

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001) NHG-153-3(6)	1998	1	389

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY FROM RP 911+89 TO RP 914+08 AND RP 74+44 TO RP 77+87

TRAFFIC DATA	U.S. 24	U.S. 31
A.D.T. (1990)	7,630 V.P.D.	14,720 V.P.D.
A.D.T. (2018) PROJECTED	14,100 V.P.D.	27,180 V.P.D.
D.H.V. (2018)	1,410 V.P.H.	2,718 V.P.H.
DIRECTIONAL DISTRIBUTION	53 %	52 %
TRUCKS	9% D.H.V.	16% A.D.T.
SHOULDER ESAL	500,000	500,000
DESIGN DATA		
DESIGN SPEED	70 M.P.H.	70 M.P.H.
ACCESS CONTROL	PARTIAL LIMITED	PARTIAL LIMITED
ROAD CLASSIFICATION	RURAL PRINCIPAL ARTERIAL	RURAL PRINCIPAL ARTERIAL
TYPE OF TERRAIN	LEVEL	LEVEL
PROJECT DESIGN CRITERIA	NEW CONSTRUCTION	RECONSTRUCTION

F- 144-6 (012) P.E.
 NH- 146-5 (001) R/W
 NH- 146-5 (001) CONST
 NHG- 153-6 (006) CN

PROJECT NO.

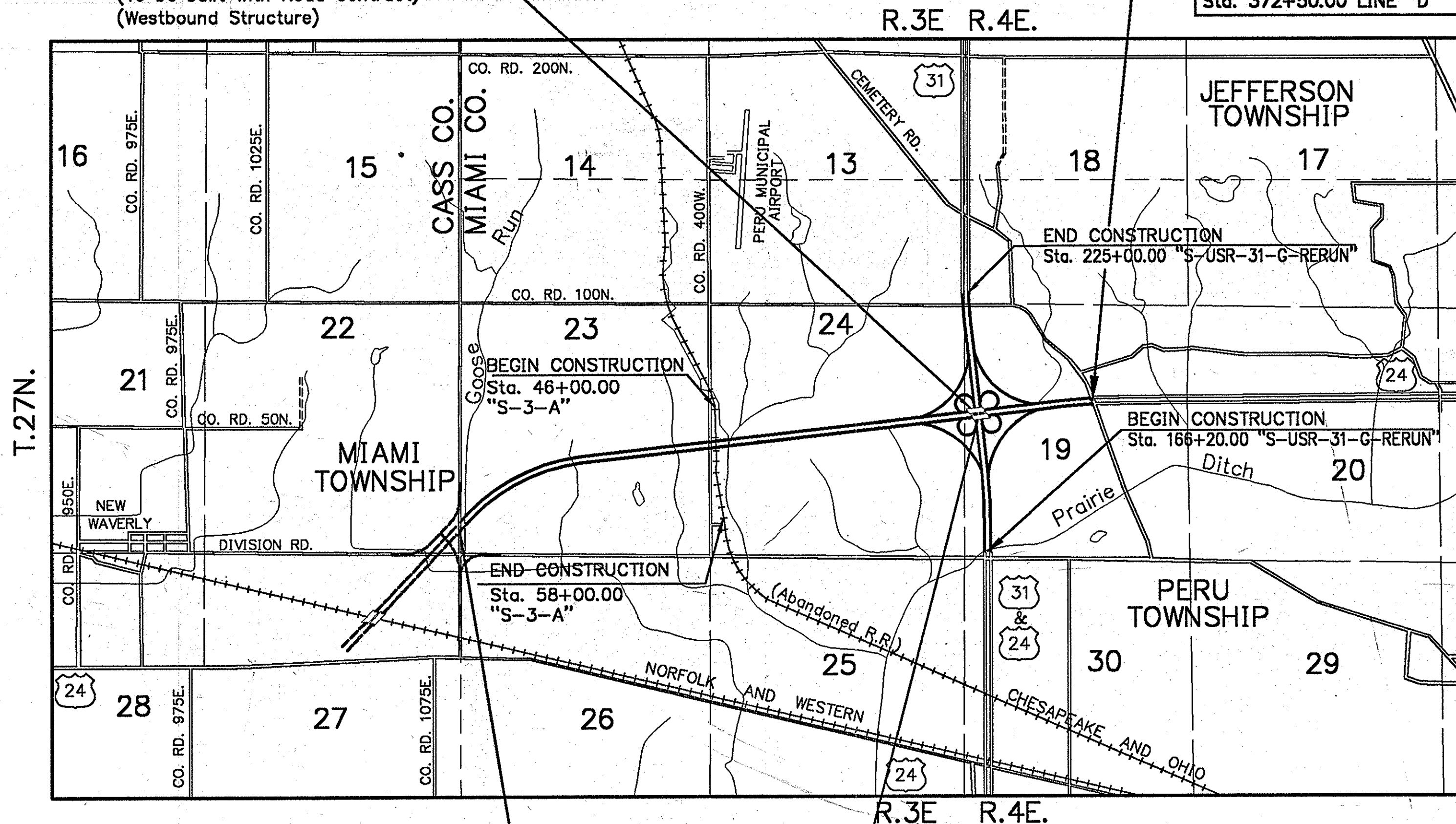
Beginning at a Point 576.97 Feet North of the Southwest Corner of Section 23, T-27-N, R-3-E, Peru Township, Miami County, and Running in an Easterly Direction 13,836.39 Feet to a Point on Existing U.S. 24, 2,701.57 Feet East of the West Line of Section 19, T-27-N, R-4-E, Peru Township, Miami County.

GROSS LENGTH: 2.620 MI.
 NET LENGTH: 2.571 MI.
 SCALES:

PLAN LONG: 1" = 100' PROFILE HORIZ: 1" = 100' MAX. GRADE 2.00 % - U.S. 24
 TRANS: 1" = 100' VERT: 1" = 10' 3.98 % - U.S. 31

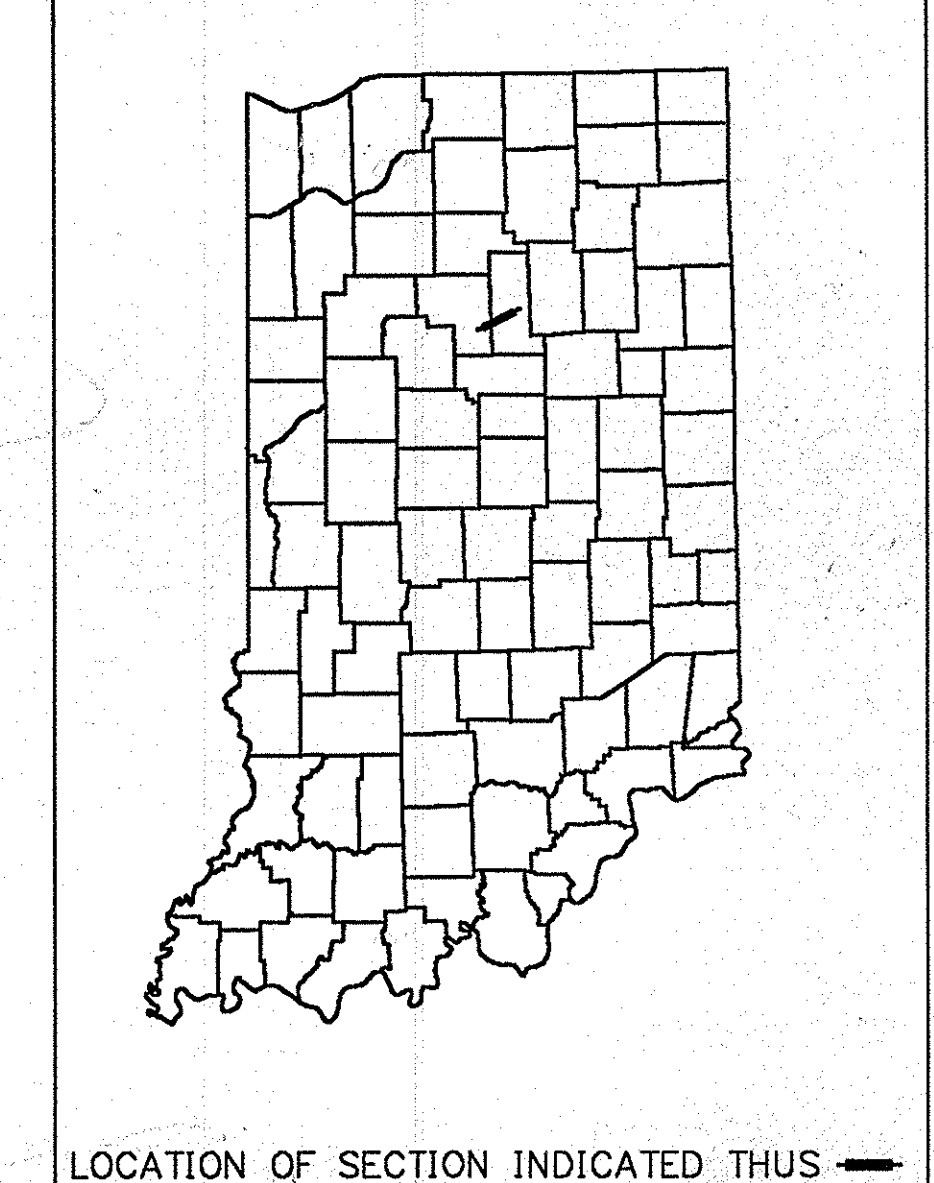
BRIDGE FILE NO. 24-52-6597B
 PAVING EXCEPTION
 Sta. 348+73.10 to Sta. 351+26.60
 (To be built with Road Contract)
 (Westbound Structure)

END NH-PROJECT NO. 146-5()
 Sta. 372+50.00 LINE "D"



BEGIN NH-PROJECT NO. 146-5()
 Sta. 234+13.61 LINE "D"

BRIDGE FILE NO. 24-52-6597J
 PAVING EXCEPTION
 Sta. 348+65.35 to Sta. 351+25.10
 (To be built with Road Contract)
 (Eastbound Structure)



LOCATION OF SECTION INDICATED THUS —

NOTE: For Location of Construction Signs & Barricades, See Maintenance of Traffic Detail Sheets.

SCALE: 1" = 2000'

PLANS PREPARED BY

SIECO, INC.

629 WASHINGTON ST.
 P.O. BOX 407
 COLUMBUS, IN 47202
 PHONE (812) 372-9911
 FAX (812) 372-7190

CERTIFIED BY: *James W. Hilton* 1/14/98 DATE
 JAMES W. HILTON P.E. NO. 15945

APPROVED FOR LETTING: *Philip H. Kiker* 2/19/98 DATE
 CHIEF, DIVISION OF DESIGN

INDIANA DEPARTMENT OF TRANSPORTATION
 STANDARD SPECIFICATIONS DATED 1995
 TO BE USED WITH THESE PLANS.

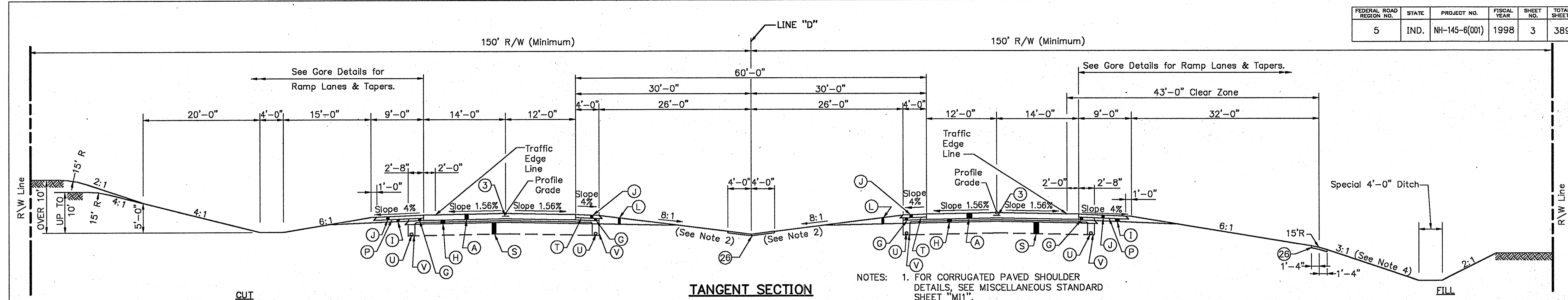
DES. NO. 7302471, 9831410

R-23637
 PART 1 OF 8

PLOT DATE & TIME: JAN 14, 1998 - 09:33:22

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	1	389	

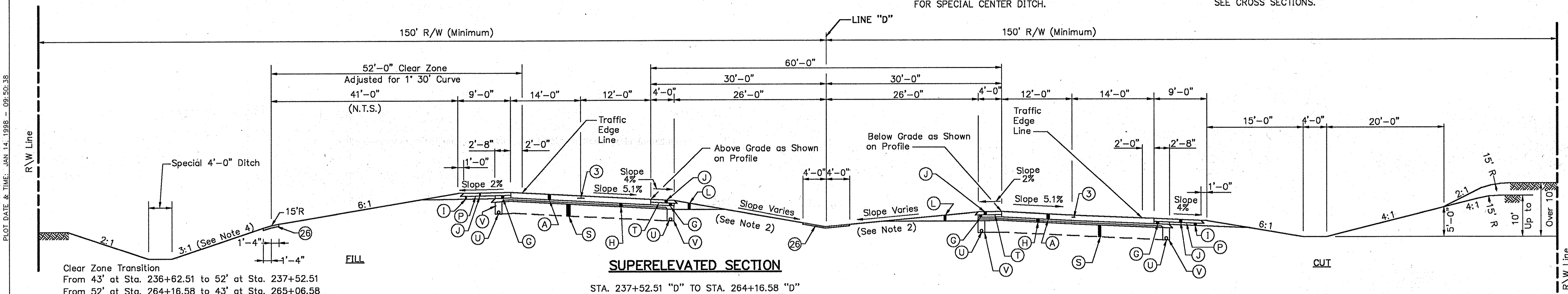
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-145-6(001)	1998	3	389



TANGENT SECTION

STA. 234+13.61 "D" TO STA. 237+52.51 "D"
 STA. 264+16.58 "D" TO STA. 372+50.00 "D"

- NOTES:
1. FOR CORRUGATED PAVED SHOULDER DETAILS, SEE MISCELLANEOUS STANDARD SHEET "M11".
 2. ON SHOULDER, PERFORMANCE GRADED BINDER 58-28 TO BE USED.
 3. FOR DETAILS OF UNDERDRAIN, SEE DETAIL AND MISCELLANEOUS STANDARD SHEET "MN".
 4. WHEN FILL HEIGHT EXCEEDS 30', USE 2:1 SLOPE. SEE CROSS SECTIONS.

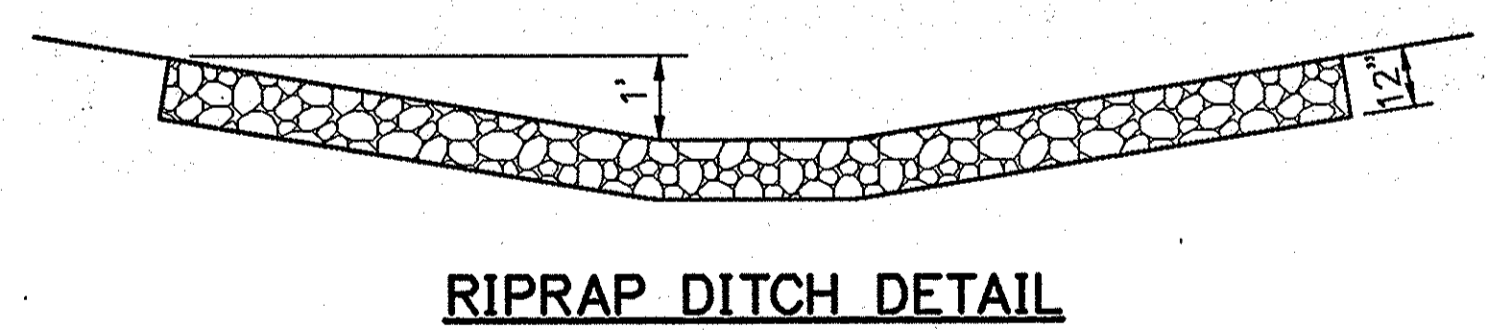


SUPERELEVATED SECTION

STA. 237+52.51 "D" TO STA. 264+16.58 "D"

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (C) 550#/Syd. QC/QA HMA Base 25.0mm, Shoulder
- (H) Subbase for Cement Concrete Pavement 4" Coarse Aggregate #8 on 3" Compacted Aggregate for Base, Type "O", Size No. 53
- (I) Compacted Aggregate Shoulder 6" Compacted Aggregate for Base, Type "O", Size No. 53
- (J) Corrugated Paved Shoulder 165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on 495#/Syd. QC/QA HMA Base 25.0mm, Shoulder
- (L) Compacted Aggregate Wedge, Type O, Size No. 53
- (P) Prime Coat (0.00146 Tons/Syd.)
- (S) 24" Special Subgrade Treatment (6" Compacted in place)
- (T) Tack Coat (0.000252 Tons/Syd.)
- (U) Pipe, Group "K" for Underdrain
- (V) Aggregate for Underdrain
- (3) Longitudinal Joint with Dowel
- (26) Sodding, Nursery
- (27) Geotextile for Underdrain

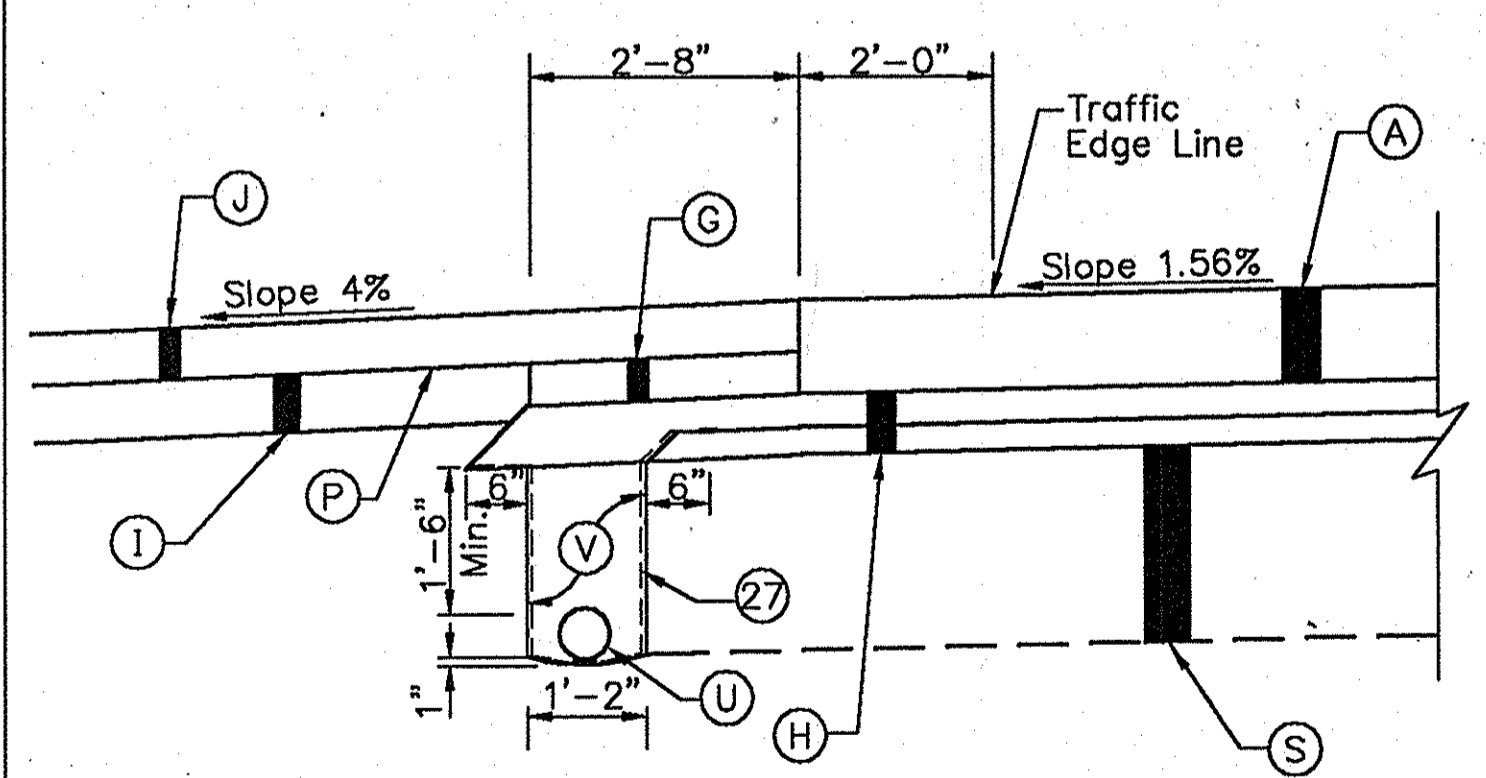


U. S. 24

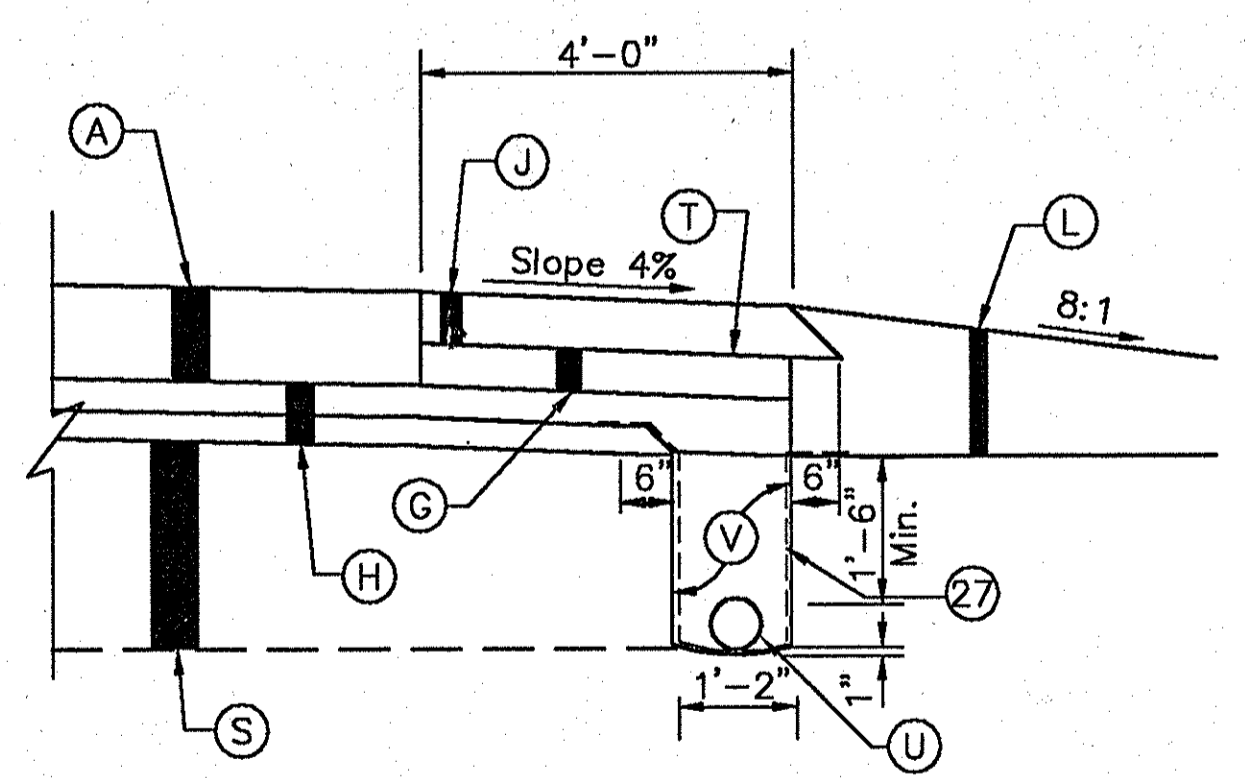
INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS

SCALE: 1/8" = 1'-0"



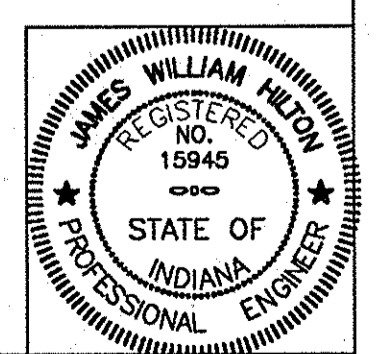
UNDERDRAIN DETAIL - OUTSIDE SHOULDER



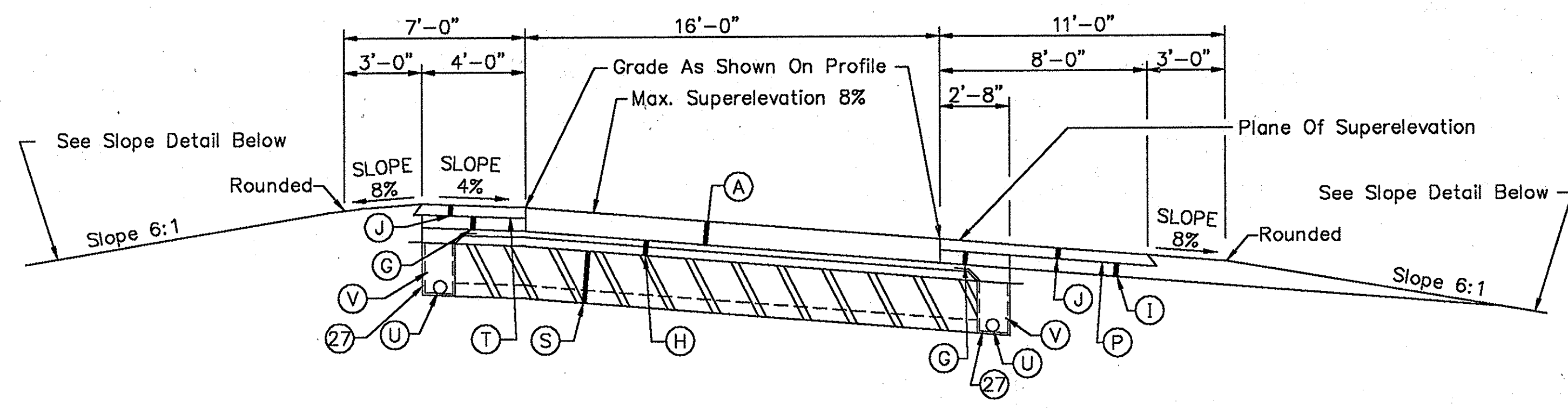
UNDERDRAIN DETAIL - MEDIAN SHOULDER

Scale: 1/2" = 1'-0"

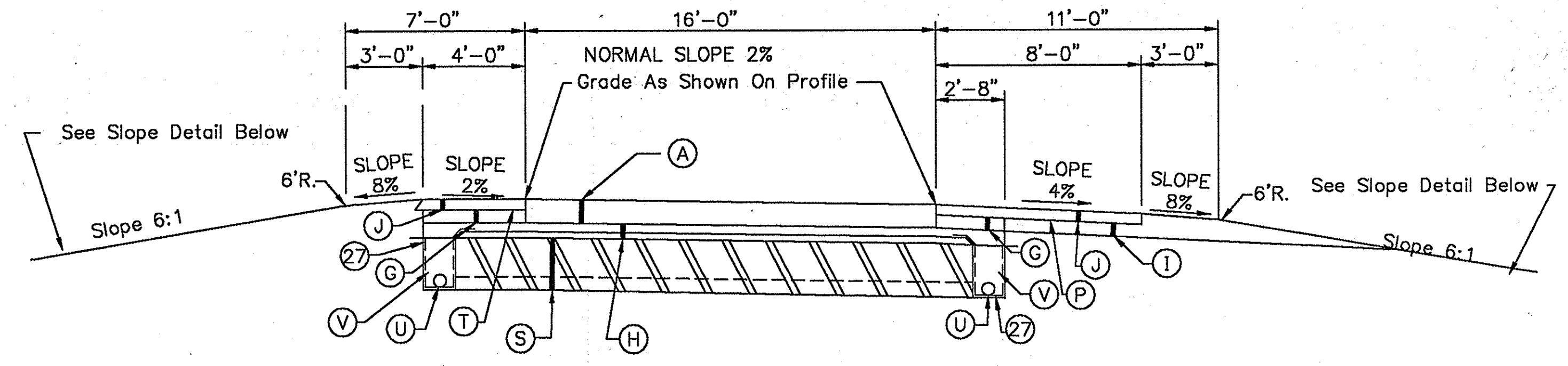
REVISION: JLS 12/92, checked: BDS 2/94
 DRAWN: EKA 12/92, checked: BGS 1/94
 REVISION: DJL 1/98, checked: PJC 1/98



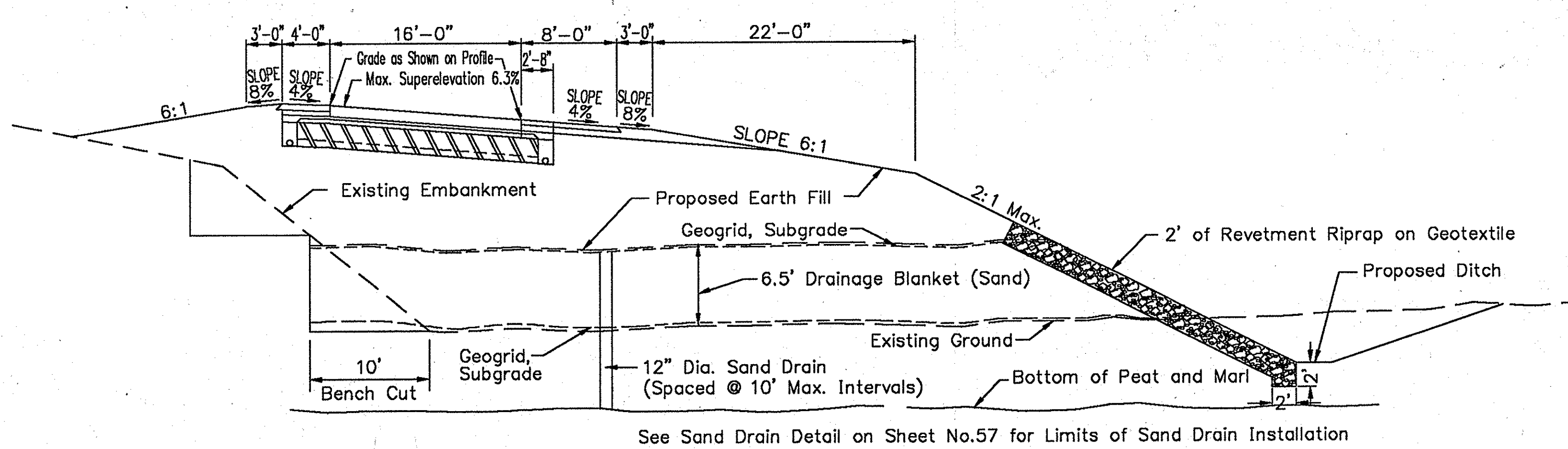
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	4	389



SUPERELEVATION RAMP SECTION

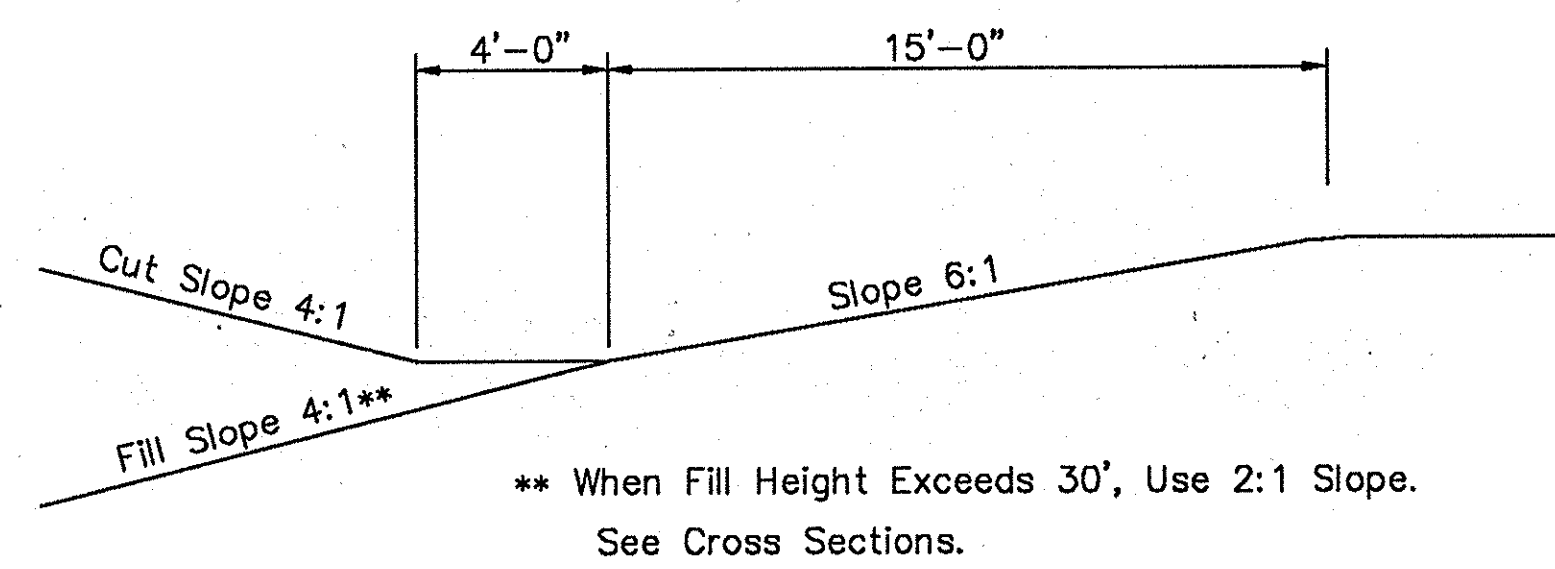


TANGENT RAMP SECTION

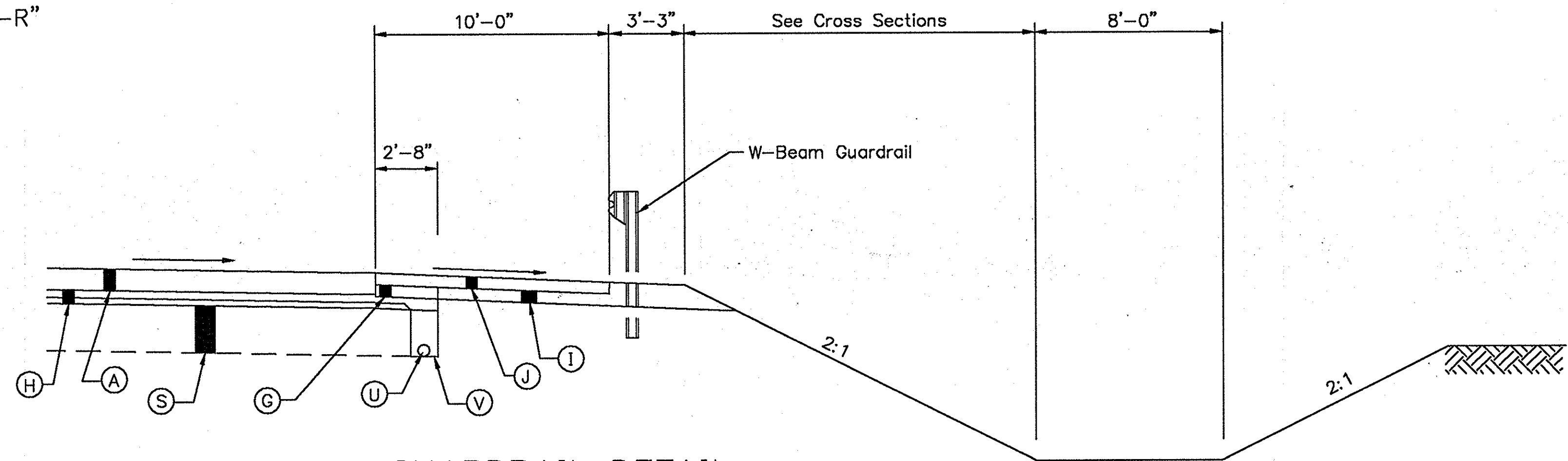


RAMP SECTION IN PEAT AREAS

Sta. 9+00 to 29+00 "SE-R"
SCALE: 1/8" = 1'-0"

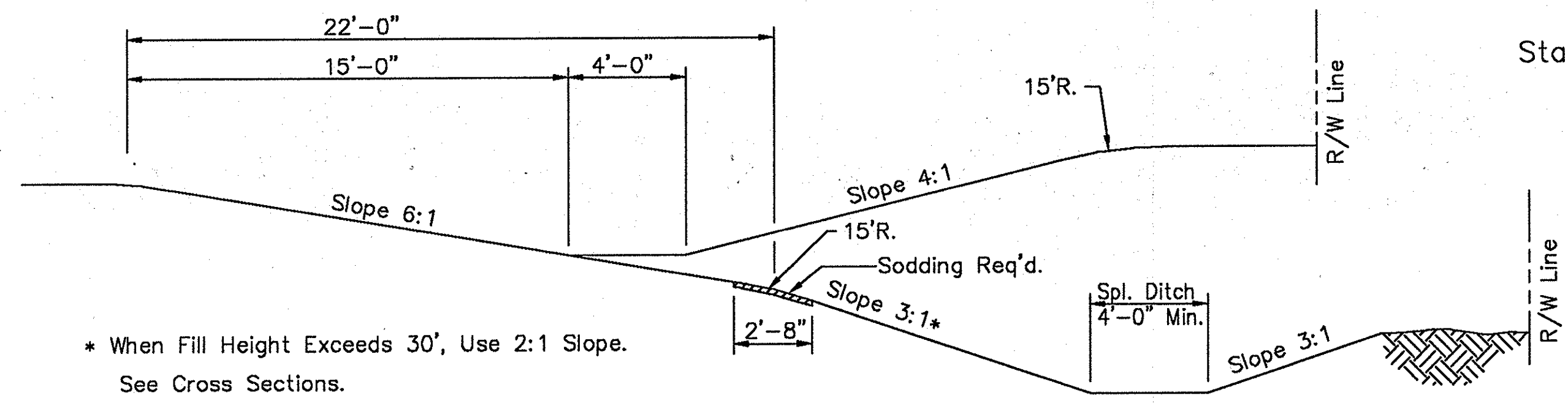


SLOPE DETAIL SECTION (INTERIOR)

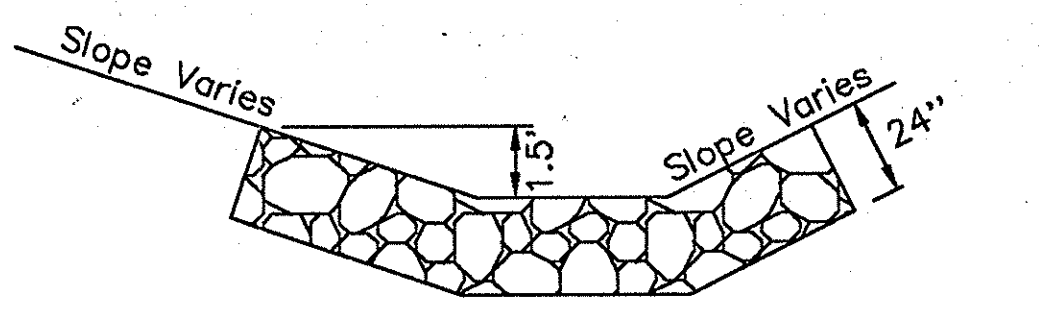


GUARDRAIL DETAIL

Sta. 27+00 "SE-R" to 372+49.56 "D"



SLOPE DETAIL SECTION (EXTERIOR)



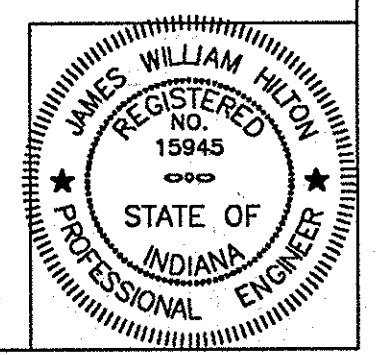
CLASS 1 RIPRAP DETAIL
See Riprap Table for Stations

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (C) 550#/Syd. QC/QA HMA Base 25.0mm, Shoulder
- (H) Subbase for Cement Concrete Pavement, 4" Coarse Aggregate #8 on 3" Compacted Aggregate for Base, Type "O", Size No. 53
- (I) Compacted Aggregate Shoulder 6" Compacted Aggregate for Base, Type "O", Size No. 53
- (J) Corrugated Paved Shoulder 165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on 495#/Syd. QC/QA HMA Base 25.0mm, Shoulder
- (P) Prime Coat (0.00146 T/Syd.)
- (S) 24" Special Subgrade Treatment (6" Compacted in place)
- (T) Tack Coat (0.000252 T/Syd.)
- (U) Pipe, Group K for Underdrain
- (V) Aggregate For Underdrain
- (27) Geotextiles for Underdrain

US 24 RAMPS & LOOPS
INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS

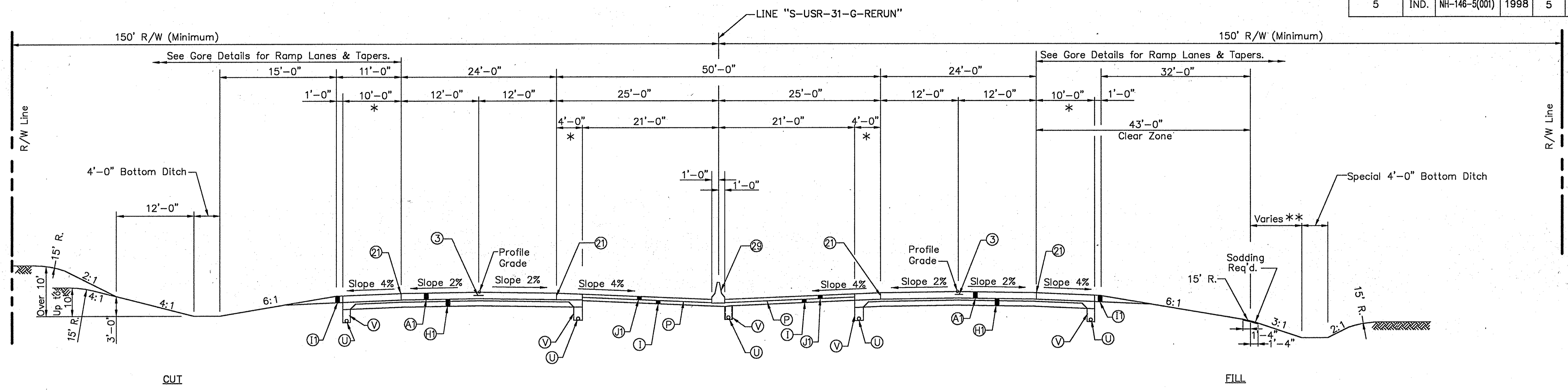
SCALE: 1/4" = 1'-0"



PLOT DATE & TIME: SEP. 28, 1997 - 10:49:39 - Plotted from: TRAN20

DESIGNED: BJS 3/94, CHECKED: BJS 3/94
DRAWN: DJH 3/94, CHECKED: BJS 3/94
REVISED: SJM 12/97, CHECKED: BJS 12/97

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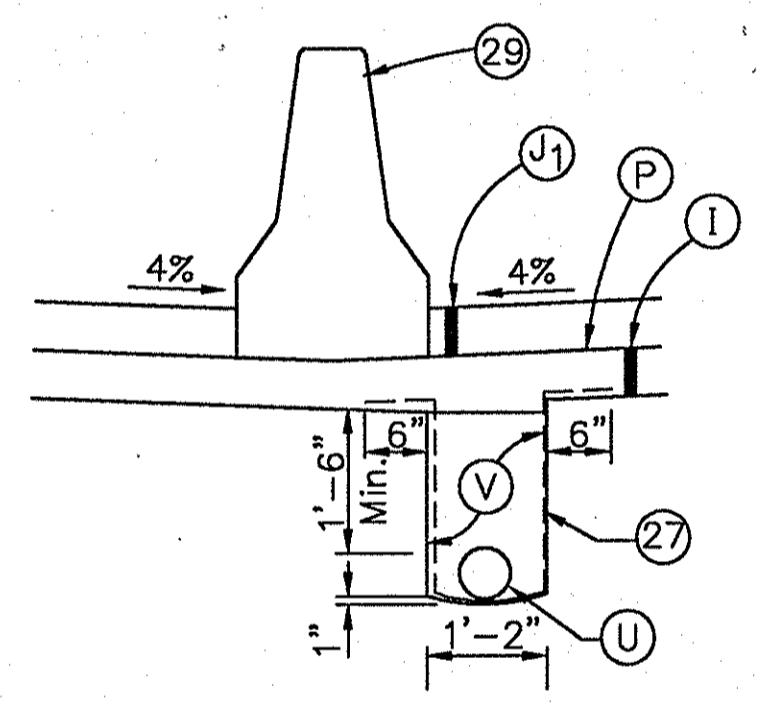


TANGENT SECTION AND CURVES OF 0° 29.99' OR LESS

Sta. 166+20.00 to 225+00.00 "S-USR-31-G-RERUN"

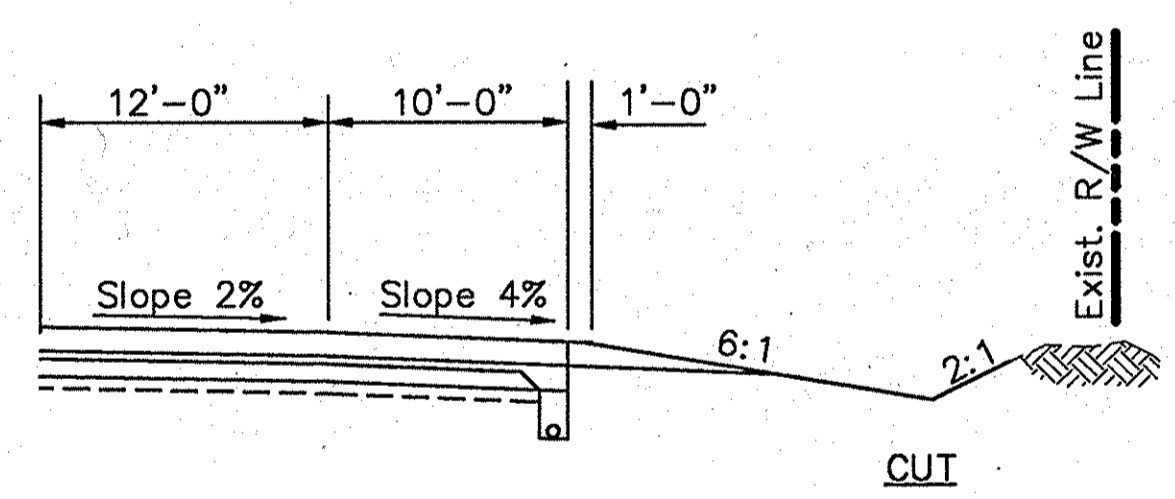
LEGEND

- (A1) Cement Concrete Pavement, Plain, 12"
- (H1) Subbase for Cement Concrete Pavement
4" Coarse Aggregate #8 on
9" Compacted Aggregate for Base, Type "O",
Size No. 53
- (I) Compacted Aggregate Shoulder
6" Compacted Aggregate for Base, Type "O",
Size No. 53
- (II) Compacted Aggregate Shoulder
12" Compacted Aggregate for Base, Type "O",
Size No. 53
- (U1) Paved Shoulder
660#/Syd. QC/QA HMA Base 25.0mm, Shoulder
with Seal Coat, Type 2
- (P) Prime Coat (0.00146 Tons/Syd.)
- (U) Pipe, Group "K" for Underdrain
- (V) Aggregate for Underdrain
- (3) Longitudinal Joint with Dowel
- (21) Longitudinal Construction Joint
- (27) Geotextile for Underdrain
- (29) Concrete Median Barrier
- * Corrugated Concrete Shoulder
- ** See Cross Sections



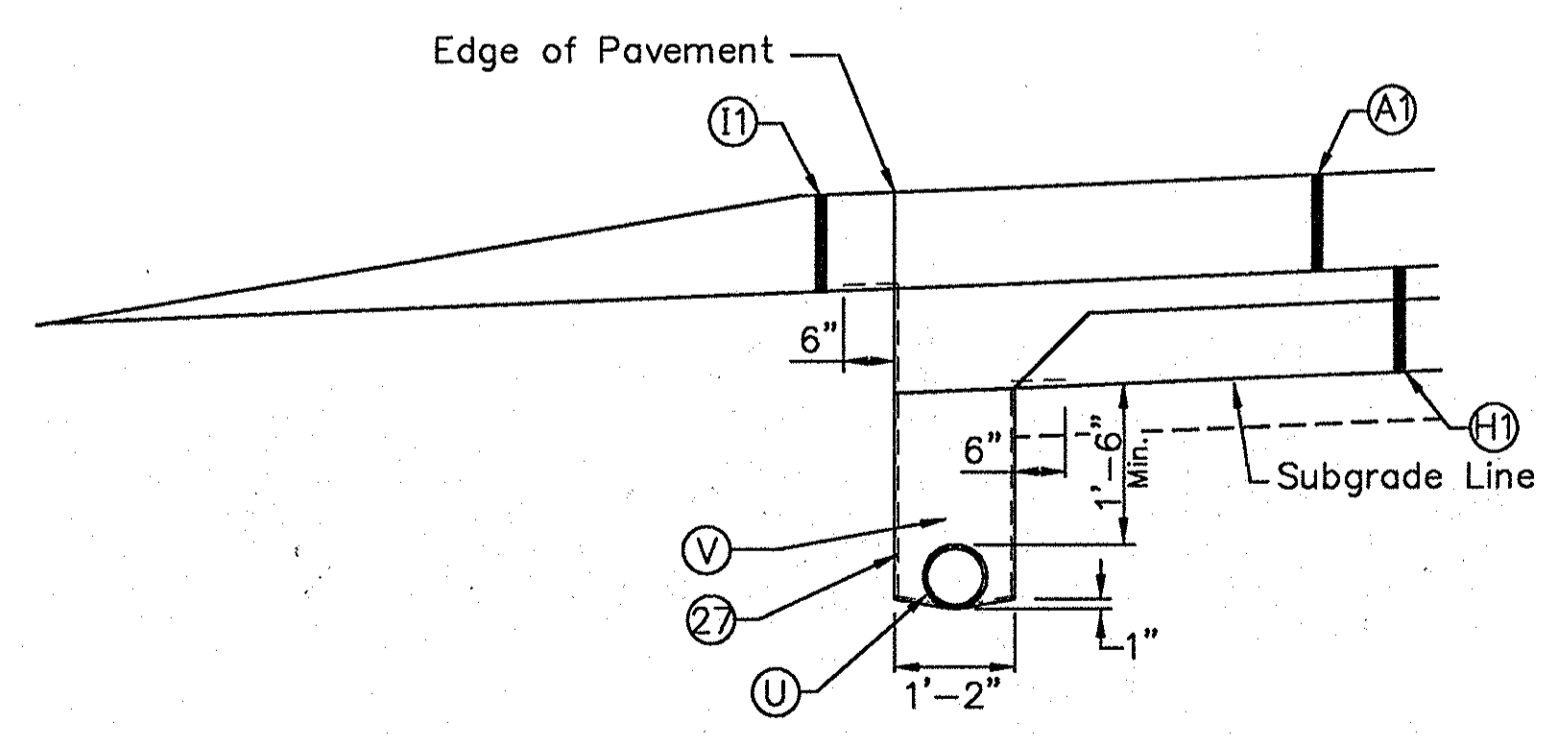
MEDIAN UNDERDRAIN DETAIL

1/2" = 1'-0"



SPECIAL "V" DITCH

Sta. 217+00.00 to Sta. 225+00.00 "S-USR-31-G-RERUN"
1/8" = 1'-0"



UNDERDRAIN DETAIL

1/2" = 1'-0"

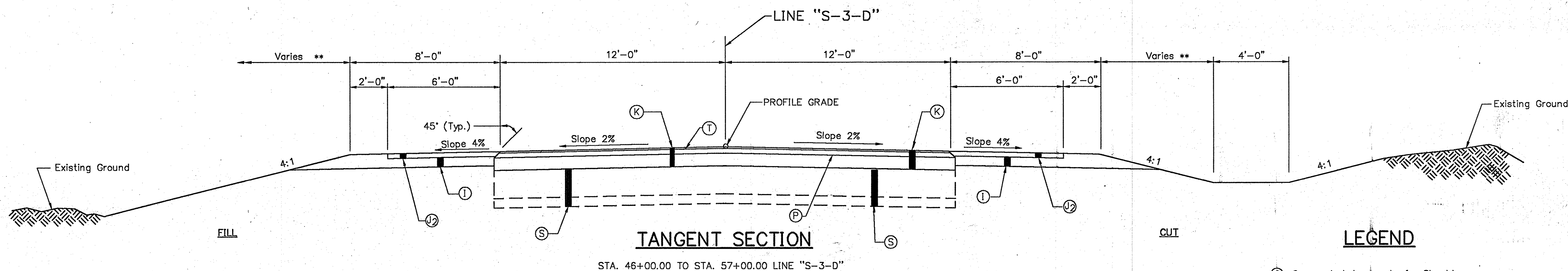
U. S. 31
INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS

SCALE: 1/8" = 1'-0"



DESIGNED: _____ CHECKED: _____
DRAWN: S.W. 3/93 CHECKED: _____
REVISED: D.H. 1/98 CHECKED: P.G. 1/98
PLOT DATE & TIME: JAN. 07, 1998 - 13:36:05

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	6	389

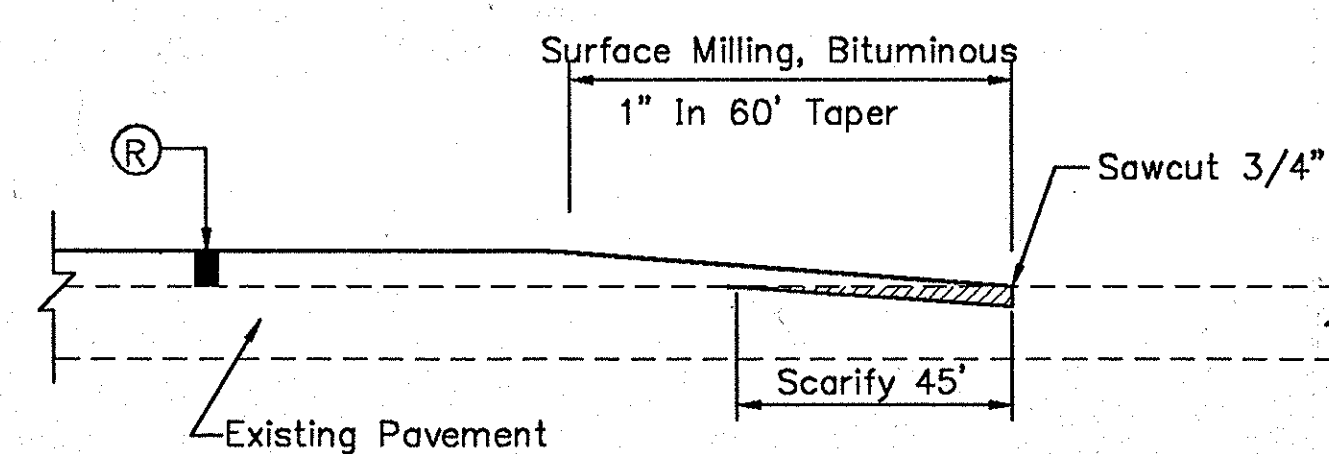


STA. 46+00.00 TO STA. 57+00.00 LINE "S-3-D"

LEGEND

- (1) Compacted Aggregate for Shoulder
6" Compacted Aggregate for Base, Type "O"
Size No. 53
- (2) Paved Shoulder
440#/Syd. QC/DA HMA Base 25.0mm, Shoulder
with Seal Coat, Type 2
- (K) HMA over Aggregate Pavement
140#/Syd. HMA Surface 9.5 mm, Mainline on
300#/Syd. HMA Base 25.0 mm, Mainline on
8" Compacted Aggregate Base, Type "O",
Size No. 53
- (P) Prime Coat (0.00146 Tons/Syd.)
- (R) HMA Resurface
140#/Syd. HMA Surface 9.5 mm, Mainline
- (S) 24" Special Subgrade Treatment
(6" Compacted in Place)
- (T) Tack Coat (0.000252 Tons/Syd.)

** See Cross Sections

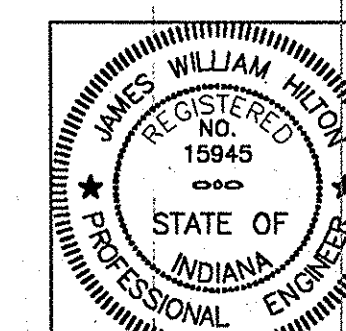


OVERLAY TERMINATION DETAIL

NO SCALE
Sta. 45+00 to 45+60 "S-3-D" - 127 Sys.
Sta. 57+40 to 58+00 "S-3-D" - 120 Sys.

COUNTY ROAD 400W
"S-3-D"
INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS

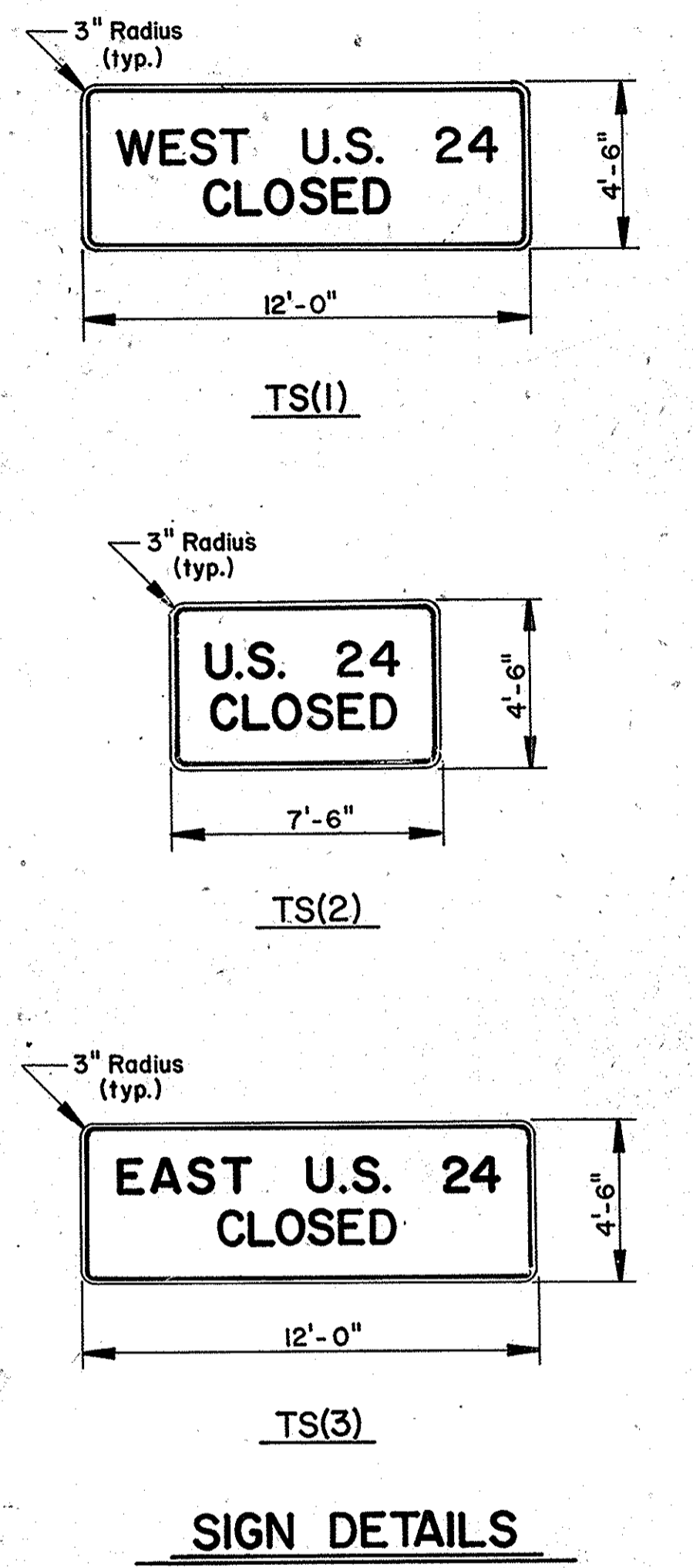
SCALE: 3/8" = 1'-0"



PLOT DATE & TIME: JUL 30 1997 - 15:08:33 FROM ROAD1

DESIGNED: SW 2/93 CHECKED: BOS 2/94
DRAWN: SW 2/93 CHECKED: BOS 2/94
REVISION: SW 12/97 CHECKED: PAB 12/97
SHEET REVISED: JULY 20, 1992

DATA:
SIGN COLOR - Black copy on orange background
COPY TYPE - 12" Series "D"
BORDER - 1 1/4" Wide
MARGIN - 3/4" Wide
POSTS - (2) 6" x 8" Southern pine post



SUMMARY

CODE NO.	QTY.	DESCRIPTION	SIZE
DRMA (A)	9	See Road Standard "SHEET 2 DETOURS"	
DRMA (B)	9	"	
DRMA (C)	15	"	
DRMA (D)	1	"	
DRMA (1)	1	XM4-6S, XM4-8, MI-4(6) & M6-3S	
RII-4	2	"ROAD CLOSED TO THRU TRAFFIC"	60" x 30"
TS(1)	3	See sign details	As Shown
TS(2)	2	"	"
TS(3)	7	"	"
XM4-9(L)	2	"DETOUR" w/ left arrow	30" x 24"
XW20-2	8	"DETOUR AHEAD"	48" x 48"
XW106-1-A	6	"EXIT CLOSED"	48" x 48"
XG20-5	4	Construction Notice	60" x 36"

SYMBOL	DESCRIPTION
⊙	Sign on typical standard or post
⊙	Type "A" Construction Warning Light
⊙	Barricade Type III-A() Indicates No. of 12' Sections
⊙	Drum (20'-0" Max. Spacing)

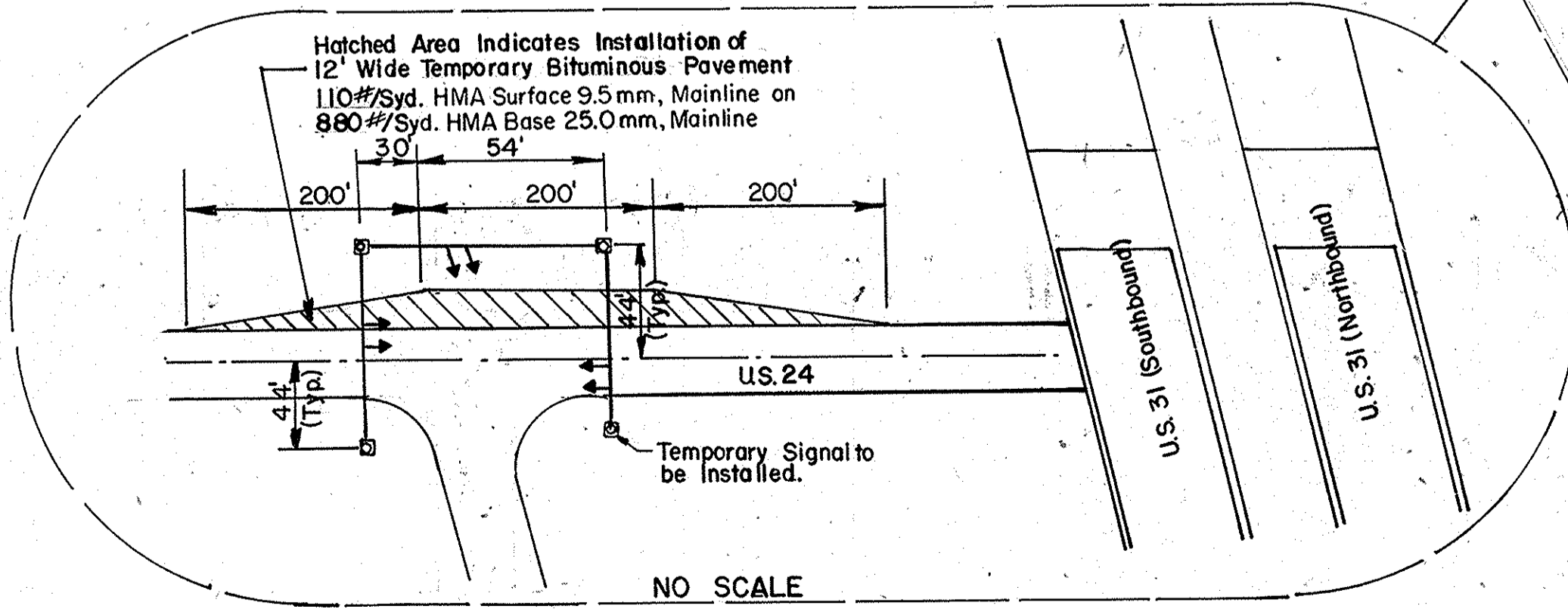
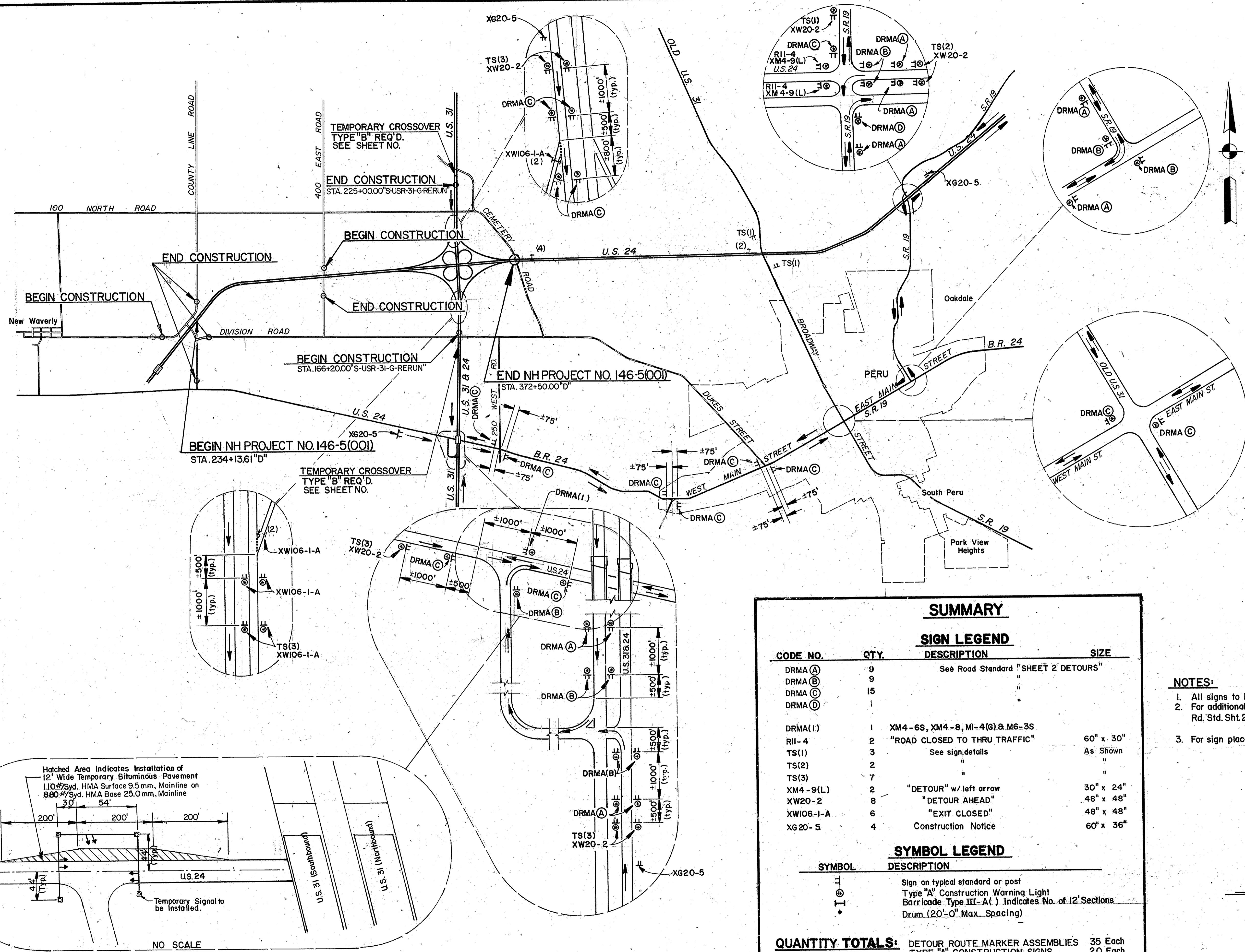
QUANTITY TOTALS:

DETOUR ROUTE MARKER ASSEMBLIES	35 Each
TYPE "A" CONSTRUCTION SIGNS	20 Each
TYPE "B" CONSTRUCTION SIGNS	2 Each
TYPE "C" CONSTRUCTION SIGNS	12 Each
BARRICADE, III-A	10 Each
TEMP BITUMINOUS PAVEMENT	264 Tons
TEMP TRAFFIC SIGNAL	1 LS

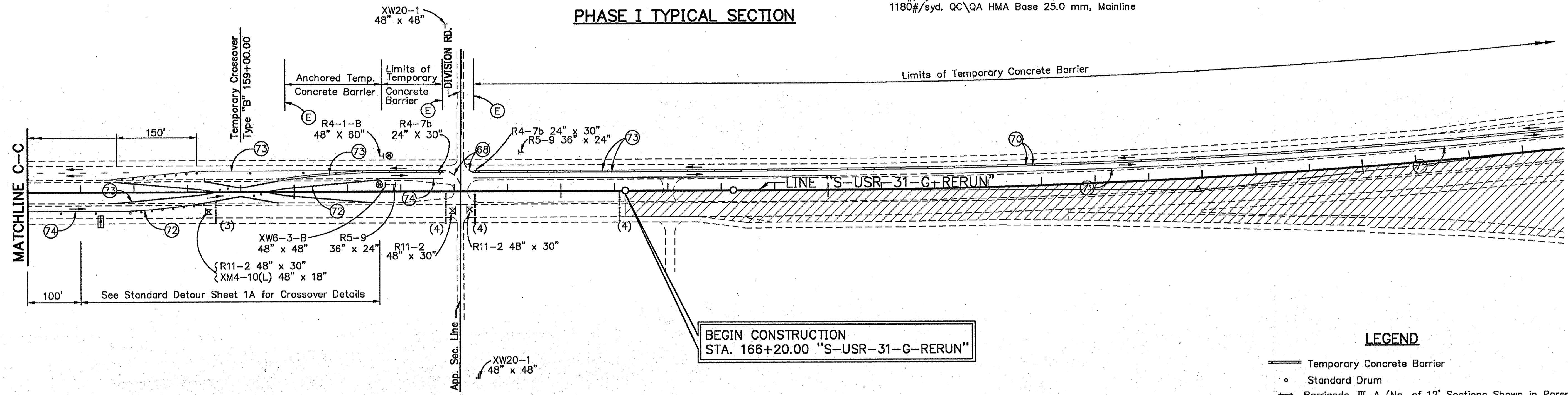
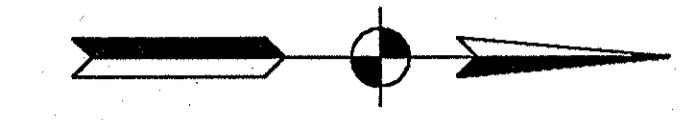
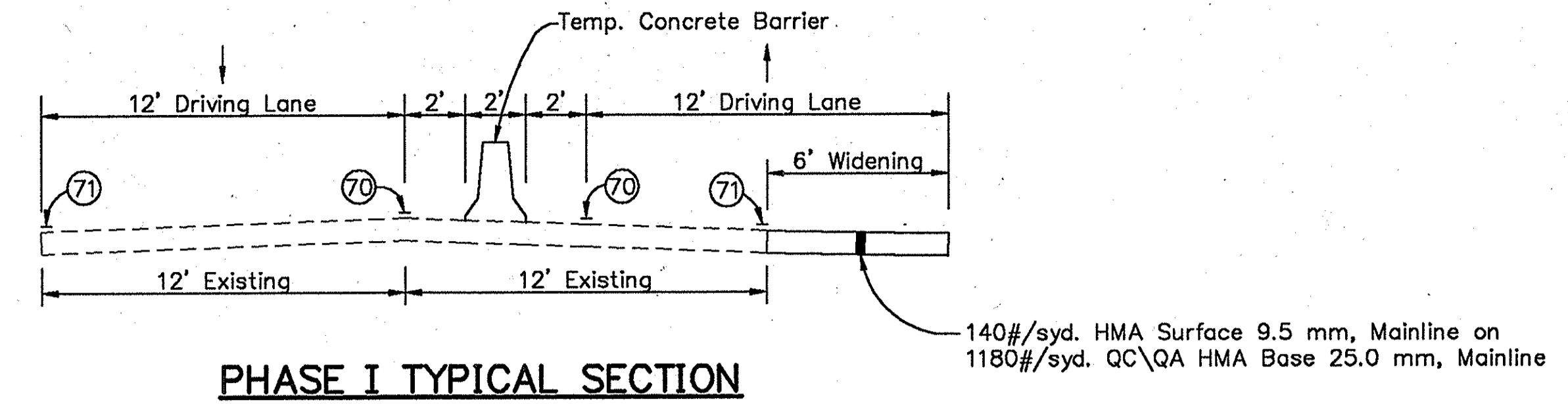
NOTES:
1. All signs to be placed in accordance with Misc. Rd. Std. 1-5 Detours.
2. For additional information concerning detour route marker assemblies Rd. Std. Sht. 2 Detours.
3. For sign placement and crossover details, see Rd. Std. Sht. 1A Detours.

