STORM WATER SEWER NO. 475

TO SERVE

WOODLAND LAKES ESTATES

AN ADDITION TO THE CITY OF WICHITA
SEDGWICK COUNTY, KANSAS

PROJECT NO. 468-82581

MICHAEL E. LINDEBAK, CITY ENGINEER

INDEX CODE 750810

GENERAL NOTES

1. THE TOPS OF INLETS AND MANHOLES AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATIONS OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.

2. ALL CONCRETE SHALL BE STANDARD PAVING MIX UNLESS OTHERWISE NOTED.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL 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.

4. TREES TO BE REMOVED ARE MARKED ⨉. ALL TREES WHICH IN THE OPINION OF THE FIELD ENGINEER CAN BE SAVED, SHALL BE SAVED.

5. CONTRACTOR SHALL NOTIFY UTILITY COMPANIES OF CONSTRUCTION SCHEDULING.

6. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.

7. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

   KANSAS ONE-CALL 1-800-344-7233
   OR 687-2470 (LOCAL WICHITA)

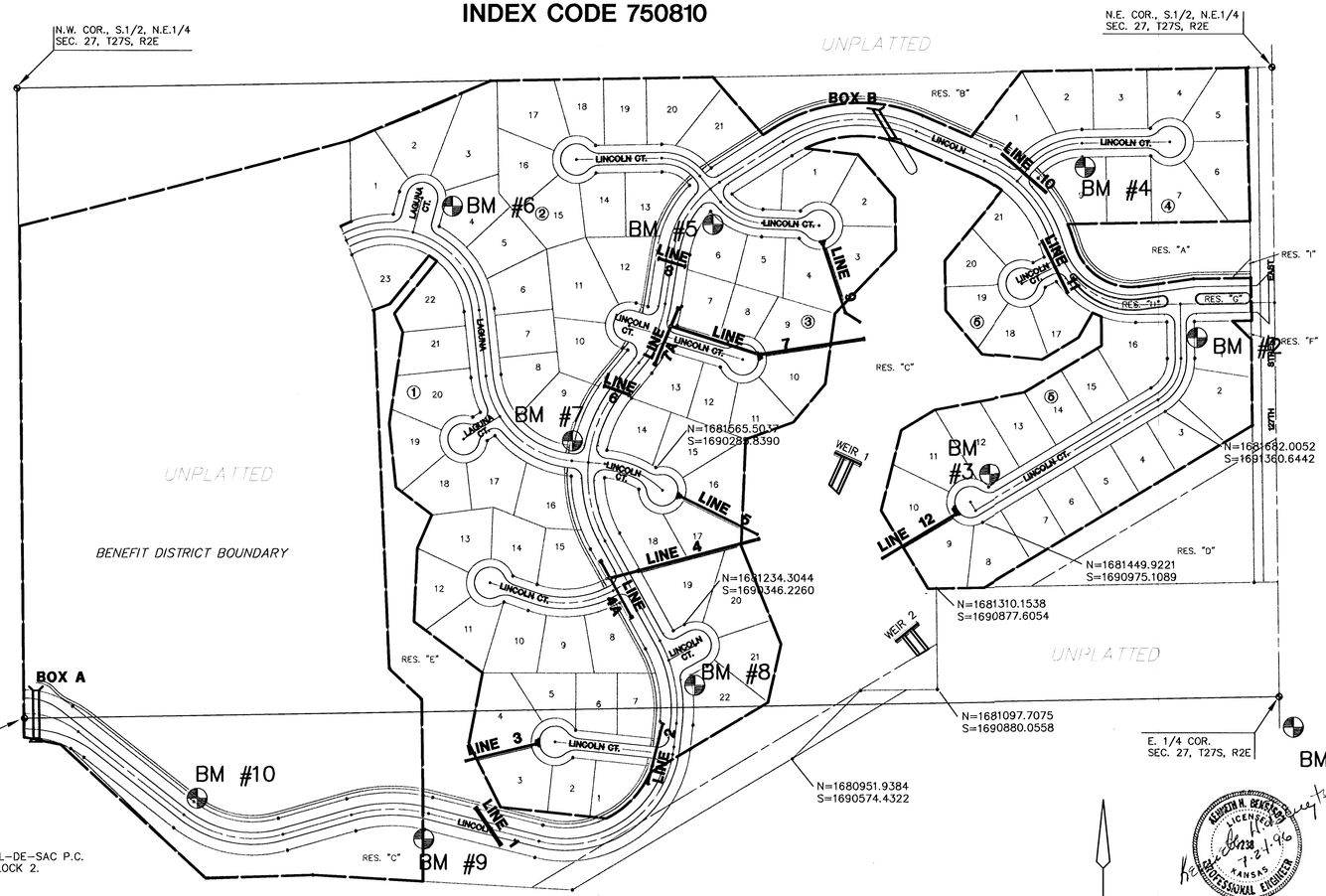
   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

SOUTHWESTERN BELL TELEPHONE COMPANY	1-800-734-7590
CABLEVISION	263-2061
KG&E (GAS & ELECTRIC)	383-8600
CITY OF WICHITA WATER & SEWER MAINTENANCE	268-4908
ARKLA GAS COMPANY	942-8350 OR 263-8161

8. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE DEPARTMENT OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

9. CONTRACTOR SHALL RESEED AND MULCH ALL DISTRUBED AREAS. COST SHALL BE CONSIDERED SUBSIDIARY TO SITE RESTORATION.

10. FOAM GASKET, OMNIFLEX GASKET, OR APPROVED EQUAL CLOSED CELL GASKET SHALL BE USED INSTEAD OF BUTYL RUBBER SEALANT AT ALL RCP AND RCB JOINTS. THE GASKET MATERIAL SHALL BE APPLIED AT THE PLANT.



BENCHMARKS

BM #1 RR SPIKE IN PP, 25' E. & 60' S. OF EAST 1/4 COR., SEC. 27, T27S, R2E.
NGVD EL=1337.08

BM #2 "T" POST 10' SOUTH OF N.W. CORNER OF LOT 1, BLOCK 5.
NGVD EL=1348.97

BM #3 "T" POST 10'± N. OF CUL-DE-SAC P.C ON SOUTHEASTERLY LINE OF LOT 12, BLOCK 5.
NGVD EL=1344.35

BM #4 "T" POST 10'± S. OF P.T. ON NORTH SIDE OF LOT 9, BLOCK 4.
NGVD EL=1345.24

BM #5 "T" POST 10'± SOUTH OF N.W. COR. LOT 6, BLOCK 3.
NGVD EL=1345.59

BM #6 "T" POST 10± E. OF CUL-DE-SAC P.C. ON WEST SIDE LOT 4, BLOCK 2.
NGVD EL=1356.32

BM #7 "T" POST 10± NORTH OF S.E. COR. OF LOT 9, BLOCK 2.
NGVD EL=1350.17

BM #8 "T" POST 10'± S. OF NORTHWESTERLY COR. OF LOT 22, BLOCK 3.
NGVD EL=1341.46

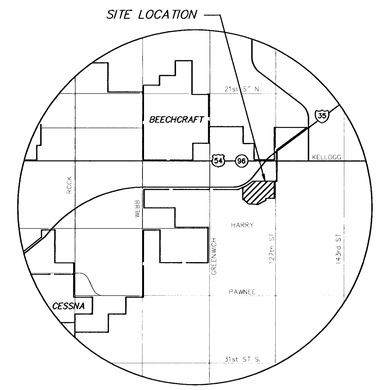
BM #9 "T" POST 10'± S. OF P.T. ON SOUTH SIDE OF LINCOLN, 845'± EAST OF CENTER OF SECTION 27, T27S, R2E.
NGVD EL=1338.58

BM #10 "T" POST 10'± S. OF P.C. ON NORTH SIDE OF LINCOLN, 358'± EAST OF CENTER OF SECTION 27, T27S, R2E.
NGVD EL=1345.23

N

SCALE: 1" = 150'

LEGEND
• IRON



VICINITY MAP

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LINE 1
3	LINES 2 & 3
4	LINES 4 & 4A
5	LINES 5 & 6
6	LINES 7 & 7A
7	LINES 8 & 9
8	LINES 10 & 11
9	LINE 12
10	BOX A
11-12	BOX A DETAILS
13	PRECAST CULVERT DETAILS
14	BOX B
15, 16	BOX B DETAILS
17	WEIR #1
18	WEIR #2
19-21	CURB INLET DETAILS
22, 23	MANHOLE DETAILS
24	AREA INLET DETAILS
25	PLAT

KENNETH N. HENSLEY LICENSED PROFESSIONAL ENGINEER 1-2-96 KANSAS

BOOKED 6-25-97 MCG D-341

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

WOODLAND LAKES ESTATES
PROJECT NAME

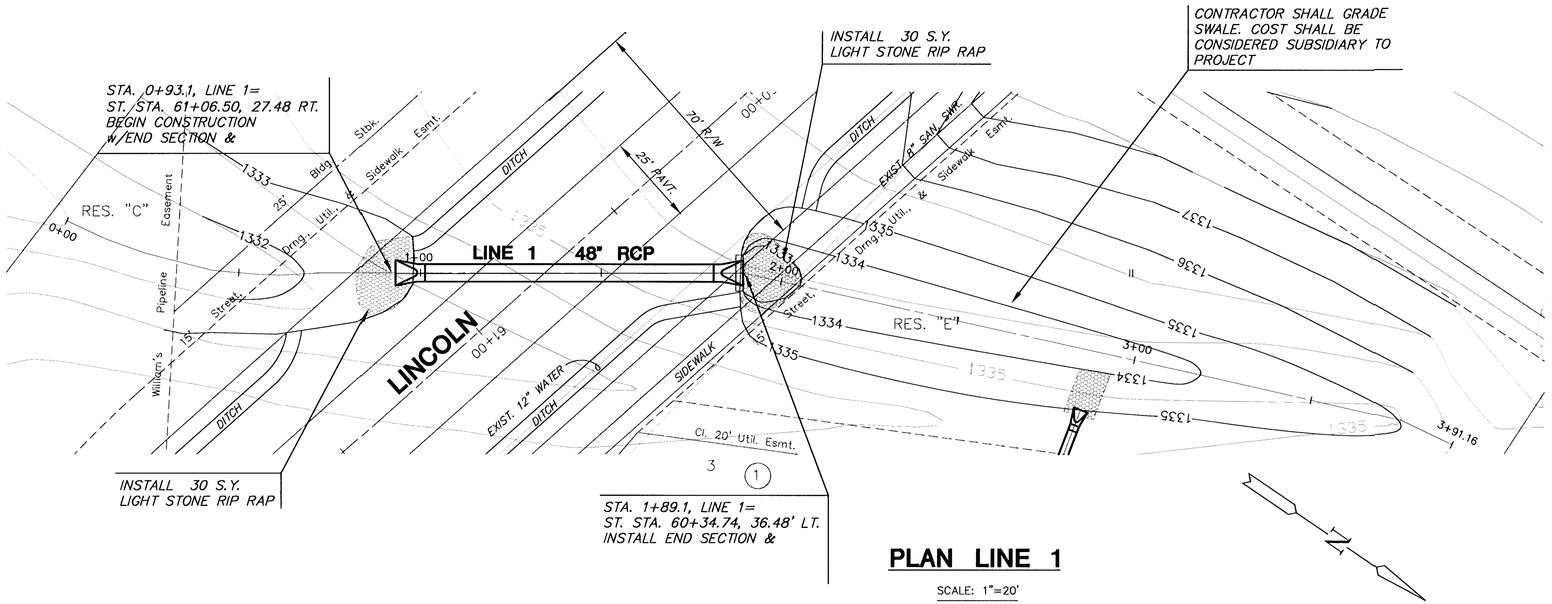
STORM WATER SEWER PLANS
SHEET TITLE

DESIGN BY:	DRAWN BY:	CHECKED BY:
GJA	KKL	DSS

DATE	JOB NO.	SHEET/OF
JULY 1996	95058_DT	1 / 25

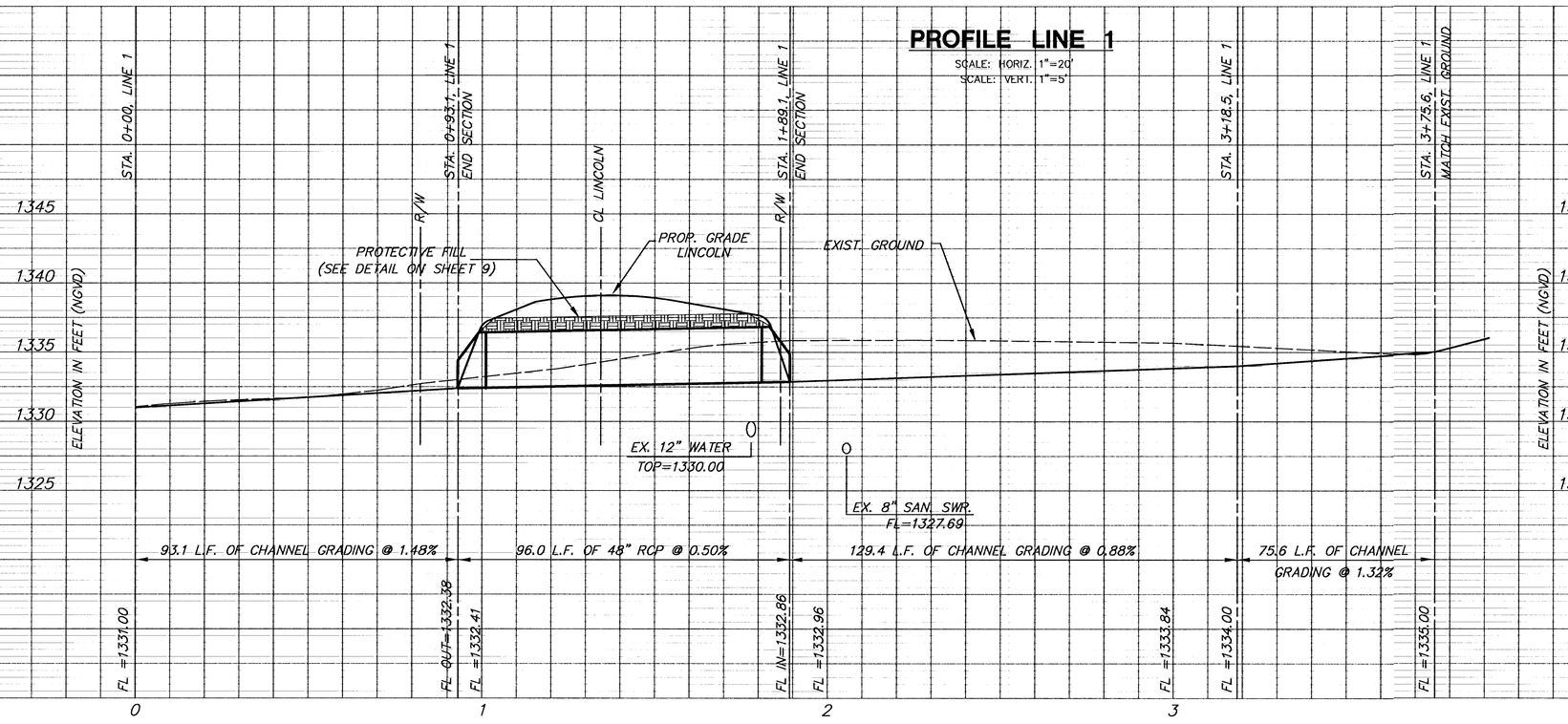
H:\CIVIL\95058\SWS\95058_DT Wed Jul 24 10:42:02 1996

WOODLAND LAKE ESTATES
STORM WATER SEWER PLANS
PROJ. NO. 475-82581



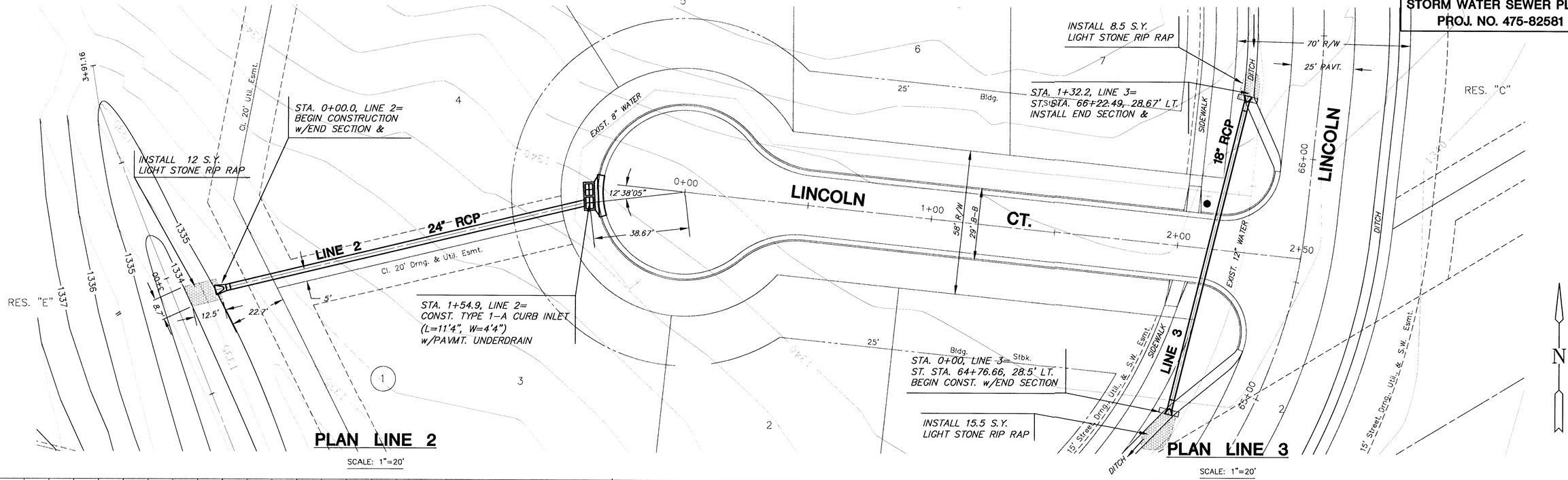
PLAN LINE 1

SCALE: 1"=20'



95058_D1

WOODLAND LAKE ESTATES
STORM WATER SEWER PLANS
PROJ. NO. 475-82581



PLAN LINE 2

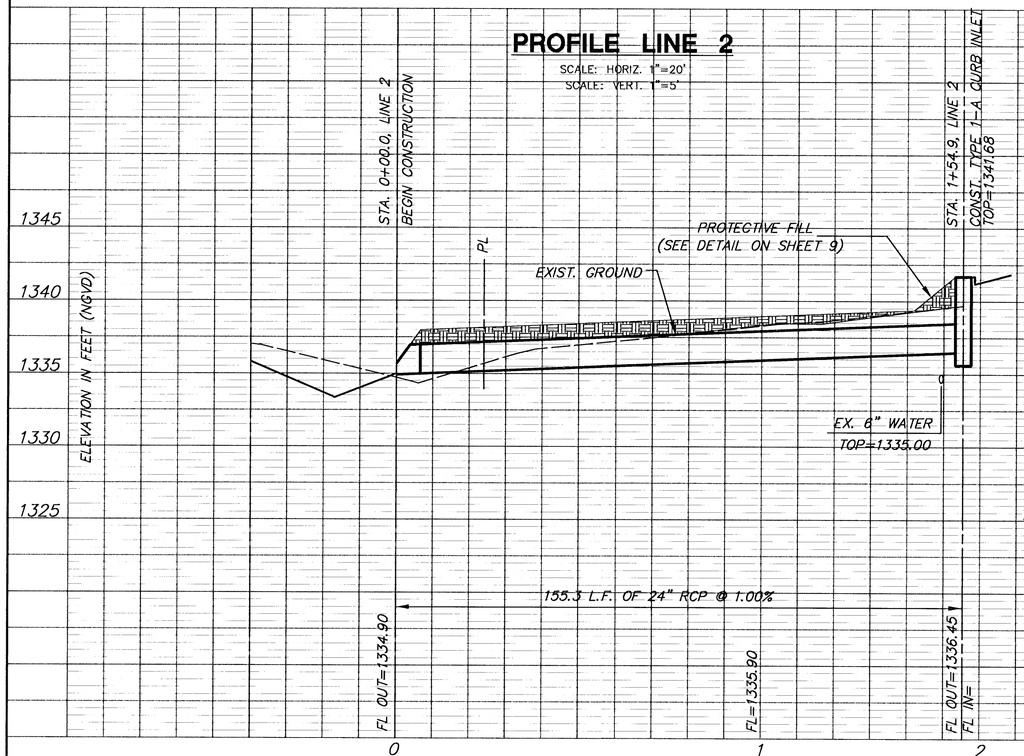
SCALE: 1"=20'

PLAN LINE 3

SCALE: 1"=20'

