LETTING DATE 10/18/22

HMA Resurfacing/CIP Recycling
NHSX-003-5(86)--3H-35

FRANKLIN COUNTY

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	**Title Sheets**
A.1	Title Sheet
A.2	Location Map Sheet
A.3	Legend Sheet (B&W Plans Only)
A.4	Revison Sheets (if needed)
B Sheets	**Typical Cross Sections and Details**
B.1	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.1	Estimate Reference Information
C.1	Estimate Reference Information
C.1	Standard Road Plans
C.1	Standard Road Plans
C.1	Index of Tabulations
C.1	Pollution Prevention Plan
C.1	General Notes
C.1	Tabulations (beg. with tab. of incidentals if needed)
D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	"Mainline Name"
J Sheets	**Traffic Control and Staging Sheets**
* J.1	Traffic Control Plan
* J.2	Staging Notes Stage
* J.3	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.4	Staging and Traffic Control Sheets Stage ??
L Sheets	**Geometric, Staking and Jointing Sheets**
L.1	Geometric & Staking "Mainline or Side Road Name"
L.2	Edge Profiles "Mainline or Side Road Name"
L.3	Jointing "Mainline or Side Road Name"
	* Color Plan Sheets

FE exam 5/11/22

Attendance:
Mary Kelly
Tracy Meise
Ron Reichter
Jason Ruter

IOWA DOT

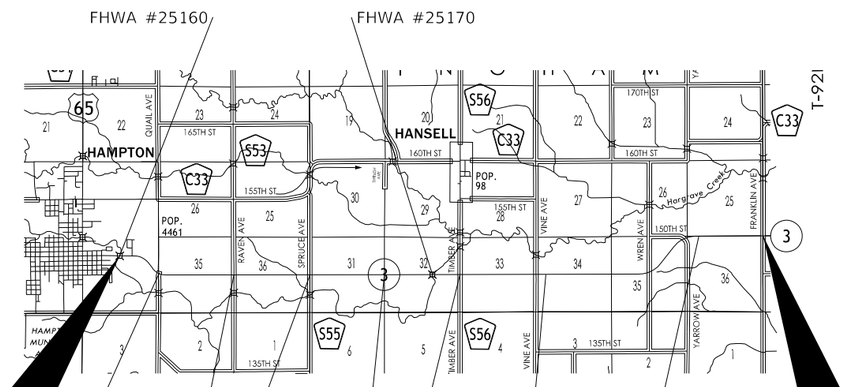
PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
FRANKLIN COUNTY
HMA Resurfacing/CIP Recylcing
Squaw Creek Bridge
to Butler 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.



BEGIN CONSTRUCTION
STA 4+75, RP 182.76
Squaw Creek Bridge

Are these station Eqn in correct locations?

Adjust EOP to go just thru intersection at County line to joint in pavement

END CONSTRUCTION
STA 1485+29.34, RP 191.81
Butler County Line

REVISIONS	TOTAL ..
	PROJECT IDENTIFICATION NUMBER
	21-35-003-010
	PROJECT NUMBER
	NHSX-003-5(86)--3H-35
	R.O.W. PROJECT NUMBER

INDEX OF SHEETS

No.	DESCRIPTION

MILEAGE SUMMARY

Location	LF	Miles
STA 4+75.0 to STA 47+84.46 STA EQ 47+84.46 BK= 47+82.85 AH	4,309.46	0.82
STA 47+82.85 to STA 95+29.33 STA EQ 95+29.33 BK= 95+26.7 AH	4,746.48	0.90
STA 95+26.7 to STA 148+17.06 STA EQ 148+17.06 BK= 148+15.4 AH	5,290.36	1.00
STA 148+15.4 to STA 200+17.01 STA EQ 200+17.01 BK= 200+16.6 AH	5,201.61	0.99
STA 200+16.6 to STA 252+78.87 STA EQ 252+78.87 BK= 1252+77.5 AH	5,262.27	0.99
STA 1252+77.5 to STA 1305+75.95 STA EQ 1305+75.95 BK= 1305+73.4 AH	5,298.45	1.00
STA 1305+73.4 to STA 1434+36.17 STA EQ 1434+36.17 BK= 1445+48.36 AH	12,862.77	2.44
STA 1445+48.36 to STA 1485+29.34	3,980.98	0.75
Bridge STA 10+60.0	(80.0)	()
Bridge STA 233+57.0	(60.0)	()
TOTAL	46,952.38	8.89

DESIGN DATA RURAL

2023	AADT	2,300	V.P.D.
2043	AADT	2,400	V.P.D.
20 --	DHV	--	V.P.H.
TRUCKS		16	%
Total Design ESALs		1,121,280	

INDEX (

SHEET NO.	NAME	TYPE
A.1	Mary Kelly	Primary Signature Block
X	X	X

PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN – Date: 5/11/22

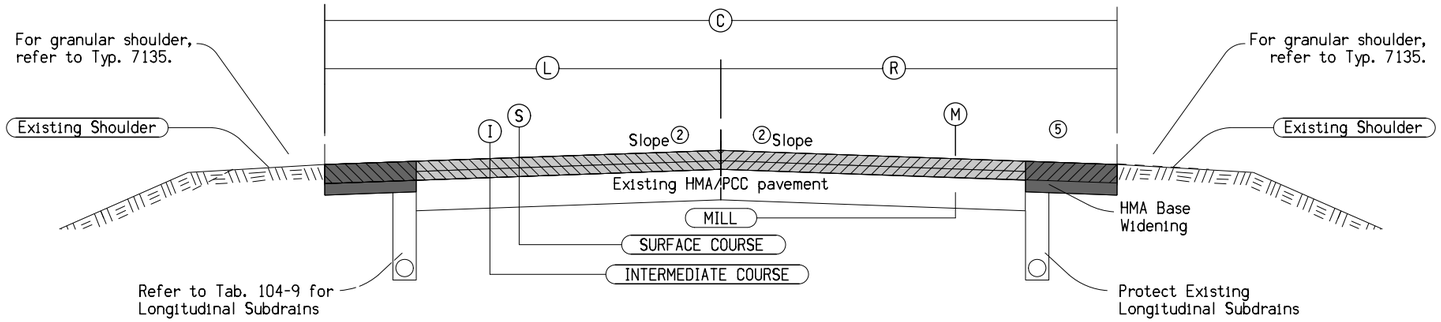
LOCATION MAP SCALE
0 1 2 3
Miles

FILE NO.	ENGLISH	DESIGN TEAM KELLY\MEISE	FRANKLIN COUNTY	PROJECT NUMBER NHSX-003-5(86)--3H-35	SHEET NUMBER A.1

3:51:24 PM 5/10/2022 tmeise pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\3500301021\DistrictDesign\Sheet_files\35003086A.dgn

MK-1

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% Binder
Foam Content	0.11% Agent



HMA Paving
MILLING

Location		Estimated Quantities						
Station To Station		(S) Inches	(I) Inches	(C) Feet	(L) Feet	(R) Feet	(M) Inches	Remarks
4+75.0	9+55.3	2.0	3.0	32.0	16.0	16.0	5	Mill and fill

S = 1.5" ; I= 1.5" ;
M = 3"

Notes:

① HMA base widening shall be performed prior to Cold-in-Place recycling. The top 3" of the newly placed base widening unit shall be included in the Cold In-Place recycling operation.

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 special shaping.

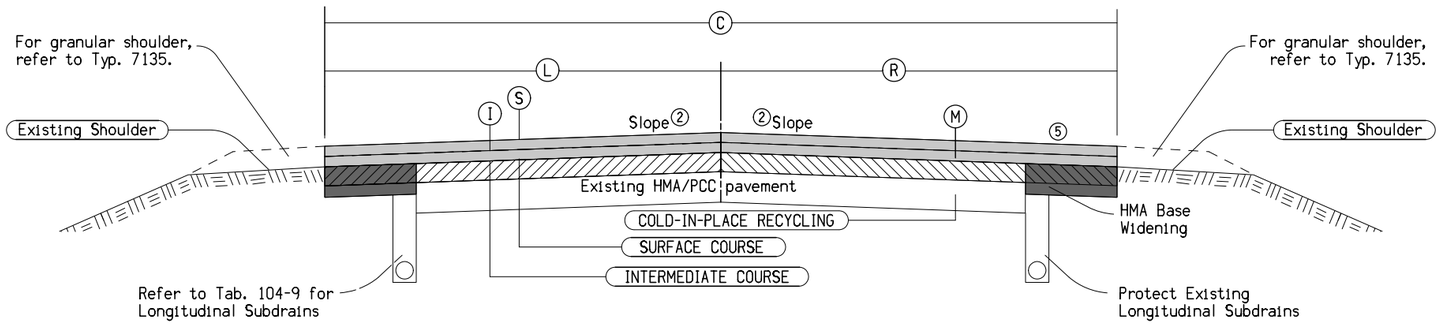
⑤ Paved shoulder cross slope shall match mainline cross slope except in super elevated curves. See PV-301 for additional information.

⑥ Surface and intermediate quantities are shown in Tabulation 100-25. Base quantities area shown in Tabulation 112-9.

TYPICAL CROSS SECTION MILL AND FILL HMA RESURFACING WITH EXISTING BASE WIDENING

MK-2

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% Binder
Foam Content	0.11% Agent



HMA Paving
Cold In-Place Recycling

Location		Estimated Quantities						
Station To Station		(S) Inches	(I) Inches	(C) Feet	(L) Feet	(R) Feet	(M) Inches	Remarks
11+44.7	13+94.7	2.0	1.5	32.0	16.0	16.0		Runout
13+94.7	20+28.7	2.0	3.0	32.0	16.0	16.0		
20+28.7	24+63.4	2.0	3.0	32.0-55.0	16.0-55.0	16.0-55.0		Transition to CIP
24+63.4	27+60.0	2.0	3.0	55.5	55.5	55.5		
27+60.0	28+78.4	2.0	3.0	73.7	73.7	73.7		
28+78.4	29+00.0	2.0	3.0	73.5-60.0	73.5-60.0	73.5-60.0		
29+00.0	30+00.0	2.0	3.0	60.0-48.0	60.0-48.0	60.0-48.0		
30+00.0	33+13.2	2.0	3.0	48.0-32.0	48.0-32.0	48.0-32.0		
33+13.2	47+84.46	2.0	3.0	32.0	16.0	16.0		
47+84.46	47+82.85							
47+82.85	94+29.33	2.0	3.0	32.0	16.0	16.0		
94+29.33	95+29.33	1.5	2.5	32.0	16.0	16.0		
95+29.33	95+26.7							
95+26.7	148+17.06	1.0	2.0	32.0	16.0	16.0		
148+17.06	148+15.4							
148+15.4	164+11.0	1.0	2.0	32.0	16.0	16.0		
164+11.0	168+82.0	1.0	2.0	38.0	38.0	38.0		
168+82.0	200+17.01	1.0	2.0	32.0	16.0	16.0		
200+17.01	200+16.6							

S = 1.5" and I= 1.5"

Location		Estimated Quantities						
Station To Station		(S) Inches	(I) Inches	(C) Feet	(L) Feet	(R) Feet	(M) Inches	Remarks
200+16.6	206+13.6	1.0	2.0	32.0	16.0	16.0		Runout
206+13.6	231+07.0	1.0	2.0	32.0	16.0	16.0		
231+07.0	232+57.0	1.0	1.0	32.0	16.0	16.0		Transition to CIP
232+57.0	234+57.0							
234+57.0	236+07.0	1.0	1.0	32.0	16.0	16.0		
236+07.0	249+01.9	1.0	2.0	32.0	16.0	16.0		
249+01.9	250+21.9	1.0	2.0	32.0-44.0	16.0-44.0	16.0-44.0		
250+21.9	252+06.9	1.0	2.0	44.0	44.0	44.0		
252+06.9	252+78.87	1.0	2.0	32.0	16.0	16.0		
252+78.87	1252+77.5							
1252+77.5	1253+49.5	1.0	2.0	32.0	16.0	16.0		
1253+49.5	1255+34.5	1.0	2.0	44.0	44.0	44.0		
1255+34.5	1256+54.5	1.0	2.0	44.0-32.0	44.0-16.0	44.0-16.0		
1256+54.5	1305+75.95	1.0	2.0	32.0	16.0	16.0		
1305+75.95	1305+73.4							
1305+73.4	1434+36.17	1.0	2.0	32.0	16.0	16.0		
1434+36.17	1445+48.36							
1445+48.36	1483+79.34	1.0	2.0	32.0	16.0	16.0		
1483+79.34	1485+29.34	1.0	1.0	32.0	16.0	16.0		

Notes:

① HMA base widening shall be performed prior to Cold-in-Place recycling. The top 3" of the newly placed base widening unit shall be included in the Cold In-Place recycling operation.

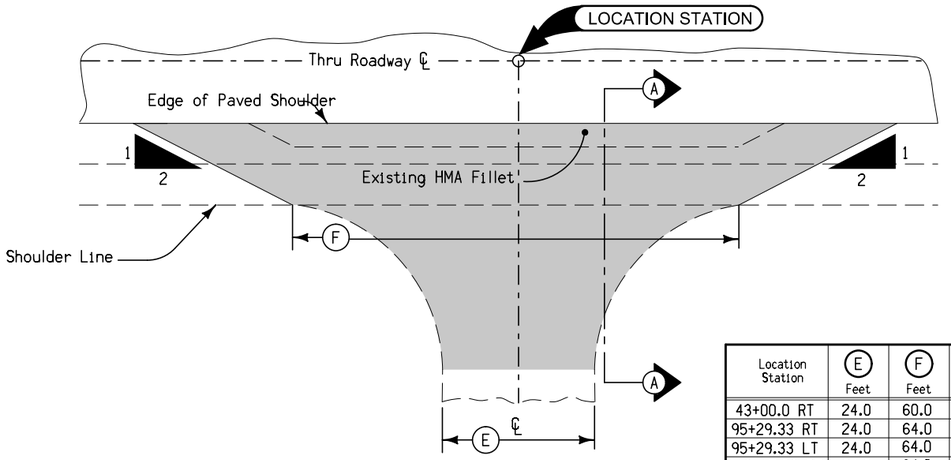
② Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of special shaping.

⑤ Paved shoulder cross slope shall match mainline cross slope except in super elevated curves. See PV-301 for additional information.

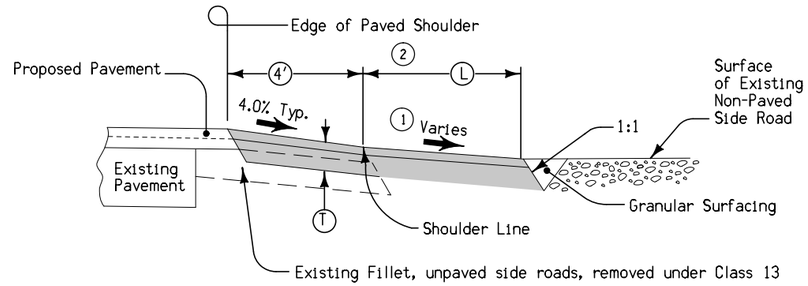
⑥ Surface and intermediate quantities are shown in Tabulation 100-25. Base quantities area shown in Tabulation 112-9.

TYPICAL CROSS SECTION COLD IN-PLACE RECYCLING HMA RESURFACING WITH REMOVAL OF EXISTING AND REPLACEMENT BASE WIDENING

7149
Modified



Location Station	E Feet	F Feet	Remarks
43+00.0 RT	24.0	60.0	Quail
95+29.33 RT	24.0	64.0	Raven/S53
95+29.33 LT	24.0	64.0	Raven
148+17.06 RT	24.0	64.0	Spruce S55
148+17.06 LT	24.0	64.0	Spruce
1305+75.95 RT	24.0	64.0	Vine
1305+75.95 LT			Vine
1384+97.4 RT			Wren
1384+97.4 LT			Wren
1418+88.8 RT			Yarrow
1485+29.3 RT			Franklin
1485+29.3 LT			Franklin/33



SECTION A-A

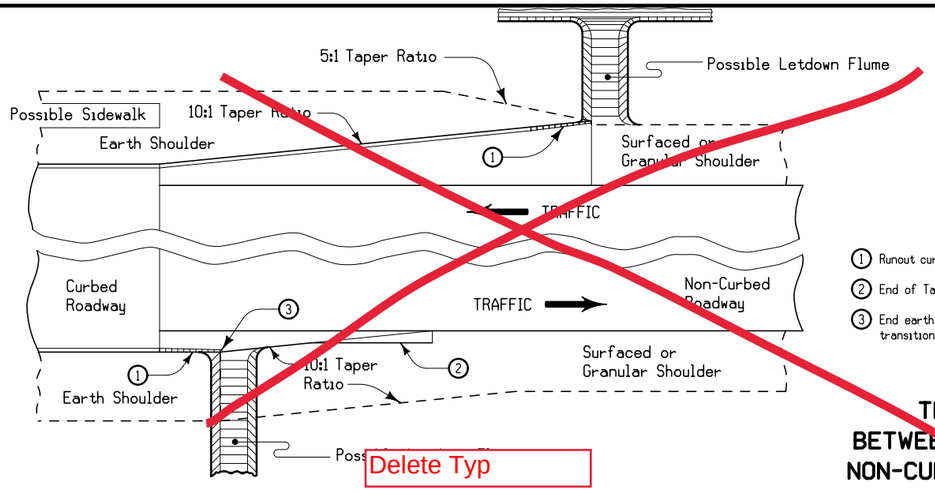
Special shaping of existing surface prior to placement of fillet or fillet extension may be requested by the Engineer and will be incidental to other work on the project.

1. Match existing slope.
2. At skewed sideroads, the L distances are measured along sideroad centerline.
3. See Tab 100-25.
4. Any excavation needed to extend the fillets is considered incidental.

T = 2" Surface Course
4" Intermediate Course

FILLET FOR NON-PAVED SIDE ROADS

6147
10-20-15

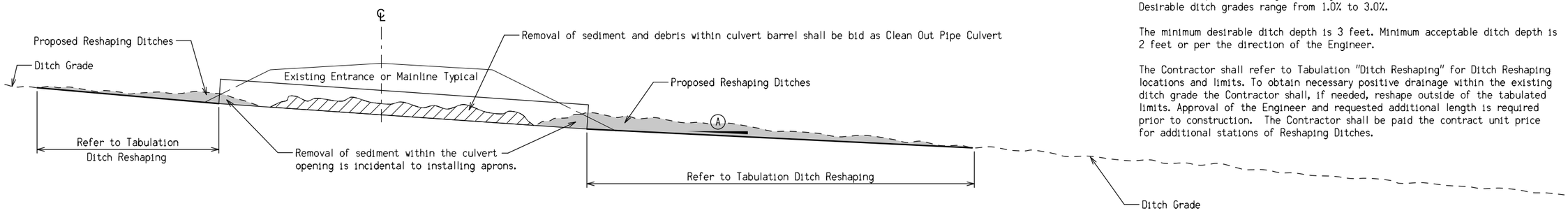


1. Runout curb according to PV-102
2. End of Taper Details see Typical Detail 7101
3. End earth shoulder at the end of the curb transition when no flume is needed.

