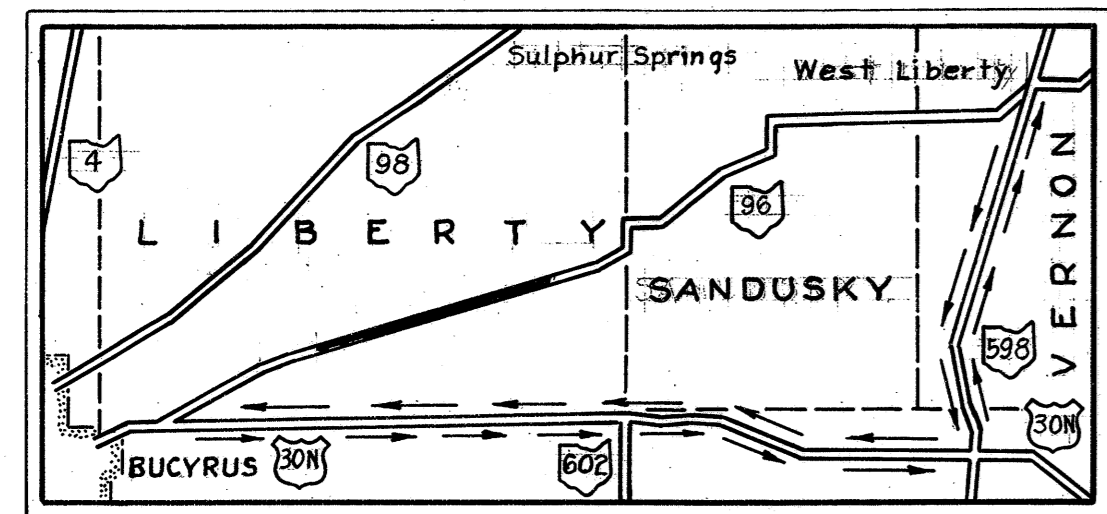


STATE OF OHIO
DEPARTMENT OF HIGHWAYS

CRA-96-(2.49)(2.84)(3.37)(3.59)(3.80)(3.90)(4.12)(4.38)(4.59)

CRA-39-4.18

CRAWFORD COUNTY LIBERTY AND VERNON TOWNSHIPS STRUCTURE IMPROVEMENTS-CULVERT REPLACEMENTS AND EXTENSION

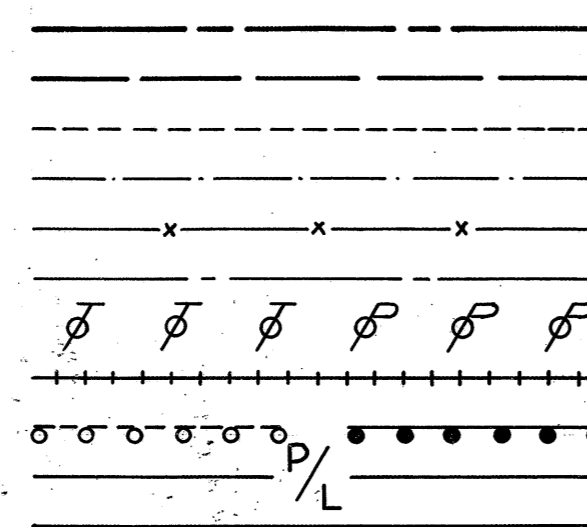


DETOUR MAP

CONVENTIONAL

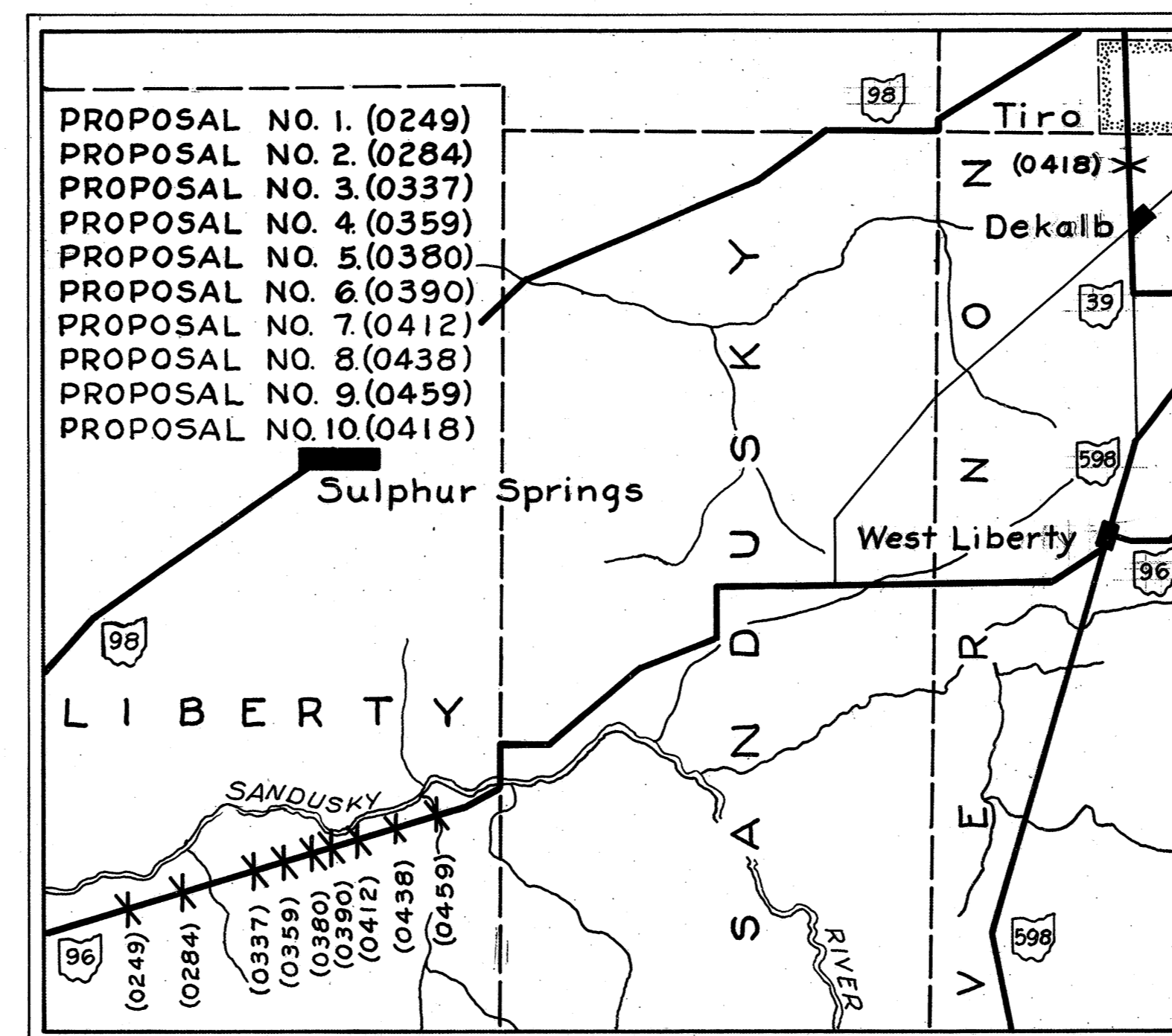
- COUNTY LINE
- TOWNSHIP LINE
- SECTION LINE
- CORPORATION LINE
- FENCE LINE
- CENTER LINE
- POLE LINE (TELEPHONE & POWER)
- RAILROAD
- GUARD RAIL (EXISTING & PROPOSED)
- PROPERTY LINE
- RIGHT OF WAY

SIGNS



INDEX OF SHEETS

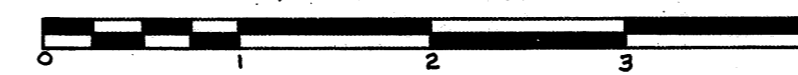
TITLE SHEET	1
SUMMARY	2
GENERAL NOTES	2
TYPICAL SECTIONS	2
PLANS	3-15
RIGHT OF WAY	16-20



DELIVERY POINT - BUCYRUS & SHELBY - AVERAGE HAUL 35&7.0 MILES

LOCATION MAP

Scale of Miles
1 in. = 1 mi.



- PORTION TO BE IMPROVED
- STATE HIGHWAYS
- OTHER ROADS

SCALES

- PLAN 1" = 20'
- PROFILE HORIZONTAL 1" = 20'
- PROFILE VERTICAL 1" = 5'
- CROSS SECTIONS 1" = 5'
- OTHER SHEETS AS SHOWN

The Standard Specifications of the State of Ohio, Department of Highways, including changes and supplemental specifications listed in the proposals shall govern these improvements. These Standard Specifications are dated January 1, 1961.

The right of way for these improvements will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will require the closing of the highway to traffic and that detours will be provided as indicated on the plans.

Approved E. T. Selum
Date 1-30-62 Division Deputy Director

CDB Approved M. W. ...
Date 4-19-62 Engineer of Bridges

Approved J. W. Koppel
Date 4-17-62 Engineer of Maintenance

Approved A. W. ...
Date 4-17-62 Deputy Director, Division of Operations

Approved ...
Date 4-27-62 Deputy Director of Planning and Programming

Approved Wm J. Gross
Date 4/24/62 Deputy Director of Right of Way

Approved ...
Date 4-27-62 First Assistant Director

Approved E. F. Preston
Date 4-27-62 Director of Highways

APPROVED E. A. Stutz
DATE 1-30-62 CRAWFORD COUNTY ENGINEER

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
G-7.07	6-1-56	L-3	4-1-50
I-15 No. 2A	8-17-60	L-3-A	4-1-50
SP-53	16-30-61	T-35	1-2-56
I-1	11-15-60	I-15 No. 1	11-15-60
C5-1-54	7-16-56		
SB-1-47	1-20-48		
L-1	4-1-50		

SUPPLEMENTAL SPECIFICATIONS			

FILE NO	CRAWFORD COUNTY, CRA-96-1.34	CRA-39-4.03
DATE OF LETTING		
CONTRACT NO		

JAN 2 1964
GROUND PHOTOLAB

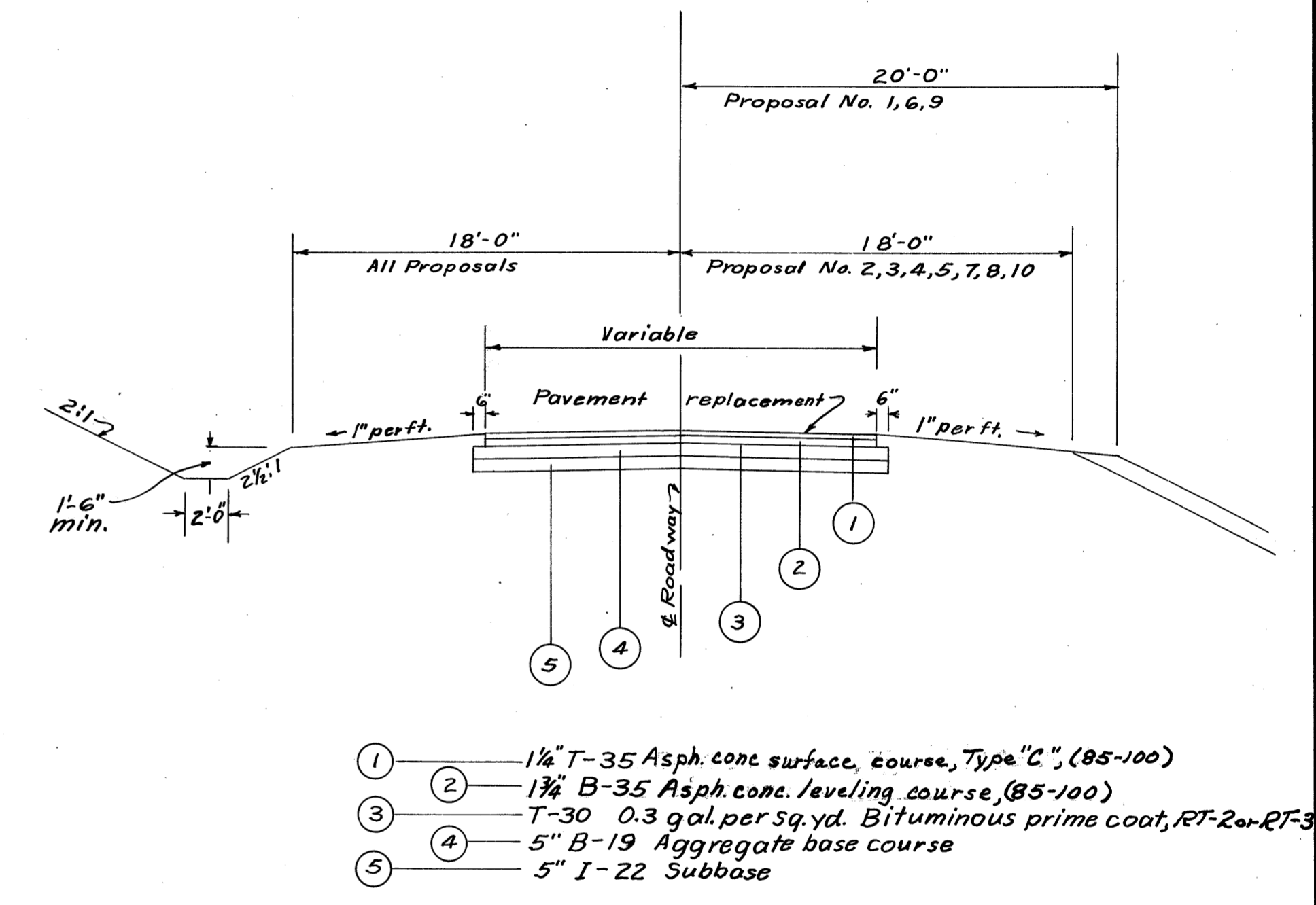
Crawford County
CRA 96 Sec. CRA 96-134
CRA 39 Sec. CRA 39-403

SUMMARY OF QUANTITIES

Item	Description	Unit	CRA 96-0249 Proposal No.1	CRA 96-0284 Proposal No.2	CRA 96-0337 Proposal No.3	CRA 96-0359 Proposal No.4	CRA 96-0380 Proposal No.5	CRA 96-0390 Proposal No.6	CRA 96-0412 Proposal No.7	CRA 96-0438 Proposal No.8	CRA 96-0459 Proposal No.9	CRA 39-0418 Proposal No.10
E-1	Roadway Excavation Method "A"	Cu. yd.	659	23	65	350	29	167	232	316	415	108
E-1	Embankment Method "A"	Cu. yd.	1208	98	49	54	129	425	72	96	229	182
E-2	Excavation for structures	Cu. yd.									81	
E-2	Cofferdams cribs and sheeting										Lump sum	
E-3	Channel excavation	Cu. yd.	214	9	12	3	49	16	5	3	195	22
E-8	Removal of existing wearing course	Sq. yd.									40	
E-9	Removal of trees and stumps	each	5								1	
E-12	12" pipe removed and stored	Lin. ft.		28		24						
E-12	18" pipe removed and stored	Lin. ft.							27.7			
E-12	24" pipe removed and stored	Lin. ft.										10
E-12	24" pipe removed	Lin. ft.										34
E-12	36" pipe removed and stored	Lin. ft.			33.5		4	16				
E-12	72" pipe removed and stored	Lin. ft.										36.35
B-19	Aggregate base course	Cu. yd.	11.9	2.9	4.1	3.8		9.2		4.5		7.4
B-35	Asphaltic concrete leveling course, (85-100)	Cu. yd.	3.7	0.9	1.3	1.2		2.9		1.4		2.3
T-30	Bituminous prime coat, Sec. M-5.7, RT-2 or RT-3	Gal.	25	6	9	8		20		10		15
T-35	Asphaltic concrete surface course, Type "C", (85-100)	Cu. yd.	2.7	0.7	0.9	0.9		2.1		1.0		1.7
S-1	Concrete for structures, superstructure Class "C"	Cu. yd.									193	
S-1	Concrete for structures, walls, Class "E"	Cu. yd.									405	
S-1	Concrete for structures, footings, Class "E"	Cu. yd.									30.6	
S-3	Type "B" waterproofing 36" wide	Sq. yd.									11	
S-4	Reinforcing steel	Lbs.									5315	
S-9	1/4" preformed expansion joint filler (bit type)	Sq. ft.									11	
S-14	Railing, steel beam standard type (deep) <small>steel posts and hardware including galvanized</small>	Lin. ft.									36.34	
S-22	Removal of portions of existing structure						Lump sum	Lump sum		Lump sum	Lump sum	Lump sum
S-23	Dowel holes	Lin. ft.									16	
S-24	Removal of existing structure		Lump sum									
Spec.	pull and store existing steel sheet piling	Lin. ft.	218									
S-29	Porous backfill	Cu. yd.									37	
I-1	12" pipe for driveways , Class F-1, Sec. M-6.4(a)	Lin. ft.							48			
I-1	24" pipe for pipe culverts , Class A-1,	Lin. ft.		52								
I-1	21" pipe for pipe culverts , Class A-1, Sec. M-6.6 (b)	Lin. ft.						30				
I-1	24" Cor. metal pipe for roadway drainage , (wash 2, Sec. M-6.4(c))	Lin. ft.										36
I-5	24" Cor. metal pipe specials, 30" bands, <small>class 6-1</small> Sec. M-6.4 (c)	Each										2
I-1	36" pipe for pipe culverts , Class A-1,	Lin. ft.						100				
I-1	42" pipe for pipe culverts , Class A-1, Sec. M-6.6 (b)	Lin. ft.					38					
I-1	15'-10" X 9'-10" Sec. corr. metal pipe arch structure, <small>class 6-1</small> Sec. M-6.4 (g)	Lin. ft.	74									
I-1	58" X 36" bit. coated, <small>Sec. M-6.4 (c) class 6-1</small> Cor. metal pipe arch with integral base,	Lin. ft.			56							
I-1	43" X 27" bit. coated, <small>Sec. M-6.4 (c) class 6-1</small> paved invert Cor. metal pipe arch with integral base,	Lin. ft.						58				
I-1	7'-3" X 5'-3" Sec. corr. metal pipe arch structure, <small>class 6-1</small> Sec. M-6.4 (g)	Lin. ft.										58
I-2	Masonry, Concrete for endwalls, Class "E"	Cu. yd.	18.4		3.7	3.1	3.5	3.0		3.1		6.9
I-10	Dumped rock channel protection	Cu. yd.	117					74		29	32	25
I-10	12" Crushed aggregate slope protection	Sq. yd.		5								
I-15	Guard rail removed and stored	Lin. ft.	328.2									
I-15	Guard rail, steel beam Standard type (deep)	Lin. ft.	437.5					250		88.66		
I-22	Subbase	Cu. yd.	11.9	2.9	4.1	3.8		9.2		4.8		7.8
L-7	15" Riprap for tree protection	Sq. yd.	9.5									
L-8	6" Aggregate for tree root aeration	Cu. yd.	10									
L-9	Seeding and protecting as per plan	Sq. yd.	5278	918	945	1406	1168	1580	996	1335	1940	1702
L-9	Commercial fertilizer (12-12-12)	Ton	0.48	0.084	0.086	0.13	0.107	0.14	0.091	0.12	0.18	0.16
I-1	30" pipe for pipe culverts Class A-1	Lin. ft.				52						

List of Proposals

Prop. No.	County	State Route	Section No.	Structure No.	Sheet No.
1	Crawford	96	CRA 96-0134	CRA 96-0249	3-4
2	"	96	"	CRA 96-0284	5
3	"	96	"	CRA 96-0337	6
4	"	96	"	CRA 96-0359	7
5	"	96	"	CRA 96-0380	8
6	"	96	"	CRA 96-0390	9
7	"	96	"	CRA 96-0412	10
8	"	96	"	CRA 96-0438	11
9	"	96	"	CRA 96-0459	12-13, 14
10	"	39	CRA 39-0403	CRA 39-0418	15



GENERAL NOTES

UTILITY ADJUSTMENT: Any and all work required for public or private utilities will be done by and at the expense of their respective owners unless otherwise noted on these plans.

SPECIFICATIONS: Construction and Materials Specifications of the State of Ohio, Department of Highways, Dated January 1, 1961 shall apply to these proposals.

ITEM L-9 Seeding and protecting roadway areas.
Quantities for seeding are calculated for the areas between lines 10' outside the work limits as shown on the plans and cross sections or the right of way line if such line is less than 10' from the work limits. All areas outside these limits where the vegetative cover has been disturbed or destroyed during the construction shall be restored and seeded in conformance with the provisions of Item L-9 by the contractor at his own expense.

The following seed mixture shall be applied at the rate of 3 lbs. per 1000 sq. ft.
 Creeping red fescue 70%
 Kentucky blue grass 25%
 Alsike clover 5%

All replacement pavement widths to remain the same as existing widths.

Materials to be disposed of shall be disposed of outside the right of way. Materials to be removed and stored shall be placed within the right of way and accessible to State Forces.

UTILITIES

S.R. 96 All Proposals	SR 39 Proposal No. 10
Ohio Central Telephone Co. Toledo, Ohio.	Lima Telephone Service Shelby, Ohio - Local Maintenance
Ohio Power Co. Canton, Ohio	Ohio Power Co. Canton, Ohio.

MAINTENANCE OF TRAFFIC: At least one way traffic shall be maintained at all times on all proposals except proposal No. 1 and proposal No. 6. The use of the detour shall be confined to the period of time required for the construction of structures - CRA 96-0249 and CRA 96-0390.