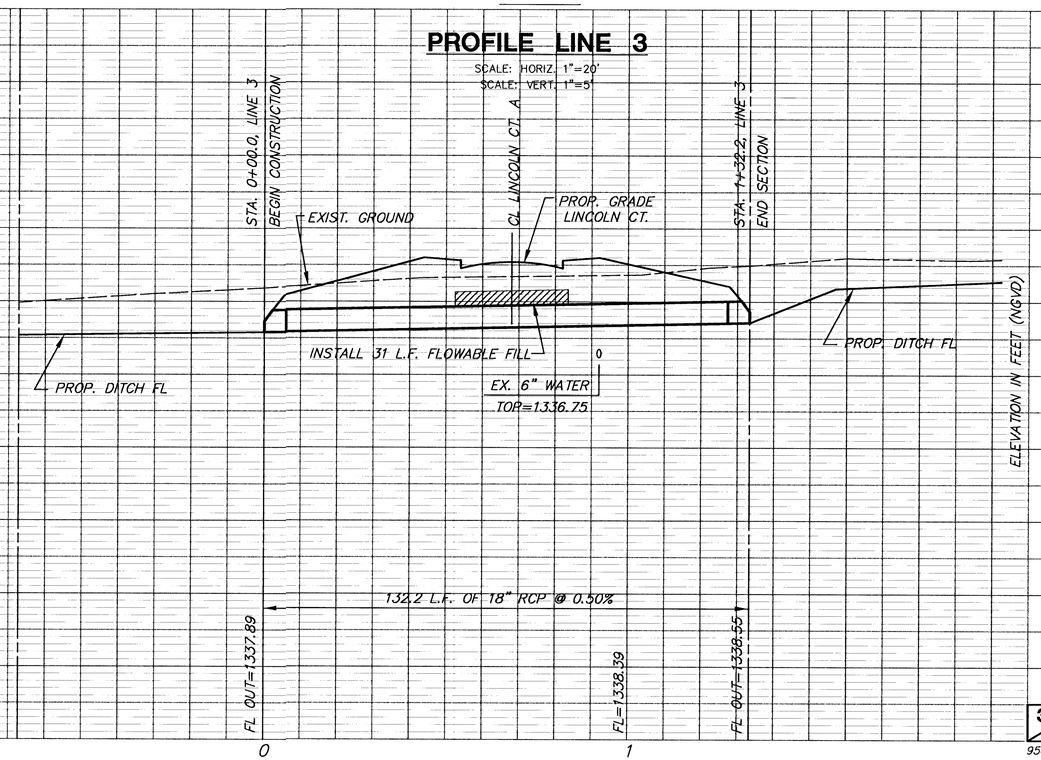
PROFILE LINE 2

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



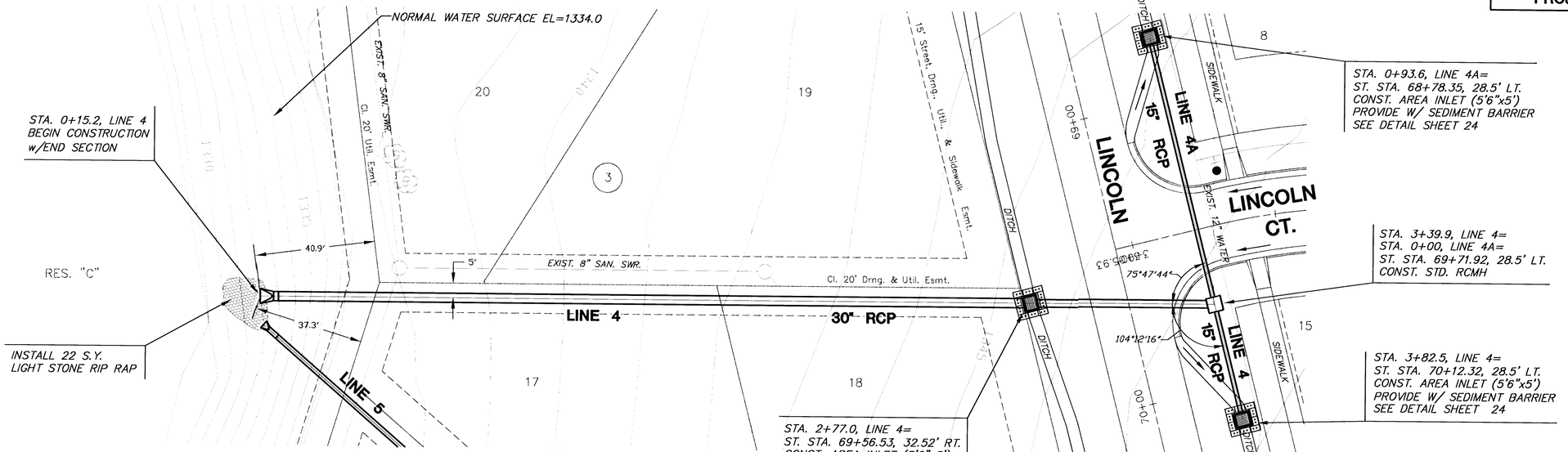
PROFILE LINE 3

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



95058_D2

WOODLAND LAKE ESTATES
STORM WATER SEWER PLANS
PROJ. NO. 475-82581



PLAN LINE 4

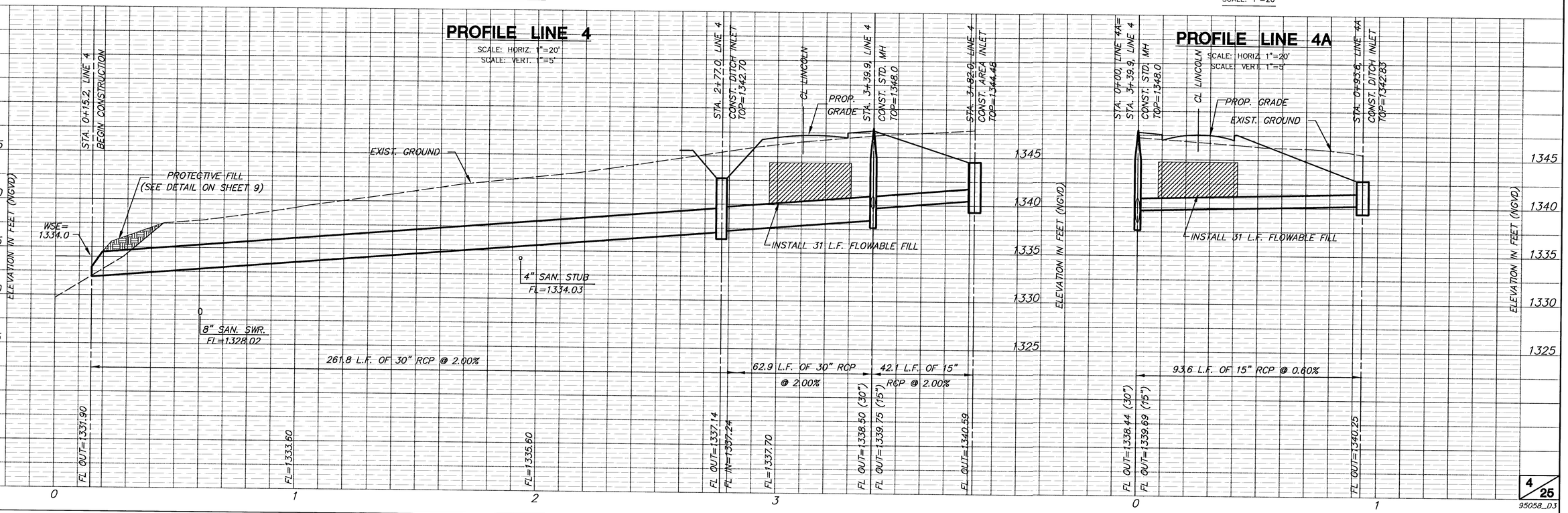
SCALE: 1"=20'

PLAN LINE 4A

SCALE: 1"=20'

PROFILE LINE 4

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'

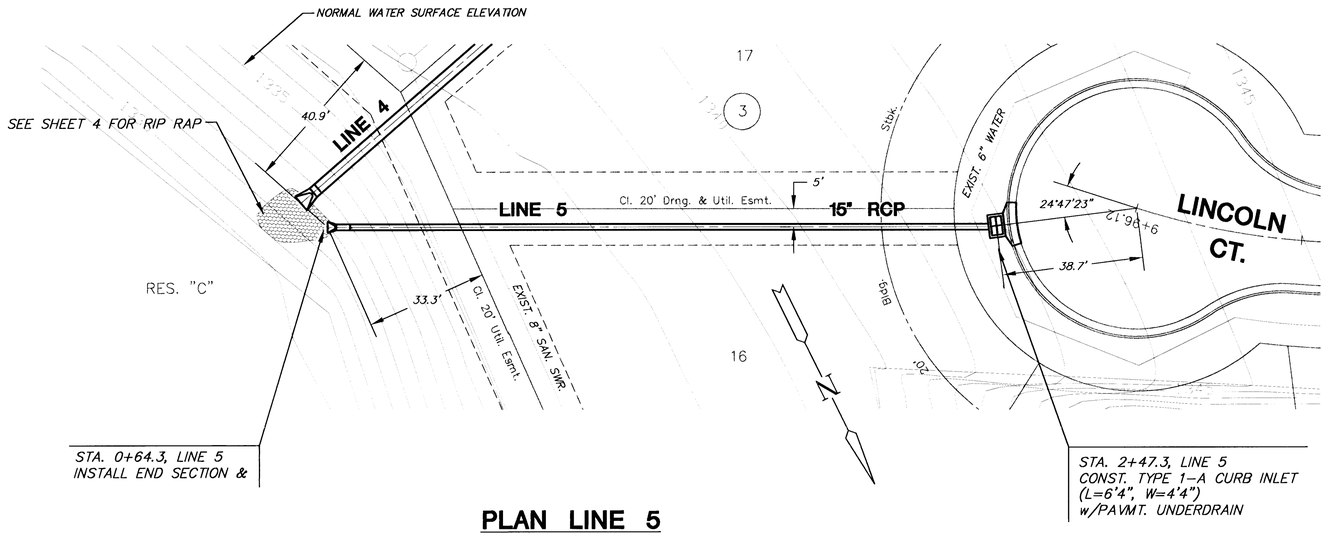


PROFILE LINE 4A

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'

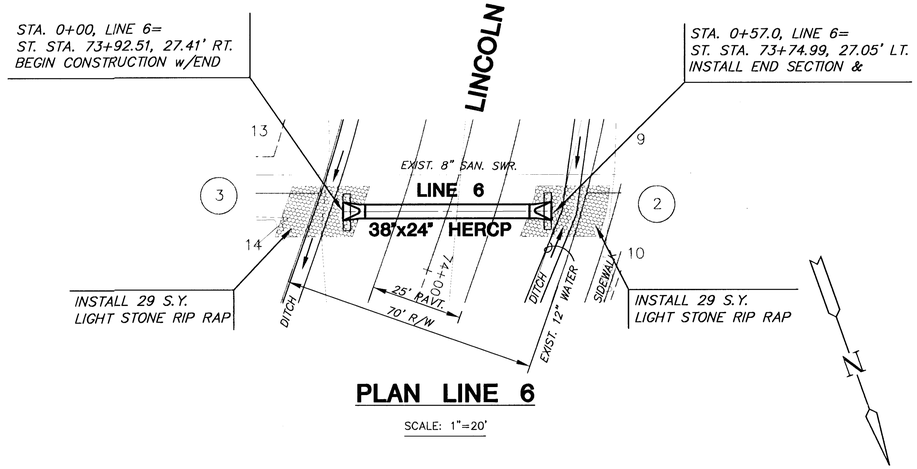
95058_03

WOODLAND LAKE ESTATES
STORM WATER SEWER PLANS
PROJ. NO. 475-82581



PLAN LINE 5

SCALE: 1"=20'

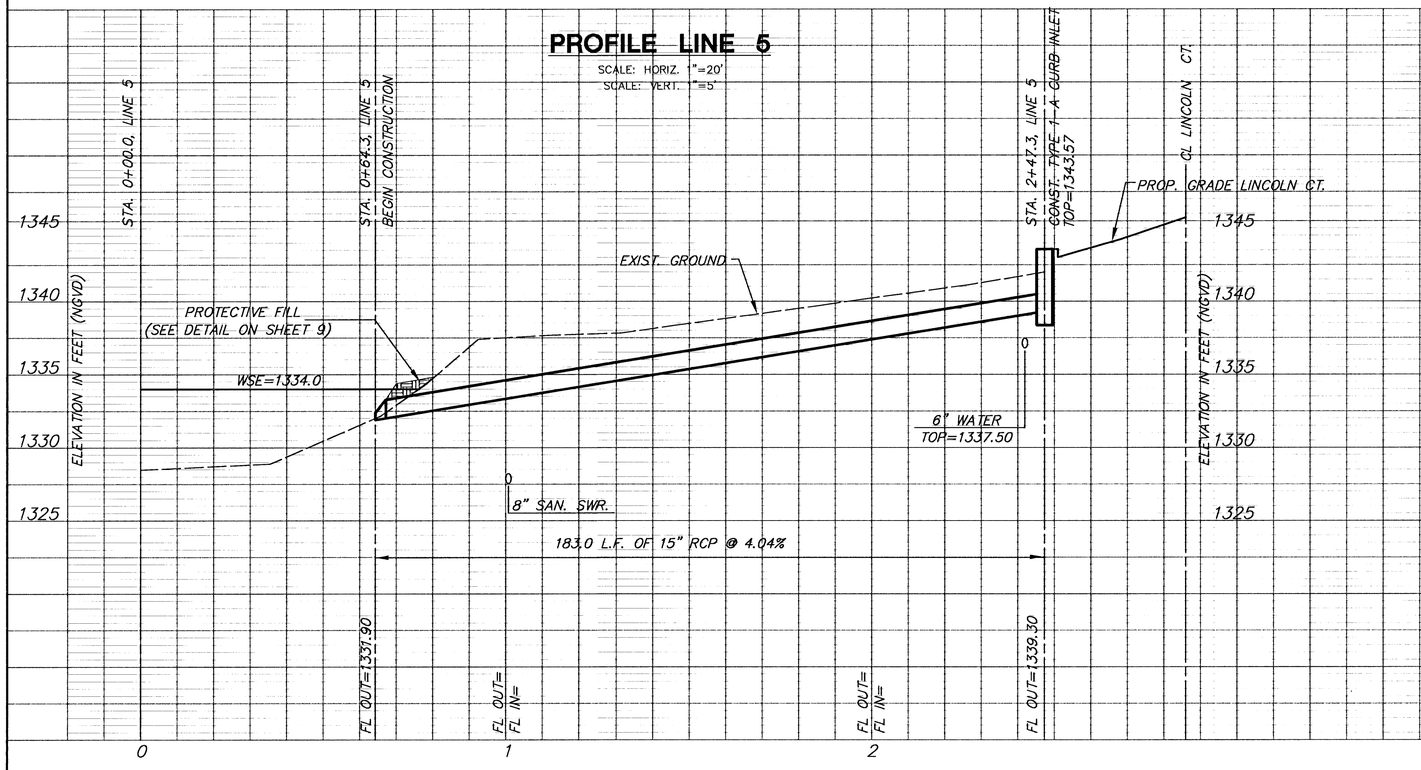


PLAN LINE 6

SCALE: 1"=20'

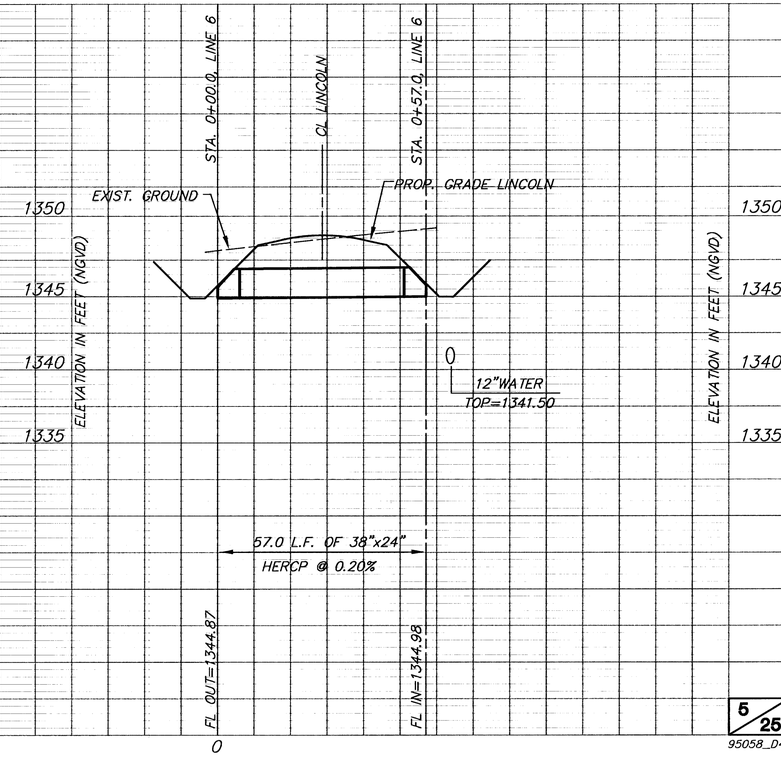
PROFILE LINE 5

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



PROFILE LINE 6

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



95058_04

WOODLAND LAKE ESTATES
STORM WATER SEWER PLANS
PROJ. NO. 475-82581

INSTALL 18 S.Y. LIGHT STONE RIP RAP

68.6'

5'

Cl. 20' Drng. & Util. Esmt.

36" RCP

LINE 7

RES. "C"

STA. 0+00.0, LINE 7
INSTALL END SECTION

82.2'

LINE 9

EXIST. 8" SAN. SWR.

Cl. 20' Util. Esmt.

STA. 2+21.7, LINE 7
CONST. TYPE 1-A CURB INLET
(L=11'4", W=4'4")
w/PAVMT. UNDERDRAIN

38.7'

32°15'08"

STA. 0+87.1, LINE 7A
ST. STA. 74+74.56, 28.50' RT.
CONST. AREA INLET (5'6"x5')
PROVIDE W/ SEDIMENT BARRIER
SEE DETAIL SHEET 24

EXIST. 6" WATER

LINCOLN CT.

7.7'

36" RCP 94°48'8"

LINE 7A

30" RCP

STA. 4+60.8, LINE 7
ST. STA. 75+90.12, 28.81' RT
CONST. AREA INLET (5'6"x5')
PROVIDE W/ SEDIMENT BARRIER
SEE DETAIL SHEET 24

5.1'

95°11'52"

15' Esmt. Drng., Util., & Sidewalk

LINE 7

30" RCP

DITCH

STA. 4+20.0, LINE 7=
STA. 0+00, LINE 7A=
ST. STA. 75+54.03, 22.5' RT.
CONST. STD. RCMH

DITCH

EXIST. 12" WATER

SIDEWALK

LINCOLN CT.

SIDEWALK

DITCH

PLAN LINES 7 & 7A

SCALE: 1"=20'

PROFILE LINE 7

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'

STA. 0+02.9, LINE 7
BEGIN CONSTRUCTION

EXIST. GROUND

PROTECTIVE FILL
(SEE DETAIL ON SHEET 9)

WSE=
1335.0

8" SAN. SWR.
FL=1329.96

6" WATER
TOP=1333.50

STA. 2+21.7, LINE 7
CONST. TYPE 1-A CURB INLET
TOP=1340.98

PROP. GRADE LINCOLN CT.

INSTALL 63 L.F. FLOWABLE FILL

STA. 4+20.0, LINE 7
CONST. STD. MANHOLE
TOP=1348.3

STA. 4+60.8, LINE 7
CONST. DITCH INLET
TOP=1343.6

ELEVATION IN FEET (NGVD)

1345
1340
1335
1330
1325

FL OUT=1330.67

FL =1332.51

FL=1334.35

FL OUT=1334.69
FL OUT=1334.79

FL OUT=

FL OUT=1338.27
FL IN=1338.77

FL OUT=
FL IN=

FL OUT=1339.49

218.8 L.F. OF 36" RCP @ 1.84%

198.3 L.F. OF 36" RCP @ 1.76%

40.8 L.F. OF 30" RCP @ 1.76%

0 1 2 3 4

PROFILE LINE 7A

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'

STA. 0+00, LINE 7A=
STA. 4+20.0, LINE 7
TOP=1348.3

STA. 0+87.1, LINE 7A
TOP=1344.70

CL LINCOLN

PROP. GRADE LINCOLN

EXIST. GROUND

INSTALL 43 L.F. FLOWABLE FILL

ELEVATION IN FEET (NGVD)

1350
1345
1340
1335
1330
1325

FL OUT=1338.27
FL IN=1338.77

FL OUT=1340.51

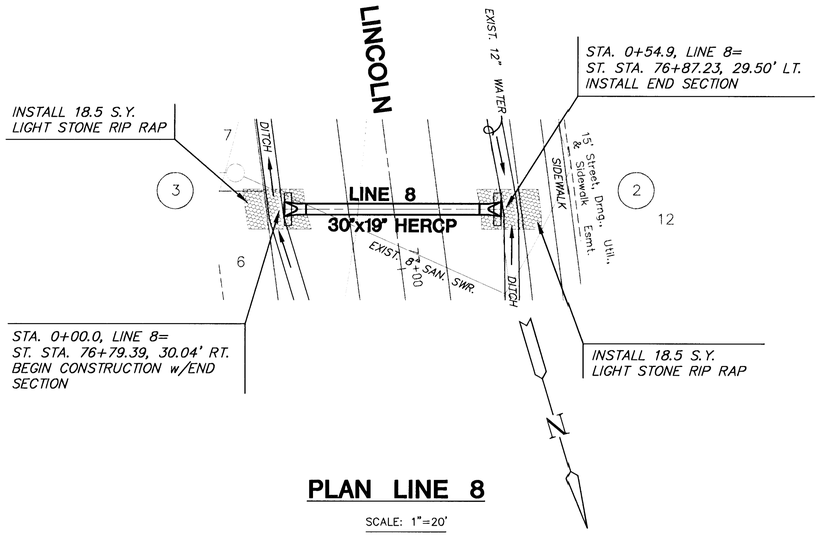
87.1 L.F. OF 30" RCP @ 2.00%

0

6/25

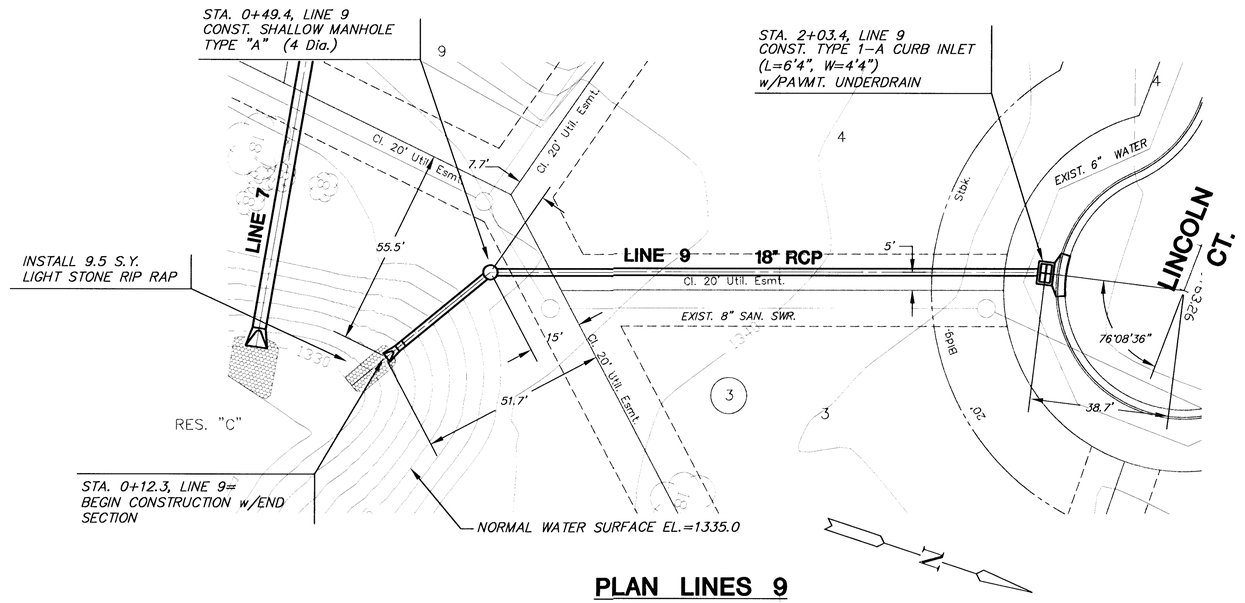
95058_D5

WOODLAND LAKE ESTATES
STORM WATER SEWER PLANS
PROJ. NO. 475-82581



PLAN LINE 8

SCALE: 1"=20'