TRANSITION BETWEEN CURBED AND NON-CURBED ROADWAYS

Storm sewer outlet east of curb and gutter in Hampton on south side of road needs cleaned out and new rock splash pad. Do nothing to north side intake.

MK-3



(A) Contractor to reshape ditch from culvert outlet as follows:

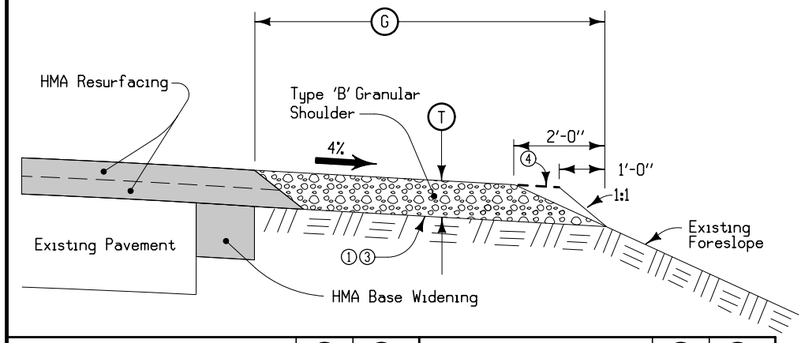
Minimum acceptable ditch grades range from 0.2% to 1.0%.
Desirable ditch grades range from 1.0% to 3.0%.

The minimum desirable ditch depth is 3 feet. Minimum acceptable ditch depth is 2 feet or per the direction of the Engineer.

The Contractor shall refer to Tabulation "Ditch Reshaping" for Ditch Reshaping locations and limits. To obtain necessary positive drainage within the existing ditch grade the Contractor shall, if needed, reshape outside of the tabulated limits. Approval of the Engineer and requested additional length is required prior to construction. The Contractor shall be paid the contract unit price for additional stations of Reshaping Ditches.

RESHAPING DITCHES TYPICAL

7135
Modified



Notes:

1. Existing shoulder surface to be shaped to an 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.
2. Nominal thickness adjusted to account for existing slopes greater than 4%.
3. Placing granular shoulder material in advance of Class 13 Excavation for Widening and Base Widening shall be performed as part of the "Granular Shoulders, Type B" bid item.
4. 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.

ROAD	STATION TO STATION		SIDE	T (2) Inches	G (4) Feet	STATION TO STATION		SIDE	T (2) Inches	G (4) Feet
IA 3	4+90.0	9+15.0	LT	5	4	4+80.0	8+61.0	RT	5	4
			LT	5	6			RT	5	6
	12+39.0	48+00.0	LT	5	4	11+59.0	20+29.0	RT	5	4
			LT	5	6	20+29.0	47+84.46	RT	5-6	4
	47+82.85	95+29.33	LT	5-6	6			RT	6	4
			LT	6	6	47+82.85	95+29.33	RT	6-5	4
	95+26.7	148+17.05	LT	6	4			RT	5	4
			LT	6-5	4	95+26.7	148+17.06	RT	5-6	4
	148+15.4	164+11.0	LT	5	4			RT	6	4
	164+11.0	168+82.0	LT			148+15.4	200+17.01	RT	6	4
	168+82.0	200+17.01	LT	5	4			RT	6	6
			LT	5-6	4	200+16.6	231+52.0	RT	6-5	6
	200+16.6	231+63.0	LT	6	4			RT	5	6
			LT	6-5	4	235+51.0	252+66.87	RT	5	4
	235+62.0	252+78.87		5	4			RT		
			LT			1252+77.5	1305+75.95	RT	5	4
	1252+89.5	1305+75.95	LT	5	4			RT	5	4
				5	4	1305+73.4	1434+36.17	RT		
	1305+73.4	1434+36.17		5	4			RT		

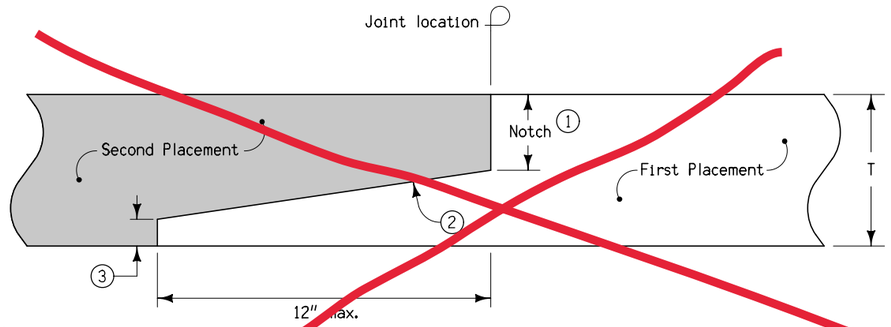
TYPICAL SECTION FOR TYPE 'B' GRANULAR SHOULDER

ADJACENT TO HOT MIX ASPHALT RESURFACING

This typical needs to reflect that the base widening is existing. Remove shading and callout "Ex. Base Widening"

Would it possibly be more accurate to use 7135, unmodified?

7315
10-20-09



Notes:

1. Notch: Min = nominal maximum aggregate size + ¼". Max = T/2.
2. 12:1 Slope
3. Optional step at toe of slope: Max = 1

Delete

LONGITUDINAL HMA NOTCHED WEDGE JOINT T = 2" OR GREATER

100-1D
10-18-05

PROJECT DESCRIPTION

Project includes cold-in-place recylcing 4 inches of existing nominal 32 foot wide HMA; overlay from RP 182.76 to 184.47 with 5 inches of HMA and the remainder 3 inches HMA; full depth patching; repair and extending of roadway culvert; subdrain installation; granular shouders and erosion control.

111-25
10-18-11

INDEX OF TABULATIONS

100-1U
Modified

UTILITIES

Include superelevation from as-builts.

Subdrain work will include repair of outlets. Somewhat undecided if construction/ maintenance will have time to get a tab or a discretionary number will be included to cover repairs. Include that outlets installed will be marked with T-posts.

Most of the project has subdrains. There is wet areas. Design will look at ditch depth and include if there is elevation to daylight the subdrain.

No pavement marking arrows will be painted for turn lanes.

Stop islands will be removed.

Construction will get to Design a patch tab.

County will be contacted about side road paving.

The pavement between the EF joint and bridge approach will be full depth PCC patch.

At the Hansell Corner in the NW quadrant, Verify ROW and clear and grub is possibly.

262-6
10-18-05

UTILITIES
(NOT A POINT 25 PROJECT)

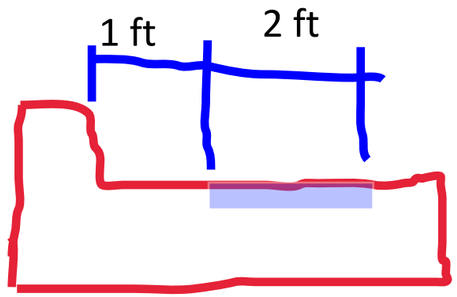
This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-121	10-17-17	Connected Pipe Joints
DR-122	10-18-16	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
DR-201	04-21-20	Concrete Aprons
DR-303	10-17-17	Subdrains (Longitudinal)
DR-402	04-19-22	Rock Flume for Bridge End Drain
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EC-502	04-21-15	Seeding in Rural Areas
EW-105	04-21-15	Reshaping Slopes and Ditches
EW-501	10-20-15	Rural Entrance
PM-110	04-21-20	Line Types
PM-120	10-21-14	Stop Lines and Islands
PM-420	10-15-19	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PM-520	10-15-19	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PM-521	10-15-19	Two-Lane Roadway with Right Turn Lanes
PM-522	04-16-19	Two-Lane Roadway with Left Turn Lanes
PR-103	04-21-20	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	10-20-20	Milled Shoulder Rumble Strips
PV-13	10-17-17	Milled Centerline Rumble Strips
PV-101	04-19-22	Joints
PV-202	04-21-20	Hot Mix Asphalt Resurfacing
PV-203	04-21-20	HMA Base Widening
PV-301	04-21-20	Superelevation Details Two Lane Roadway
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	10-19-21	Work Within 15 ft of Traveled Way
TC-282	10-15-19	Uneven Lanes



Curb and Gutter Typical - stay 1 foot away from gutter and mill1.5" deep to taper the surface and intermediate.

FILE NO.	ENGLISH	DESIGN TEAM KELLY\MEISE	FRANKLIN COUNTY	PROJECT NUMBER NHSX-003-5(86)--3H-35	SHEET NUMBER C.1

5/10/2022 3:14:51 PM tmeise c:\pw_work\pwmain\tmeise\d1608081\3500308 6C.xlsm

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
	Franklin	IA 3	B	182.69	183.48	2011		MP-003-2(703)183--76-38	MSS												
						1997		STPN-3-5(45)--2J-35	AAC	1.5	AAC	1.5					Hibness	C.LST.			
						1961		NA	BAC	3											
						1930		NA	PCC	7											
				183.48	184.47	2011		MP-003-2(703)183--76-38	MSS												
						1997		STPN-35(45)--2J-35	AAC	1.5	AAC	1.5					Hibness	C.LST.			
						1961		FN-105	AAC	3							Lillybridge	C.LST.			
						1930		FA-105*<1>	PC7	7							Clarksville-KN	Gravel	2		
				184.47	184.98	2011		MP-003-2(703)183--76-38	MSS												
						1997		STPN-3-5(45)--2J-35	AAC	3	BAC	9.5					Hibness	C.LST.			
				184.98	186.1	2011		MP-003-2(703)183--76-38	MSS												
						1997		STPN-3-5(45)--2J-35	AAC	3	BAC	9.5					Hibness	C.LST.			
				186.1	186.76	2011		MP-003-2(703)183--76-38	MSS												
						1997		STPN-3-5(45)--2J-35	AAC	3	BAC	9.5					Hibness	C.LST.			
				186.76	189.7	2011		MP-003-2(703)183--76-38	MSS												
						1997	S	STPN-3-5(45)--2J-35	AAC	1.5	AAC	1.5					Hibness	C.LST.			
						1961		FN-105	AAC	3							Lillybridge	C.LST.			
						1930		FA-105*<1>	PC7	7							Clarksville-KN	Gravel	2		
				189.7	190.82	2011		MP-003-2(703)183--76-38	MSS												
						1997	S	STPN-3-5(45)--2J-35	AAC	1.5	AAC	2.5					Hibness	C.LST.			
						1976		HHS-3-5(19)	PCC	7							Geneva	Gravel	2		
				190.82	191.81	2011		MP-003-2(703)183--76-38	MSS												
						1997	S	STPN-3-5(45)--2J-35	AAC	1.5	AAC	1.5					Hibness	C.LST.			
						1985		FN-3-5(38)--21-12	AAC	1.5	TBB	1.5					Jensen	Gravel			
						1961		FN-171	AAC	3							Lillybridge	C.LST.			
						1930		FA-171	PC7	7							Clarksville-KN	Gravel	2		

232-3C
10-19-21

EROSION CONTROL (NATIVE GRASS SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the Contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed and mulch on the disturbed area lying 8 feet or more beyond the shoulder as follows:

SEED MIX:

Big bluestem (Andropogon geradii)	6 lbs. PLS/Acre (7.0 kg/ha)
Indiangrass (Sorghastrum nutans)	6 lbs. PLS/Acre (7.0 kg/ha)
Little bluestem (Schizachyrium scoparium)	6 lbs. PLS/Acre (7.0 kg/ha)
Partridge Pea (Chamaecrista fasciculata)	4 lbs. PLS/Acre (4.5 kg/ha)
Sideoats grama (Bouteloua curtipendula)	4 lbs. PLS/Acre (4.5 kg/ha)
Canada wildrye (Elymus canadensis)	2 lbs. PLS/Acre (2.2 kg/ha)
Switchgrass (Panicum virgatum)	1 lbs. PLS/Acre (1.1 kg/ha)
Oats (Avena sativa)	32 lbs./Acre (36.0 kg/ha)

Furnish Big bluestem, Indiangrass, Canada wildrye and Little bluestem that is debearded or equal to facilitate the application of seed.

Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa. Oats are excluded from this requirement.

Place seed according to the requirements of Article 4169.02 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed and mulch

232-3C
10-19-21

EROSION CONTROL (NATIVE GRASS SEEDING)

are incidental to mobilization and will not be paid for separately.

232-3A
10-19-21

EROSION CONTROL (RURAL SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are all incidental to mobilization and will not be paid for separately.

100-27
04-17-18

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
IA 3	4+75.00	30+00.00	X			
	30+00.00	1485+29.34			x	

232-3B
10-19-21

EROSION CONTROL (URBAN SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the Contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,4 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are incidental to mobilization and will not be paid for separately.

232-11
10-19-21

EROSION CONTROL (STABILIZING CROP SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

If outside of permanent seeding dates in Section 2601 of the Standard Specifications, or if required by a storm water permit, place stabilizing crop, fertilizer, and mulch on the disturbed area as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,1 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are incidental to mobilization and will will not be paid for separately.

232-10
04-18-17

EMERALD ASH BORER

Any living, dead, cut or fallen material of the ash (Fraxinus spp.) including trees, nursery stock, logs, firewood, stumps, roots, branches, and composted or uncomposted ash chips can be freely moved within the yellow areas of the most recent Federal EAB Quarantine & Authorized Transit.

https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab_quarantine_map.pdf.

Obtain appropriate Compliance Agreements from USDA APHIS PPQ prior to moving any of the above listed ash articles to areas outside the yellow zone on the map.

For questions, concerns, and general assistance, contact:

USDA APHIS PPQ, Iowa office, 515-414-3295

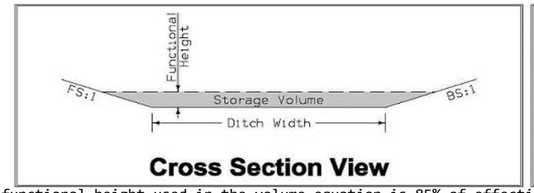
Or

Iowa Department of Agriculture & Land Stewardship
515-725-1470
Entomology@IowaAgriculture.gov

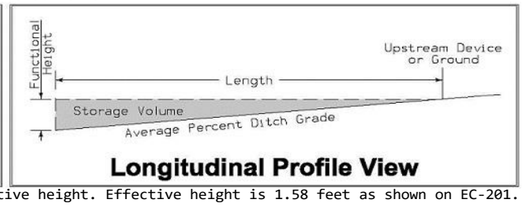
100-18
10-16-18

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

* 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	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
		36+47.00										
		36+47.00										
		52+36.00										
		75+19.00										
		109+50.00										
		138+96.00										
		169+20.00										
		182+83.00										
		217+74.00										
		1337+01.00	RT									
		1337+01.00	LT									
		1337+10.00	RT									
		1337+10.00	LT									
		1372+78.00	LT									
		1372+78.00										
		1400+50.00	RT									
		1400+50.00	LT									
		1470+92.00	RT									
		1481+50.00										
		1481+84.00	LT									

300-1
Modified

DITCH RESHAPING

Refer to Typical MK-2

Side	Location		Remarks
	Station	Length (STA)	
RT	23+50.00	1.0	
LT	1372+78.00	1.0	
RT	1422+25.00	1.0	
LT	1422+25.00	1.0	
		4.0	TOTAL

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	

104-8A
04-19-22

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

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

Location			Bid Items	Scour Protection (DR-401)			Rock Flume (DR-402)			Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	Bridge End Drain	Special Ditch Control, Wood Excelsior Mat	Turf Reinforced Mat (TRM), Type 2	Transition Mat	Macadam Stone Base	Engineering Fabric	Erosion Stone	
				EC-101	EC-104	EC-105				
		FT	TYPE	SQ	SQ	SF	TONS	SY	TONS	

110-17
04-18-17

CLEARING AND GRUBBING

Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters												All Other Materials		Estimated Quantities			Remarks
Station to Station or Ref. Loc. Sign to Ref. Loc. Sign 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	
1359+74 SW		Trees - Clearing																			
1467+27 SW		Trees - Clearing																			
1467+27 SE		Trees - Clearing																			
																					TOTAL

Did not see trees in field. Verify where this information came from?

FILE NO.	ENGLISH	DESIGN TEAM KELLY\MEISE	FRANKLIN COUNTY	PROJECT NUMBER NHSX-003-5(86)--3H-35	SHEET NUMBER C.3

5/10/2022 3:14:51 PM tmeise c:\pw_work\pwmain\tmeise\d1608081\35003086C.xlsm

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Location						Longitudinal Subdrain (DR-303)							Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
1	NBL	1+00.00	2+00.00	LT	66.0	4.0	160.0						1+00.00	DR-306	24.7		
													2+00.00	DR-306			

FORESLOPE FLATTENING AND DRAINAGE STRUCTURES BY ROAD CONTRACTOR (MAINLINE 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				Total (LF)		Extensions (LF)		Aprons		Culvert Sections Left Side		Culvert Sections Right Side										
		IN		LF	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	NO.*	FT	NO.*	FT	IN	OUT	NO.	TYPE	NO.	TYPE	CY	CY	
23+50	12" x 42" RCP																								
32+86	2'x2', extended 30"x52' RF-1																								
36+47	2'x2', extended 30"x48' RF-1																								See 100-23, 300-1
52+36	36"x 48' RF-1																								See 100-23
63+43	2'x2.3', extended 30"x108' RF-1																								
75+19	2'x2.5', extended 30"x50' RFP																								See 100-23
94+88	2'x2' extended 30"x55' RCP																								
109+50	30"x100' RF-1																1								See 100-23
138+86	48"x92' RCP																								
138+96	48"x92' RCP																								See 100-23
155+59	3'x2.2' extended 42"x44' RF-1																								
169+20	24"x72' RF-1																								See 100-23
182+83	2'x2'extended 30"x50' RCP																								See 300-1
214+74	2'x2'extended 30"x85' RCP																								See 100-23
1305+25	73"x45" extended 48"x85' CAP																								
1337+01	48"x92' RCP										1	1													
1337+10	48"x92' RCP										1	1													
1372+78	66" extended 48"x 110' RCP										1														See 300-1
1385+97	60" extended 48"x 84' RF-1																								
1400+50	36" x 104' RF-1										1	1													MAINTENANCE
1422+25	60" extended 48"x 89' RF-1																								See 100-23
1470+92	2'x2.5' extended 30"x71' RCP											1													See 100-23
1481+50	48"x80' RF-1																	1							See 100-23
1481+84	3'x3.5'extended 42"/48" RCP										1														See 100-23
												9						2							TOTALS

Sta 1400+50 36"RCP South side of roadway, Apron and pipe sections need to be removed and reinstalled.