**U.S. 24 DETOUR
DETAILS**

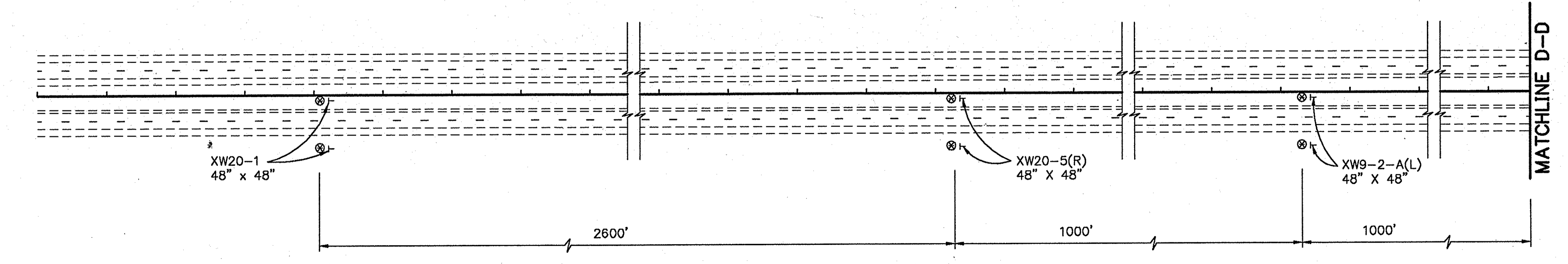
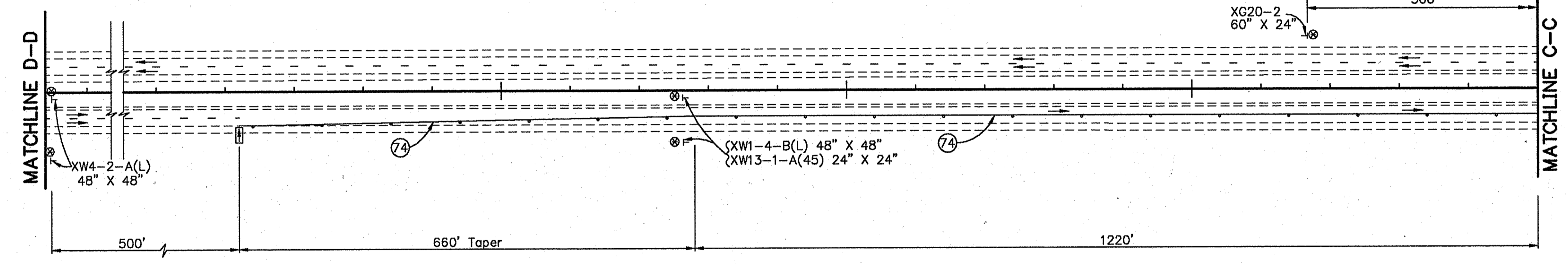
SCALE: None



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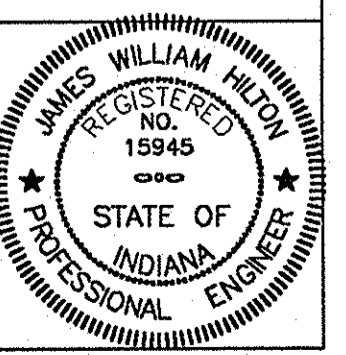


- LEGEND**
- Temporary Concrete Barrier
 - Standard Drum
 - ⊞ Barricade, III-A (No. of 12' Sections Shown in Parentheses)
 - Direction Of Traffic Flow
 - ▨ Area Under Construction
 - ⊞ Flashing Arrow Sign
 - ⊞ Construction Sign, Type A or B
 - ⊞ Construction Warning Light, Type A
 - ⊞ Road Closure Sign Assembly
 - ⊞ Energy Absorbing Terminal B CZ, 3 Bay
 - ⊞ Temporary Pavement Marking Type I, Dotted, Yellow, 4 in.
 - ⊞ Temporary Pavement Marking Type II, Yellow, 4 in.
 - ⊞ Temporary Pavement Marking Type II, White, 4 in.
 - ⊞ Temporary Pavement Marking Type I, White, 8 in.
 - ⊞ Temporary Pavement Marking Type I, Yellow, 4 in.
 - ⊞ Temporary Pavement Marking Type I, White, 4 in.



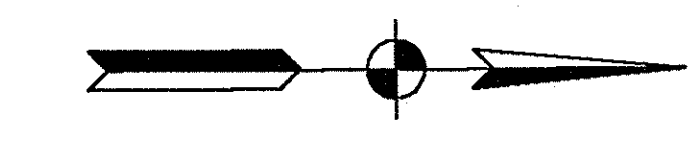
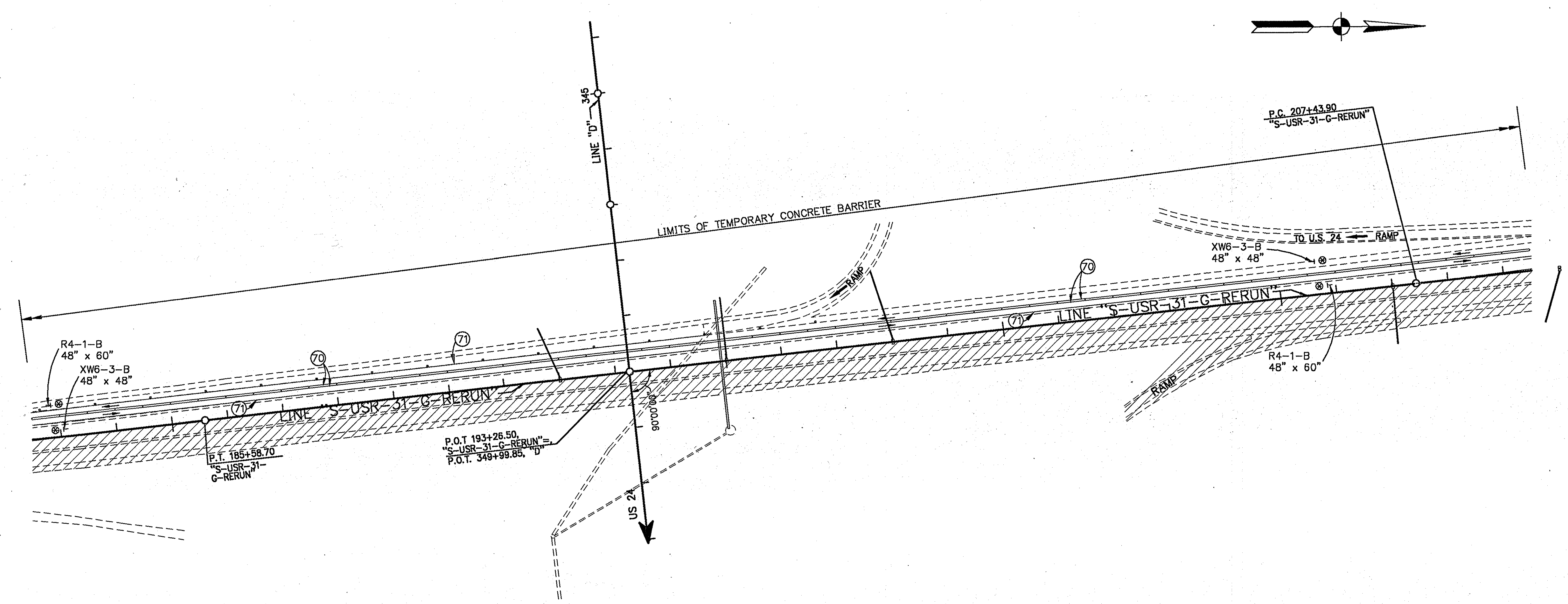
**U.S. 31
MAINTENANCE OF TRAFFIC
PHASE I
DETAIL**

SCALE: 1"=100'



REVISIONS: B.D.S. 6/97, CHECKED: B.D.S. 6/97, DRAWN: A.C. 6/97, CHECKED: B.D.S. 6/97, REVISED: M.K. 6/97, CHECKED: B.D.S. 6/97
 PLOT DATE & TIME: SEP. 24, 1997 - 14:38:22 - Plotted from: TRAN20

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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PLOT DATE & TIME: JUL 30, 1997 - 17:13:47 from ROAD1

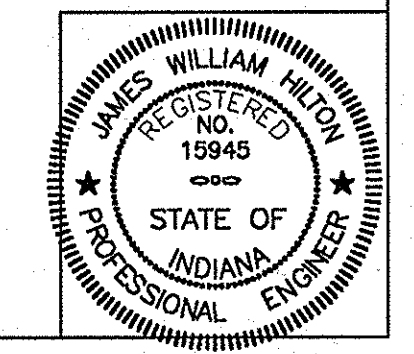
DESIGNED: _____ CHECKED: _____
DRAWN: JAL 6/97 CHECKED: _____
REVISED: _____

LEGEND

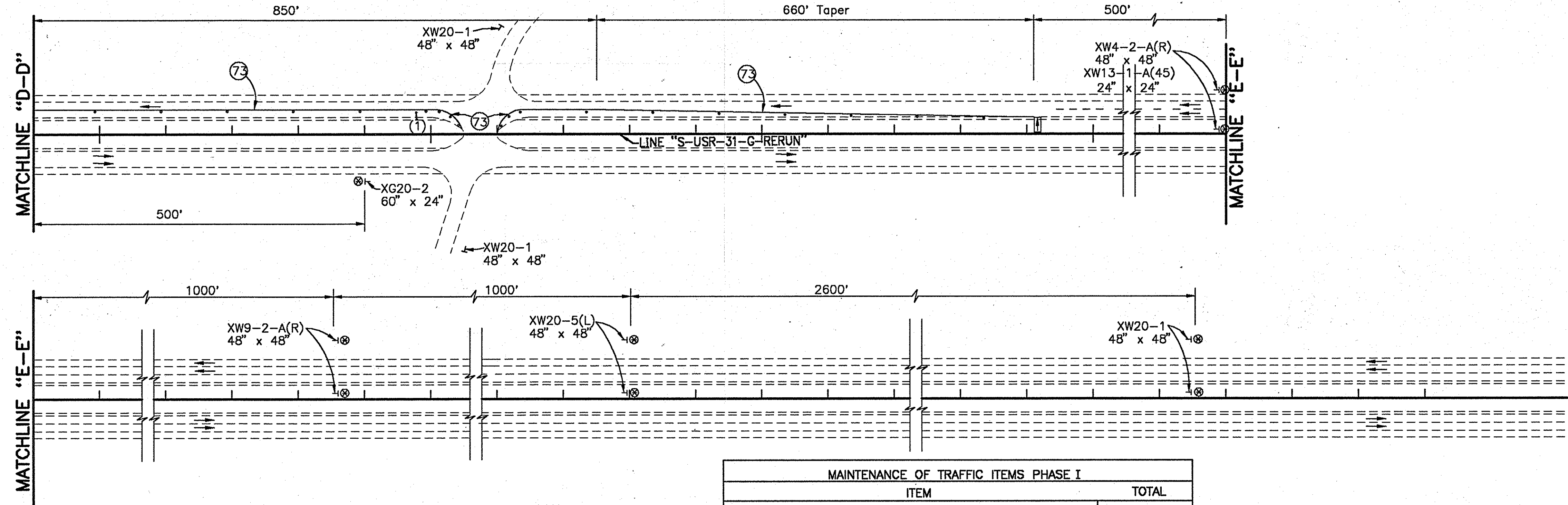
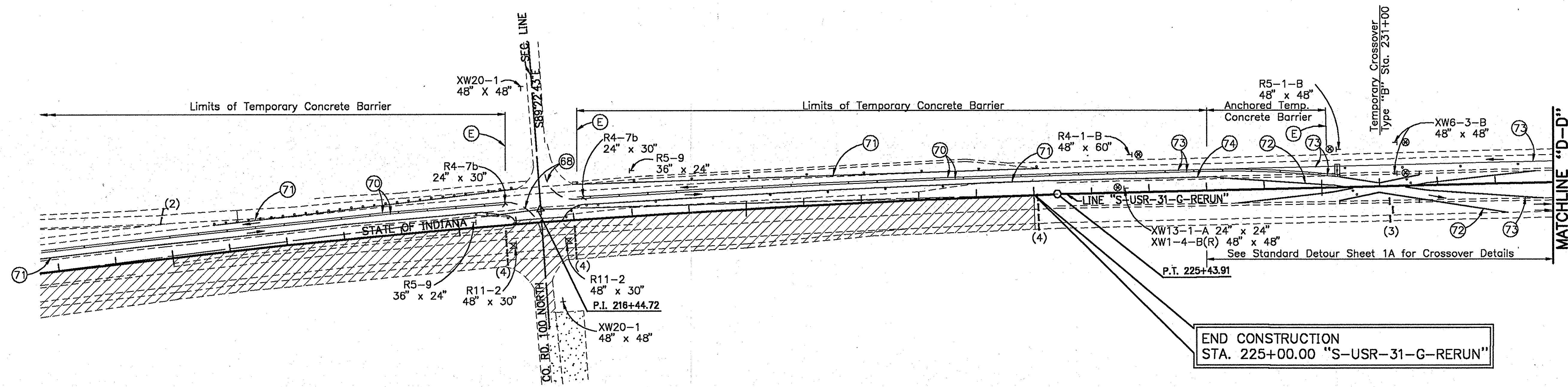
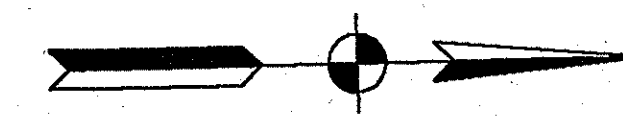
- Temporary Concrete Barrier
- Standard Drum
- ← Direction Of Traffic Flow
- ▨ Area Under Construction
- ⊗ Construction Warning Light, Type A
- ┌ Construction Sign, Type A
- ⊙(70) Temporary Pavement Marking Type II, Yellow, 4 in.
- ⊙(71) Temporary Pavement Marking Type II, White, 4 in.

US 31
MAINTENANCE OF TRAFFIC
PHASE I
DETAIL

SCALE: 1"=100'



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LEGEND

- Temporary Concrete Barrier
- Standard Drum
- Barricade, III-A(No. of 12' Section Shown in Parentheses)
- Direction Of Traffic Flow
- ▨ Area Under Construction
- ⚡ Flashing Arrow Sign
- T Construction Sign Type A or B
- ⊗ Construction Warning Light, Type A
- ⊠ Road Closure Sign Assembly
- ⊙ Temporary Pavement Marking Type I, Dotted, Yellow, 4 in.
- ⊙ Temporary Pavement Marking Type II, Yellow, 4 in.
- ⊙ Temporary Pavement Marking Type II, White, 4 in.
- ⊙ Temporary Pavement Marking Type I, White, 8 in.
- ⊙ Temporary Pavement Marking Type I, Yellow, 4 in.
- ⊙ Temporary Pavement Marking Type I, White, 4 in.
- ⊙ Energy Absorbing Terminal, B CZ, 3 Bay

MAINTENANCE OF TRAFFIC ITEMS PHASE I	
ITEM	TOTAL
Temporary Pavement Marking, Type I, White, 8 in.	830 Lft.
Temporary Pavement Marking, Type II, Yellow, 4 in.	11,520 Lft.
Temporary Pavement Marking, Type II, White, 4 in.	6930 Lft.
Temporary Pavement Marking, Type I, Dotted Yellow, 4 in.	84 Lft.
Temporary Pavement Marking, Type I, Yellow, 4 in.	4710 Lft.
Temporary Pavement Marking, Type I, White, 4 in.	2500 Lft.
Flashing Arrow Sign	600 Days
Barricade, III-A(12' Sections)	33 each
Temporary Concrete Barrier	6500 Lft.
Anchored Temp. Concrete Barrier	360 Lft.
Energy Absorbing Terminal, B CZ, 3 Bay	6 each
Temporary Crossover Type "B"	2 each
HMA Surface 9.5 mm, Mainline	648 Tons
QC/QA HMA Base 25.0 mm, Mainline	5460 Tons
Construction Sign Type "A"	38 each
Construction Sign Type "B"	13 each
Road Closure Sign Assembly	5 each
Changeable Message Sign	2 each

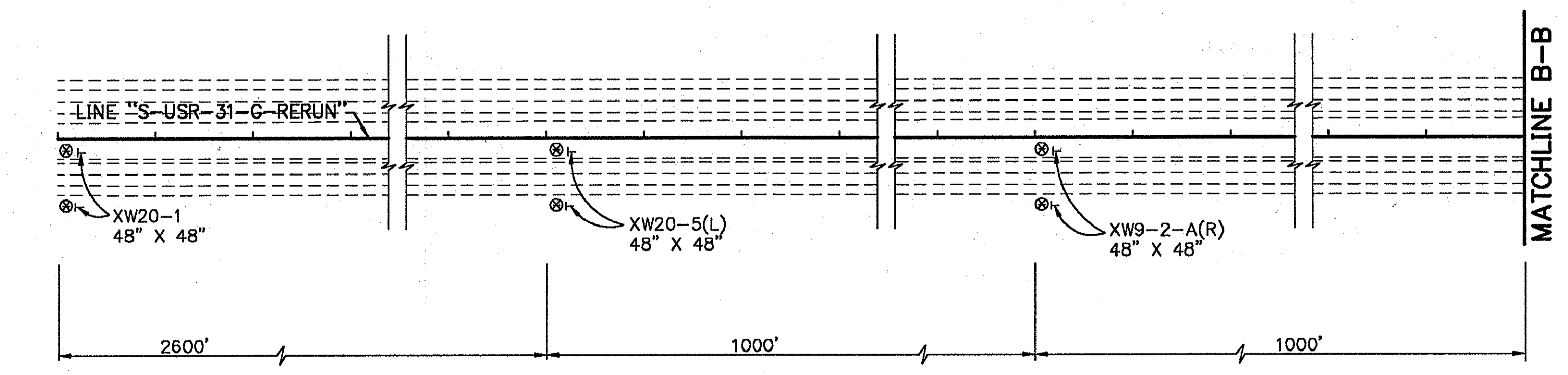
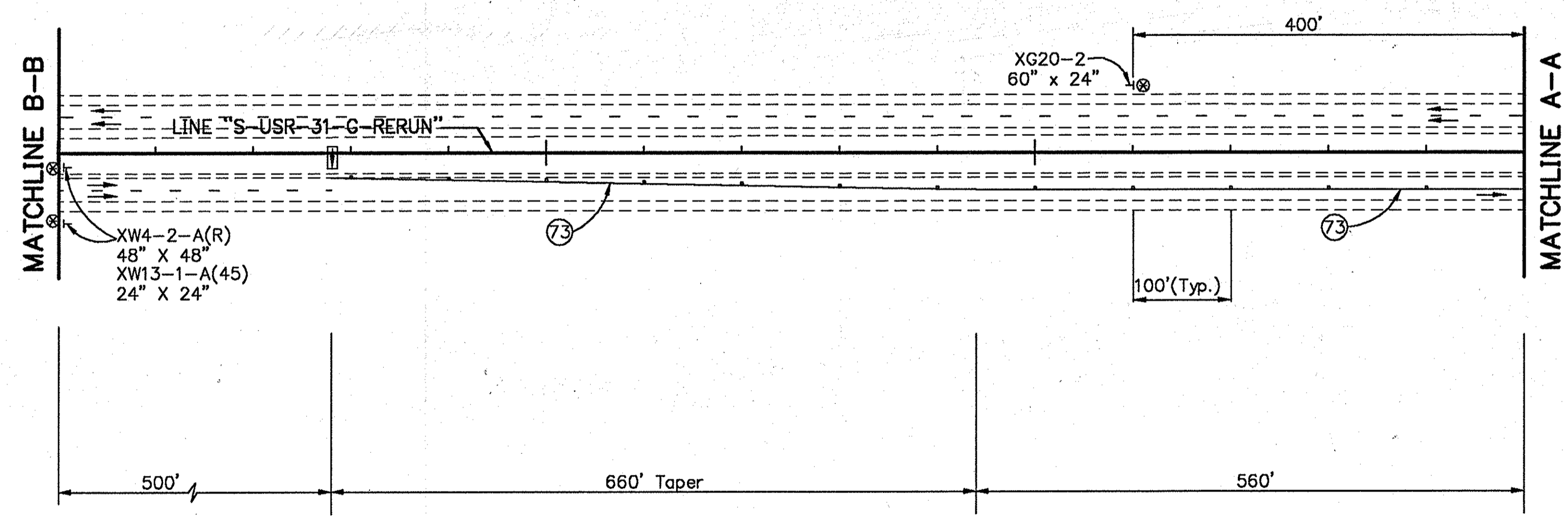
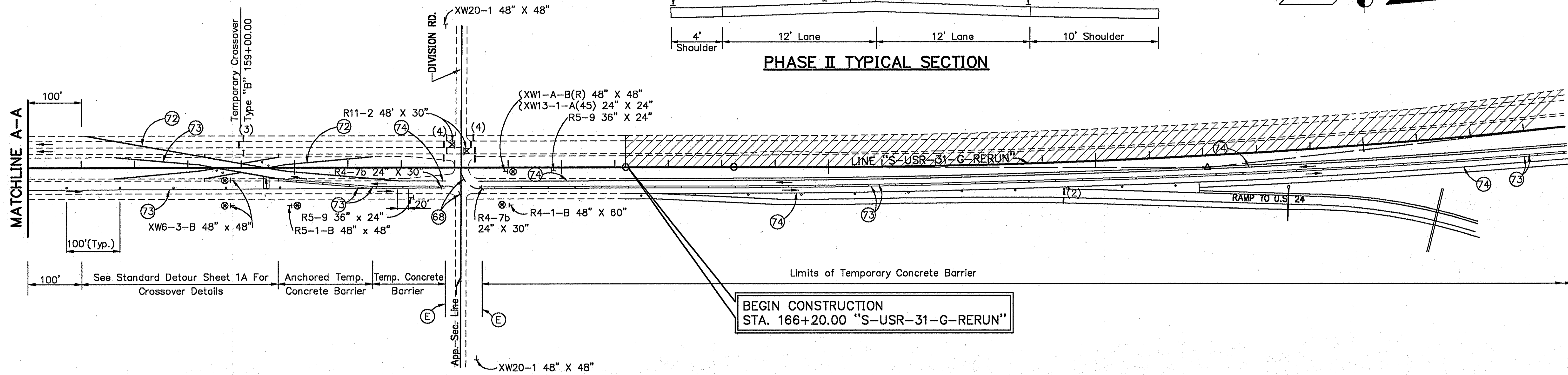
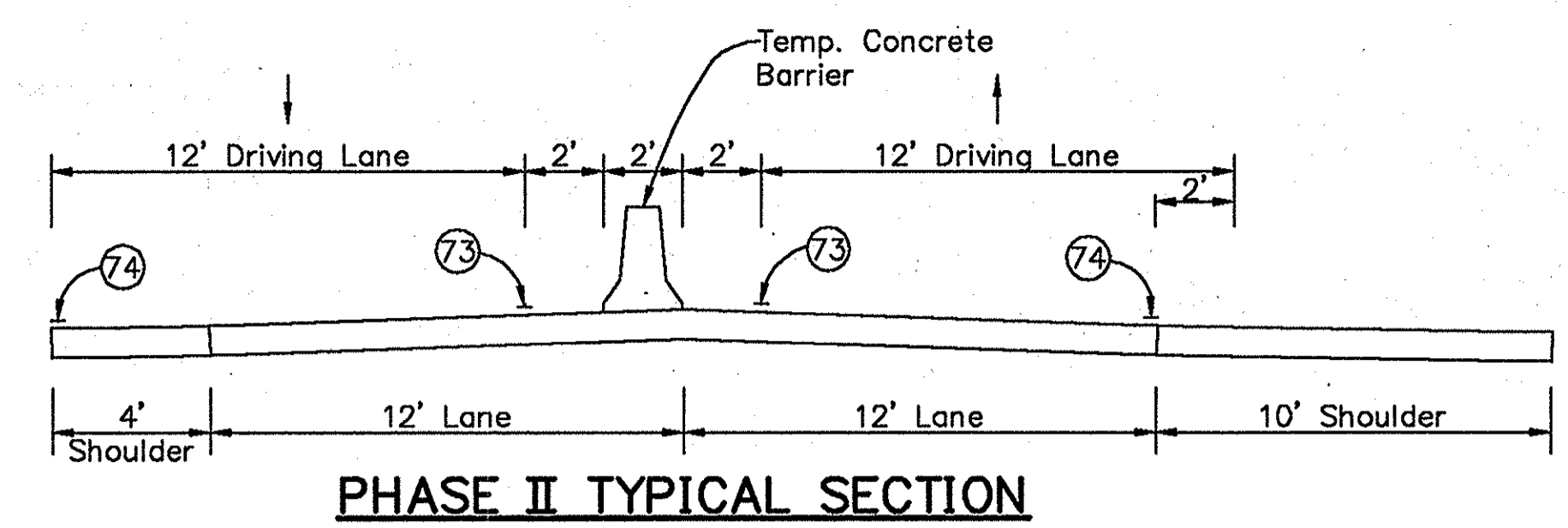
US 31 MAINTENANCE OF TRAFFIC PHASE I DETAIL

SCALE: 1"=100'



DESIGNED: RDS 6/97 CHECKED: RDS 6/97
 DRAWN: ALC 6/97 CHECKED: RDS 6/97
 REVISED: MJK 8/97 CHECKED: RDS 6/97
 PLOT DATE & TIME: PLOT DATE & TIME: JUL 30, 1997 - 17:11:28 from ROAD1

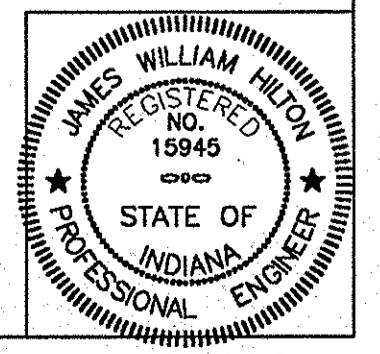
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	11	389



- LEGEND**
- Temporary Concrete Barrier
 - Standard Drum
 - ⊞ Barricade, III-A (No. of 12' Sections Shown in Parentheses)
 - Direction Of Traffic Flow
 - ▨ Area Under Construction
 - ⚡ Flashing Arrow Sign
 - ⊞ Construction Sign, Type A or B
 - ⊗ Construction Warning Light, Type A
 - ⊞ Road Closure Sign Assembly
 - Ⓞ Temporary Pavement Marking Type I, Dotted, Yellow, 4 in.
 - Ⓞ Temporary Pavement Marking Type I, White, 8 in.
 - Ⓞ Temporary Pavement Marking Type I, Yellow, 4 in.
 - Ⓞ Temporary Pavement Marking Type I, White, 4 in.
 - Ⓞ Energy Absorbing Terminal, B CZ, 3 Bay

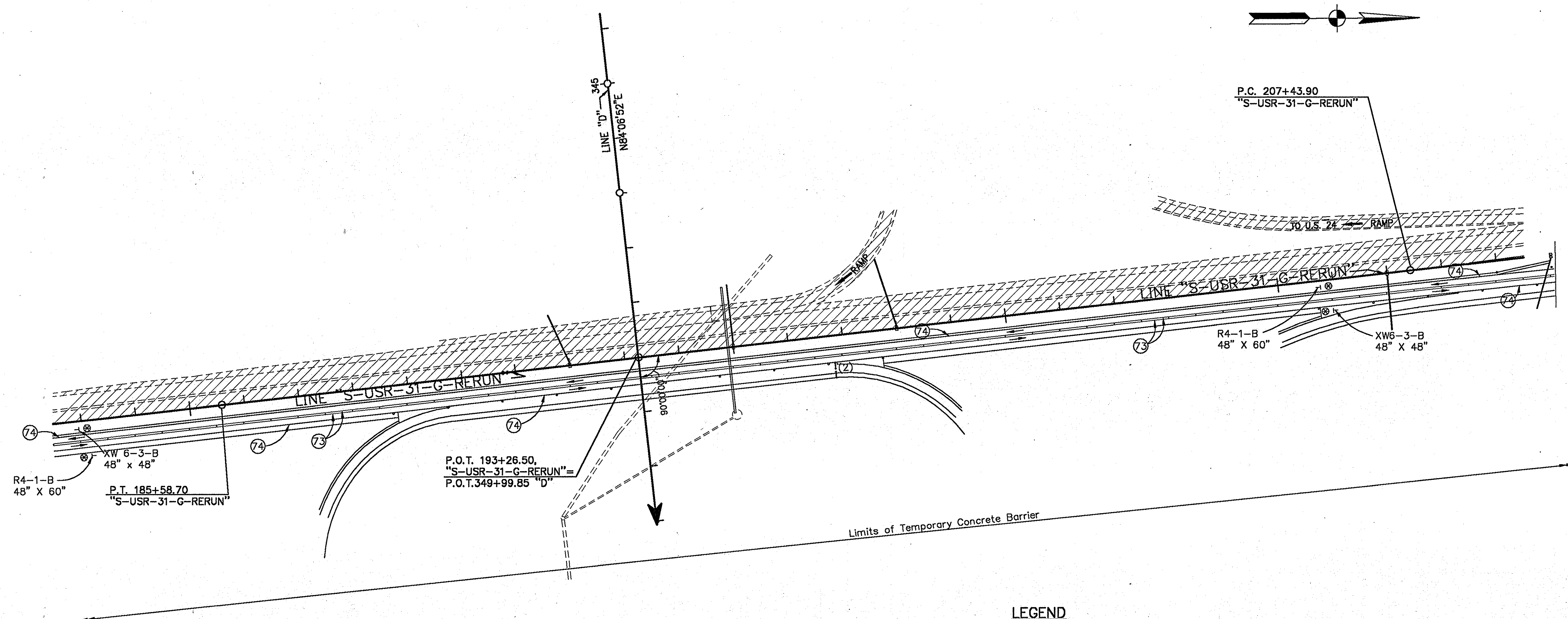
U.S. 31
MAINTENANCE OF TRAFFIC
PHASE II
DETAIL

SCALE: 1"=100'



DESIGNED: RDS 6/97 CHECKED: RDS 6/97
 DRAWN: JLC 6/97 CHECKED: RDS 6/97
 REVISED: M.K. 6/97 CHECKED: RDS 6/97
 PLOT DATE & TIME: PLOT DATE & TIME: JUL 30, 1997 - 17:14:25 from ROAD1

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	12	389



LEGEND

- Temporary Concrete Barrier
- Standard Drum
- Barricade, III-A (No. of 12' Sections Shown in Parentheses)
- ← Direction Of Traffic Flow
- ▨ Area Under Construction
- ⊗ Construction Warning Light, Type A
- ⊥ Construction Sign, Type A or B
- ⊙73 Temporary Pavement Marking Type I, Yellow, 4 in.
- ⊙74 Temporary Pavement Marking Type I, White, 4 in.

U.S. 31
**MAINTENANCE OF TRAFFIC
 PHASE II
 DETAIL**

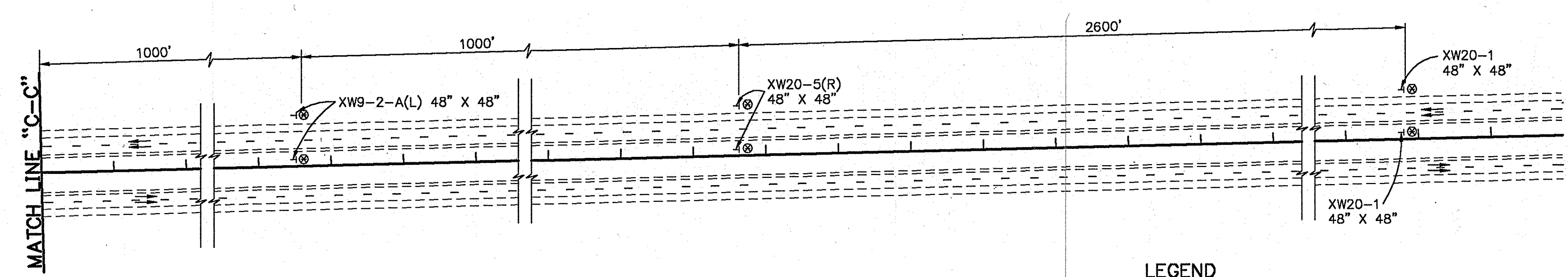
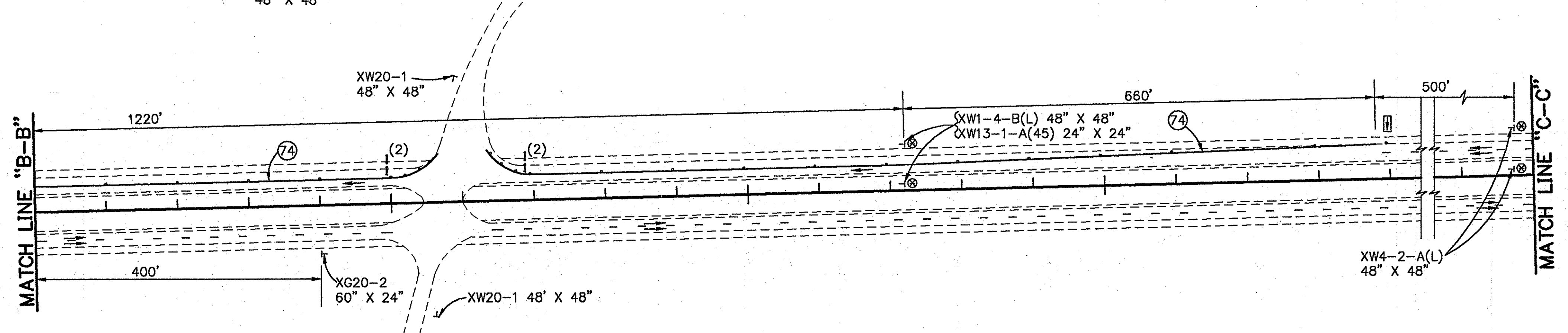
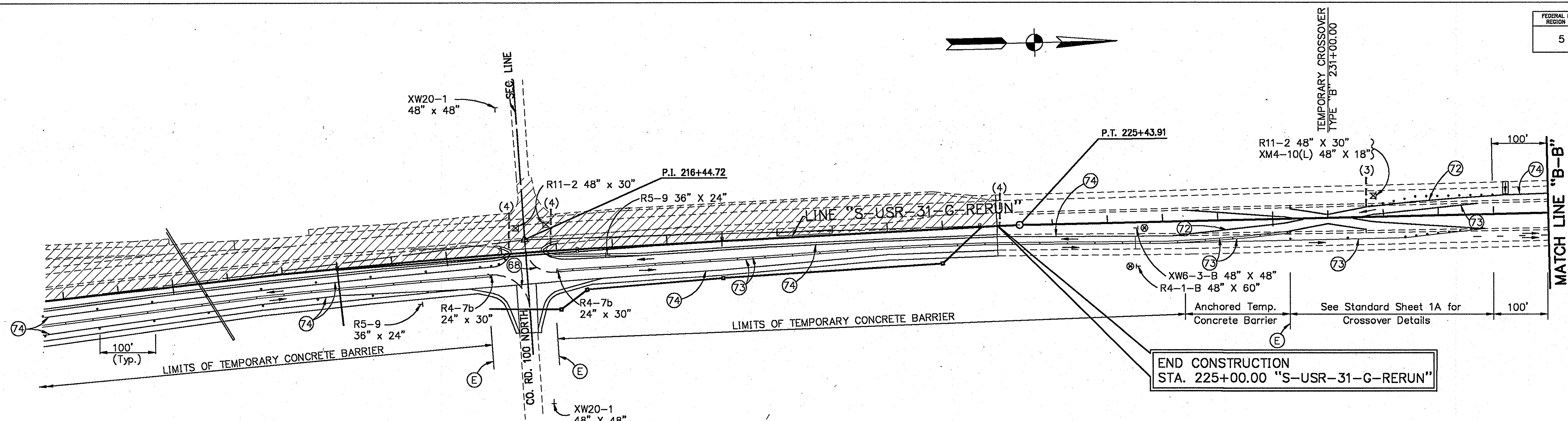
SCALE: 1"=100'



PLOT DATE & TIME: PLOT DATE & TIME: JUL 30, 1997 - 17:13:09 from ROAD1

DESIGNED: BRS 6/97 CHECKED: BRS 6/97
 DRAWN: ALC 6/97 CHECKED: BRS 6/97
 REVISION: JMK 6/97 CHECKED: BRS 6/97

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	13	389



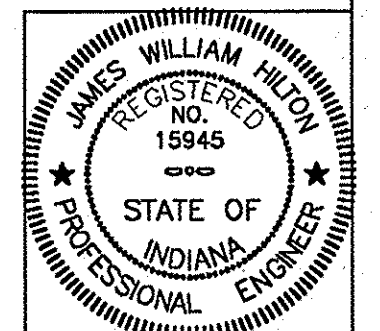
MAINTENANCE OF TRAFFIC ITEMS PHASE II	
ITEM	TOTAL
Temporary Pavement Marking, Type I, Yellow, 4 in.	16,500 Lft.
Temporary Pavement Marking, Type I, White, 4 in.	11,250 Lft.
Flashing Arrow Sign	600 Days
Barricade, III-A(12 Sections)	34 each
Temporary Concrete Barrier	6,500 Lft.
Anchored Temp. Concrete Barrier	360 Lft.
Energy Absorbing Terminal, B CZ, 3 Bay	6 each
Construction Sign Type "A"	34 each
Construction Sign Type "B"	11 each
Road Closure Sign Assembly	5 each
Temporary Pavement Marking, Type I, Dotted Yellow, 4 in.	90 Lft.
Temporary Pavement Marking, Type II, White, 6 in.	1,190 Lft.
Changeable Message Sign	2 each

LEGEND

- Temporary Concrete Barrier
- Standard Drum
- Barricade III-A (No. of 12' Sections Shown in Parentheses)
- ← Direction Of Traffic Flow
- ▨ Area Under Construction
- ⏏ Flashing Arrow Sign
- ⊥ Construction Sign, Type A or B
- ⊗ Construction Warning Light, Type A
- ⊠ Road Closure Sign Assembly
- Ⓢ Temporary Pavement Marking Type I, Dotted, Yellow, 4 in.
- Ⓣ Temporary Pavement Marking Type I, White, 8 in.
- Ⓡ Temporary Pavement Marking Type I, Yellow, 4 in.
- Ⓦ Temporary Pavement Marking Type I, White, 4 in.
- ⓔ Energy Absorbing Terminal, B CZ 3 Bay

US 31 MAINTENANCE OF TRAFFIC PHASE II DETAIL

SCALE: 1"=100'



DESIGNED: RDS 6/97 CHECKED: RDS 6/97
 DRAWN: JAC 6/97 CHECKED: RDS 6/97
 REVISED: DJL 1/98 CHECKED: P.G. 1/98
 PLOT DATE & TIME: JAN 14, 1998 - 10:11:14

DATE	BY	CHECKED	DATE
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83

DATE	BY	CHECKED	DATE
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83

DATE	BY	CHECKED	DATE
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11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
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11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83

DATE	BY	CHECKED	DATE
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
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11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
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11/27/83	C.R. PHIPPS	B.W. MOHR	11/27/83
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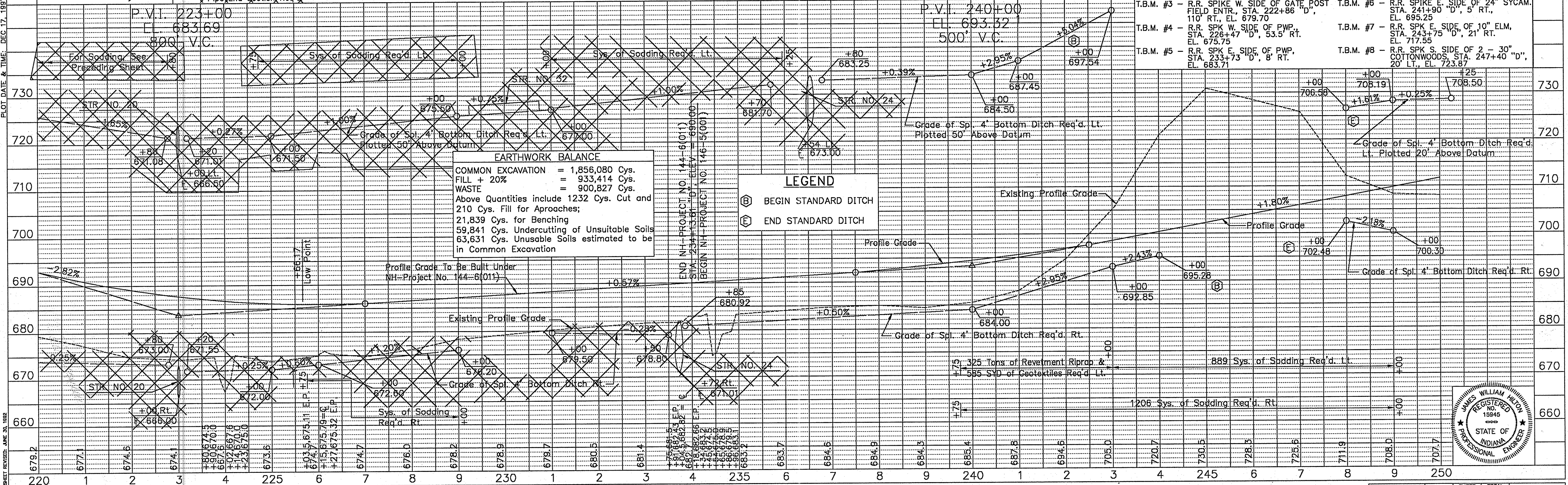
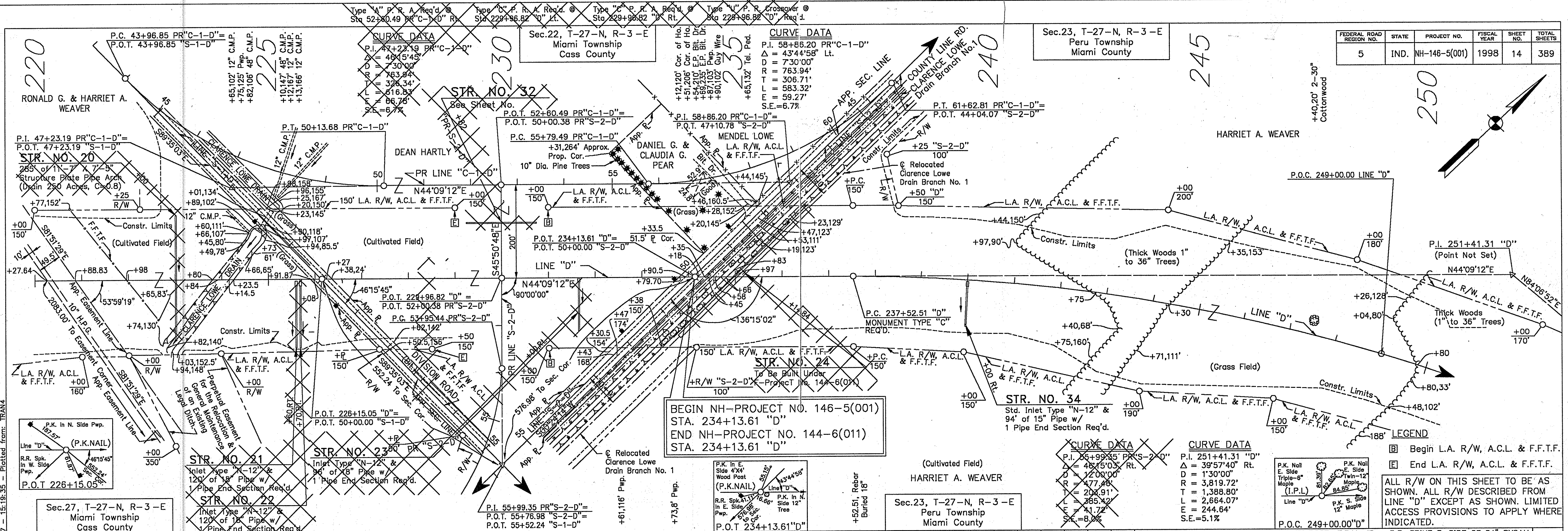


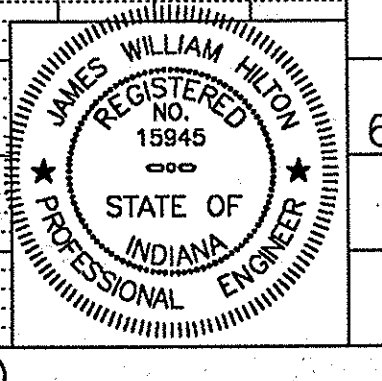
PLATE 1 - PLAN - PROFILE S. R. STANDARD 1975

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	14	389

LEGEND

- ⊖ Begin L.A. R/W, A.C.L. & F.F.T.F.
- ⊕ End L.A. R/W, A.C.L. & F.F.T.F.

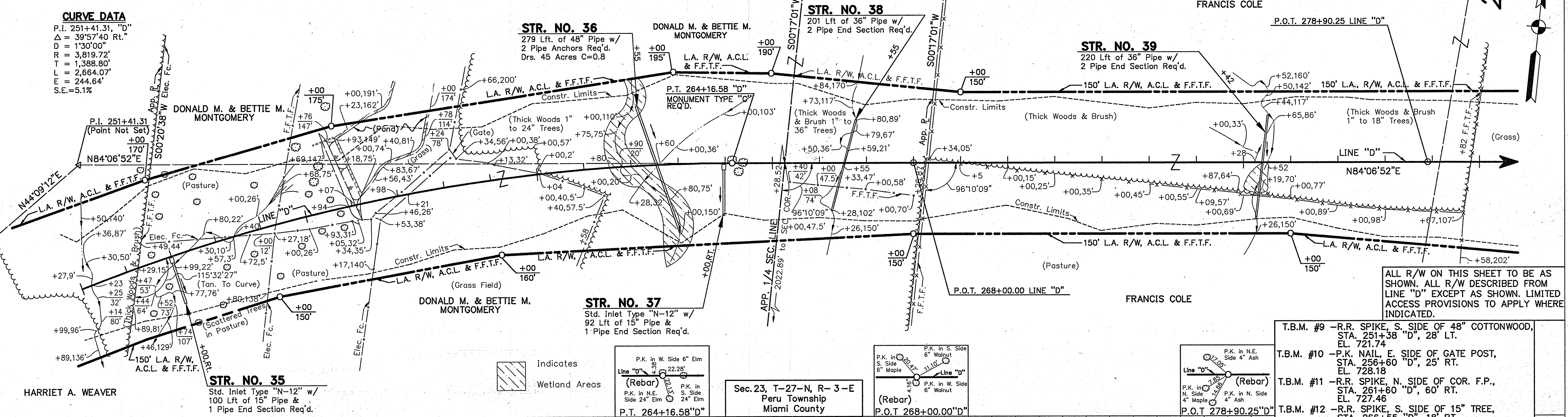
ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.



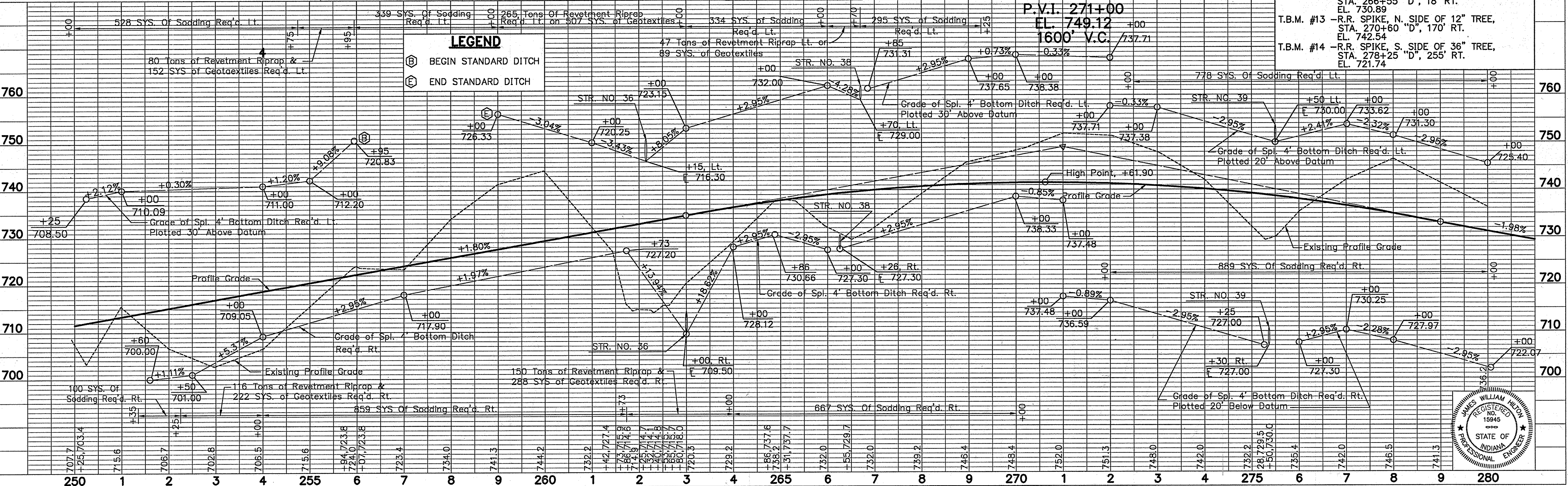
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	14	389	

CURVE DATA
 P.I. 251+41.31, "D"
 Δ = 39°57'40 Rt.
 D = 1'30"00"
 R = 3,819.72'
 T = 1,388.80'
 L = 2,664.07'
 E = 244.64'
 S.E. = 5.1%

PLAN
 SHEET NO. 150021
 DATE: 11/27/99
 BY: JAMES W. WILLIAMS
 CHECKED: JAMES W. WILLIAMS
 NO. 150021



PROFILE
 SHEET NO. 150021
 DATE: 11/27/99
 BY: JAMES W. WILLIAMS
 CHECKED: JAMES W. WILLIAMS
 NO. 150021



- T.B.M. #9 - R.R. SPIKE, S. SIDE OF 48" COTTONWOOD, STA. 251+38 "D", 28' LT. EL. 721.74
- T.B.M. #10 - P.K. NAIL, E. SIDE OF GATE POST, STA. 256+60 "D", 25' RT. EL. 728.18
- T.B.M. #11 - R.R. SPIKE, N. SIDE OF COR. F.P., STA. 261+60 "D", 60' RT. EL. 727.46
- T.B.M. #12 - R.R. SPIKE, S. SIDE OF 15" TREE, STA. 266+55 "D", 18' RT. EL. 730.89
- T.B.M. #13 - R.R. SPIKE, N. SIDE OF 12" TREE, STA. 270+60 "D", 170' RT. EL. 742.54
- T.B.M. #14 - R.R. SPIKE, S. SIDE OF 36" TREE, STA. 278+25 "D", 255' RT. EL. 721.74

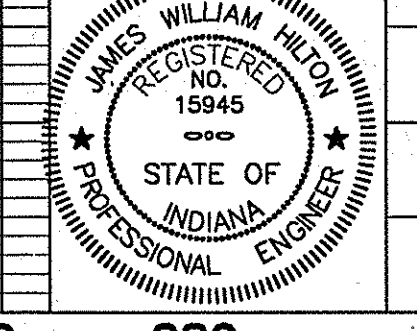


PLATE 1 - PLAN - PROFILE
 D. R. R. STANDARD
 1975

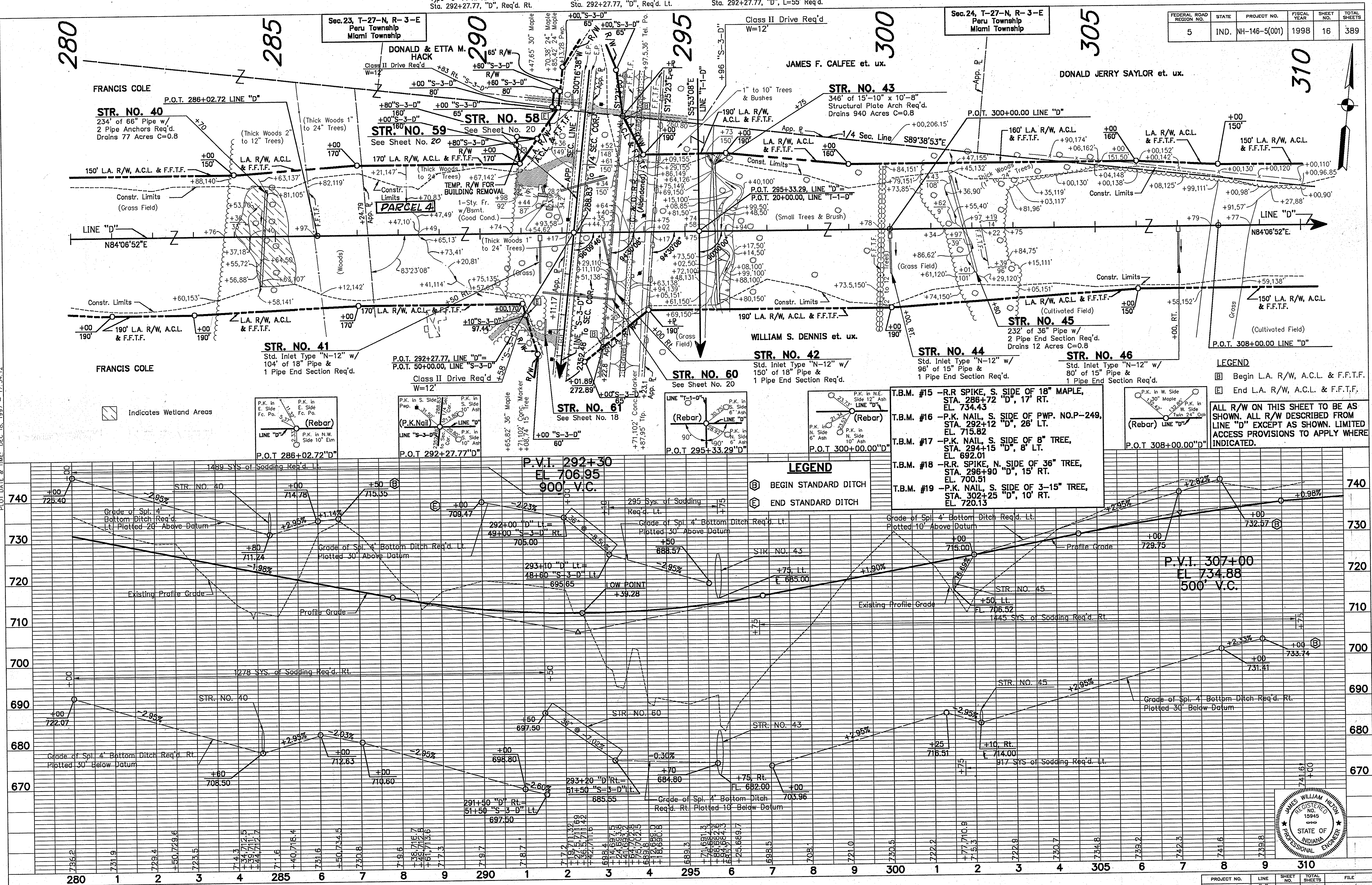
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	15	389	

Type "C" P. R. A. @ Sta. 292+27.77, "D", Req'd. Lt. Type "C" P. R. A. @ Sta. 292+27.77, "D", Req'd. Lt. Type "U" P. R. Crossover @ Sta. 292+27.77, "D", L=55' Req'd.

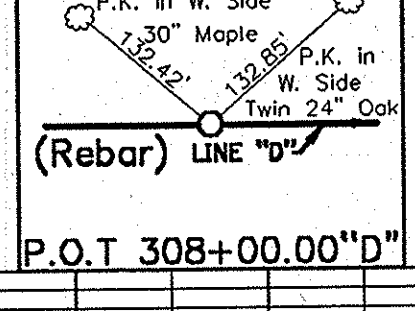
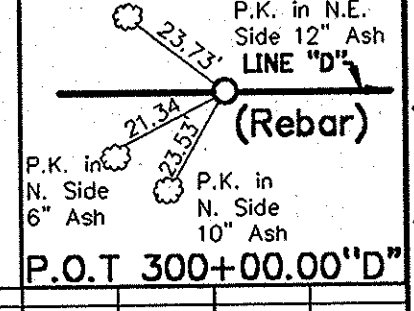
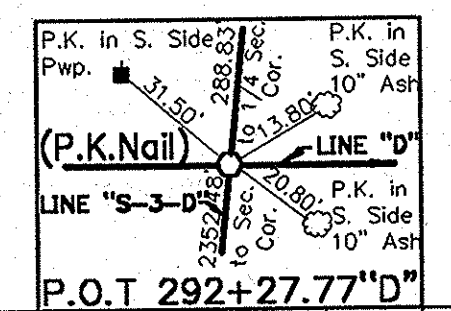
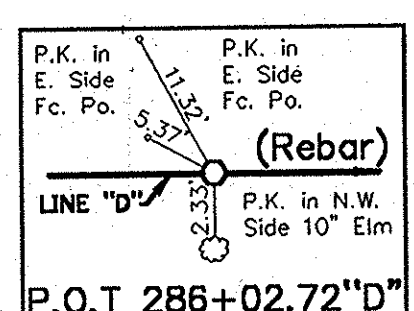
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	16	389

DATE	BY	REVISION
11/27/98	BOB E. PHIPPS/SECO INC. DT 2793	1
12/15/98	BOB E. PHIPPS/SECO INC. DT 2793	2

DATE	BY	REVISION
11/27/98	BOB E. PHIPPS/SECO INC. DT 2793	1
12/15/98	BOB E. PHIPPS/SECO INC. DT 2793	2



Indicates Wetland Areas



LEGEND
 (B) BEGIN STANDARD DITCH
 (E) END STANDARD DITCH

- T.B.M. #15 - R.R. SPIKE, S. SIDE OF 18" MAPLE, STA. 286+72 "D", 17' RT. EL. 734.43
- T.B.M. #16 - P.K. NAIL, S. SIDE OF PWP. NO. P-249, STA. 292+12 "D", 26' LT. EL. 715.82
- T.B.M. #17 - P.K. NAIL, S. SIDE OF 8" TREE, STA. 294+15 "D", 8' LT. EL. 692.01
- T.B.M. #18 - R.R. SPIKE, N. SIDE OF 36" TREE, STA. 296+90 "D", 15' RT. EL. 700.51
- T.B.M. #19 - P.K. NAIL, S. SIDE OF 3-15" TREE, STA. 302+25 "D", 10' RT. EL. 720.13

LEGEND
 (B) Begin L.A. R/W, A.C.L. & F.F.T.F.
 (E) End L.A. R/W, A.C.L. & F.F.T.F.

