

HMA RESURFACING
HSIPX-3-6(64)--3L-09

BREMER CO.

LETTING DATE
2/21/17



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM BREMER COUNTY HMA RESURFACING

IA 3 from US 63 east to the Fayette County Line

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.

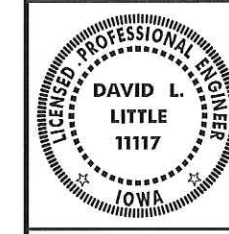
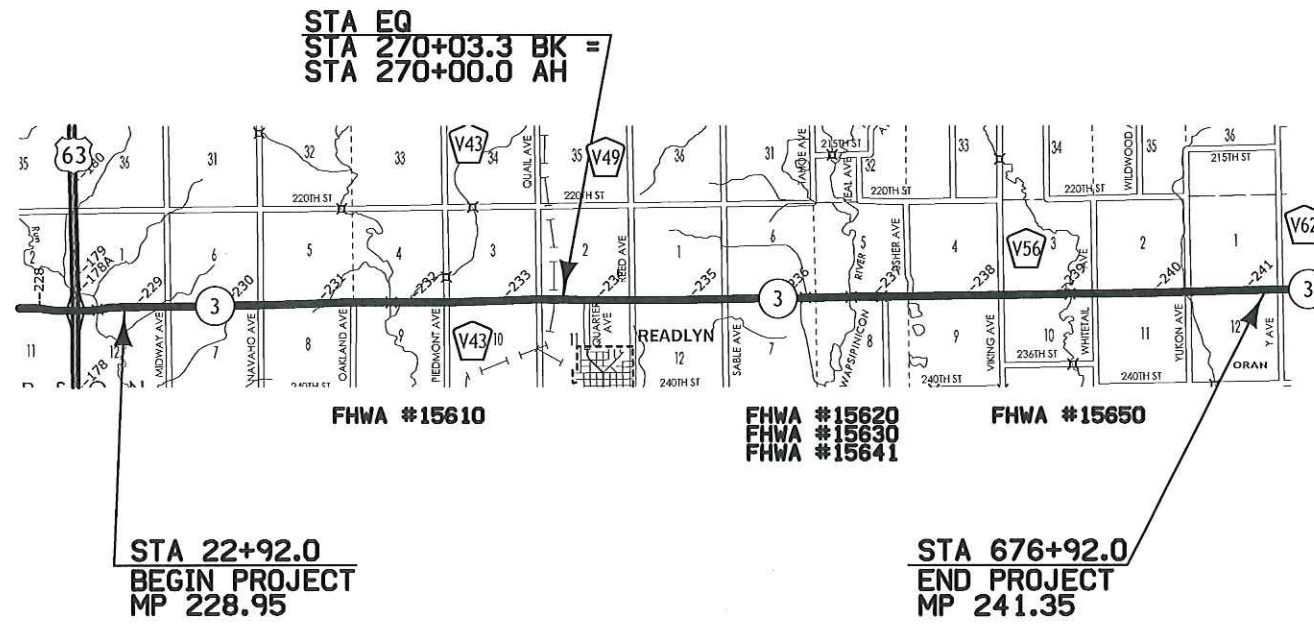


MILEAGE SUMMARY			
			105-1
			09-27-94
Div.	Location	Lin. Ft.	Miles
1	STA 22+92.0 to STA 270+03.3 STA EQ	24,771.3	4.68
	STA 270+03.3 BK = STA 270+00.0 AH STA 270+00.0 to STA 676+92.0	40692.0	7.71
	Bridge at 174+50.0	(167.5)	0.03
	Bridge at 410+53.6	(40.0)	0.01
	Bridge at 436+76.1	(427.0)	0.08
	Bridge at 454+00.1	(135.0)	0.03
	Bridge at 560+69.7	(121.3)	0.02
Total length of Project		64,512.5	12.2

REVISIONS

TOTAL	97
PROJECT IDENTIFICATION NUMBER	15-09-003-020
PROJECT NUMBER	HSIPX-3-6(64)--3L-09
R.O.W. PROJECT NUMBER	NHSX-3-6(64)--3H-09
	NHSX-3-6(64)--3H-09
	NHSX-3-6(64)--3H-09

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.1	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - B.7	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Project Description
C.1 - C.2	Estimated Project Quantities
C.2 - C.4	Estimate Reference Information
C.5	Standard Road Plans
C.5	Index of Tabulations
C.6 - C.7	Pollution Prevention Plan
C.9	General Notes
C.8 - C.32	Tabulations
D Sheets	Mainline Plan and Profile Sheets
D.1 - D.24	Existing Plan & Profile Sheets
G Sheets	Survey Sheets
G.1 - G.2	Reference Ties and Bench Marks
G.3	Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes Stage
J.1	Tabulation of Special Events
L Sheets	Geometric, Staking and Jointing Sheets
L.1 - L.3	Geometric & Staking Side Roads
U Sheets	Detail Sheets
U.1 - U.3	Intersection Pavement Marking Sheets
W Sheets	Mainline Cross Sections
W.1 - W.23	Mainline Cross Sections



I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

David L. Little 12-9-16
Signature Date

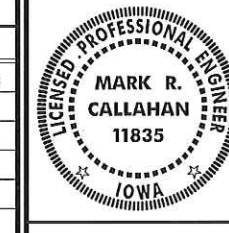
DAVID L. LITTLE

My license renewal date is December 31, 2016.

Pages or sheets covered by this seal: C.6-C.7, G.1-G.3

DESIGN DATA RURAL			
2017	AADT	2,400	V.P.D.
2037	AADT	2,500	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	9	%
Total Design ESALs		657,000	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Mark Callahan	Primary Signature Block
A.1	David Little	PPP, Survey



I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

Mark Callahan 12-9-16
Signature Date

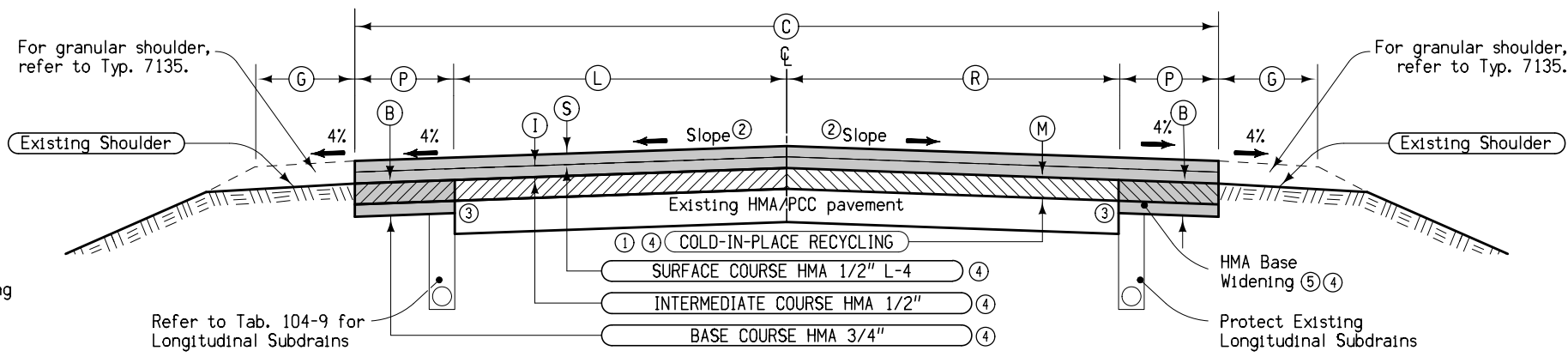
MARK R. CALLAHAN

My license renewal date is December 31, 2017.

Pages or sheets covered by this seal: A.1, B.1-B.7, C.1-C.5, C.8-C.32, D.1-D.24, J.1, L.1-L.3, U.1-U.3, W.1-W.23

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

For granular shoulder, refer to Typ. 7135.





Cold-In-Place Recycling
 HMA Paving

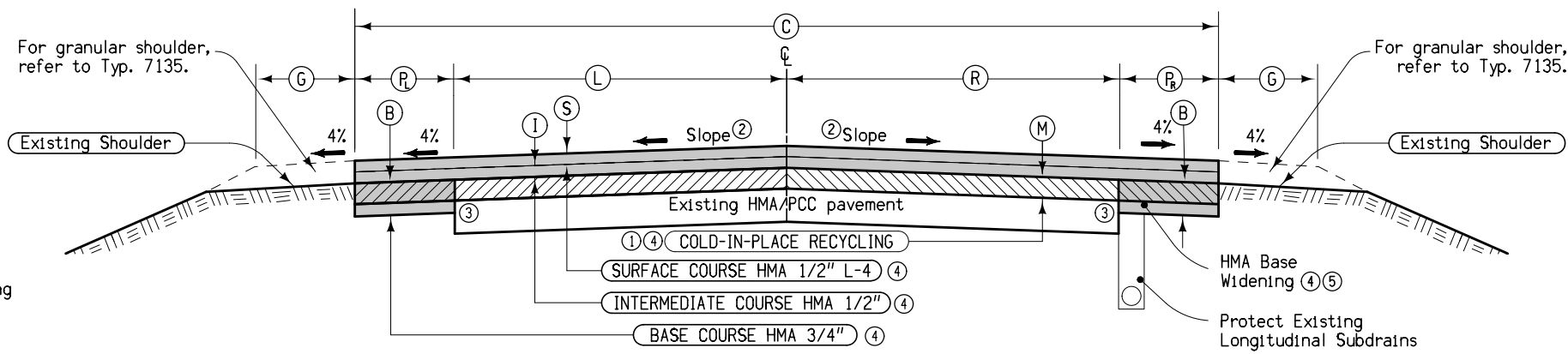
- Notes:
- HMA base widening shall be performed prior to cold-in-place recycling. The top 4" of the newly placed base widening unit shall be cold-in-place recycled. Maintain C-I-P-R width limits at 32' through paved intersections unless noted otherwise.
 - Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of special shapng.
 - Provide a a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
 - Asphalt binder for surface, intermediate and base courses shall be PG 58-34S. Foamed asphalt binder for C-I-P-R shall be PG 52-34S.
 - Depth of (B) is equal to the depth of Class 13 Excavation used in Tabulation 112-9.
 - Base widening to be extended through mainline taper section. Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.
 - Suspend C-I-P-R at continuously reinforced PC patches and other PC patches deemed necessary by the Engineer.

Location		(S)	(I)	(C)	(L)	(R)	(P)	(B)	(G)	(M)	Remarks
Station To Station		Inches	Inches	Feet	Feet	Feet	Feet	Inches	Feet	Inches	
23+42.0	25+42.0	1.5	0-2	32	12	12	4	7	4	0	Runout
25+42.0	170+96.2	1.5	2	32	12	12	4	7	4	4	
170+96.2	172+96.2	1.5	2-0	32	12	12	4	7	4	0	Runout
											Bridge
176+03.8	178+03.8	1.5	0-2	32	12	12	4	7	4	0	Runout
178+03.8	205+60.0	1.5	2	32	12	12	4	7	4	4	
											Piedmont Ave, See Typical MC-2
209+83.0	270+03.3	1.5	2	32	12	12	4	7	4	4	
											STA EQ STA 270+03.3 BK = STA 270+00.0 AH
270+00.0	282+00.0	1.5	2	32	12	12	4	7	4	4	
											Quarter Ave, See Typical MC-3
286+37.5	298+90.2	1.5	2	32	12	12	4	7	4	4	
											V-49, See Typical MC-4
323+12.9	407+63.6	1.5	2	32	12	12	4	7	4	4	
407+63.6	409+63.6	1.5	2-0	32	12	12	4	7	4	0	Runout
											Bridge
411+43.6	413+43.6	1.5	0-2	32	12	12	4	7	4	0	Runout
413+43.6	431+92.6	1.5	2	32	12	12	4	7	4	4	
431+92.6	433+92.6	1.5	2-0	32	12	12	4	7	4	0	Runout
											Bride
439+59.6	441+59.6	1.5	0-2	32	12	12	4	7	4	0	Runout
441+59.6	450+62.6	1.5	2	32	12	12	4	7	4	4	
450+62.6	452+62.6	1.5	2-0	32	12	12	4	7	4	0	Runout
											Bridge
455+37.6	457+37.6	1.5	0-2	32	12	12	4	7	4	0	Runout
457+37.6	509+47.3	1.5	2	32	12	12	4	7	4	4	
											V-56, See Typical MC-5
534+33.1	557+20.0	1.5	2	32	12	12	4	7	4	4	
557+20.0	559+20.0	1.5	2-0	32	12	12	4	7	4	0	Runout
											Bridge
564+65.0	566+65.0	1.5	0-2	32	12	12	4	7	4	0	Runout
566+65.0	674+92.0	1.5	2	32	12	12	4	7	4	4	
674+92.0	676+92.0	1.5	2-0	32	12	12	4	7	4	0	Runout

**TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING
HMA RESURFACING WITH BASE WIDENING**

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

 Cold-In-Place Recycling
 HMA Paving





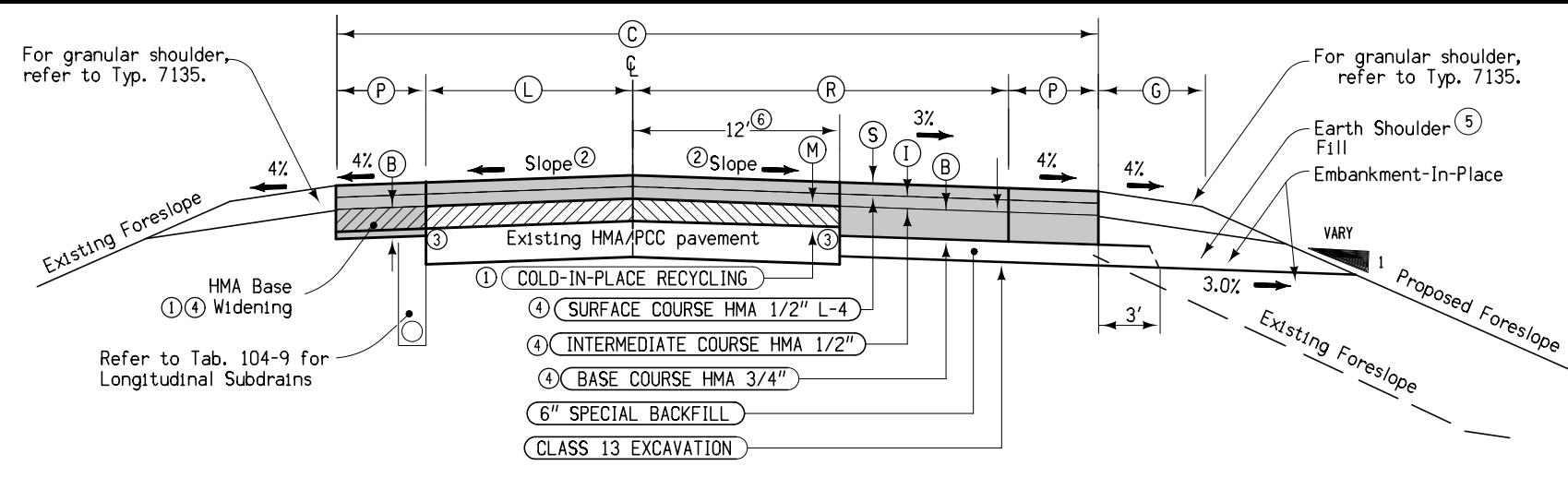
- Notes:
- ① HMA base widening shall be performed prior to Cold-In-Place recycling (C-I-P-R). The top 4 inches of the newly placed base widening unit and/or existing pavement shall be C-I-P-R. The width of C-I-P-R shall be maintained at 32 feet through the intersection. Reduce the C-I-P-R width accordingly if side road or turn lane pavement is PCC.
 - ② Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of wider existing pavement.
 - ③ Provide a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
 - ④ Asphalt binder for surface, intermediate and base courses shall be PG 58-34S. Foamed asphalt binder for C-I-P-R shall be PG 52-34S.
 - ⑤ Depth of (B) is equal to the depth of Class 13 Excavation used in Tabulation 112-9.
 - ⑥ Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.

Location		(S)	(I)	(C)	(L)	(R)	(P)	(P _B)	(B)	(G)	(M)	Remarks
Station To Station		Inches	Inches	Feet	Feet	Feet	Feet	Feet	Inches	Feet	Inches	
205+60.0	205+75.0	1.5	2	32-40	16-24	12	0	4	7	4	4	
205+75.0	208+63.0	1.5	2	40	24	12	0	4	7	4	4	V43/Piedmont intersection & turn lane taper to turn lane
208+63.0	209+83.0	1.5	2	40-32	24-16	12	0	4	7	4	4	

TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING HMA RESURFACING WITH BASE WIDENING AT V43/PIEDMONT INTERSECTION

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

 Cold-In-Place Recycling
 HMA Paving





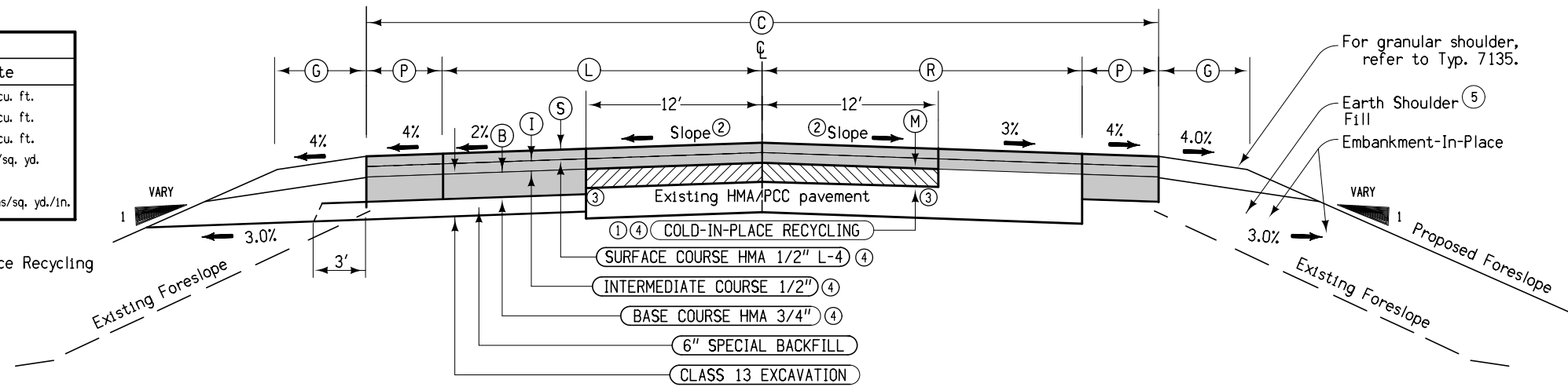
- Notes:
- ① HMA base widening shall be performed prior to Cold-In-Place recycling (C-I-P-R). The top 4 inches of the newly placed base widening unit and/or existing pavement shall be C-I-P-R. The width of C-I-P-R shall be maintained at 32 feet through the intersection. Reduce the C-I-P-R width accordingly if side road or turn lane pavement is PCC and in the area of new turn lane construction.
 - ② Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of wider existing pavement.
 - ③ Provide a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
 - ④ Asphalt Binder for Surface, Intermediate and Base Courses shall be PG 58-34S. Asphalt Binder for C-I-P-R shall be PG 52-34S.
 - ⑤ Material to be included in the price bid for "Embankment-In-Place" and shaping to be bid as "Earth Shoulder Finishing".
 - ⑥ Remove existing turn lane on the right from Station 282+00 to Station 284+95. Place new turn lane prior to C-I-P-R.
 - ⑦ Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.
 - ⑧ P dimension is 4 feet on left side between these stations.

Location		(S)	(I)	(C)	(L)	(R)	(P)	(B)	(G)	(M)	Remarks
Station To Station		Inches	Inches	Feet	Feet	Feet	Feet	Inches	Feet	Inches	
282+00.0	283+20.0	1.5	2	32-44	12	12-24	4	7	4	4	New turn lane construction
283+20.0	284+95.0	1.5	2	44	12	24	4	7	4	4	⑥ Turn lane construction
284+95.0	285+63.0	1.5	2	44-93.5	12	24-77.5	4	7	4	4	Quarter Ave. intersection
285+63.0	286+37.5	1.5	2	106-28	12	90-12	0	0	4	4	⑧ Sideroad transition

TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING HMA RESURFACING WITH BASE WIDENING AND OFFSET RIGHT TURN LANE CONSTRUCTION AT QUARTER AVENUE

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

 Cold-In-Place Recycling
 HMA Paving



Notes:



MC-4

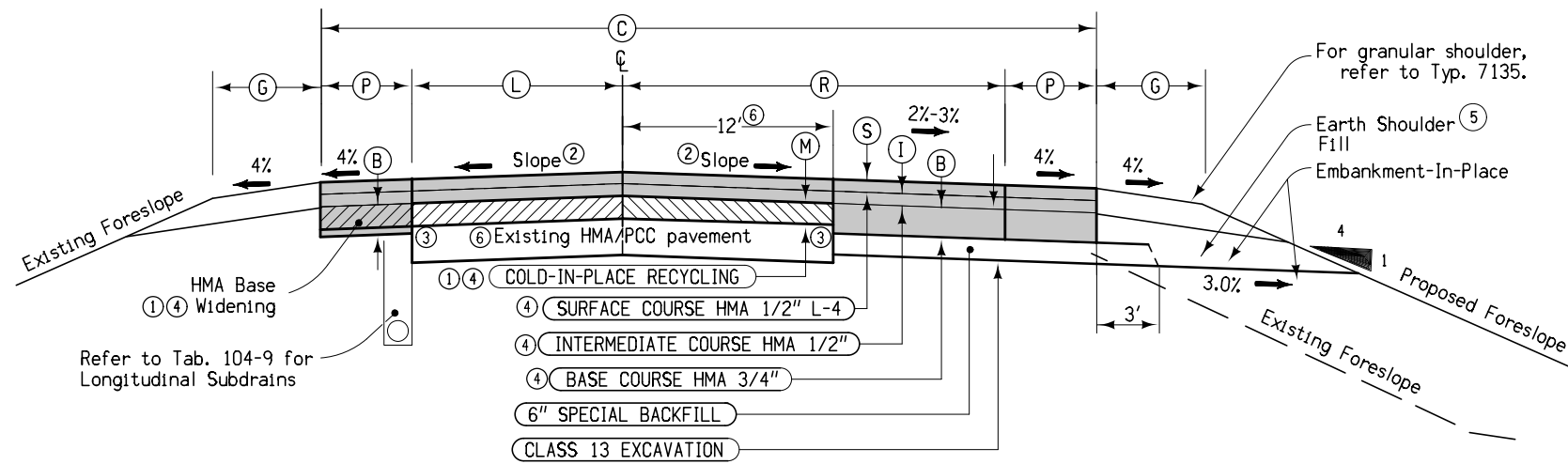
- HMA base widening shall be performed prior to Cold-In-Place recycling (C-I-P-R). The top 4 inches of the newly placed base widening unit and/or existing pavement shall be C-I-P-R. The width of C-I-P-R shall be maintained at 32 feet through the intersection. Reduce the C-I-P-R width accordingly if side road or turn lane pavement is PCC and in the area of new turn lane construction.
- Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of wider existing pavement.
- Provide a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
- Asphalt Binder for Surface, Intermediate and Base Courses shall be PG 58-34S. Asphalt Binder for C-I-P-R shall be PG 52-34S.
- Material to be included in the price bid for "Embankment-in-Place" and shaping to be bid as "Earth Shoulder Finishing".
- Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.

Location		(S)	(I)	(C)	(L)	(R)	(P)	(B)	(G)	(M)	Remarks
Station To Station		Inches	Inches	Feet	Feet	Feet	Feet	Inches	Feet	Inches	
298+90.2	307+66.4	1.5	2	32-48	12-28	12	4	7	4	4	Base widening right, lane transition construction left
307+66.4	309+08.5	1.5	2	48-60	28	12-24	4	7	4	4	Turn lane taper right, lane construction left
309+08.5	310+93.5	1.5	2	60	28	24	4	7	4	4	Turn lane right, lane construction left
310+93.5	312+11.7	1.5	2	60	28	24	4	7	4	4	Intersection V49/Reed
312+11.7	313+27.5	1.5	2	60-48	28	24-12	4	7	4	4	Intersection taper right, lane construction left
313+27.5	314+36.7	1.5	2	48	28	12	4	7	4	4	Base widening right, lane construction left
314+36.7	323+12.9	1.5	2	48-32	28-12	12	4	7	4	4	Base widening right, lane transition construction left

TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING HMA RESURFACING WITH LEFT AND RIGHT LANE CONSTRUCTION AT V49/REED

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

 Cold-In-Place Recycling
 HMA Paving



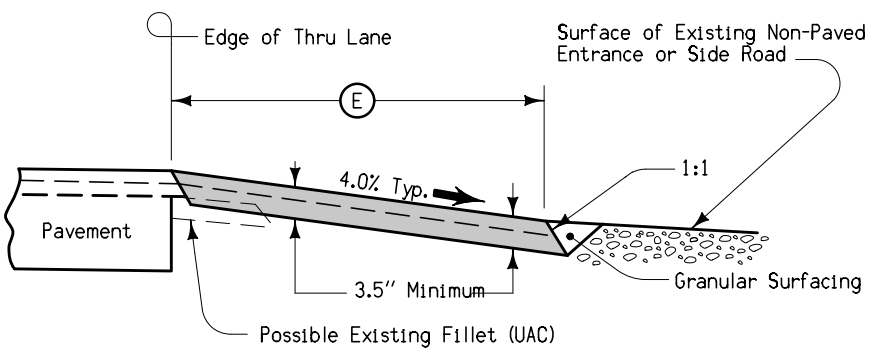
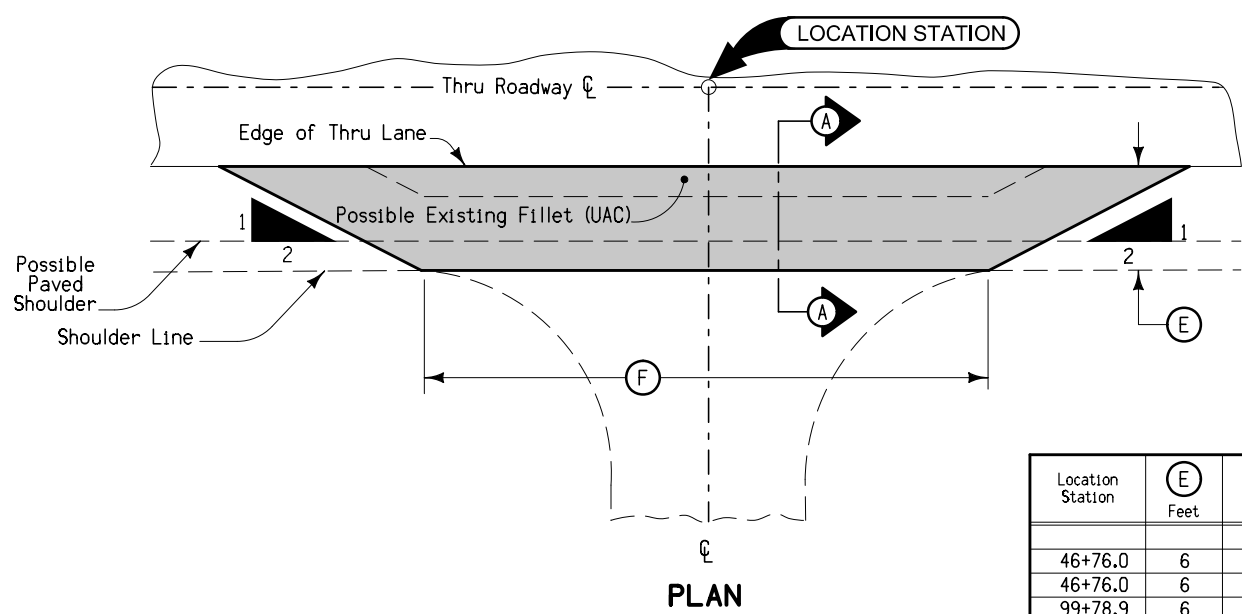
Notes:

MC-5

- HMA base widening shall be performed prior to Cold-In-Place recycling (C-I-P-R). The top 4 inches of the newly placed base widening unit and/or existing pavement shall be C-I-P-R. The width of C-I-P-R shall be maintained at 32 feet through the intersection. Reduce the C-I-P-R width accordingly if side road or turn lane pavement is PCC and in the area of new turn lane construction.
- Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of wider existing pavement.
- Provide a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
- Asphalt Binder for Surface, Intermediate and Base Courses shall be PG 58-34S. Asphalt Binder for C-I-P-R shall be PG 52-34S.
- Material to be included in the price bid for "Embankment-in-Place" and shaping to be bid as "Earth Shoulder Finishing".
- Existing pavement width varies in areas of existing right turn lanes, station 518+23.5 to station 525+57.0.
- Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.

Location		(S)	(I)	(C)	(L)	(R)	(P)	(B)	(G)	(M)	Remarks
Station To Station		Inches	Inches	Feet	Feet	Feet	Feet	Inches	Feet	Inches	
509+47.3	518+23.5	1.5	2	32-48	12	12-28	4	7	4	4	Lane transition construction right, base widening left
518+23.5	519+43.5	1.5	2	48-60	12	28-40	4	7	4	4	Lane construction and turn lane taper right, widening left
519+43.5	521+28.5	1.5	2	60	12	40	4	7	4	4	Lane construction and turn lane right, base widening left
521+28.5	522+51.9	1.5	2	60	12-24	40-28	4	7	4	4	Intersection V56/Viking
522+51.9	524+37.0	1.5	2	60	24	28	4	7	4	4	Lane construction right, existing turn lane left
524+37.0	525+57.0	1.5	2	60-48	24-12	28	4	7	4	4	Lane construction right, existing turn lane taper left
525+57.0	534+33.1	1.5	2	48-32	12	28-12	4	7	4	4	Lane construction right, base widening left

TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING HMA RESURFACING WITH BASE WIDENING WITH LEFT AND RIGHT LANE CONSTRUCTION AT V56/VIKING



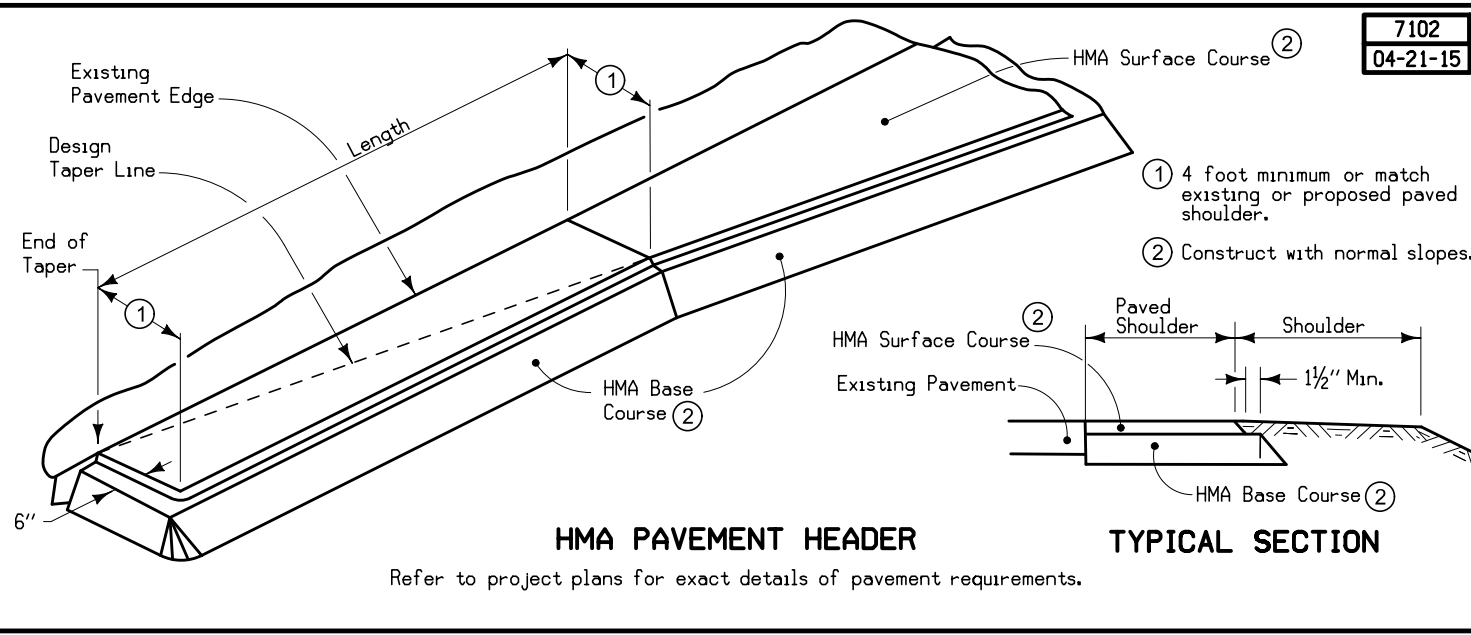
Special shaping of existing surface prior to placement of fillet may be required by the Engineer and is incidental to other work on the project.
Quantities included with mainline quantities.

Location Station	E Feet	F Feet
46+76.0	6	96
46+76.0	6	94
99+78.9	6	94
99+78.9	6	94
152+89.0	6	94
206+10.0	6	94
258+64.7	6	96
258+64.7	6	94
311+53.0	6	100

Location Station	E Feet	F Feet
364+39.5	6	94
364+39.5	6	94
456+10.0	6	94
470+10.0	6	94
574+85.0	6	94
574+85.0	6	94
627+89.0	6	94
627+89.0	6	94

SECTION A-A

FILLET FOR NON-PAVED SIDE ROADS



7102
04-21-15

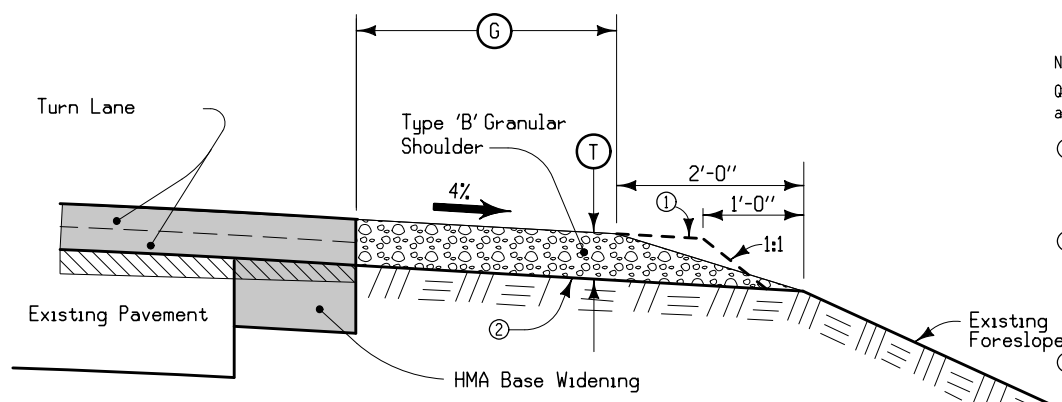
- ① 4 foot minimum or match existing or proposed paved shoulder.
- ② Construct with normal slopes.

HMA PAVEMENT HEADER

TYPICAL SECTION

Refer to project plans for exact details of pavement requirements.

7135
Modified

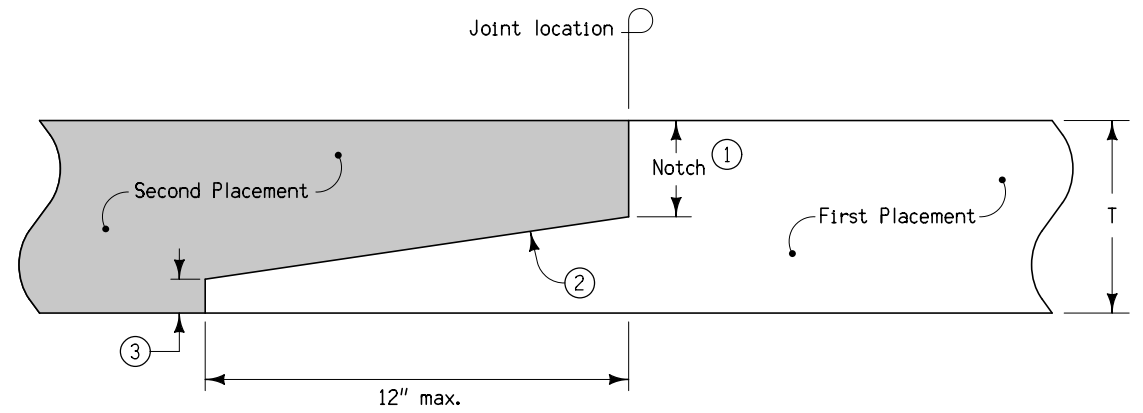


- Notes:
- Quantities have been determined on the basis of a design weight of 140 lbs. per cubic foot.
- Place and compact material to the dashed lines; then blade and shape to foreslope that portion above the solid line in the outer 2' and roll with loaded truck tire.
 - Existing shoulder surface to be shaped to a uniform cross slope prior to placing granular shoulder material. Shape to ensure the thickness of the granular shoulder material is not less than the thickness of the resurfacing. Shaping shall be incidental to Type 'B' Granular Shoulder.
 - Nominal thickness adjusted to account for existing slopes.
 - See Tabulation 112-9 for G and Quantities.

TYPICAL SECTION FOR TYPE 'B' GRANULAR SHOULDER

LOCATION				T
SECTION IDENTIFICATION	STATION TO STATION		SIDE	Inches
	22+92.0	270+03.3	BOTH	6
STA EQ	270+00.0	676+92.0	BOTH	6

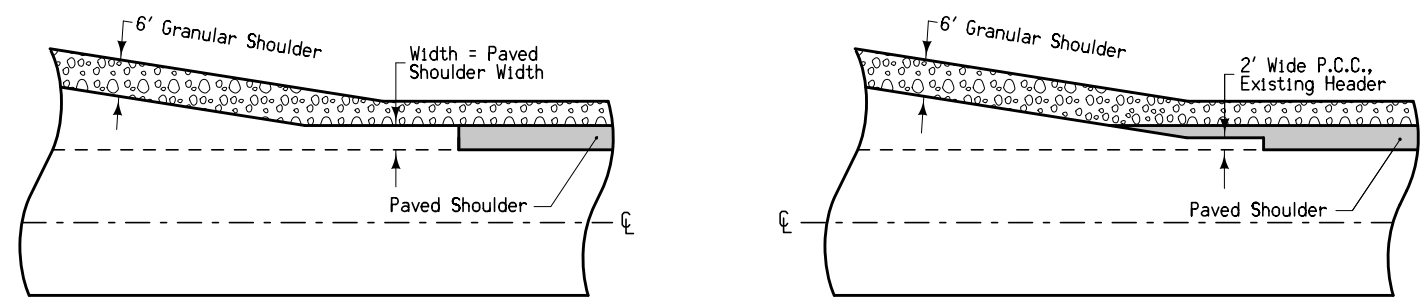
7315
10-20-09



- Notes:
- Notch: Min = nominal maximum aggregate size + 1/4". Max = T/2.
 - 12:1 Slope
 - Optional step at toe of slope: Max = 1".