102-16
10-21-14

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 (1)	Remarks
		IN	IN	IN	FT	IN	SY	
4+75.00	Type 'N5'	2.0	3.0		250.0			Begin Project
9+55.30	Type 'N5'	2.0	3.0		250.0			Bridge
11+44.70	Type 'N5'	2.0	3.0		250.0			Bridge
94+29.33		2.0-1.0	3.0-2.0		100.0			Transition between overlay depth
232+57.00	Type 'N5'	1.0	2.0		150.0			Bridge
234+57.00	Type 'N5'	1.0	2.0		150.0			Bridge
1485+29.34	Type 'N5'	1.0	2.0		150.0			End Project

102-6C
04-18-17

FULL-DEPTH PATCHES

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

Location				Dimension			PCC Patches													
Count	Station	Reference Location Sign	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels	HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
							PR-103	PR-102	PR-104	PR-105			PR-140	PR-101	PR-101 or PR-140			PR-101		
			L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
	232+75.00		B															1		
	234+75.00		B															1		
	1418+88.80		LT	20.0	20.0															

100-19
10-19-21

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope Length of Installation			Ditch Check Length of Installation		Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
109+50.00							50.0	New apron
1481+50.00							50.0	New apron
							100.0	TOTAL

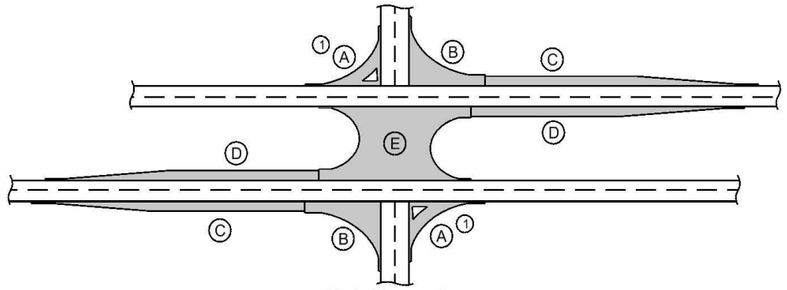
100-23
04-17-18

ROCK EROSION CONTROL

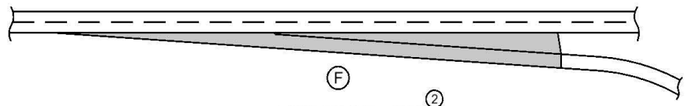
Refer to EC-301 and Detail 570-8

Location				(L)	(W)	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station	Side			Type 1 Rock Ditch Check	Type 2 Rock Ditch	Type 3 Rock Flume	Type 4 Rock Splash Basin	Type 5 Rock Slope Protection	Eng. Fabric	Class E Revetment	Erosion Stone	
			Lt./Rt.	FT	FT						SY	TON	TON	
IA 3	36+47.00		LT											
	52+36.00													
	75+19.00		RT											
	109+50.00		RT											
	138+96.00		RT											
	169+20.00		RT											
	214+74.00		LT											
	1422+25.00													
	1470+92.00													
	1481+50.00													
	1481+84.00													
														TOTAL

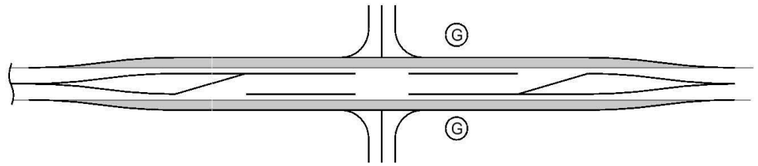
HMA PAVEMENT



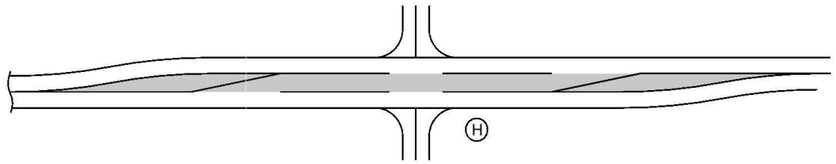
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

(1) Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.

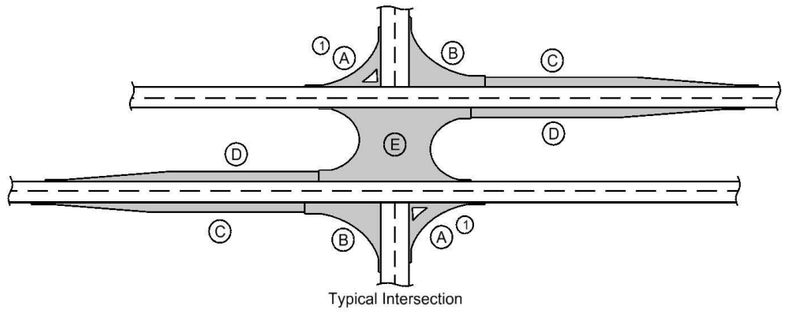
(2) Refer to PV-410, PV-411, PV-412, and PV-414.

(3) Quantity includes Pavement Header.

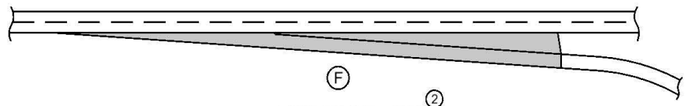
Calculations assume a surface course unit weight (lbs/cf) of 147, an intermediate course unit weight (lbs/cf) of 147, a base course unit weight (lbs/cf) of 145, and a special backfill unit weight (lbs/cf) of 140.

Location				Mainline			Area (3)								Bid Items												
															Hot Mix Asphalt Pavement						Binder						
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	Surface		Intermediate		Cold-In-Place		Surface	Intermediate	Foam Asphalt	Special Backfill	Modified Subbase	Granular Subbase	Pavement Scarification	Remarks
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	TONS	SY	TONS	SY	WIDTH	SY	TONS	TONS	TONS	TONS	CY	SY	SY	
IA 3		4+75.00	9+55.30	32.0	480.3	1707.7									188.3	1707.7	282.4	1707.7			11.3	16.9					1707.7	TM-1
Bridge		9+55.30	11+44.70		189.4																							
		11+44.70	13+94.70	32.0	250.0	888.9									98.0	888.9	73.5	888.9			5.9	4.4						
		13+94.70	20+28.70	32.0	634.0	2254.2									248.5	2254.2	372.8	2254.2			14.9	22.4						
		20+28.70	24+63.40	32-55	434.7	2101.1									231.6	2101.1	347.5	2101.1			13.9	20.8						
		24+63.40	27+60.00	55.5	296.6	1829.0									201.7	1829.0	302.5	1829.0			12.1	18.1						
		27+60.00	28+78.40	73.5	118.4	966.9									106.6	966.9	159.9	966.9			6.4	9.6						
		28+78.40	29+00.00	73.5-60	21.6	160.2									17.7	160.2	26.5	160.2			1.1	1.6						
		29+00.00	30+00.00	60-48	100.0	600.0									66.2	600.0	99.2	600.0			4.0	6.0						
		30+00.00	33+13.20	48-32	313.2	1392.0									153.5	1392.0	230.2	1392.0			9.2	13.8						
		33+13.20	47+84.46	32.0	1471.3	5231.1									576.7	5231.1	865.1	5231.1			34.6	51.9						
		47+84.46	47+82.85																									
		47+82.85	94+29.33	32.0	4646.5	16520.8									1821.4	16520.8	2732.1	16520.8			109.3	163.9						
		94+29.33	95+29.33	32.0	100.0	355.6									29.4	355.6	49.0	355.6			1.8	2.9						
		95+29.33	95+26.70																									
		95+26.70	148+17.06	32.0	5290.4	18810.2									1036.9	18810.2	2073.8	18810.2			62.2	124.4						
		148+17.06	148+15.40																									
		148+15.40	164+11.00	32.0	1595.6	5673.2									312.7	5673.2	625.5	5673.2			18.8	37.5						
		164+11.00	168+82.00	38.0	471.0	1988.7									109.6	1988.7	219.3	1988.7			6.6	13.2						
		168+82.00	200+17.01	32.0	3135.0	11146.7									614.5	11146.7	1228.9	11146.7			36.9	73.7						
		200+17.01	200+16.60																									
		200+16.60	206+13.60	32.0	597.0	2122.7									117.0	2122.7	234.0	2122.7			7.0	14.0						
		206+13.60	231+07.00	32.0	2493.4	8865.4									488.7	8865.4	977.4	8865.4			29.3	58.6						
		231+07.00	232+57.00	32.0	150.0	533.3									29.4	533.3	29.4	533.3			1.8	1.8						
Bridge		232+57.00	234+57.00		200.0																							
		234+57.00	236+07.00	32.0	150.0	533.3									29.4	533.3	29.4	533.3			1.8	1.8						
		236+07.00	249+01.90	32.0	1294.9	4604.1									253.8	4604.1	507.6	4604.1			15.2	30.5						
		249+01.90	250+21.90	32-44	120.0	506.7									27.9	506.7	55.9	506.7			1.7	3.4						
		250+21.90	252+06.90	44.0	185.0	904.4									49.9	904.4	99.7	904.4			3.0	6.0						
		252+06.90	252+78.87	32.0	72.0	255.9									14.1	255.9	28.2	255.9			0.8	1.7						
		252+78.87	1252+77.50																									
		1252+77.50	1253+49.50	32.0	72.0	256.0									14.1	256.0	28.2	256.0			0.8	1.7						
		1253+49.50	1255+34.50	44.0	185.0	904.4									49.9	904.4	99.7	904.4			3.0	6.0						
		1255+34.50	1256+54.50	44-32	120.0	506.7									27.9	506.7	55.9	506.7			1.7	3.4						
		1256+54.50	1305+75.95	32.0	4921.5	17498.5									964.6	17498.5	1929.2	17498.5			57.9	115.8						
		1305+75.95	1305+73.40																									
		1305+73.40	1434+36.17	32.0	12862.8	45734.3									2521.1	45734.3	5042.2	45734.3			151.3	302.5						
		1434+36.17	1445+48.36																									
		1445+48.36	1483+79.34	32.0	3831.0	13621.3									750.9	13621.3	1501.7	13621.3			45.1	90.1						
		1483+79.34	1485+29.34	32.0	150.0	533.3									29.4	533.3	29.4	533.3			1.8	1.8						
Park	LT	12+75.00		30.0	70.0	831.2																						
Windsor Blvd	LT	19+22.00		30.0	80.0	1016.2																						

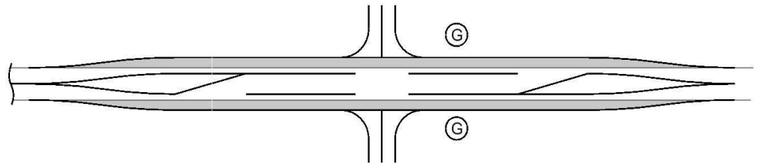
HMA PAVEMENT



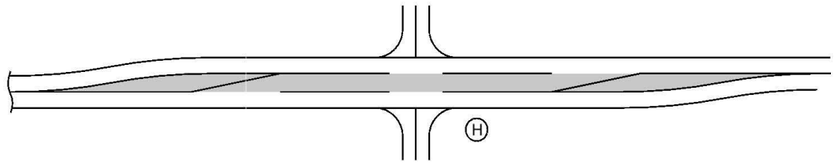
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

(1) Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.

(2) Refer to PV-410, PV-411, PV-412, and PV-414.

(3) Quantity includes Pavement Header.

Calculations assume a surface course unit weight (lbs/cf) of 147, an intermediate course unit weight (lbs/cf) of 147, a base course unit weight (lbs/cf) of 145, and a special backfill unit weight (lbs/cf) of 140.

Location			Mainline			Area (3)								Bid Items												
														Hot Mix Asphalt Pavement						Binder						
Road Identification	Direction of Travel	Station to Station	Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	Surface		Intermediate		Cold-In-Place		Surface	Intermediate	Foam Asphalt	Special Backfill	Modified Subbase	Granular Subbase	Pavement Scarification	Remarks
			FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	TONS	SY	TONS	SY	WIDTH	SY	TONS	TONS	TONS	TONS	CY	SY	SY	
Chruch Dr	RT	26+81.00	30.0	80.0	921.2																					
Hospital Dr	LT	27+08.00	30.0	80.0	891.2																					
Quail	RT	43+00.00	10.0	75.0	476.6																					
Raven/S53	RT	95+29.33	10.0	70.0	440.6																					
Raven	LT	95+29.33	10.0	87.0	476.6																					
Spruce/S55	RT	148+17.06	10.0	80.0	752.6																					
Spruce	LT	148+17.06	10.0	73.0	476.6																					
Timber/S56	RT	252+78.87	30.0	70.0	831.2																					
Timber	LT	252+78.87	30.0	80.0	831.2																					
Vine	RT	1305+75.95	10.0	60.0	476.6																					
Vine	LT	1305+75.95	10.0	86.0	452.6																					
Wren	RT	1384+97.40	10.0	112.0	761.1																					
Wren	LT	1384+97.40	10.0	100.0	440.6																					
Yarrow	RT	1418+88.80	10.0	60.0	566.1																					
Yarrow/150thSt	LT	1418+88.80	30.0	115.0	1026.4																					
Franklin	RT	1485+29.30	10.0	75.0	464.6																					
Franklin/33	LT	1485+29.30	10.0	87.0	512.6																					
														11181.4	169006.7	20336.2	169006.7	0.0	0.0	670.9	1220.2	0.0	0.0	0.0	0.0	1707.7	TOTAL
Quail	RT	43+00.00	40.0		891.2																					
Raven/S53	RT	95+29.33	40.0		831.2																					
Raven	LT	95+29.33	40.0		891.2																					
Spruce/S55	RT	148+17.06	40.0		851.2																					
Spruce	LT	148+17.06	40.0		891.2																					
Vine	RT	1305+75.95	40.0		476.6																					
Vine	LT	1305+75.95	40.0		851.2																					
Wren	RT	1384+97.40	40.0		1339.7																					
Wren	LT	1384+97.40	40.0		831.2																					
Yarrow	RT	1418+88.80	40.0		1052.7																					
Franklin	RT	1485+29.30	40.0		891.2																					
Franklin/33	LT	1485+29.30	40.0		851.2																					
														0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	TOTAL

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 0, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location					Quantities																					
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(P_{SG}) Width	(G) Width	(L) Length	Class 13 (4) Excavation	Hot Mix Asphalt		Binder	Paved Shoulder	_" Paved Shoulder at Guardrail	Reinforced Paved Shoulder	Special Backfill				Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
																HMA Alternate		PCC Alternate					STA (3)	HMA	PCC	
					FT	FT (2)	FT	FT	CY (3)	TON	TON/STA	TONS	SY (3)	SY (5)	SY (3)	TON (3)	TON/STA	TON (3)	TON/STA	CY (3)	TON (3)	TON/STA		CY (6)	CY (6)	
IA 3		4+80.00	8+61.00	RT			6.0	381.0													33.338	8.750	3.8			
Bridge																										
		11+59.00	20+29.00	RT			6.0	870.0													76.125	8.750	8.7			
		20+29.00	47+84.46	RT			6.0	2755.5													241.103	8.750	27.6			
STA EQ																										
		47+82.85	95+29.33	RT			6.0	4746.5													415.317	8.750	47.5			
STA EQ																										
		95+26.70	148+17.06	RT			6.0	5290.4													462.907	8.750	52.9			
STA EQ																										
		148+15.40	200+17.01	RT			6.0	5201.6													455.141	8.750	52.0			
STA EQ																										
		200+16.60	231+52.00	RT			6.0	3135.4													274.348	8.750	31.4			
Bridge																										
		235+51.00	252+66.87	RT			6.0	1715.9													150.139	8.750	17.2			
STA EQ																										
		1252+77.50	1305+75.95	RT			6.0	5298.5													463.614	8.750	53.0			
STA EQ																										
		1305+73.40	1434+36.17	RT			6.0	12862.8													1125.492	8.750	128.6			
		4+90.00	9+15.00	LT			6.0	425.0													37.188	8.750	4.3			
Bridge																										
		12+39.00	48+00.00	LT			6.0	3561.0													311.588	8.750	35.6			
STA EQ																										
		47+82.85	95+29.33	LT			6.0	4746.5													415.317	8.750	47.5			
STA EQ																										
		95+26.70	148+17.05	LT			6.0	5290.4													462.906	8.750	52.9			
STA EQ																										
		148+15.40	164+11.00	LT			6.0	1595.6													139.615	8.750	16.0			
PCC shoulder		164+11.00	168+82.00	LT			0.0	471.0													0.000	0.000	4.7			
		168+82.00	200+17.01	LT			6.0	3135.0													274.313	8.750	31.4			
STA EQ																										
		200+16.60	231+63.00	LT			6.0	3146.4													275.310	8.750	31.5			
Bridge																										
		235+62.00	252+78.87	LT			6.0	1716.9													150.226	8.750	17.2			
STA EQ																										
		1252+89.50	1305+75.95	LT			6.0	5286.5													462.564	8.750	52.9			
STA EQ																										
		1305+73.40	1434+36.17	LT			6.0	12862.8													1125.492	8.750	128.6			
																					7352.041	175.000	844.9	0.0	0.0	TOTAL

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location																							Groove Cuts	Remarks
	Station	Side														SCHOOL	XING	STOP	AHEAD	ONLY	BIKE	LANE	EXIT		
			STAW	RTAW	LTAW	CSRW	CSLW	CSTW	CRLW	FERW	LLRW	RLRW	RRCW	BLSW	WCSW	WPSB	SCLW	XNGW	STPW	AHDW	ONLW	BIKW	LANW	XITW	EACH	

MILLED RUMBLE STRIPS

See PV-12 and PV-13

* Calculated at 18" width for Shoulder.