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

PLATE 1 - PLAN - PROFILE D. R. R. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	16	389	

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	17	389

Sec. 24, T-27-N, R-3-E
Peru Township
Miami County

DATE	BY	REVISION
11/7/99	CELESTINE ENGINEERING INC.	REVISED
11/7/99	BOB E. PHIPPS/SECO INC.	REVISED
11/7/99	BOB E. PHIPPS/SECO INC.	REVISED
11/7/99	BOB E. PHIPPS/SECO INC.	REVISED

PLAN
NOTE BOOK
NO. 180021
DATE: DEC 17, 1997 - 14:39:54 - Plotted from: TRANS

DATE	BY	REVISION
11/7/99	CELESTINE ENGINEERING INC.	REVISED
11/7/99	BOB E. PHIPPS/SECO INC.	REVISED
11/7/99	BOB E. PHIPPS/SECO INC.	REVISED
11/7/99	BOB E. PHIPPS/SECO INC.	REVISED

PROFILE
NOTE BOOK
NO. 180021
DATE: DEC 17, 1997 - 14:39:54 - Plotted from: TRANS

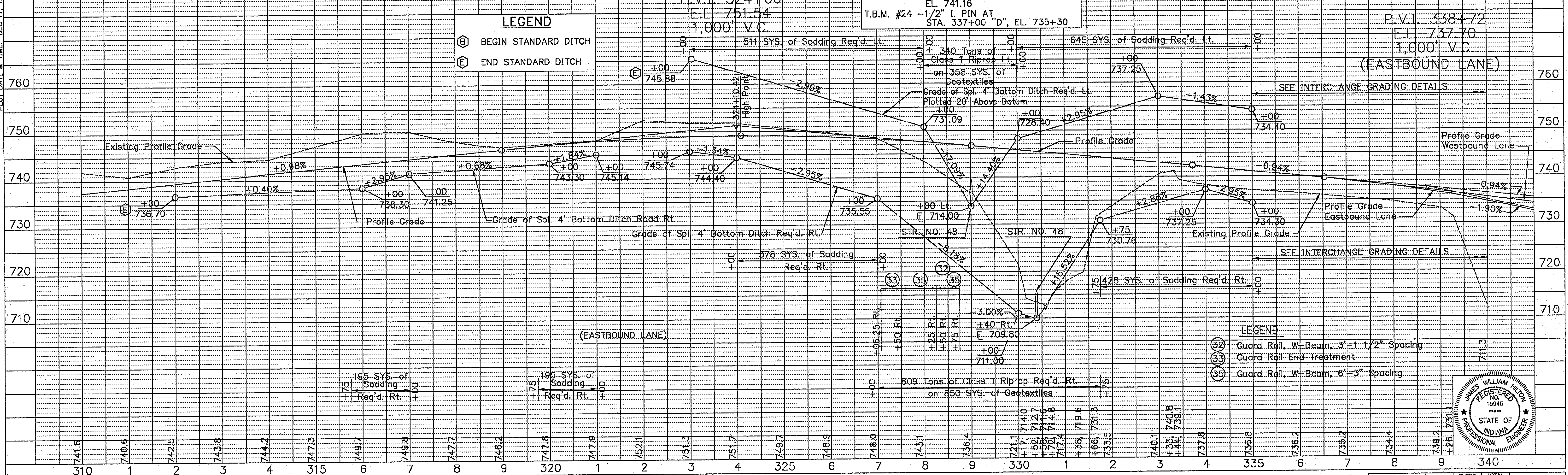
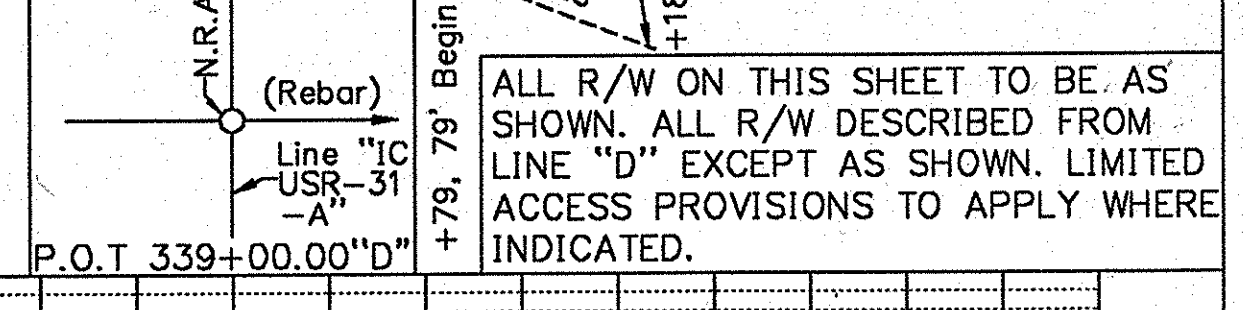
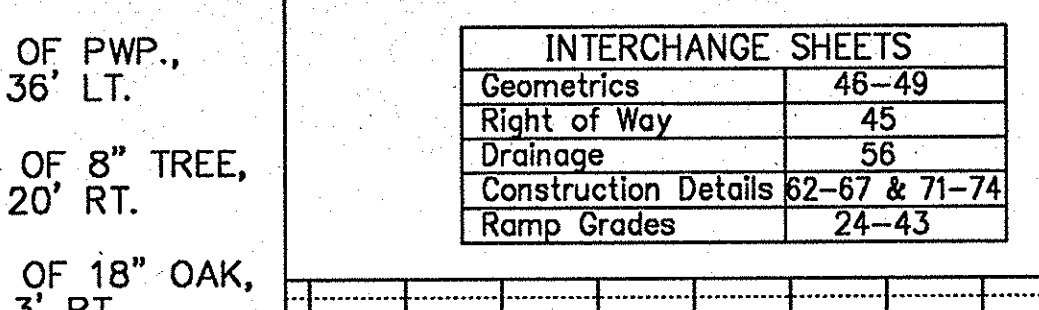
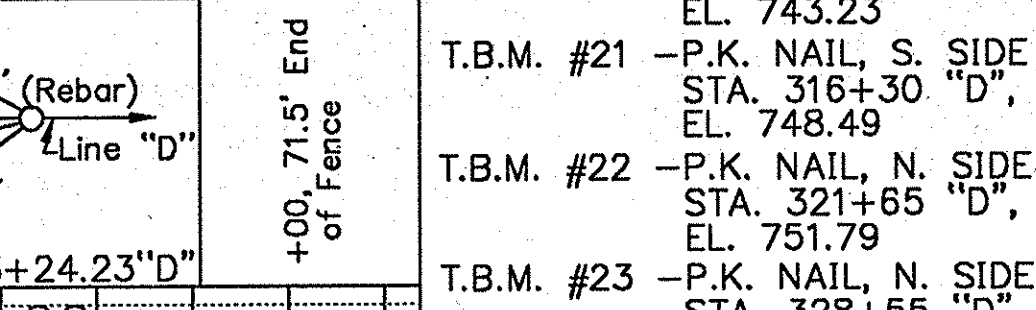
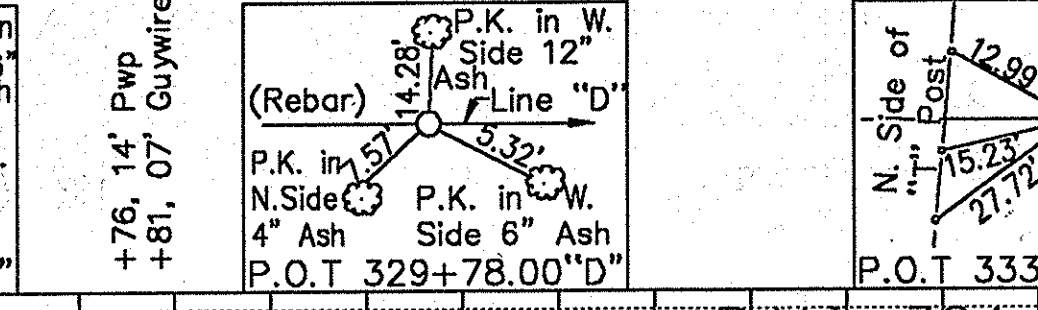
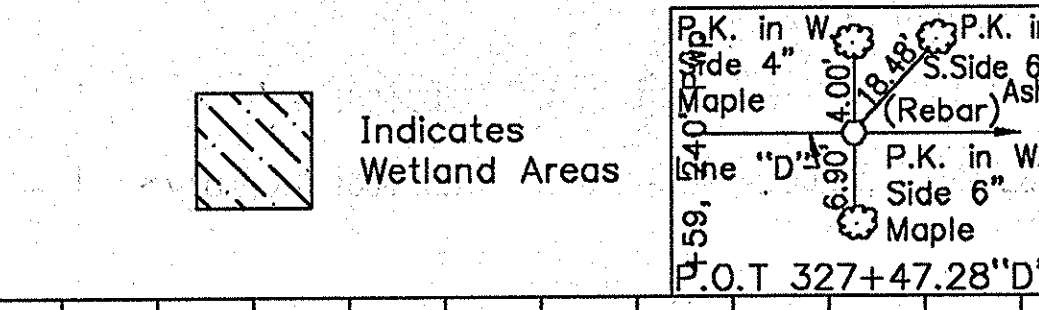
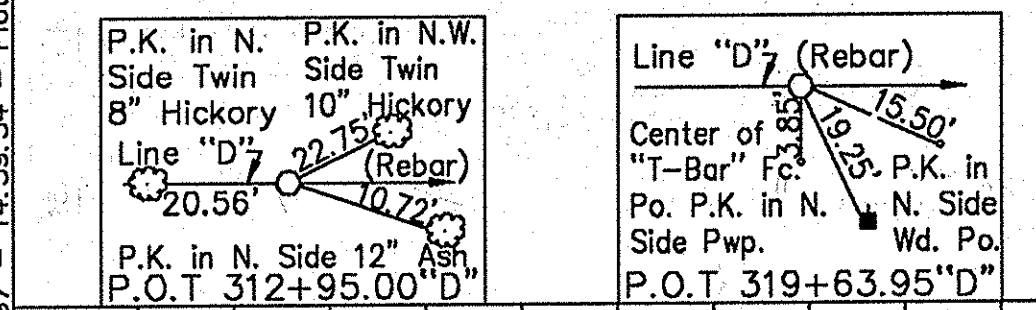
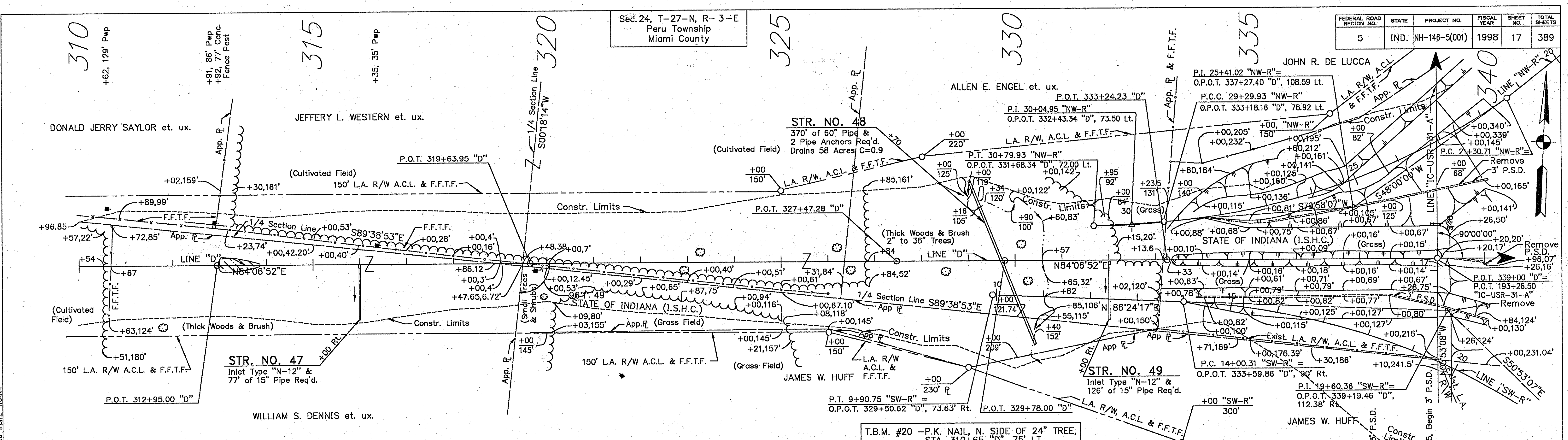
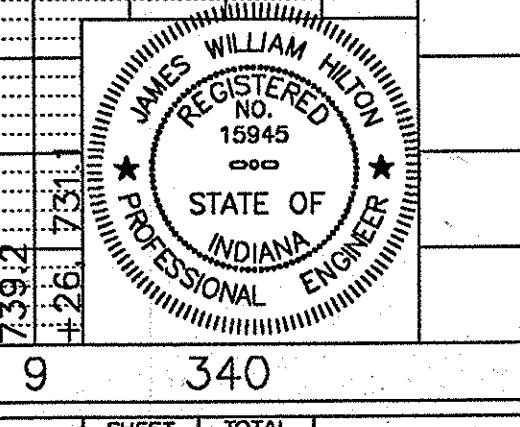


PLATE 1 - PLAN - PROFILE D. R. R. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	17	389	

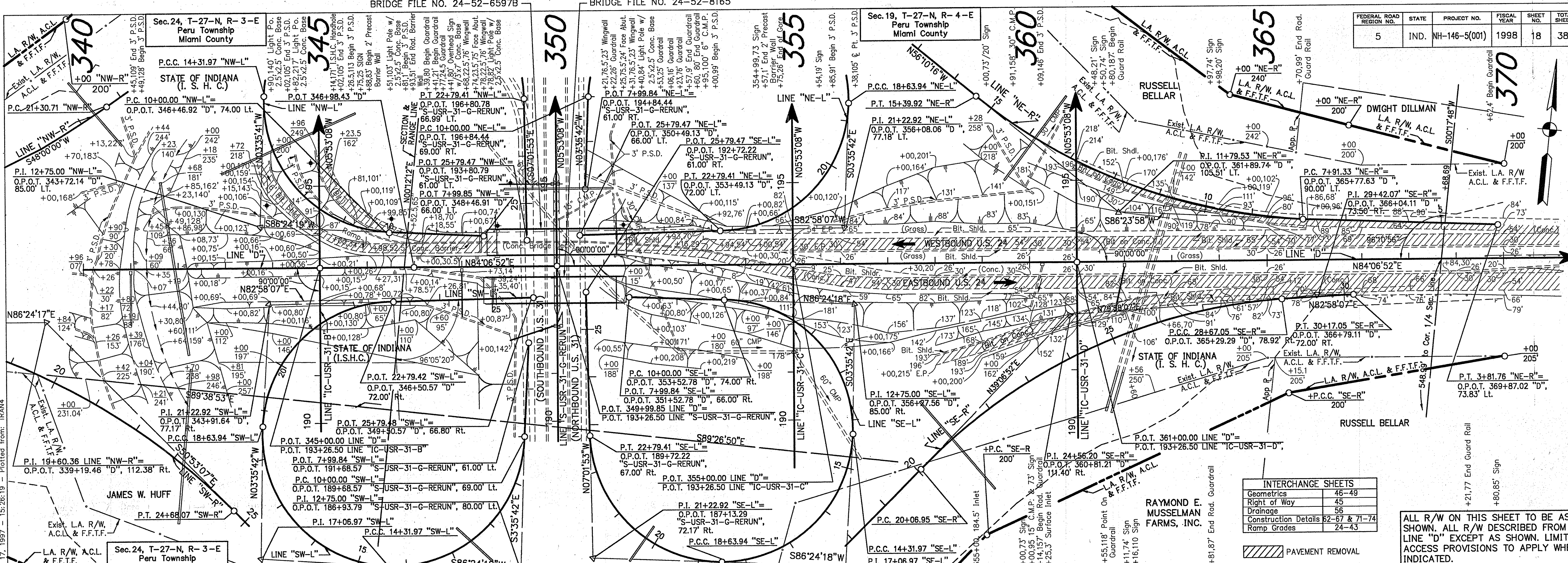


FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	18	389

PLAN
 DATE: 11/27/99
 BY: CERTIFIED ENGINEERING INC. (IMP-7/95)
 CHECKED: BOB E. PREPUSIS/SEC. INC. (IMP-7/95)
 NO. 1600711

PLotted from: TRAN4
 DATE & TIME: DEC 17, 1997 - 15:26:19

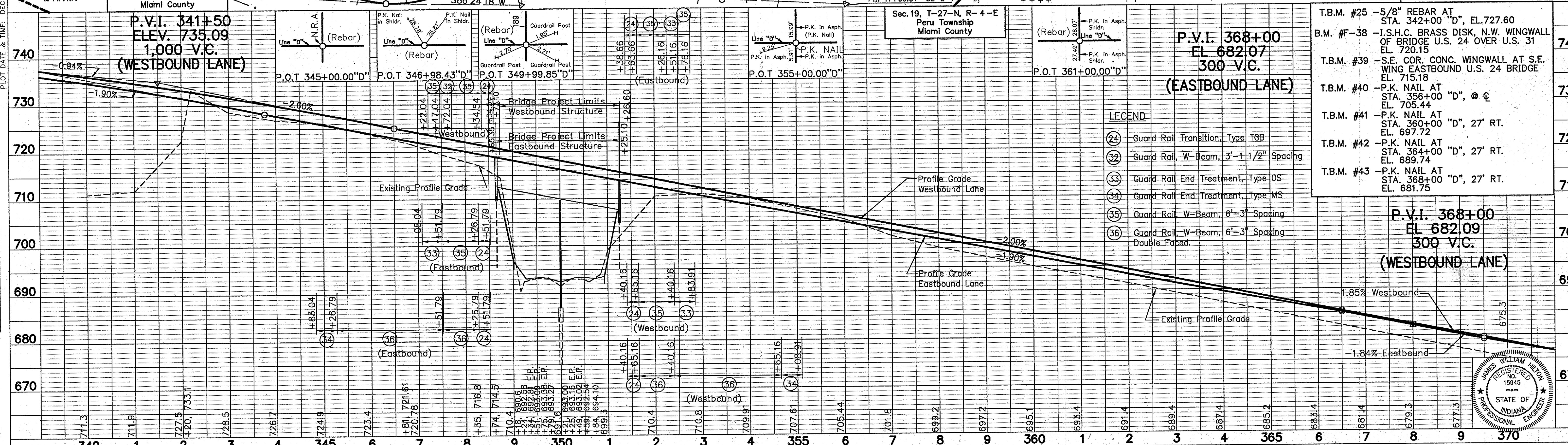
PROFILE
 DATE: 11/27/99
 BY: CERTIFIED ENGINEERING INC. (IMP-7/95)
 CHECKED: BOB E. PREPUSIS/SEC. INC. (IMP-7/95)
 NO. 1600711



INTERCHANGE SHEETS

Geometrics	46-49
Right of Way	45
Drainage	56
Construction Details	62-67 & 71-74
Ramp Grades	24-43

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.



LEGEND

(24)	Guard Rail Transition, Type TGB
(32)	Guard Rail, W-Beam, 3'-1 1/2" Spacing
(33)	Guard Rail End Treatment, Type OS
(34)	Guard Rail End Treatment, Type MS
(35)	Guard Rail, W-Beam, 6'-3" Spacing
(36)	Guard Rail, W-Beam, 6'-3" Spacing Double Faced

T.B.M. #25	-5/8" REBAR AT STA. 342+00 "D", EL. 727.60	740
B.M. #38	-I.S.H.C. BRASS DISK, N.W. WINGWALL OF BRIDGE U.S. 24 OVER U.S. 31 EL. 720.15	740
T.B.M. #39	-S.E. COR. CONC. WINGWALL AT S.E. WING EASTBOUND U.S. 24 BRIDGE EL. 715.18	730
T.B.M. #40	-P.K. NAIL AT STA. 356+00 "D", @ c EL. 705.44	720
T.B.M. #41	-P.K. NAIL AT STA. 360+00 "D", 27' RT. EL. 697.72	720
T.B.M. #42	-P.K. NAIL AT STA. 364+00 "D", 27' RT. EL. 689.74	710
T.B.M. #43	-P.K. NAIL AT STA. 368+00 "D", 27' RT. EL. 681.75	710

P.V.I. 368+00
 EL 682.09
 300 V.C.
 (WESTBOUND LANE)

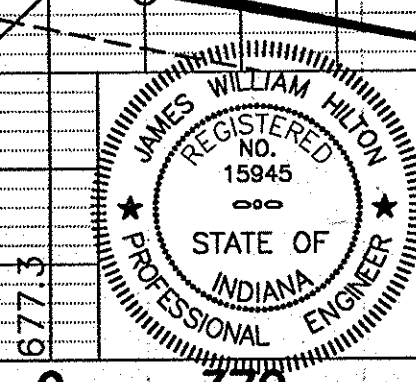


PLATE 1 - PLAN - PROFILE B. R. R. STANDARD 1975

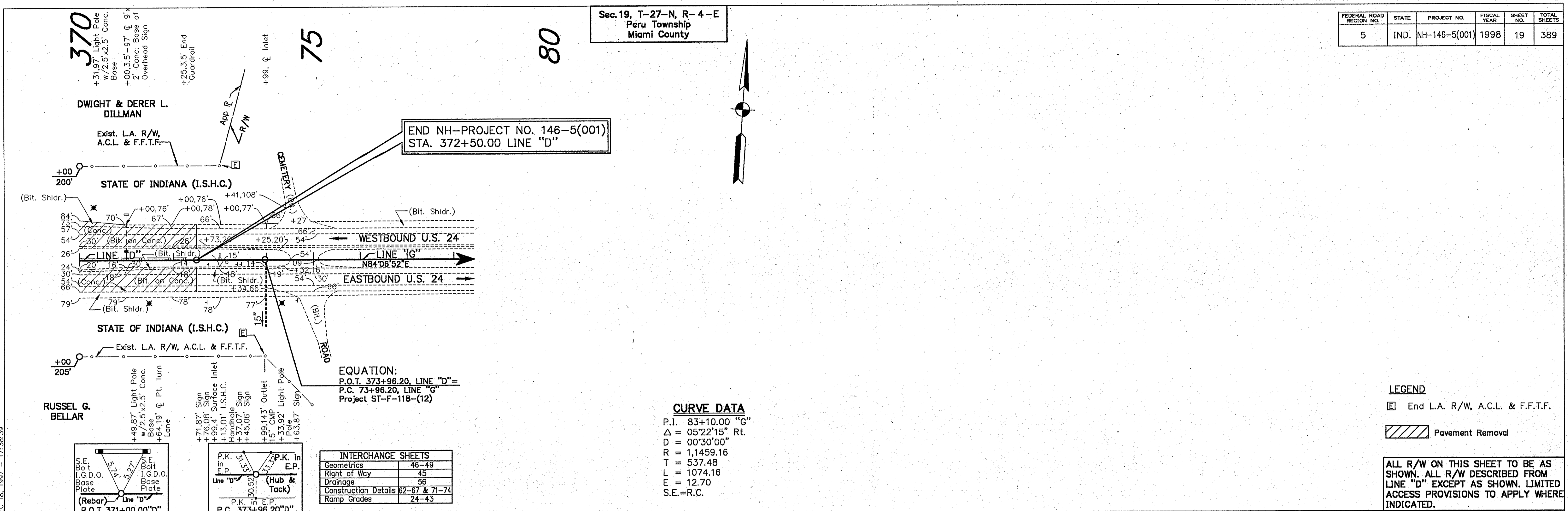
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	18	389	

Sec. 19, T-27-N, R-4-E
Peru Township
Miami County

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	19	389

DATE: 11/27/99
BY: DWIGHT & DERER L. DILLMAN
CHECKED: BOB E. PHELPS/SECO INC. DW 7/93
NO. 180021

DATE: 11/27/99
BY: DWIGHT & DERER L. DILLMAN
CHECKED: BOB E. PHELPS/SECO INC. DW 7/93
NO. 180021



EQUATION:
P.O.T. 373+96.20, LINE "D"=
P.C. 73+96.20, LINE "G"
Project ST-F-118-(12)

CURVE DATA

P.I. = 83+10.00 "G"
Δ = 05°22'15" Rt.
D = 00°30'00"
R = 1,1459.16
T = 537.48
L = 1074.16
E = 12.70
S.E. = R.C.

INTERCHANGE SHEETS

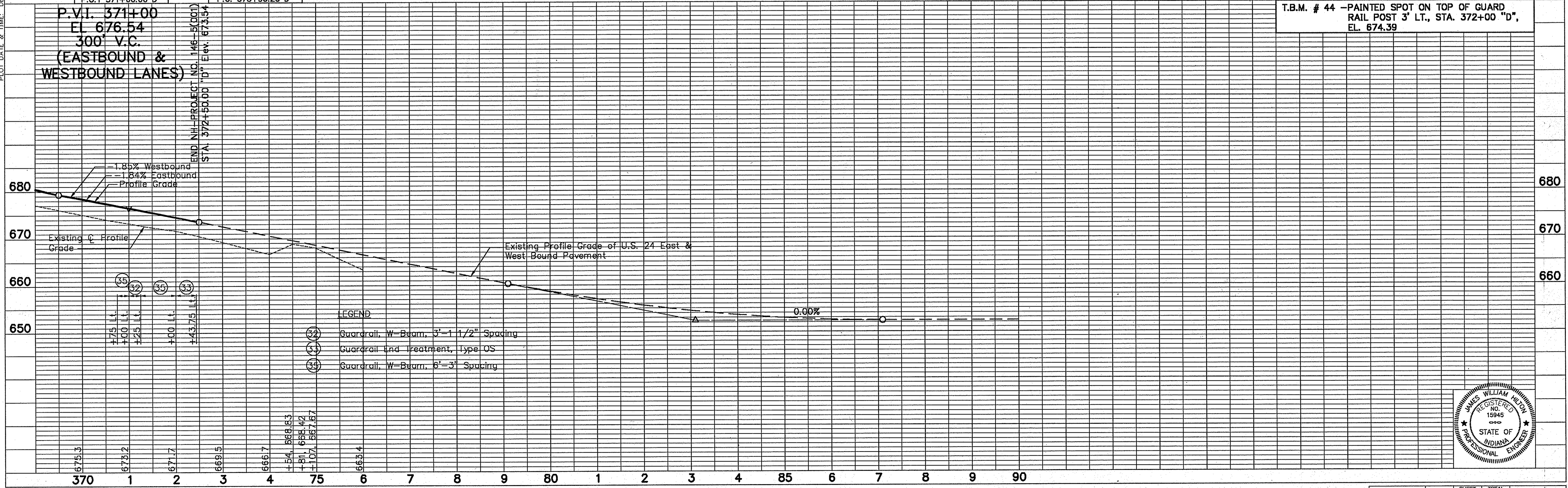
Geometrics	46-49
Right of Way	45
Drainage	56
Construction Details	62-67 & 71-74
Ramp Grades	24-45

LEGEND

End L.A. R/W, A.C.L. & F.F.T.F.

Pavement Removal

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.



LEGEND

(32)	Guardrail, W-Beam, 3'-1 1/2" Spacing
(33)	Guardrail End Treatment, Type OS
(35)	Guardrail, W-Beam, 6'-3" Spacing

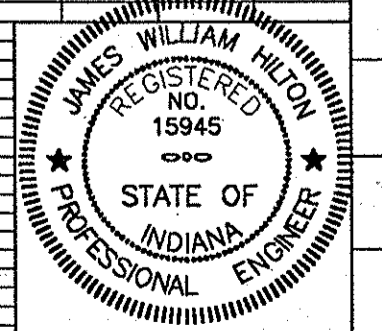


PLATE 1 - PLAN - PROFILE D. R. R. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	19	389	

Sec. 24, T-27-N, R-3-E
Peru Township
Miami County

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	20	389

DATE	BY	REVISION
11/27/89	ENGINEERING	REVISED
11/27/89	ENGINEERING	REVISED
11/27/89	ENGINEERING	REVISED
11/27/89	ENGINEERING	REVISED
11/27/89	ENGINEERING	REVISED

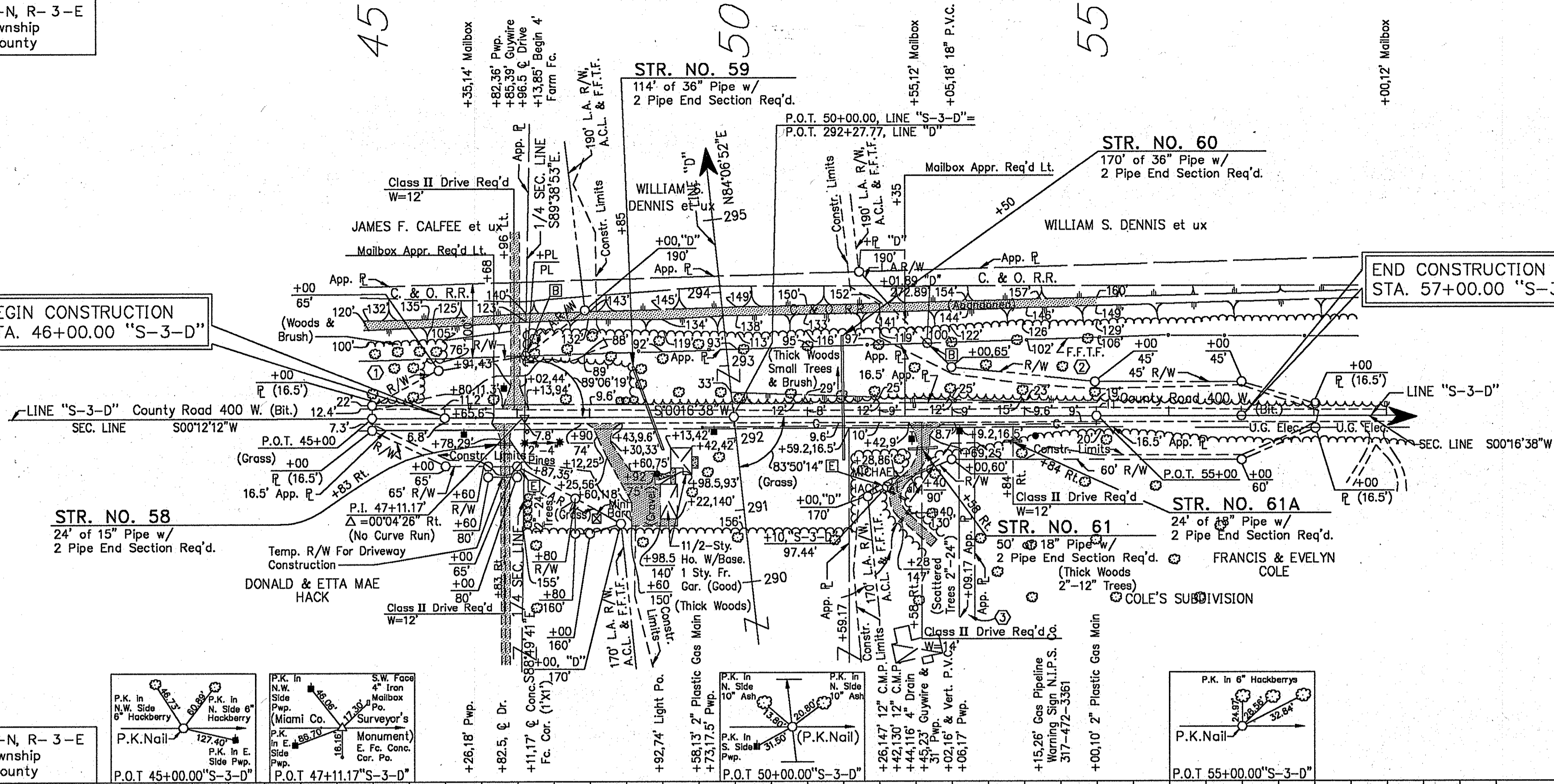
PLAN
NOTE BOOK
NO. 180081

DATE	BY	REVISION
11/27/89	ENGINEERING	REVISED
11/27/89	ENGINEERING	REVISED
11/27/89	ENGINEERING	REVISED
11/27/89	ENGINEERING	REVISED
11/27/89	ENGINEERING	REVISED

PROFILE
NOTE BOOK
NO. 180071

BEGIN CONSTRUCTION
STA. 46+00.00 "S-3-D"

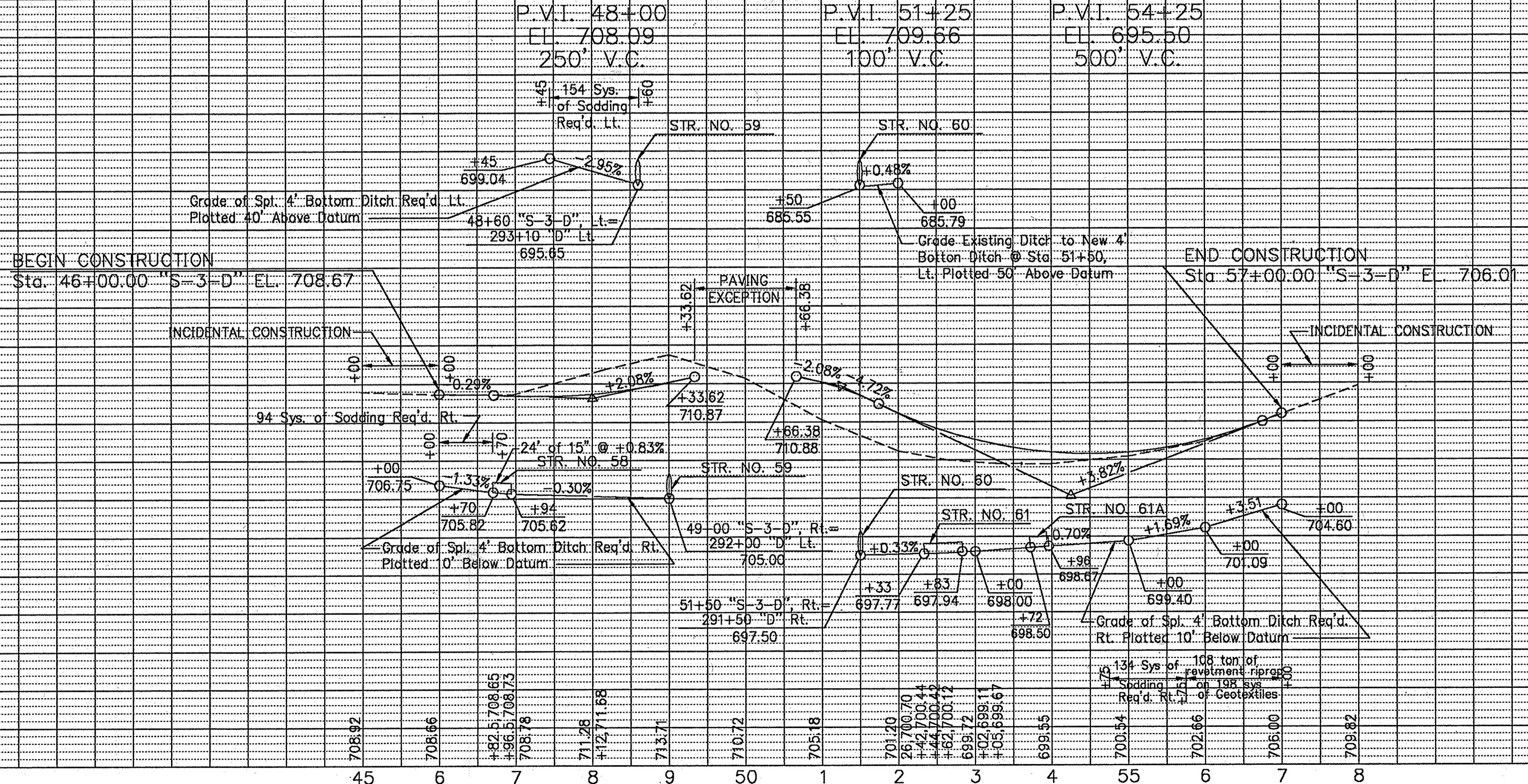
END CONSTRUCTION
STA. 57+00.00 "S-3-D"



Sec. 23, T-27-N, R-3-E
Peru Township
Miami County

- LEGEND
- ① JAMES F. CALFEE et ux
 - ② WILLIAM S. DENNIS et ux
 - ③ MICHAEL HACK, et ux
 - ④ Begin L.A. R/W, A.C.L. & F.F.T.F.
 - ⑤ End L.A. R/W, A.C.L. & F.F.T.F.
 - Gravel

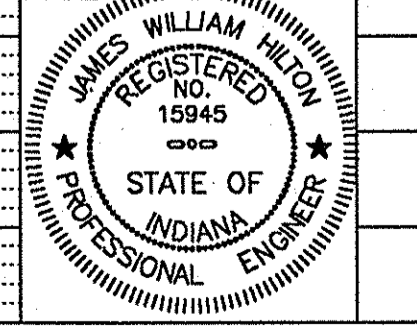
ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "S-3-D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.



T.B.M. # 16 - P.K. NAIL IN SOUTH SIDE OF P.W.P. P-249, 26' LT. STA. 292+12 "D", EL. 715.82

PLATE 1 - PLAN - PROFILE D. R. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	S-3-D	20	389	



PLAN
 DATE: 11/7/99
 CHECKED BY: JAMES WILLIAM KILGUS
 DRAWN BY: BOB E. PHILLIPS/SHO INC. DR. 2/93
 NOTE BOOK NO. 1600812
 SHEET NO. 21

PROFILE
 DATE: 11/7/99
 CHECKED BY: JAMES WILLIAM KILGUS
 DRAWN BY: BOB E. PHILLIPS/SHO INC. DR. 2/93
 NOTE BOOK NO. 1600812
 SHEET NO. 21

PLOT DATE & TIME: DEC 18, 1997 - 17:33:08

150

155

160

165

170

175

180

BEGIN CONSTRUCTION
 STA. 166+20.00 "S-USR-31-G-RERUN"

CURVE DATA
 P.I. 176+90.70, "S-USR-31-G-RERUN"
 $\Delta = 5'49''00''$ LT.
 $D = 0'20''05.18''$
 $R = 17,114.86'$
 $L = 869.50'$
 $T = 1,737.50'$
 $E = 22.07'$
 S.E.=N.C.

Sec. 19, T-27-N, R-4-E
 Peru Township
 Miami County

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	21	389

STR. NO. 64
 Inlet Type H-5 w/80 Lft. of 15" Pipe and 1 Pipe End Section Req'd.

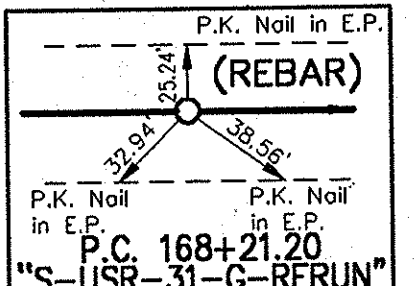
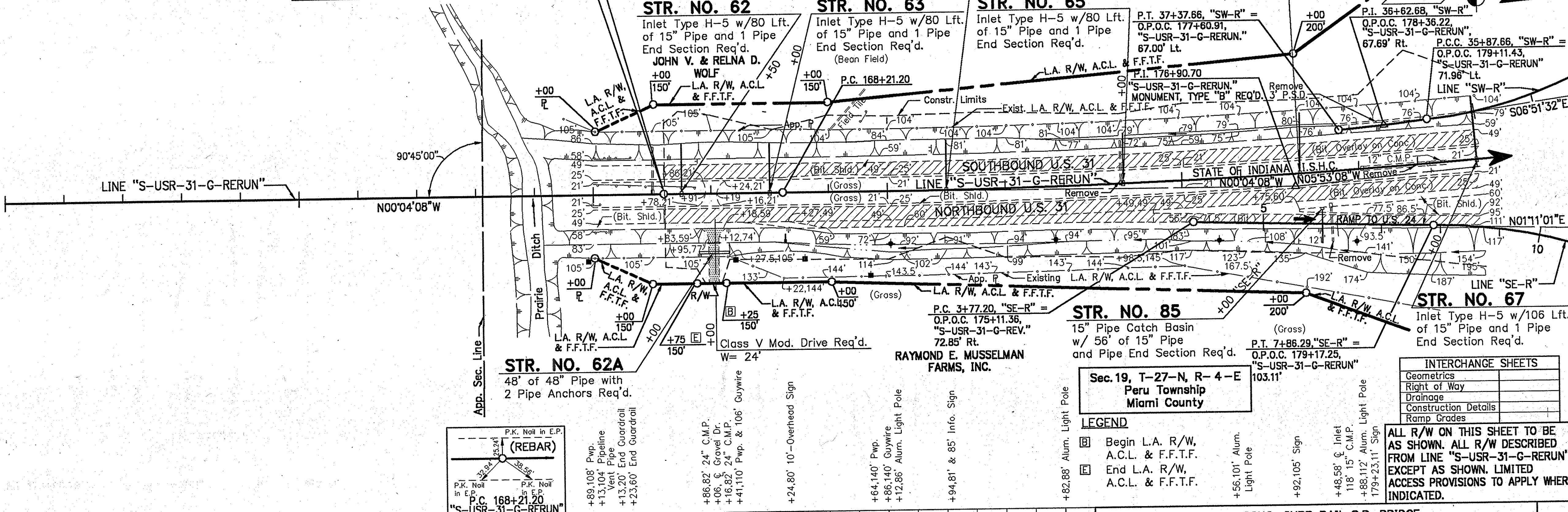
STR. NO. 66
 Inlet Type H-5 w/100 Lft. of 15" Pipe and 1 Pipe End Section Req'd.

STR. NO. 62
 Inlet Type H-5 w/80 Lft. of 15" Pipe and 1 Pipe End Section Req'd.
 JOHN V. & RELNA D. WOLF
 L.A. R/W, A.C.L. & F.F.T.F.

STR. NO. 63
 Inlet Type H-5 w/80 Lft. of 15" Pipe and 1 Pipe End Section Req'd.
 (Beon Field)
 P.C. 168+21.20

STR. NO. 65
 Inlet Type H-5 w/80 Lft. of 15" Pipe and 1 Pipe End Section Req'd.
 P.I. 176+90.70
 F.F.T.F.

P.I. 36+62.68, "SW-R"
 O.P.O.C. 178+36.22
 "S-USR-31-G-RERUN",
 67.69' Rt.
 P.C.C. 35+87.66, "SW-R"
 O.P.O.C. 179+11.43
 "S-USR-31-G-RERUN",
 71.96' Lt.



- 89,108' Pwp.
- 13,104' Pipeline
- 13,20' End Guardrail
- 23,60' End Guardrail
- 86,82' 24" C.M.P.
- 06' Gravel Dr.
- 16,82' 24" C.M.P.
- 41,110' Pwp. & 106' Guywire
- 24,80' 10'-Overhead Sign
- 64,140' Pwp.
- 86,140' Guywire
- 12,86' Alum. Light Pole
- 94,81' & 85' Info. Sign
- 82,88' Alum. Light Pole
- 56,100' Alum. Light Pole
- 92,105' Sign
- 48,59' Inlet
- 118' 15" C.M.P.
- 88,112' Alum. Light Pole
- 179+23.11' Sign

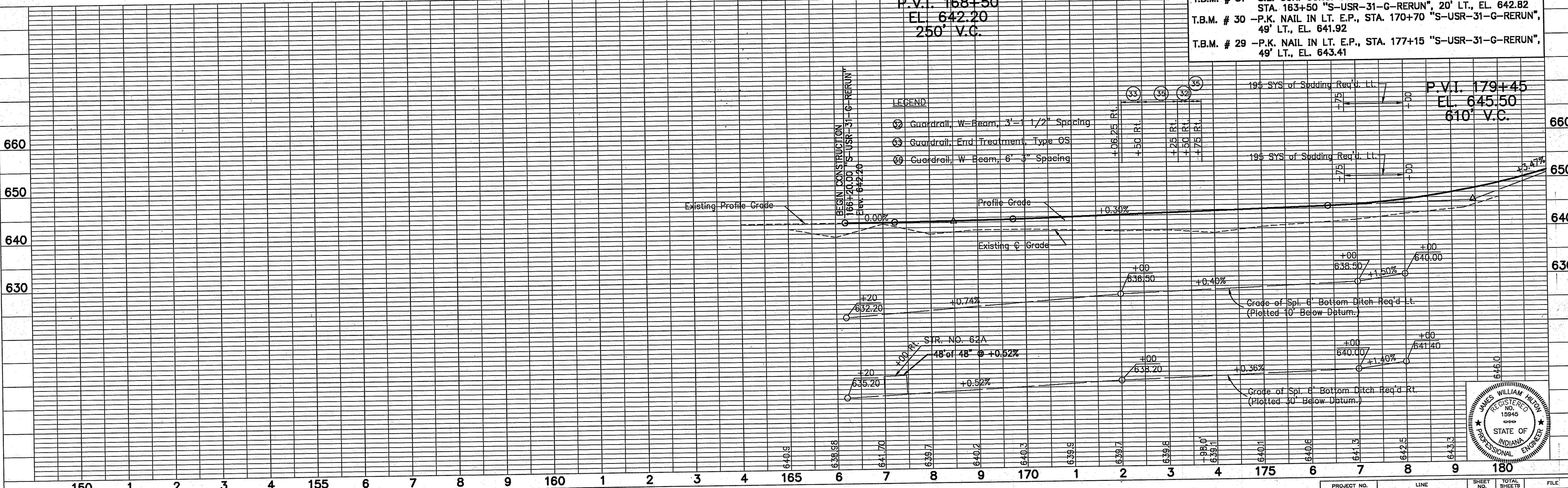
STR. NO. 85
 15" Pipe Catch Basin w/ 56' of 15" Pipe and Pipe End Section Req'd.
 P.T. 7+86.29, "SE-R"
 O.P.O.C. 179+17.25
 "S-USR-31-G-RERUN",
 103.11'

INTERCHANGE SHEETS

Geometrics
Right of Way
Drainage
Construction Details
Ramp Grades

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "S-USR-31-G-RERUN" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

- T.B.M. # 31 - S.E. COR. CONC. CURB RAIL S.B. BRIDGE, STA. 163+50 "S-USR-31-G-RERUN", 20' LT., EL. 642.82
- T.B.M. # 30 - P.K. NAIL IN LT. E.P., STA. 170+70 "S-USR-31-G-RERUN", 49' LT., EL. 641.92
- T.B.M. # 29 - P.K. NAIL IN LT. E.P., STA. 177+15 "S-USR-31-G-RERUN", 49' LT., EL. 643.41



- LEGEND**
- Guardrail, W=Beam, 3'-1 1/2" Spacing
 - Guardrail, End Treatment, Type OS
 - Guardrail, W=Beam, 6' 3" Spacing

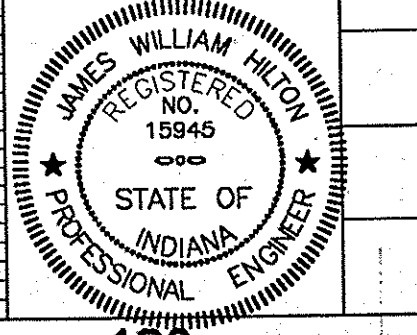


PLATE 1 - PLAN - PROFILE B. R. R. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"S-USR-31-G-RERUN"	21	389	

R-23637

SHEET 21 OF 389

M24PP08/100

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	22	389

Sec. 24, T-27-N, R-3-E
Peru Township
Miami County

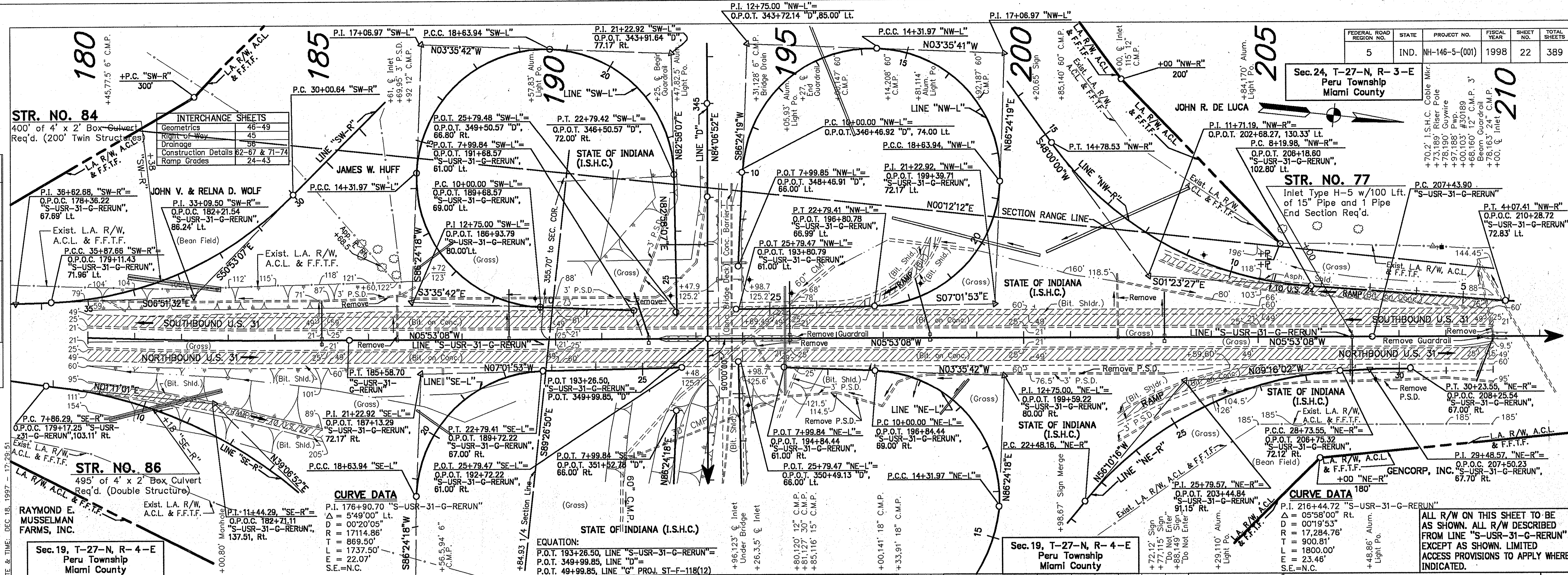
STR. NO. 77
Inlet Type H-5 w/100 Lft. of 15" Pipe and 1 Pipe End Section Req'd.

Sec. 19, T-27-N, R-4-E
Peru Township
Miami County

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "S-USR-31-G-RERUN" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

DATE: 11/27/98
BY: J. P. HARRIS
CHECKED: B. M. WICKED
NO. 180822

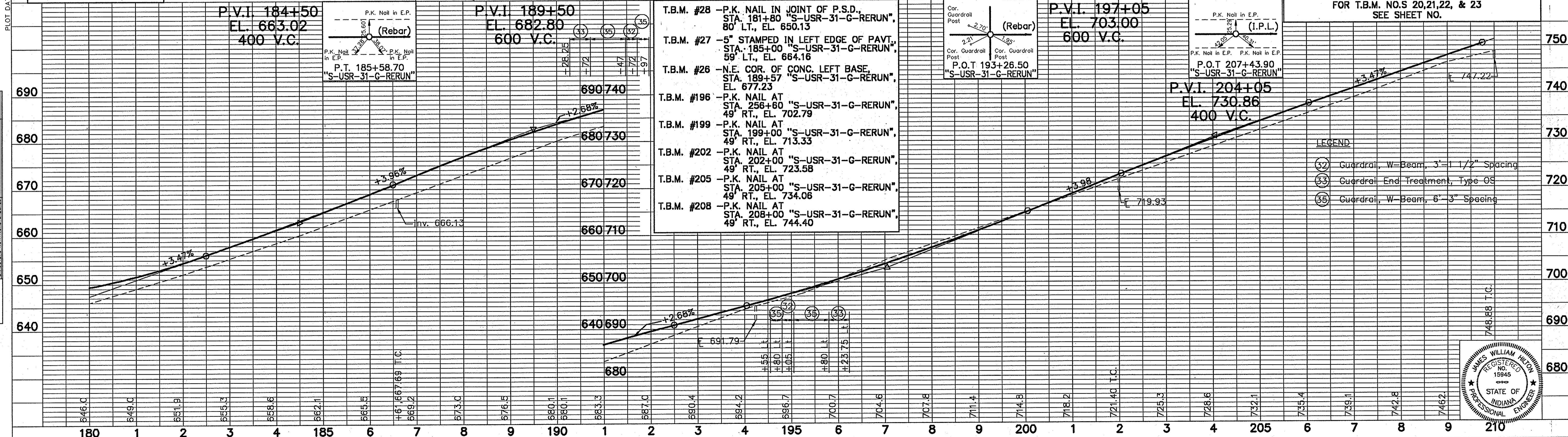
DATE: 11/27/98
BY: J. P. HARRIS
CHECKED: B. M. WICKED
NO. 180822



CURVE DATA

P.I.	176+90.70
P.C.	176+90.70
P.O.T.	189+13.29
P.T.	189+13.29
Δ	5°49'00"
D	00°20'05"
R	17114.86'
T	869.50'
L	1737.50'
E	22.07'
S.E.	N.C.

EQUATION:
P.O.T. 193+26.50, LINE "S-USR-31-G-RERUN"
P.O.T. 349+99.85, LINE "D"
P.O.T. 49+99.85, LINE "G" PROJ. ST-F-118(12)



- T.B.M. #28 - P.K. NAIL IN JOINT OF P.S.D., STA. 181+80 "S-USR-31-G-RERUN", 80' LT., EL. 650.13
- T.B.M. #27 - 5" STAMPED IN LEFT EDGE OF PAVT., STA. 185+00 "S-USR-31-G-RERUN", 59' LT., EL. 664.16
- T.B.M. #26 - N.E. COR. OF CONC. LEFT BASE, STA. 189+57 "S-USR-31-G-RERUN", EL. 677.23
- T.B.M. #196 - P.K. NAIL AT STA. 256+60 "S-USR-31-G-RERUN", 49' RT., EL. 702.79
- T.B.M. #199 - P.K. NAIL AT STA. 199+00 "S-USR-31-G-RERUN", 49' RT., EL. 713.33
- T.B.M. #202 - P.K. NAIL AT STA. 202+00 "S-USR-31-G-RERUN", 49' RT., EL. 723.58
- T.B.M. #205 - P.K. NAIL AT STA. 205+00 "S-USR-31-G-RERUN", 49' RT., EL. 734.06
- T.B.M. #208 - P.K. NAIL AT STA. 208+00 "S-USR-31-G-RERUN", 49' RT., EL. 744.40

- LEGEND**
- (32) Guardrail, W=Beam, 3'-1 1/2" Spacing
 - (33) Guardrail End Treatment, Type OS
 - (35) Guardrail, W=Beam, 6'-3" Spacing

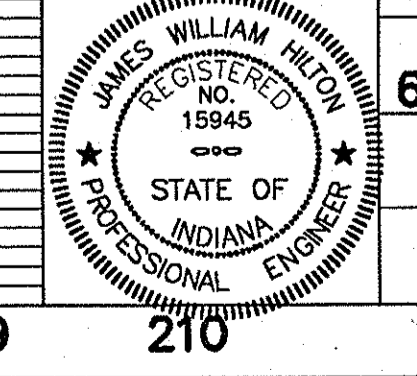


PLATE 1 - PLAN - PROFILE D. R. STANDARD 1975

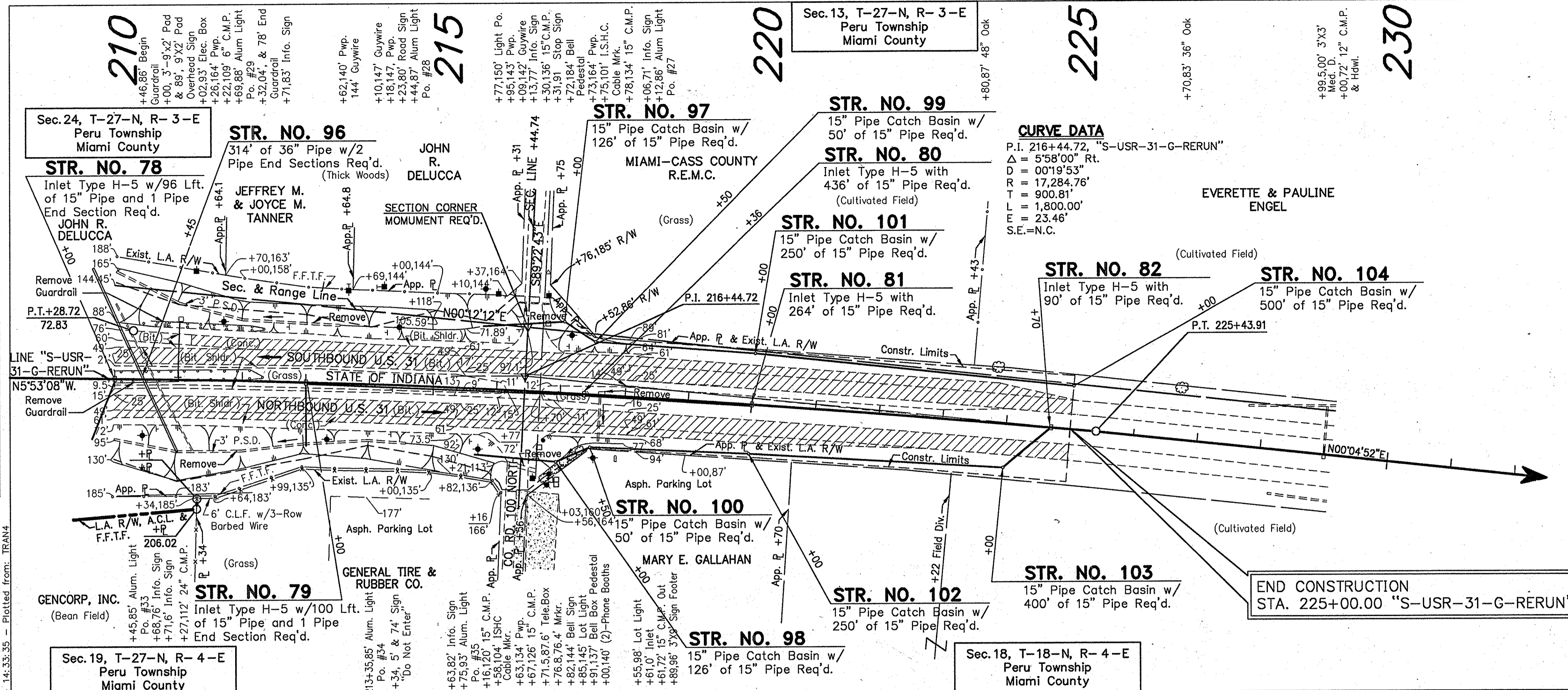
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"S-USR-31-G-RERUN"	22	389	

TYPE "C" P.R. Approach Req'd @ Sta. 216+44.72 "S-USR-31-G-RERUN" Lt. Mod. TYPE "D" P.R. Approach Req'd @ Sta. 216+44.72 "S-USR-31-G-RERUN" Rt. TYPE "U" P.R. Crossover Req'd @ Sta. 216+44.72 "S-USR-31-G-RERUN" Rt.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	23	389

DATE: 11/27/98
 BY: CRYSTAL ENGINEERING, INC.
 CHECKED: BOB E. PHEASANT, INC. DR. 3/85
 PLAN
 NOTE BOOK
 NO. 100000

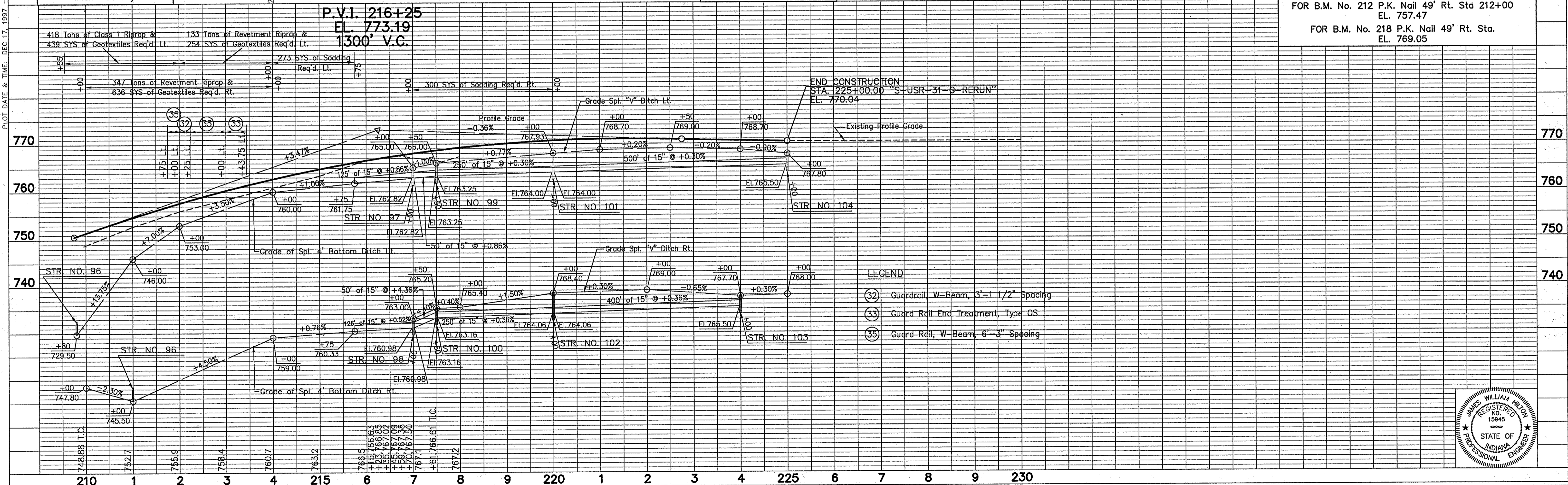
DATE: 11/27/98
 BY: CRYSTAL ENGINEERING, INC.
 CHECKED: BOB E. PHEASANT, INC. DR. 3/85
 PROFILE
 NOTE BOOK
 NO. 100000



CURVE DATA
 P.I. 216+44.72 "S-USR-31-G-RERUN"
 $\Delta = 5^{\circ}58'00''$ Rt.
 $D = 00^{\circ}19'53''$
 $R = 17,284.76'$
 $T = 900.81'$
 $L = 1,800.00'$
 $E = 23.46'$
 S.E. = N.C.