ITEM SPECIAL, PULL AND STORE EXISTING STEEL SHEET PILING:
This item shall consist of removing existing interlocking steel sheet piling, where called for on these plans, by a method acceptable to the Engineer. The sheet piling shall be carefully removed, cleaned, and stored on the right-of-way at the disposal of the State's forces.
The footage to be paid for shall be the actual number of linear feet of interlocking section of sheet piling removed and stored.
The footage measured as provided above shall be paid for at the contract unit price per linear foot bid for Item Special, Pull And Store Existing Steel Sheet Piling, which price and payment shall constitute full compensation for removing, cleaning, and storing and for all labor, equipment, tools and incidentals necessary to complete this item.

1 story frame Res.

E-9 Tree Removal			
Station	Size	kind	
130+23	12"	2-12 stumps	25' Lt.
130+55	18"	Ash	37' Lt.
130+59.3	14"	Ash	27' Lt.
131+36.4	20"	Walnut	21.5' Lt.
131+61.9	20"	Ash	14' Lt.

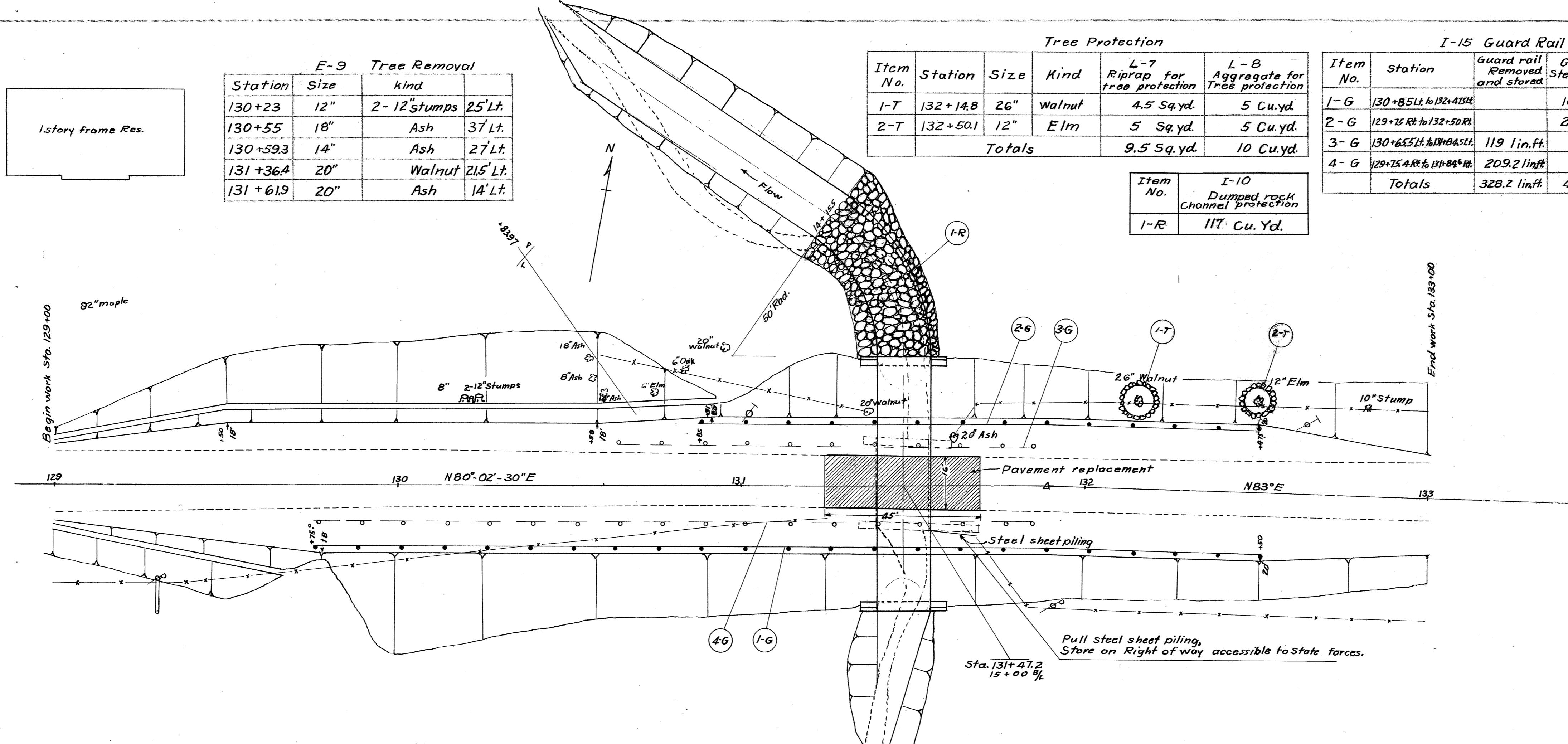
Tree Protection					
Item No.	Station	Size	Kind	L-7 Riprap for tree protection	L-8 Aggregate for Tree protection
1-T	132+14.8	26"	walnut	4.5 Sq. yd.	5 Cu. yd.
2-T	132+50.1	12"	Elm	5 Sq. yd.	5 Cu. yd.
Totals				9.5 Sq. yd.	10 Cu. yd.

I-15 Guard Rail			
Item No.	Station	Guard rail Removed and stored	Guard Rail Steel beam Type (See P)
1-G	130+85 Lt. to 132+47.5 Lt.		162.5 lin. ft.
2-G	129+75 RR to 132+50 RR		275.0 lin. ft.
3-G	130+65.5 Lt. to 131+04.5 Lt.	119 lin. ft.	
4-G	129+75.4 RR to 131+04.6 RR	209.2 lin. ft.	
Totals		328.2 lin. ft.	437.5 lin. ft.

Item No.	I-10 Dumped rock Channel protection
1-R	117 Cu. Yd.

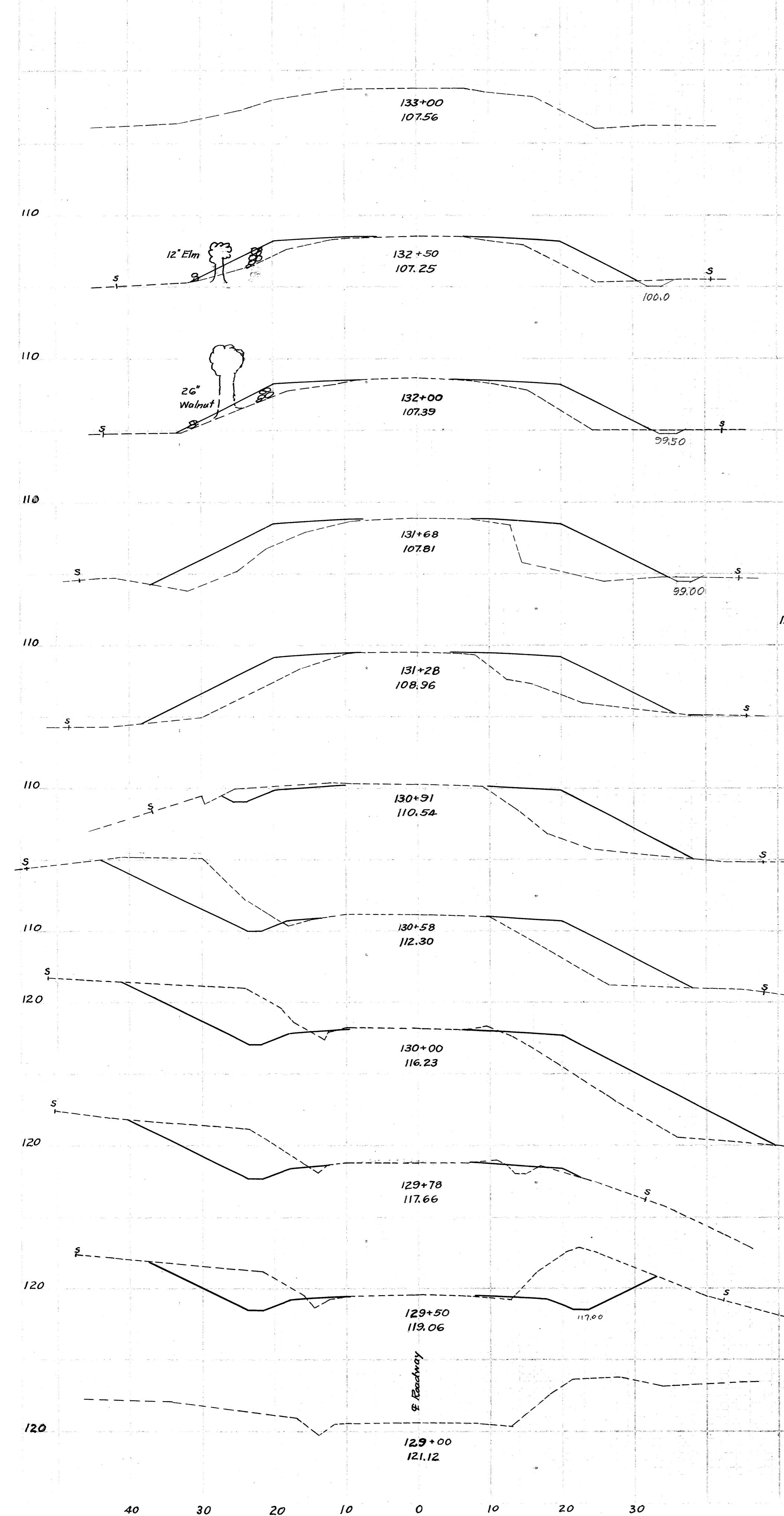
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

Crawford County
CRA 96-0249 Sec. CRA 96-134
Proposal No. 1

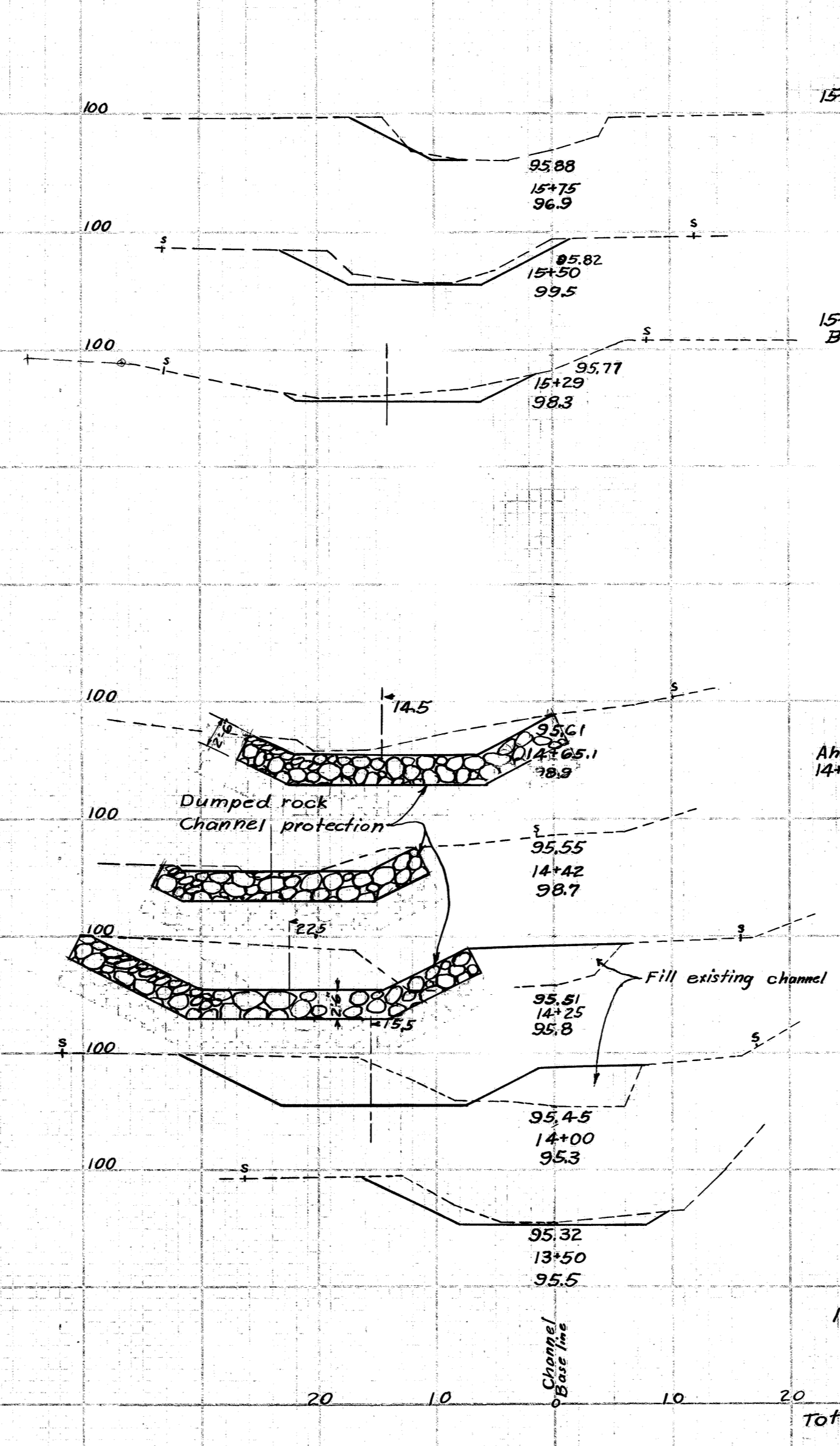


B.M. Spike in 16" walnut 110' Lt.
Sta. 132+10.5 Assumed elev. 10000

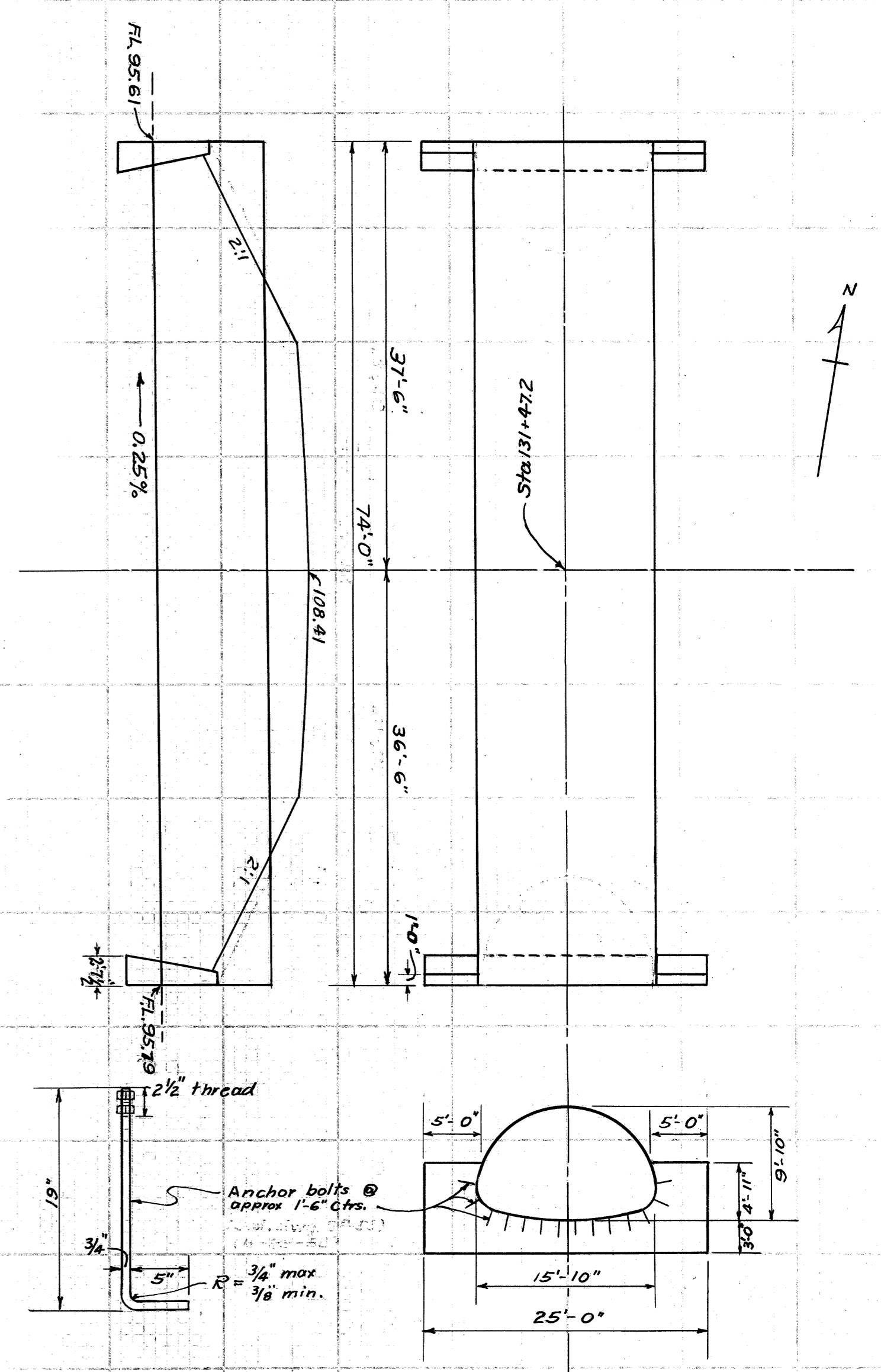




E-1 Roadway			
END AREA	CU. YDS.		
CUT	FILL	CUT	FILL
0	0		
		3	60
4	65		
		6	126
2	71		
		2	139
2	163		
0	233		
0	152		
		0	188
0	122		
		61	136
100	101		
		220	259
105	140		
		80	59
91			
		133	5
165	3		
		153	3
0	0		
Totals	659	1208	



E-3 Channel	
E.A.	C.Y.
0	2
5	10
17	7
12	6
0	24
8	28
80	67
65	79
20	9
0	0
Total E-3	214 Cu. Yd.