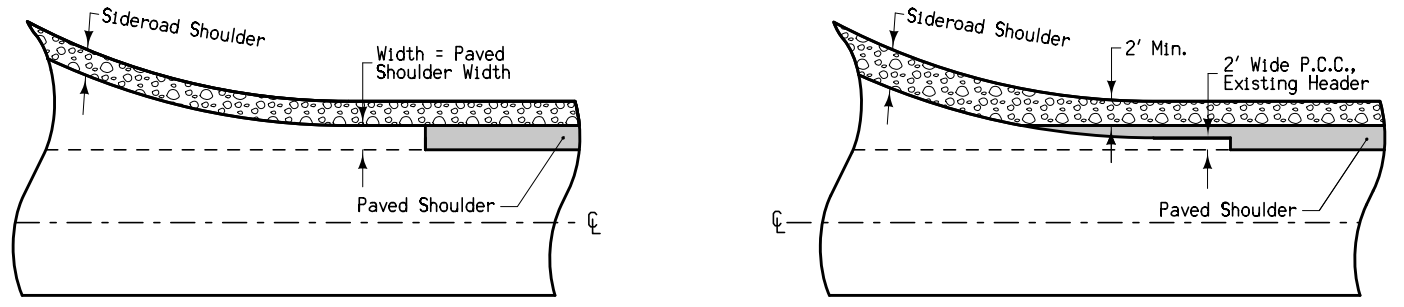
**LONGITUDINAL HMA NOTCHED WEDGE JOINT
T = 2" OR GREATER**

7154A
10-20-09

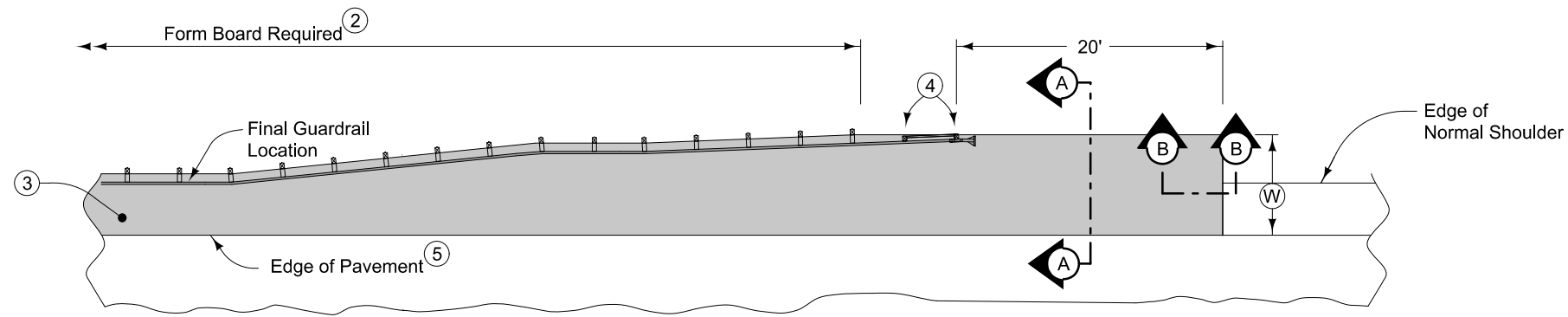


PAVED SHOULDER DETAIL AT TURN LANES

7154B
10-20-09



PAVED SHOULDER DETAIL AT RETURNS

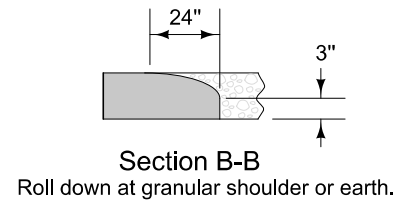
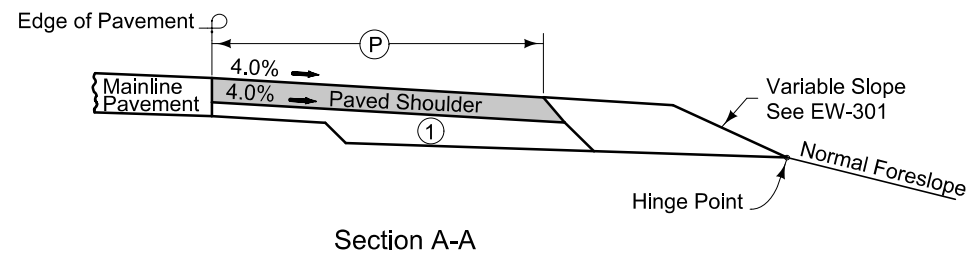
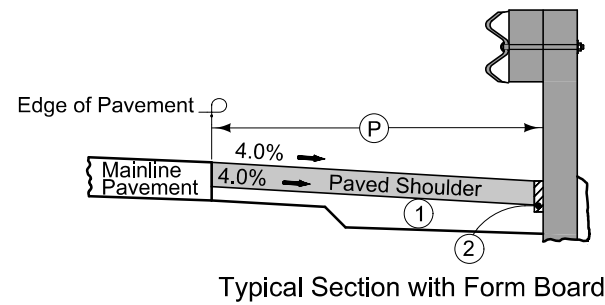


6" HMA Paved Shoulder at guardrail. 7" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at W/2 from edge of mainline pavement when W is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

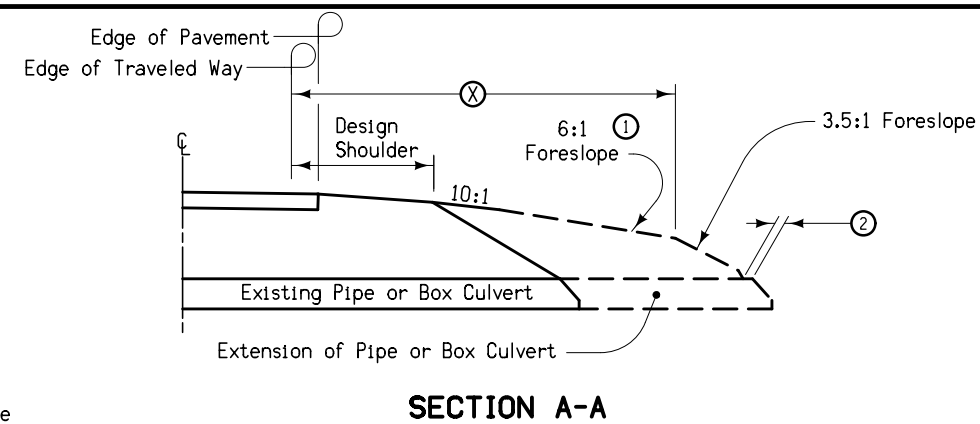
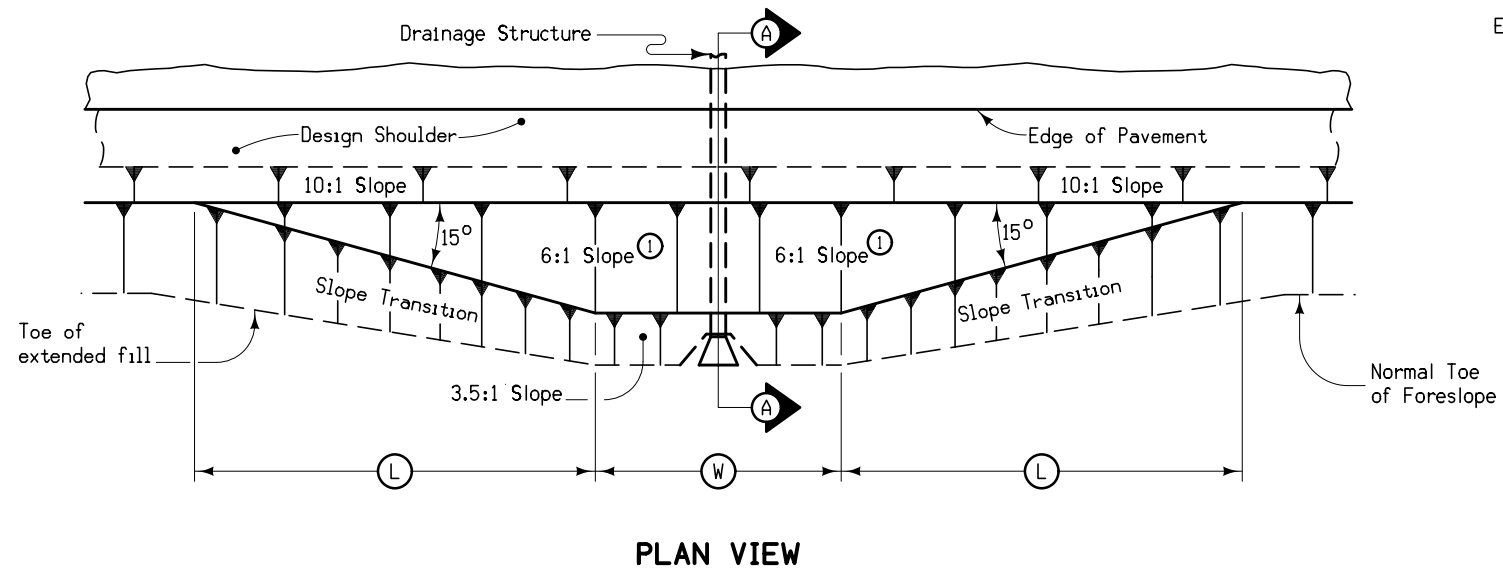
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal & reinstallation of guardrail will be allowed with no additional payment.

Refer to Shoulder tabulation (112-9) for quantities.



- ① 6" subgrade treatment.
- ② When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function of the guardrail. Form board not required for final 2 posts.
- ③ Continue paved shoulder to existing paved shoulder or 20' beyond the end of guardrail.
- ④ Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement.
- ⑤ 'KT-1' joint for PCC shoulder.
'B' joint for HMA shoulder.

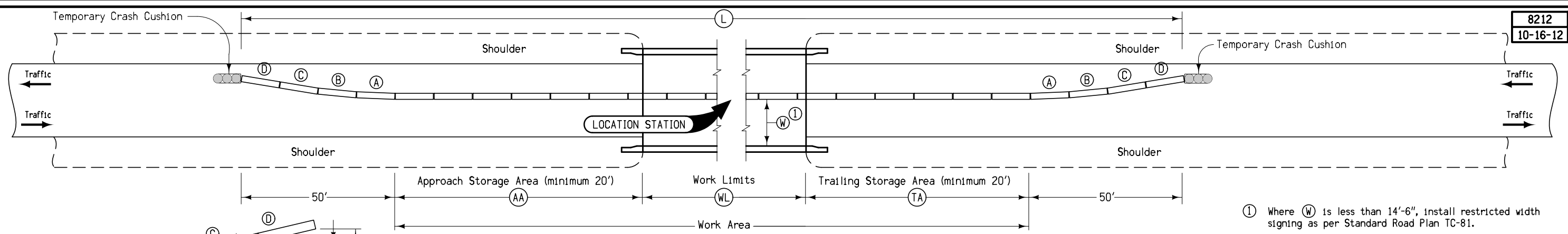
PAVED SHOULDER AT GUARDRAIL



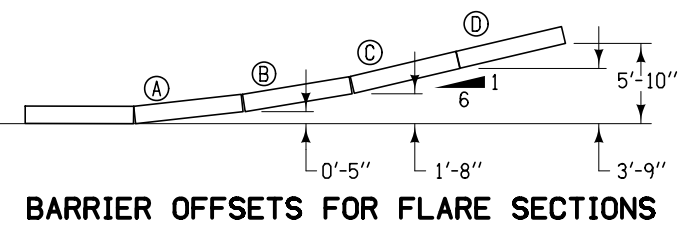
- Notes:
- At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, the foreslope shall be flattened as indicated so as to cover the structure. Minimum earth cover is 6".
 - ① 6:1 Maximum - Slope may be flatter.
 - ② 6" Minimum for pipe installations or to top of headwall on R.C.B.
 - Ⓜ = Pipe or R.C.B. width plus 20 feet each side.

STRUCTURE LOCATION		Ⓜ	Ⓛ	Ⓧ
STATION	SIDE	Feet	Feet	Feet
312+31.0	RT	45	VAR	40.5
312+31.0	LT	45	VAR	12.5
347+02.0	B	42.5	40	18.0

**DETAILS OF
BARNROOF FORESLOPE
AT DRAINAGE STRUCTURE**



- ① Where Ⓜ is less than 14'-6", install restricted width signing as per Standard Road Plan TC-81.



BARRIER OFFSETS FOR FLARE SECTIONS

Station	Side	ⓂⓂ	ⓂⓁ	Ⓜⓐ	Ⓜ	Anchored X	Ⓜ ^①	Remarks
		Feet	Feet	Feet	Feet		Ft-Inches	
410+53.6	LT	60	205	60	425		17'-4"	
410+53.6	RT	60	205	60	425		17'-4"	

**TEMPORARY CONCRETE BARRIER LAYOUT
for Two-Way Traffic**

100-1D
10-18-05

PROJECT DESCRIPTION

This project includes cold-in-place recycling and resurfacing of IA 3 in Bremer County from just east of the intersection with US 63 to the intersection with County Road V62 at the Fayette County Line. The existing 24 foot average width HMA pavement will be widened 4 feet on each side, have 4.0 inches of cold-in-place recycling, and be resurfaced with 3.5 inches of HMA. Existing pipes will be extended, guardrail will be updated at four of the five bridges, and left turn lanes will be added at the V-49 and V-56 intersections. A minor right turn lane will be installed at Quarter Avenue.

262-6
10-18-05

UTILITIES

(NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

100-1C
04-17-12

**ESTIMATED PROJECT QUANTITIES
(UP TO A 5 DIVISION PROJECT)**

Division 1: DOT, Resurfacing
Division 2: HSIP Eligible Items

Item No.	Item Code	Item	Unit	Quantities																
				Estimated					Total	As Built										
				Division 1	Division 2	Division 3	Division 4	Division 5		Division 1	Division 2	Division 3	Division 4	Division 5						
1	2101-0850002	CLEARING AND GRUBBING	UNIT	142							142									
2	2102-0425070	SPECIAL BACKFILL	TON		4,125.7						4,125.7									
3	2102-2625000	EMBANKMENT-IN-PLACE	CY	116.0	5,728.0						5,844.0									
4	2102-4560000	LOCATING TILE LINES	STA	47.00							47.00									
5	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	3,583.8							3,583.8									
7	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	22,201.0							22,201.0									
8	2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN)	SY	333.4							333.4									
9	2122-5500060	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 6 IN.	SY		2,278.5						2,278.5									
10	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HOT MIX ASPHALT MIXTURE OR PORTLAND CEMENT CONCRETE, 8 IN.	SY	286.9							286.9									
11	2123-7450020	SHOULDER FINISHING, EARTH	STA		59.10						59.10									
12	2125-2225050	RESHAPING DITCHES	STA	30.40							30.40									
13	2212-5070310	PATCHES, FULL-DEPTH REPAIR	SY	1,538.7							1,538.7									
15	2212-5070330	PATCHES BY COUNT (REPAIR)	EACH	260							260									
16	2213-2713300	EXCAVATION, CLASS 13, FOR WIDENING	CY		18,857.0						18,857.0									
17	2213-7100400	RELOCATION OF MAIL BOXES	EACH		0						0									
18	2214-5145150	PAVEMENT SCARIFICATION	SY	4,753.0							4,753.0									
19	2301-0690201	BRIDGE APPROACH, BR-201	SY	266.6							266.6									
20	2303-1031750	HOT MIX ASPHALT STANDARD TRAFFIC, BASE COURSE, 3/4 IN. MIX	TON		24,864.00						24,864.00									
21	2303-1032500	HOT MIX ASPHALT STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX	TON	25,471.00	1,242.00						26,713.00									
22	2303-1033504	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4	TON	19,574.00	932.00						20,506.00									
23	2303-1258343	ASPHALT BINDER, PG 58-34S, STANDARD TRAFFIC	TON	2,703.00	1,622.00						4,325.00									
24	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1.00							1.00									
25	2303-7000610	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE LABORATORY VOIDS (FORMULA - BY PAY FACTOR)	EACH	36667							36667									
26	2303-7000620	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE FIELD VOIDS (FORMULA - BY PAY FACTOR)	EACH	36667							36667									
27	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	830.0							830.0									
28	2316-0000120	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	57000							57000									
29	2318-1001100	COLD IN-PLACE RECYCLED ASPHALT PAVEMENT	SY	215,692.0							215,692.0									
30	2318-1001220	ASPHALT STABILIZING AGENT (FOAMED ASPHALT)	TON	949.0							949.0									
31	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1.00							1.00									
32	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	226.5							226.5									
33	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	6							6									
34	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	4							4									
35	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	3							3									
36	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	1							1									
37	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.	EACH	2							2									
38	2416-0101036	REMOVE AND REINSTALL CONCRETE PIPE APRONS LESS THAN OR EQUAL TO 36 IN.	EACH	1							1									
39	2416-0101136	REMOVE AND REINSTALL CONCRETE PIPE APRONS GREATER THAN 36 IN.	EACH	5							5									
40	2416-1160048	CULVERT, CONCRETE ENTRANCE PIPE, 48 IN. DIA.	LF	18							18									
41	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	12							12									
42	2416-1190284	CULVERT, LOW CLEARANCE CONCRETE ENTRANCE PIPE, EQUIVALENT DIAMETER 84 IN.	LF	12							12									
42.5	2416-1541036	REMOVE AND REINSTALL RIGID PIPE CULVERT LESS THAN OR EQUAL TO 36 IN.	LF	0							0									
43	2416-1541136	REMOVE AND REINSTALL RIGID PIPE CULVERT GREATER THAN 36 IN.	LF	6							6									
44	2417-0225018	APRONS, METAL, 18 IN. DIA.	EACH	94							94									
45	2417-0225024	APRONS, METAL, 24 IN. DIA.	EACH	24							24									
46	2417-0225030	APRONS, METAL, 30 IN. DIA.	EACH	2							2									
47	2417-0225036	APRONS, METAL, 36 IN. DIA.	EACH	8							8									
48	2417-0225042	APRONS, METAL, 42 IN. DIA.	EACH	2							2									
49	2417-0225048	APRONS, METAL, 48 IN. DIA.	EACH	8							8									
50	2417-0341036	REMOVE AND REINSTALL METAL APRONS LESS THAN OR EQUAL TO 36 IN.	EACH	2							2									
50.5	2417-1040018	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 18 IN. DIA.	LF	60							60									
51	2417-1040024	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 24 IN. DIA.	LF	45							45									
52	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	29,750.0							29,750.0									
53	2502-8212110	SUBDRAIN, PLASTIC PIPE, 10 IN.	LF	60							60									
54	2502-8221304	SUBDRAIN OUTLET, DR-304	EACH	195							195									
55	2502-8221305	SUBDRAIN OUTLET, DR-305	EACH	1							1									
56	2503-0500401	BRIDGE END DRAIN, DR-401	EACH	14							14									
57	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF		1,237.5						1,237.5									
58	2505-4008300	STEEL BEAM GUARDRAIL	LF		450.0						450.0									
59	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH		16						16									

**ESTIMATED PROJECT QUANTITIES
(UP TO A 5 DIVISION PROJECT)**

Division 1: DOT, Resurfacing
Division 2: HSIP Eligible Items

Item No.	Item Code	Item	Unit	Quantities												
				Estimated					As Built							
				Division 1	Division 2	Division 3	Division 4	Division 5	Total	Division 1	Division 2	Division 3	Division 4	Division 5		
60	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH		16						16					
61	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH		16						16					
62	2507-3250005	ENGINEERING FABRIC	SY	194.2							194.2					
63	2507-8029000	EROSION STONE	TON	107.0							107.0					
64	2510-6745850	REMOVAL OF PAVEMENT	SY	1,546.6							1,546.6					
65	2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT.	LF	160.0							160.0					
66	2519-3300600	FENCE, SAFETY	LF	1,240.0							1,240.0					
67	2520-3350010	FIELD LABORATORY	EACH	1							1					
68	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	17							17					
69	2524-9275222	WOOD POSTS FOR TYPE A OR B SIGNS, 4 IN. X 6 IN.	LF	300.0							300.0					
70	2526-8285000	CONSTRUCTION SURVEY	LS	1.00							1.00					
71	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	7,430.06							7,430.06					
72	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	43.94							43.94					
73	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	22							22					
74	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	9.56							9.56					
75	2527-9270111	GROOVES CUT FOR PAVEMENT MARKINGS	STA	1,857.52							1,857.52					
76	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS	EACH	22							22					
77	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	850.0							850.0					
78	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	1							1					
79	2528-8445110	TRAFFIC CONTROL	LS	1.00							1.00					
80	2528-8445113	FLAGGERS	EACH								See Proposal					
81	2528-8445115	PILOT CARS	EACH								See Proposal					
82	2529-8174010	SUBBASE (PATCHES)	SY	1,591.1							1,591.1					
83	2529-8174050	PATCH SUBDRAIN	EACH	35							35					
84	2533-4980005	MOBILIZATION	LS	1.00							1.00					
85	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA		1,307.1						1,307.1					
86	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL		1,416.0						1,416.0					
87	2551-0000110	TEMP CRASH CUSHION	EACH	4							4					
88	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS	1.00							1.00					
89	2601-2634100	MULCHING	ACRE	12.3							12.3					
90	2601-2636015	NATIVE GRASS SEEDING	ACRE	4.6							4.6					
91	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	5.5							5.5					
92	2601-2636044	SEEDING AND FERTILIZING (URBAN)	ACRE	2.2							2.2					
93	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	10.1							10.1					
94	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)	ACRE	2.2							2.2					
95	2602-0000020	SILT FENCE	LF	9,660.0							9,660.0					
96	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	1,060.0							1,060.0					
97	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	10,720.0							10,720.0					
98	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	1,072.0							1,072.0					
99	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	8,600.0							8,600.0					
100	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	8,600.0							8,600.0					
101	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1							1					
102	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1							1					

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2101-0850002	CLEARING AND GRUBBING Refer to Tabulation 110-17 for additional information.
-	-	-
2	2102-0425070	SPECIAL BACKFILL Refer to Typical MC-3, MC-4 and MC-5 and Tabulation 106-5 and 112-9 for additional information.
-	-	-
3	2102-2625000	EMBANKMENT-IN-PLACE Refer to Typical MC-3, MC-4 and MC-5 and Tabulations 100-25, 104-13, 104-13A and 107-23 for additional information. Quantity is for fill for turn lane construction, pipe extensions and guardrail blisters. The Contractor shall supply all fill material needed. Any removal of small brush or debris in these areas shall be incidental to this bid item. Material obtained from item "Excavation, Class 13, for Widening" may be used for this work. Overhaul will not be paid for this item.
-	-	-

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
4	2102-4560000	LOCATING TILE LINES To be performed from STA 298+90 to STA 323+13 on the left and from STA 509+47 to STA 534+33 on the right, less intersections.
-	-	-
5	2105-8425005	TOPSOIL, FURNISH AND SPREAD Refer to Tabulation 103-4 for additional information. All disturbed areas not covered by concrete, asphalt or gravel shall have a minimum of 4 inches of topsoil. The Contractor shall provide all the required topsoil. Topsoil from stripping and approved by the Engineer for placement, may also be used. Stripping of topsoil for placement of fill is considered incidental to this bid item.
-	-	-
7	2121-7425020	GRANULAR SHOULDERS, TYPE B Refer to Typical 7135, 7154A and 7154B and Tabulation 112-9 for additional information.
-	-	-
8	2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN) Refer to Tabulation 104-8A for additional information.
-	-	-

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
9	2122-5500060	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 6 IN. Refer to Typical 7156 and Tabulation 112-9 for additional information.
-	-	-
10	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HOT MIX ASPHALT MIXTURE OR PORTLAND CEMENT CONCRETE, 8 IN. Refer to Tabulation 106-5 for additional information.
-	-	-
11	2123-7450020	SHOULDER FINISHING, EARTH Refer to Typical 7156 and Tabulation 112-9 for additional information.
-	-	-
12	2125-2225050	RESHAPING DITCHES Refer to Tabulation 300-1 for additional information. The actual length of ditch reshaping may be modified by the Engineer to obtain proper drainage at culverts.
-	-	-
13	2212-5070310	PATCHES, FULL-DEPTH REPAIR
15	2212-5070330	PATCHES BY COUNT (REPAIR) Refer to Tabulations 102-6C and 102-11 for additional information.
-	-	-
16	2213-2713300	EXCAVATION, CLASS 13, FOR WIDENING Refer to Typical 7156 and Tabulations 106-5 and 112-9 for additional information. Excavation includes removal of oil and chips. Excavation not used in the project shall become property of the Contractor and removed from the project. Overhaul will not be paid for this item. Quantity includes removal of existing HMA driveway fillets and existing tapers within the excavation area.
-	-	-
17	2213-7100400	RELOCATION OF MAIL BOXES Refer to Sheet U.1 for additional information. Mailboxes are to be moved back to new edge of paved shoulder at turn lane.
-	-	-
18	2214-5145150	PAVEMENT SCARIFICATION Refer to Tabulations 100-25 and 102-16 for additional information.
-	-	-
19	2301-0690201	BRIDGE APPROACH, BR-201 Refer to Tabulation 112-6 for additional information.
-	-	-
20	2303-1031750	HOT MIX ASPHALT STANDARD TRAFFIC, BASE COURSE, 3/4 IN. MIX
21	2303-1032500	HOT MIX ASPHALT STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX
22	2303-1033504	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4
23	2303-1258343	ASPHALT BINDER, PG 58-34S, STANDARD TRAFFIC
24	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES Refer to Typical 7156 and Tabulations 100-25, and 112-9 for additional information. Estimated project quantities include an additional 5% for irregularities.
-	-	-
25	2303-7000610	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE LABORATORY VOIDS (FORMULA - BY PAY FACTOR)
26	2303-7000620	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE FIELD VOIDS (FORMULA - BY PAY FACTOR) Estimated at 0.5 times the tons of HMA.
-	-	-
27	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE Refer to Tabulation 102-3 for additional information.
-	-	-
28	2316-0000120	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA PAVEMENT SMOOTHNESS (BY SCHEDULE) Estimated at 0.24 times the square yards of surface paving. Refer to DS-15049.
-	-	-
29	2318-1001100	COLD IN-PLACE RECYCLED ASPHALT PAVEMENT
30	2318-1001220	ASPHALT STABILIZING AGENT (FOAMED ASPHALT) Refer to Typical 7156 and Tabulation 100-25 for additional information. Foamed asphalt shall be PG 52-34S.
-	-	-
31	2401-6745650	REMOVAL OF EXISTING STRUCTURES Refer to Tabulation 110-2 for additional information.
-	-	-
32	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT Refer to Tabulations 104-13 and 104-13A for additional information.
-	-	-

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
33	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.
34	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.
35	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.
36	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.
37	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.
38	2416-0101036	REMOVE AND REINSTALL CONCRETE PIPE APRONS LESS THAN OR EQUAL TO 36 IN.
39	2416-0101136	REMOVE AND REINSTALL CONCRETE PIPE APRONS GREATER THAN 36 IN.
40	2416-1160048	CULVERT, CONCRETE ENTRANCE PIPE, 48 IN. DIA.
41	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.
42	2416-1190284	CULVERT, LOW CLEARANCE CONCRETE ENTRANCE PIPE, EQUIVALENT DIAMETER 84 IN.
42.5	2416-1541036	REMOVE AND REINSTALL RIGID PIPE CULVERT LESS THAN OR EQUAL TO 36 IN.
43	2416-1541136	REMOVE AND REINSTALL RIGID PIPE CULVERT GREATER THAN 36 IN.
44	2417-0225018	APRONS, METAL, 18 IN. DIA.
45	2417-0225024	APRONS, METAL, 24 IN. DIA.
46	2417-0225030	APRONS, METAL, 30 IN. DIA.
47	2417-0225036	APRONS, METAL, 36 IN. DIA.
48	2417-0225042	APRONS, METAL, 42 IN. DIA.
49	2417-0225048	APRONS, METAL, 48 IN. DIA.
50	2417-0341036	REMOVE AND REINSTALL METAL APRONS LESS THAN OR EQUAL TO 36 IN.
50.5	2417-1040018	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 18 IN. DIA.
51	2417-1040024	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 24 IN. DIA. Refer to Tabulations 104-13, 104-13A and 110-2 for additional information.
-	-	-
52	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA. Refer to Typical 7156 and Tabulation 104-9 for additional information.
-	-	-
53	2502-8212110	SUBDRAIN, PLASTIC PIPE, 10 IN. Refer to Tabulation 104-5C for additional information.
-	-	-
54	2502-8221304	SUBDRAIN OUTLET, DR-304 Refer to Tabulation 104-9 for additional information.
-	-	-
55	2502-8221305	SUBDRAIN OUTLET, DR-305 Refer to Tabulation 104-5C for additional information.
-	-	-
56	2503-0500401	BRIDGE END DRAIN, DR-401 Refer to Typical 6147 and Tabulation 104-8A for additional information.
-	-	-
57	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL Refer to Tabulations 110-7A and 110-13 for additional information. All post and associated material other than guardrail shall become property of the Contractor. Bridge number signs that need to be removed and reinstalled shall be incidental to this bid item.
-	-	-
58	2505-4008300	STEEL BEAM GUARDRAIL
59	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201
60	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED
61	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205 Refer to Tabulation 108-8A for additional information.
-	-	-
62	2507-3250005	ENGINEERING FABRIC
63	2507-8029000	EROSION STONE Refer to Tabulation 100-23 for additional information.
-	-	-
64	2510-6745850	REMOVAL OF PAVEMENT Refer to Tabulation 110-1 for additional information.
-	-	-
65	2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT. Refer to Tabulation 112-4 for additional information.
-	-	-
66	2519-3300600	FENCE, SAFETY To be installed from STA 509+00 to STA 521+40 right side as directed by Engineer.
-	-	-
67	2520-3350010	FIELD LABORATORY
-	-	-
68	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN Refer to Tabulations 190-62 and 259-1 for additional information. Existing hardware shall be used with the reinstallation at each location. The Contractor shall replace signs damaged during construction. METHOD OF MEASUREMENT: Each sign satisfactorily removed and reinstalled will be counted for payment. BASIS OF PAYMENT: The Contractor will be paid the contract unit price for each sign satisfactorily removed and reinstalled.
-	-	-
69	2524-9275222	WOOD POSTS FOR TYPE A OR B SIGNS, 4 IN. X 6 IN. Refer to Tabulation 190-61 for additional information.
-	-	-
70	2526-8285000	CONSTRUCTION SURVEY
-	-	-

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
71	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED
72	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS
73	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED
74	2527-9263180	PAVEMENT MARKINGS REMOVED
75	2527-9270111	GROOVES CUT FOR PAVEMENT MARKINGS
76	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS Refer to Tabulations 108-22 and 108-29 and U Sheets for additional information. Grooving depth shall be 0.08 inches to 0.10 inches. Grooving and final pavement markings shall be placed a minimum of 30 days after final HMA lift placement.
-	-	-
77	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE Refer to Typical 8212 and Tabulation 108-33 for additional information.
-	-	-
78	2528-8400256	TEMPORARY TRAFFIC SIGNALS Refer to Tabulation 108-28 for additional information.
-	-	-
79	2528-8445110	TRAFFIC CONTROL Refer to Sheet J.1 for additional information.
-	-	-
80	2528-8445113	FLAGGERS
-	-	-
81	2528-8445115	PILOT CARS
-	-	-
82	2529-8174010	SUBBASE (PATCHES)
83	2529-8174050	PATCH SUBDRAIN Refer to Tabulations 102-6C and 102-11 for additional information.
-	-	-
84	2533-4980005	MOBILIZATION
-	-	-
85	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE
86	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS) Refer to Tabulation 112-10.
-	-	-
87	2551-0000110	TEMP CRASH CUSHION Refer to Typical 8212 and Tabulation 108-30 for additional information.
-	-	-
88	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS Refer to Tabulation 110-13 for additional information.
-	-	-
89	2601-2634100	MULCHING Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes. This item includes areas requiring reshaping and seedbed preparation. Mulch shall be Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations. Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
-	-	-
90	2601-2636015	NATIVE GRASS SEEDING All areas outside eight feet adjacent to shoulder shall be seeded with "Native Grass Seeding". All seed for "Native Grass Seeding" will be supplied and mixed by the Contractor according to Article 2601.03, B, 4, c and installed according to Article 2601.03, C, 5. All forb seed will be applied through the native grass drill wildflower or small seed box. Forb seed will not be allowed to be mixed and applied with the native grass seed. Cover crop will be required to be applied through the cool season or cover crop seed box. The cover crop seed will not be allowed to be mixed and applied with the native grass seed. Drill shall be calibrated prior to operation at the project site to the specified seeding rate for the project and witnessed by the Contracting authority. The Engineer will review the limits prior to seeding with the Contractor.
-	-	-
91	2601-2636043	SEEDING AND FERTILIZING (RURAL)
92	2601-2636044	SEEDING AND FERTILIZING (URBAN) Refer to Tabulations 103-4, 104-13, 104-13A, 107-23 and 300-1 for additional information. Included for all areas designated by the Engineer. All disturbed areas shall be seeded and fertilized per Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment.
-	-	-
-	-	-
-	-	-
-	-	-

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
93	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING
94	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN) This item includes disturbed areas as directed by the Engineer.
-	-	-
-	-	All rural disturbed areas shall be seeded and fertilized per Article 2601.03, C, 1.
-	-	-
95	2602-0000020	SILT FENCE Refer to Tabulation 100-17 for additional information. This item is for grading at guardrail blisters and turn lanes. Verify specific locations with the Engineer prior to placement. Estimated quantity includes an additional 10% for other areas as directed by the Engineer.
-	-	-
96	2602-0000030	SILT FENCE FOR DITCH CHECKS Refer to Tabulation 100-18 for additional information. This item includes estimated locations for placement of Silt Fence for Ditch Checks to address possible erosion encountered during construction. Verify the specific locations with the Engineer prior to placement. Bid item includes 10% additional quantity for field adjustments and replacements.
-	-	-
97	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS This item is included for silt fence and silt fence for ditch check removal, including removal to allow for replacement (replacement to be paid separately), when slopes have been mulched and the Engineer has determined that fencing is no longer needed or for areas that have achieved 70% permanent growth.
-	-	-
98	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK This item is included for clean-out and repair of the silt fence and silt fence for ditch checks installed for the project. Estimated at 10% of silt fence and silt fence for ditch check quantities.
-	-	-
99	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. Refer to Tabulation 100-19 to be used in conjunction with silt fence to control sediment.
-	-	-
100	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE
-	-	-
101	2602-0010010	MOBILIZATIONS, EROSION CONTROL
-	-	-
102	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL
-	-	-
-	-	-

UTILITIES

Alliant Energy 4902 N Biltmore Box 77007 Madison, WI 53707-1007 Jason A Hogan 608-458-4871 jasonhogan@alliantenergy.com	Black Hills Energy 1102 E First Street Papillion, NE 68046-7641 Brad Fleming 402-221-2714 brad.fleming@blackhillscorp.com	Butler-Bremer Communications 715 Main Street, Box 99 Plainfield, IA 50666 Stuart Dietz 319-276-4458 stuart@butler-bremer.com	Central Iowa Water Association 1351 Iowa Speedway Drive Newton, IA 50208-8245 Jim LaPlant 641-792-7011 jlaplant@ciawa.com
CenturyLink 2103 E University Ave, 1st Floor Des Moines, IA 50317 Steven Parker 515-265-0968 steven.parker4@centurylink.com	ITC Midwest LLC 20789 780th Avenue Albert Lea, MN 56007 David Gross 507-320-2422 dgross@itctransco.com	MediaCom 4010 Alexandra Drive Waterloo, IA 50702 Kevin Parker 319-235-2197 kparker@mediacomcc.com	Northern Natural Gas 1120 Centre Point Dr/Suite 400 Mendota Heights, MN 55120 Tom Dickson 651-456-1777 tom.dickson@nngco.com
Oran Mutal Telephone Company 5038 Main Street, Box 7 Oran, IA 50664-0007 Dan Lundt 319-638-6006 manger@orntelcom.com	Readlyn Telephone Company 121 Main Street Readlyn, IA 50668 Sharon Huck 319-279-3374 readlyn@netins.net	Aureon Network Services 7760 Office Plaza Drive South West Des Moines, IA 50266 Jeff Klocko 515-830-0445 jeff.klocko@aureon.com	

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	10-18-16	Steel Beam Guardrail Components
BA-201	10-18-16	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-204	10-18-11	Steel Beam Guardrail Thrie-Beam End Anchor
BA-205	04-19-16	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10-18-16	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-401	04-16-13	Temporary Barrier Rail (Precast Concrete)
BA-500	04-19-16	Temporary Crash Cushions Sand Barrel
BR-201	04-21-15	Double Reinforced 10" Approach
BR-211	04-21-15	Bridge Approach (Abutting PCC or Composite Pavement)
DR-101	04-19-16	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-121	10-20-15	Connected Pipe Joints
DR-122	10-18-16	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
DR-201	04-21-15	Concrete Aprons
DR-202	04-21-15	Low Clearance Concrete Pipe Aprons
DR-203	04-21-15	Metal Pipe Aprons and Beveled Ends
DR-303	10-18-16	Subdrains (Longitudinal)
DR-304	10-18-16	Outlets for Longitudinal, Transverse and Backslope Subdrains
DR-305	04-21-15	Subdrain Outlets (Standard Subdrain, Pressure Release and Special)
DR-401	04-19-16	Scour Protection for Bridge End Drain
DR-621	04-21-15	Pipe Extension
EC-201	10-18-16	Silt Fence
EC-204	04-19-16	Perimeter and Slope Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EW-105	04-21-15	Reshaping Slopes and Ditches
EW-301	10-20-15	Guardrail Grading
EW-501	10-20-15	Rural Entrance
PM-110	04-16-13	Line Types
PM-111	04-21-15	Symbols and Legends
PM-120	10-21-14	Stop Lines and Islands
PM-210	10-18-11	Separation in Two-Lane Roadway
PM-420	04-19-11	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PM-520	04-19-11	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PM-521	04-19-11	Two-Lane Roadway with Right Turn Lanes
PM-550	04-19-11	Two-Lane Roadway with Two-Way Left Turn Lane
PR-101	04-21-15	Full Depth Patch with 'EF' Joint in PCC
PR-102	04-21-15	Full Depth PCC Patch without Dowels
PR-103	10-21-14	Full Depth PCC Patch with Dowels
PR-104	10-21-14	Full Depth Patch continuous Reinforced PCC Pavement
PR-140	04-21-15	Subbase Patches
PR-201	10-21-14	Runouts for Resurfacing
PR-202	10-21-14	Notches for Resurfacing (with or without Runout)
PV-12	04-19-16	Milled Shoulder Rumble Strips
PV-101	04-19-16	Joints
PV-102	10-18-16	PCC Curb Details
PV-203	10-15-13	HMA Base Widening
SI-172	04-19-16	Delineators
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-213	04-17-12	Lane Closure with Flaggers
TC-214	04-16-13	Lane Closure with Flaggers for use with Pilot Car
TC-217	10-18-16	Lane Closure with Signals and TBR
TC-282	04-19-11	Uneven Lanes

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-1C	ESTIMATED PROJECT QUANTITIES (UP TO A 5 DIVISION PROJECT)	C.1 - C.2
100-1D	PROJECT DESCRIPTION	C.1
100-1U	UTILITIES	C.4
100-4A	ESTIMATE REFERENCE INFORMATION	C.2 - C.4
100-17	TABULATION OF SILT FENCES	C.8
100-18	SILT FENCES FOR DITCH CHECKS	C.8
100-19	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	C.9
100-23	ROCK EROSION CONTROL	C.8
100-25	HMA PAVEMENT	C.27 - C.28
100-27	PAVEMENT SMOOTHNESS + PCC TEXTURE	C.10
100-34	STORMWATER DRAINAGE BASIN	C.8
100-35	SUMMARY OF STORMWATER STORAGE	C.9
102-3	ACCESS POINTS AND SAFETY RAMPS	C.15 - C.16
102-5	EXISTING PAVEMENT	C.10
102-6C	FULL-DEPTH PATCHES	C.16 - C.18
102-16	NOTCHES AND RUNOUTS FOR RESURFACING	C.10 - C.10
103-4	TABULATION OF SPREADING TOPSOIL	C.10
104-5C	LIST OF SUBDRAIN WORK	C.22
104-8A	SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN	C.9
104-9	LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE	C.11 - C.14
104-13	FORESLOPE FLATTENING AND DRAINAGE STRUCTURES BY ROAD CONTRACTOR (MAINLINE PIPES)	C.21
104-13A	FORESLOPE FLATTENING AND DRAINAGE STRUCTURES BY ROAD CONTRACTOR (SIDE ROAD & ENTRANCE PIPES)	C.21 - C.22
105-4	STANDARD ROAD PLANS	C.5
106-5	AREAS FOR PAVEMENT OR BASE WIDENING	C.25
107-23	GRADING FOR GUARDRAIL INSTALLATIONS	C.24
108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.24
108-22	PAVEMENT MARKING LINE TYPES	C.29
108-28	TEMPORARY TRAFFIC SIGNALS	C.25
108-29	PAVEMENT MARKING SYMBOLS AND LEGENDS	C.30
108-30	CRASH CUSHIONS	C.23
108-33	TEMPORARY BARRIER RAIL	C.23
110-1	REMOVAL OF PAVEMENT	C.19
110-2	REMOVAL OF EXISTING STRUCTURES	C.20
110-7A	REMOVAL OF STEEL BEAM GUARDRAIL	C.23
110-12A	POLLUTION PREVENTION PLAN	C.6 - C.7
110-13	DELIVERY AND STOCKPILING	C.23
110-17	CLEARING AND GRUBBING	C.20
111-25	INDEX OF TABULATIONS	C.5
112-4	CURBS AND RAISED ISLANDS	C.20
112-6	BRIDGE APPROACH SECTION	C.23
112-9	SHOULDERS	C.25 - C.26
112-10	MILLED RUMBLE STRIPS	C.31
190-61	EXISTING SIGNS TO BE REINSTALLED	C.31
300-1	DITCH RESHAPING	C.11

POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITIES

- A. Designer:
 1. Prepares Base PPP included in the project plan.
 2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
 3. Signature authority on the Base PPP and NOI.
- B. Contractor/Subcontractor:
 1. Affected contractors/subcontractors are co-permittees with the IDOT and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. Affected contractors/subcontractors are anyone responsible for sediment or erosion controls or involved in land disturbing activities. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
 2. Submit an Erosion Control Implementation Plan (ECIP) according to Specifications Section 2602 and any additional plan notes.
 3. Install and maintain appropriate controls.
 4. Supervise and implement good housekeeping practices.
 5. Conduct joint required inspections of the site with inspection staff.
 6. Comply with training and certification requirements of Specifications Section 2602.
 7. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.
- C. RCE/Inspector:
 1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
 2. Maintain an up-to-date record that identifies contractors and subcontractors as co-permittees.
 3. Make these plans available to the DNR upon their request.
 4. Conduct joint required inspections of the site with the contractor/subcontractor.
 5. Complete an inspection report after each inspection.
 6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

II. PROJECT SITE DESCRIPTION

- A. This Pollution Prevention Plan (PPP) is for the construction of a HMA Resurfacing with Paved Shoulders.
- B. This PPP covers approximately 212 acres with an estimated 5 acres being disturbed. The portion of the PPP covered by this contract has 5 acres disturbed.
- C. The PPP is located in an area of Kenyon-Clyde-Floyd (B) soil association. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.34.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
 1. Drainage patterns - Plan and Profile sheets and Situation plans.
 2. Proposed Slopes - Cross Sections.
 3. Areas of Soil Disturbance - construction limits shown on Plan and Profile sheets.
 4. Location of Structural Controls - Tabulations on C sheets.
 5. Locations of Non-structural Controls - Tabulations on C sheets.
 6. Locations of Stabilization Practices - generally within construction limits shown on Plan and Profile sheets.
 7. Surface Waters (including wetlands) - Project Location Map and Plan and Profile sheets.
 8. Locations where storm water is discharged - Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries.
- F. Runoff from this work will flow into Quarter Section Run, Crane Creek, Etter Creek, Wapsipinicon River, Buck Creek, Little Wapsipinicon River.