LEGEND
 [Symbol] Begin L.A. R/W, A.C.L. & F.F.T.F.
 [Symbol] End L.A. R/W, A.C.L. & F.F.T.F.
 ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "S-USR-31-G-RERUN" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

END CONSTRUCTION
 STA. 225+00.00 "S-USR-31-G-RERUN"



LEGEND
 (32) Guardrail, W-Beam, 3'-1 1/2" Spacing
 (33) Guard Rail End Treatment, Type OS
 (35) Guard Rail, W-Beam, 6'-5" Spacing

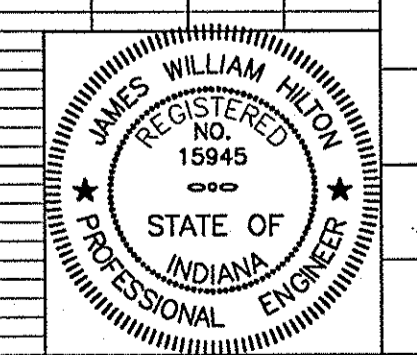
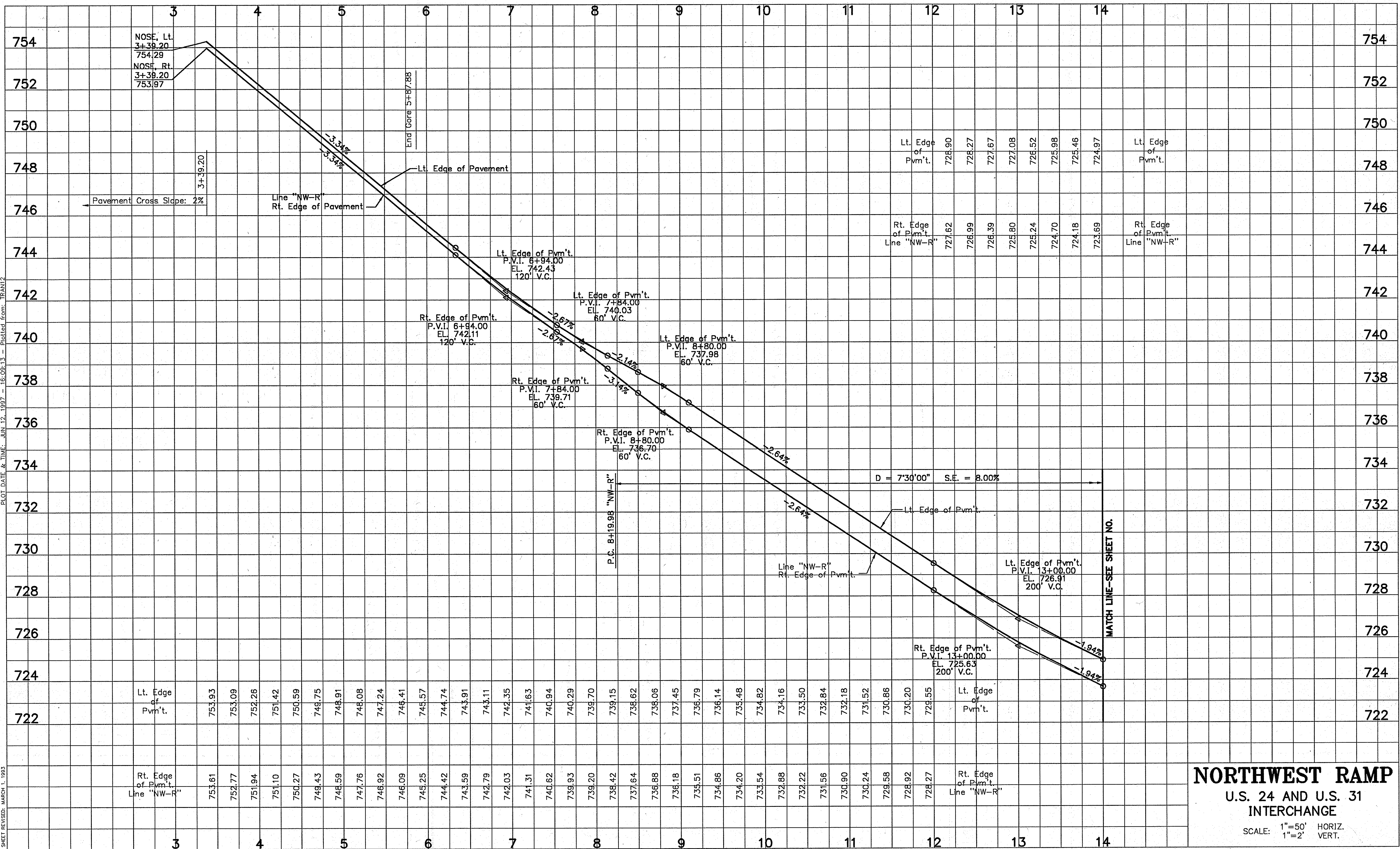


PLATE 1 - PLAN - PROFILE D. R. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"S-USR-31-G-RERUN"	23	389	

PLOT DATE & TIME: JUN 12 1997 - 16:09:13 - Plotted from: TRAN12

DESIGNED: David P. Thompson, P.E., 6/83
 DRAWN: J. W. ...
 CHECKED: D.H. 6/83
 SHEET REVISION: MARCH 1, 1993

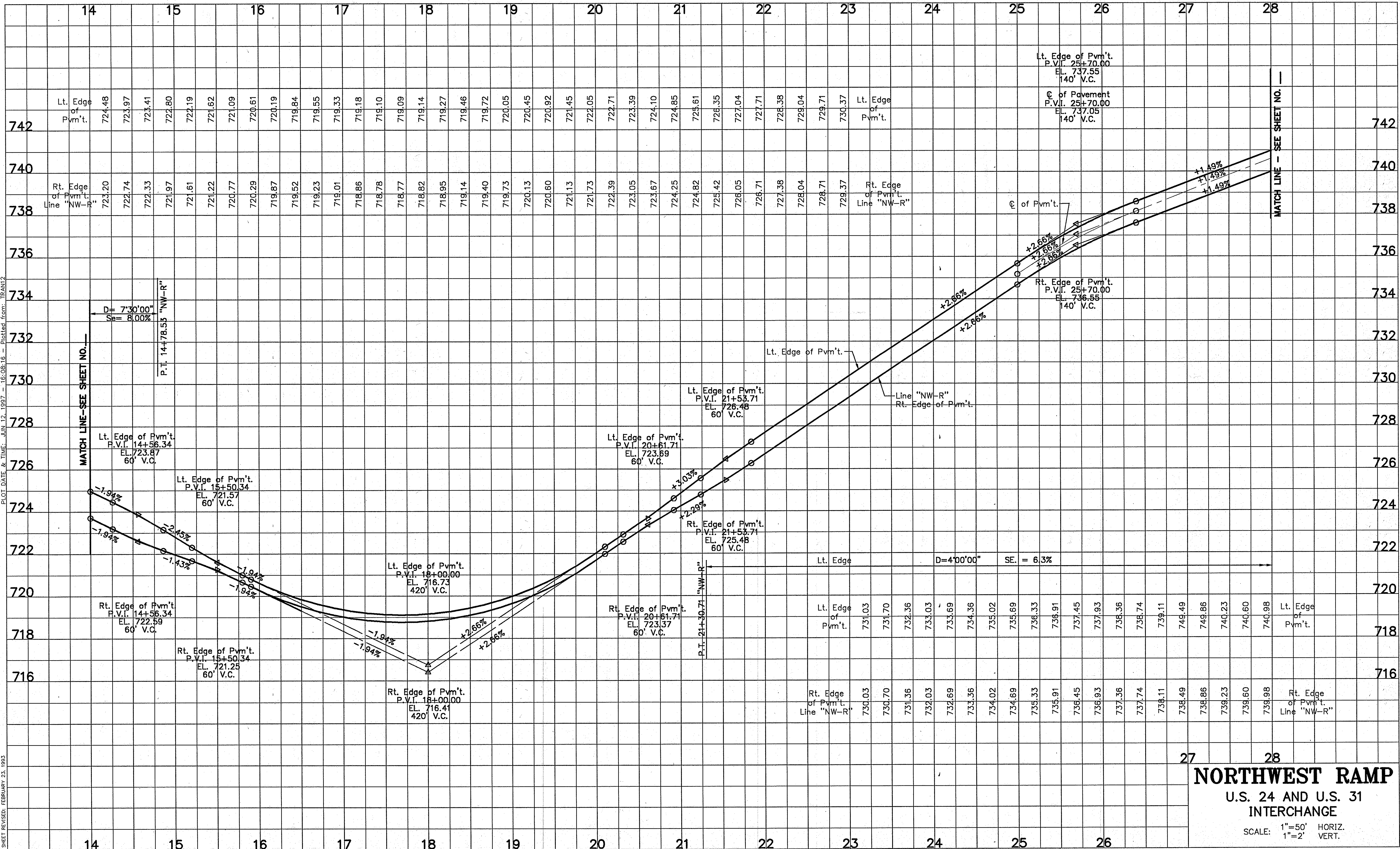


NORTHWEST RAMP

U.S. 24 AND U.S. 31 INTERCHANGE

SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	24	389
U.S. 24 MIAMI CO.					LINE "NW-R"



PLOT DATE & TIME: JUN 12 1987 - 16:08:16 - Plotted from: TRAN12

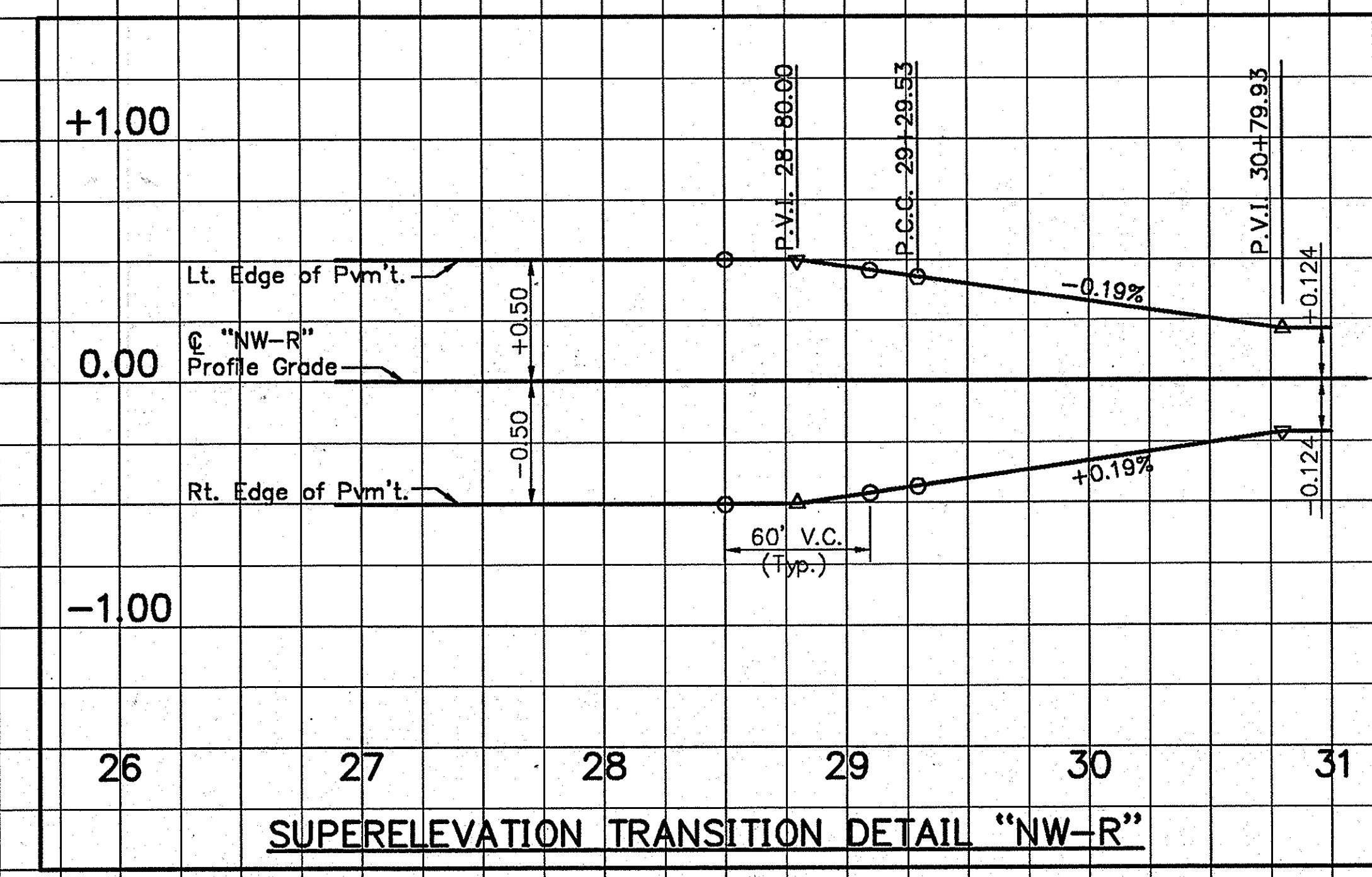
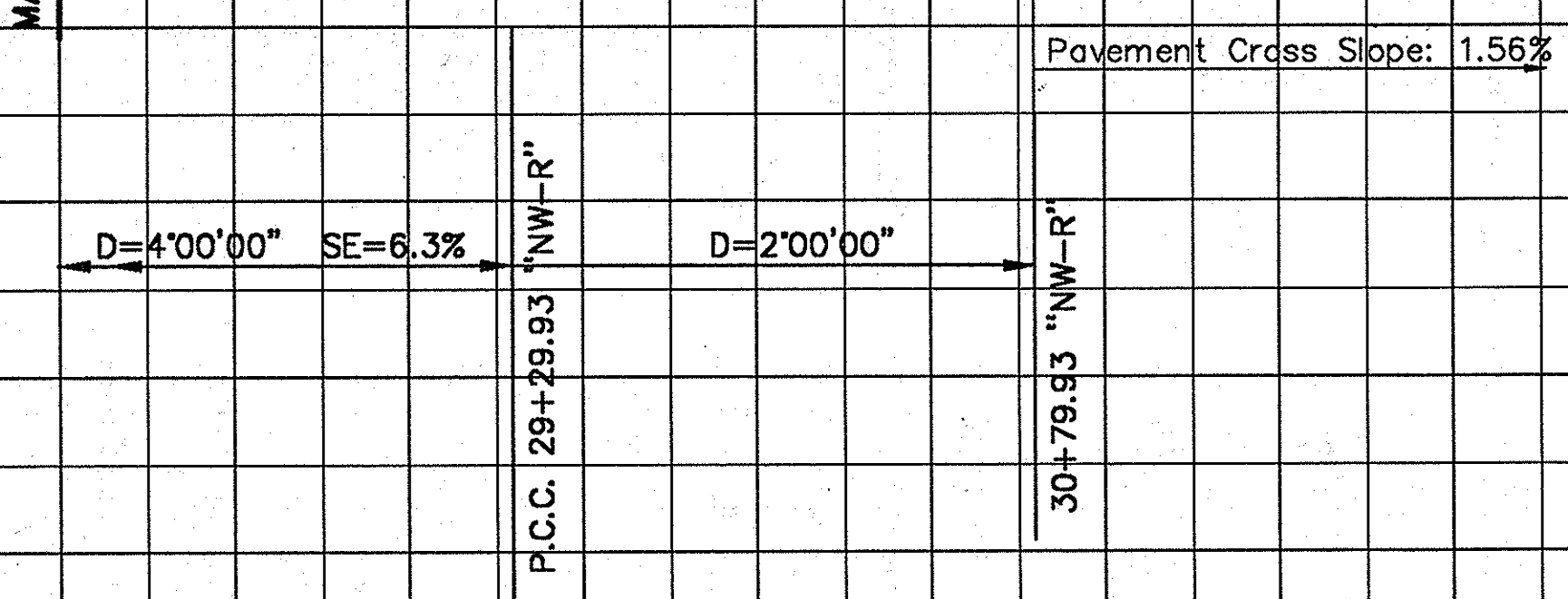
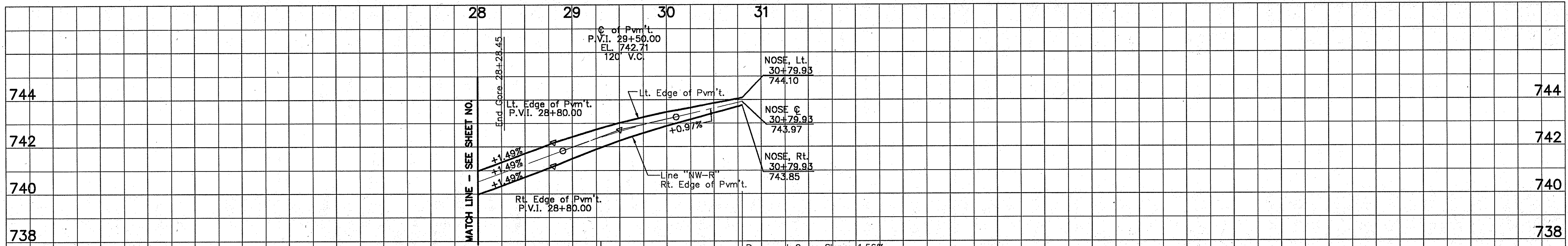
GEORGE BOYD CONSULTING ENGINEERS, INC. 6/83
 DRAWN BY: J. W. [unclear] 6/83
 CHECKED BY: S. W. [unclear] 6/83
 SHEET REVISED: FEBRUARY 23, 1983

NORTHWEST RAMP
U.S. 24 AND U.S. 31 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	25	389
U.S. 24 MIAMI CO.					LINE "NW-R"

PLOT DATE & TIME: JUN 12, 1987 - 15:34:56 - Plotted from: TRAN12

DESIGNED BY: [unclear] CHECKED BY: [unclear]
 DRAWN BY: [unclear] CHECKED BY: [unclear]
 REVISION: [unclear] DATE: [unclear]
 SHEET REVISED: MARCH 1, 1993



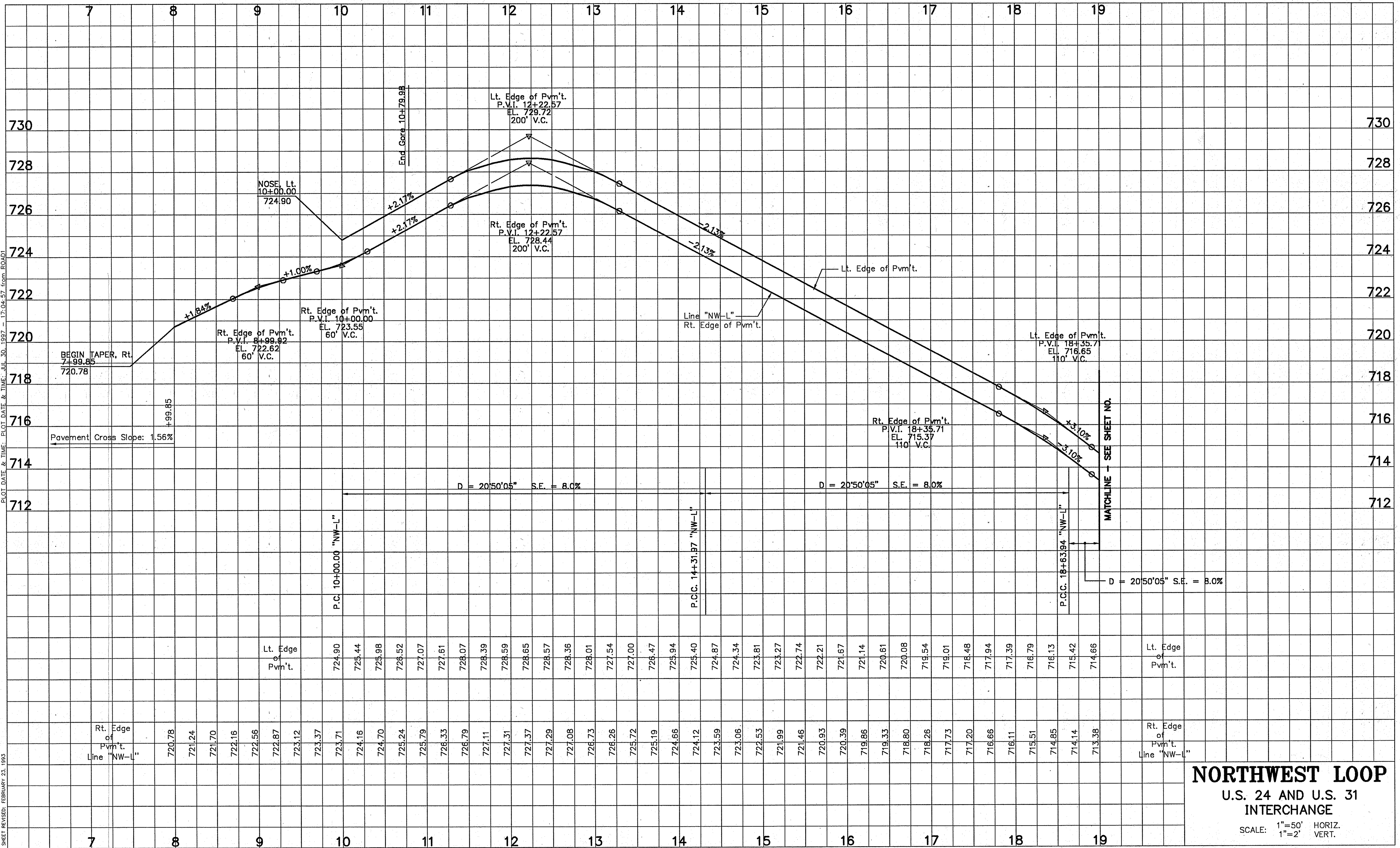
Lt. Edge of Pvm't.	740.98	741.35	741.72	742.08	742.42	742.73	743.01	743.27	743.49	743.69	743.89	744.09	Lt. Edge of Pvm't.
Rt. Edge of Pvm't. Line "NW-R"	739.98	740.35	740.72	741.10	741.50	741.89	742.25	742.59	742.89	743.19	743.47	743.75	Rt. Edge of Pvm't. Line "NW-R"

NORTHWEST RAMP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	26	389
U.S. 24 MIAMI CO.					LINE "NW-R"

PLOT DATE & TIME: JUL 30, 1997 - 17:04:57 from ROAD1

DESIGNED BY: JMM/CHKD BY: JMM
 DRAWN BY: MAM/3/83/CHKD BY: JMM
 REVISED: SW/4/87/CHKD BY: JMM
 SHEET REVISED: FEBRUARY 23, 1993



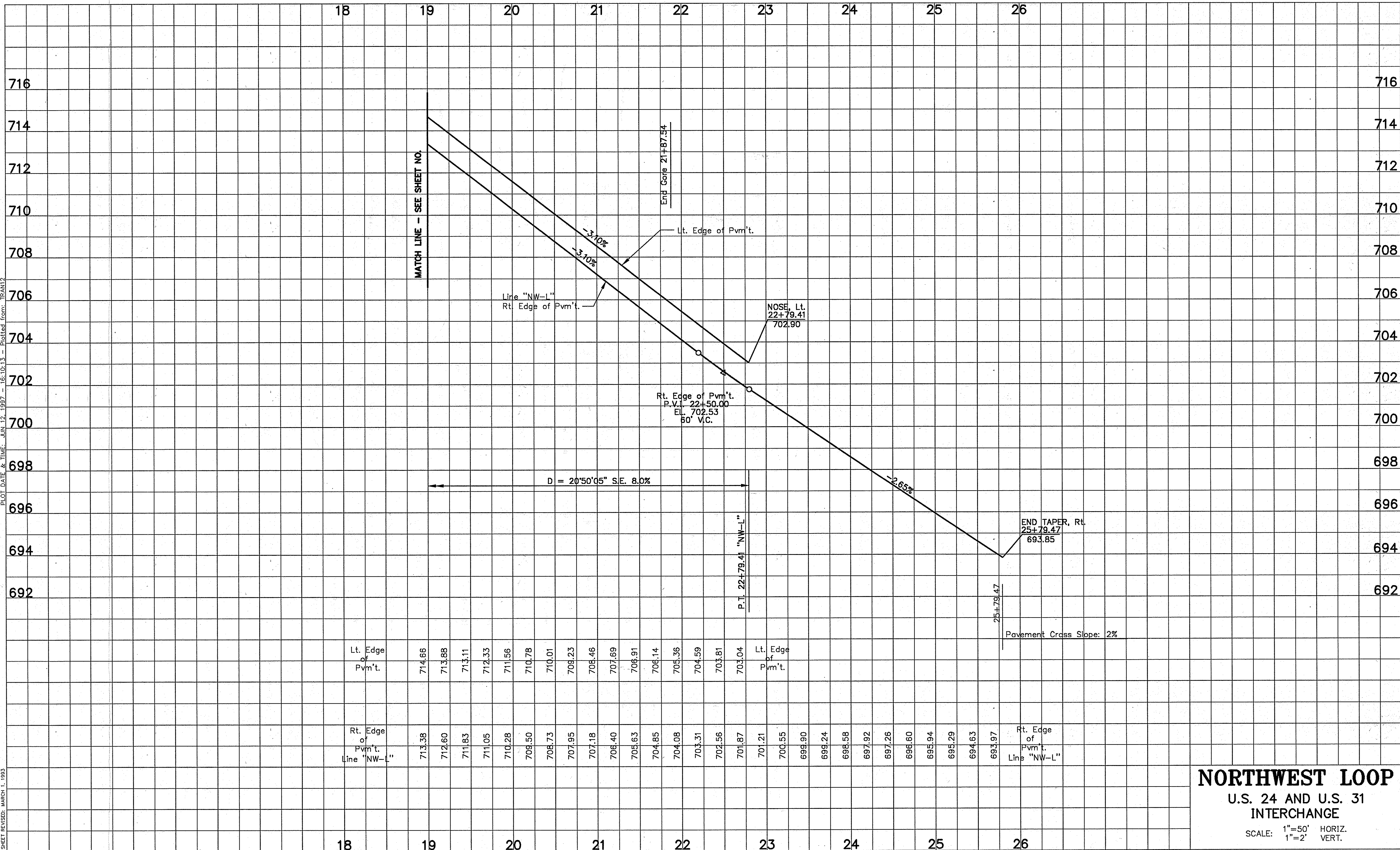
Rt. Edge of Pvm't. Line "NW-L"	720.78	721.24	721.70	722.16	722.56	722.87	723.12	723.37	723.71	724.16	724.70	725.24	725.79	726.33	726.79	727.11	727.31	727.37	727.29	727.08	726.73	726.26	725.72	725.19	724.66	724.12	723.59	723.06	722.53	721.99	721.46	720.93	720.39	719.86	719.33	718.80	718.26	717.73	717.20	716.66	716.11	715.51	714.85	714.14	713.38	Rt. Edge of Pvm't. Line "NW-L"	
Lt. Edge of Pvm't.										724.90	725.44	725.98	726.52	727.07	727.61	728.07	728.39	728.59	728.65	728.57	728.36	728.01	727.54	727.00	726.47	725.94	725.40	724.87	724.34	723.81	723.27	722.74	722.21	721.67	721.14	720.61	720.08	719.54	719.01	718.48	717.94	717.39	716.79	716.13	715.42	714.66	Lt. Edge of Pvm't.

NORTHWEST LOOP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	27	389
U.S. 24 MIAMI CO.					LINE "NW-L"

PLOT DATE & TIME: JUN 12, 1987 - 16:10:13 - Plotted from: TRAN12

DESIGNED: Boyd Ehrlichberger, P.E. 6/83
 DRAWN: MKM 3/83, CHECKED: PJS 6/83
 REVISED: MKM 4/87, CHECKED: BMM 5/87
 SHEET REVISED: MARCH 1, 1993



Station	Lt. Edge of Pvm't.	Rt. Edge of Pvm't.
19+00	714.66	713.38
19+10	713.88	712.60
19+20	713.11	711.83
19+30	712.33	711.05
19+40	711.56	710.28
19+50	710.78	709.50
20+00	710.01	708.73
20+10	709.23	707.95
20+20	708.46	707.18
20+30	707.69	706.40
20+40	706.91	705.63
20+50	706.14	704.85
21+00	705.36	704.08
21+10	704.59	703.31
21+20	703.81	702.56
21+30	703.04	701.87
21+40	702.21	701.21
21+50	701.55	700.55
22+00	699.90	698.90
22+10	698.24	698.24
22+20	698.58	698.58
22+30	697.92	697.92
22+40	697.26	697.26
22+50	696.60	696.60
23+00	695.94	695.94
23+10	695.29	695.29
23+20	694.63	694.63
23+30	693.97	693.97
23+40		
23+50		
24+00		
24+10		
24+20		
24+30		
24+40		
24+50		
25+00		
25+10		
25+20		
25+30		
25+40		
25+50		
26+00		
26+10		
26+20		
26+30		
26+40		
26+50		

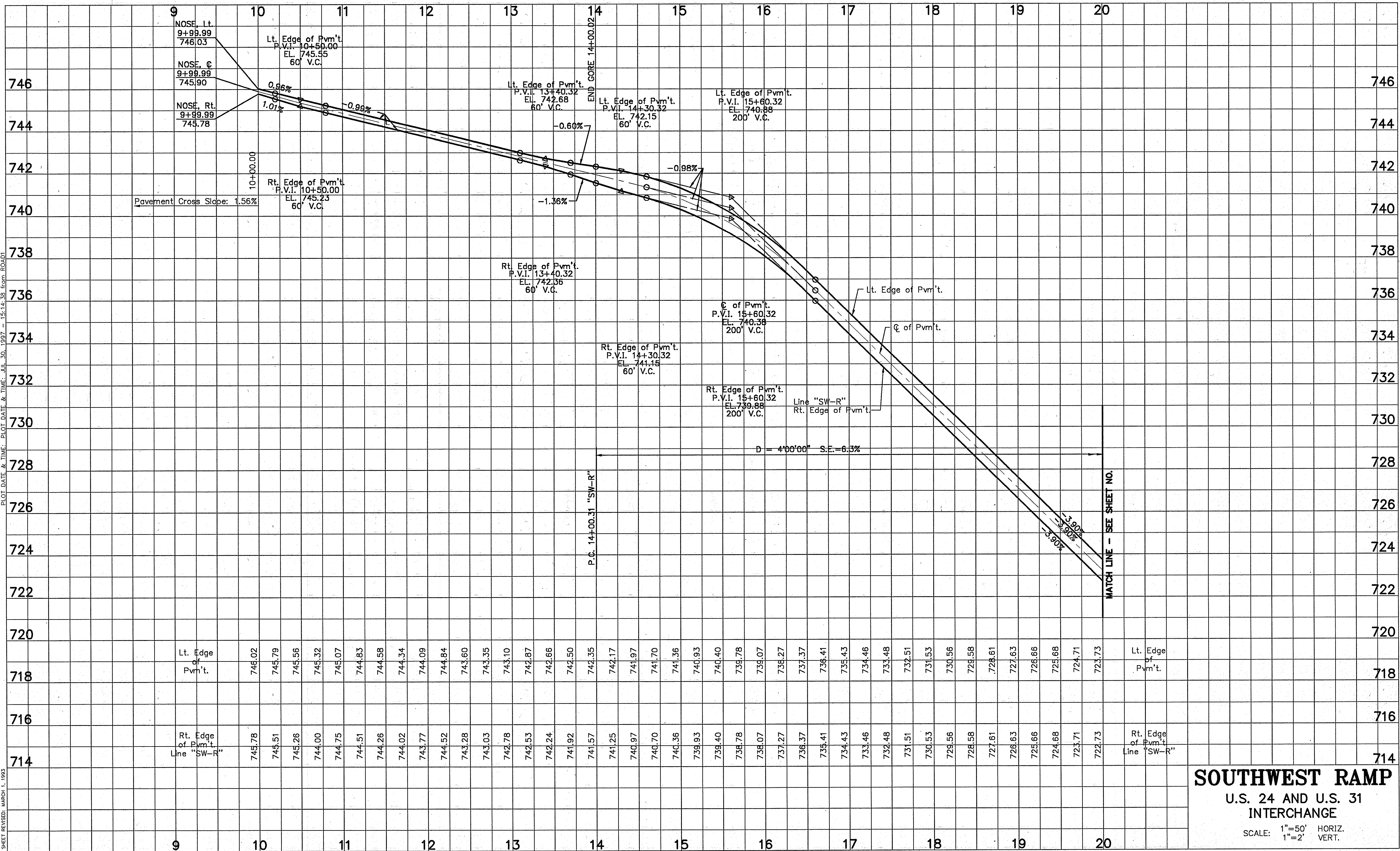
NORTHWEST LOOP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	28	389

U.S. 24 MIAMI CO. **LINE "NW-L"**

PLOT DATE & TIME: JUL 30, 1997 - 15:14:38 from ROAD1

DESIGNED BY: [unreadable]
 DRAWN BY: [unreadable]
 CHECKED BY: [unreadable]
 SHEET REVISION: MARCH 1, 1993



SOUTHWEST RAMP

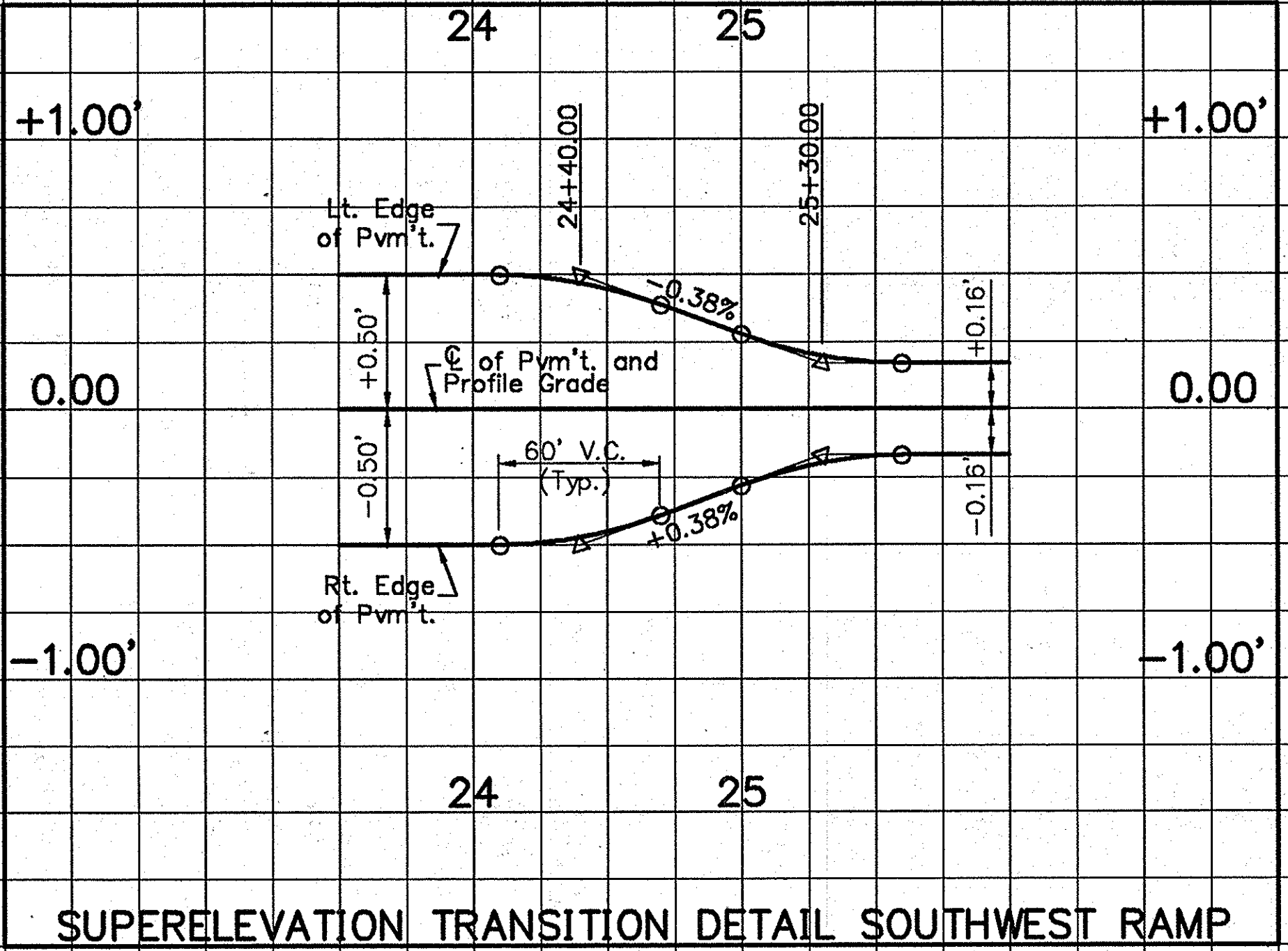
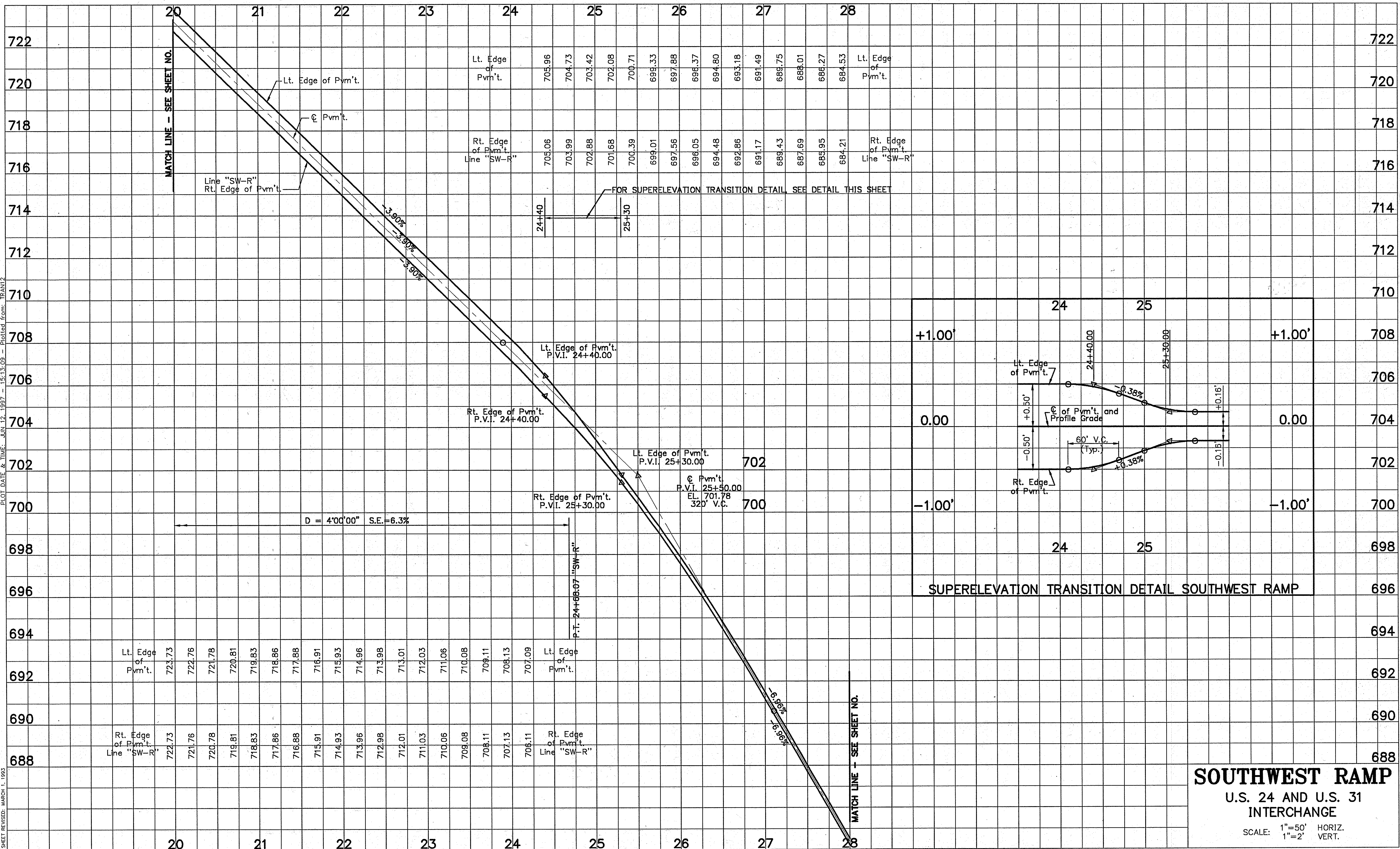
U.S. 24 AND U.S. 31
INTERCHANGE

SCALE: 1"=50' HORIZ.
1"=2' VERT.

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5-(001)	1998	29	389
U.S. 24 MIAMI CO.				LINE "SW-R"	

PLOT DATE & TIME: JUN 12, 1997 - 15:13:09 - Plotted from: TRAN12

DESIGNED BY: B. J. BROWN, P.E.
 CHECKED BY: J. L. BROWN, P.E.
 DRAWN BY: J. L. BROWN
 SHEET REVISION: MARCH 1, 1993



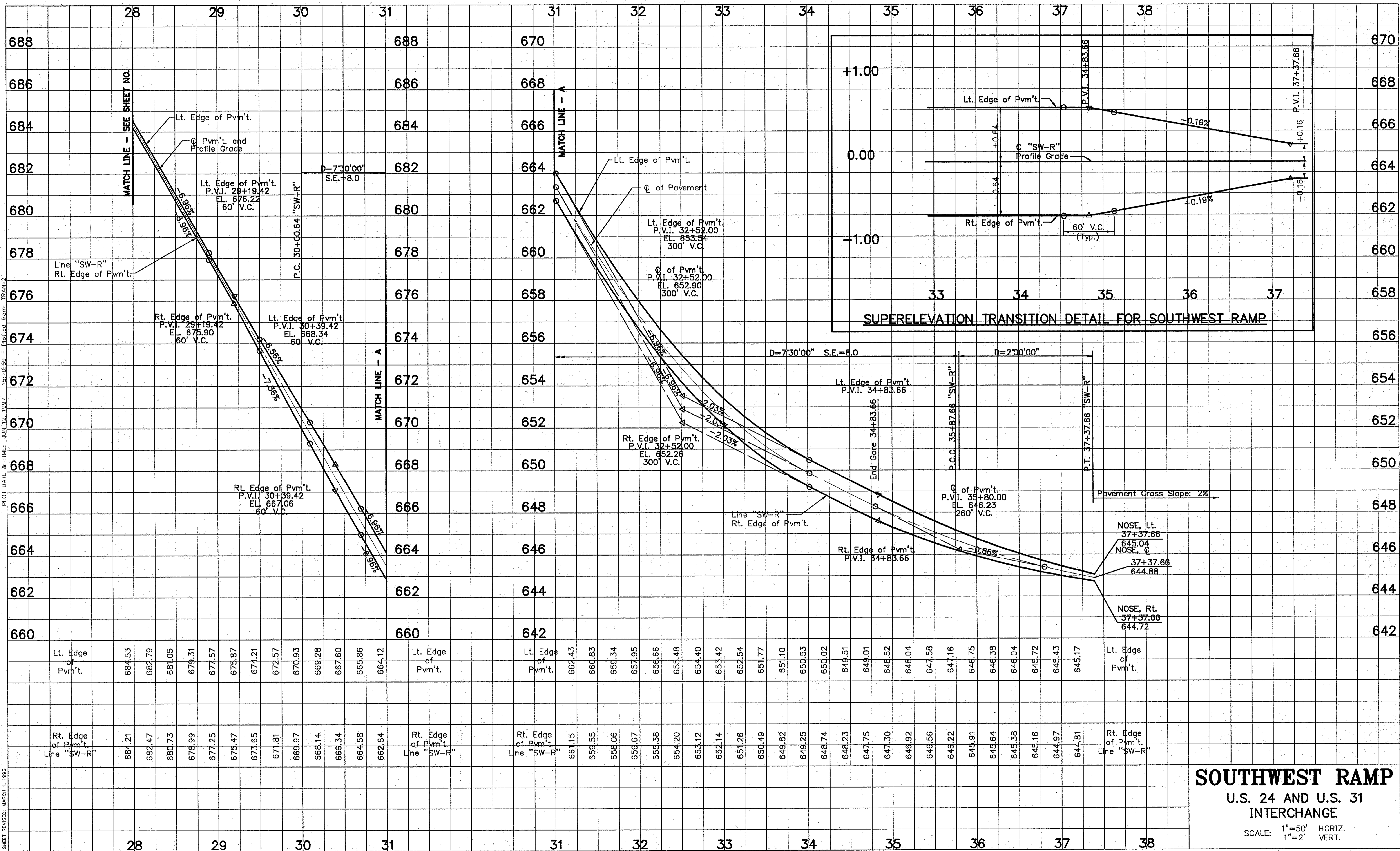
SOUTHWEST RAMP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	30	389

U.S. 24 MIAMI CO. LINE "SW-R"

PLOT DATE & TIME: JUN 12, 1987 - 15:10:59 - Plotted from: TRAN12

REGION: Boyd Philadelphia, PG 6/83
 DRAWN: S.C. 2/7/83, CHECKED: E.G. 8/83
 REVISED: 3/81/87, CHECKED: J.M. 3/87
 SHEET REVISED: MARCH 1, 1993



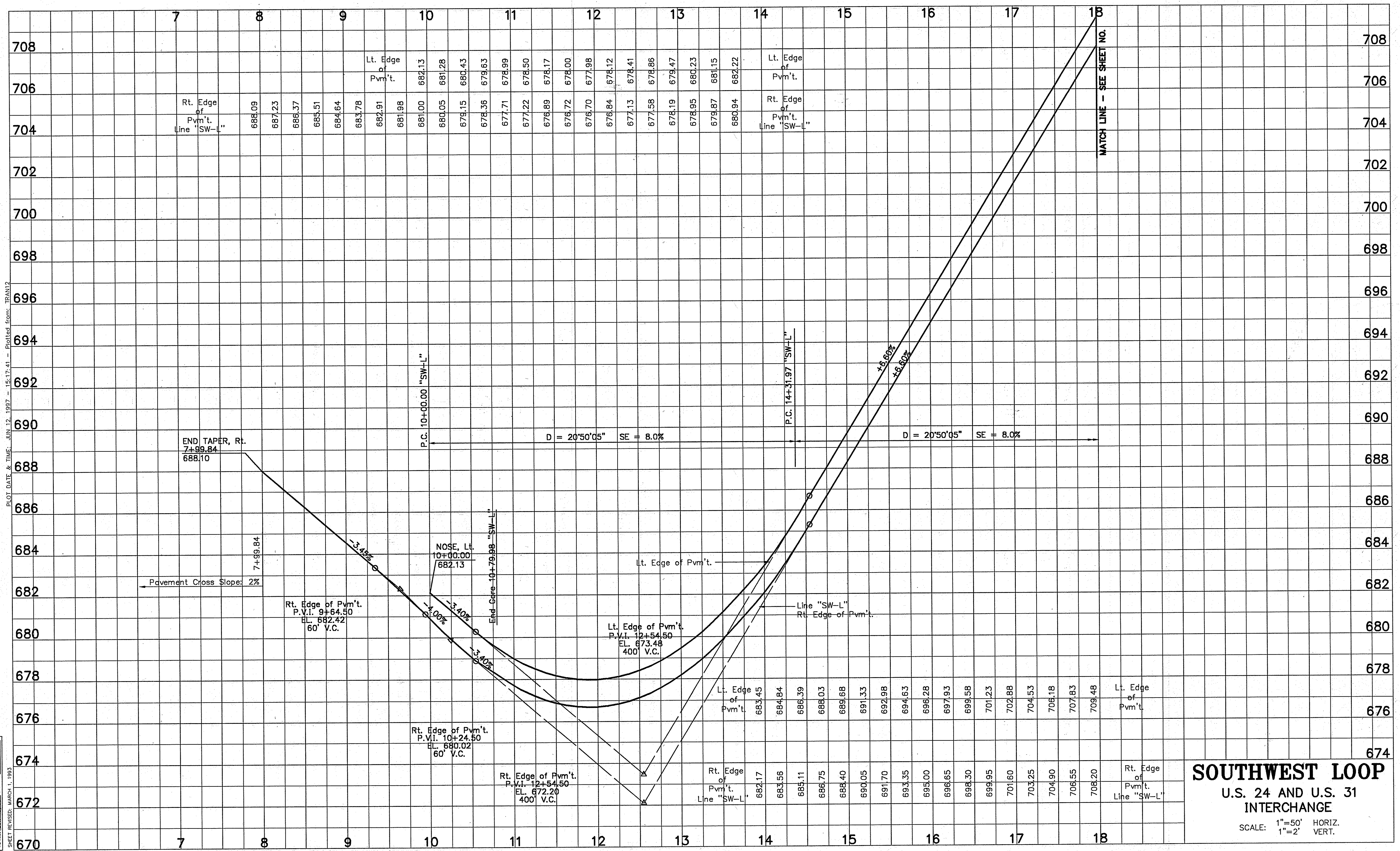
SOUTHWEST RAMP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	31	389

U.S. 24 MIAMI CO. **LINE "SW-R"**

PLOT DATE & TIME: JUN 12, 1987 - 15:17.41 - Plotted from: TRAN12

DESIGNED: Boyd Enterprises, Inc. 6/83
 DRAWN: JMK 3/93 CHECKED: JMK 6/93
 REVISION: SW 10/93 - CHANGE
 SHEET REVISED: MARCH 1, 1993



MATCH LINE - SEE SHEET NO.

SOUTHWEST LOOP

U.S. 24 AND U.S. 31 INTERCHANGE

SCALE: 1"=50' HORIZ.
 1"=2' VERT.

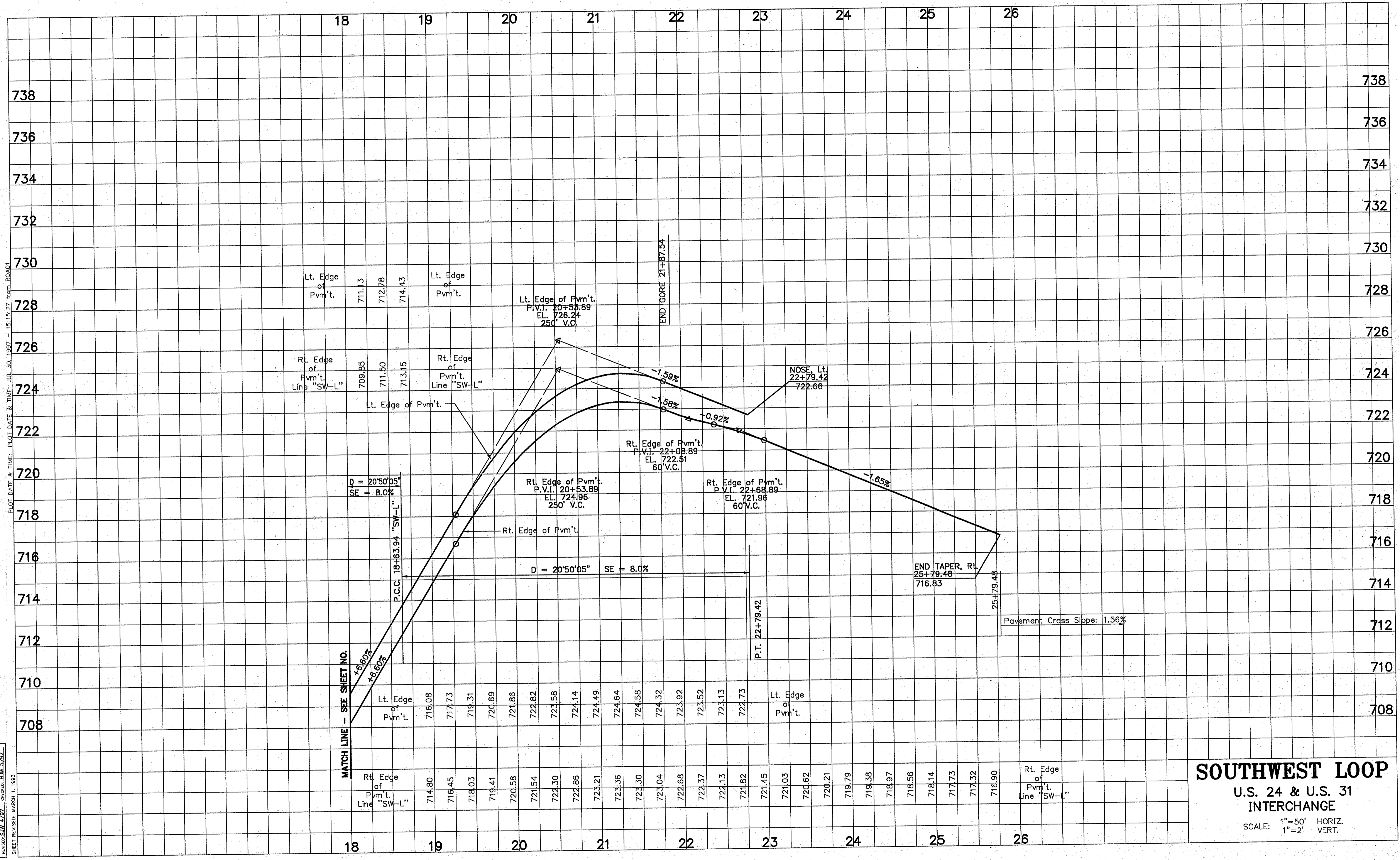
FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	32	389

U.S. 24 MIAMI CO. **LINE "SW-L"**

R-23637 M24SWL1/50

PLOT DATE & TIME: JUL 30, 1997 - 15:15:27 from ROAD1

Reserve Road Improvements: P.G. 6/93
 Drawn: MKM 3/93 checked: P.G. 6/93
 Revised: SWL 4/97 checked: BLM 5/97
 SHEET REVISED: MARCH 1, 1995



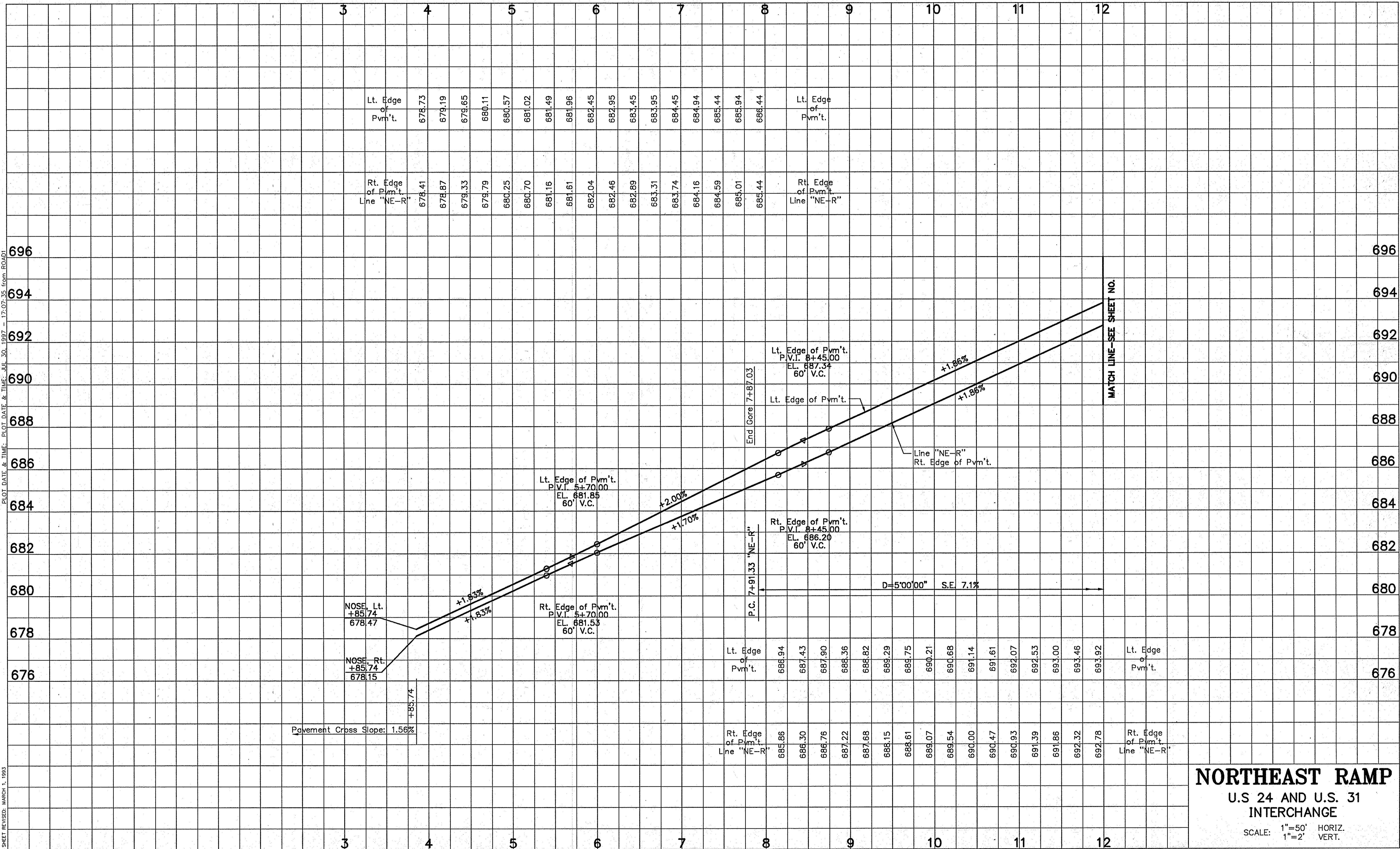
SOUTHWEST LOOP
 U.S. 24 & U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	33	389

U.S. 24 MIAMI CO. LINE "SW-L"

PLOT DATE & TIME: JUL 30, 1997 - 17:07:35 from ROAD1

REFERENCE: Road Rehabilitation, PG 6/83
 DRAWN: S.C. 8/83 - CHECKED: G.B. 9/83
 REVISION: 3/97 - CHECKED: B.M. 5/97
 SHEET REVISED: MARCH 11, 1993

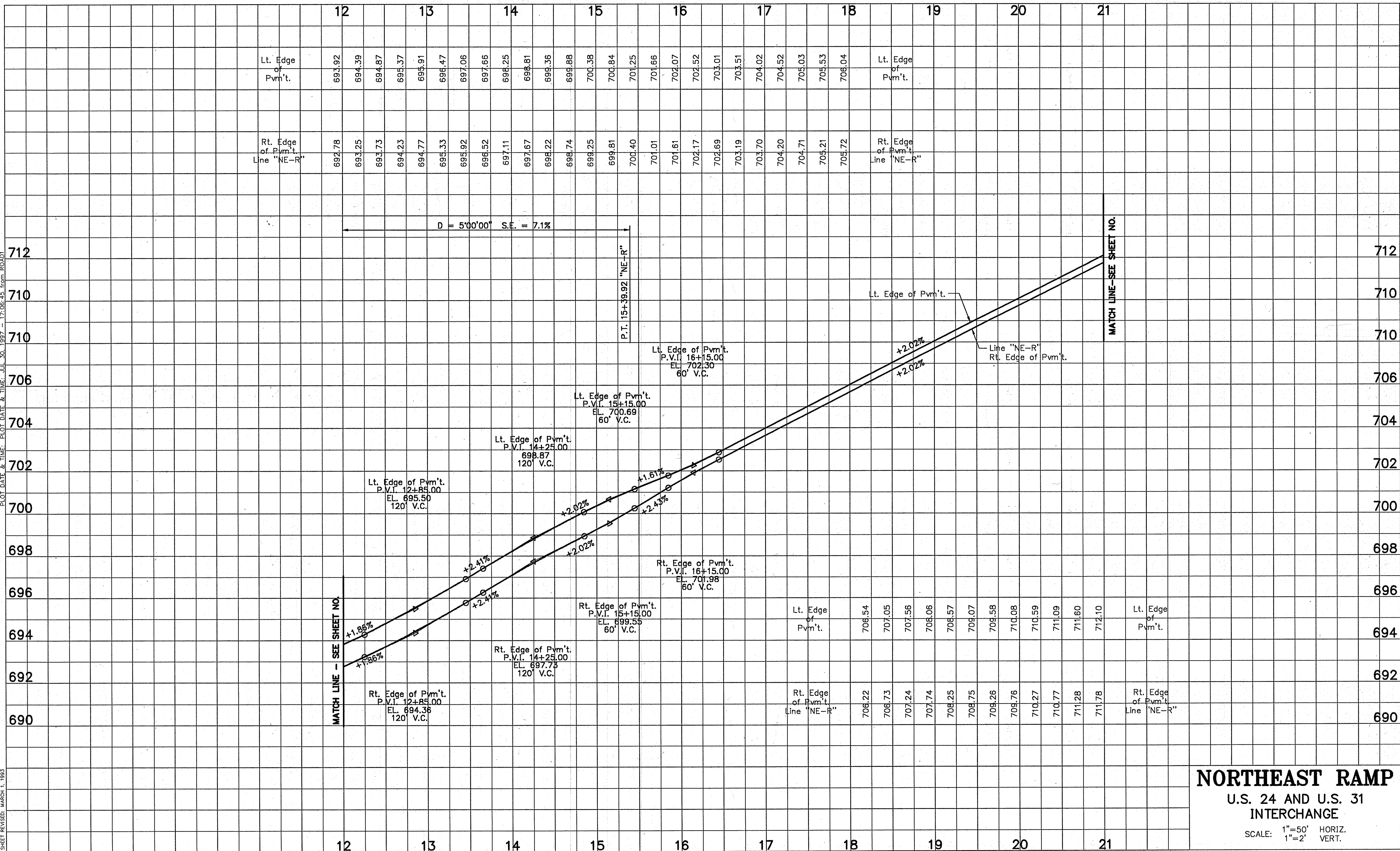


NORTHEAST RAMP
 U.S 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	34	389
U.S. 24 MIAMI CO.					LINE "NE-R"

PLOT DATE & TIME: JUL 30, 1997 - 17:06:45 from ROAD1

DESIGNED: Boyd Engineering, P.L.C. 6/93
 DRAWN: S.G. 3/93, CHECKED: P.G. 6/93
 REVISION: SW, 11/93, CHECKED: MAR 11/93
 SHEET REVISED: MARCH 1, 1993



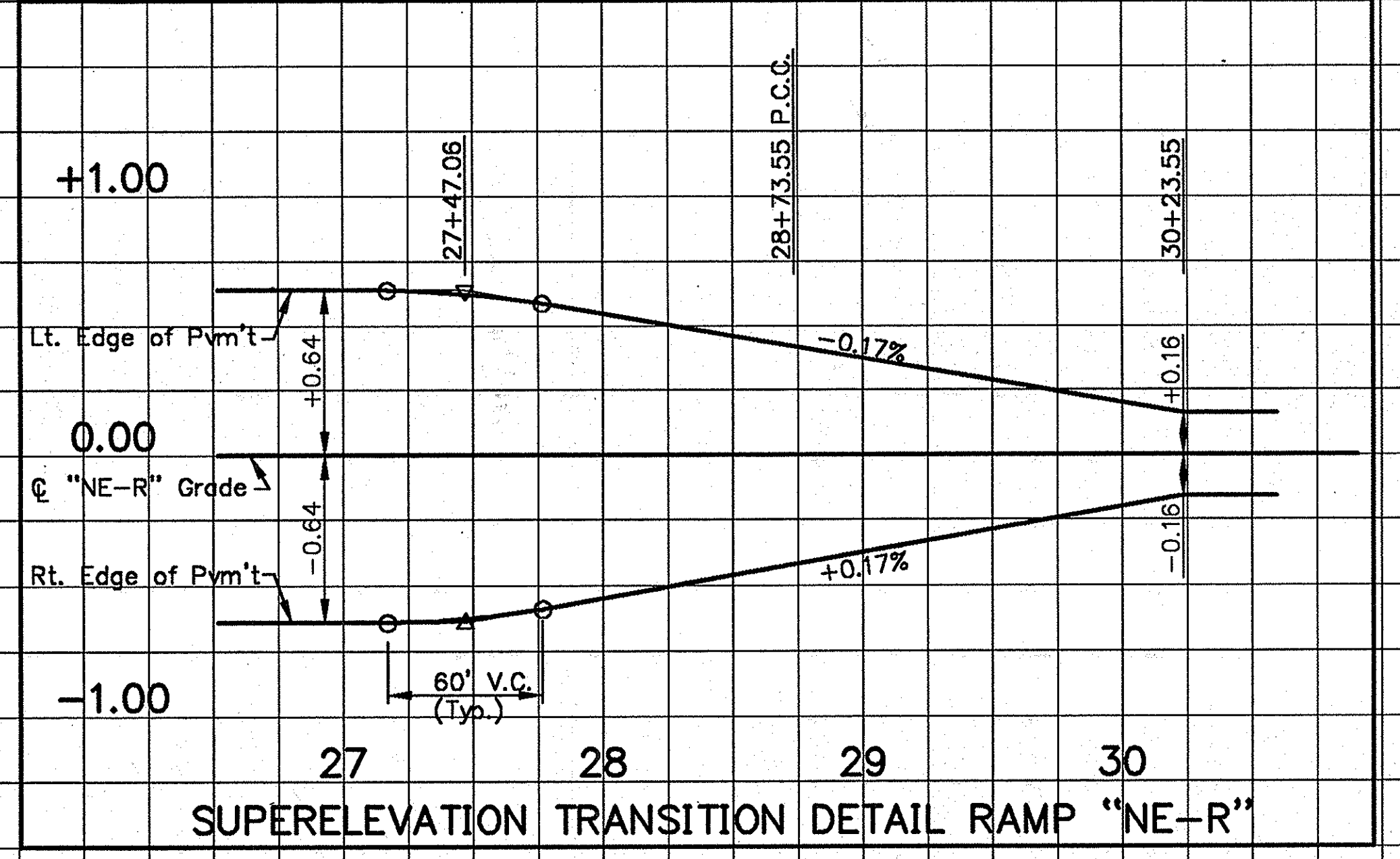
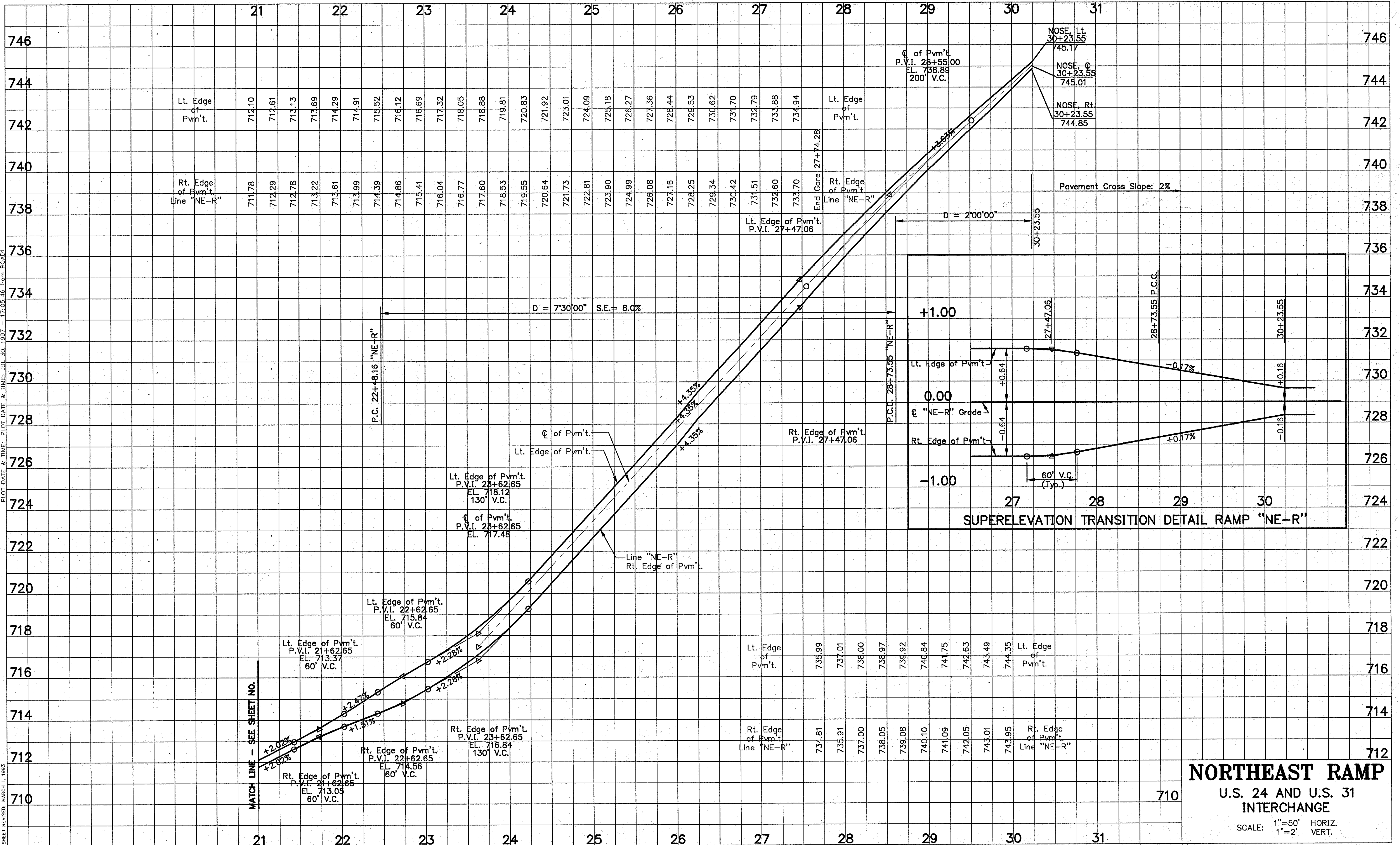
NORTHEAST RAMP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	35	389

U.S. 24 MIAMI CO. LINE "NE-R"

PLOT DATE & TIME: JUL 30, 1997 - 17:05:46 from ROAD1

DESIGNED BY: ENGINEERING, INC. 8/93
 DRAWN BY: SW/7/94
 CHECKED BY: SW/7/94
 SHEET REVISED: MARCH 1, 1993



NORTHEAST RAMP

U.S. 24 AND U.S. 31 INTERCHANGE

SCALE: 1"=50' HORIZ.
 1"=2' VERT.