Location													
Road Identification	Station to Station		Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	(L)	Installation Length		Fog Seal* (Milled Rumble Strip)	Effective Shoulder Width			Remarks
						PCC	HMA	Shoulder	PCC Paved	HMA Paved	Granular\ Earth	
					IN	STA	STA	GAL	FT	FT	FT	
IA 3	33+13.15	47+84.46	HMA	Right Shoulder			14.71	16.0				
STA EQ												
	47+82.85	95+29.33	HMA	Right Shoulder			47.46	51.5				
STA EQ												
	95+26.70	148+17.06	HMA	Right Shoulder			52.90	57.4				
STA EQ												
	148+15.40	200+17.01	HMA	Right Shoulder			52.02	56.4				
STA EQ												
	200+16.60	231+40.00	HMA	Right Shoulder			31.23	33.9				
STA EQ												
	235+25.00	249+01.87	HMA	Right Shoulder			13.77	15.0				
STA EQ												
	1252+77.50	1305+75.95	HMA	Right Shoulder			52.98	57.4				
STA EQ												
	1305+73.40	1434+36.17	HMA	Right Shoulder			128.63	139.4				
STA EQ												
	1445+48.36	1485+29.34	HMA	Right Shoulder			39.81	43.2				
	30+00.00	48+00.00	HMA	Left Shoulder			18.00	19.5				
STA EQ												
	47+82.85	95+29.33	HMA	Left Shoulder			47.46	51.5				
STA EQ												
	95+26.70	148+17.06	HMA	Left Shoulder			52.90	57.4				
STA EQ												
	148+15.40	164+11.00	HMA	Left Shoulder			15.96	17.3				
STA EQ												
	168+82.00	200+17.01	HMA	Left Shoulder			31.35	34.0				
STA EQ												
	200+16.60	231+89.00	HMA	Left Shoulder			31.72	34.4				
STA EQ												
	235+75.00	252+78.87	HMA	Left Shoulder			17.04	18.5				
STA EQ												
	1252+77.50	1305+75.95	HMA	Left Shoulder			52.98	57.4				
STA EQ												
	1305+73.40	1434+36.17	HMA	Left Shoulder			128.63	139.4				
STA EQ												
	1445+48.36	1485+29.34	HMA	Left Shoulder			39.81	43.2				
	30+00.00	48+00.00	HMA	Centerline			18.00	0.0				
STA EQ												
	47+82.85	95+29.33	HMA	Centerline			47.46	0.0				
STA EQ												
	95+26.70	148+17.06	HMA	Centerline			52.90	0.0				
STA EQ												
	148+15.40	164+11.00	HMA	Centerline			15.96	0.0				
STA EQ												
	168+82.00	200+17.01	HMA	Centerline			31.35	0.0				
STA EQ												
	200+16.60	231+89.00	HMA	Centerline			31.72	0.0				
STA EQ												
	235+75.00	252+78.87	HMA	Centerline			17.04	0.0				
STA EQ												
	1252+77.50	1305+75.95	HMA	Centerline			52.98	0.0				
STA EQ												
	1305+73.40	1434+36.17	HMA	Centerline			128.63	0.0				
STA EQ												
	1445+48.36	1485+29.34	HMA	Centerline			39.81	0.0				
				Totals		**PCC**	**HMA**	**Fog Seal**				
				HMA Shoulders			**869.38**	**942.8**				
				HMA Centerlines			**435.86**					

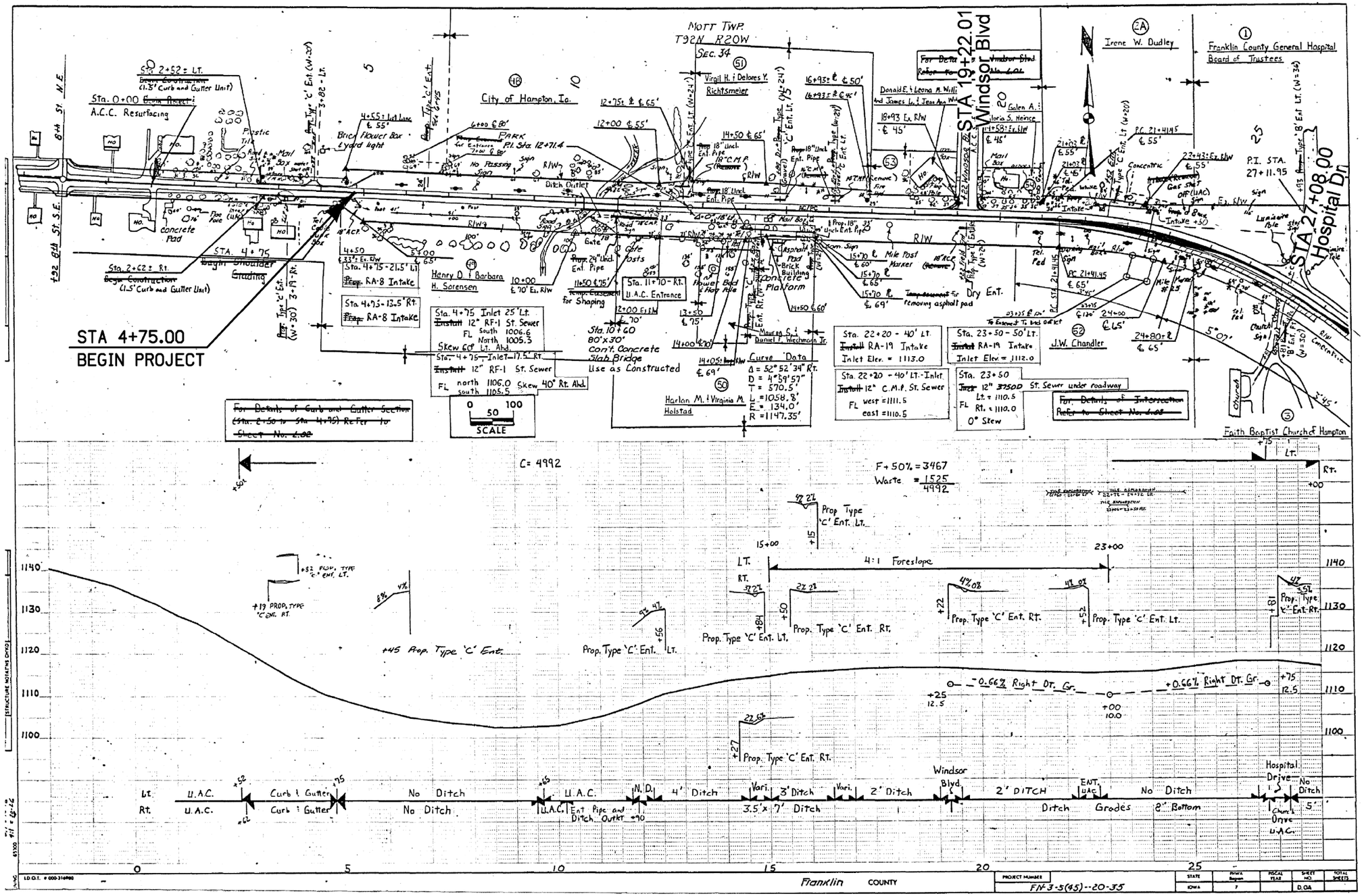
PAVEMENT MARKING LINE TYPES

See PM-110

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.25 | DCY4: Double Centerline (Yellow) @ 2.00 | NPY4: No Passing Zone Line (Yellow) @ 1.25 | BLW4: Broken Lane Line (White) @ 0.25 | ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00 | SLW4: Solid Lane Line (White) @ 1.00 | CHY8: Channelizing Line (Yellow) @ 2.00

Location								Length by Line Type (Unfactored)														Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW4	CHY8							
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
IA 3	4+75.00	11+00.00	BOTH	Waterborne/Solvent Paint	x	x	x		6.25			12.50										
	11+00.00	35+00.00	BOTH	Waterborne/Solvent Paint	x	x	x		24.00			48.00		3.00	30.90							
	35+00.00	43+50.00	BOTH	Waterborne/Solvent Paint	x	x	x		8.50			17.00										
	43+50.00	47+84.46	BOTH	Waterborne/Solvent Paint	x	x	x			4.34		8.69										
STA EQ						x	x															
	47+82.85	56+00.00	BOTH	Waterborne/Solvent Paint	x	x	x			8.17		16.34										
	56+00.00	59+60.00	BOTH	Waterborne/Solvent Paint	x	x	x	3.60				7.20										
	59+60.00	75+10.00	BOTH	Waterborne/Solvent Paint	x	x	x			15.50		31.00										
	75+10.00	95+29.33	BOTH	Waterborne/Solvent Paint	x	x	x	20.19				40.39										
STA EQ																						
	95+26.70	109+00.00	BOTH	Waterborne/Solvent Paint	x	x	x	13.73				27.47										
	109+00.00	117+80.00	BOTH	Waterborne/Solvent Paint	x	x	x			8.80		17.60										
	117+80.00	118+80.00	BOTH	Waterborne/Solvent Paint	x	x	x		1.00			2.00										
	118+80.00	128+40.00	BOTH	Waterborne/Solvent Paint	x	x	x			9.60		19.20										
	128+40.00	138+70.00	BOTH	Waterborne/Solvent Paint	x	x	x	10.30				20.60										
	138+70.00	145+40.00	BOTH	Waterborne/Solvent Paint	x	x	x			6.70		13.40										
	145+40.00	146+60.00	BOTH	Waterborne/Solvent Paint	x	x	x	1.20				2.40										
	146+60.00	148+20.00	BOTH	Waterborne/Solvent Paint	x	x	x			1.60		3.20										
STA EQ																						
	148+15.40	152+25.00	BOTH	Waterborne/Solvent Paint	x	x	x			4.10		8.19										
	152+25.00	158+25.00	BOTH	Waterborne/Solvent Paint	x	x	x	6.00				12.00										
	158+25.00	169+50.00	BOTH	Waterborne/Solvent Paint	x	x	x			11.25		22.50										
	169+50.00	174+50.00	BOTH	Waterborne/Solvent Paint	x	x	x		5.00			10.00										
	174+50.00	185+00.00	BOTH	Waterborne/Solvent Paint	x	x	x			10.50		21.00										
	185+00.00	187+95.00	BOTH	Waterborne/Solvent Paint	x	x	x	2.95				5.90										
	187+95.00	198+20.00	BOTH	Waterborne/Solvent Paint	x	x	x			10.25		20.50										
	198+20.00	200+17.01	BOTH	Waterborne/Solvent Paint	x	x	x		1.97			3.94										
STA EQ																						
	200+16.60	203+70.00	BOTH	Waterborne/Solvent Paint	x	x	x		3.53			7.07										
	203+70.00	211+30.00	BOTH	Waterborne/Solvent Paint	x	x	x			7.60		15.20										
	211+30.00	212+10.00	BOTH	Waterborne/Solvent Paint	x	x	x		0.80			1.60										
	212+10.00	218+90.00	BOTH	Waterborne/Solvent Paint	x	x	x			6.80		13.60										
	218+90.00	221+67.00	BOTH	Waterborne/Solvent Paint	x	x	x	2.77				5.54										
	221+67.00	227+95.00	BOTH	Waterborne/Solvent Paint	x	x	x			6.28		12.56										
	227+95.00	252+78.87	BOTH	Waterborne/Solvent Paint	x	x	x	24.84				49.68		1.85								
STA EQ																						
	1252+77.50	1258+89.50	BOTH	Waterborne/Solvent Paint	x	x	x	6.12				12.24		1.85								
	1258+89.50	1305+75.95	BOTH	Waterborne/Solvent Paint	x	x	x	46.86				93.73										
STA EQ																						
	1305+73.40	1412+90.00	BOTH	Waterborne/Solvent Paint	x	x	x	107.17				214.33										
	1412+90.00	1418+90.00	BOTH	Waterborne/Solvent Paint	x	x	x			6.00	1.00	12.00										
	1418+90.00	1434+36.17	BOTH	Waterborne/Solvent Paint	x	x	x	15.46			1.00	30.92										
STA EQ																						
	1445+48.36	1455+00.00	BOTH	Waterborne/Solvent Paint	x	x	x	9.52				19.03										
	1455+00.00	1464+40.00	BOTH	Waterborne/Solvent Paint	x	x	x			9.40		18.80										
	1464+40.00	1464+40.00	BOTH	Waterborne/Solvent Paint	x	x	x	0.00				0.00										
	1464+40.00	1474+30.00	BOTH	Waterborne/Solvent Paint	x	x	x		9.90			19.80										
	1474+30.00	1480+10.00	BOTH	Waterborne/Solvent Paint	x	x	x	5.80				11.60										
	1480+10.00	1485+29.34	BOTH	Waterborne/Solvent Paint	x	x	x			5.19		10.39										
After Interm				Waterborne/Solvent Paint				276.51	60.95	132.09	2.00	939.11		6.70	30.90							
After Surfac				Waterborne/Solvent Paint				276.51	60.95	132.09	2.00	939.11		6.70	30.90							
Groove				Grooves Cut for Pavement Markings				276.51	60.95	132.09	2.00	939.11		6.70	30.90							
				Factored Total: Waterborne/Solvent Paint				207.39	365.72	495.32	1.50	2817.32	-	20.10	185.40	-	-	-	-	-	-	-	
				Factored Total: Grooves Cut for Pavement Markings				69.13	121.91	165.11	0.50	939.11	-	6.70	61.80	-	-	-	-	-	-	-	
				Bid Quantity: Painted Pavement Markings, Waterborne or Solve							4092.75											
				Bid Quantity: Grooves Cut for Pavement Markings							1364.25											



AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\MEISE	FRANKLIN COUNTY	PROJECT NUMBER NHSX-003-5(86)--3H-35	SHEET NUMBER D.1

3:51:50 PM 5/10/2022 tmeise pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\3500301021\DistrictDesign\Sheet_files\35003086D.dgn

MOTT TWP.
T92N, R20W

SEC. 34

SEC. 35

STA 27+08.00
Hospital Dr

STA 43+00.00
Quail Ave

STA EQ
STA 47+84.46 BK=
STA 47+82.85 AH

NOTE

PROPERTY OWNER

1 FRANKLIN COUNTY GENERAL HOSPITAL BOARD OF TRUSTEES
2A IRENE W. DUDLEY, nka IRENE W. DREIER
2B IRENE W. DUDLEY, nka IRENE W. DREIER
LELAND D. DUDLEY
3 FAITH BAPTIST CHURCH OF HAMPTON
4 GLEE D. & THELMA H. WAGNER
CONT. ARTHUR R. & SHERRY LOU WAGNER
6 URBANEDGE FARMS, INC.

CURVE DATA (SURV.)
P.I. 27+11.95
Δ = 52°52'34"
D = 4°59'57"
T = 570.50
L = 1058.85
E = 134.01
R = 1147.35
e = 0.07 ± Ft./Ft.

CURVE DATA (SURV.)
P.I. 42+93.15
Δ = 53°16'13"
D = 4°59'38"
T = 575.93
L = 1066.73
E = 136.21
R = 1147.34
e = 0.07 ± Ft./Ft.

STA. 32+86
2'x2'x47' R.C.B.
D.A. = 28 AC. G.R.
U.R.C. R.C.B., Remove Wingwalls
Install 30" RF-1 Extensions
F.L. Lt. 1100.3
Rt. 1099

STA. 36+47
2'x2'x40.5' RC.B.
D.A. = 20 AC. G.R.
U.R.C. R.C.B., ~~Remove~~ Wingwalls
~~Install~~ 30" RF-1 Extensions
F.L. Lt. 1099.7
Rt. 1099.1

STA 37+00
~~Begin Treatment~~
For HighSide Shoulder

STA 48+00
~~End Treatment~~
For HighSide Shoulder

C = 2,911
From STA. 102+75 = 1,003
From STA. 72+10 = 361
From STA. 58+00 = 4,154
8,429

F + 50% = 8,429

C = 2,349

F + 50% = 2,003
To STA. 43+00, S.R. Rt. = 346
2,349

Prop. Type "C" Ent

LT. 1100.27
RT. 1100.18

LT. 1099.65
RT. 1099.42

Prop. Type "C" Ent & Safety Dike

5'x10' Ditch
Ditch Grades
Ditch Grades - See XSects

AS-BUILT PLANS, FOR INFORMATION ONLY

FRANKLIN COUNTY
FN-3-5(45)--20-35
D.01

FILE NO.	ENGLISH	DESIGN TEAM		COUNTY	PROJECT NUMBER	SHEET NUMBER D.2	

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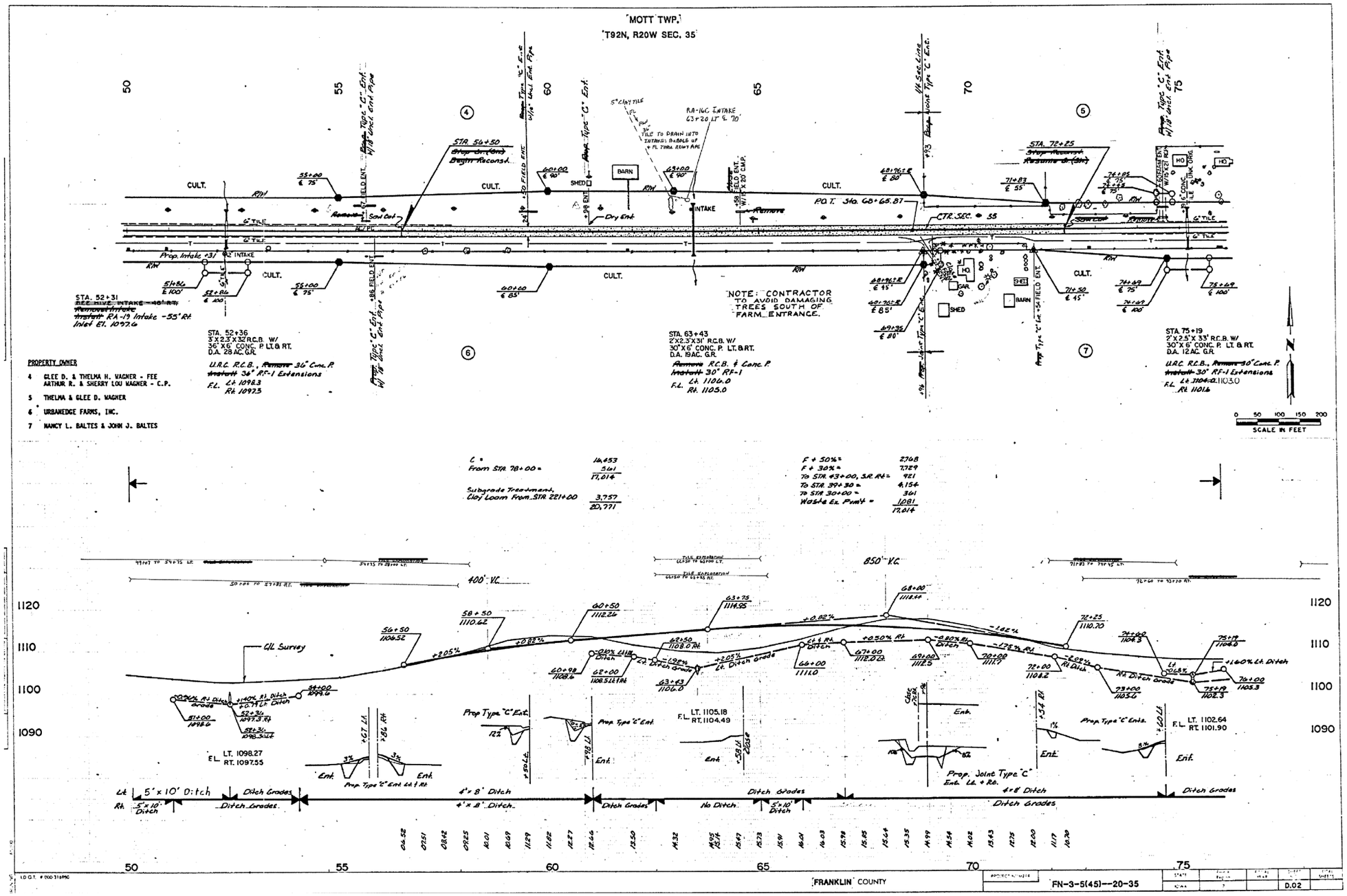