III. CONTROLS

- A. The contractor's ECIP specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.
- 1. EROSION AND SEDIMENT CONTROLS
 - a. Stabilization Practices
 - 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
 - 2) Stabilization practices shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
 - 3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days.
 - 4) Permanent and Temporary Stabilization practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road

POLLUTION PREVENTION PLAN

- Plans Tabulation.
- 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
- 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional information may be found in Tabulations in the C or T sheets of the plans or is referenced in Standard Specifications Section 2105.

b. Structural Practices

- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
- 2) Structural practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plans or are referenced in the Standard Road Plans Tabulation.

c. Storm Water Management

- 1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS

- a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
 - 1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
 - 2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
 - 3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
 - 4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
 - 5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
 - 6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
 - 7) Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
 - 8) Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water.
 - 9) Litter Management - Ensure employees properly dispose of litter.
 - 10) Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

The contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days. Storm water monitoring inspections will include:
 1. Date of the inspection.
 2. Summary of the scope of the inspection.
 3. Name and qualifications of the personnel making the inspection.
 5. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
 6. Major observations related to the implementation of the PPP.
 7. Identify corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items, storm water monitoring inspection reports, and


POLLUTION PREVENTION PLAN

110-12A
10-18-16

- fieldbook entries made by the inspector.
- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Signature

David L. Little

Printed or Typed Name

Signature

Printed or Typed Name

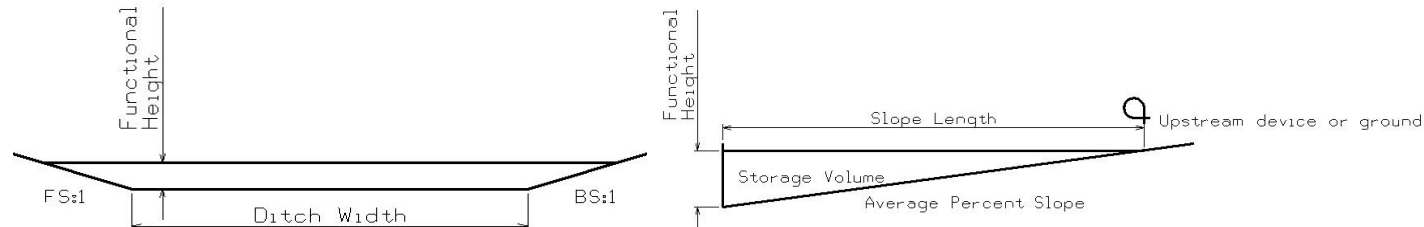
SECTION 404 PERMIT AND CONDITIONS

281-1
10-18-16

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide 14 Permit No. 2016-1459. A copy of this permit is available from the Iowa DOT website (<http://www.envpermits.iowadot.gov/>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201 Possible Detail: 570-4



* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
1	1	173+64.80	RT	40.0	4.0	40.0	3.0	40.0	15.0	1.4%	2946.2	
2	1	173+64.80	LT	40.0	4.0	40.0	3.0	40.0	5.0	1.9%	1706.0	
3	5	175+35.20	RT	40.0	4.0	40.0	3.0	40.0	10.0	0.5%	8222.8	
4	5	175+35.20	LT	40.0	4.0	40.0	3.0	40.0	20.0	0.5%	10338.1	
5a	1	285+20.00	RT	40.0	4.0	40.0	3.0	40.0	15.0	1.1%	2946.2	
6	1	311+17.00	LT	40.0	4.0	40.0	3.0	40.0	10.0	0.2%	8222.8	
7	1	311+08.00	RT	40.0	4.0	40.0	3.0	40.0	15.0	0.4%	9280.4	
8	1	312+34.00	LT	40.0	4.0	40.0	3.0	40.0	10.0	0.8%	4046.2	
9	1	410+27.50	RT	40.0	4.0	40.0	3.0	40.0	10.0	0.5%	8222.8	
10	1	410+27.50	LT	40.0	4.0	40.0	3.0	40.0	15.0	0.5%	9280.4	
11	1	410+82.90	RT	40.0	4.0	40.0	3.0	40.0	15.0	0.5%	9280.4	
12	1	410+82.90	LT	40.0	4.0	40.0	3.0	40.0	20.0	0.5%	10338.1	
13	1	434+54.00	RT	40.0	4.0	40.0	3.0	40.0	15.0	0.5%	9280.4	
14	1	434+54.00	LT	40.0	4.0	40.0	3.0	40.0	10.0	0.5%	8222.8	
15	1	439+02.00	RT	40.0	4.0	40.0	3.0	40.0	20.0	0.5%	10338.1	
16	1	439+02.00	LT	40.0	4.0	40.0	3.0	40.0	20.0	0.5%	10338.1	
17	1	451+40.00	RT	40.0	4.0	40.0	3.0	40.0	20.0	0.5%	10338.1	
18	1	451+66.00	LT	40.0	4.0	40.0	3.0	40.0	20.0	0.5%	10338.1	
19	1	454+76.00	RT	40.0	4.0	40.0	3.0	40.0	5.0	0.5%	7165.2	
20	1	454+61.00	LT	40.0	4.0	40.0	3.0	40.0	20.0	0.5%	10338.1	
21	1	511+40.00	RT	40.0	4.0	40.0	3.0	5.0	15.0	2.1%	820.8	
22	1	511+40.00	LT	40.0	4.0	40.0	3.0	9.0	15.0	2.2%	929.0	
23	1	531+96.00	RT	40.0	4.0	40.0	3.0	4.5	20.0	1.9%	1260.9	
24	1	531+96.00	LT	40.0	4.0	40.0	3.0	5.0	20.0	2.5%	1022.2	
				960.0	96.0	960.0						

STORMWATER DRAINAGE BASIN

Basin No.	Station to Station		Side	Disturbed Area Acres	Discharge Point		Required Storage Volume CF	Remarks
					Station	Side		
1	171+10.00	173+65.00	RT	0.1	173+65.00	RT	312.8	Guardrail blister grading
2	172+10.00	173+65.00	LT	0.1	173+65.00	LT	312.8	Guardrail blister grading
3	175+35.00	177+90.00	RT	0.1	175+35.00	RT	312.8	Guardrail blister grading
4	175+35.00	177+90.00	LT	0.1	175+35.00	LT	312.8	Guardrail blister grading
5a	280+43.00	284+87.00	RT	0.2	285+20.00	RT	733.9	Turn lane-Quarter
6	298+90.00	310+90.00	LT	0.5	311+17.00	LT	1800.0	Turn lane-V49/Reed
7	307+66.00	311+44.00	RT	0.2	311+08.00	RT	624.8	Turn lane-V49/Reed
8	311+67.00	323+13.00	LT	0.6	312+34.00	LT	2160.0	Turn lane-V49/Reed
9	408+25.00	410+30.00	RT	0.1	410+28.00	RT	360.0	Guardrail blister grading
10	408+50.00	410+30.00	LT	0.1	410+28.00	LT	360.0	Guardrail blister grading
11	410+75.00	412+60.00	RT	0.1	410+75.00	RT	360.0	Guardrail blister grading
12	410+75.00	412+85.00	LT	0.1	410+75.00	LT	360.0	Guardrail blister grading
13	431+90.00	434+60.00	RT	0.1	434+54.00	RT	386.8	Guardrail blister grading
14	432+25.00	434+60.00	LT	0.1	434+54.00	LT	460.2	Guardrail blister grading
15	438+92.00	441+27.00	RT	0.1	438+92.00	RT	460.2	Guardrail blister grading
16	438+92.00	441+62.00	LT	0.1	438+92.00	LT	386.8	Guardrail blister grading
17	451+32.00	453+27.00	RT	0.1	453+27.00	RT	360.0	Guardrail blister grading
18	451+72.00	453+27.00	LT	0.1	453+27.00	LT	360.0	Guardrail blister grading
19	454+69.00	456+24.00	RT	0.1	454+69.00	RT	360.0	Guardrail blister grading
20	454+69.00	456+64.00	LT	0.1	454+69.00	LT	360.0	Guardrail blister grading
21	509+47.00	521+77.00	RT	0.6	511+64.00	RT	2033.1	Turn lane-V56/Viking
22	522+02.00	534+33.00	RT	0.6	533+57.00	RT	2034.7	Turn lane-V56/Viking
				4.2			15211.6	TOTALS

TABULATION OF SILT FENCES

Refer to EC-201

Location		Side	Length LF	Remarks
Begin Station	End Station			
171+10.00	173+65.00	RT	275.0	SW Corner
171+10.00	173+65.00	LT	275.0	NW Corner
175+35.00	177+90.00	RT	275.0	SE Corner
175+35.00	177+90.00	LT	275.0	NE Corner
282+00.00	286+00.00	RT	480.0	SW Corner-Quarter
300+00.00	310+90.00	LT	1190.0	NW Corner-V49
307+69.00	310+94.00	RT	345.0	SW Corner-V49
312+00.00	323+10.00	LT	1210.0	NE Corner-V49
408+25.00	410+30.00	RT	225.0	SW Corner
408+50.00	410+30.00	LT	180.0	NW Corner
410+75.00	412+60.00	RT	185.0	SE Corner
410+75.00	412+85.00	LT	230.0	NE Corner
431+90.00	434+60.00	RT	290.0	SW Corner
432+25.00	434+60.00	LT	255.0	NW Corner
438+92.00	441+27.00	RT	255.0	SE Corner
438+92.00	441+62.00	LT	290.0	NE Corner
451+32.00	453+27.00	RT	195.0	SW Corner
451+72.00	453+27.00	LT	155.0	NW Corner
454+69.00	456+24.00	RT	155.0	SE Corner
454+69.00	456+64.00	LT	195.0	NE Corner
513+89.00	521+29.00	RT	800.0	SW Corner-V56
522+50.00	531+95.00	RT	1045.0	SE Corner-V56
			8780.0	TOTAL

ROCK EROSION CONTROL

Refer to EC-301

Road Identification	Begin Station	End Station	Side	L (ft)	W (ft)	Rock Erosion Control (REC)					Material Bid Quantities			Remarks	
						Type 1	Type 2	Type 3	Type 4	Type 5	Erosion Stone	Class E Revetment	Eng. Fabric		
						Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection	TON	TON	SY		
IA 3															
Mainline pipes	42+40.00		RT	16	18				x		34.5		53.7		
Mainline pipes	218+68.00		RT	12.5	15				x		22.5		38.9		
Mainline pipes	272+49.00		RT	12.5	15				x		22.5		38.9		
Mainline pipes	369+33.00		RT	12	15				x		21.5		37.8		
Mainline pipes	667+44.00		LT	11	9			x			6.0		24.9		
											107.0		194.2	TOTALS	

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
171+80.00	173+65.00	RT		185.0		SW Corner
171+10.00	173+65.00	LT		255.0		NW Corner
175+35.00	177+90.00	RT		255.0		SE Corner
175+35.00	177+90.00	LT		255.0		NE Corner
				0.0		
282+00.00	284+87.00	RT		290.0		SW Corner- Quarter
300+00.00	310+90.00	LT		1090.0		NW Corner-V-49
307+69.00	310+94.00	RT		325.0		SW Corner-V-49
312+17.00	323+12.00	LT		1095.0		NE Corner-V-49
				0.0		
408+25.00	410+30.00	RT		205.0		SW Corner
408+50.00	410+30.00	LT		180.0		NW Corner
410+75.00	412+60.00	RT		185.0		SE Corner
410+75.00	412+85.00	LT		210.0		NE Corner
				0.0		
431+90.00	434+60.00	RT		270.0		SW Corner
432+25.00	434+60.00	LT		235.0		NW Corner
438+92.00	441+27.00	RT		235.0		SE Corner
438+92.00	441+62.00	LT		270.0		NE Corner
				0.0		
451+32.00	453+27.00	RT		195.0		SW Corner
451+72.00	453+27.00	LT		155.0		NW Corner
454+69.00	456+24.00	RT		155.0		SE Corner
454+69.00	456+64.00	LT		195.0		NE Corner
				0.0		
509+49.00	521+29.00	RT		1180.0		SW Corner V-56
522+52.00	534+32.00	RT		1180.0		SE Corner V-56
				8600.0		TOTAL

100-35
04-19-16

SUMMARY OF STORMWATER STORAGE

Basin No.	Item	Total Storage Volume Provided	Total Storage Volume Required	Remarks
		CF	CF	
1	SW guardrail blister grading	2946	313	
2	NW guardrail blister grading	1706	313	
3	SE guardrail blister grading	8223	313	
4	NE guardrail blister grading	10338	313	
5a	Quarter Ave turn lane grading	2946	734	
6	V49/Reed turn lane grading	8223	1800	
7	V49/Reed turn lane grading	9280	625	
8	V49/Reed turn lane grading	4046	2160	
9	SW guardrail blister grading	8223	360	
10	NW guardrail blister grading	9280	360	
11	SE guardrail blister grading	9280	360	
12	NE guardrail blister grading	10338	360	
13	SW guardrail blister grading	9280	387	
14	NW guardrail blister grading	8223	460	
15	SE guardrail blister grading	10338	460	
16	NE guardrail blister grading	10338	387	
17	SW guardrail blister grading	10338	360	
18	NW guardrail blister grading	10338	360	
19	SE guardrail blister grading	7165	360	
20	NE guardrail blister grading	10338	360	
21	V56/Viking turn lane grading	821	2033	
22	V56/Viking turn lane grading	1261	2035	
		163271	14899	TOTALS

104-8A
04-21-15

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

Refer to Standard Road Plan DR-401 and DR-402

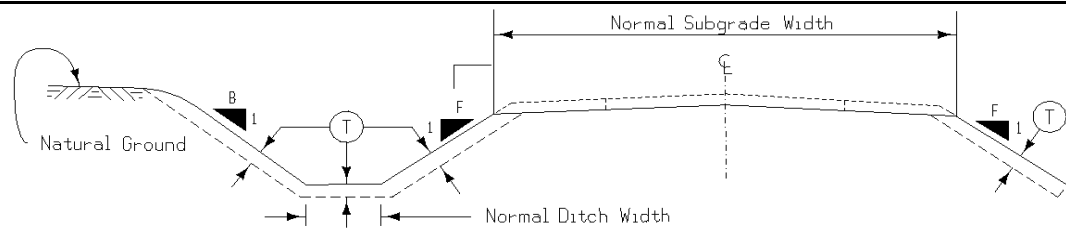
Location			Bid Items		PCC Paved Shoulder			Scour Protection (DR-401)		Rock Flume (DR-402)			Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	PCC Paved Shoulder	Bridge End Drain	Panels Required	Polymer Grid	Modified Subbase	Outlet or Channel Scour Protection	Turf Reinforced Mat (TRM), Type 2	Macadam Stone Base	Engineering Fabric	Erosion Stone	
			SY	TYPE	A B C or D	SY	TONS	SF	SQ	TONS	SY	TONS	
174+50.00	SE	32.5	11.1	DR-401	A	11.1	10.500	32.0	2.0				
174+50.00	NE	32.5	11.1	DR-401	B	11.1	10.500	32.0	2.0				
410+53.60	SW	31.7	24.4	DR-401	B	24.4	23.100	32.0	1.6				
410+53.60	NW	31.7	24.4	DR-401	A	24.4	23.100	32.0	1.6				
410+53.60	SE	31.7	24.4	DR-401	A	24.4	23.100	32.0	1.6				
410+53.60	NE	31.7	24.4	DR-401	B	24.4	23.100	32.0	1.6				
436+76.00	SW	32.5	26.7	DR-401	B	26.7	25.200	32.0	1.6				
436+76.00	NW	32.5	26.7	DR-401	A	26.7	25.200	32.0	1.6				
436+76.00	SE	32.5	26.7	DR-401	A	26.7	26.700	32.0	1.6				
436+76.00	NE	32.5	26.7	DR-401	B	26.7	26.700	32.0	1.6				
454+00.00	SW	33.5	26.7	DR-401	B	26.7	25.200	32.0	1.6				
454+00.00	NW	33.5	26.7	DR-401	A	26.7	25.200	32.0	1.6				
454+00.00	SE	33.5	26.7	DR-401	A	26.7	25.200	32.0	1.6				
454+00.00	NE	33.5	26.7	DR-401	B	26.7	25.200	32.0	1.6				
			333.4	14									TOTALS

282-1
10-19-10

RESTRICTED STREAM ACCESS

A low water crossing for the Contractor's convenience is not allowed on this project. Stream bank disturbance and access to Wapsipicicon River is not allowed unless specifically designated in the plans. No other access will be allowed.

TABULATION OF SPREADING TOPSOIL



Perform this work according to Section 2105. Prior to placing topsoil on any cohesive soil, scarify the area to be covered to a minimum depth of 3 inches.

Appropriate adjustments have been made in the template quantities to reflect the placement of topsoil on foreslope, backslope and ditch bottom as detailed hereon.

Placement Description						Remarks	Topsoil Excavation Available From		Remarks
Area	Quantity	Location		Side	Slope		Amount Reserved	Station to Station	
No.	CY	Station to Station		L. or R.	B. or F.	T IN			
	190.0	171+10.00	177+90.00	B	F	4.0		Guardrail grading	
	75.0	408+25.00	412+85.00	B	F	4.0		Guardrail grading	
	255.0	431+90.00	441+62.00	B	F	4.0		Guardrail grading	
	35.0	451+32.00	456+64.00	B	F	4.0		Guardrail grading	
	204.0	Var	Var	B	F	4.0		Pipe work	
	44.0	282+00.00	285+55.00	B	F	4.0		Quarter turn lane work	
	1322.6	298+90.00	323+13.00	B	F	4.0		V49 turn lane work	
	1458.2	509+47.00	534+33.00	B	F	4.0		V56 turn lane work	
	3583.8							TOTAL	

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Milepost	End Milepost				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
9	3	1	228.41	241.42		1998	MP-3-2(700)228-76-09	MSS													
						1990	F-3-6(33)--21-09	AAC	4					MIL	3	TRIPOLI-PLATTE	C. LST.				
						1965	F-88(8)	AAC	3							FAIRBANK	C. LST.				
						1965	F-88(8)	PCC	9							BROOKS	GRAVEL	2			
						1930	FA-33B & P-438	PC7	7							CLARKSVILLE	GRAVEL	2			

PAVEMENT SMOOTHNESS + PCC TEXTURE

Road Identification	Begin Station	End Station	Proposed Posted Speed			Remarks
			35 or less	40 - 45	over 45	
IA 3	22+92.00	676+92.00			x	

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

① Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

Location Station	Type of Notch or Runout	(S)	(I)	(DI)	(L)	(M)	Pavement Scarification	Remarks
		IN	IN	IN	FT	IN	SY	
23+42.0	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Begin CIP
173+64.8	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Bridge
175+35.2	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Bridge
409+63.6	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Bridge
411+43.6	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Bridge
433+92.6	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Bridge
439+59.6	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Bridge
452+62.6	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Bridge

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

① Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

Location Station	Type of Notch or Runout	(S)	(I)	(DI)	(L)	(M)	Pavement Scarification	Remarks
		IN	IN	IN	FT	IN	SY	
455+37.6	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Bridge
559+20.0	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Future bridge project tie-in
564+65.0	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	Future bridge project tie-in
676+92.0	Type 'N3'	1.5	2.0		200.0	1.5	See Tab 100-25	End CIP
Sideroads								
206+10.0	Type 'N3'	1.5	2.0		45.0	1.5	See Tab 100-25	V43/Piedmont
285+38.1	Type 'N3'	1.5	2.0		60.0	1.5	See Tab 100-25	Quarter
311+53.3	Type 'N3'	1.5	2.0		56.0	1.5	See Tab 100-25	V49/Reed
521+90.3	Type 'N3'	1.5	2.0		58.0	1.5	See Tab 100-25	V56/Viking
521+90.3	Type 'N3'	1.5	2.0		46.0	1.5	See Tab 100-25	V56/Viking
280+45.0	Type 'R2'	1.5	2.0		10.0			Business entrance
285+76.0	Type 'R2'	1.5	2.0		10.0			Church entrance

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

① Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Line No.	Road or Lane Ident.	Location			Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill	Class "A"*** Crushed Stone	Remarks	
		Station to Station	Side	Shoulder		Backslope		Bridge Berm ①			DR-303, DR-304, or DR-305	Station	Standard Road Plan and Type				
				Depth	Size	Length	Size	Length	Size	Type							Length
	EBL	42+40.00	46+40.00	RT	48.0	4.0	20.0					42+40.00		2.2		UAC	
	EBL	46+40.00	50+00.00	RT	48.0	4.0	20.0					46+40.00	DR-304	2.2	0.2	Add outlet only	
	EBL	50+00.00	54+00.00	RT	36.0	4.0	20.0					50+00.00		1.5		UAC	
	EBL	54+00.00	58+00.00	RT	36.0	4.0	40.0					54+00.00	DR-304	3.1	0.2	Add outlet only	
	EBL	58+00.00	60+00.00	RT	36.0	4.0	20.0					58+00.00	DR-304	1.5	0.2	Add outlet only	
	EBL	60+00.00	64+00.00	RT	36.0	4.0	20.0					60+00.00		1.5		UAC	
	EBL	64+00.00	68+00.00	RT	36.0	4.0	40.0					64+00.00	DR-304	3.1	0.2	Add outlet only	
	EBL	68+00.00	70+00.00	RT	36.0	4.0	20.0					68+00.00	DR-304	1.5	0.2	Add outlet only	
	EBL	70+00.00	74+80.00	RT	36.0	4.0	20.0					70+00.00		1.5		UAC	
	EBL	74+80.00	79+60.00	RT	36.0	4.0	20.0					74+80.00	DR-304	1.5	0.2	Add outlet only	
	EBL	79+65.00	83+80.00	RT	36.0	4.0	20.0					79+65.00		1.5		UAC	
	EBL	83+80.00	88+00.00	RT	36.0	4.0	20.0					83+80.00	DR-304	1.5	0.2	Add outlet only	
1	EBL	88+00.00	92+00.00	RT	36.0	4.0	440.0					88+00.00	DR-304	34.0	0.2	Add outlet only	
2	EBL	92+00.00	96+00.00	RT	36.0	4.0	440.0					92+00.00	DR-304	34.0	0.2	Add outlet only	
3	EBL	96+00.00	100+00.00	RT	36.0	4.0	440.0					96+00.00	DR-304	34.0	0.2	Add outlet only	
4	EBL	100+00.00	104+00.00	RT	36.0	4.0	440.0					100+00.00	DR-304	34.0	0.2	Add outlet only	
5	EBL	104+00.00	108+00.00	RT	36.0	4.0	440.0					104+00.00	DR-304	34.0	0.2	Add outlet only	
6	EBL	108+00.00	112+00.00	RT	36.0	4.0	440.0					108+00.00	DR-304	34.0	0.2	Add outlet only	
	EBL	112+00.00	118+10.00	RT	36.0	4.0	20.0					112+00.00		1.5		UAC	
	EBL	118+15.00	121+00.00	RT	30.0	4.0	0.0					118+15.00				UAC	
	EBL	139+90.00	143+90.00	RT	36.0	4.0	20.0					139+90.00		1.5		UAC	
	EBL	143+90.00	148+00.00	RT	36.0	4.0	20.0					143+90.00	DR-304	1.5	0.2	Add outlet only	
	EBL	148+00.00	154+00.00	RT	36.0	4.0	0.0					148+00.00				UAC	
	EBL	154+00.00	160+00.00	RT	36.0	4.0	0.0					154+00.00				UAC	
	EBL	176+50.00	181+00.00	RT	48.0	4.0	0.0					176+50.00				UAC	
	EBL	181+00.00	185+00.00	RT	48.0	4.0	20.0					181+00.00		2.2		UAC	
	EBL	185+00.00	188+00.00	RT	48.0	4.0	20.0					185+00.00	DR-304	2.2	0.2	Add outlet only	
	EBL	188+00.00	192+00.00	RT	36.0	4.0	20.0					188+00.00		1.5		UAC	
	EBL	192+00.00	195+00.00	RT	36.0	4.0	20.0					192+00.00	DR-304	1.5	0.2	Add outlet only	
	EBL	195+00.00	200+10.00	RT	36.0	4.0	0.0					195+00.00				UAC	
	EBL	212+00.00	218+60.00	RT	30.0	4.0	0.0					212+00.00				UAC	
	EBL	218+65.00	225+00.00	RT	30.0	4.0	0.0					218+65.00				UAC	
7	EBL	225+00.00	229+00.00	RT	30.0	4.0	440.0					225+00.00	DR-304	27.2	0.2	Add outlet only	
8	EBL	229+00.00	233+00.00	RT	30.0	4.0	440.0					229+00.00	DR-304	27.2	0.2	Add outlet only	
9	EBL	233+00.00	238+00.00	RT	30.0	4.0	540.0					233+00.00	DR-304	33.3	0.2	Add outlet only	
	EBL	238+00.00	241+50.00	RT	36.0	4.0	20.0					238+00.00		1.5		UAC	
	EBL	241+50.00	245+00.00	RT	36.0	4.0	20.0					241+50.00	DR-304	1.5	0.2	Add outlet only	
	EBL	245+00.00	248+00.00	RT	30.0	4.0	20.0					245+00.00		1.2		UAC	
	EBL	248+00.00	251+00.00	RT	30.0	4.0	20.0					248+00.00	DR-304	1.2	0.2	Add outlet only	

DITCH RESHAPING

Refer to EW-105

Station to Station	Side	SJA	Remarks
Mainline			
139+82.00	RT	0.5	
139+82.00	LT	0.5	
218+68.00	RT	1.0	
218+68.00	LT	1.0	
258+40.00	RT	0.5	
258+40.00	LT	0.5	
258+97.00	RT	0.8	
258+97.00	LT	0.5	
272+49.00	RT	0.5	
272+49.00	LT	0.5	
312+31.00	RT	1.0	
312+31.00	LT	1.0	
369+33.00	RT	1.0	
511+62.00	RT	1.0	
511+62.00	LT	1.0	
575+14.00	RT	0.8	
575+14.00	LT	0.5	
625+86.00	RT	0.5	
625+86.00	LT	0.5	
667+44.00	LT	1.0	
Sideroad/	Entrance	Pipes	
46+76.00	RT	0.5	
54+39.00	LT	0.5	
69+05.00	LT	0.2	
99+78.00	RT	0.2	
99+82.00	LT	0.5	
133+35.00	LT	0.2	
142+93.00	LT	0.5	
200+26.00	RT	1.0	
203+34.00	RT	1.0	
203+34.00	RT	0.5	
206+10.00	LT	1.0	
208+51.00	RT	1.0	
232+41.00	RT	0.5	
242+66.00	LT	0.5	
266+63.00	LT	0.2	
282+87.00	LT	1.0	
282+87.00	LT	0.5	
285+76.00	LT	1.8	
286+05.00	LT	0.5	
295+28.00	RT	0.7	
364+39.50	RT	0.5	
364+39.50	LT	0.5	
380+66.00	LT	0.5	
541+42.00	RT	1.0	
597+85.00	LT	0.5	
		30.4	TOTAL

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

① Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Line No.	Location		Side	Depth D	Longitudinal Subdrain (DR-303)						Subdrain Outlet		Porous* Backfill CY	Class "A**" Crushed Stone CY	Remarks	
	Road or Lane Ident.	Station to Station			Shoulder		Backslope		Bridge Berm ①		DR-303, DR-304, or DR-305					
					Size	Length	Size	Length	Size	Type	Length	Station				Standard Road Plan and Type
					IN	FT	IN	FT	IN	FT	FT					
	EBL	251+00.00	254+50.00	RT	30.0	4.0	20.0					251+00.00			UAC	
												251+00.00			UAC	
												254+50.00	DR-304	0.2	Add outlet only	
	EBL	254+50.00	258+35.00	RT	30.0	4.0	20.0					254+50.00	DR-304	1.2	Add outlet only	
												258+35.00			UAC	
10	EBL	258+35.00	263+15.00	RT	30.0	4.0	520.0					258+35.00	DR-304	32.1	Add outlet only	
												263+15.00	DR-304	0.2	Add outlet only	
11	EBL	263+15.00	268+00.00	RT	30.0	4.0	525.0					263+15.00	DR-304	32.4	Add outlet only	
												268+00.00	DR-304	0.2	Add outlet only	
	EBL	268+00.00	272+45.00	RT	30.0	4.0	0.0					268+00.00			UAC	
												272+45.00			UAC	
	EBL	272+50.00	277+70.00	RT	48.0	4.0	20.0					272+50.00		2.2	UAC	
												277+70.00	DR-304	0.2	Add outlet only	
	EBL	277+70.00	282+90.00	RT	48.0	4.0	20.0					277+70.00	DR-304	2.2	Add outlet only	
												282+90.00	DR-304	0.2	Extend for turn lane	
	EBL	283+00.00	284+50.00	RT	36.0	4.0	40.0					283+00.00	DR-304	3.1	Extend for turn lane	
												284+50.00	DR-304	0.2	Extend for turn lane	
12	EBL	297+00.00	301+00.00	RT	30.0	4.0	440.0					297+00.00	DR-304	27.2	Extend for turn lane	
												301+00.00	DR-304	0.2		
13	EBL	301+00.00	306+00.00	RT	30.0	4.0	540.0					301+00.00	DR-304	33.3		
												306+00.00	DR-304	0.2		
14	EBL	306+00.00	311+00.00	RT	30.0	4.0	540.0					306+00.00	DR-304	33.3		
												311+00.00	DR-304	0.2	Turn lane construction	
15	EBL	313+00.00	317+00.00	RT	30.0	4.0	440.0					313+00.00	DR-304	27.2		
												317+00.00	DR-304	0.2		
16	EBL	317+00.00	321+00.00	RT	30.0	4.0	440.0					317+00.00	DR-304	27.2		
												321+00.00	DR-304	0.2		
17	EBL	321+00.00	325+00.00	RT	30.0	4.0	440.0					321+00.00	DR-304	27.2		
												325+00.00	DR-304	0.2		
18	EBL	325+00.00	329+00.00	RT	30.0	4.0	440.0					325+00.00	DR-304	27.2		
												329+00.00	DR-304	0.2		
19	EBL	329+00.00	333+00.00	RT	30.0	4.0	440.0					329+00.00	DR-304	27.2		
												333+00.00	DR-304	0.2		
20	EBL	333+00.00	337+00.00	RT	30.0	4.0	440.0					333+00.00	DR-304	27.2		
												337+00.00	DR-304	0.2		
21	EBL	337+00.00	342+00.00	RT	30.0	4.0	540.0					337+00.00	DR-304	33.3		
												342+00.00	DR-304	0.2		
22	EBL	342+00.00	346+95.00	RT	30.0	4.0	535.0					342+00.00	DR-304	33.0		
												346+95.00	DR-304	0.2		
	EBL	347+05.00	352+05.00	RT	36.0	4.0	20.0					347+05.00		1.5	UAC	
												352+05.00	DR-304	0.2	Add outlet only	
	EBL	352+05.00	357+00.00	RT	36.0	4.0	20.0					352+05.00	DR-304	1.5	Add outlet only	
												357+00.00			UAC	
	EBL	357+00.00	360+00.00	RT	36.0	4.0	0.0					357+00.00			UAC	
												360+00.00			UAC	
	EBL	384+00.00	390+00.00	RT	48.0	4.0	0.0					384+00.00			UAC	
												390+00.00			UAC	
23	EBL	390+00.00	394+00.00	RT	42.0	4.0	440.0					390+00.00			UAC	
												394+00.00	DR-304	40.7	0.2	
24	EBL	394+00.00	398+00.00	RT	42.0	4.0	440.0					394+00.00	DR-304	40.7	0.2	
												398+00.00	DR-304	0.2		
25	EBL	398+00.00	402+00.00	RT	42.0	4.0	440.0					398+00.00	DR-304	40.7	0.2	
												402+00.00	DR-304	0.2		
26	EBL	402+00.00	406+00.00	RT	42.0	4.0	440.0					402+00.00	DR-304	40.7	0.2	
												406+00.00	DR-304	0.2		
27	EBL	406+00.00	408+10.00	RT	42.0	4.0	250.0					406+00.00	DR-304	23.1	0.2	
												408+10.00	DR-304	0.2		
	EBL	458+60.00	462+00.00	RT	48.0	4.0	0.0					458+60.00			UAC	
												462+00.00			UAC	
	EBL	462+00.00	466+50.00	RT	48.0	4.0	0.0					462+00.00			UAC	
												466+50.00			UAC	
	EBL	466+50.00	470+75.00	RT	48.0	4.0	20.0					466+50.00		2.2	UAC	
												470+75.00	DR-304	0.2	Add outlet only	
	EBL	470+75.00	475+00.00	RT	48.0	4.0	20.0					470+75.00	DR-304	2.2	Add outlet only	
												475+00.00			UAC	
	EBL	475+00.00	481+00.00	RT	48.0	4.0	0.0					475+00.00			UAC	
												481+00.00			UAC	
	EBL	481+00.00	485+00.00	RT	48.0	4.0	20.0					481+00.00		2.2	UAC	
												485+00.00	DR-304	0.2	Add outlet only	
	EBL	485+00.00	490+00.00	RT	48.0	4.0	20.0					485+00.00	DR-304	2.2	Add outlet only	
												490+00.00			UAC	
	EBL	530+00.00	535+00.00	RT	48.0	4.0	20.0					530+00.00		2.2	UAC	
												535+00.00	DR-304	0.2	Add outlet only	
	EBL	535+00.00	540+00.00	RT	48.0	4.0	20.0					535+00.00	DR-304	2.2	Add outlet only	
												540+00.00			UAC	
28	EBL	540+00.00	544+00.00	RT	42.0	4.0	440.0					540+00.00	DR-304	40.7	0.2	
												544+00.00	DR-304	0.2		

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

① Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Line No.	Road or Lane Ident.	Location			Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill	Class "A"*** Crushed Stone	Remarks
		Station to Station	Side	Shoulder		Backslope		Bridge Berm ①			DR-303, DR-304, or DR-305	Standard Road Plan and Type				
				Depth	Size	Length	Size	Length	Size	Type			Length			
29	EBL	544+00.00	548+00.00	RT	42.0	4.0	440.0					544+00.00	DR-304	40.7	0.2	
												548+00.00	DR-304		0.2	
30	EBL	548+00.00	552+00.00	RT	42.0	4.0	440.0					548+00.00	DR-304	40.7	0.2	
												552+00.00	DR-304		0.2	
31	EBL	552+00.00	556+00.00	RT	42.0	4.0	440.0					552+00.00	DR-304	40.7	0.2	
												556+00.00	DR-304		0.2	
32	EBL	556+00.00	559+50.00	RT	42.0	4.0	390.0					556+00.00	DR-304	36.1	0.2	
												559+50.00	DR-304		0.2	
33	EBL	561+75.00	564+00.00	RT	42.0	4.0	265.0					561+75.00	DR-304	24.5	0.2	
												564+00.00	DR-304		0.2	
34	EBL	564+00.00	568+00.00	RT	42.0	4.0	440.0					564+00.00	DR-304	40.7	0.2	
												568+00.00	DR-304		0.2	
35	EBL	568+00.00	572+00.00	RT	42.0	4.0	440.0					568+00.00	DR-304	40.7	0.2	
												572+00.00	DR-304		0.2	
36	EBL	572+00.00	576+00.00	RT	42.0	4.0	440.0					572+00.00	DR-304	40.7	0.2	
												576+00.00	DR-304		0.2	
37	EBL	576+00.00	580+00.00	RT	42.0	4.0	440.0					576+00.00	DR-304	40.7	0.2	
												580+00.00	DR-304		0.2	
38	EBL	580+00.00	584+00.00	RT	42.0	4.0	440.0					580+00.00	DR-304	40.7	0.2	
												584+00.00	DR-304		0.2	
39	EBL	584+00.00	588+00.00	RT	42.0	4.0	440.0					584+00.00	DR-304	40.7	0.2	
												588+00.00	DR-304		0.2	
40	EBL	588+00.00	592+00.00	RT	42.0	4.0	440.0					588+00.00	DR-304	40.7	0.2	
												592+00.00	DR-304		0.2	
41	EBL	592+00.00	595+00.00	RT	42.0	4.0	340.0					592+00.00	DR-304	31.5	0.2	
												595+00.00	DR-304		0.2	
	EBL	595+00.00	600+00.00	RT	36.0	4.0	20.0					595+00.00		1.5		UAC
												600+00.00	DR-304		0.2	Add outlet only
	EBL	600+00.00	605+00.00	RT	36.0	4.0	20.0					600+00.00	DR-304	1.5		Add outlet only
												605+00.00				UAC
	EBL	605+00.00	609+00.00	RT	36.0	4.0	20.0					605+00.00		1.5		UAC
												609+00.00	DR-304		0.2	Add outlet only
	EBL	609+00.00	614+00.00	RT	36.0	4.0	20.0					609+00.00	DR-304	1.5		Add outlet only
												614+00.00				UAC
42	EBL	614+00.00	618+00.00	RT	42.0	4.0	440.0					614+00.00	DR-304	40.7	0.2	
												618+00.00	DR-304		0.2	
41	EBL	618+00.00	622+00.00	RT	42.0	4.0	440.0					618+00.00	DR-304	40.7	0.2	
												622+00.00	DR-304		0.2	
43	EBL	622+00.00	626+00.00	RT	42.0	4.0	440.0					622+00.00	DR-304	40.7	0.2	
												626+00.00	DR-304		0.2	
	EBL	626+00.00	630+20.00	RT	48.0	4.0	20.0					626+00.00		2.2		UAC
												630+20.00	DR-304		0.2	Add outlet only
	EBL	630+20.00	632+00.00	RT	48.0	4.0	20.0					630+20.00	DR-304	2.2		Add outlet only
												632+00.00	DR-304		0.2	Add outlet only
	EBL	632+00.00	636+00.00	RT	48.0	4.0	20.0					632+00.00	DR-304	2.2		Add outlet only
												636+00.00				UAC
44	EBL	636+00.00	640+00.00	RT	42.0	4.0	440.0					636+00.00	DR-304	40.7	0.2	
												640+00.00	DR-304		0.2	
45	EBL	640+00.00	644+00.00	RT	42.0	4.0	440.0					640+00.00	DR-304	40.7	0.2	
												644+00.00	DR-304		0.2	
	EBL	644+00.00	649+50.00	RT	48.0	4.0	20.0					644+00.00		2.2		UAC
												649+50.00	DR-304		0.2	Add outlet only
	EBL	649+50.00	653+00.00	RT	48.0	4.0	20.0					649+50.00	DR-304	2.2		Add outlet only
												653+00.00				UAC
	EBL	653+00.00	657+00.00	RT	48.0	4.0	20.0					653+00.00		2.2		UAC
												657+00.00	DR-304		0.2	Add outlet only
	EBL	657+00.00	661+00.00	RT	48.0	4.0	20.0					657+00.00	DR-304	2.2		Add outlet only
												661+00.00				UAC
	EBL	661+00.00	667+40.00	RT	48.0	4.0	0.0					661+00.00				UAC
												667+40.00				UAC
	EBL	667+40.00	671+20.00	RT	48.0	4.0	20.0					667+40.00		2.2		UAC
												671+20.00	DR-304		0.2	Add outlet only
	EBL	671+20.00	675+00.00	RT	48.0	4.0	20.0					671+20.00	DR-304	2.2		Add outlet only
												675+00.00				UAC
	EBL	675+00.00	679+00.00	RT	48.0	4.0	0.0					675+00.00				UAC
												679+00.00				UAC
46	WBL	530+00.00	526+00.00	LT	42.0	4.0	440.0					530+00.00	DR-304	40.7	0.2	
												526+00.00	DR-304		0.2	
47	WBL	526+00.00	521+50.00	LT	42.0	4.0	490.0					526+00.00	DR-304	45.4	0.2	
												521+50.00	DR-304		0.2	
48	WBL	521+50.00	517+00.00	LT	42.0	4.0	490.0					521+50.00	DR-304	45.4	0.2	
												517+00.00	DR-304		0.2	
49	WBL	517+00.00	512+50.00	LT	42.0	4.0	490.0					517+00.00	DR-304	45.4	0.2	
												512+50.00	DR-304		0.2	
50	WBL	512+50.00	508+00.00	LT	42.0	4.0	490.0					512+50.00	DR-304	45.4	0.2	
												508+00.00	DR-304		0.2	
51	WBL	508+00.00	503+50.00	LT	42.0	4.0	490.0					508+00.00	DR-304	45.4	0.2	
												503+50.00	DR-304		0.2	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

① Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Line No.	Road or Lane Ident.	Location			Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill	Class "A"*** Crushed Stone	Remarks
		Station to Station	Side	Shoulder		Backslope		Bridge Berm ①			DR-303, DR-304, or DR-305	Standard Road Plan and Type				
				Depth	Size	Length	Size	Length	Size	Type			Length			
52	WBL	503+50.00	499+00.00	LT	42.0	4.0	490.0					503+50.00	DR-304	45.4	0.2	
												503+50.00	DR-304		0.2	
												499+00.00	DR-304		0.2	
53	WBL	499+00.00	494+50.00	LT	42.0	4.0	490.0					499+00.00	DR-304	45.4	0.2	
												499+00.00	DR-304		0.2	
												494+50.00	DR-304		0.2	
54	WBL	494+50.00	490+00.00	LT	42.0	4.0	490.0					494+50.00	DR-304	45.4	0.2	
												494+50.00	DR-304		0.2	
												490+00.00	DR-304		0.2	
55	WBL	458+50.00	455+00.00	LT	42.0	4.0	390.0					458+50.00	DR-304	36.1	0.2	
												455+00.00	DR-304		0.2	
56	WBL	453+00.00	449+00.00	LT	42.0	4.0	440.0					453+00.00	DR-304	40.7	0.2	
												449+00.00	DR-304		0.2	
57	WBL	449+00.00	445+00.00	LT	42.0	4.0	440.0					449+00.00	DR-304	40.7	0.2	
												445+00.00	DR-304		0.2	
58	WBL	445+00.00	441+00.00	LT	42.0	4.0	440.0					445+00.00	DR-304	40.7	0.2	
												441+00.00	DR-304		0.2	
59	WBL	441+00.00	437+00.00	LT	42.0	4.0	440.0					441+00.00	DR-304	40.7	0.2	
												437+00.00	DR-304		0.2	
60	WBL	437+00.00	434+00.00	LT	42.0	4.0	340.0					437+00.00	DR-304	31.5	0.2	
												434+00.00	DR-304		0.2	
	WBL	434+00.00	429+00.00	LT	48.0	4.0	0.0					434+00.00				UAC
												429+00.00				UAC
	WBL	429+00.00	425+00.00	LT	48.0	4.0	0.0					429+00.00				UAC
												425+00.00				UAC
	WBL	425+00.00	421+00.00	LT	48.0	4.0	20.0					425+00.00		2.2		UAC
												421+00.00	DR-304		0.2	Add outlet only
	WBL	421+00.00	417+00.00	LT	48.0	4.0	20.0					421+00.00	DR-304	2.2	0.2	Add outlet only
												417+00.00				UAC
	WBL	417+00.00	411+00.00	LT	48.0	4.0	0.0					417+00.00				UAC
												411+00.00				UAC
	WBL	383+00.00	379+00.00	LT	36.0	4.0	20.0					383+00.00		1.5		UAC
												379+00.00	DR-304		0.2	Add outlet only
	WBL	379+00.00	375+00.00	LT	36.0	4.0	20.0					379+00.00	DR-304	1.5	0.2	Add outlet only
												375+00.00				UAC
	WBL	375+00.00	371+50.00	LT	36.0	4.0	20.0					375+00.00		1.5		UAC
												371+50.00	DR-304		0.2	Add outlet only
	WBL	371+50.00	368+00.00	LT	36.0	4.0	20.0					371+50.00	DR-304	1.5	0.2	Add outlet only
												368+00.00				UAC
61	WBL	368+00.00	364+00.00	LT	36.0	4.0	440.0					368+00.00	DR-304	34.0	0.2	
												364+00.00	DR-304		0.2	
62	WBL	364+00.00	360+00.00	LT	36.0	4.0	440.0					364+00.00	DR-304	34.0	0.2	
												360+00.00	DR-304		0.2	
												297+00.00		1.5		UAC
	WBL	297+00.00	292+10.00	LT	36.0	4.0	20.0					297+00.00				UAC
												292+10.00	DR-304		0.2	Add outlet only
	WBL	292+10.00	287+25.00	LT	36.0	4.0	20.0					292+10.00	DR-304	1.5	0.2	Add outlet only
												287+25.00				UAC
63	WBL	287+25.00	284+50.00	LT	36.0	4.0	315.0					287+25.00	DR-304	24.3	0.2	
												284+50.00	DR-304		0.2	
												212+00.00				UAC
												206+80.00				UAC
	WBL	204+35.00	200+20.00	LT	36.0	4.0	0.0					204+35.00				UAC
												200+20.00				UAC
	WBL	173+50.00	168+50.00	LT	48.0	4.0	0.0					173+50.00				UAC
												168+50.00				UAC
	WBL	168+50.00	164+00.00	LT	30.0	4.0	20.0					168+50.00		1.2		UAC
												164+00.00	DR-304		0.2	Add outlet only
	WBL	164+00.00	160+00.00	LT	30.0	4.0	20.0					164+00.00	DR-304	1.2	0.2	Add outlet only
												160+00.00				UAC
	WBL	139+80.00	135+00.00	LT	36.0	4.0	0.0					139+80.00				UAC
												135+00.00				UAC
	WBL	135+00.00	129+00.00	LT	36.0	4.0	0.0					135+00.00				UAC
												129+00.00				UAC
	WBL	129+00.00	125+00.00	LT	30.0	4.0	20.0					129+00.00		1.2		UAC
												125+00.00	DR-304		0.2	Add outlet only
	WBL	125+00.00	121+00.00	LT	30.0	4.0	20.0					125+00.00	DR-304	1.2	0.2	Add outlet only
												121+00.00				UAC
	WBL	42+30.00	36+00.00	LT	36.0	4.0	0.0					42+30.00				UAC
												36+00.00				UAC
	WBL	36+00.00	32+00.00	LT	36.0	4.0	20.0					36+00.00		1.5		UAC
												32+00.00	DR-304		0.2	Add outlet only
	WBL	32+00.00	28+00.00	LT	36.0	4.0	20.0					32+00.00	DR-304	1.5	0.2	Add outlet only
												28+00.00				UAC
	WBL	28+00.00	20+00.00	LT	36.0	4.0	0.0					28+00.00				UAC
												20+00.00				UAC
Totals:							29750.0						DR-304 = 195	2448.3	39.0	

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

- ① Refer to MI-210
- ② Refer to EW-501.
- ③ Refer to EW-501 or EW-502.

