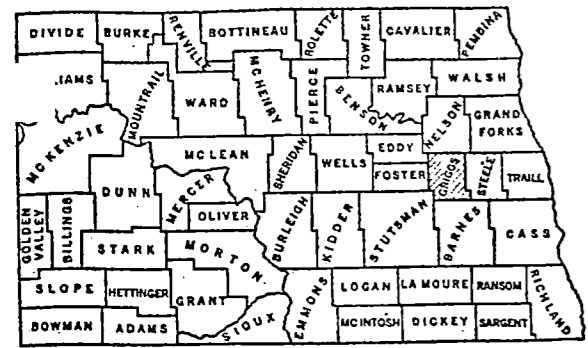


FED. ROAD DIV. NO.	STATE	F.A.S.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	N. D.	S-323 (14)		1	229



SKETCH-MAP OF NORTH DAKOTA SHOWING COUNTIES

NORTH DAKOTA STATE HIGHWAY DEPARTMENT

PLANS

FOR THE PROPOSED IMPROVEMENT OF A
STATE HIGHWAY
IN GRIGGS COUNTY
FEDERAL AID SECONDARY PROJECT NO. S-323 (14)
GRADE, GRAVEL, [REDACTED]

INDEX OF DRAWINGS

SHEET NO.	TITLE PAGE
1	TITLE PAGE
2, 2A	TYPICAL SECTIONS & SUMMARY OF QUANTITIES
3, 3A	CULVERT AND BRIDGE LIST
4	TO 58 INCL. PLAN AND PROFILE DRAWINGS
5	TO 51 INCL. STRUCTURAL DRAWINGS
6	TO 62 INCL. SOIL PROFILE
7	TO 227 INCL. CROSS SECTIONS
8	DETAIL SHEET

LENGTH OF PROJECT

PROJECT MILES-GROSS	MILES-NET
S-323(14)	17.289
TOTALS	17.289

GOVERNING SPECIFICATIONS:
Standard Specifications adopted by the North Dakota State Highway Department Jan. 1965. Required Contract Provisions (Form P.R. 1276) dated Feb. 1965 and others submitted herewith.