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER D.3

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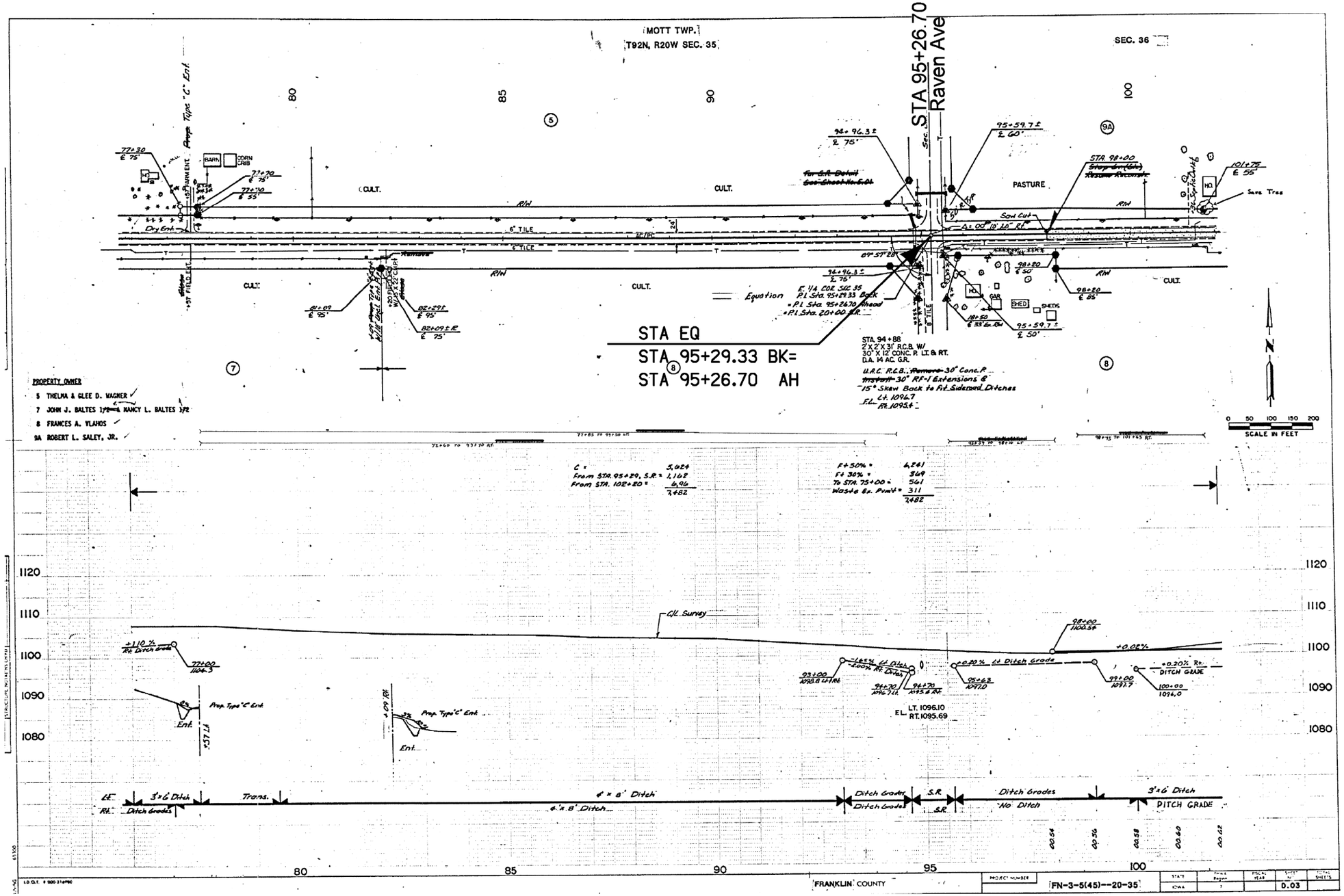
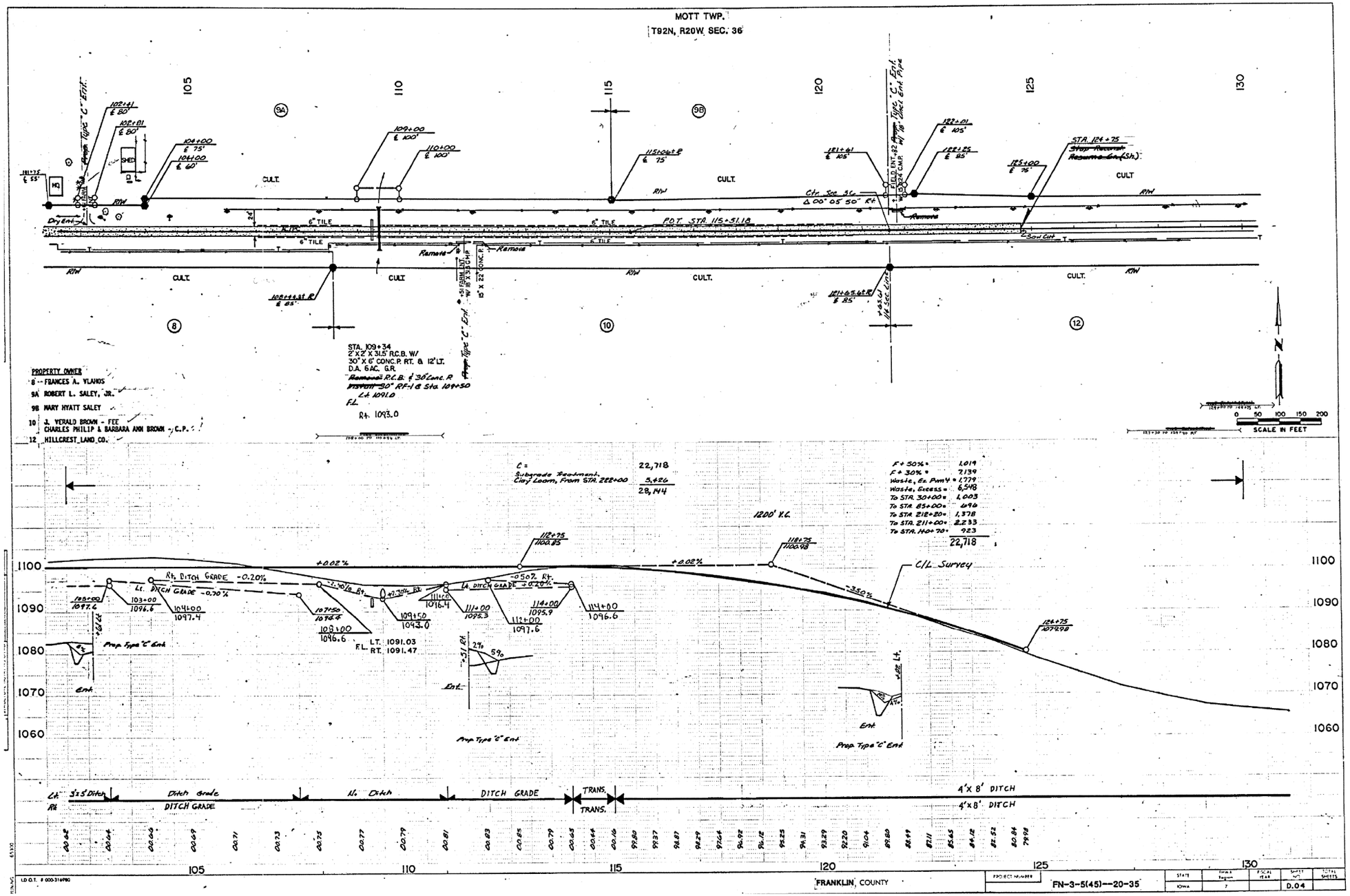


AS-BUILT PLANS, FOR INFORMATION ONLY



AS-BUILT PLANS, FOR INFORMATION ONLY

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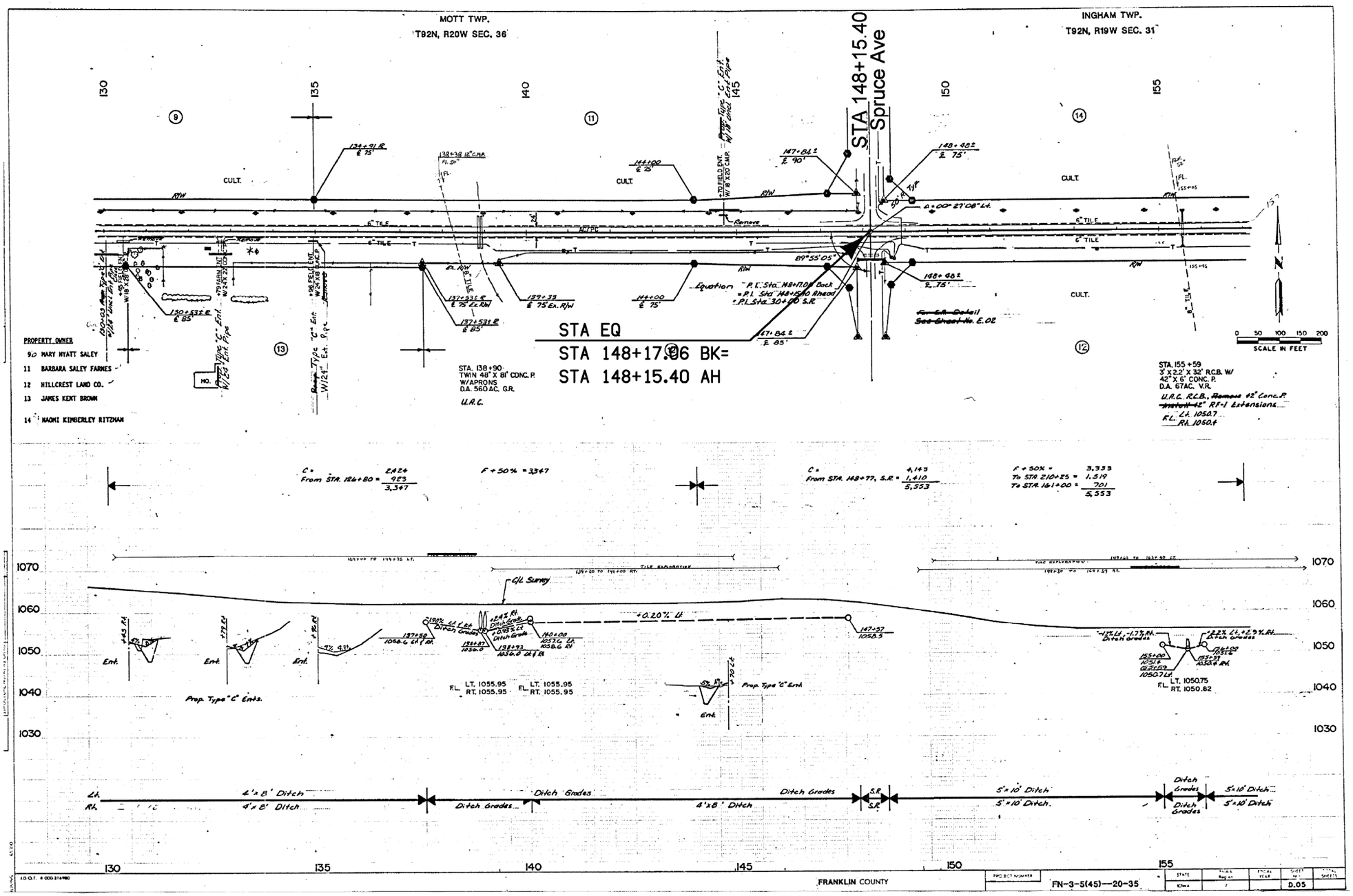

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
			FRANKLIN COUNTY	FN-3-5(45)—20-35	D.6

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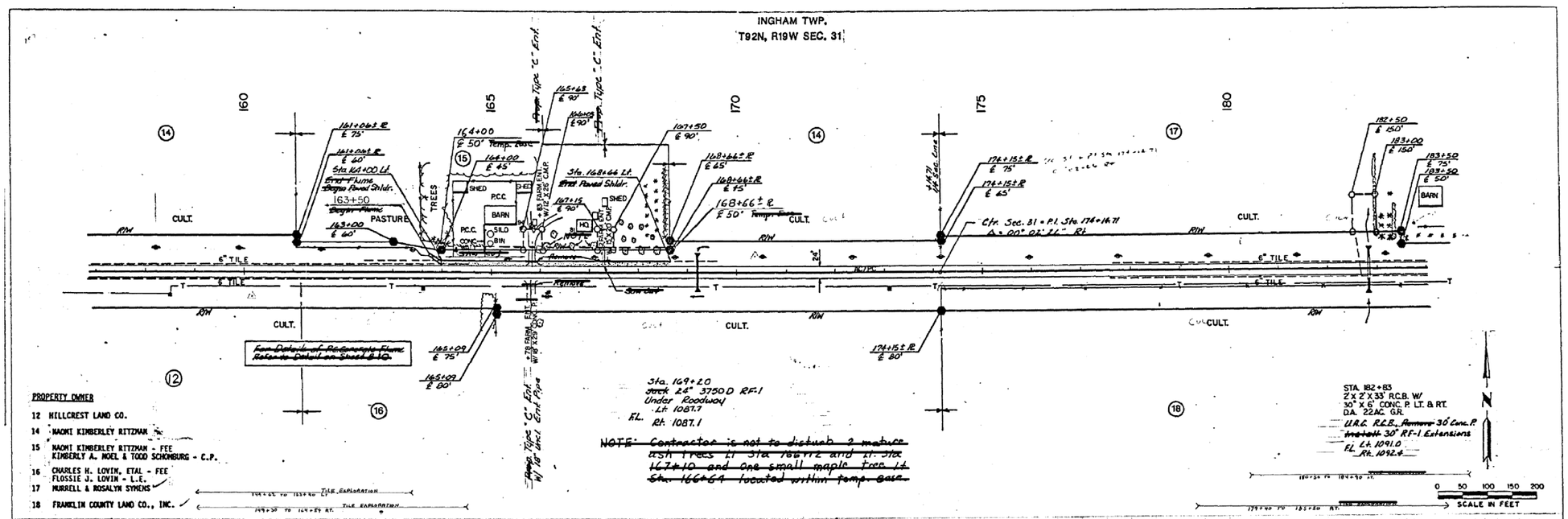
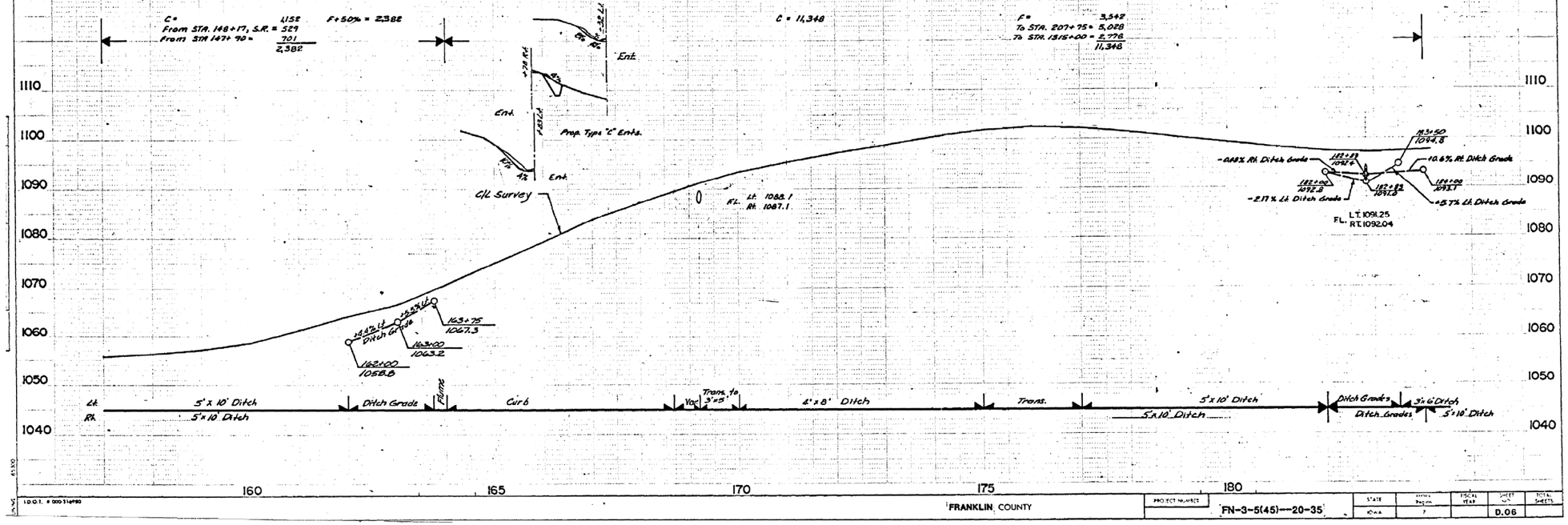
INGHAM TWP.
T92N, R19W SEC. 31



PROPERTY OWNER

12 HILLCREST LAND CO.
14 NAOMI KIMBERLEY RITZMAN
15 NAOMI KIMBERLEY RITZMAN - FEE
KIMBERLY A. NOEL & TODD SCHONBURG - C.P.
16 CHARLES H. LOVIN, ETAL - FEE
FLOSSIE J. LOVIN - L.E.
17 MURRELL & ROSALYN SYMENS
18 FRANKLIN COUNTY LAND CO., INC.



