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" " 11-16 Cross-Sections

SOUTH CAROLINA
STATE HIGHWAY DEPARTMENT
COLUMBIA

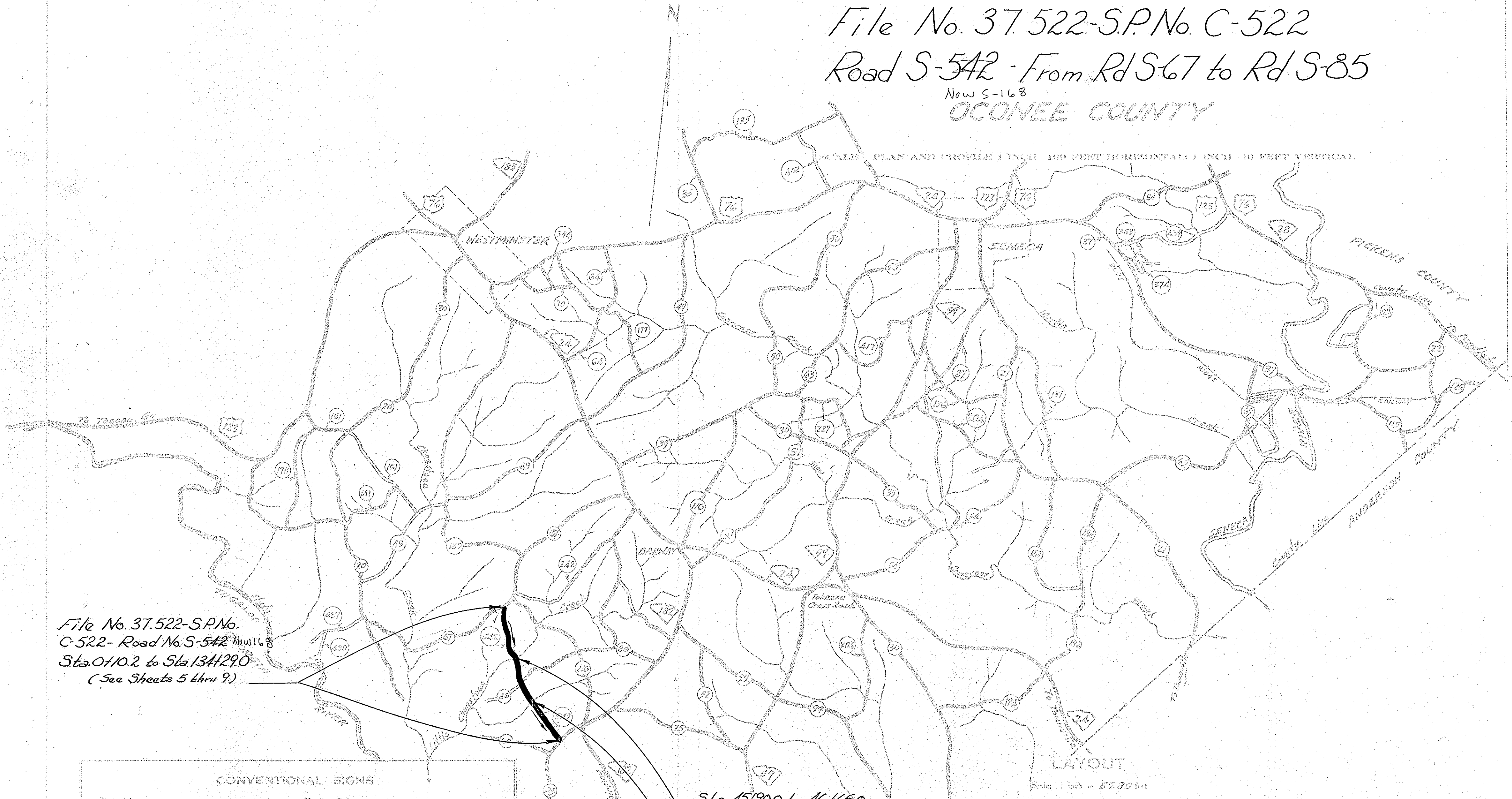
PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY

File No. 37.522-S.P. No. C-522
Road S-542 - From Rd S-67 to Rd S-85
Now S-168
OCONEE COUNTY

PLAN	SECTION	COUNTY	FILE NO.	S.P.	ROAD	DATE
37.522	C-522	S-542	1	46		

SUMMARY OF ESTIMATED QUANTITIES

Quantity	Unit
Earthwork	
Clearing and Grubbing within Roadway	1.0 Acres
Clearing and Grubbing of Barren and Material Pits	45,395 C.Y.
Unexcavated Excavation	84,301 C.Y.
Overhaul	1,600 C.Y.
Selected Material for Shoulders	
Base Course	
Earth Type Base Course (Ground Surf. Mat.)	5,298 C.Y.
Scarification, Mixing, Reconditioning, Grading and Reshaping	31,691 M.S.Y.
Surfacing	
Bituminous Surfacing (Do. Treat - Type 1 or 2)	30,220 S.Y.
Structures	
15" Reinf. Conc. Culy. Pipe (Class III)	80 L.F.
18" " " " " " "	504 L.F.
24" " " " " " "	36 L.F.
30" " " " " " "	68 L.F.
36" " " " " " "	48 L.F.
4" Tile Underdrain	400 L.F.
Incidentals	
Reset Fences	945 L.F.



File No. 37.522-S.P. No. C-522 - Road No. S-542 Now S-168
Sta. 0+0.2 to Sta. 13+290
(See Sheets 5 thru 9)

CONVENTIONAL SIGNS	
State Line	Trolley Poles
County Line	Power Poles
City or Town Limits	Telephone or Telegraph Poles
Property Line	Marsh
Fence	Trees
Retaining Wall	Brush
Existing Road	Stumps
Grade and P.O.W. Lines of	Buildings
Proposed Road	Bridge
Railroad	Concrete Box Culvert
Line of Embankment	Pipe Culvert
Guard Rail	Drop Inlet and Culvert
Point of Intersection (P.I.)	Hub on Center Line

Sta. 45+90.0 to 46+65.0
150' Pre-cast Concrete Bridge to be constructed by S.C.H.D. as File No. 37.522.1

Sta. 85+15.0 to 86+20.0
150' Pre-cast Concrete Bridge to be constructed by S.C.H.D. as File No. 37.522.1

Net Length of Roadway	2.507 Miles
Net Length of Bridges	0.034 Miles
Net Length of Project	2.541 Miles
Length of Exceptions	- Miles
Gross Length of Project	2.541 Miles

Note: All construction and material on this project shall conform with South Carolina State Highway Department Standard Specifications for Highway Construction dated 1964.