Estimated Quantities

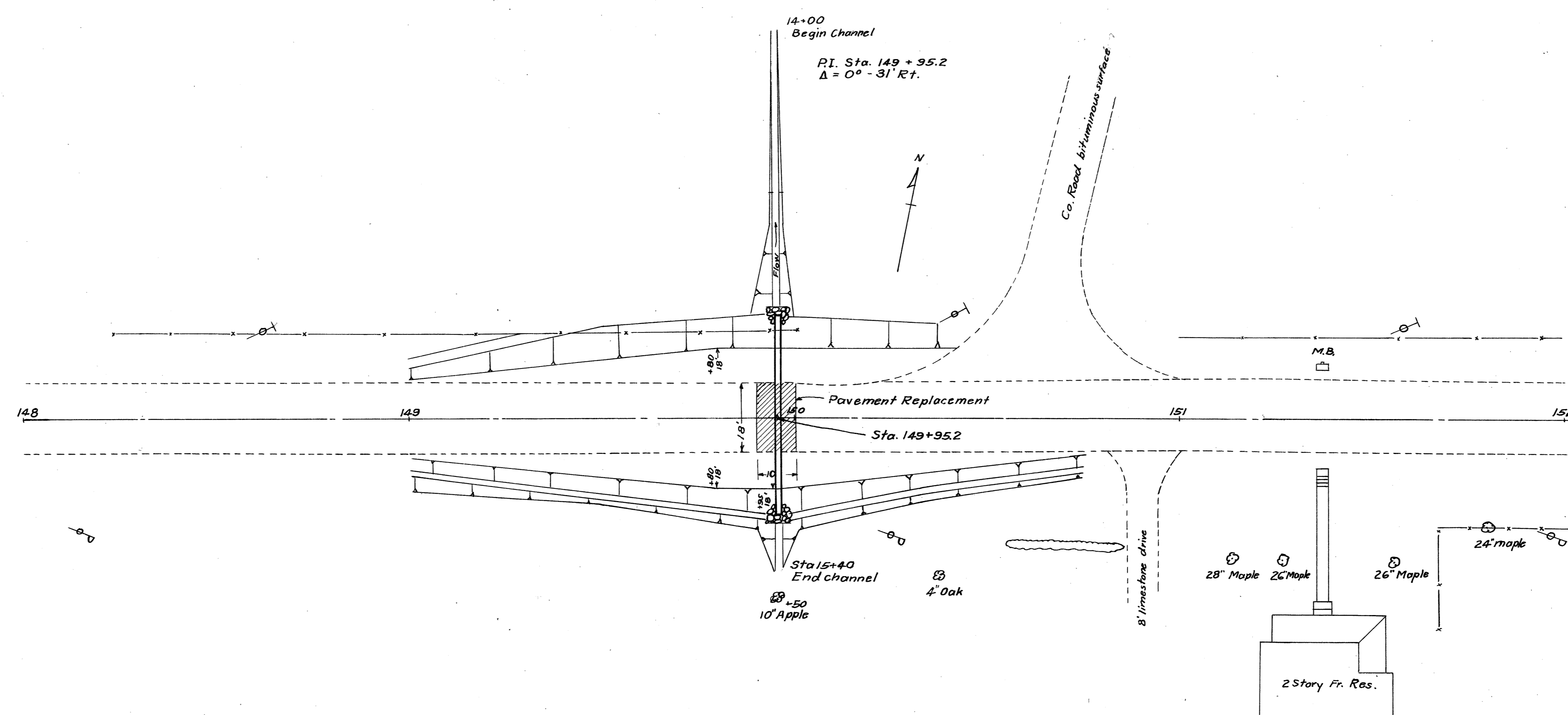
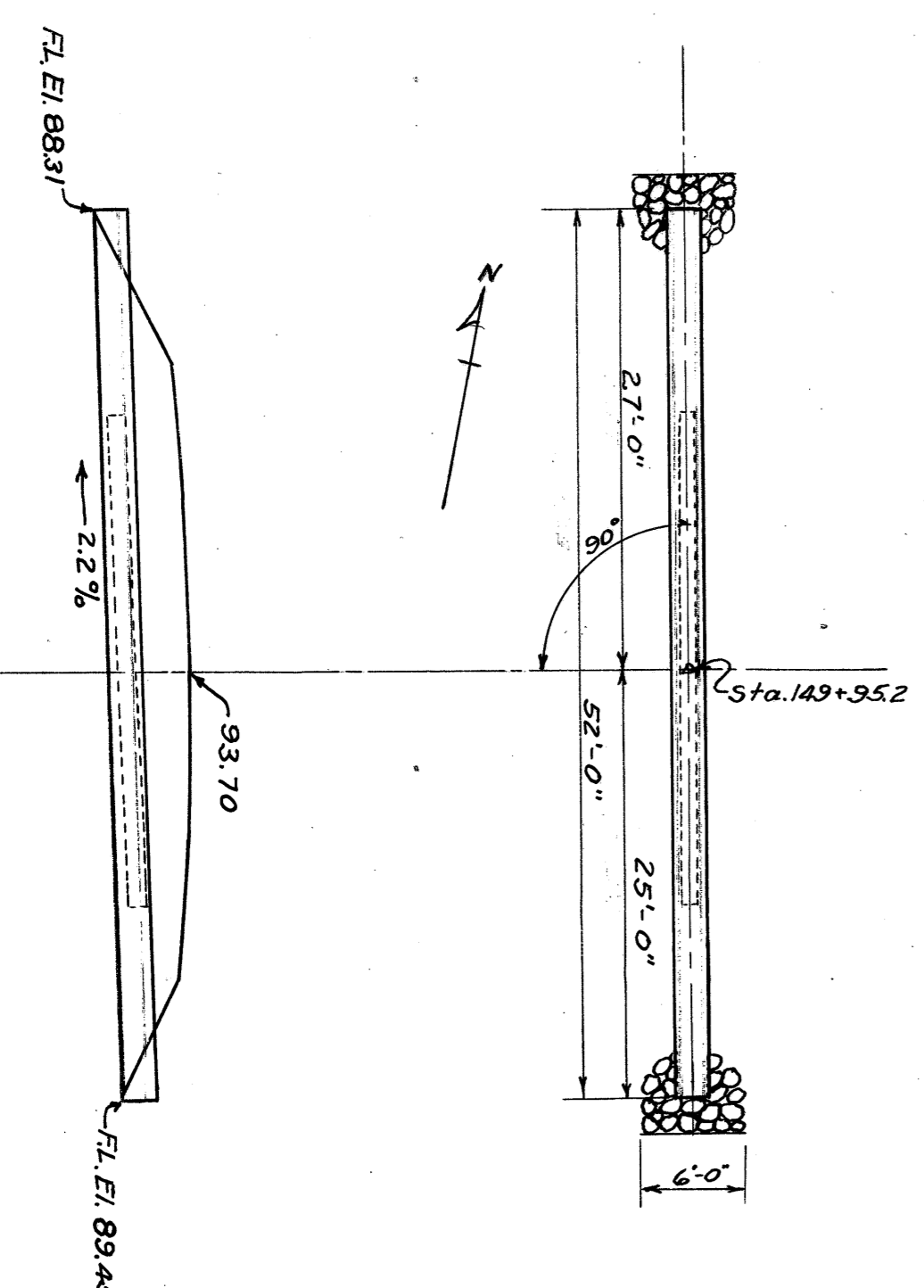
E-1	Roadway excavation, Method 'A'	659 Cu. Yd.
E-1	Embankment, Method 'A'	1208 Cu. Yd.
E-3	Channel excavation	214 Cu. Yd.
E-9	Removal of trees and stumps	5 Each
B-19	5" Aggregate base course	11.9 Cu. Yd.
B-35	3/4" Asphaltic concrete leveling course, (85-100)	3.7 Cu. Yd.
T-30	Bituminous prime coat, RT-2 or RT-3, sec. M-8.1	2.5 Gal.
T-35	1 1/2" Asphaltic concrete surface course, Type 'C', (85-100)	2.7 Cu. Yd.
S-24	Removal of existing structure	Lump Sum
Spec.	Pull and store steel sheet piling	218 Lin. Ft.
I-1	15'-10" X 9'-10" Sectional corrugated metal pipe arch structure, Sec. M-64(g), Class G-1, etc.	74 Lin. Ft.
I-2	Masonry, concrete for endwalls, Class 'E'	18.4 Cu. Yd.
I-10	12" Dumped rock channel protection	117 Cu. Yd.
I-15	Guard rail, Standard Steel beam type (Deep)	437.5 Lin. Ft.
I-15	Guard rail, removed and stored	328.2 Lin. Ft.
I-22	5" Subbase	11.9 Cu. Yd.
L-7	15" Riprap for tree protection	9.5 Sq. Yd.
L-8	6" Aggregate for tree protection	10 Cu. Yd.
L-9	Seeding and protecting, as per plan	5278 Sq. Yd.
L-9	Commercial fertilizer (12-12-12)	0.48 Ton

Plates for sectional pipe arch shall be No. 3 gauge for bottom and corner plates and No. 5 gauge for all other plates.

Proposed Structure
Type - Sectional Corrugated Pipe Arch Culvert
Size - 15'-10" X 9'-10" X 74'-0"
Roadway - 40', 36' between guard rail
Skew - 0°
Gage - 5-3

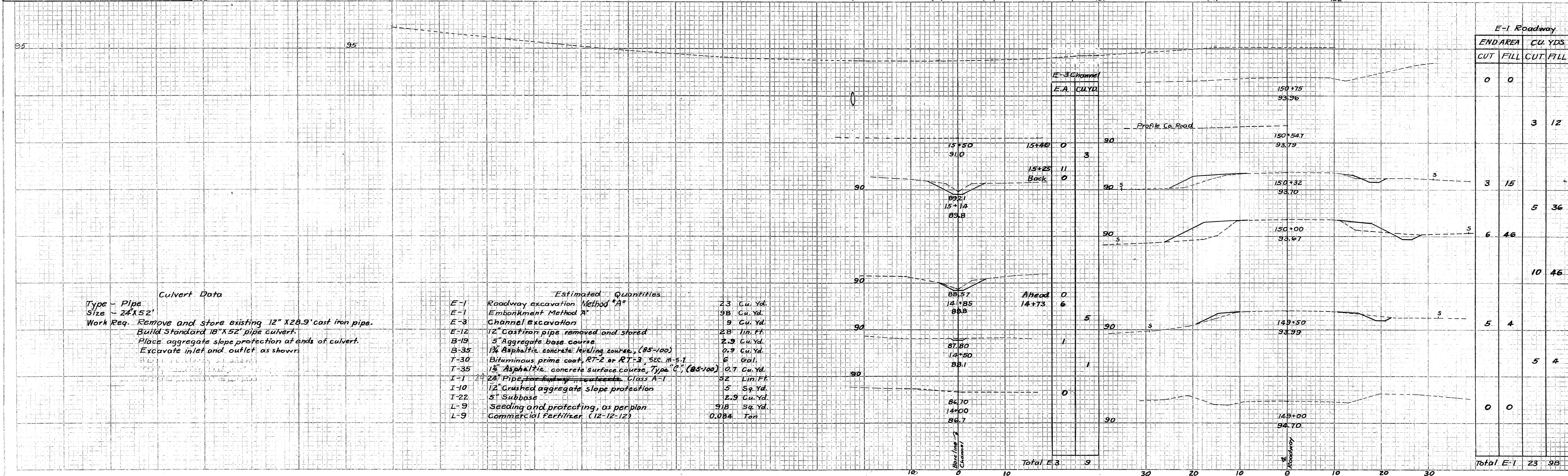
Existing Bridge Data
Type - Stone arch
Size
Skew - None
Loading
Condition - Poor, Narrow
Drainage area 2595 Acres
Q₂₅ = 900 cfs.

Crawford County
 CRA96-0284 Sec. CRA96-134
 Proposal No. 2



Existing Structure	
Type	Cast iron pipe
Size	12"
Skew	0°
Proposed Structure	
Type	Standard pipe culvert
Size	24'x52'
Skew	0°
Drainage area	26 acres
q ₁₀	1.8 cfs.

B.M. Spike in power pole 30' Rt.
 Sta. 148+15 Assumed elev 100.00



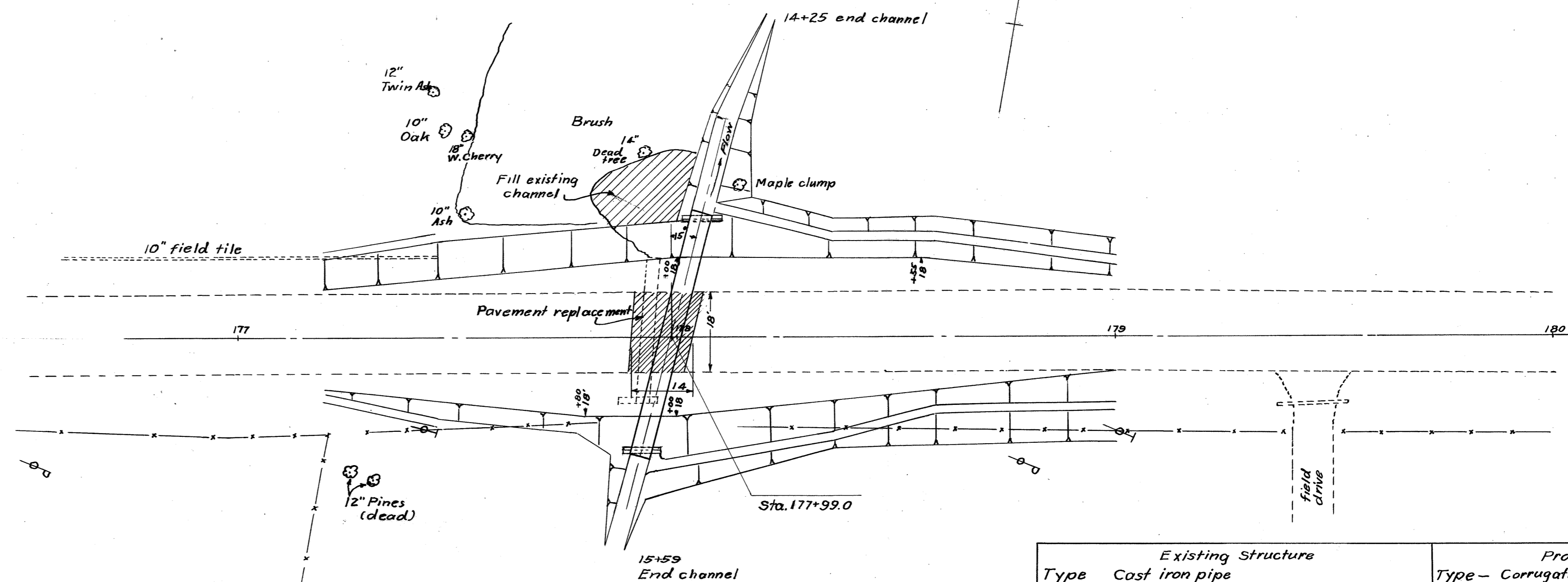
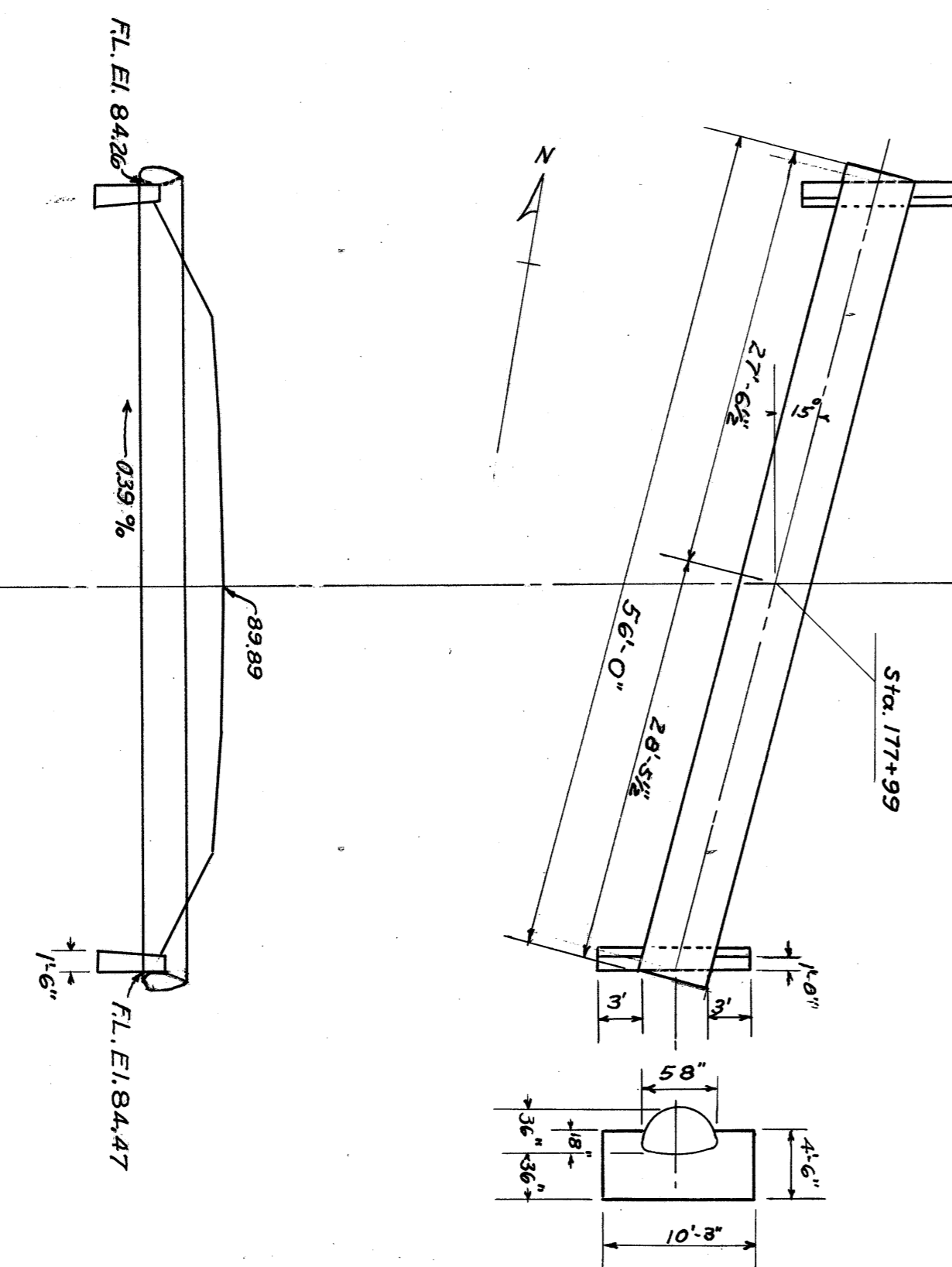
Culvert Data
 Type - Pipe
 Size - 24'x52'
 Work Req. Remove and store existing 12" x 28.9' cast iron pipe.
 Build Standard 18" x 52' pipe culvert.
 Place aggregate slope protection at ends of culvert.
 Excavate inlet and outlet as shown.

Estimated Quantities

E-1	Roadway excavation Method "A"	23	Cu. Yd.
E-1	Embankment Method "A"	98	Cu. Yd.
E-3	Channel Excavation	9	Cu. Yd.
E-12	12" Cast iron pipe removed and stored	28	lin. ft.
B-19	5" Aggregate base course	2.3	Cu. Yd.
B-35	1 1/2" Asphaltic concrete leveling course, (85-100)	0.9	Cu. Yd.
T-30	Bituminous prime coat, RT-2 or RT-3, SEC. M-5.1	6	Gal.
T-35	1 1/2" Asphaltic concrete surface course, Type "C", (85-100)	0.7	Cu. Yd.
I-1	24" Pipe for roadway culverts, Class A-1	52	lin. ft.
I-10	12" Crushed aggregate slope protection	5	Sq. Yd.
I-22	5" Subbase	2.9	Cu. Yd.
L-9	Seeding and protecting, as per plan	9.8	Sq. Yd.
L-9	Commercial Fertilizer (12-12-12)	0.084	Ton

E-1 Roadway			
END AREA	CU. YDS.		
CUT	FILL	CUT	FILL
0	0		
		3	12
3	15		
		5	36
6	46		
		10	46
5	4		
		5	4
0	0		
Total E-1		23	98

Total E-3 9



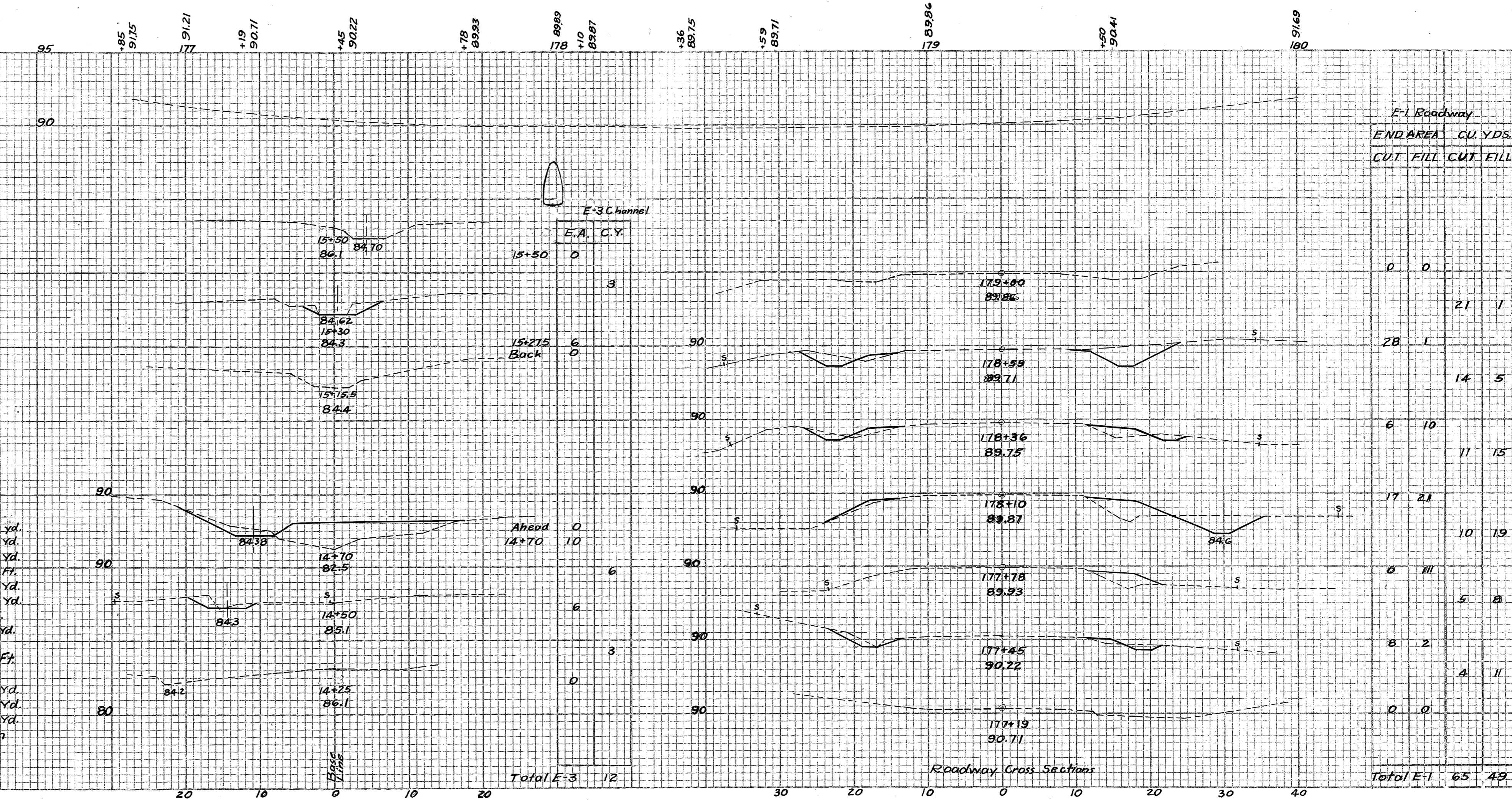
Type	Existing Structure	Proposed Structure
Size	Cast iron pipe 36"	Type - Corrugated metal arch Size - 58" X 36" X 56"
Skew	4° Lt. fwd.	Skew - 15° Drainage area 267 acres Gage 8 Q ₁₀ = 72 cfs.