AS-BUILT PLANS, FOR INFORMATION ONLY

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					D.7

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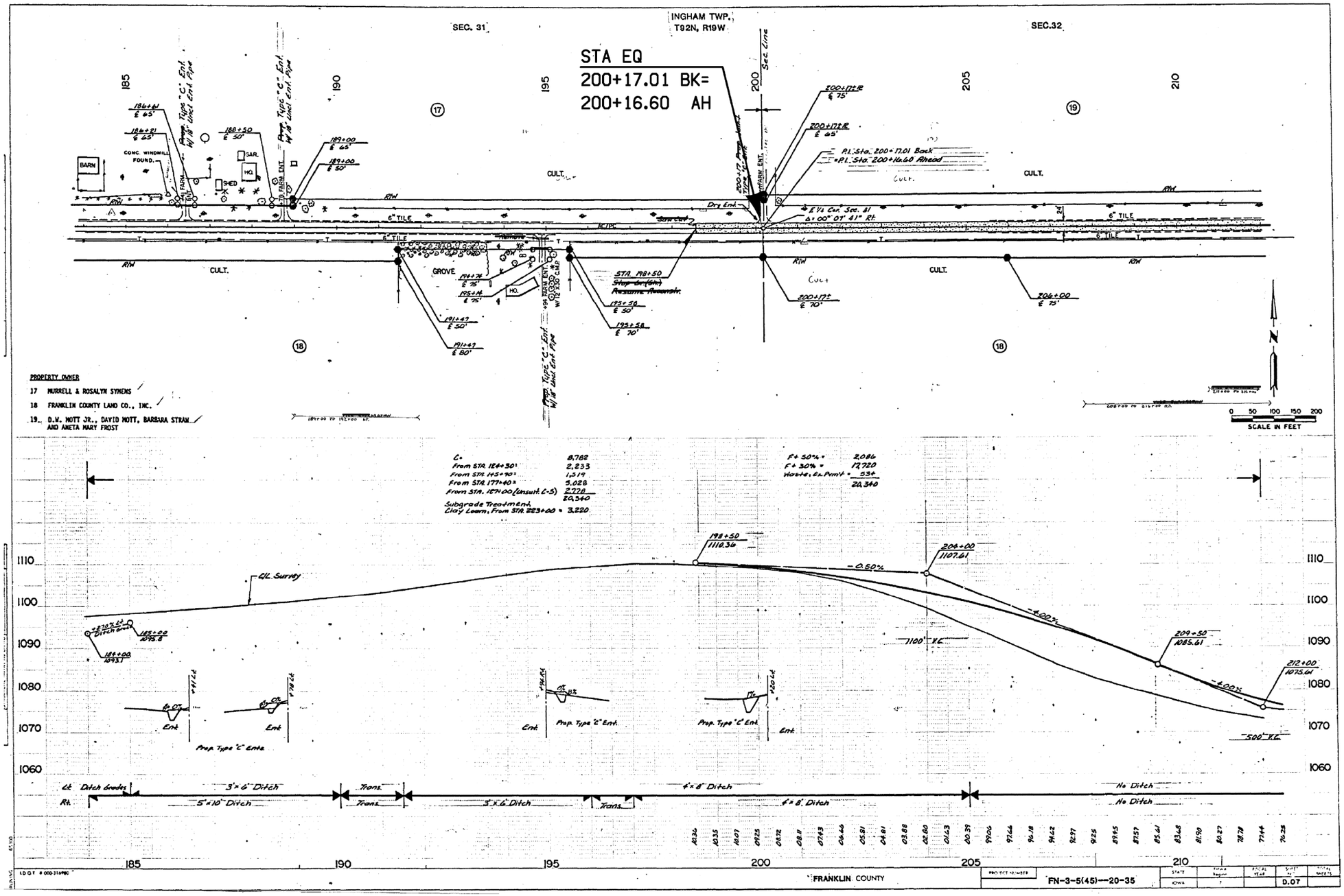

AS-BUILT PLANS, FOR INFORMATION ONLY

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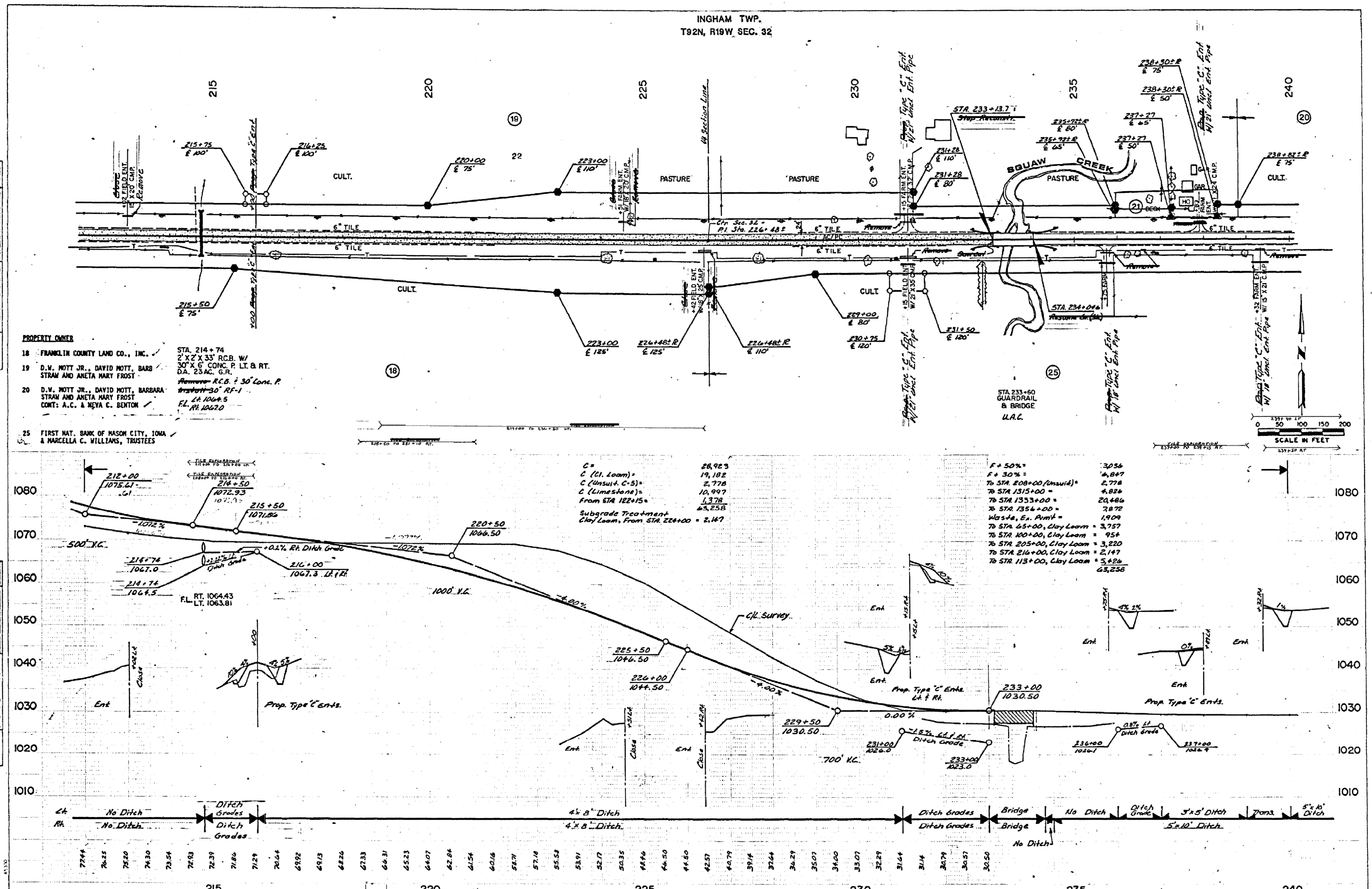


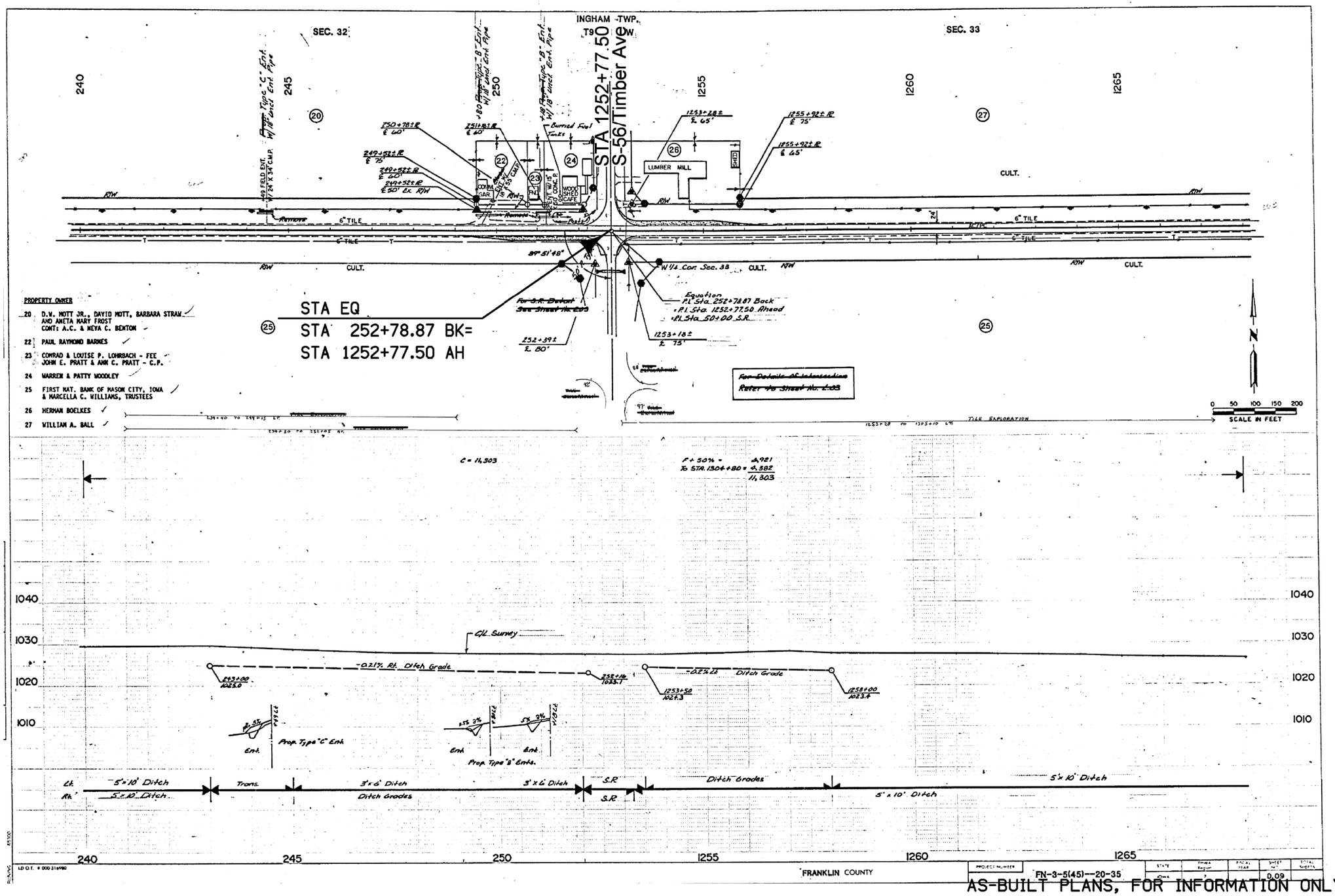
FRANKLIN COUNTY

PROJECT NUMBER FN-3-5(45)—20-35

STATE Iowa | FHWA Region 7 | FISCAL YEAR | SHEET NO. D.08 | TOTAL SHEETS

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM		COUNTY	PROJECT NUMBER	SHEET NUMBER D.9



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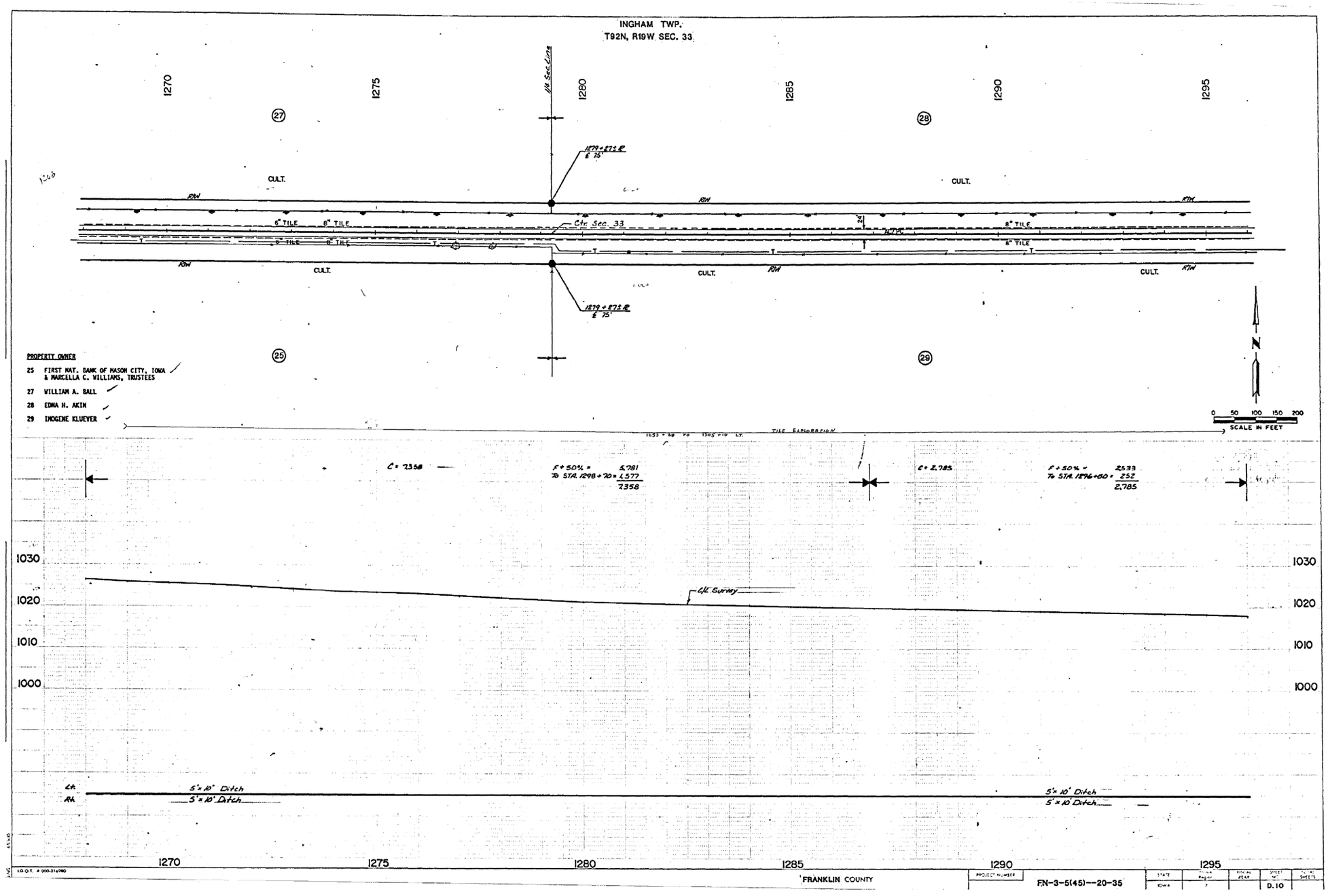
INGHAM TWP.
T92N, R19W SEC. 33



AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER D.11

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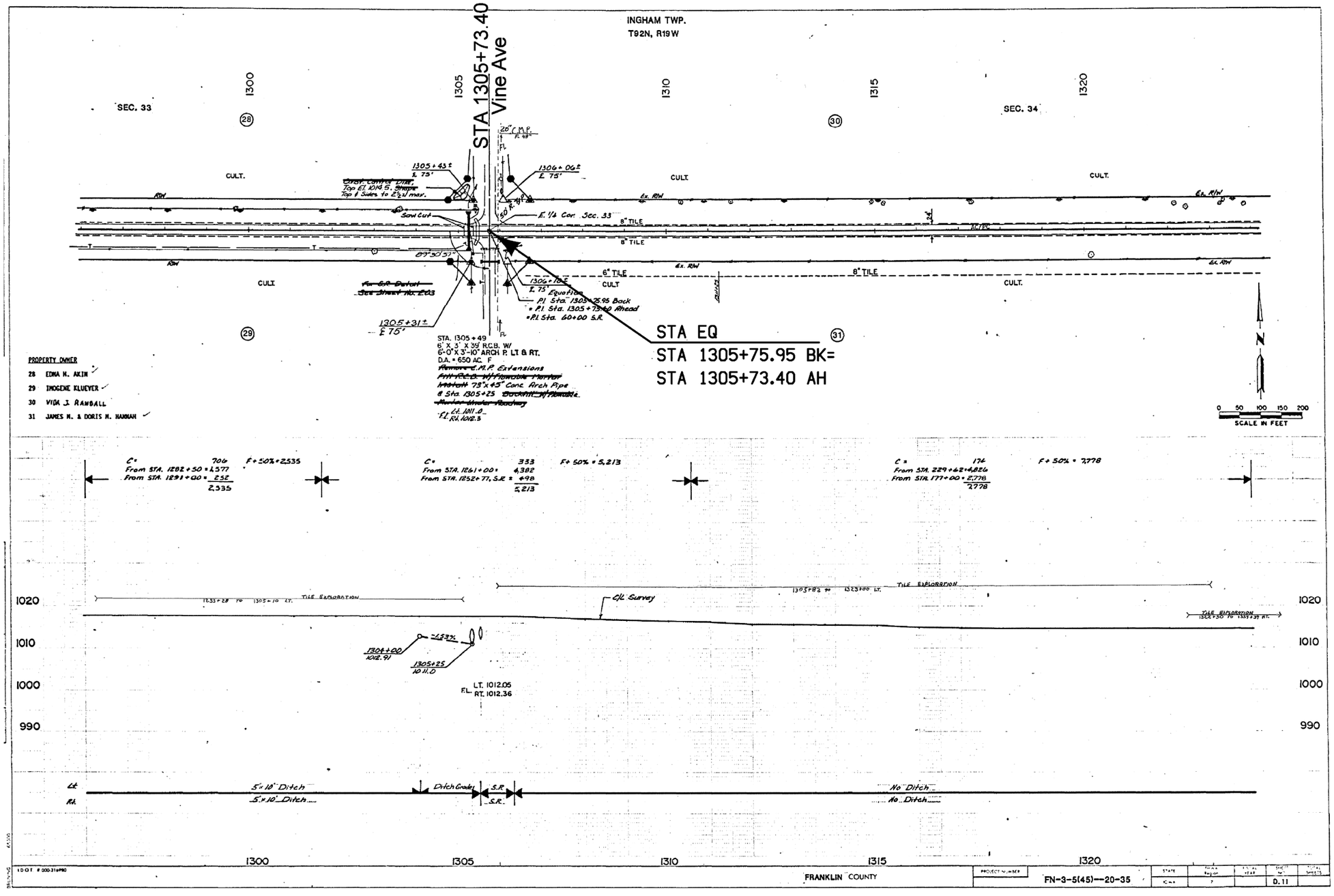
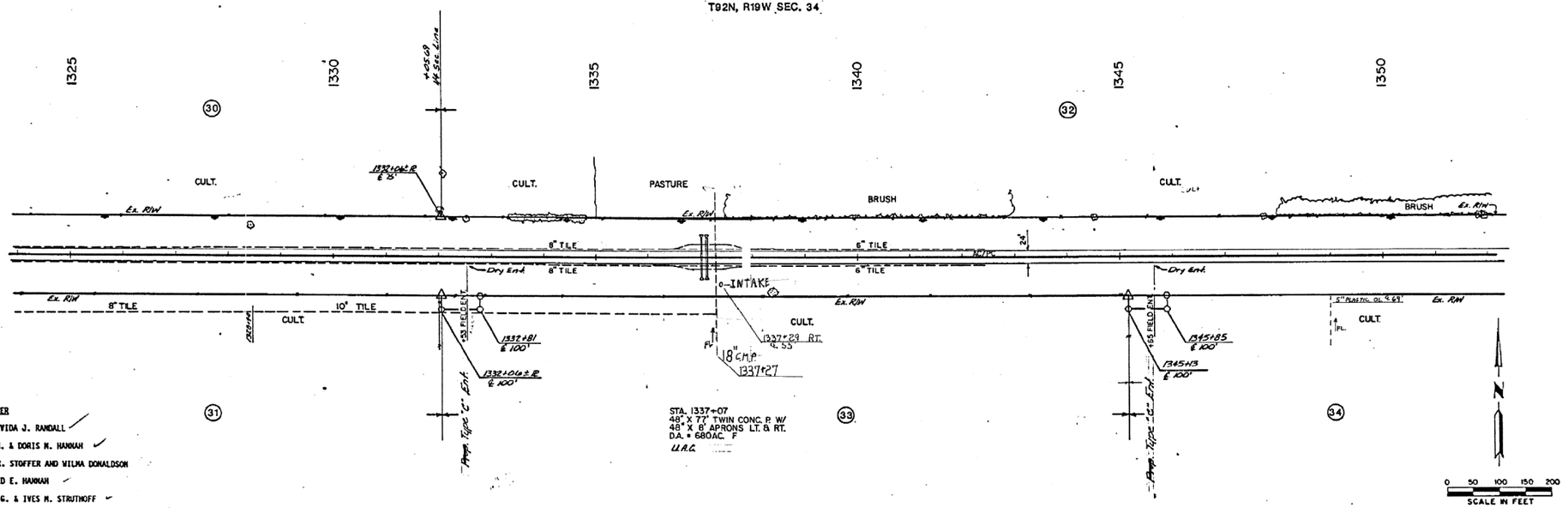