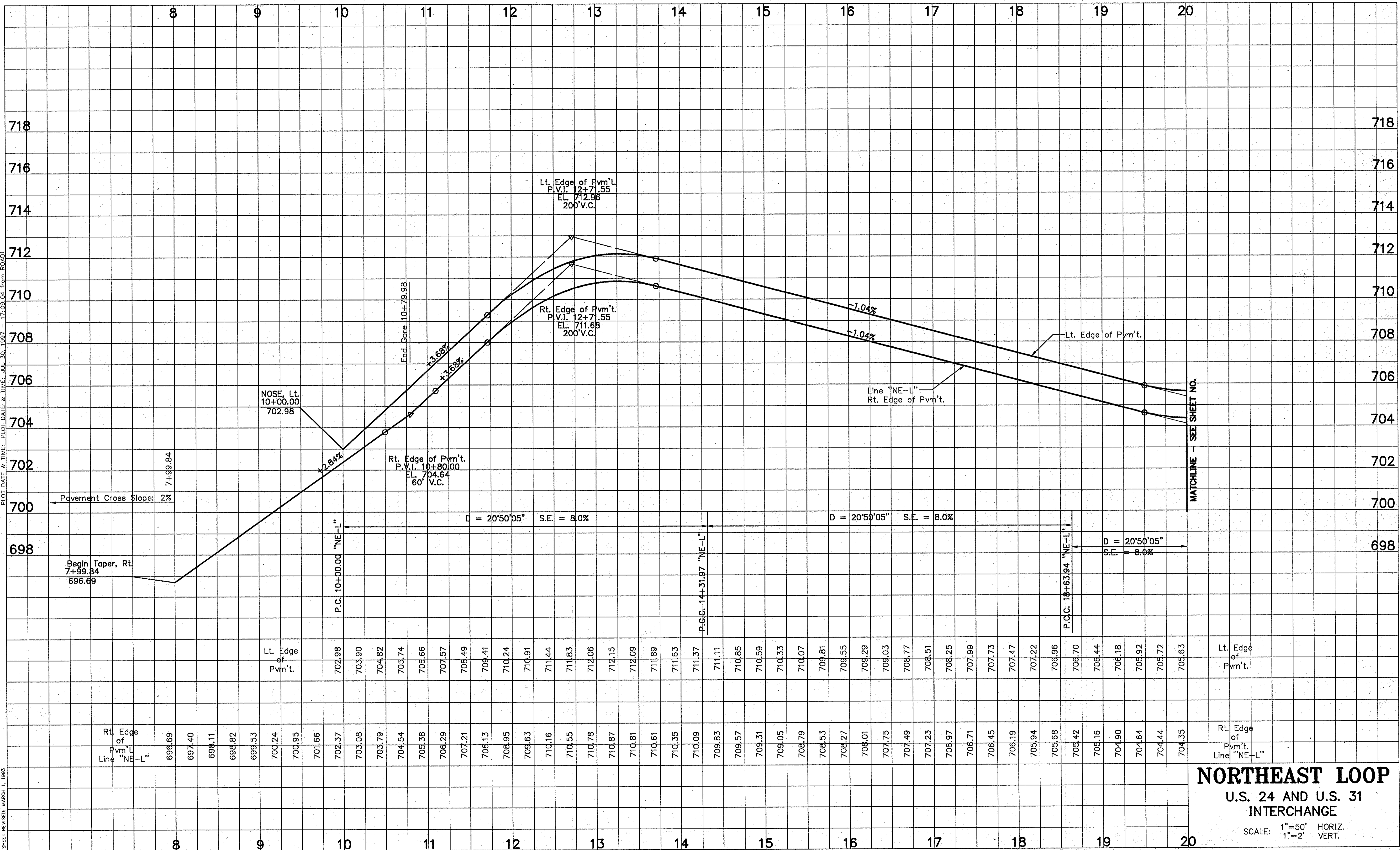
FEDERAL REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	36	389

U.S. 24 MIAMI CO. LINE "NE-R"

R-23637 M24NER3/50

PLOT DATE & TIME: JUL 30, 1997 - 17:09:04 from ROAD1

DESIGNED BY: Boyd Engineering, Inc. 8/83
 DRAWN BY: M. J. ... 11/83
 CHECKED BY: M. J. ... 11/83
 SHEET REVISED: MARCH 11, 1993



Station	Rt. Edge of Pvm't. Line "NE-L"	Lt. Edge of Pvm't.
7+99.84	696.69	
8+00.00	697.40	
8+10.00	698.11	
8+20.00	698.82	
8+30.00	699.53	
8+40.00	700.24	
8+50.00	700.95	
8+60.00	701.66	
8+70.00	702.37	
8+80.00	703.08	
8+90.00	703.79	
9+00.00	704.50	
9+10.00	705.21	
9+20.00	705.92	
9+30.00	706.63	
9+40.00	707.34	
9+50.00	708.05	
9+60.00	708.76	
9+70.00	709.47	
9+80.00	710.18	
9+90.00	710.89	
10+00.00	711.60	
10+10.00	712.31	
10+20.00	713.02	
10+30.00	713.73	
10+40.00	714.44	
10+50.00	715.15	
10+60.00	715.86	
10+70.00	716.57	
10+80.00	717.28	
10+90.00	717.99	
11+00.00	718.70	
11+10.00	719.41	
11+20.00	720.12	
11+30.00	720.83	
11+40.00	721.54	
11+50.00	722.25	
11+60.00	722.96	
11+70.00	723.67	
11+80.00	724.38	
11+90.00	725.09	
12+00.00	725.80	
12+10.00	726.51	
12+20.00	727.22	
12+30.00	727.93	
12+40.00	728.64	
12+50.00	729.35	
12+60.00	730.06	
12+70.00	730.77	
12+80.00	731.48	
12+90.00	732.19	
13+00.00	732.90	
13+10.00	733.61	
13+20.00	734.32	
13+30.00	735.03	
13+40.00	735.74	
13+50.00	736.45	
13+60.00	737.16	
13+70.00	737.87	
13+80.00	738.58	
13+90.00	739.29	
14+00.00	740.00	
14+10.00	740.71	
14+20.00	741.42	
14+30.00	742.13	
14+40.00	742.84	
14+50.00	743.55	
14+60.00	744.26	
14+70.00	744.97	
14+80.00	745.68	
14+90.00	746.39	
15+00.00	747.10	
15+10.00	747.81	
15+20.00	748.52	
15+30.00	749.23	
15+40.00	750.00	
15+50.00	750.77	
15+60.00	751.54	
15+70.00	752.31	
15+80.00	753.08	
15+90.00	753.85	
16+00.00	754.62	
16+10.00	755.39	
16+20.00	756.16	
16+30.00	756.93	
16+40.00	757.70	
16+50.00	758.47	
16+60.00	759.24	
16+70.00	760.01	
16+80.00	760.78	
16+90.00	761.55	
17+00.00	762.32	
17+10.00	763.09	
17+20.00	763.86	
17+30.00	764.63	
17+40.00	765.40	
17+50.00	766.17	
17+60.00	766.94	
17+70.00	767.71	
17+80.00	768.48	
17+90.00	769.25	
18+00.00	770.02	
18+10.00	770.79	
18+20.00	771.56	
18+30.00	772.33	
18+40.00	773.10	
18+50.00	773.87	
18+60.00	774.64	
18+70.00	775.41	
18+80.00	776.18	
18+90.00	776.95	
19+00.00	777.72	
19+10.00	778.49	
19+20.00	779.26	
19+30.00	780.03	
19+40.00	780.80	
19+50.00	781.57	
19+60.00	782.34	
19+70.00	783.11	
19+80.00	783.88	
19+90.00	784.65	
20+00.00	785.42	

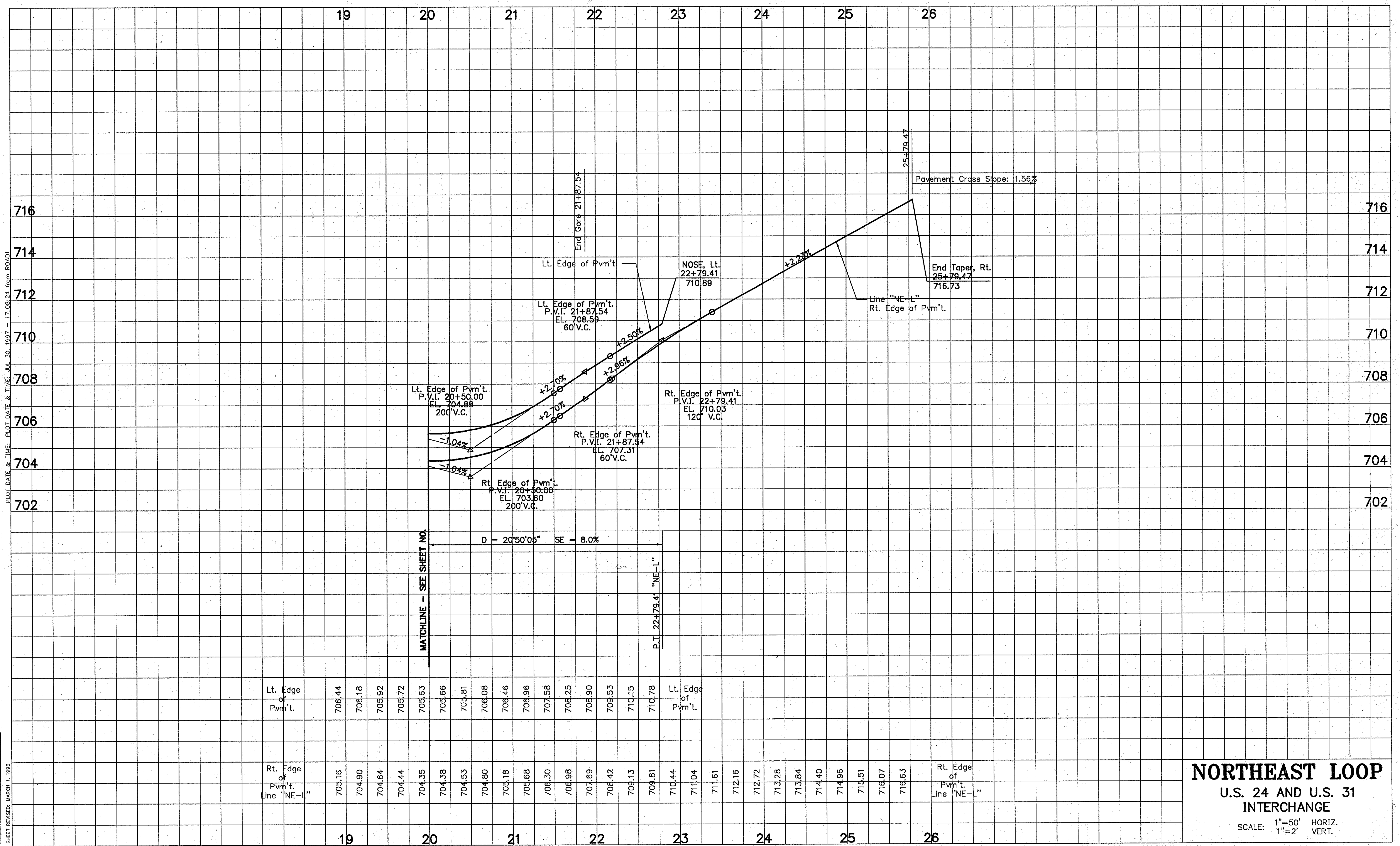
NORTHEAST LOOP
 U.S. 24 AND U.S. 31
 INTERCHANGE

SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5-(001)	1998	37	389
U.S. 24 MIAMI CO.					LINE "NEL-L"

PLOT DATE & TIME: JUL 30, 1997 - 17:08:24 from ROAD1

DESIGNED BY: B. J. B. / 8/3
 DRAWN BY: J. J. / 7/97
 CHECKED BY: S. W. / 5/97
 SHEET REVISED: MARCH 1, 1993



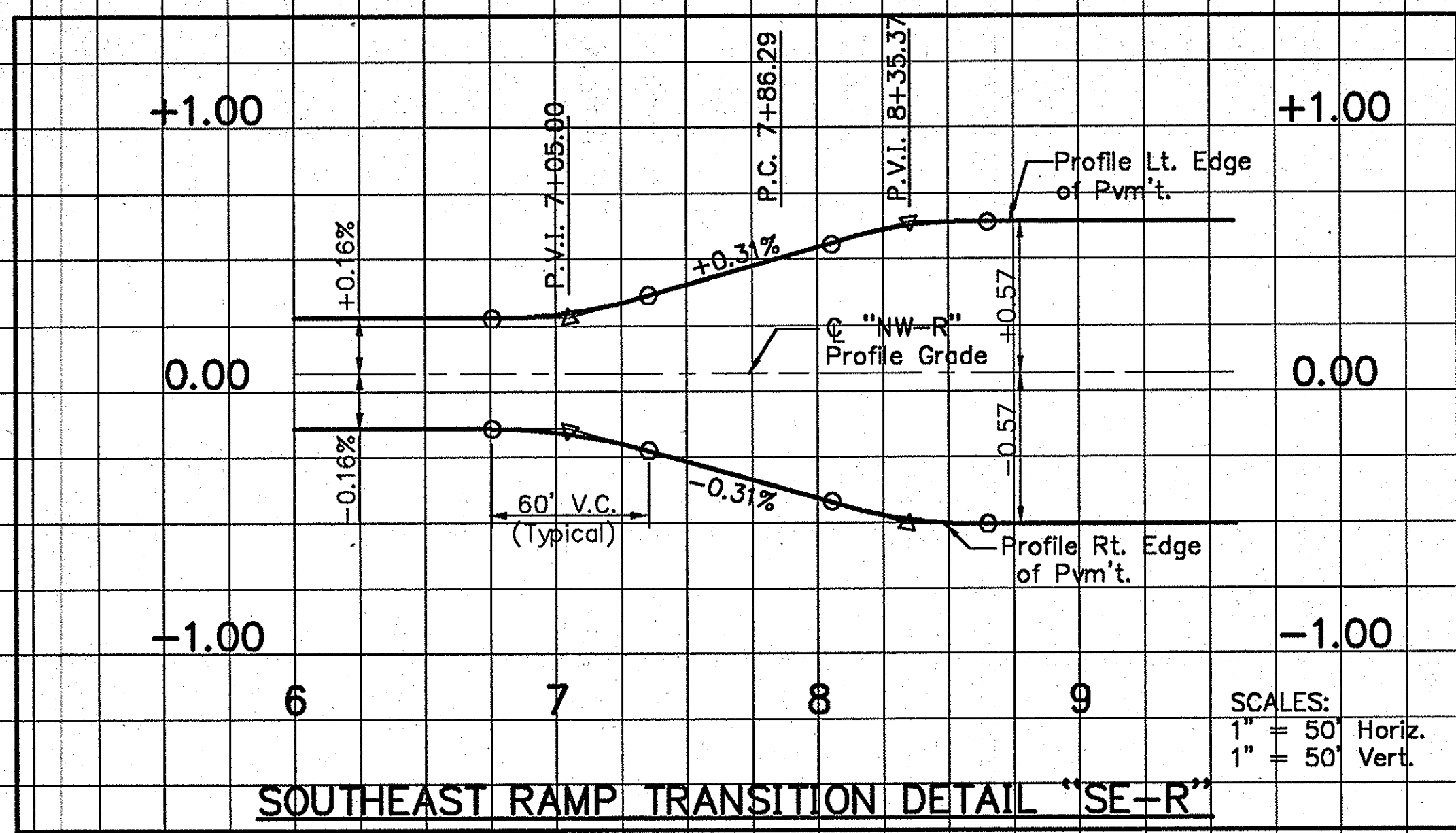
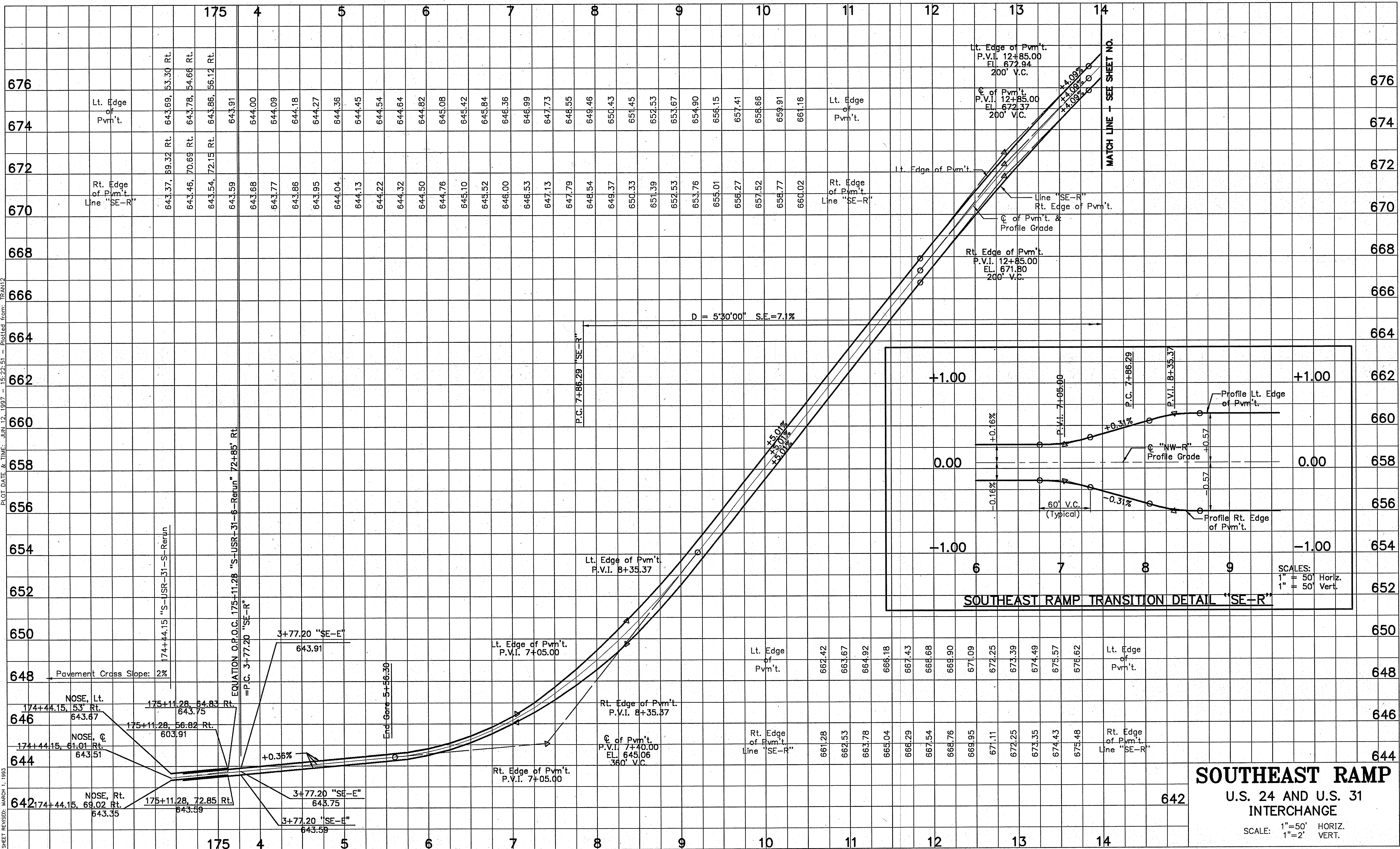
Station	Lt. Edge of Pvm't.	Rt. Edge of Pvm't.
19.5	705.44	705.16
20.0	706.18	704.90
20.5	705.92	704.64
21.0	705.72	704.44
21.5	705.63	704.35
22.0	705.66	704.38
22.5	705.81	704.53
23.0	706.08	704.80
23.5	706.46	705.18
24.0	706.96	705.68
24.5	707.58	706.30
25.0	708.25	706.98
25.5	708.90	707.69
26.0	709.53	708.42
26.5	710.15	709.13
27.0	710.78	709.81
27.5	Lt. Edge of Pvm't.	710.44
28.0		711.04
28.5		711.61
29.0		712.16
29.5		712.72
30.0		713.28
30.5		713.84
31.0		714.40
31.5		714.96
32.0		715.51
32.5		716.07
33.0		716.63
33.5		Rt. Edge of Pvm't.
34.0		Line "NE-L"

NORTHEAST LOOP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	38	389
U.S. 24 MIAMI CO.		LINE "NE-L"			

PLOT DATE & TIME: JUN 12 1997 - 15:22:51 - Plotted from: TRAN2

DESIGNED BY: [unreadable] DATE: 8/93
 DRAWN BY: [unreadable] DATE: 1/98
 CHECKED BY: [unreadable] DATE: 1/98
 SHEET REVISIONS: MARCH 1, 1993



SOUTHEAST RAMP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

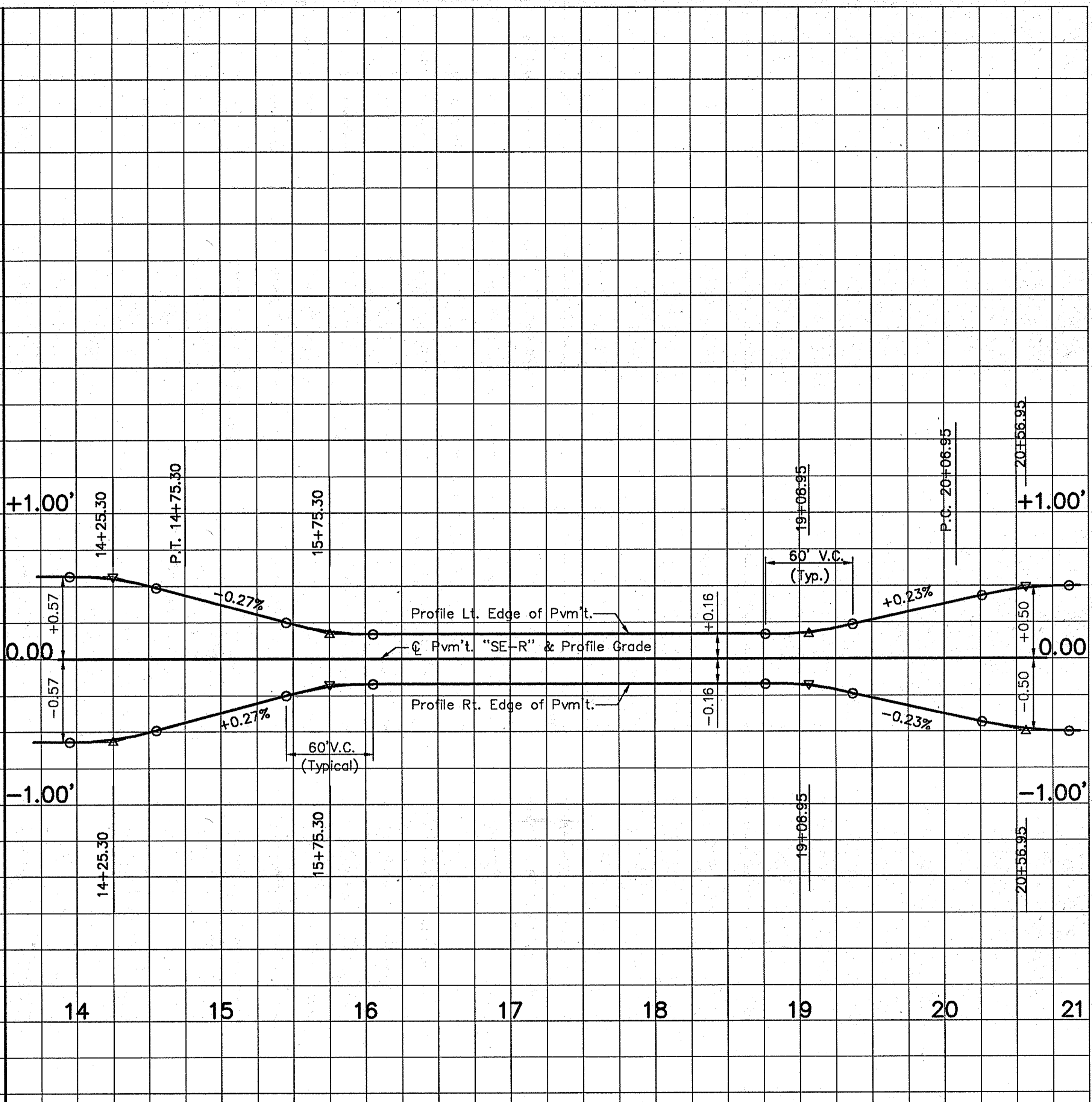
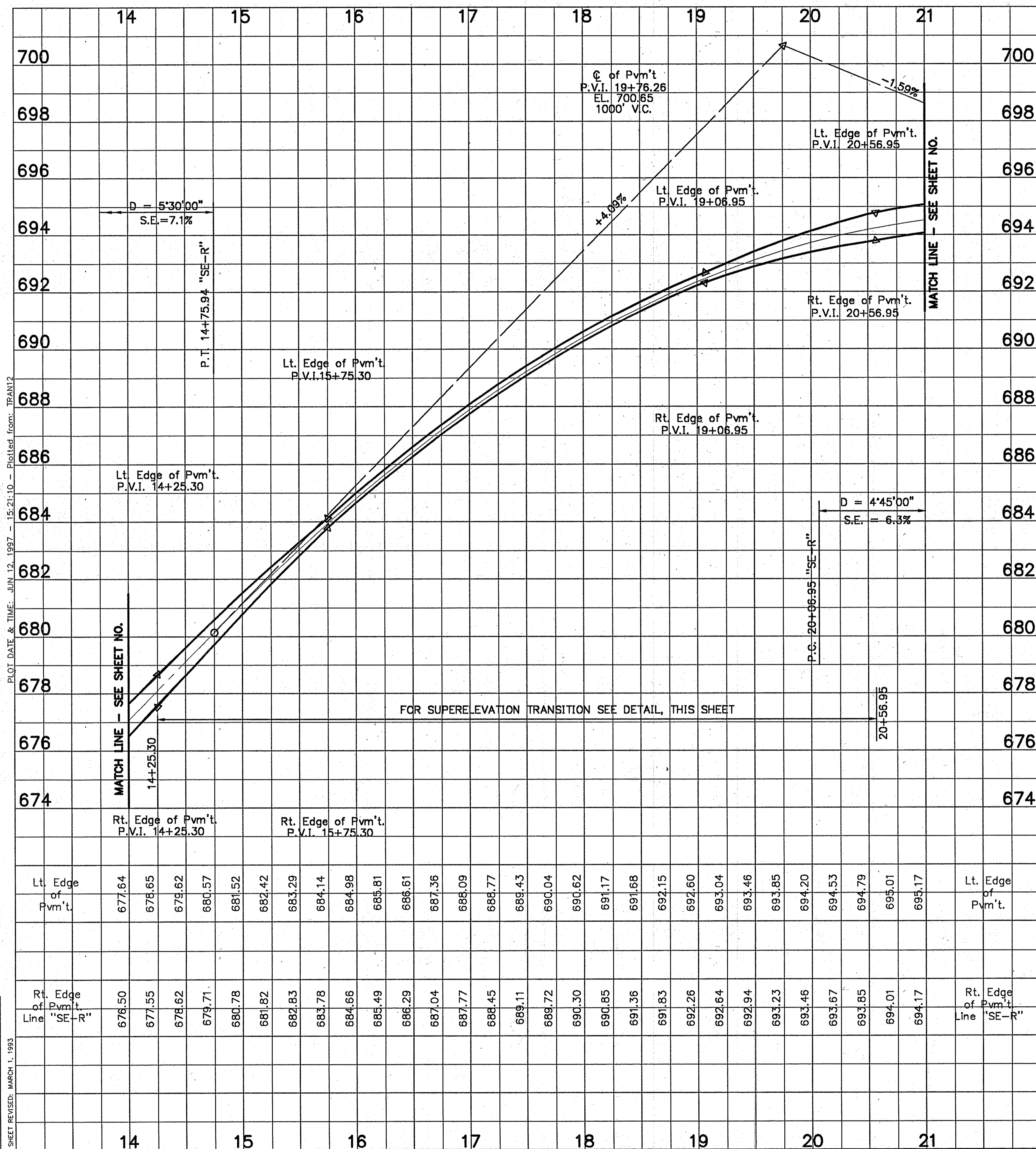
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	39	389

U.S. 24 MIAMI CO. LINE "SE-R"

PLOT DATE & TIME: JUN 12 1987 - 15:21:10 - Plotted from: TRAN12

SHEET REVISED: MARCH 11, 1993

DESIGNED BY: B. J. BARNETT
 CHECKED BY: J. L. BARNETT
 DRAWN BY: J. L. BARNETT
 PROJECT: S.W. 2/84 - CHECKED: B.M. 4/87



SOUTHEAST RAMP TRANSITION DETAIL

SCALES:
 1" = 50' HORIZ.
 1" = .50' VERT.

SOUTHEAST RAMP
 U.S. 24 AND U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

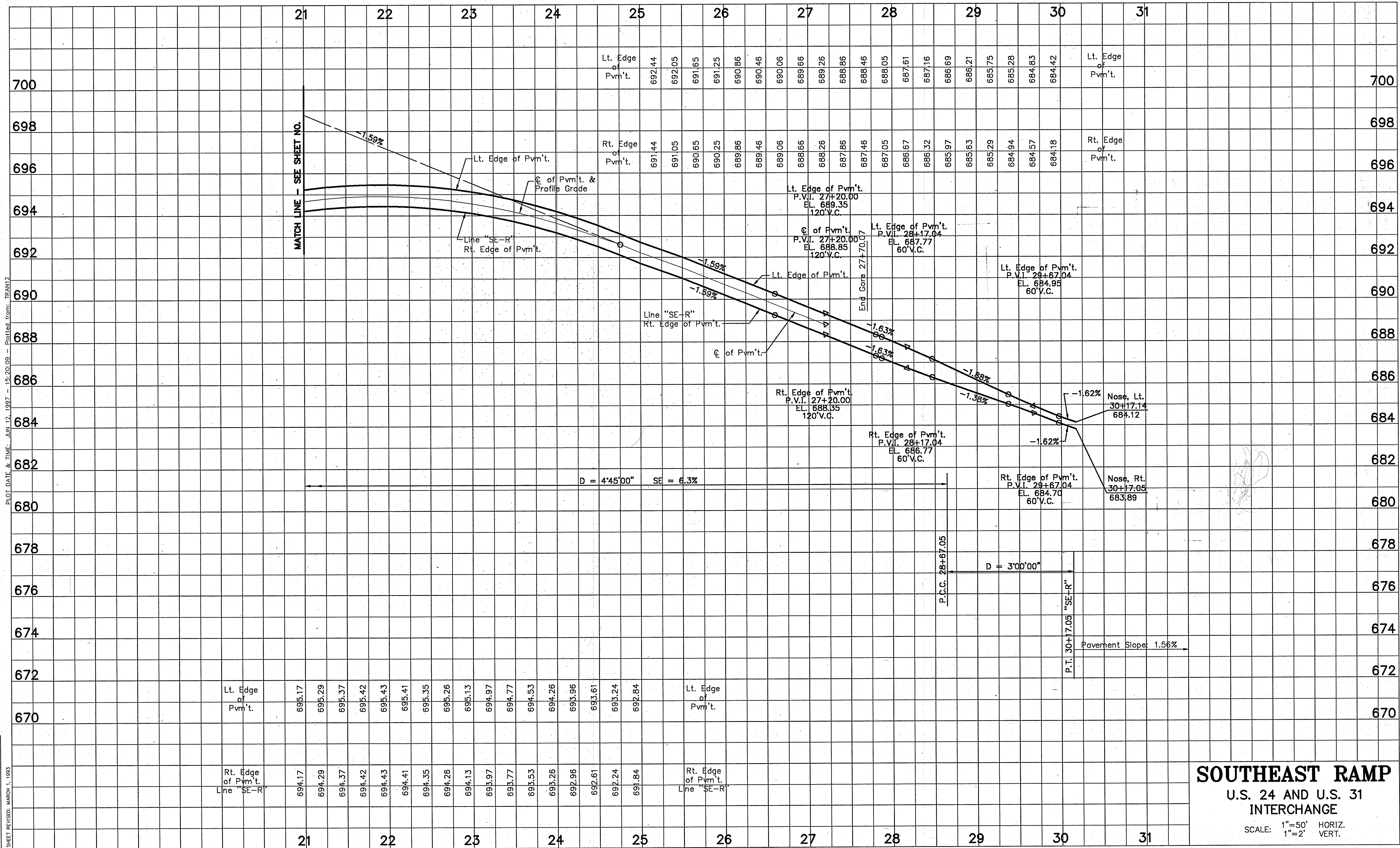
Lt. Edge of Pvm't.	677.64	678.65	679.62	680.57	681.52	682.42	683.29	684.14	684.98	685.81	686.61	687.36	688.09	688.77	689.43	690.04	690.62	691.17	691.68	692.15	692.60	693.04	693.46	693.85	694.20	694.53	694.79	695.01	695.17	Lt. Edge of Pvm't.
Rt. Edge of Pvm't. Line "SE-R"	676.50	677.55	678.62	679.71	680.78	681.82	682.83	683.78	684.66	685.49	686.29	687.04	687.77	688.45	689.11	689.72	690.30	690.85	691.36	691.83	692.26	692.64	692.94	693.23	693.46	693.67	693.85	694.01	694.17	Rt. Edge of Pvm't. Line "SE-R"

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	40	389
U.S. 24 MIAMI CO.					LINE "SE-R"

PLOT DATE & TIME: JUN 12, 1997 - 15:20:09 - Plotted from: TRAN12

DESIGNED: David Thompson DATE: 8/93
 DRAWN: SC 2/94 CHECKED: JG 8/93
 REVISED: 3/94

SHEET REVISED: MARCH 1, 1993



SOUTHEAST RAMP

U.S. 24 AND U.S. 31 INTERCHANGE

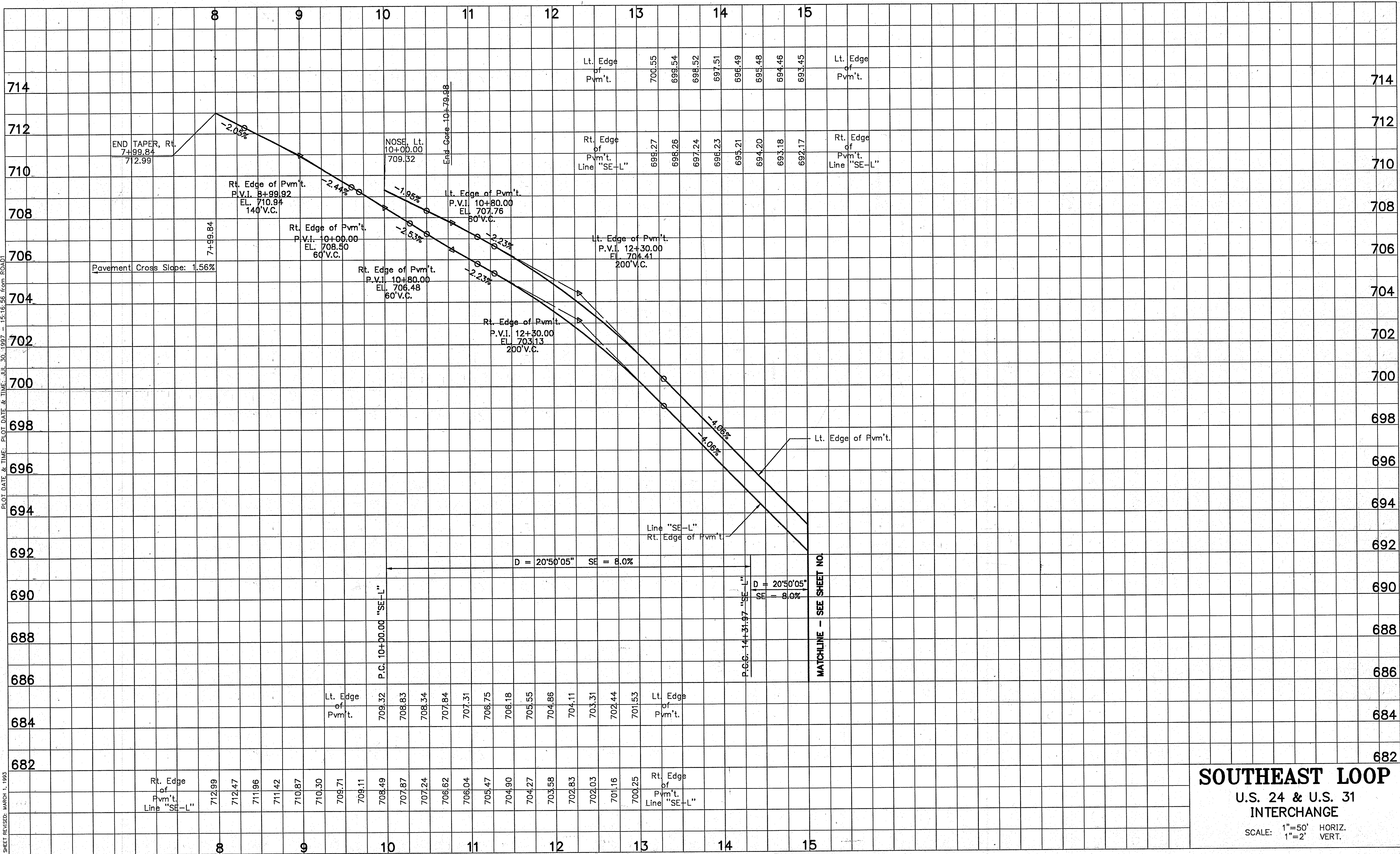
SCALE: 1"=50' HORIZ.
1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	41	389

U.S. 24 MIAMI CO. **LINE "SE-R"**

PLOT DATE & TIME: JUL 30, 1997 - 15:16:56 from ROAD1

DESIGNED BY: Boyd Childers, P.E. 6/93
 DRAWN BY: MIC 3/93 - checked: P.E. 5/93 -
 REVISION: SW 2/97 - checked: BM 3/97
 SHEET REVISED: MARCH 1, 1993



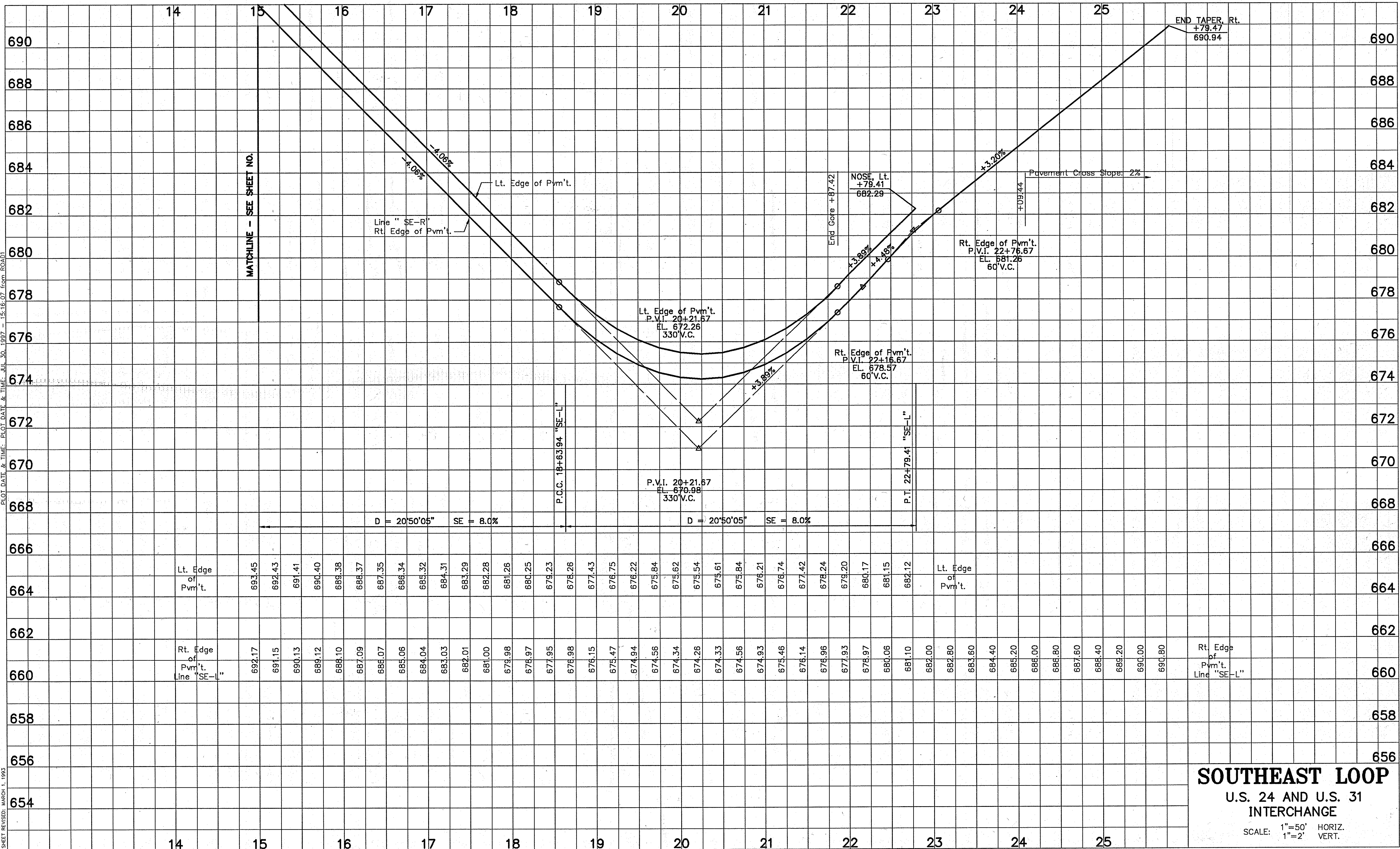
SOUTHEAST LOOP
 U.S. 24 & U.S. 31
 INTERCHANGE
 SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	42	389

U.S. 24 MIAMI CO. **LINE "SE-L"**

PLOT DATE & TIME: JUL 30, 1997 - 15:16:07 from ROAD1

DESIGNED BY: [unreadable] DATE: 8/93
 DRAWN BY: [unreadable] DATE: 10/93
 CHECKED BY: [unreadable] DATE: 4/97
 SHEET REVISION: MARCH 1, 1993



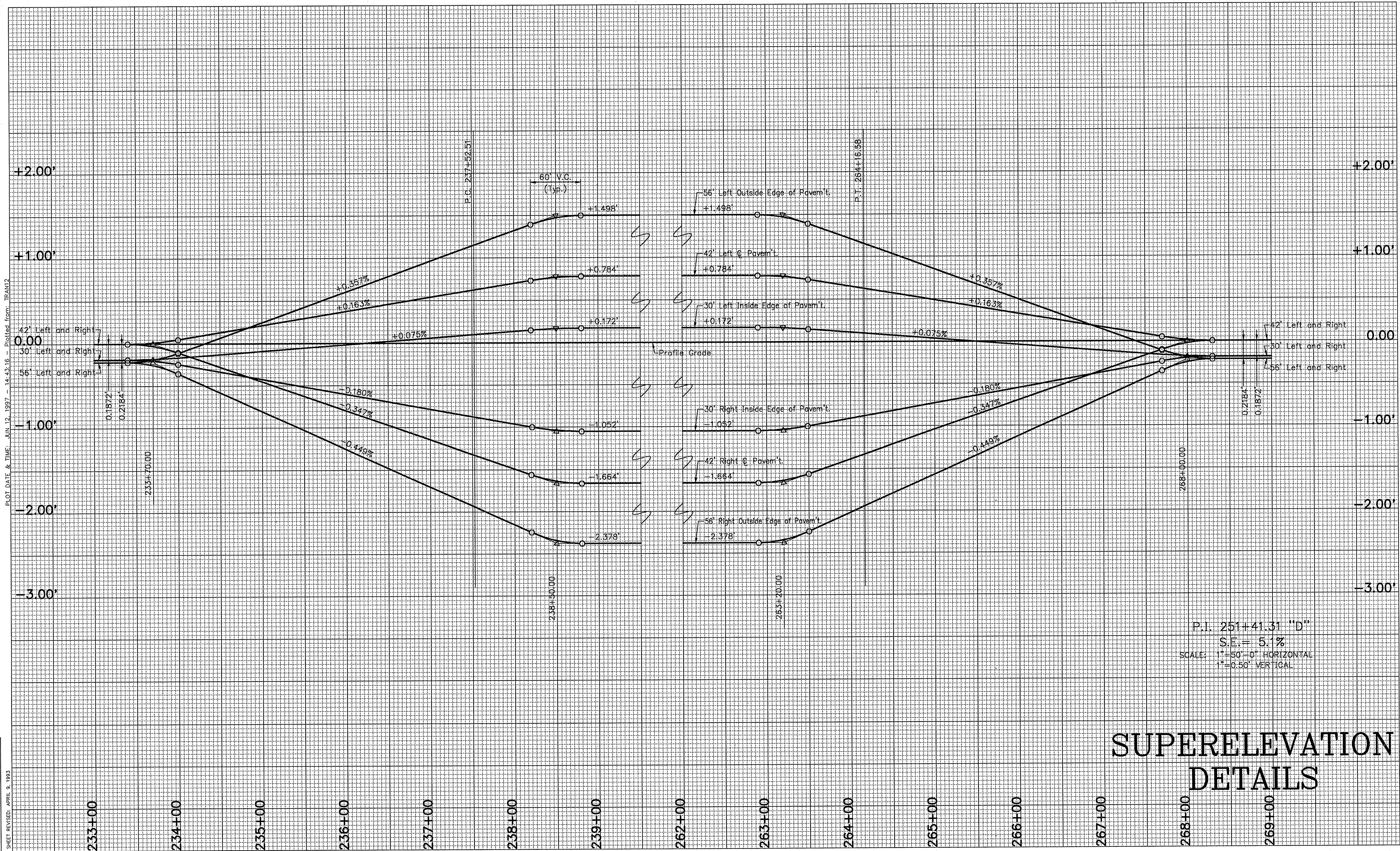
SOUTHEAST LOOP
 U.S. 24 AND U.S. 31
 INTERCHANGE

SCALE: 1"=50' HORIZ.
 1"=2' VERT.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	43	389
U.S. 24 MIAMI CO.					LINE "SE-L"

PLOT DATE & TIME: JUN 12 1997 14:43:16 - Plotted from: TRAN12

DESIGNED: JWG 8/93 CHECKED: JWG
 DRAWN: KAY 11/97 REVISIONS: JWG 12/97
 SHEET REVISED: APRIL 9, 1993

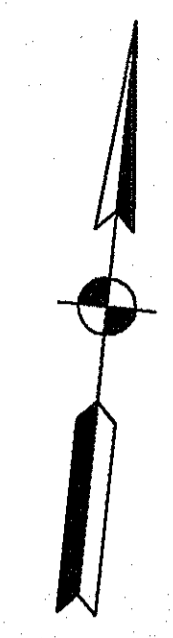


P.I. 251+41.31 "D"
 S.E. = 5.1%
 SCALE: 1" = 50'-0" HORIZONTAL
 1" = 0.50" VERTICAL

SUPERELEVATION DETAILS

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-145-5(001)	1998	44	389

U.S. 24 LINE "D"



END NH-PROJECT NO. 146-5(001)
STATION 372+50.00 "D"

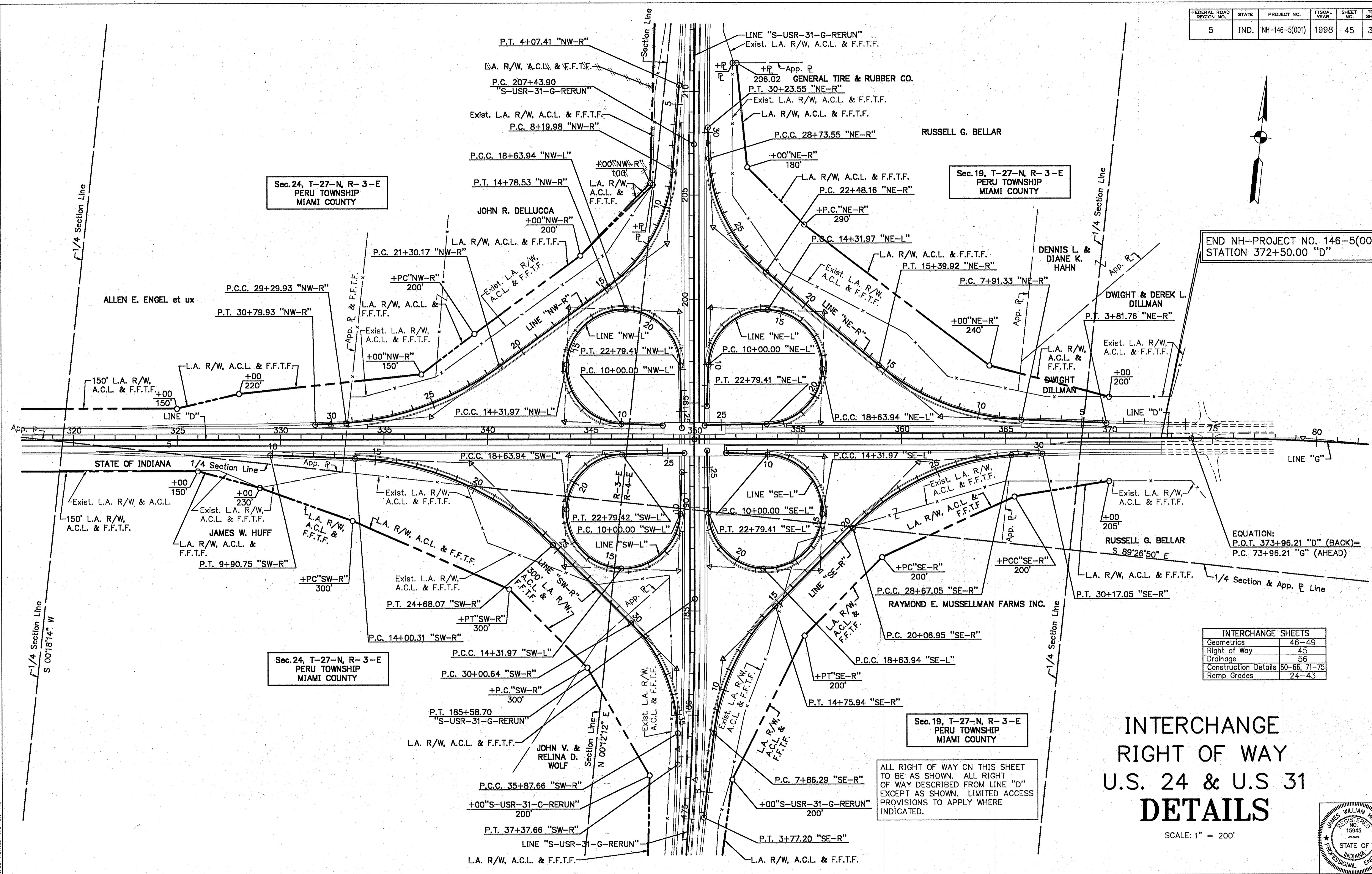
INTERCHANGE SHEETS	
Geometrics	46-49
Right of Way	45
Drainage	56
Construction Details	60-66, 71-75
Ramp Grades	24-43

INTERCHANGE RIGHT OF WAY U.S. 24 & U.S. 31 DETAILS

SCALE: 1" = 200'



ALL RIGHT OF WAY ON THIS SHEET TO BE AS SHOWN. ALL RIGHT OF WAY DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

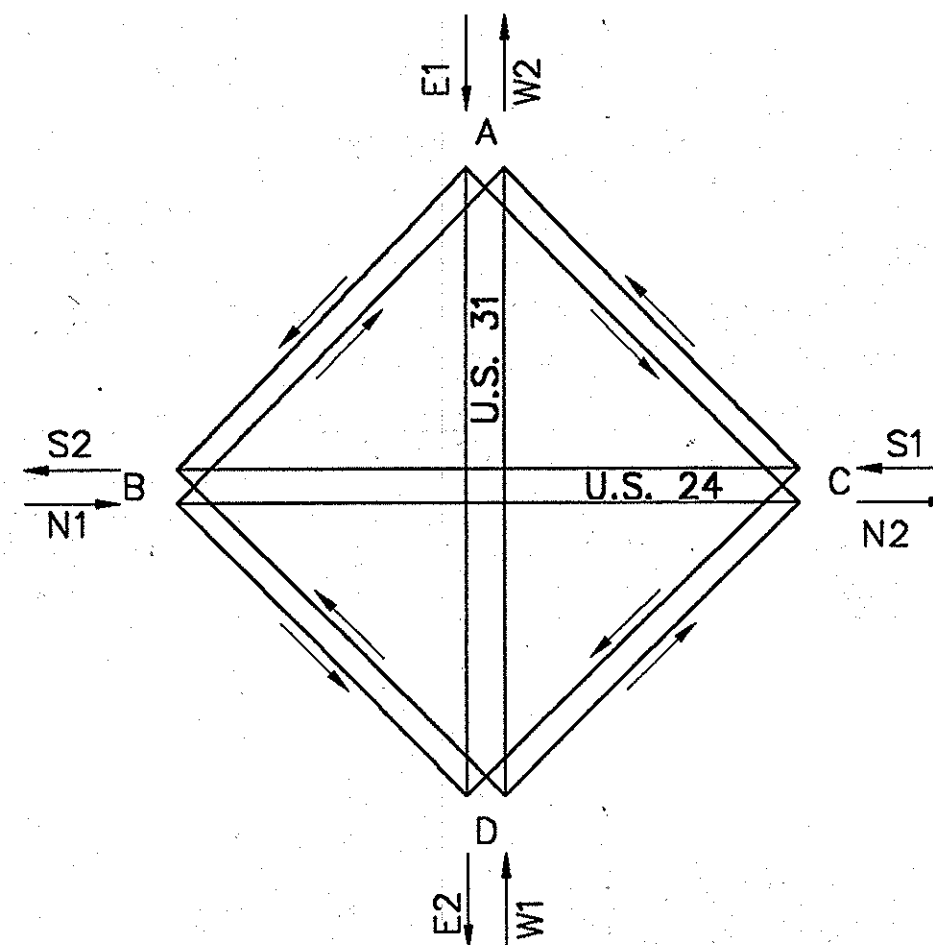


DESIGNER: CHUCK COOK
 DRAWN: KAY A/03
 REVISION: DML 5/03
 SHEET REVISED: JULY 20, 1992
 PLOT DATE & TIME: JUL 31, 1997 - 09:00:28 from ROAD1

- ① **CURVE DATA**
P.I. 12+75.00 "NW-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
D = 20'50'05"
R = 275.00'
T = 275.00'
L = 431.97'
E = 113.91'
S.E. = 8.0%
- ② **CURVE DATA**
P.I. 17+06.97 "NW-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
D = 20'50'05"
R = 275.00'
T = 275.00'
L = 431.97'
E = 113.91'
S.E. = 8.0%
- ③ **CURVE DATA**
P.I. 21+22.92 "NW-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
D = 20'50'05"
R = 275.00'
T = 258.98'
L = 415.47'
E = 102.75'
S.E. = 8.0%

- ④ **CURVE DATA**
P.I. 30+04.95 "NW-R"
 $\Delta = 3^{\circ}00'00"$ Rt.
D = 2'00'00"
R = 2864.79'
T = 75.02'
L = 150.00'
E = 0.98'
S.E. = Transition
- ⑤ **CURVE DATA**
P.I. 25+41.02 "NW-R"
 $\Delta = 31^{\circ}58'07"$ Rt.
D = 4'00'00"
R = 1432.39'
T = 410.31'
L = 799.22'
E = 57.61'
S.E. = 6.3%
- ⑥ **CURVE DATA**
P.I. 11+71.19 "NW-R"
 $\Delta = 49^{\circ}23'27"$ Rt.
D = 7'30'00"
R = 763.94'
T = 351.31'
L = 658.55'
E = 76.90'
S.E. = 8.0%

- ⑦ **CURVE DATA**
P.I. 216+44.72 "S-USR-31-G-RERUN"
 $\Delta = 5^{\circ}58'00"$ Rt.
D = 0'19'53"
R = 17284.76'
T = 900.81'
L = 1800.00'
E = 23.46'
S.E. = NC

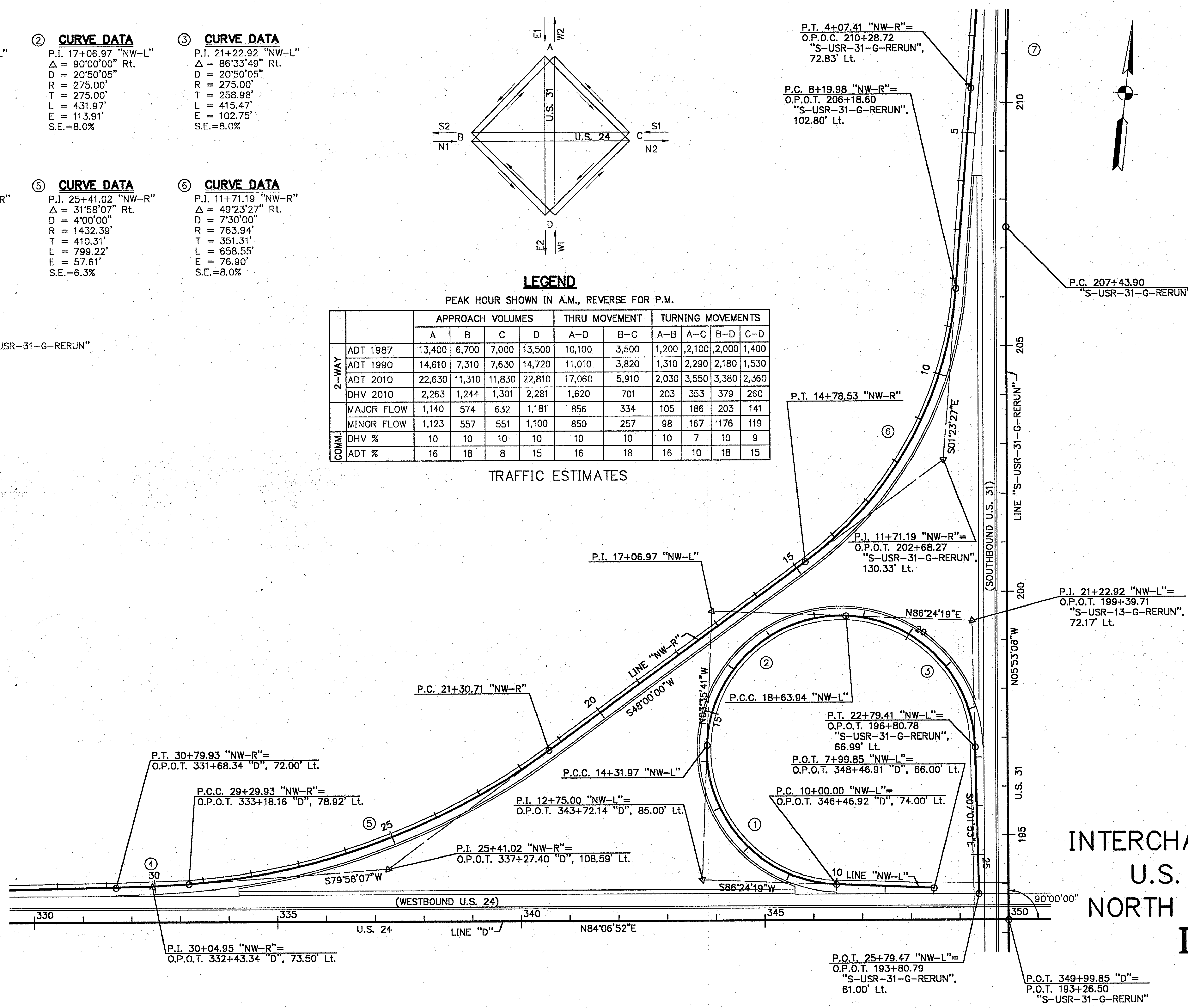


LEGEND

PEAK HOUR SHOWN IN A.M., REVERSE FOR P.M.

	APPROACH VOLUMES				THRU MOVEMENT		TURNING MOVEMENTS			
	A	B	C	D	A-D	B-C	A-B	A-C	B-D	C-D
2-WAY										
ADT 1987	13,400	6,700	7,000	13,500	10,100	3,500	1,200	2,100	2,000	1,400
ADT 1990	14,610	7,310	7,630	14,720	11,010	3,820	1,310	2,290	2,180	1,530
ADT 2010	22,630	11,310	11,830	22,810	17,060	5,910	2,030	3,550	3,380	2,360
DHV 2010	2,263	1,244	1,301	2,281	1,620	701	203	353	379	260
MAJOR FLOW	1,140	574	632	1,181	856	334	105	186	203	141
MINOR FLOW	1,123	557	551	1,100	850	257	98	167	176	119
COMM. DHV %	10	10	10	10	10	10	10	7	10	9
ADT %	16	18	8	15	16	18	16	10	18	15

TRAFFIC ESTIMATES



**INTERCHANGE GEOMETRICS
U.S. 24 & U.S. 31
NORTH WEST QUADRANT
DETAILS**

SCALE: 1" = 100'

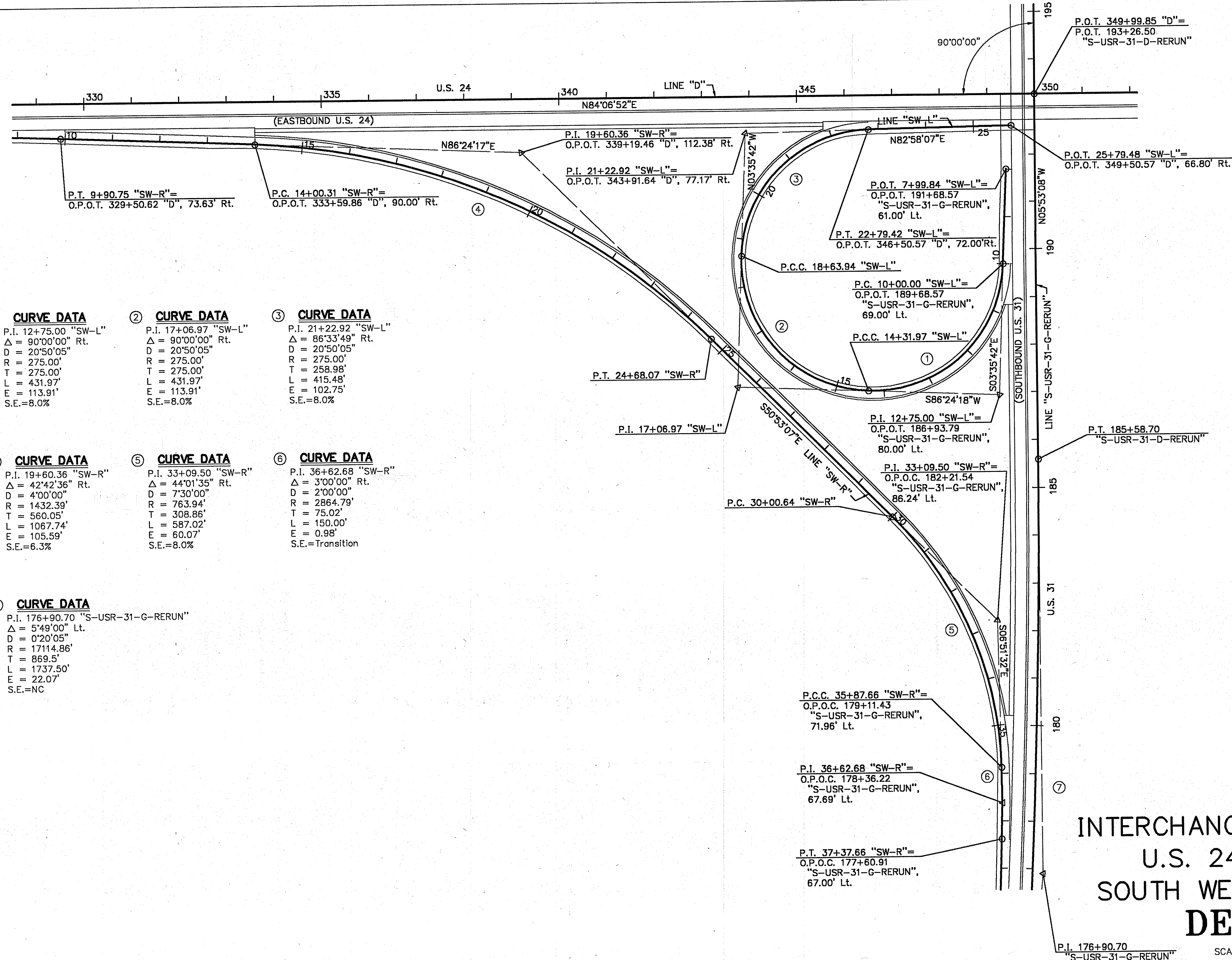
INTERCHANGE SHEETS

Geometrics	46-49
Right of Way	45
Drainage	56
Construction Details	62-64, 73-75
Ramp Grades	24-43



PLOT DATE & TIME: JUL 31, 1997 - 08:56:19 from ROAD1
 SHEET REVISION: JUL 20, 1992
 DESIGNED: P.J.C. 3/93, CHECKED: R.S. 2/94
 DRAWN: K.A.Y. 3/93, CHECKED: R.S. 2/94
 REVISION: D.H. 5/93, CHECKED: M.K. 3/94

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	47	389

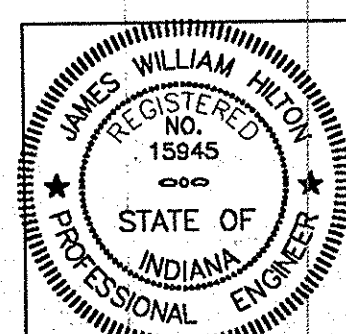


- ① CURVE DATA**
P.I. 12+75.00 "SW-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
D = 20'50'05"
R = 275.00'
T = 275.00'
L = 431.97'
E = 113.91'
S.E. = 8.0%
- ② CURVE DATA**
P.I. 17+06.97 "SW-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
D = 20'50'05"
R = 275.00'
T = 275.00'
L = 431.97'
E = 113.91'
S.E. = 8.0%
- ③ CURVE DATA**
P.I. 21+22.92 "SW-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
D = 20'50'05"
R = 275.00'
T = 258.98'
L = 415.48'
E = 102.75'
S.E. = 8.0%
- ④ CURVE DATA**
P.I. 19+60.36 "SW-R"
 $\Delta = 42^{\circ}42'36"$ Rt.
D = 4'00'00"
R = 1432.39'
T = 560.05'
L = 1067.74'
E = 105.59'
S.E. = 6.3%
- ⑤ CURVE DATA**
P.I. 33+09.50 "SW-R"
 $\Delta = 44^{\circ}01'35"$ Rt.
D = 7'30'00"
R = 763.94'
T = 308.86'
L = 587.02'
E = 60.07'
S.E. = 8.0%
- ⑥ CURVE DATA**
P.I. 36+62.68 "SW-R"
 $\Delta = 3^{\circ}00'00"$ Rt.
D = 2'00'00"
R = 2864.79'
T = 75.02'
L = 150.00'
E = 0.98'
S.E. = Transition
- ⑦ CURVE DATA**
P.I. 176+90.70 "S-USR-31-G-RERUN"
 $\Delta = 5^{\circ}49'00"$ Lt.
D = 0'20'05"
R = 17114.86'
T = 869.5'
L = 1737.50'
E = 22.07'
S.E. = NC

INTERCHANGE SHEETS	
Geometrics	46-49
Right of Way	45
Drainage	56
Construction Details	62-64, 71-73
Ramp Grades	24-43

INTERCHANGE GEOMETRICS U.S. 24 & U.S 31 SOUTH WEST QUADRANT DETAILS

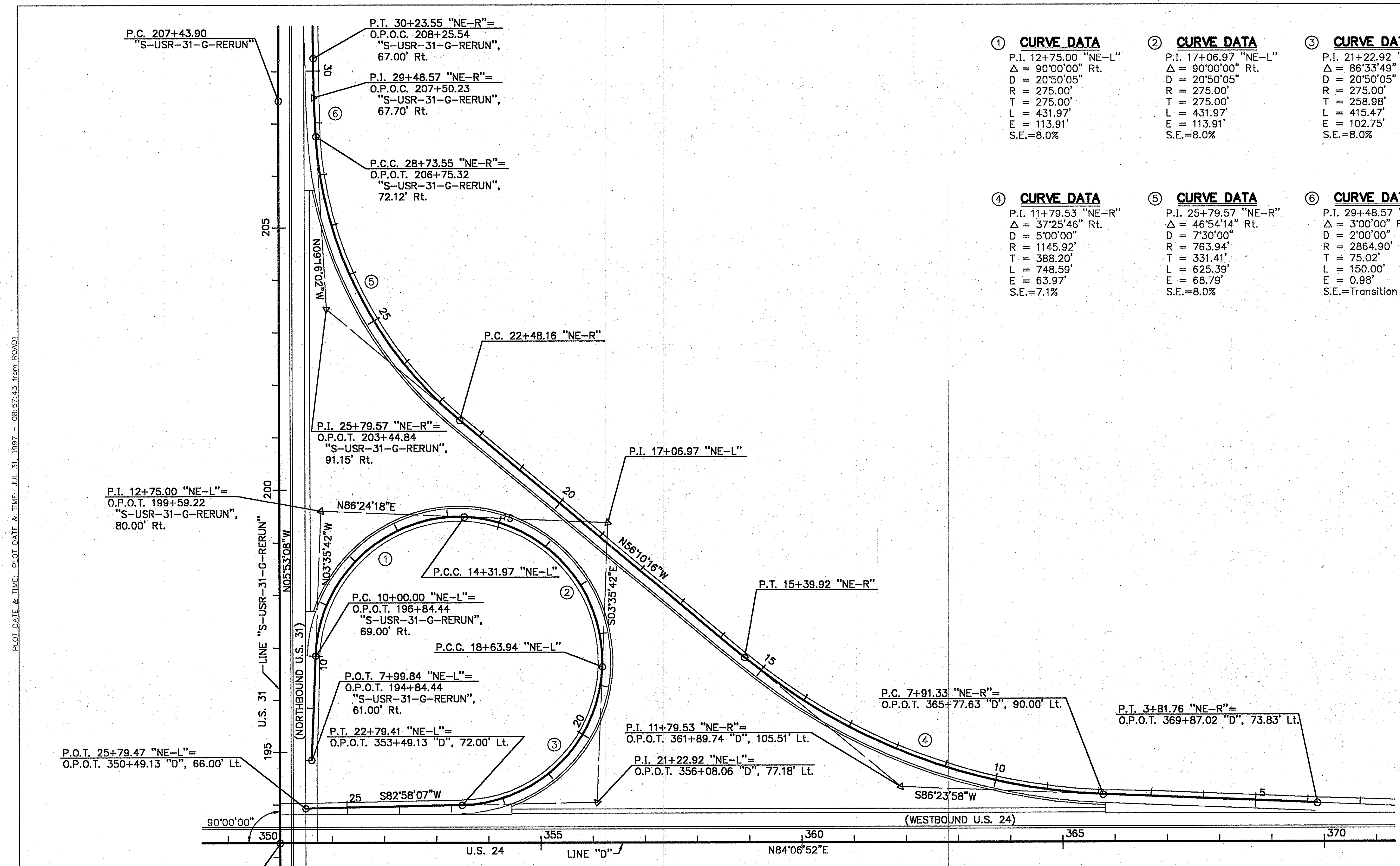
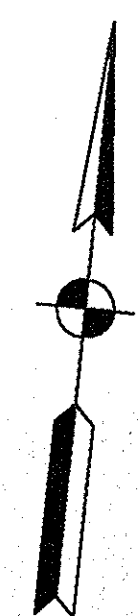
SCALE: 1" = 100'



PLOT DATE & TIME: JUL 31, 1997 - 08:53:57 from ROAD1
 PERSON: PJC 3/83 - CHECKED: RDS 2/94
 DRAWN: KAY 3/93 - CHECKED: RDS 2/94
 REVISION: DL 5/93 - CHECKED: MK 5/94
 SHEET REVISED: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	48	389

- ① **CURVE DATA**
P.I. 12+75.00 "NE-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
D = 20'50'05"
R = 275.00'
T = 275.00'
L = 431.97'
E = 113.91'
S.E.=8.0%
- ② **CURVE DATA**
P.I. 17+06.97 "NE-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
D = 20'50'05"
R = 275.00'
T = 275.00'
L = 431.97'
E = 113.91'
S.E.=8.0%
- ③ **CURVE DATA**
P.I. 21+22.92 "NE-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
D = 20'50'05"
R = 275.00'
T = 258.98'
L = 415.47'
E = 102.75'
S.E.=8.0%
- ④ **CURVE DATA**
P.I. 11+79.53 "NE-R"
 $\Delta = 37^{\circ}25'46"$ Rt.
D = 5'00'00"
R = 1145.92'
T = 388.20'
L = 748.59'
E = 63.97'
S.E.=7.1%
- ⑤ **CURVE DATA**
P.I. 25+79.57 "NE-R"
 $\Delta = 46^{\circ}54'14"$ Rt.
D = 7'30'00"
R = 763.94'
T = 331.41'
L = 625.39'
E = 68.79'
S.E.=8.0%
- ⑥ **CURVE DATA**
P.I. 29+48.57 "NE-R"
 $\Delta = 3^{\circ}00'00"$ Rt.
D = 2'00'00"
R = 2864.90'
T = 75.02'
L = 150.00'
E = 0.98'
S.E.=Transition



INTERCHANGE SHEETS	
Geometrics	46-49
Right of Way	45
Drainage	56
Construction Details	64-66, 73-75
Ramp Grades	24-43

