.39+0.92}{2}\right)/27 = 4^{11}$

MF	Exc	CF	LF
6^82	1^25 ✓	4^11	21^82

OC

MF = 17^{33} (0.48 Avg) CF = 1^{21} (0.35 Avg)

MF = $(36)^2\pi\left(\frac{45}{360}\right)\left(\frac{0.48+0.45}{2}\right)/27 = 8^{82}$

LF = $\left[(51)^2-(36)^2\right]\pi\left(\frac{45}{360}\right)\left(\frac{1.70+1.52}{2}\right)/27 = 30^{66}$

LF = 25^{15} (1.70 Avg) CF = 1^{43} (0.15 Avg)

CF = $\left[\left(\frac{42.5+42.5}{2}\right)^2-(36)^2\right]\pi\left(\frac{45}{360}\right)\left(\frac{0.15+0.1}{2}\right)/27 + \left(\frac{30.5+28}{2}\right)^2\pi\left(\frac{45}{360}\right)\left(\frac{0.35+0.90}{2}\right)/27 = 6^{66}$

MF	LF	CF
8^82	30^66	6^66

OB

MF = 16^{23} (0.05 Avg) CF = 13^{56} (0.40 Avg)

MF = $(36)^2\pi\left(\frac{42}{360}\right)\left(\frac{0.45+0.47}{2}\right)/27 = 8^{14}$

LF = $\left[(51)^2-(36)^2\right]\pi\left(\frac{42.5}{360}\right)\left(\frac{1.04+1.52}{2}\right)/27 = 28^{04}$

LF = 22^{50} (1.52 Avg) CF = 0^{56} (0.1 Avg)

CF = $\left[\left(\frac{51+42.5}{2}\right)^2-(36)^2\right]\pi\left(\frac{42.5}{360}\right)\left(\frac{0.1+0.5}{2}\right)/27 + \left(\frac{28+26.5}{2}\right)^2\pi\left(\frac{42.5}{360}\right)\left(\frac{0.48+0.38}{2}\right)/27 = 8^{02}$

MF	LF	CF
8^14	28^04	8^02

OA

MF = 16^{27} (0.47 Avg) CF = 10^{08} (0.38 Avg)

LF = 24^{39} (1.64 Avg) CF = 7^{42} (0.50 Avg)

MF = $\left[(16.9)(46.86)/2 - (33.83)^2\pi\left(\frac{42}{360}\right)\left(\frac{0.47+0.40+0.45}{3}\right)\right]/27 = 26^{82}$ C.Y.

MF	LF	CF
26^82	32^66	25^55

0 10 20 30 40 50

LF = $\left[(33.83)^2-(15)^2\right]\pi\left(\frac{42}{360}\right)\left(\frac{1.64+1.52}{2}\right) + \left(\frac{1.38+1.52}{2}\right)\frac{1}{27} = 32^{66}$ ✓

Sin(42°01'23")(43.5) = 29.12
Sin(42°01'23")(33.83) = 22.65
Sin(98°01'23")(98) = 32.13

CF = $\left[(16.9)(46.86)/2 - (38.5)(32.13)/2 - (51.83)(29.12)/2\right]\left(\frac{0.38+0.42+0.45}{3}\right)\frac{1}{27} + \left[(37.83)(22.65)/2 - \left(\frac{16.5+17}{2}\right)^2\pi\left(\frac{42}{360}\right)\right]\left(\frac{0.50+0.51}{2}\right)\frac{1}{27} = 25^{55}$ C.Y.

Sta 4+63.14

LF = 23^{52} (1.69 Avg) CF = 8^{51} (0.51 Avg)

MF = 18^{00} (0.49 Avg) CF = 14^{29} (0.45 Avg)

LF = 22^{46} (1.52 Avg) CF = 0^{00}

Sta 4+63.14

G3.14

CF	LF	MF
38^82	106^72	41^94

LF = 23^{19} MF = 17^{86} CF = 9^{43} LF = 22^{11}

Sta 4+00

66

CF	LF	MF
132	109^44	39^44

LF = 22^{12} MF = 14^{38} CF = 1^{02} LF = 22^{08}

Sta 3+34

47

Exc	LF
6^66	50^14

CF 1^71 MF 14^44

LF = 13^{35} MF = 17^{77} Exc = 7^{57}

Sta 2+87
(℄ Funston Ct.)

47

Exc	LF	MF
28^82	19^82	1^66

LF = 46^{63} Exc = 25^{53} LF = 4^{86}

Sta 2+40

40

Exc	LF
38^72	14^66

LF = 5^{90} Exc = 26^{81} LF = 4^{34}

Sta 2+00

50

Exc	LF
61^92	9^55 ✓

Exc = 39^{58}

Sta 1+50

50

Exc
109^92

Exc = 72^{70}

Sta 1+00

52

Exc
161^32

Exc = 94^{77}

13

Exc	LF
57^22	0^44

Sta 0+48

Exc. = 117^{00} LF = 0^{52}

Sta. 0+35

Funston Circle

Project Totals		
MF	327.4	C.Y.
Exc	1745.4	C.Y.
CF	620.0	C.Y.
LF	1020.0	C.Y.

