


**Drain:** MURROD-FOLLETT      **Drain #:** 128  
**Improvement/Arm:** CITY OF CARMEL RECONSTRUCTION  
**Operator:** J. LIVINGSTON      **Date:** 19  
**Drain Classification:** Urban/Rural      **Year Installed:** 1990


?

**GIS Drain Input Checklist**

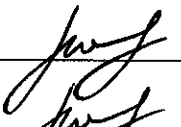
- Pull Source Documents for Scanning
- Digitize & Attribute Tile Drains
- Digitize & Attribute Storm Drains
- Digitize & Attribute SSD
- Digitize & Attribute Open Ditch
- Stamp Plans
- Sum drain lengths & Validate
- Enter Improvements into Posse
- Enter Drain Age into Posse
- Sum drain length for Watershed in Posse
- Check Database entries for errors

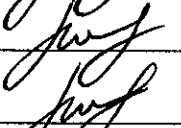

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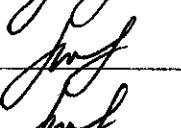

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**Gasb 34 Footages for Historical Cost**  
**Drain Length Log**

Drain-Improvement: MORROW - FOLLETT - CITY OF CARMEL RECONSTRUCTION

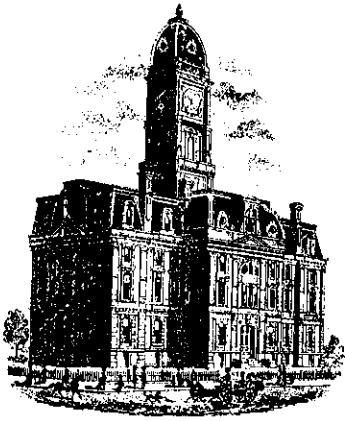
If Applicable						
Drain Type:	Size:	Length	Length (DB Query)	Length Reconcile	Price:	Cost:
RCP	48"	21'	21'		66. <sup>55</sup> / <sub>f</sub>	1397. <sup>55</sup>
	72"	1896'	1902'	+6'	154. <sup>65</sup> / <sub>f</sub>	294,144. <sup>30</sup>
** (64')	24"	0'	0'		18. <sup>00</sup> / <sub>f</sub>	1152. <sup>00</sup>
* HERCP	91" X 58"		48'	+48'	252. <sup>00</sup> / <sub>f</sub>	12,096. <sup>00</sup>
Sum:		<u>1917'</u>	<u>1971'</u>	<u>+54'</u>		<u>\$ 308,789.<sup>85</sup></u>

Final Report: \_\_\_\_\_

Comments:

SURVEYOR'S REPORT DATED 6-5-1995 LISTS 1896' OF 72" RCP.  
ASBUILTS STAMPED 8-4-1998 SHOW A TOTAL OF 1902' OF 72" RCP  
\* 24" RCP : 91" X 58" HERCP NOT INCLUDED IN LENGTH IN FINAL REPORT (6-5-1995)  
BUT WILL BE CONSIDERED PART OF THIS IMPROVEMENT PER SUELE MILLS.

\*\* 24" RCP NOT COUNTED TOWARDS DRAIN'S TOTAL LENGTH BECAUSE IT IS PARALLEL DRAIN.



SURVEYOR'S OFFICE  
**Hamilton County**

*Kenton C. Ward, Surveyor*

776-9626

942 Maple Avenue

Noblesville, Indiana 46060 June 5, 1989

TO: Hamilton County Drainage Board

RE: R.J. Follett and J.W. Morrow Drainage Area

Attached is a drain map of the J.W. Morrow Drain and the R.J. Follett Drain. These drains are within the corporate limits of Carmel, Indiana and have been maintained by Carmel for some time now.

The Morrow Drain was first constructed in 1875 as the Ira Mendenhall Drain. This open ditch was replaced with the J.W. Morrow Drain in 1906. In 1928 the Morrow Drain was reconstructed as the R.J. Follett Drain. The Morrow Drain was 6228 feet in length. The 1928 reconstructed added another 4035 feet. Repairs were made on the drains and assessments collected in 1941. In 1950 three (3) arms were added to the drain. These arms were the Carmel Sewer, 950 feet; Donohue Arm, 280 feet; and the Depot Arm, 700 feet. The entire drain consists of 12,243 feet. The last recorded repair to the drain in the file is dated July 1960 and consisted of the removal of a willow tree on the Rail Road R/W.

In 1984 a drainage study was made for the drainage area for the two (2) drains. The study is attached and recommends three (3) projects to help relieve the drainage problems in the "old town" area. Because of the abandonment of the Monon Railroad the Rangeline Road Relieve Sewer has been redirected in order to be constructed at less expense. The plan for this is attached. This line will allow the system to accomodate a ten (10) year storm event.

Because of the backlog for hearings, the fact that Carmel has been maintaining the drain, the willingness of Carmel to construct the necessary improvements and to maintain the drain, I recommend the Board relinquish jurisdiction of these drains to Carmel. This may be done through IC 36-9-27-20.



SURVEYOR'S OFFICE

# Hamilton County

Kenton C. Ward, Surveyor

Suite 146

776-8495

One Hamilton County Square

Noblesville, Indiana 46060-2230

June 5, 1995

To: Hamilton County Drainage Board

Re: J.W. Morrow - R.J. Follett Drain

Attached is a drain map of the above referenced drain. At this time the drain appears on the 1995 drain classification list as number 17 in need of maintenance.

This drain was originally the Mendenhall Drain petitioned through the Commissioners Court in 1875. This drain consisted of 3465 feet of open ditch roughly along 1st Avenue West between 4th Street North and 6th Street South in Carmel.

In 1906 the Mendenhall Drain was replaced by the J.W. Morrow Drain. This drain was petitioned through the Hamilton County Circuit Court and consisted of a main ditch and one arm. The main ditch roughly followed the Mendenhall Drain and consisted of 4000 feet of tile and 788 feet of open drain. The arm begins in what is now Carmel Knoll Apartments and ran NW to the corner of 1st Avenue East and 1st Street North, then runs west along 1st Street North to the main drain. This arm is 1440 feet of tile. The total length of the drain is 6228 feet.

In 1928 the Morrow was reconstructed through the Circuit Court. This drainage project added 4085 feet of tile drain to the Morrow Drain. The drainage system was repaired in 1941 and later in 1950. three arms were added. These were the Depot Arm, 700 feet of tile; Carmel Sewer, 950 feet of tile; and the Donohue Arm, 280 feet of tile. The Depot Arm did not connect into the main drain line, but into a drain which was placed in 1st Street South sometime before 1950 which empties into the main Follett-Morrow Drain.

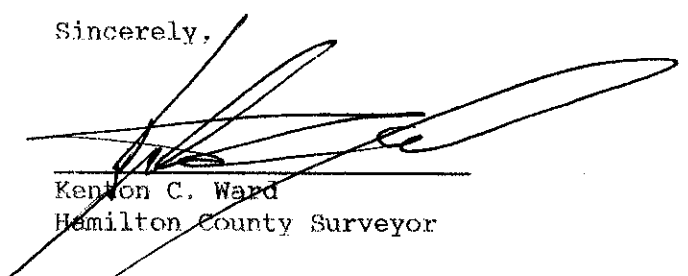
At sometime a 230 foot portion of the Carmel Sewer Arm was relocated. This relocation amounted to extending the drain west in the alley north of 1st Street to 1st Avenue East and then running south in 1st Avenue East to Sta. 8+80 of Arm 1 of the Morrow Drain (320 feet total length). Also, during the construction of the Carmel Knoll apartments part of Arm 1 of the Morrow was relocated by replacing 330 feet of the original tile with 400 feet of new storm sewer to provide for the sites development.

On March 5, 1990 the city of Carmel reconstructed a portion of the drainage system by intercepting the Follett Drain and Arm 1 of the Morrow at the intersection of 1st Avenue West and 1st Street North running east to the abandoned Monon Rail Road, thence north in the abandoned rail road and crossing under the rail road and outlets 20 feet

downstream of Sta. 40. This consists of 21 feet of 48" RCP and 1896 feet of 72" RCP. The length of the drain with all the relocations is 14,330 feet.

On March 5, 1990 the Hamilton County Drainage Board relinquished maintenance jurisdiction of this drain to Carmel. I recommend the drain be removed from the classification list and be assigned an account number with a fund balance of -0- at this time.

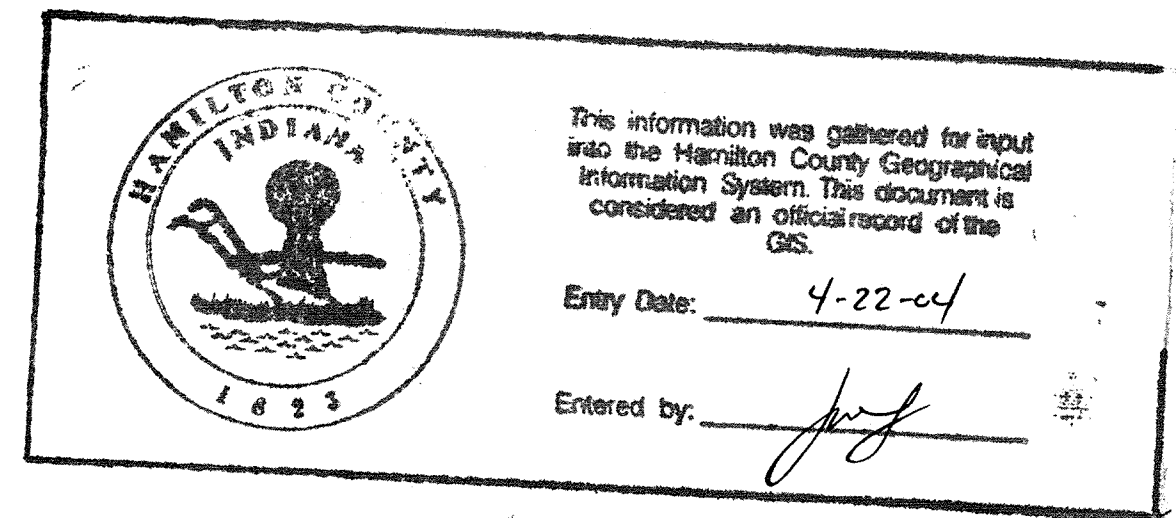
Sincerely,



Kenton C. Ward  
Hamilton County Surveyor

KCW/jlk

# CITY OF CARMEL, INDIANA



## STORM SEWER IMPROVEMENT FROM 1ST STREET N.W. TO LITTLE COOL CREEK

INDEX	
SHEET	DESCRIPTION
1	TITLE SHEET
2	LOCATION MAP
3-5	PLAN AND PROFILES
6-10	DETAILS
11	STRUCTURE DATA
12-22	CROSS SECTIONS

### BOARD OF PUBLIC WORKS

*Dorothy J. Hancock*  
DOROTHY J. HANCOCK, MAYOR

*Steve Spaug*  
STEVE SPAUGH, MEMBER

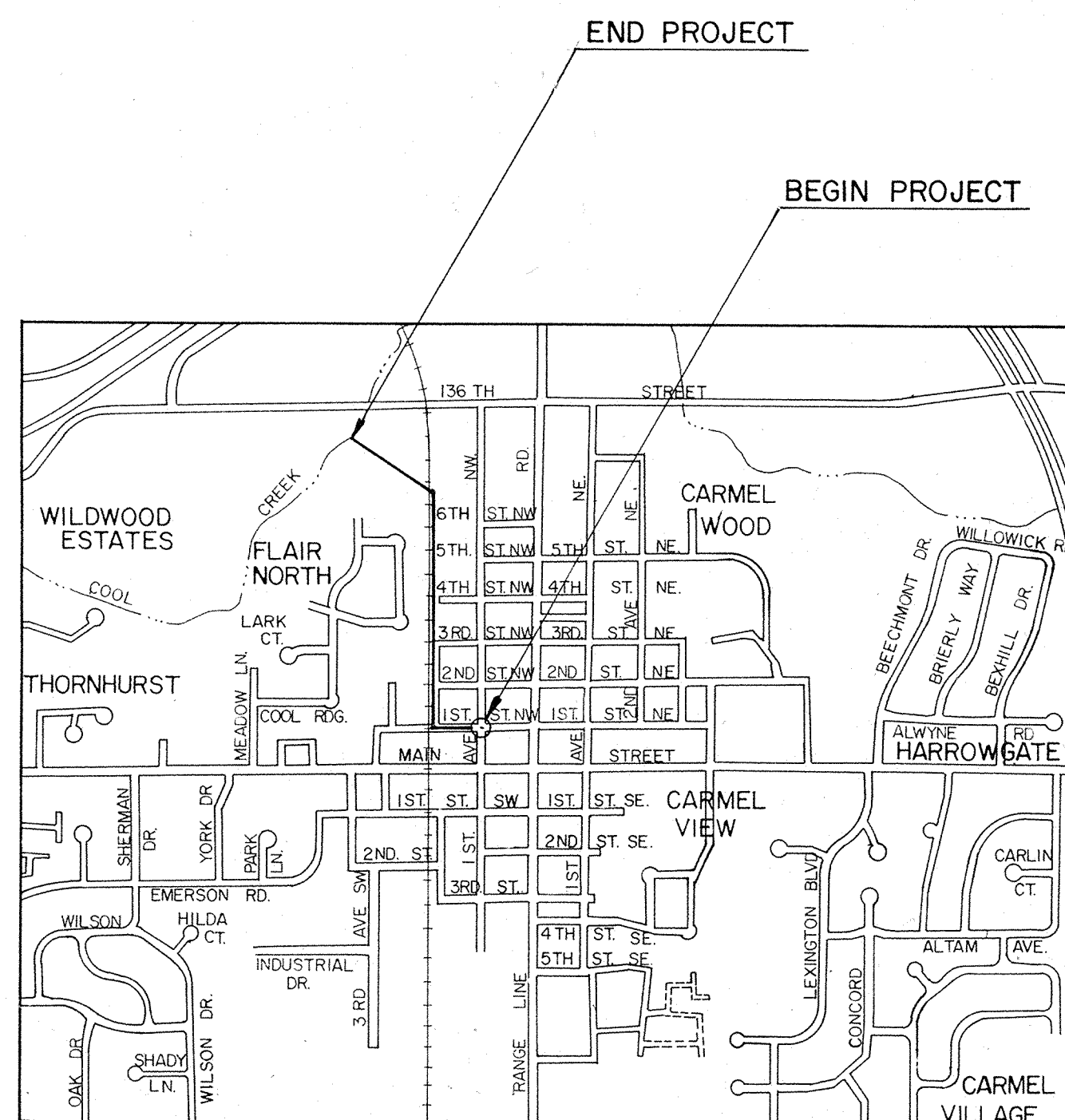
*Billy Walker*  
BILLY WALKER, MEMBER

*Steve Andrews*  
STEVE ANDREWS, CITY ATTORNEY

*Thomas Welch*  
THOMAS WELCH, CITY ENGINEER

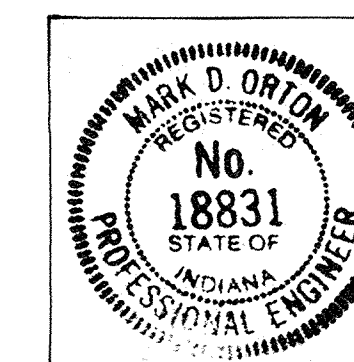
ATTEST: *Susan St. Jones*  
SUSAN JONES, CLERK TREASURE

DATE: July 12, 1989



BUTLER, FAIRMAN and SEUFERT, INC.  
ENGINEERS  
CARMEL, INDIANA

ESTIMATE OF QUANTITIES			
NO.	ITEM	QUANTITY	UNIT
1	MOBILIZATION AND DEMOBILIZATION	1	L.S.
2	CLEARING RIGHT-OF-WAY	1	L.S.
3	BITUMINOUS SURFACE TYPE II, LV	50	TON
4	BITUMINOUS BINDER No. 8 or 9, LV	150	TON
5	NO. 2 STONE	314	TON
6	COMPACTED AGGREGATE BASE NO: 53	200	TON
7	BITUMINOUS TACK COAT	0.23	TON
8	BITUMINOUS PRIME COAT	1.31	TON
9	MANHOLE TYPE "C-4"	1	EACH
10	MANHOLE TYPE "M-4"	7	EACH
11	PIPE, R.C. CI. III 12"	14	LFT.
12	PIPE, R.C. CI. III 18"	428	LFT.
13	PIPE, R.C. CI. III 24"	28	LFT.
14	PIPE, R.C. CI. III 48"	21	LFT.
15	PIPE, R.C. CI. III 72"	1,900	LFT.
16	PIPE, R.C. CI. H.E. II 9"x58"	48	LFT.
17	PIPE, 12" DUCTILE IRON CL 52	18	LFT.
18	CONCRETE CLASS "A"	7.05	CYS.
19	GABIONS	114	CYS.
20	REVTMENT RIPRAP	956	SYS.
21	PIPE END SECTION, 18"	2	EACH
22	NON-WOVEN FILTER FABRIC	1,357	SYS.
23	MULCHED SEEDING	4,660	SYS.
24	"B" BORROW FOR STRUCTURAL BACKFILL	7,576	CYS.
25	SEWER SERVICE CONNECTION	1	EACH
26	FENCE, FARM FIELD TYPE, 47 INCH	675	LFT.
27	GATE, FARM FIELD TYPE, 47 INCH x 18 FEET	1	EACH
28	DITCH GRADING	1	L.S.
29	SODDING	202	SYS.
30	SEEDING MIXTURE, TYPE "CV"	4	LBS.
31	INLET TYPE "E-7"	1	EACH
32	MAINTENANCE OF TRAFFIC	1	L.S.
33	CONSTRUCTION ENGINEERING	1	L.S.



*Mark D. Orton*  
July 12, 1989


**PUBLIC UTILITIES**

CITY OF CARMEL  
 Utility Superintendent  
 130 First Avenue, Southwest  
 Carmel, Indiana 46032

INDIANA GAS COMPANY  
 16000 Allisonville Road  
 Noblesville, Indiana 46060

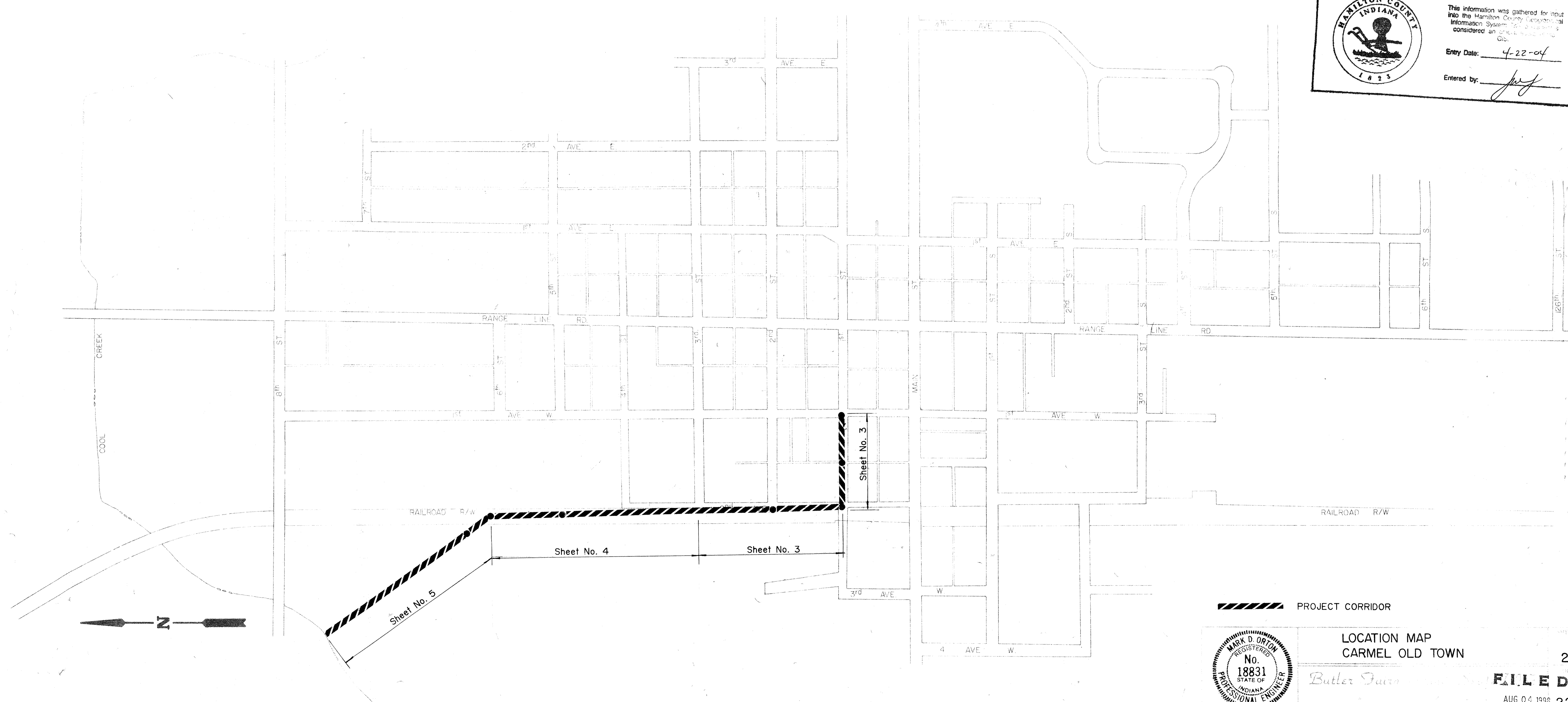
AMERICAN TELEPHONE AND TELEGRAPH  
 2020 Churchman Avenue  
 Indianapolis, Indiana 46203  
 Phone: 1-800-382-5544  
 782-3806

INDIANA BELL  
 5870 N. College Avenue  
 Indianapolis, Indiana 46220




This information was gathered for input into the Hamilton County Geographical Information System. This information is considered an official record of the County.