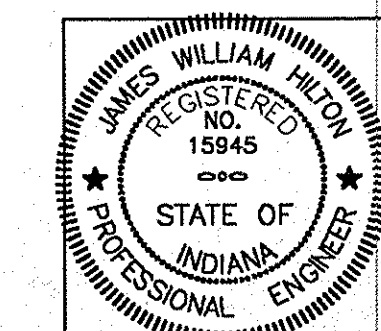
INTERCHANGE GEOMETRICS

U.S. 24 & U.S. 31

NORTH EAST QUADRANT

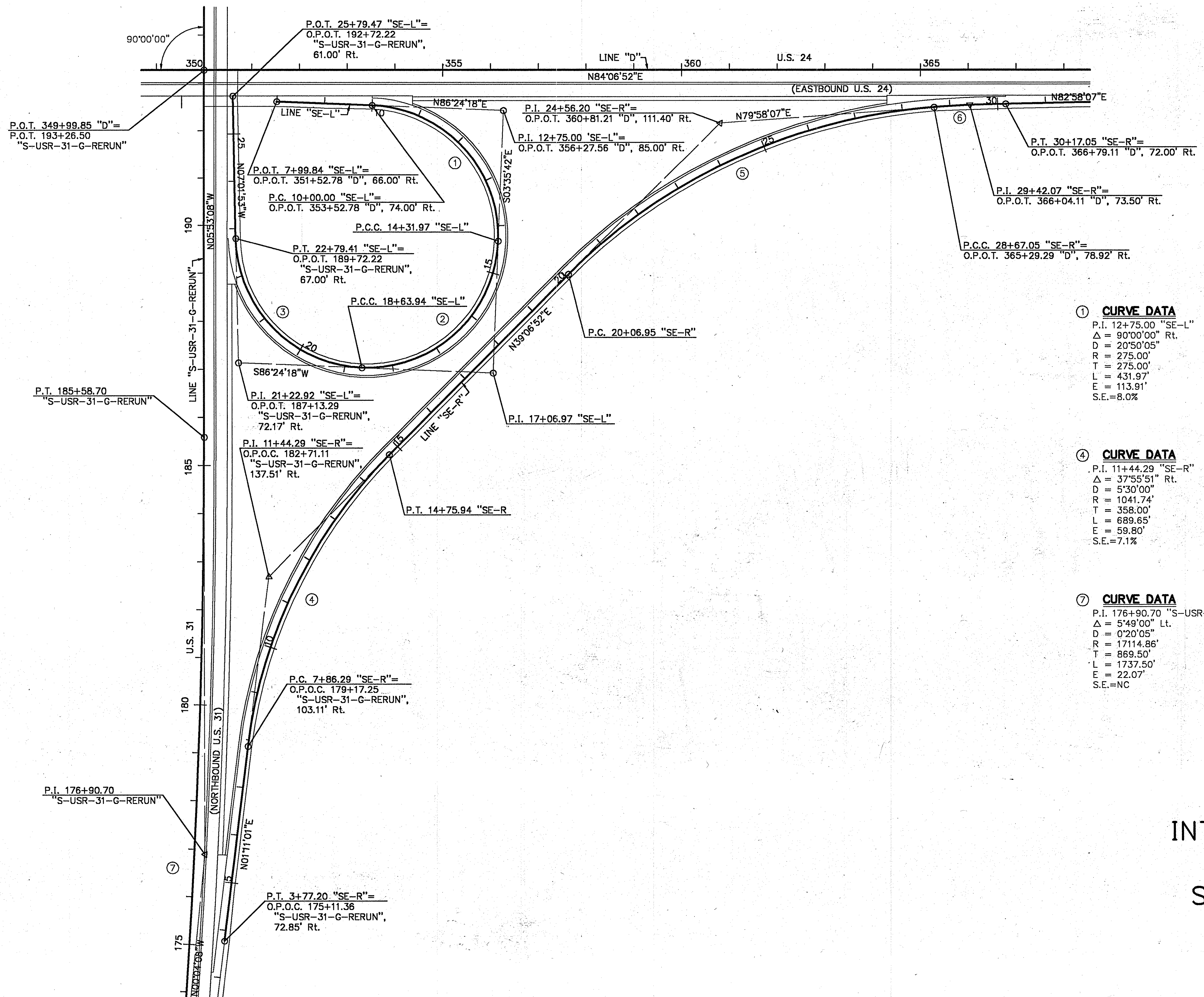
DETAILS

SCALE: 1" = 100'



REVISIONS: P.L. 3/93 CHECKED: RDS 2/94
DRAWN: KAY 3/93 CHECKED: RDS 2/94
REVISED: DH 5/93 CHECKED: MLK 3/94
SHEET REVISED: JULY 20, 1992

PLOT DATE & TIME: JUL 31 1997 - 08:55:09 from ROAD1



- ① **CURVE DATA**
 P.I. 12+75.00 "SE-L"
 $\Delta = 90^{\circ}00'00''$ Rt.
 $D = 20^{\circ}50'05''$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$
- ② **CURVE DATA**
 P.I. 17+06.97 "SE-L"
 $\Delta = 90^{\circ}00'00''$ Rt.
 $D = 20^{\circ}50'05''$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$
- ③ **CURVE DATA**
 P.I. 21+22.92 "SE-L"
 $\Delta = 86^{\circ}33'49''$ Rt.
 $D = 20^{\circ}50'05''$
 $R = 275.00'$
 $T = 258.98'$
 $L = 415.47'$
 $E = 102.75'$
 $S.E. = 8.0\%$
- ④ **CURVE DATA**
 P.I. 11+44.29 "SE-R"
 $\Delta = 37^{\circ}55'51''$ Rt.
 $D = 5^{\circ}30'00''$
 $R = 1041.74'$
 $T = 358.00'$
 $L = 689.65'$
 $E = 59.80'$
 $S.E. = 7.1\%$
- ⑤ **CURVE DATA**
 P.I. 24+56.20 "SE-R"
 $\Delta = 40^{\circ}51'15''$ Rt.
 $D = 4^{\circ}45'00''$
 $R = 1206.25'$
 $T = 449.25'$
 $L = 860.10'$
 $E = 80.94'$
 $S.E. = 6.3\%$
- ⑥ **CURVE DATA**
 P.I. 29+42.07 "SE-R"
 $\Delta = 3^{\circ}00'00''$ Rt.
 $D = 2^{\circ}00'00''$
 $R = 2864.79'$
 $T = 75.02'$
 $L = 150.00'$
 $E = 0.98'$
 $S.E. = \text{Transition}$
- ⑦ **CURVE DATA**
 P.I. 176+90.70 "S-USR-31-G-RERUN"
 $\Delta = 5^{\circ}49'00''$ Lt.
 $D = 0^{\circ}20'05''$
 $R = 17114.86'$
 $T = 869.50'$
 $L = 1737.50'$
 $E = 22.07'$
 $S.E. = \text{NC}$

INTERCHANGE SHEETS	
Geometrics	46-49
Right of Way	45
Drainage	56
Construction Details	64-66, 71-73
Ramp Grades	24-43

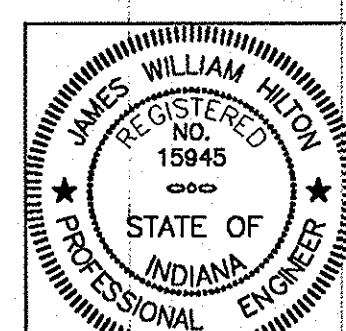
INTERCHANGE GEOMETRICS

U.S. 24 & U.S. 31

SOUTH EAST QUADRANT

DETAILS

SCALE: 1" = 100'

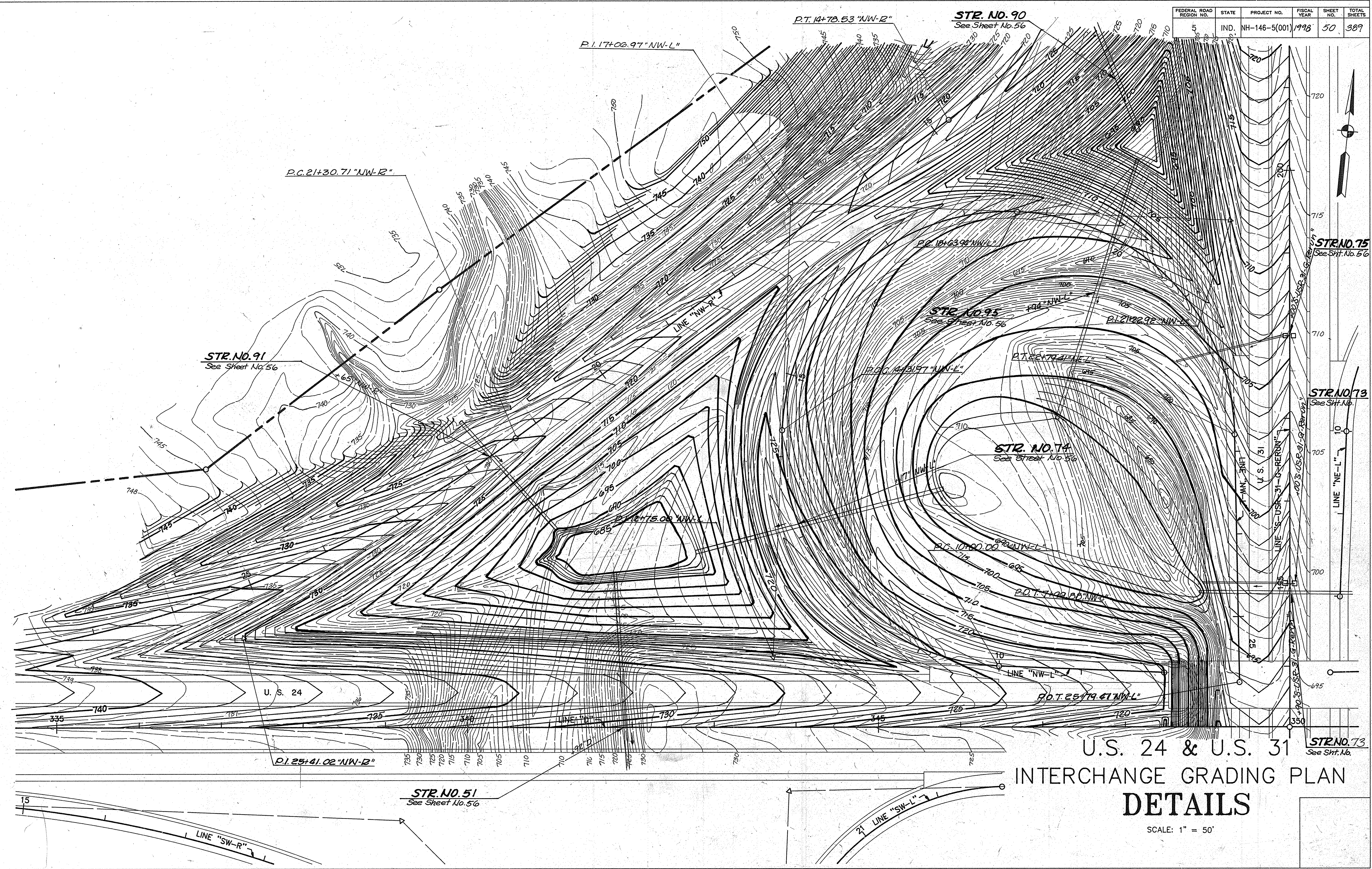


DESIGNED: RJG, 3/93. CHECKED: RDS, 2/94.
 DRAWN: KAY, 3/93. CHECKED: RDS, 2/94.
 REVISED: JH, 5/93. CHECKED: MK, 3/94.
 SHEET REVISED: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	50	389

PLOT DATE & TIME: MAY 19, 1993 - 10:54:45

DESIGNED: B.A. 5/93
 DRAWN: KAY 5/93
 CHECKED:
 SHEET REVISED: JULY 20, 1992

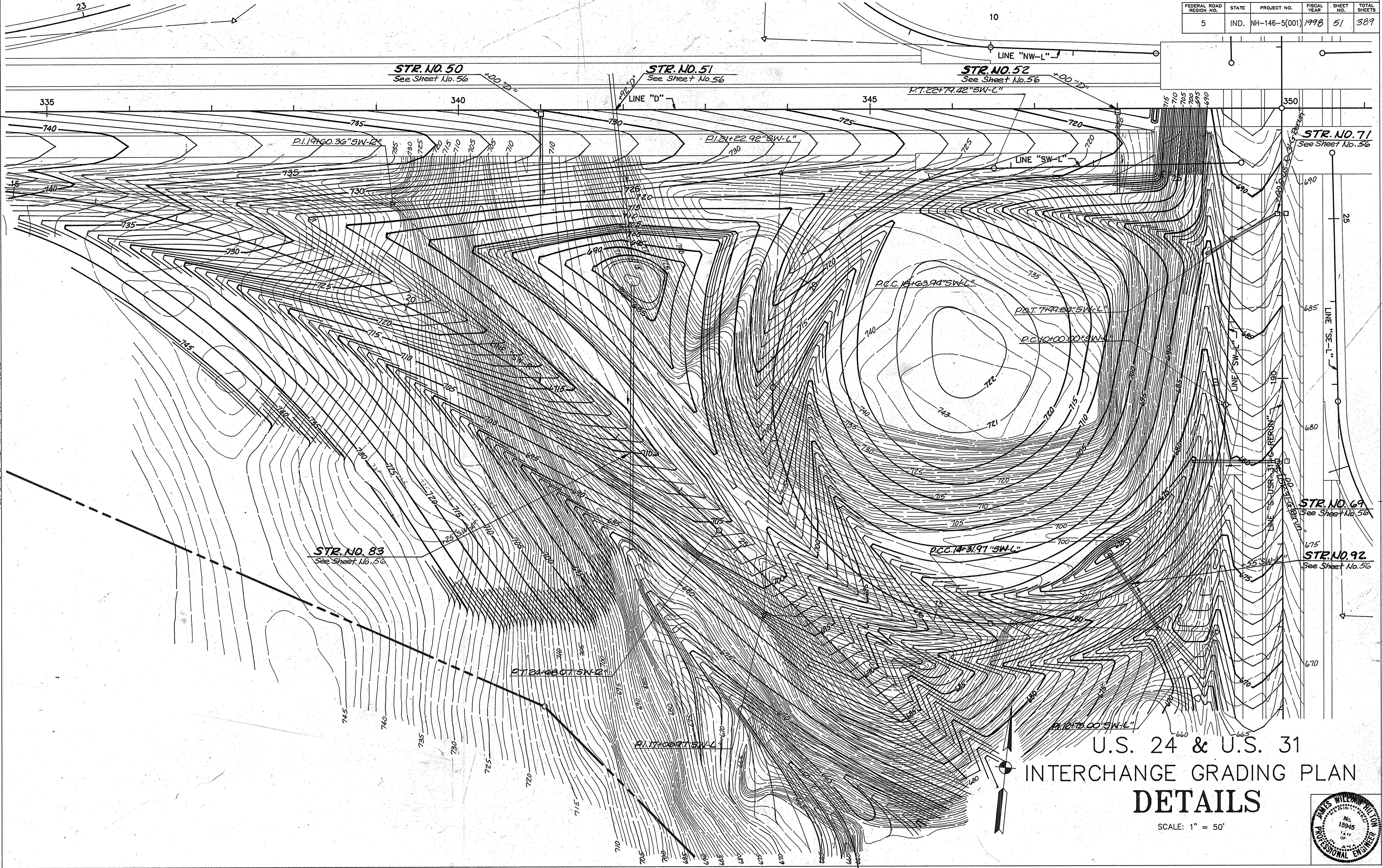


U.S. 24 & U.S. 31 INTERCHANGE GRADING PLAN DETAILS

SCALE: 1" = 50'

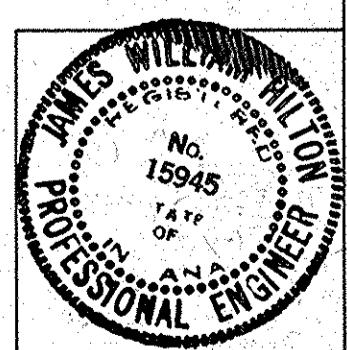
NW

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	51	389



U.S. 24 & U.S. 31
 INTERCHANGE GRADING PLAN
DETAILS

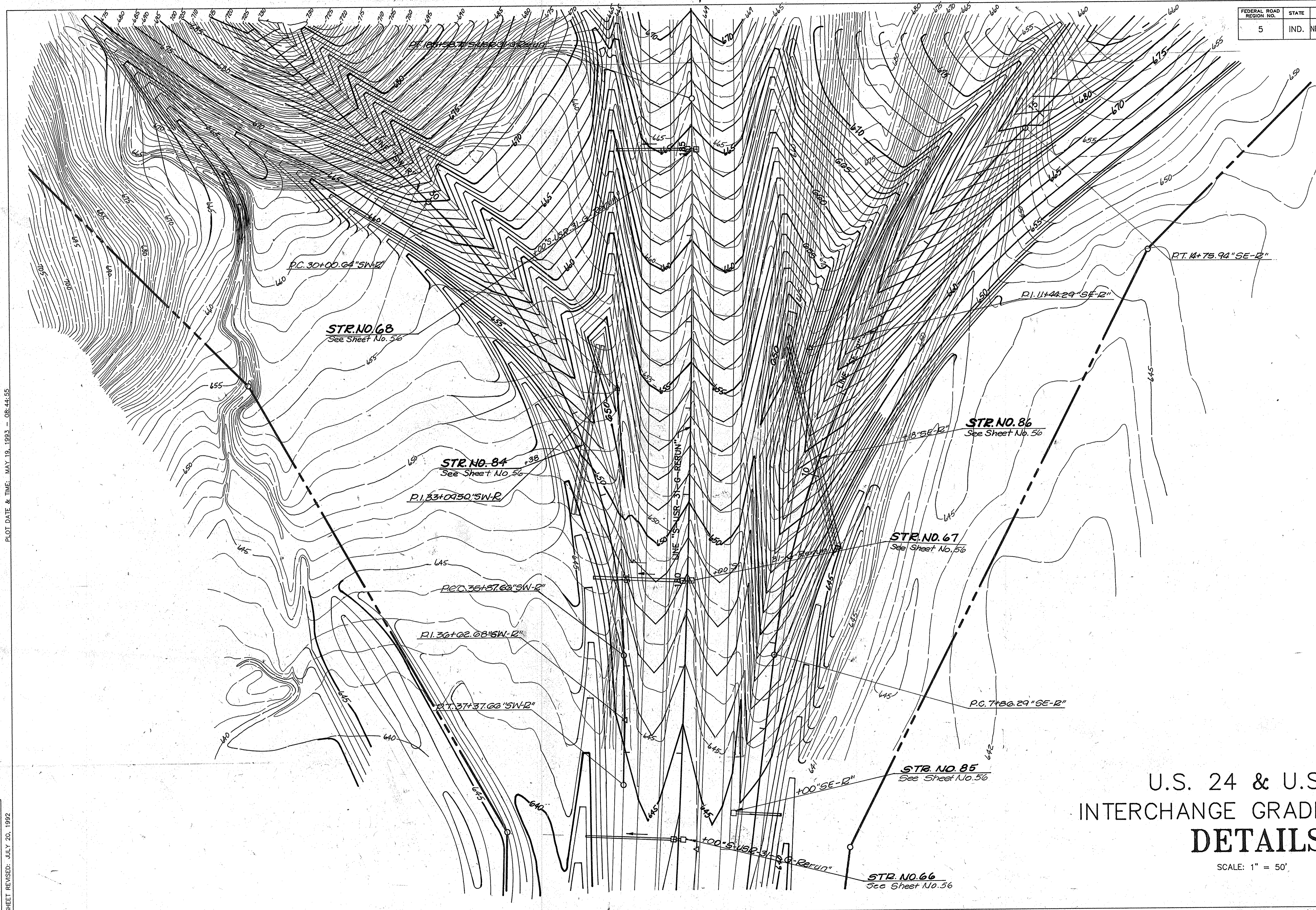
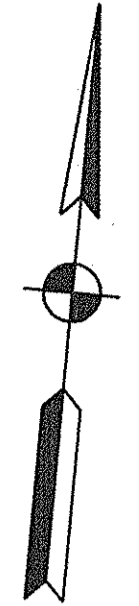
SCALE: 1" = 50'



PLOT DATE & TIME: MAY 18, 1993 - 14:52:52

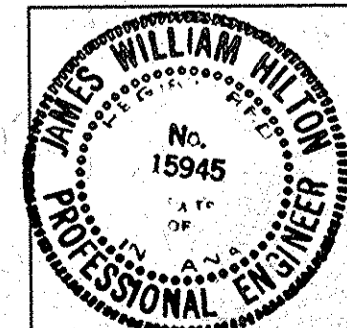
DESIGNED: P.C. 5/93
 DRAWN: K.A. 5/93
 CHECKED: [blank]
 SHEET REVISED: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	52	389



U.S. 24 & U.S. 31 INTERCHANGE GRADING PLAN DETAILS

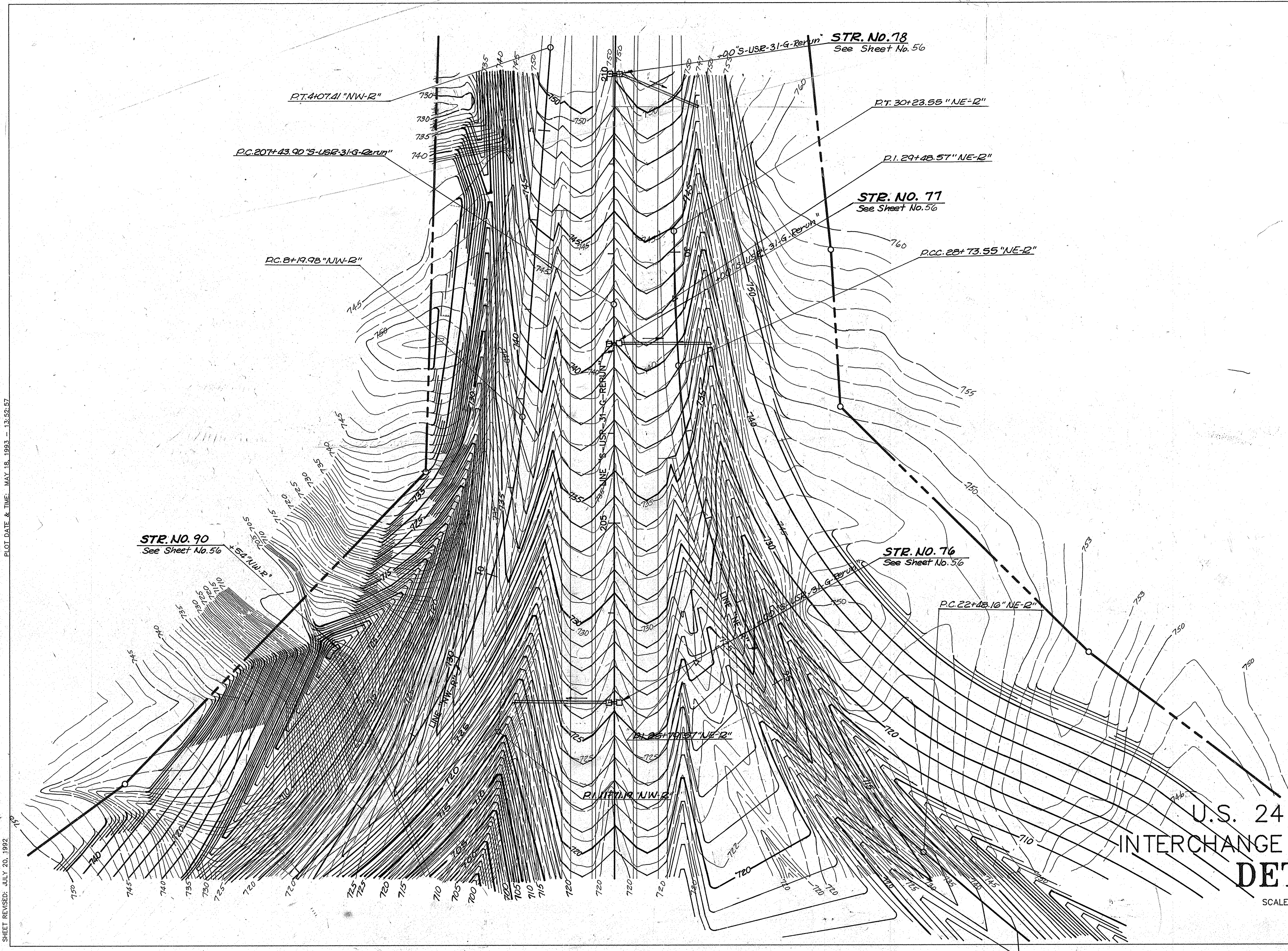
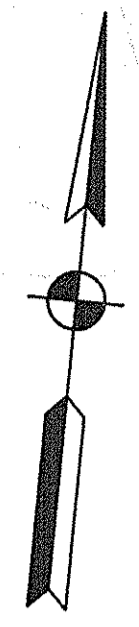
SCALE: 1" = 50'



PLOT DATE & TIME: MAY 19, 1993 - 08:44:55

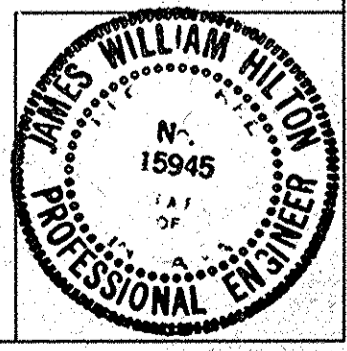
DESIGNED: E.J.G. 5/93
 DRAWN: K.A.Y. 5/93
 CHECKED: []
 REVISIONS: []
 SHEET REVISED: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	53	389



U.S. 24 & U.S. 31
INTERCHANGE GRADING PLAN
DETAILS

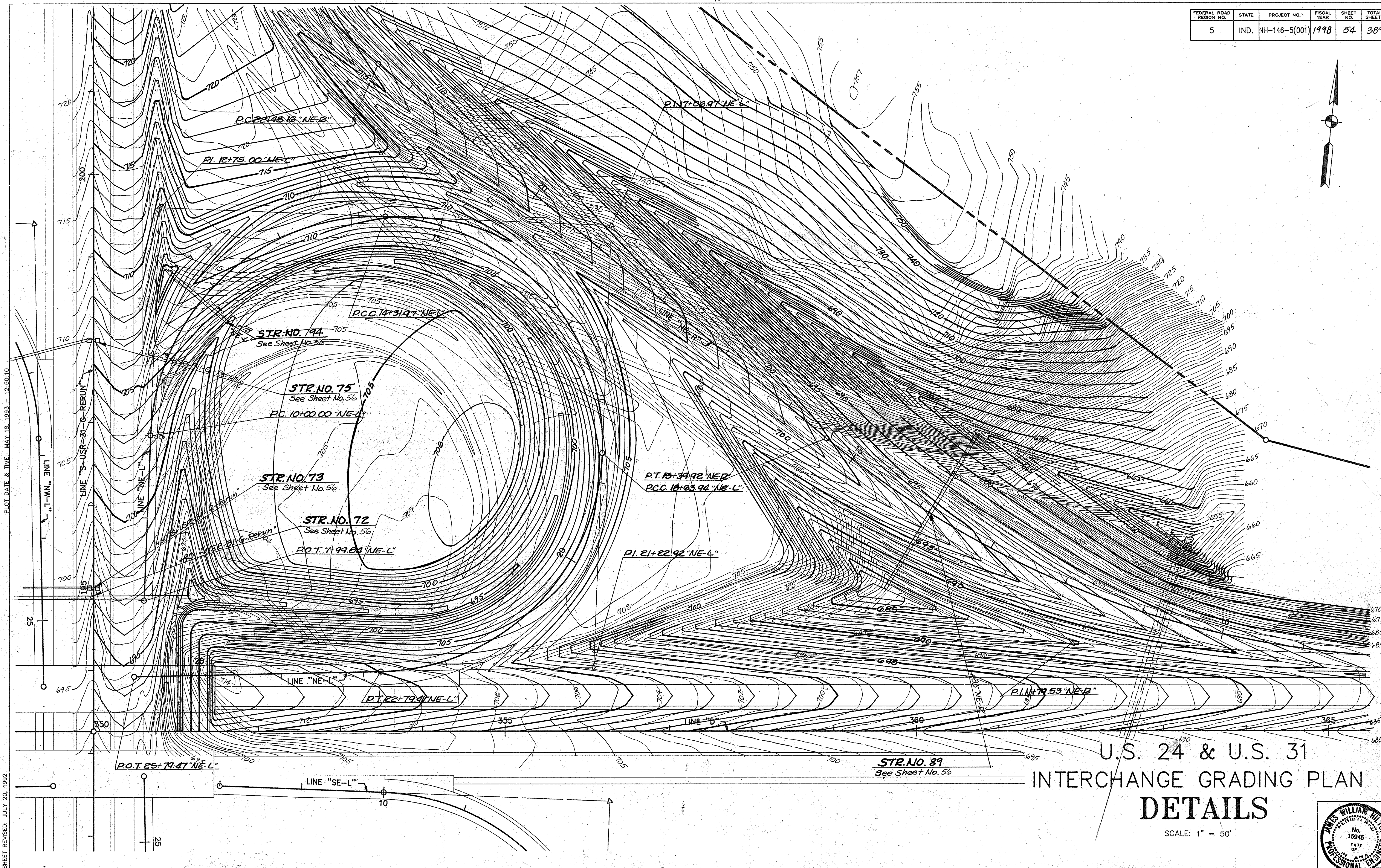
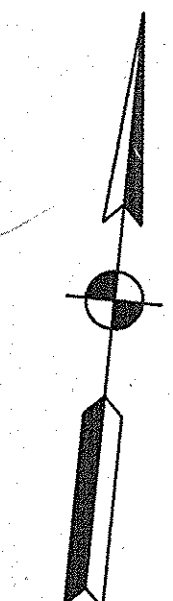
SCALE: 1" = 50'



PLOT DATE & TIME: MAY 18, 1993 - 13:52:57

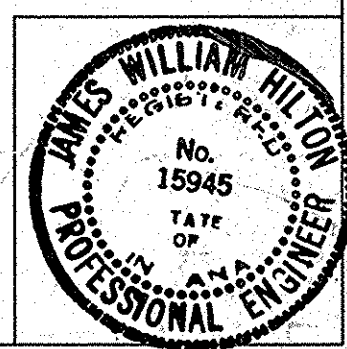
DESIGNED BY: S. J. B. CHECKED BY: K. A. S. B. DATE: JULY 20, 1992
 DRAWN BY: K. A. S. B. CHECKED BY: K. A. S. B. DATE: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	54	389



U.S. 24 & U.S. 31
INTERCHANGE GRADING PLAN
DETAILS

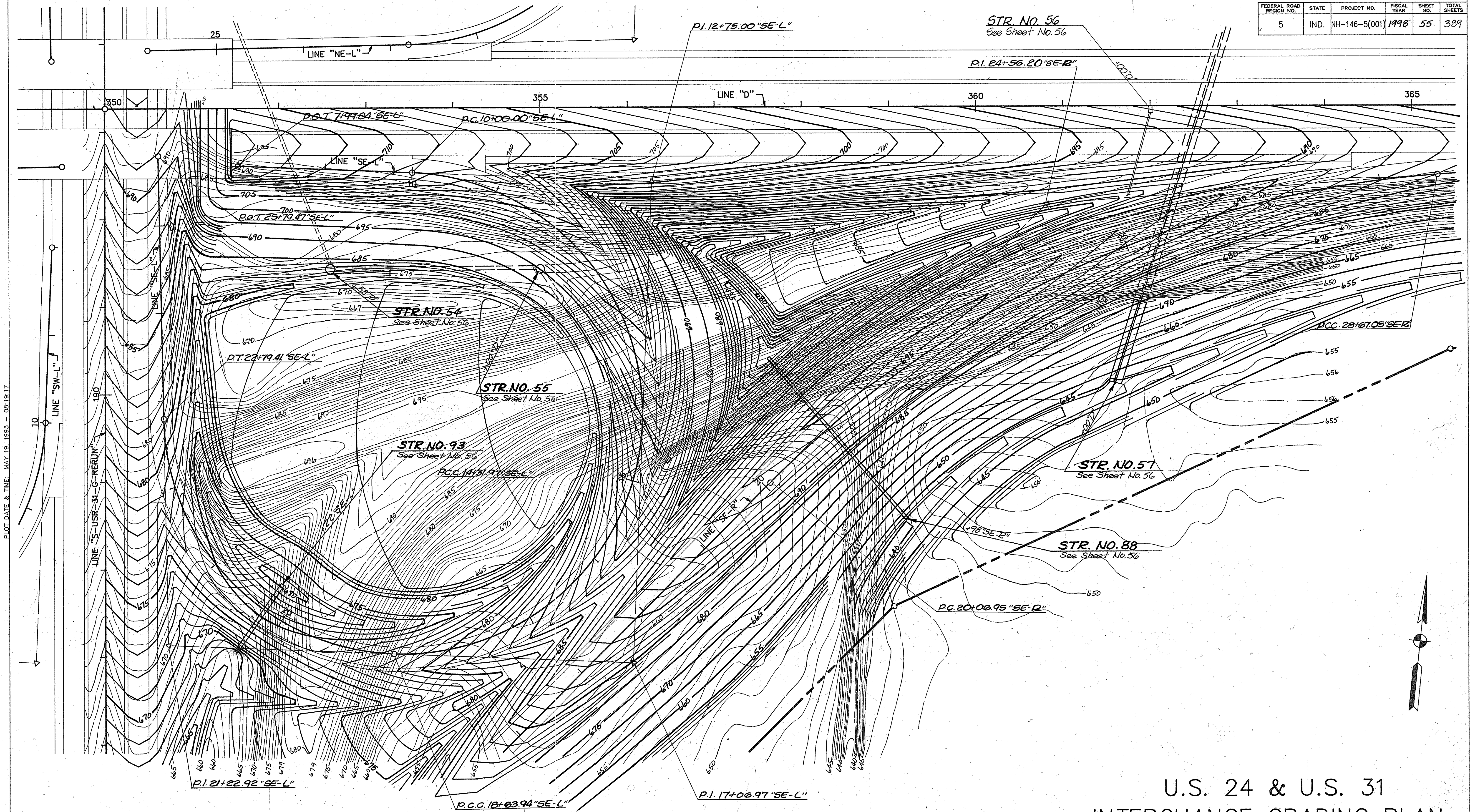
SCALE: 1" = 50'



PREPARED BY: B.C.S. CHECKED BY: K.M.L. DATE: MAY 5, 1993
 DESIGNED BY: B.C.S. CHECKED BY: K.M.L. DATE: MAY 5, 1993
 SHEET REVISED: JULY 20, 1992

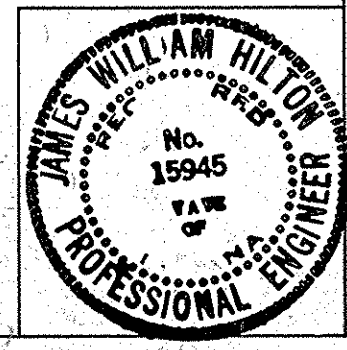
NE

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	55	389



U.S. 24 & U.S. 31 INTERCHANGE GRADING PLAN DETAILS

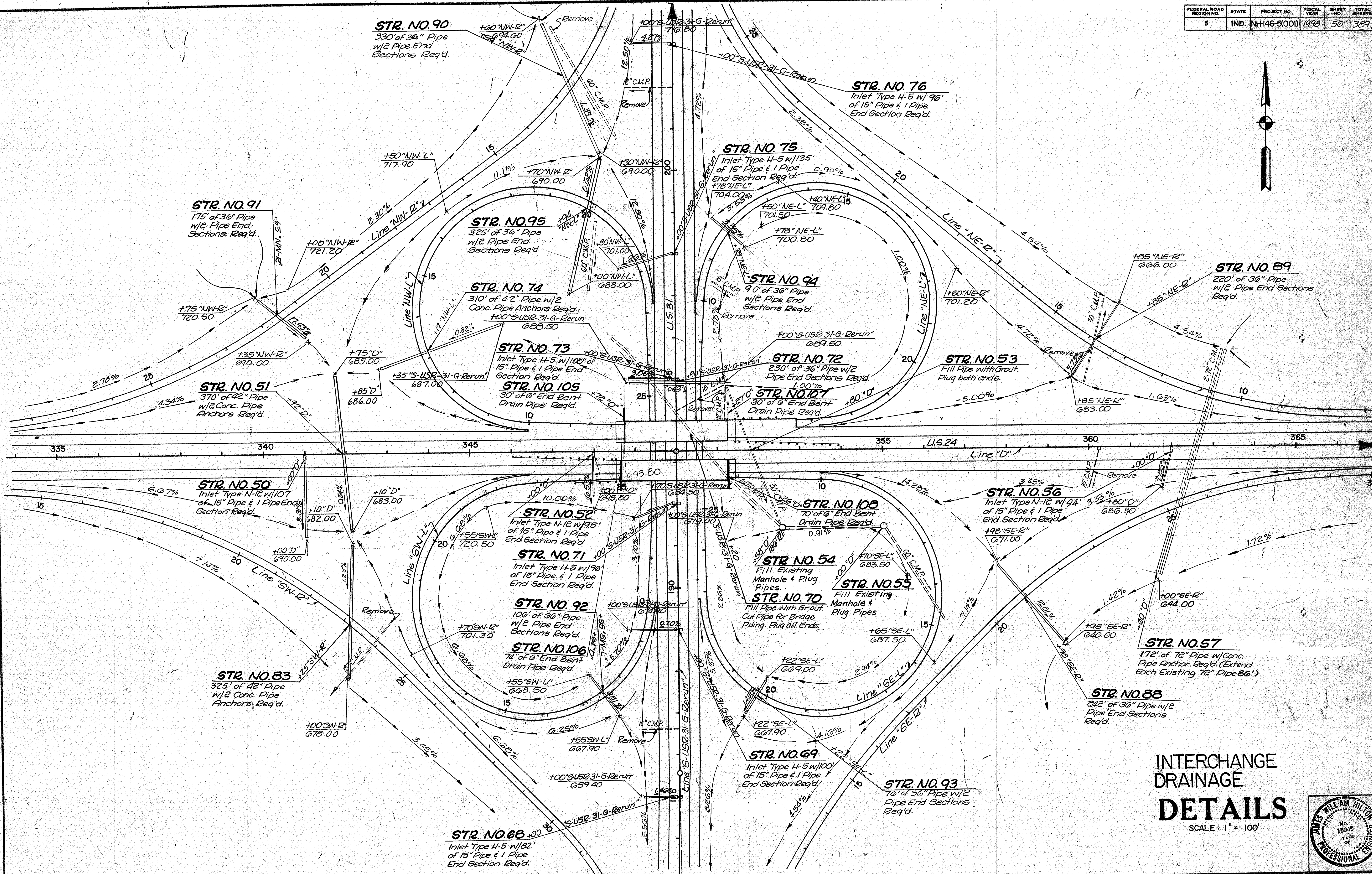
SCALE: 1" = 50'



DESIGNED: P.C. 5/93
 DRAWN: KAY 5/93
 CHECKED: [blank]
 SHEET REVISED: JULY 20, 1992

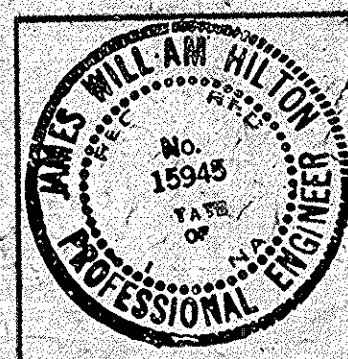
SE

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	56	389



INTERCHANGE DRAINAGE DETAILS

SCALE: 1" = 100'



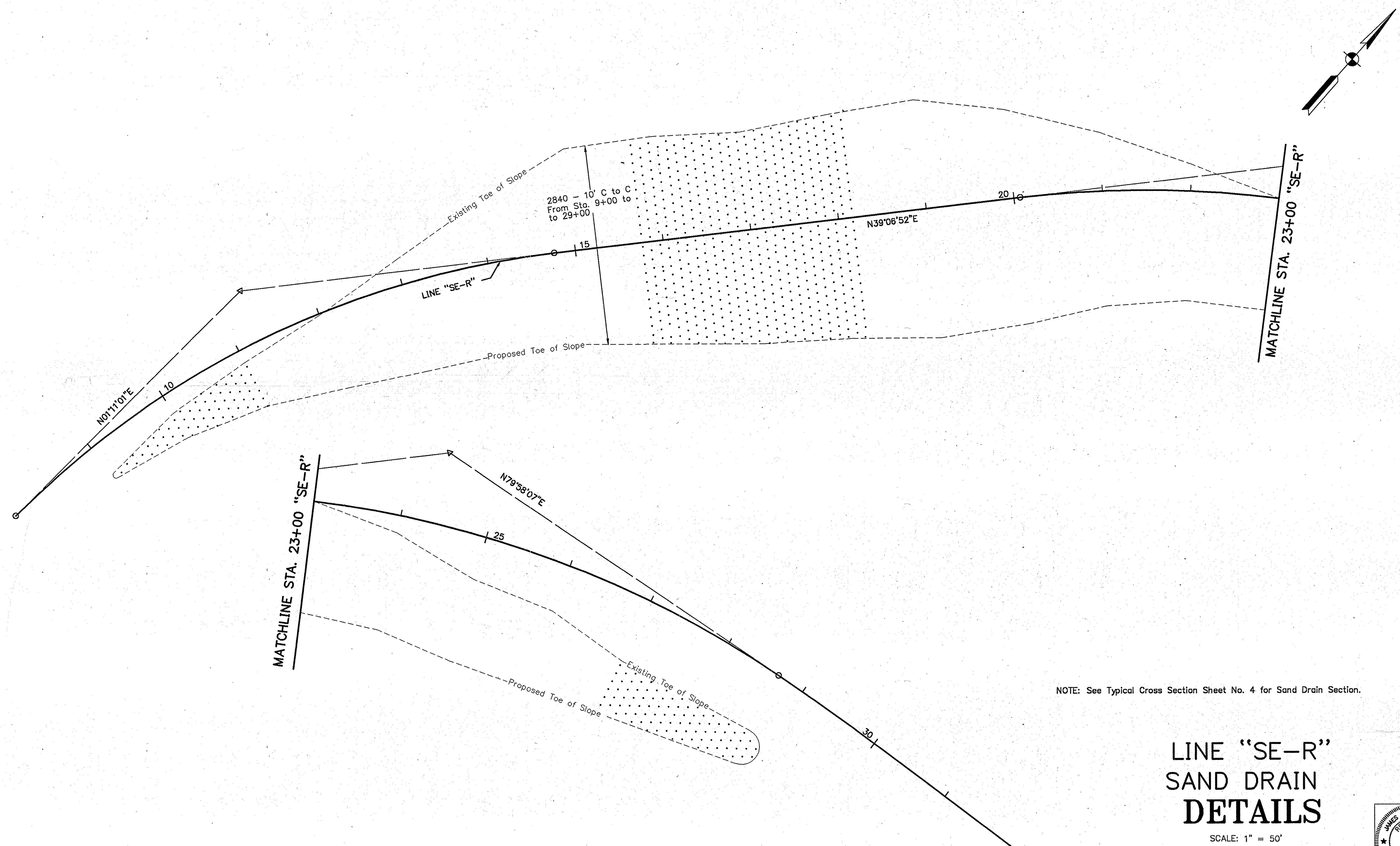
R-23637

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	D	56	389	

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	57	389

PLOT DATE & TIME: DEC 18, 1997 - 13:18:47

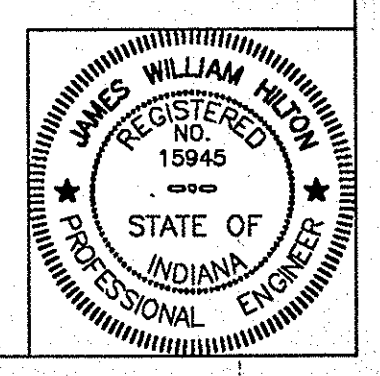
DESIGNED: BJS 7/94 checked: BJS 7/94
 DRAWN: MKL 7/94 checked: BJS 7/94
 REVISED: MKL 12/97 checked: BJS 12/97



NOTE: See Typical Cross Section Sheet No. 4 for Sand Drain Section.

LINE "SE-R" SAND DRAIN DETAILS

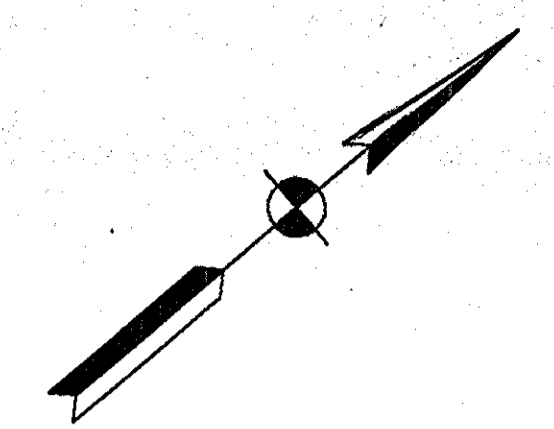
SCALE: 1" = 50'



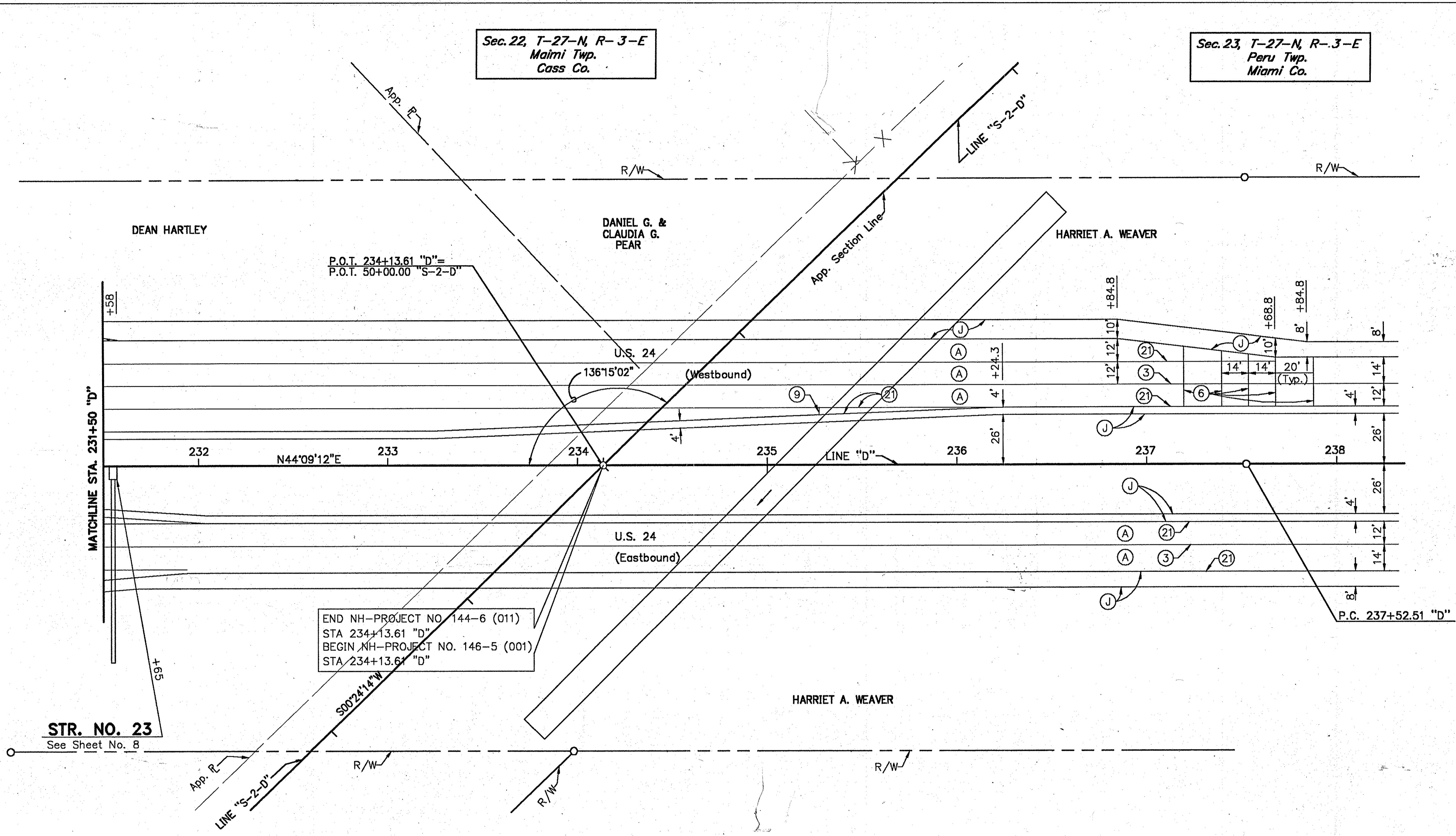
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(011)	1998	58	389

Sec. 22, T-27-N, R-3-E
Malmi Twp.
Cass Co.

Sec. 23, T-27-N, R-3-E
Peru Twp.
Miami Co.



PLOT DATE & TIME: DEC 18, 1997 - 08:42:30 - Plotted from: TRAN4

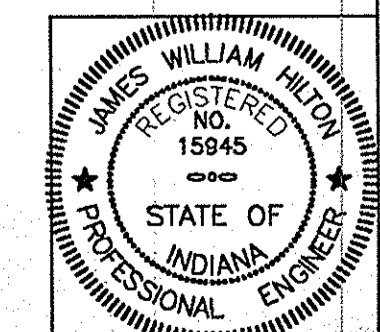


LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm Shoulder on
495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on
6" Compacted Aggregate for Base, "O", Size No. 53
- (3) Longitudinal Joint
- (6) Type D-1 Contraction Joint
- (9) 1" Preformed Joint Filler
- (21) Longitudinal Construction Joint

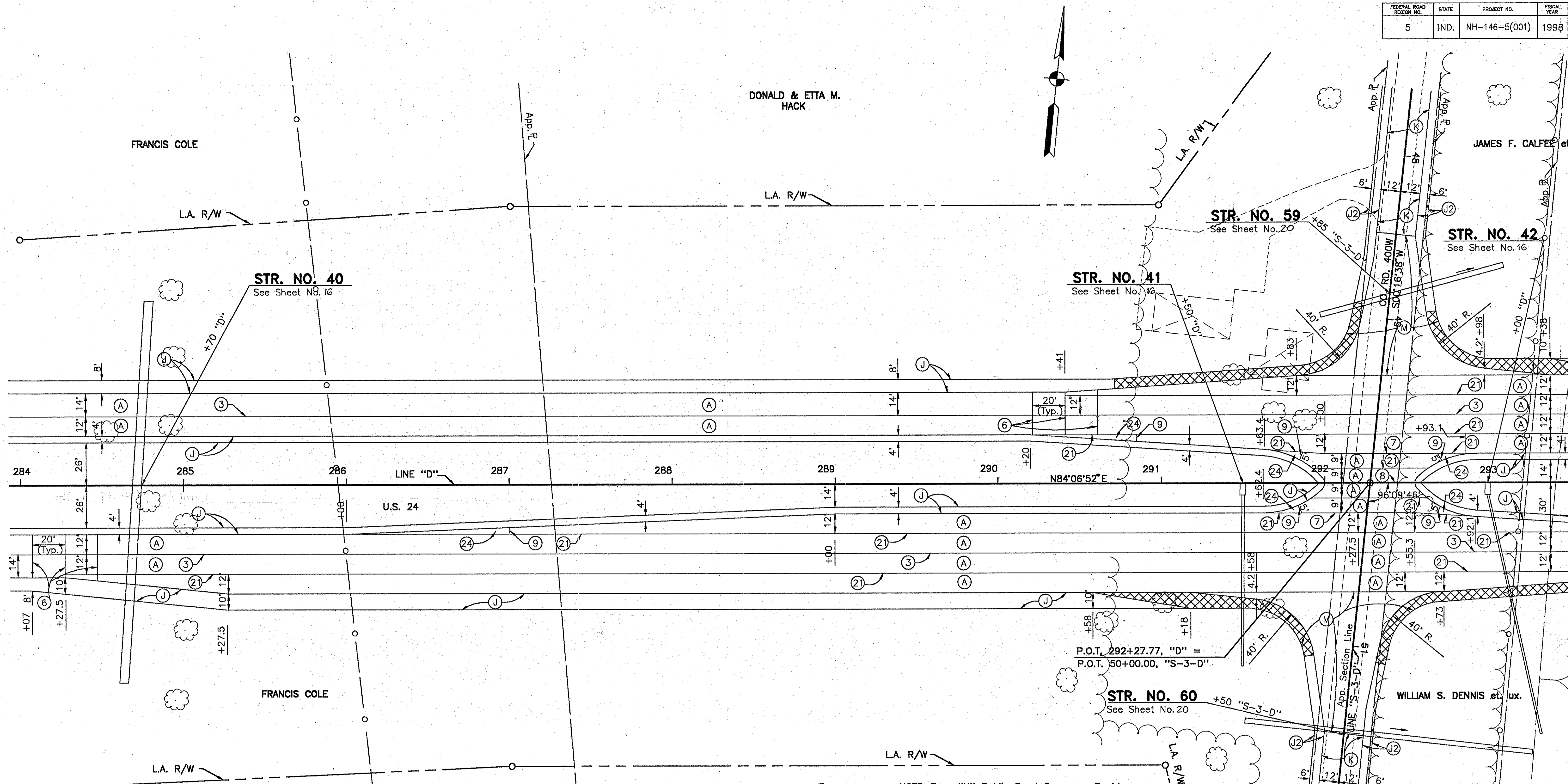
**US 24
CONSTRUCTION
DETAILS**

SCALE: 1"=30'



DESIGNED: _____ CHECKED: _____
DRAWN: JWG 2/93 CHECKED: _____
REVISED: SJW 10/97 CHECKED: AL 10/97

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	59	389



LEGEND

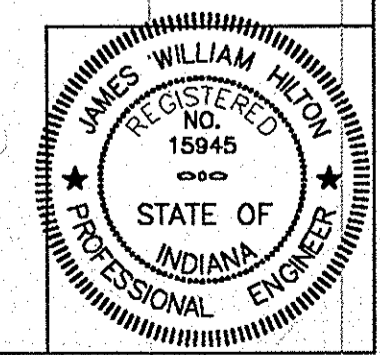
- | | |
|--|---|
| (A) Cement Concrete Pavement, Plain, 11" | (3) Longitudinal Joint |
| (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on
495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on
6" Compacted Aggregate for Base, "O", Size No. 53 | (6) Type D-1 Contraction Joint |
| (J2) Paved Shoulder
440#/Syd. QC/QA HMA Base 25.0mm, Shoulder
with Seal Coat, Type 2 on
6" Compacted Aggregate for Base, "O", Size No. 53 | (7) Keyway Joint |
| (K) Full Depth Pavement
140#/Syd. HMA Surface 9.5mm, Mainline on
300#/Syd. HMA Base 25.0mm, Mainline on
8" Compacted Aggregate for Base, "O", Size No. 53 | (8) 1" Preformed Expansion Joint with Load Transfer |
| (M) HMA For Approaches (Same Composition as (K)) on
8" Compacted Aggregate for Base, "O", Size No. 53 | (9) 1" Preformed Joint Filler |
| | (21) Longitudinal Construction Joint |
| | (24) Ear Construction, Type "A" |
| | Same as Approach Pavement with Seal Coat, Type 2 |

NOTE: Type "U" Public Road Crossover Req'd
Sta. 292+27.77 "D"
Length = 55'

Type "C" Public Road Approach Req'd
Sta. 292+27.77 "D" Lt.
Sta. 292+27.77 "D" Rt.

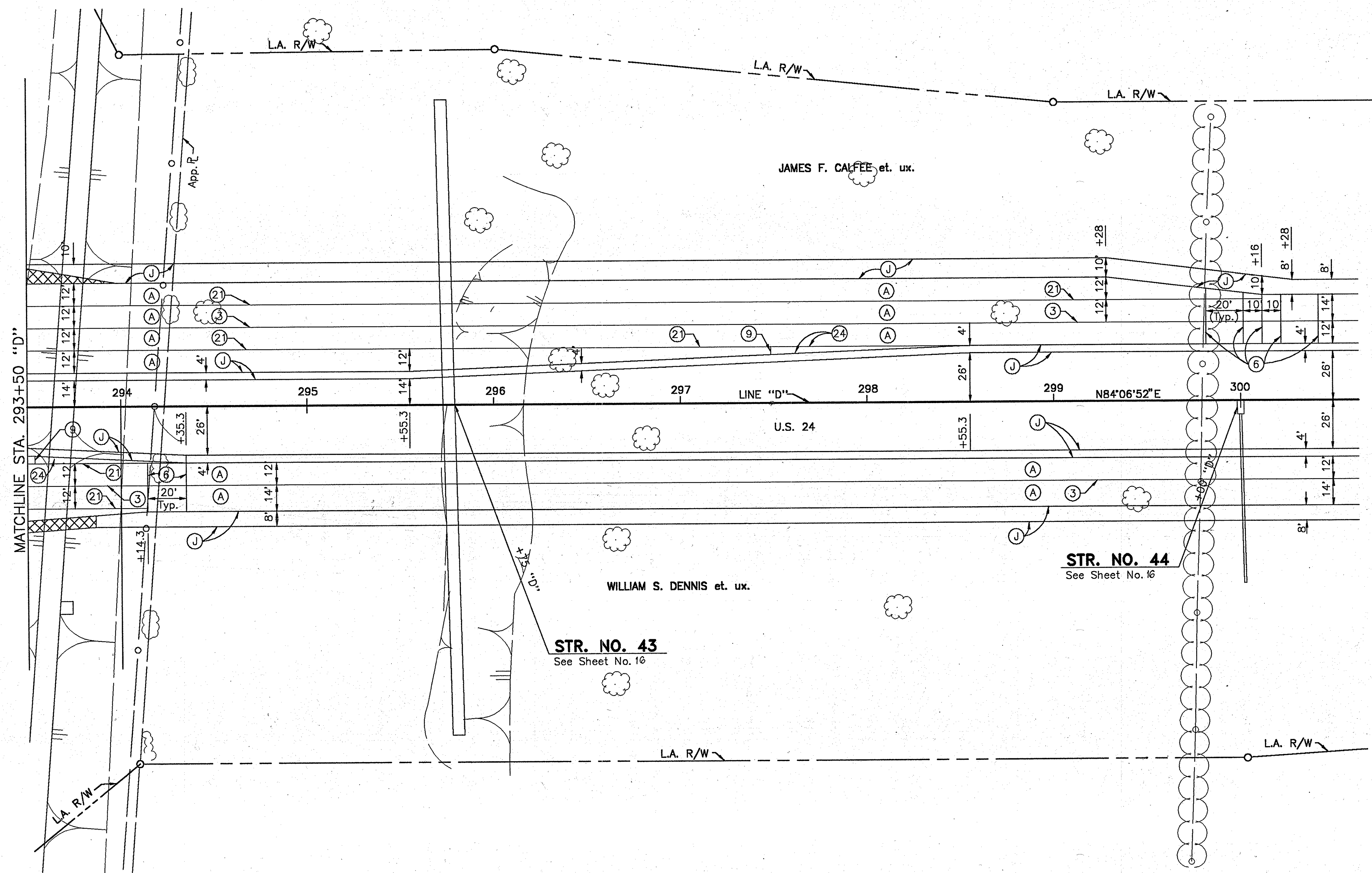
**U.S. 24 & CO. RD. 400W
CONSTRUCTION
DETAILS**

SCALE: 1"=30'



DESIGNED: E.J.G. 2/93 CHECKED: R.S.S. 1/94
DRAWN: M.G. 2/93 CHECKED: R.S.S. 1/94
REVISION: D.M.L. 10/97 CHECKED: E.S.G. 10/97
PLOT DATE & TIME: OCT 28, 1997 - 10:20:02 - Plotted from: TRAM12

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	60	389

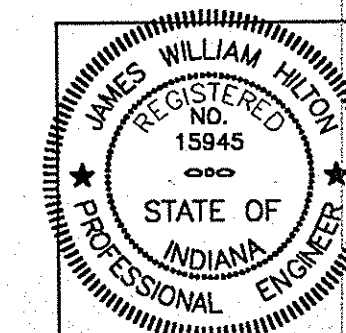


LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on
495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on
6" Compacted Aggregate for Base, "O", Size No. 53
- (3) Longitudinal Joint
- (6) Type D-1 Contraction Joint
- (9) 1" Preformed Joint Filler
- (21) Longitudinal Construction Joint
- (24) Ear Construction, Type "A"

**U.S. 24 & CO. RD. 400W
CONSTRUCTION
DETAILS**

SCALE: 1"=30'



DESIGNED: P.J.G. 2/93 CHECKED: R.S. 1/94
 DRAWN: M.S. 2/93 CHECKED: R.S. 1/94
 REVISION: D.H. 10/97 CHECKED: P.G. 10/97

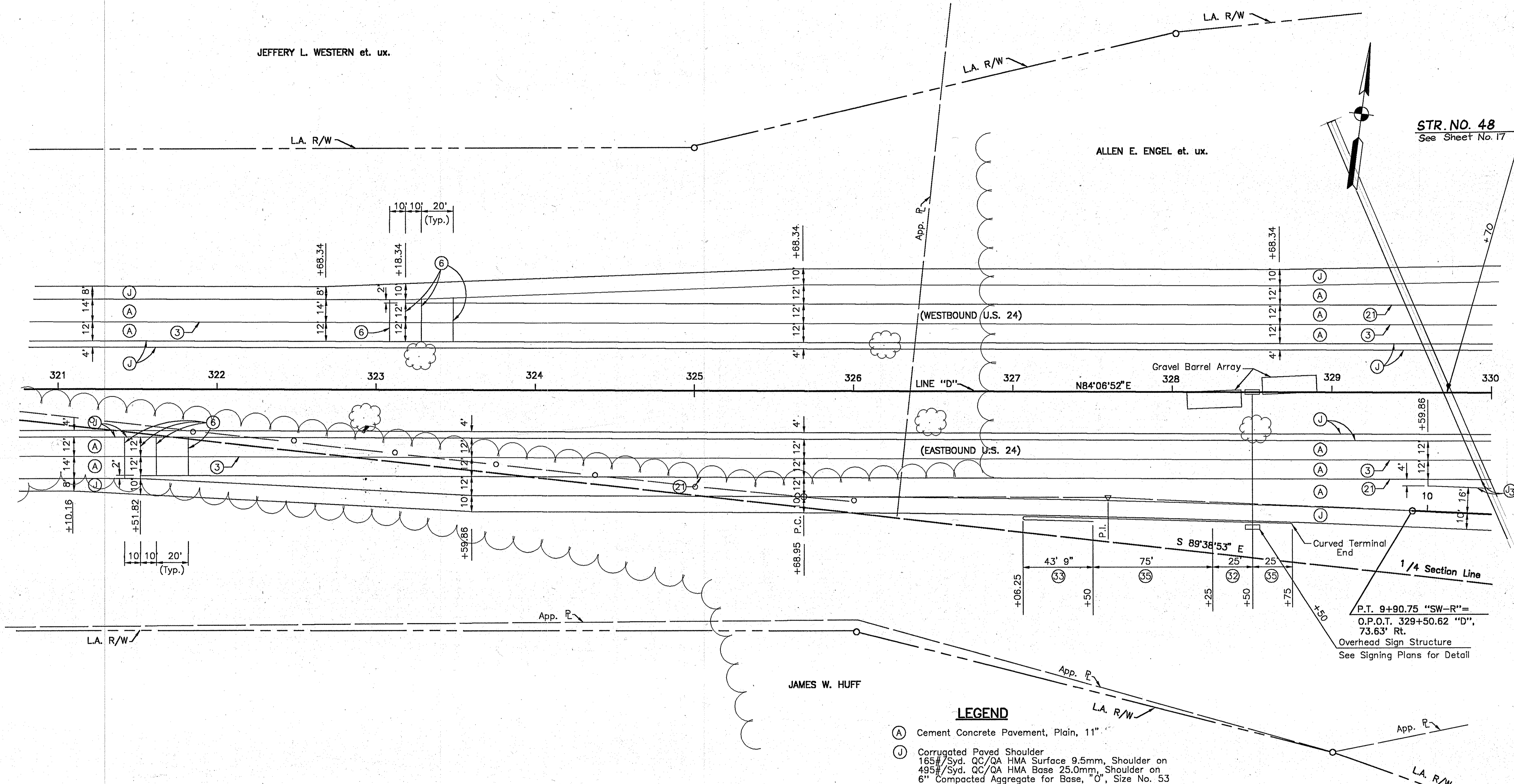
PLOT DATE & TIME: OCT 28, 1997 - 10:20:32 - Plotted from: TRAM12

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	61	389

JEFFERY L. WESTERN et. ux.

ALLEN E. ENGEL et. ux.

STR. NO. 48
See Sheet No. 17



JAMES W. HUFF

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
 - (J) Corrugated Paved Shoulder
185#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on 495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on 6" Compacted Aggregate for Base, "O", Size No. 53
 - (J3) Paved Shoulder
1210#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat Type 2
 - (3) Longitudinal Joint
 - (6) Type D-1 Contraction Joint
 - (21) Longitudinal Construction Joint
 - (32) Guard Rail, W-Beam, 3'-1 1/2" Spacing
 - (33) Guard Rail, End Treatment, Type OS
 - (35) Guard Rail, W-Beam, 6'-3" Spacing
- For Interchange Geometrics, See Sheet No.

**U.S. 24
CONSTRUCTION
DETAILS**

SCALE: 1"=30'



PLOT DATE & TIME: DEC 17, 1997 - 09:58:00 - Plotted from: TRAM

DESIGNED: RDS, 1/94
DRAWN: JMK, 1/94
CHECKED: JMK, 1/94
REVISION: DJL, 10/97

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	62	389

ALLEN E. ENGEL et. ux.

JOHN R. DE LUCCA

CURVE DATA

P.I. 30+40.95 "NW-R"
 $\Delta = 3^{\circ}00'00"$ RT.
 $D = 2^{\circ}00'00"$
 $R = 2864.79'$
 $T = 75.02'$
 $L = 150.00'$
 $E = 0.98'$
 S.E. = Transition

P.I. 30+04.95 "NW-R"=
 O.P.O.T. 332+43.34 "D",
 73.50' Lt.

P.T. 30+79.93 "NW-R"=
 O.P.O.T. 331+68.34 "D",
 72.00' Lt.

P.C.C. 29+29.93 "NW-R"
 O.P.O.T. 333+18.16 "D",
 78.92' Lt.

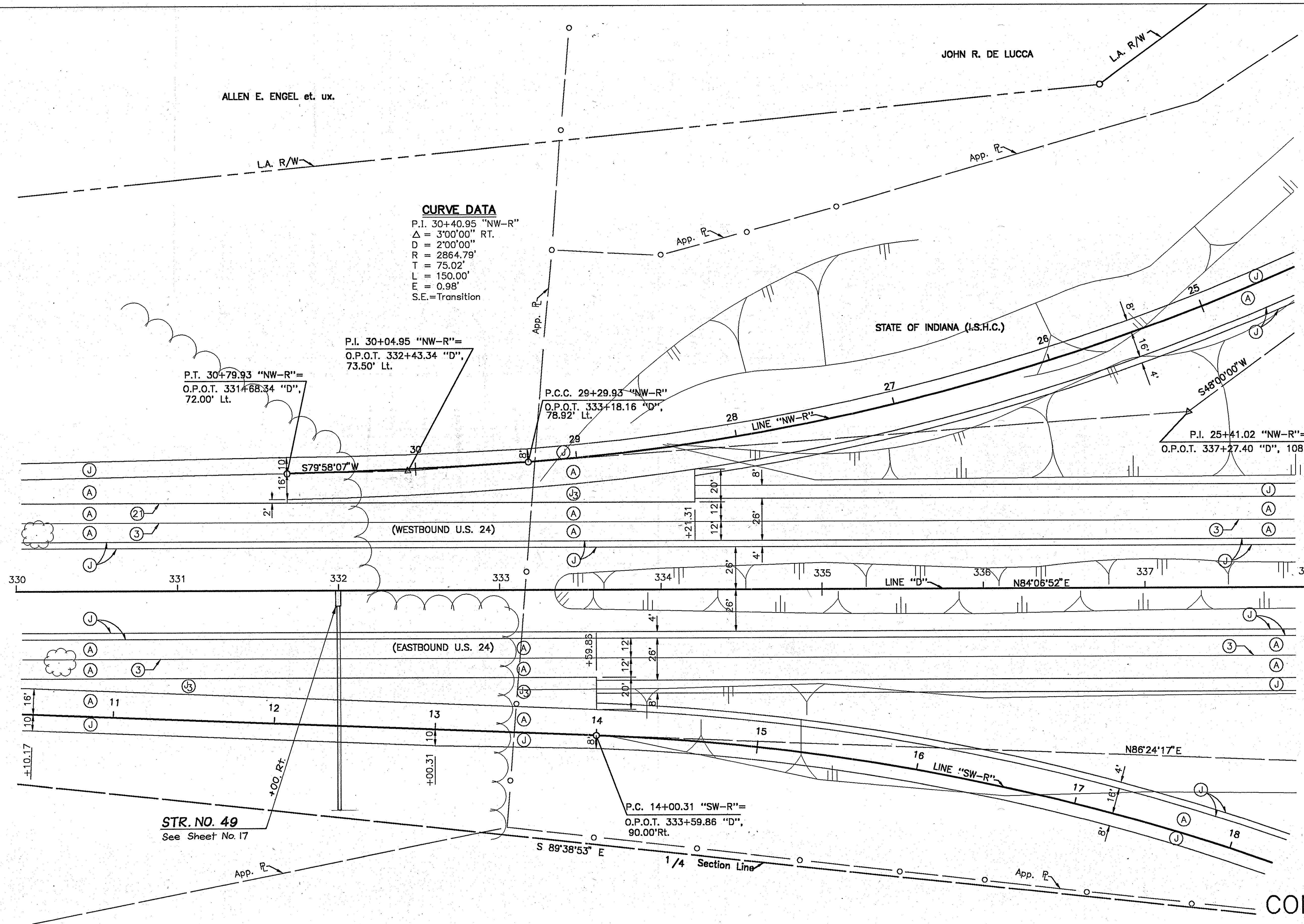
P.I. 25+41.02 "NW-R"=
 O.P.O.T. 337+27.40 "D", 108.59' Lt.