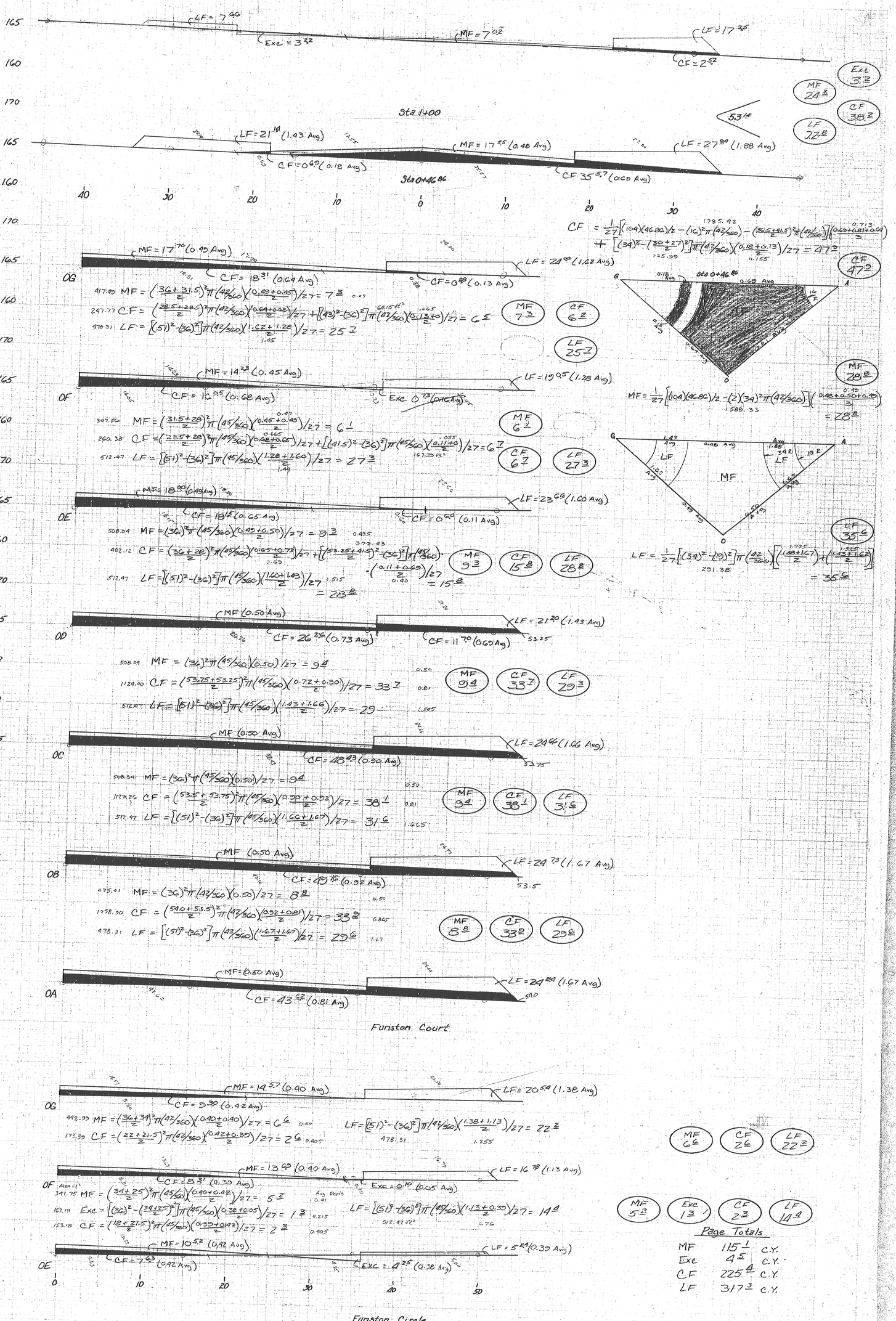
Borrow = $1.1\left[LF + 1.2(MF+CF) - 0.8\,Exc\right]$ =

$= 1.1\left[1020 + 1.2(327.4+620.0) - 0.8(1745.9)\right] = 836.6$ C.Y.