*Predetermined for access point not constructed with this project.

Station	Side	Location	Type A, B, C, Safety Ramp, or Predetermined*	Length of Opening ①			Pipe Culvert ③						Aprons No.	Driveway Surface Area		Driveway Surfacing Material TON	Remarks		
				Case	1 1/2" Dropped Curb	3" Dropped Curb	W	① PR	② SR	H	Size	Pipe Length		Lt.	Rt.			HMA	PCC
				1 or 2	LF	LF	FT	FT	FT	FT	IN	LF		LF	LF			SY	SY
23+27.00	LT															10.0	#2157		
25+44.00	RT															10.0	#2160		
38+19.00	RT															10.0	field		
38+19.00	LT															10.0	#2179		
53+50.00	LT															10.0	#2211		
54+39.00	LT															10.0	#2229		
61+88.00	RT																ditch dike		
64+40.00	RT															10.0	#2232		
65+34.00	LT															10.0	#2231		
69+05.00	LT															10.0	#2237		
77+36.00	RT															10.0	#2256		
90+90.00	LT															10.0	field		
126+82.00	RT															10.0	field		
126+82.00	LT															10.0	#2351		
133+35.00	LT															10.0	#2361		
142+79.00	LT															10.0	field		
142+93.00	RT															10.0	#2380		
142+93.00	LT															10.0	field		
152+89.00	RT		Safety Ramp																
157+91.00	LT															10.0	#2413		
170+06.00	RT															10.0	field		
180+52.00	RT															10.0	field		
200+10.00	LT																ditch dike		
200+26.00	RT																ditch dike		
203+34.00	RT															10.0	#2306/2308		
280+45.00	RT																#2504		
215+47.00	RT															10.0	#2520		
222+44.00	LT															10.0	#2531		
232+41.00	RT															10.0	field		
242+66.00	LT															10.0	field		
252+26.00	RT															10.0	#2587		
265+22.00	LT															10.0	#2607		
266+63.00	LT															10.0	field		
280+45.00	RT															10.0	#2636		
282+10.00	RT																#2640/2646, See Tab 100-25		
282+87.00	LT															10.0	cemetery		
285+38.00	RT		Safety Ramp																
285+76.00	LT															10.0	#2643/2649, See Tab 100-25		
286+05.00	LT															10.0	#2649		
295+28.00	RT															10.0	field		
295+44.00	LT															10.0	field		
295+52.00	RT															10.0	field		
295+56.00	RT															10.0	field		
296+69.00	LT															10.0	field		
298+54.00	LT															10.0	field		
308+94.00	RT															10.0	field		
321+15.00	LT															10.0	field		
323+84.00	RT															10.0	field		
324+84.00	LT															10.0	#2721		
338+50.00	LT															10.0	field		
339+61.00	RT															10.0	#2758		
344+36.00	LT															10.0	#2769		
352+69.00	LT															10.0	field		
374+84.00	RT															10.0	#2824		
378+41.00	LT															10.0	#2827		
380+66.00	LT															10.0	field		
390+26.00																10.0	field		
403+85.00	RT															10.0	#2880		
416+21.00	LT															10.0	field		
416+25.00	RT															10.0	field		
419+61.00	LT															10.0	#2915		
421+69.00	RT															10.0	#2920		
431+00.00	LT															10.0	field		
441+51.00	LT															10.0	field		
442+87.00	RT															10.0	field		
455+95.00	LT															10.0	field		
456+10.00	LT		Safety Ramp																
470+10.00	RT		Safety Ramp																
482+25.00	RT															10.0	#3032		
492+29.00	RT															10.0	#3050		
494+72.00	LT															10.0	#3051		

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

- ① Refer to MI-210
- ② Refer to EW-501.
- ③ Refer to EW-501 or EW-502.

*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening ①			Pipe Culvert ③			Aprons		Driveway Surface Area		Driveway Surfacing Material	Remarks			
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1 1/2" Dropped Curb	3" Dropped Curb	W	PR ① ②	SR ②	H	Size	Pipe Length	Lt.	Rt.		HMA	PCC	TON
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF		No.	SY	
497+40.00	LT																10.0
508+25.00	LT															10.0	cemetery
520+72.00	LT															10.0	drive
525+36.00	LT															10.0	#3109
541+41.00	LT															10.0	#3141
541+42.00	RT															10.0	field
553+68.00	RT															10.0	field
563+53.00	LT															10.0	field
568+28.00	RT															10.0	#3190
583+56.00	RT															10.0	#3210
583+56.00	LT															10.0	field
597+54.00	LT															10.0	#3231
597+85.00	LT															10.0	#3231
605+11.00	LT															10.0	#3243
614+66.00	RT															10.0	field
633+02.00	RT															10.0	#3310
638+04.00	LT															10.0	#3315
654+57.00	RT															10.0	#3350
654+65.00	LT															10.0	field
654+58.00	LT															10.0	field
674+73.00	LT															10.0	#3385
															830.0	TOTAL	

FULL-DEPTH PATCHES

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105 and PR-140.

Count	Location		Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
						PR-103	PR-102	PR-104	PR-105										
		L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.		
1	35+67	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
2	39+12	Both	6.0	12.0	10.0					16.0		16.6							
2	42+26	Both	4.0	12.0	10.0					10.7		11.0							
2	44+32	Both	6.0	12.0	10.0					16.0		16.6							
1	47+93	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
2	53+67	Both	4.0	12.0	10.0					10.7		11.0							
1	57+82	Rt	4.0	12.0	10.0					5.3		5.7							
1	57+82	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	61+97	Rt	8.0	12.0	10.0					10.7		11.4							
1	61+97	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	66+20	Both	6.0	12.0	10.0					16.0		16.6							
1	72+45	Rt	4.0	12.0	10.0					5.3		5.7							
1	73+30	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	75+50	Both	4.0	12.0	10.0					10.7		11.0							
2	80+08	Both	4.0	12.0	10.0					10.7		11.0							
1	80+86	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	84+48	Lt	8.0	12.0	10.0					10.7		10.7		PR-140					
1	86+35	Rt	4.0	12.0	10.0					5.3		5.7							
1	86+35	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	87+60	Rt	4.0	12.0	10.0					5.3		5.7							
1	89+65	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	90+45	Both	4.0	12.0	10.0					10.7		11.0							
1	91+03	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	92+09	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	93+91	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	98+13	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	99+54	Both	4.0	12.0	10.0					10.7		11.0							
2	103+30	Both	4.0	12.0	10.0					10.7		11.0							
1	104+30	Rt	4.0	12.0	10.0					5.3		5.7							
2	105+41	Both	4.0	12.0	10.0					10.7		11.0							
1	107+24	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	108+61	Rt	6.0	12.0	10.0					8.0		8.6							
2	112+71	Both	4.0	12.0	10.0					10.7		11.0							
2	115+40	Both	4.0	12.0	10.0					10.7		11.0							

FULL-DEPTH PATCHES

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105 and PR-140.

Count	Location		Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
						PR-103	PR-102	PR-104	PR-105										
L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	SY	PR-101 or PR-140	No.	No.	No.	No.			
1	118+92	Rt	4.0	12.0	10.0					5.3		5.7							
1	118+92	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	119+93	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	126+10	Rt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	135+91	Both	4.0	12.0	10.0					10.7		11.0							
1	144+09	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	146+08	Both	4.0	12.0	10.0					10.7		11.0							
2	160+77	Both	4.0	12.0	10.0					10.7		11.0							
1	163+47	Lt	4.0	12.0	10.0					5.3		5.7							
2	165+86	Both	4.0	12.0	10.0					10.7		11.0							
1	166+85	Lt	6.0	12.0	10.0					8.0		8.6							
2	167+45	Both	4.0	12.0	10.0					10.7		11.0							
1	167+65	Lt	4.0	12.0	10.0					5.3		5.7							
1	167+85	Lt	4.0	12.0	10.0					5.3		5.7							
1	168+05	Lt	4.0	12.0	10.0					5.3		5.7							
1	168+25	Lt	4.0	12.0	10.0					5.3		5.7							
1	171+37	Rt	4.0	12.0	10.0					5.3		5.3		PR-140					
	Bridge	174+50																	Bridge
2	176+85	Both	4.0	12.0	10.0					10.7		11.0							
1	180+77	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	180+97	Both	4.0	12.0	10.0					10.7		11.0							
2	181+57	Both	4.0	12.0	10.0					10.7		11.0							
1	181+77	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	181+97	Both	4.0	12.0	10.0					10.7		11.0							
2	182+17	Both	4.0	12.0	10.0					10.7		11.0							
2	182+55	Both	4.0	12.0	10.0					10.7		11.0							
1	183+56	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	184+20	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	187+60	Both	4.0	12.0	10.0					10.7		11.0							
2	188+37	Both	4.0	12.0	10.0					10.7		11.0							
2	188+57	Both	4.0	12.0	10.0					10.7		11.0							
2	188+77	Both	4.0	12.0	10.0					10.7		11.0							
1	188+97	Rt	4.0	12.0	10.0					5.3		5.7							
2	189+16	Both	6.0	12.0	10.0					16.0		16.6							
1	192+71	Rt	4.0	12.0	10.0					5.3		5.7							
1	195+42	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	195+86	Rt	4.0	12.0	10.0					5.3		5.7							
1	197+93	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
2	200+28	Both	6.0	12.0	10.0					16.0		16.6							
2	201+73	Both	4.0	12.0	10.0					10.7		11.0							
1	223+14	Rt	4.0	12.0	10.0					5.3		5.7							
1	223+55	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	227+87	Both	4.0	12.0	10.0					10.7		11.0							
2	232+04	Both	4.0	12.0	10.0					10.7		11.0							
2	233+52	Both	4.0	12.0	10.0					10.7		11.0							
2	236+51	Both	4.0	12.0	10.0					10.7		11.0							
2	236+69	Both	4.0	12.0	10.0					10.7		11.0							
2	239+69	Both	6.0	12.0	10.0					16.0		16.6							
2	243+98	Both	6.0	12.0	10.0					16.0		16.6							
2	247+80	Both	4.0	12.0	10.0					10.7		11.0							
1	252+82	Rt	4.0	12.0	10.0					5.3		5.7							
2	255+48	Both	4.0	12.0	10.0					10.7		11.0							
2	262+62	Both	4.0	12.0	10.0					10.7		11.0							
2	269+78	Both	4.0	12.0	10.0					10.7		11.0							
1	271+46	Rt	6.0	12.0	10.0					8.0		8.6							
1	272+10	Rt	4.0	12.0	10.0					5.3		5.7							
2	273+89	Both	4.0	12.0	10.0					10.7		11.0							
2	276+38	Both	4.0	12.0	10.0					10.7		11.0							
2	279+25	Both	4.0	12.0	10.0					10.7		11.0							
2	280+98	Both	6.0	12.0	10.0					16.0		16.6							
2	286+98	Both	4.0	12.0	10.0					10.7		11.0							
2	289+41	Both	4.0	12.0	10.0					10.7		11.0							
2	291+51	Both	4.0	12.0	10.0					10.7		11.0							
2	294+48	Both	6.0	12.0	10.0					16.0		16.6							
1	298+62	Rt	4.0	12.0	10.0					5.3		5.7							
1	298+62	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	299+45	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	301+53	Both	6.0	12.0	10.0					16.0		16.6							
2	305+07	Both	4.0	12.0	10.0					10.7		11.0							
2	307+48	Both	4.0	12.0	10.0					10.7		11.0							
2	312+22	Both	4.0	12.0	10.0					10.7		11.0							
2	315+75	Both	4.0	12.0	10.0					10.7		11.0							
2	317+64	Both	4.0	12.0	10.0					10.7		11.0							
2	319+95	Both	4.0	12.0	10.0					10.7		11.0							
2	320+21	Both	6.0	12.0	10.0					16.0		16.6							
2	321+69	Both	4.0	12.0	10.0					10.7		11.0							
2	323+47	Both	6.0	12.0	10.0					16.0		16.6							
2	325+17	Both	4.0	12.0	10.0					10.7		11.0							
2	326+17	Both	4.0	12.0	10.0					10.7		11.0							

FULL-DEPTH PATCHES

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105 and PR-140.

Count	Location		Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
	L, R, or B	FT	FT	IN	PR-103	PR-102	PR-104	PR-105	SY										
2	327+88	Both	4.0	12.0	10.0					10.7		11.0							
2	331+01	Both	4.0	12.0	10.0					10.7		11.0							
2	332+43	Both	4.0	12.0	10.0					10.7		11.0							
2	336+93	Both	4.0	12.0	10.0					10.7		11.0							
2	342+42	Both	6.0	12.0	10.0					16.0		16.6							
2	344+46	Both	4.0	12.0	10.0					10.7		11.0							
1	347+38	Rt	4.0	12.0	10.0					5.3		5.7							
2	387+63	Both	4.0	12.0	10.0					10.7		11.0							
2	394+33	Both	4.0	12.0	10.0					10.7		11.0							
2	399+48	Both	4.0	12.0	10.0					10.7		11.0							
1	403+20	Rt	4.0	12.0	10.0					5.3		5.7							
	Bridge	410+53.6																	New approaches with EF joints
2	418+36	Both	6.0	12.0	10.0					16.0		16.6							
2	428+44	Both	4.0	12.0	10.0					10.7		11.0							
1	430+60	Lt	4.0	12.0	10.0					5.3		5.7							
2	433+98.0	Both	4.0	12.0	10.0					10.7		11.0							Existing E joint
	Bridge	436+76.1																	
2	439+54.0	Both	6.0	12.0	10.0					16.0		16.6							Existing E joint
	Bridge	454+00.1																	New approaches with EF joints
2	461+68	Both	4.0	12.0	10.0					10.7		11.0							
1	465+83	Rt	4.0	12.0	10.0					5.3		5.7							
2	471+68	Both	4.0	12.0	10.0					10.7		11.0							
2	489+06	Both	6.0	12.0	10.0					16.0		16.6							
1	499+05	Lt	6.0	12.0	10.0					8.0		8.6							
1	515+25	Lt	4.0	12.0	10.0					5.3		5.7							
1	516+17	Rt	4.0	12.0	10.0					5.3		5.3							
2	525+83	Both	4.0	12.0	10.0					10.7		11.0							PR-140
2	526+94	Both	4.0	12.0	10.0					10.7		11.0							
2	527+89	Both	4.0	12.0	10.0					10.7		11.0							
1	533+63	Lt	4.0	12.0	10.0					5.3		5.3							PR-140
1	538+21	Lt	6.0	12.0	10.0					8.0		8.0							PR-140
1	542+98	Lt	6.0	12.0	10.0					8.0		8.0							PR-140
1	543+43	Rt	4.0	12.0	10.0					5.3		5.7							
1	554+05	Lt	4.0	12.0	10.0					5.3		5.3							PR-140
2	559+10	Both	4.0	12.0	10.0					10.7		11.0							
	Bridge	560+69.7																	
2	562+86	Both	4.0	12.0	10.0					10.7		11.0							
2	571+22	Both	6.0	12.0	10.0					16.0		16.6							
2	576+07	Both	4.0	12.0	10.0					10.7		11.0							
2	577+62	Both	6.0	12.0	10.0					16.0		16.6							
2	594+76	Both	4.0	12.0	10.0					10.7		11.0							
2	601+41	Both	4.0	12.0	10.0					10.7		11.0							
2	605+31	Both	4.0	12.0	10.0					10.7		11.0							
2	608+85	Both	4.0	12.0	10.0					10.7		11.0							
2	622+27	Both	4.0	12.0	10.0					10.7		11.0							
2	630+25	Both	4.0	12.0	10.0					10.7		11.0							
2	638+91	Both	6.0	12.0	10.0					16.0		16.6							
1	646+19	Rt	4.0	12.0	10.0					5.3		5.7							
1	653+29	Rt	4.0	12.0	10.0					5.3		5.7							
2	653+77	Both	4.0	12.0	10.0					10.7		11.0							
1	655+55	Lt	4.0	12.0	10.0					5.3		5.3							PR-140
1	655+86	Rt	4.0	12.0	10.0					5.3		5.7							
2	657+35	Both	4.0	12.0	10.0					10.7		11.0							
1	662+51	Rt	4.0	12.0	10.0					5.3		5.7							
2	665+73	Both	4.0	12.0	10.0					10.7		11.0							
1	671+54	Lt	4.0	12.0	10.0					5.3		5.3							PR-140
260										1538.7		1591.3							TOTALS

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area		Saw Cut*	Remarks
				SY	LF		
171+62.80	172+94.80	RT	HMA	44.0			Remove existing shoulder strengthening
176+05.20	177+36.20	RT	HMA	43.7			Remove existing shoulder strengthening
173+44.80	173+54.80	RT	PCC	2.8			Remove for curb installation
175+45.20	175+55.20	RT	PCC	2.8			Remove for curb installation
282+00.00	285+63.00	RT	HMA	775.0			Remove existing turn lane
408+90.20	410+12.40	RT	HMA	54.3			Remove shoulder strengthening
409+15.20	410+12.40	RT	HMA	43.2			Remove shoulder strengthening
432+60.10	433+82.10	RT	HMA	40.7			Remove existing shoulder strengthening
434+40.10	434+50.10	RT	PCC	2.8			Remove for curb installation
439+02.10	439+12.10	RT	PCC	2.8			Remove for curb installation
439+70.10	440+92.10	RT	HMA	40.7			Remove existing shoulder strengthening
453+11.10	453+21.10	RT	PCC	2.8			Remove for curb installation
454+79.10	454+89.10	RT	PCC	2.8			Remove for curb installation
				0.0			
				0.0			
171+63.80	172+94.80	LT	HMA	43.7			Remove existing shoulder strengthening
173+44.80	173+54.80	LT	PCC	2.8			Remove for curb installation
175+45.20	175+55.20	LT	PCC	2.8			Remove for curb installation
176+05.20	177+36.20	LT	HMA	43.7			Remove existing shoulder strengthening
285+47.10	286+07.10	LT	PCC	36.3			Remove existing PCC drive for shoulder construction
432+60.10	433+82.10	LT	HMA	40.7			Remove existing shoulder strengthening
434+40.10	434+50.10	LT	PCC	2.8			Remove for curb installation
439+02.10	439+12.10	LT	PCC	2.8			Remove for curb installation
439+70.10	440+92.10	LT	HMA	40.7			Remove existing shoulder strengthening
453+11.10	453+21.10	LT	PCC	2.8			Remove for curb installation
454+79.10	454+89.10	LT	PCC	2.8			Remove for curb installation
Bridge	Approaches		PCC	266.7			Remove for new approach install
				1546.6			TOTAL

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
53+50.0 LT	Railroad ties	Remove ties from both sides in preparation for apron attachment
142+89.0 RT	24" x 24' CMP	Remove 2' outlet side for apron attachment
142+93.0 LT	18" x 42' CMP	Remove 2' outlet and 4' inlet side for apron attachment
157+91.0 LT	18" x 42' CMP	Remove 3' outlet and 1' inlet side for apron attachment
200+10.0 LT	24" x 24' CMP	Remove failed pipe for replacement
200+26.0 RT	24" x 16' CMP	Remove 4' outlet and 2' inlet side for apron attachment
203+34.0 RT	30" x 46' CMP	Remove 4' outlet and 2' inlet side for apron attachment
215+47.0 RT	18" x 36' CMP	Remove 3' inlet side for apron attachment
222+44.0 LT	18" x 40' CMP	Remove 3' outlet and 1' inlet side for apron attachment
232+41.0 RT	18" x 42' CMP	Remove 1' inlet side for apron attachment
242+66.0 LT	18" x 42' CMP	Remove 1' outlet side for apron attachment
252+26.0 RT	18" x 40' CMP	Remove 2' inlet side for apron attachment
265+22.0 LT	18" x 42' CMP	Remove 2' outlet and 2' inlet side for apron attachment
266+63.0 LT	18" x 42' CMP	Remove 2' outlet and 1' inlet side for apron attachment
282+10.0 RT	18" x 64' CMP	Remove existing 64 lineal feet of pipe
298+54.0 LT	18" x 44' CMP	Remove 1' inlet side for apron attachment
308+94.0 RT	18" x 32' CMP	Remove 3' outlet side for apron attachment

112-4
10-21-14

CURBS AND RAISED ISLANDS

Refer to PV-20, PV-102, and 6000s Detail Series.

① Bid Item

Point No.	Station	Offset	Island Interior Area (1) SY	Curb and Gutter			Remarks
				Curb Type	Gutter Width FT	Length (1) LF	
	173+31.30			4" Sloped PCC	2.5	10.0	
	173+31.30			4" Sloped PCC	2.5	10.0	
	175+68.70			4" Sloped PCC	2.5	10.0	
	175+68.70			4" Sloped PCC	2.5	10.0	
	409+98.90			4" Sloped PCC	2.5	10.0	
	409+98.90			4" Sloped PCC	2.5	10.0	
	411+08.40			4" Sloped PCC	2.5	10.0	
	411+08.40			4" Sloped PCC	2.5	10.0	
	434+93.60			4" Sloped PCC	2.5	10.0	
	434+93.60			4" Sloped PCC	2.5	10.0	
	439+25.60			4" Sloped PCC	2.5	10.0	
	439+25.60			4" Sloped PCC	2.5	10.0	
	453+64.60			4" Sloped PCC	2.5	10.0	
	453+64.60			4" Sloped PCC	2.5	10.0	
	455+02.60			4" Sloped PCC	2.5	10.0	
	455+02.60			4" Sloped PCC	2.5	10.0	
						160.0	TOTAL

CLEARING AND GRUBBING

110-17
04-15-14

Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters												All Other Materials		Estimated Quantities			Remarks	
Station to Station or Milepost to Milepost or Description	Direction of Travel		3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Length	Width	Units	Area		Herbicide Application
			FT	FT	Units	Acres	Each	FT	FT	Units	Acres	Each									
523+74 to 534+00	EB	Stumps - Grubbing		20	5													80.0			
523+74 to 534+00	EB	Field Fence - Clearing													1026.0			62.0			
																		142.0			

FORESLOPE FLATTENING AND DRAINAGE STRUCTURES BY ROAD CONTRACTOR (SIDE ROAD & ENTRANCE PIPES)

Refer to Standard Road Plans DR-121, DR-122, and DR-213.

* Not a bid item

Existing Information		New Information		Length of New Const.	Flow Line Elevations		Dimensions				Removal and Reinstallation of Culvert Aprons and Pipes				New Apron No.		Apron Guard (DR-213)	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	Embank.- In-Place	Class 20	Remarks	
Location	Size and Type of Culvert	Size	Type of Culvert		LEFT	RIGHT	Total (LF)		Extensions (LF)		Aprons		Culvert Sections		IN	OUT		NO.	TYPE					
							LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	NO.*	FT					NO.*					FT
308+94.0 RT	18" x 32' CMP	18	CMP											1	1								(B)	
311+53.0 LT	48" x 37.8' RF-1	48	RCP	18				8	10	1	1								Type 3		1.0	4.5	19.0	
323+84.0 RT	18" x 38' CMP	18	CMP											1	1						1.0			
323+84.0 LT	18" x 32' CMP	18	CMP											1	1						1.0			
338+50.0 LT	18" x 30' HDPE	18	CMP											1	1						1.0			
339+61.0 RT	18" x 38' CMP	18	CMP											1	1						1.0			
344+36.0 LT	18" x 34' RCP	18	RCP											1	1				Type 3		1.0			
355+00.0 RT	24" x 60' HDPE	24	CMP											1	1						1.5			
364+39.5 RT	24" x 50' RCP	24	RCP											1	1				Type 3		1.5	5.0	(A)	
364+39.5 LT	24" x 50' RCP	24	RCP											1	1				Type 3		1.5	5.0	(A)	
374+84.0 RT	18" x 29' CMP	18	CMP											1	1						1.0			
378+41.0 LT	24" x 30' CMP	24	CMP											1	1						1.5			
380+66.0 LT	18" x 24' CMP	18	CMP											1	1						1.0		(A)	
403+85.0 RT	36" x 42' CMP	36	CMP											1	1						1.5			
416+21.0 LT	48" x 46' CMP	48	CMP											1	1						2.0			
416+25.0 RT	24" x 46' CMP	24	CMP											1	1						1.5			
419+61.0 LT	48" x 48' CMP	48	CMP											1	1						2.0			
421+69.0 RT	36" x 50' CMP	36	CMP											1	1						1.5			
431+00.0 LT	48" x 62' CMP	48	CMP											1	1						2.0			
455+95.0 LT	48" x 56' CMP	48	CMP											1	1						2.0			
456+10.0 RT	24" x 60' CMP	24	CMP											1	1								40.0	Clean apron
456+10.0 LT	42" x 60' CMP	42	CMP											1	1						1.5			
470+10.0 RT	48" x 30' RCP	48	RCP											1	1				Type 3		2.0			
470+10.0 LT	5' x 3' x 28' RCB																							UAC
482+25.0 RT	24" x 40' CMP	24	CMP											1	1						1.5			
492+29.0 RT	18" x 42' CMP	18	CMP											1	1						1.0			
497+40.0 LT	18" x 38' CMP	18	CMP											1	1						1.0			
520+72.0 LT	18" x 30' CMP	18	CMP											1	1						1.0			
525+36.0 LT	18" x 38' CMP	18	CMP											1	1						1.0			
541+41.0 LT	24" x 42' CMP	24	CMP											1	1						1.5			
541+42.0 RT	24" x 38' CMP	24	CMP											1	1						1.5		(A)	
553+68.0 RT	36" x 42' CMP	36	CMP											1	1						1.5			
556+56.0 LT	36" x 42' CMP	36	CMP											1	1						1.5			
563+53.0 LT	18" x 50' CMP	18	CMP											1	1						1.0			
568+28.0 RT	18" x 38' CMP	18	CMP											1	1						1.0			
583+56.0 RT	18" x 38' CMP	18	CMP											1	1						1.0			
583+56.0 LT	18" x 38' CMP	18	CMP											1	1						1.0			
597+54.0 LT	18" x 38' CMP	18	CMP											1	1						1.0			
597+85.0 LT	18" x 74' CMP	18	CMP											1	1						1.0		(A)	
605+11.0 LT	18" x 38' CMP	18	CMP											1	1						1.0			
627+89.0 LT	73" x 45" x 26' CAP																							UAC
633+02.0 RT	18" x 38' CMP	18	CMP											1	1						1.0			
638+04.0 LT	18" x 34' CMP	18	CMP											1	1						1.0			
654+57.0 RT	18" x 30' CMP	18	CMP																					UAC
654+65.0 LT	18" x 42' CMP	18	CMP											1	1						1.0			
674+73.0 LT	18" x 52' CMP	18	CMP											1	1						1.0			
																					103.6	111.5	TOTALS	
																							(A) See Tab 300-1	
																							(B) See Tab 110-2	

LIST OF SUBDRAIN WORK

Refer to DR-121, DR-201, DR-203, DR-301, DR-302, DR-303, DR-304, and DR-305.

* Not a bid item

No.	Location	Station to Station	Pipe		Aprons		Outlets		Connected Pipe Joints*	Trench Drain	Granular Material	Porous Backfill*	Class "A" Crushed Stone*	Remarks	
			Concrete C.M.P., C.M.P. Coated, or Plastic	Dia.	Length	DR-201	DR-203	DR-304							DR-305
			DR-301, DR-302, DR-303	IN	LF	No.	No.	No.							Type
	582+90.00	583+30.00	DR-301, Type 1	Plastic	10.0	60		1							Length includes outlet. Tie into existing 10" tile, 7' deep. All work on RT.

108-33 04-19-16							
TEMPORARY BARRIER RAIL							
Possible Standards: BA-400, BA-401							
* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.							
No.	Station to Station	Length LF	(Select One)		Anchored* (Y/N)	Modular Glare Screen System (Y/N)	Remarks
			Steel BA-400	Concrete BA-401			
	410+53.60	425.0		X	No	No	Bridge approach work
	410+53.60	425.0		X	No	No	Bridge approach work
		850.0					TOTAL

108-30 04-16-13																				
CRASH CUSHIONS																				
* Bid Item																				
① Lane(s) to which the installation is adjacent.																				
② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500																				
No.	Direction of Traffic	Location Station	Side	Obstacle Width FT	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place	Permanent	Permanent Severe Use		
	EB	410+53.60			2															TBR for approach work
	WB	410+53.60			2															TBR for approach work
					4															TOTAL

110-13 04-20-10					
DELIVERY AND STOCKPILING					
Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Guardrail (No posts)	2100	LF	Along US 63	Russ Frisch, 319-224-7763	See Tab 110-7A

112-6 10-20-15																			
BRIDGE APPROACH SECTION																			
* Not a bid item																			
Refer to the BR Series.																			
Bridge Station	End	Location		Approach Pavement					Standard Road Plans BR Series			Subdrain					Remarks		
		Skew Ahead Degrees	Thickness Inches	Pay Length FT	Non-Reinf. Pavement Area SY	Single-Reinf. Pavement Area SY	Double-Reinf. Pavement Area SY	Approach	Fixed or Movable Abutment	Abutting Pavement	Perforated Subdrain 4"	Subdrain Outlet STA	Porous Backfill CY	Class 'A' Crushed Stone Backfill CY	Modified Subbase TON	Polymer Grid SY			
																		LEFT	RIGHT
410+55.00	W	0	0	10.0	50.0	80.0	53.3	UAC	BR-201	Movable	BR-211	72.0			12.0		82.100	97.8	
410+55.00	E	0	0	10.0	50.0	80.0	53.3	UAC	BR-201	Movable	BR-211	72.0			12.0		82.100	97.8	
				100.0	160.0	106.6						144.0			24.0		164.200	195.6	TOTALS

110-7A 04-17-12				
REMOVAL OF STEEL BEAM GUARDRAIL				
① Lane(s) to which the installation is adjacent.				
② Includes length of End Terminals and End Anchors.				
No.	Direction of Traffic	Location		Removal of Guardrail LF
		Station to Station	Side	
		173+64.80	EB	143.8
		175+35.20	WB	143.8
		410+32.40	EB	250.0
		410+74.90	WB	250.0
		434+60.10	SW	56.3
		434+60.10	NW	56.3
		438+92.10	SE	56.3
		438+92.10	NE	56.3
		453+31.10	SW	56.3
		453+31.10	NW	56.3
		454+69.10	SE	56.3
		454+69.10	NE	56.3
		TOTAL		1237.5

SHOULDERS

- ① Lane(s) to which the shoulder is adjacent.
- ② Bid Item
- ③ Applies only for Paved Shoulders constructed on project with existing granular shoulders.
- ④ Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Road Identification	Direction Of Traffic	Location			Quantities																		Remarks
		Station to Station	Side	P Width FT	G Width FT	L Length FT	Class 13 Excavation CY ②	Base HMA		Base Binder TONS ②	Paved Shoulder SY ②	Class 10 Excavation CY ②	Special Backfill				Modified Subbase CY ②	Granular Shoulder		Earth Shoulder Construction Alternates			
								TON ②	TON/STA				HMA Alternate		Embankment-in-place			TON ②	TON/STA	STA ②	HMA CY ④	PCC CY ④	
													TON ②	TON/STA	CY ②	CY/STA							
Bridge	WB	440+45.90	452+15.60	LT	4.0	4.0	1169.7	101.1	197.9		12.5							204.7	17.5				
Bridge	WB	456+22.00	559+87.70	LT	4.0	4.0	10365.7	895.8	1753.5		110.5							1814.0	17.5				
Bridge	WB	561+51.70	675+47.20	LT	4.0	4.0	11395.5	984.8	1927.7		121.4							1994.2	17.5				
Guardrail paving																							
		171+98.80	173+44.80	RT			146.0	42.1			126.4	39.8											
		175+55.20	177+01.20	RT			146.0	42.1			126.4	39.8											
		408+90.20	410+12.40	RT			122.2	55.4			166.6	52.5											
		410+94.90	411+92.00	RT			97.1	45.3			136.0	42.8											
		433+06.30	434+40.10	RT			133.8	57.5			172.4	54.3											
		439+12.10	440+08.40	RT			96.3	42.4			127.2	40.1											
		451+78.20	453+11.10	RT			132.9	60.0			180.1	56.7											
		454+89.10	455+84.60	RT			95.5	44.0			132.2	41.6											
		171+98.80	173+44.80	LT			146.0	42.1			126.4	39.8											
		175+55.20	177+01.20	LT			146.0	42.1			126.4	39.8											
		409+15.20	410+12.40	LT			97.2	30.5			91.5	28.8											
		410+94.90	412+17.00	LT			122.1	37.4			112.3	35.4											
		433+43.80	434+40.10	LT			96.3	42.4			127.1	40.0											
		439+12.10	440+45.90	LT			133.8	57.5			172.4	54.3											
		452+15.60	453+11.10	LT			95.5	44.0			132.1	41.6											
		454+89.10	456+22.00	LT			132.9	60.0			180.0	56.7											
								18856.7	23680.3		1491.9	2278.5						22201.0		59.1			

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location																SCHOOL	XING	STOP	AHEAD	ONLY	BIKE	LANE	EXIT	Groove Cuts	Remarks
	Station	Side																								
IA 3-Final	206+99.00	LT		1																					1	Piedmont Ave
	207+74.00	LT		1																					1	Piedmont Ave
	283+95.00	RT		1																					1	Quarter Ave
	284+70.00	RT		1																					1	Quarter Ave
	309+93.50	RT		1																					1	V49/Reed Ave
	310+68.50	RT		1																					1	V49/Reed Ave
	310+41.30	RT			1																				1	V49/Reed Ave
	310+78.80	RT																			1				1	V49/Reed Ave
	311+16.30	RT			1																				1	V49/Reed Ave
	311+90.60	LT			1																				1	V49/Reed Ave
	312+28.10	LT																					1		1	V49/Reed Ave
	312+65.60	LT			1																				1	V49/Reed Ave
	520+28.50	RT		1																					1	V56/Viking
	521+03.50	RT		1																					1	V56/Viking
	520+78.00	RT			1																				1	V56/Viking
	521+15.50	RT																			1				1	V56/Viking
	521+53.00	RT			1																				1	V56/Viking
	522+27.00	LT			1																				1	V56/Viking
	522+64.50	LT																					1		1	V56/Viking
	523+02.00	LT			1																				1	V56/Viking
	522+77.00	LT		1																					1	V56/Viking
	523+52.00	LT		1																					1	V56/Viking
				10	8																				22	TOTALS

MILLED RUMBLE STRIPS

See PV-12 and PV-13.

* Calculated at 18" width for Shoulder.

Road Identification	Location		Length		Type (Centerline, Rt or Lt Shoulder)	Fog Seal* (Milled Rumble Strip) Shoulder GAL	Effective Shoulder Width			Remarks
	Station to Station	Station	PCC	HMA			PCC Paved FT	HMA Paved FT	Granular\ Earth FT	
			STA	STA						
IA 3	23+42.00	270+03.30		246.61	Right Shoulder	267.2		4.0	4.0	
STA EQ	270+00.00	676+92.00		406.92	Right Shoulder	440.8		4.0	4.0	
	23+42.00	270+03.30		246.61	Left Shoulder	267.2		4.0	4.0	
STA EQ	270+00.00	676+92.00		406.92	Left Shoulder	440.8		4.0	4.0	
				1307.07		1416.0				

EXISTING SIGNS TO BE REINSTALLED

SIGN DESCRIPTION	DIRECTION OF TRAVEL	LOCATION STATION	NUMBER OF POSTS	SQUARE TUBE STEEL POSTS	WOOD POSTS		INSTALLATION		SEE SIGNING NOTES
					4" x 4" LF	4" x 6" LF	TYPE	DIM 'X'	
No passing	EB	279+76.0	1.0			20.0			PW, RR, (1)
Directional sign	EB	308+06.0	2.0			40.0			PW, RR
IA 3 route sign	WB	310+06.2	1.0			20.0			PW, RR
Stop sign	SB	311+27.0	1.0			20.0			PW, RR
Street name signs		312+02.3		1.0					PP,RR
IA 3 route sign	EB	313+05.0	1.0			20.0			PW, RR
Adopt-a-highway sign	WB	316+74.4	1.0			20.0			PW, RR
Readlyn directional sign	WB	318+83.0	1.0						PW, RR
No passing	WB	326+93.0	1.0			20.0			PW, RR, (2)
No passing	EB	505+40.0	1.0			20.0			PW, RR, (3)
Directional sign	EB	516+17.2	2.0			40.0			PW, RR
IA 3 route sign	EB	519+90.1	1.0			20.0			PW, RR
Stop sign	NB	522+12.0	1.0			20.0			PW, RR
IA 3 route sign	EB	523+09.9	1.0			20.0			PW, RR
No passing	WB	537+96.0	1.0			20.0			PW, RR, (4)
			16.0	1.0		300.0			TOTALS
(1) Moved from STA 285+77									
(2) Moved from STA 291+94									
(3) Moved from STA 513+32									
(4) Moved from STA 533+37									

SIGNING NOTES

The following tolerances will be allowed on all signs:

Accumulation error of not greater than +/-0.50" per line of copy, not greater than +/-0.50" for spacing between lines of copy, and the margin between lines of copy and the inside edge of the sign border.

The following tolerances will be allowed on each letter or numeral:

nominal height	variation in height	variation in width
4" thru 12"	-1/8" to +3/8"	-1/4" to +1/4"
over 12"	-1/8" to +3/8"	-3/8" to +3/8"

Type B signs can be separated into two categories:

- Major Guide Signs.
- Minor Guide Signs.

Major Guide Signs include the advance and exit direction guide signs for an interchange or intersection.

Minor Guide Signs include all other guide signs such as NEXT EXIT signs, supplemental guide signs, logo signs, exit gore signs, post-interchange mileage signs, ramp destination signs, and ramp logo signs for an interchange, as well as destination signs along sideroads.

Type A signs are not separated into categories, but special consideration should be given to regulatory signs.

Do not remove Type B signs until replacement signs have been installed. If construction activities require the removal of a sign, the existing sign may be relocated to temporary posts, or a temporary plywood sign may be installed to replace the existing sign.

Existing non-regulatory Type A signs are NOT required to remain in place until installation of replacement signs. Existing regulatory Type A signs, particularly Stop signs, should not be removed until replacement signs are installed. This guideline may not apply if the traffic control plans have sufficient temporary signing.

Apply the following during the replacement or modification of signs:

- No more than one of the major guide signs for each direction of travel at an interchange out of service at any one time.
- No major guide sign out of service for more than 8 hours.
- No minor guide out of service for more than 24 hours.

Remove existing signs and posts within 24 hours following the installation of a new replacement sign.

In any case where the plans call for a new sign and posts to be installed at the same station location and offset as an existing sign, install the new posts at a minimum of either 5 ft ahead or behind the existing sign installation. Whenever posts for a replacement sign are erected directly in front of an existing sign, install the new replacement sign and remove the existing sign installation within 24 hours of the time that the new posts are erected.

Where signs are located behind guardrail, locate the rear edge of the sign a minimum of 3 ft behind the guardrail posts. The Engineer may approve reducing this distance to a minimum of 1 ft where field conditions warrant.

Unless noted otherwise, leave auxiliary panels, such as exit number panels, in place or reattach to the sign using the existing mounting hardware. Also, when replacing an existing logo sign with a new logo sign, remove the business logo panel(s) from the existing sign and attach to the new sign as directed by the Engineer. Do not damage the auxiliary or logo panels when removing and reattaching them. This work is incidental to other work and no separate payment will be made.

SIGNING NOTES

The following notes apply to the corresponding sign installations shown on the plan sheets and listed in the tabulations.

- IB INSTALL NEW TYPE B SIGN
- IA INSTALL NEW TYPE A SIGN

Install new signs at the location identified in the plans.