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on
495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on
6" Compacted Aggregate for Base, "O", Size No. 53
- (3) Paved Shoulder
1210#/Syd. QC/QA HMA Base 25.0mm, Shoulder
with Seal Coat, Type 2
- (3) Longitudinal Joint
- (2) Longitudinal Construction Joint

For Interchange Geometrics, See Sheet No.

PLOT DATE & TIME: OCT 28, 1997 - 10:17:18 - Plotted from: TRAM12

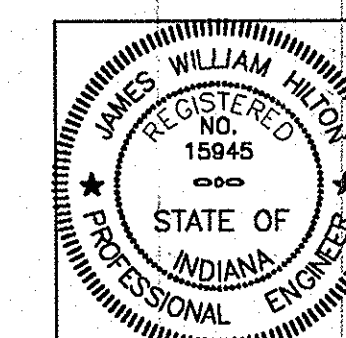


STR. NO. 49
 See Sheet No. 17

**U.S. 24
 CONSTRUCTION
 DETAILS**

SCALE: 1"=30'

JAMES W. HUFF



DESIGNED: BJS 12/93, CHECKED: BJS 1/94
 DRAWN: MJK 12/93, CHECKED: BJS 1/94
 REVISED: DJH 10/97, CHECKED: BJS 10/97

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	63	389

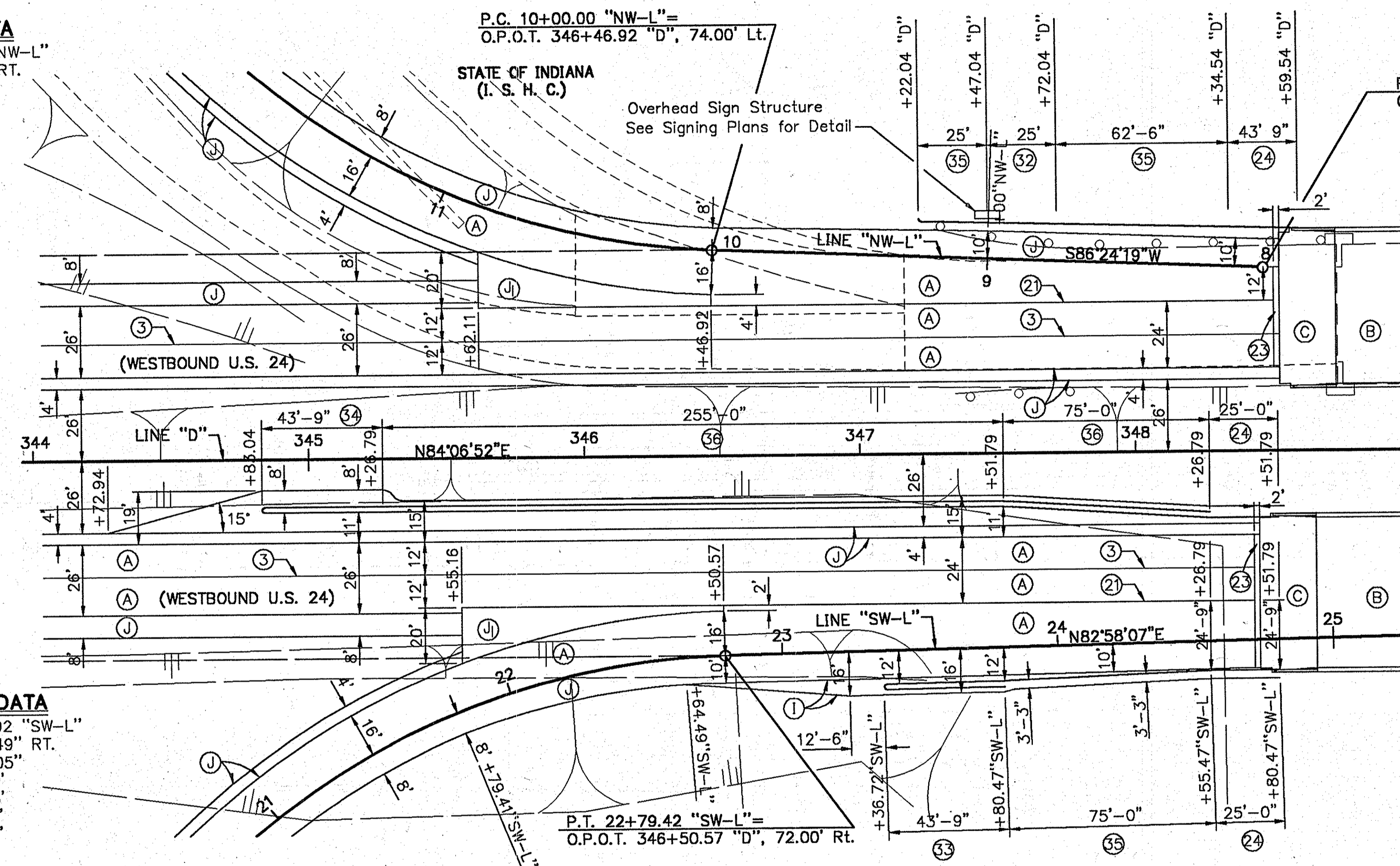
LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
 - (B) Bridge Deck
 - (C) Cement Concrete Pavement Reinforced, 11"
 - (1) 12" Compacted Aggregate Base No. 53
 - (J) Paved Shoulder
660 #/Syd. Bituminous Base 5D, LV
6" Compacted Aggregate for Base, O, Size No. 53
 - (U) Paved Shoulder
1210 #/Syd. Bituminous Base 5D, LV
 - (3) Longitudinal Joint
 - (2) Longitudinal Construction Joint
 - (23) Terminal Joint
 - (24) Guardrail Transition, Type TGB
 - (32) Guardrail, W-Beam, 3'-1 1/2" Spacing
 - (34) Guardrail, End Treatment, Type MS
 - (35) Guardrail, W-Beam, 6'-3" Spacing
 - (36) Guardrail, W-Beam, 6'-3" Spacing, Double Faced
- For Interchange Geometrics, See Sheet No.

CURVE DATA
 P.I. 12+75.00 "NW-L"
 $\Delta = 90^{\circ}00'00"$ RT.
 D = 20'50"05"
 R = 275.00'
 T = 275.00'
 L = 431.97'
 E = 113.91'
 S.E. = 8%

P.C. 10+00.00 "NW-L"=
 O.P.O.T. 346+46.92 "D", 74.00' Lt.
 STATE OF INDIANA
 (I.S.H.C.)

P.O.T. 7+99.85 "NW-L"=
 O.P.O.T. 348+46.91 "D", 66.00' Lt.



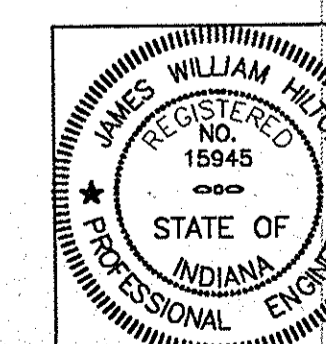
CURVE DATA
 P.I. 21+22.92 "SW-L"
 $\Delta = 86^{\circ}33'49"$ RT.
 D = 20'50"05"
 R = 275.00'
 T = 258.98'
 L = 415.48'
 E = 102.75'
 S.E. = 8.0%

P.T. 22+79.42 "SW-L"=
 O.P.O.T. 346+50.57 "D", 72.00' Rt.

STATE OF INDIANA
 (I.S.H.C.)

**U.S. 24
 CONSTRUCTION
 DETAILS**

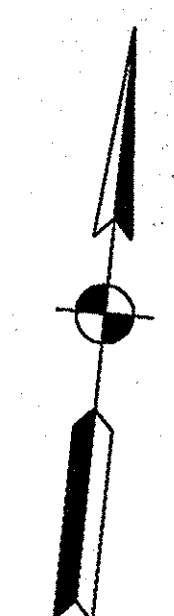
SCALE: 1" = 30'



PLOT DATE & TIME: DEC 17, 1997 - 10:04:38 - Plotted from: ITRANS

DESIGNED: RDS 1/84
 CHECKED: RDS 1/84
 DRAWN: MK 5/87
 SHEET REVISION: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	64	389



CURVE DATA

P.I. 21+22.92 "NE-L"
 $\Delta = 86^{\circ}33'49"$ RT.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 258.98'$
 $L = 415.47'$
 $E = 102.75'$
 $S.E. = 8.0\%$

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
 - (B) Bridge Deck
 - (C) Cement Concrete Pavement Reinforced, 11"
 - (1) 12" Compacted Aggregate Base No. 53
 - (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on 495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on 6" Compacted Aggregate for Base, "O", Size No. 53
 - (Ja) Paved Shoulder
1210#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, "O", Size No. 53
 - (3) Longitudinal Joint
 - (21) Longitudinal Construction Joint
 - (23) Terminal Joint
 - (24) Guardrail Transition, Type TGB
 - (32) Guardrail, W-Beam, 3'-1 1/2" Spacing
 - (33) Guardrail, End Treatment, Type OS
 - (34) Guardrail, End Treatment, Type MS
 - (35) Guardrail, W-Beam, 6'-3" Spacing
 - (36) Guardrail, W-Beam, 6'-3" Spacing, Double Faced
- For Interchange Geometrics, See Sheet No.

PLOT DATE & TIME: DEC 17, 1997 - 10:50:14 - Plotted from: TRAM

P.O.T. 25+79.47 "NW-L"
 O.P.O.T. 193+80.79
 "S-USR-31-G-RERUN",
 61.00' Lt.

P.O.T. 25+79.47 "NE-L"
 O.P.O.T. 350+49.13 "D", 66.00' Lt.

P.T. 22+79.41 "NE-L"
 O.P.O.T. 353+49.13 "D", 72.00' Lt.

P.O.T. 25+79.48 "SW-L"
 O.P.O.T. 349+50.57 "D", 66.80' Rt.

P.O.T. 349+99.85 "D"
 P.O.T. 193+26.50 "S-USR-31-G-RERUN"

P.O.T. 25+79.47 "SE-L"
 O.P.O.T. 192+72.22
 "S-USR-31-G-RERUN",
 61.00' Rt.

P.O.T. 7+99.84 "SE-L"
 O.P.O.T. 351+52.78 "D", 66.00' Rt.

CURVE DATA

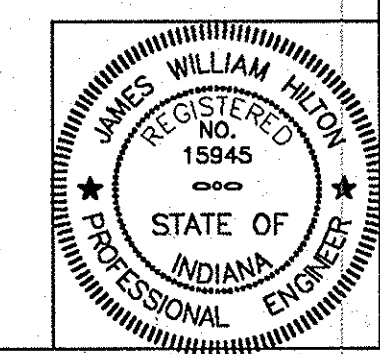
P.I. 12+75.00 "SE-L"
 $\Delta = 90^{\circ}00'00"$ RT.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$

STATE OF INDIANA
 (I. S. H. C.)

Overhead Sign Structure
 See Signing Plans for Detail

**U.S. 24
 CONSTRUCTION
 DETAILS**

SCALE: 1"=30'



FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	65	389

CURVE DATA

P.I. 11+79.53 "NE-R"
 $\Delta = 3725'46"$ RT.
 $D = 5'00'00"$
 $R = 1145.92'$
 $T = 388.20'$
 $L = 748.59'$
 $E = 63.97'$
 $S.E. = 7.1\%$

CURVE DATA

P.I. 24+56.20 "SE-R"
 $\Delta = 40'51'15"$ RT.
 $D = 4'45'00"$
 $R = 1206.25'$
 $T = 449.25'$
 $L = 860.10'$
 $E = 80.94'$
 $S.E. = 6.3\%$

CURVE DATA

P.I. 29+42.07 "SE-R"
 $\Delta = 3'00'00"$ RT.
 $D = 2'00'00"$
 $R = 2864.79'$
 $T = 75.02'$
 $L = 150.00'$
 $E = 0.98'$
 $S.E. = \text{Transition}$

P.C.C. 28+67.05 "SE-R"=
 O.P.O.T. 365+29.29 "D",
 78.92' Rt.

P.I. 29+42.07 "SE-R"=
 O.P.O.T. 366+04.11 "D",
 73.50' Rt.

P.T. 30+17.05 "SE-R"=
 O.P.O.T. 366+79.11 "D",
 72.00' Rt.

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on
495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on
6" Compacted Aggregate for Base, "O", Size No. 5
- (J3) Paved Shoulder
1210#/Syd. QC/QA HMA Base 25.0mm, Shoulder
with Seal Coat, Type 2
- (3) Longitudinal Joint
- (9) 1" Preformed Joint Filler
- (21) Longitudinal Construction Joint
- (24) Ear Construction, Type "A"
- (33) Guardrail End Treatment Type OS
- (35) Guardrail W-Beam 6'-3" Spacing

For Interchange Geometrics, See Sheet No.



STR. NO. 56
See Sheet No.

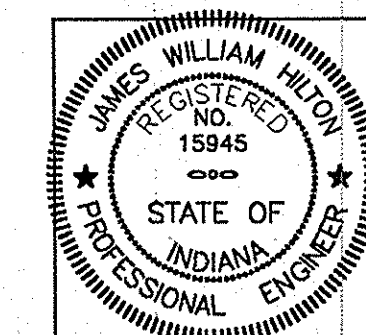
STATE OF INDIANA
(I. S. H. C.)

RAYMOND E.
MUSSELMAN
FARMS, INC.

RUSSELL BELLAR

U.S. 24
CONSTRUCTION
DETAILS

SCALE: 1"=30'



PLOT DATE & TIME: OCT 28, 1997 - 10:28:03 - Plotted from: TRAM12

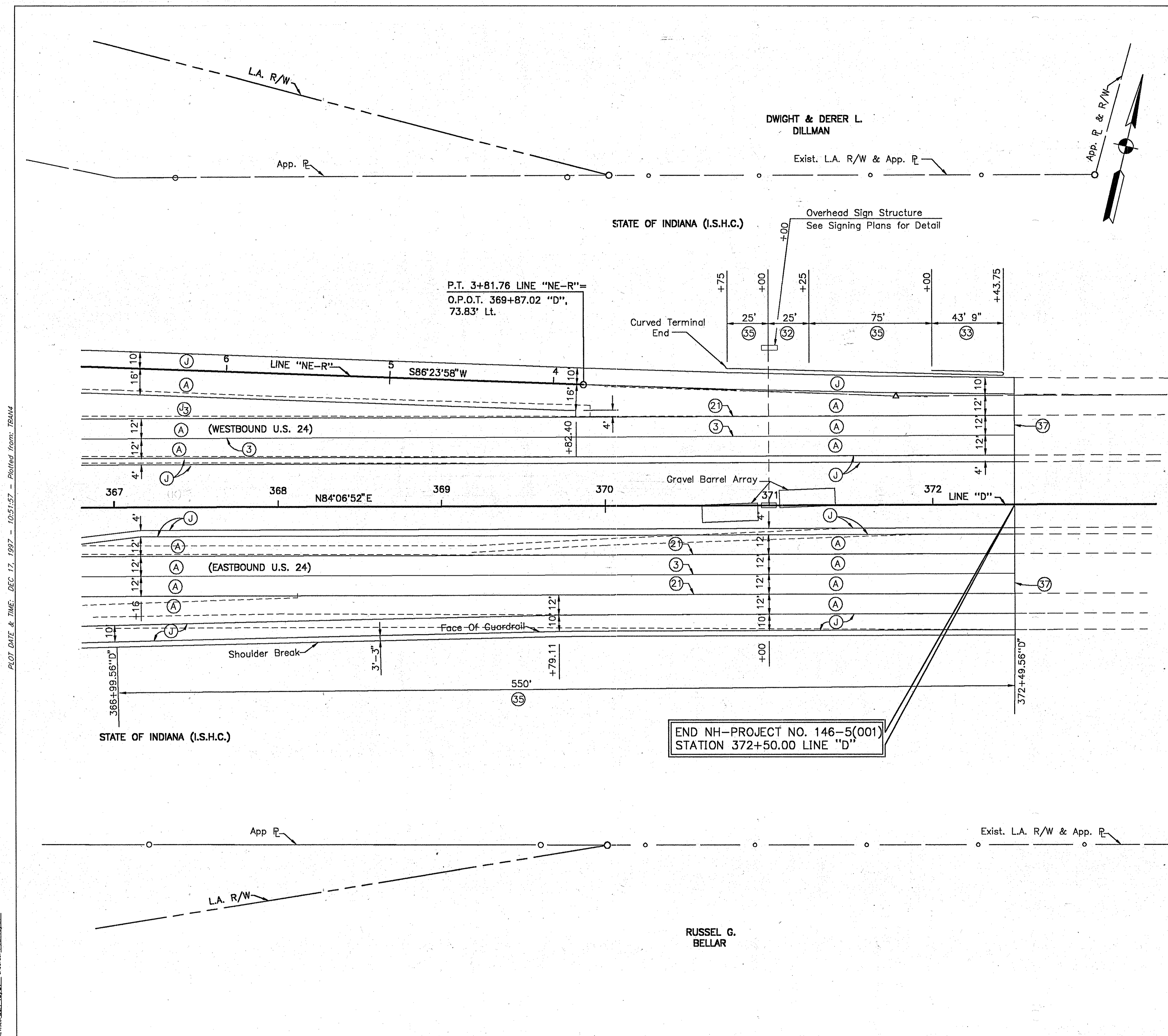
DESIGNED: RDS, 12/93, CHECKED: JBS/7/94
 DRAWN: MAG, 12/93, CHECKED: JBS/7/94
 REVISION: DML, 10/97, CHECKED: PJS/9/97

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	66	389

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on
495#/Syd. QC/QA HMA Base 25.0mm, Shoulder
on 6" Compacted Aggregate for Base, "O", Size No. 53
- (J3) Paved Shoulder
1210#/Syd. QC/QA HMA Base 25.0mm, Shoulder
with Seal Coat, Type 2
- (3) Longitudinal Joint
- (21) Longitudinal Construction Joint
- (32) Guardrail W-Beam 3'-1 1/2" Spacing
- (33) Guardrail End Treatment, Type OS
- (35) Guardrail W-Beam 6'-3" Spacing
- (37) Sawcut

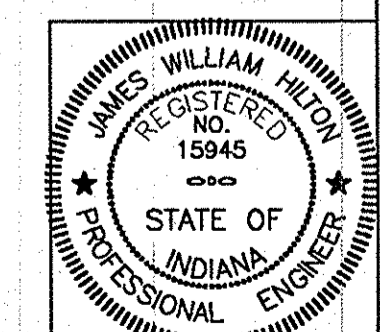
For Interchange Geometrics, See Sheet No.



END NH-PROJECT NO. 146-5(001)
STATION 372+50.00 LINE "D"

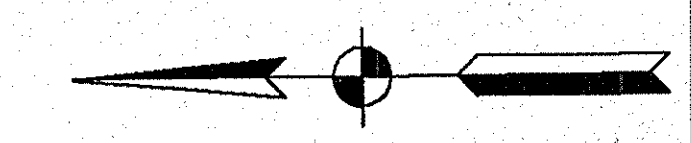
**U.S. 24
CONSTRUCTION
DETAILS**

SCALE: 1"=30'

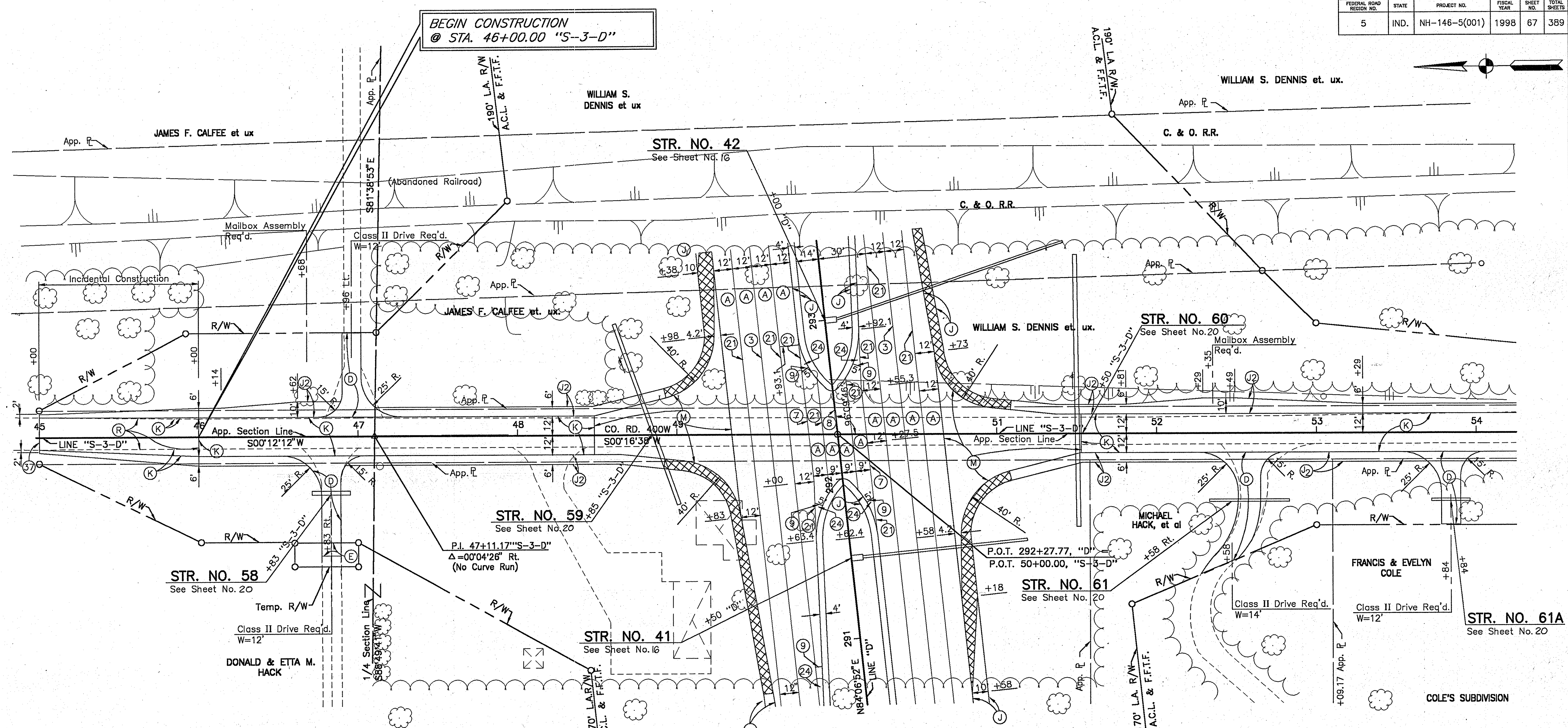


DESIGNED: BDB 1/94, CHECKED: BDB 1/94, DRAWN: MKR 1/94, CHECKED: BDB 1/94, REVISION: DDB 10/97, CHECKED: EKE 10/97
 PLOT DATE & TIME: DEC 17, 1997 - 10:51:57 - Plotted from: TRAM

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	67	389



BEGIN CONSTRUCTION
@ STA. 46+00.00 "S-3-D"



PLOT DATE & TIME: NOV. 11, 1997 - 12:55:33 - Plotted from: TRAMS

DESIGNED: BJS, 6/97 CHECKED: BJS, 6/97
DRAWN: MKL, 6/97 CHECKED: BJS, 6/97
REVISION: JML, 10/97 CHECKED: BJS, 10/97

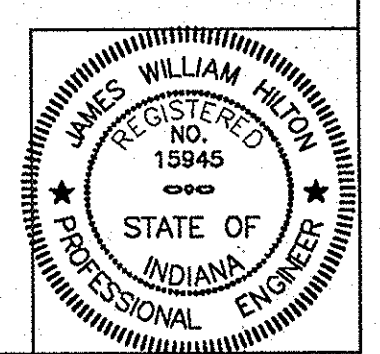
- LEGEND**
- (A) Cement Concrete Pavement, Plain, 11"
 - (D) HMA for Approaches
140#/Syd. HMA Surface 9.5mm, Mainline on
300#/Syd. HMA Base 25.0mm, Mainline on
4" Compacted Aggregate Base, "O", Size No. 53
 - (E) 6" Compacted Aggregate, "O", Size No. 53
 - (J) Corrugated Paved Shoulder
185#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on
495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on
6" Compacted Aggregate for Base, "O", Size No. 53
 - (J2) Paved Shoulder
440#/Syd. QC/QA HMA Base 25.0mm, Shoulder
with Seal Coat, Type 2 on
6" Compacted Aggregate for Base, "O", Size No. 53
 - (K) Full Depth Pavement
140#/Syd. HMA Surface 9.5mm, Mainline on
300#/Syd. HMA Base 25.0mm, Mainline on
6" Compacted Aggregate for Base, "O", Size No. 53
 - (M) HMA for Approaches (Same Composition as (K))
 - (R) HMA Resurface
140#/Syd. HMA Surface 9.5mm, Mainline
 - (3) Longitudinal Joint
 - (7) Keyway Joint
 - (9) 1" Preformed Joint Filler
 - (21) Longitudinal Construction Joint
 - (24) Ear Construction, Type "A"
 - (37) Sawcut
 - ☒ Same as Approach Pavement with Seal Coat, Type 2

NOTE: Type "U" Public Road Crossover Req'd
Sta. 292+27.77 "D"
Length = 55'

Type "C" Public Road Approach Req'd
Sta. 292+27.77 "D" Lt.
Sta. 292+27.77 "D" Rt.

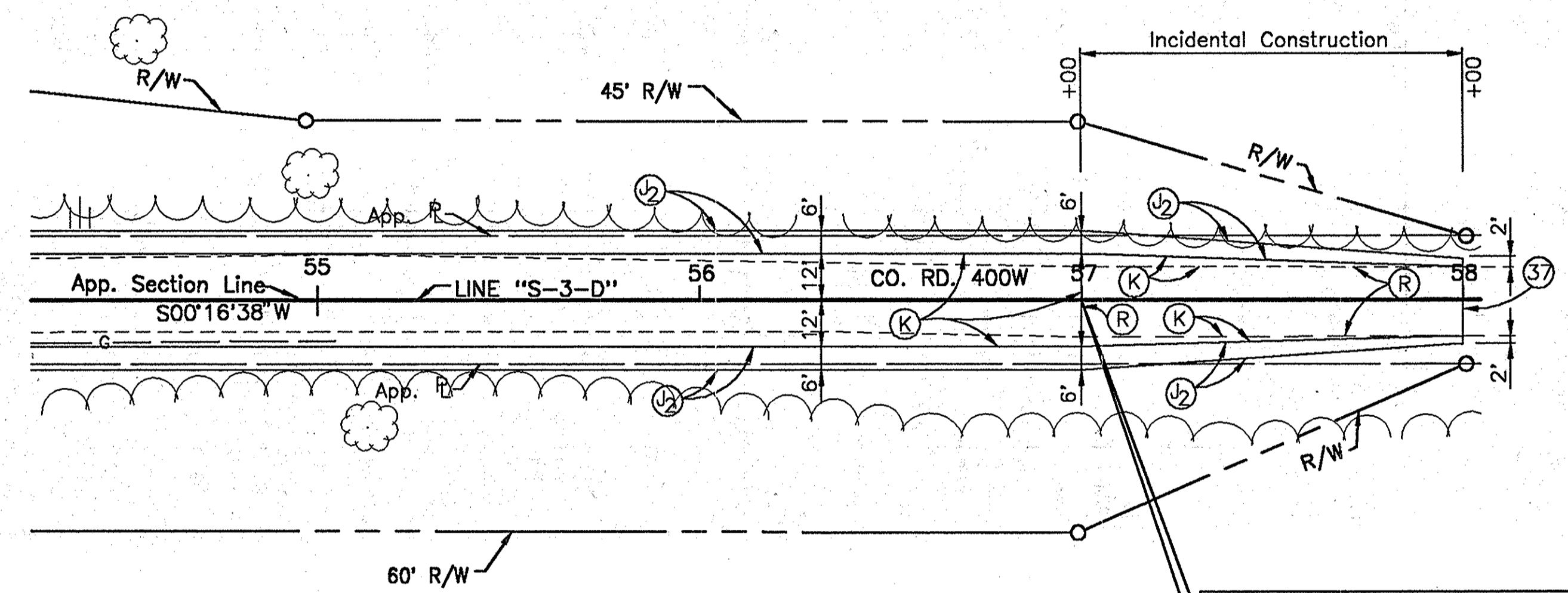
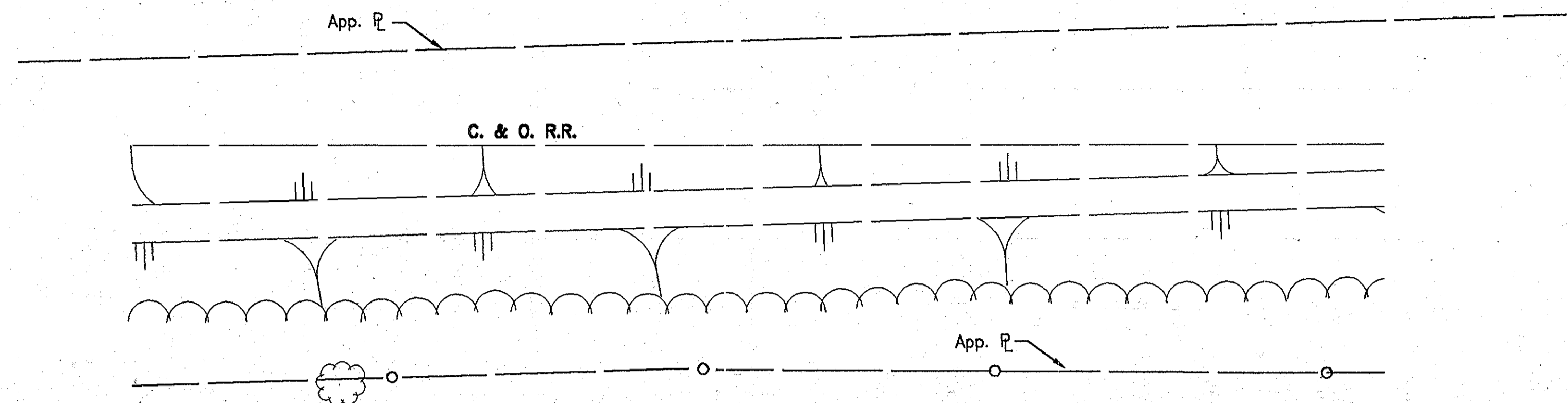
CO. RD. 400W CONSTRUCTION DETAILS

SCALE: 1" = 30'



FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	68	389

WILLIAM S. DENNIS et ux



END CONSTRUCTION
@ STA. 57+00.00 "S-3-D"

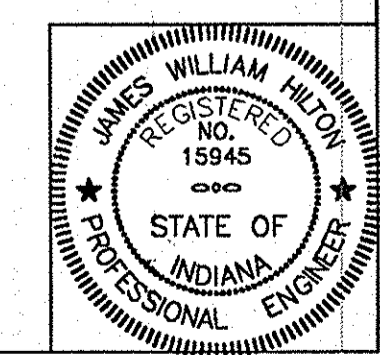
LEGEND

- (S) Paved Shoulder
440#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, 1"0", Size No. 53
- (K) Full Depth Pavement
140#/Syd. HMA Surface 9.5mm, Mainline on 300#/Syd. HMA Base 25.0mm, Mainline on 8" Compacted Aggregate for Base, 1"0", Size No. 53
- (R) HMA Resurface
140#/Syd. HMA Surface 9.5mm, Mainline
- (37) Sawcut

FRANCIS & EVELYN COLE
COLE'S SUBDIVISION

CO. RD. 400W
CONSTRUCTION
DETAILS

SCALE: 1" = 30'



PLOT DATE & TIME: OCT 28, 1997 - 09:55:11 - Plotted from: TRAVI2

DESIGNED: BJS 6/97 CHECKED: BJS 6/97
DRAWN: JMK 5/97 CHECKED: BJS 6/97
REVISED: JML 10/97 CHECKED: EAG 10/97

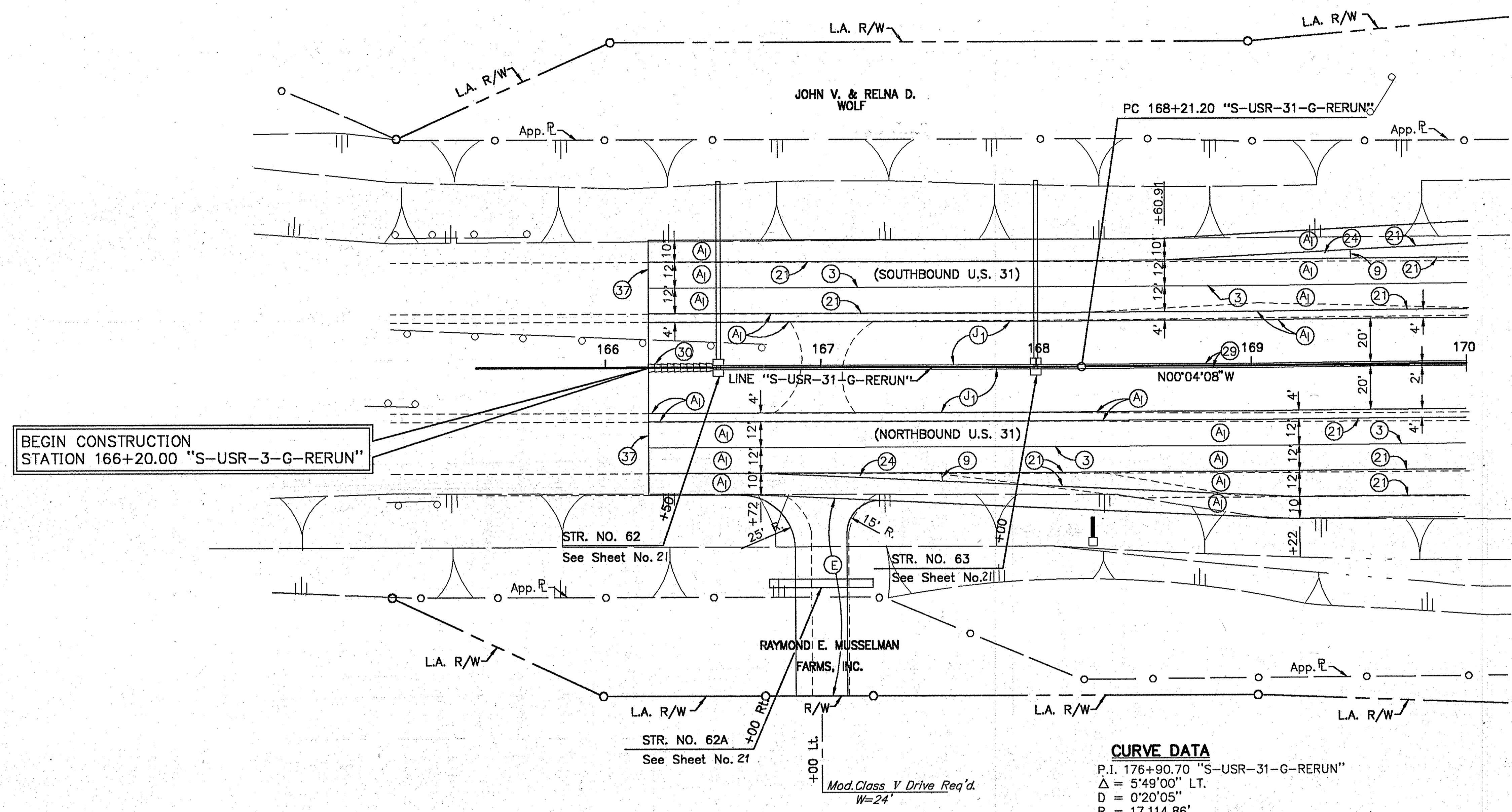
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	69	389



LEGEND

- (A) Cement Concrete Pavement, Plain, 12"
- (J) Paved Shoulder
660#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, "O", Size No. 53
- (E) 6" Compacted Aggregate for Base, O, Size No. 53
- (3) Longitudinal Joint
- (9) 1" Preformed Joint Filler
- (2) Longitudinal Construction Joint
- (24) Ear Construction, Type "A"
- (29) Concrete Median Barrier
- (30) G.R.E.A.T. Unit, 9 Bay
- (37) Sawcut

For Interchange Geometrics, See Sheet No.



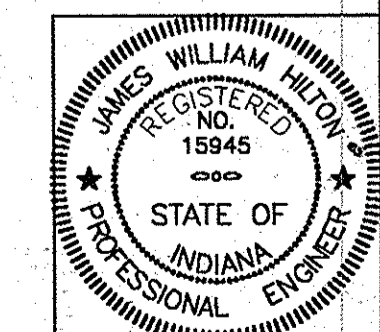
BEGIN CONSTRUCTION
STATION 166+20.00 "S-USR-3-G-RERUN"

CURVE DATA
 P.I. 176+90.70 "S-USR-31-G-RERUN"
 $\Delta = 5'49''$ LT.
 $D = 0'20''$ 05"
 $R = 17,114.86'$
 $T = 869.50'$
 $L = 1737.50'$
 $E = 22.07'$
 S.E.=N.C.

Mod. Class V Drive Req'd.
W=24'

**U.S. 31
CONSTRUCTION
DETAILS**

SCALE: 1"=30'

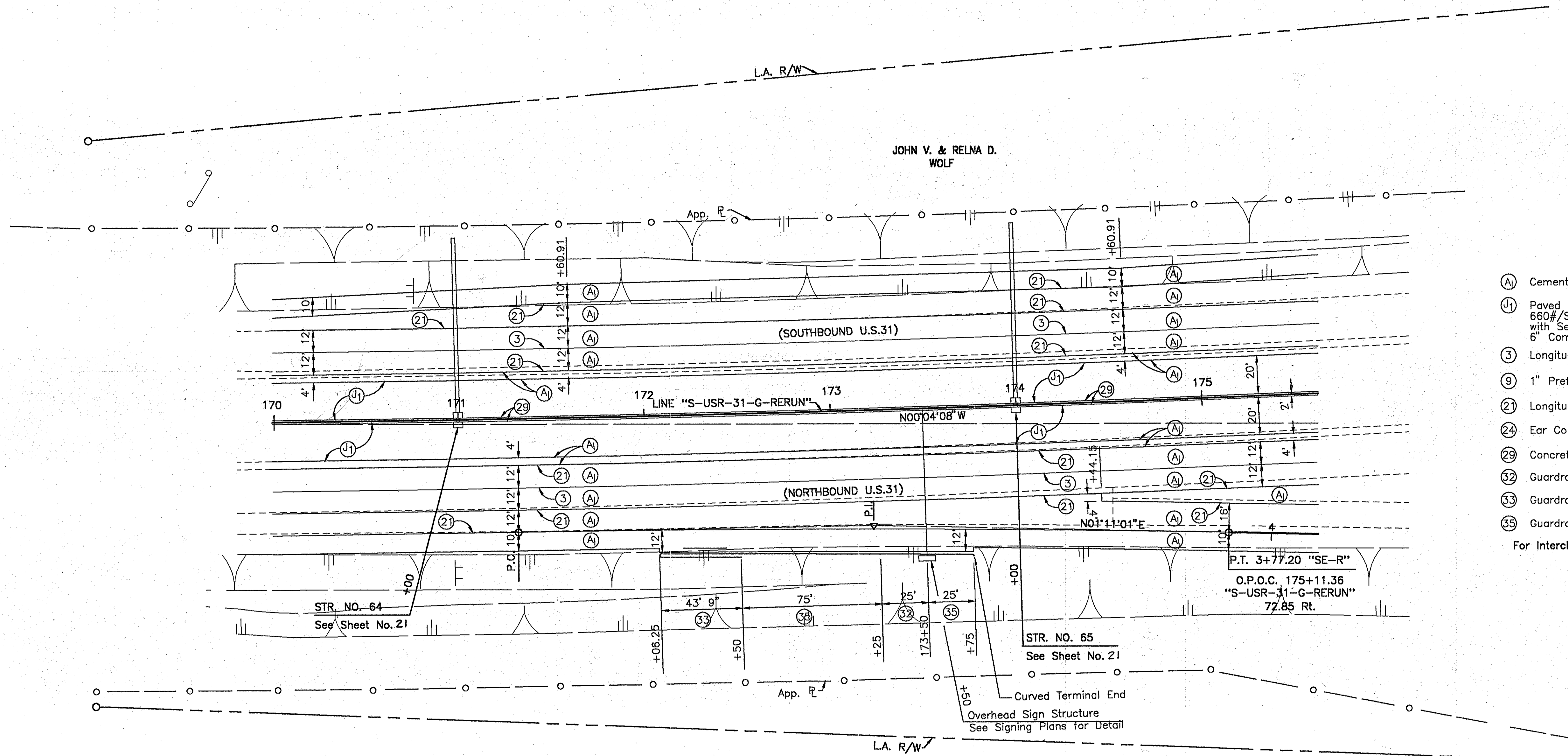


DESIGNED: RDS 1/94 CHECKED: RDS 1/94
 DRAWN: MKK 1/94 CHECKED: RDS 1/94
 REVISION: DML 10/97 CHECKED: ESE 10/97
 PLOT DATE & TIME: OCT 28 1997 - 10:26:58 - Plotted from: TRM12

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	70	389



JOHN V. & RELNA D. WOLF



LEGEND

- (A1) Cement Concrete Pavement, Plain, 12"
 - (J1) Paved Shoulder
660#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, "O", Size No. 53
 - (3) Longitudinal Joint
 - (9) 1" Preformed Joint Filler
 - (21) Longitudinal Construction Joint
 - (24) Ear Construction, Type "A"
 - (29) Concrete Median Barrier
 - (32) Guardrail, W-Beam, 3'-1 1/2" Spacing
 - (33) Guardrail End Treatment, Type OS
 - (35) Guardrail, W-Beam, 6'-3" Spacing
- For Interchange Geometrics, See Sheet No.

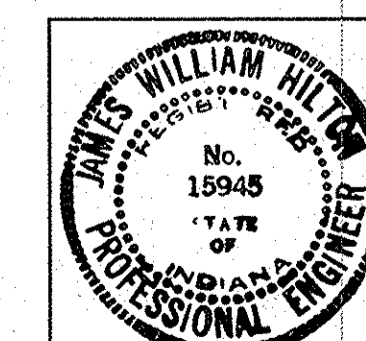
CURVE DATA

$\Delta = 2^\circ 17' 26''$ Rt.
 $D = 0^\circ 36'$
 $R = 9549.30'$
 $T = 190.91$
 $L = 381.76'$
 $E = 1.91'$

RAYMOND E. MUSSELMAN
FARMS, INC.

**U.S. 31
CONSTRUCTION
DETAILS**

SCALE: 1"=30'



PLOT DATE & TIME: DEC 17, 1997 - 14:45:05 - Plotted from: TRAM

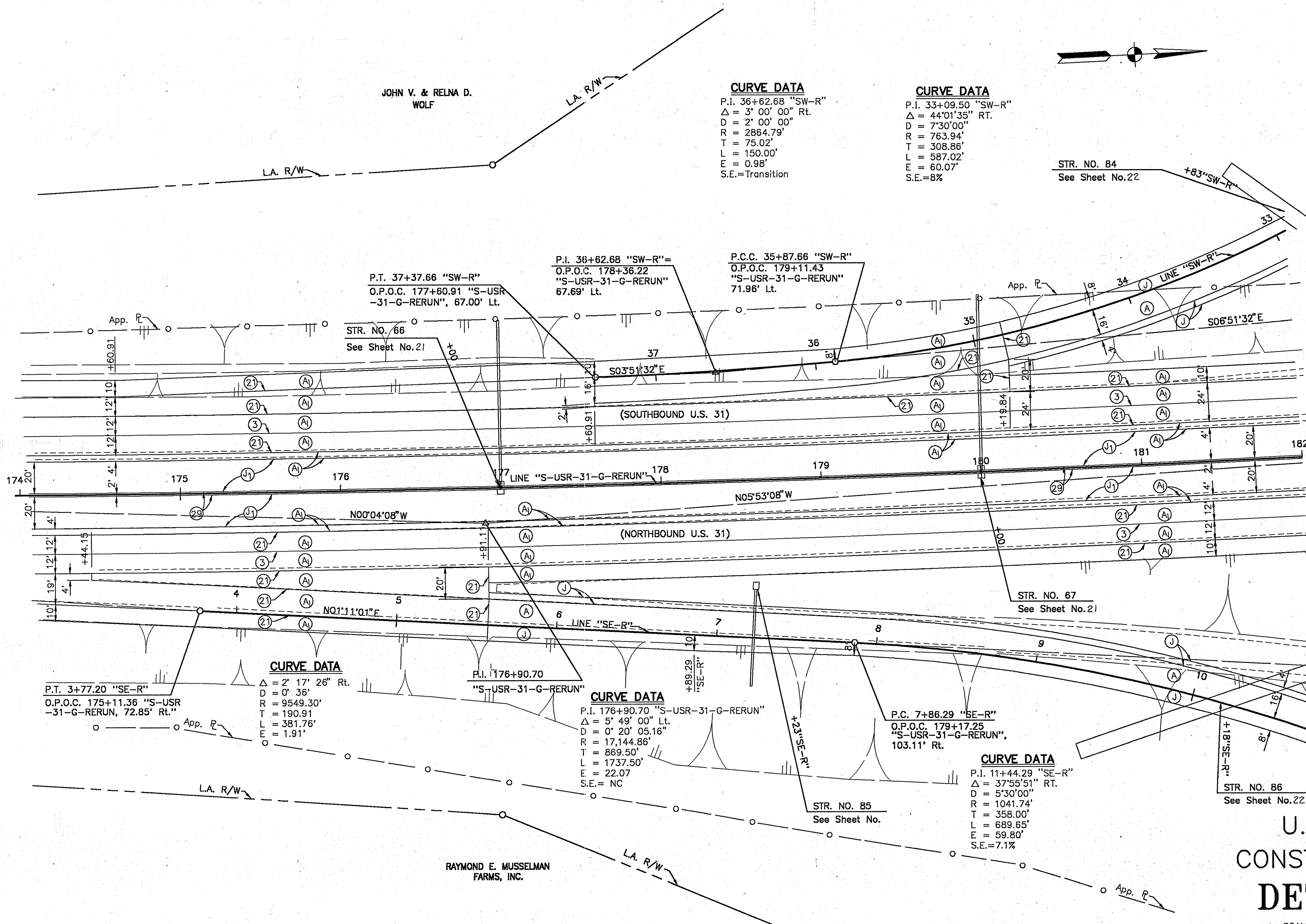
DESIGNED: EDS, 1/24 - CHECKED: EDS, 1/24
 DRAWN: MKK, 1/24 - CHECKED: EDS, 1/24
 REVISION: JML, 10/97 - CHECKED: ESE, 10/97

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	71	389

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (A1) Cement Concrete Pavement, Plain, 12"
- (J) Corrugated Paved Shoulder
185#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on
495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on
6" Compacted Aggregate for Base, "O", Size No. 53
- (J1) Paved Shoulder
660#/Syd. QC/QA HMA Base 25.0mm, Shoulder
with Seal Coat, Type 2 on
6" Compacted Aggregate for Base, "O", Size No. 53
- (3) Longitudinal Joint
- (21) Longitudinal Construction Joint
- (29) Concrete Median Barrier

For Interchange Geometrics, See Sheet No.



CURVE DATA
 P.I. 36+62.68 "SW-R"
 $\Delta = 3^\circ 00' 00''$ Rt.
 $D = 2^\circ 00' 00''$
 $R = 2864.79'$
 $T = 75.02'$
 $L = 150.00'$
 $E = 0.98'$
 S.E. = Transition

CURVE DATA
 P.I. 33+09.50 "SW-R"
 $\Delta = 44^\circ 01' 35''$ RT.
 $D = 7^\circ 30' 00''$
 $R = 763.94'$
 $T = 308.86'$
 $L = 587.02'$
 $E = 60.07'$
 S.E. = 8%

CURVE DATA
 $\Delta = 2^\circ 17' 26''$ Rt.
 $D = 0^\circ 36'$
 $R = 9549.30'$
 $T = 190.91'$
 $L = 381.76'$
 $E = 1.91'$

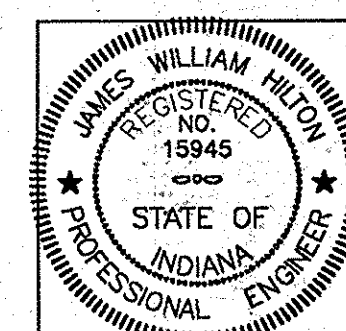
P.I. 176+90.70
 "S-USR-31-G-RERUN"
CURVE DATA
 P.I. 176+90.70 "S-USR-31-G-RERUN"
 $\Delta = 5^\circ 49' 00''$ Lt.
 $D = 0^\circ 20' 05.16''$
 $R = 17,144.86'$
 $T = 869.50'$
 $L = 1737.50'$
 $E = 22.07'$
 S.E. = NC

P.C. 7+86.29 "SE-R"
 O.P.O.C. 179+17.25
 "S-USR-31-G-RERUN",
 103.11' Rt.

CURVE DATA
 P.I. 11+44.29 "SE-R"
 $\Delta = 37^\circ 55' 51''$ RT.
 $D = 5^\circ 30' 00''$
 $R = 1041.74'$
 $T = 358.00'$
 $L = 689.65'$
 $E = 59.80'$
 S.E. = 7.1%

**U.S. 31
 CONSTRUCTION
 DETAILS**

SCALE: 1"=30'



PLOT DATE & TIME: OCT 28, 1997 - 10:23:49 - Plotted from: TRM12

DESIGNED: B.S. 10/93, CHECKED: B.S. 1/94, APPROVED: B.S. 12/93, REVISION: B.S. 10/97



LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (A1) Cement Concrete Pavement, Plain, 12"
- (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on 495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on 6" Compacted Aggregate for Base, "0", Size No. 53
- (J1) Paved Shoulder
660#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, "0", Size No. 53
- (3) Longitudinal Joint
- (21) Longitudinal Construction Joint
- (29) Concrete Median Barrier
- (32) Guardrail, W-Beam, 3'-1 1/2" Spacing
- (33) Guardrail End Treatment, Type OS
- (35) Guardrail, W-Beam, 6'-3" Spacing

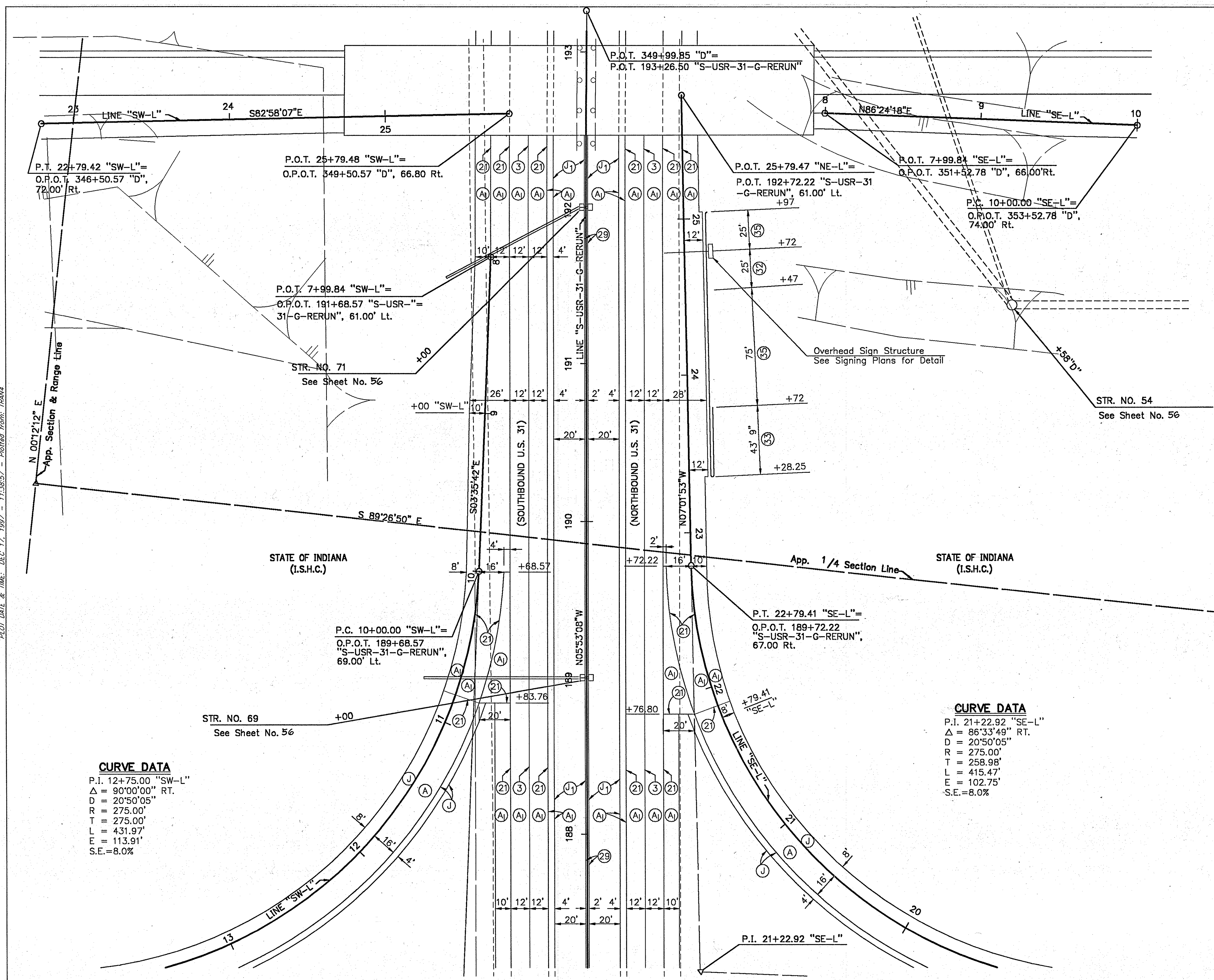
For Interchange Geometrics, See Sheet No.

CURVE DATA

P.I. 21+22.92 "SE-L"
 $\Delta = 86^{\circ}33'49''$ RT.
 $D = 20^{\circ}50'05''$
 $R = 275.00'$
 $T = 258.98'$
 $L = 415.47'$
 $E = 102.75'$
 $S.E. = 8.0\%$

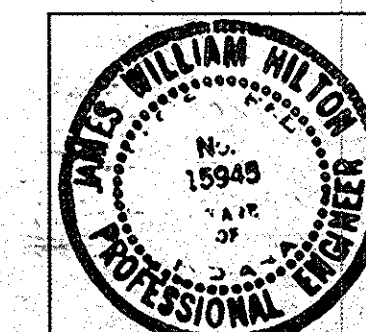
CURVE DATA

P.I. 12+75.00 "SW-L"
 $\Delta = 90^{\circ}00'00''$ RT.
 $D = 20^{\circ}50'05''$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$



**U.S. 31
CONSTRUCTION
DETAILS**

SCALE: 1"=30'



DESIGNED: BDE, 12/83, ONCORP. B05, 1/94
 DRAWN: MK, 12/93, ONCORP. B05, 1/94
 REVISION: JWH, 10/97, ONCORP. EGE, 10/97
 PLOT DATE & TIME: DEC 17, 1997 - 11:38:57 - Plotted from: TRAM

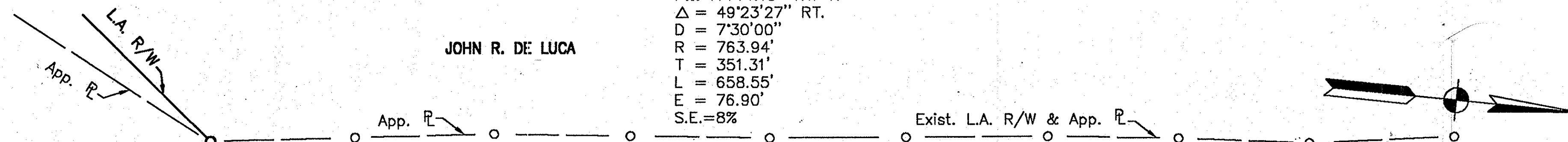
FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	74	389

CURVE DATA

P.I. 11+71.19 "NW-R"
 $\Delta = 49^{\circ}23'27''$ RT.
 $D = 7^{\circ}30'00''$
 $R = 763.94'$
 $T = 351.31'$
 $L = 658.55'$
 $E = 76.90'$
 $S.E. = 8\%$

JOHN R. DE LUCA

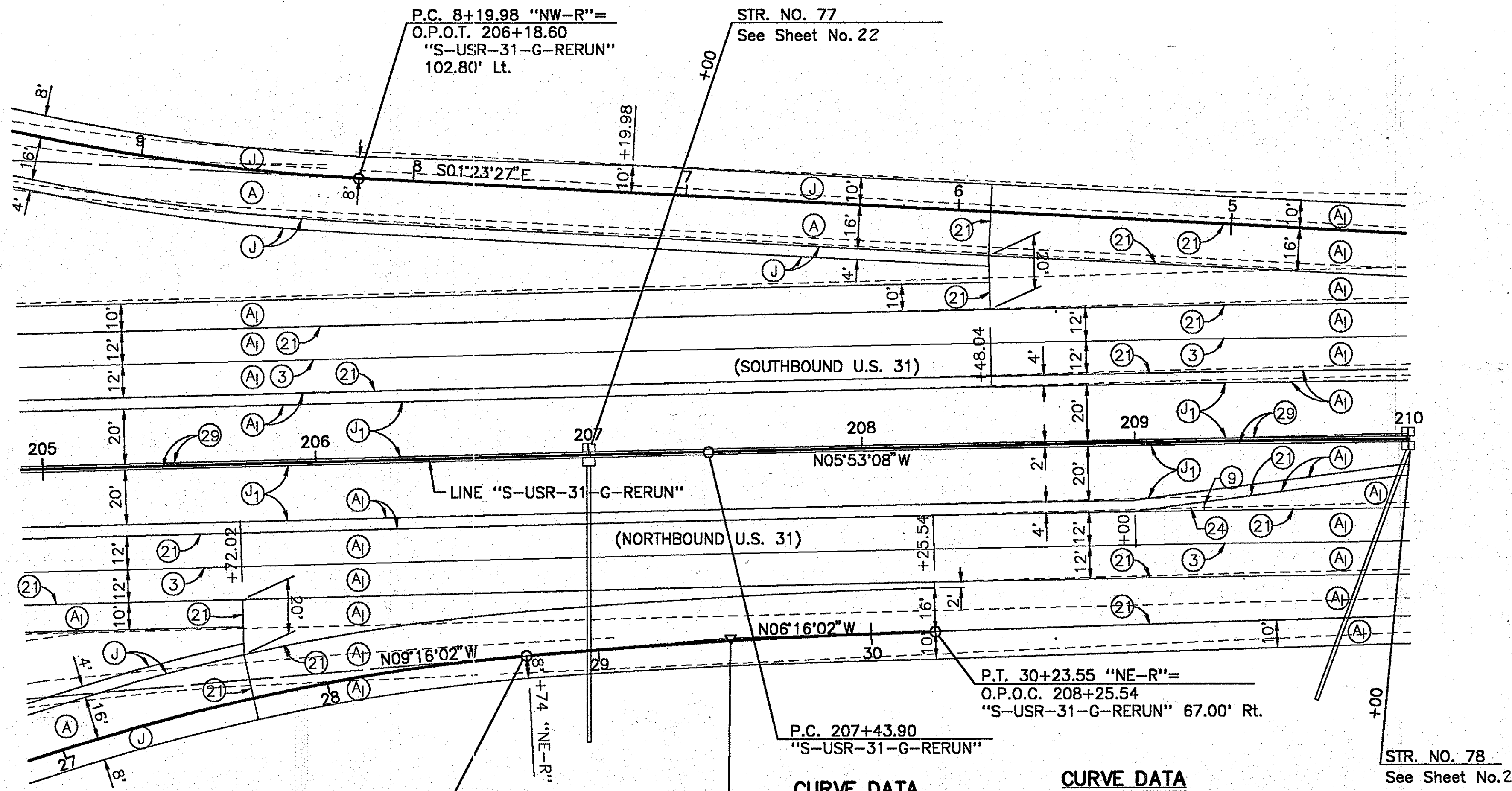
Exist. L.A. R/W & App. R



LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (A1) Cement Concrete Pavement, Plain, 12"
- (J) Corrugated Paved Shoulder
165#/Syd. QC/QA HMA Surface 9.5mm, Shoulder on 495#/Syd. QC/QA HMA Base 25.0mm, Shoulder on 6" Compacted Aggregate for Base, "O", Size No. 53
- (J1) Paved Shoulder
660#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, "O", Size No. 53
- (3) Longitudinal Joint
- (9) 1" Preformed Joint Filler
- (21) Longitudinal Construction Joint
- (24) Ear Construction, Type "A"
- (29) Concrete Median Barrier

For Interchange Geometrics, See Sheet No.



CURVE DATA

P.I. 29+48.57 "NE-R"
 $\Delta = 3^{\circ}00'00''$ RT.
 $D = 2^{\circ}00'00''$
 $R = 2864.79'$
 $T = 75.02'$
 $L = 150.00'$
 $E = 0.98'$
 $S.E. = N.C.$

CURVE DATA

P.I. 216+44.72 "S-USR-31-G-RERUN"
 $\Delta = 5^{\circ}58'00''$ RT.
 $D = 00^{\circ}19'53''$
 $R = 17,284.76'$
 $T = 900.81'$
 $L = 1800.00'$
 $E = 23.46'$
 $S.E. = N.C.$

P.C.C. 28+73.55 "NE-R"
 O.P.O.T. 206+75.32
 "S-USR-31-G-RERUN"
 72.12' Rt.

P.I. 29+48.57 "NE-R"
 O.P.O.C. 207+50.23
 "S-USR-31-G-RERUN",
 67.70' Rt.

P.C. 207+43.90
 "S-USR-31-G-RERUN"

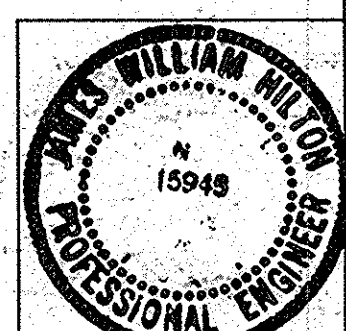
P.T. 30+23.55 "NE-R"
 O.P.O.C. 208+25.54
 "S-USR-31-G-RERUN" 67.00' Rt.

STATE OF INDIANA (I.S.H.C.)

GENCORP, INC.

**U.S. 31
 CONSTRUCTION
 DETAILS**

SCALE: 1"=30'



PLOT DATE & TIME: OCT 28, 1997 - 10:15:01 - Plotted from: TRAVI2

DESIGNED: B.J.M. 5/93 CHECKED: B.D.S. 1/94
 DRAWN: K.A.V. 5/93 CHECKED: B.D.S. 1/94
 REVISION: D.H.L. 10/97 CHECKED: E.K. 10/97

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	75	389

JOHN R. DELUCCA

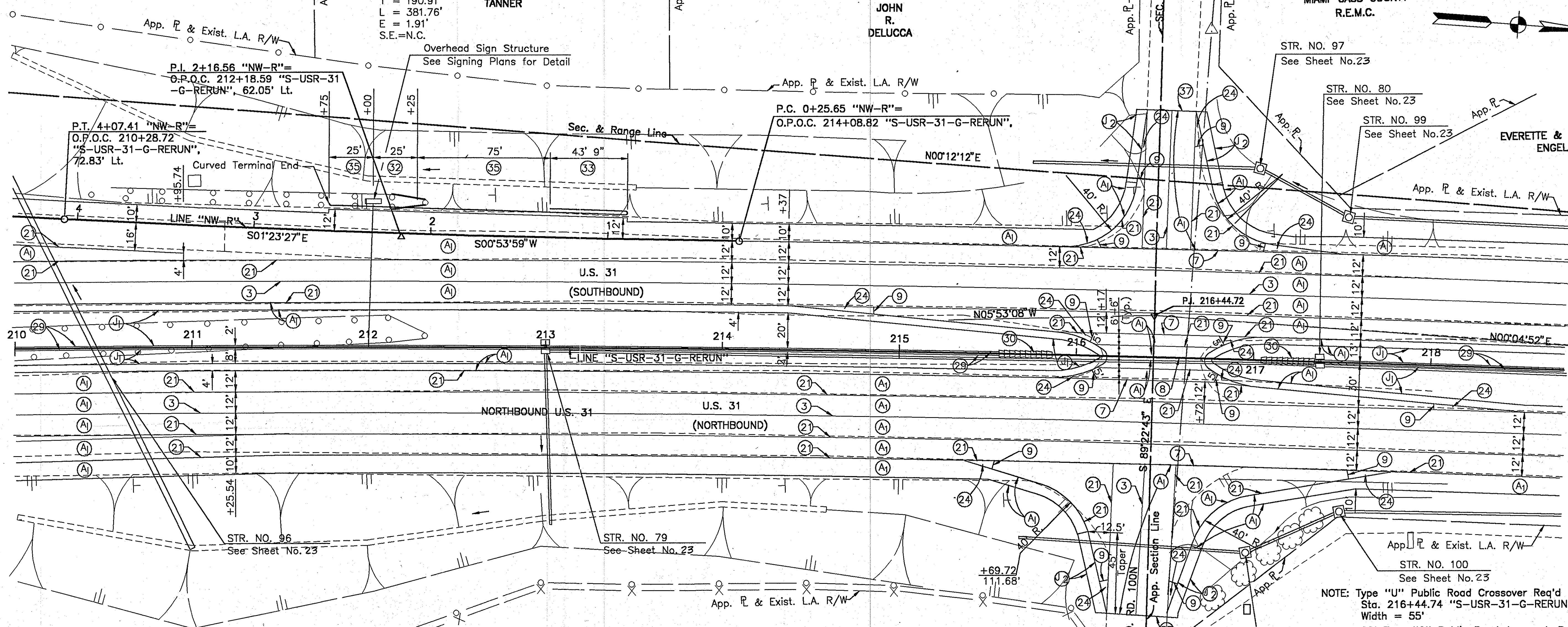
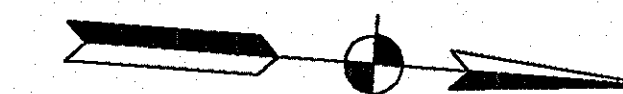
CURVE DATA

P.I. 2+16.56 "NW-R"
 $\Delta = 217'26"$ Rt.
 $D = 0'36'00"$
 $R = 9549.30'$
 $T = 190.91'$
 $L = 381.76'$
 $E = 1.91'$
 $S.E. = N.C.$

JEFFREY M. & JOYCE M. TANNER

JOHN R. DELUCCA

MIAMI-CASS COUNTY R.E.M.C.



GENCORP, INC.

CURVE DATA

P.I. 216+44.72 "S-USR-31-G-RERUN"
 $\Delta = 5'58'00"$ RT.
 $D = 00'19'53"$
 $R = 17,284.76'$
 $T = 900.81'$
 $L = 1800.00'$
 $E = 23.46'$
 $S.E. = N.C.$

GENERAL TIRE & RUBBER CO.