Entry Date: 4-22-04  
 Entered by: *[Signature]*



**PROJECT CORRIDOR**



**LOCATION MAP  
 CARMEL OLD TOWN**

*Butler J...* **FILED**

AUG 04 1998 22

OFFICE OF HAMILTON COUNTY SURVEYOR

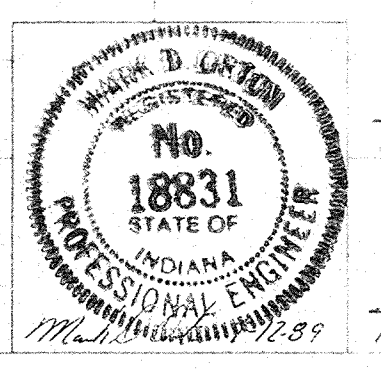
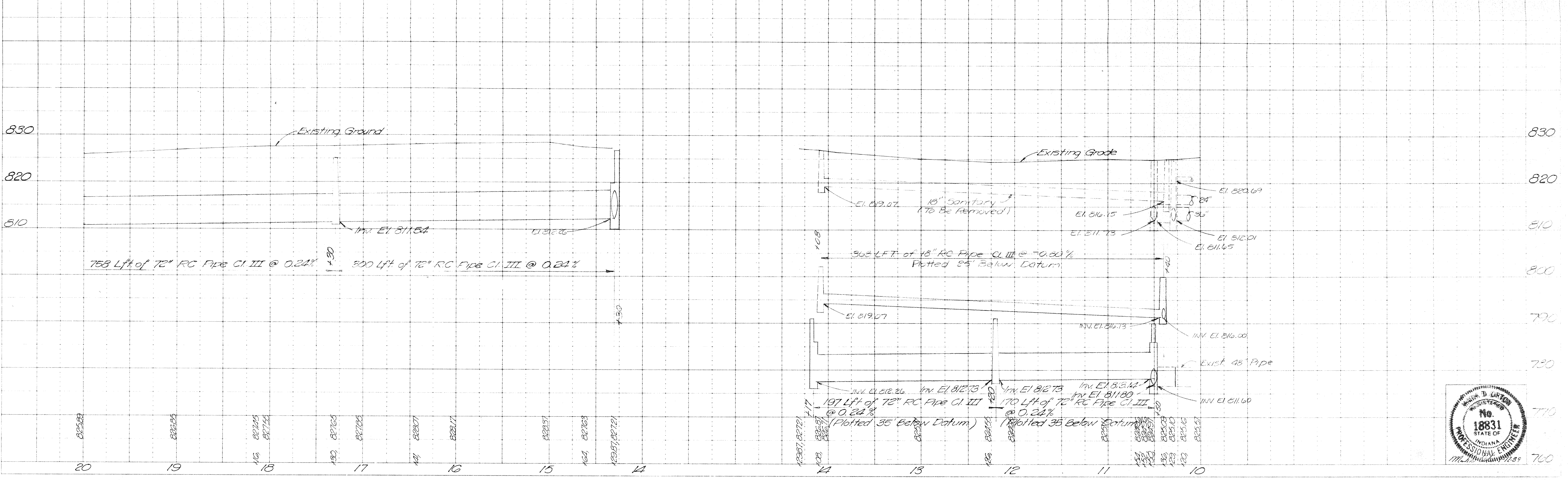
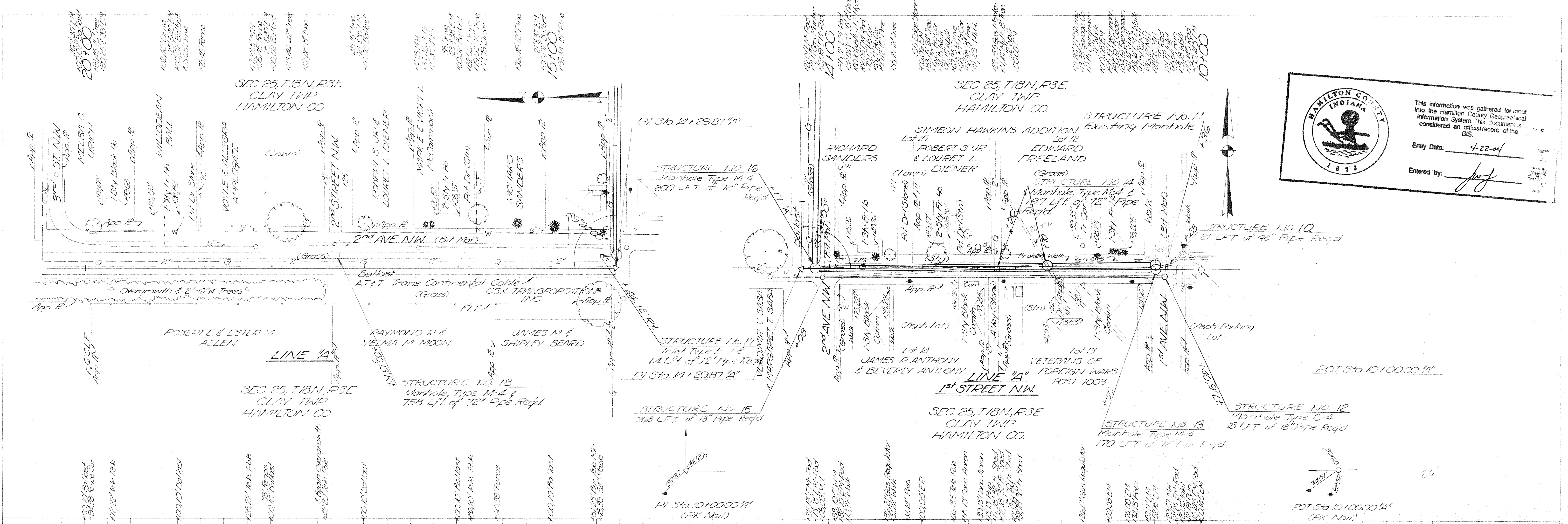
PLAN SHEET  
 NOTE BOOK  
 NO.

PROFILE SHEET  
 NOTE BOOK  
 NO.

HAMILTON CO. INDIANA  
 1833

This information was gathered for input into the Hamilton County Geographical Information System. This document is considered an official record of the GIS.

Entry Date: 4-22-04  
 Entered by: [Signature]

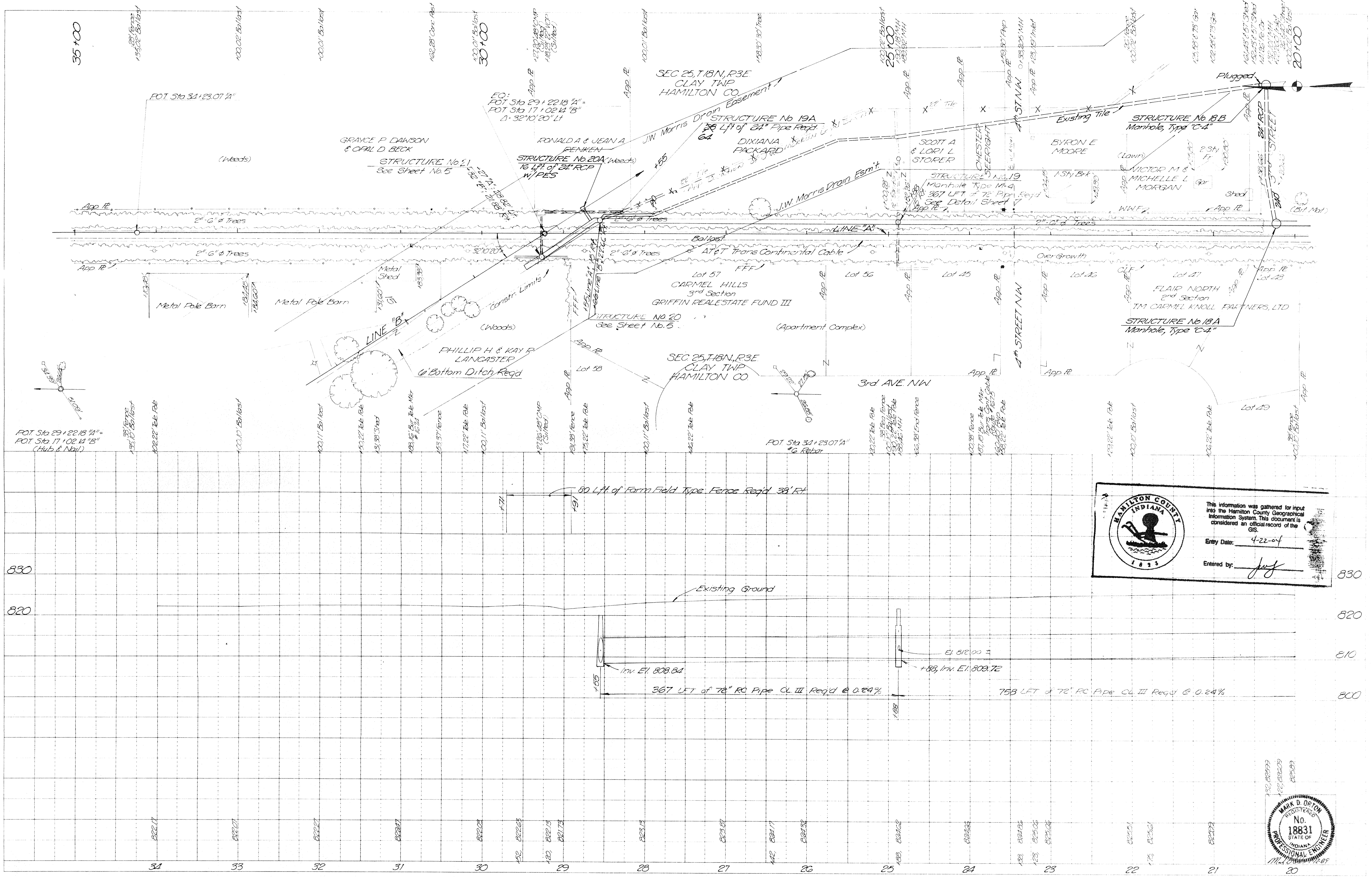


PROJECT NO. 2382  
 SHEET NO. 22  
 TOTAL SHEETS 22  
 FILED



PLAN  
 SURVAYED PHOTO  
 NOTE BOOK ALIGNMENT CHECKED  
 No. 1

PROFILE  
 SURVAYED PHOTO  
 NOTE BOOK GRADES CHECKED  
 No. 1



**HAMILTON COUNTY INDIANA**  
 1833

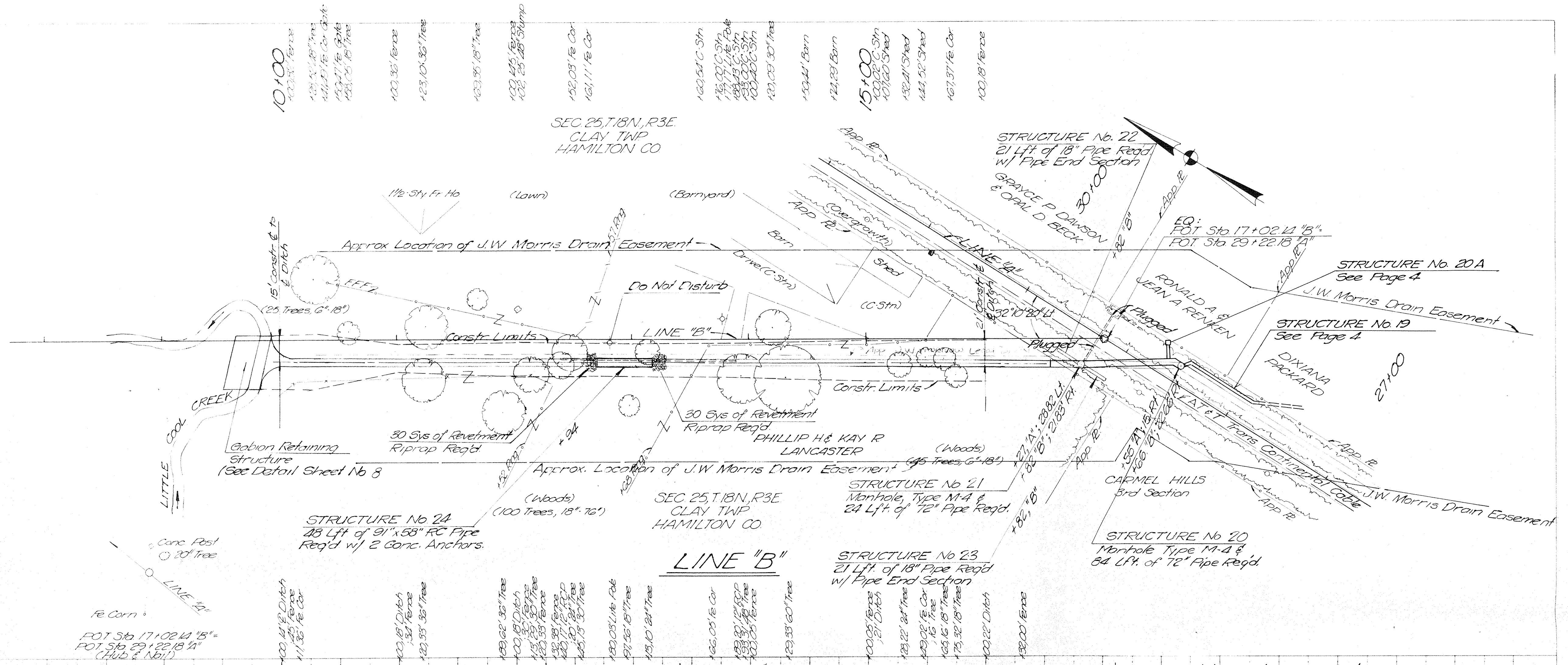
This information was gathered for input into the Hamilton County Geographical Information System. This document is considered an official record of the GIS.

Entry Date: 4-22-04  
 Entered by: *Jeff*

**MARK D. ORTON**  
 REGISTERED  
 No. 18831  
 STATE OF INDIANA  
 PROFESSIONAL ENGINEER  
 11/2/00

FILED  
 AUG 04 1990  
 OFFICE OF HAMILTON COUNTY SURVEYOR

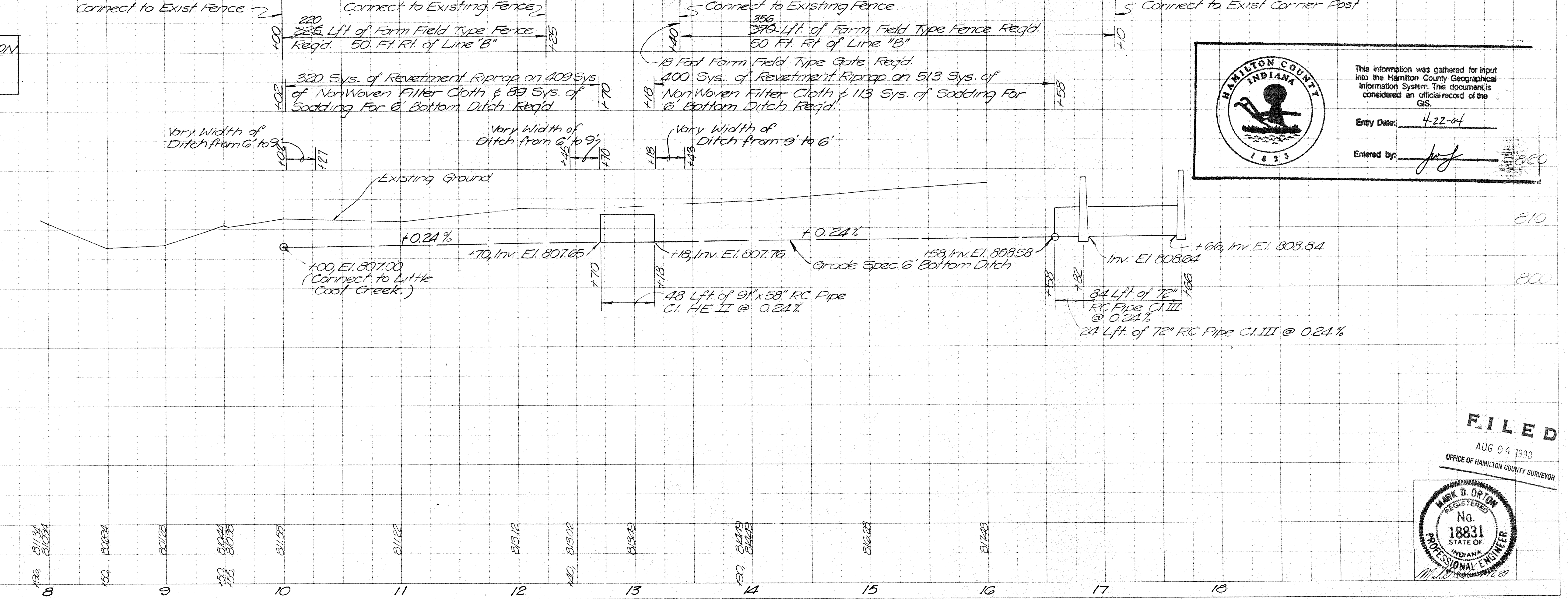
PLAN



ESTIMATED EARTHWORK COMPUTATION FOR DITCH CONSTRUCTION  
Common Excavation = 550 Cys

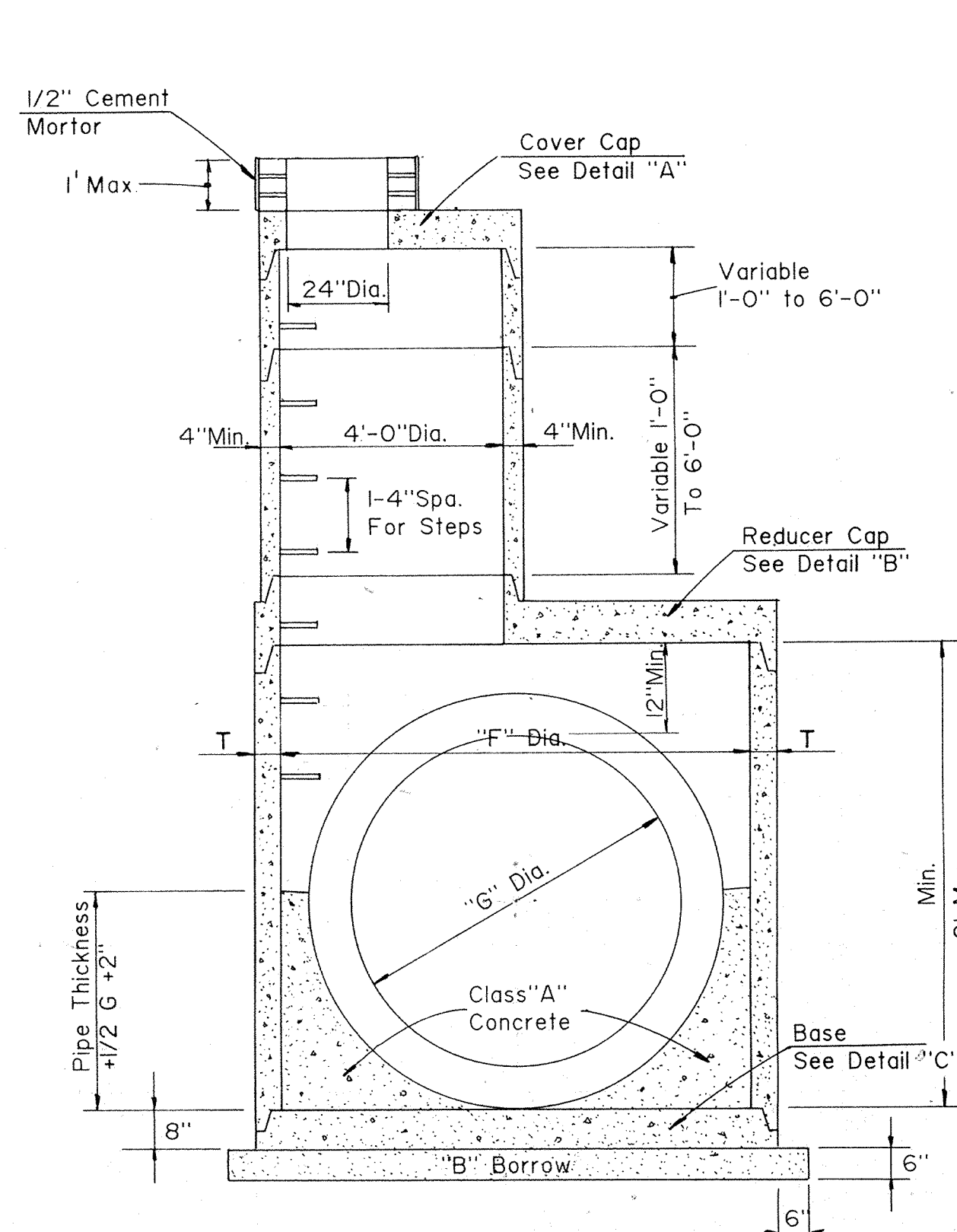
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PROFILE

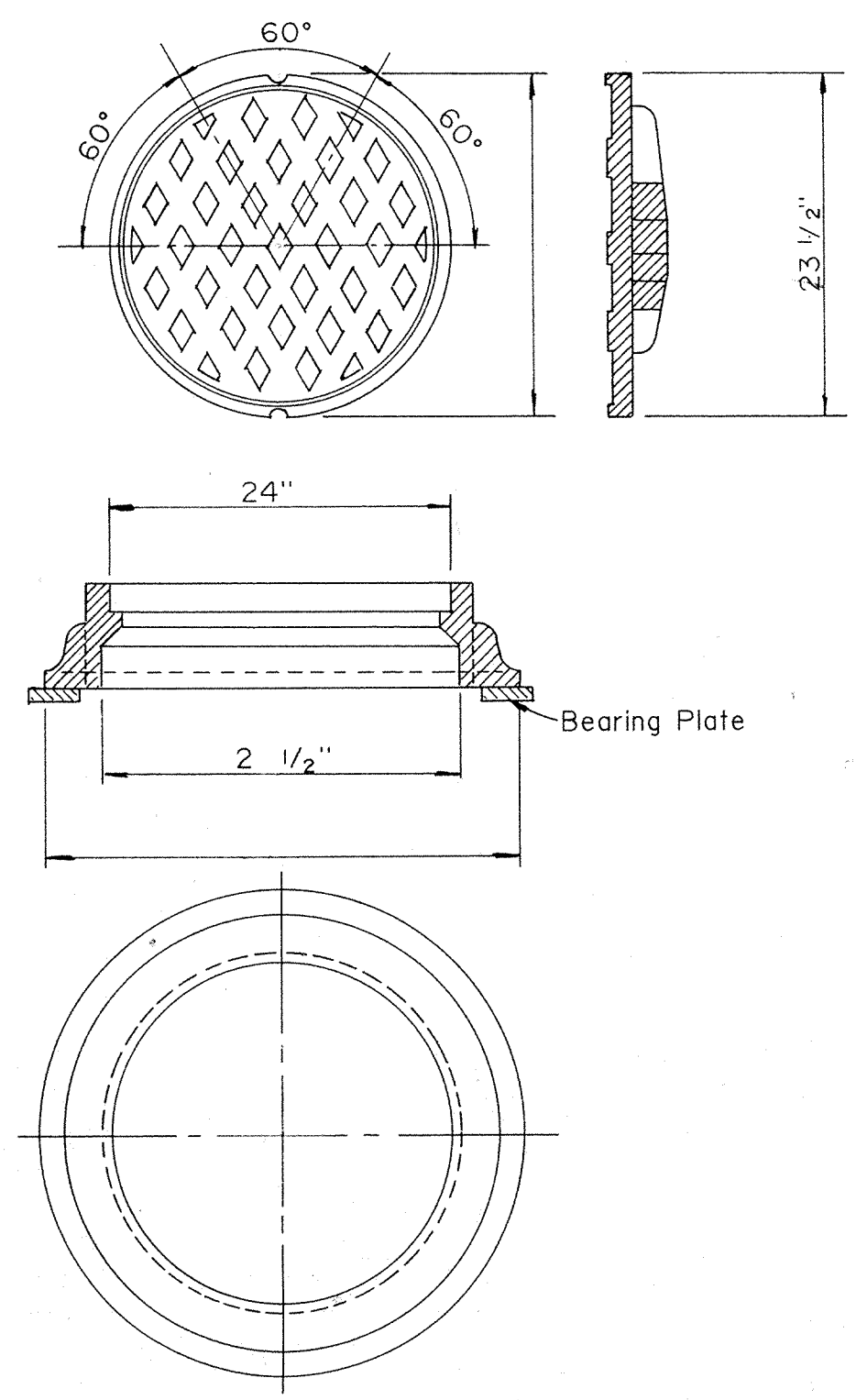


FILED  
AUG 04 1993  
OFFICE OF HAMILTON COUNTY SURVEYOR

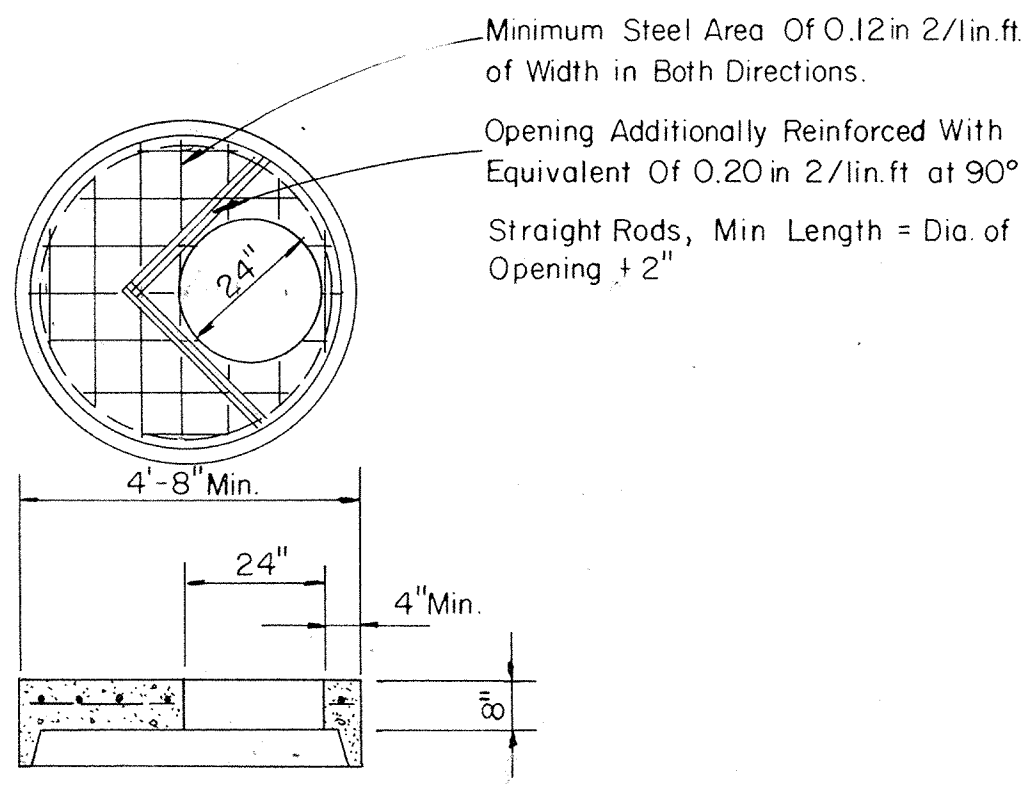
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
		5	22	2382