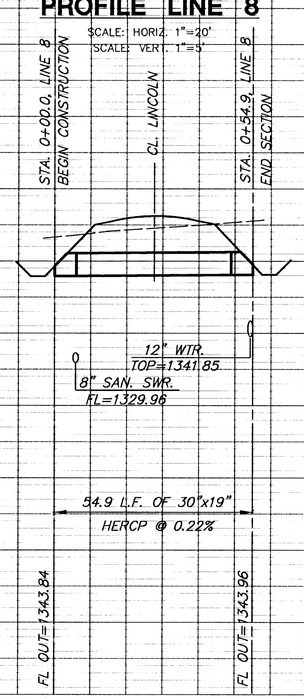


PLAN LINES 9

SCALE: 1"=20'

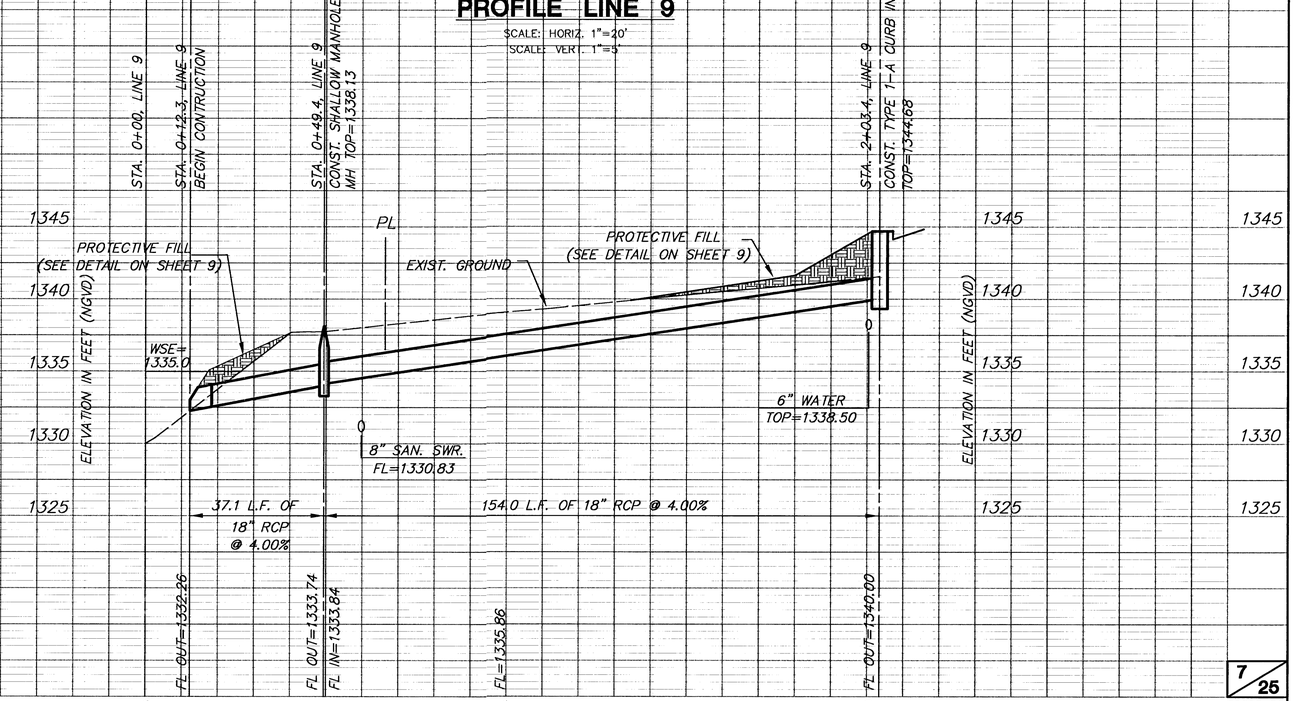
PROFILE LINE 8

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



PROFILE LINE 9

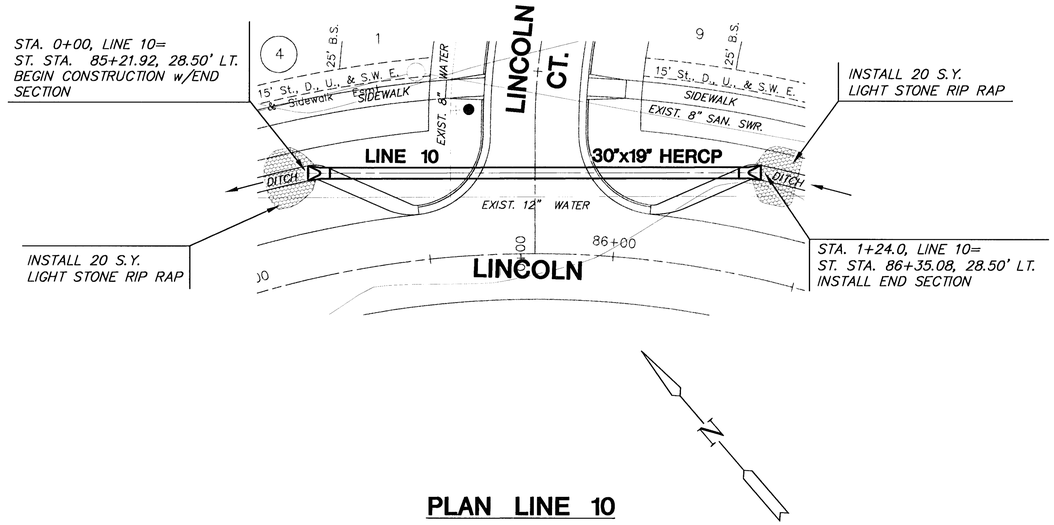
SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



95058_D6

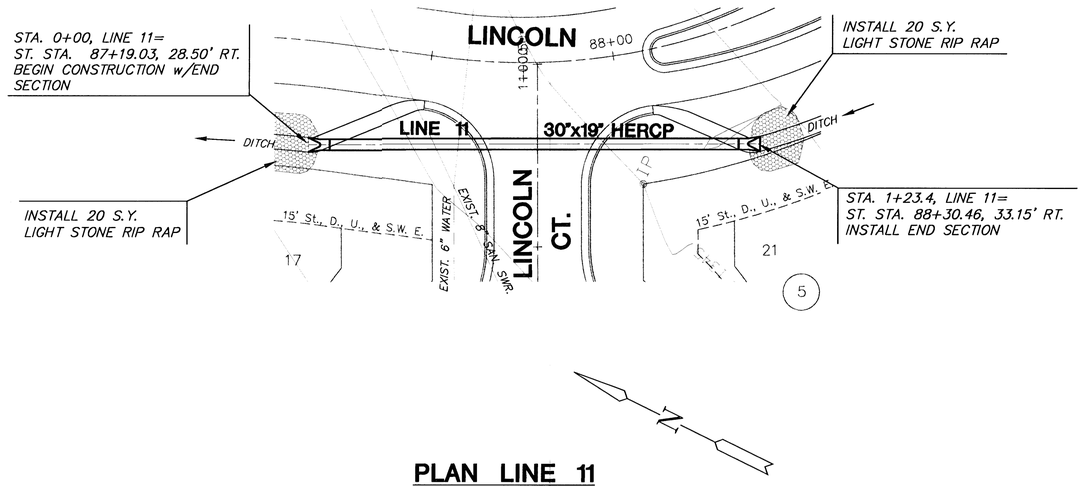
H:\CIVIL\95058\SAC\95058_D6 Wed Jul 24 16:47:09 1996

WOODLAND LAKE ESTATES
STORM WATER SEWER PLANS
PROJ. NO. 475-82581



PLAN LINE 10

SCALE: 1"=20'

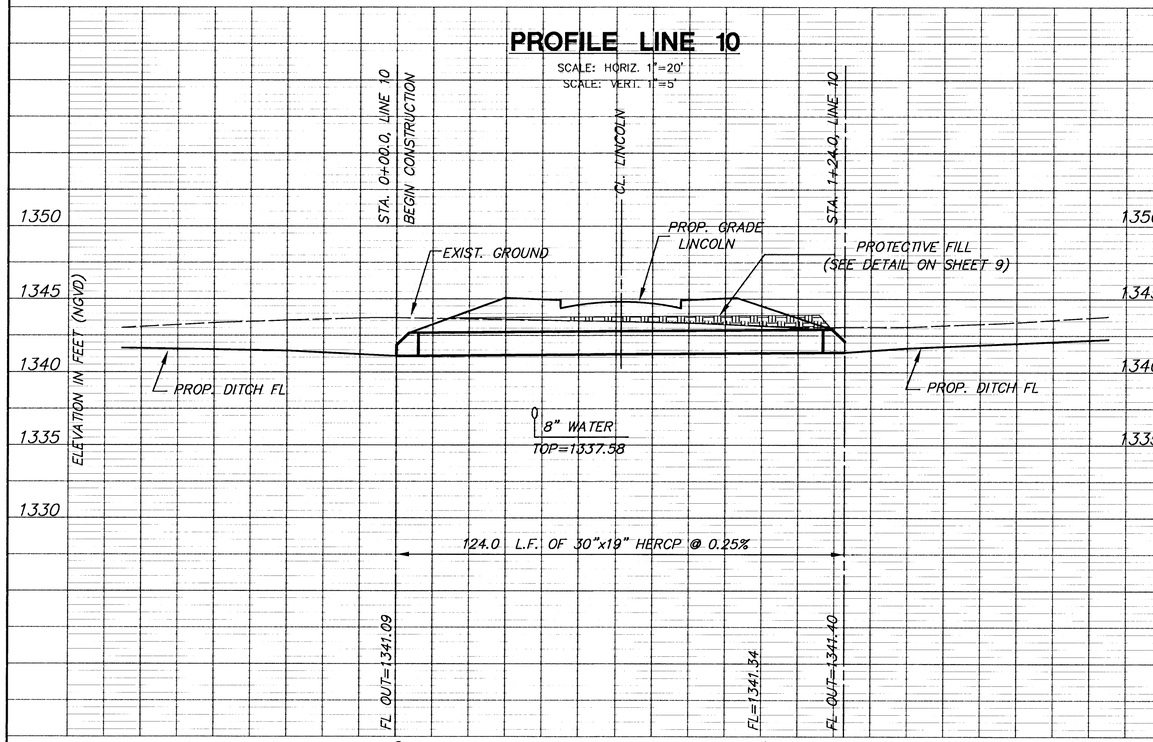


PLAN LINE 11

SCALE: 1"=20'

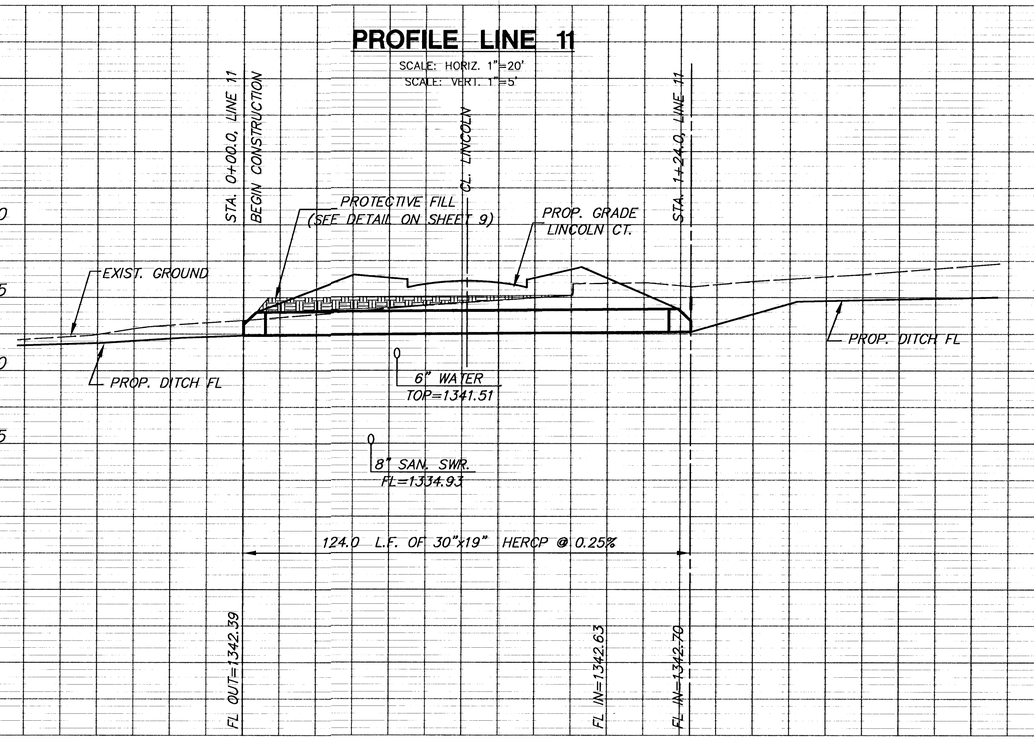
PROFILE LINE 10

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



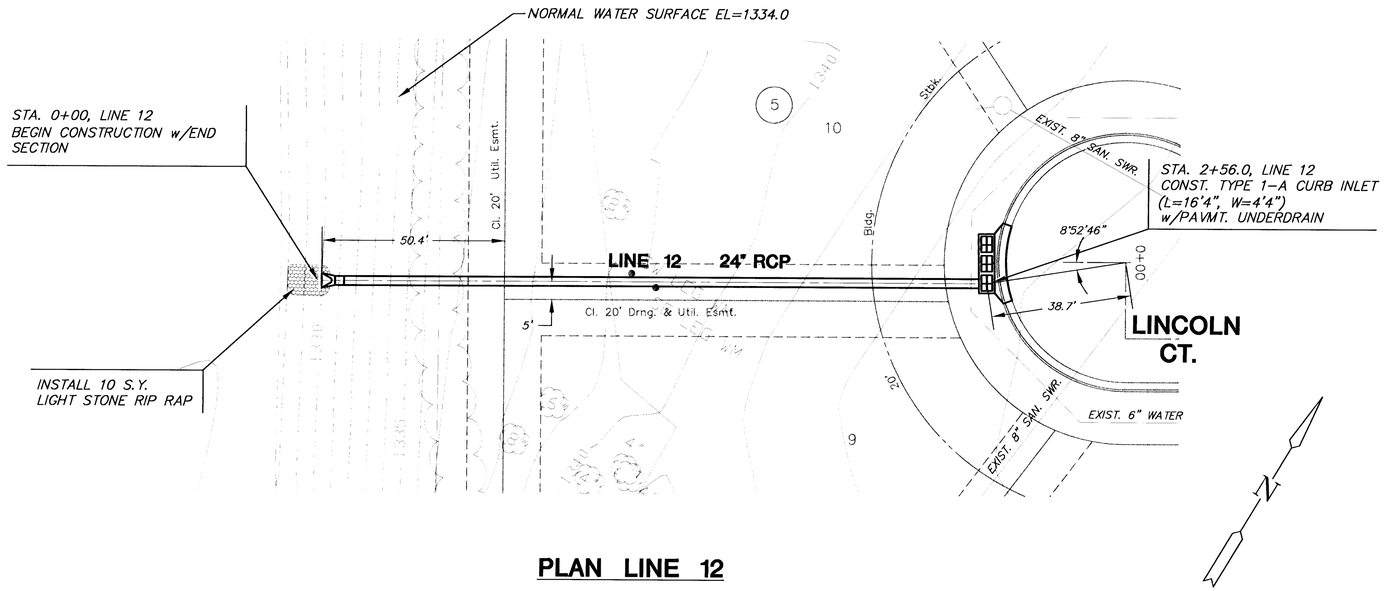
PROFILE LINE 11

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



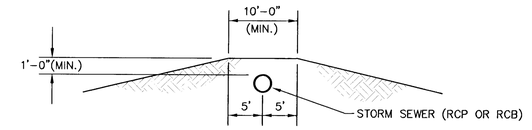
95058_D7

WOODLAND LAKE ESTATES
STORM WATER SEWER PLANS
PROJ. NO. 475-82581



PLAN LINE 12

SCALE: 1"=20'

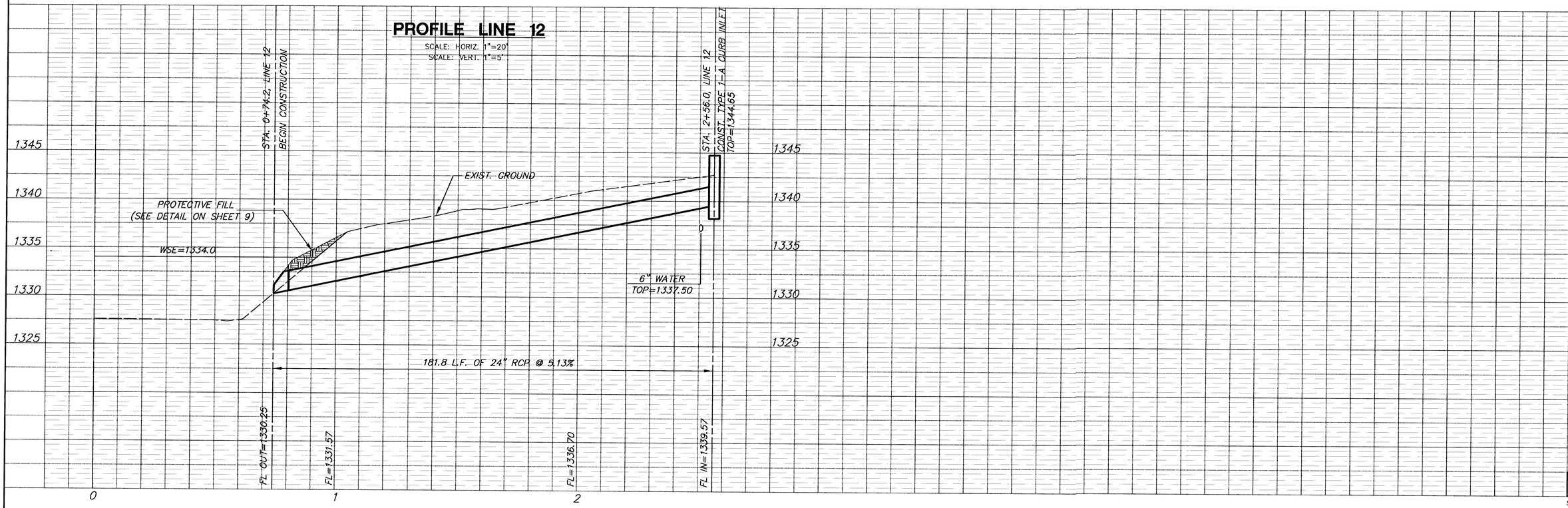


PROTECTIVE FILL DETAIL

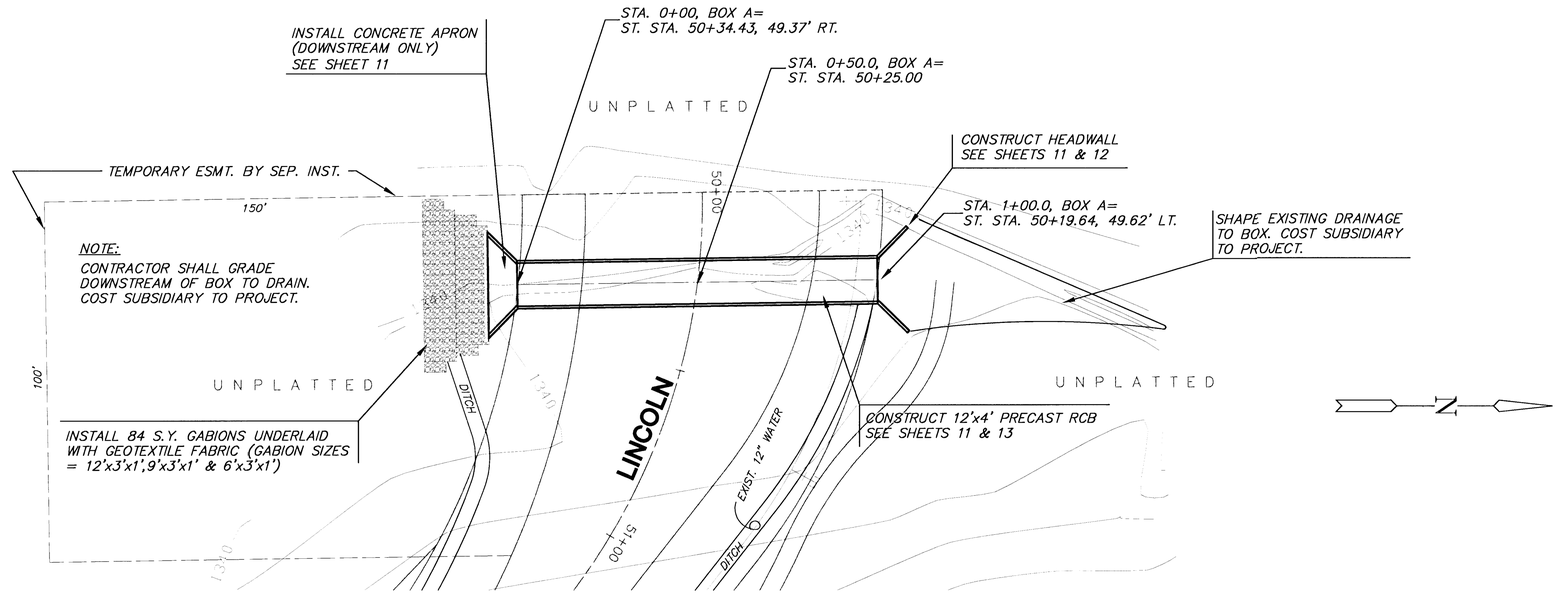
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. STORM SEWER LINE LINE IS LESS THAN 1'-0" FT. (COST SUBSIDIARY TO PIPE INSTALLATION)