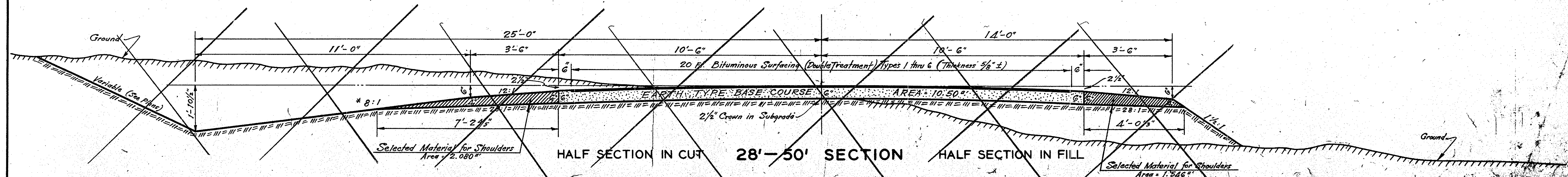
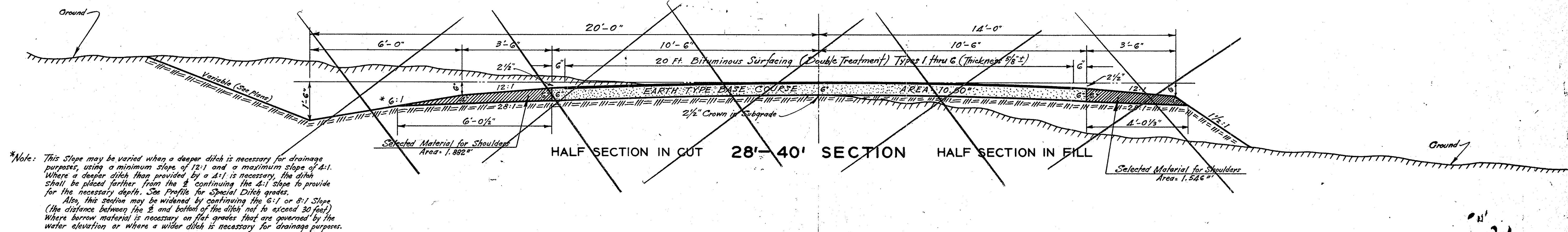
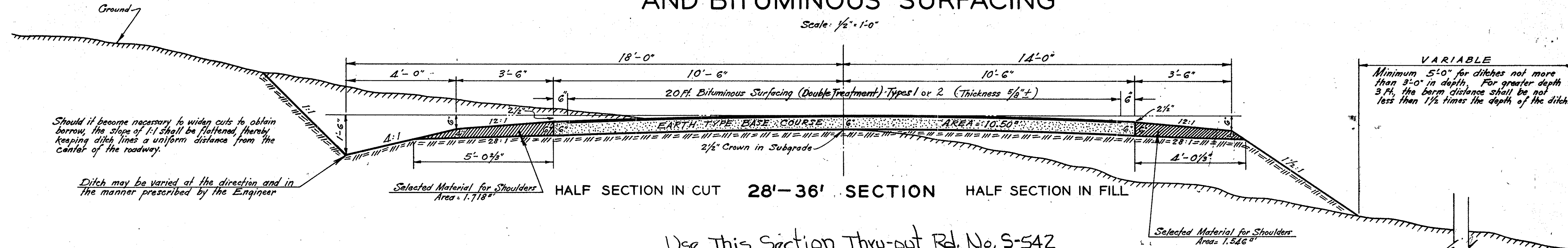
APPROVED: *[Signature]* 11/21/64
STATE HIGHWAY ENGINEER DATE

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	
RECOMMENDED FOR APPROVAL:	
DISTRICT ENGINEER	DATE
APPROVED:	
DIVISION ENGINEER	DATE

TYPICAL SECTIONS

FOR
EARTH TYPE BASE COURSE
AND BITUMINOUS SURFACING

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

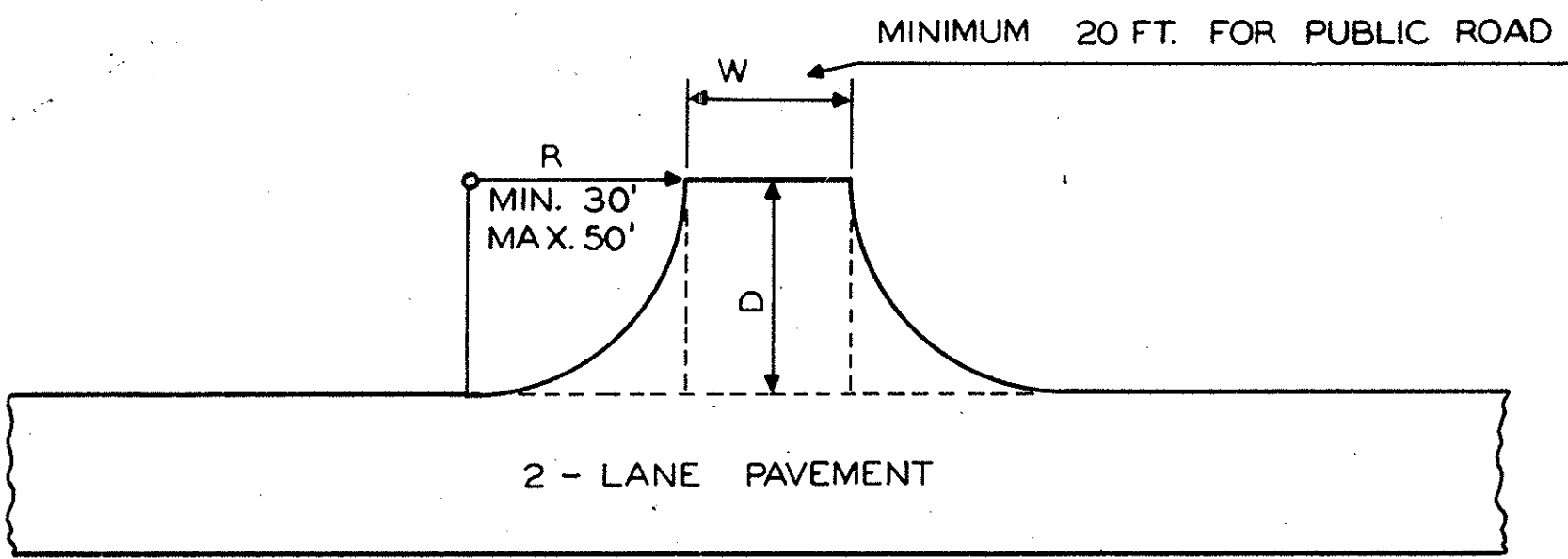


APPROVED
S. M. ...

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROAD NO.	SHEET NO.	TOTAL SHEETS
3	SC.	Oconee	37.522	C-522	3-542	3	46

STANDARD TYPE INTERSECTIONS

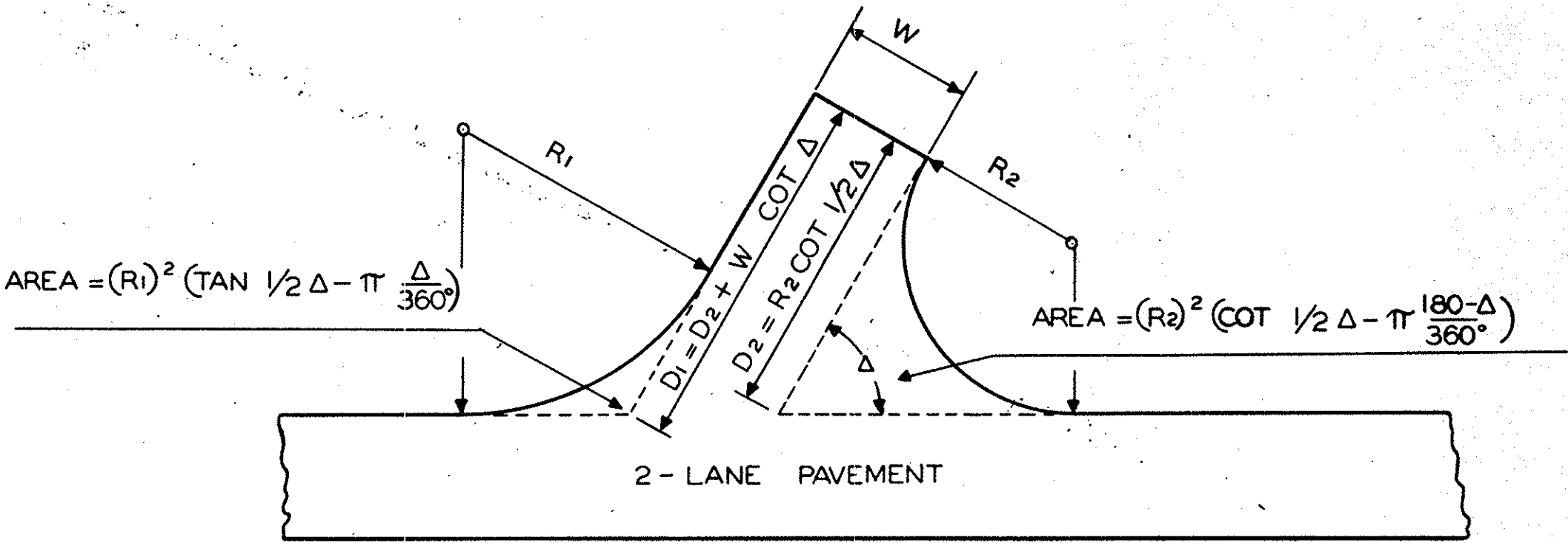
SCALE : 1" = 25'