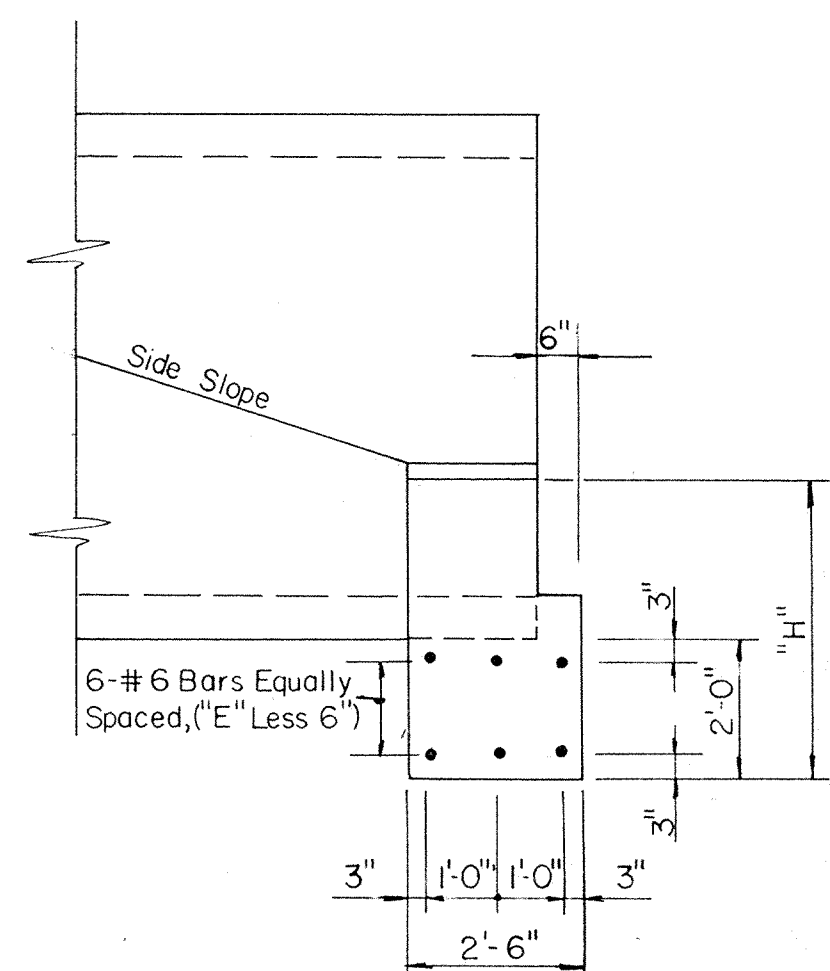
**MANHOLE TYPE "M" and "C"**  
SCALE: NONE



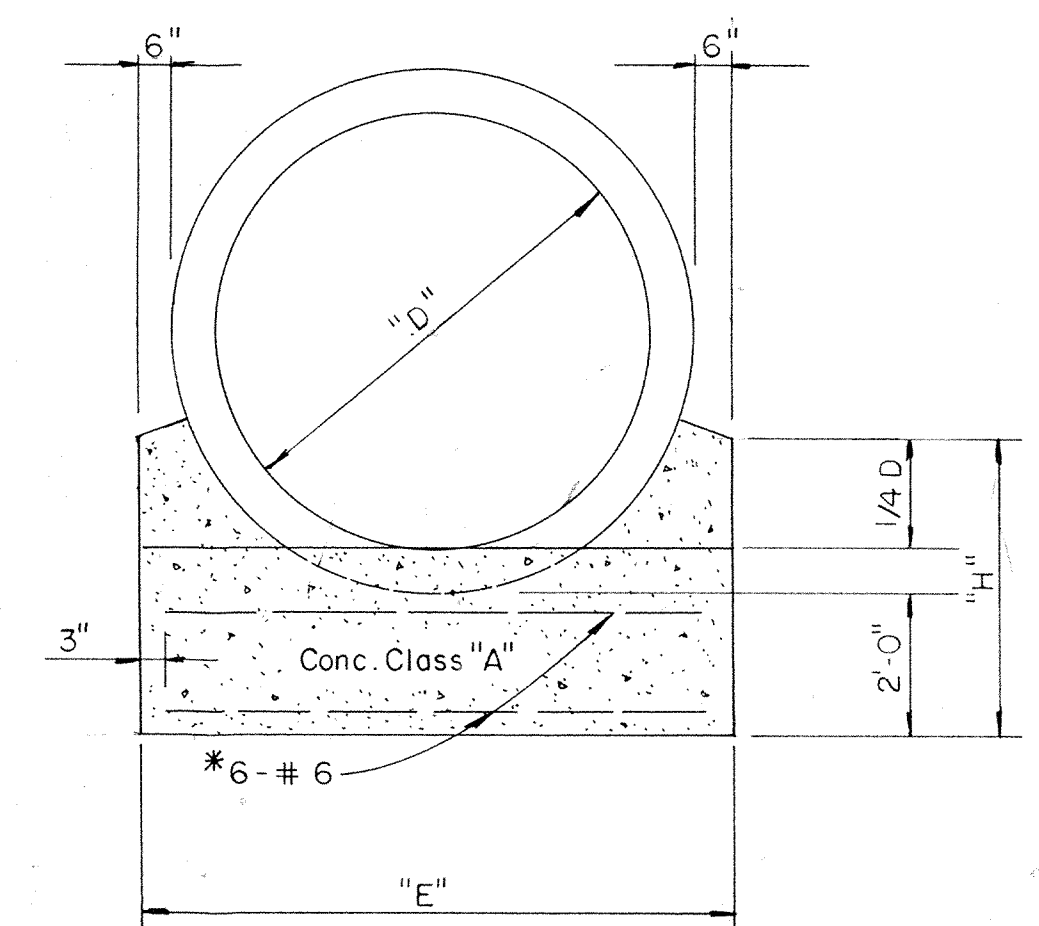
**MANHOLE CASTING  
TYPE 4 RING AND COVER**  
SCALE: NONE



**DETAIL "A"**



**ANCHOR-SIDE ELEVATION**

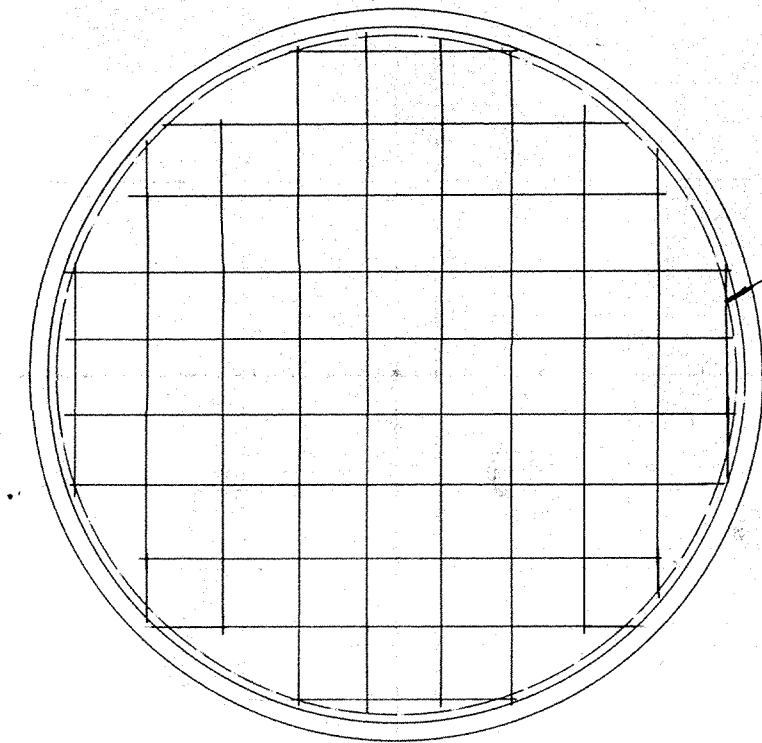


**REINFORCED CONCRETE PIPE ANCHOR**  
SCALE: NONE

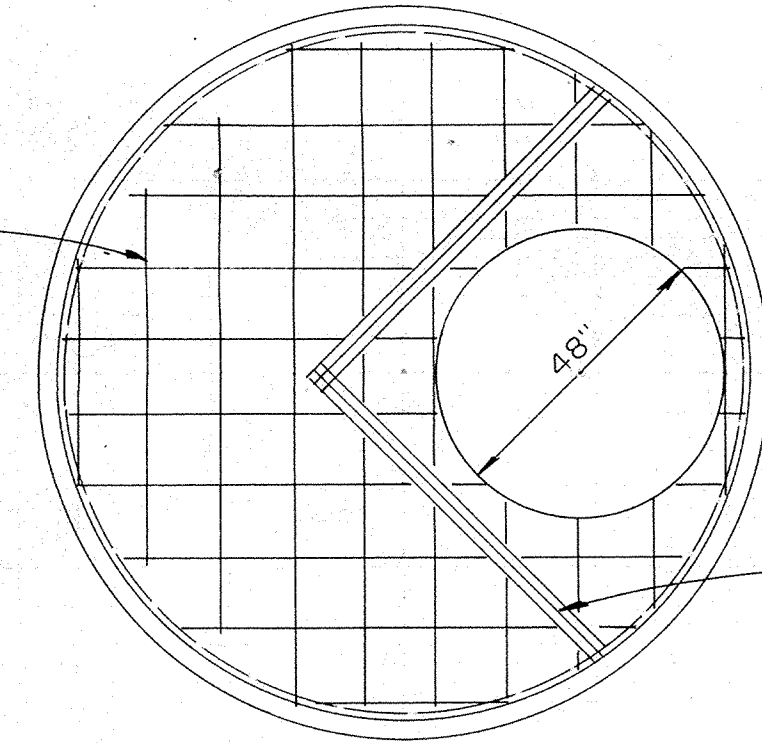
MANHOLE				
TYPE	"G"	"F"	"K"	"T" (Min)
M	72"	102"	10'-1"	6"
C	24"	48"	5'-0"	4"

ANCHORS			
"D"	"E"	"H"	CONC. (CYS)
91"x58"	9'-10"	3'-10"	2.45**
72"	8'-2"	4'-1"	2.15**

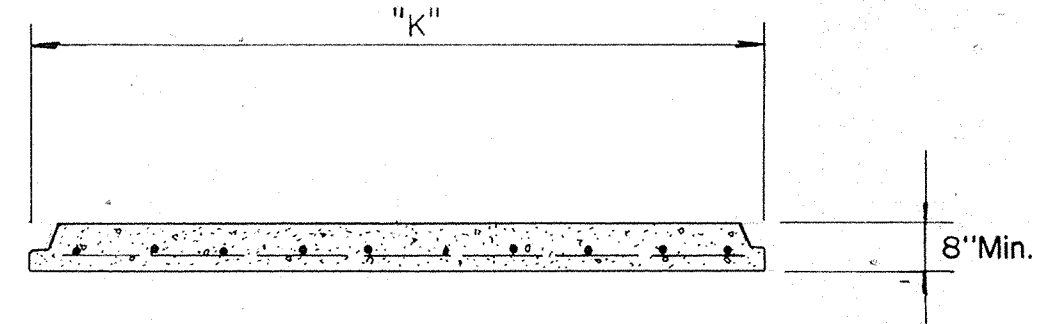
\* Cost of Reinforcing Steel to be Included in the Cost of the Bid Item Concrete Class "A".  
\*\* Concrete Quantity for One Anchor



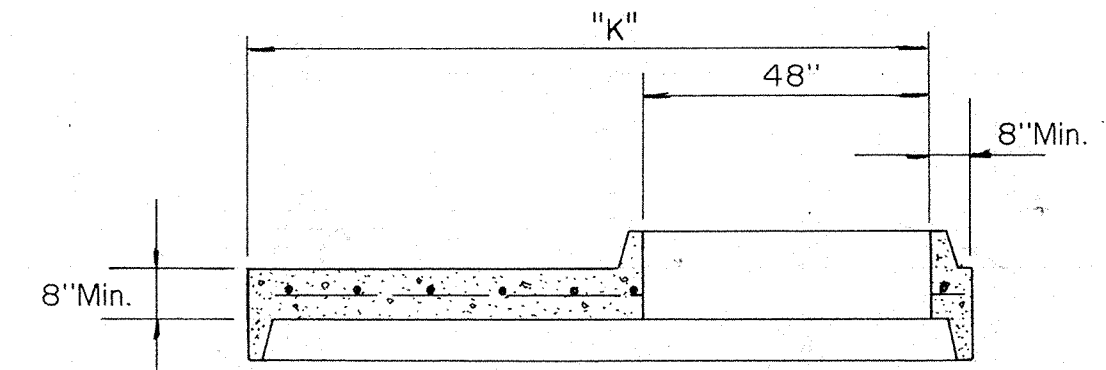
Minimum Steel Area Of 0.12 in 2/lin.ft. of Width in Both Directions.  
Rebar Or Wire Mesh Equivalent.



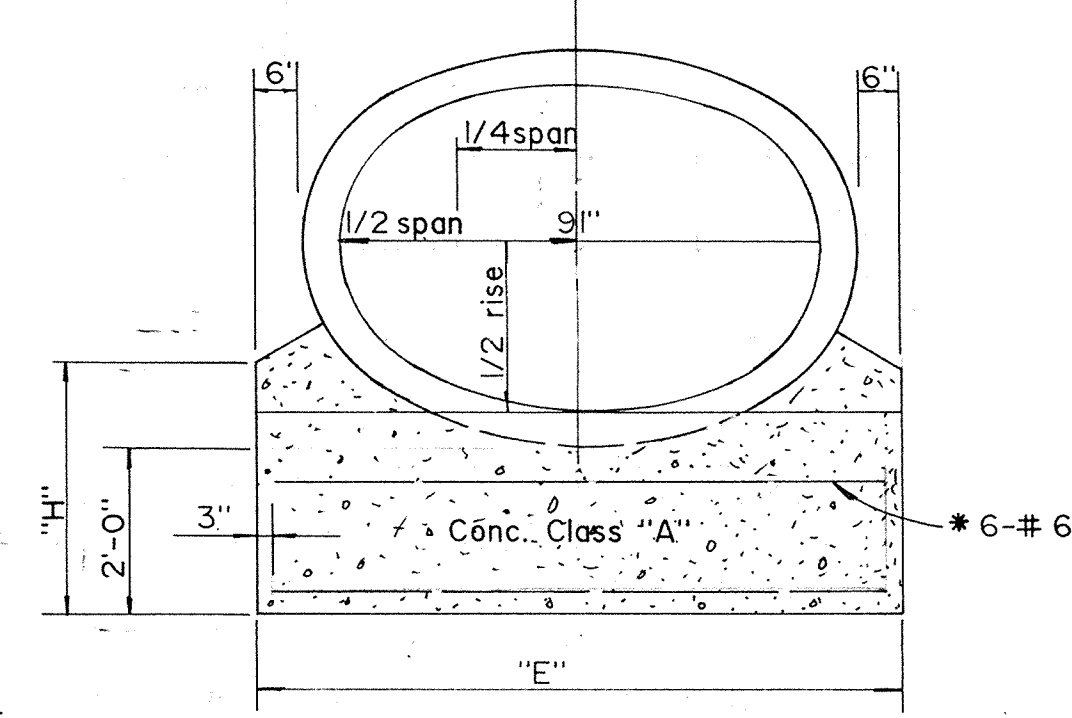
Opening Additionally Reinforced With Equivalent Of 0.20 in 2/lin. ft. at 90° Straight Rods, Min Length = Dia. of Opening + 2"



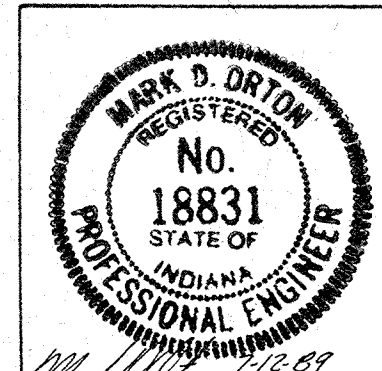
**DETAIL "C"**



**DETAIL "B"**



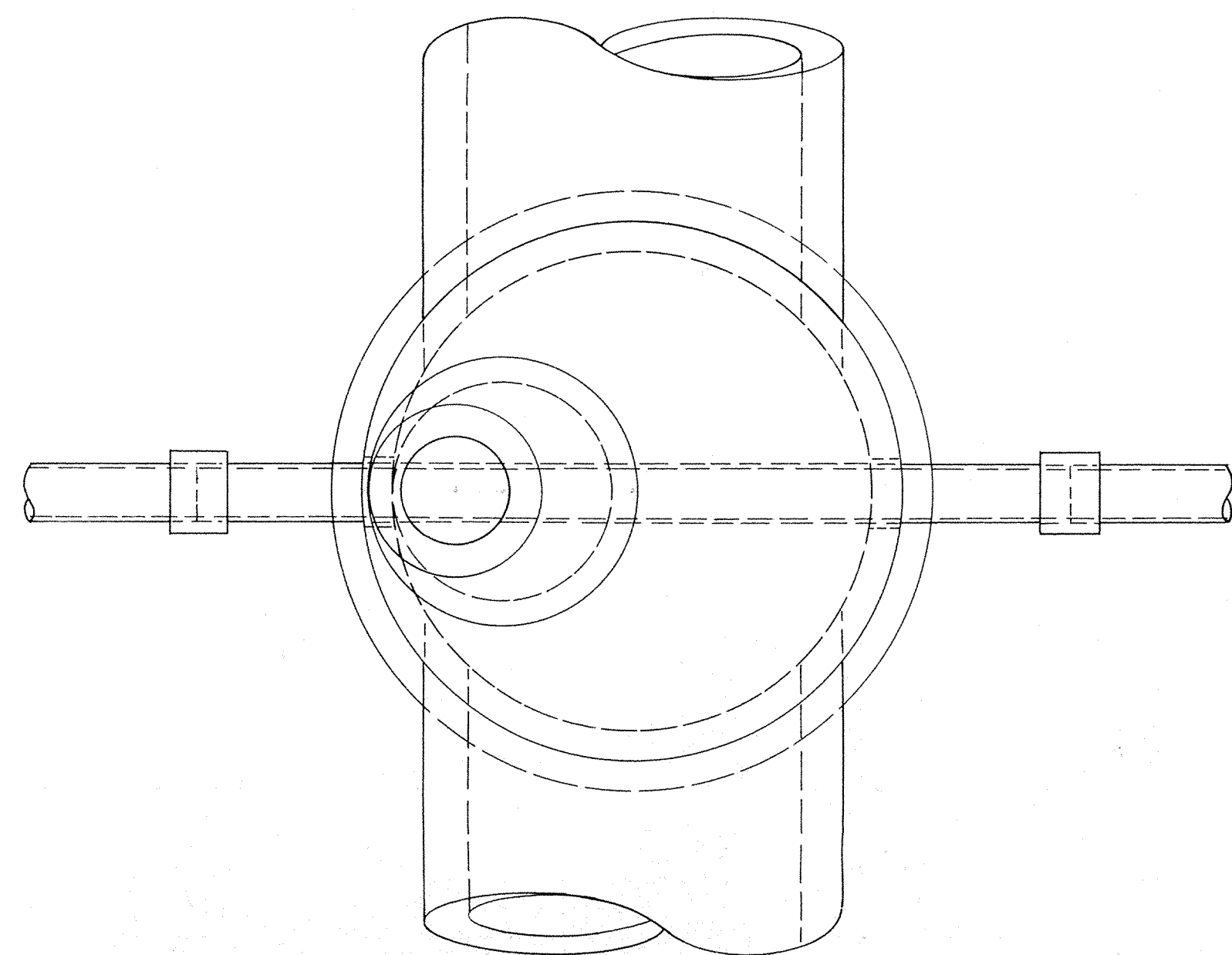
**ELLIPTICAL CONCRETE PIPE ANCHOR**  
SCALE: NONE



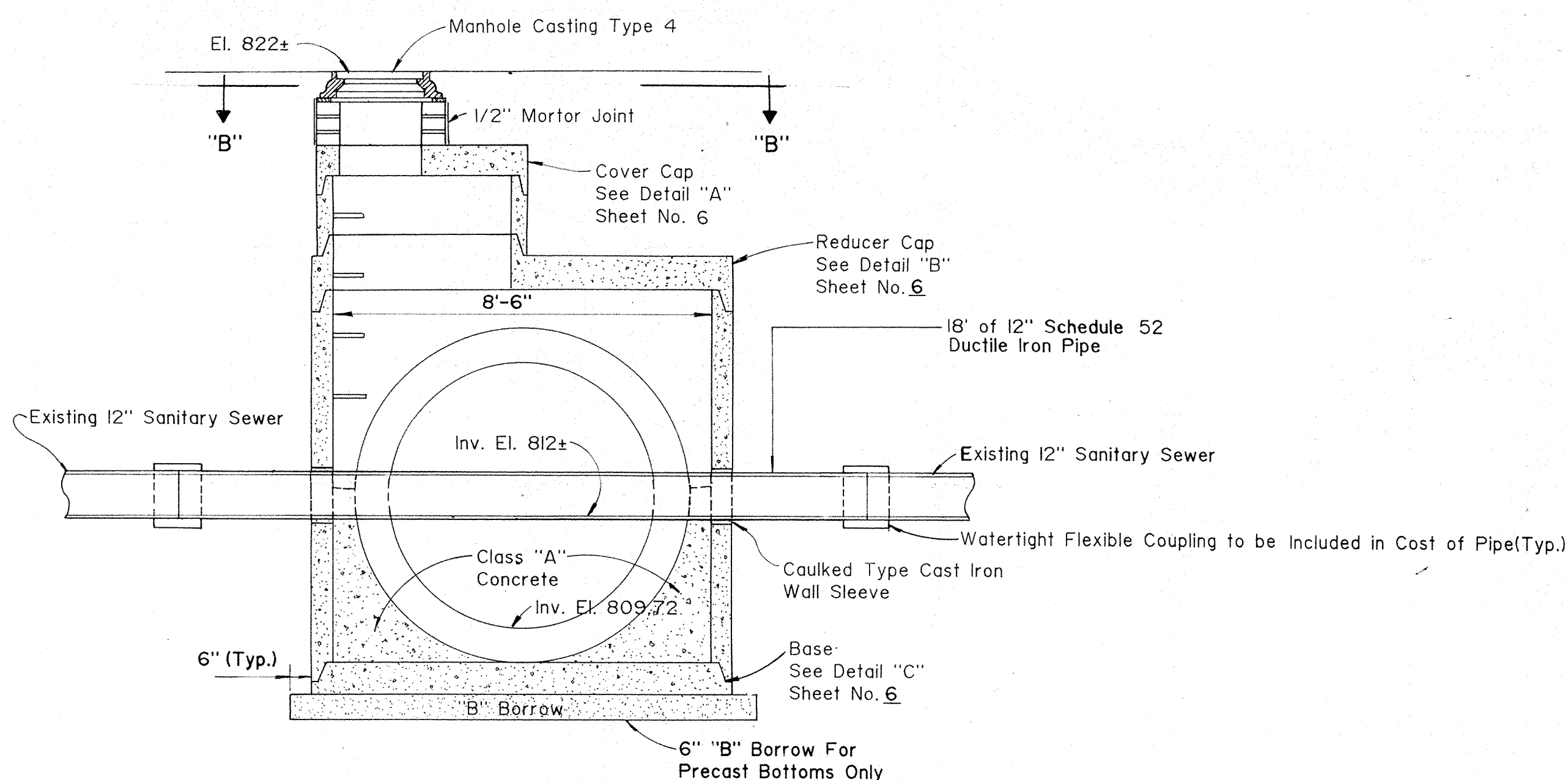
**Butler Fairman and Seufert Inc.**  
CARMEL ENGINEERS INDIANA  
DWG. BY: CK. BY: DATE