KEY TO CONVENTIONAL SIGNS

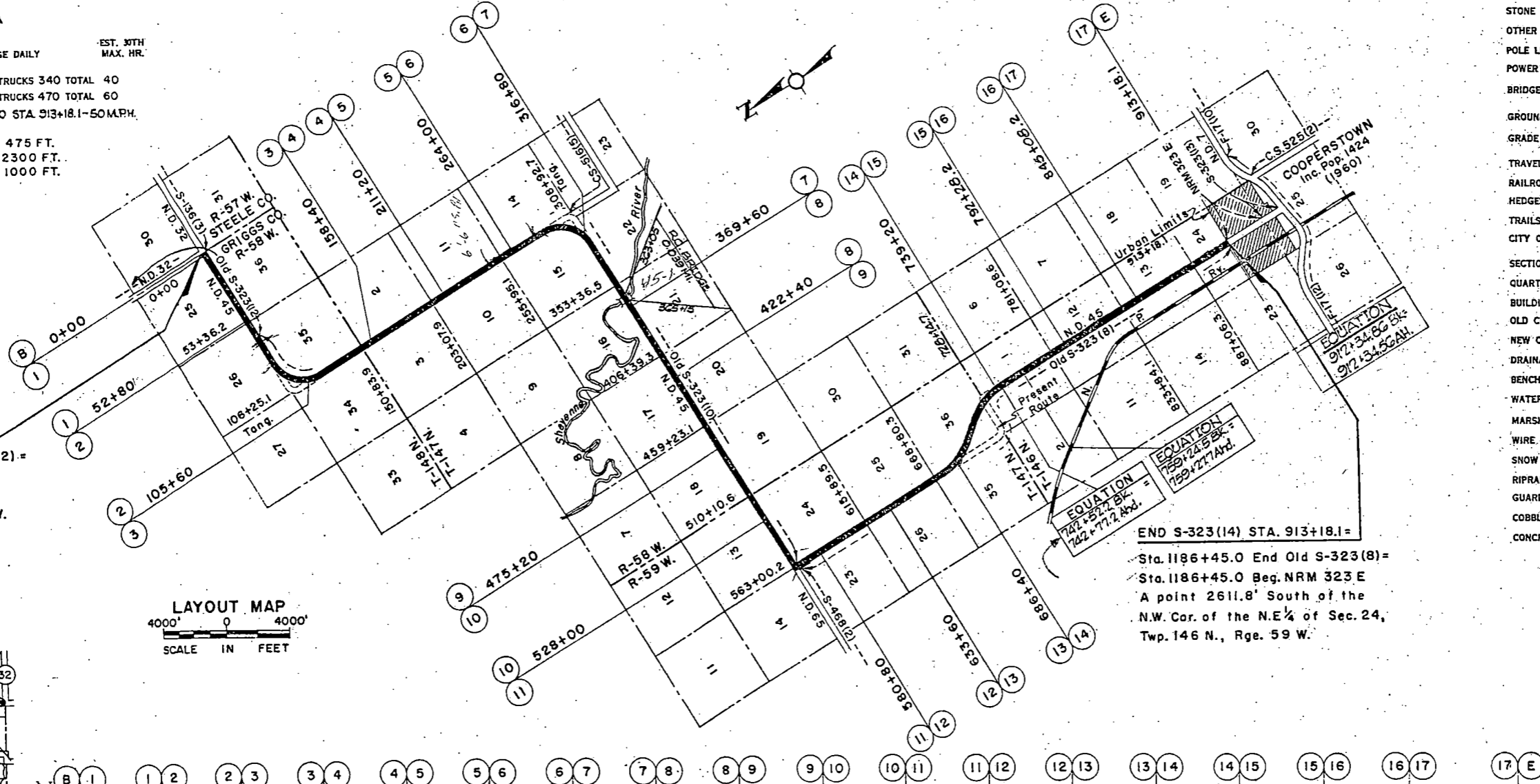
- STATE & NATIONAL LINES
- COUNTY LINE
- TOWNSHIP & RANGE LINES
- GRADE LINE
- CENTERLINE OF CONSTRUCTION
- OLD RIGHT OF WAY LINE
- NEW RIGHT OF WAY LINE
- ABANDONED RIGHT OF WAY LINE
- PROPERTY LINE
- STONE WALL
- OTHER FENCES
- POLE LINES
- POWER LINES
- BRIDGE
- GROUND ELEVATION
- GRADE
- TRAVELED WAY
- RAILROADS
- HEDGES AND TREES
- TRAILS
- CITY OR VILLAGE CORPORATE LIMITS
- SECTION CORNER
- QUARTER SECTION CORNER
- BUILDINGS
- OLD CULVERTS
- NEW CULVERTS
- DRAINAGE
- BENCH MARKS
- WATERS EDGE
- MARSH
- WIRE ROPE GUARD RAIL
- SNOW FENCE
- RIPRAP
- GUARD POSTS
- COBBLE GUTTERS
- CONCRETE GUTTERS

SCALES
LAYOUT SHEET: 1 IN. = 4000 FT.
PLAN AND PROFILE DRAWINGS (HOR. 1 IN. = 100 FT. VERT. 1 IN. = 10 FT.)
STRUCTURAL DRAWINGS: AS SHOWN
CROSS SECTION SHEETS: 1 IN. = 10 FT.
PLAN & PROFILE (HOR. 1 IN. = 20 FT. VERT. 1 IN. = 2 FT.)
SHEET NO. 38

DESIGN DATA

TRAFFIC AVERAGE DAILY EST. 30TH MAX. HR.