T - TYPE INTERSECTION

FOR ANGLES AT OR NEAR 90°
AREA OF PAVED SPUR = $WD + 0.43 R^2$

FOR PRIVATE DRIVEWAYS TO BE PAVED,
USE THIS TYPE WITH 20' RADII AND 10'
WIDTH AT BACK. AREA FOR DRIVEWAY =
41.3 S.Y.



Y - TYPE INTERSECTION

MAXIMUM AND MINIMUM RADII WITH CORRESPONDING INTERSECTION AREAS							
ANGLE Δ	MAXIMUM			MINIMUM			
	R1 FEET	R2 FEET	AREA * S.Y.	R1 FEET	R2 FEET	AREA * S.Y.	
90°	50	50	241.7	30	30	116.3	
75°	80	50	354.3	50	25	145.1	
60°	125	35	350.2	75	20	164.1	
45°	200	25	355.9	100	15	170.2	
# 30°	300	20	398.1	150	10	180.0	

* THE AREAS GIVEN ARE FOR THE TOTAL AREA BEYOND THE EDGE OF THE PAVEMENT ON THE MAIN ROAD. WIDTH AT BACK OF INTERSECTION, W = 22 FT.

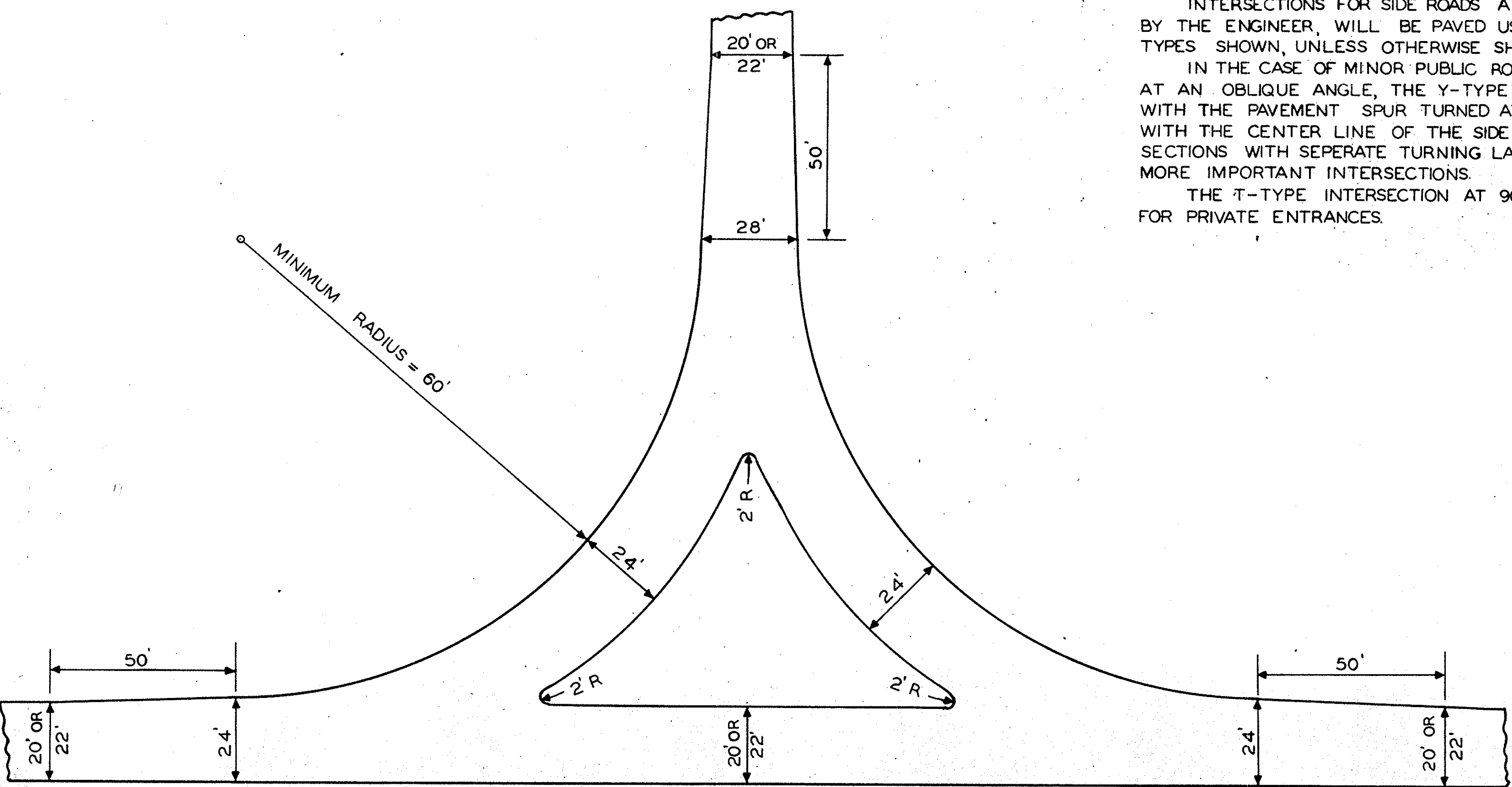
INTERSECTIONS AT LESS THAN 45° SHOULD BE CONSTRUCTED WITH SEPARATE TURNING LANES WHERE PRACTICAL AS SHOWN BY INTERSECTION TYPE BELOW.

GENERAL NOTES:

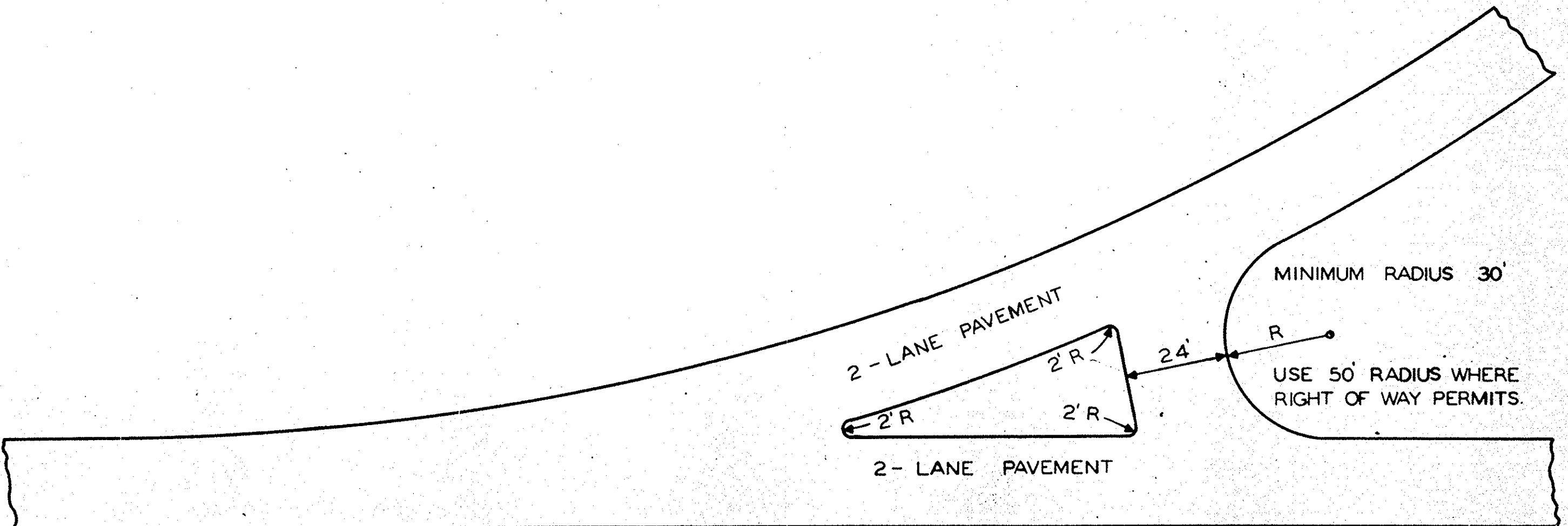
INTERSECTIONS FOR SIDE ROADS AND DRIVEWAYS WHERE DIRECTED BY THE ENGINEER, WILL BE PAVED USING ONE OF THE STANDARD TYPES SHOWN, UNLESS OTHERWISE SHOWN ON PLANS.

IN THE CASE OF MINOR PUBLIC ROADS INTERSECTING THE HIGHWAYS AT AN OBLIQUE ANGLE, THE Y-TYPE INTERSECTION SHOULD BE USED WITH THE PAVEMENT SPUR TURNED AT THE PROPER ANGLE TO LINE UP WITH THE CENTER LINE OF THE SIDE ROAD. T-TYPE OR Y-TYPE INTERSECTIONS WITH SEPARATE TURNING LANES SHOULD BE USED AT THE MORE IMPORTANT INTERSECTIONS.

THE T-TYPE INTERSECTION AT 90° SHOULD BE USED AT DRIVEWAYS FOR PRIVATE ENTRANCES.



T - TYPE INTERSECTION WITH SEPARATE TURNING LANES



Y - TYPE INTERSECTION WITH SEPARATE TURNING LANE

DESIGNED BY GEO. C. SAWYER 11-17-45
DRAWN BY CARL W. METZ 11-19-45
RETRACED BY CONNIE WILLIS 11-22-57

SUPERELEVATION STANDARD

S.C. STATE HIGHWAY DEPT.
COLUMBIA

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROAD NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Dconaz	37.522	C-522	S-542	4	46

NOTES

All curves are to be superelevated to the nearest thirty (30') minutes according to table. In any case where conditions do not permit an approach as long as shown on this sheet, the Resident Engineer is to adjust same to meet the conditions. Where unusual conditions make it desirable, superlevation may be obtained by revolving the surface about the centerline instead of the inside edge, the amount of superlevation to be the same as shown in the table. For all types of surfacing the roadway crown shall decrease gradually from the point where superlevation begins, reaching a flat section 80ft. from the beginning SE. toward the curve. The crown in subgrade shall be eliminated to conform to the finished surfacing.

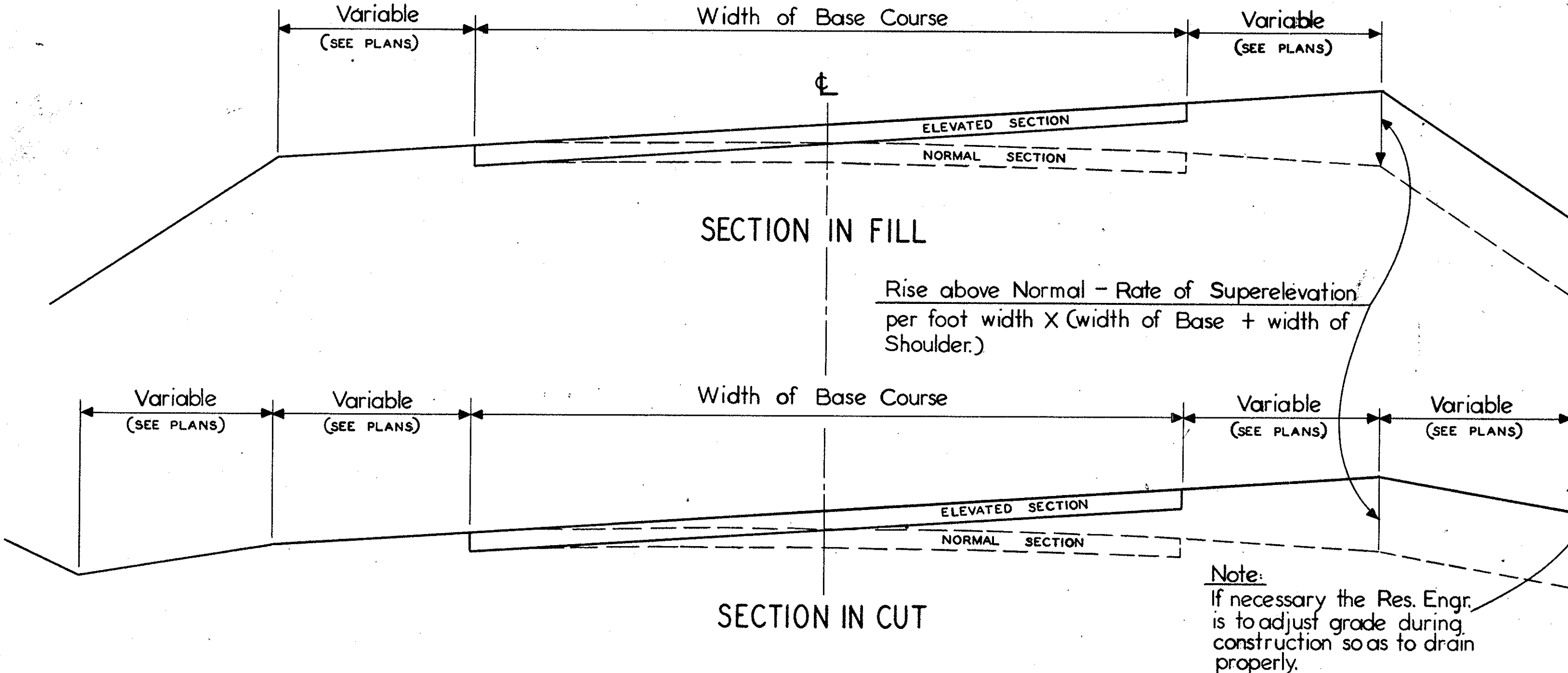
SUPERELEVATION FORMULA:

$$E = 0.067 \frac{S^2}{R}$$

E = SUPERELEVATION IN FEET

S = SPEED IN MILES PER HOUR

R = RADIUS OF CURVE IN FEET



SUPERELEVATION FOR DESIGN SPEED OF 65 M.P.H. (BASED ON S = 50 M.P.H. IN FORMULA)