SHEET 6 OF 22

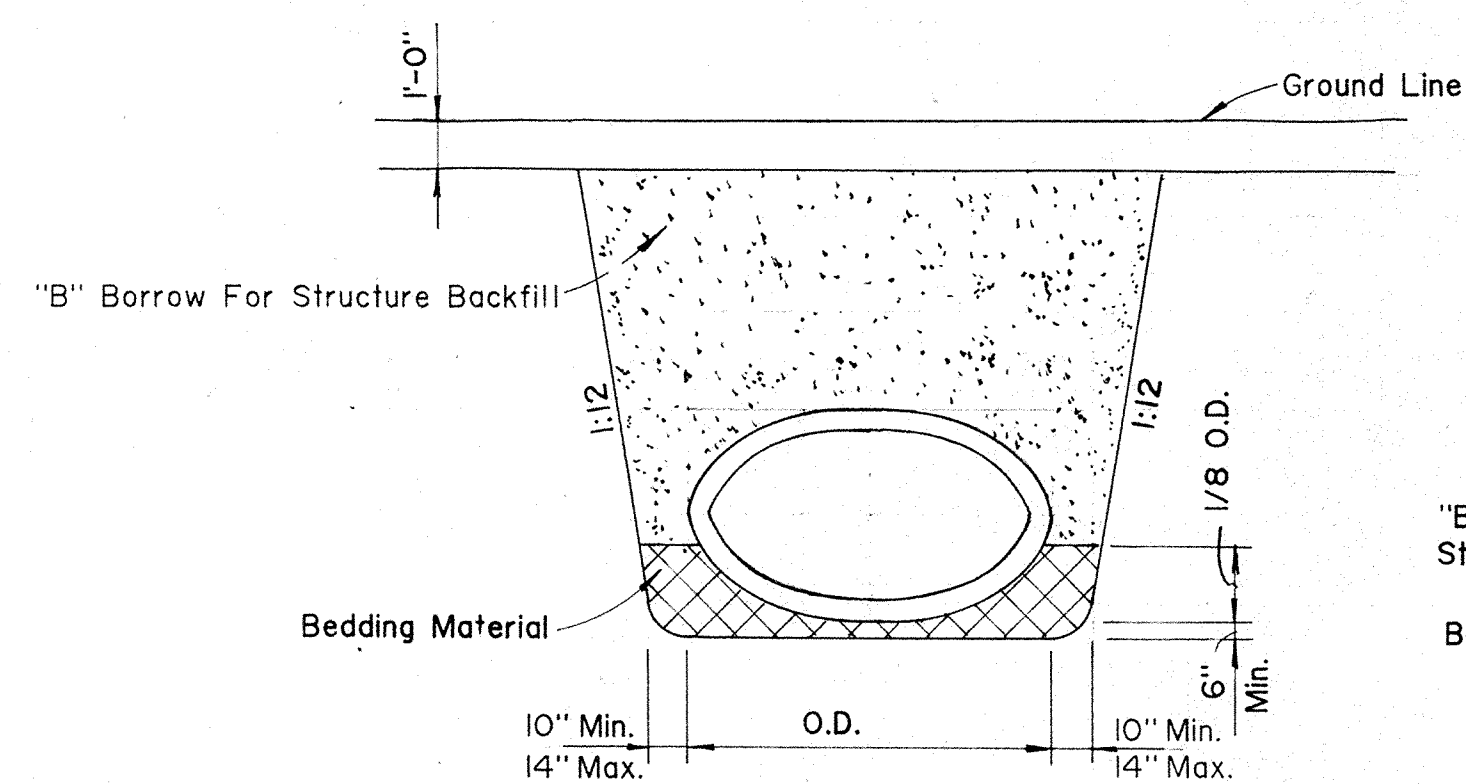
**FILED**  
AUG 04 1993  
OFFICE OF HAMILTON COUNTY SURVEYOR



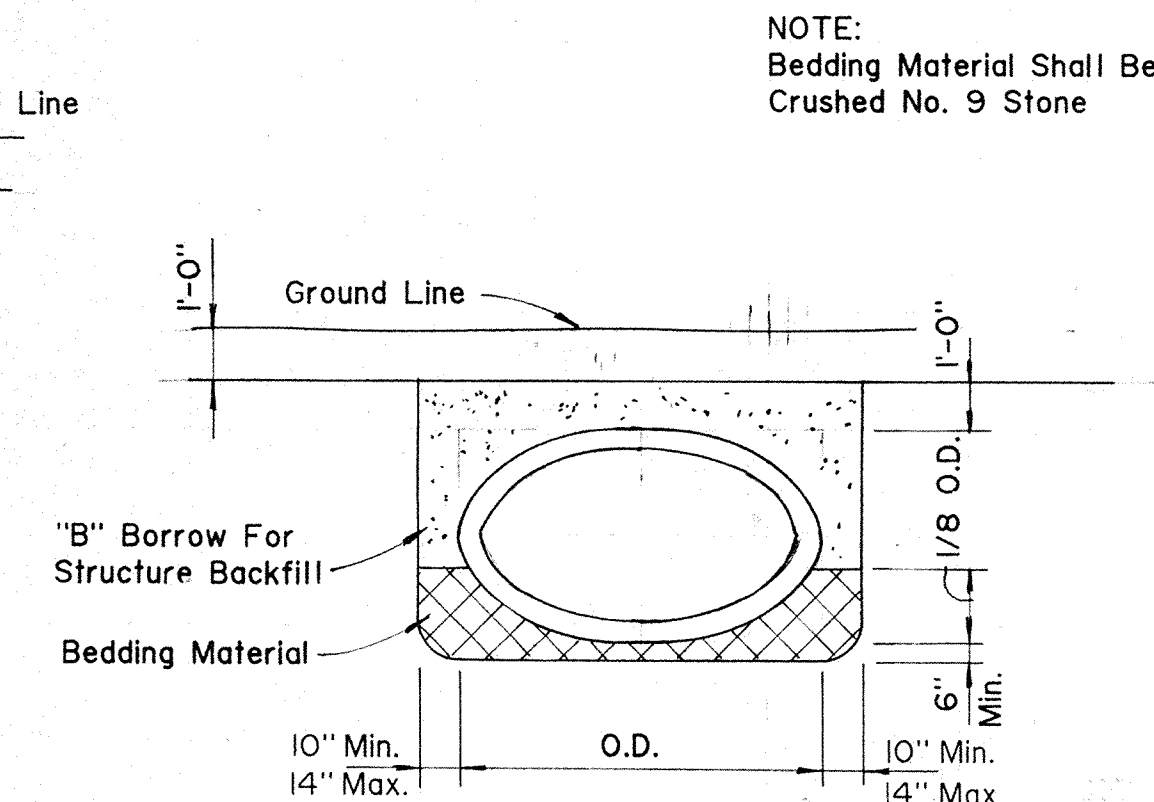
SECTION "B-B"  
SCALE: NONE



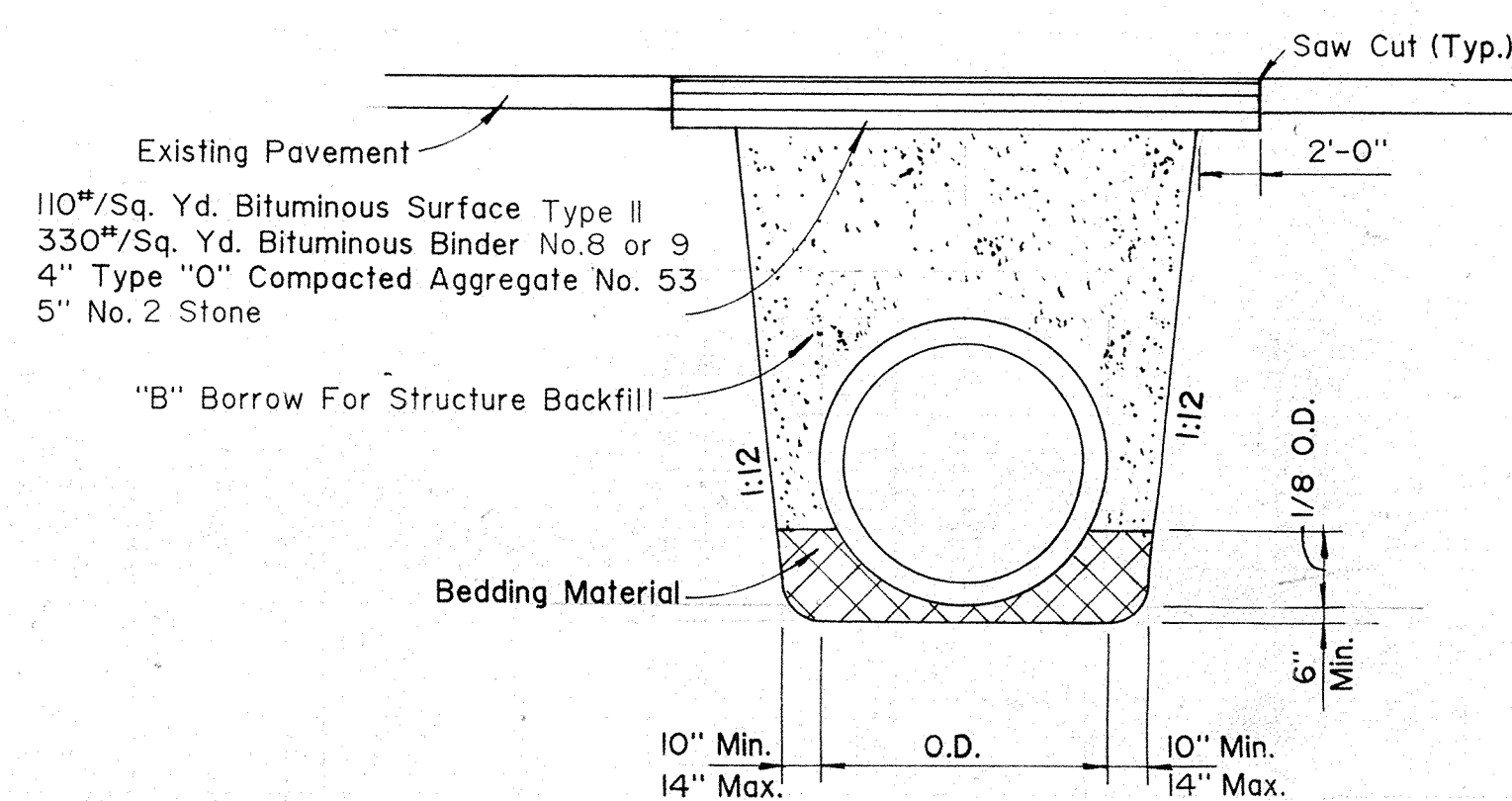
DETAIL  
STRUCTURE NO. 19  
AT STATION 24+88  
SCALE: NONE



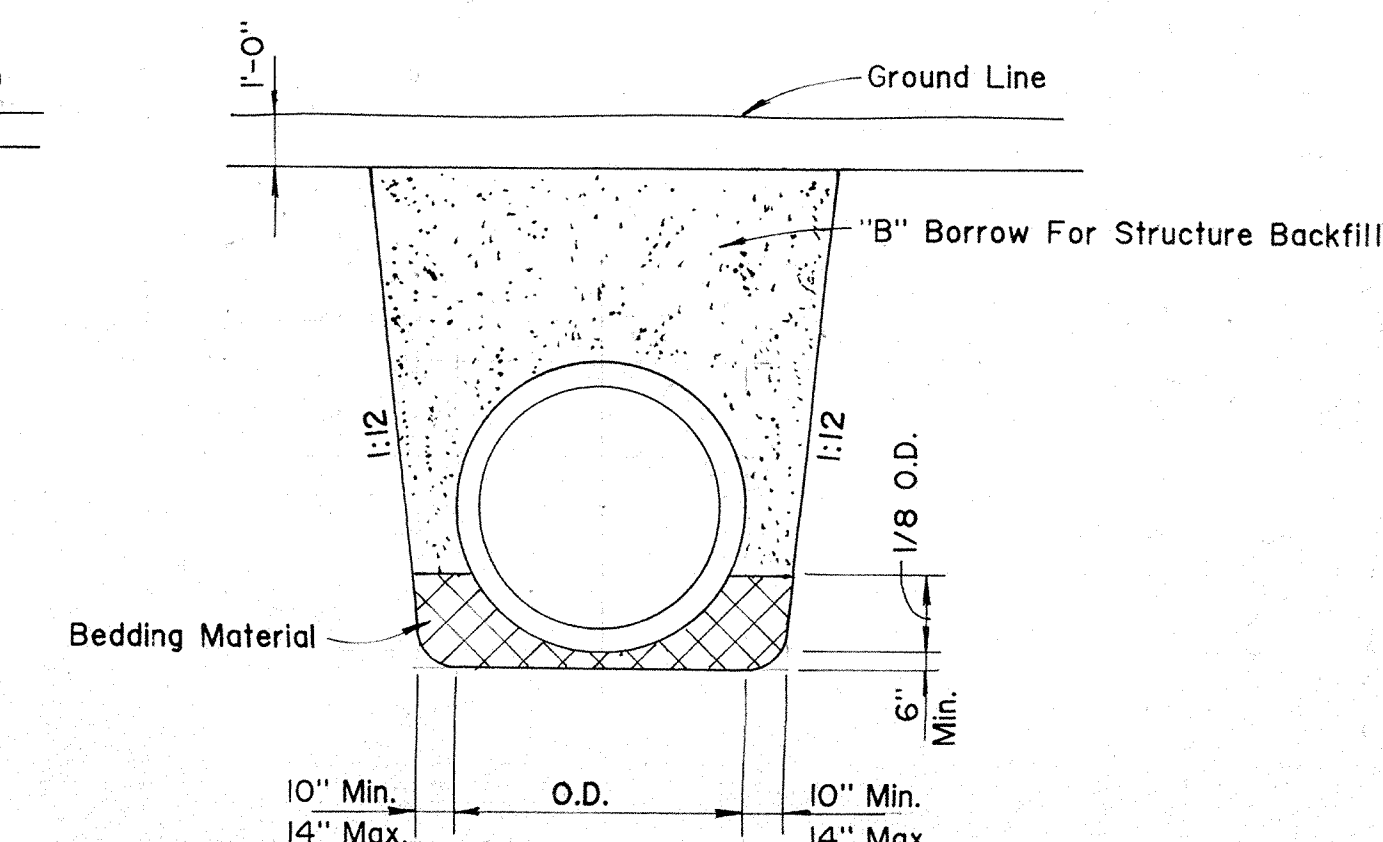
STA. 12+70 "B" TO STA. 13+18 "B"



(NOT USED)



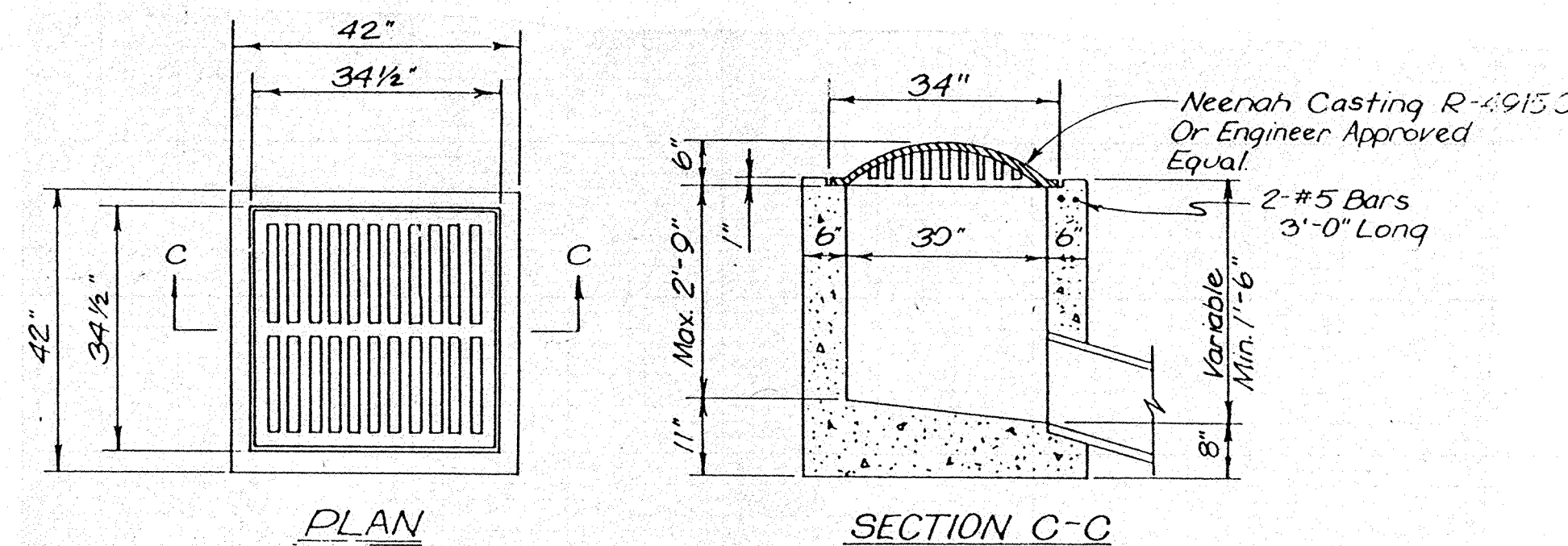
STA. 10+40 "A" TO STA. 14+16 "A"



STA. 14+30 "A" TO STA. 28+48 "A"

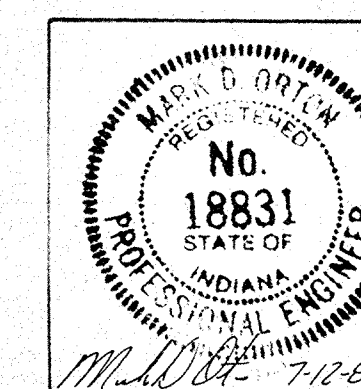
BEDDING DETAILS

SCALE: 1/4" = 1'-0"



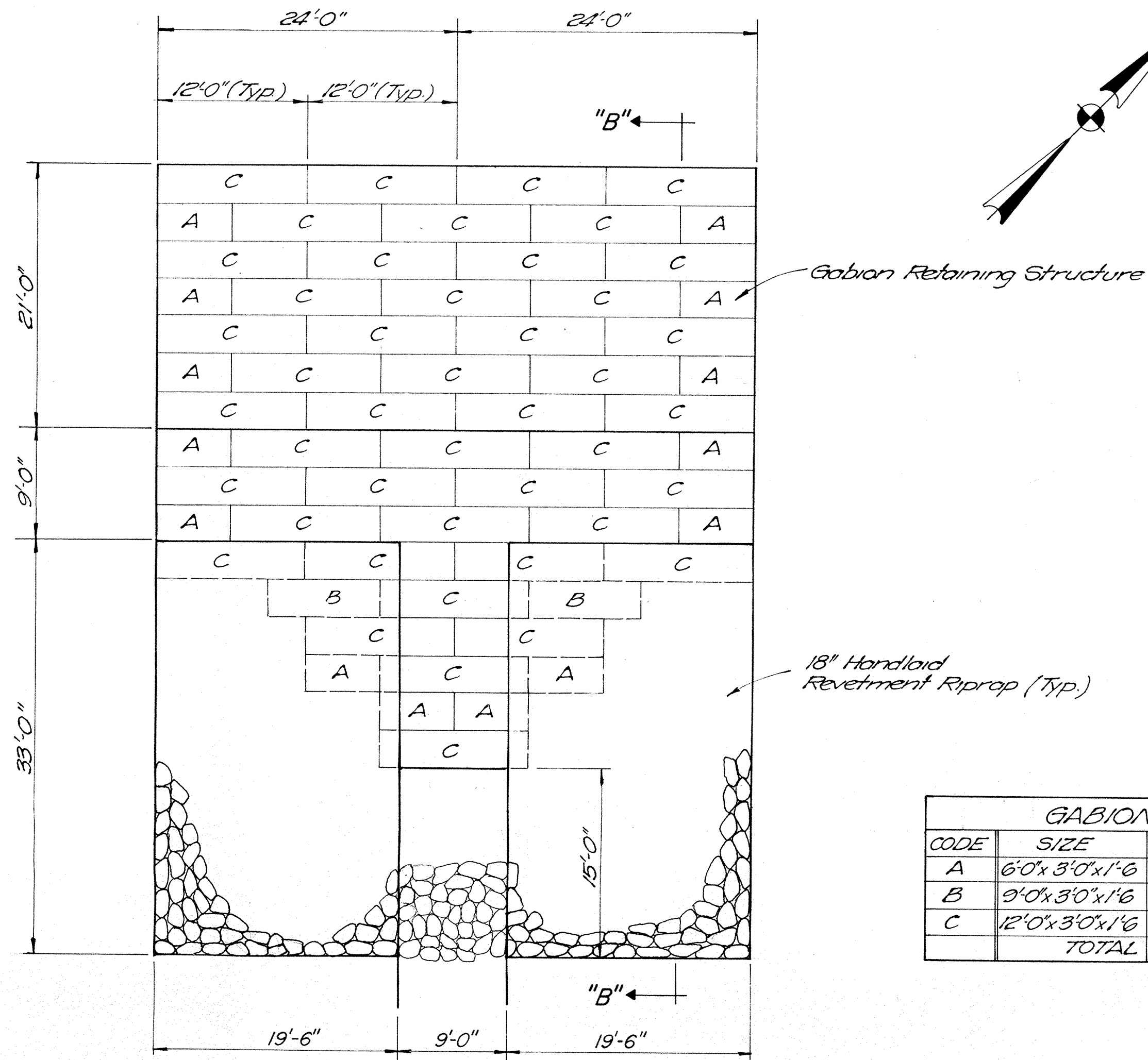
TYPICAL INLET TYPE E-7

Scale: None



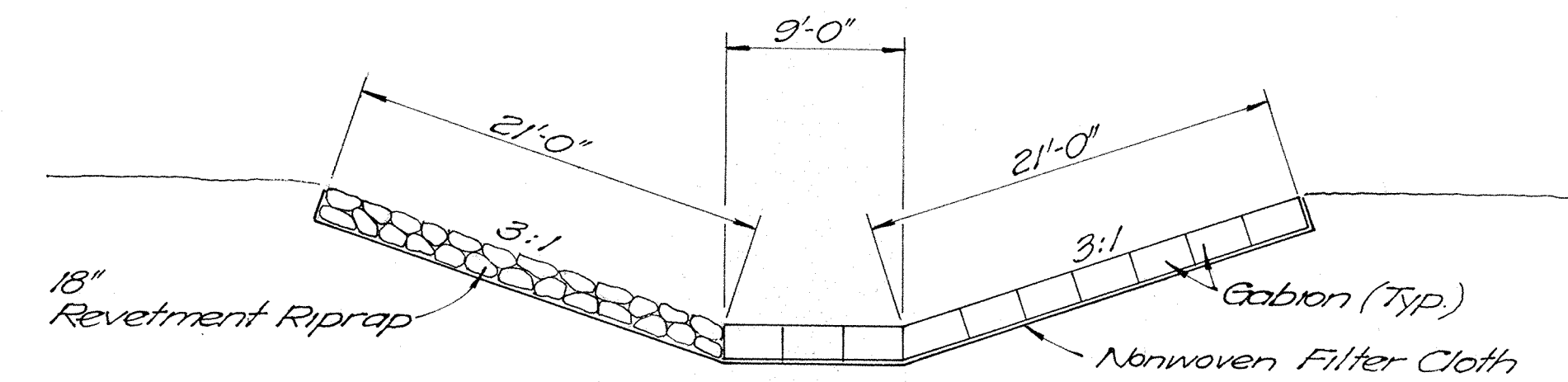
Butler Fairman and Seufert Inc.		SHEET 7 OF 22
CARMEL	ENGINEERS	INDIANA
DWG. BY:	CK. BY:	DATE

FILED  
AUG 04 1900  
OFFICE OF HAMILTON COUNTY SURVEYOR

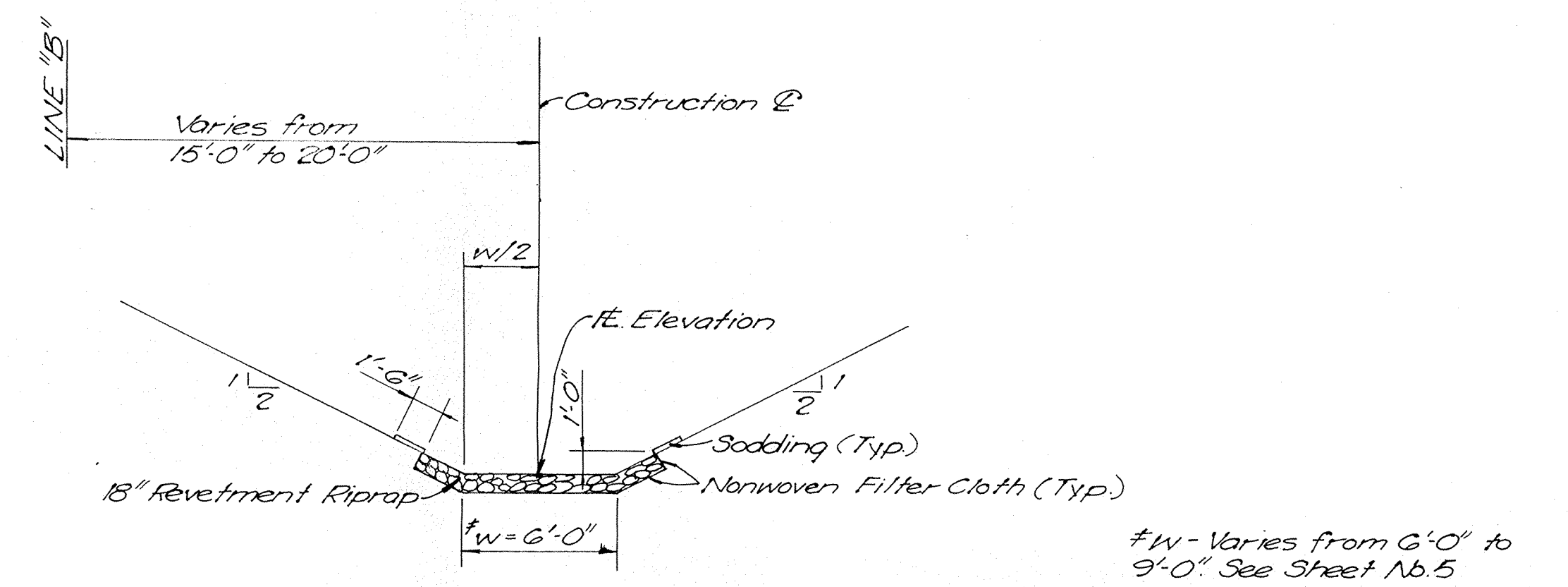


**PLAN**  
Scale: 1/8" = 1'-0"

GABIONS			
CODE	SIZE	TOTAL	CYS
A	6'-0" x 3'-0" x 1'-6"	16	24
B	9'-0" x 3'-0" x 1'-6"	2	2
C	12'-0" x 3'-0" x 1'-6"	46	88
TOTAL			114