For installation of new signs on existing posts:

- if the new sign is taller than the existing sign, furnish the necessary hardware to extend the sign above the posts. Refer to Standard Road Plan SI-132.
- if the new sign is shorter than the existing sign:
 - for wood posts and perforated square tube posts, install the sign at the proper height and cut off the excess post length.
 - for steel posts, install the sign at the top of the posts.

For installation of new signs on an existing sign support structure, refer to note (L).

Payment for installing Type A signs or Type B signs includes furnishing hardware for mounting, extending signs above existing posts, and cutting off wood posts.

- MS MODIFY EXISTING SIGN

Modify the copy on the existing sign as shown in the plans.

Deliver existing copy which is removed to a DOT storage area within 50 mi, as designated by the Engineer.

Install the new copy as needed to make sign modifications.

Payment for Modification of Existing Sign includes removal of existing copy and installation of new copy.

- MB INSTALL SPECIAL MOUNTING BRACKET

Install special mounting brackets at the locations identified in the plans. Refer to Tabulations 190-10, 190-51, and/or 190-65.

- PW INSTALL NEW WOOD POSTS
- PB INSTALL NEW BREAKAWAY STEEL POSTS AND FOOTING
- PP INSTALL NEW PERFORATED SQUARE TUBE POSTS AND ANCHORS

Install new wood posts, breakaway steel posts and footings, or perforated square tube posts and anchors at the locations indicated in the plans. Refer to Tabulations 190-51 and 190-50 for post size and footing information.

If note (RR) accompanies (PW), (PB), or (PP), install an existing sign on the new posts.

- RR REMOVE AND REINSTALL SIGN:

Do not remove existing major Type B guide signs on posts until the new posts are installed. Promptly remove sign and install at the new location.

Existing major Type B guide signs on overhead support structures, minor Type B guide signs, plywood signs, and Type A signs may be removed and stored. Transport the signs to a DOT storage area within 50 mi, as designated by the Engineer. Transport the signs back to the job site when ready for installation at the new location.

Replace signs damaged by the Contractor's activities at no additional cost to the Contracting Authority.

Payment for Remove and Reinstall Sign includes sign removal, delivery to the DOT storage area (if applicable), and reinstallation.

- RA REMOVE TYPE A SIGN ASSEMBLY
- RB REMOVE TYPE B SIGN ASSEMBLY

Type A Sign Assembly consists of one or more signs installed on one or more wood posts, either directly mounted to the post or mounted to the post with special sign mounting brackets.

SIGNING NOTES

Type B Sign Assembly consists of the main sign, all auxiliary signs and brackets, and the wood or steel posts.

Unless stated otherwise in the plans, remove all posts with the signs and brackets.

Remove each sign assembly identified in the plans. Sign posts removed become the property of the Contractor. All other materials removed remain the property of the DOT.

Disassemble each sign assembly removed before delivering to the DOT. For Type A sign assemblies, unbolt all signs, special mounting brackets, and posts from each other. For Type B assemblies, unbolt all extruded aluminum panels, brackets, and posts from each other. Do not damage the disassembled materials.

Place backfill in holes remaining from the removal of wood posts and restore to the normal surrounding conditions.

Deliver the removed signs, special sign mounting brackets, and extruded aluminum panels to a DOT storage area within 50 mi, as designated by the Engineer.

The concrete footings for steel posts are not considered part of the sign assembly. Refer to note RF for concrete footing removal.

Payment for Removal of Type A Sign Assembly or Removal of Type B Sign Assembly includes sign assembly removal and disassembly, post removal (if applicable), delivery to the DOT storage area, placing backfill in holes, and restoration of the surrounding conditions.

- RF REMOVE EXISTING CONCRETE FOOTING FOR STEEL POST

Remove existing concrete footings to a depth of 1 ft below ground. Place backfill in holes remaining from removal and restore to the normal surrounding conditions. This work is incidental to other work and no separate payment will be made.

- RS REMOVE EXISTING TYPE B SIGN SUPPORT STRUCTURE

The following are considered Type B Sign Support Structures:

- Overhead sign truss and foundation,
- Cantilevered sign truss and foundation, or
- Bridge mounted brackets.

For removal purposes, wood and steel post are not considered Type B Support Structures.

Unless stated otherwise in the plans, existing overhead trusses, cantilevered trusses, and bridge brackets which are removed become the property of the Contractor. If stated in the plans, deliver overhead trusses, cantilevered trusses, and bridge brackets to a DOT storage area within 50 mi, as designated by the Engineer.

Payment for Removal of Sign Support Structure and Foundation includes sign support structure removal, delivery to the DOT storage area (if applicable), and restoration of the surrounding conditions.

- L MODIFY SIGN SUPPORT ANGLES NEEDED TO INSTALL SIGNS ON EXISTING SIGN SUPPORTS STRUCTURES

Refer to the sign support structure details for information on the required angle brackets.

Provided all specifications are met, the existing sign support angles may be reused. Install existing sign support angles to be reused only on the sign support structure from which they were removed.

Sign support angles removed and not reused become the property of the Contractor.

When reusing the existing sign support angles with a shorter replacement sign, the sign support angles may need to be trimmed. Refer to the sign support details to determine if and where to trim the sign support angles.

Do not use existing fasteners. Use new stainless steel bolts and nuts to install the existing or new sign support angles to the sign support structure.

SIGNING NOTES

Removal of existing sign support angles is incidental to removal of the sign.

Reinstalling and/or modifying existing sign support angles; furnishing and installing new sign support angles (if required); and furnishing and installing new fasteners is incidental to work associated with Type B signs.

SIGN INSTALLATION QUALITY CONTROL NOTES

Post lengths have been derived from the proposed grading cross sections. Field verify post lengths.

Slight differences between the design template and the actual conditions should be expected. These variations should be resolved by doing some localized shaping and grading. Obtain material needed to meet the site requirements of SI-113 from the footing excavation and/or the area immediately adjacent to the footing. Ensure reshaping work does not substantially change foreslopes or the drainage in the vicinity of the sign.

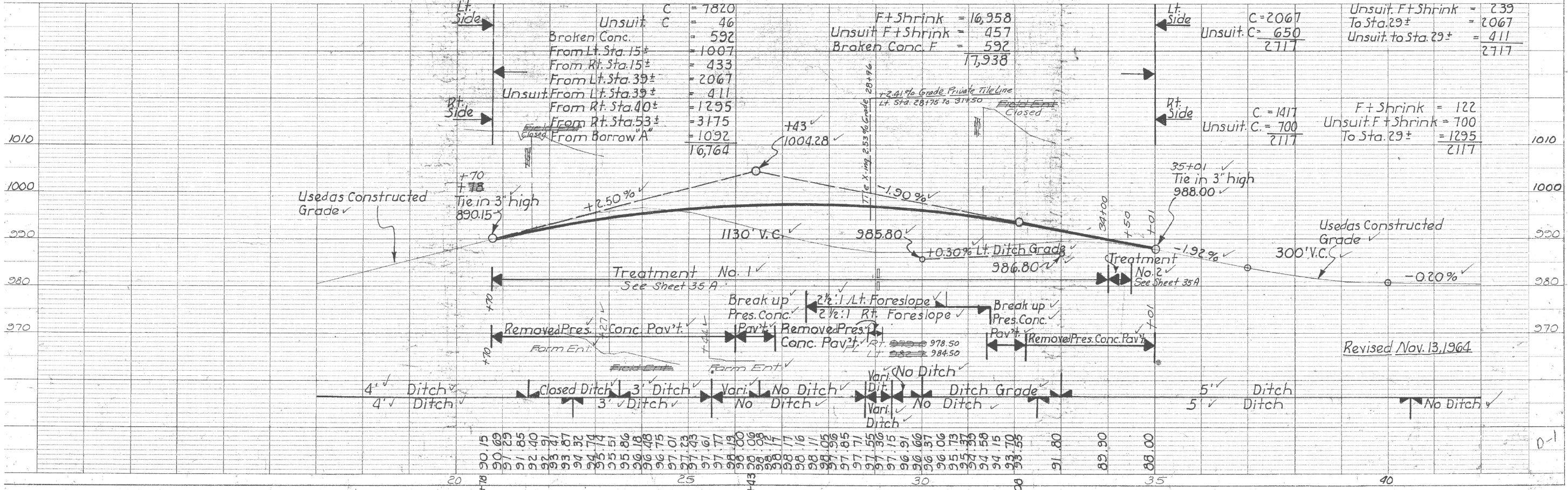
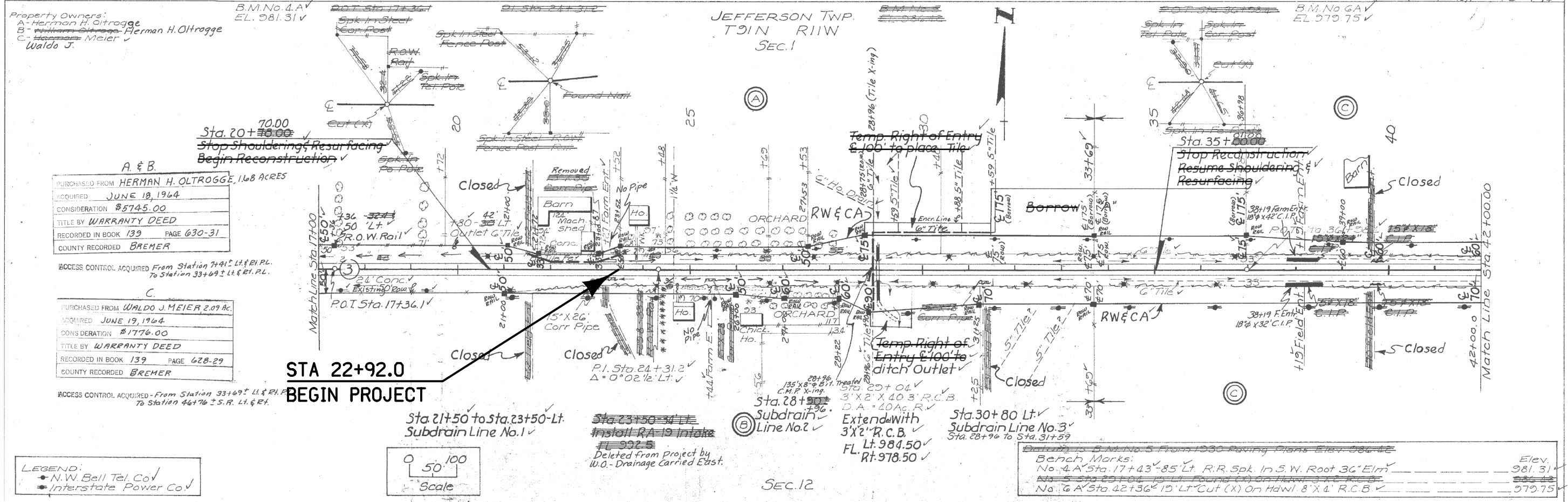
Significant differences between the design template and the actual field conditions need to be resolved in this manner:

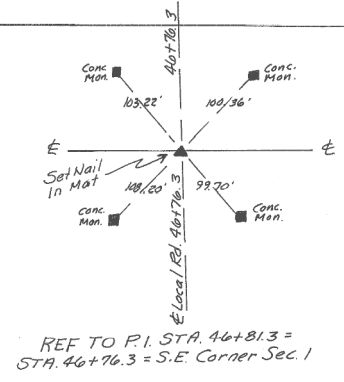
Survey the location and draw the actual template on the cross section. Recalculate each post length and compare to the maximum allowable leg length. If all of the maximum leg lengths are less than or equal to the maximum allowable leg length, then the proposed post design will be sufficient. If any leg is greater than the maximum allowable leg length, then submit the cross section with the actual template drawn (including offsets and elevation from the survey shown) to the Engineer. The Engineer may forward this information on to the design Engineer in order to complete a new post design.

Install the footings, stub posts, and posts according to the following tolerances:

- elevation difference from the edge of pavement to the bottom of the sign within 6 inches of the dimension shown.
- elevation difference of less than 2 inches between the top of the highest post and the lowest post at a site.

Footing construction is the controlling activity that substantially affects the quality of the site installation. Verify the elevation difference between the stubs is exactly the same as the elevation difference between the post lengths. If the Engineer requests, submit documentation detailing the site field shots in order to verify site installation.

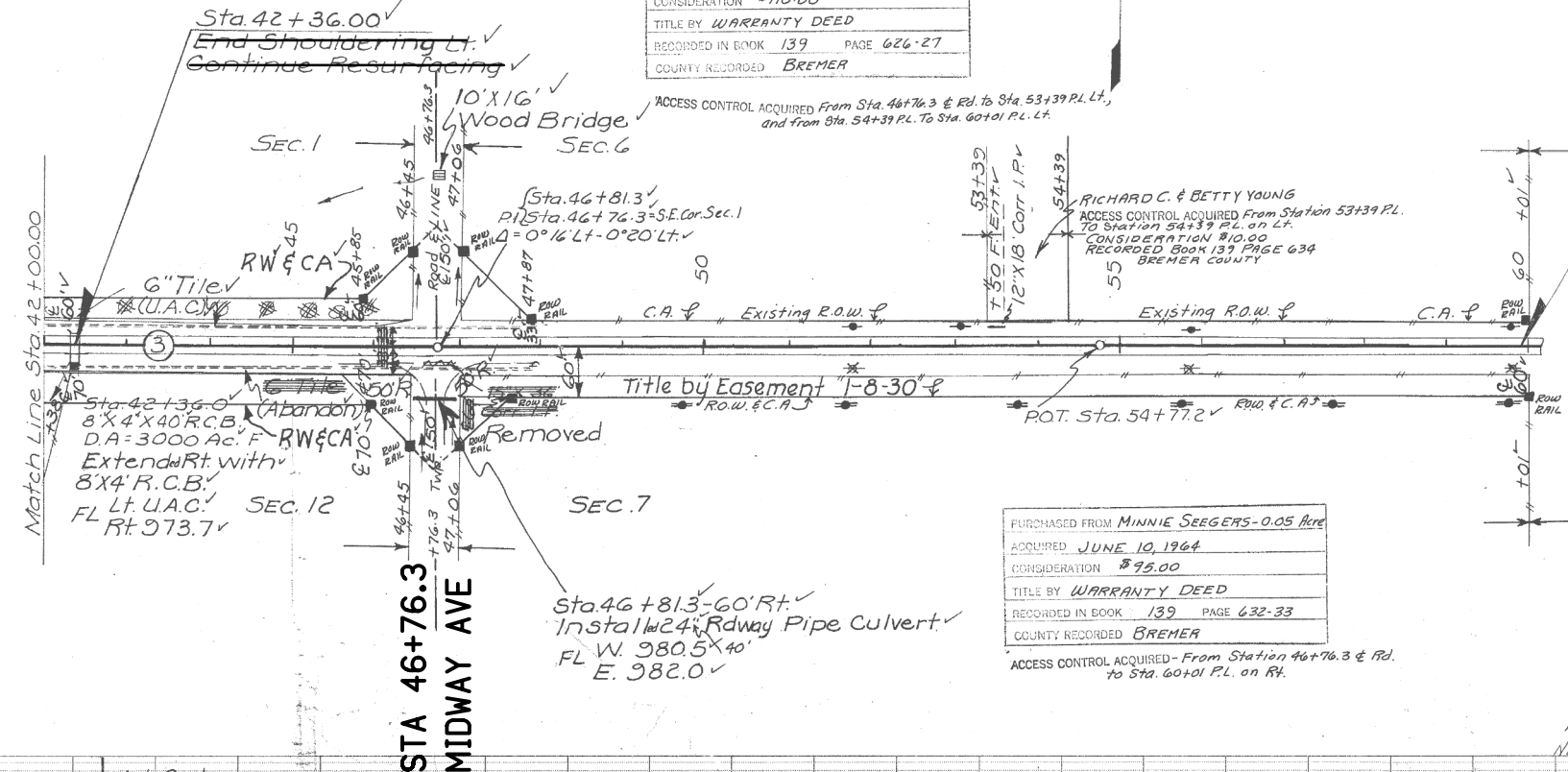




JEFFERSON TWP
T 91N R 13W

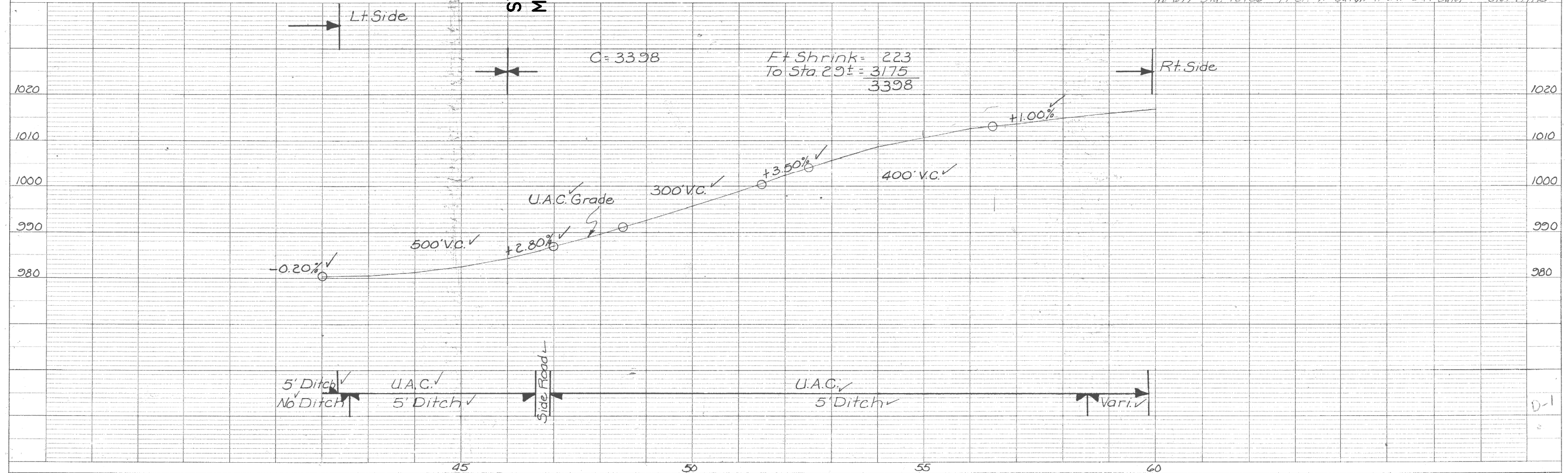
MAXFIELD TWP
T 91N R 12W

PURCHASED FROM	L. H. ROELLING & BEATHA ROELLING - 0.07 Acre
ACQUIRED	JUNE 9, 1964
CONSIDERATION	\$110.00
TITLE BY	WARRANTY DEED
RECORDED IN BOOK	139 PAGE 626-27
COUNTY RECORDED	BREMER



PURCHASED FROM	MINNIE SEEGER - 0.05 Acre
ACQUIRED	JUNE 10, 1964
CONSIDERATION	\$95.00
TITLE BY	WARRANTY DEED
RECORDED IN BOOK	139 PAGE 632-33
COUNTY RECORDED	BREMER

ACCESS CONTROL ACQUIRED - From Station 46+76.3 & Rd. to Sta. 60+01 P.L. on Rt.



SINGLE PLAN AND PROFILE - DOTTED
 H. A. ROGERS CO. - MINNEAPOLIS - ST. PAUL - DULUTH

AS-BUILT PLANS, FOR INFORMATION ONLY

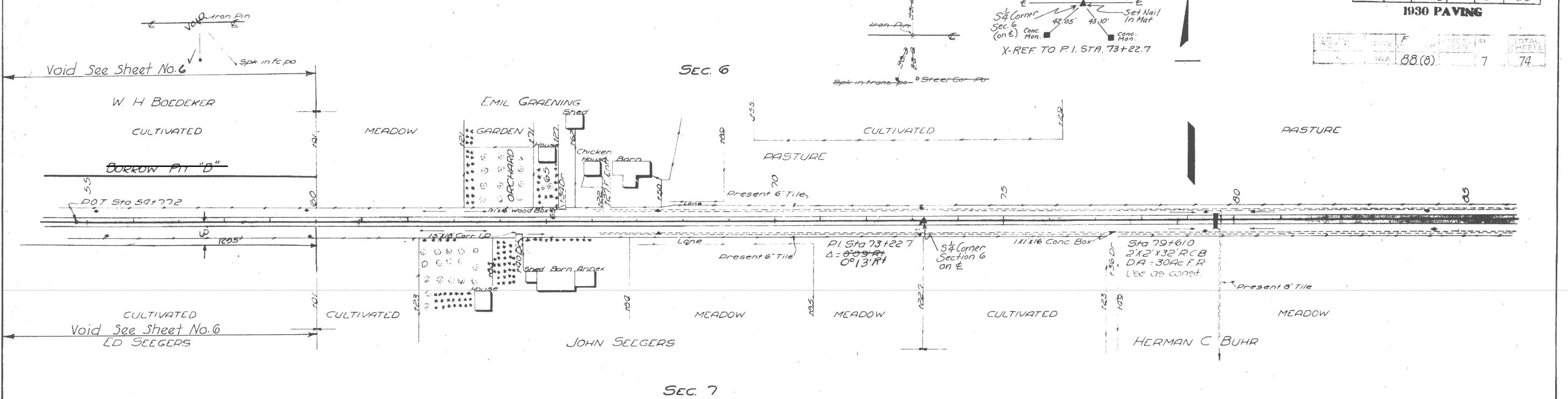
ESTABLISHED WIDTH OF RIGHT OF WAY ... FT.
 Ref to POT Sta 59+77.2
 Spk in f.c. po

MAXFIELD TWP
 T.19N. R.12W

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	Iowa	88(B)		8	50

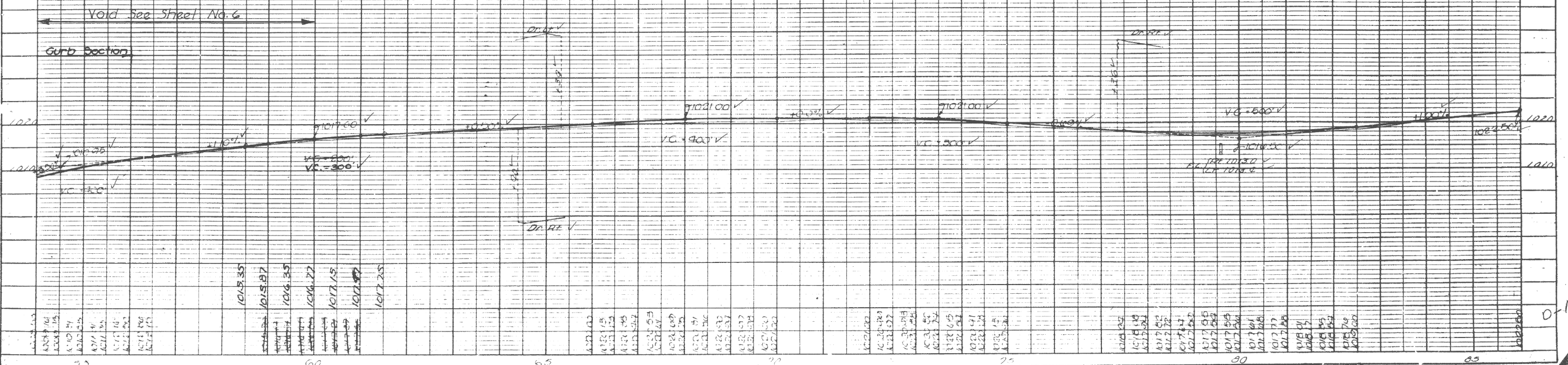
1930 PAVING

88(B)	7	74
-------	---	----



Bench Marks
 #7 Sta 65+24 (w) on S end W Hdwl Conc Box under Drive 27'Lt.....EI:101961
 #8 Sta 79+61 (w) on Lt Hdwl 2'x2' Conc Box 15'Lt.....EI:101794

183	172	185	211	178	15	15	30	35	37	32	15	15	13	6	30	28	30	30	31	33	35	32	30	26	9	0	0	3	15	20	30
69	75	82	72	67	50	43	37	42	41	36	74	67	57	61	52	39	33	33	30	35	33	24	32	37	44	54	50	70	76	80	



Bremers Co. F Proj. No. 88(B) (A.C. Resurf.) Sheet No. 7

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	Callahan \ Meise \ Coggins	BREMER COUNTY	PROJECT NUMBER	HSIPX-3-6(64)--3L-09	SHEET NUMBER	D.3
----------	---------	-------------	----------------------------	---------------	----------------	----------------------	--------------	-----

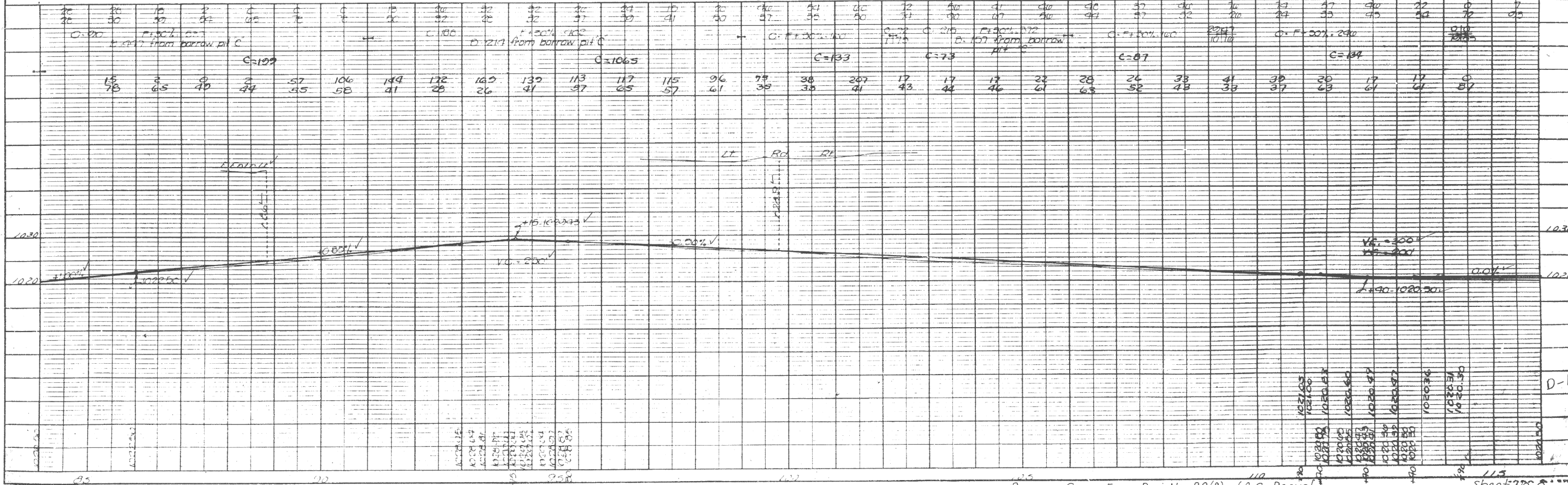
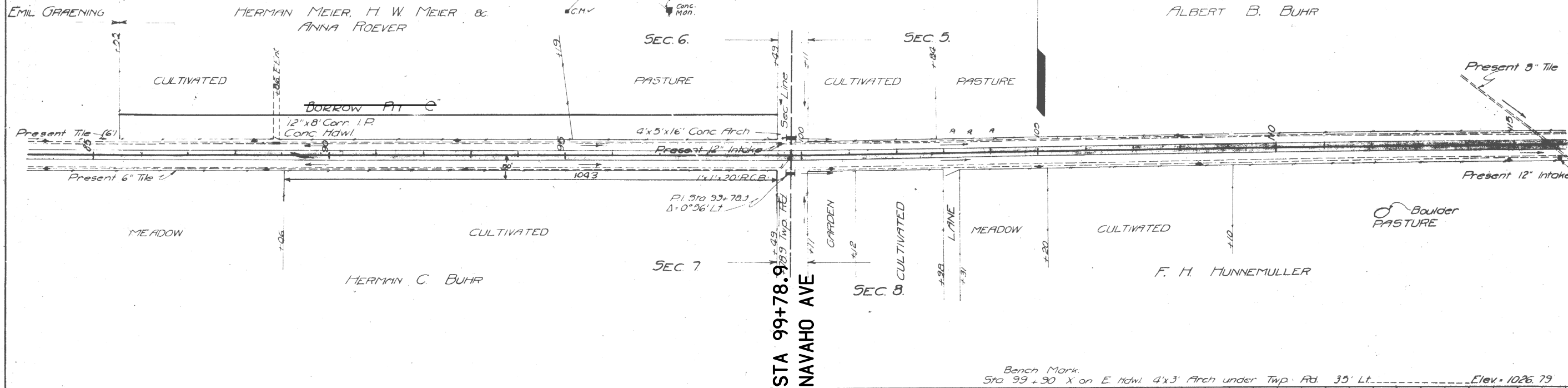
ESTABLISHED WIDTH OF RIGHT OF WAY ... FT

MAXFIELD TWP T-91-N R-12-W

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	Iowa	88-B		9	50

1930 PAVING

F 88(8) 8 74



Brumer Co. F. Proj. No. 88(8) (A.C. Resurf.) Sheet No. 8

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	BREMER COUNTY	PROJECT NUMBER	SHEET NUMBER
		Callahan \ Meise \ Coggins		HSIPX-3-6(64)--3L-09	D.4

ESTABLISHED WIDTH OF RIGHT OF WAY _____ FT.

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
5	Iowa	99-0		10	50

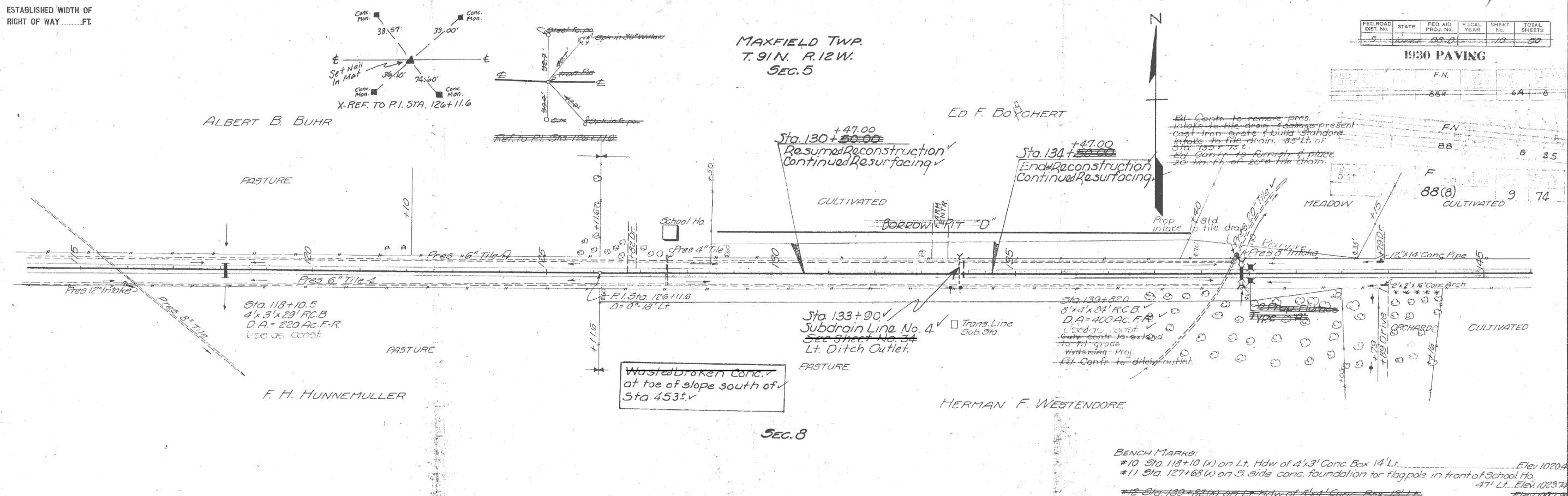
1930 PAVING

MAXFIELD TWP.
T. 91N. R. 12W.
SEC. 5

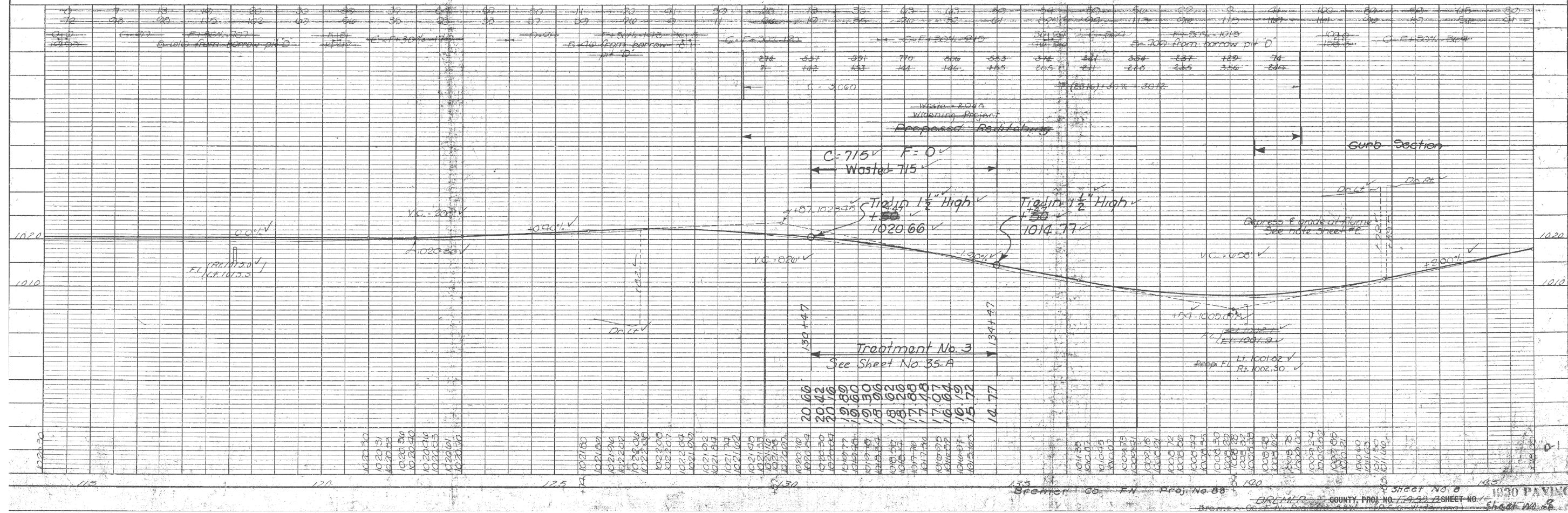
ALBERT B. BUHR

ED F. BOXCHELT

F.N.	6A	8
88		
F	9	74
88(8)		



BENCH MARKS:
 *10 Sta. 118+10 (W) on Lt. Hd of 4'x3' Conc. Box 14' Lt. Elev. 1020.46
 *11 Sta. 127+68 (W) on S. side conc. foundation for flagpole in front of School Ho. 47' Lt. Elev. 1023.74
 *12 Sta. 133+82 (W) on Lt. Hd of 8'x4' Conc. Box 13' Lt. Elev. 1021.39



AS-BUILT PLANS, FOR INFORMATION ONLY

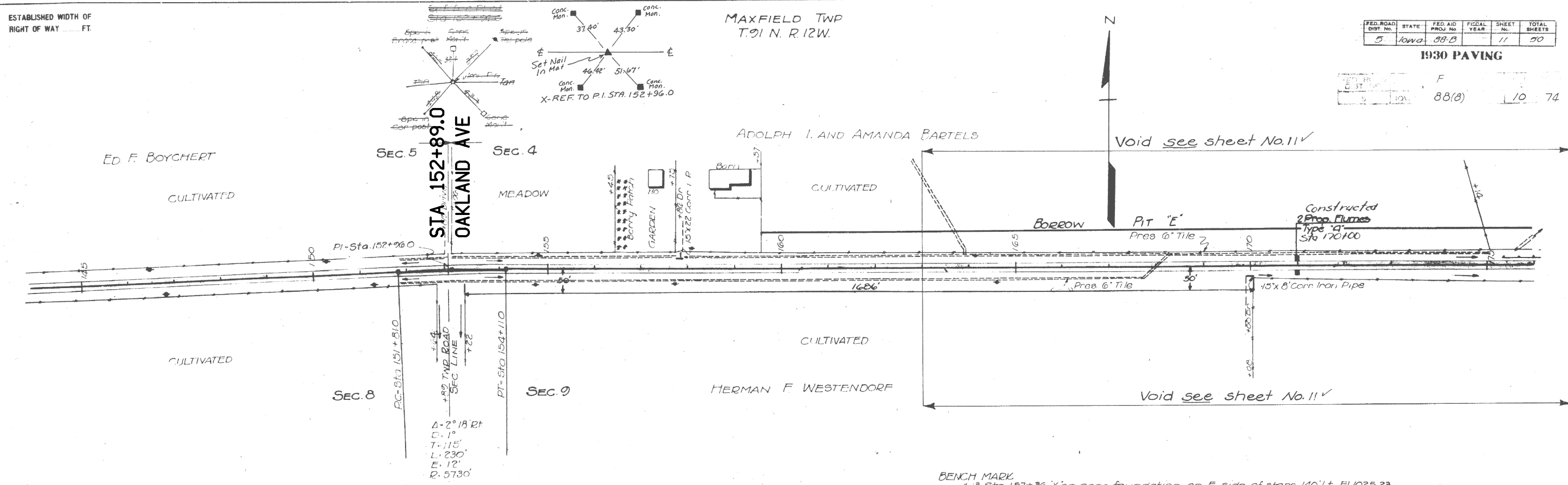
ESTABLISHED WIDTH OF RIGHT OF WAY FT.

MAXFIELD TWP
T. 21 N. R. 12 W.

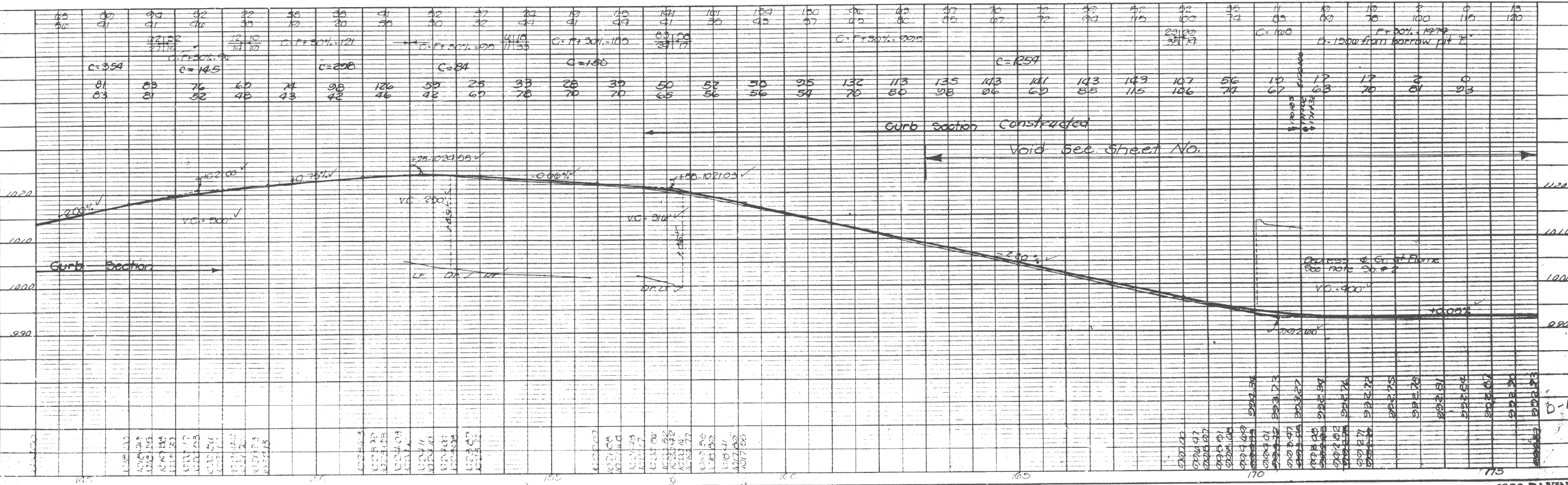
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	Iowa	88-B		11	50

1930 PAVING

5	Iowa	88(B)	10	74
---	------	-------	----	----



BENCH MARK
#13 Sta 157+36 X'on conc foundation on E side of steps 140' Lt. El. 1025.23



Bremar Co. F Proj. No. 88(B) (A.C. Resurf.)