SUPERELEVATION TABLE									
DEGREE OF CURVE	RADIUS OF CURVE	SUPERELEV. IN FT. PER FT. WIDTH	TOTAL SUPERELEVATION - FT.			LENGTH OF APPROACH - FT.			
			21' WIDTH	23' WIDTH	25' WIDTH	21' WIDTH	23' WIDTH	25' WIDTH	
0° - 30'	111459.19	0.014	0.29	0.32	0.35	98	104	110	
1° - 00'	5729.65	0.029	0.61	0.67	0.73	162	174	186	
1° - 30'	3819.83	0.043	0.90	0.99	1.08	220	238	256	
2° - 00'	2864.93	0.057	1.20	1.31	1.43	280	302	326	
2° - 30'	2292.0	0.072	1.51	1.66	1.80	342	372	400	
3° - 00'	1910.08	0.086	1.81	1.98	2.15	402	436	470	
3° - 30' AND OVER									TO BE SUPERELEVATED SAME AS 3°-00'

TABLE SHOWING AMOUNT OF SUPERELEVATION AT ANY POINT ON APPROACH TO CURVE

DISTANCE FROM BEGINNING OF SUPERELEVATION IN DIRECTION OF CURVE - FEET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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DEGREE OF CURVE	0°-30'	1°-00'	1°-30'	2°-00'	2°-30'	3°-00'	10	20	30	40	50	60	70	80	90	98	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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FED. ROAD DIV. NO.	STATE	COUNTY	FILE NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	Oconee	37.522	C-522	S-542	5	46

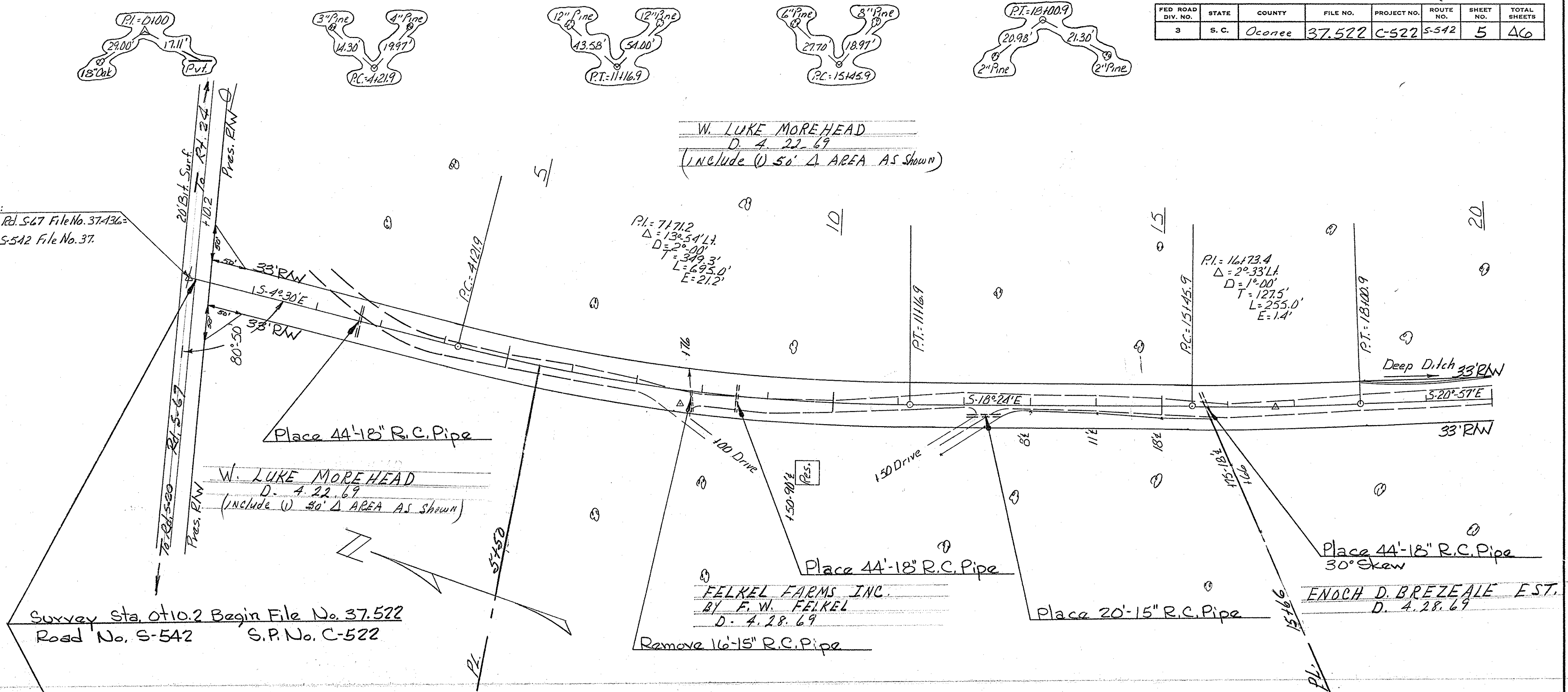
PLAN	NO.	DATE	BY	DATE	BY
SURVEYED					
NOTED					
ALIGNED					
CHECKED					
RT. OF WAY					

PROFILE	NO.	DATE	BY	DATE	BY
SURVEYED					
NOTED					
ALIGNED					
CHECKED					
STRUCTURE					

Oconee Co
Rd S-542

①

Tie Equality Only:
Survey Sta. 1431277 Rd. S-67 File No. 37-136-
Survey Sta. 0100 Rd S-542 File No. 37.



NOTE:

Changes involving increased cost of project or changes in alignment must be specifically authorized by the State Highway Engineer. District Engineer may authorize minor alterations but in conflict with the Standard Practices of the Department and not involving increases in cost. Forward information on any change in alignment to the Columbia Office as soon as the revision is completed.

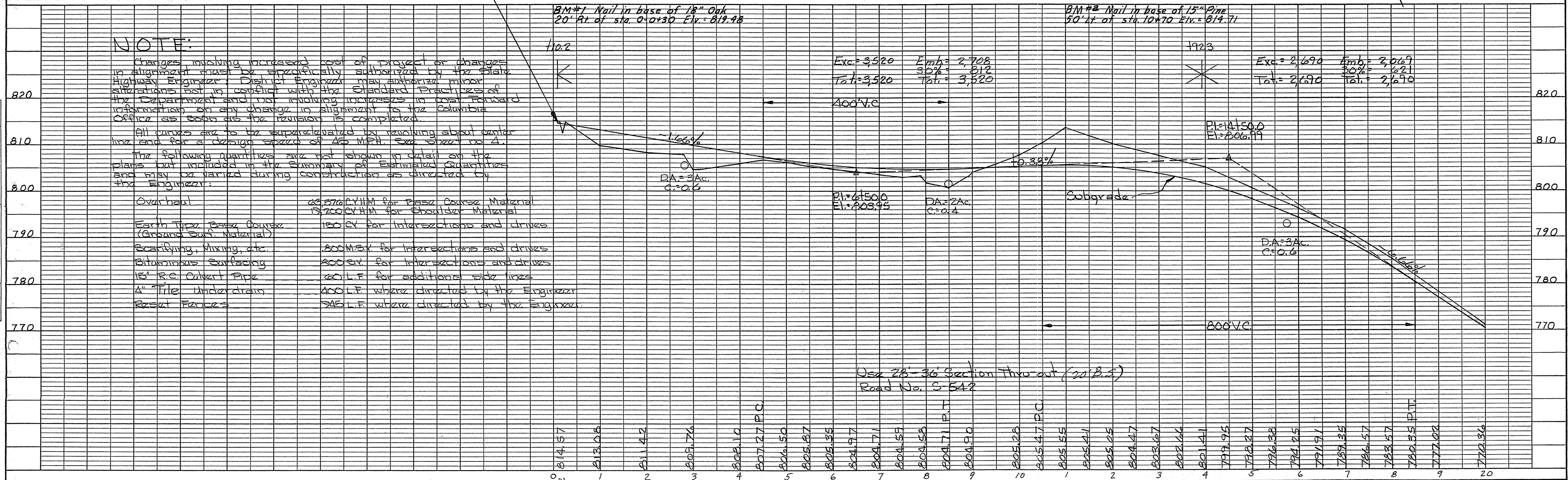
All curves are to be super-elevated by raising about center line and for a design speed of 45 M.P.H. See sheet to 4.