B.M. Spike in power pole 30' Rt.
 Sta. 174+25 Assumed elev. 100.00

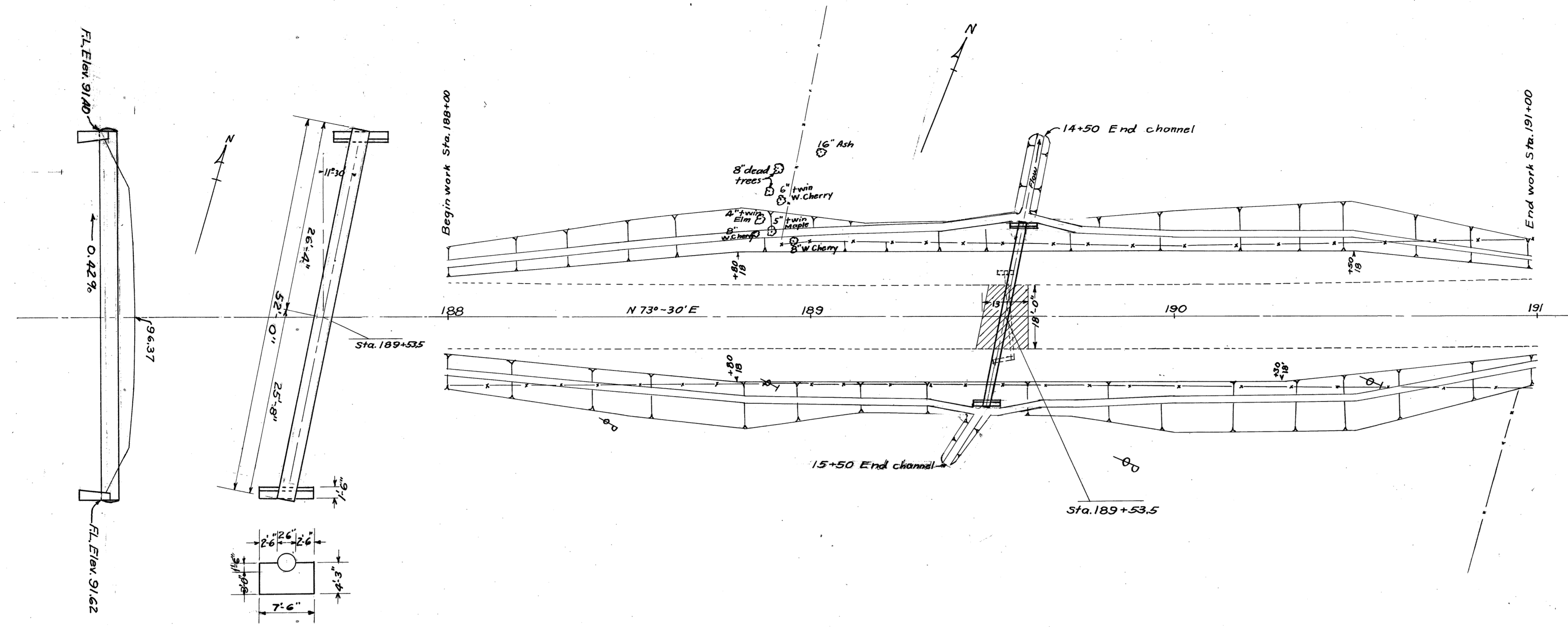
Culvert Data
 Type - Pipe arch culvert
 Size - 58" X 36" X 56"
 Work Req. Remove and store existing 36" X 33.5" cast iron pipe. Build Standard 58" X 36" X 56" bituminous coated corrugated metal arch with integral base and standard endwalls.

Estimated Quantities

E-1	Roadway excavation, Method "A"	65	Cu. Yd.
E-1	Embankment, Method "A"	49	Cu. Yd.
E-3	Channel excavation	12	Cu. Yd.
F-12	36" Cast iron pipe, removed and stored	33.5	Lin. Ft.
B-19	5" Aggregate base course	4.1	Cu. Yd.
B-35	1/4" Asphaltic concrete leveling course, (85-100)	1.3	Cu. Yd.
T-30	Bituminous prime coat, RT-2 or RT-3, 5% m.s.1	9	Gal.
T-35	1/4" Asphaltic concrete surface course, Type "C", (85-100)	0.9	Cu. Yd.
I-1	58" X 36" bituminous coated corrugated metal arch with integral base, Sec. M-6A(G), Class G-1.	56	Lin. Ft.
I-2	Masonry, concrete for endwalls, Class "F"	3.7	Cu. Yd.
I-22	5" Subbase	4.1	Cu. Yd.
L-9	Seeding and protecting, as per plan	945	Sq. Yd.
L-9	Commercial fertilizer (12-12-12)	0.086	Ton.



Crawford County
 CRA96-0359 Sec. CRA96-134
 Proposal No. 4



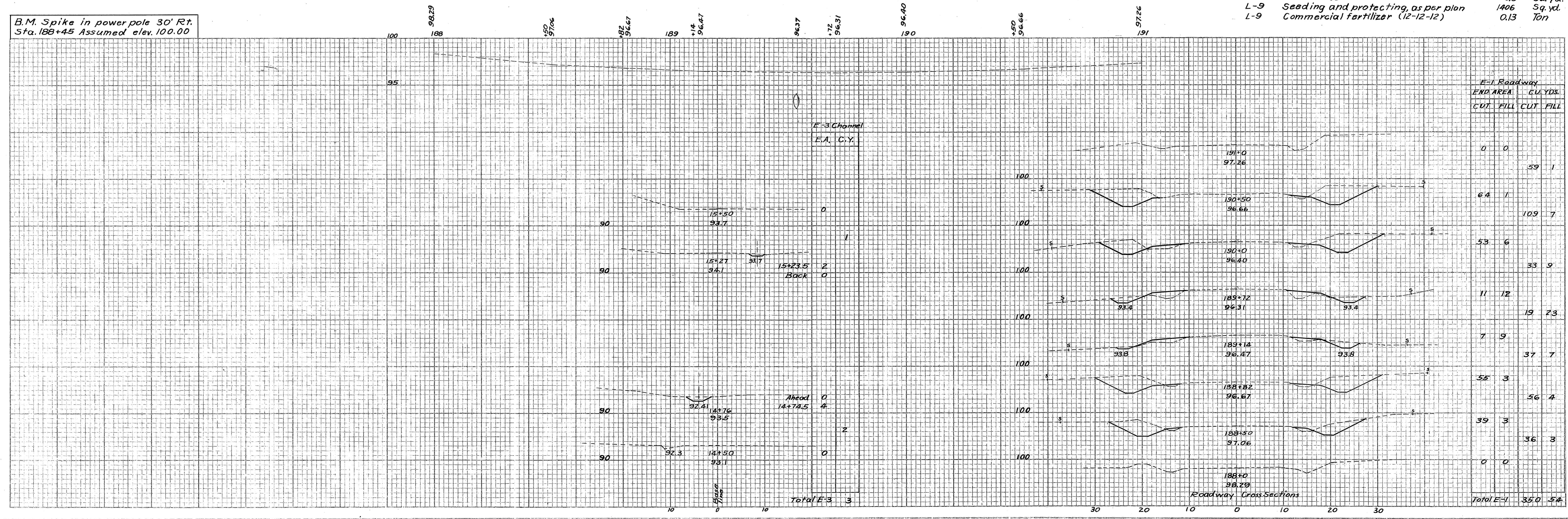
Existing Structure	
Type	Cast iron pipe
Size	12"
Skew	0°

Proposed Structure	
Type	Standard pipe culvert
Size	30" X 52"
Skew	11°-30' Left forward
Drainage area	35 acres
Q ₁₀	= 20 cfs.

Estimated Quantities

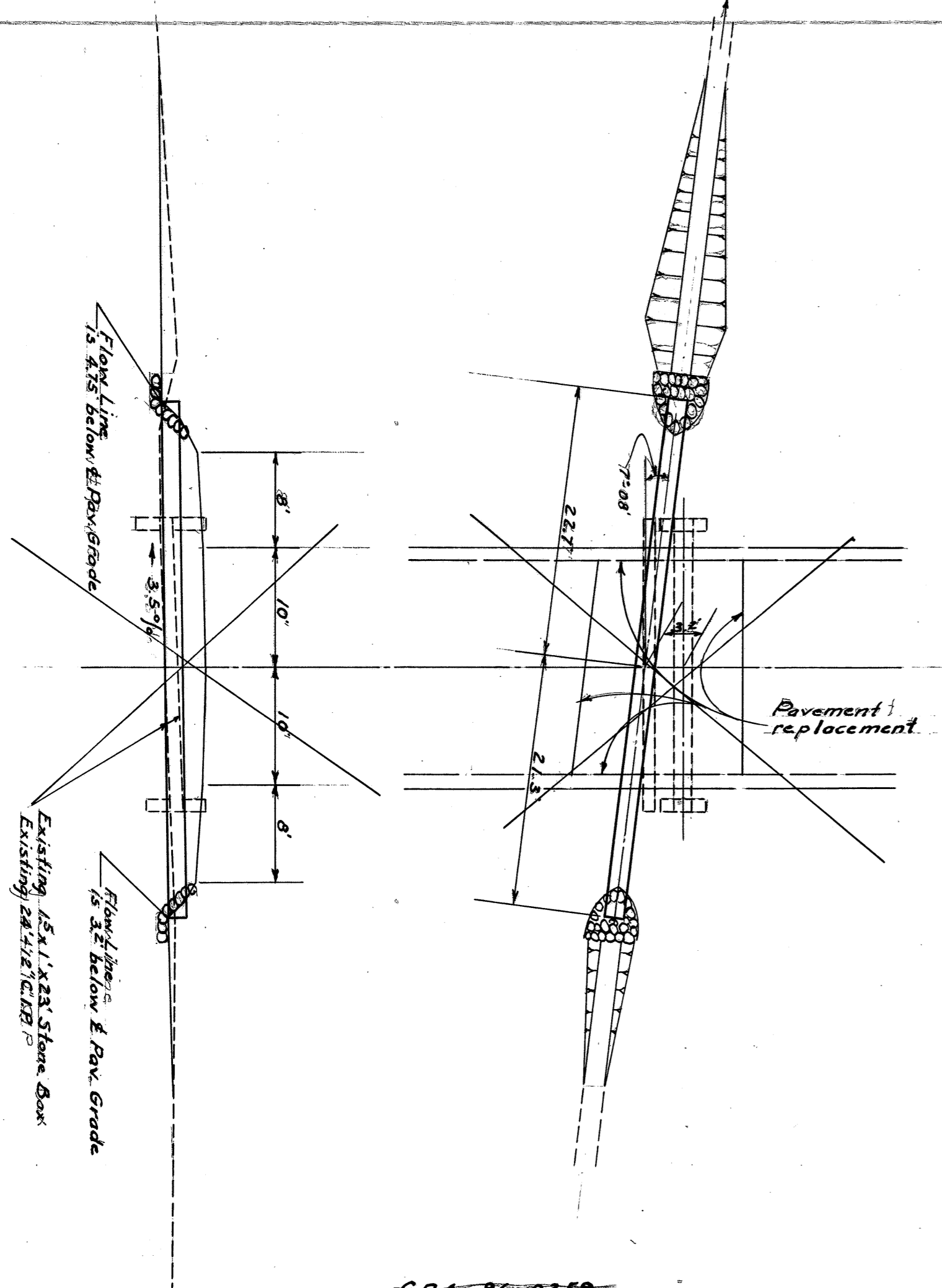
E-1	Roadway excavation Method "A"	350	Cu. yd.
E-1	Embankment, method "A"	54	Cu. yd.
E-3	Channel excavation	3	Cu. yd.
E-12	12" Cast iron pipe, removed and stored	24	Lin. ft.
S-22	Removal of portions of existing structure		Lump sum
B-19	5" Aggregate base course	38	Cu. yd.
B-35	1 1/4" Asphaltic concrete leveling course, (85-100)	12	Cu. yd.
T-30	Bituminous prime coat, RT-2 or RT-3, sec. M-57 8		Gal.
T-35	1 1/4" Asphaltic concrete surface course, Type "C", (85-100)	09	Cu. yd.
I-1	30" Pipe for roadway subbase , Class A-1	52	Lin. ft.
I-2	Masonry, Concrete for endwalks Class E"	3.1	Cu. yd.
I-22	5" Subbase	38	Cu. yd.
L-9	Seeding and protecting, as per plan	1406	Sq. yd.
L-9	Commercial fertilizer (12-12-12)	0.13	Ton

B.M. Spike in power pole 30' Rt.
 Sta. 188+45 Assumed elev. 100.00

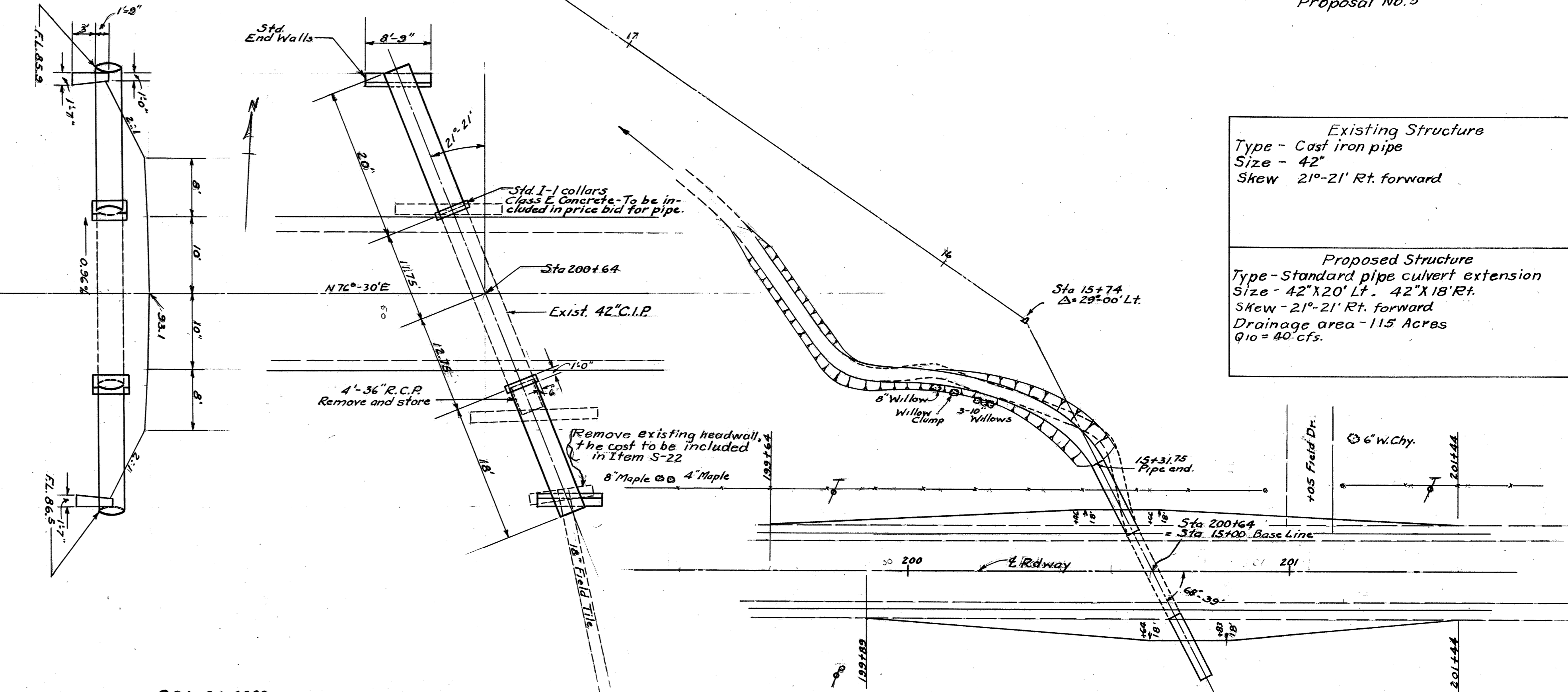


Existing Structure
Type - Cast iron pipe
Size - 42"
Skew 21°-21' Rt. forward

Proposed Structure
Type - Standard pipe culvert extension
Size - 42"x20' Lt., 42"x18' Rt.
Skew - 21°-21' Rt. forward
Drainage area - 115 Acres
Q10 = 40 cfs.