PROFILE LINE 12

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



95058_D8

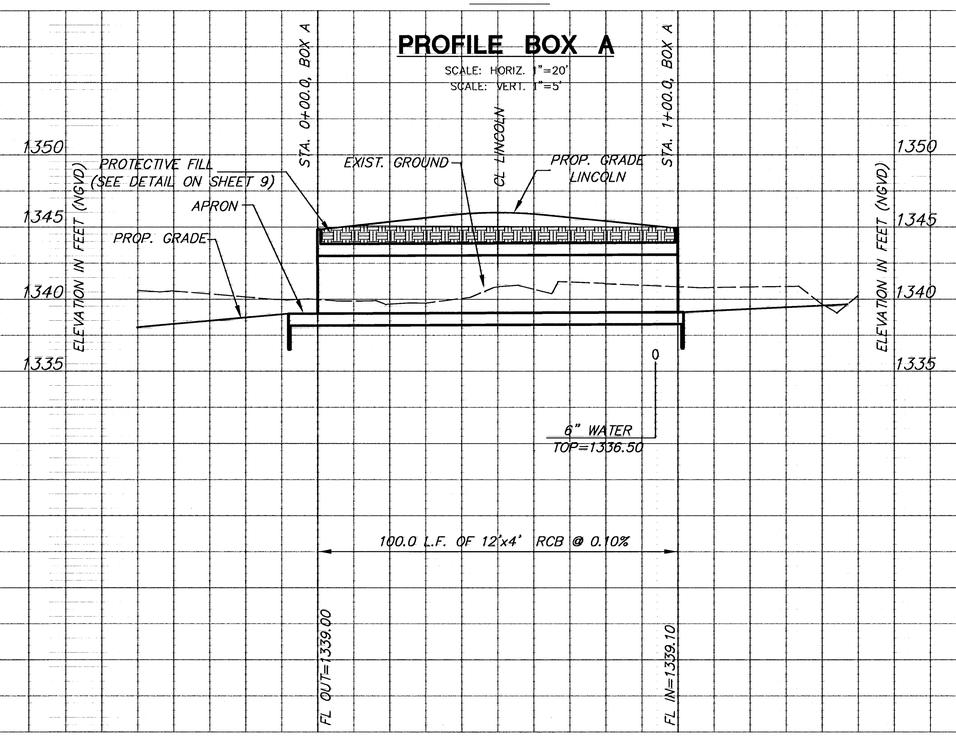


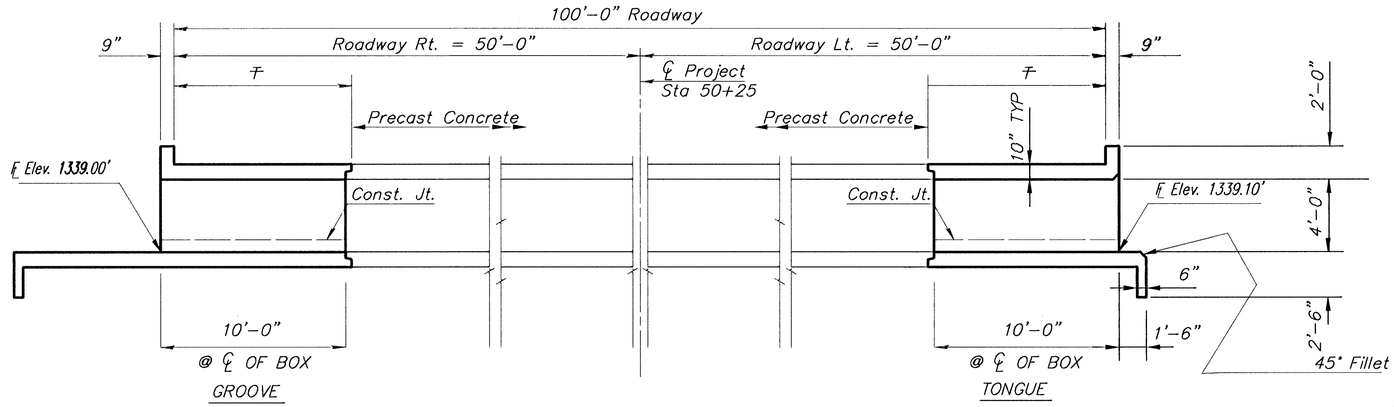
PLAN BOX A

SCALE: 1"=20'

PROFILE BOX A

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



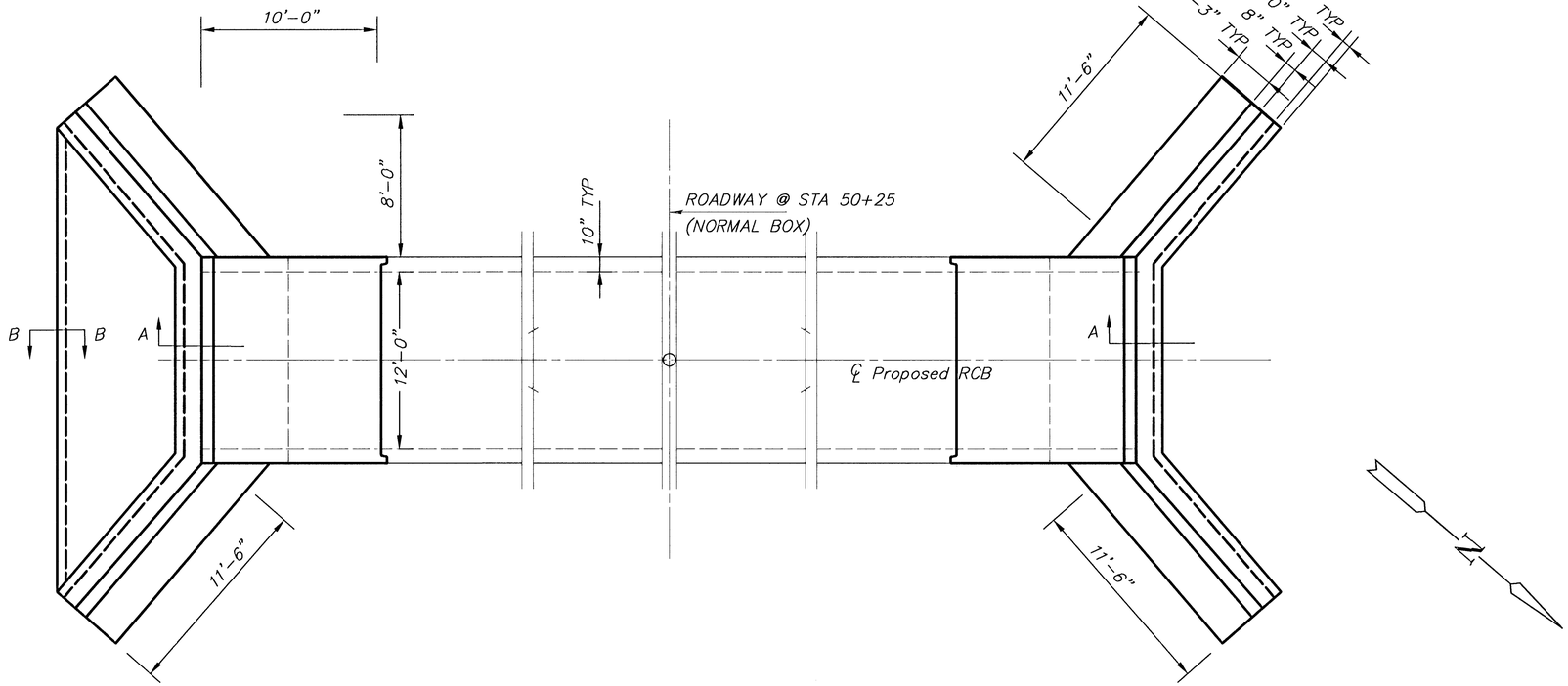


Transition (Typ.)
(Upstream End Only)

SECTION AND ELEVATION

(Normal to ℄ Roadway @ STA 50+25)
SCALE 1/4"=1'-0"

Ŧ Hand Compaction Equip.
Only in this area



PLAN

SCALE 1/4"=1'-0"

GENERAL NOTES

LOADING: HS20-44 AASHTO Specifications, 1992 Edition.
UNIT STRESSES: Class AAA Concrete; f'c = 4,000 p.s.i.
Reinforcing Steel; fy = 60,000 p.s.i.

CONCRETE: Class AAA (AE) Concrete shall be used throughout. Bevel all exposed edges with a 3/4" triangular moulding.

REINFORCING: All reinforcing shall conform to ASTM A615, Grade 60. All dimensions relative to reinforcing steel shall be to centerline of bar unless otherwise noted.

EXCAVATION: Excavation for culvert shall not be paid for directly but shall be subsidiary to Class AAA (AE) Concrete.

FOUNDATION STABILIZATION: Foundation Stabilization may be required as directed by the Engineer. The depth of Foundation Stabilization shall be determined by the Engineer. Foundation Stabilization shall be paid for at the determined Unit Price set for Foundation Stabilization.

GRANULAR BACKFILL (WINGWALLS): Special backfill procedures may be required at the direction of the Engineer.

STRIKE LINE: Wingwalls and that portion of the RCB outside the Strike Line shall be constructed level. Footing for wingwalls shall be constructed with the culvert floor.

FOUNDATION AND BACKFILL MATERIAL: Soils judged as high plasticity clays, fat clays, expansive clays, or organic clays are unsuitable for foundation and/or backfill material for wingwalls and will not be used. Where these conditions exist, Foundation Stabilization and/or Granular Backfill (Wingwalls) shall be used as determined by the Engineer.

MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

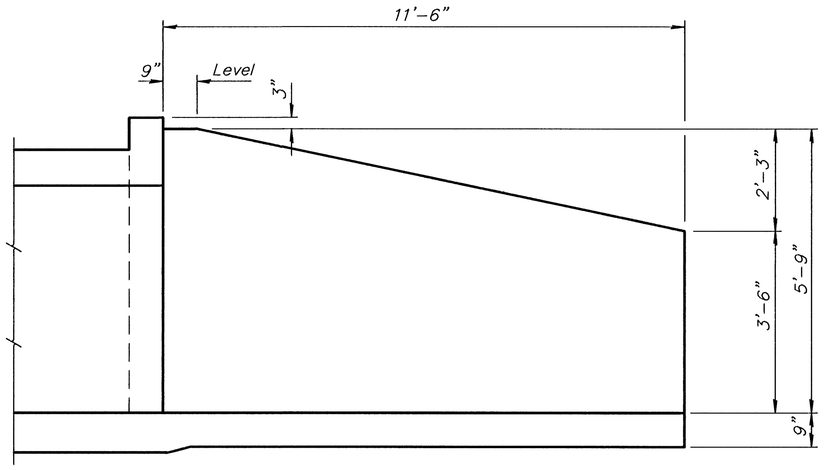
WOODLAND LAKES ESTATES
PROJECT NAME

BOX A DETAILS
SHEET TITLE

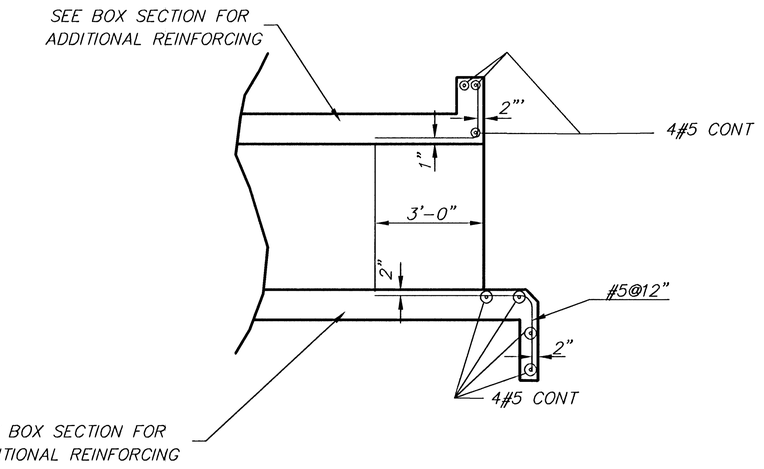
JAH	JAH	KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
6/21/96	95058D11	11 / 25
DATE	JOB NO.	SHEET/OF

H:\CIVIL\95058\SMS\95058D14.DWG

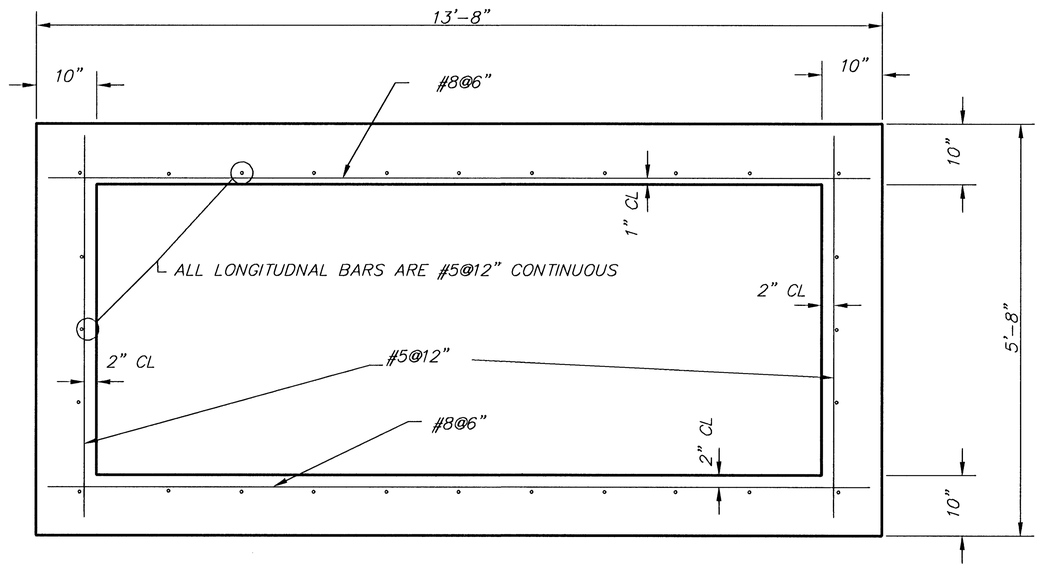
H:\CIVIL\95058\SMS\95058D11 Thu Jul 25 15:31:20 1996



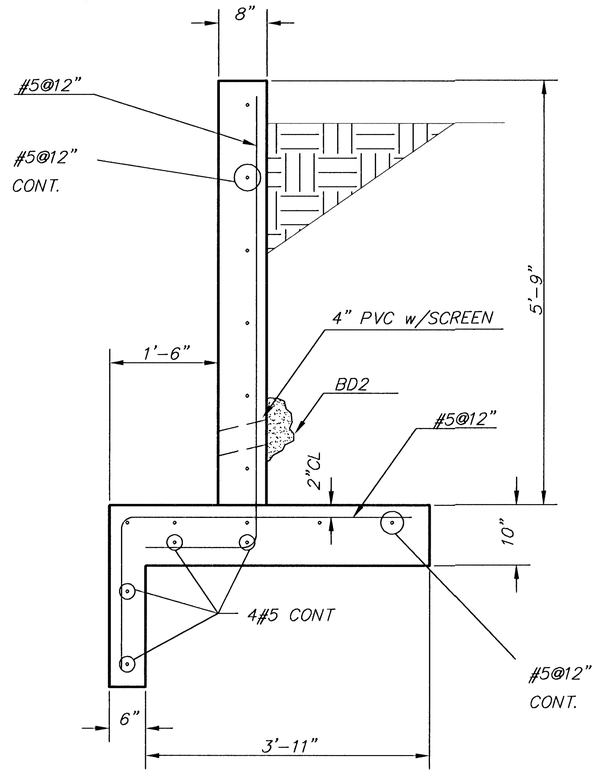
TYPICAL ELEVATION OF WINGWALLS



SECTION A



TYPICAL RCB SECTION



TYPICAL WINGWALL

SECTION B–B

MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

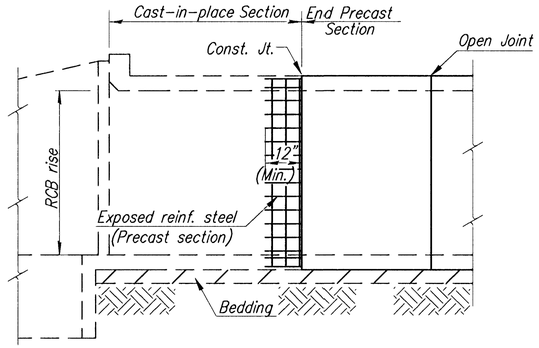
WOODLAND LAKES ESTATES
PROJECT NAME

BOX A DETAILS
SHEET TITLE

JAH	JAH	KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
6/24/96	95058D13	12 / 26
DATE	JOB NO.	SHEET/OF

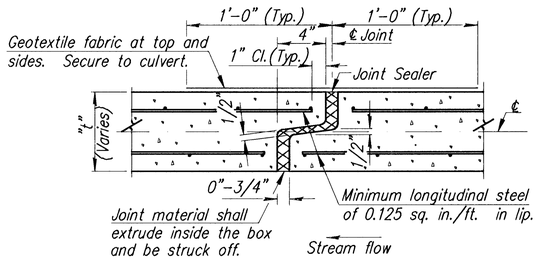
H:\CIVIL\95058\SWS\95058D13.DWG

H:\CIVIL\95058\SWS\95058D13 Thu Jul 25 16:22:22 1996

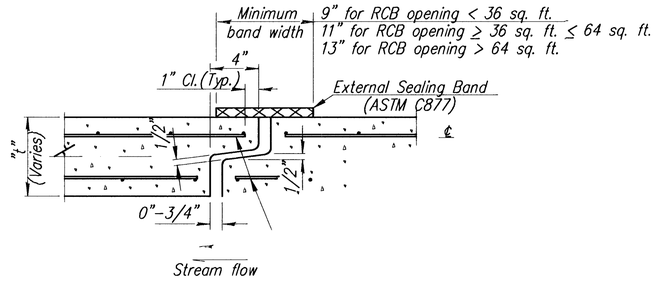


ELEVATION AT HEADWALL

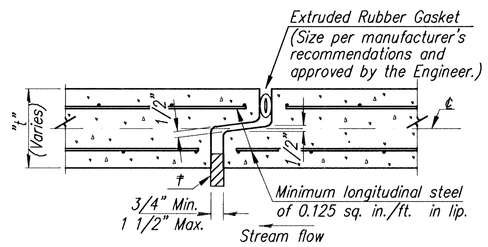
(End unit using combination of cast-in-place and precast sections.)



OPTION "A"



OPTION "B"



OPEN JOINT DETAIL

GENERAL NOTES

PRECAST BOX CULVERTS: If precast box culverts are specified, they shall be constructed at the locations shown in the plans and according to the requirements shown on this sheet. When approved by the Engineer, precast box culverts may be constructed in lieu of cast-in-place box culverts. When the precast option is chosen by the Contractor, the cast-in-place quantities shall be used as the basis of payment which shall include all labor, equipment, materials, and incidentals necessary to complete the installation.

Unless otherwise approved by the Engineer, cast-in-place collars shall be required at horizontal and vertical changes in RCB alignment. Cast-in-place end sections and wingwalls are required except as noted on this sheet. Cast-in-place sections may be required at the direction of the Engineer at junctions of drainage structures.

Cast-in-place concrete work shall be done in accordance with the KDOT Specifications and KDOT's "Guidelines for Structural Design and Detail of Reinforced Concrete Box Culverts". Class AAA (AE) Concrete and Grade 60 Reinforcing Steel shall be used for the cast-in-place construction.

SPECIFICATIONS: Single-cell Precast Concrete Box Culverts shall conform to the requirements of the following specifications except as noted in the KDOT Specifications. Multiple-cell Precast Boxes shall be designed in accordance with the criteria used to develop the single-cell precast boxes. (See the latest AASHTO Specifications.)

Condition	Min. Fill	AASHTO	Equiv. ASTM
2 Ft. or more fill	2 Ft.	M259, Table 2	C789, Table 2
Less than 2 Ft. fill	0 Ft.	M273, Table 2	C850, Table 2

FABRICATION: Prior to fabrication, the Contractor shall furnish shop drawings to the Engineer for review. Shop drawings shall detail all phases of construction including layout, joint details, lifting devices, casting methods, construction placement and details of any cast-in-place segments or transitions that may be required. Copies of overheight and overload permits, when required, shall be submitted with the shop drawings.

The following information shall be legibly marked on an inside face of each box section by waterproof paint or other approved means:

a) Date of manufacture
b) Name or trademark and location of the manufacturer
c) Weight of box section in tons
d) Piece mark
e) The top of the box

CONSTRUCTION REQUIREMENTS: Foundation preparation shall be in accordance with KDOT Specifications except that a minimum 6 inch thickness of crushed stone for backfill or 3 inch seal course shall be provided. Choice of bedding shall be at the Contractor's option and approved by the Engineer.