The following quantities are not shown in detail on the plans but included in the Summary of Estimated Quantities and may be varied during construction as directed by the Engineer:

Overhaul	60 CY for Base Course Material
Earth Type Base Course (Ground Surf. Material)	150 CY for Intersections and drives
Scarfing, Mixing, etc.	800 M.S.Y. for Intersections and drives
Bituminous Surfacing	800 CY for Intersections and drives
15" R.C. Culvert Pipe	60 L.F. for additional side lines
4" Tile Underdrain	400 L.F. where directed by the Engineer
Reset Forces	545 L.F. where directed by the Engineer

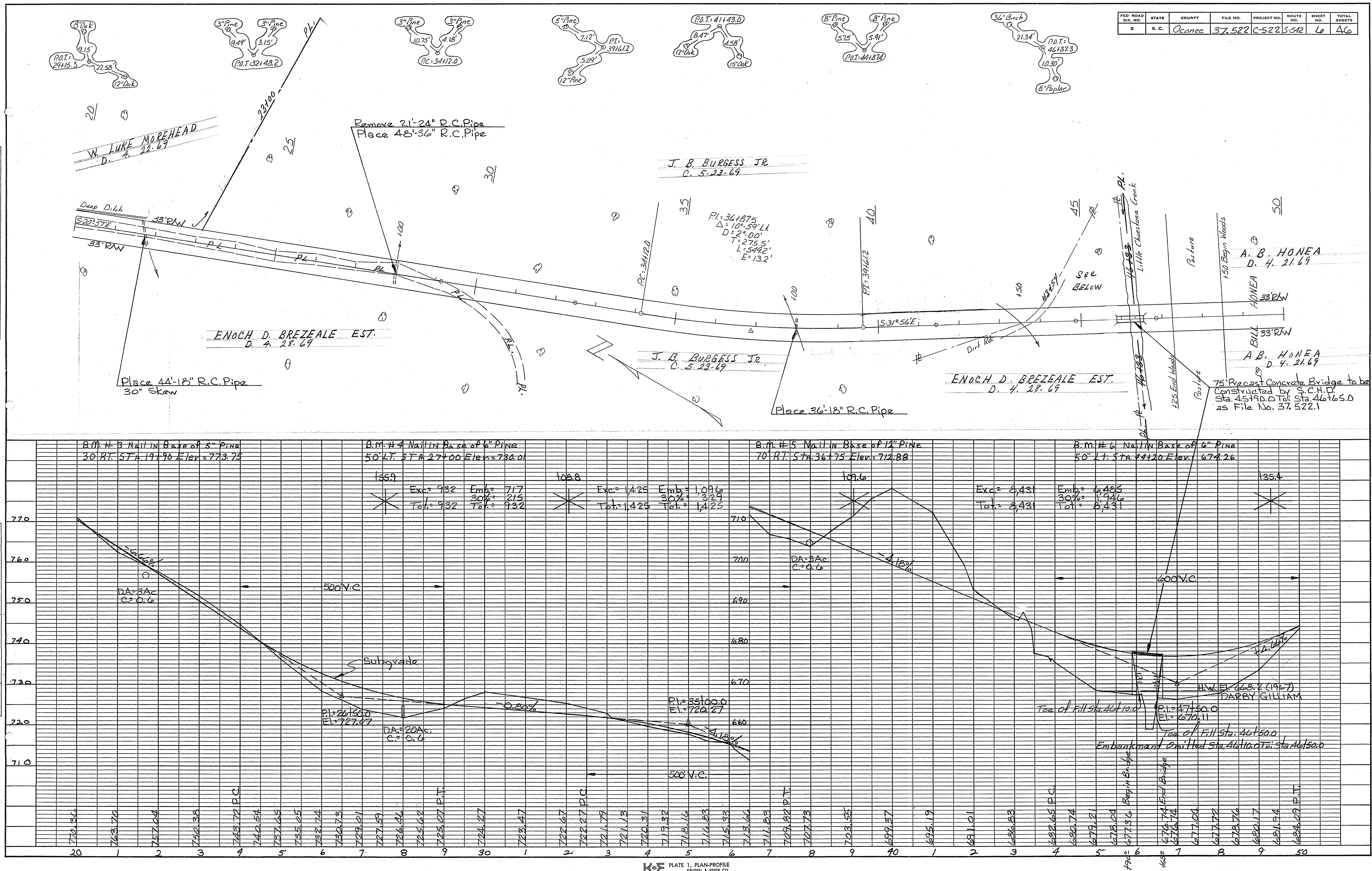
BM #1 Nail in base of 18" Oak
20' Rt. of sta. 0+30 Elev. = 819.48

BM #2 Nail in base of 15" Pine
50' Lt. of sta. 10+70 Elev. = 814.71



PLAN	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____		
	ALIGNMENT CHECKED _____		
	RT. OF WAY CHECKED _____		
NOTE BOOK NO. _____			

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED <i>CHB</i>		
	GRADES CHECKED		
	B. M.'s NOTED		
NO. _____	STRUCTURE NOTATIONS OK'D		