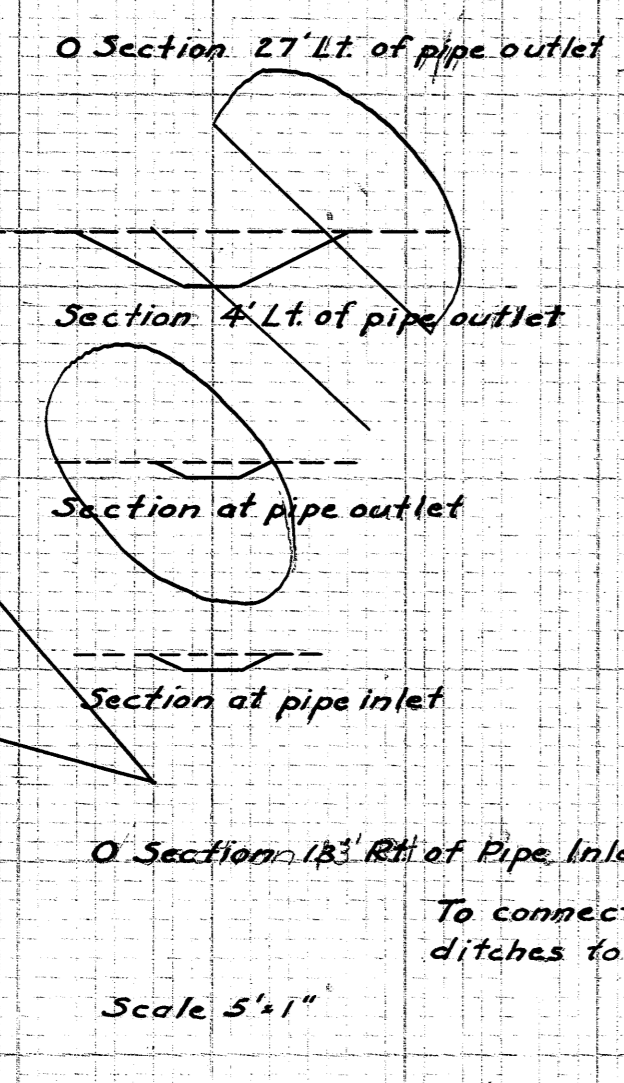
CRA-96-0359



CRA-96-0380

ESTIMATED QUANTITIES

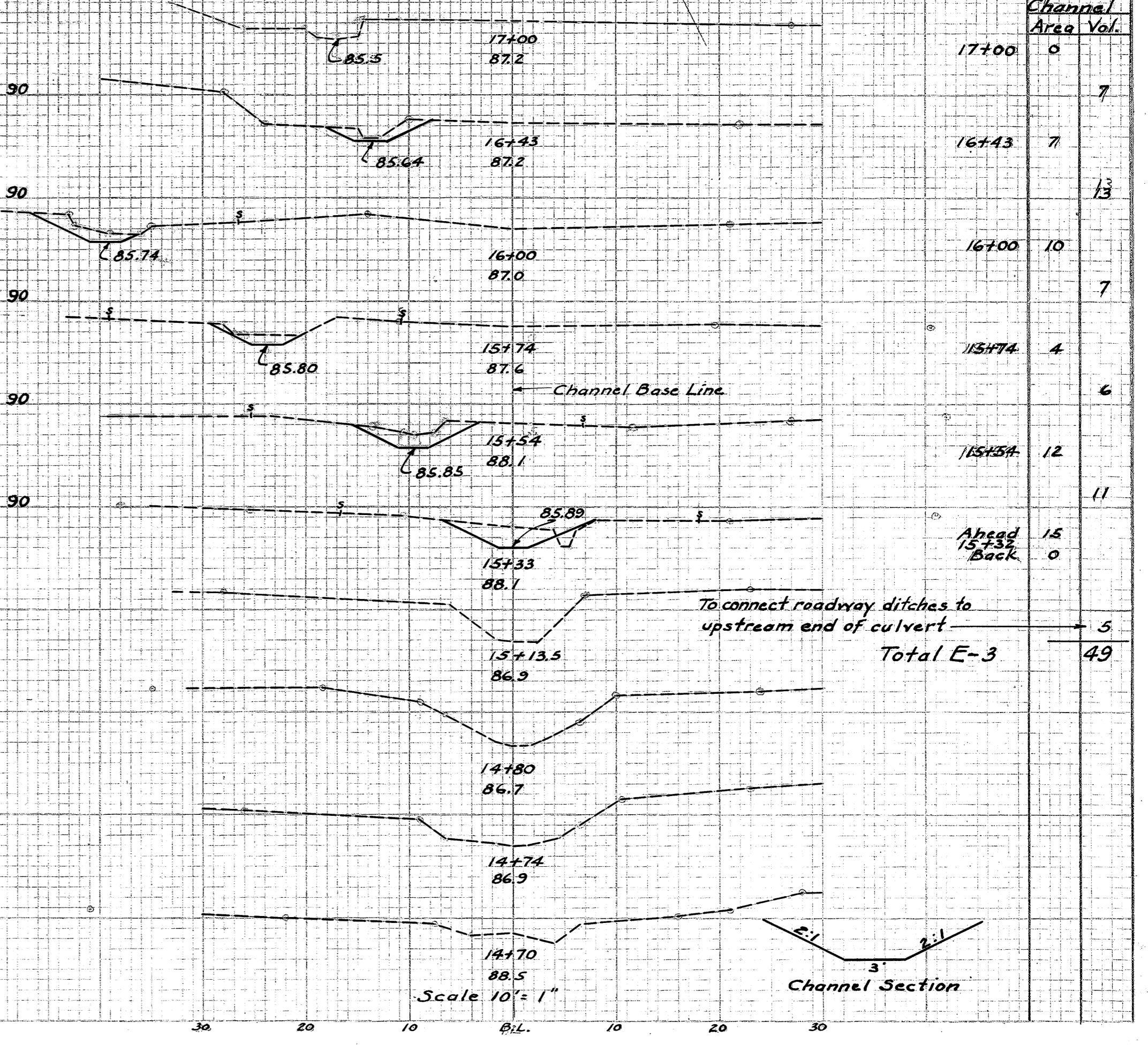
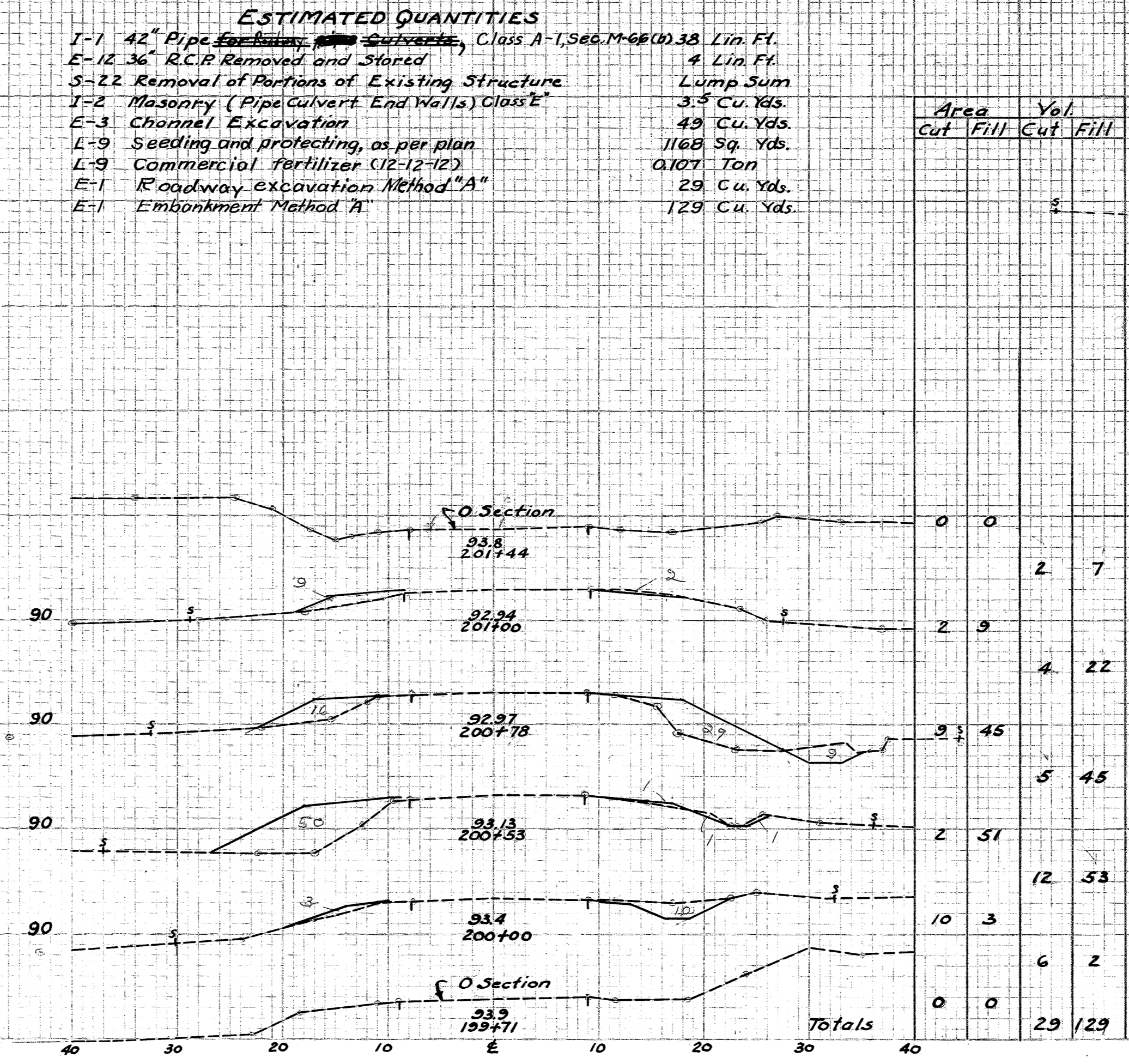
I-1	18" Pipe for Roadway Culverts	44 Lin. Ft.
E-12	12" C.I.P. Removed and Stored	24 Lin. Ft.
S-22	Removal of Portions of Existing Structure	Lump Sum
E-8	Removal of Existing Pavement	26 Sq. Yds.
B-19	5" Aggregate Base Course	40 Cu. Yds.
I-22	5" Subbase	40 "
B-35	1 1/4" Asphaltic Concrete Base Course	1.3 "
T-35	1 1/4" Asphaltic Concrete Surface Course	0.9 "
E-3	Channel Excavation	8 Cu. Yds.
I-100	Dumped Rock Fill (Culvert Ends)	4.39 Yds.



Channel Area	Vol.
0	3
2.8	6
6	1
4	1
13	1
0	3
Total E-3	8

ESTIMATED QUANTITIES

I-1	42" Pipe for Extension	44 Lin. Ft.
E-12	36" R.C.P. Removed and Stored	4 Lin. Ft.
S-22	Removal of Portions of Existing Structure	Lump Sum
I-2	Masonry (Pipe Culvert End Walls) Class E	3.3 Cu. Yds.
E-3	Channel Excavation	49 Cu. Yds.
L-9	Seeding and protecting, as per plan	1168 Sq. Yds.
L-9	Commercial fertilizer (12-12-12)	0.107 Ton
E-1	Roadway excavation Method "A"	29 Cu. Yds.
E-1	Embankment Method "A"	129 Cu. Yds.



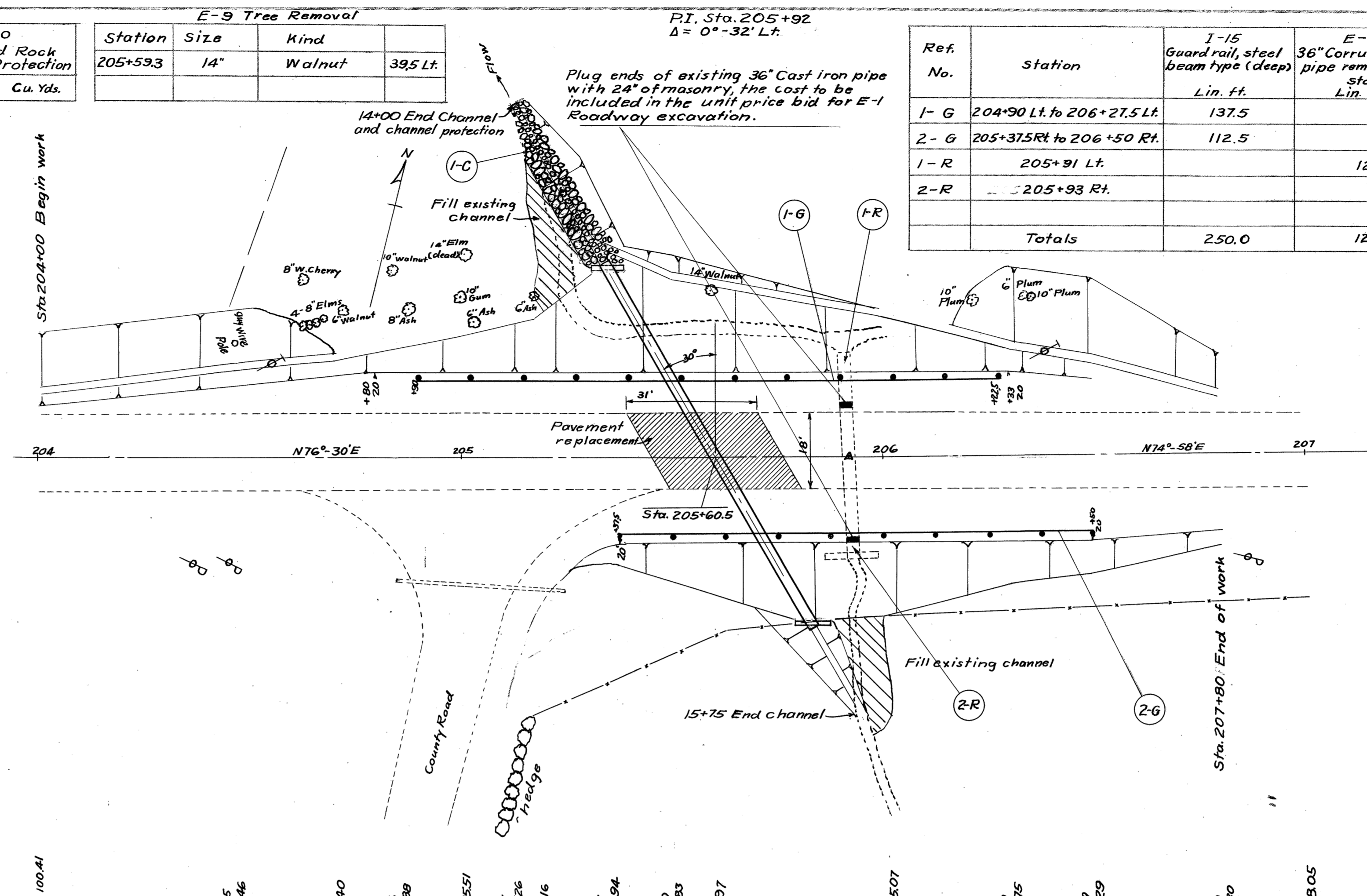
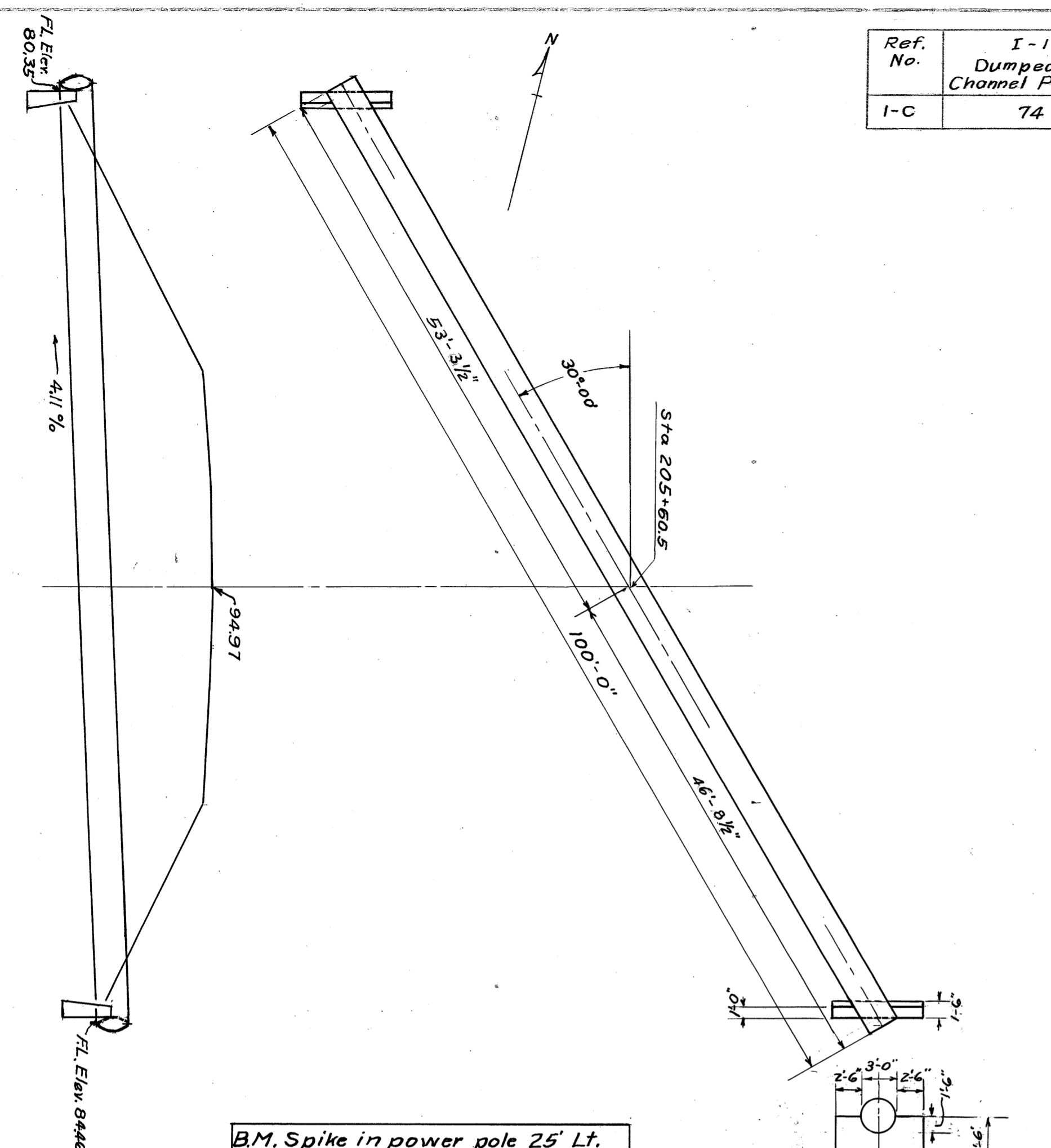
Crawford County
CRA96 - 0390 Sec. CRA96 - 134
Proposal No. 6

E-9 Tree Removal

Ref. No.	I-10 Dumped Rock Channel Protection	Station	Size	Kind	
I-C	74 Cu. Yds.	205+59.3	14"	Walnut	39.5 Lt.

PI. Sta. 205+92
Δ = 0°-32' Lt.

Ref. No.	Station	I-15 Guard rail, steel beam type (deep) Lin. ft.	E-12 36" Corrugated metal pipe removed and stored Lin. ft.	E-12 36" Reinforced conc. pipe removed and stored Lin. ft.
I-G	204+90 Lt. to 206+27.5 Lt.	137.5		
2-G	205+37.5 Rt. to 206+50 Rt.	112.5		
I-R	205+91 Lt.		12	
2-R	205+93 Rt.			4
Totals		250.0	12	4

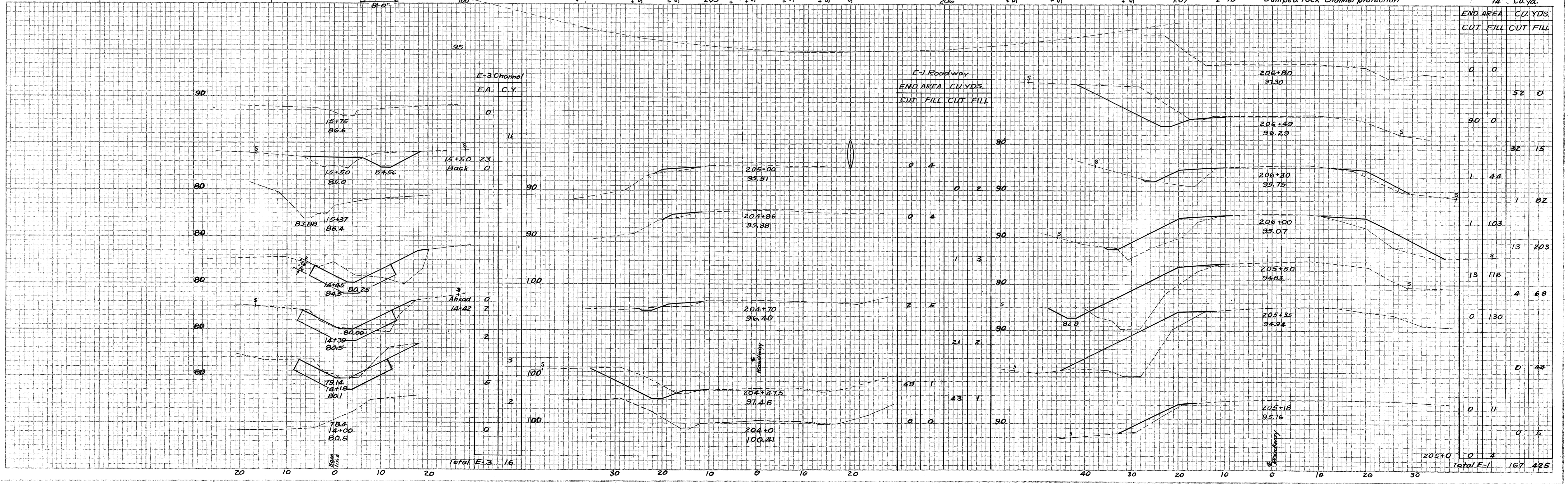


Existing Structure
Type - Cast iron pipe
Size - 36"
Skew 0°

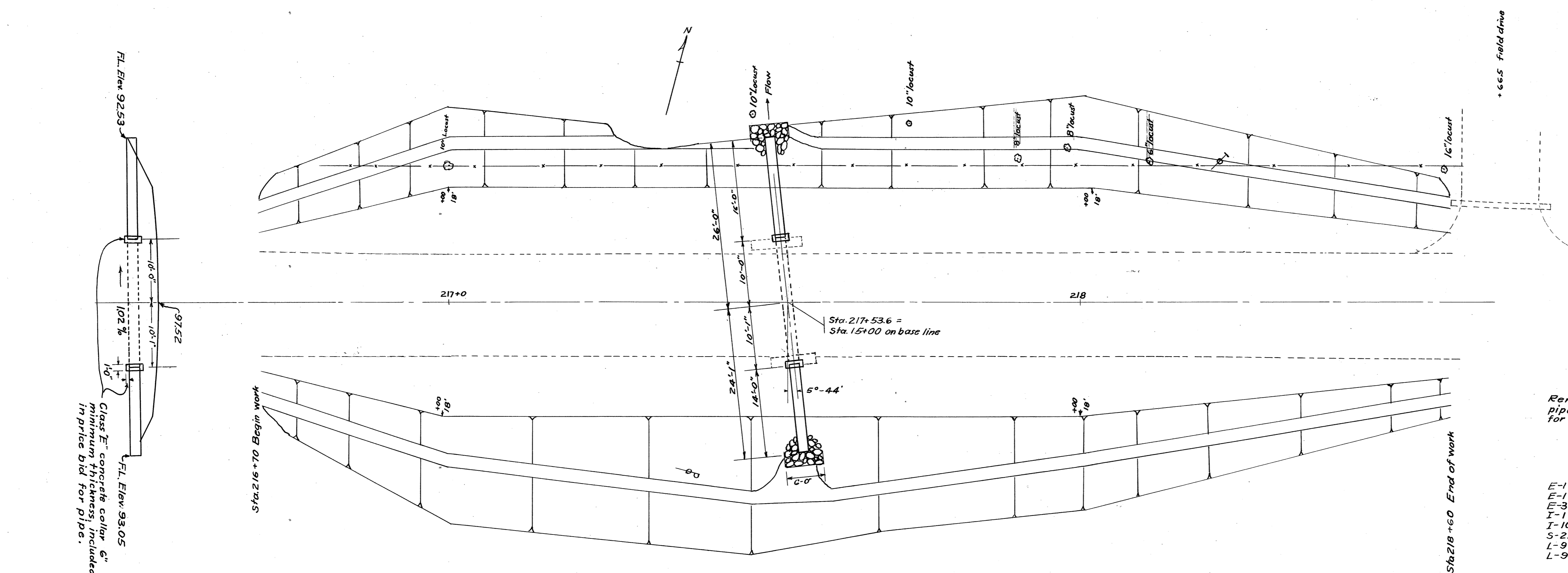
Proposed Structure
Type - Standard pipe culvert
Size 36" x 100'-0"
Skew 30° Right forward
Drainage area 54 Acres
Q₁₀ = 37 cfs.

Estimated Quantities

E-1	Roadway excavation, Method "A"	167	Cu. yd.
E-1	Embankment Method "A"	425	Cu. yd.
E-3	Channel excavation	16	Cu. yd.
E-9	Removal of trees and stumps	1	Each
E-12	36" Pipe removed and stored, as per plan	16	Lin. ft.
B-19	5" Aggregate base course	9.2	Cu. yd.
B-35	1 1/2" Asphaltic concrete leveling course (85-100)	2.9	Cu. yd.
T-30	Bituminous prime coat, RT-2 or RT-3, (85-100)	2.0	Gal.
T-35	1 1/2" Asphaltic concrete surface course, Type "C", (85-100)	2.1	Cu. yd.
I-1	36" Pipe, removed and stored , Class A-1	100	Cu. yd.
I-2	Masonry, concrete for endwalls, Class "E"	3.0	Cu. yd.
I-22	5" Subbase	9.2	Cu. yd.
L-9	Seeding and protecting, as per plan	1580	S. q. yd.
L-9	Commercial fertilizer (12-12-12)	0.14	Ton
I-15	Guard rail, steel beam Standard type (deep)	250	Lin. ft.
I-10	Dumped rock channel protection	74	Cu. yd.