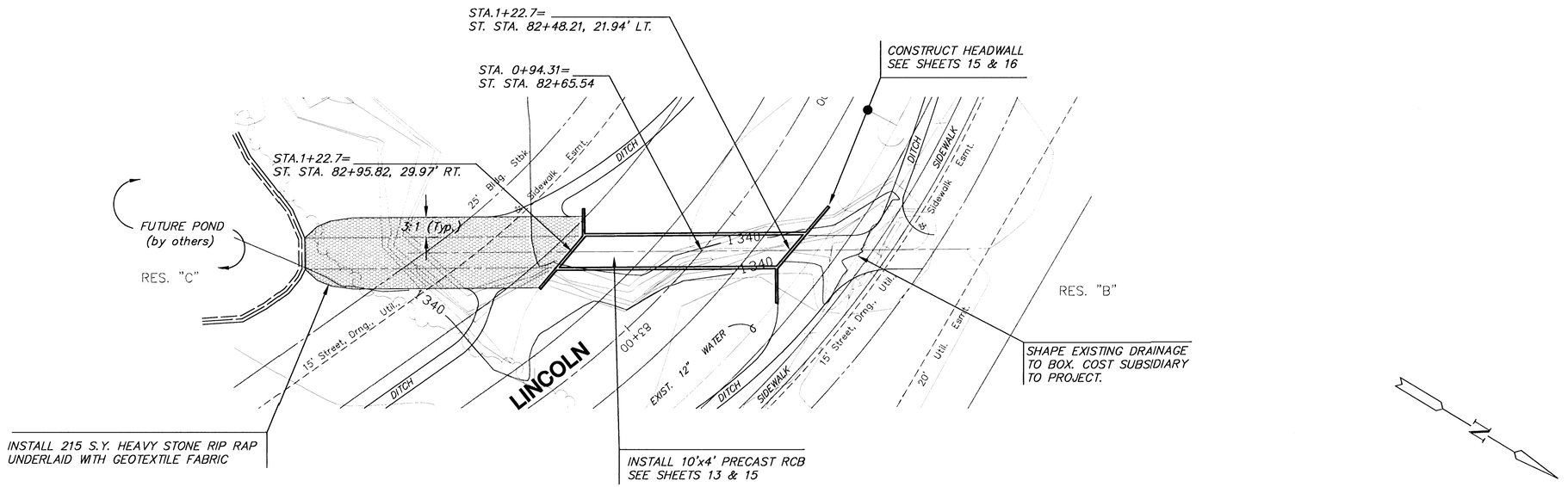
Precast concrete box culvert shall be laid with the groove end of each section up-grade, and the sections shall be tightly joined. Joint shall be sealed with an approved bituminous mastic material and geotextile or sealing band or an extruded rubber gasket, installed in accordance with the recommendations of the manufacturer. Lifting holes shall be plugged with a precast plug, sealed and covered with mastic or mortar.

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

WOODLAND LAKES ESTATES
PROJECT NAME

PRECAST CONC. BOX CULVERT DETAILS
SHEET TITLE

JAH	DPG	KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
JUNE 1996	95058D12	13 / 25
DATE	JOB NO.	SHEET/OF

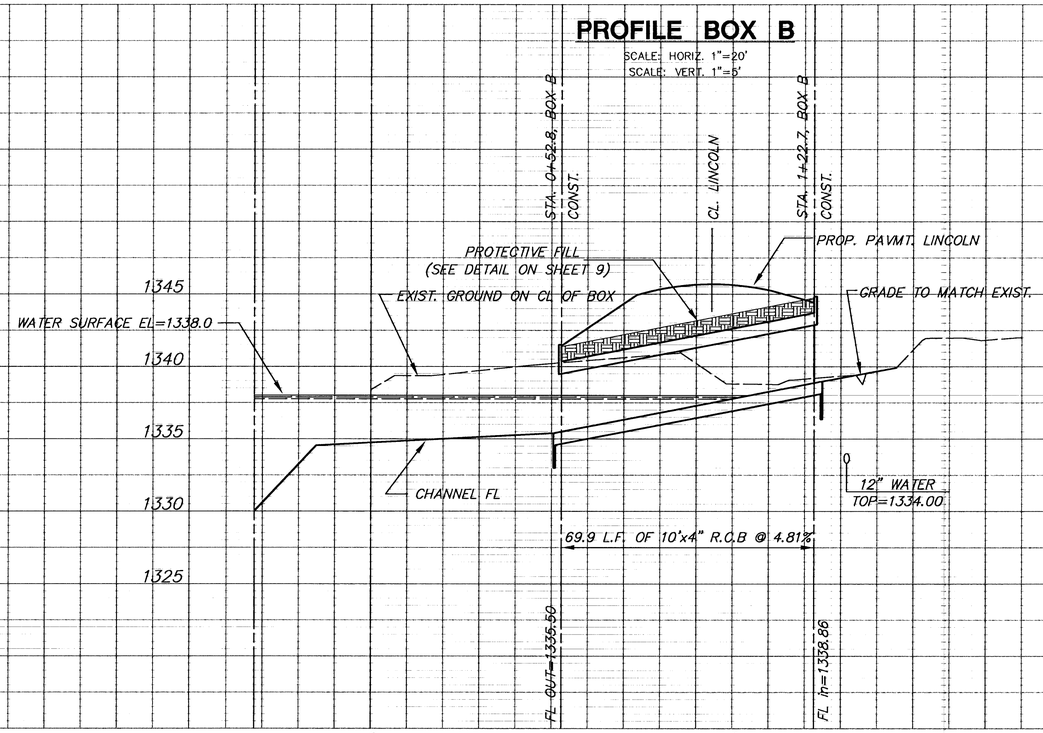


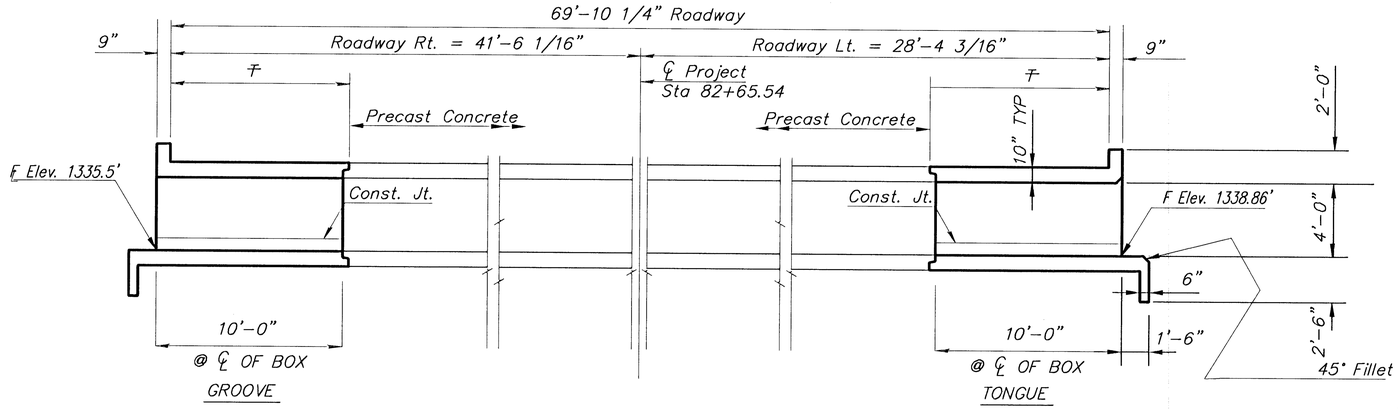
PLAN BOX B

SCALE: 1"=20'

PROFILE BOX B

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



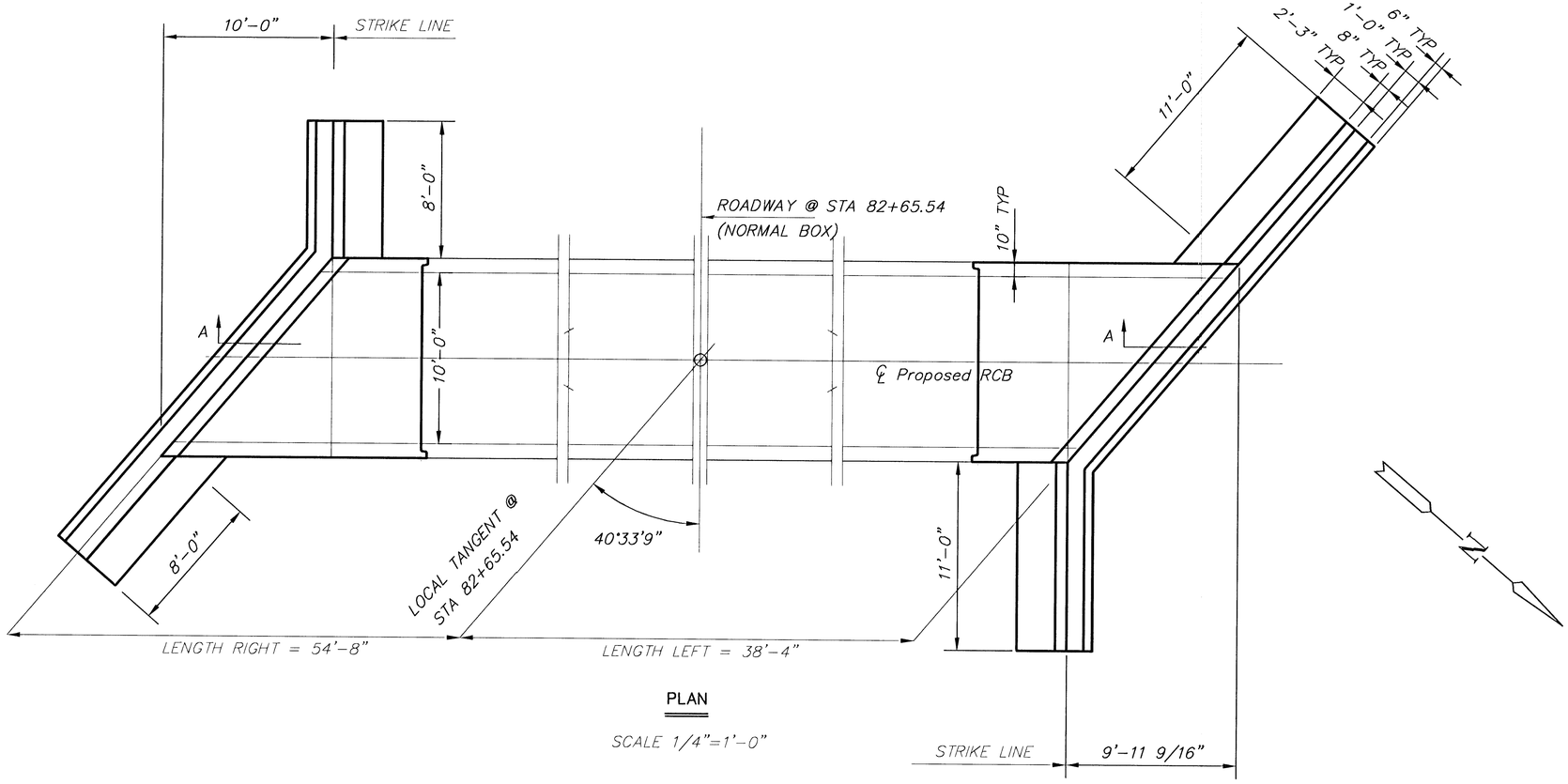


ℸ Hand Compaction Equip.
Only in this area

SECTION AND ELEVATION

(Normal to ℄ Roadway @ STA 82+65.54)

SCALE 1/4"=1'-0"



PLAN

SCALE 1/4"=1'-0"

GENERAL NOTES

LOADING: HS20-44 AASHTO Specifications, 1992 Edition.
UNIT STRESSES: Class AAA Concrete; f'c = 4,000 p.s.i.
Reinforcing Steel; fy = 60,000 p.s.i.

CONCRETE: Class AAA (AE) Concrete shall be used throughout. Bevel all exposed edges with a 3/4" triangular moulding.

REINFORCING: All reinforcing shall conform to ASTM A615, Grade 60. All dimensions relative to reinforcing steel shall be to centerline of bar unless otherwise noted.

EXCAVATION: Excavation for culvert shall not be paid for directly but shall be subsidiary to Class AAA (AE) Concrete.

FOUNDATION STABILIZATION: Foundation Stabilization may be required as directed by the Engineer. The depth of Foundation Stabilization shall be determined by the Engineer. Foundation Stabilization shall be paid for at the determined Unit Price set for Foundation Stabilization.

GRANULAR BACKFILL (WINGWALLS): Special backfill procedures may be required at the direction of the Engineer.

STRIKE LINE: Wingwalls and that portion of the RCB outside the Strike Line shall be constructed level. Footing for wingwalls shall be constructed with the culvert floor.

FOUNDATION AND BACKFILL MATERIAL: Soils judged as high plasticity clays, fat clays, expansive clays, or organic clays are unsuitable for foundation and/or backfill material for wingwalls and will not be used. Where these conditions exist, Foundation Stabilization and/or Granular Backfill (Wingwalls) shall be used as determined by the Engineer.

MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

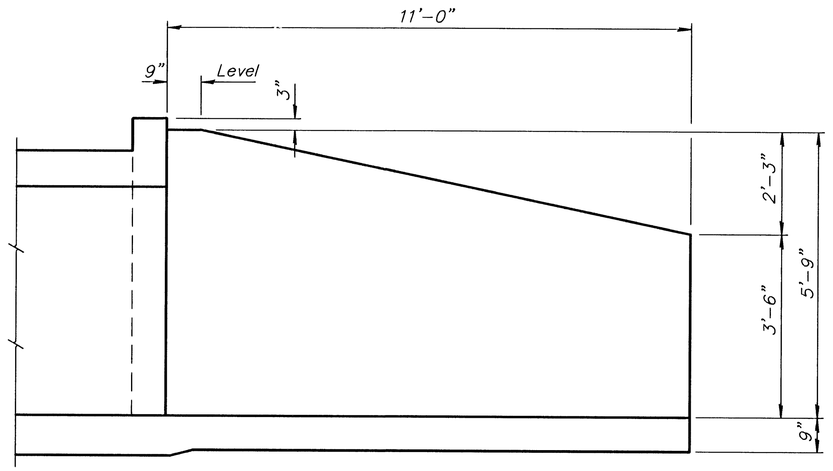
WOODLAND LAKES ESTATES
PROJECT NAME

BOX B DETAILS
SHEET TITLE

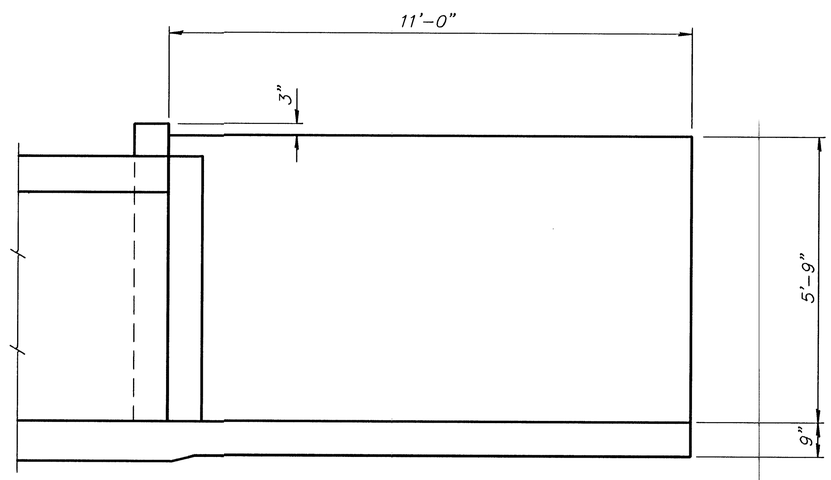
JAH	JAH	KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
6/21/96	95058D14	15 / 25
DATE	JOB NO.	SHEET/OF

H:\CIVIL\95058\SWS\95058D14.DWG

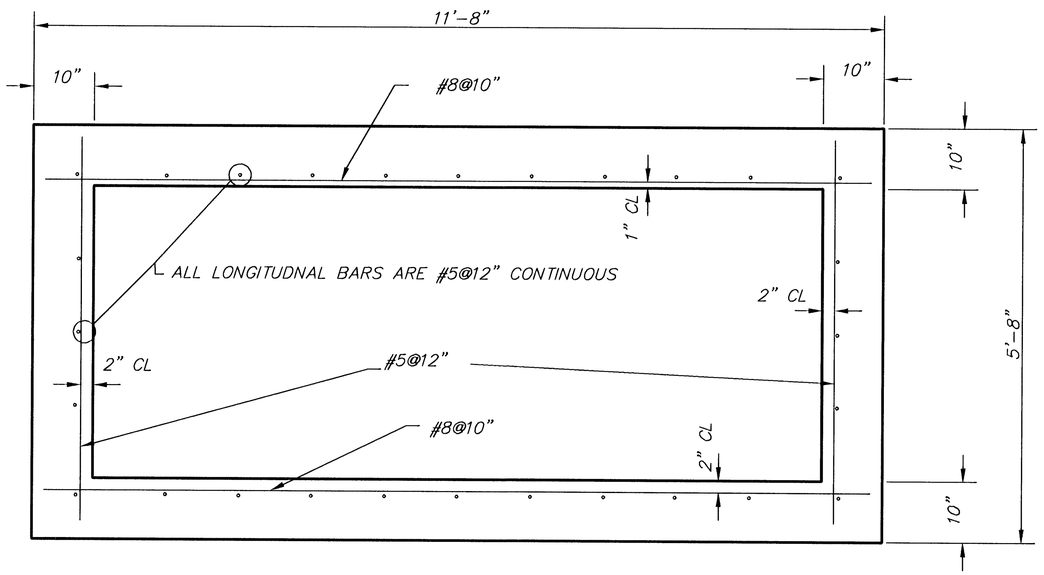
H:\CIVIL\95058\SWS\95058D14 wed Jul 24 11:42:45 1996



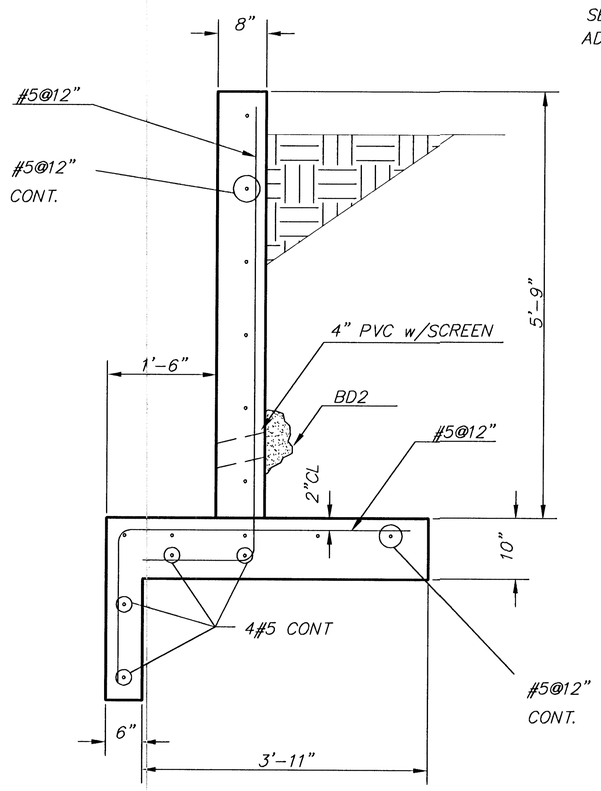
TYPICAL ELEVATION OF WINGWALLS



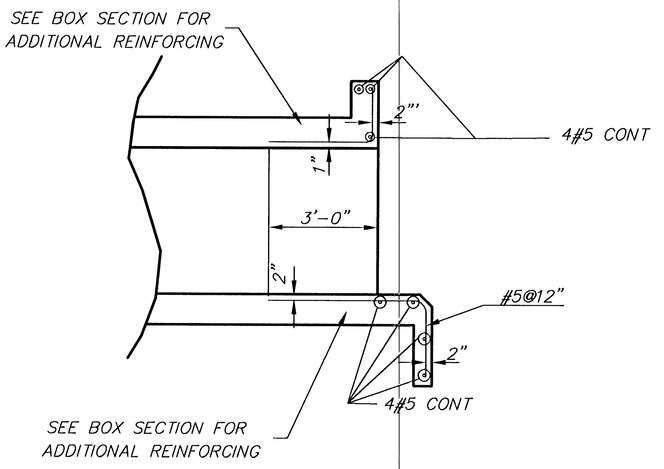
TYPICAL ELEVATION OF WINGWALLS



TYPICAL RCB SECTION



TYPICAL WINGWALL



SECTION A

MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

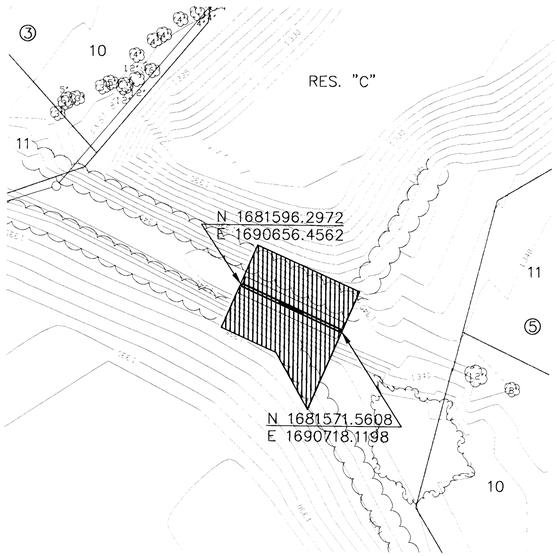
WOODLAND LAKES ESTATES
PROJECT NAME

BOX B DETAILS
SHEET TITLE

JAH	JAH	KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
6/24/96	95058D15	16 / 25
DATE	JOB NO.	SHEET/OF

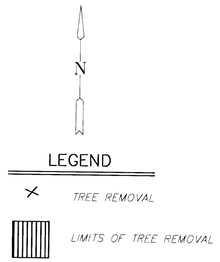
H:\CIVIL\95058\SWS\95058D16.DWG

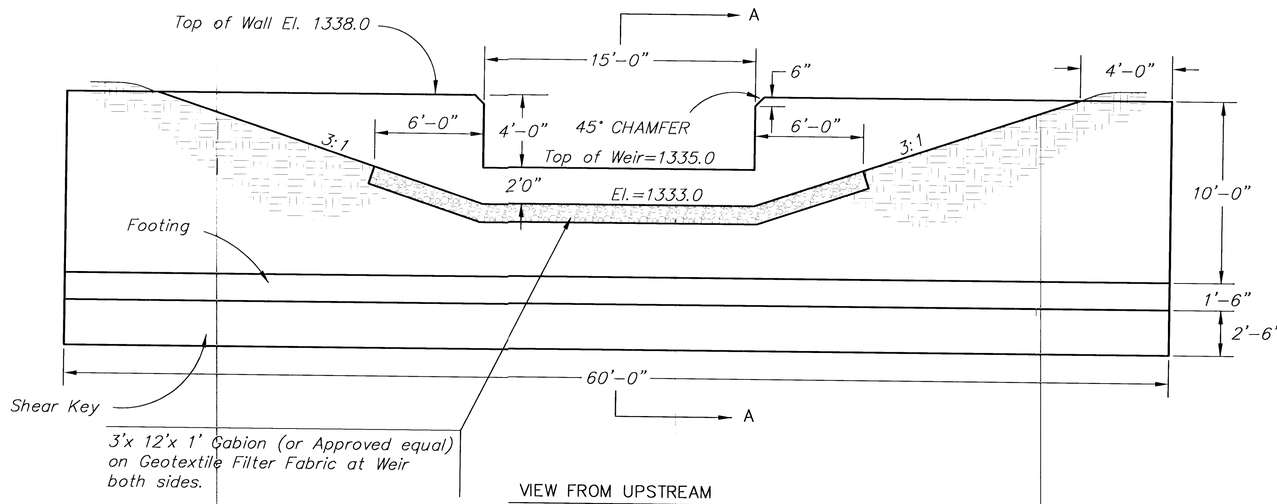
H:\CIVIL\95058\SWS\95058D15 Thu Jul 25 16:12:56 1996