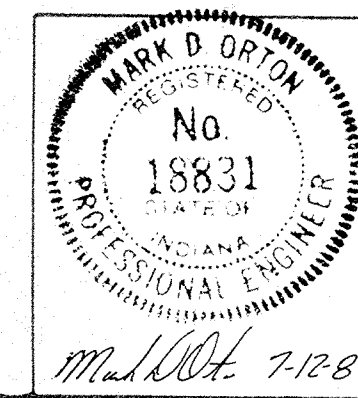
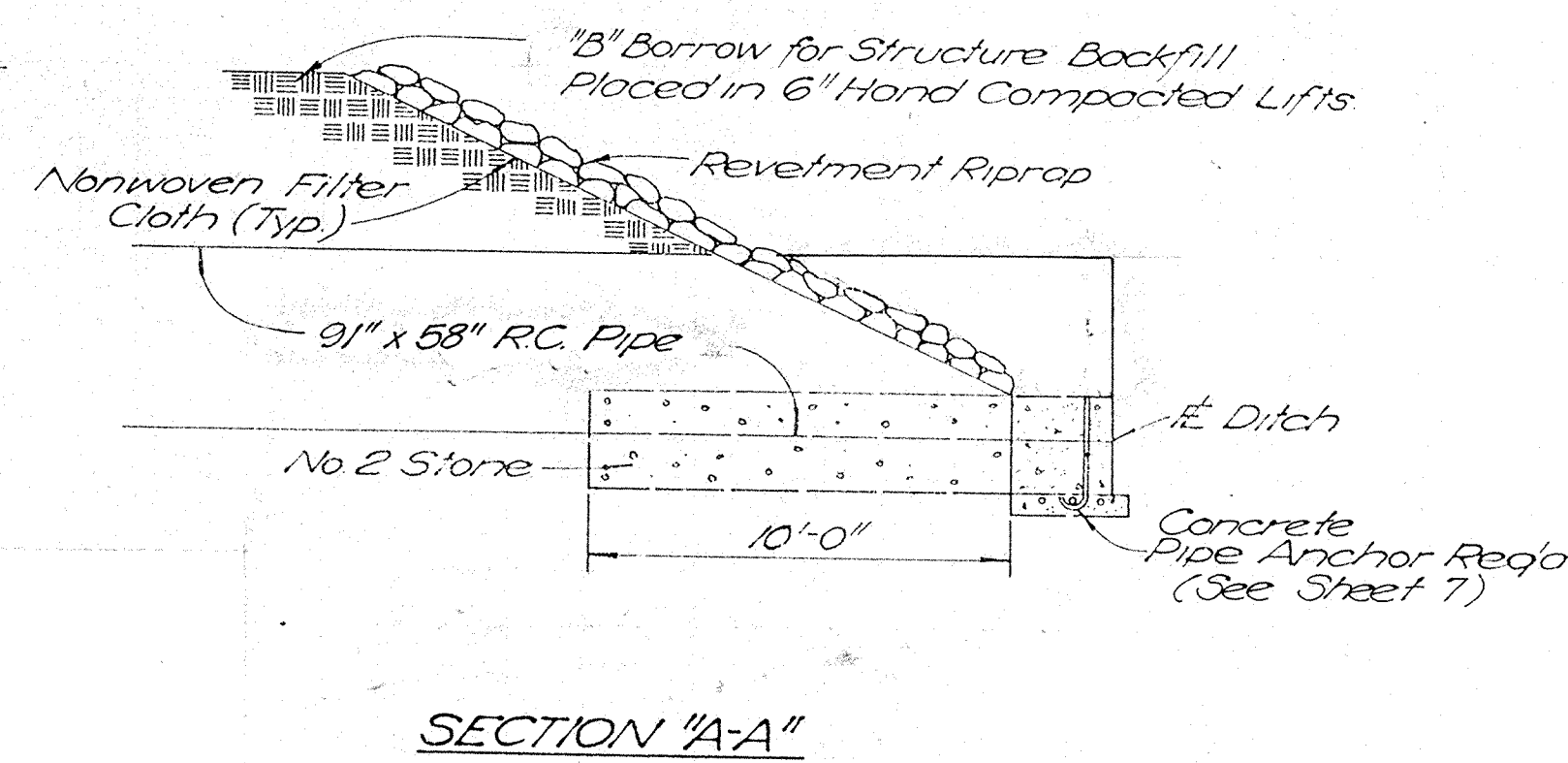
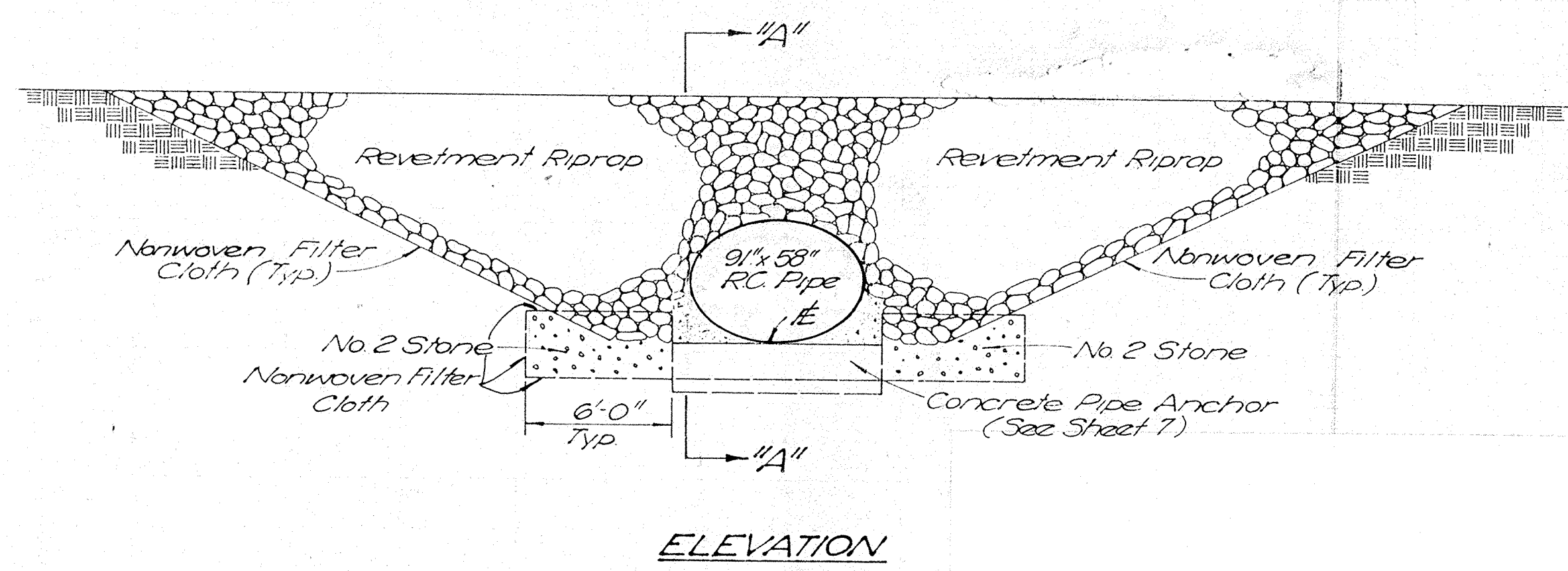


**SECTION "B-B"**  
Scale: 1/8" = 1'-0"



**TYPICAL DITCH SECTION**  
Scale 1/8" = 1'-0"

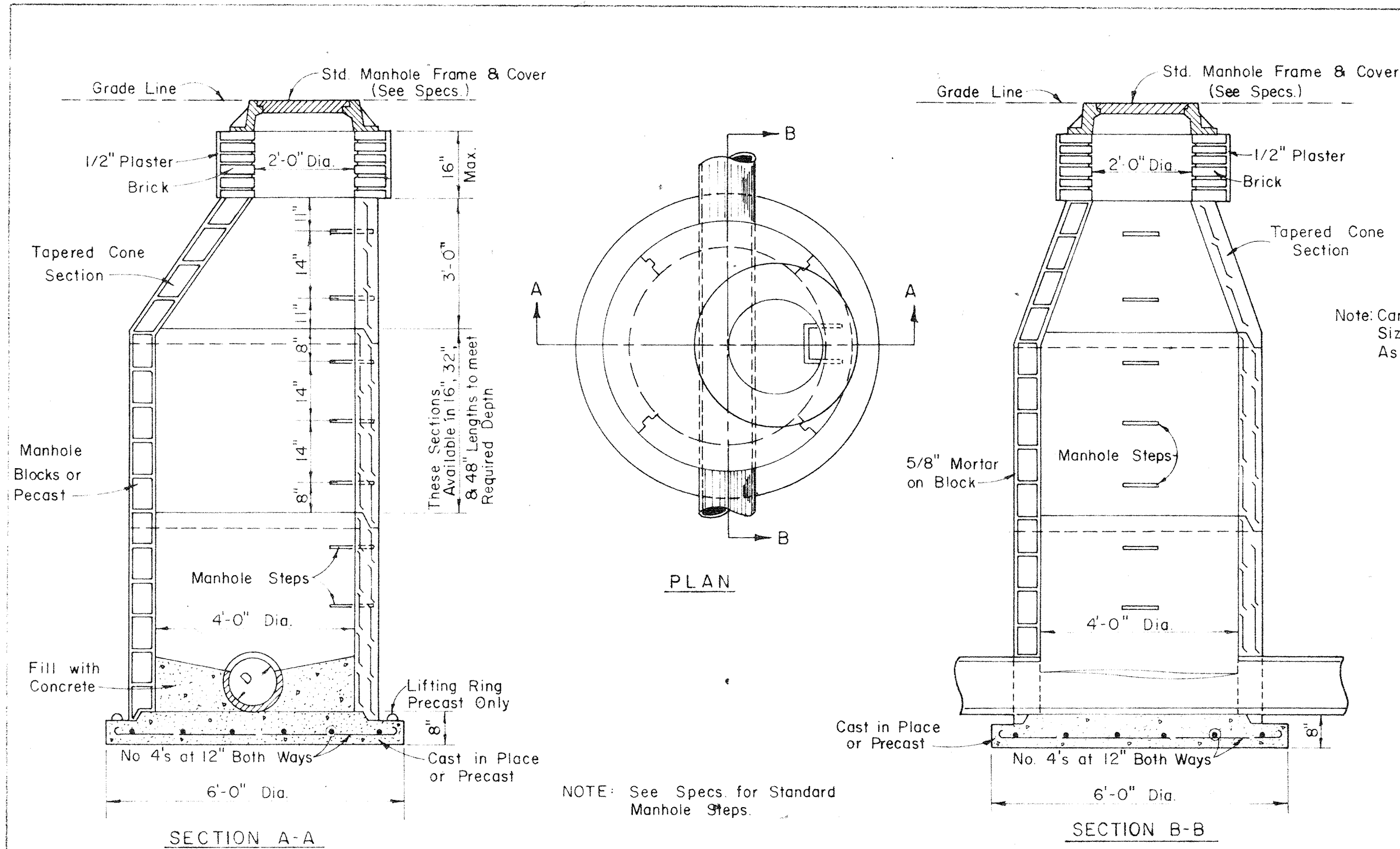
STATION 10+02 TO STATION 12+70 LINE "B"  
STATION 13+18 TO STATION 16+58 LINE "B"