Crawford County
 CRA96 - 0412 Sec. CRA96 - 134
 Proposal No. 7

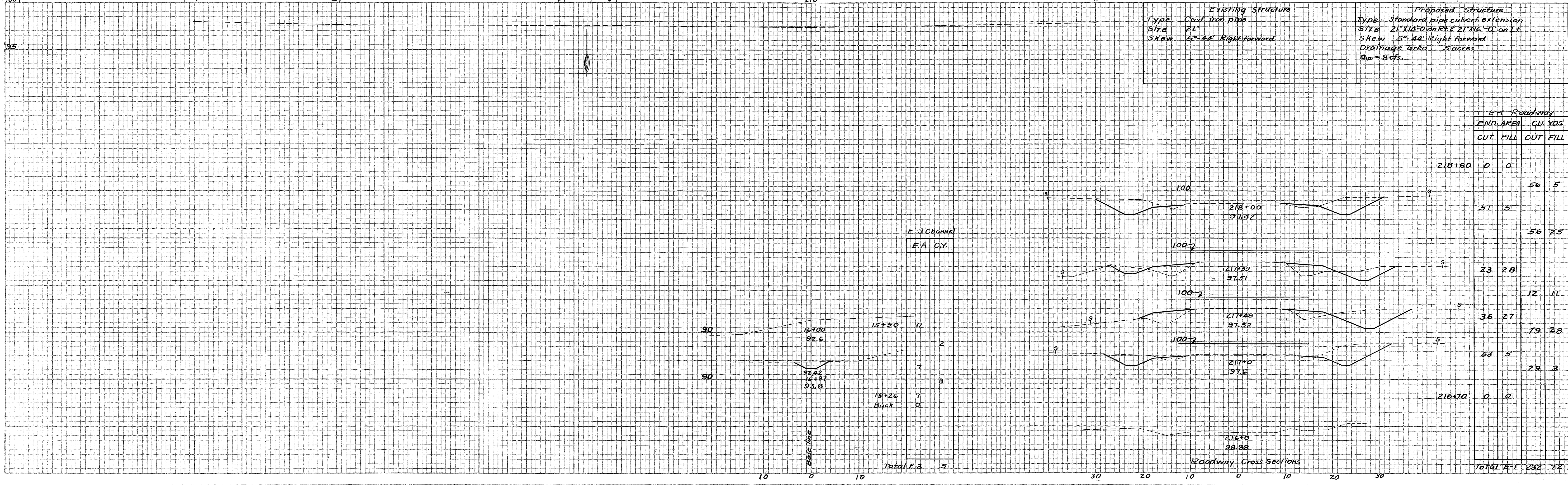


Work Required
 Remove existing stone headwalls. Extend existing 20" cast iron pipe 14'-0" on Right and 16'-0" on Left with Standard 21" pipe for roadway culverts.

Estimated Quantities

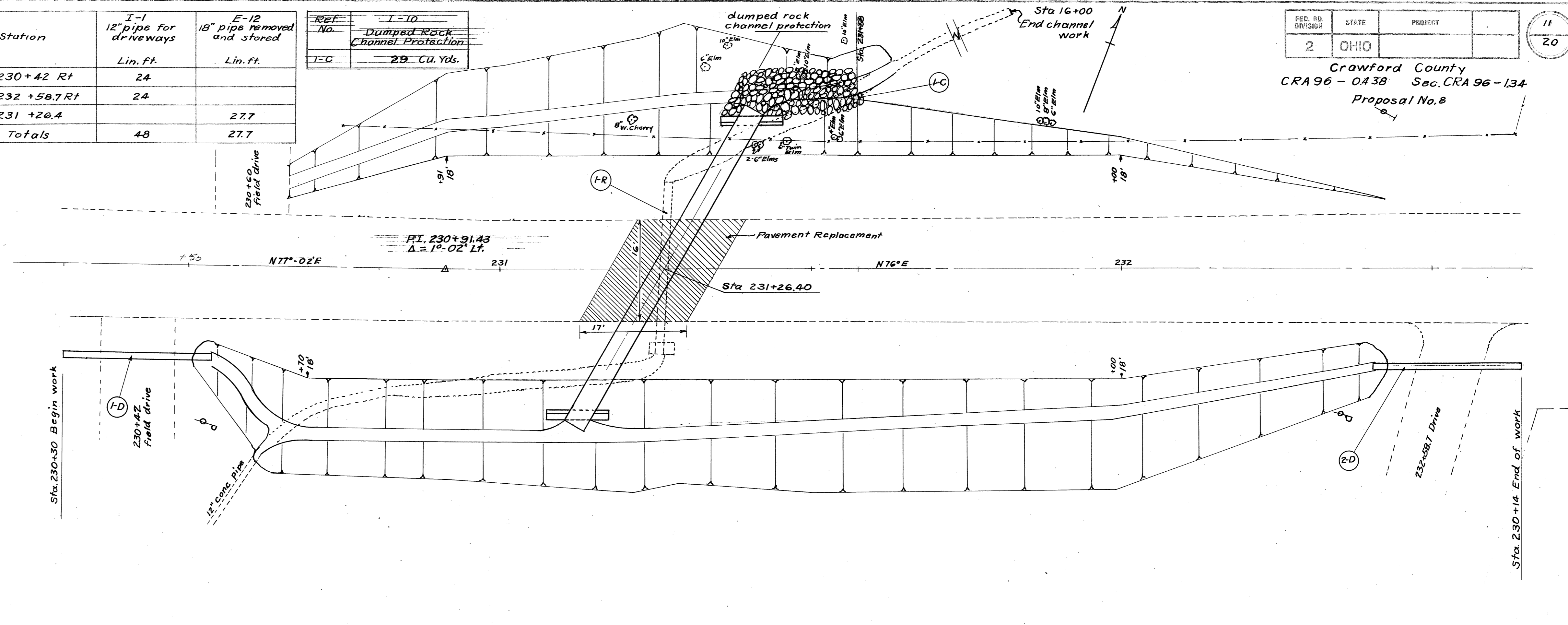
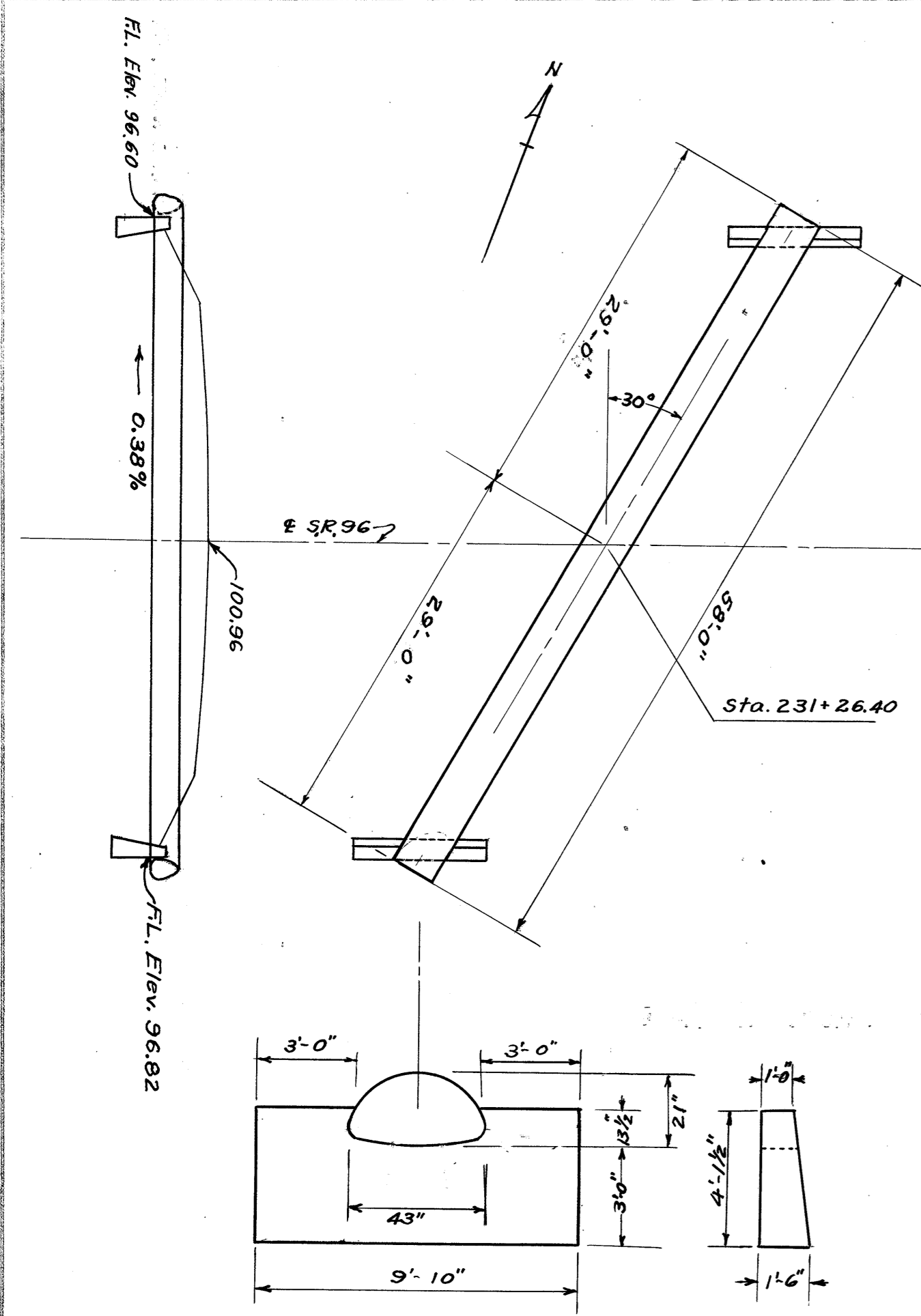
E-1 Roadway excavation Method "A"	232	Cu. yds.
E-1 Embankment Method "A"	72	Cu. yds.
E-3 Channel excavation	5	Cu. yds.
I-1 21" pipe for the culverts Class A-1 Sec. M-6.6(b)	30	Lin. ft.
I-10 12" crushed aggregate slope protection	6	Sq. yd.
S-22 Removal of portions of existing structure		Lump sum
L-9 Seeding and protecting, as per plan	996	Sq. yd.
L-9 Commercial fertilizer (12-12-12)	0.091	Ton

B.M. Spike in 16" locust 21' Lt.
 Sta. 218+57.5 Assumed elev. 100.00

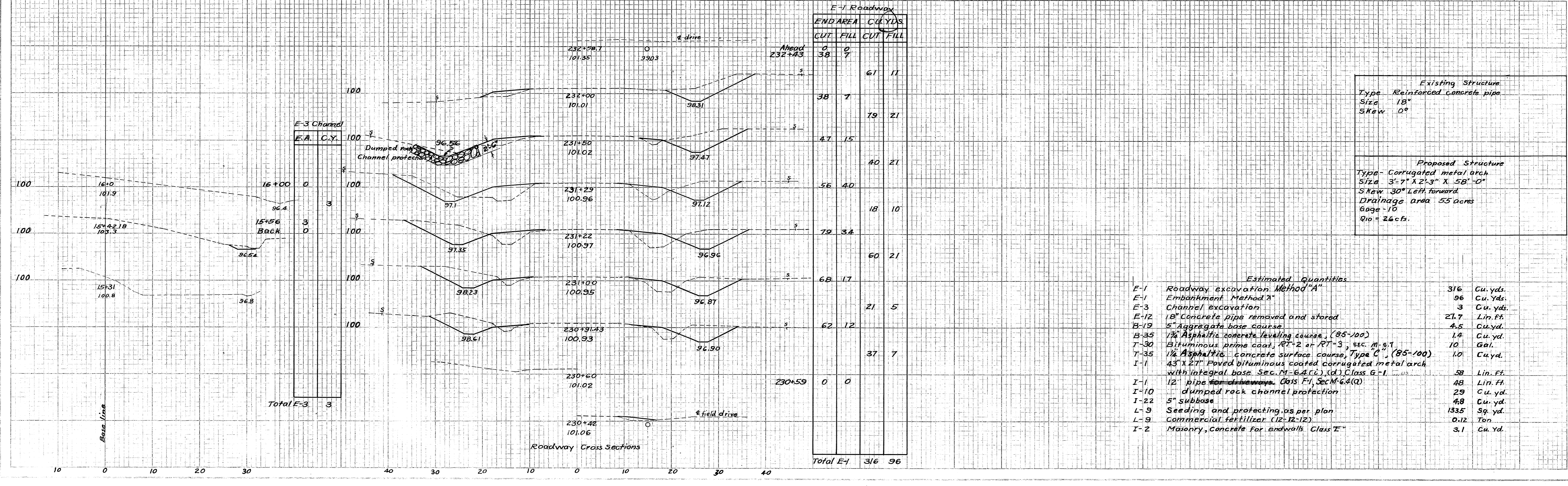


Ref. No.	Station	I-1 12" pipe for driveways Lin. Ft.	E-12 18" pipe removed and stored Lin. Ft.
I-D	230+42 Rt	24	
2-D	232+58.7 Rt	24	
I-R	231+26.4		27.7
Totals		48	27.7

Ref. No.	I-10 Dumped Rock Channel Protection Cu. Yds.
I-C	29



B.M. Spike in 12" walnut 277' Lt.
Sta. 232+65.2. Assumed elev. 100.00



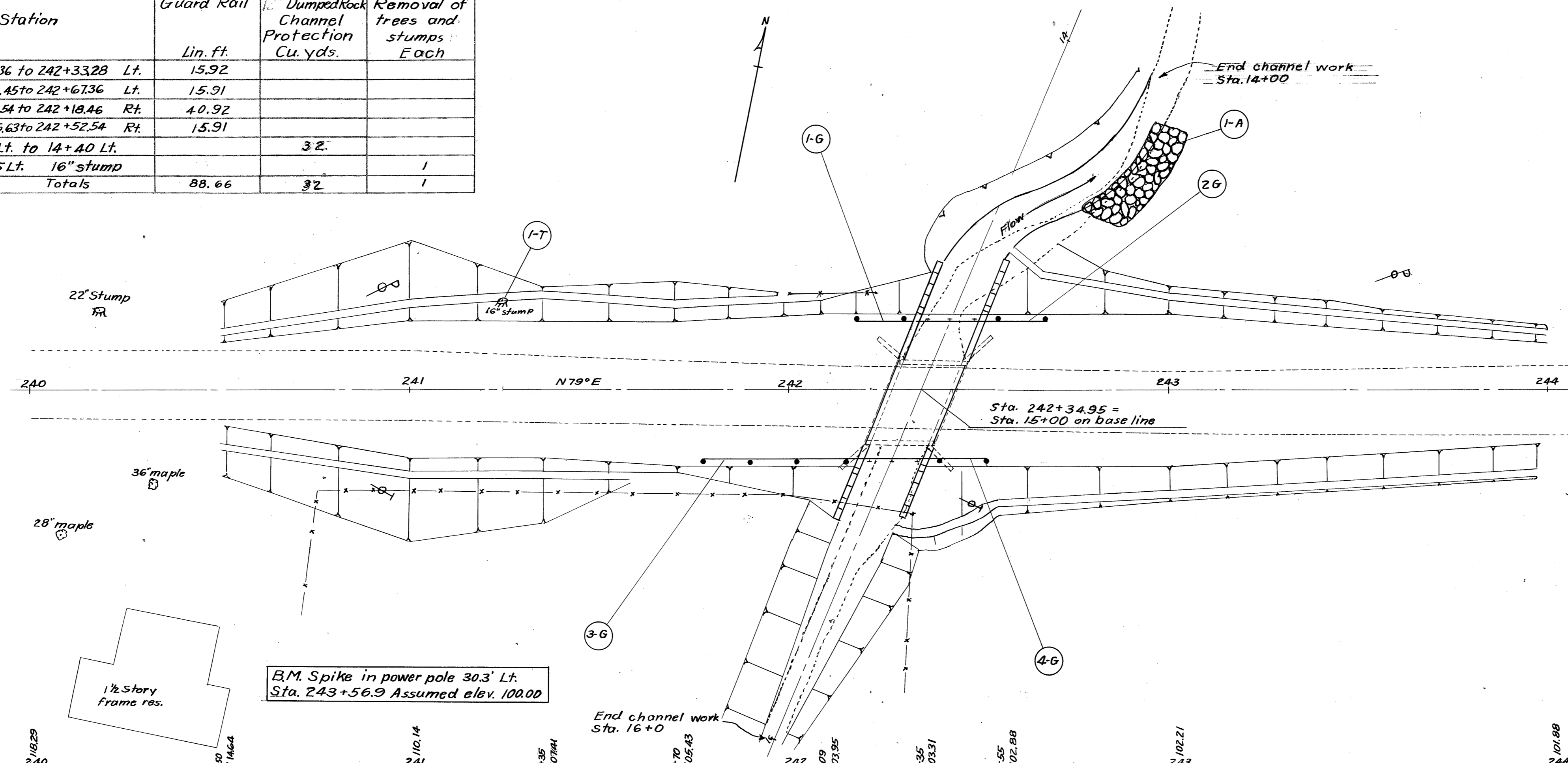
Existing Structure
Type - Reinforced concrete pipe
Size - 18"
Skew - 0°

Proposed Structure
Type - Corrugated metal arch
Size - 3'-7" X 2'-3" X 58'-0"
Skew - 30° Left forward
Drainage area - 55 acres
Gage - 10
Q10 = 26 cfs.

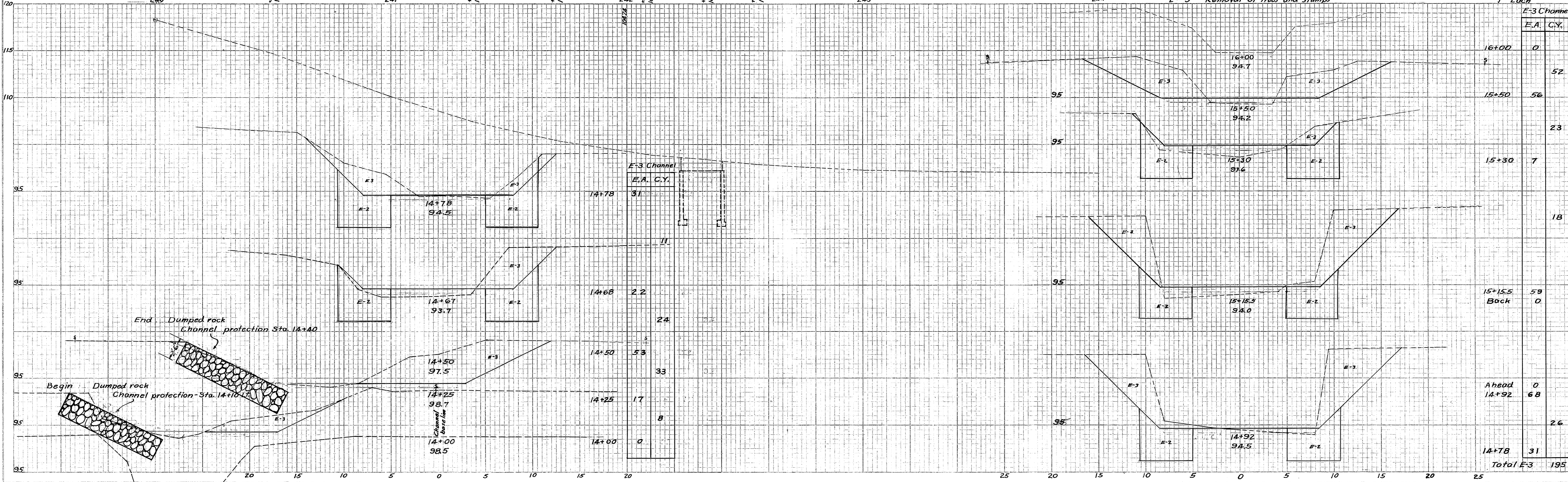
Estimated Quantities

E-1	Roadway excavation Method "A"	316	Cu. yds.
E-1	Embankment Method "A"	96	Cu. yds.
E-3	Channel excavation	3	Cu. yds.
E-12	18" Concrete pipe removed and stored	27.7	Lin. Ft.
B-19	5" Aggregate base course	4.5	Cu. yd.
B-35	1 1/2" Asphaltic concrete leveling course, (85-100)	1.4	Cu. yd.
T-30	Bituminous prime coat, RT-2 or RT-3, sec. M-9.1	10	Gal.
T-35	1 1/2" Asphaltic concrete surface course, Type C, (85-100)	10	Cu. yd.
I-1	43' X 27' Paved bituminous coated corrugated metal arch with integral base Sec. M-6.4(c), (d), Class G-1	58	Lin. Ft.
I-1	12" pipe for driveways, Class F-1, Sec M-6.4(Q)	48	Lin. Ft.
I-10	dumped rock channel protection	29	Cu. yd.
I-22	5" subbase	48	Cu. yd.
L-9	Seeding and protecting as per plan	1335	Sq. yd.
L-9	Commercial fertilizer (12-12-12)	0.12	Ton
I-2	Masonry, concrete for endwalls Class "E"	3.1	Cu. yd.