1930 PAVING
Sheet No. 10

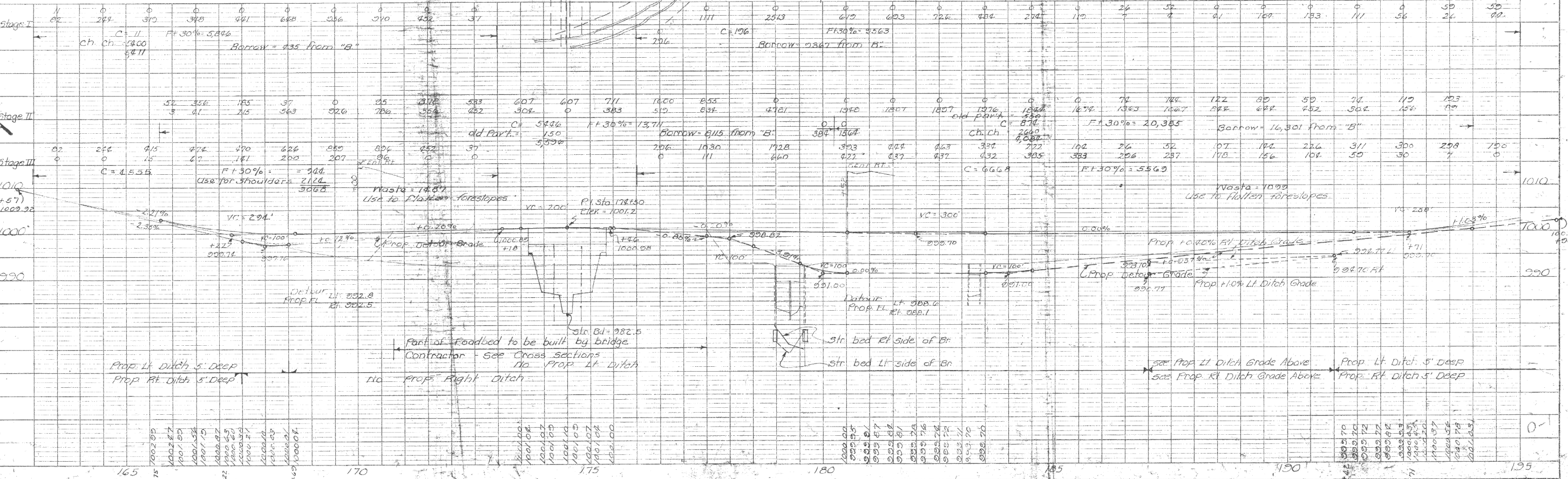
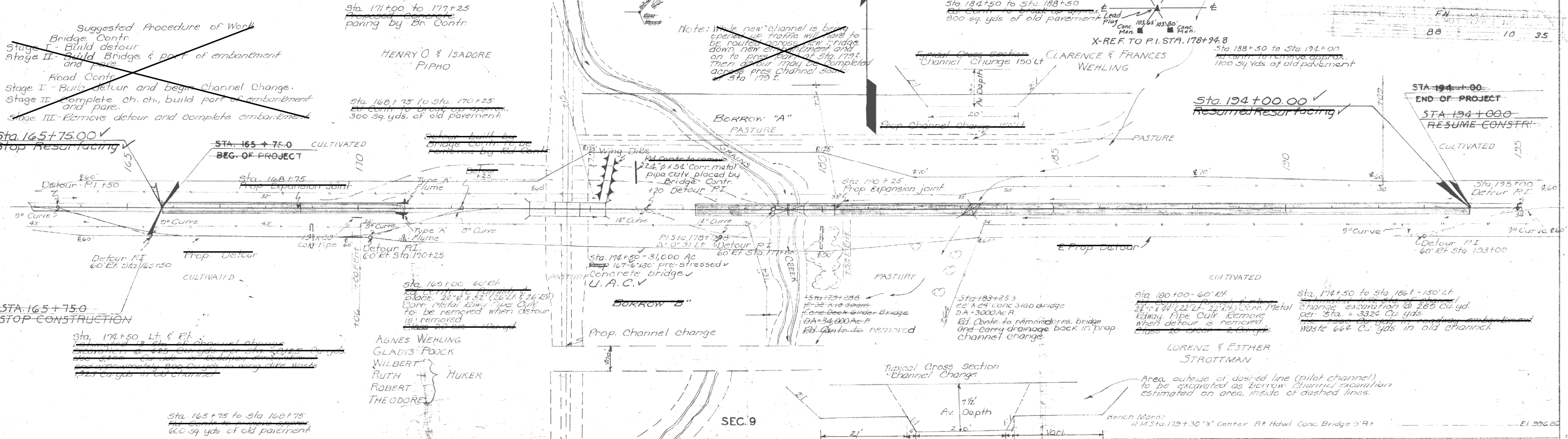
AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM Callahan \ Meise \ Coggins	BREMER COUNTY	PROJECT NUMBER HSIPX-3-6(64)--3L-09	SHEET NUMBER D.6
----------	---------	--	---------------	-------------------------------------	------------------

ESTABLISHED WIDTH OF RIGHT OF WAY FT.

MAXFIELD TWP
T9N R12W
SEC. 4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FED. AID FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	FN		88	7	12



AS-BUILT PLANS, FOR INFORMATION ONLY

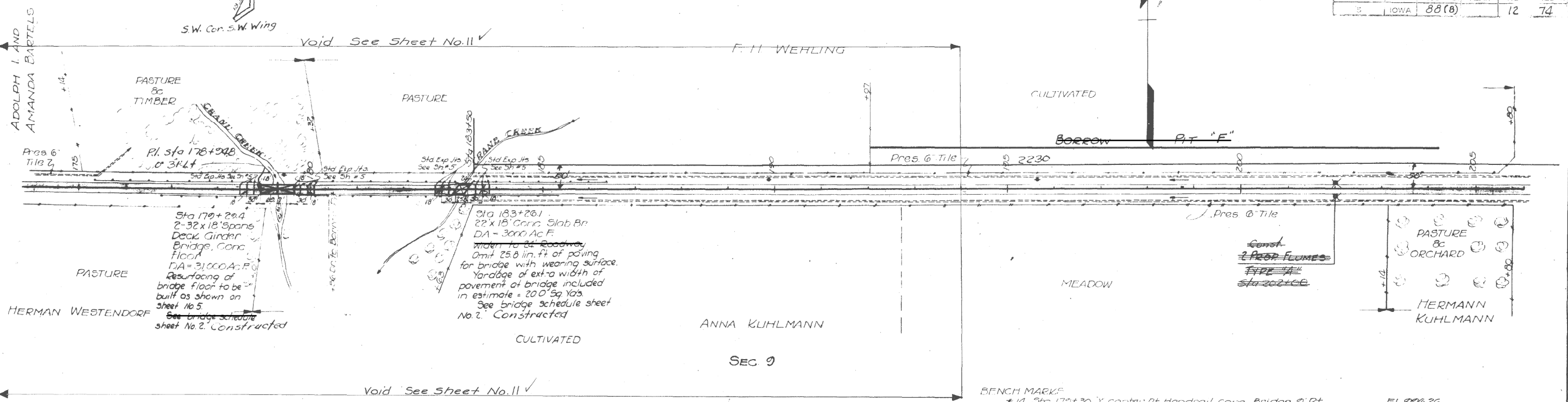
ESTABLISHED WIDTH OF RIGHT OF WAY _____ FT.

MAXFIELD TWP
T.91N. R.12W.
SEC. 4

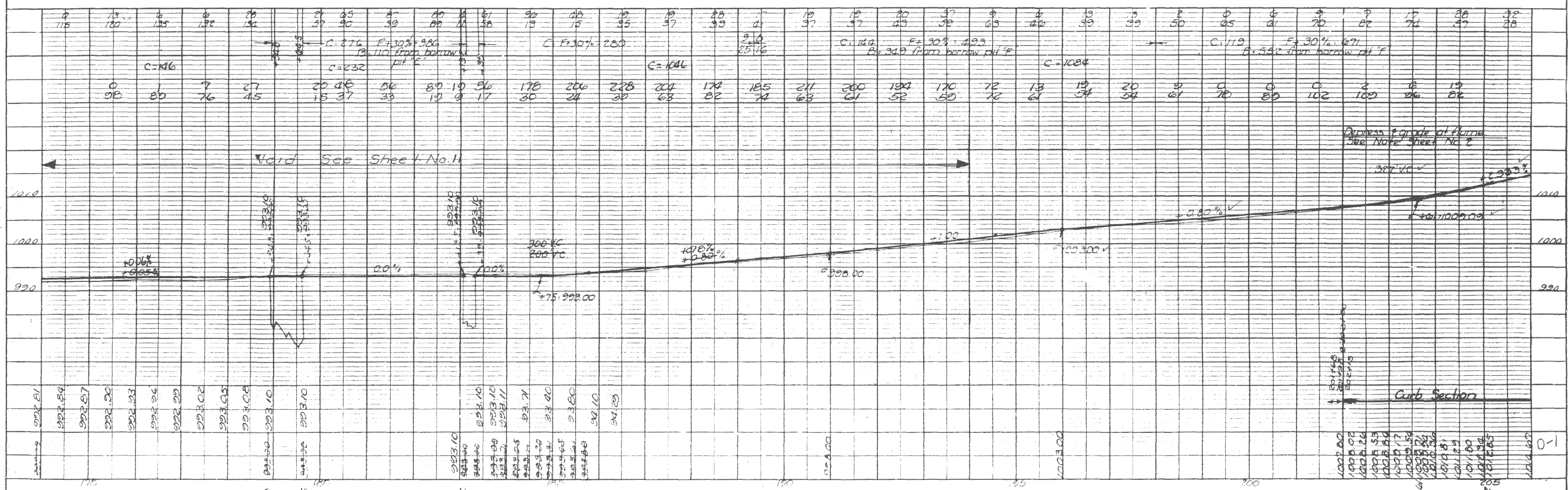
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	88(8)		12	50

H30 PAVING

FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	88(8)	12	74



BENCH MARKS
 * 14 Sta 170+30 X Center Rt Handrail Conc. Bridge 9' Rt. El 996.26
 * 15 Sta 183+20 X Center Rt Handrail Conc. Slab Bridge 9' Rt. El 995.89



Bremor Co. F Proj. No. 88(8) (A.C. Resurf.) Sheet No. 12

AS-BUILT PLANS, FOR INFORMATION ONLY

ESTABLISHED WIDTH OF RIGHT OF WAY FT.

MAXFIELD TWP. T. 91 N. R. 12 W.

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
5	Iowa	688	13	13	50

1930 PAVING

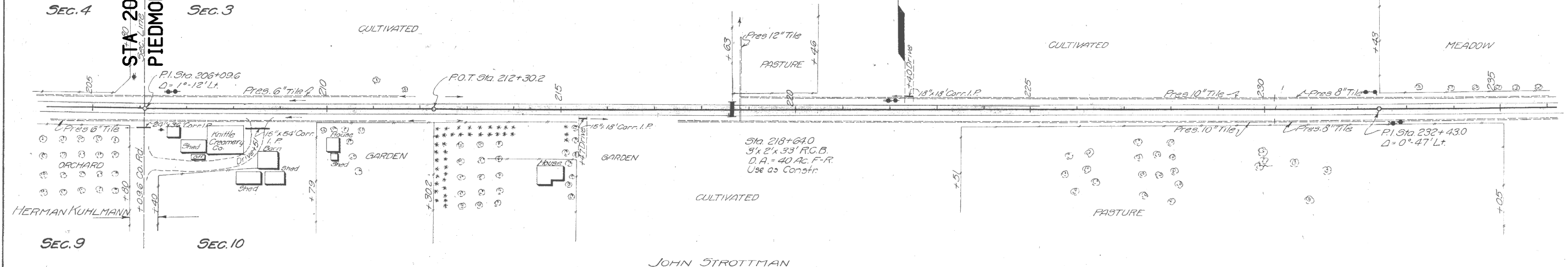
FRED C. BUHR
88(8) 13 74

F.H. WEHLING

STA 206+13.6
PIEDMONT AVE

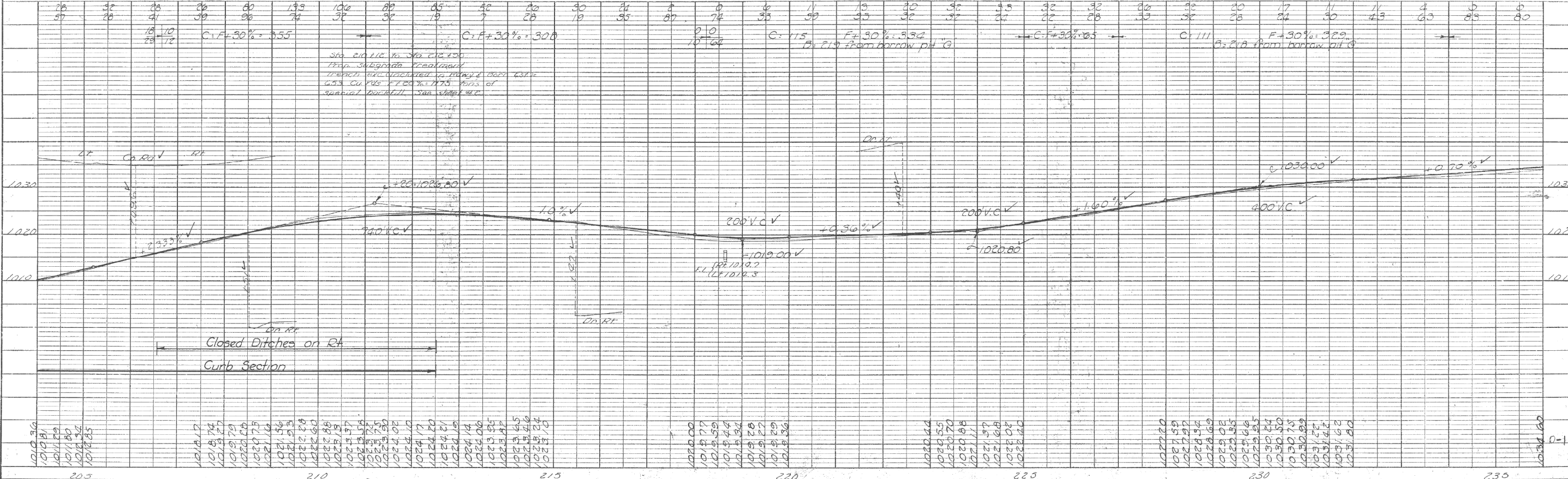
FREDRICK STRUMPEL

JOHN STROTTMAN



Sta 210+12 to Sta. 212+00
Contractor to prepare
536 Sq. Yds. of proposed pavement
and replace 1175 Sq. Yds. of
Type A portland cement pavement.
Pavement to be poured in 12 units.
Traffic to be maintained at all times
during construction.

BENCH MARKS:
#16 Sta. 208+82 (X) on N.W. cor first block of sidewalk to Ho. 68' Rt. Elev. 1021.00
#17 Sta. 218+64 (X) on Rt. Hdwy. of 3' x 2' corr. box culv. 17' Lt. Elev. 1018.74



AS-BUILT PLANS, FOR INFORMATION ONLY

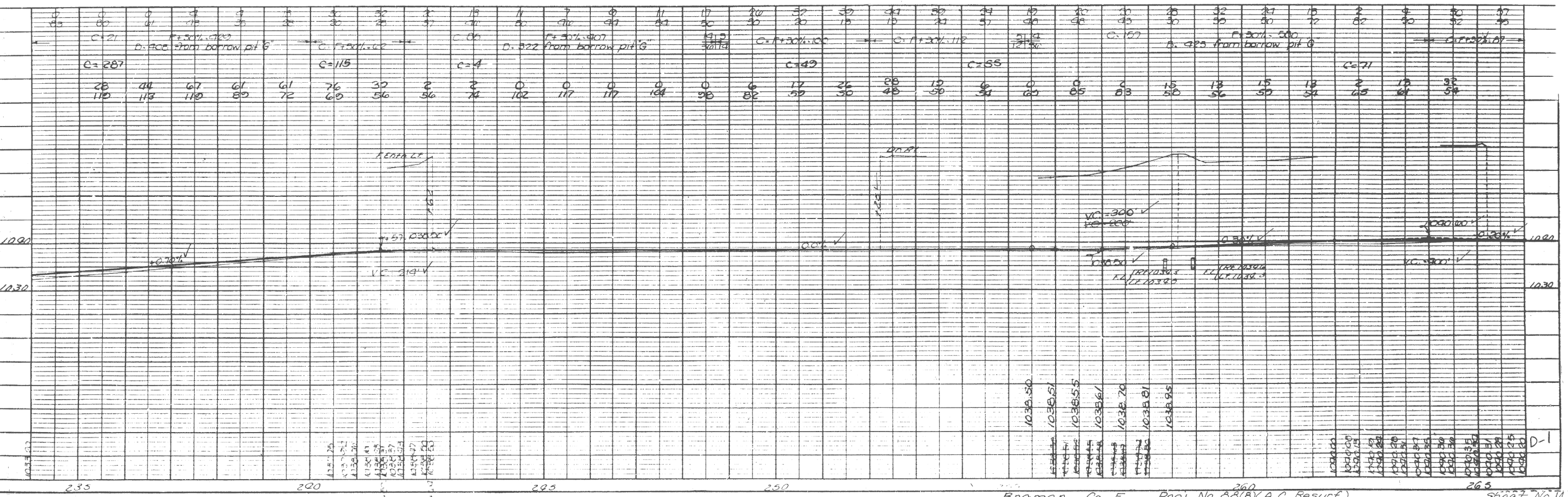
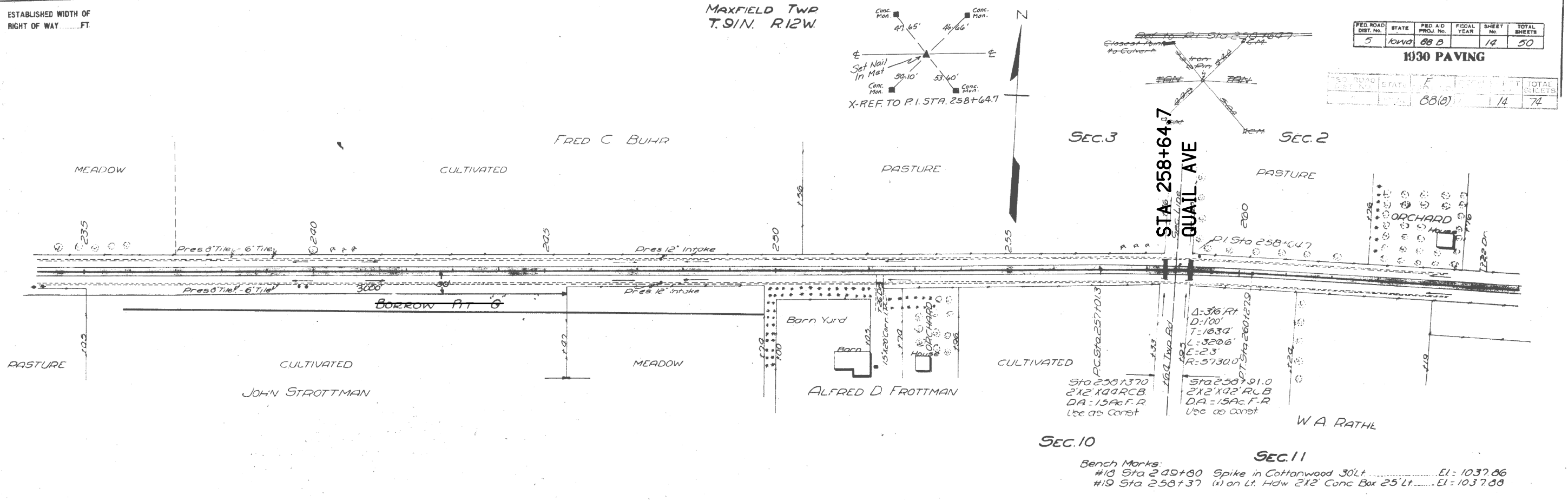
ESTABLISHED WIDTH OF RIGHT OF WAY _____ FT.

MAXFIELD TWP
T.91N. R12W

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	Iowa	88 B		14	50

1930 PAVING

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	Iowa	88(B)		14	74



Bremer Co. F Proj. No 88(B)(A.C. Resurf) Sheet No. 14

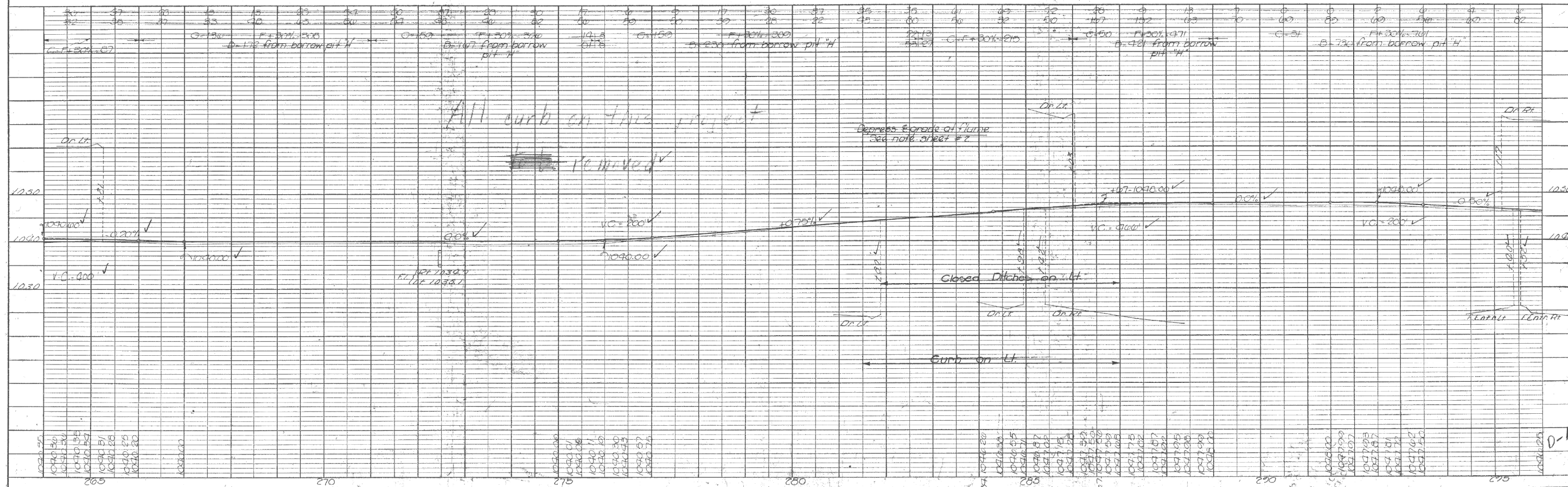
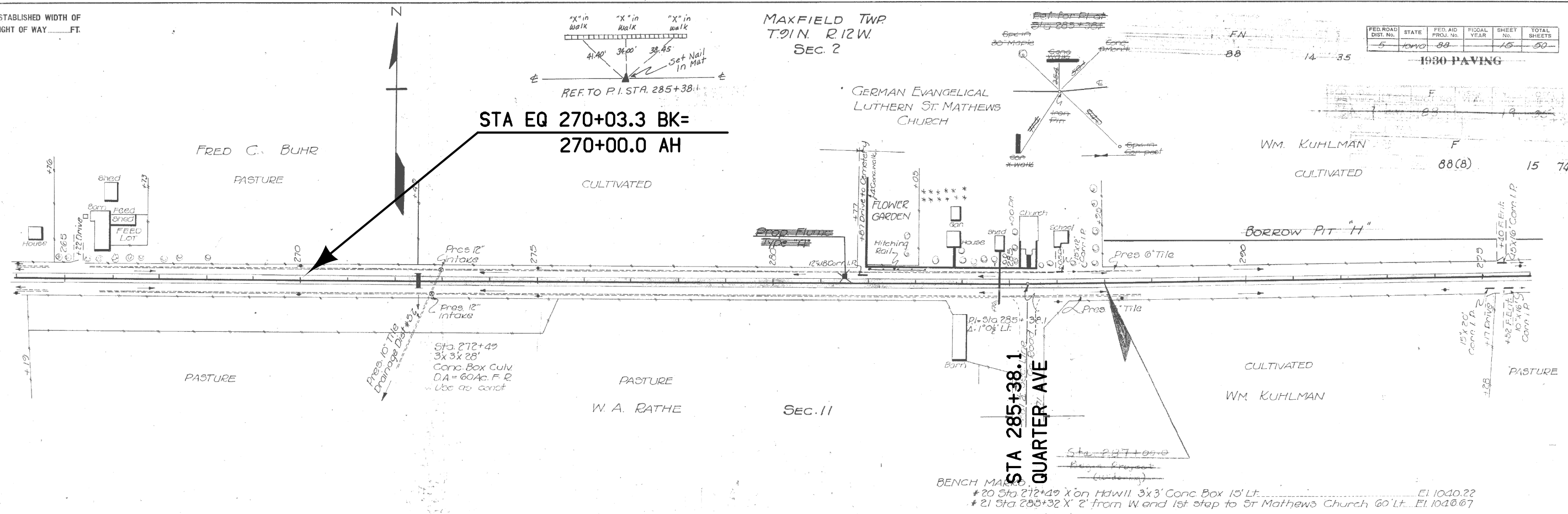
AS-BUILT PLANS, FOR INFORMATION ONLY

ESTABLISHED WIDTH OF RIGHT OF WAY.....FT.

MAXFIELD TWP. T.91N. R.12W. SEC. 2

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
5	Iowa	88		15	50

1930 PAVING



Bremers Co. Proj. No. 88 (A.C. Resurf.) Sheet No. 15
 COUNTY PROJ. NO. 5488 SHEET NO. 15

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
 D-Wm. Kuhlmann
 E-Edward T. & Frances V. Minnoert
 F-Arthur H. & Malinda Miller

Ref To Pt Sta 311+53.3

MAXFIELD TWP
 T9IN R12W

Cross Ref. To Pt Sta. 311+53.3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		88(9)		4	113

Purchased From ARTHUR H. & MALINDA MILLER (FO) & ERNEST E. & RUTH C. WAGNER (CF)
 Acquired JUNE 23, 1965 - 1.6 ACRES
 Consideration \$2,165.00
 Title By WARRANTY DEED
 Recorded BOOK 156 PAGE 261-264
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Purchased From HENRY & MILDRED HAGENOW
 Acquired AUGUST 24, 1965 - 2.4 ACRES
 Consideration \$3,000.00
 Title By WARRANTY DEED
 Recorded Book 156 PAGE 424-427
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

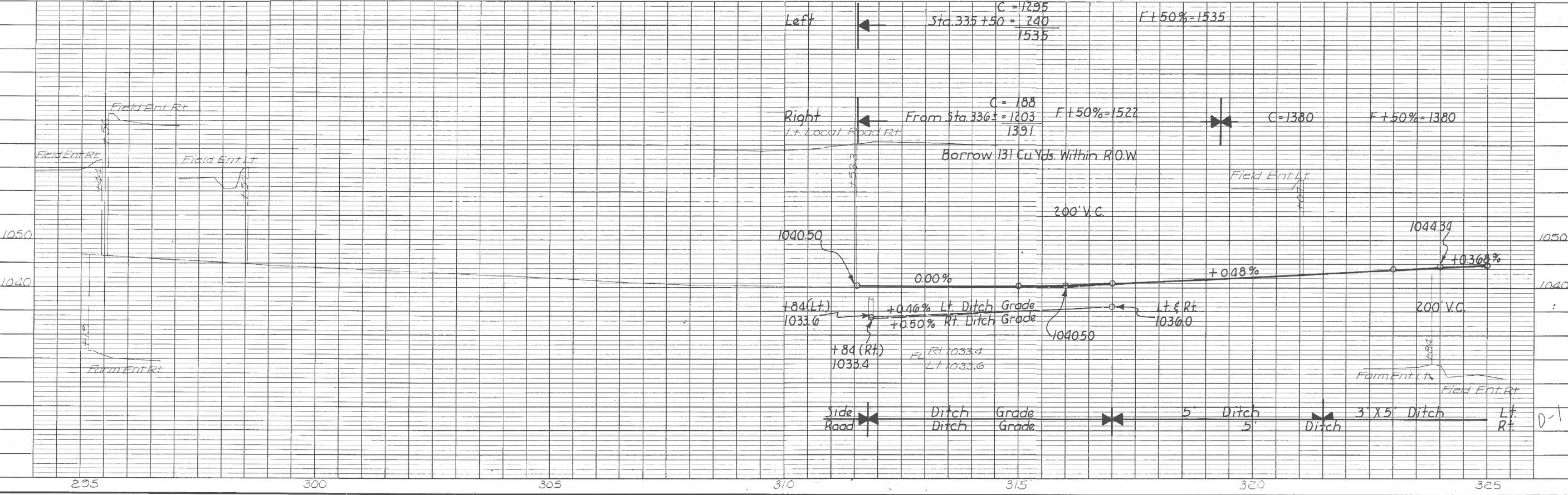
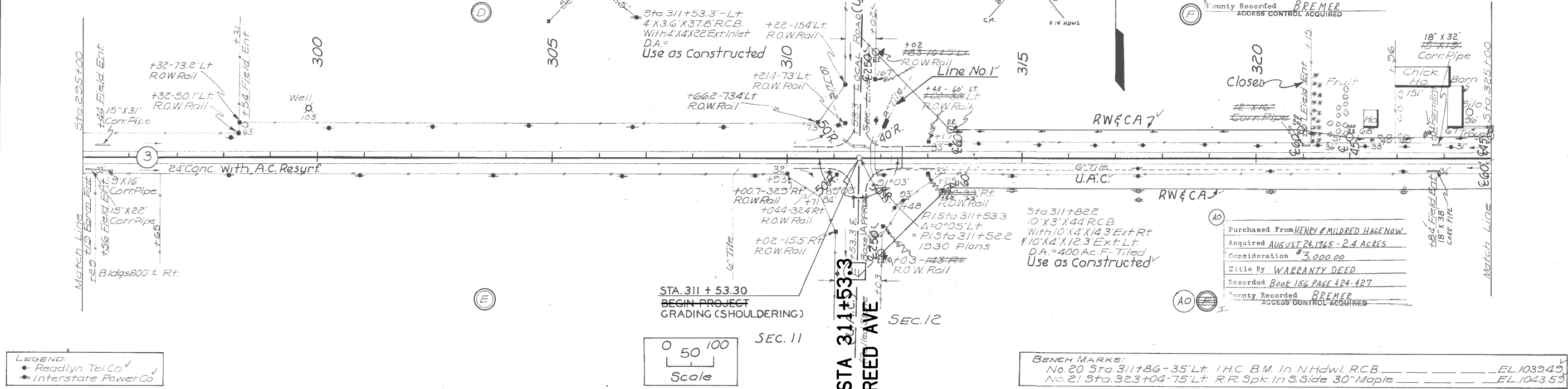


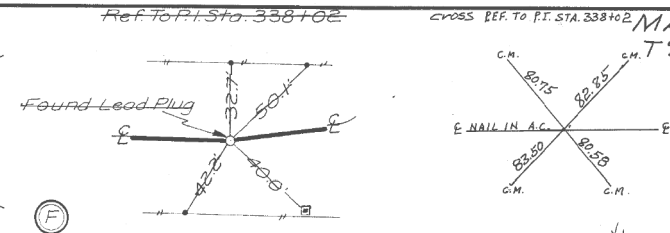
PLATE 1--PLAN-PROFILE D. P. R. & R. E. STANDARD
 NO. 131 ARCHWRIGHT MADE AND PRINTED IN U. S. A.

Bremer Co. F Proj. No. 88(9) Sheet No. 4

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
 F-Arthur H & Malinda Miller
 G-Reinhart & Lauretta Boevers
 H-Bertha Hagenow
 AO HENRY & MILDRED HAGENOW

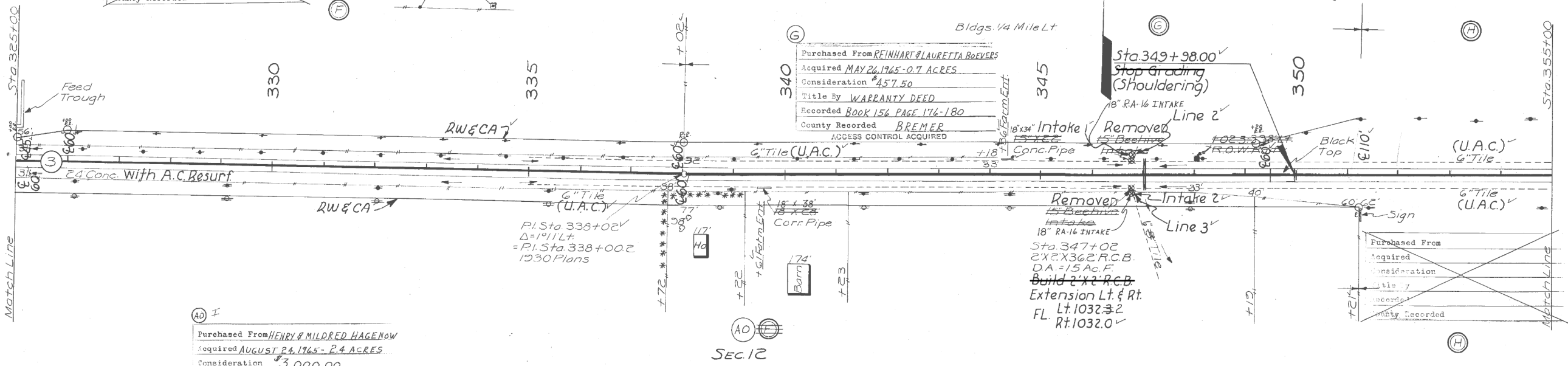
Purchased From	
Acquired	
Consideration	
Title By	
Recorded	
County Recorded	



MAXFIELD TWP.
 T9IN R12W
 SEC. 1

FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		88(9)	5	113

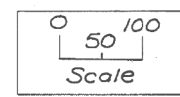
Purchased From	
Acquired	
Consideration	
Title By	
Recorded	
County Recorded	



AO I

Purchased From	HENRY & MILDRED HAGENOW
Acquired	AUGUST 24, 1965 - 2.4 ACRES
Consideration	3,000.00
Title By	WARRANTY DEED
Recorded	BOOK 156 PAGE 424-427
County Recorded	BREMER ACCESS CONTROL ACQUIRED

LEGEND:
 • Readlyn Tel. Co.
 • Interstate Po. Co.



BENCH MARKS:
 Datum
 No. 28 Sta. 347+02 22' Lt Found I.H.C.
 -Datum B.M. #22-19-58-Survey - Datum E.I. in N.H.dwl. 2' X 2' R.C.B.
 EL. 1035.64
 EL. 1035.36

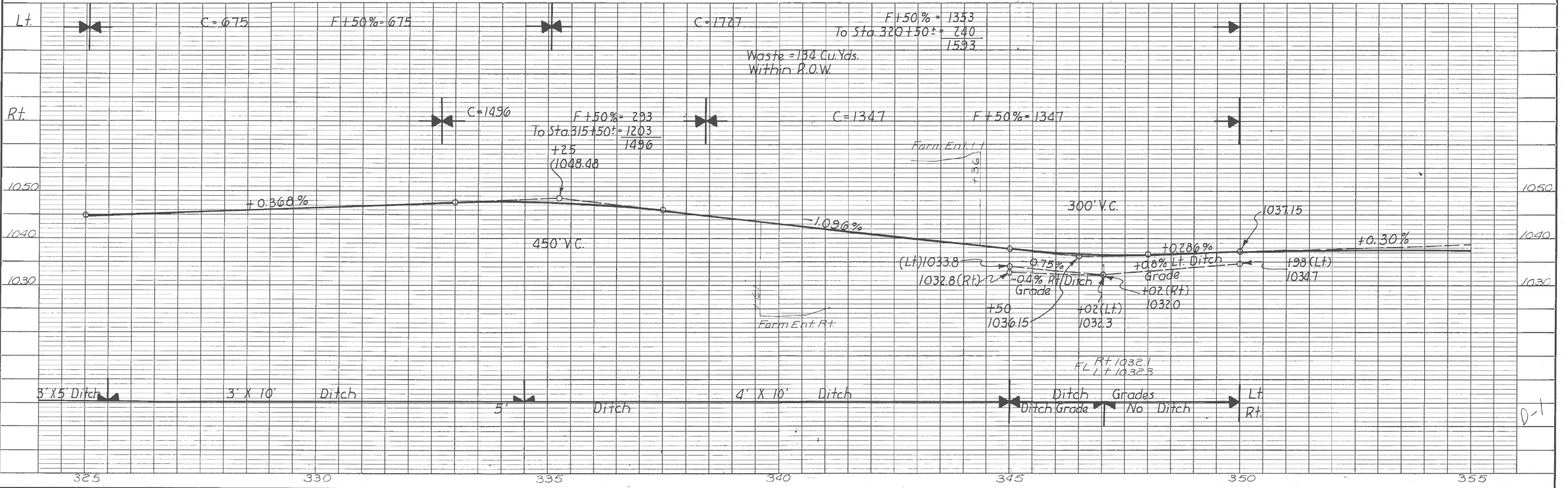


PLATE 1—PLAN PROFILE O. P. R. & R. E. STANDARD
 NO. 131 ANCHORAGE MADE AND PRINTED IN U. S. A.
 EUGENE DIETZGEN CO., CHICAGO

Bremer Co. F Proj. No. 88 (9) Sheet No. 5

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM Callahan \ Meise \ Coggins	BREMER COUNTY	PROJECT NUMBER HSIPX-3-6(64)--3L-09	SHEET NUMBER D.13
----------	---------	--	---------------	-------------------------------------	-------------------

9:25:33 AM 11/9/2016 tmeise pw:\projectwise.dot.int.lan:PWMain\Documents\Projects\0900302015\DistrictDesign\09003064.D01.sht

Property Owners:
 H-Bertha Hagenow
 I-Henry & Mildred Hagenow
 J-August Schlavitz

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		88(9)		6	13

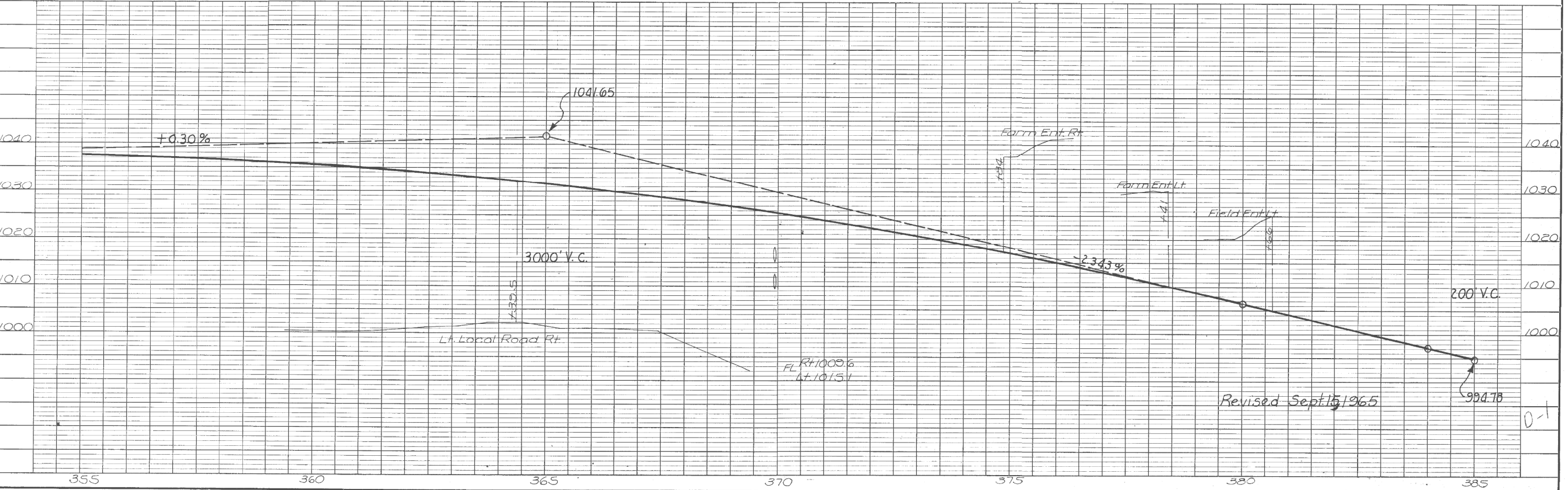
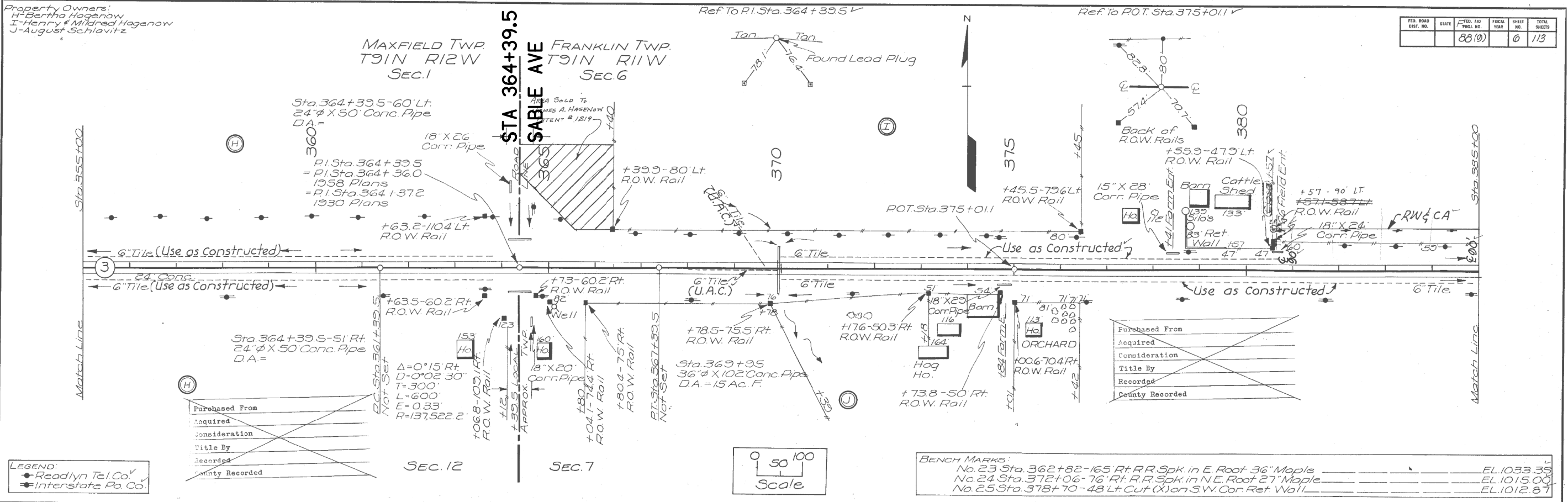


PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDARD
 NO. 131 KNOWHIGHT MADE AND PRINTED IN U. S. A.
 EUGENE DIETZGEN CO., CHICAGO

Bremar Co. F. Proj. No. 88(9) Sheet No. 6

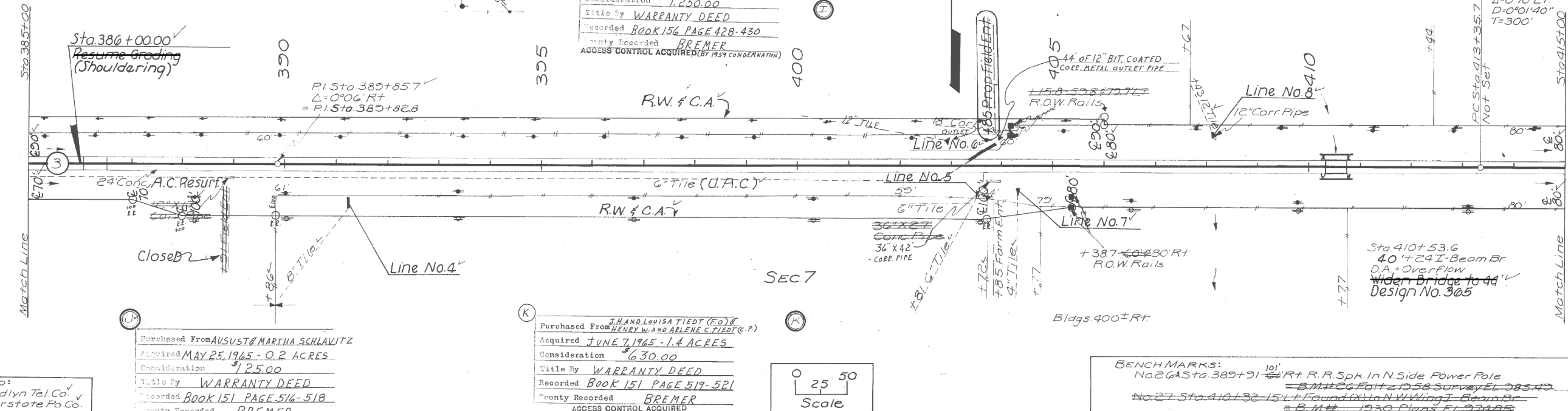
AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM Callahan \ Meise \ Coggins	BREMER COUNTY	PROJECT NUMBER HSIPX-3-6(64)--3L-09	SHEET NUMBER D.14
----------	---------	--	---------------	-------------------------------------	-------------------

FRANKLIN TWP.
TWIN RIVER
SEC. 6

Property Owners:
J. Henry & Mildred Hagenow
J. August Schlavitz
K. J. R. Louisa Tiedt

Cross REF. TO P.I. STA. 389+85.7
REF. TO P.I. STA. 383+85.7



Purchased From **AUGUST & MARTHA SCHLAVITZ**
Acquired **MAY 25, 1965 - 0.2 ACRES**
Consideration **1,250.00**
Title By **WARRANTY DEED**
Recorded **BOOK 151 PAGE 516-518**
County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

Purchased From **J. H. AND LOUISA TIEDT (F.O.) & HENRY W. AND ARLINE C. TIEDT (F.P.)**
Acquired **JUNE 7, 1965 - 1.4 ACRES**
Consideration **630.00**
Title By **WARRANTY DEED**
Recorded **BOOK 151 PAGE 517-521**
County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

LEGEND:
• Reodyn Tel. Co.
• Interstate Po. Co.