AS-BUILT PLANS, FOR INFORMATION ONLY

INGHAM TWP.
T92N, R19W SEC. 34

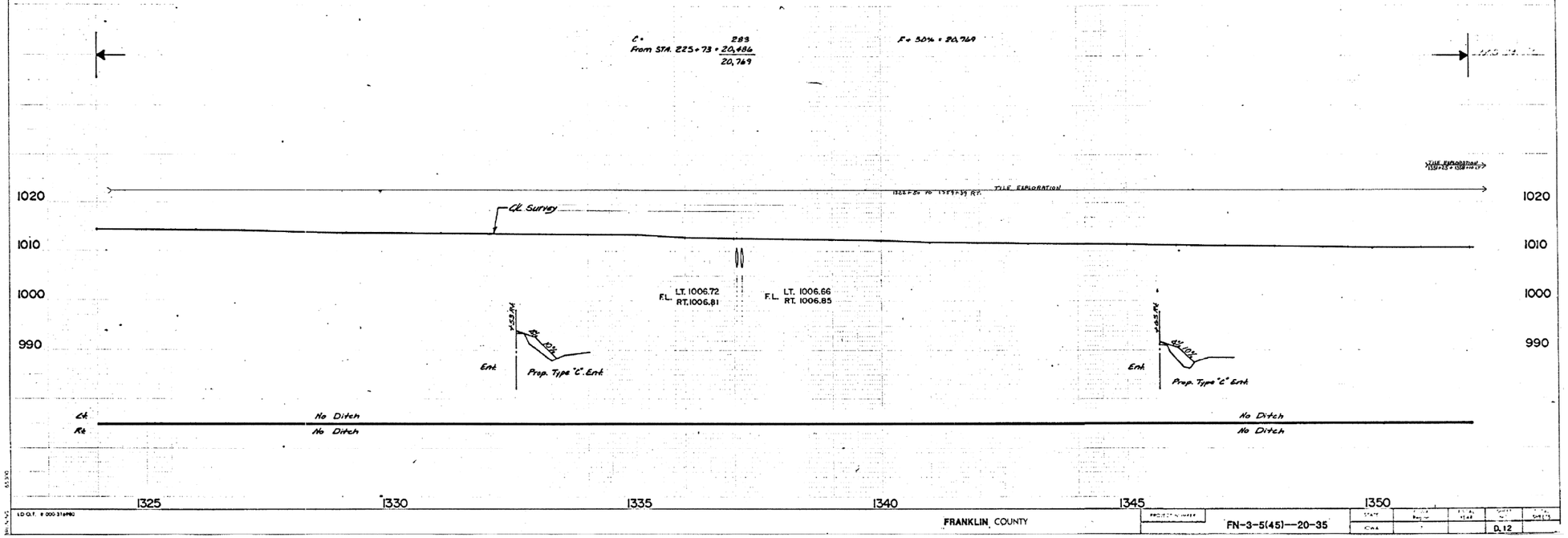


PROPERTY OWNER
30 W.L. & VIDA J. RANDALL
31 JAMES M. & DORIS M. HANNAH
32 LINDA R. STOFFER AND WILMA DONALDSON
33 WINIFRED E. HANNAH
34 DELMAR G. & IVES M. STRUTHOFF

STA. 1337+07
48" X 77' TWIN CONC. P. W/
48" X 6' APRONS LT. & RT.
D.A. = 680AC. F
U.A.C.

C = 283
From STA. 225+73 = 20,486
20,769

F = 50% = 20,769



FRANKLIN COUNTY
FN-3-5(45)—20-35
D.12

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER D.13

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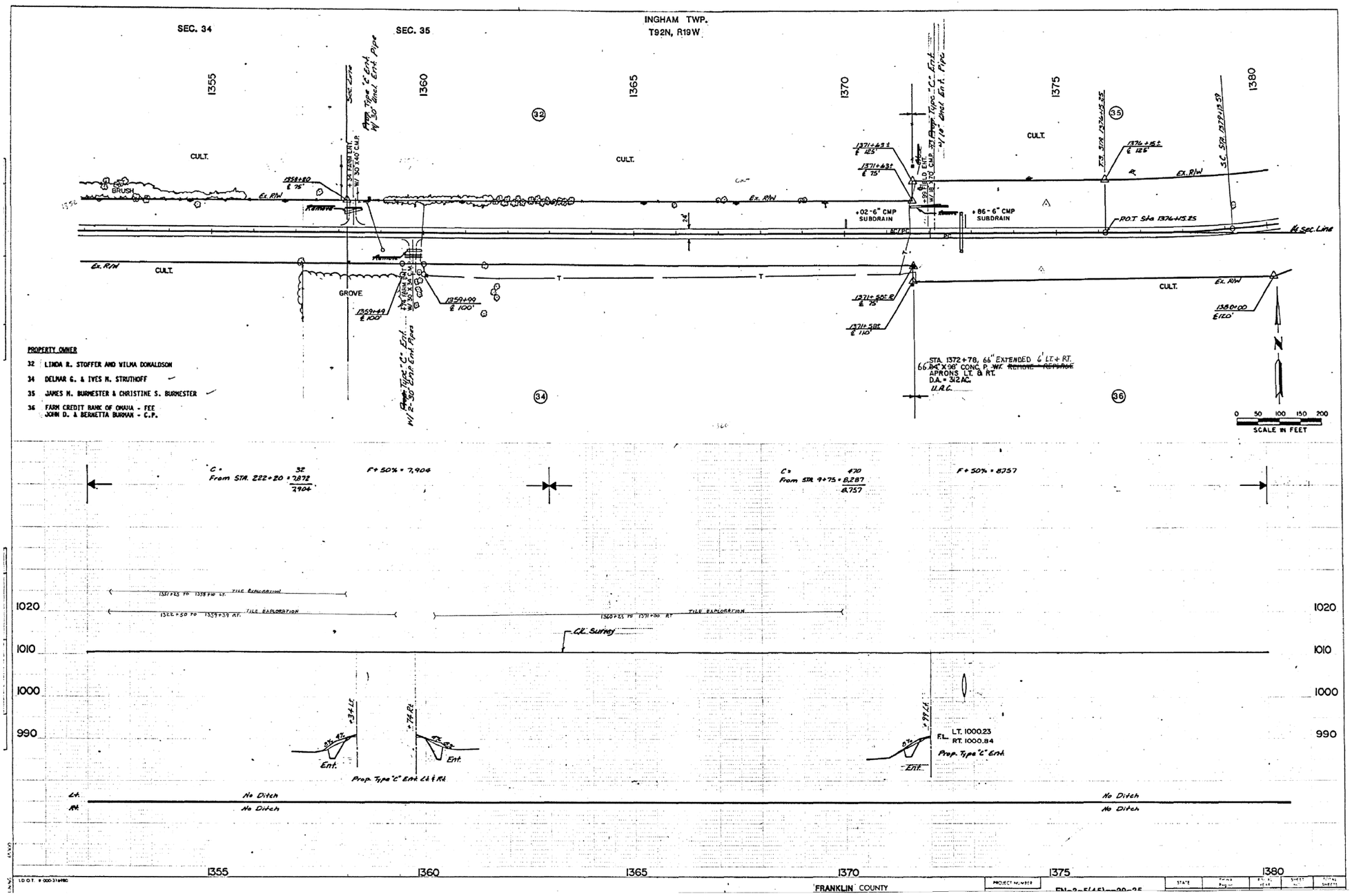

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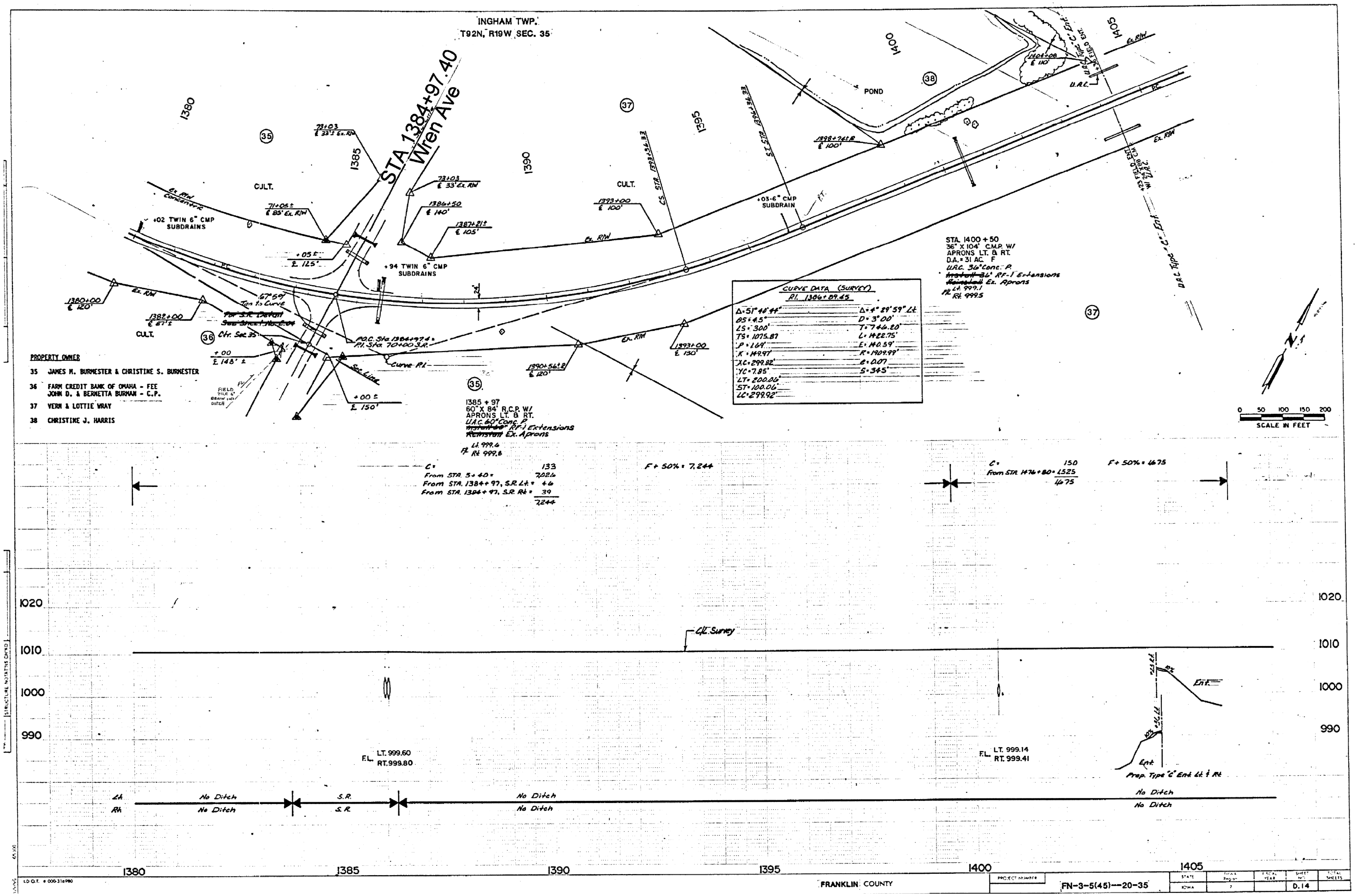

AS-BUILT PLANS, FOR INFORMATION ONLY

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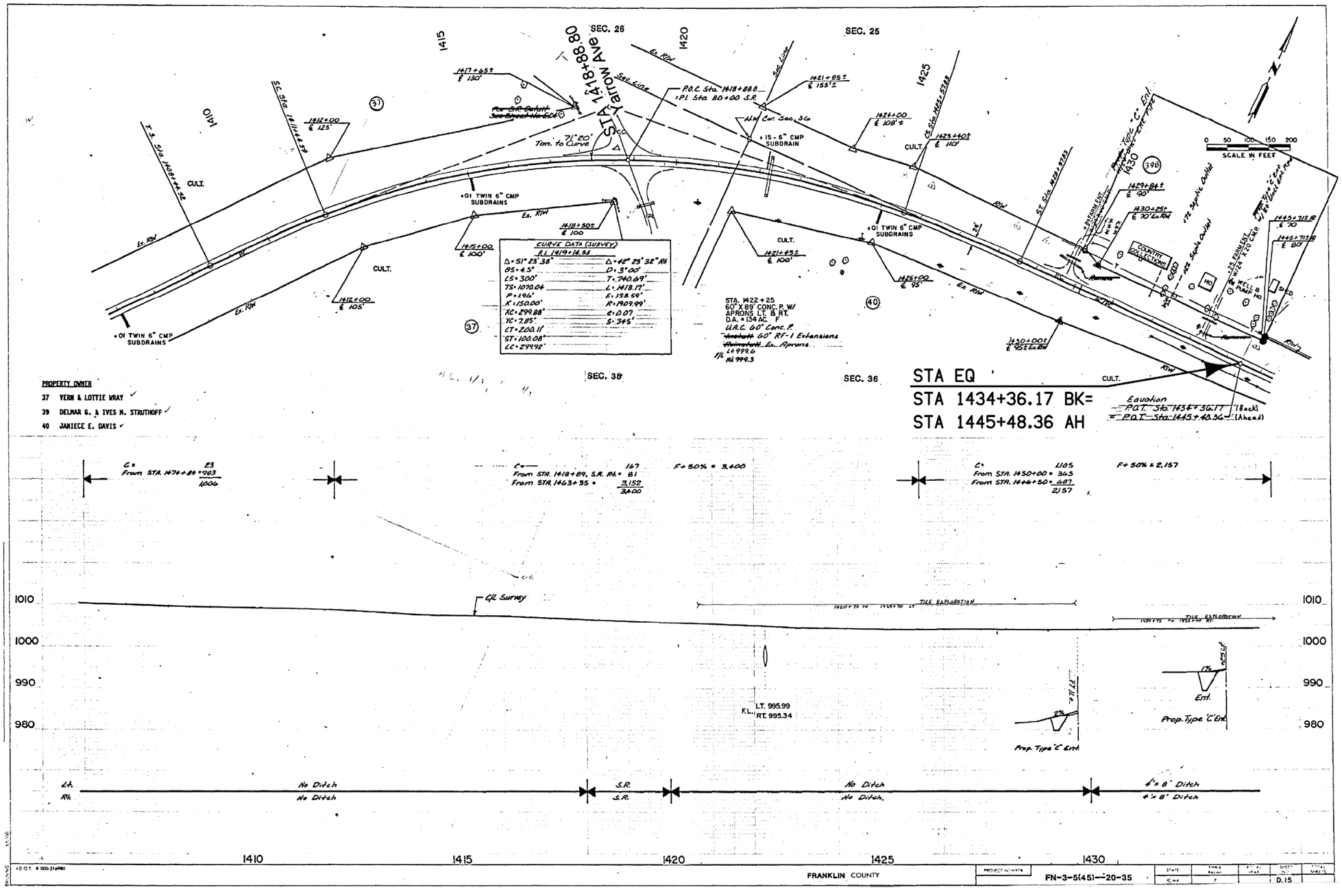

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\MEISE	FRANKLIN COUNTY	PROJECT NUMBER NHSX-003-5(86)--3H-35	SHEET NUMBER D.16

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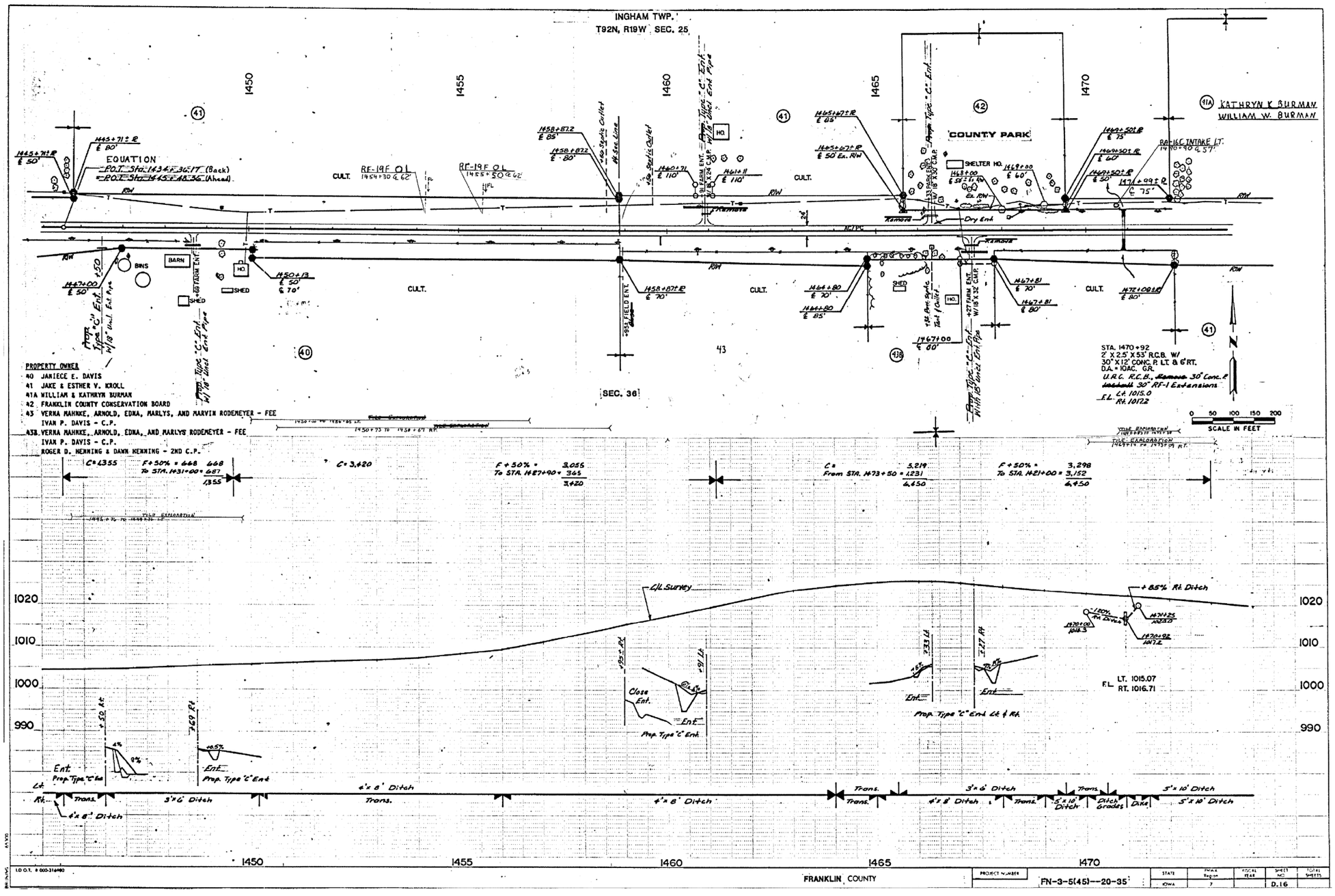