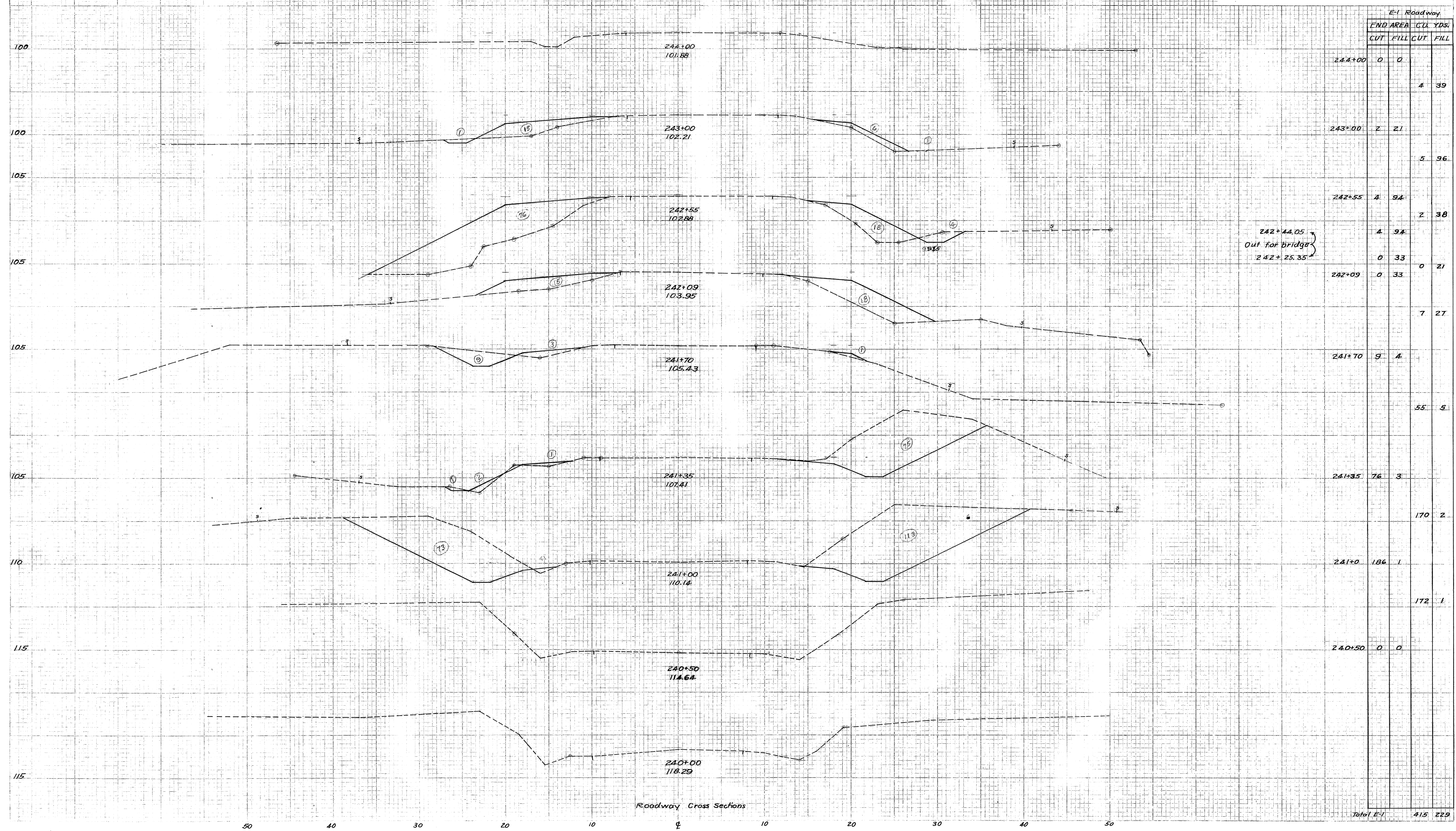
Ref. No.	Station	I-15 Guard Rail Lin. ft.	I-10 Dumped Rock Channel Protection Cu. yds.	E-9 Removal of trees and stumps Each
1-G	242+1736 to 242+3328 Lt.	15.92		
2-G	242+51.45 to 242+6736 Lt.	15.91		
3-G	241+77.54 to 242+18.46 Rt.	40.92		
4-G	242+36.63 to 242+52.54 Rt.	15.91		
1-A	14+10 Lt. to 14+40 Lt.		32	
1-T	24+25 Lt. 16" stump			1
	Totals	88.66	32	1



Estimated Quantities (Structure)		
E-2	Excavation for structure	81 Cu.yd.
E-2	Cofferdams, cribs and sheeting	Lump sum
E-3	Channel excavation	195 Cu.yd.
E-8	Removal of existing wearing course	40 Sq.yd.
S-1	Concrete for structures, Superstructure, Class 'C'	193 Cu.yd.
S-1	Concrete for structures, Walls, Class 'E'	405 Cu.yd.
S-1	Concrete for structures, Footings, Class 'E'	306 Cu.yd.
S-3	Type 'B' waterproofing, 36" wide	11 Sq.yd.
S-4	Reinforcing steel	5315 Lbs.
S-9	1/4" Preformed expansion joint filler (bit type)	11 Sq.ft.
S-14	Railing, steel beam, Standard type (deep) including galvanized steel posts and hardware	3634 Lin.ft.
S-23	Dowel holes	16 Lin.ft.
S-22	Removal of portions of existing structure	Lump sum
S-29	Porous backfill	37 Cu.yd.
Estimated Quantities (Roadway)		
E-1	Roadway excavation, Method 'A'	415 Cu.yd.
E-1	Embankment, Method 'A'	229 Cu.yd.
I-15	Guard rail, steel beam Standard Type (deep)	88.66 Lin.ft.
L-9	Seeding and protecting, as per plan	1940 Sq.yd.
L-9	Commercial fertilizer (12-12-12)	0.18 Ton
I-10	Dumped rock channel protection	32 Cu.yd.
E-9	Removal of trees and stumps	1 Each



Crawford County
 CRA 96 - 0459 Sec. CRA 96 - 134
 Proposal No. 9

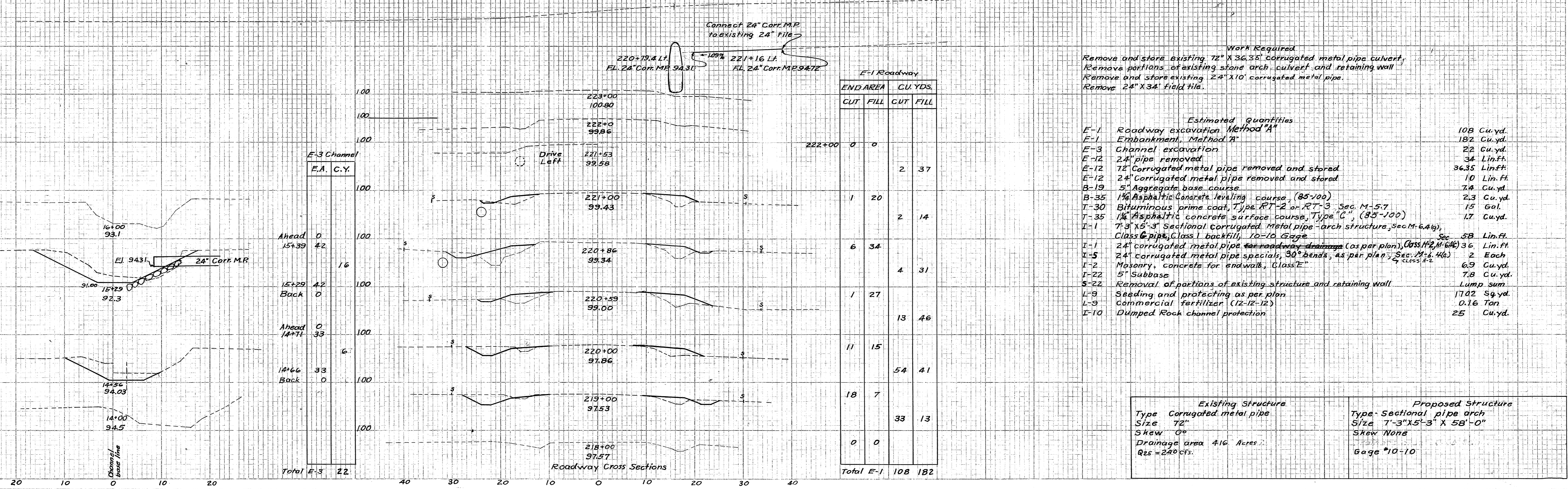
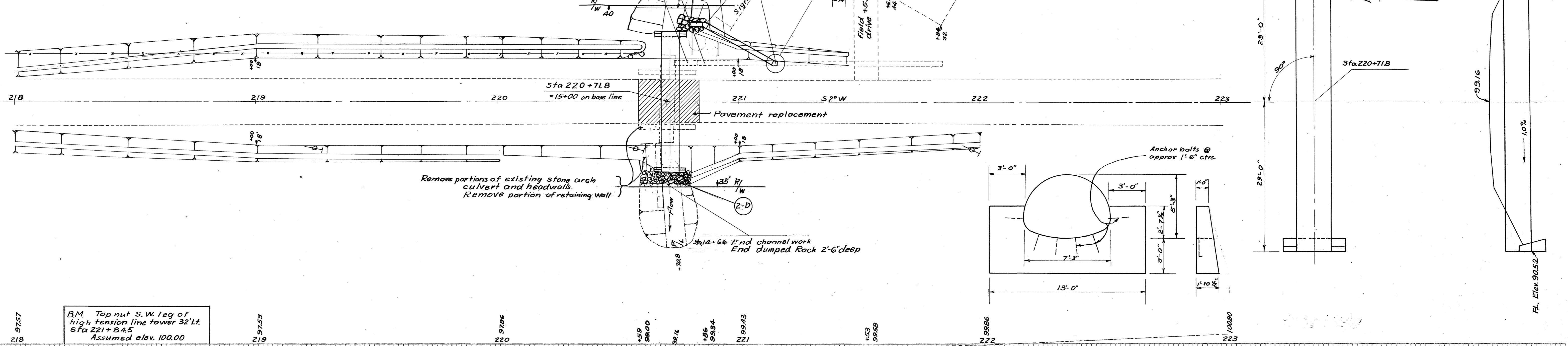


Roadway Cross Sections

Total E-1 415 229

Crawford County
CRA 39 - 0418 Sec. CRA 39 - 0403
Proposal No. 10

REF. NO.	Station	I-1 24" corr. Metal pipe for roadway drainage Lin. Ft.	I-5 24" corr. Metal pipe Specials 30° bends Each	E-12 Removal of 24" field tile Lin. Ft.	E-12 Remove and store 24" corr. metal pipe Lin. Ft.	I-10 Dumped Rock Channel Protection Cu. Yds.
1-A	Sta. 220+79.4 to 221+16	30				
1-A	Sta. 220+79.4 to 221+16	6				
2-A			2			
3-R	Sta. 220+72.5 to 220+82.5			34	10	
4-R	Sta. 220+82.5 to 221+16					7.8
1-D						17.2
2-D						
Totals		36	2	34	10	25.0



Item	Quantity	Unit
Remove and store existing 72" x 36.35' corrugated metal pipe culvert		
Remove portions of existing stone arch culvert and retaining wall		
Remove and store existing 24" x 10' corrugated metal pipe		
Remove 24" x 34' field tile		
Estimated Quantities		
E-1 Roadway excavation Method "A"	108	Cu. yd.
E-1 Embankment Method "A"	182	Cu. yd.
E-3 Channel excavation	22	Cu. yd.
E-12 24" pipe removed	34	Lin. Ft.
E-12 72" Corrugated metal pipe removed and stored	36.35	Lin. Ft.
E-12 24" Corrugated metal pipe removed and stored	10	Lin. Ft.
B-19 5" Aggregate base course	7.4	Cu. yd.
B-35 1 1/2" Asphaltic concrete leveling course (85-100)	2.3	Cu. yd.
T-30 Bituminous prime coat, Type RT-2 or RT-3 Sec. M-5.7	15	Gal.
T-35 1 1/2" Asphaltic concrete surface course, Type "C", (85-100)	1.7	Cu. yd.
I-1 7'-3" x 5'-3" Sectional corrugated Metal pipe arch structure, Sec. M-6.4(g), Class "E" pipe, Class I backfill, 10-10 Gage	58	Lin. Ft.
I-1 24" corrugated metal pipe for roadway drainage (as per plan), Class "E", (12-12)	36	Lin. Ft.
I-5 24" corrugated metal pipe specials, 30° bends, as per plan, Sec. M-6.4(e), Class "E"	2	Each
I-2 Masonry, concrete for endwalk, Class "E"	6.9	Cu. yd.
I-22 5" Subbase	7.8	Cu. yd.
S-22 Removal of portions of existing structure and retaining wall		Lump sum
L-9 Seeding and protecting as per plan	1702	Sq. yd.
L-9 Commercial fertilizer (12-12-12)	0.16	Ton
I-10 Dumped Rock channel protection	25	Cu. yd.

Existing Structure	Proposed Structure
Type Corrugated metal pipe	Type Sectional pipe arch
Size 72"	Size 7'-3" x 5'-3" x 58'-0"
Skew 0°	Skew None
Drainage area 4.16 Acres	Gage #10-10
Q25 = 220 cfs.	

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

CRA-96-134 Str. No. 0249
Right of Way Plan
Scale 1"=20'

16
20
1
4

Glenn R. & Ida I. Ahlefeld

Ralph & Florence J. Nickler

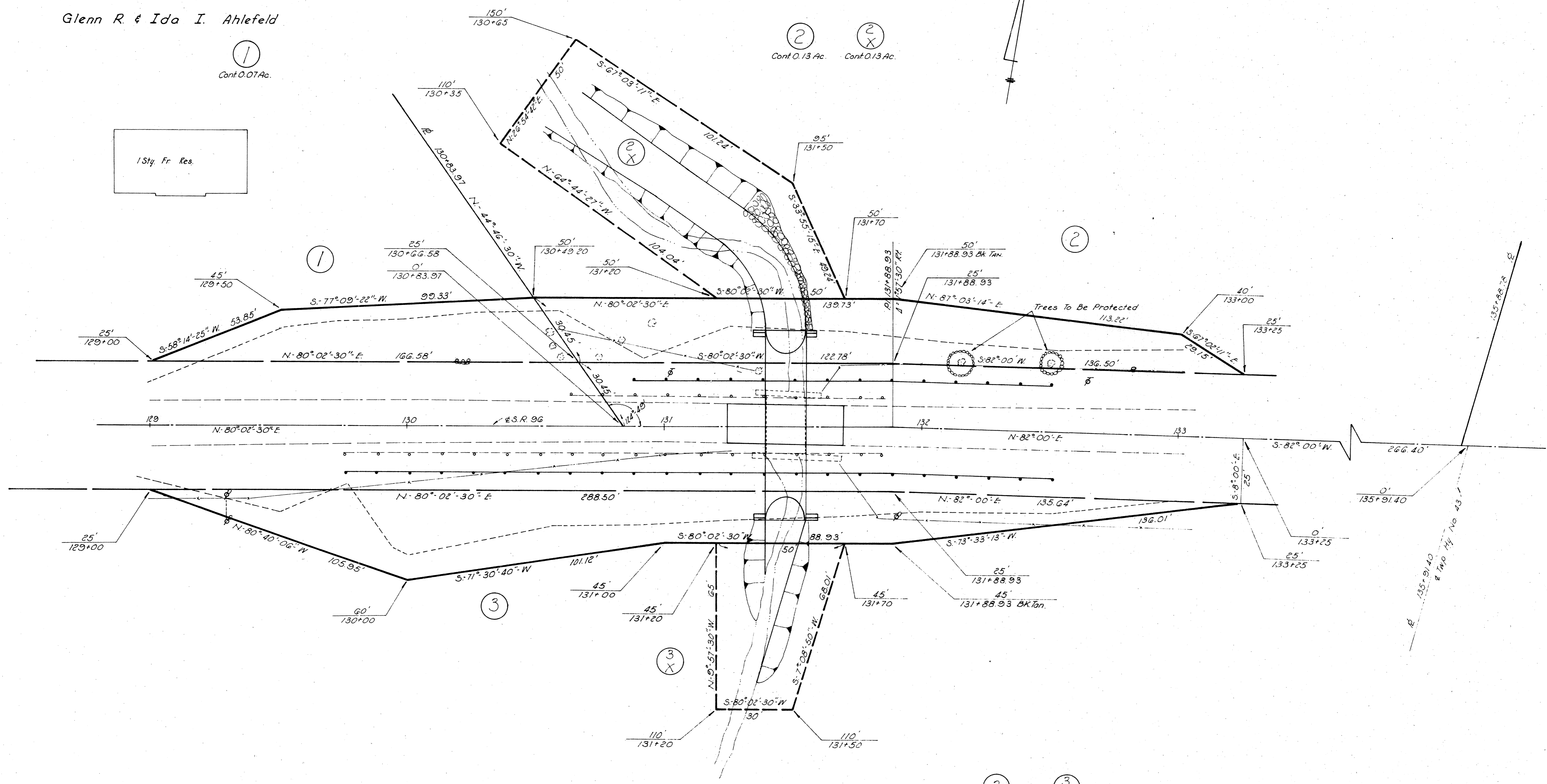
1
Cont 0.07 Ac.

2
Cont 0.13 Ac. 2
Cont 0.13 Ac.

1 Sty. Fr. Res.

3
Cont 0.16 Ac. 3
Cont 0.06 Ac.

Ray Volkmer

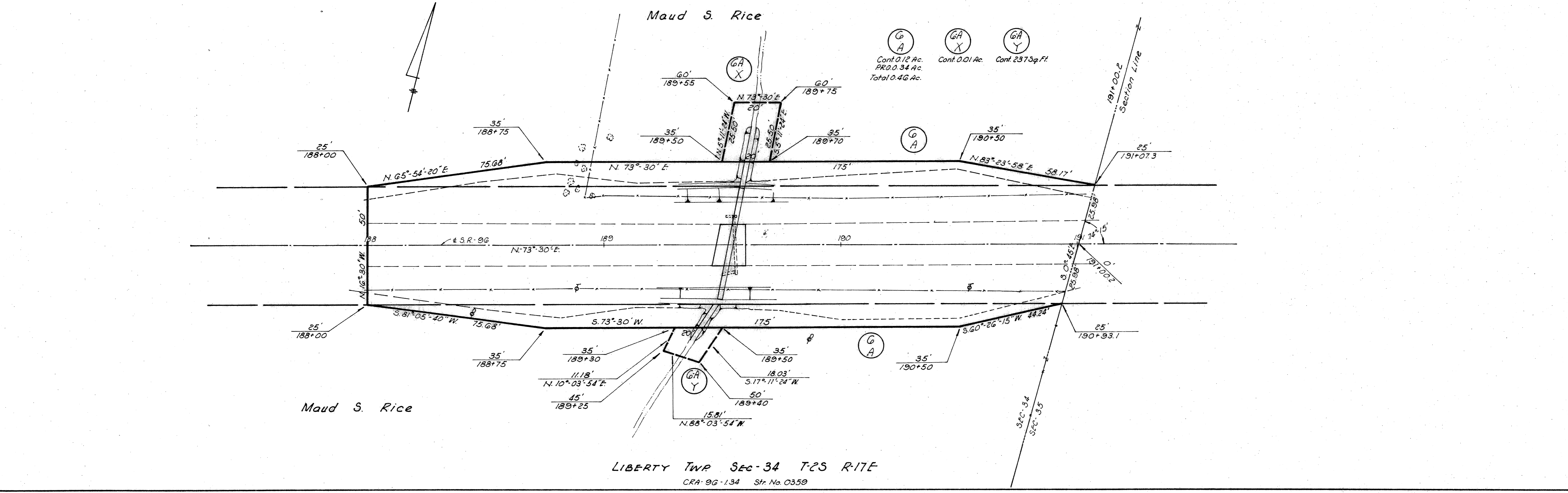
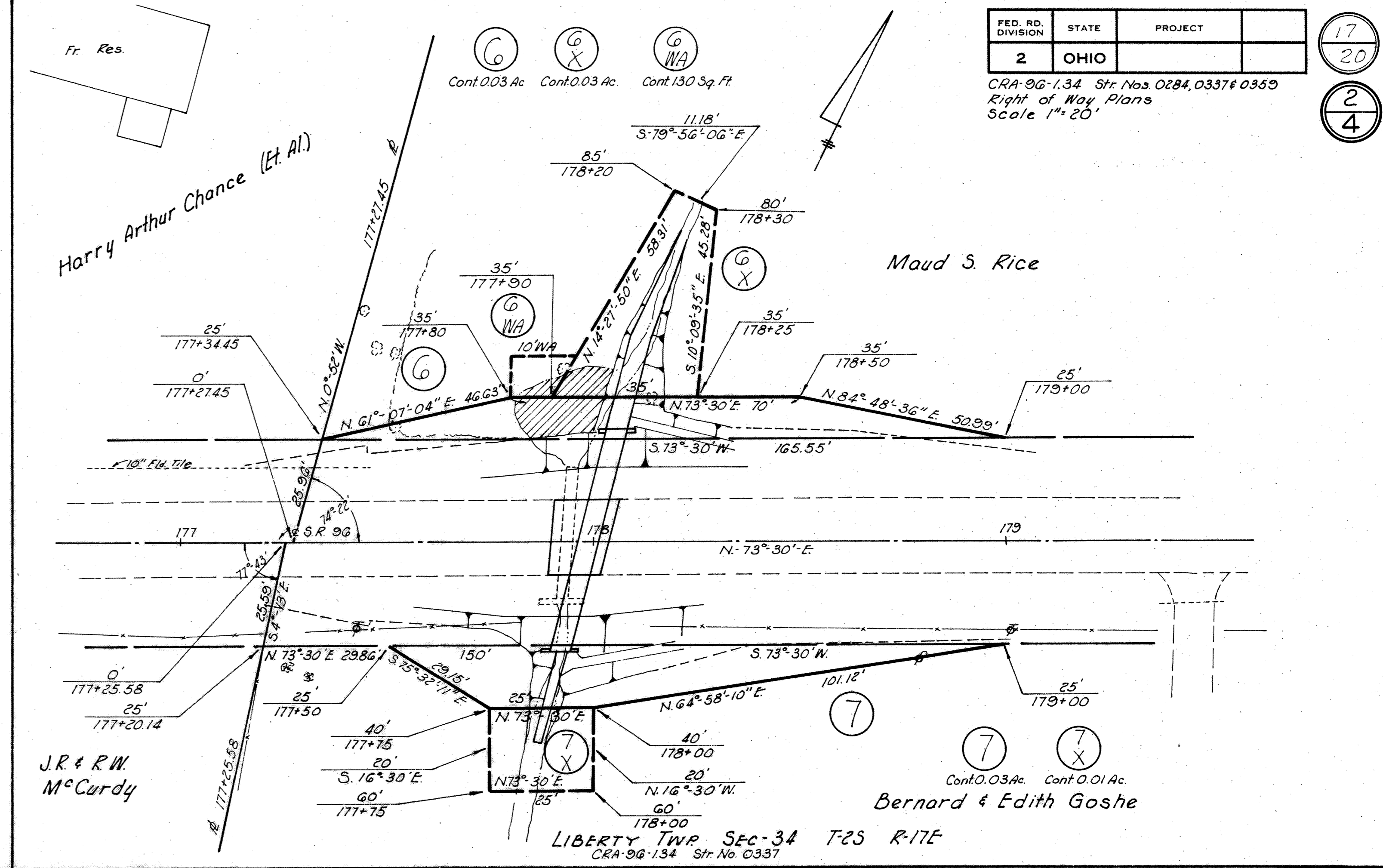
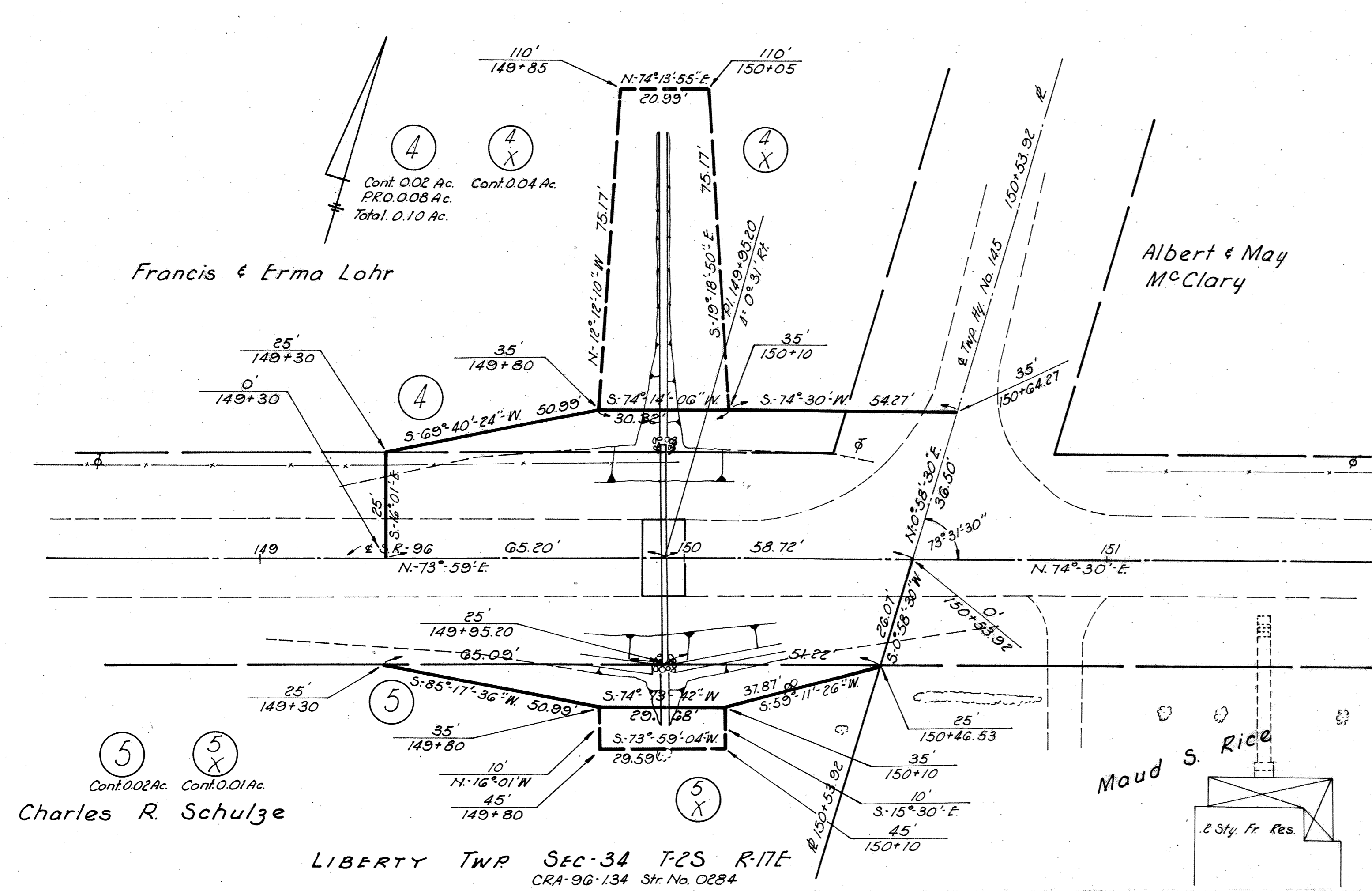