DEMOLITION PLAN

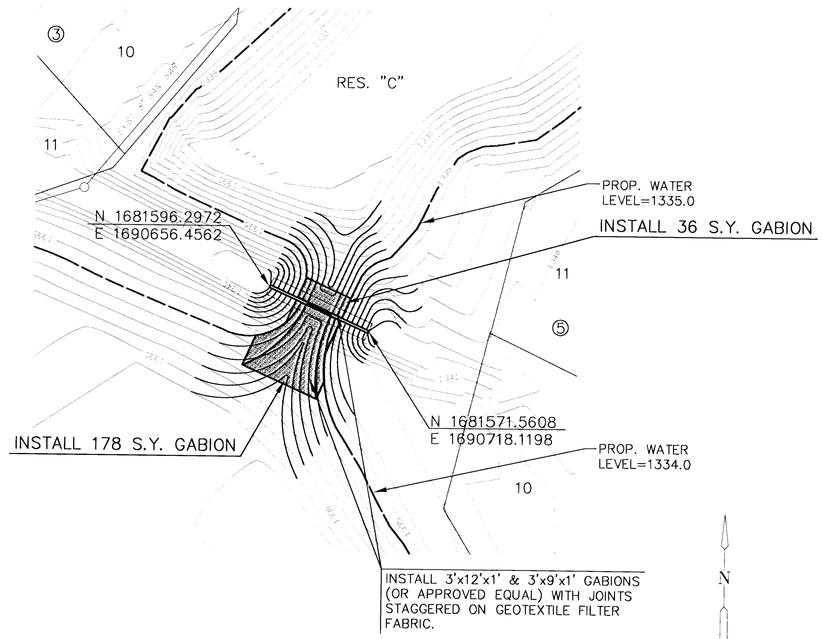
SCALE 1"=40'





VIEW FROM UPSTREAM

NO SCALE

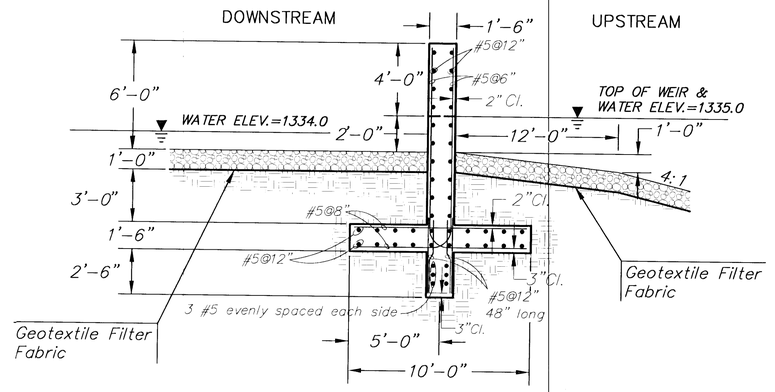


CONSTRUCTION PLAN

SCALE 1"=40'

GENERAL NOTES

1. All concrete to have minimum compressive strength of 4000 psi at 28 days.
2. All concrete shall conform to the current "ACI MANUAL OF CONCRETE PRACTICE".
3. Portland Cement shall conform to ASTM C-150, TYPE I OR III.
4. All aggregate for normal weight concrete shall meet ASTM C33.
5. All reinforcing to meet ASTM A615 or GR. 60.
6. Concrete cover shall be 3" in bottom of footing cast against soil. All other cover shall be 2".
7. All footings shall bear on undisturbed earth or engineered fill at elevations shown on details.
8. Earthwork shall be considered subsidiary to weir construction.



SECTION A

NO SCALE

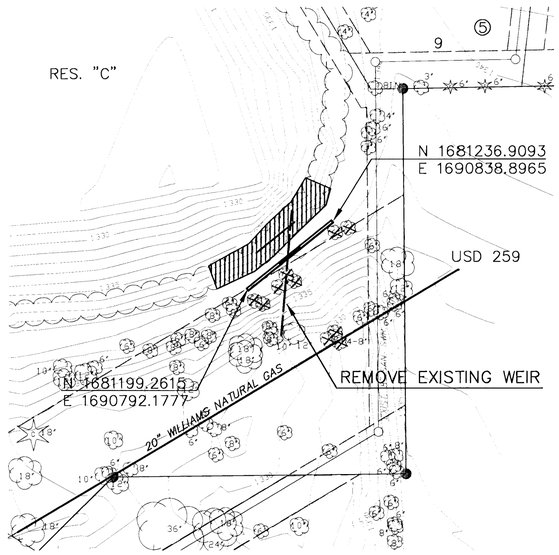
MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

WOODLAND LAKES ESTATES
PROJECT NAME

WEIR #1
SHEET TITLE

JAH	KKL	GJA
DESIGN BY:	DRAWN BY:	CHECKED BY:
JULY 1996	95058D16	17 / 25
DATE	JOB NO.	SHEET/OF

h:\civil\95058\wms\95058d16 wed Jul 24 11:44:19 1996



DEMOLITION PLAN

SCALE 1"=40'

CAUTION!

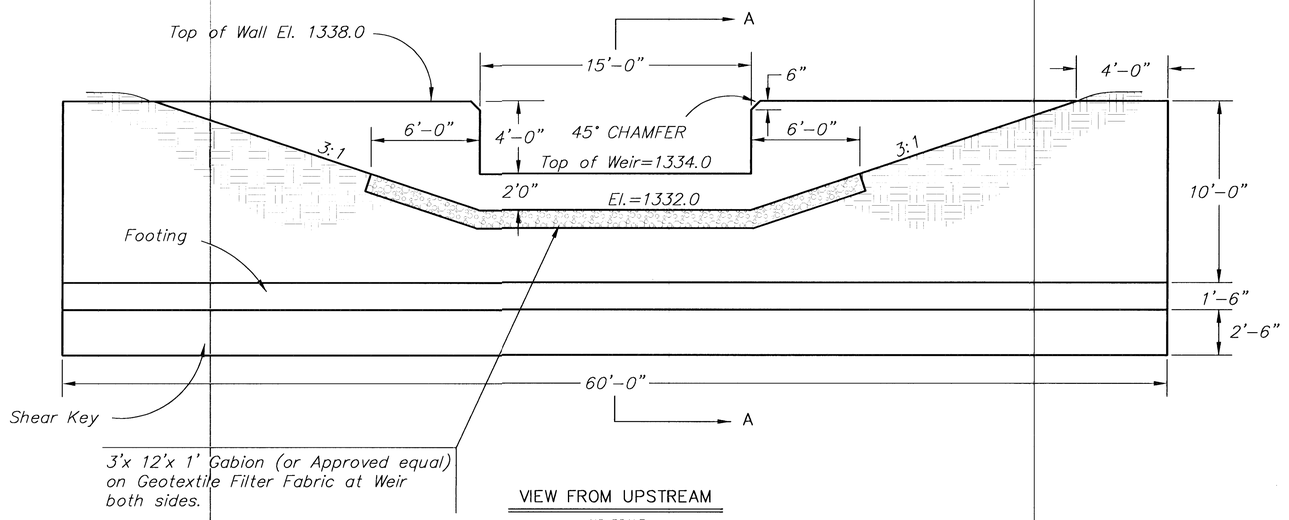
HIGH PRESSURE GAS LINE. CONTACT WILLIAMS NATURAL GAS PRIOR TO EXCAVATION. BILL HAGEMAN 524-4390

N

LEGEND

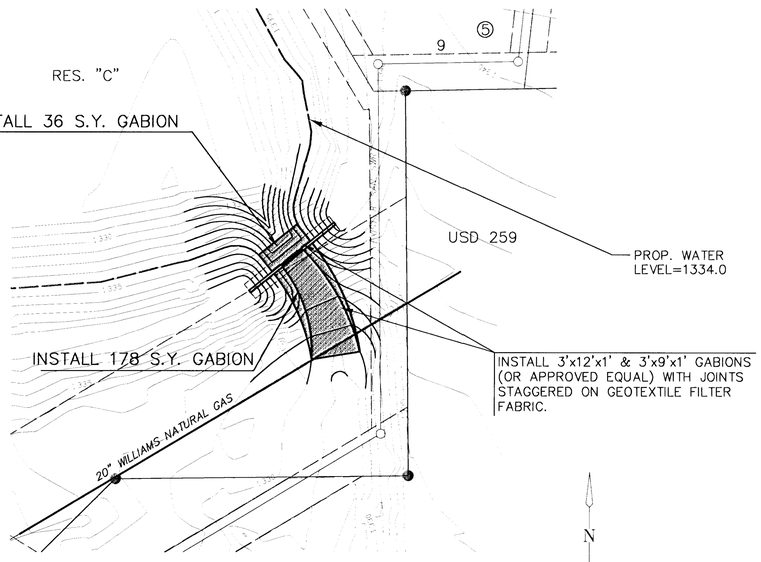
TREE REMOVAL

LIMITS OF TREE REMOVAL



VIEW FROM UPSTREAM

NO SCALE

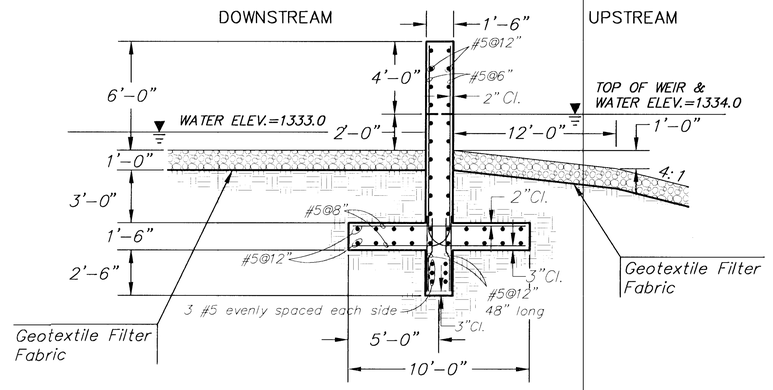


CONSTRUCTION PLAN

SCALE 1"=40'

GENERAL NOTES

1. All concrete to have minimum compressive strength of 4000 psi at 28 days.
2. All concrete shall conform to the current "ACI MANUAL OF CONCRETE PRACTICE".
3. Portland Cement shall conform to ASTM C-150, TYPE I OR III.
4. All aggregate for normal weight concrete shall meet ASTM C33.
5. All reinforcing to meet ASTM A615 or GR. 60.
6. Concrete cover shall be 3" in bottom of footings cast against soil. all other cover shall be 2"
7. All footings shall bear on undisturbed earth or engineered fill at elevations shown on details.
8. Earthwork shall be considered subsidiary to weir construction.



SECTION A

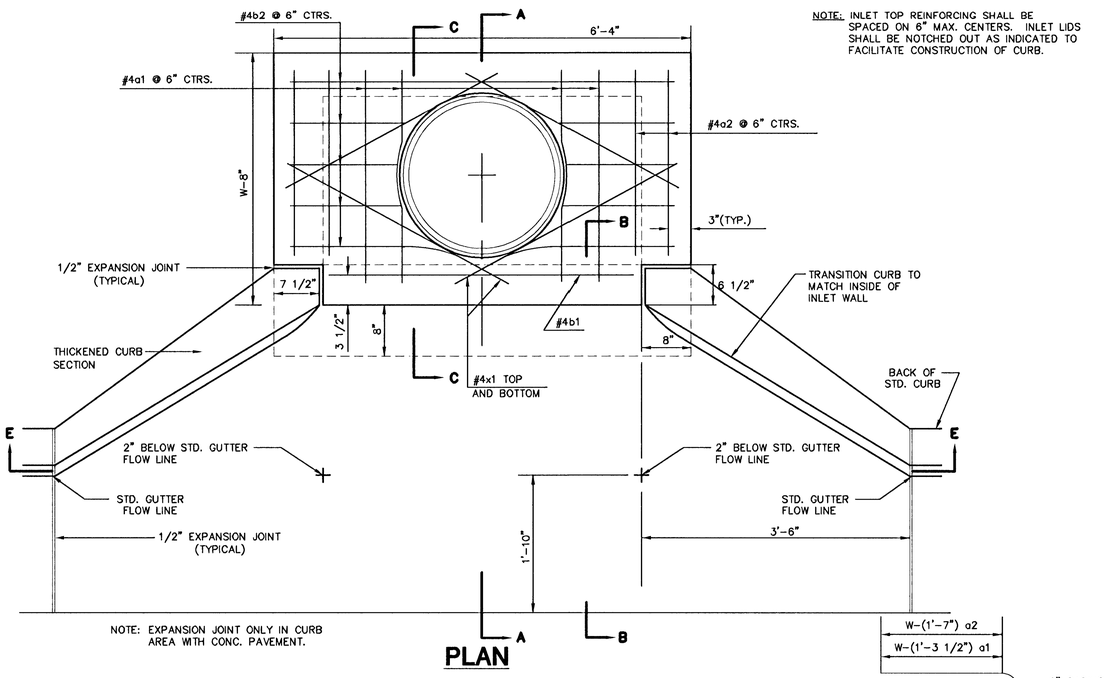
NO SCALE

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

WOODLAND LAKES ESTATES
PROJECT NAME

WEIR #2
SHEET TITLE

JAH	KKL	GJA
DESIGN BY:	DRAWN BY:	CHECKED BY:
JULY 1996	95058D17	18 / 25
DATE	JOB NO.	SHEET/OF



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.

BENDING DIAGRAM

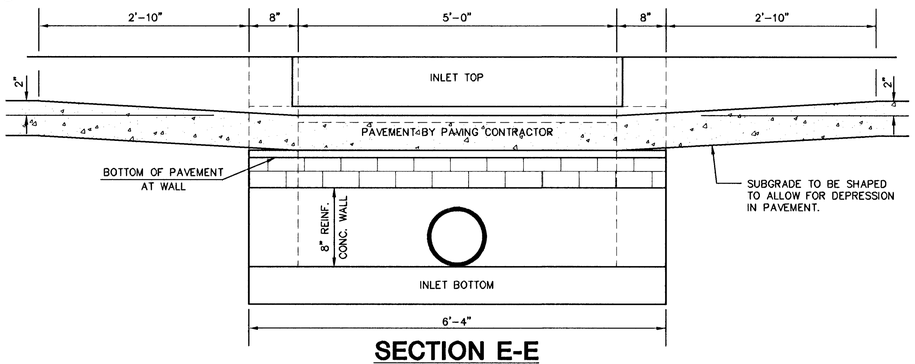
PRECAST SLAB AND FLOOR REINFORCING

		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	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"

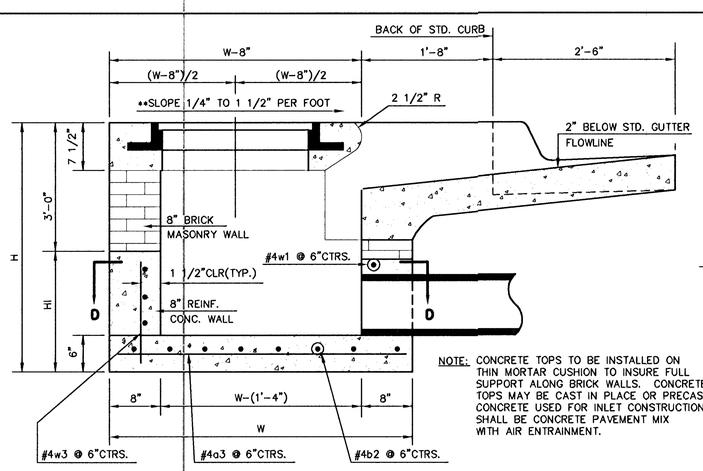
WALL REINFORCING

		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
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(HI-12"); (HI-12") ROUND DOWN TO NEAREST 0.5'
② HI-3"



SECTION E-E



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 WITH AIR ENTRAINMENT.

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.

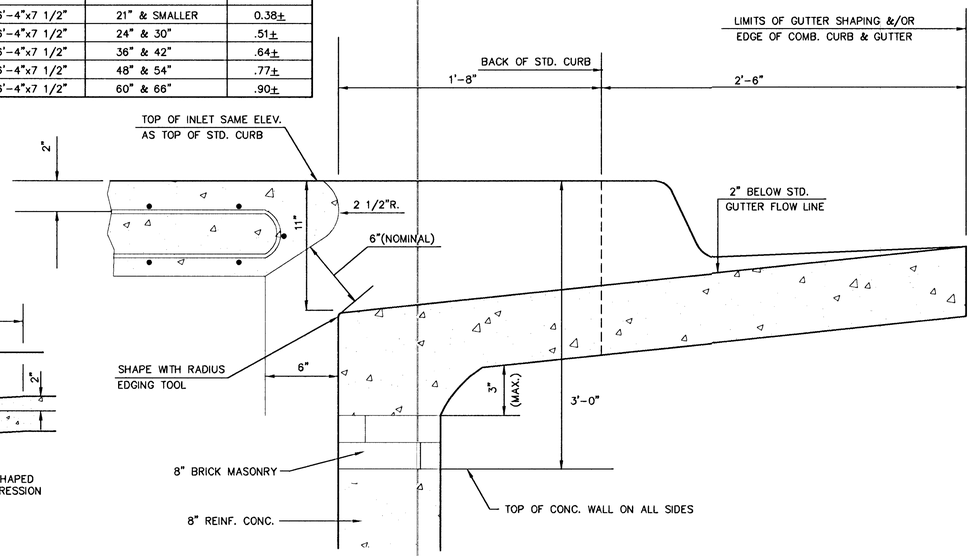
ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET HOOKUP.

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.

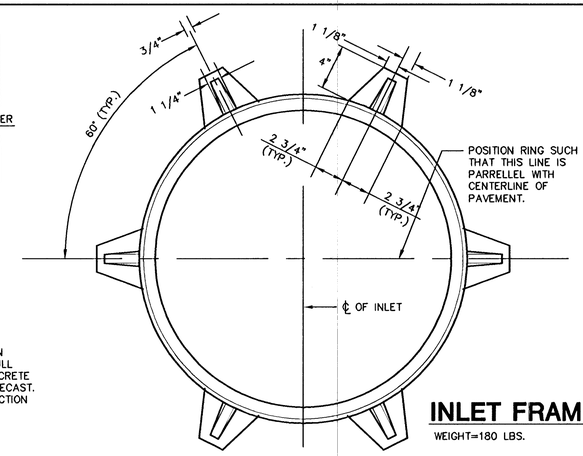
THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

**NOTE: SLOPE OF INLET TOPS TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8"x6'-4"x7 1/2"	21" & SMALLER	0.38±
5'-4"	4'-8"x6'-4"x7 1/2"	24" & 30"	.51±
6'-4"	5'-8"x6'-4"x7 1/2"	36" & 42"	.64±
7'-4"	6'-8"x6'-4"x7 1/2"	48" & 54"	.77±
8'-4"	7'-8"x6'-4"x7 1/2"	60" & 66"	.90±

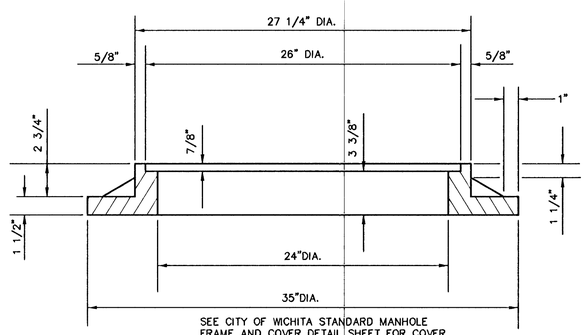


SECTION B-B

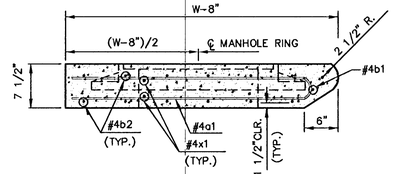


INLET FRAME

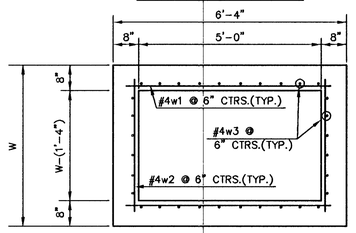
WEIGHT=180 LBS.



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



SECTION C-C



SECTION D-D

REVISED: 2-16-89 C.O.W.