LEGEND

- (A) Cement Concrete Pavement, Plain, 12"
- (J) Paved Shoulder
660#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, "O", Size No. 53
- (2) Paved Shoulder
440#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, "O", Size No. 53
- (3) Longitudinal Joint
- (7) Keyway Joint
- (8) 1" Preformed Expansion Joint with Load Transfer
- (9) 1" Preformed Joint Filler
- (21) Longitudinal Construction Joint
- (24) Ear Construction, Type "A"
- (29) Concrete Median Barrier
- (30) G.R.E.A.T. Unit, 9 Bays
- (32) Guardrail, W-Beam, 3'-1 1/2" Spacing
- (33) Guardrail End Treatment, Type OS
- (35) Guardrail, W-Beam, 6'-3" Spacing
- (37) Sawcut

NOTE: Type "U" Public Road Crossover Req'd Sta. 216+44.74 "S-USR-31-G-RERUN" Width = 55'
 28' Type "C" Public Road Approach Req'd at Sta. 216+45.00 Rt.
 33' Mod. Type "D" Public Road Approach Req'd at Sta. 216+45.00 Rt.

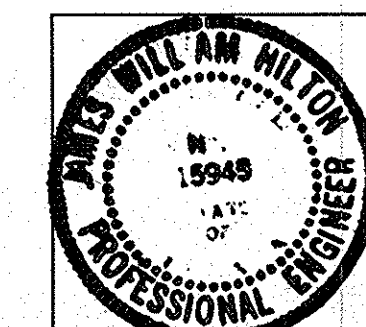
MARY E. GALLAHAN

STR. NO. 98
See Sheet No. 23

**U.S. 31 & CO. RD. 100N
CONSTRUCTION
DETAILS**

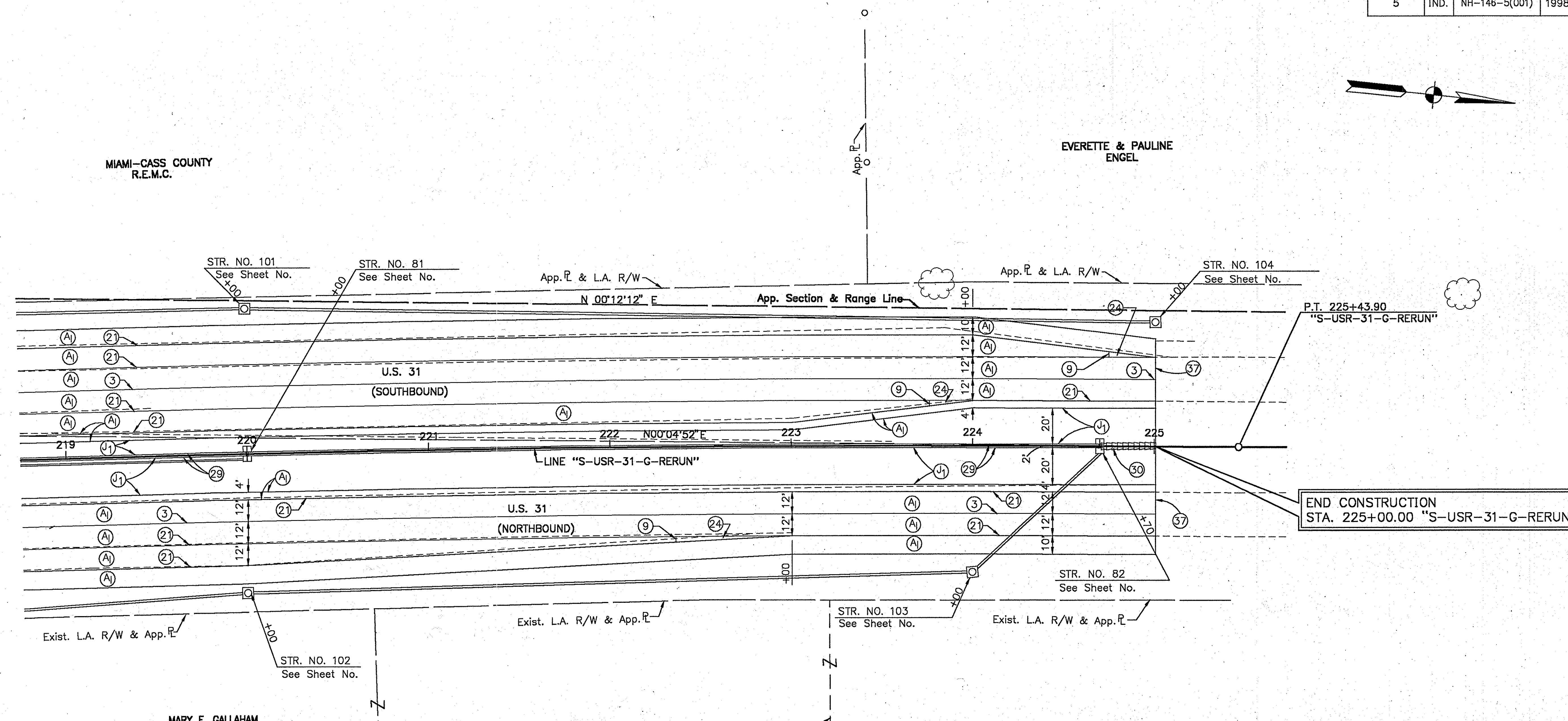
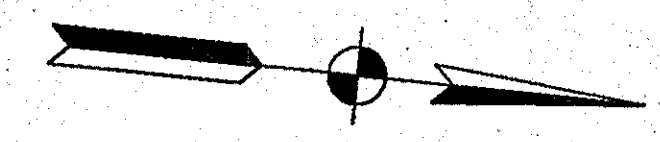
SCALE: 1"=30'

For Interchange Geometrics, See Sheet No.



DESIGNED: P.J.R. 7/93 CHECKED: R.S.S. 1/94
 DRAWN: M.G. 2/93 CHECKED: R.S.S. 1/94
 REVISION: D.M.L. 10/97 CHECKED: E.B. 10/97
 PLOT DATE & TIME: DEC 17, 1997 - 1:57:54 - Plotted from: TRAVN

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	76	389

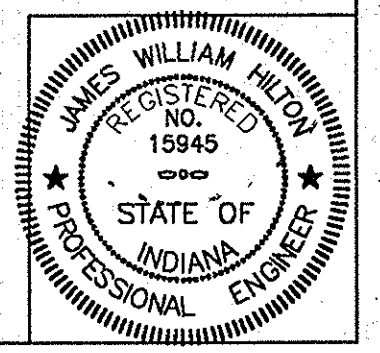


LEGEND

- (A) Cement Concrete Pavement, Plain, 12"
- (J1) Paved Shoulder
660#/Syd. QC/QA HMA Base 25.0mm, Shoulder with Seal Coat, Type 2 on 6" Compacted Aggregate for Base, "O", Size No. 53
- (3) Longitudinal Joint
- (7) Keyway Joint
- (9) 1" Preformed Joint Filler
- (21) Longitudinal Construction Joint
- (24) Ear Construction, Type "A"
- (29) Concrete Median Barrier
- (30) G.R.E.A.T. Unit, 9 Bays
- (37) Sawcut

**U.S. 31 & CO.RD. 100N
CONSTRUCTION
DETAILS**

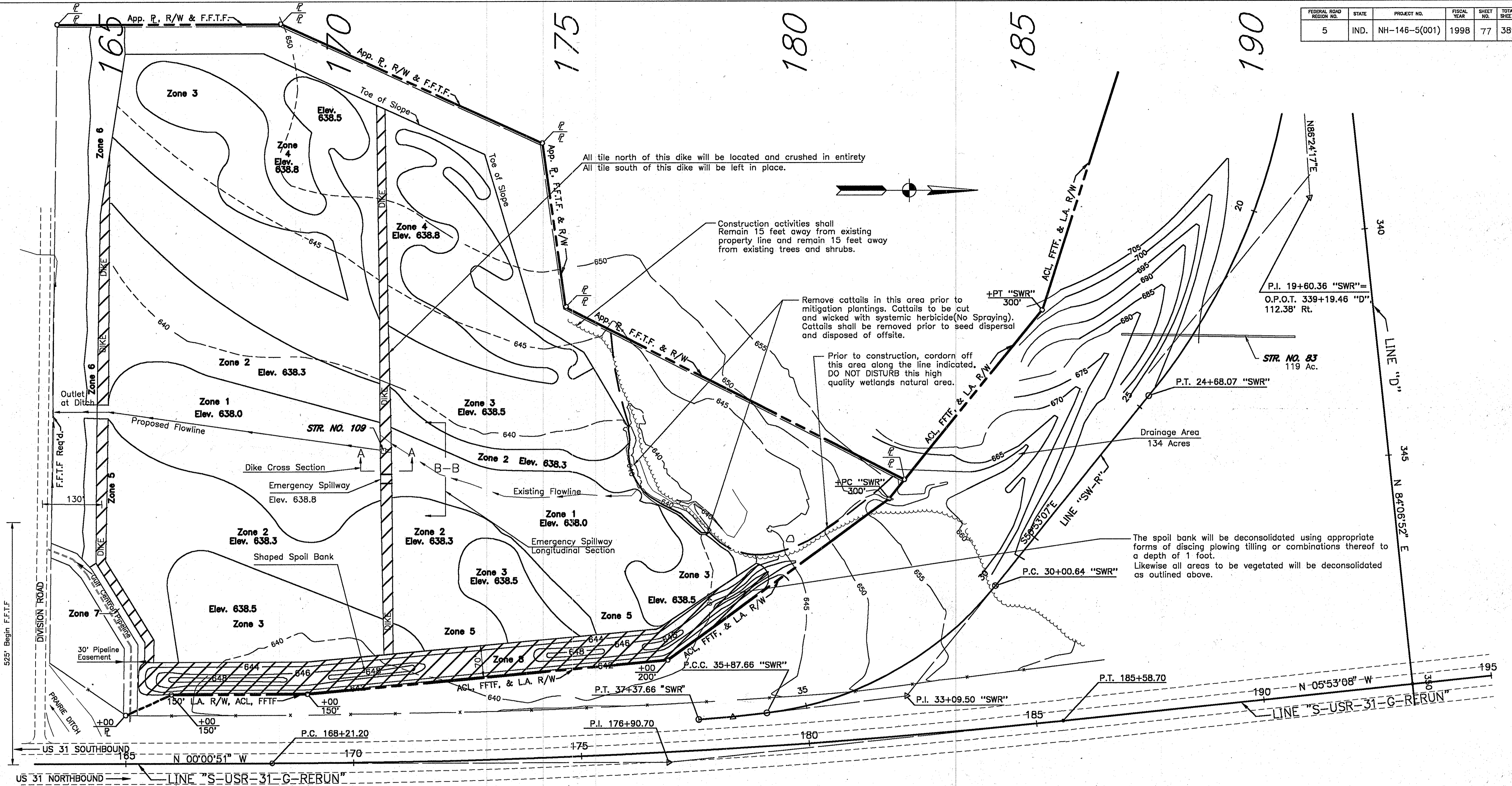
SCALE: 1"=30'



PLOT DATE & TIME: DEC 19, 1997 - 11:26:11

DESIGNED: P.J.G. 7/93 CHECKED: B.D.S. 1/94
DRAWN: M.S. 7/93 CHECKED: B.D.S. 1/94
REVISION: D.H. 10/97 CHECKED: E.M. 10/97

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	77	389



Notes:

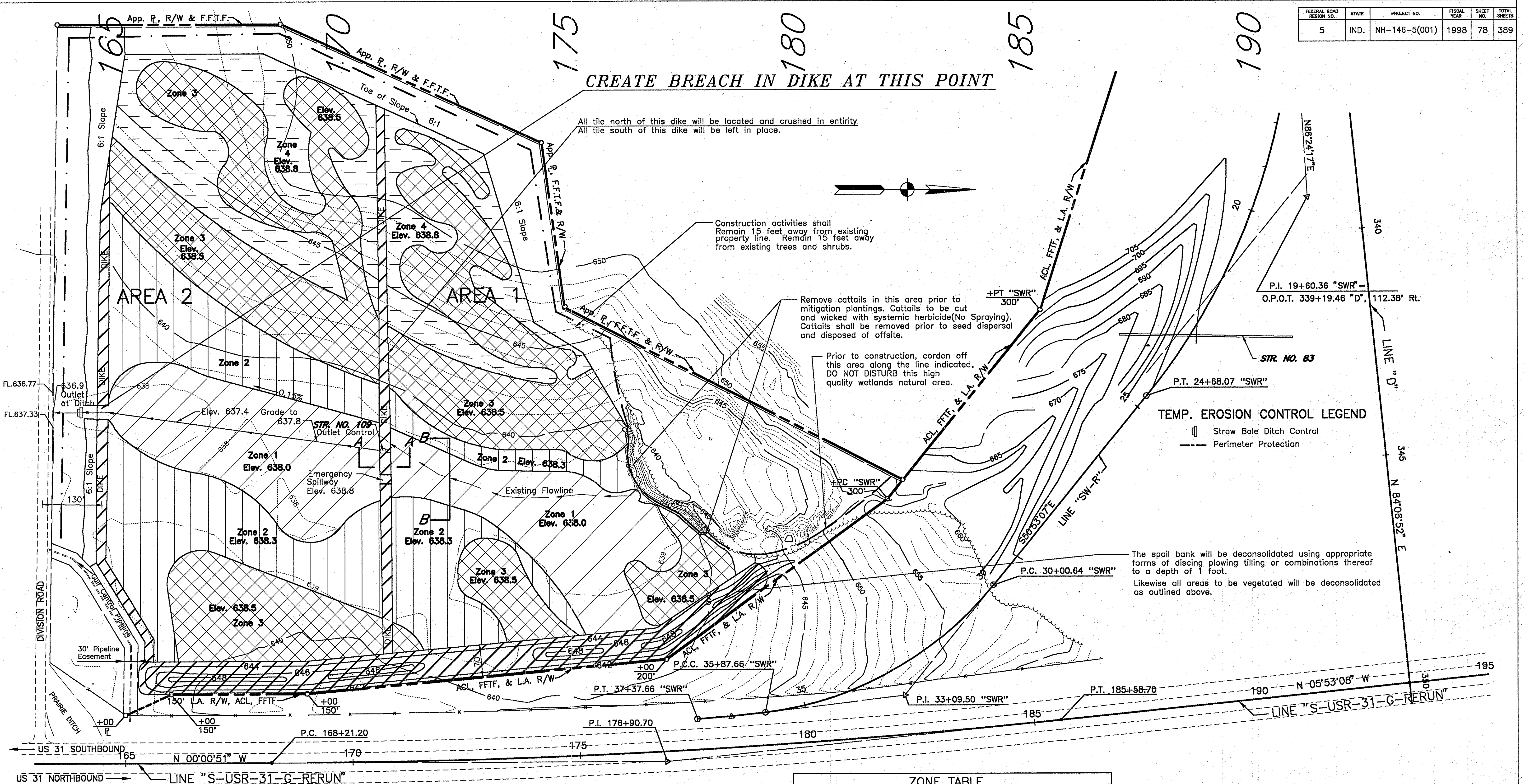
- 1.) Development of the wetland area to be initiated at the beginning of construction for the road project.
- 2.) No grading below elevation 638.0 shall occur for any portion of the wetland site except where specifically called for in design plans or at the discretion of the project engineer.
- 3.) The contractor shall remain at least 15' away from the Gulf Central ammonia line found in the southeast corner of the wetland site (30 foot gas line easement).
- 4.) The contractor is to field verify datum prior to initiation of construction of the wetland site. Any adjustment to conform to site conditions shall be at the discretion of the project engineer.
- 5.) All final finish grades will be within 0.1 feet of the design specified elevation. This shall be carried out in accordance with section 209.03 of the INDOT Standard Specifications.
- 6.) Perimeter of wetland site to be posted with "Do Not Mow or Spray" Signs.

US 24 Wetland Site Plan

SCALE: 1=100

DESIGNED: SCS 12/87 CHECKED: _____
 DRAWN: _____ CHECKED: _____
 REVISED: _____ CHECKED: _____
 PLOT DATE & TIME: DEC 16, 1997 - 11:20:55 - Plotted from: TRANS

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	78	389



PLOT DATE & TIME: DEC 16, 1997 - 14:20:55 - Plotted from: TRANS

ZONE TABLE		
ZONES AREA 1	ACREAGE	HYDROREGIME
1	2.54	Regularly Flooded
2	2.17	Regularly Flooded
3	4.99	Seasonally Flooded
4	1.70	Temporarily Flooded
ZONES AREA 2		
1	3.14	Regularly Flooded
2	4.87	Regularly Flooded
3	6.32	Seasonally Flooded
4	2.77	Temporarily Flooded

US 24 Wetland Grading Plan

DETAIL

SCALE:1=100

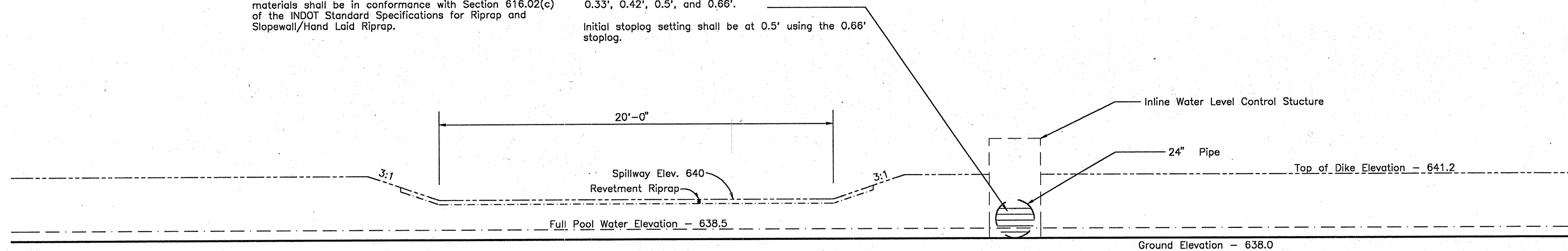
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	79	389

Notes:

The emergency spillway shall be lined with hand laid riprap to the grade and specifications indicated on design plans. The materials and handling of these materials shall be in conformance with Section 616.02(c) of the INDOT Standard Specifications for Riprap and Slopewall/Hand Laid Riprap.

Structure stoplogs shall consist of a base log 0.33' in height. Other log sizes to be acquired in addition to the base log are of the following heights: 0.33', 0.42', 0.5', and 0.66'.

Initial stoplog setting shall be at 0.5' using the 0.66' stoplog.

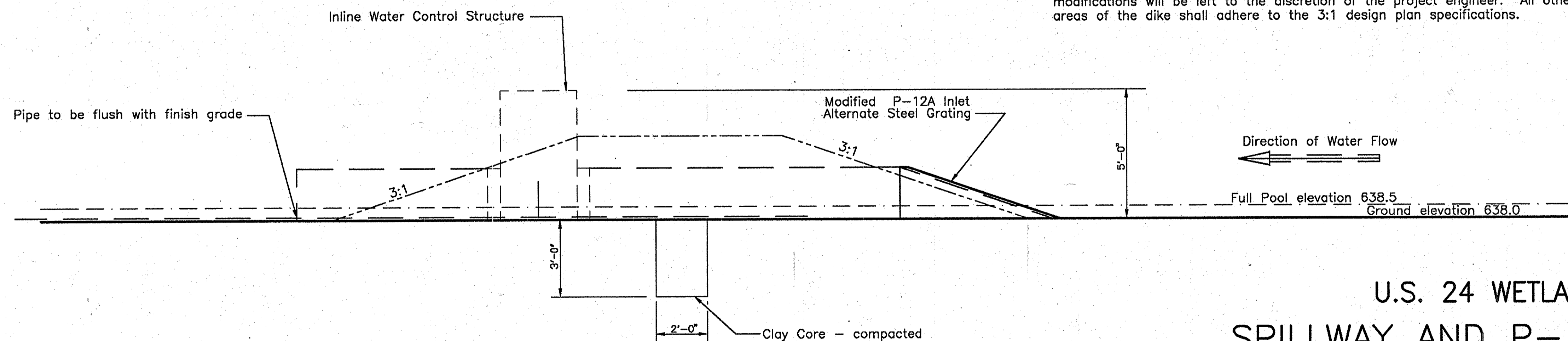


SECTION "B-B"
LONGITUDINAL SECTION OF DIKE

NOTES:

The Modified P-12A inlet with Alternate Grating shall be installed on the upstream end of the 24" Pipe. Modifications to the Standard design may be necessary in order to customize the pipe to site conditions. The specifics of the customization to be implemented will be left to the discretion of the project engineer.

Modifications to the specified dike 3:1 sideslopes shall be permitted in order to accommodate inlet construction and installation. The specifics of the modifications will be left to the discretion of the project engineer. All other areas of the dike shall adhere to the 3:1 design plan specifications.



SECTION "A-A"
MODIFIED P-12A INLET (ALTERNATE GRATING)

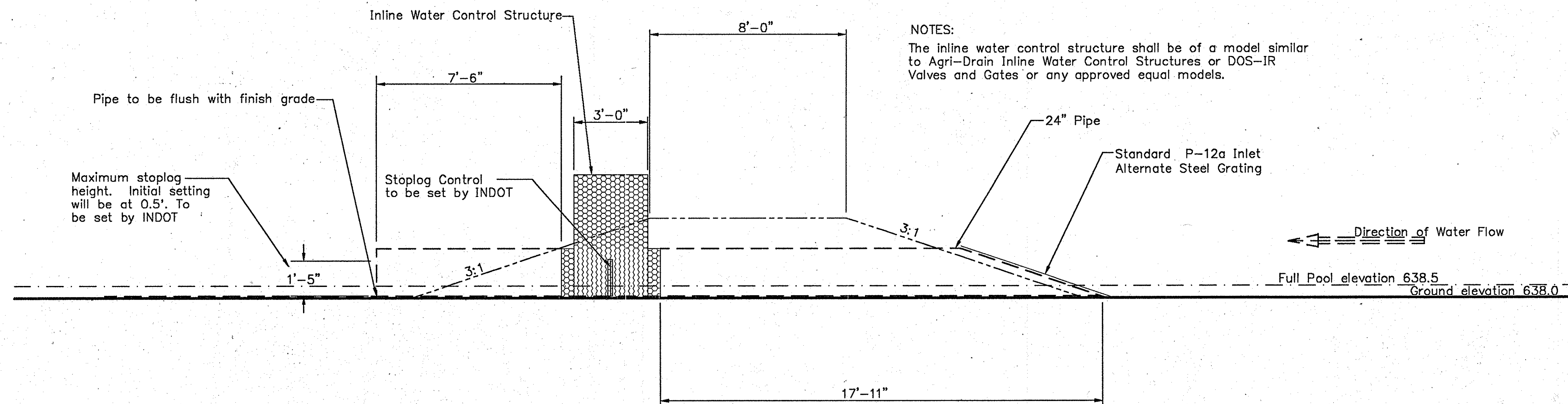
**U.S. 24 WETLAND
SPILLWAY AND P-12A INLET
DETAIL**

SCALE: 3/8" = 1'-0"

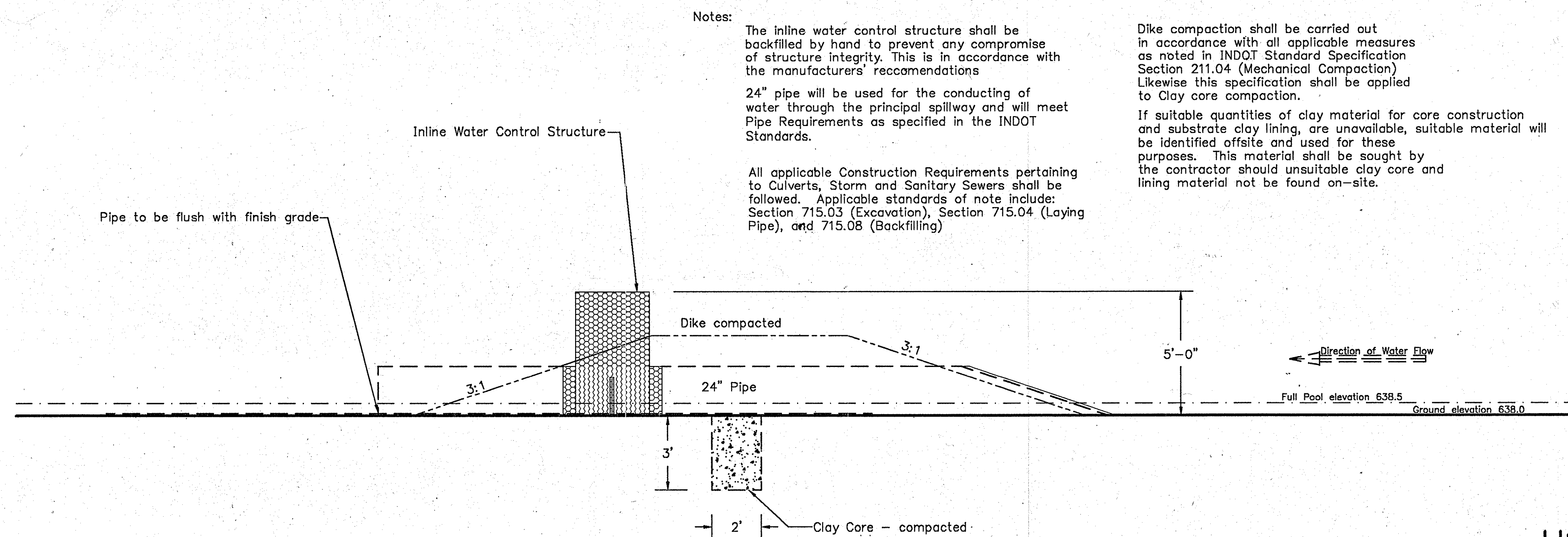
PLOT DATE & TIME: DEC 19, 1997 - 11:31:30

DESIGNED: [unreadable] CHECKED: ENG 12/97
DRAWN: DMH 12/97 CHECKED: ENG 12/97
REVISION: DMH 12/97 CHECKED: ENG 12/97

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	79A	389



SECTION "A-A"
Dike and Inline Water Control Structure Specifications



SECTION "A-A"
Structure Backfill and Clay Core Specifications

US 24 Wetland
Dike and Water Control
DETAIL

SCALE: 3/8" = 1'-0"

PLOT DATE & TIME: JAN 0, 0000 - 00:00:00 - Plotted from: TRAM00

DESIGNED: _____
DRAWN: _____
CHECKED: _____
REVISION: _____

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	79B	389

Stripping and Stockpiling Earthwork Notes:

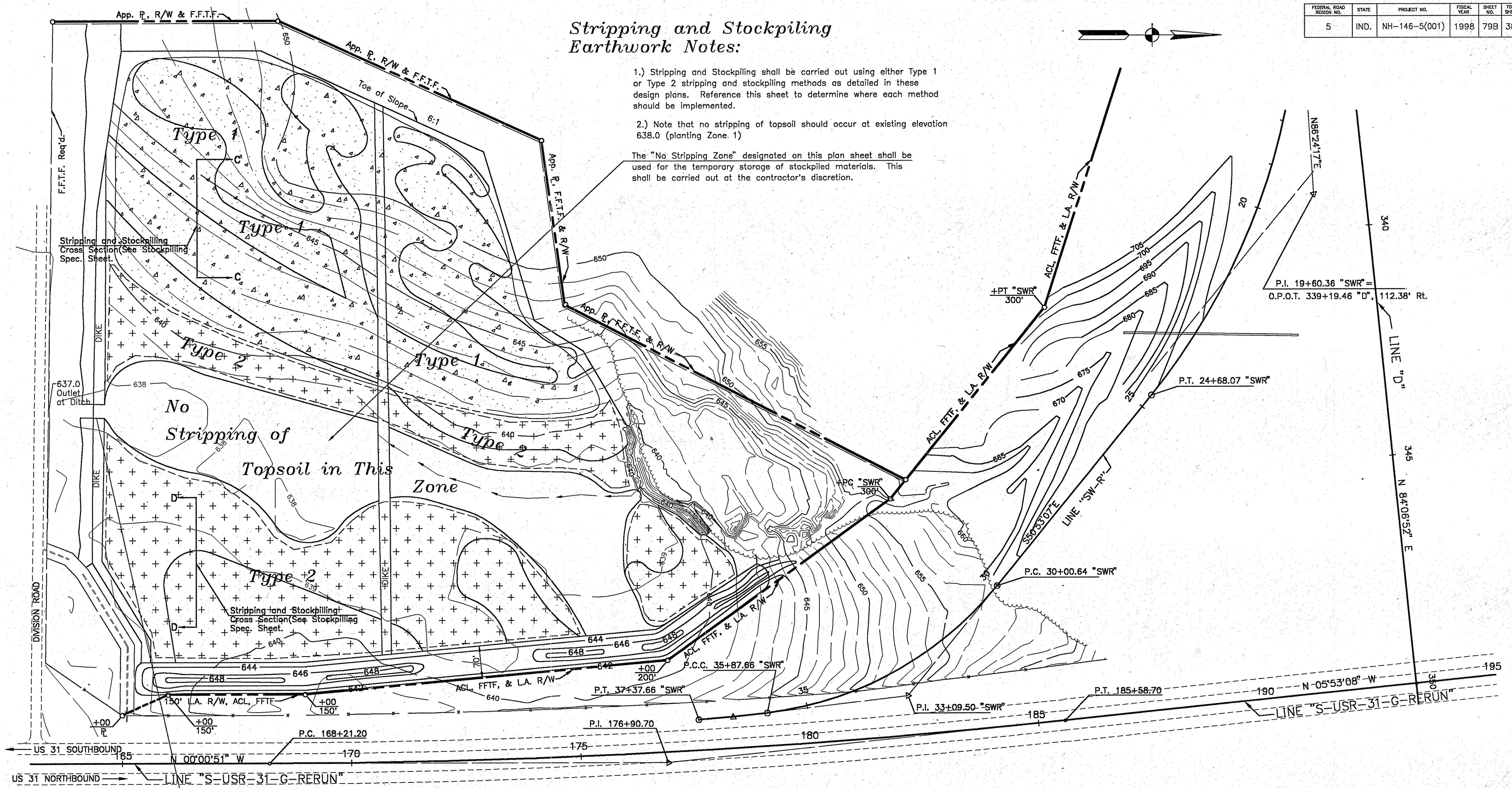
1.) Stripping and Stockpiling shall be carried out using either Type 1 or Type 2 stripping and stockpiling methods as detailed in these design plans. Reference this sheet to determine where each method should be implemented.

2.) Note that no stripping of topsoil should occur at existing elevation 638.0 (planting Zone. 1)

The "No Stripping Zone" designated on this plan sheet shall be used for the temporary storage of stockpiled materials. This shall be carried out at the contractor's discretion.



PLOT DATE & TIME: NOV 26, 1997 - 14:20:35 - Plotted from: TRANS



CREATE BREACH IN DIKE AT THIS POINT

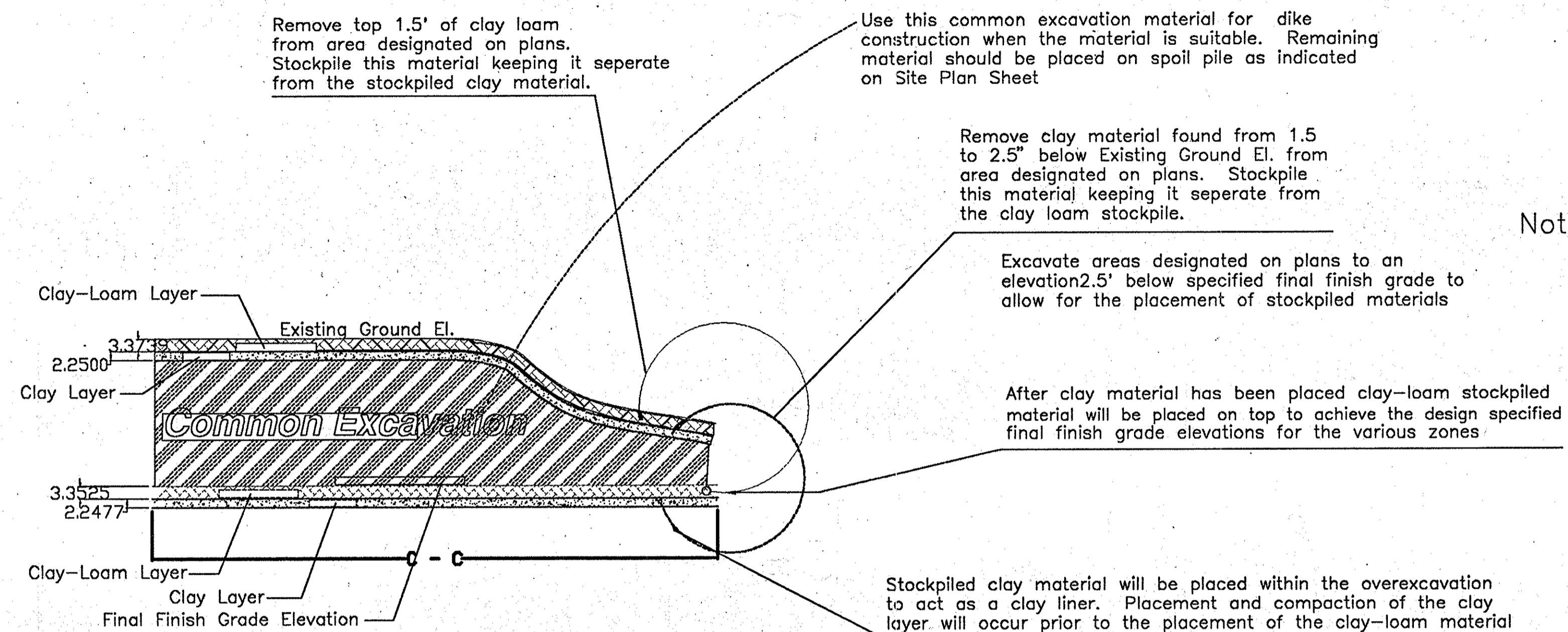
US 24 Wetland Earthwork DETAIL

SCALE: 1" = 100'

DESIGNED: 3/31/2016/9/16/9
CHECKED: [Signature]
REVISED: [Signature]

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	79C	389

Cross Section Earthwork Provisions



Notes:

All final finish grades shall be within 0.1' of the specified design elevations shown in plans. This shall be carried out in accordance with section 209.03 of the INDOT Standard Specifications.

Following the completion of final finish grading and prior to the undertaking of planting activities, all planting zones designated for wetland species will be deconsolidated to a depth of 1 foot below the as built final finish grades. Deconsolidation of soils shall take the form of ripping, discing, plowing, tilling or any combination thereof.

Notes:

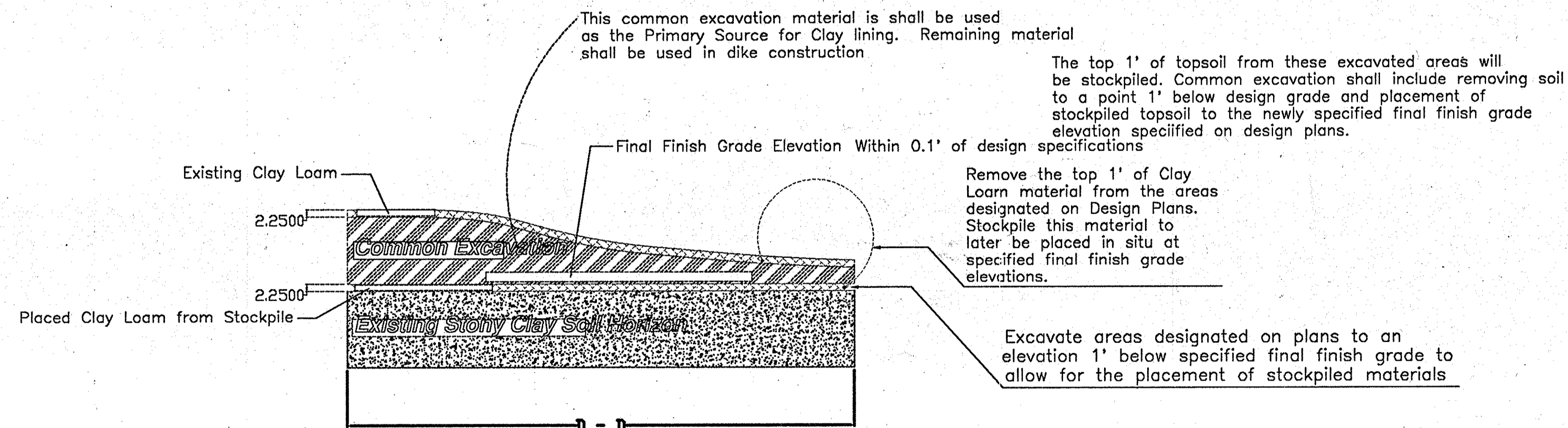
Type 1 Stripping and stockpiling consists of the removal of the top 2.5 feet of earth. Clay loam topsoil and clay substrate will be removed and stored in separate stockpiles. Type 2 Stripping and stockpiling consists of the removal of the top 1 foot of earth. This clay loam topsoil will be removed and stockpiled for later in situ placement following completion of common excavation.

Excavation shall include removing soils to an elevation contingent on the Stripping and Stockpiling technique specified (Type 1 or Type 2). Excavation shall remove soil to a depth from 1 (Type 2) to 2.5 (Type 1) feet below the specified design grade. Placement of stockpiled material shall be carried out in accordance with the Stripping and Stockpiling Type specified. Stockpiled material shall be placed in situ to the design specified final finish grade.

If suitable quantities of material for use in the clay liner are unavailable on the project site, suitable material shall be sought by the contractor in offsite locations. The clay material used in the liner must be of a heavy consistency with a very slow percolation rate and a permeability rate within the range of 0.6-2.0 inches/hour.

Type 1 Stripping and Stockpiling Provision

See Earthwork Plan Detail Sheet for Areas of Applicability



Type 2 Stripping and Stockpiling Provision

See Earthwork Plan Detail Sheet for Areas of Applicability

US 24 WETLAND STRIPPING AND STOCKPILING DETAIL

SCALE: 1"=1'

DESIGNED: _____
DRAWN: _____
CHECKED: _____
REVIEWED: _____

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	79D	389

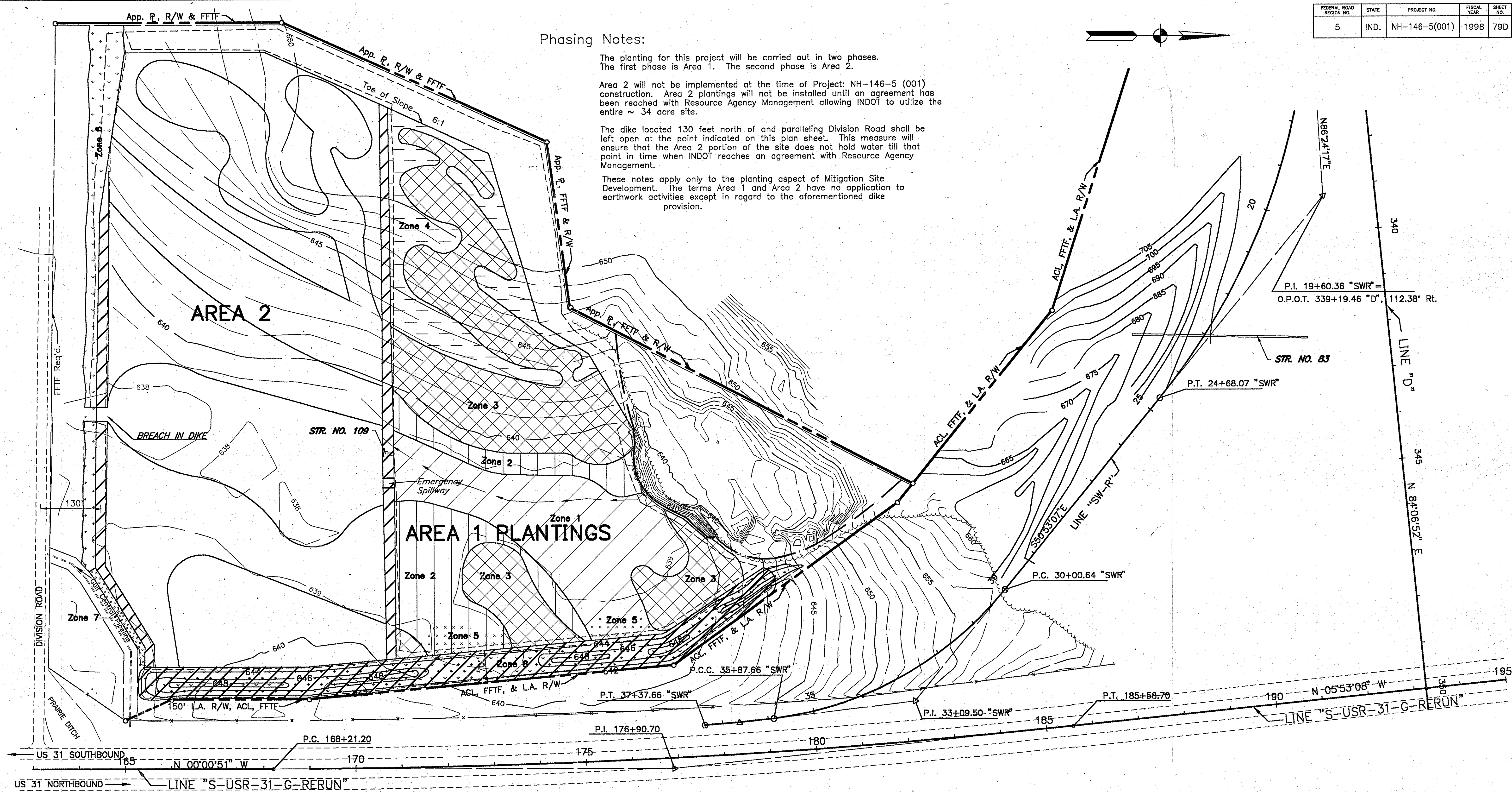
Phasing Notes:

The planting for this project will be carried out in two phases. The first phase is Area 1. The second phase is Area 2.

Area 2 will not be implemented at the time of Project: NH-146-5 (001) construction. Area 2 plantings will not be installed until an agreement has been reached with Resource Agency Management allowing INDOT to utilize the entire ~ 34 acre site.

The dike located 130 feet north of and paralleling Division Road shall be left open at the point indicated on this plan sheet. This measure will ensure that the Area 2 portion of the site does not hold water till that point in time when INDOT reaches an agreement with Resource Agency Management.

These notes apply only to the planting aspect of Mitigation Site Development. The terms Area 1 and Area 2 have no application to earthwork activities except in regard to the aforementioned dike provision.



GENERAL NOTES:

All work shall conform to State and Federal regulations.

The excavating contractor must take particular care when excavating in and around existing utility lines and existing trees indicated to remain. Verify cover requirements by utility contractor's and or utility line owner so as not to cause damage.

The contractor shall notify all utility companies/owner 72 hours before construction is to start to verify if any utilities are present onsite. The contractor must notify the utility company so a representative of that utility company can be present to instruct and observe during construction.

US 24 Wetland PLANTING DETAIL

SCALE: 1"=100'

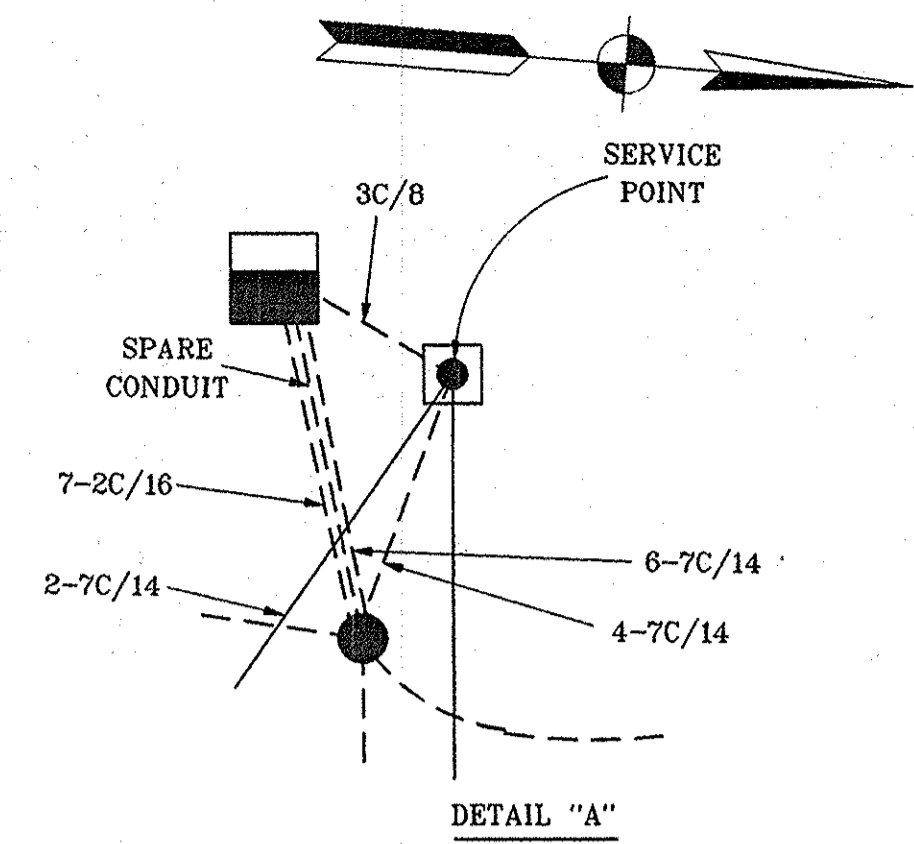
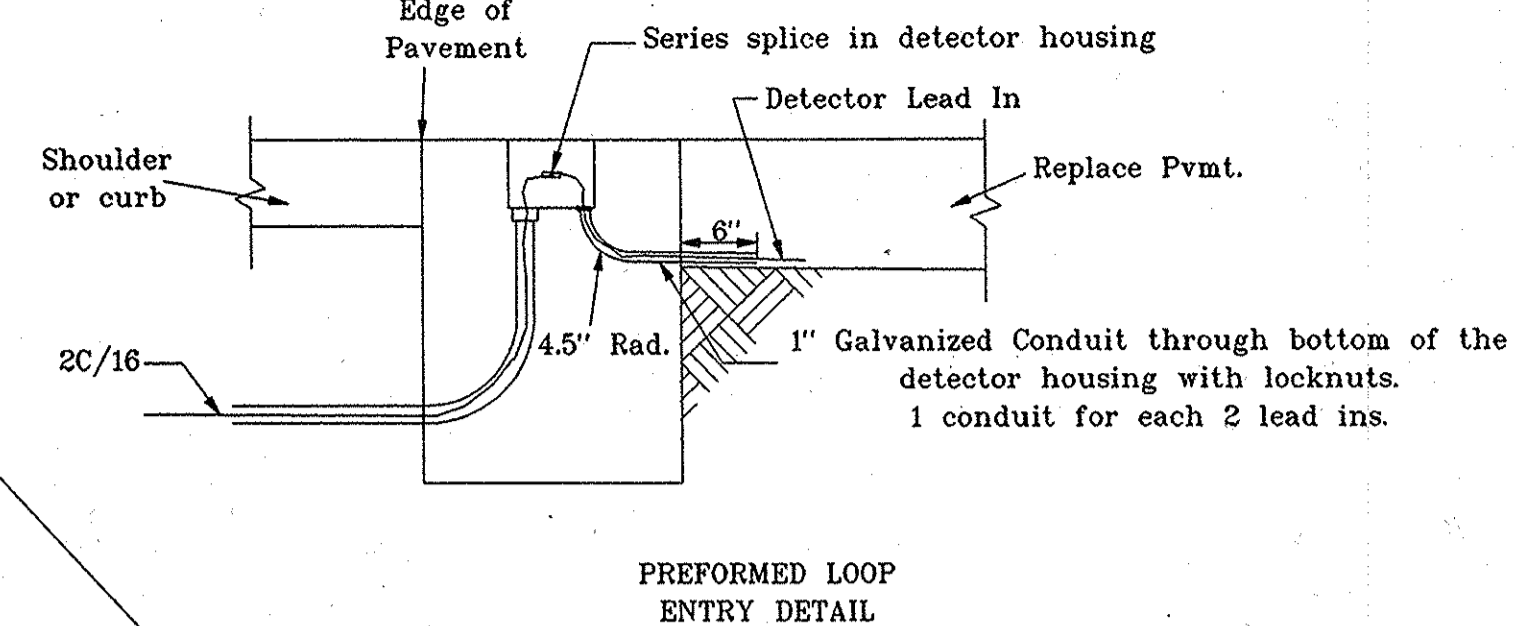
DESIGNED: SCS12/16/97 CHECKED: J2-15-97
DRAWN: CHECKED: REVISION:

PLOT DATE & TIME: NOV. 26, 1997 - 14:20:55 - Plotted from: TRANS

LOOP TAGGING TABLE	
LANE	TAG - NUMBER
NL	NL1-1,2,3,4
NA,NB	NA,NB6-1,1
SL	SL5-1,2,3,4
SA,SB	SA,SB2-1,1
WA	WA8-1,2,3,4
WR	WR8-1,2,3,4
EA	EA4-1,2,3,4,5

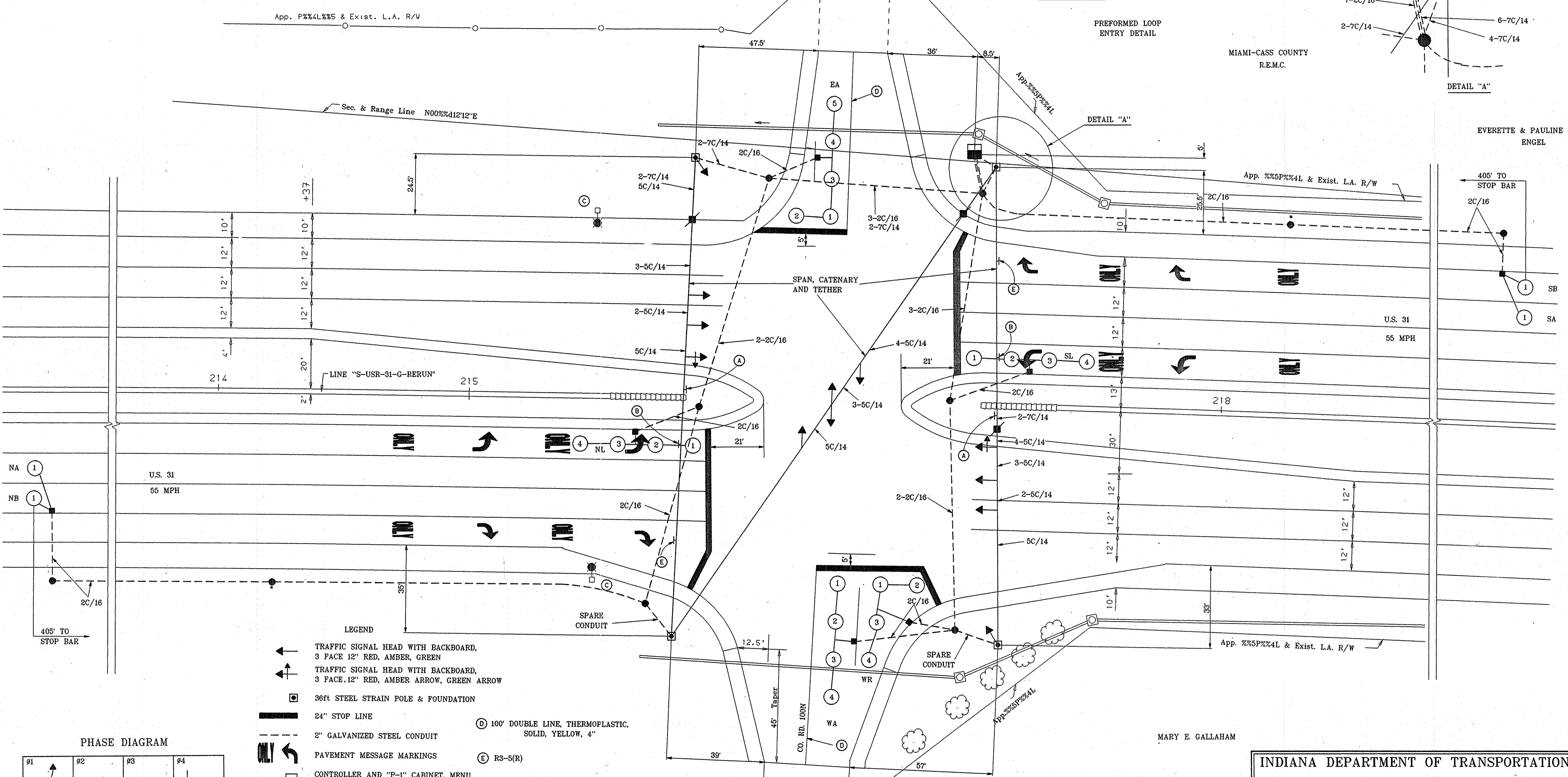
JOHN R. DELUCCA

NOTES:
 * HANDHOLE SHALL BE AT HALF DISTANCE BETWEEN THE TWO ADJACENT HANDHOLES.
 DRAIN HANDHOLES WHEREVER POSSIBLE.

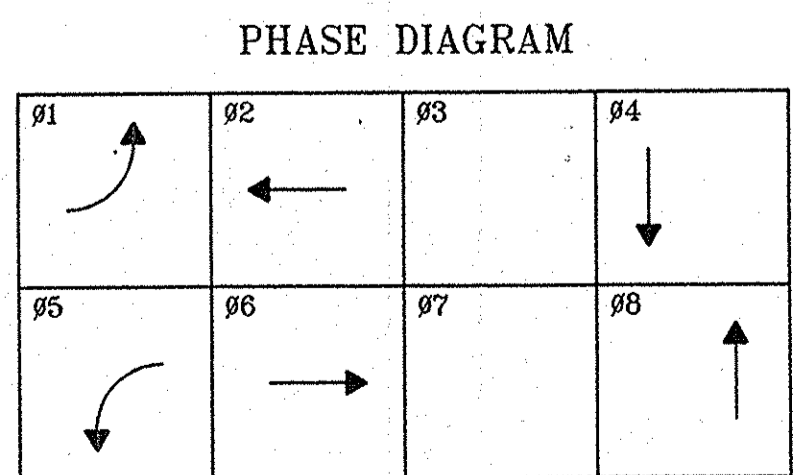


MIAMI-CASS COUNTY
R.E.M.C.

EVERETTE & PAULINE
ENGEL



- LEGEND
- ↑ TRAFFIC SIGNAL HEAD WITH BACKBOARD, 3 FACE 12" RED, AMBER, GREEN
 - ↑ TRAFFIC SIGNAL HEAD WITH BACKBOARD, 3 FACE, 12" RED, AMBER ARROW, GREEN ARROW
 - 36ft STEEL STRAIN POLE & FOUNDATION
 - 24" STOP LINE
 - 2" GALVANIZED STEEL CONDUIT
 - PAVEMENT MESSAGE MARKINGS
 - CONTROLLER AND "P-1" CABINET, MENU DRIVEN, 8 PHASE ON "P-1" FOUNDATION
 - DISCONNECT HANGER
 - SIGNAL DETECTOR HOUSING
 - SIGNAL HANDHOLE
 - 2" 6" PREFORMED LOOP
 - R10-5-B
 - R3-5(L)
 - LIGHT POLE FOR REFERENCE ONLY
 - 100' DOUBLE LINE, THERMOPLASTIC, SOLID, YELLOW, 4"
 - R3-5(R)



U.S. 31 IS PREFERENTIAL
 U.S. 31 FLASHES AMBER
 C.R. 100N FLASHES RED

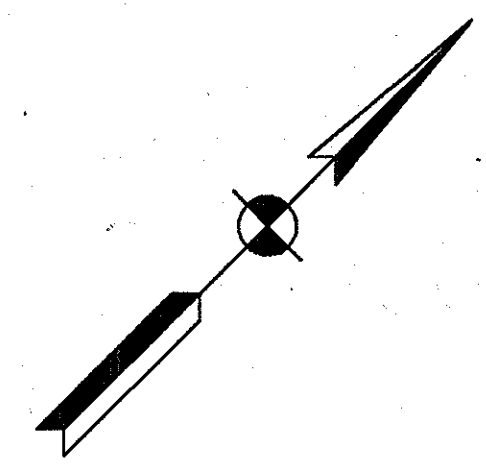
GENERAL TIRE & RUBBER CO.

MARY E. GALLAHAM

INDIANA DEPARTMENT OF TRANSPORTATION			
SIGNAL MODERNIZATION AT US 31 & C.R. 100N MIAMI COUNTY, FORT WAYNE DISTRICT			
RECOMMENDED FOR APPROVAL	<i>Prakash Patel</i> DESIGN ENGINEER	1/23/99 DATE	
CONTRACT NO. R-23637	STRUCTURE NO. SCALE: 1"=20'	DES. NO. 9831410	
YEAR 1998	SHEET 80	TOTAL 389	

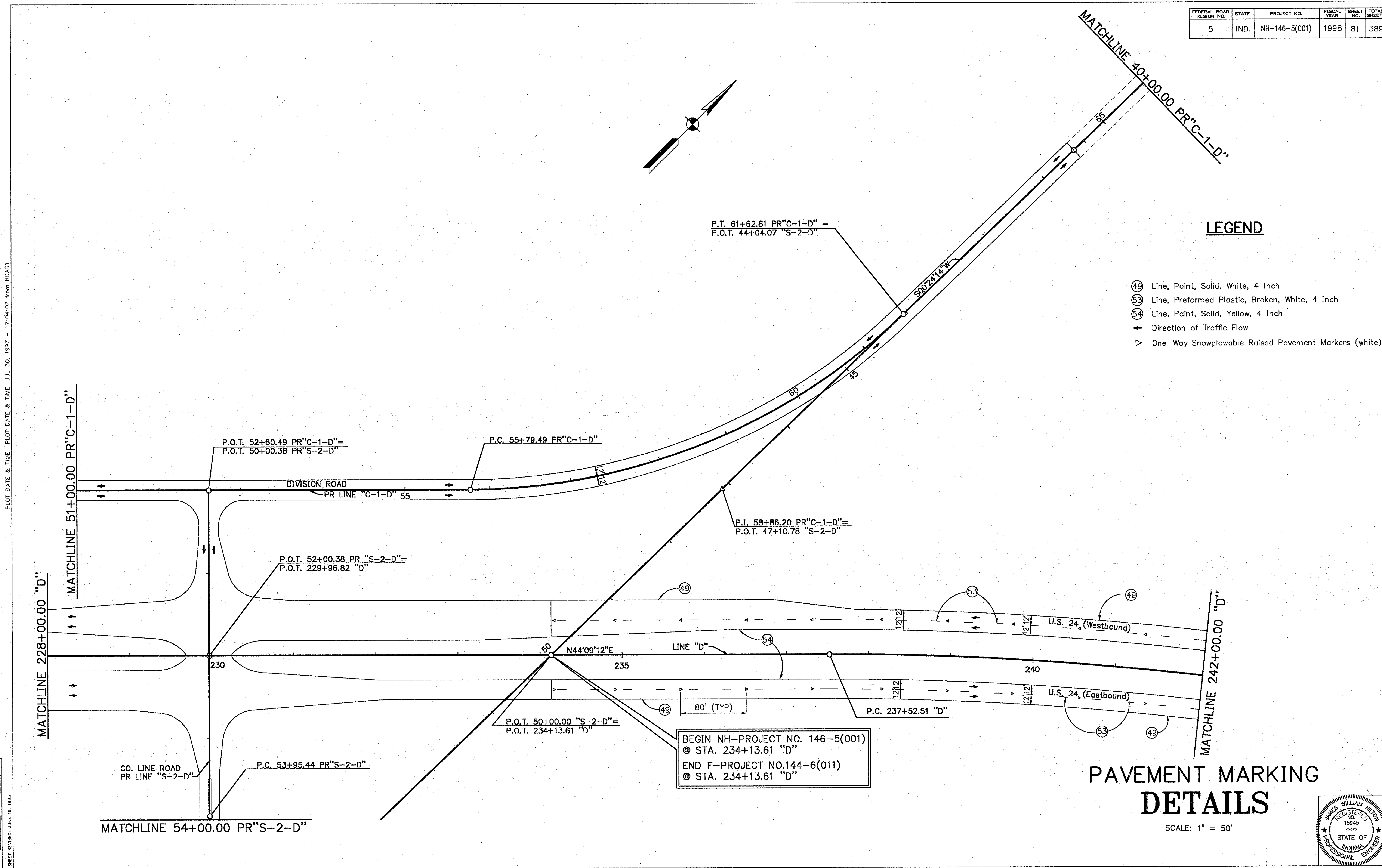
COMM. NO. 01-052-019

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	81	389



LEGEND

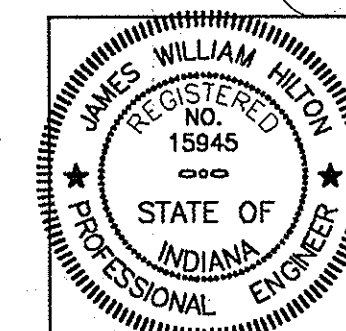
- ④ Line, Paint, Solid, White, 4 Inch
- ⑤ Line, Preformed Plastic, Broken, White, 4 Inch
- ⑥ Line, Paint, Solid, Yellow, 4 Inch
- Direction of Traffic Flow
- ▷ One-Way Snowplowable Raised Pavement Markers (white)



BEGIN NH-PROJECT NO. 146-5(001)
 @ STA. 234+13.61 "D"
 END F-PROJECT NO.144-6(011)
 @ STA. 234+13.61 "D"

**PAVEMENT MARKING
 DETAILS**

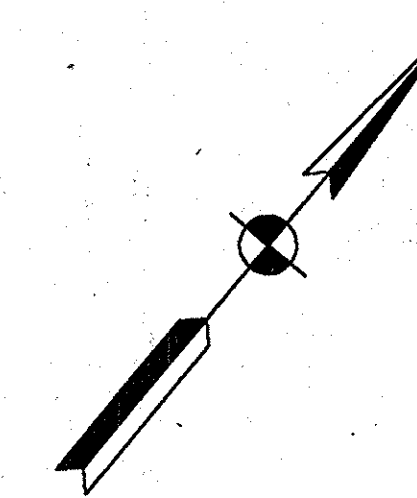
SCALE: 1" = 50'



DESIGNED: BDS, 4/94. CHECKED: BDS, 4/94.
 DRAWN: DJH, 4/94. CHECKED: BDS, 5/94.
 REVISED: MKR, 5/97. CHECKED: BDS, 5/97.
 SHEET REVISED: JUNE 16, 1993

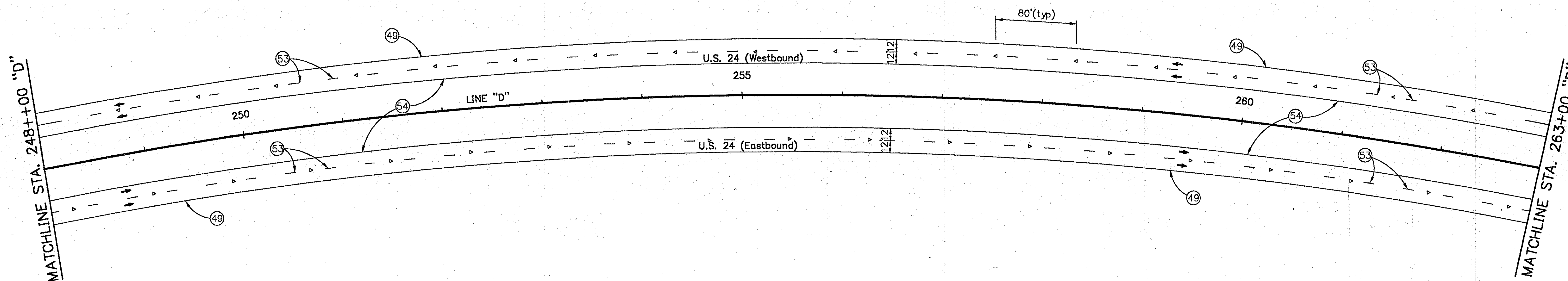
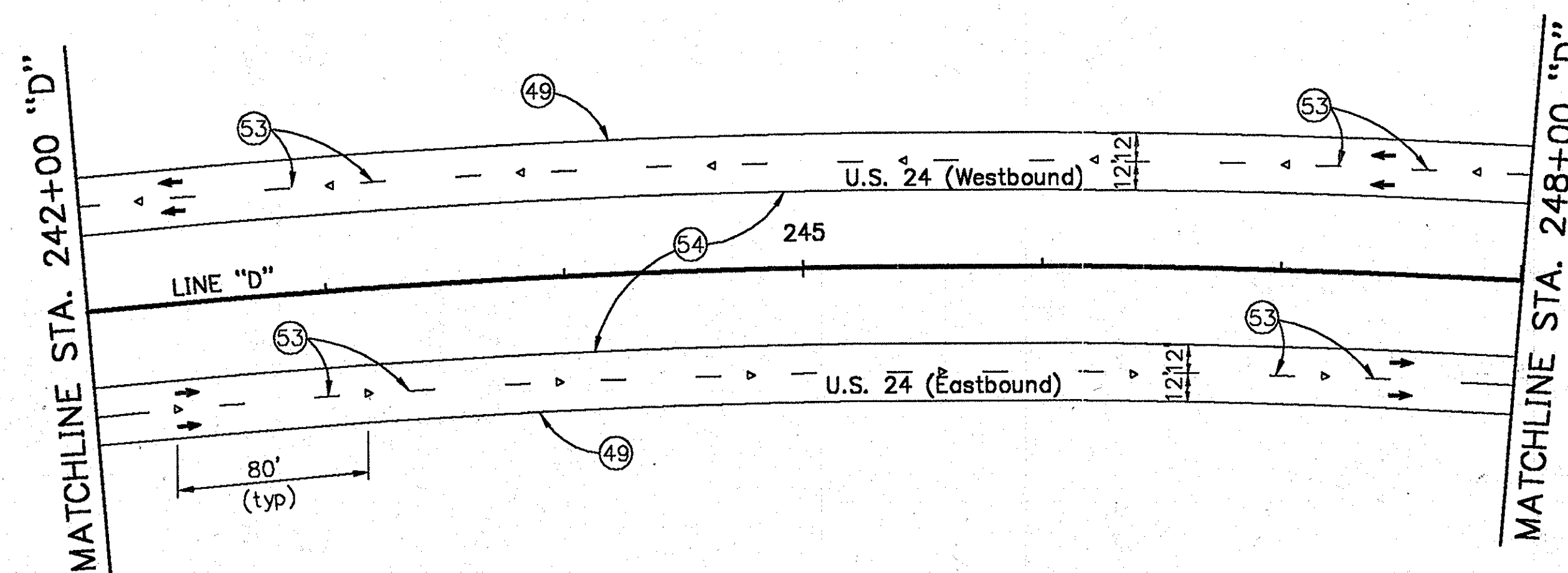
PLOT DATE & TIME: JUL 30, 1997 - 17:04:02 from ROAD1

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)	1998	82	389



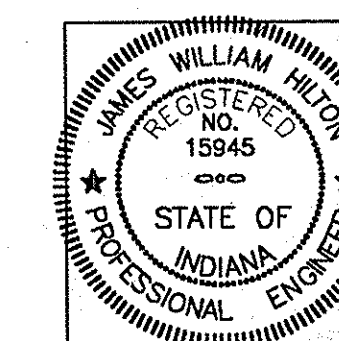
LEGEND

- ④ Line, Paint, Solid, White, 4 Inch
- ⑤ Line, Preformed Plastic, Broken, White, 4 Inch
- ⑥ Line, Paint, Solid, Yellow, 4 Inch
- Direction of Traffic Flow
- ▷ One-Way Snowplowable Raised Pavement Markers (white)



PAVEMENT MARKING DETAILS

SCALE: 1" = 50'



DESIGNED: RDS 4/94
 DRAWN: RDS 4/94
 CHECKED: MK 5/97
 SHEET REVISED: JUNE 16, 1993

PLOT DATE & TIME: PLOT DATE & TIME: JUL 30, 1997 - 17:03:45 from ROAD1