Oconee Co
RD 5-542

②

971

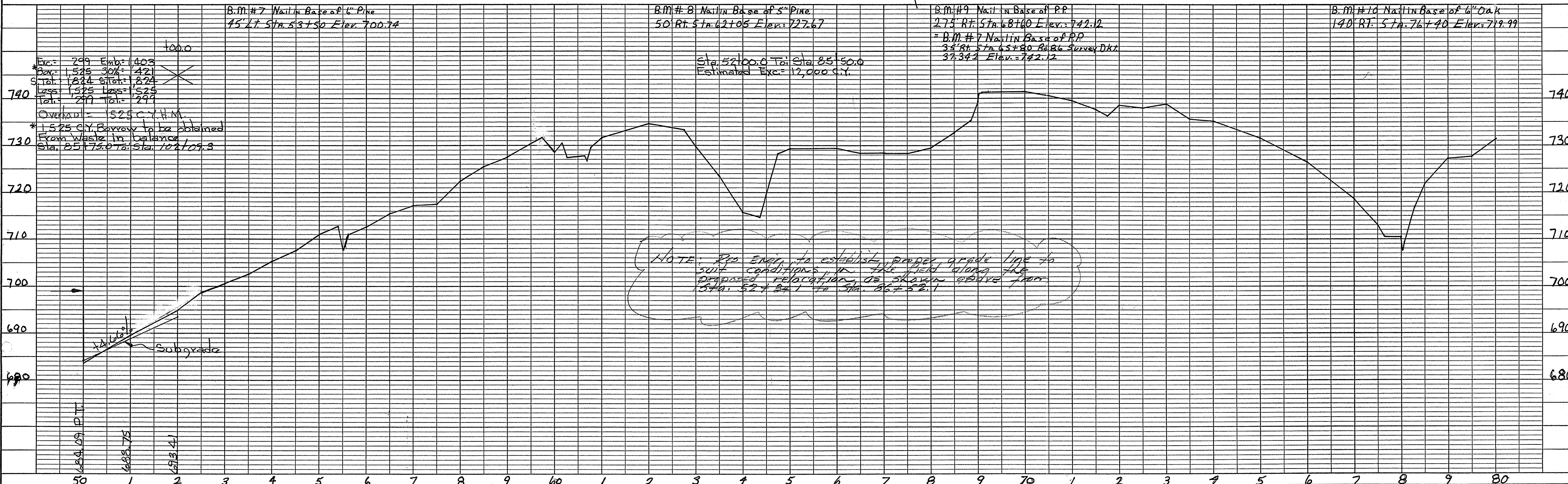
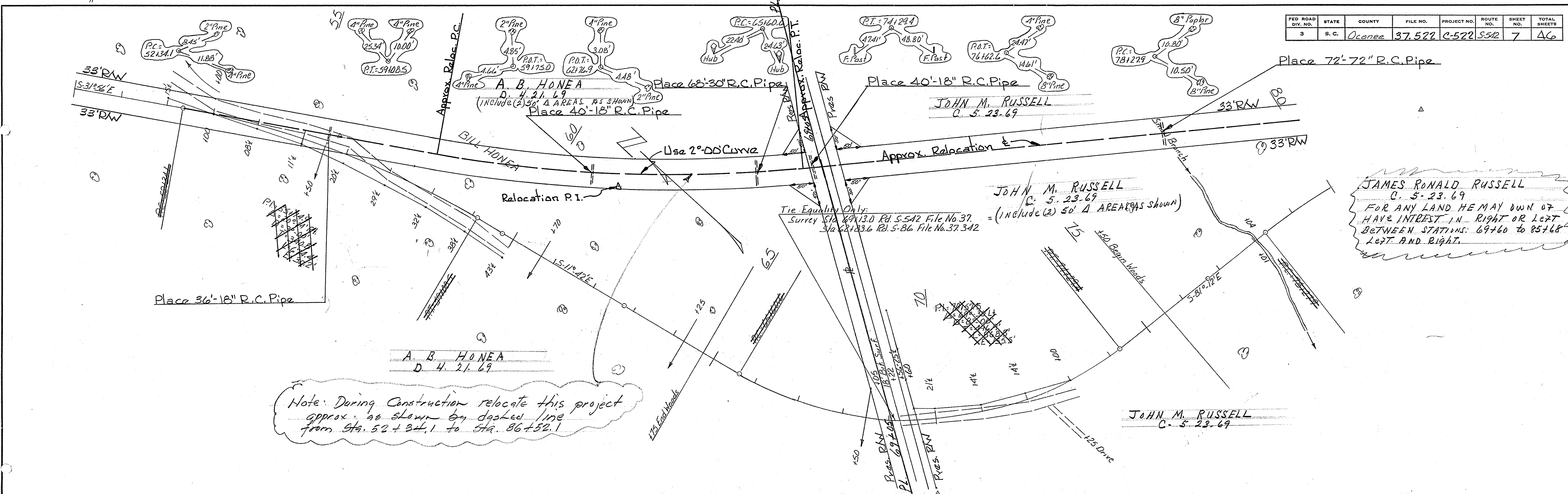
FED. ROAD DIV. NO.	STATE	COUNTY	FILE NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	Oconee	37.522	C-522	S-542	7	Δ6

PLAN	DATE	BY
SURVEYED		
PLOTTED		
ALIGNED CHECKED		
RT. OF WAY CHECKED		
NO.		

PROFILE	DATE	BY
SURVEYED		
PLOTTED		
GRADES CHECKED		
B. M. NOTED		
STRUCTURE NOTATIONS OK'D		
NO.		