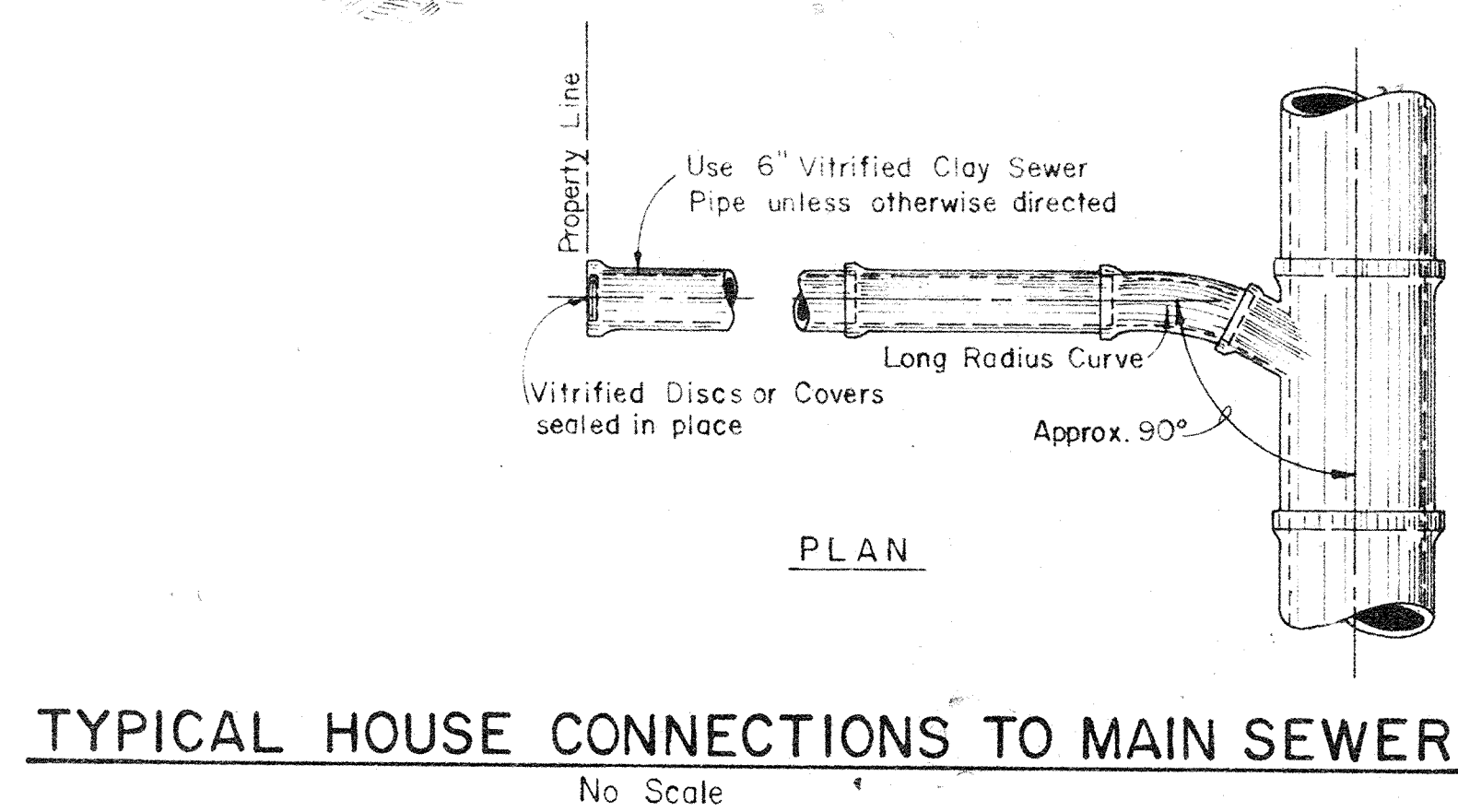
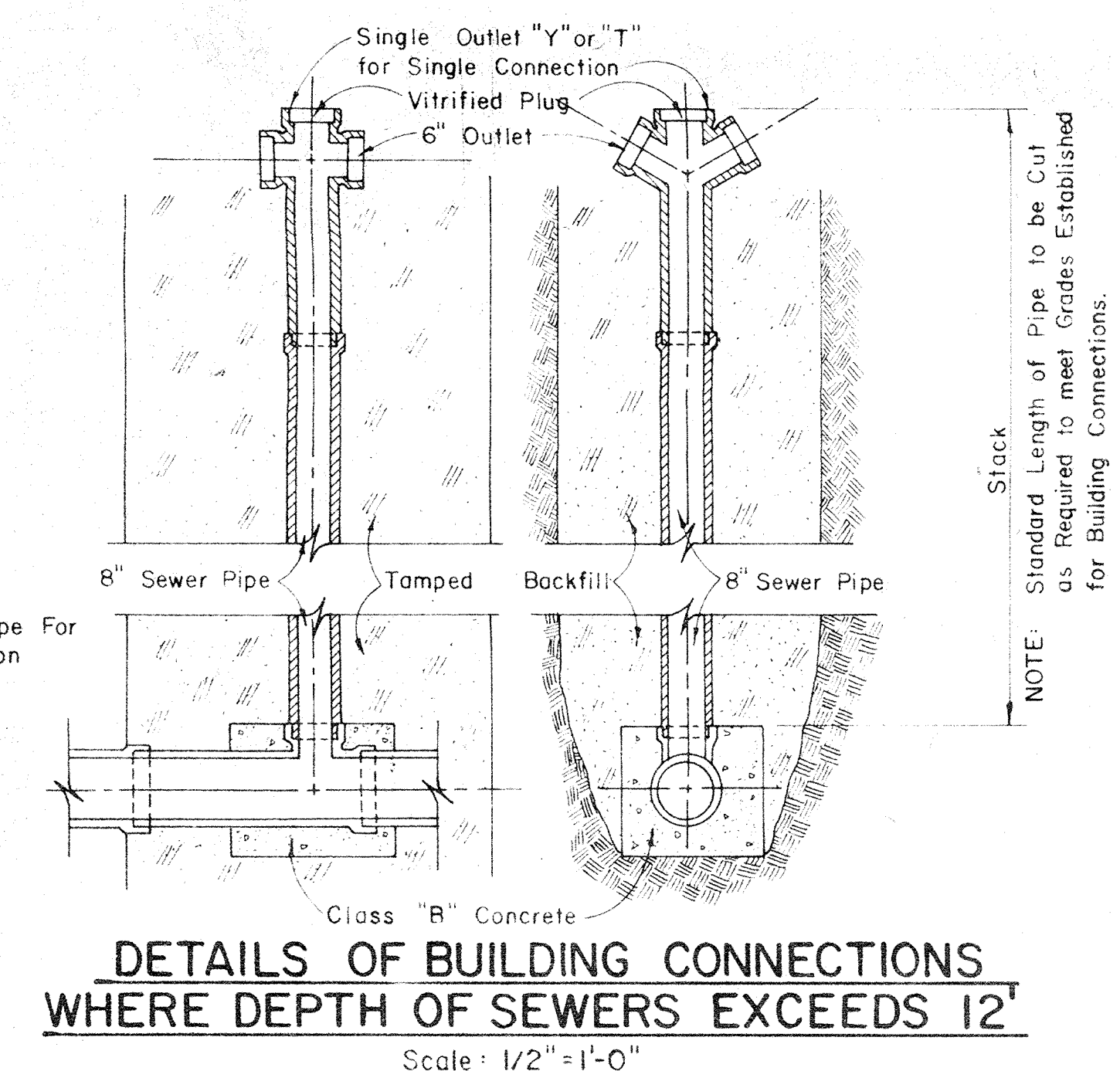
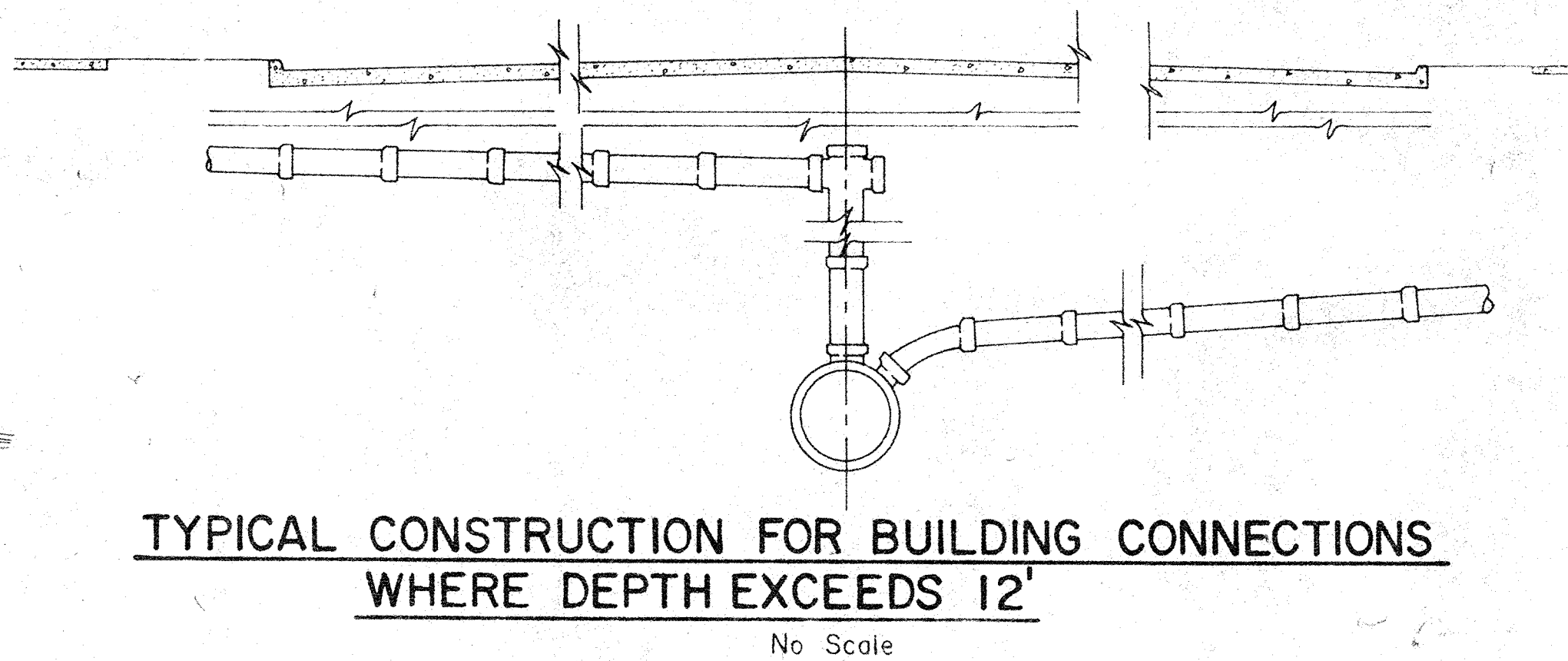
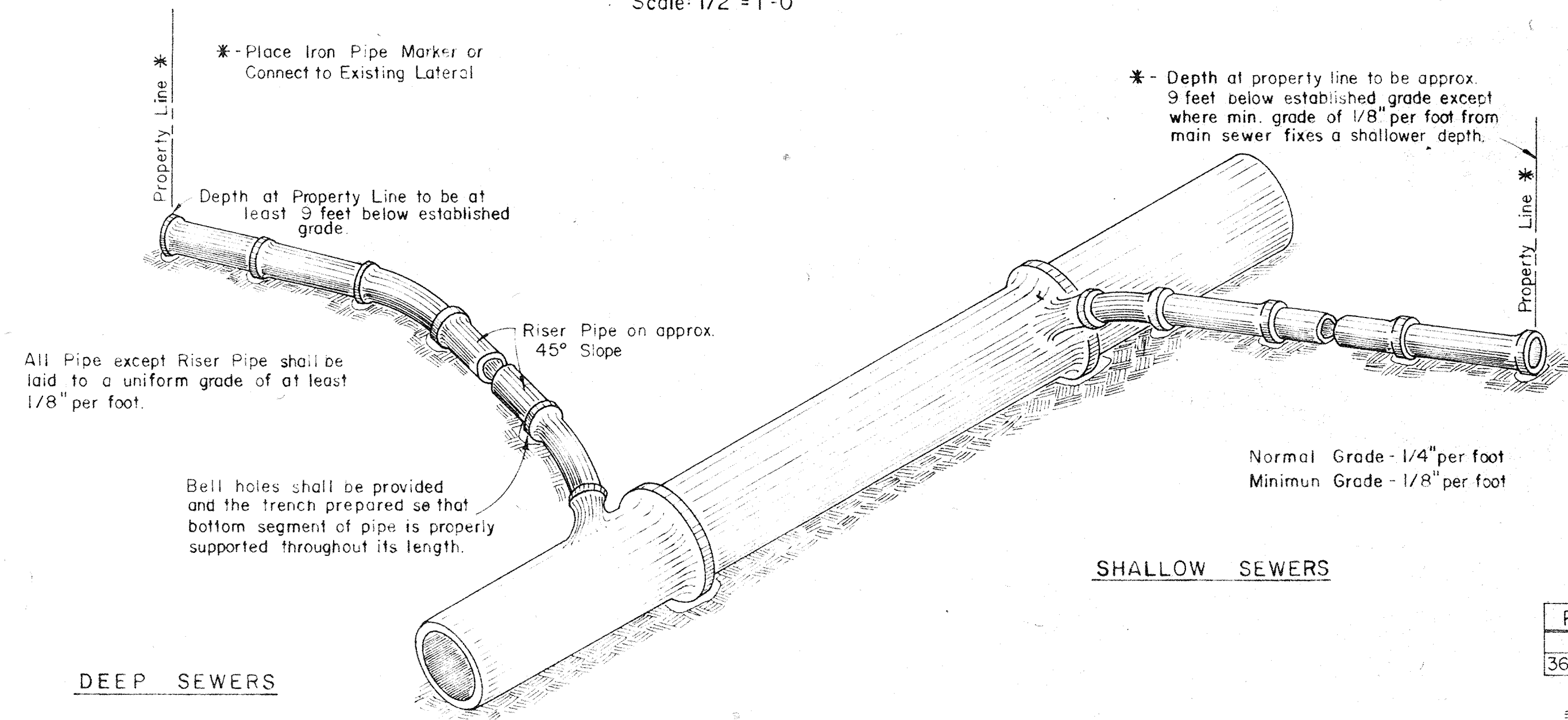
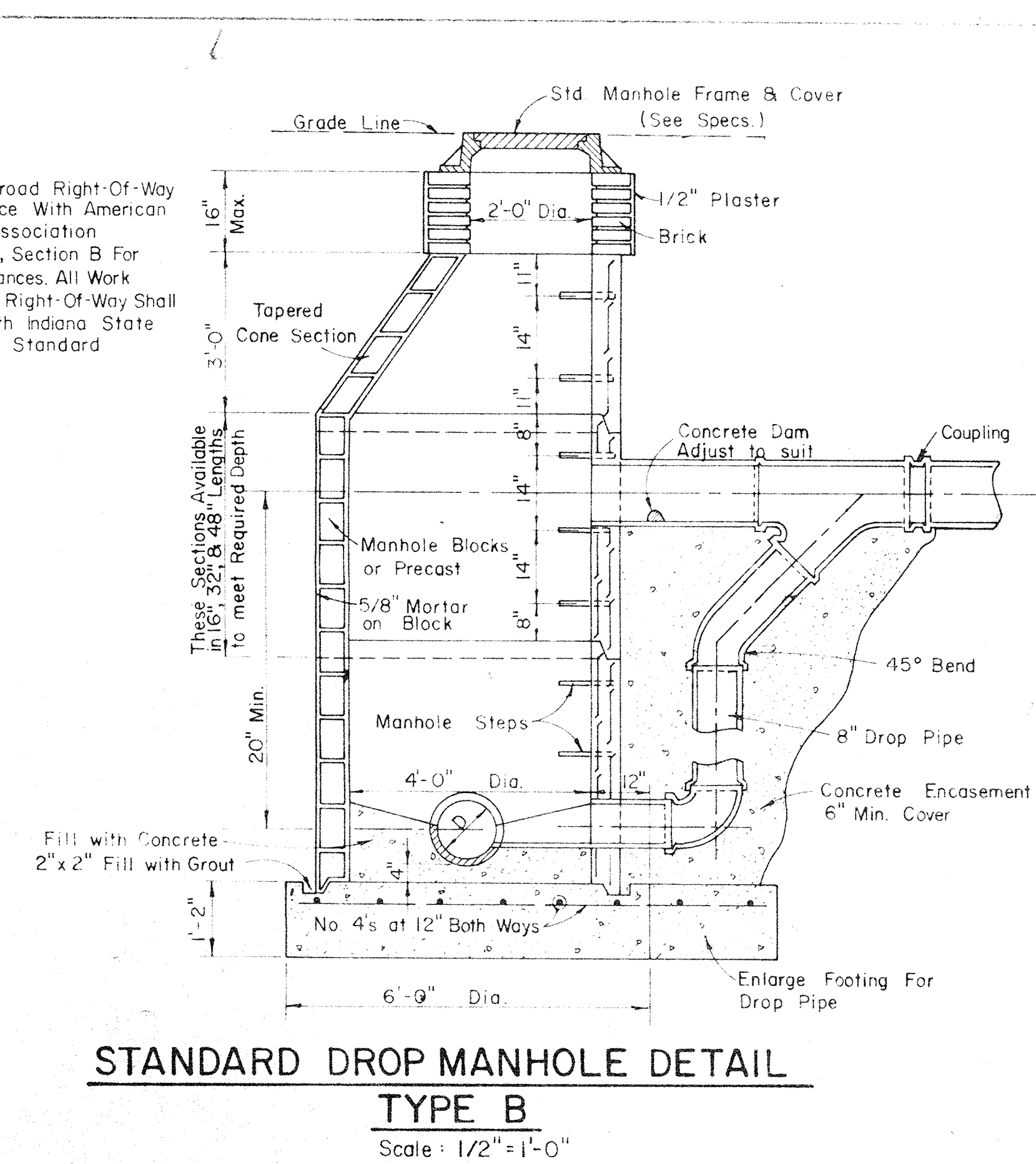
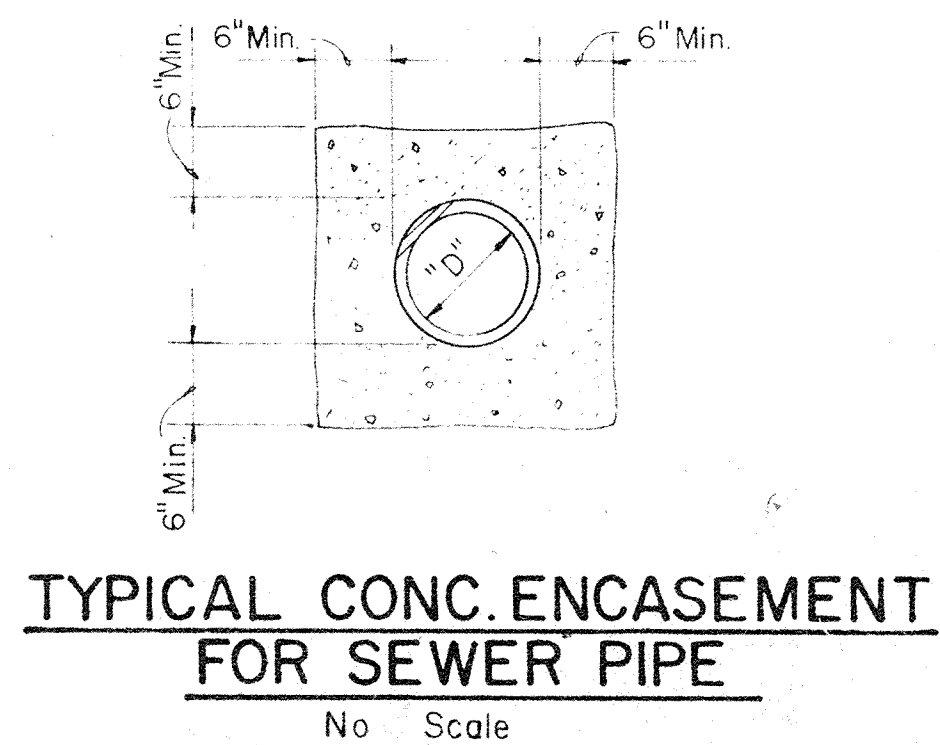
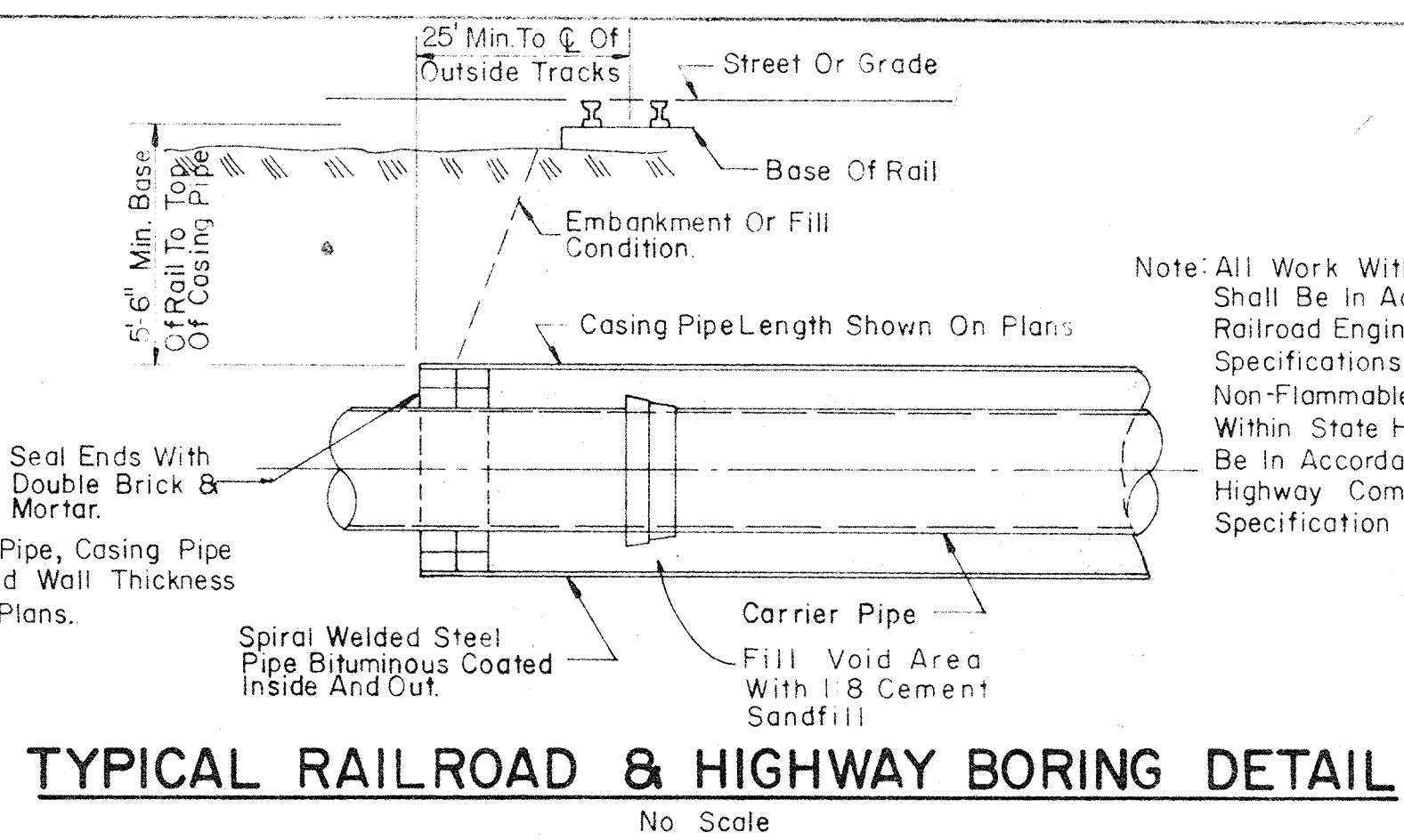
Butler Fairman and Seufert Inc.		SHEET
CARMEL ENGINEERS INDIANA		8
DWG BY: [Signature] CK BY: [Signature] DATE: 7-12-89		OF
		22

**FILED**

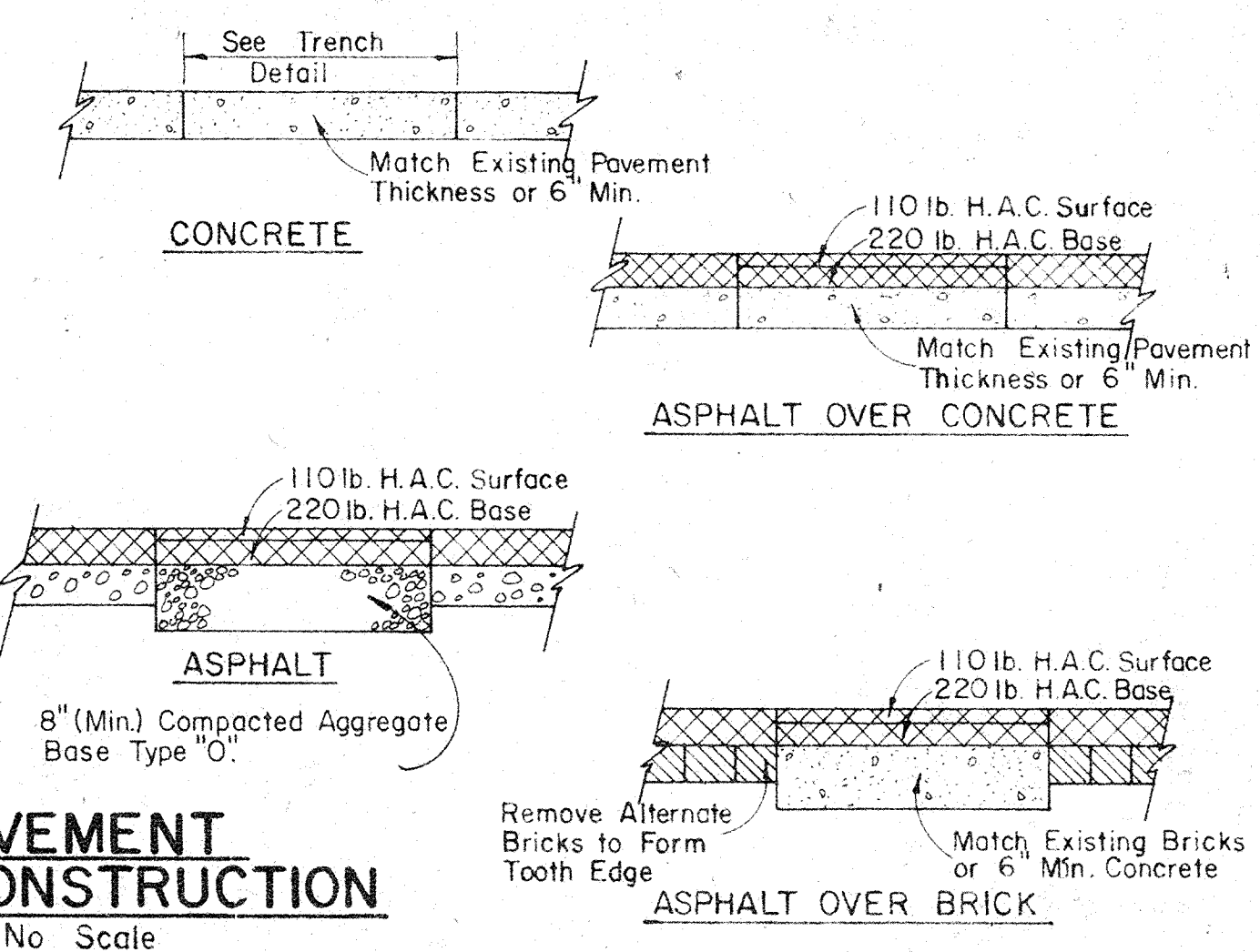
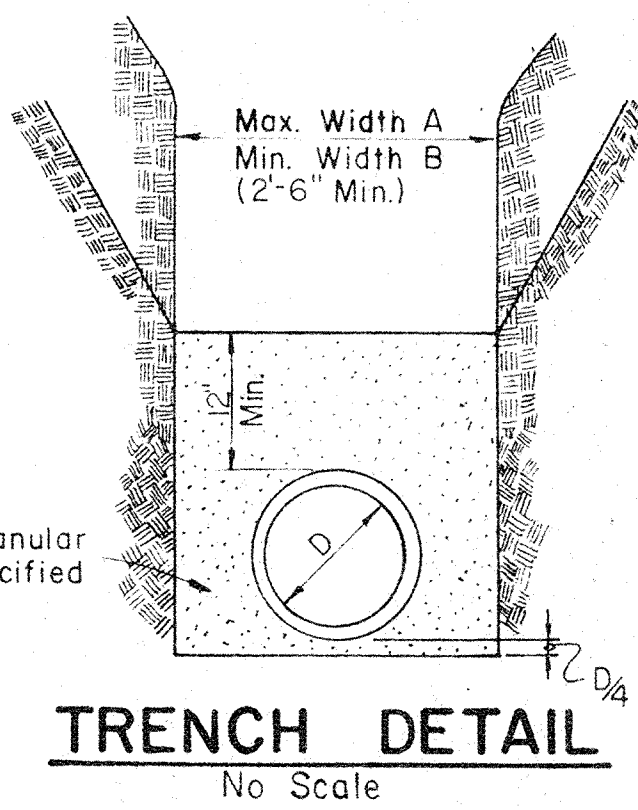
AUG 04 1990  
OFFICE OF HAMILTON COUNTY SURVEYOR



**STANDARD MANHOLE DETAILS**  
**TYPE A**  
 Scale: 1/2" = 1'-0"



Pipe Size	A	B
Up to 33"	D + 16"	D + 12"
36" and Greater	D + 24"	D + 12"



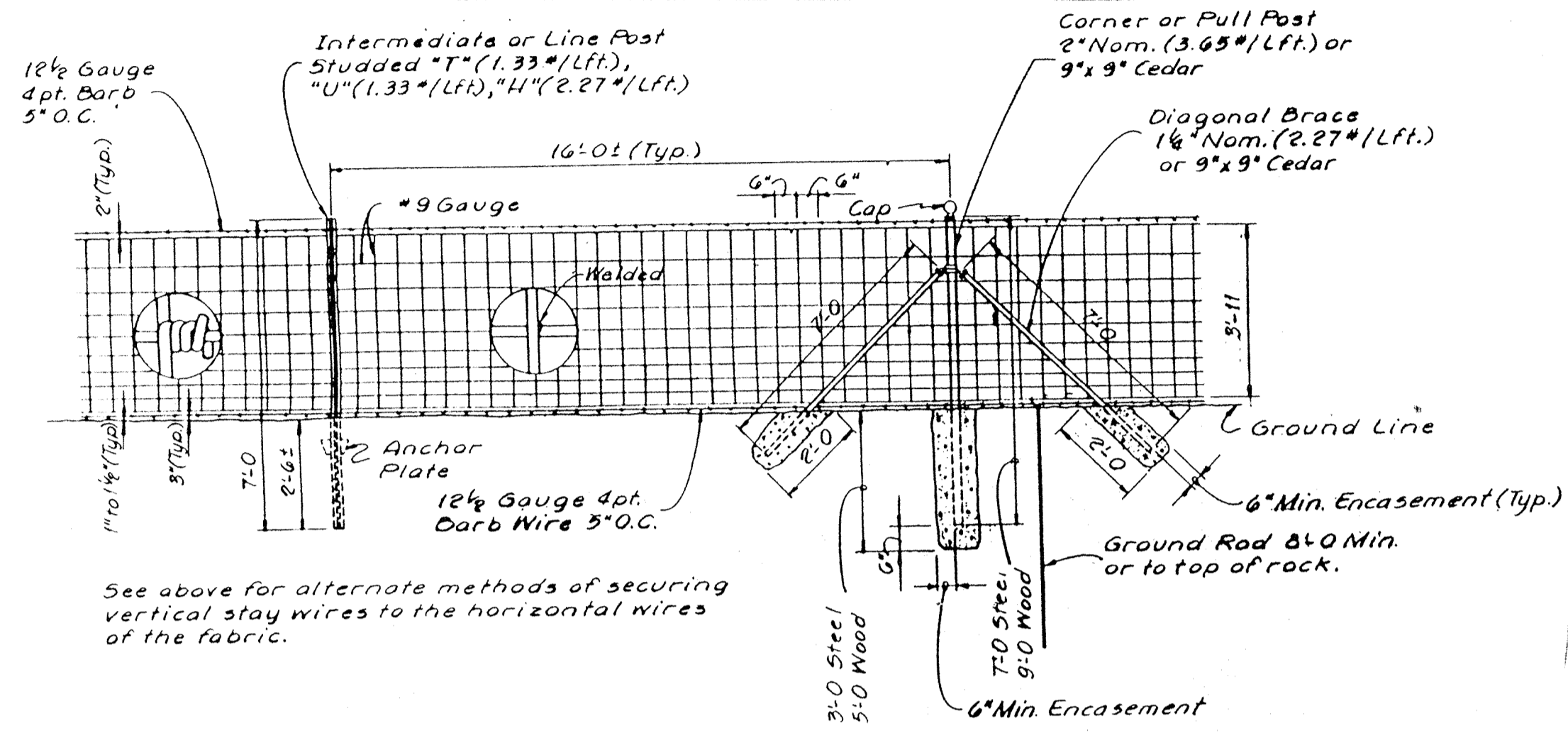
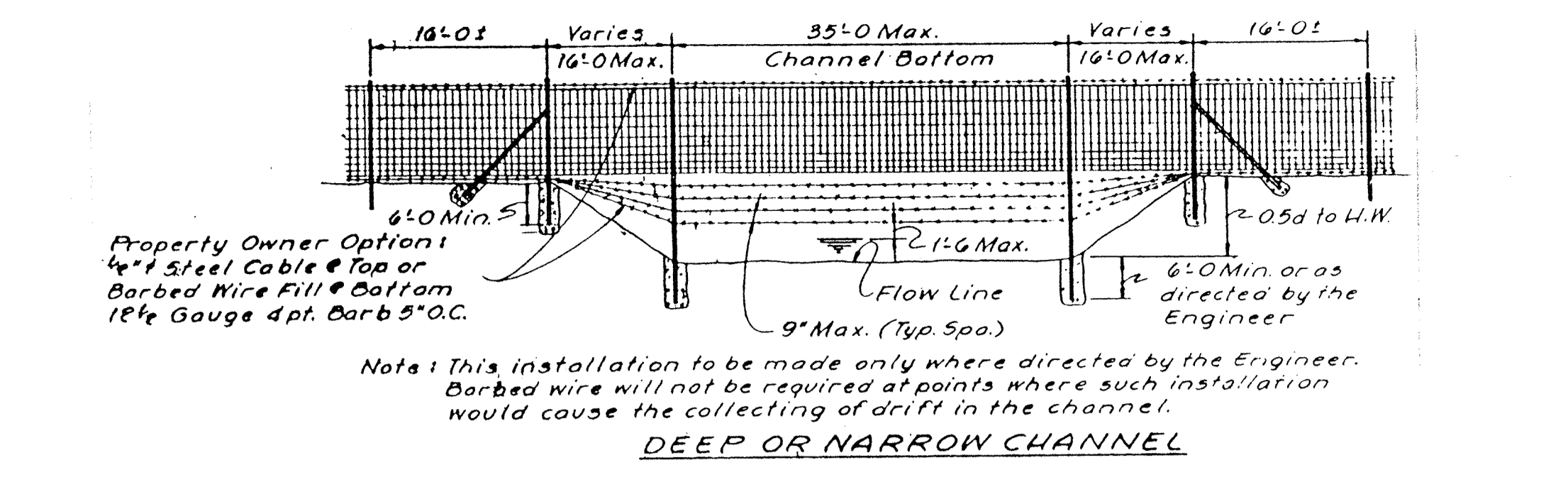
**STANDARD DETAILS- SANITARY SEWERS**