BENCH MARKS:
No. 26 STA. 389+91 10' R.R. Spk. in N. Side Power Pole EL. 986.30
B.M. # 26 Foltz 2155 Survey EL. 985.43
No. 27 STA. 410+32 15' Lt. Found (X) in NW Wing I-Beam Br. EL. 975.17
B.M. # 1930 Plans EL. 974.85
NO. 27A STA. 410+30 22' Lt. I.H.C. in NW Wing of 40'x44' I-Beam Bridge EL. 975.21

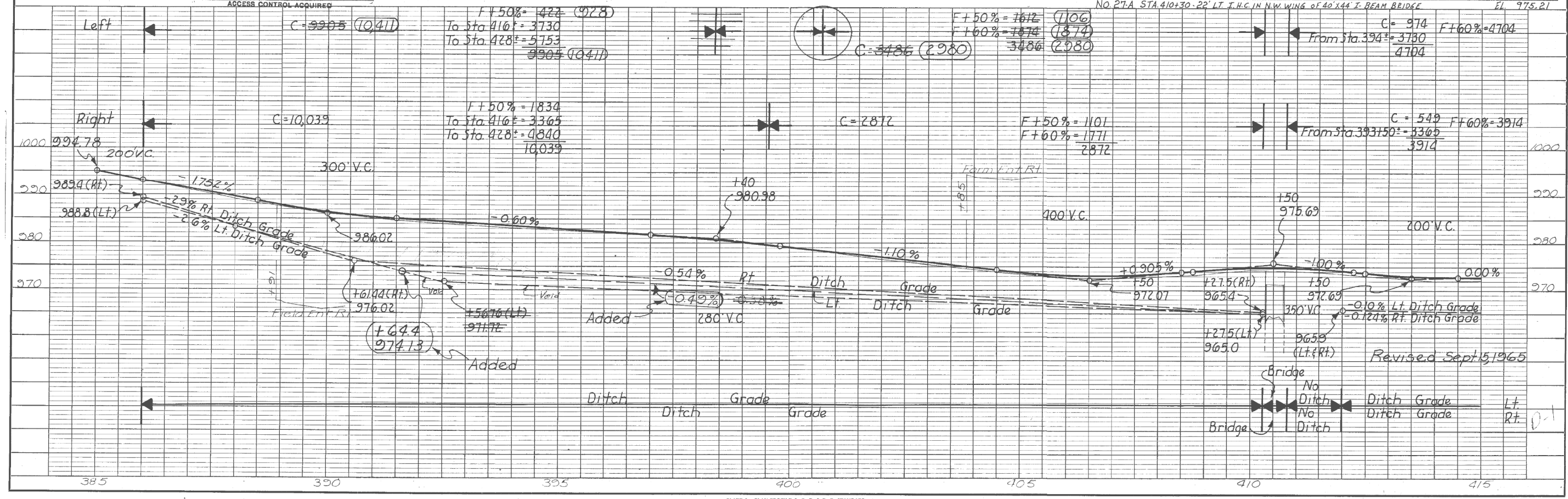
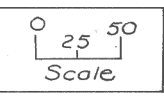


PLATE 1—PLAN PROFILE O. P. R. & R. E. STANDARD
NO. 121 ARKRIGHT MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

Bremer Co. F Proj. No. 88(9) Sheet No. 7

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
 T- Harry & Mildred Hagenow
 K- J. H. & Louisa Tiedt
 L- Harry H. & Gladys B. Smith
 M- Oswald Sell
 N- C. H. Hagenow
 O- Fred Tiest
 P- Walter Sauertrel

CRSS REF TO P.I. STA. 416+35.7

Ref. To P.I. Sta. 416+35.7

FRANKLIN TWP.
T91N R11W

Ref. To P.I. Sta. 431+05.6

Purchased From **C.H. HAGENOW**
 Acquired **MAY 6, 1945** PRESENT R.O.W.
 Consideration **\$10.00**
 Title By **WARRANTY DEED**
 Recorded **BOOK 165 PAGE 64-66**
 County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

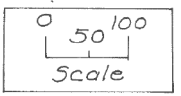
FED. ROAD DIST. NO.	STATE	FYD. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
				88(9)	8/13

CRSS REF TO P.I. STA. 442+90.2

Purchased From **HARRY H. & GLADYS B. SMITH**
 Acquired **JUNE 2, 1945** - **0.41 ACRES**
 Consideration **\$725.00**
 Title By **WARRANTY DEED**
 Recorded **BOOK 156 PAGE 85-87**
 County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

Purchased From **WILBERT & RUBY HAGENOW**
 Acquired **MAY 26, 1945** - **FEE TITLE FOR 5+ ACRES**
 Consideration **\$10.00**
 Title By **WARRANTY DEED**
 Recorded
 County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

BENCH MARKS:
 No. 28 Sta. 423+08 - 124' Lt. R.R. Spk. In S.W. Root 36' Elm EL. 968.28
 No. 29 Sta. 434+18 - 18' Rt. Found (W) S.E. Cor. S.W. Wing Of Bridge EL. 978.81



LEGEND:
 • Readlyn Tel. Co.
 • Interstate Power Co.

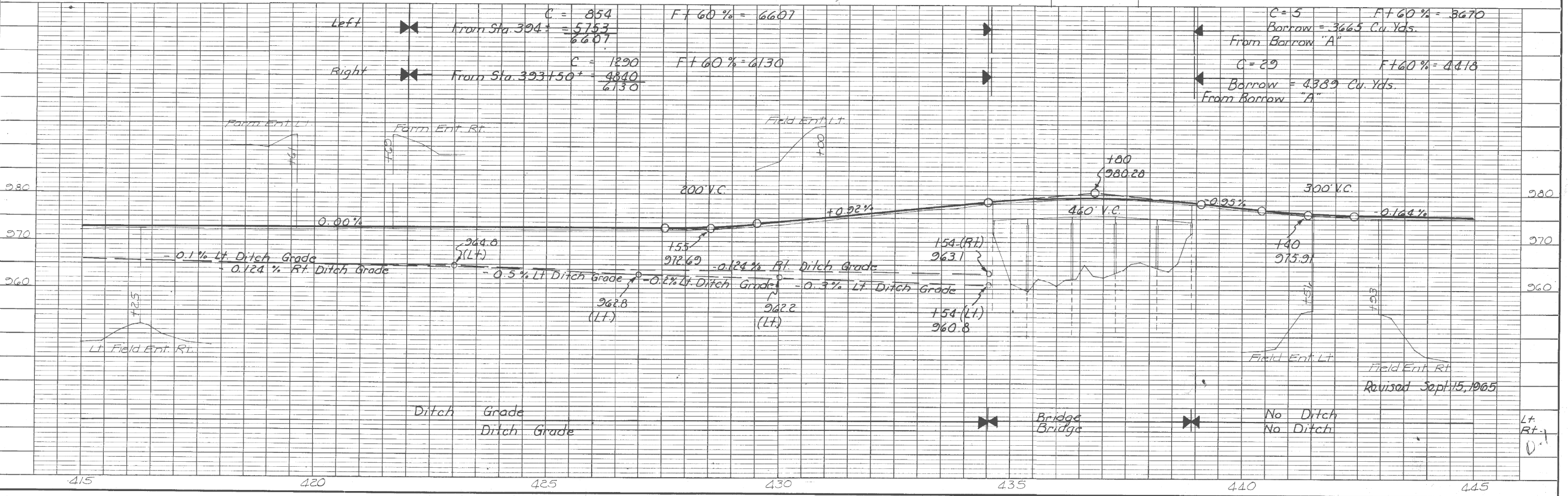


PLATE 1—PLAN—PROFILE D. P. R. & E. STANDARD
 NO. 131 ARKRIGHT MADE AND PRINTED IN U. S. A.
 EUGENE DIETZEN CO., CHICAGO

Bremer Co. F Proj. No. 88(9)

Sheet No. 8

AS-BUILT PLANS, FOR INFORMATION ONLY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		88(9)	9	113	

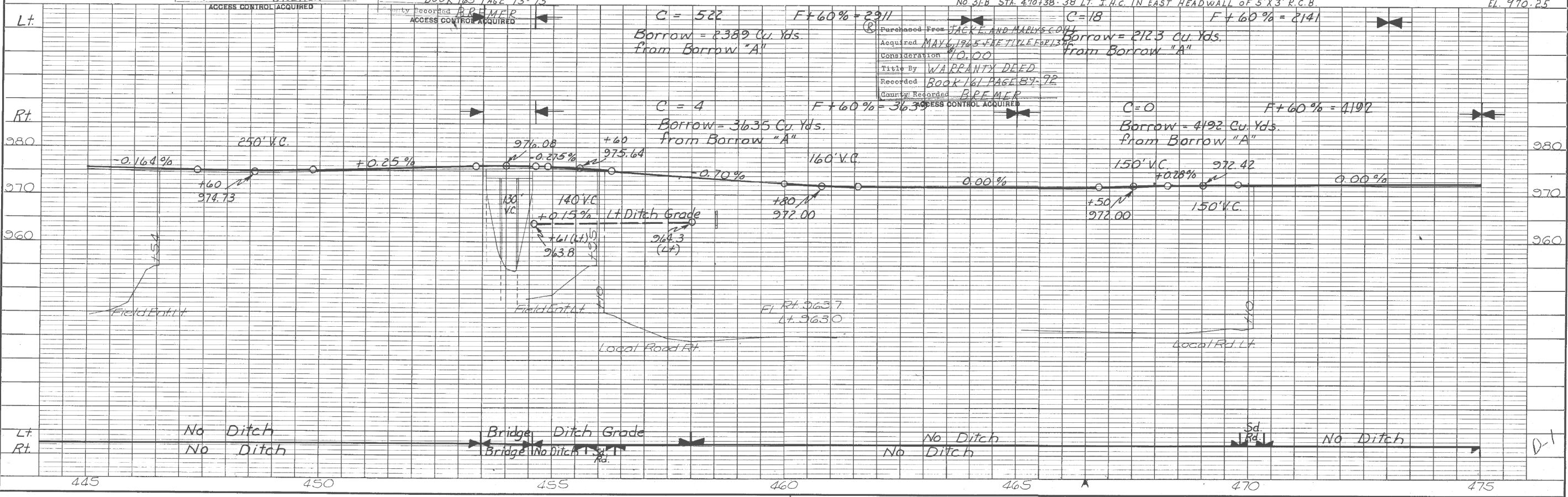
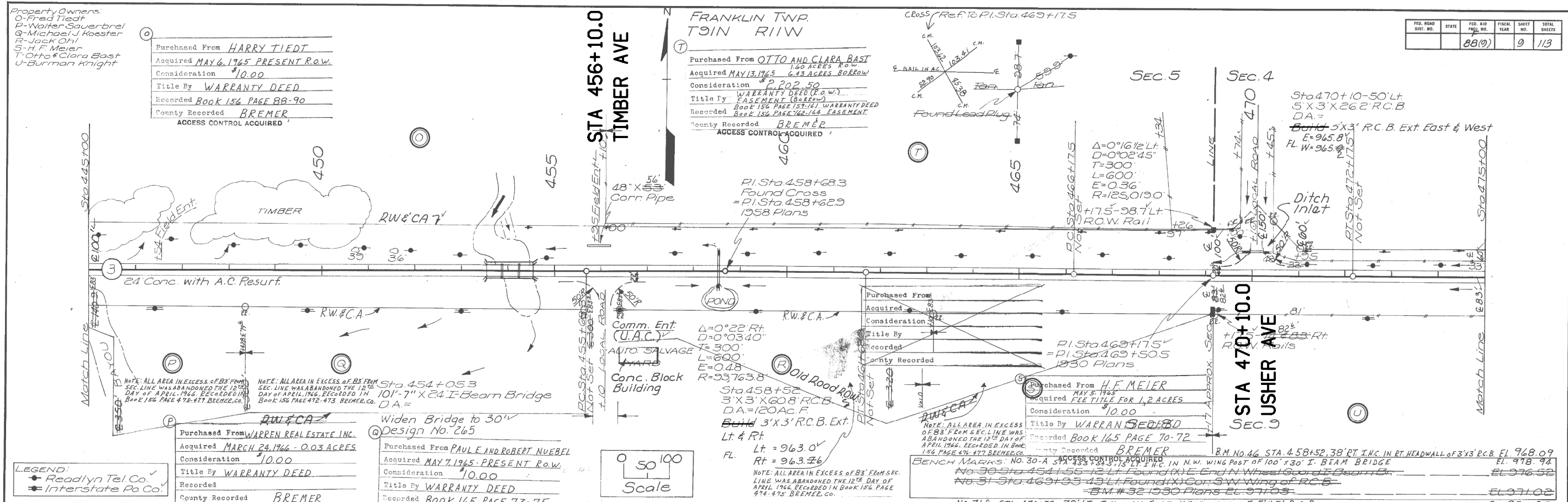


PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDARD
NO. 131 ARKRIGHT MADE AND PRINTED IN U. S. A.
EUGENE DIEZEL CO., CHICAGO

Bremer Co. F Proj. No. 88(9) Sheet No. 9

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
 T-Otto & Clara Bast
 U-Burman Knight
 V-Arnold Platte
 W-Arlene R. & Donna M. Brickman
 X-Martha B. Rervoldt

FRANKLIN TWP Class REF. To P.I. STA. 495+472 Ref. To P.I. STA. 495+672
 TWIN RIVER
 SEC. 4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
				88(9)	10 / 113

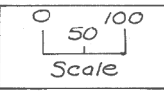
Purchased From OTTO AND CLARA BAST
 Acquired MAY 13, 1965 1.40 ACRES (E.O.W.)
 Consideration \$202.50
 Title By WARRANTY DEED (E.O.W.)
 Recorded Book 154 PAGE 157-161 WARRANTY DEED
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Purchased From ARLENE & DONNA M. BRICKMAN
 Acquired MAY 5, 1965 0.7 ACRES
 Consideration \$275.00
 Title By WARRANTY DEED
 Recorded Book 151 PAGE 526-530
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Purchased From BURMAN KNIGHT
 Acquired MAY 6, 1965 PRESENT R.O.W.
 Consideration \$10.00
 Title By WARRANTY DEED
 Recorded Book 145 PAGE 67-69
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Purchased From ARNOLD & ERNA PLATTE
 Acquired MAY 13, 1965 0.84 ACRES
 Consideration \$1,891.00
 Title By WARRANTY DEED
 Recorded Book 156 PAGE 82-84
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

LEGEND:
 • ReadyTel Co.
 • Interstate Pb. Co.



BENCH MARKS:
 No 35 Sta 584+70 89' R.L. R.R. Spk. W. Side 18" Box Elder EL 1029.00

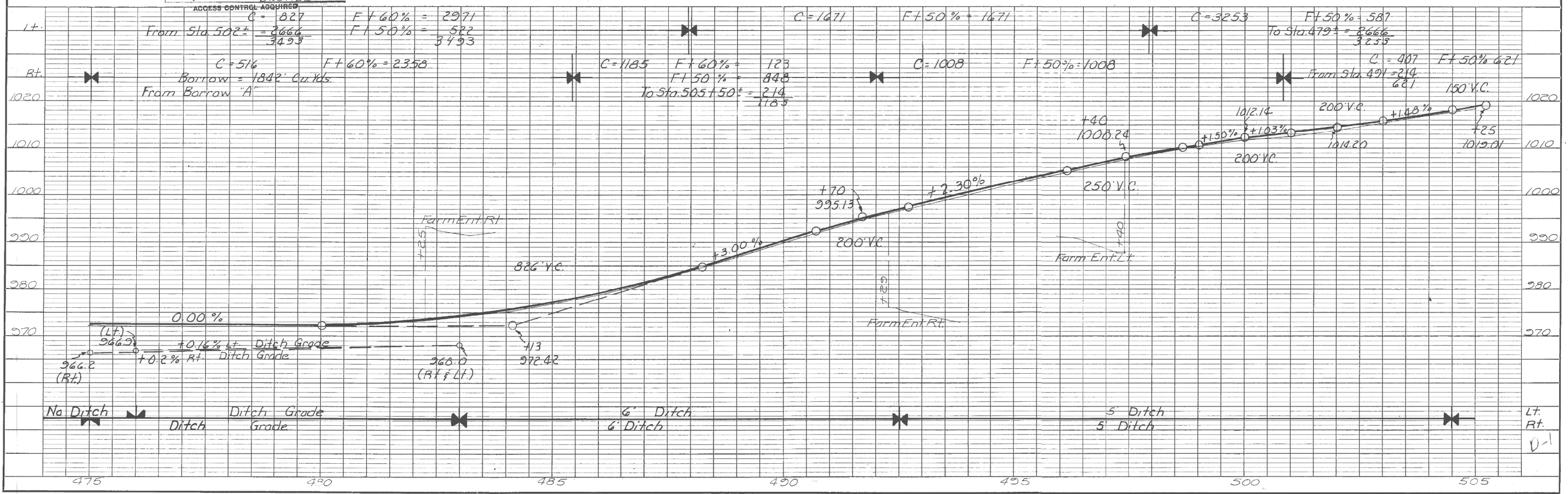


PLATE 1--PLAN-PROFILE O. P. R. & R. E. STANDARD
 NO. 131 ARKRIGHT MADE AND PRINTED IN U. S. A.
 EUGENE DIETZGEN CO., CHICAGO

Bremer Co. F Proj. No. 88(9) Sheet No. 10

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
 W-Arlen R & Donna M. Brickman
 X-Martha B. Rervoldt
 Y-Emma M. Barnhart
 Z-Herman Klengmann

Purchased From TRUSTEES of FRANKLIN TOWNSHIP
 Acquired MAY 18, 1965 - 0.1 ACRES
 Consideration \$350.00
 Title By WARRANTY DEED
 Recorded PAGE 151 of LAND DEEDS PAGE 475-6-7
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Ref To POT Sta 508+80.6

Ref To P1 Sta 521+90.3

FRANKLIN TWP.
 T9IN RIW

Cross Ref. To P1
 Sta. 521+90.3

FED. ROAD DIST. NO.	STATE	FY10 AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		88(9)	11	113	

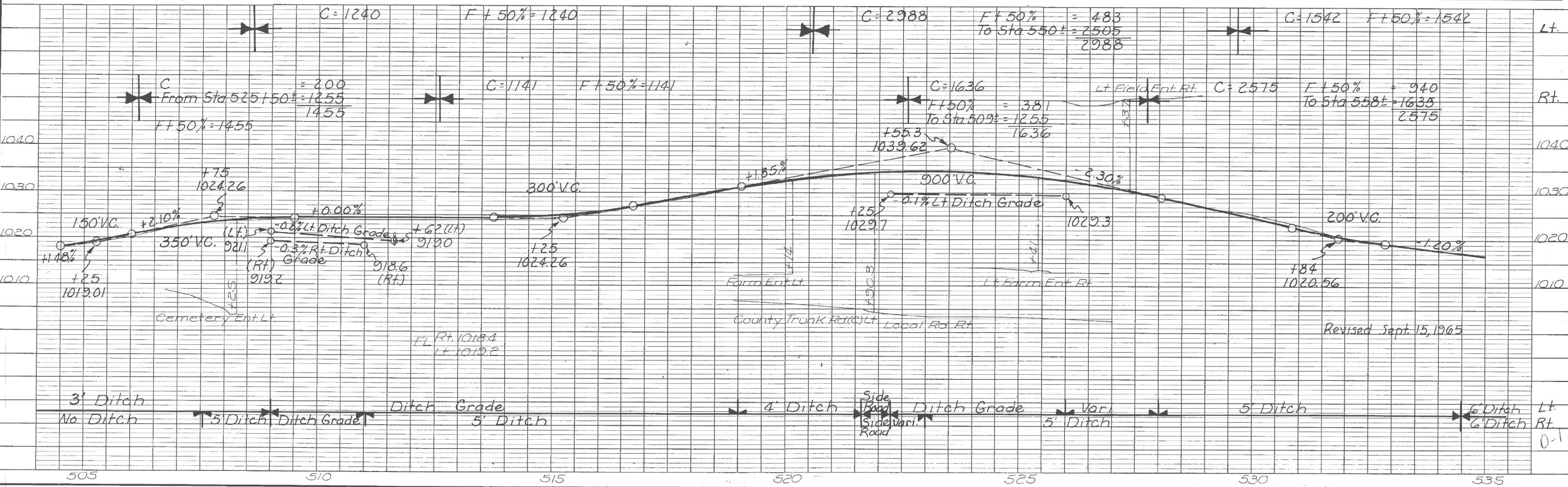
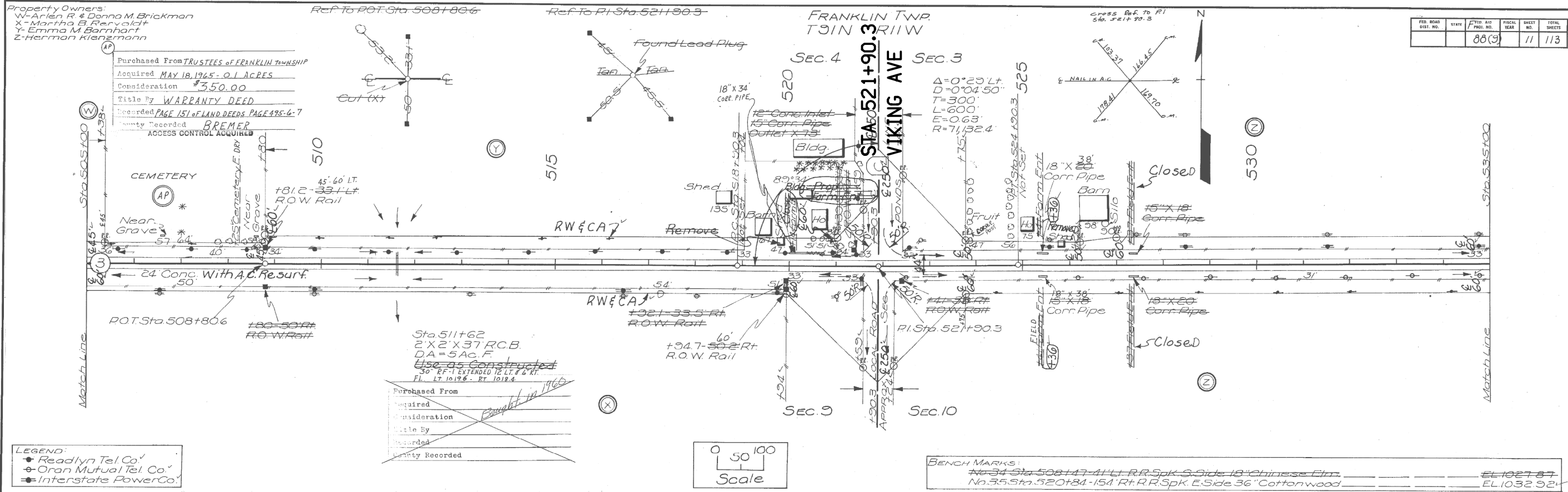


PLATE 1--PLAN-PROFILE O. P. R. & R. E. STANDARD
 NO. 131. ARROWRIGHT MADE AND PRINTED IN U. S. A.
 EUGENE DIETZGEN CO., CHICAGO

Bremers Co. F Proj. No. 88(9) Sheet No. 11

AS-BUILT PLANS, FOR INFORMATION ONLY

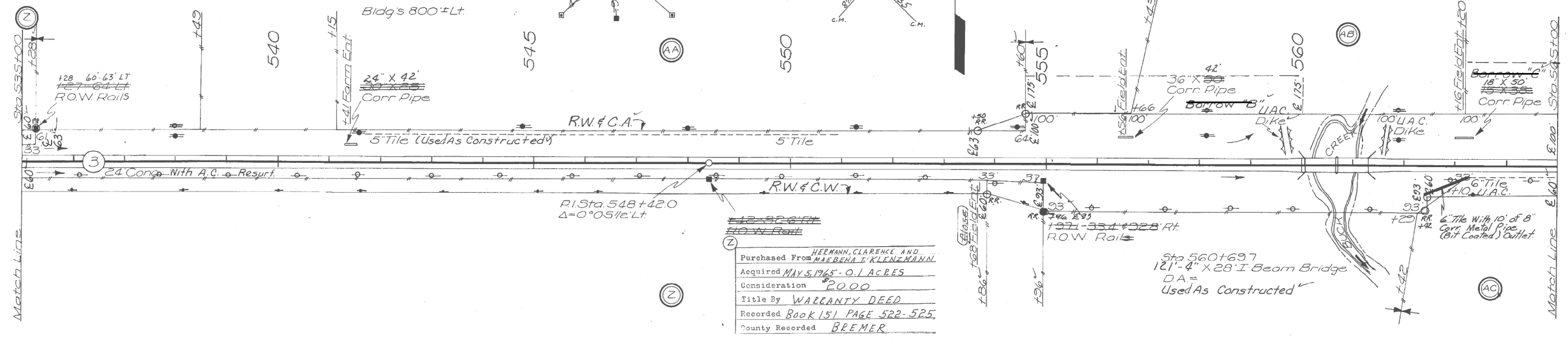
Property Owners:
 Z-Herman Klensmann
 AA-Fritz W. & Nannie M. Diers
 AB-Esther & Wilbert Wedemeyer
 AC-William Bau

(A) Purchased From FRITZ W. AND NANNIE M. DIERS
 Acquired MAY 20, 1965 - 0.05 ACRES
 Consideration \$78.00
 Title By WARRANTY DEED (UNSIGNED)
 Recorded P.O.W. CONTRACT RECORDED
 Book 170 PAGE 538-539
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

FRANKLIN TWP.
 T9IN RIW
 SEC. 3
 CROSS REF TO P.I. STA. 548+42.0
 E-NAIL IN A.C.
 123.10 C.M.
 85.47 C.M.
 97.05 C.M.
 213.35 C.M.

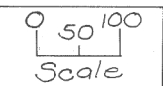
(AB) Purchased From ESTHER & WILBERT WEDEMEYER
 Acquired MAY 26, 1965 - 1.6 ACRES (BORROW)
 Consideration \$2,124.50
 Title By WARRANTY DEED (B.O.W.)
 Recorded BOOK 156 PAGE 194-195 (WARRANTY DEED)
 Book 156 PAGE 190 (LEASEMENT)
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

FEED ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
				88(9)	12/113



(Z) Purchased From HERMANN, CLARENCE AND MARENA T. KLENZMANN
 Acquired MAY 5, 1965 - 0.1 ACRES
 Consideration \$2000
 Title By WARRANTY DEED
 Recorded BOOK 151 PAGE 522-525
 County Recorded BREMER

LEGEND:
 -o- Oran Mutual Tel. Co.
 -x- Interstate Po. Co.



BENCH MARKS:
 No. 36 Sta. 541+30-64 Lt. R.R. Spk. S. Side. P.O. Pole EL 1006.54'
 No. 37 Sta. 560+07-16 Lt. Found (X) N.W. Wing Br. EL 1004.82'

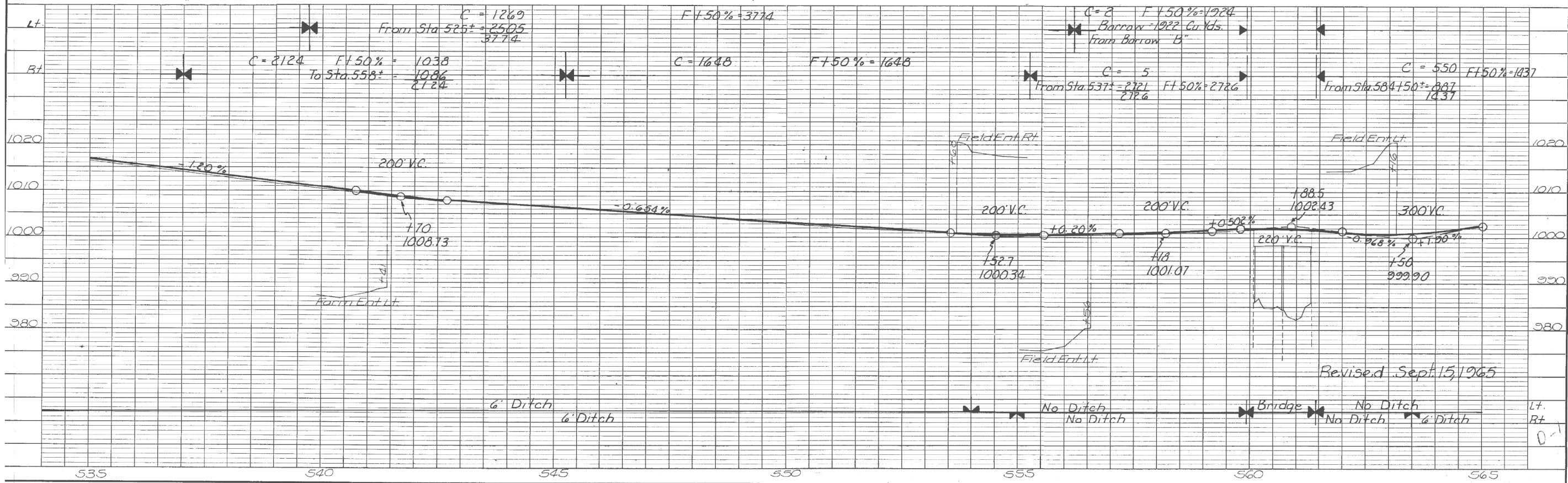


PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDARD
 NO. 131 ARKWRIGHT MADE AND PRINTED IN U. S. A.

Bremer Co. F Proj. No. 88(9) Sheet No. 12

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
 AB-Esther & Wilbert Wedemeier
 AC-William Beu
 AD-Kenneth R. & Carlene C. Werner

Cross Ref To P.I. Sta. 574+85.2

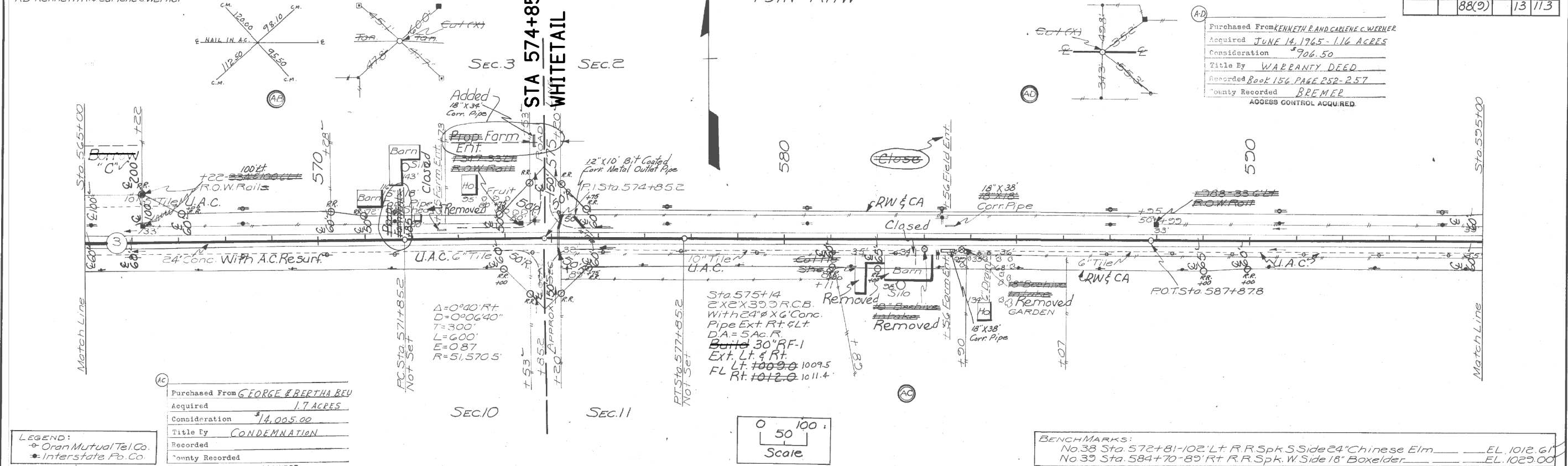
Ref To P.I. Sta. 574+85.2

FRANKLIN TWP
 TOIN R/W

Ref To P.O.T. Sta. 587+87.0

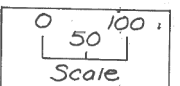
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		88(9)		13	113

Purchased From KENNETH R. AND CARLENE C. WERNER
 Acquired JUNE 14, 1965 - 1.16 ACRES
 Consideration \$906.50
 Title By WARRANTY DEED
 Recorded Book 156 PAGE 252-257
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED



Purchased From GEORGE & BERTHA BEU
 Acquired 1.7 ACRES
 Consideration \$14,005.00
 Title By CONDEMNATION
 Recorded
 County Recorded

LEGEND:
 • Oran Mutual Tel. Co.
 • Interstate Po. Co.



BENCHMARKS:
 No. 38 Sta. 572+81-102' Lt. R.R. Spk. S. Side 24\"/>

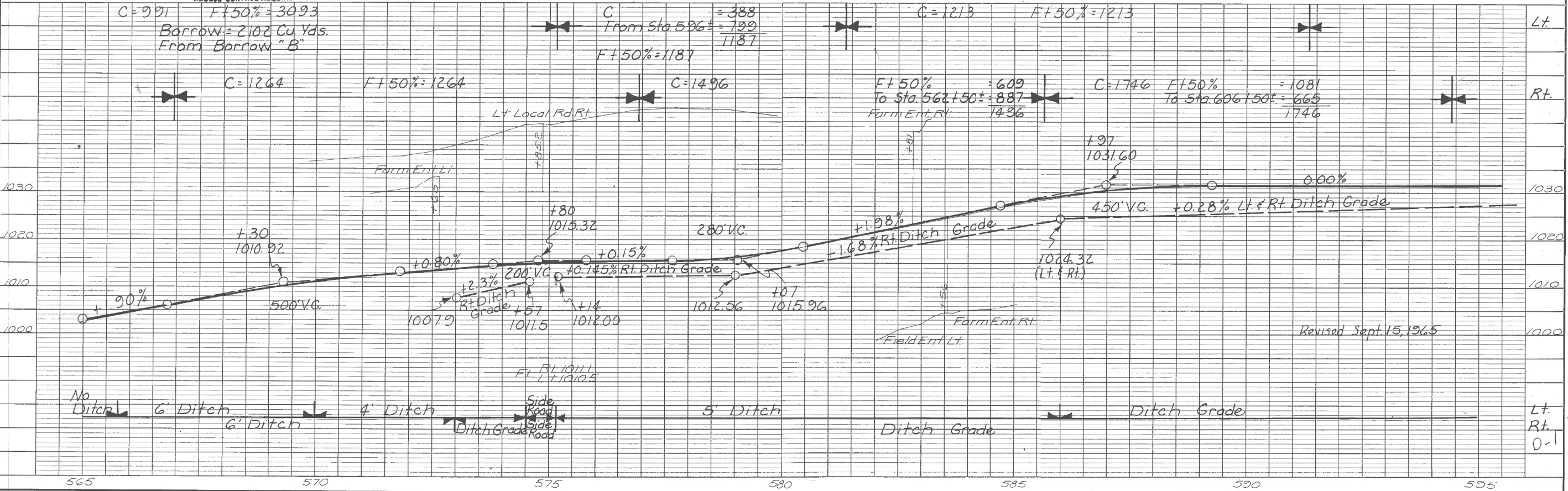


PLATE 1-PLAN PROFILE O. P. R. & R. E. STANDARD
 NO. 131 ARNHEIM MADE AND PRINTED IN U. S. A.
 EUGENE DIETZGEN CO., CHICAGO

Bremer Co. F Proj. No. 88(9) Sheet No. 13

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
 AC-William Beu
 AD-Kenneth R. & Carlene
 AE-Fred Westendorff
 AF-A.D. Donnell
 AG-Leo & Anna Heineman
 AH-Emil C. & Elsie Krieb

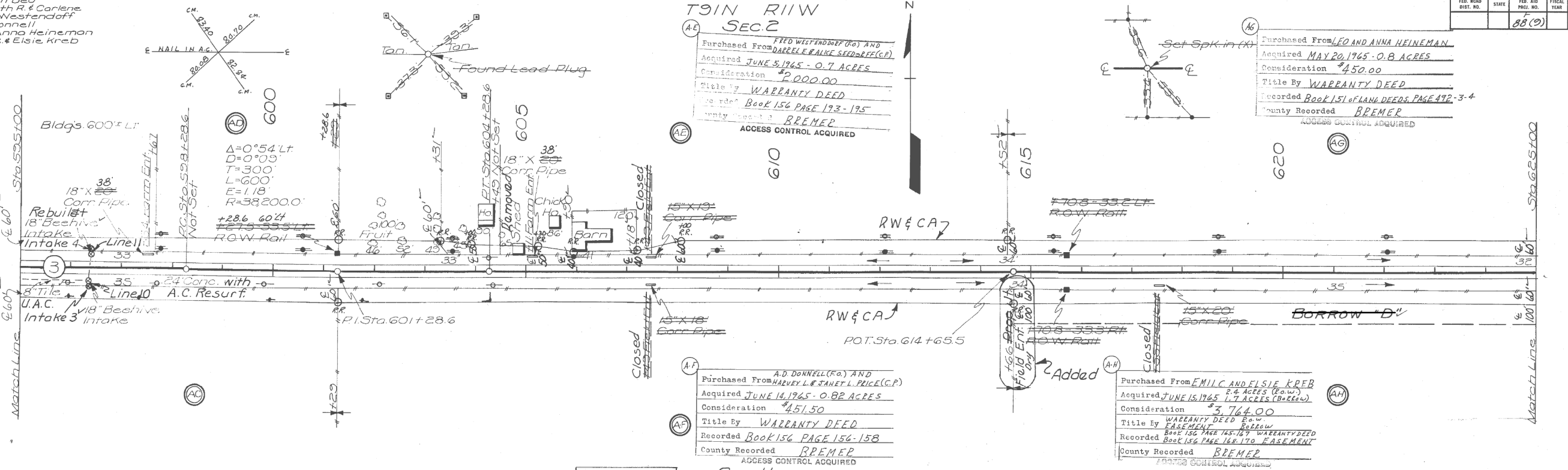
Cross Ref. to P.I. Sta. 601+28.6

Ref. to P.I. Sta. 601+28.6

FRANKLIN TWP
 T91N R11W
 SEC. 2

Ref. to P.O.T. Sta. 614+65.5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
				88(9)	14 / 113



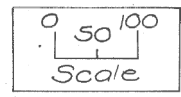
Purchased From FRED WESTENDORFF (FO) AND DARRELE & ALICE SEEDORFF (CP)
 Acquired JUNE 9, 1965 - 0.7 ACRES
 Consideration \$2,000.00
 Title By WARRANTY DEED
 Recorded Book 156 PAGE 193-195
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Purchased From LEO AND ANNA HEINEMAN
 Acquired MAY 20, 1965 - 0.8 ACRES
 Consideration \$450.00
 Title By WARRANTY DEED
 Recorded Book 151 of PLANK DEEDS, PAGE 472-3-4
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Purchased From A.D. DONNELL (FO) AND HARVEY L. & JANET L. PRICE (CP)
 Acquired JUNE 14, 1965 - 0.82 ACRES
 Consideration \$451.50
 Title By WARRANTY DEED
 Recorded Book 156 PAGE 156-158
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Purchased From EMIL C. AND ELSIE KRIEB
 Acquired JUNE 15, 1965 - 1.7 ACRES (Borrow)
 Consideration \$3,764.00
 Title By EASEMENT BORROW
 Recorded Book 156 PAGE 158-170 EASEMENT
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

LEGEND:
 - Oran Mutual Tel. Co.
 - Interstate Power Co.