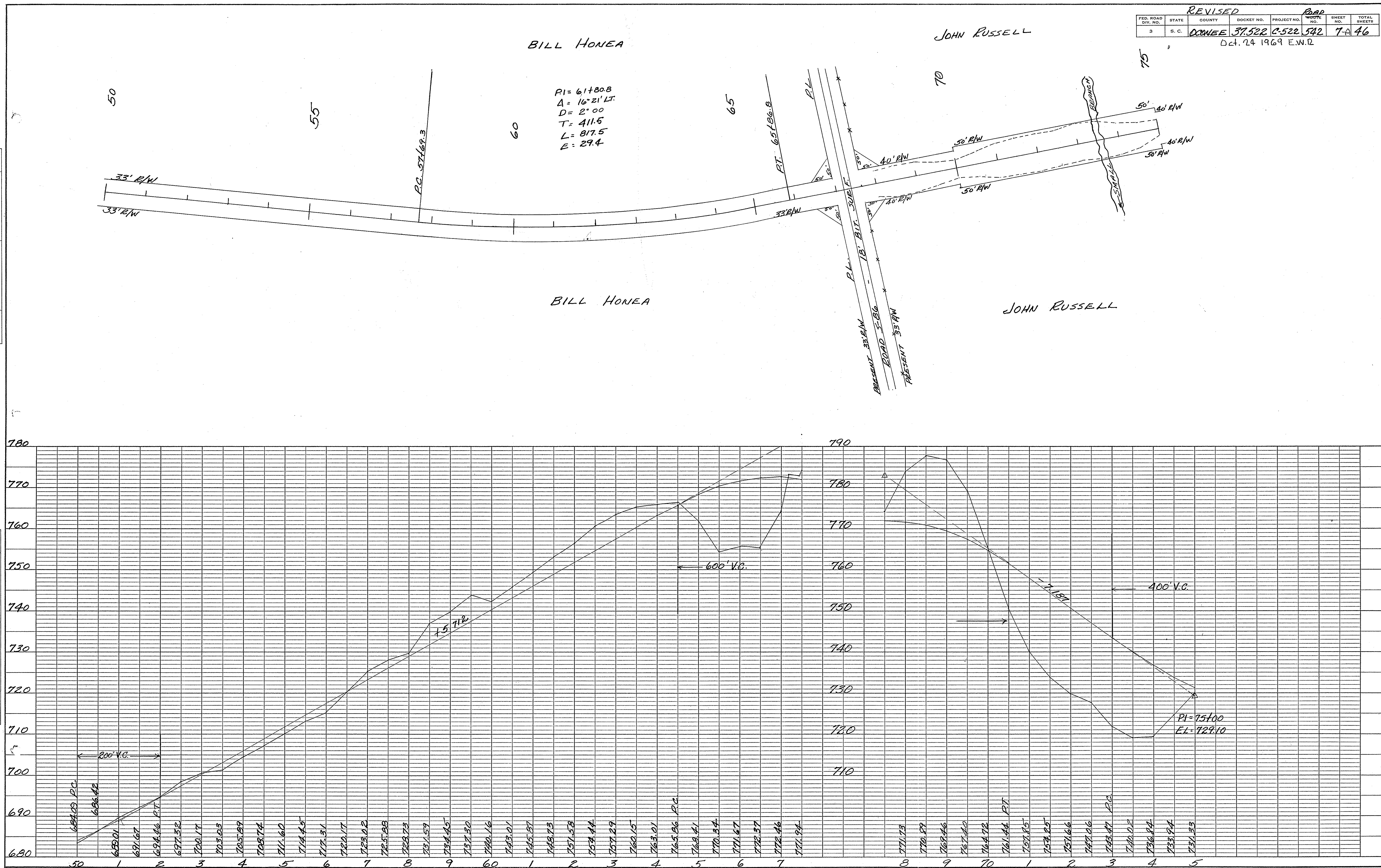
Oconee Co
Rd S-542

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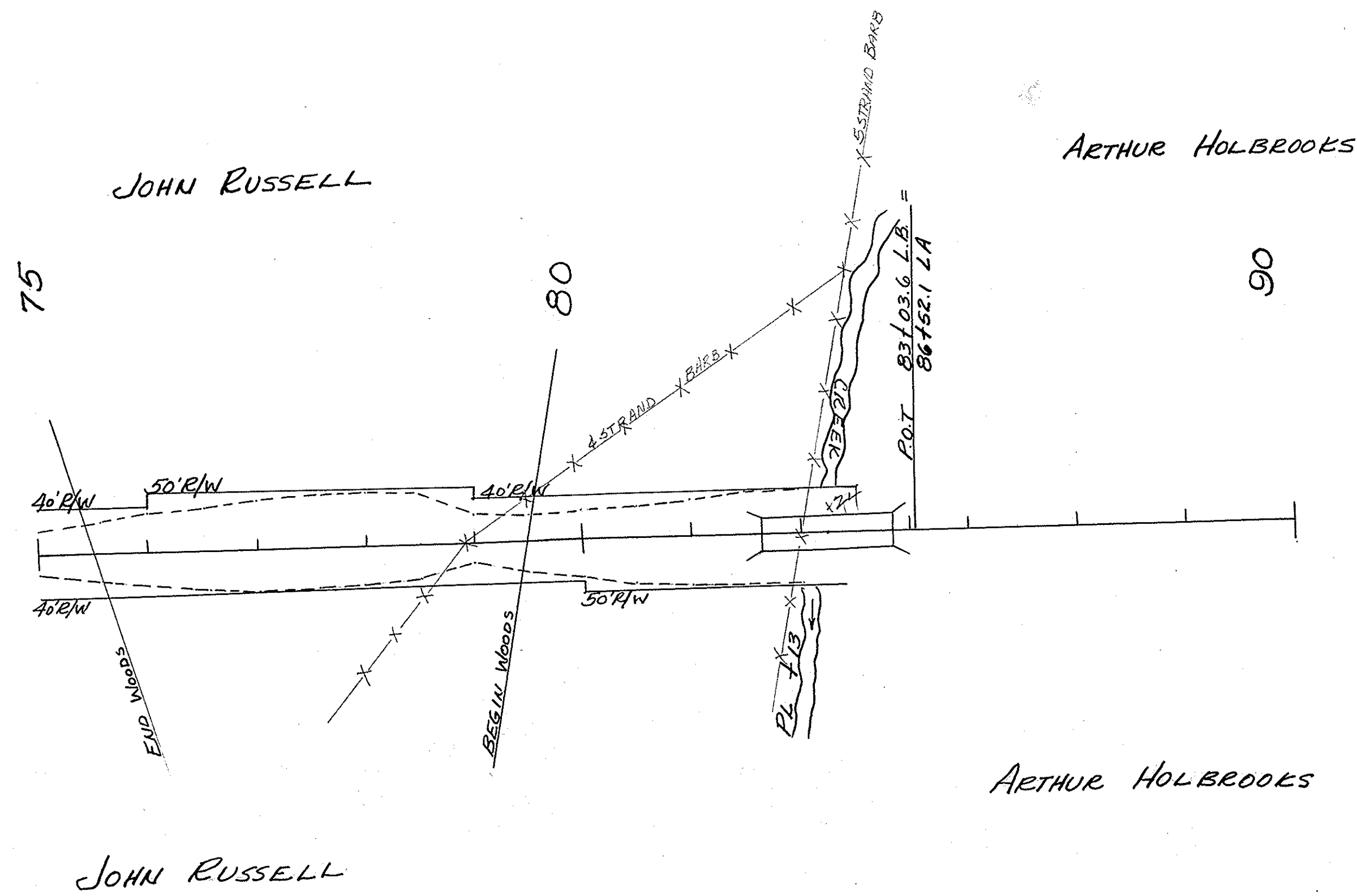
PLAN	SURVEYED		BY	DATE
	PLOTTED			
NOTE BOOK	ALIGNMENT CHECKED			
NO. _____	RT. OF WAY CHECKED			

PROFILE		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	GRADES CHECKED		
NO.	B. M.'S NOTED		
	STRUCTURE NOT AT NS CH'KD.		

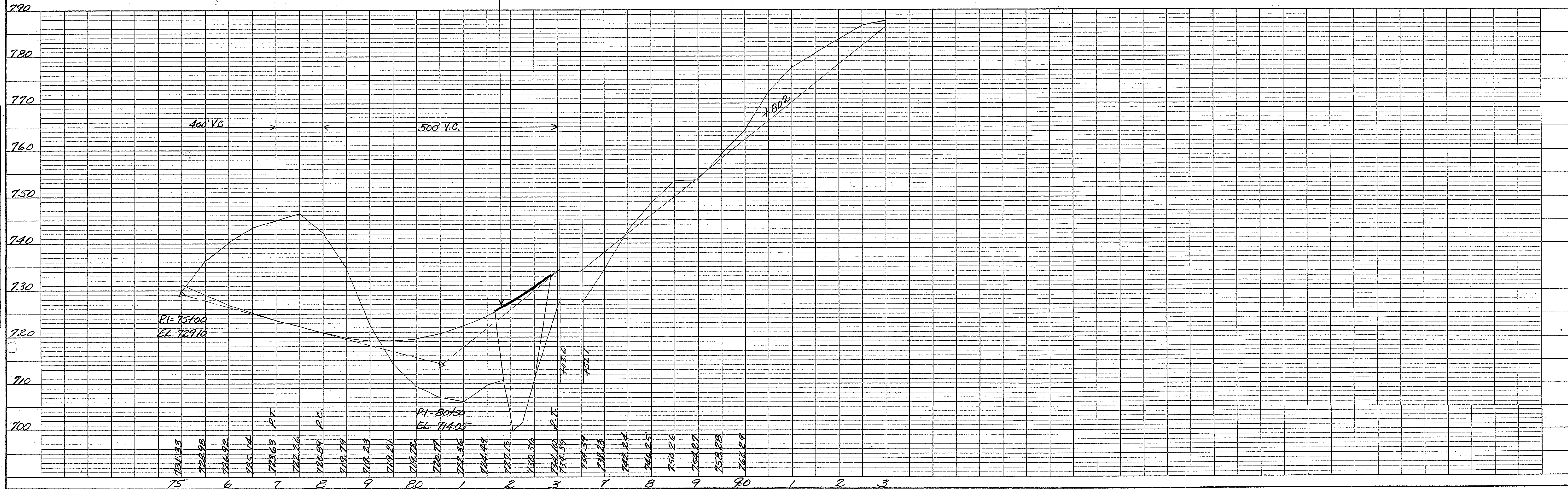


PLAN	NO.	NOTE BOOK	SURVEYED PLOTTED ALIGNMENT CHECKED RT. OF WAY CHECKED	BY	DATE

PROFILE	NO.	NOTE BOOK	GRADES CHECKED S. M. NOTED STRUCTURE RATINGS CHYD	BY	DATE



120' PRECAST CONCRETE BRIDGE TO
BE CONSTRUCTED BY THE S.C.H.D.
STATION 81165 TO 82185
As FILE 37.522.1



REVISED						Road	
FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROAD NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	OCDONNEE	37.522	0.522	542	FA 46	46
Oct. 24 1969 E.W.R.							

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		
NOTE BOOK			
NO.			

PROFILE		BY	DATE
SURVEYED <u>R.B.B.</u>			
PLOTTED <u>R.B.B.</u>			
GRADES CHECKED			
B. M. § NOTED			
STRUCTURE NOTATION CH'KD			
NO.			
NOTE BOOK			

Oconee Co.
Rd. 5-542