MARK D. ORTON  
 REGISTERED  
 No. 18831  
 INDIANA  
 PROFESSIONAL ENGINEER

Butler, Dorman and Seufert, Inc.  
 ENGINEERS  
 S.E. Watt

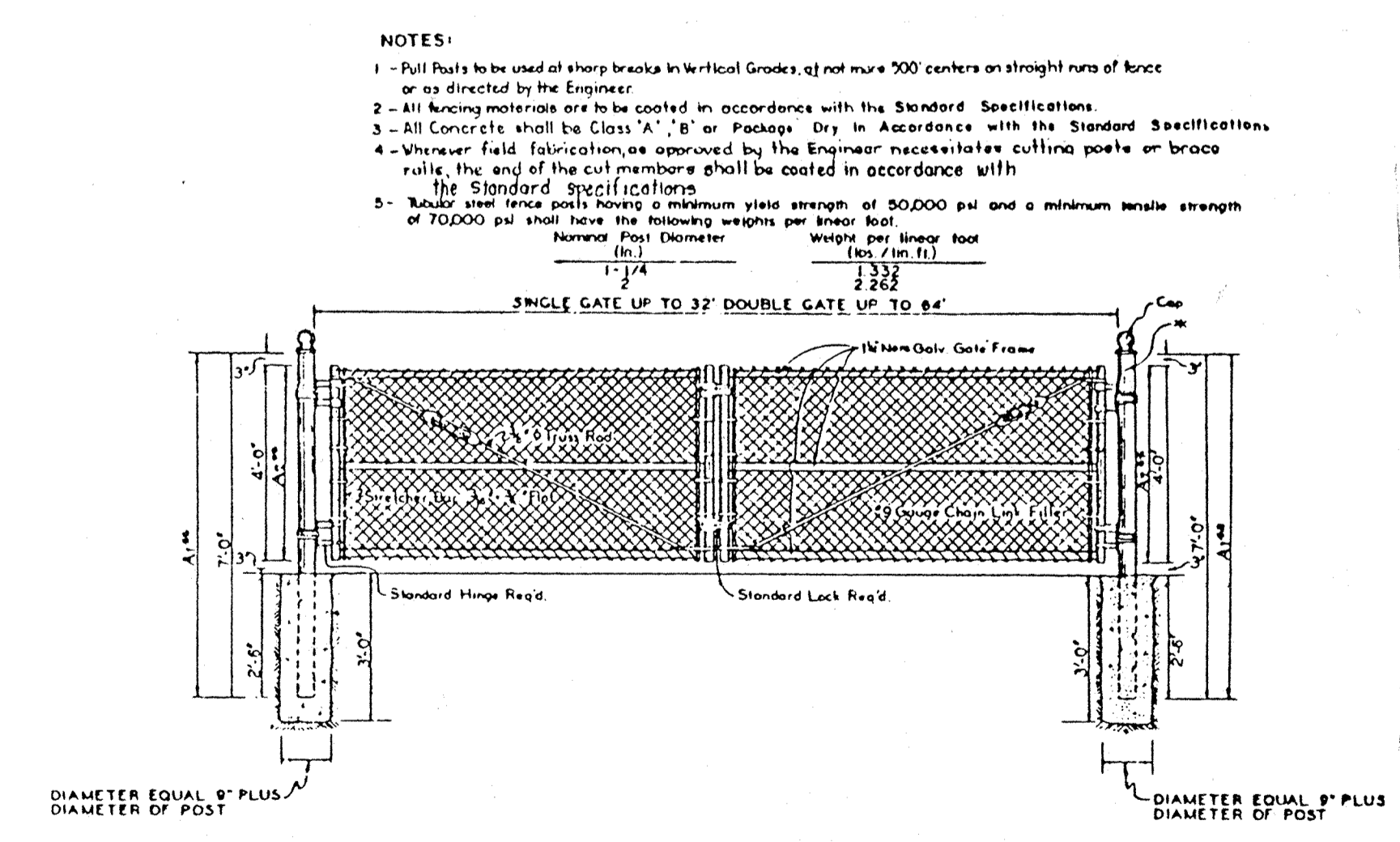
9  
 22

**FILED**  
 AUG 04 1908  
 OFFICE OF HAMILTON COUNTY SURVEYOR



**Notes:**  
 Pull Posts to be used at sharp breaks in vertical grades, at not more than 500' centers on straight runs of fence or as directed by the Engineer.  
 All fencing materials are to be coated in accordance with the Standard Specifications.  
 A sufficient quantity of individual tie wires or clamps shall be furnished to provide for at least 5 attachments of the fence to each line post.  
 All concrete shall be Class "A", "B" or Packaged Dry in accordance with the Standard Specifications.  
 Whenever field fabrication as approved by the Engineer necessitates cutting posts or brace rails, the end of the cut members shall be coated in accordance with the Standard Specifications.  
 1/2" x 8" Carriage Bolt and Hex Nut for diagonal brace connection shall conform to ASTM A-30.  
 At each location where electric transmission, distribution, or secondary line crosses fence, the contractor shall furnish and install a ground rod conforming to the National Electric Safety Code.  
 Ground Rod shall be 1/2" iron or steel pipe (Galv.), 1/2" copper weld rod, or 3/8" iron or steel rod attached to fence with a standard ground clamp using a copper wire not smaller than No. 6.

**FARM FIELD FENCE DETAILS**



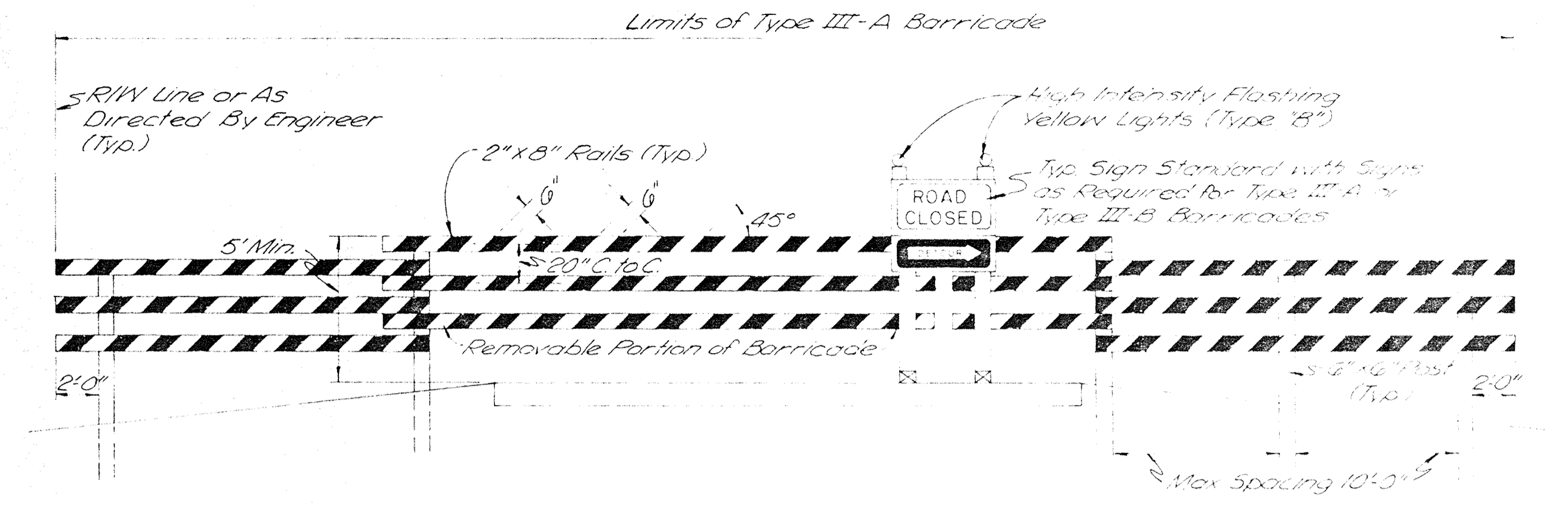
For Farm Field Type Gate Substitute Farm Field Type Fence For Chain Link Type Fence

**FARM FIELD GATE**

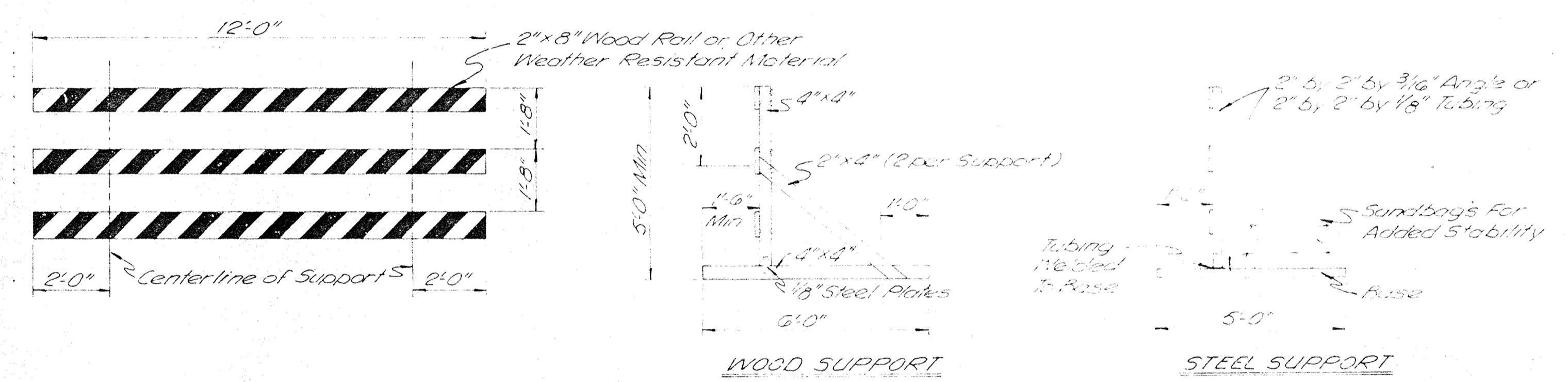


**SIGN No. W 20-3**  
 Scale: None

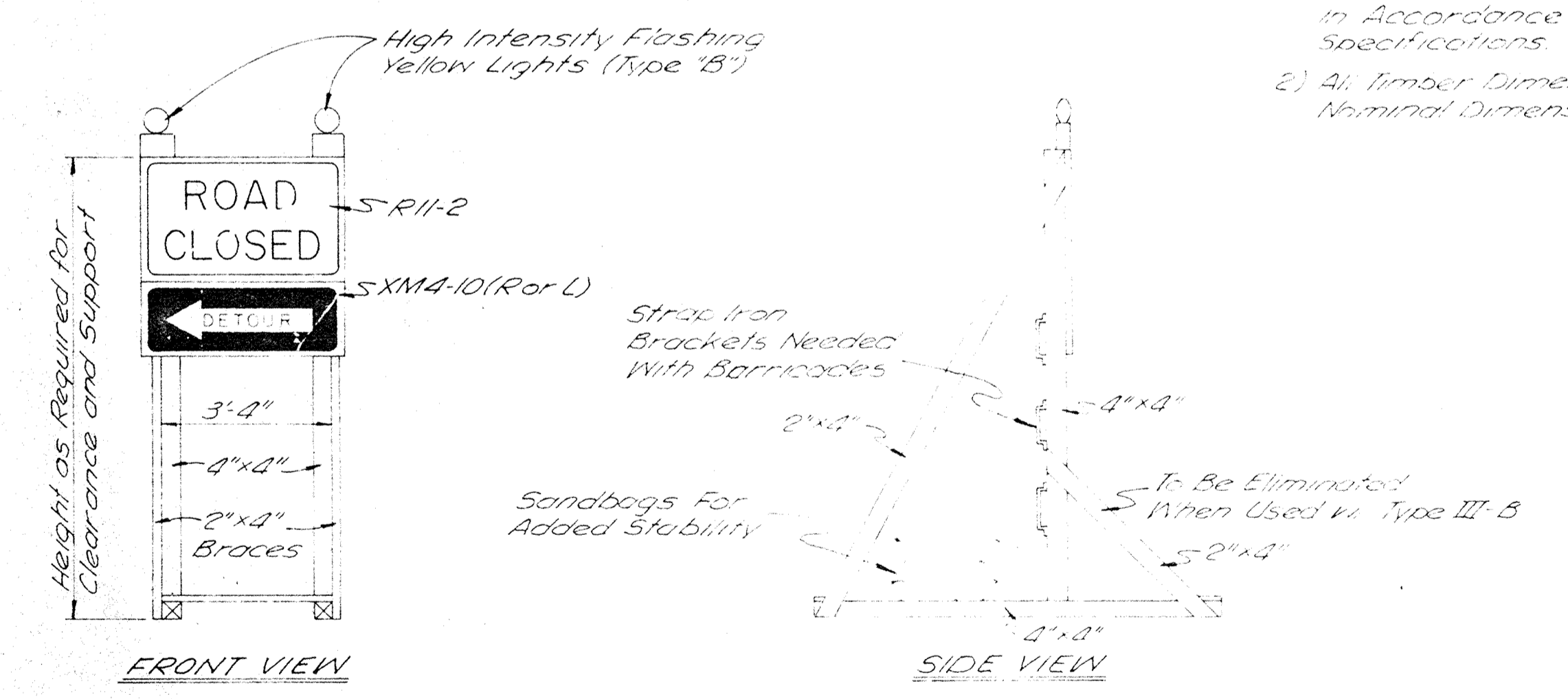
**Sign Note:**  
 In Addition to the Above, the Following Signs may be Required as directed by the Engineer: W20-1, W20-3, W20-4, W20-5 and W20-7. All Signs and Barricades will be Provided as Directed by the Engineer in Accordance with the Indiana State Highway Commission Standard Sheets 2A, 3 and 3A, Section 801 of the Standard Specifications, and the Indiana Manual on Uniform Traffic Control Devices.



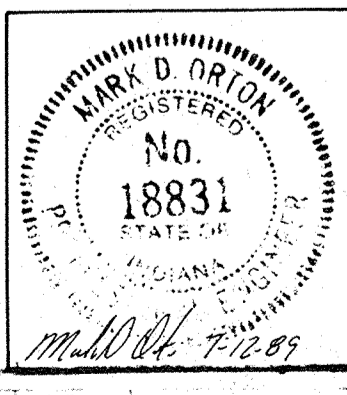
**BARRICADE TYPE III-A**  
 Scale: None  
**NOT USED**



**BARRICADE TYPE III-B**  
 Scale: None



**DETAILS**



\* IF CONTRACTOR ELECTS TO USE METAL PIPE THICKNESS AS SHOWN BELOW ARE TO BE USED.

# STRUCTURE DATA

\* IF CONTRACTOR ELECTS TO USE METAL PIPE THICKNESS AS SHOWN BELOW ARE TO BE USED.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IND.			11	22

STRUCTURE NUMBER	LOCATION	LEFT	RIGHT	CROSS	SIZE INCHES	DESCRIPTION SEE ST'D. SHEET "MP" FOR ACCEPTABLE TYPE OF PIPE WITH- IN EACH GROUP.	LENGTH	SKEW	FLOW LINE			CONCRETE CLASS "A" CU.YDS.	"B" BORROW FOR STR. BACKFILL CU.YDS.	BACKFILL METHOD	GAGES OR THICKNESS		VELOCITY	RIPRAP	PIPE END SECTION REINF. LBS.	DOWN TO STEEL	REMARKS
									COVER	UP	DOWN				STEEL	ALUM.					
										STREAM	STREAM										
LINE "A"																					
10	10+28	✓			28	RC Pipe C1 III	0		6	Exist	811.60		18	A							13 Connect to Exist. Manhole.
11	10+36	✓																			Existing Manhole.
12	10+40	✓				Manhole Type C-4 E															
					18	RC Pipe C1 III	18		5	816.13	816.00		11	A							
					15		8														
13	10+50					Manhole Type M-4 E	114			813.14	813.14		361.4								
					72	RC Pipe C1 III	72		5	813.14	812.73		283	A							14
14	12+20					Manhole Type M-4 E	227			812.73	812.73		846.9								
					72	RC Pipe C1 III	72		6	812.73	812.26		735	A							16
							370						285.5								
15	14+08	✓			18	RC Pipe C1 III	368		6	819.07	816.13		284	A							12 Connect to Exist. Manhole @ Sta 14+08 "A"
16	14+17	✓				Manhole Type M-4 E	281			812.26	812.26		1131.5								
					72	RC Pipe C1 III	280		8	812.26	811.54		1208	A							18
17	14+44	✓				Inlet Type E-7 E				824.25	824.00		Existing								
					12	RC Pipe C1 III	14		2	824.00	823.00		X	A							16
18	17+30	✓				Manhole Type M-4 E	275			811.54	811.54		1160.9								
					72	RC Pipe C1 III	758		6	811.54	809.72		3290	A							20
18A		✓				Manhole, Type M-4							1845.9 Cys "B-Borrow"								1845.9 Cys "B-Borrow" Paid 11/30/89 437.25 Lft. Pipe
					72	RC Pipe C1 III	451						190.4								20
18B		✓			24	Manhole, Type C-4	240						255.1								Connect to Structure 18A
19	24+88	✓				Manhole Type M-4 E	352			809.72	809.72		1143.3								23.5 Includes X of 12" C1 52
					72	RC Pipe C1 III	367		4	809.72	808.84		1198	A							20 D1 Pipe
19A		✓			24	RC Pipe C1 III	6428		1	Exist	813.00		0.8	A							20 Connect to Exist 22 "Drainble"
20	28+55	✓				Manhole Type M-4 E	334			808.84	808.84		226.4								
					72	RC Pipe C1 III	74		7	808.84	808.64		283	A							21
					24	RC Pipe C1 III	16						Existing "B-Borrow"								1
LINE "B"																					
21	17+82	✓				Manhole Type M-4 E	21			808.64	808.64		56.9								Conn. Exist. 48" CMP to MH
					72	RC Pipe C1 III	24		1	808.64	808.58		765	A							Constr. Pipe Anchor @ Sta 17+58 "B"
22	16+82	✓			18	RC Pipe C1 III	21		2	Exist	812.00		4	B							1
23	16+82	✓			18	RC Pipe C1 III	21		2	Exist	812.00		4	B							1
24	12+94	✓			91x58	RC Pipe C1 HE II	28		1	807.76	807.65		490	B							60
																					Constr. 2 Pipe Conc. Anchors
																					68 Tons of No. 2 Stone
																					75 Lft. of 72" RCP For Payment to Center of Manhole As Per Specs.

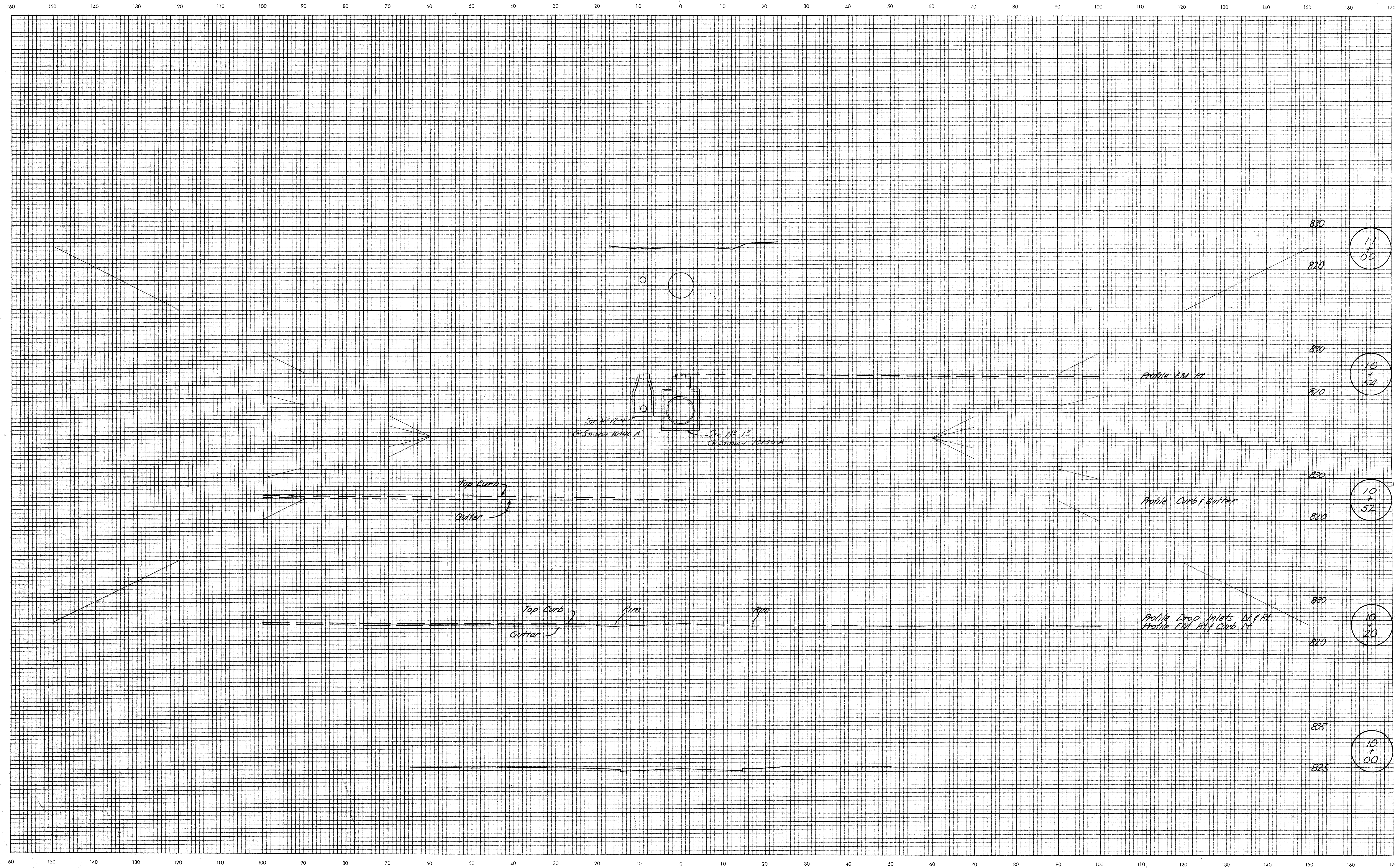
STRUCTURE NUMBER	LOCATION	LEFT	RIGHT	CROSS	SIZE INCHES	DESCRIPTION SEE ST'D. SHEET "MP" FOR ACCEPTABLE TYPE OF PIPE WITH- IN EACH GROUP.	LENGTH	SKEW	FLOW LINE			CONCRETE CLASS "A" CU.YDS.	"B" BORROW FOR STR. BACKFILL CU.YDS.	BACKFILL METHOD	GAGES OR THICKNESS		VELOCITY	RIPRAP	PIPE END SECTION REINF. LBS.	REMARKS	
									COVER	UP	DOWN				STEEL	ALUM.					
										STREAM	STREAM										ELEV.
FINAL PAY QUANTITIES																					
					48"		0 Lft.														
					18"		452.5 Lft.														
					72"		1879.4 Lft.														
					12"		14 Lft.														
					24"		320 Lft.														
					21"x58"		48 Lft.														
					12" C1		255 Lft.														
					Concrete		705 Cys.														
					"B-Borrow"		7155.9 Cys.														
					"C-4"		2 Ea.														
					"M-4"		8 Ea.														
					"E-7"		1 Ea.														
					18" PES		2 Ea.														
					24" PES		1 Ea.														

### LEGEND FOR ABBREVIATION

F.B.C.C.S./R.I.--FULLY BITUMINOUS COATED CORRUGATED STEEL WITH PAVED INVERT.	F.B.C.S.A./R.I.--FULLY BITUMINOUS COATED CORRUGATED STEEL ARCH WITH PAVED INVERT.
F.B.C.C.A.A./R.I.--FULLY BITUMINOUS COATED CORRUGATED ALUMINUM ALLOY WITH PAVED INVERT.	F.B.C.C.A.A./R.I.--FULLY BITUMINOUS COATED CORRUGATED ALUMINUM ARCH WITH PAVED INVERT.
F.B.C.C.S.--FULLY BITUMINOUS COATED CORRUGATED STEEL.	F.B.C.C.A.--FULLY BITUMINOUS COATED CORRUGATED STEEL ARCH.
C.S.--CORRUGATED STEEL.	F.B.C.C.A.A.--FULLY BITUMINOUS COATED CORRUGATED ALUMINUM ARCH.
C.A.A.--CORRUGATED ALUMINUM	C.S.A.--CORRUGATED STEEL ARCH.
S.P.S.--STRUCTURAL PLATE STEEL	C.A.A.--CORRUGATED ALUMINUM ARCH.
	S.P.S.A.--STRUCTURAL PLATE STEEL ARCH.