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
					D.17

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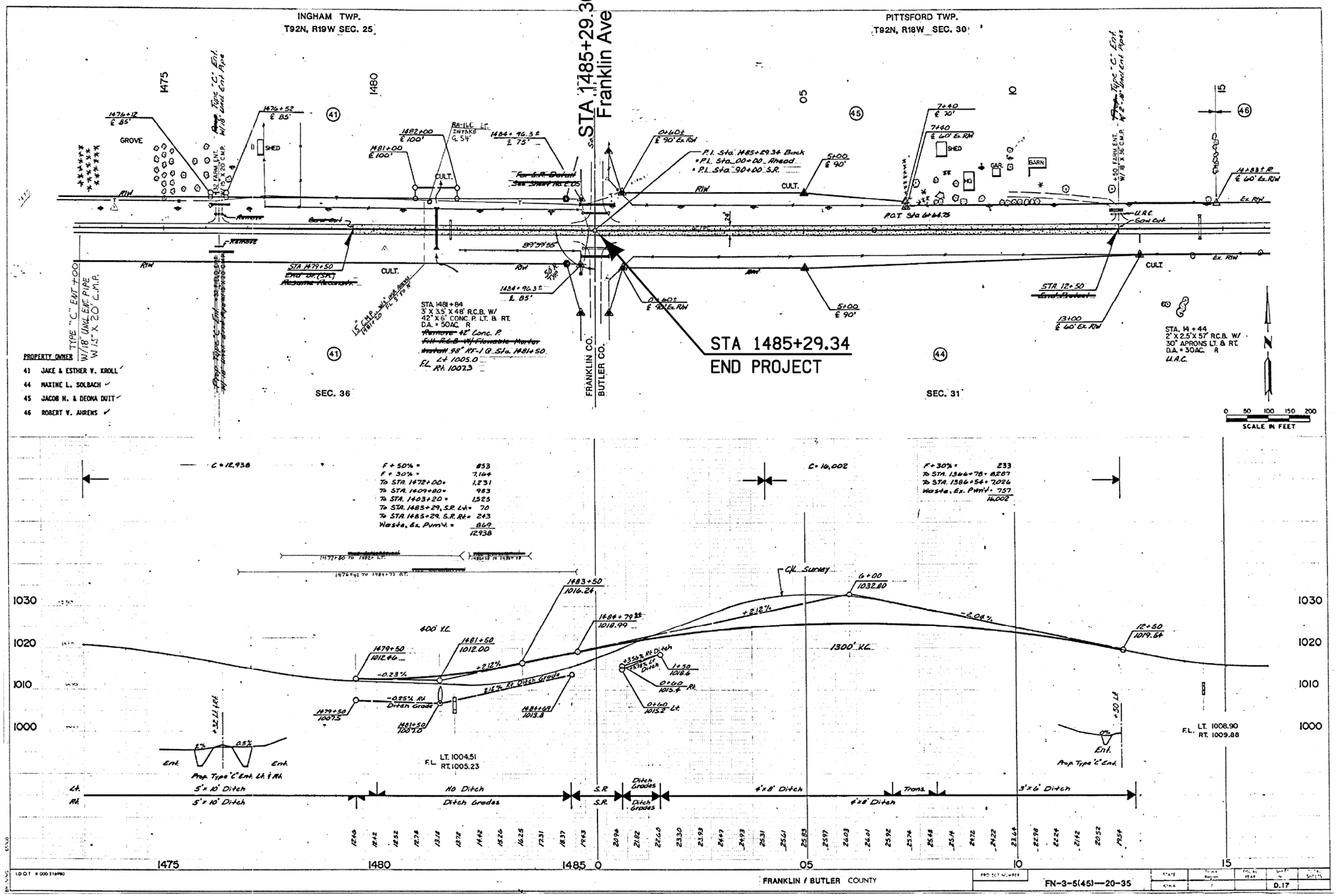

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\MEISE	FRANKLIN COUNTY	PROJECT NUMBER NHSX-003-5(86)--3H-35	SHEET NUMBER D.18

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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	Franklin	No restrictions expected									

108-23A
08-01-08

TRAFFIC CONTROL PLAN

The Contractor shall coordinate traffioc control with other projects in the area.

Through traffic shall be maintained at all times during construction.

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.

Project	Type of Work

108-26A
08-01-08

STAGING NOTES

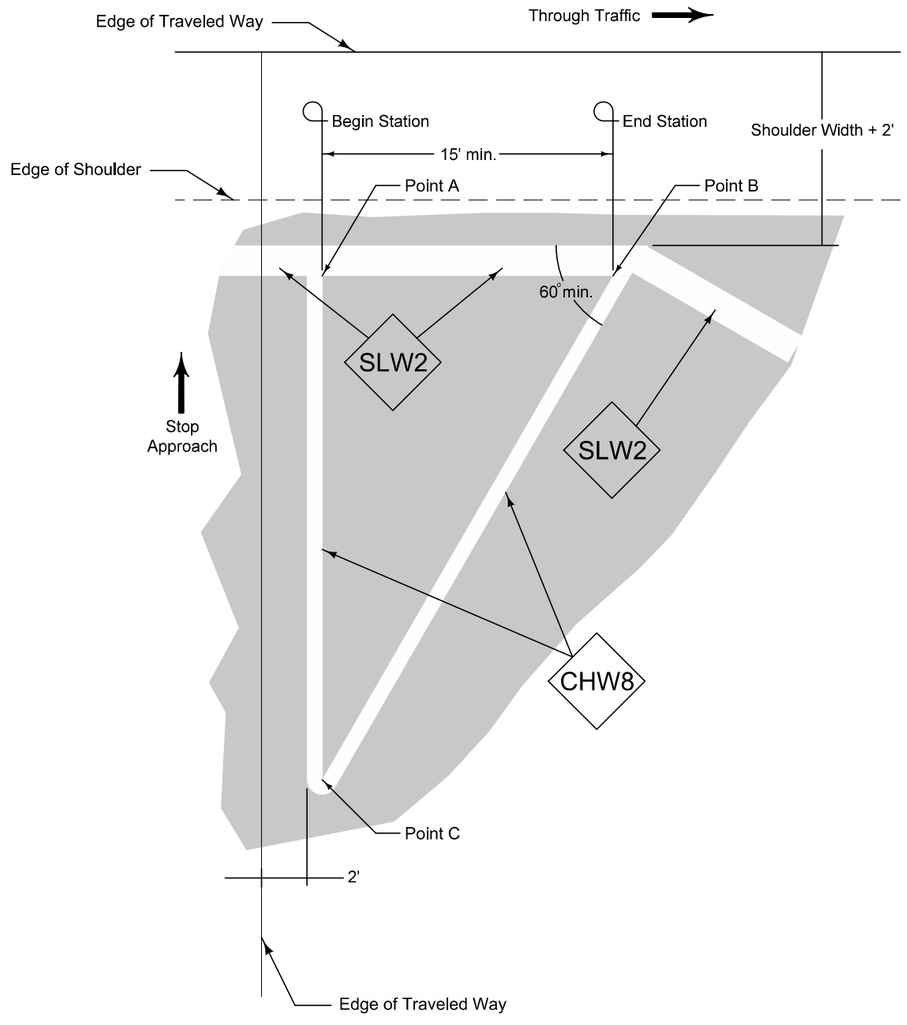
1) Install subdrains and perform pipe work.

2) Perform patching.

3) Perform milling of HMA and Cold-in-place recycling.

4) Place HMA.

5) Place final pavement markings and rumble strips.



For pavement marking line types, see **PM-110.**

For stop line information, see **PM-120.**

Estimated at 20 LF. For equalizer pipes place silt fence left and right of discharge point.

Estimated at 20 LF.

Estimated at 30 LF of 20 in. diameter device. Quantity shown are for estimating purposes only. Actual quantities shall be governed by conditions at each location where storm water leaves the right of way.

See Standard Road Plans EC-201 and EC-204 for installation details.

Possible Contract Item:
- Silt Fence Ditch Check
- Silt Fence
- Perimeter and Slope Sediment Control Device

Possible Tabulations:
- 100-16
- 100-17
- 100-19
- 100-34

Possible Contract Item:
- Pavement Marking Line Items

Possible Tabulations:
- 101-10
- 108-22

REVISION	
1	04-21-20

ROAD DESIGN DETAIL

560-5

SHEET 1 of 1

REVISIONS: Added SLW2 and YLW2.

PAINTED ISLANDS

FILE NO.	ENGLISH	DESIGN TEAM KELLY\MEISE	FRANKLIN COUNTY	PROJECT NUMBER NHSX-003-5(86)--3H-35	SHEET NUMBER U.1

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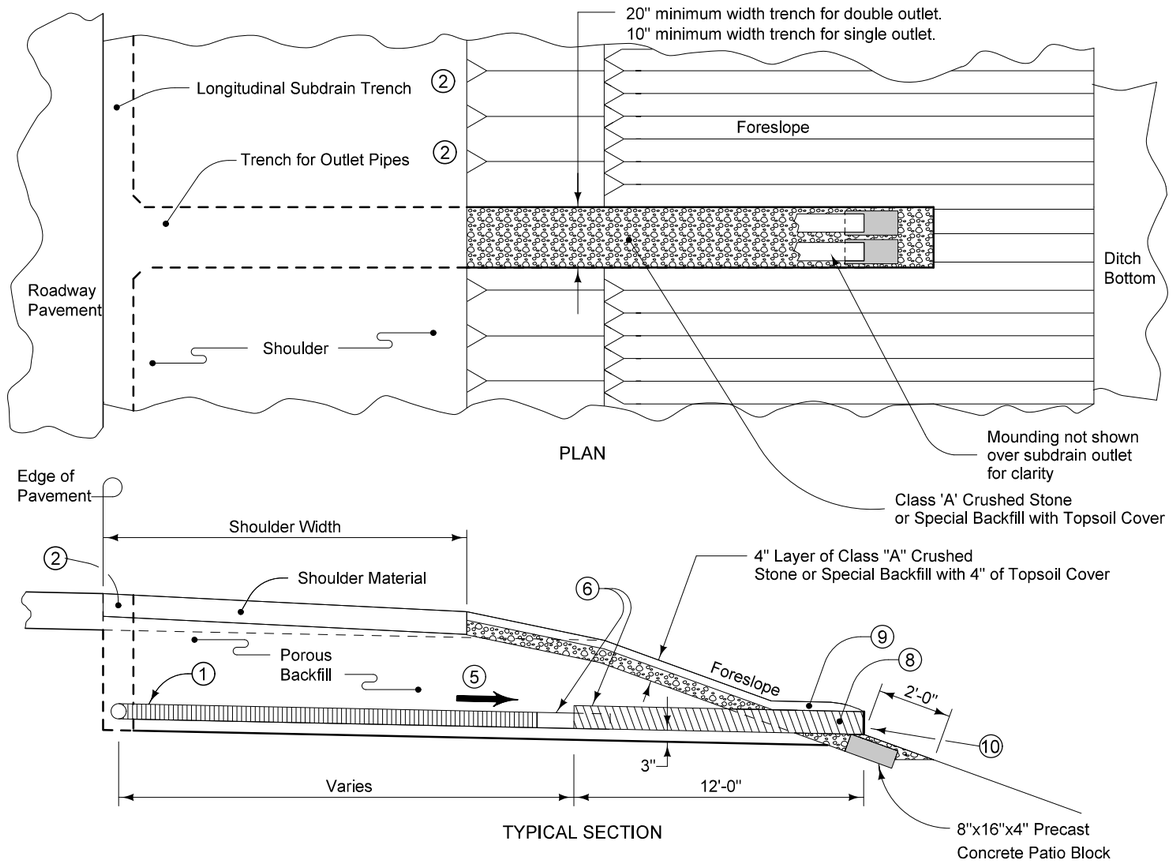
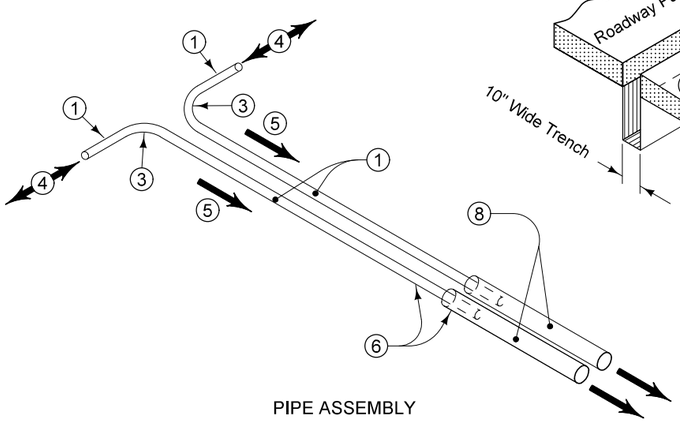
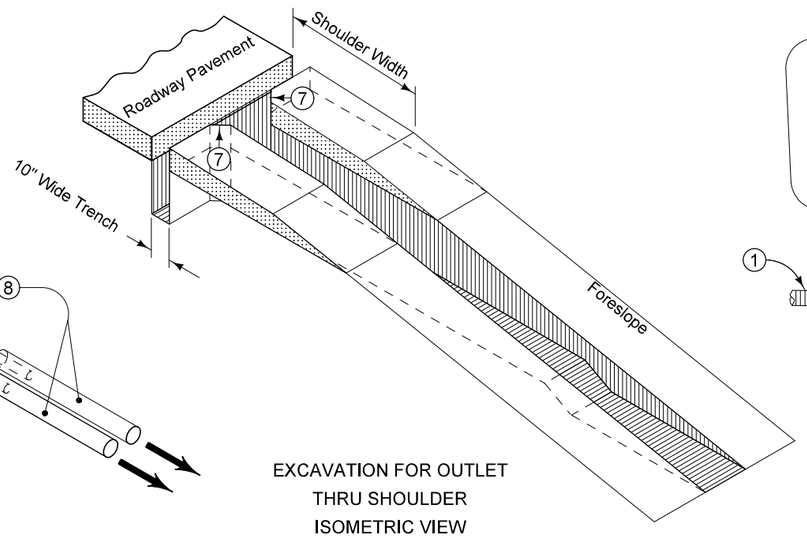


LONGITUDINAL AND TRANSVERSE OUTLETS

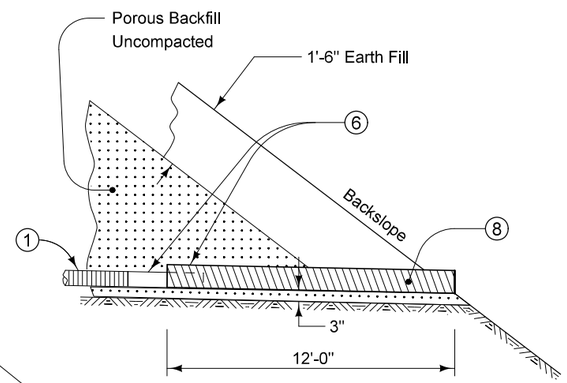
1. Perforated Subdrain (Polyethylene Corrugated Tubing).
2. On projects where existing shoulder material is removed, replace the shoulder material according to Article 2502.03, C of the Standard Specifications.
3. 'Y' or 'T' connection will not be allowed. Place subdrain on 1 foot minimum radius.
4. Direction of flow.
5. 6 inch minimum drop in elevation between longitudinal subdrain and outlet. 12 inch minimum drop for projects using recycled PCC subbase.
6. Corrugated metal pipe outlet 2 inches larger than subdrain pipe or corrugated double-walled PE or PVC pipe of the same diameter as the subdrain pipe with an appropriate coupler. If metal pipe is used, the pipes should be coupled in one of the following ways: (1) Use an inside fit reducer coupler (insert coupler a minimum of 12 inches into CMP); or (2) Insert 1 inch of the 4 inch subdrain into the 6 inch metal outlet pipe, then fully seal the entire opening with grout.
7. Bevel the trench to provide a minimum of 3 inches of porous backfill surrounding all portions of subdrain pipe.
8. Corrugated metal pipe outlet 2 inches larger than existing subdrain pipe, or corrugated double-walled PE or PVC pipe of the same diameter as the existing subdrain pipe.
9. Place class 4" of Topsoil over pipe outlet
10. Install rodent guard. See I.M. 443.01.



PIPE ASSEMBLY
ISOMETRIC VIEW



EXCAVATION FOR OUTLET
THRU SHOULDER
ISOMETRIC VIEW



BACKSLOPE OUTLET
TYPICAL SECTION

Possible Contract Item:
Subdrain Outlet, 500-10

Possible Tabulations:
104-5C
104-6

REVISION	
New	10-17-17

STANDARD ROAD PLAN

500-10

REVISIONS:

APPROVED BY DESIGN METHODS ENGINEER

OUTLETS FOR LONGITUDINAL, TRANSVERSE AND BACKSLOPE SUBDRAINS

FILE NO.	ENGLISH	DESIGN TEAM KELLY\MEISE	FRANKLIN COUNTY	PROJECT NUMBER NHSX-003-5(86)--3H-35	SHEET NUMBER U.2

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