BENCH MARKS:
 No. 40, Sta. 604+45-62' Lt. R.R. Spk. in S. Root 32" Maple EL. 1036.87

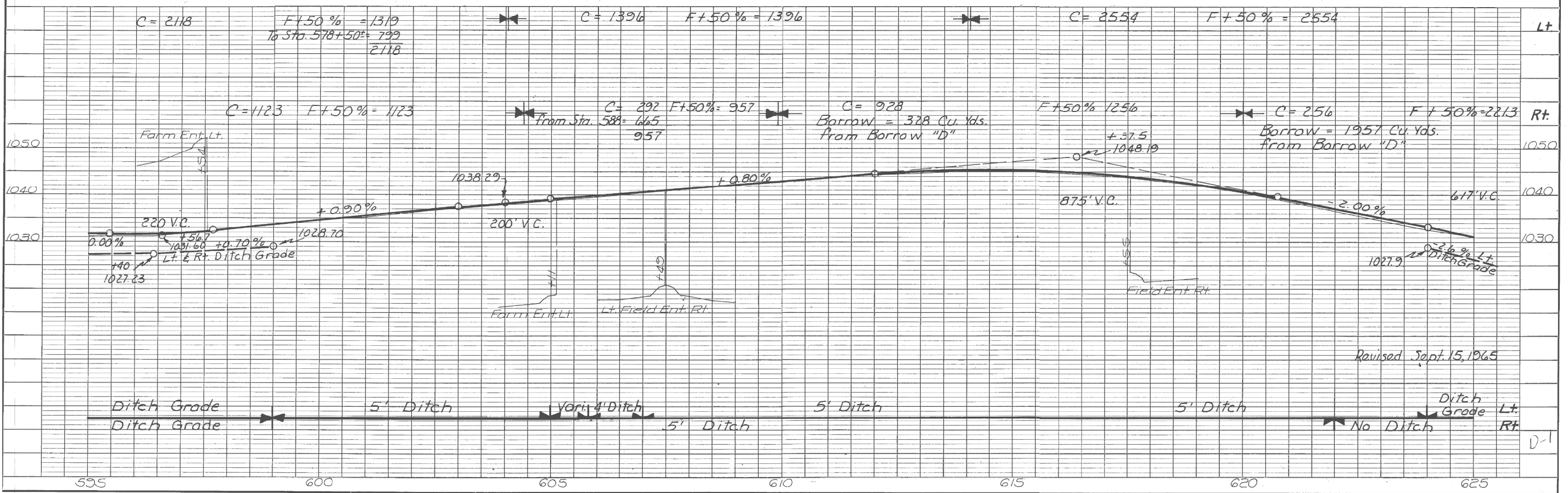


PLATE 1-PLAN PROFILE O. P. R. & R. E. STANDARD
 NO. 131 ARCHWRIGHT MADE AND PRINTED IN U. S. A.

Bremers Co. Proj. No. 88 (9) Sheet No. 14

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM Callahan \ Meise \ Coggins	BREMER COUNTY	PROJECT NUMBER NHSX-3-6(64)--3H-09	SHEET NUMBER D.22
----------	---------	--	---------------	------------------------------------	-------------------

9:26:10 AM 11/9/2016 tmeise pw:\projectwise.dot.int.lan:PWMain\Documents\Projects\0900302015\DistrictDesign\09003064.D01.sht

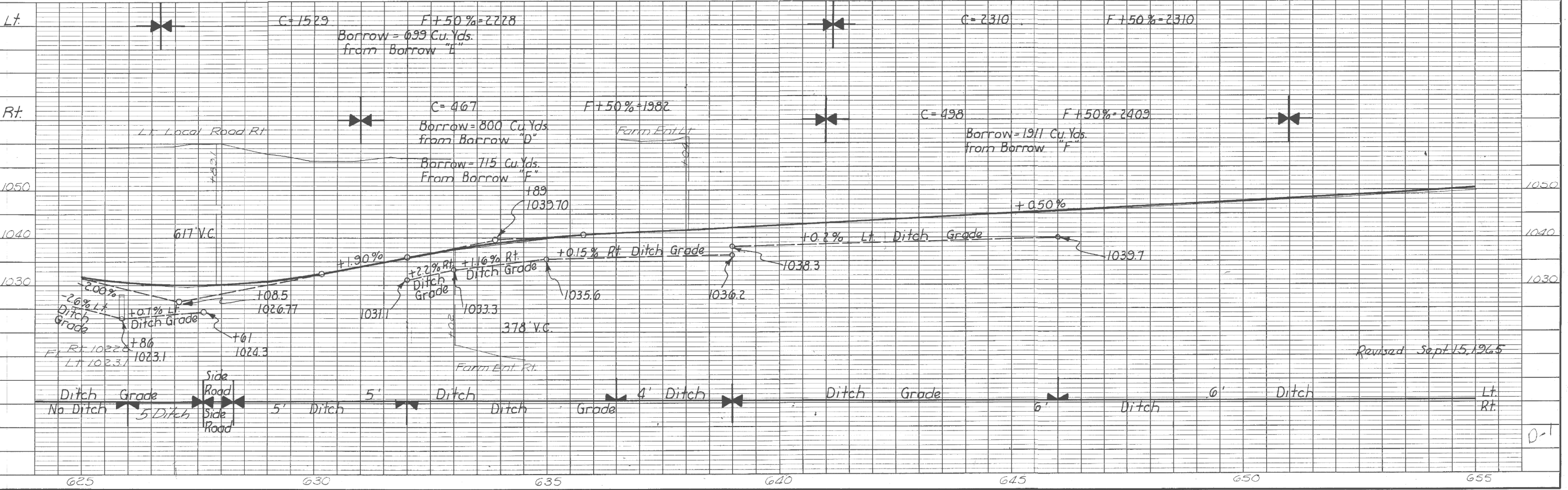
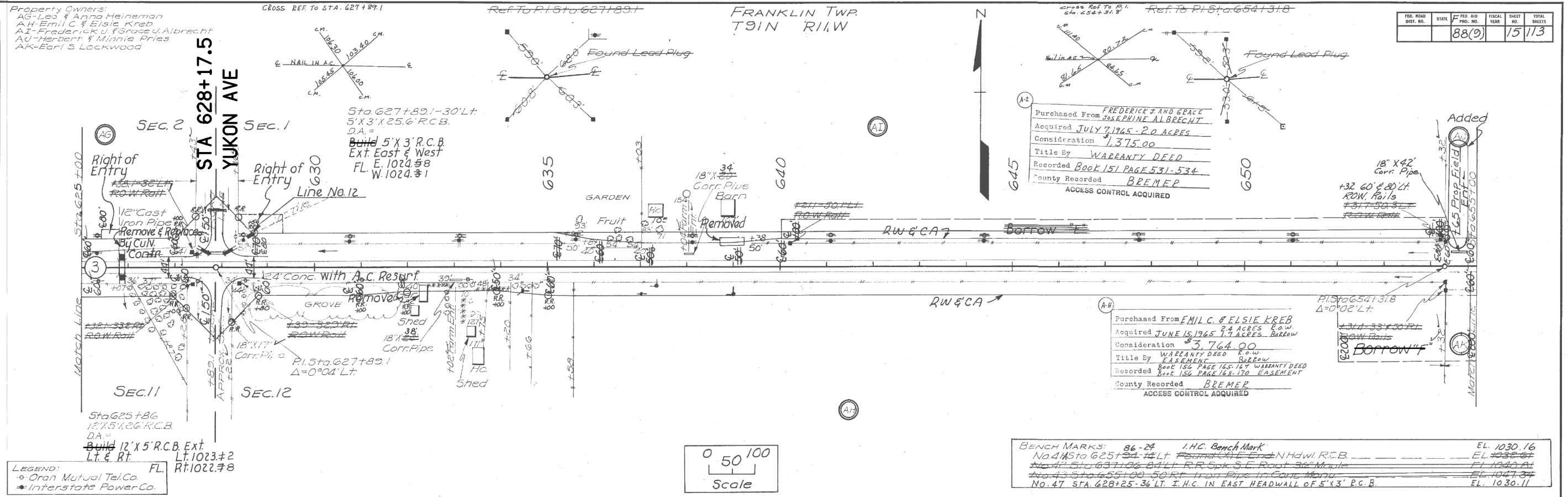


PLATE 1--PLAN PROFILE O. P. R. & R. E. STANDARD
 NO. 131 ARRIBRIGHT MADE AND PRINTED IN U. S. A.
 Bremer Co. F Proj. No. 88(9) Sheet No. 15

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
 AJ - Herbert & Minnie Pries
 AK - Earl S. Lockwood
 AL - Walter B. & Eredia Jaenicke
 AM - Earl Shippy

AT Purchased From MINNIE PRIES
 Acquired JUNE 15, 1966 - 0.8 ACRES
 Consideration \$300.00
 Title By WARRANTY DEED
 Recorded Book 156 PAGE 171-173
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

AL Purchased From WALTER B. & EREDIA JAENICKE (G.P.)
 Acquired JUNE 14, 1965 - 1.0 ACRES
 Consideration \$425.00
 Title By WARRANTY DEED
 Recorded Book 156 PAGE 181-183
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Ref. to P.I. Sta. 686+73.7

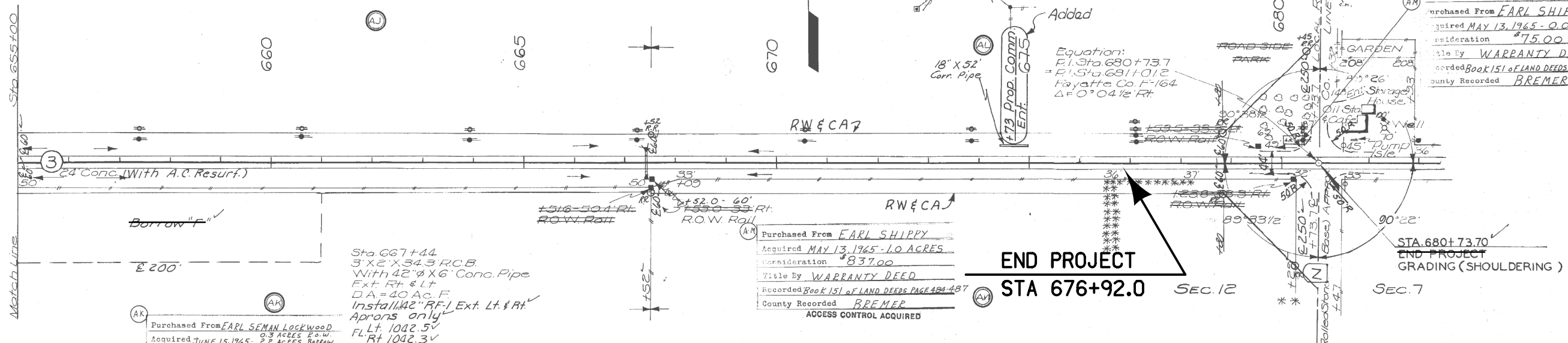
Cross Ref. to P.I. Sta. 680+73.7

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
				88(9)	16 / 113

BREMER Co.
 FRANKLIN TWP
 T31N R11W
 SEC. 1

FAYETTE Co.
 ORAN TWP
 T31N R10W
 SEC. 6

AM Purchased From EARL SHIPPY
 Acquired MAY 13, 1965 - 0.02 ACRES
 Consideration \$75.00
 Title By WARRANTY DEED
 Recorded Book 151 of LAND DEEDS PAGE 488-491
 County Recorded BREMER



**END PROJECT
 STA 676+92.0**

BENCH MARKS:
 No. 43 Sta. 655+00 - 50' Iron Pin in Core Stone
 No. 44 Sta. 667+52 - 50' Iron Pin in Core Stone
 No. 45 Sta. 679+93 - 137' L. RR Spk in S. Side of Chinese Elm
 = B.M. #45 F-164 Fayette Co.
 = E.L. 1051.59

LEGEND:
 - Oran Mutual Tel. Co.
 - Interstate Power Co.

AK Purchased From EARL SEMAN LOCKWOOD
 0.3 ACRES E.O.W.
 Acquired JUNE 15, 1965 - 2.2 ACRES Borrow
 Consideration \$1,200.00
 Title By WARRANTY DEED E.O.W.
 Recorded Book 156 PAGE 77-79 EASEMENT
 County Recorded BREMER
 ACCESS CONTROL ACQUIRED

Sta. 667+44
 3' X 2' X 34.3' R.C.B.
 With 42" X 6" Conc. Pipe
 Ext. Rt. & Lt.
 D.A. = 40 Ac. F.
 Install 12" R.F. Ext. Lt. & Rt.
 Aprons only
 Ft. Lt. 1042.5V
 Rt. 1042.3V

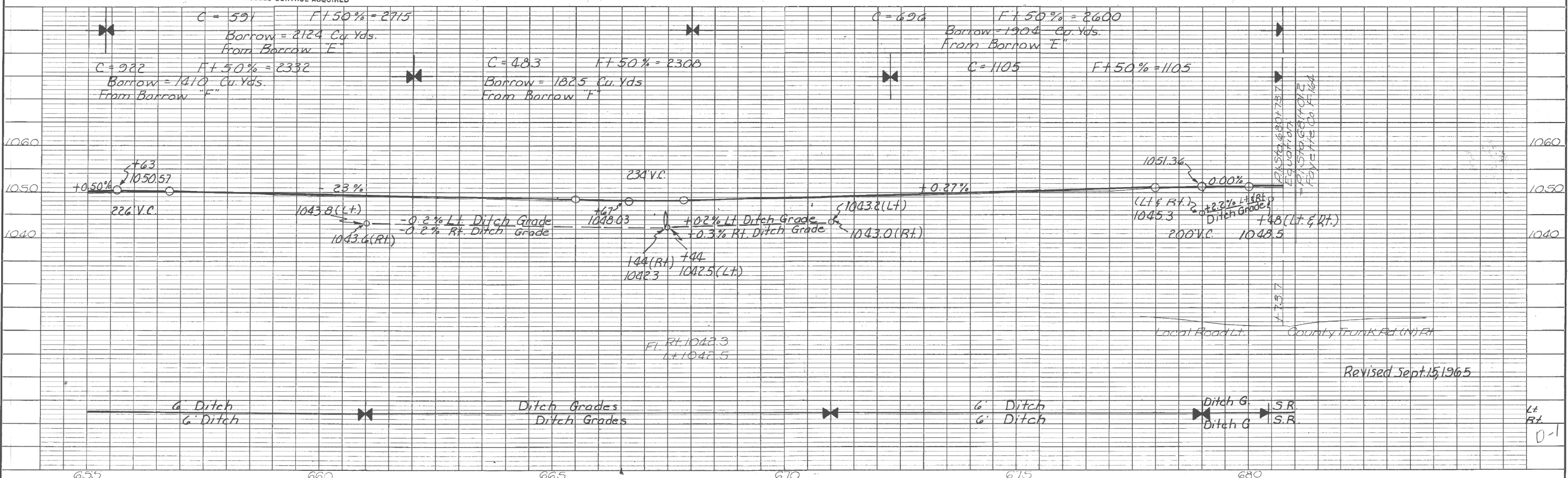


PLATE 1—PLAN PROFILE O. P. R. & R. E. STANDARD
 NO. 131 ANK WRIGHT MADE AND PRINTED IN U. S. A.

Bremer Co. F Proj. No. 88 (9)

Sheet No. 16

AS-BUILT PLANS, FOR INFORMATION ONLY

Survey Information

Bremer County
 HSIPX-003-6(064)—3L-09
 IA 3 near Readlyn
 PIN 15-09-003-020
 Sap-848.1

Party Personnel

Miranda Eilders- Party Chief
 Chuck Scholl- Assistant Construction Tech

Date(s) of Survey

Begin Date 12/07/2015
 End Date 05/17/2016

General Information

Measurement units for this survey are US survey feet. This survey is for proposed turn lanes at 3 locations. Project datum and control information is provided by Design Survey Office. This project is a Full DTM. This survey request was for the IA 3 corridor only.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12A). GRS80 Ellipsoidal Height was computed at project Pt. Base20 by averaging a minimum of five observations with appropriate time spans between from nearby Iowa RTN reference at 95% confidence level (2 sigma). Additional benchmarks were placed throughout the project using a GNSS Base-Rover setup relative to Pt. Base20. A minimum of three observations with appropriate time spans between were collected. The vertical standard deviation of these observations was less than 0.08 ft. at 95% confidence level (2 sigma).

Horizontal Control

The project coordinate system is IARCS Zone 5 (U.S. Survey Feet) scaled around Pt. 20 at 8923672.614 N, 15512425.043 E, 1034.556 EL. Horizontal datum is NAD83 (2011) for Epoch 2010.00. Coordinates were determined by averaging a minimum of five IARTN observations with appropriate time spans between. The horizontal standard deviation of these observations was less than 0.058 ft. at 95% confidence level (2 sigma). Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Pt. 20 A minimum of three observations with appropriate time spans between were averaged. The horizontal standard deviation of these observations was less than 0.034 ft. at 95% confidence level (2 sigma).

Alignment Information

The horizontal alignment ML3 for this survey is a retrace of Grading (Shouldering) F-3-6(1)—20-9 & Proj. No 88(9). Survey stationing was equated to the plan PI at STA. 285+38.1 and run ahead and back without equation.

Survey stationing relates to Grading plan stationing as follows:

PI Sta. 258+67.85 Grading (Shouldering) F-3-6(1)—20-9 NOTE: EQ. on plan @ 270+03.3 = 270+00

Survey PI Sta. 258+63.92

PI Sta. 285+38.1 Grading (Shouldering) F-3-6(1)—20-9

Survey PI Sta. 285+38.1

PI Sta. 311+53.3 Grading (Shouldering) F-3-6(1)—20-9

Survey PI Sta. 311+53.88

PI Sta. 338+02 Grading (Shouldering) Proj. No. 88(9)

Survey PI Sta.338+01.47

ML3A for this survey is a retrace of Grading (Shouldering) Proj. No. F-88(9).

Survey stationing was equated to the plan PI at STA 521+90.3 and run back and ahead without equation throughout the survey.

Survey stationing relates to Grading plan stationing as follows:

PI Sta. 495+67.2 Grading (Shouldering) Proj. No. 88(9)

Survey PI Sta. 495+68.12

PI Sta. 521+90.30 Grading (Shouldering) Proj. No. 88(9)

Survey PI STA 521+90.30

PI STA 548+42.0 Grading (Shouldering) Proj. No. 88(9)

Survey PI STA 548+41.9

Utility Information

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

Remark abbreviations

QLA – Quality Level A Highest guideline quality level

QLD – Quality Level D Lowest guideline quality level

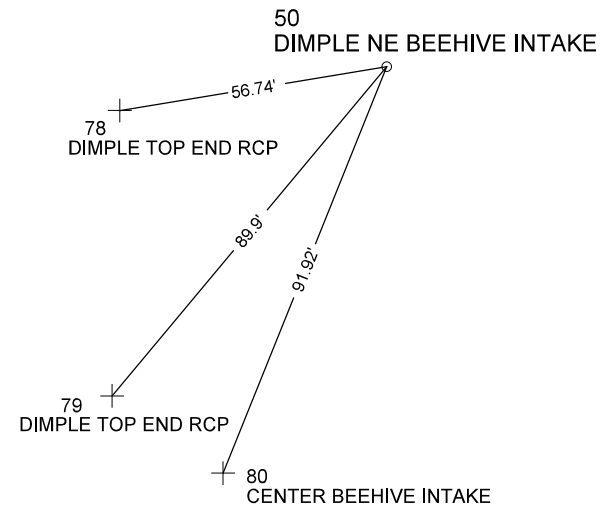
A One-call utility locate request (Ticket# 161050311) was made April 14th,2016. A One-call utility locate request (Ticket # 161050481) on April 14th, 2016. A One-call utility locate request (Ticket # 161050270) was made April 14th, 2016. The following Companies were listed:

Company (Quality)	Symbol	Remark
Alliant (QLD)	PPA	Power Poles both sides of IA 3
Alliant Energy (QLD)	EL1D	Buried Electrical Line
Black Hills Energy (QLD)	GL1D	Underground Gas Line
Readlyn Tel. Comp (QLD)	TL1D	Buried Communication
Mediacom (QLD)	FOA	Buried Telephone Line
Oran Mutual Tel. (QLD)	TL2D	Buried Telephone
Central Iowa Water (QLD)	WL1D	Buried Water Line

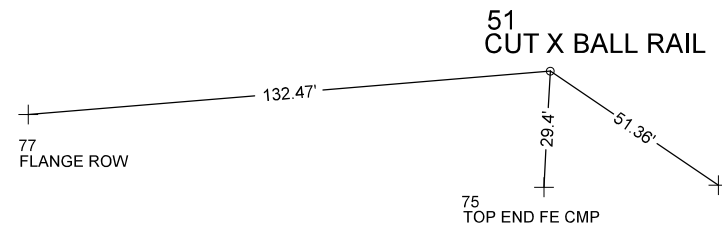
VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
BASE20	8923672.614	15512425.044	1034.556	Off Chain	Off Chain	BASE	NAIL SET E SIDE FE CALC USING 7 RTN SHOTS
BASE22	8923377.822	15529340.274	1031.215	521+67.19	217.142	CP	SET #5/OPC N SIDE 1ST FE S ON V56 10' W EOS

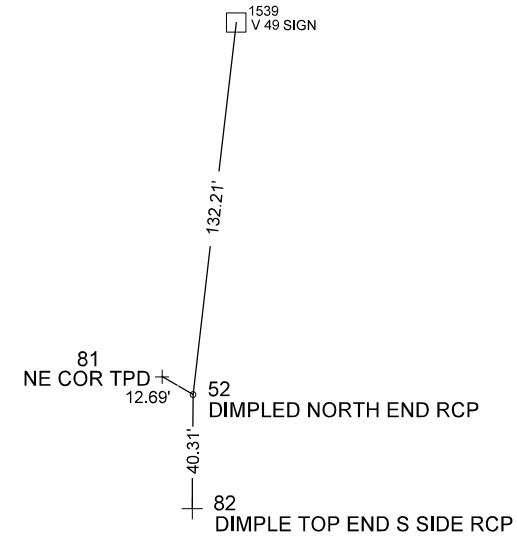
CP STA. 273+04.26, 40.74 LT
 CP No. 50, Dimple NE Beehive Intake
 N=8923755.738, E=15504482.514



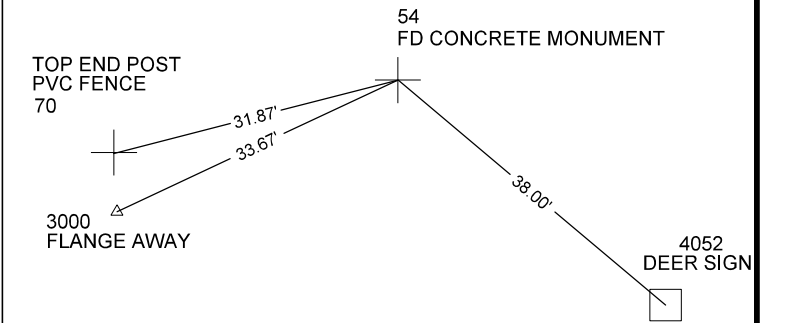
CP STA. 298+31.92, 73.15' LT
 CP No. 51, Cut "X" Ball Right Of Way Rail
 N=8923367.382, E=15508282.435



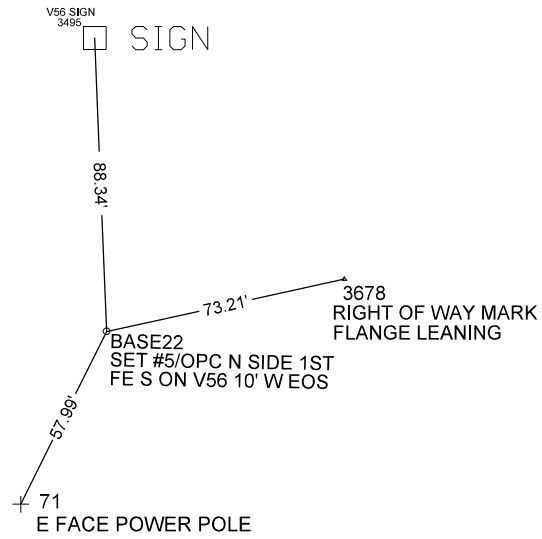
CP STA. 311+10.67, 266.80 RT
 CP No. 52, Dimpled North End Of CMP
 N=8923367.382, E=15508282.435



CP STA. 509+11.79, 59.50 LT
 CP No. 54, Concrete Monument
 N=8923661.866, E=15528086.526



CP STA. 521+67.19 217.14 RT
 CP Base22, Set #5/Orange Plastic Control Point Cap
 N=8923377.822, E=15529340.274



SUPERELEVATION DATA

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius FT	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks	
			e	L	x															
			%	FT	FT															
IA 3	152+96.0	5730	2.8	80	53	PV-301	150+72.00	151+25.00	151+78.00	152+05.00										
							155+20.00	154+67.00	154+14.00	153+87.00										
IA 3	258+64.7	5730	2.8	80	53	PV-301	255+92.30	256+45.30	256+98.30	257+25.30										
							261+36.90	260+83.90	260+30.90	260+03.90										

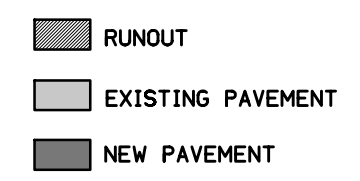
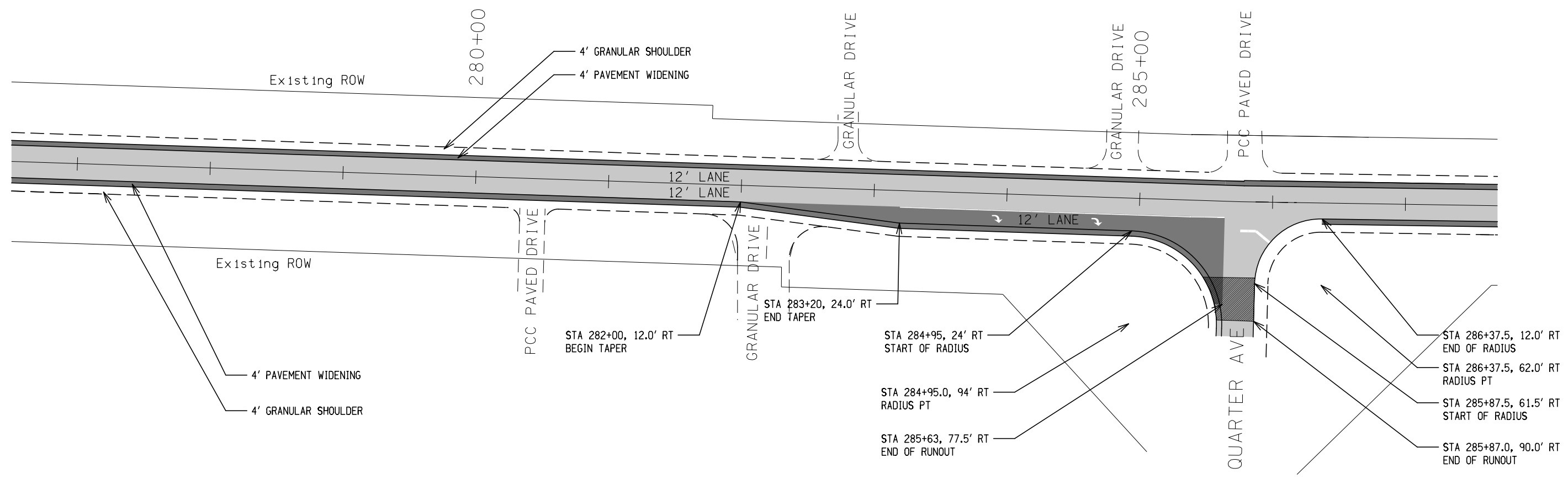
108-23A 08-01-08
TRAFFIC CONTROL PLAN
1) Traffic shall be maintained on the project at all times.

108-26A 08-01-08
STAGING NOTES
Quantities reflect shoulder strengthening and bridge approach work beginning prior to pavement widening.

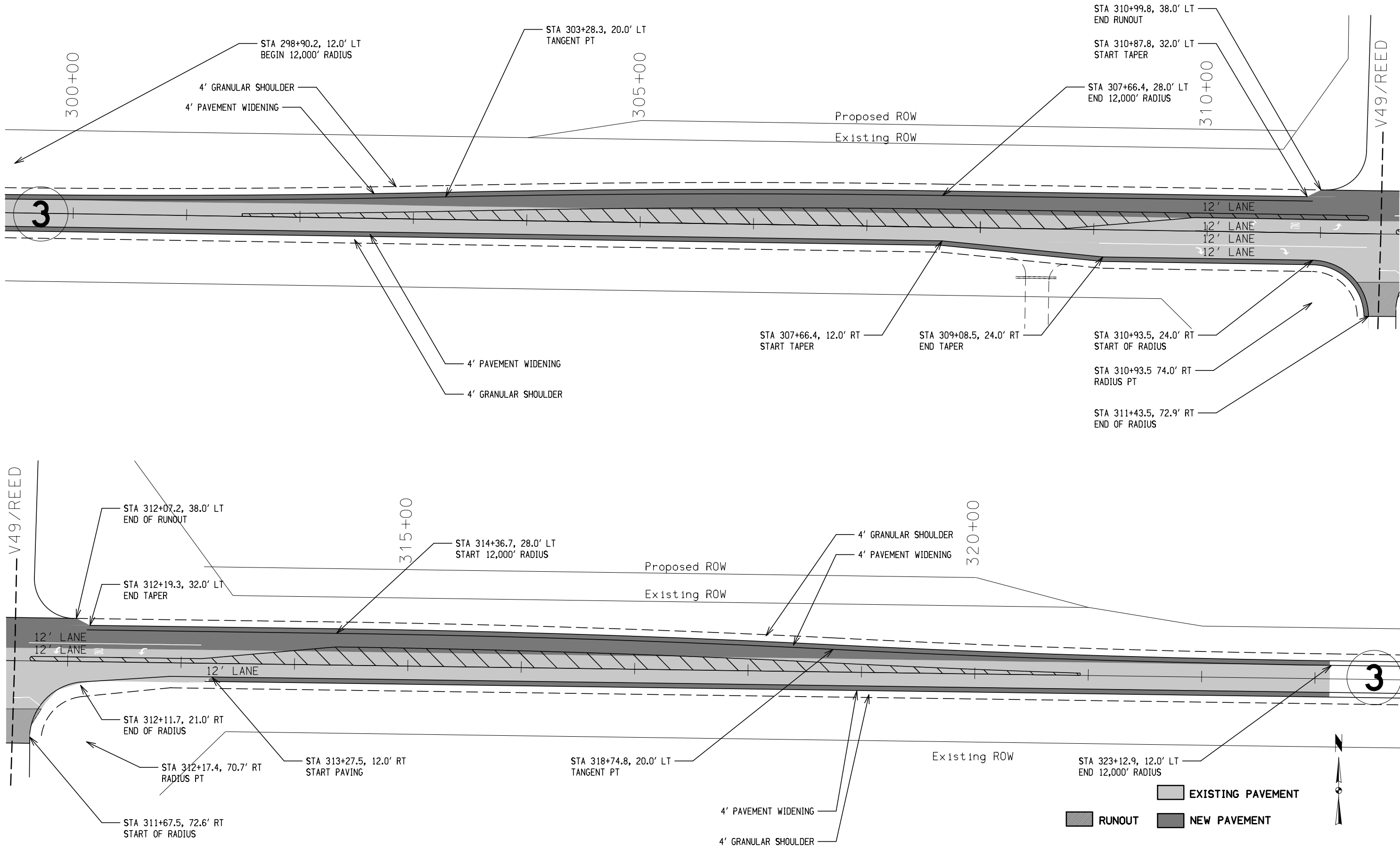
111-01 04-17-12						
COORDINATED OPERATIONS						
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.						
<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">Project</th> <th style="width: 50%;">Type of Work</th> </tr> </thead> <tbody> <tr> <td>To be discussed at Precon.</td> <td></td> </tr> <tr> <td>MP-63-2(709)177-76-99</td> <td>HMA Milling and Resurfacing</td> </tr> </tbody> </table>	Project	Type of Work	To be discussed at Precon.		MP-63-2(709)177-76-99	HMA Milling and Resurfacing
Project	Type of Work					
To be discussed at Precon.						
MP-63-2(709)177-76-99	HMA Milling and Resurfacing					

108-25 10-21-14												
511 TRAVEL RESTRICTIONS												
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 3	Both	Bremer	STA 410+53.6 (Maint. No. 0936.2s003)	Wapsipinicon overflow	Barrier	FHWA 15620	Horizontal	44'0"	17'4"	N/A	44'0"	TEMP

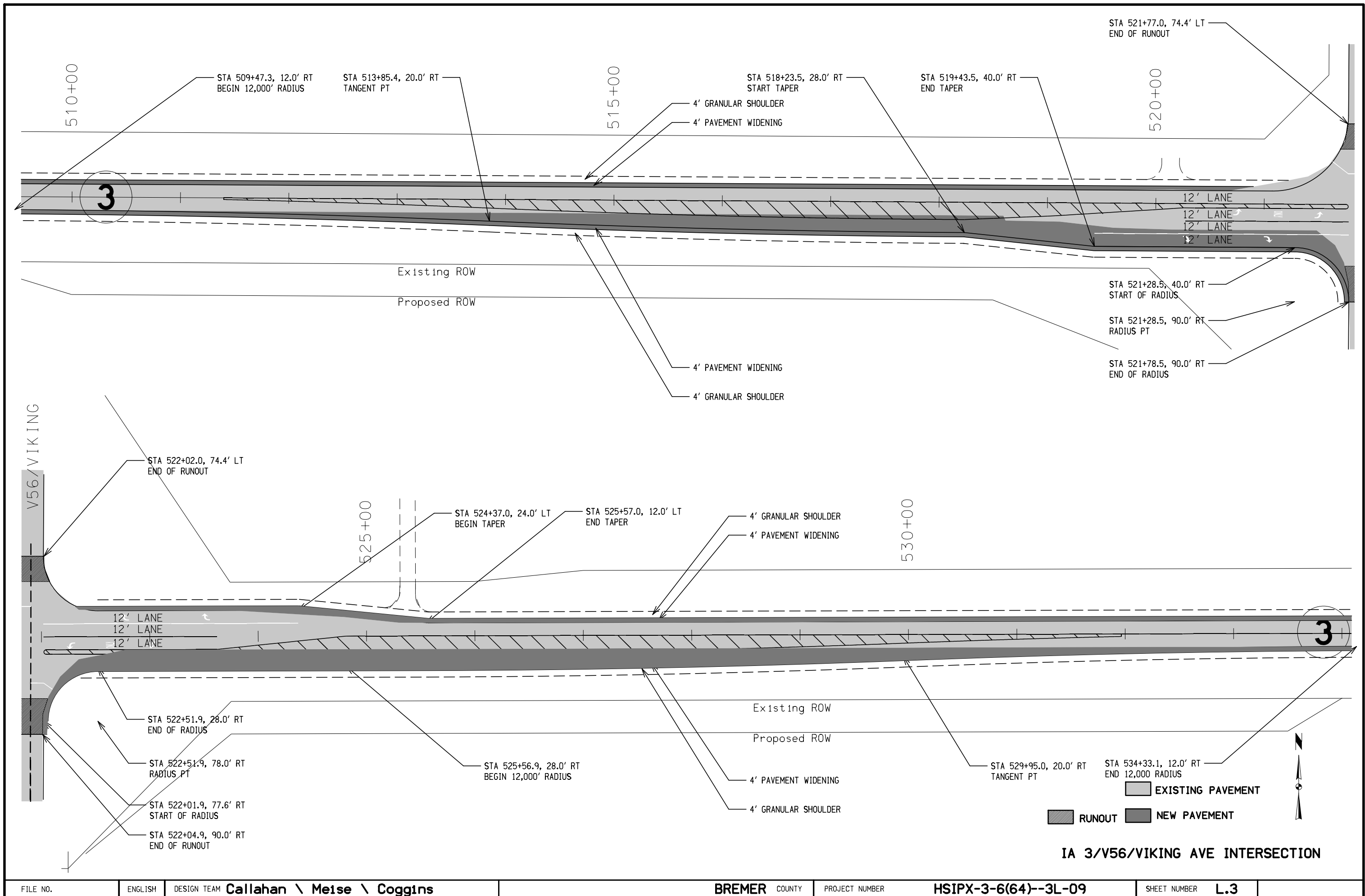
3



IA 3/QUARTER AVE INTERSECTION



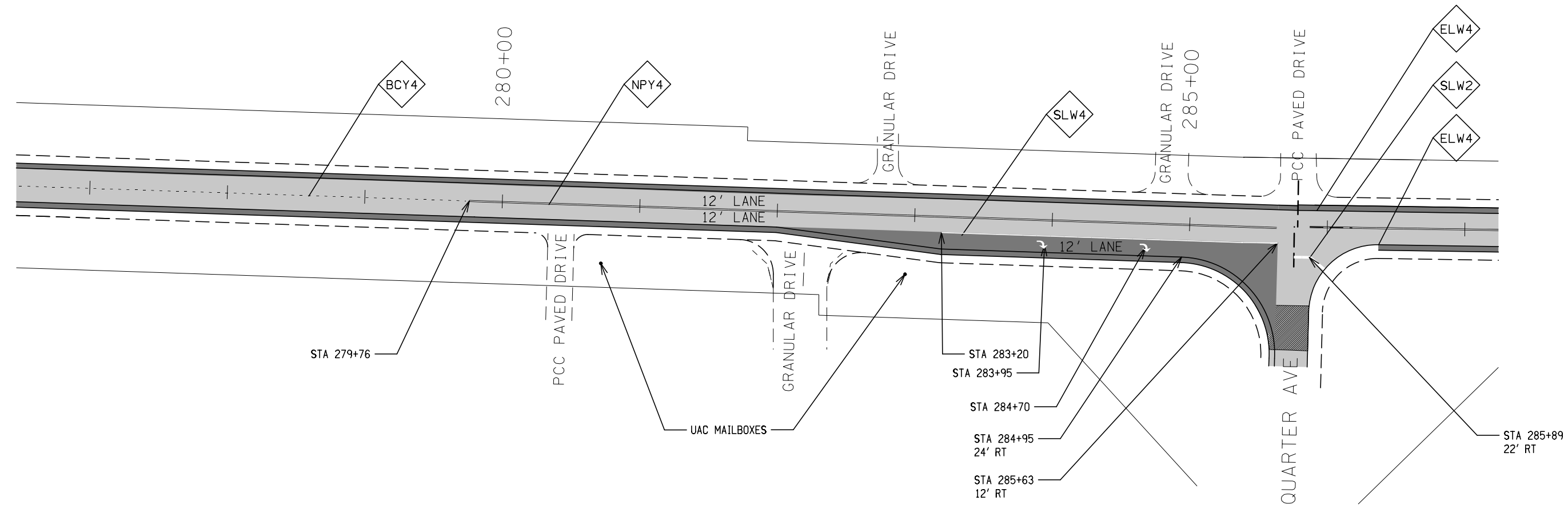
IA 3/V49/REED AVE INTERSECTION



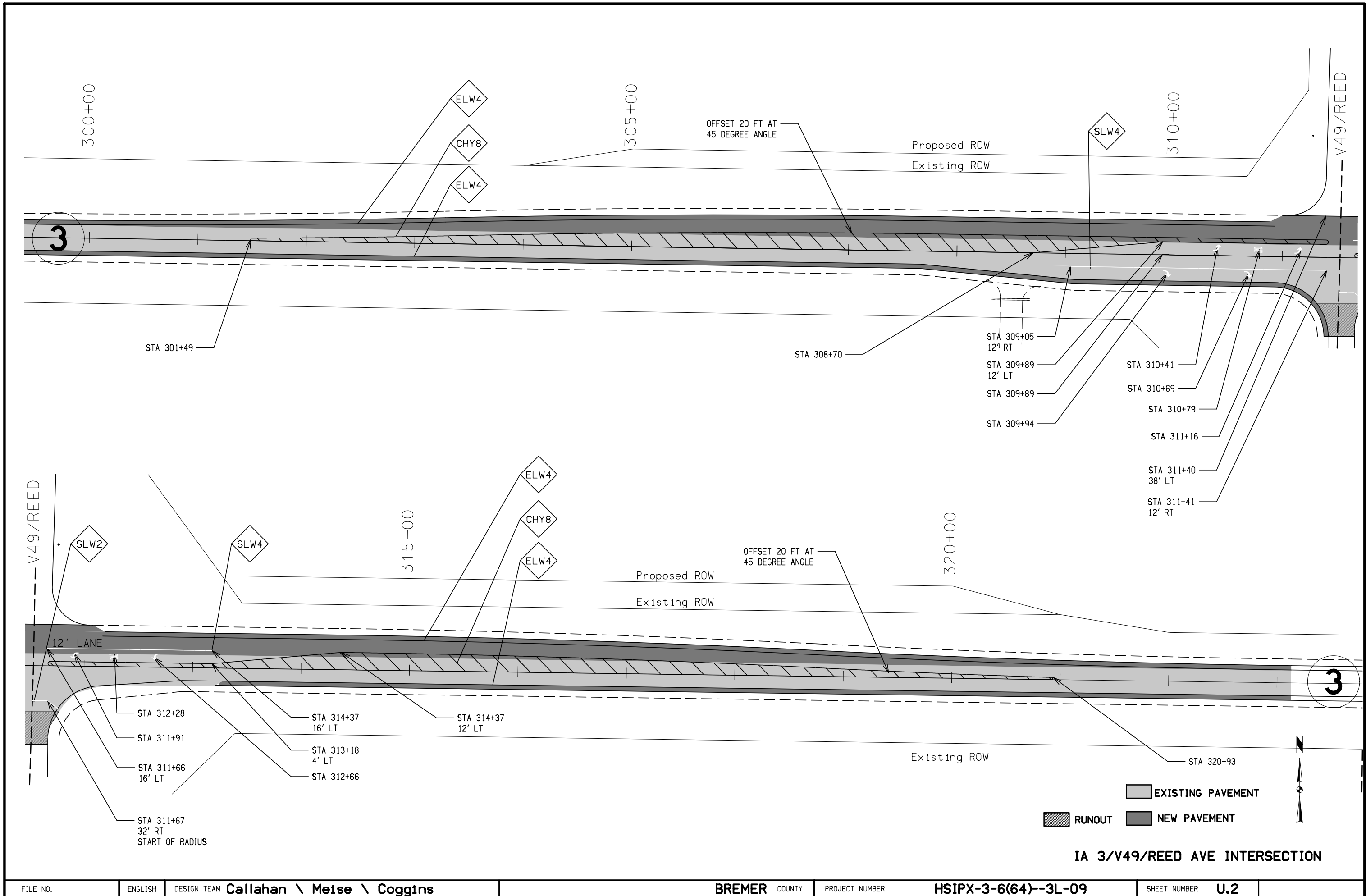
EXISTING PAVEMENT
 NEW PAVEMENT
 RUNOUT

IA 3/V56/VIKING AVE INTERSECTION

3



IA 3/QUARTER AVE INTERSECTION



IA 3/V49/REED AVE INTERSECTION