STANDARD TYPE 1A CURB INLET

INLET OPENING=6"x5'-0"

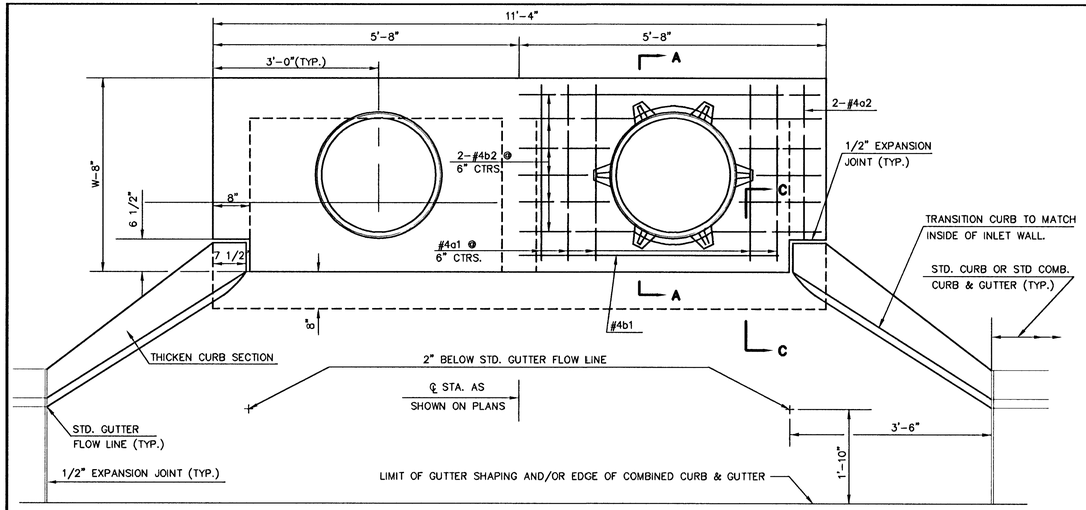
JUNE 1984

CITY OF WICHITA, KANSAS

Design C.O.W.	Checked by	Checked by	
Drawn by	Date	Date JULY 1996	Job No. 95058DD1

H:\CIVIL\95058\SWS\95058DD1.DWG

H:\CIVIL\95058\SWS\95058DD1 Wed Jul 24 10:22:30 1996

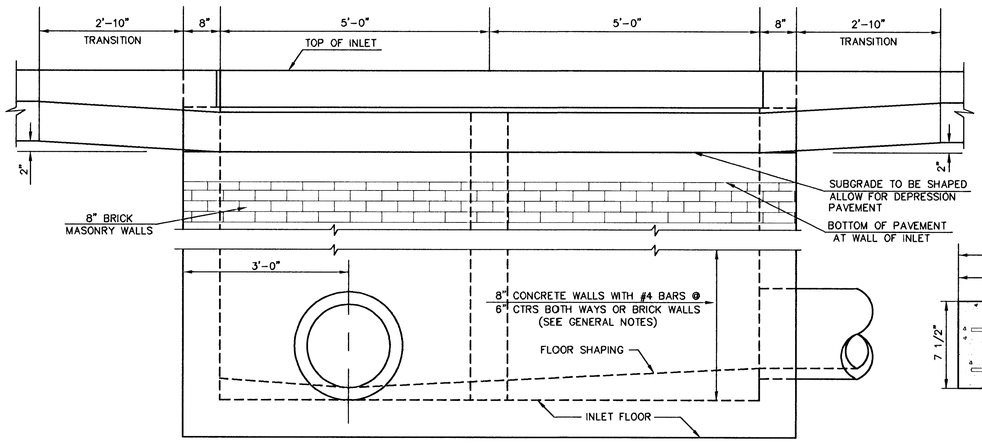


SLAB REINFORCING NOT SHOWN

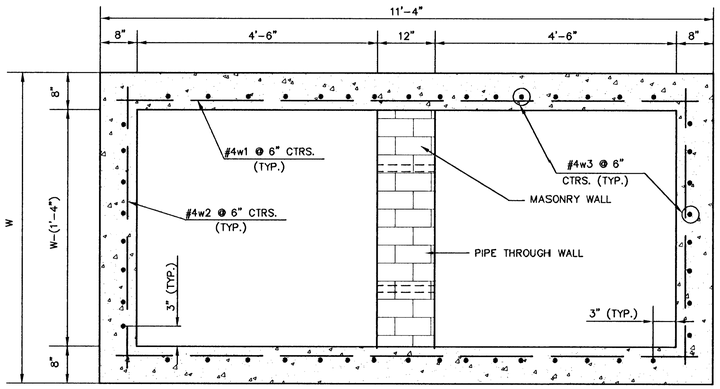
PLAN

SHOWING SLAB REINFORCING

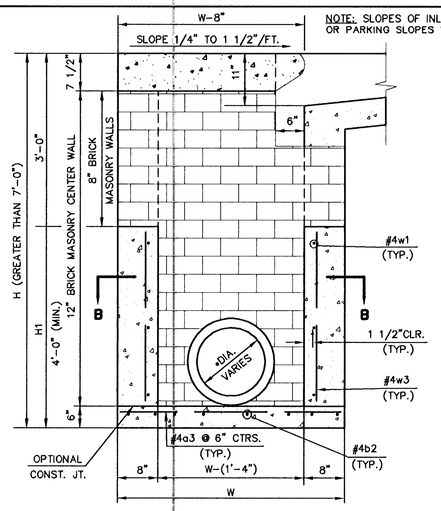
NOTE EXPANSION JOINT ONLY IN CURB AREA WITH CONCRETE PAVEMENT.



ELEVATION



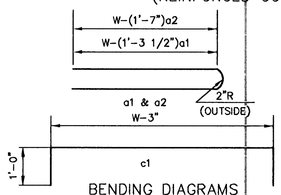
SECTION B-B



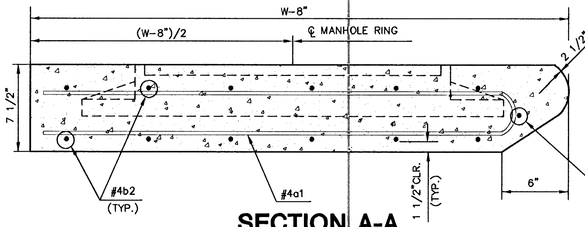
NOTE: SLOPES OF INLET TOPS TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.

TYPICAL INLET SECTION AT CENTER WALL

(REINFORCED CONCRETE WALLS)



BENDING DIAGRAMS



SECTION A-A

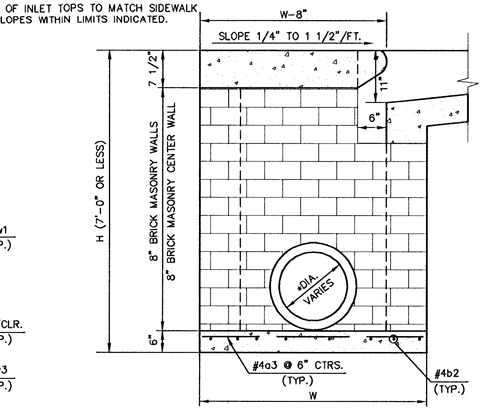
SLAB AND FLOOR REINFORCING

		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'-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	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	9'-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	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

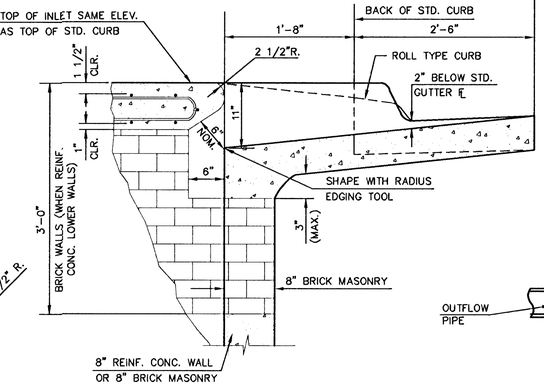
* FIELD BEND OR CUT REINFORCING AS REQUIRED FOR CLEARANCE
① 4(H1-6")+4 (H1-6") ROUNDED DOWN TO NEAREST 0.5'
② 40+4(W-16")
③ H1+(9")



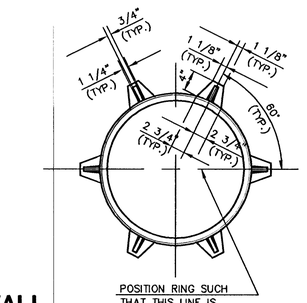
TYPICAL INLET SECTION AT CENTER WALL

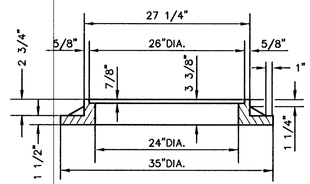
(MASONRY WALLS)

* A CENTER WALL OPENING SHALL BE PROVIDED BY MEANS OF A SECTION OF REINFORCED CONCRETE PIPE. SEE CASE I AND CASE II BELOW.



SECTION C-C

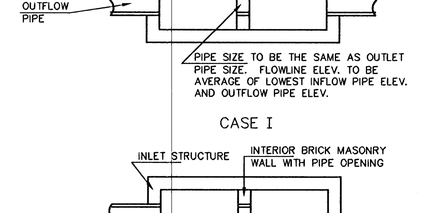




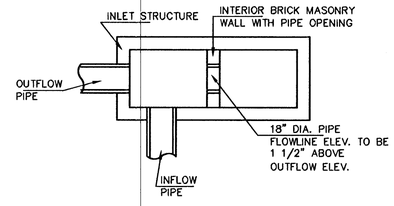
CAST IRON INLET RING

WT.≈180 LBS.

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



CASE I



CASE II

NOTE: CENTER WALL PIPE SIZE SHALL BE AS SPECIFIED IN INLET CONSTRUCTION NOTE ON THE PLAN/PROFILE SHEETS FOR THOSE CASES NOT SHOWN HERE.

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. CONRETE 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.

STANDARD CURB INLET PRECAST TOPS

W	PRE-CAST TOP SIZE	SIDE OR INTERIOR WALL PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8"x11'-4"x7 1/2"	21" & SMALLER	0.83±
5'-4"	4'-8"x11'-4"x7 1/2"	24" & 30"	1.09±
6'-4"	5'-8"x11'-4"x7 1/2"	36" & 42"	1.35±
7'-4"	6'-8"x11'-4"x7 1/2"	48" & 54"	1.61±
8'-4"	7'-8"x11'-4"x7 1/2"	60" & 66"	1.87±

REVISED: 12-5-88 C.O.W.

STANDARD TYPE 1A CURB INLET

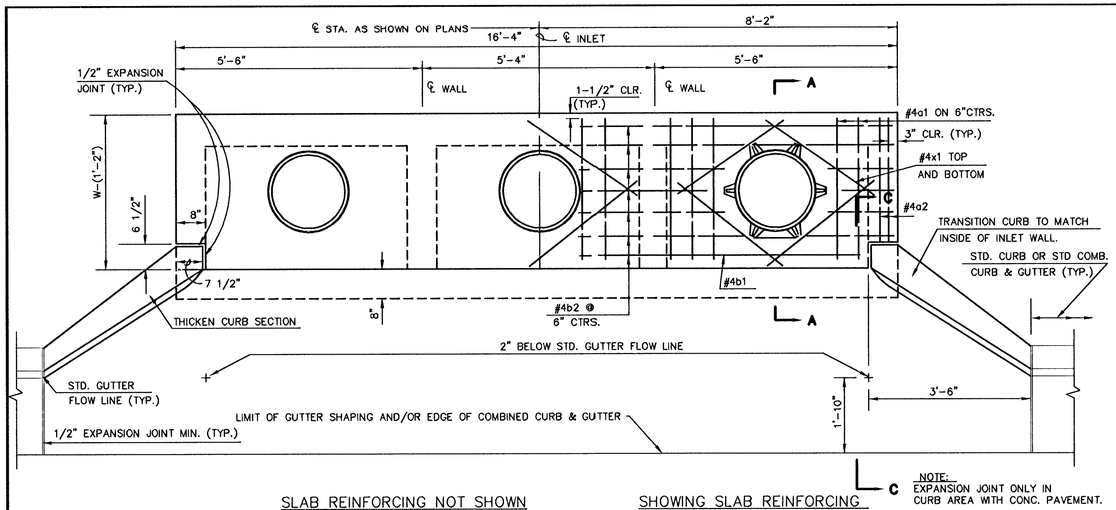
INLET OPENING=6"x10'-0"

NOV. 1984

CITY OF WICHITA, KANSAS

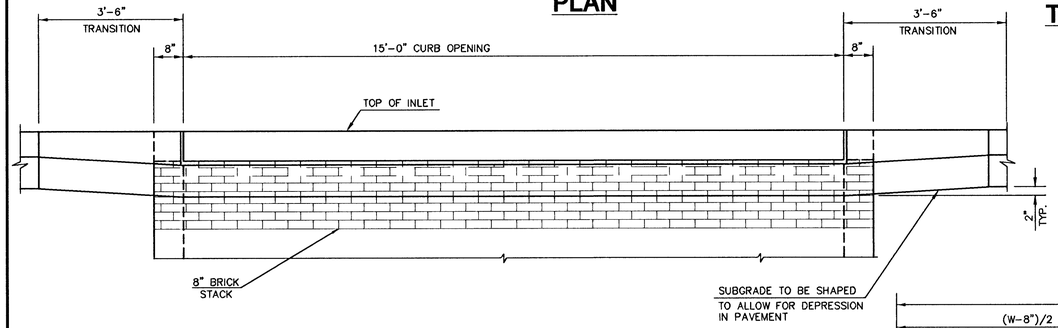
Design BER KJS MWB	Checked by	Checked by	
Drawn by	Date	Date JULY 1996	Job No. 95058DD2

H:\CIVIL\95058\SWS\95058DD2.DWG Wed Jul 24 10:21:51 1996

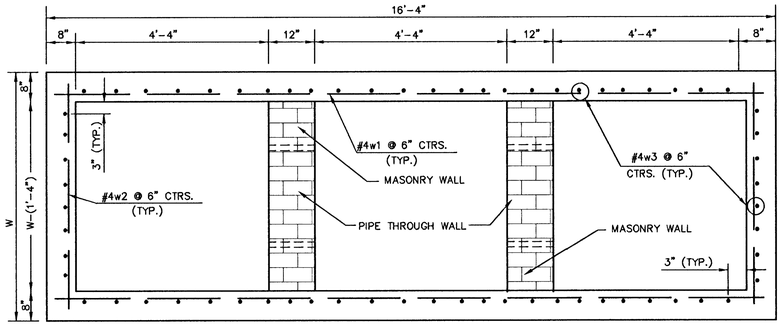


SLAB REINFORCING NOT SHOWN — SHOWING SLAB REINFORCING

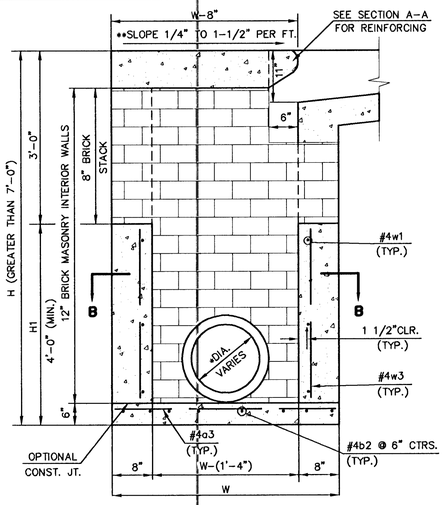
PLAN



ELEVATION

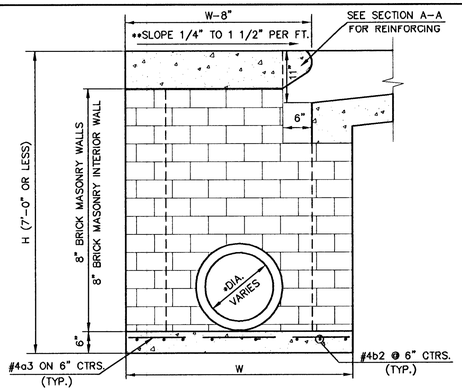


SECTION B-B



TYPICAL INLET SECTION AT INTERIOR WALL

(REINFORCED CONCRETE WALLS)

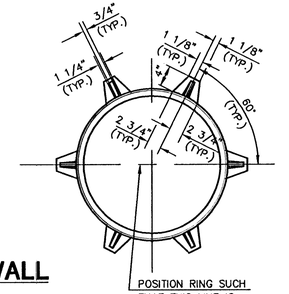


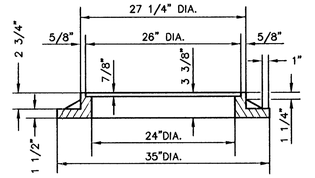
TYPICAL INLET SECTION AT INTERIOR WALL

(MASONRY WALLS)

* AN INTERIOR WALL OPENING SHALL BE PROVIDED BY MEANS OF A SECTION OF REINFORCED CONCRETE PIPE. SEE CASE I AND CASE II.

** SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPE WITHIN THE LIMITS INDICATED.

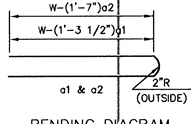




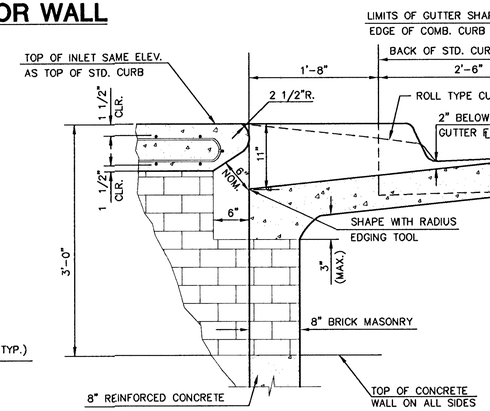
CAST IRON INLET RING

WT.=180 LBS.

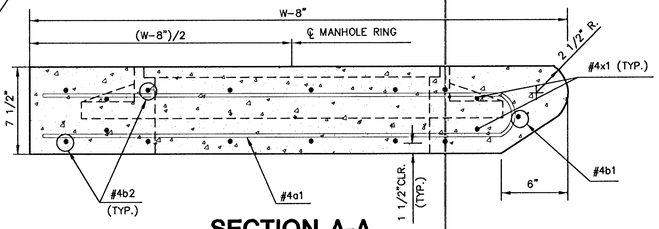
SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.



BENDING DIAGRAM



SECTION C-C



SECTION A-A

GENERAL NOTES

1. THE CONTRACTOR SHALL BE REQUIRED TO CONSTRUCT 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP 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 THE INTERIOR WALLS SHALL BE OF MASONRY CONSTRUCTION.
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 SHALL BE C.O.W. STANDARD PAVING MIX. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN EDGING TOOL. REINFORCING BARS SHALL BE FIELD BENT OR CUT TO CLEAR PIPES AND INLET RING. ALL BARS ARE #4 BARS AT 6" SPACING AND SHALL HAVE A MINIMUM CLEARANCE OF 1-1/2" UNLESS OTHERWISE NOTED.
4. 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.
5. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

PRECAST 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	20	6'-7"	20	8'-7"	20	10'-7"	20	12'-7"	20	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	33	4'-1"	33	5'-1"	33	6'-1"	33	7'-1"	33	8'-1"
b1	#4	1	14'-9"	1	14'-9"	1	14'-9"	1	14'-9"	1	14'-9"
*b2	#4	23	16'-1"	29	16'-1"	35	16'-1"	41	16'-1"	47	16'-1"
x1	#4	24	3'-10"	24	4'-2"	24	4'-6"	24	4'-10"	24	5'-2"

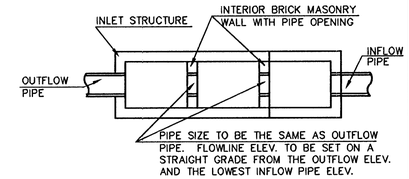
WALL REINFORCING

		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
w1	#4	①	16'-1"	①	16'-1"	①	16'-1"	①	16'-1"	①	16'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	72	②	76	②	80	②	84	②	88	②

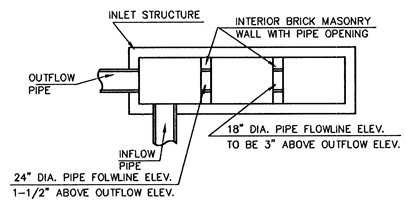
* FIELD BEND OR CUT REINFORCING AS REQUIRED FOR CLEARANCE
① 4(H1-12"); (H1-12") ROUND DOWN TO NEAREST 0.5'
② H1-3"

STANDARD CURB INLET PRECAST TOPS

W	PRE-CAST TOP SIZE	SIDE OR INTERIOR WALL PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8"x16'-4"x7-1/2"	21" & SMALLER	1.20±
5'-4"	4'-8"x16'-4"x7-1/2"	24" & 30"	1.58±
6'-4"	5'-8"x16'-4"x7-1/2"	36" & 42"	1.95±
7'-4"	6'-8"x16'-4"x7-1/2"	48" & 54"	2.33±
8'-4"	7'-8"x16'-4"x7-1/2"	60" & 66"	2.70±



CASE I



CASE II

NOTE: INTERIOR WALL PIPE SIZE SHALL BE AS SPECIFIED IN THE INLET CONSTRUCTION NOTE ON THE PLAN/PROFILE SHEETS FOR THOSE CASES NOT SHOWN HERE.

REVISED: 2-17-89

STANDARD TYPE 1A CURB INLET

INLET OPENING=6"x15'-0"

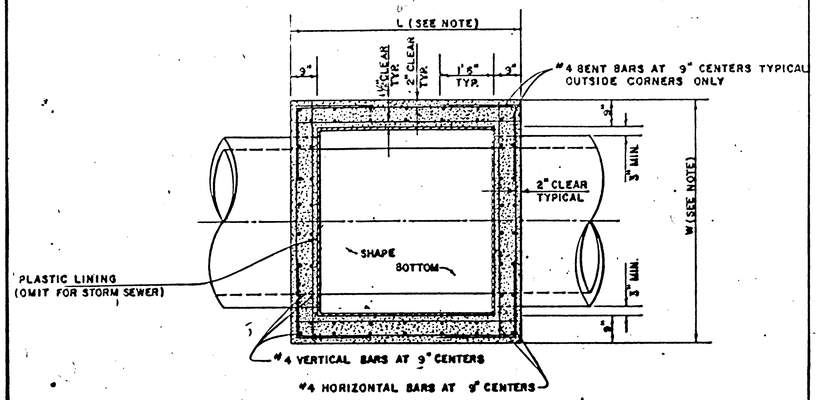
JANUARY 1989

CITY OF WICHITA, KANSAS

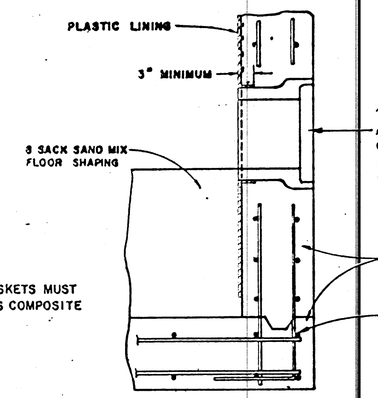
Design	Checked by M.E.L.	Checked by	
Drawn by	Date 2-17-89	Date JULY 1996	Job No. 95058DD3

H:\CIVIL\95058\SWS\95058DD3.DWG

H:\CIVIL\95058\SWS\95058DD3 Wed Jul 24 10:21:10 1996

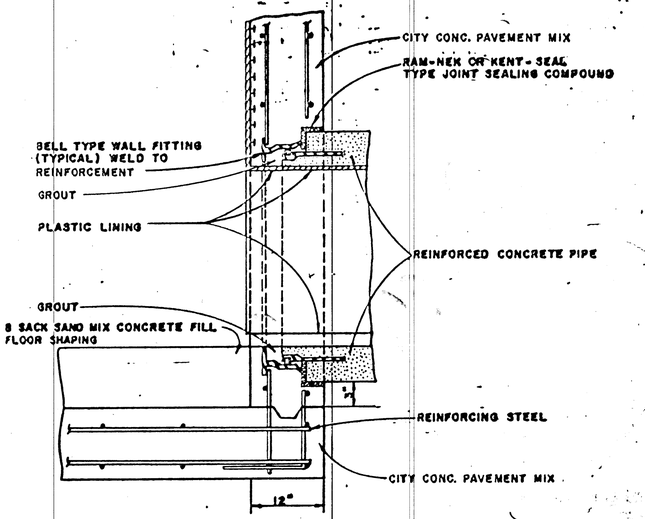


TOP VIEW

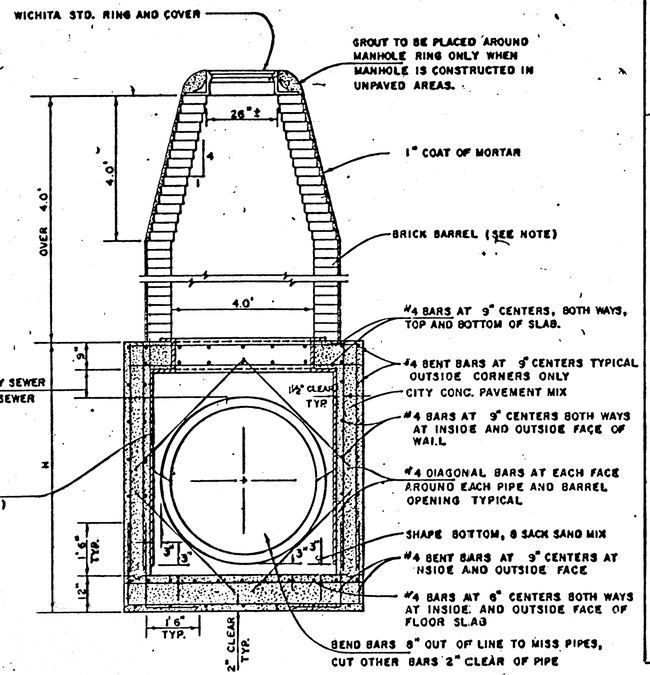


NOTE: WATERSTOP GASKETS MUST BE USED WITH A.B.S COMPOSITE OR P.V.C. PIPE.