LIBERTY TWP SEC-33 T-25 R-17E

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

17
20
2
4

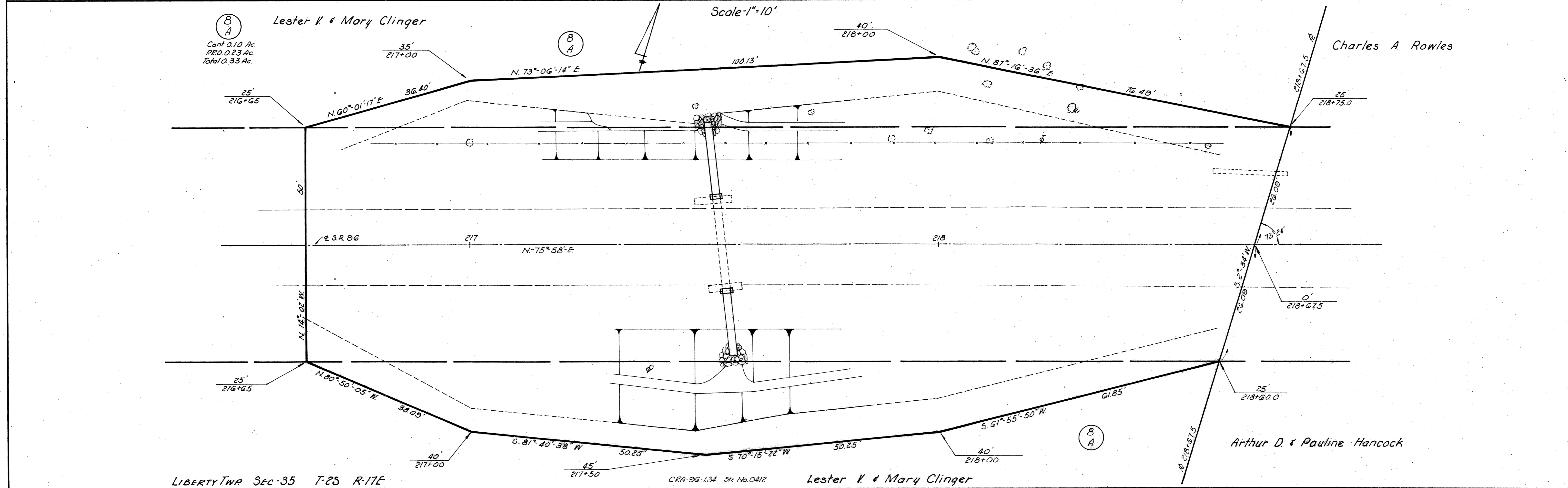
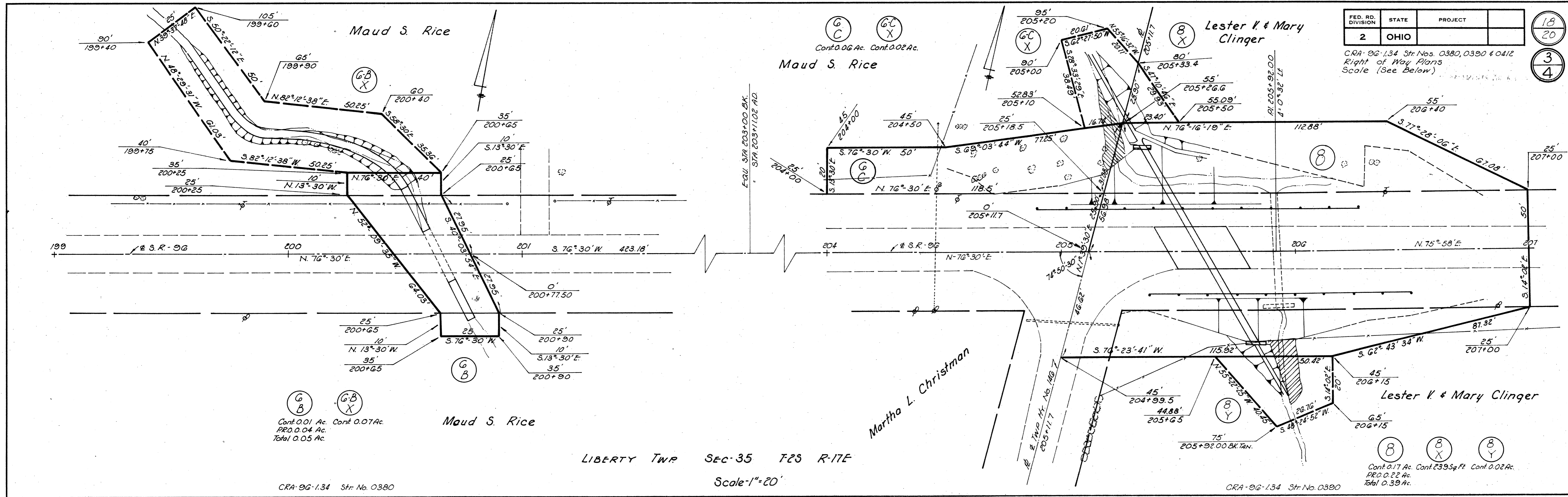
CRA-96-134 Str. Nos. 0284, 0337 & 0359
Right of Way Plans
Scale 1"=20'



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

CRA-96-134 Str. Nos. 0380, 0390 & 0412
Right of Way Plans
Scale (See Below)

18
20
3
4

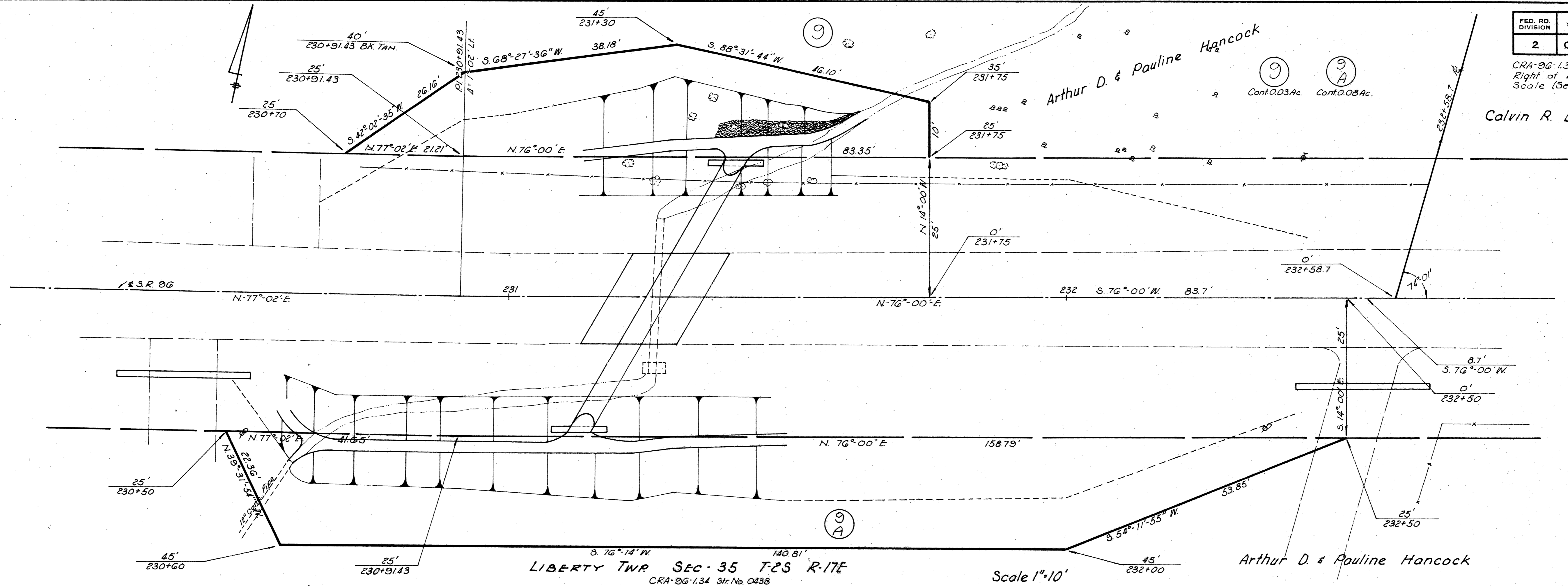


FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

19
20
4
4

CRA-96-134 Str. Nos. 0438 & 0459
Right of Way Plans
Scale (See Below)

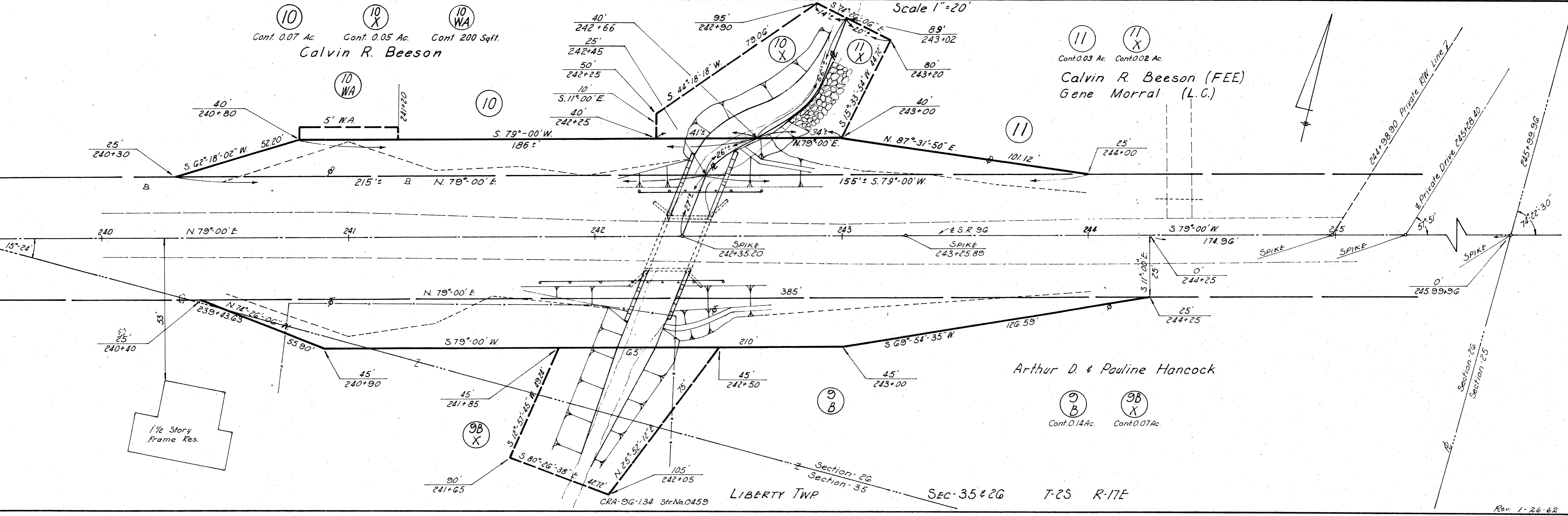
Calvin R. Beeson



LIBERTY TWP SEC. 35 T-2S R-17E
CRA-96-134 Str. No. 0438

Scale 1"=10'

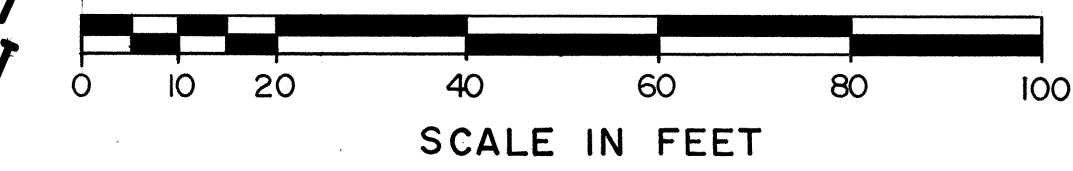
Arthur D. & Pauline Hancock



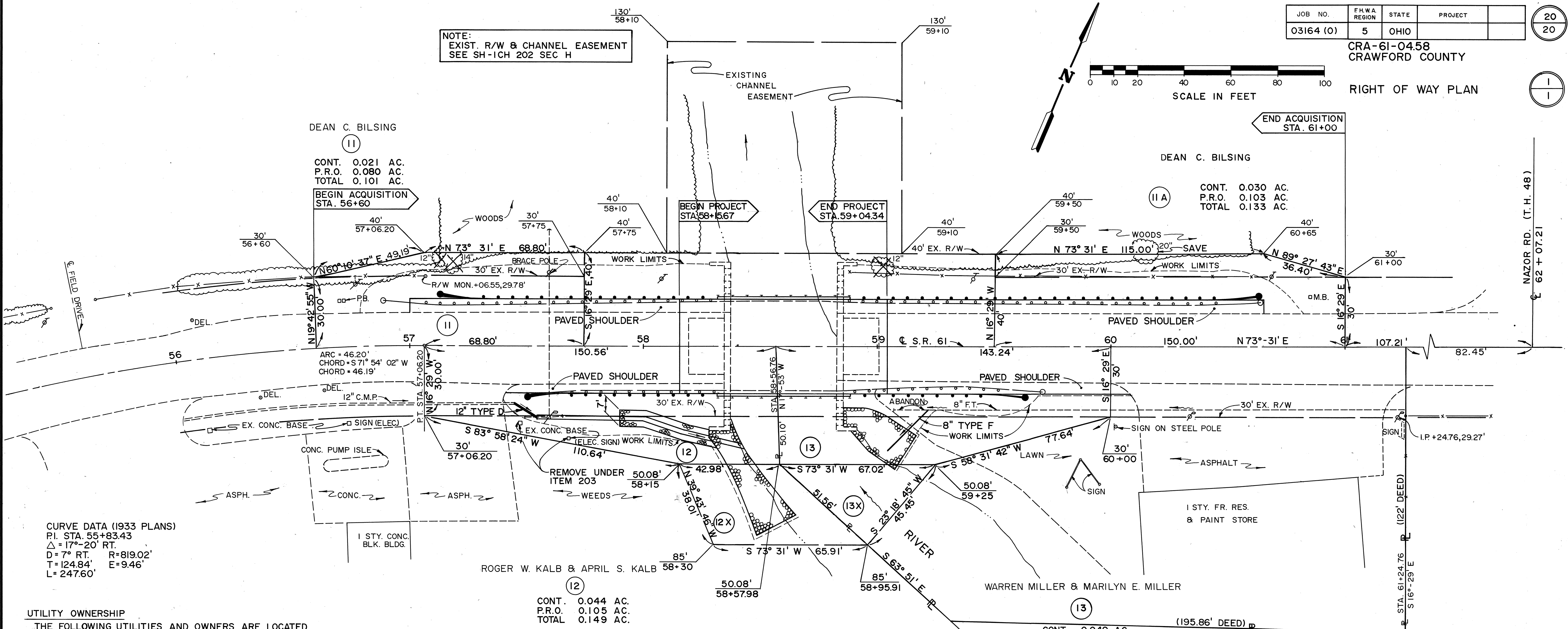
10
10 X
10 WA
Cont. 0.07 Ac. Cont. 0.05 Ac. Cont. 200 Sqft.
Calvin R. Beeson

11
11 X
Cont. 0.03 Ac. Cont. 0.02 Ac.
Calvin R. Beeson (FEE)
Gene Morral (L.C.)

LIBERTY TWP SEC. 35 & 26 T-2S R-17E



NOTE:
EXIST. R/W & CHANNEL EASEMENT
SEE SH-1CH 202 SEC H



CURVE DATA (1933 PLANS)
P.I. STA. 55+83.43
Δ = 17°-20' RT.
D = 7° RT. R = 819.02'
T = 124.84' E = 9.46'
L = 247.60'

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

- TELEPHONE: GENERAL TELEPHONE CO. OF OHIO
550 LEADER STREET
MARION, OHIO 43302
PHONE: (614) 383-0553
- POWER: OHIO EDISON CO.
76 SOUTH MAIN STREET
AKRON, OHIO 44308
PHONE: (216) 384-4631
- CABLE TV: CONTINENTAL CABLEVISION OF OHIO
21 PUBLIC SQUARE
GALION, OHIO 44833
PHONE: (419) 468-2000

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

NO. OF STRUCTURES 0 NO. OF PROPERTY OWNERS 3 NO. OF TOTAL TAKES 0 AREAS IN ACRES.

PARCEL NUMBER	TYPE FUNDS	PROPERTY OWNERS	RECORDED		DEED AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	NET RESIDUE		BLDG.	SHEET NO.	REMARKS	As Acquired	
			BOOK	PAGE						LEFT	RIGHT				VOL.	PG.
II	STATE	DEAN C. BILSING	228	258	23.619 AC.	1.420	0.101	0.080	0.021	12.264	9.884	NO	I	TRACT 3 & TRACT 4 OF DEED, TRACT 4 1.730 ACRES IN SEC 33	425	320
II A	"	"					0.133	0.103	0.030						425	321
12	"	ROGER W. KALB & APRIL S. KALB	407	731	8.295 AC.	0.251	0.149	0.104	0.045		7.999	P	I	SIGN	425	316
12 X	"	"					0.044		0.044					CHANNEL EASEMENT	425	317
13	"	WARREN MILLER & MARILYN E. MILLER	345	381	0.679 AC.	0.184	0.147	0.098	0.049		0.446	NO	I		425	71
13 X	"	"					0.027		0.027					CHANNEL EASEMENT	425	72

TYPE FUND... STATE		
COMPLETION DATE... MAY 18, 1987		
REV.	DATE	DESCRIPTION