Page Totals		
MF	141.9	C.Y. ✓
Exc	456.6	C.Y. ✓
CF	100.4	C.Y. ✓
LF	432.2	C.Y. ✓

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10 20 30 40 50 60 70 80 90 100



$$CF = \frac{1}{27}\left[(104)(46.86)/2 - (16)^2\pi(45/360)\right] - \left(\frac{35.5+41.5}{2}\right)^2\pi(45/360)\left[\frac{0.69+0.81+0.69}{3}\right]$$
$$+ \left[(34)^2 - \left(\frac{30+27}{2}\right)^2\right]\pi(45/360)\left(\frac{0.18+0.13}{2}\right)/27 = 47.3$$

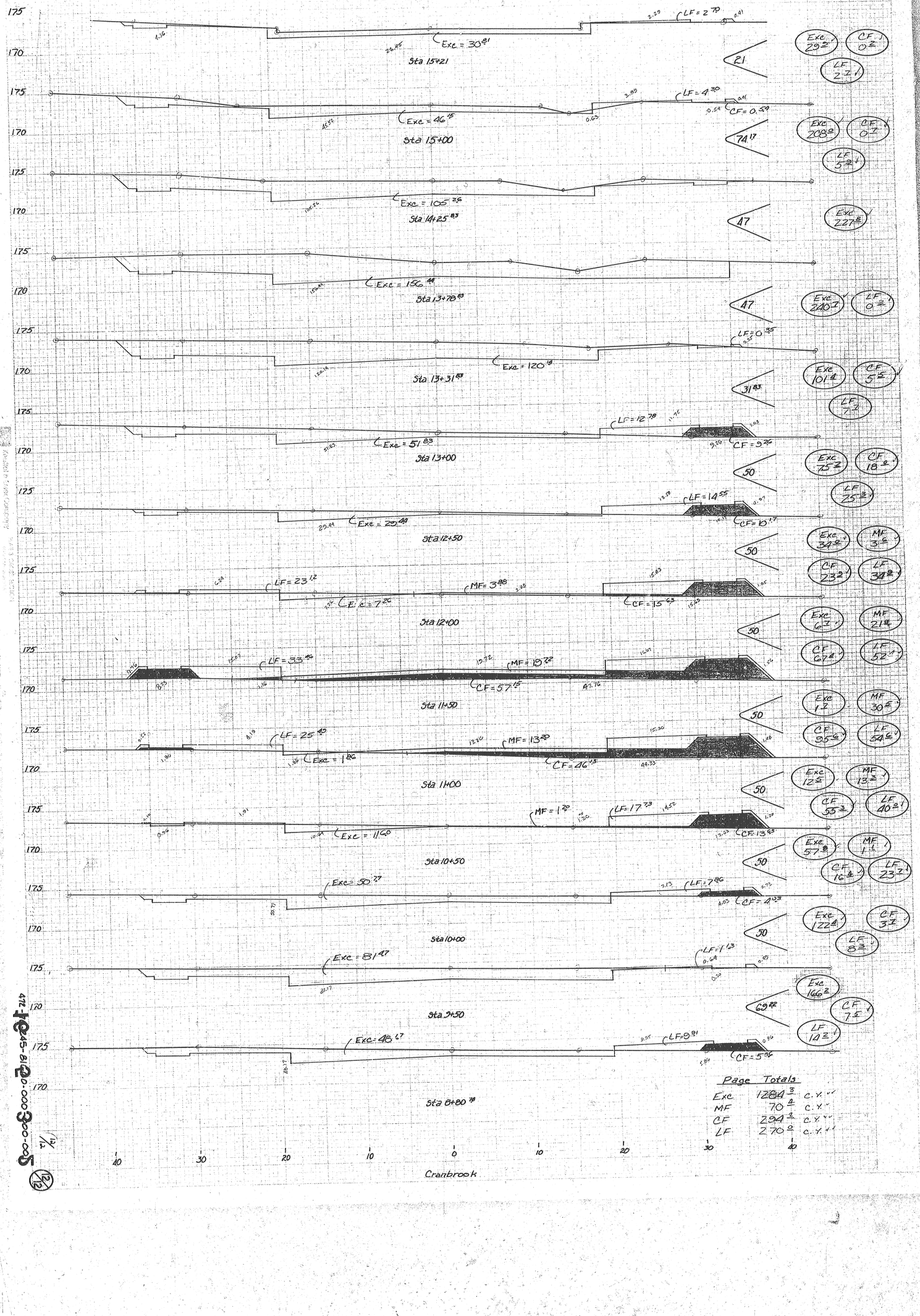
$$MF = \frac{1}{27}\left[(104)(46.86)/2 - (2)(34)^2\pi(45/360)\right]\left(\frac{0.48+0.50+0.69}{3}\right) = 28.8$$

$$LF = \frac{1}{27}\left[(34)^2 - (18)^2\right]\pi\left(\frac{45}{360}\right)\left[\left(\frac{1.43+1.67}{2}\right) + \left(\frac{1.43+1.62}{2}\right)\right] = 35.6$$

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12/11

DA 28 AREAS



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