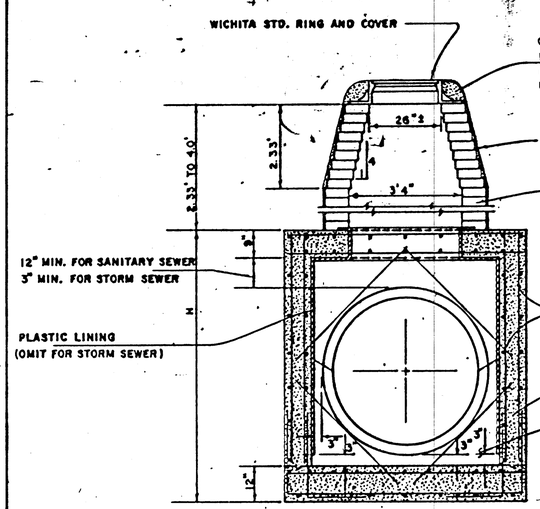
PIPE STUB DETAIL
SANITARY SEWER ONLY



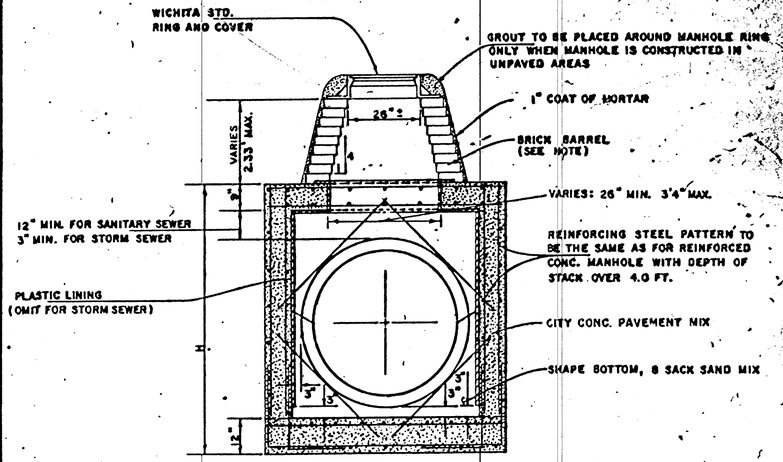
R.C.P. CONNECTION DETAIL
SANITARY SEWER ONLY



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: OVER 4.0'
SCALE 1" = 2'



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 2.33' TO 4.0'
SCALE 1" = 2'



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 0' TO 2.33'
SCALE 1" = 2'

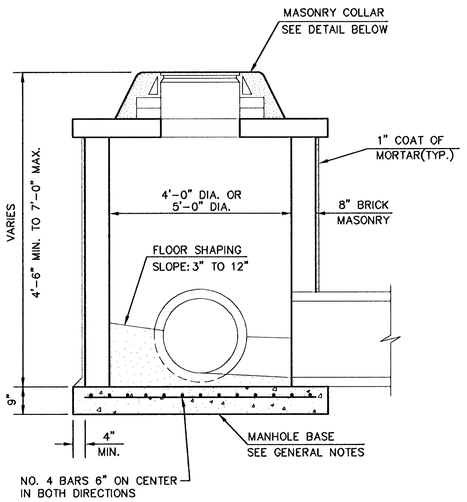
NOTE:
BRICK BARRELS LESS THEN 16' DEEP SHALL HAVE 8" WALLS EXCEPT WHEN LOCATED WITHIN PUBLIC STREET OR ALLEY PAVEMENT THEN THE WALL SHALL BE 12" BRICK BARRELS MORE THEN 16' DEEP SHALL HAVE 12" WALLS. THE "L" AND "W" DIMENSIONS SHALL BE A MINIMUM OF 5'6" FOR BRICK BARRELS WITH 8" WALLS AND 6'2" FOR BRICK BARRELS WITH 12" WALLS WHEN THE BRICK BARRELS ARE OVER 4 FT. IN HEIGHT.

REVISED 1-7-85

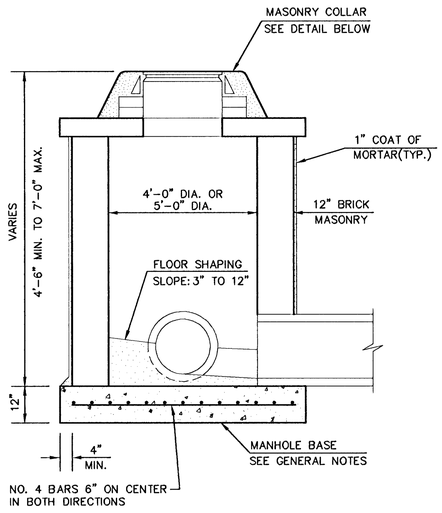
STANDARD DETAILS
REINFORCED CONCRETE MANHOLES
CITY OF WICHITA

FEBRUARY 1984

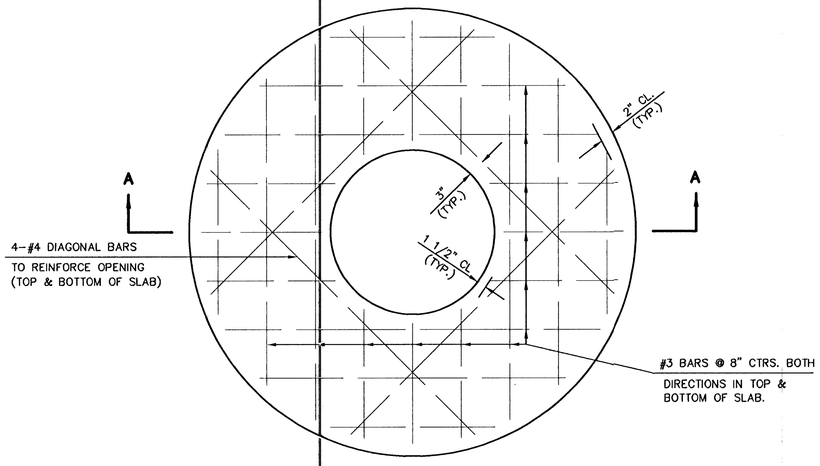
[redacted]



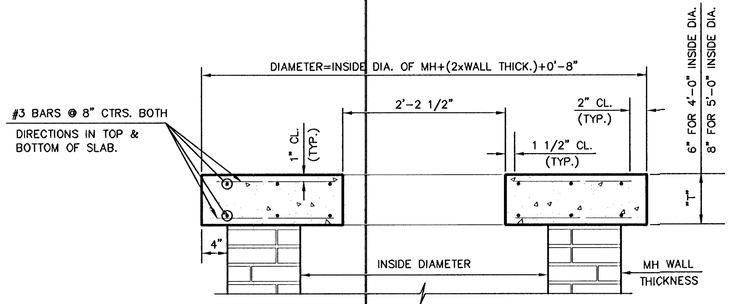
SHALLOW TYPE "A" MANHOLE



SHALLOW TYPE "B" MANHOLE



PLAN

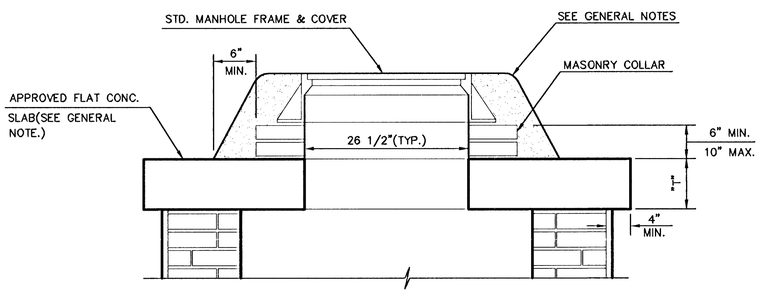


SECTION A-A

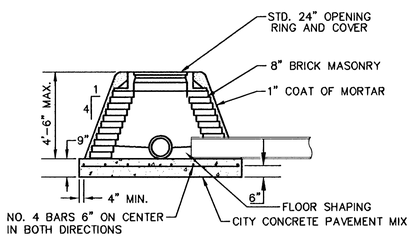
FLAT CONCRETE SLAB DETAILS

GENERAL NOTES

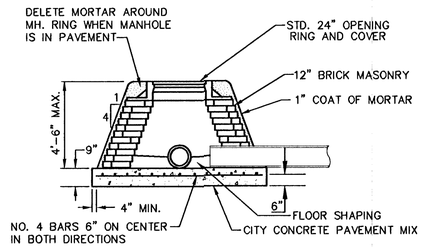
1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE RE-QUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE CEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. TYPE "A" SHALLOW MANHOLES CAN BE USED ON SEWERS WHEN THE MANHOLE IS NOT LOCATED WITHIN PUBLIC STREET PAVEMENT. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LAR-GER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
2. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
3. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
4. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
5. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWINGS.
6. THE CROWNS OF INFLOWNG PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
7. STANDARD SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE AND DIAMETER INDICATED. STANDARD SPECIAL SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE INDICATED. ALL STANDARD SHALLOW MAN-HOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.



MASONRY COLLAR DETAIL



SPECIAL SHALLOW TYPE "A" MANHOLE



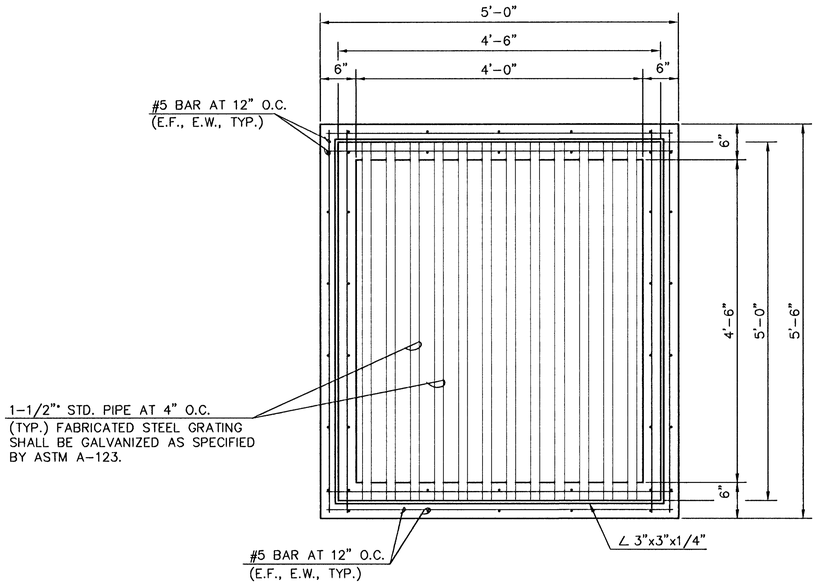
SPECIAL SHALLOW TYPE "B" MANHOLE

STANDARD SHALLOW MANHOLES TYPE "A" AND TYPE "B"

CITY OF WICHITA, KANSAS

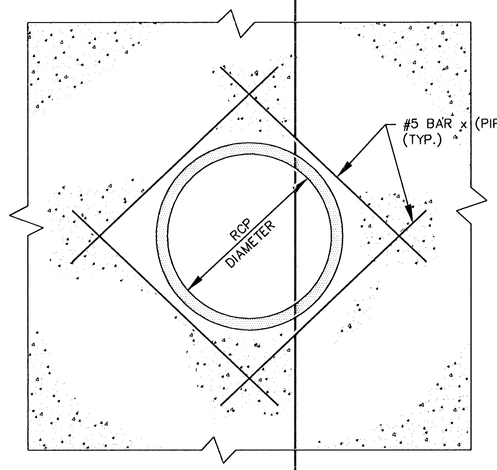
Design C.O.W.	Checked by	Checked by	
Drawn by	Date	Date JULY 1996	Job No. 95058DD5

H:\CIVIL\95058\SWS\95058DD5.DWG Wed Jul 24 10:13:45 1996



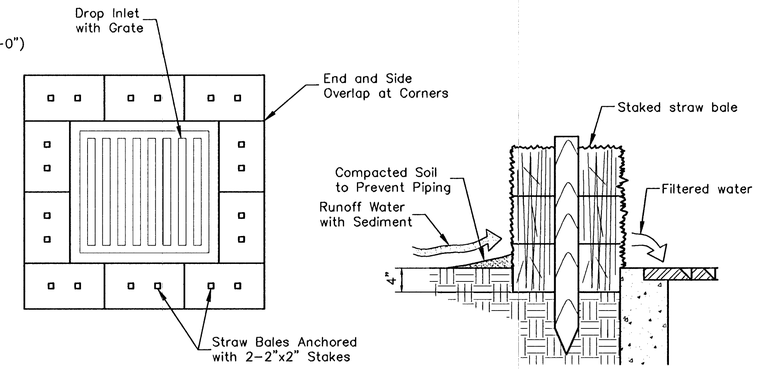
PLAN VIEW

CONTRACTOR MAY SUBSTITUTE 8" BRICK WALL FOR 6" REINFORCED CONCRETE WALL.



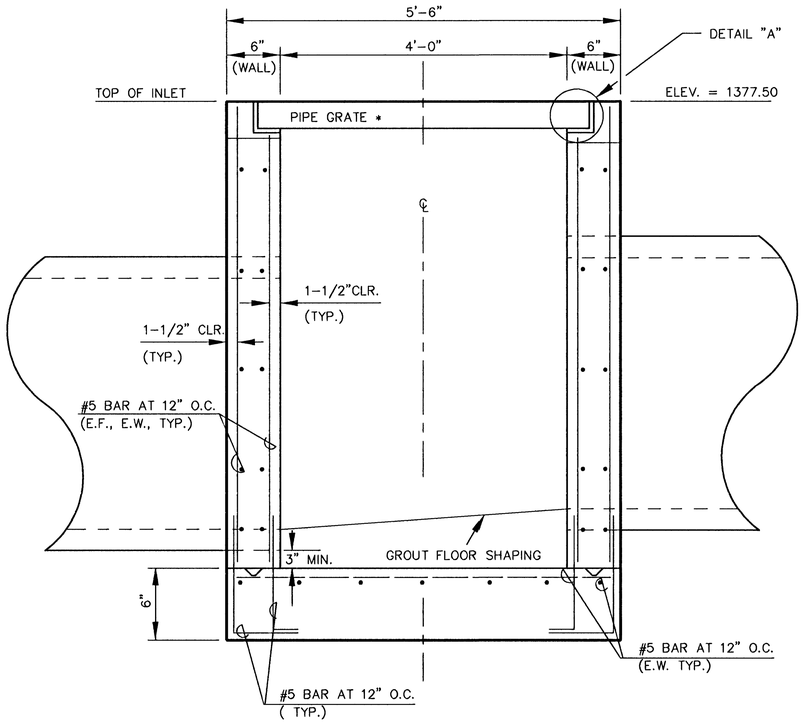
NOTE:
CUT REINFORCING AS REQUIRED TO CLEAR RCP.

TYPICAL REINFORCING AT PIPE



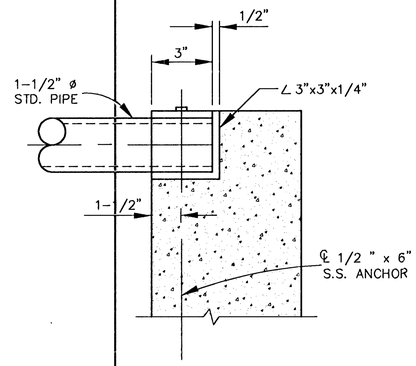
STRAW BALE DROP INLET SEDIMENT BARRIER

Note: Wedge loose straw between bales to prevent water from flowing between bales.



ELEVATION VIEW

REINFORCED CONCRETE AREA INLET



NOTE:
FABRICATED STEEL GRATING SHALL BE GALVANIZED AS SPECIFIED BY ASTM A-123.

DETAIL "A"

MATERIAL SPEC'S

MORTAR – TYPE "M"
BRICK – ASTM C62 GRADE MW
STEEL – ASTM A36 OR EQUIVALENT GALV. ASTM A-123 STDS.
CONCRETE – F_u' = 4,000 PSI MINIMUM WITH 6 SACKS OF CEMENT PER CUBIC YARD MINIMUM.

ORIFICE EQUATION				
$Q=C*A*\sqrt{2gh}$				
h (DEPTH)	2g	C	A	Q
0.5	64.4	0.7	8.625	34.3 cfs
1.0	64.4	0.6	8.625	41.5 cfs
2.0	64.4	0.6	8.625	58.7 cfs
2.0	64.4	0.7	8.625	68.5 cfs
3.0	64.4	0.6	8.625	71.9 cfs
4.0	64.4	0.6	8.625	83.1 cfs
5.0	64.4	0.6	8.625	92.9 cfs
6.0	64.4	0.6	8.625	101.7 cfs
7.0	64.4	0.6	8.625	109.9 cfs
8.0	64.4	0.6	8.625	117.5 cfs

MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

WOODLAND LAKES ESTATES
PROJECT NAME

REINFORCED CONCRETE AREA INLET
SHEET TITLE

MKEC	MKEC	MKEC
DESIGN BY:	DRAWN BY:	CHECKED BY:
JULY 1996	95058DD6	24 / 25
DATE	JOB NO.	SHEET/OF

H:\CIVIL\95058\SHS\95058DD6.DWG Wed Jul 24 10:17:54 1996

FINAL PLAT OF

WOODLAND LAKES ESTATES

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

N.W. CORNER S. 1/2 OF N.E. 1/4 SECTION 27, T27S R2E

N.E. CORNER S. 1/2 OF N.E. 1/4 SECTION 27, T27S R2E

BM #2

BM #1

Δ = 06°05'59"
R = 3014.79'
L = 320.96
CHD.=320.81'
CHD. BRG.=N66°59'49"E

Δ = 06°10'06"
R = 222.00'
L = 23.90'
CHD.=23.89'
CHD. BRG.=N65°21'47"E

N89°02'10"E 1620.32'

N00°45'37"W 170.86'

N00°45'37"W 756.23'

N21°51'06"W 145.41'

N02°43'33"W 1084.62'

S00°44'11"E 1212.46'

S00°39'39"E 95.91'

S88°58'56"W 691.69'

470.79'

570.70'

N45°39'50"W 91.97'

161.73' S89°20'21"W

203.57' S45°56'00"W

539.55'

S59°09'35"W

230.00' S89°00'05"W

N86°46'24"W 548.59'

85.33'

N00°46'46"W 2011.98'

389.99' N46°16'49"W

S51°57'50"E 326.03'

N74°02'10"E 150.00'

60.00' N0°45'37"W

40.00' N0°49'49"W

CENTER SECTION 27, T27S R2E

Δ = 38°55'19"
R = 162.10'
L = 110.12'
CHD.=108.01'
CHD. BRG.=S71°25'29"E

Δ = 9°38'35"
R = 197.72'
L = 33.78'

Δ = 26°18'55"
R = 350.00'
L = 160.75'
CHD.=159.34'
CHD. BRG.=N87°11'37"E

Δ = 54°00'00"
R = 200.00'
L = 188.50'
CHD.=181.60'
CHD. BRG.=S78°57'50"E

Δ = 29°16'44"
R = 197.72'
L = 101.04'
CHD.=99.94'
CHD. BRG.=N76°14'47"W

SCALE: 1" = 100'

100 0 100

LEGEND

- = IRON

S.D., U.& S.W. E. = STREET DRAINAGE, UTILITY & SIDEWALK EASEMENT

B.S. = BUILDING SETBACK

BENCH MARKS

BM #1 R.R. SPIKE IN WEST FACE OF 4TH POWER POLE SOUTH OF U.S. 54 ON EAST SIDE OF 127TH STREET
ELEV. = 1366.975 CITY DATUM
1354.375 (USGS DATUM)

BM #2 " " CUT ON EAST END OF THE NORTH HUBGUARD U.S. 54 EAST BOUND BRIDGE OVER THE K.T.A.
ELEV. = 1377.235 CITY DATUM
1364.635 (USGS DATUM)

RES. "A" RES. "B" RES. "C" RES. "D" RES. "E" RES. "F" RES. "G" RES. "H" RES. "I"

SEE RESERVE "G"&"H" DETAIL

LINCOLN CT. LAGUNA CT. LINCOLN 127TH STREET EAST

Complete Access Control

EAST 1/4 CORNER SECTION 27, T27S R2E

RESERVE "G" & "H" DETAIL
SCALE : 1" = 50'

FILM 1393, PAGE 486-487

H:\CIVIL\95058\GRADAVFINALPLT\FINALPLT Wed Jul 24 12:41:55 1996

12-10-3-10