CUT CROSS SECTIONS FILL  
Scale 1 inch = 10 feet



Date: 3-6-89  
 Drawn: D.B. BRIGHT  
 Checked: 3-7-89

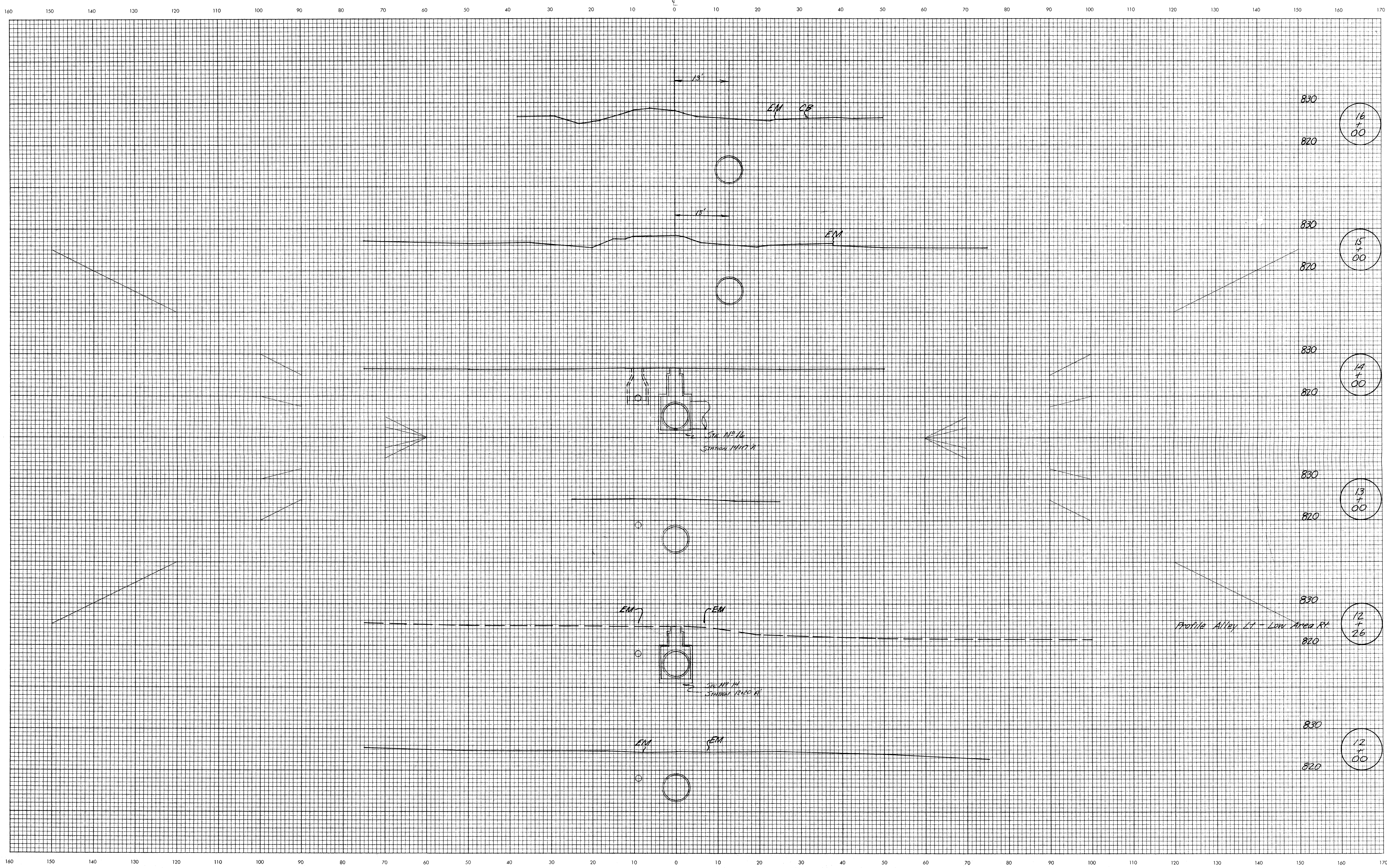
PLATE 3

September, 1973

LEVEL BOOK NO.		FILE	
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR
5	IND.		172
		SHEET NO.	TOTAL SHEETS
		112	122

LINE FILED

CUT CROSS SECTIONS FILL  
Scale 1 inch = 10 feet



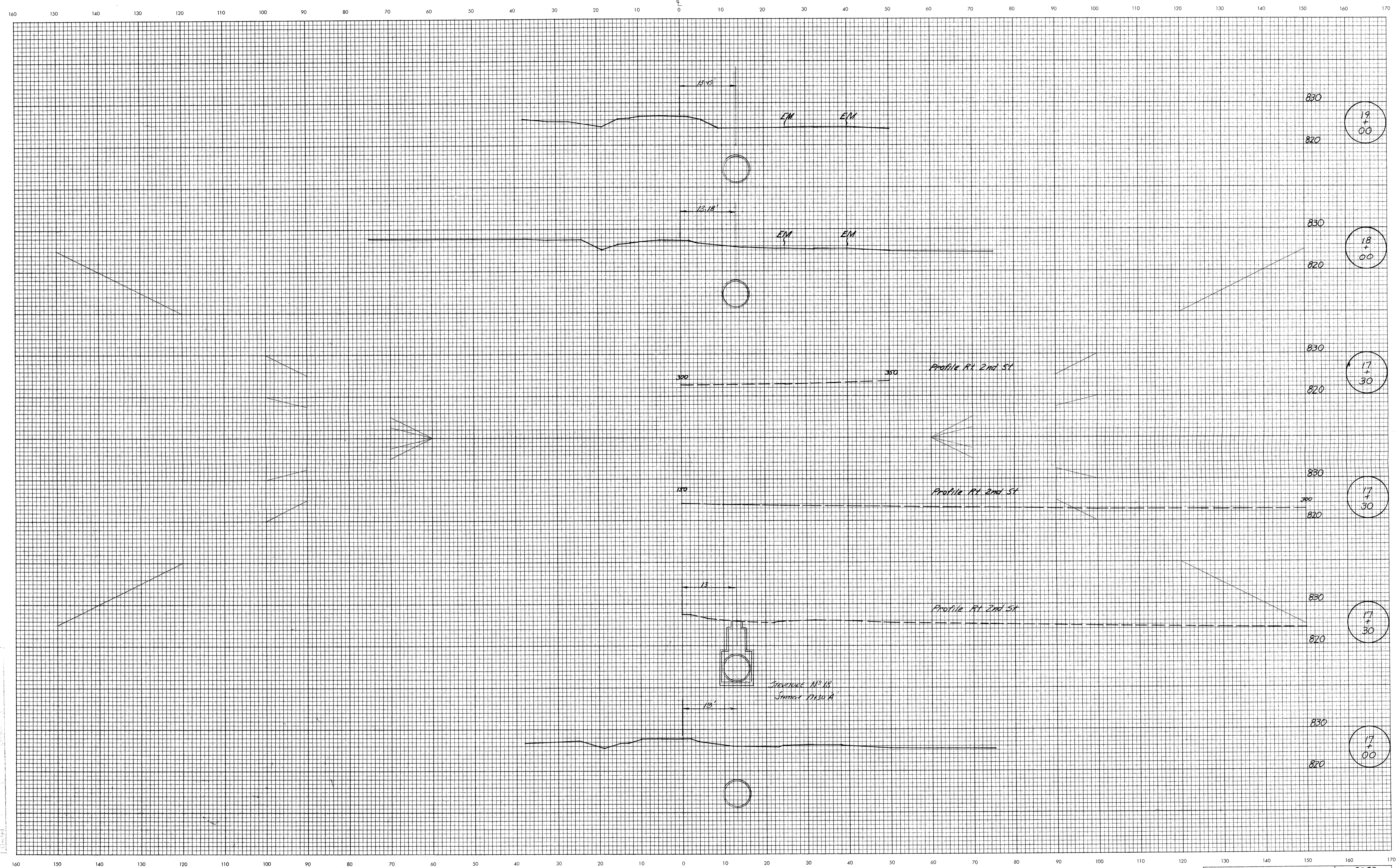
P.BRIGHT 3-7-89  
 CLP 3-7-89

PLATE 3

September, 1973

LEVEL BOOK NO.		FILE 2382		
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	TOTAL SHEETS
5	IND.		22	
<b>LINE FILED</b>				

CUT CROSS SECTIONS FILL  
Scale 1 inch = 10 feet



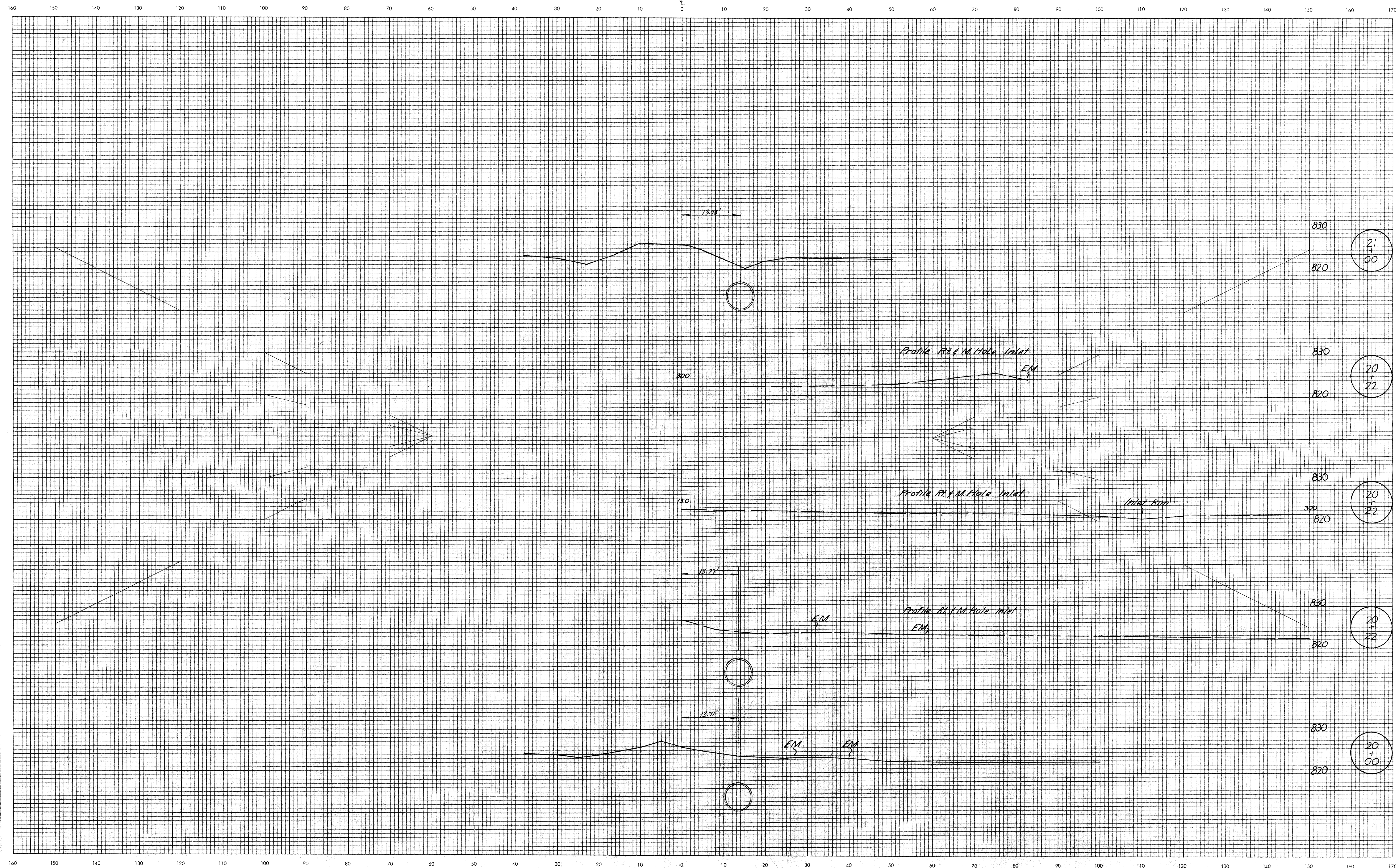
D. Bright 3-7-83  
CLP 3-7-89

PLATE 3  
September, 1973

LEVEL BOOK NO.		FILE 2382			
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.			14	22

**ENGINEER**

CUT CROSS SECTIONS FILL  
 Scale 1 inch = 10 feet



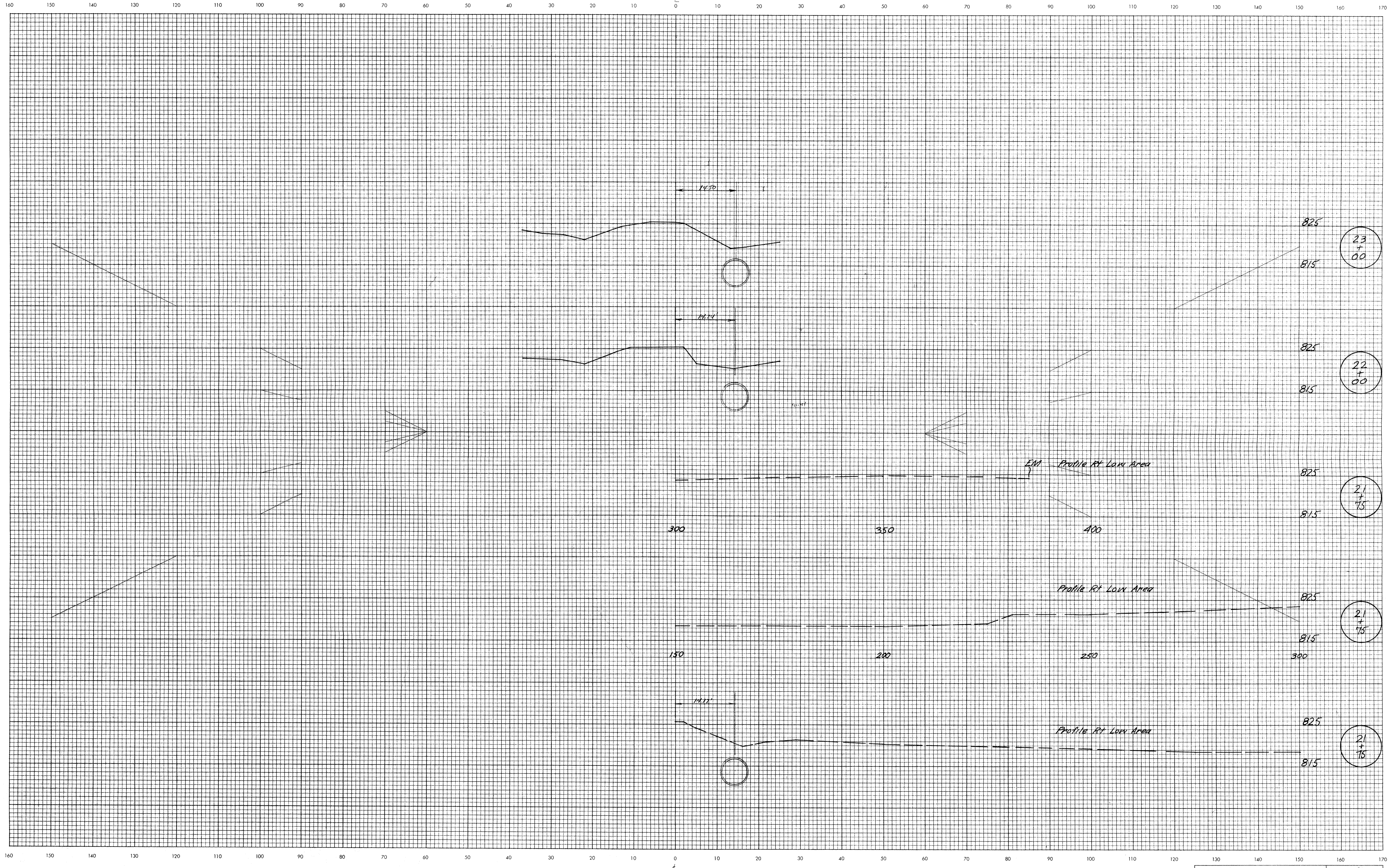
D.B. BRIGHT 3-7-89  
 C.L.P. 3-7-89

PLATE 3  
 September, 1973

LEVEL BOOK NO.		FILE 2387	
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR
5	IND.		15
SHEET NO.		TOTAL SHEETS	
15		22	

LINE "A" FILED  
 AUG 04 1990  
 OFFICE OF HAMILTON COUNTY SURVEYOR

CUT CROSS SECTIONS FILL  
Scale 1 inch = 10 feet



825  
815  
23  
+  
00

825  
815  
22  
+  
00

825  
815  
21  
+  
75

825  
815  
21  
+  
75

825  
815  
21  
+  
75

C&P 3-7-89

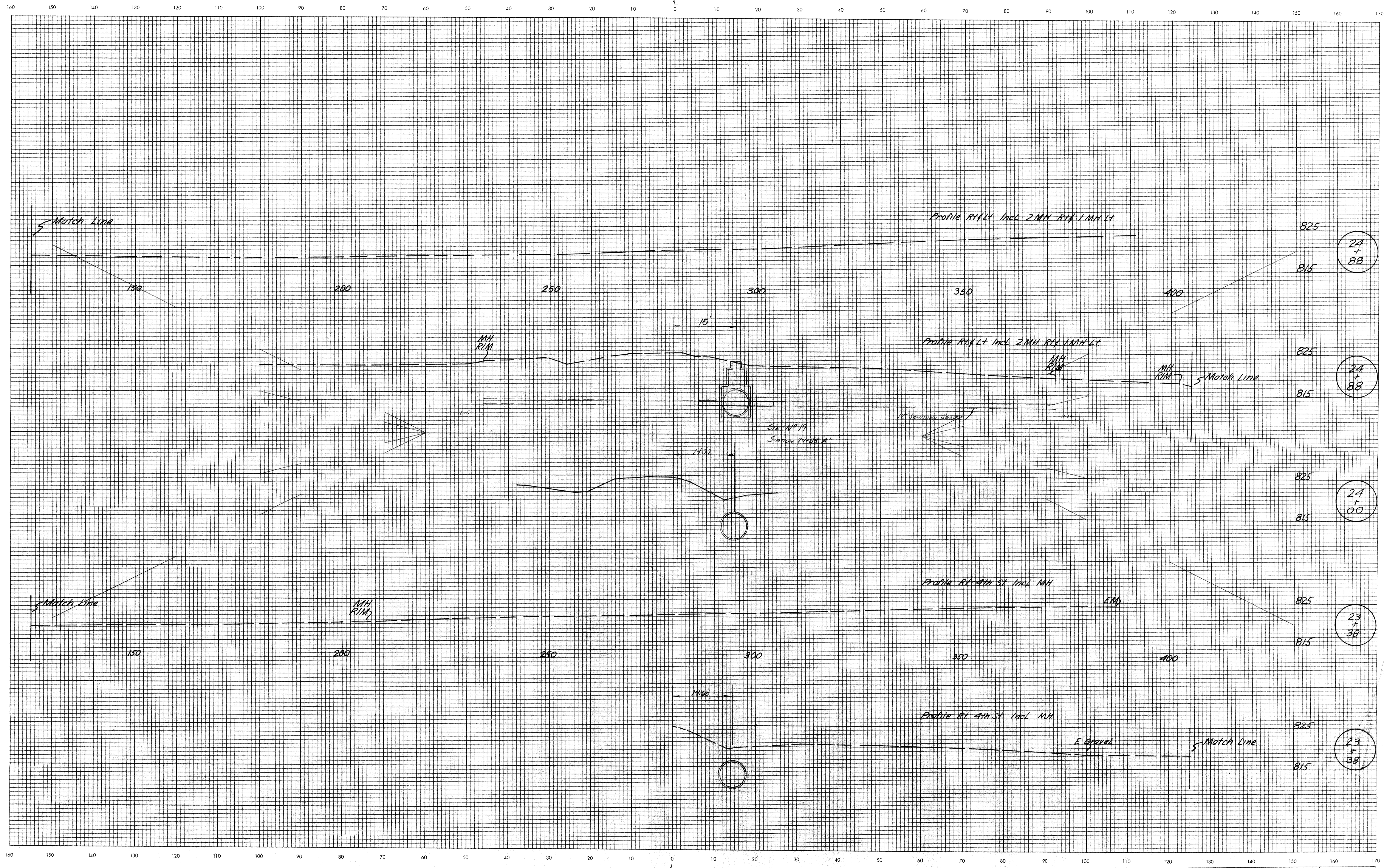
PLATE 3

September, 1973

LEVEL BOOK NO.			FILE 2382		
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.			116	22

LINE 116  
AUG 04 1990  
OFFICE OF HAMILTON COUNTY SURVEYOR

CUT CROSS SECTIONS FILL  
Scale 1 inch = 10 feet



CLP 3-7-89

24  
+  
88

24  
+  
88

24  
+  
00

23  
+  
38

23  
+  
38

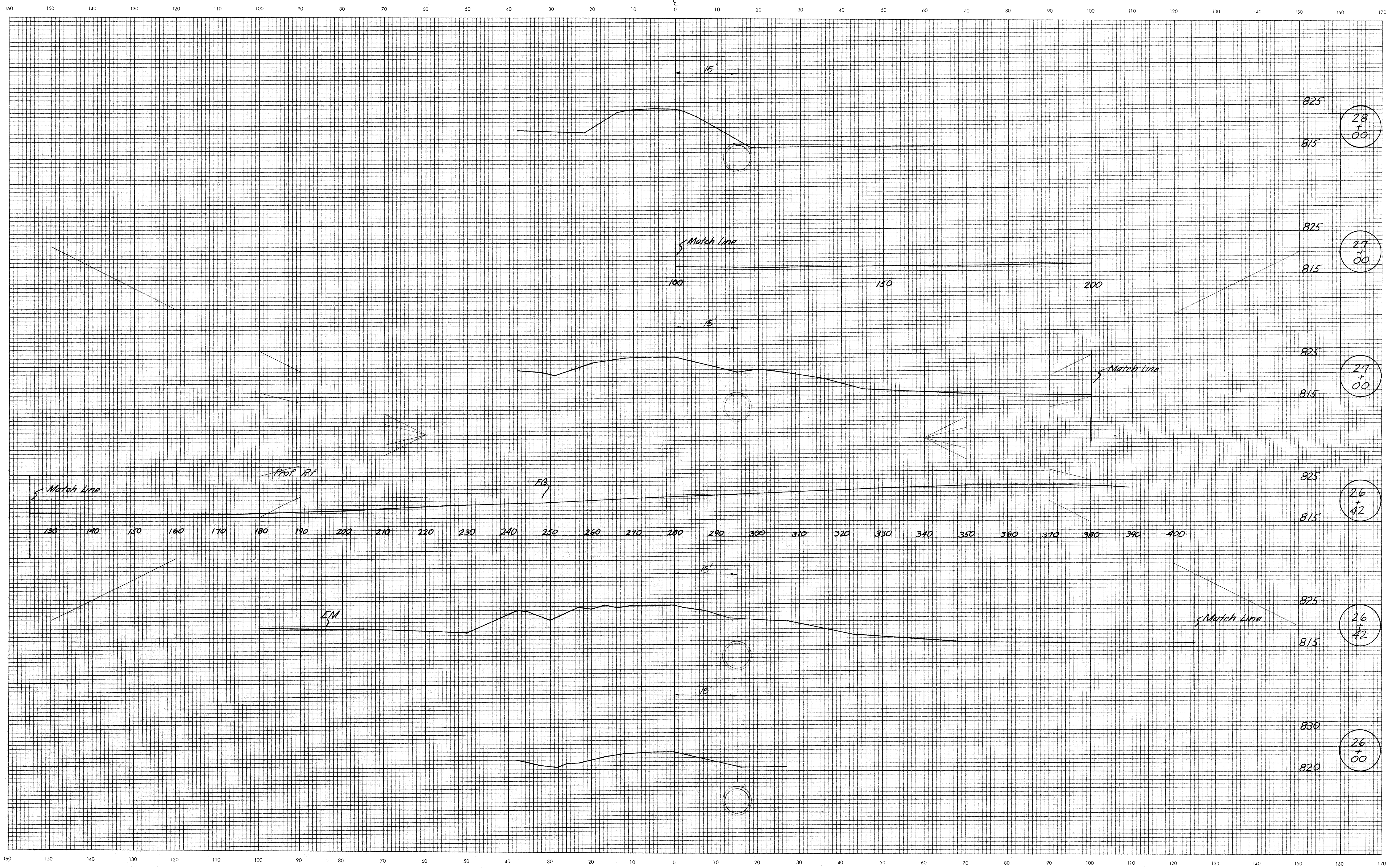
PLATE 3

September, 1973

LEVEL BOOK NO.		FILE		2382	
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.			17	77

AUG 01 1993  
OFFICE OF HAMILTON COUNTY SURVEYOR

CUT CROSS SECTIONS FILL  
Scale 1 inch = 10 feet



Date: 3-7-89  
 C.L.P.  
 3-7-89

PLATE 3  
September, 1973

LEVEL BOOK NO.		FILE 2382	
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR
5	IND.		
SHEET NO.		TOTAL SHEETS	
7		12	
FILED			
AUG 04 1998			