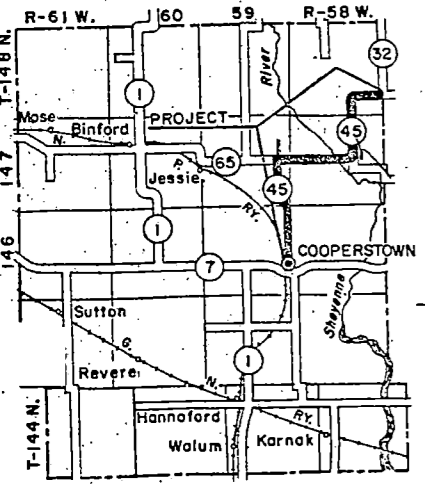
CURRENT TRAFFIC (1965) 300 PASS. 40 TRUCKS 340 TOTAL 40
TRAFFIC FORECAST (1985) 410 PASS. 60 TRUCKS 470 TOTAL 60
DESIGN SPEED 60 MPH, EXCEPT STA. 510+00 TO STA. 913+18.1 - 50 MPH.
TRAFFIC CLASSIFICATION "M"
MINIMUM SIGHT DISTANCE (NON PASSING) 475 FT.
MINIMUM SIGHT DISTANCE (SAFE PASSING) 2300 FT.
MINIMUM PASSING SIGHT DISTANCE FOR MARKING 1000 FT.
BRIDGES DESIGN LOADING HS-20 CLEAR ROADWAY 30'



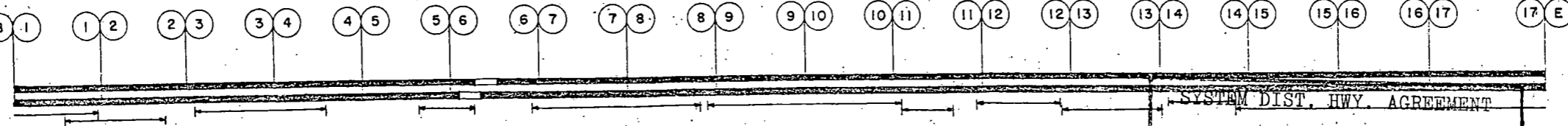
BEG. S-323 (14) STA. 0+00 =
Sta. 274+65.6 on Old S-323 (12) =
Sta. 0+00 Beg. S-136 (3)
A point at the S.E. Cor. of
Sec. 25, Twp. 148 N., Rge. 58 W.

END S-323 (14) STA. 913+18.1 =
Sta. 1186+45.0 End Old S-323 (8) =
Sta. 1186+45.0 Beg. NRM 323 E
A point 2611.8' South of the
N.W. Cor. of the N.E 1/4 of Sec. 24,
Twp. 146 N., Rge. 59 W.

LAYOUT MAP
4000' 0 4000'
SCALE IN FEET



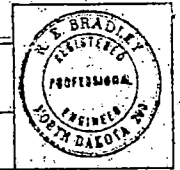
SKETCH MAP OF GRIGGS COUNTY



SIGHT DISTANCE DIAGRAM
LEGEND
Passing Zones (1000' Min. S.D.)
Non Passing Zones
Safe Passing Sections (2300' Min. S.D.)

SYSTEM DIST. HWY. AGREEMENT
S 2 45 ()
MILE 0

APPROVED DATE 3-24-65
Richard
CHIEF ENGINEER
NORTH DAKOTA STATE
HIGHWAY DEPARTMENT



DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:
DIVISION ENGINEER DATE

INSTALL PIPE CULVERT

55+75 84" 36" R.C.P. CI II-2-R.C.E.S. (Extend 18' Lt. - 18' Rt.)

INSTALL CONDUIT PIPE

49+92 Lt. 18" x 53"
 53+36.2 Lt. 18" x 63"
 53+36.2 Rt. 18" x 57"
 58+40 Lt. 18" x 56"

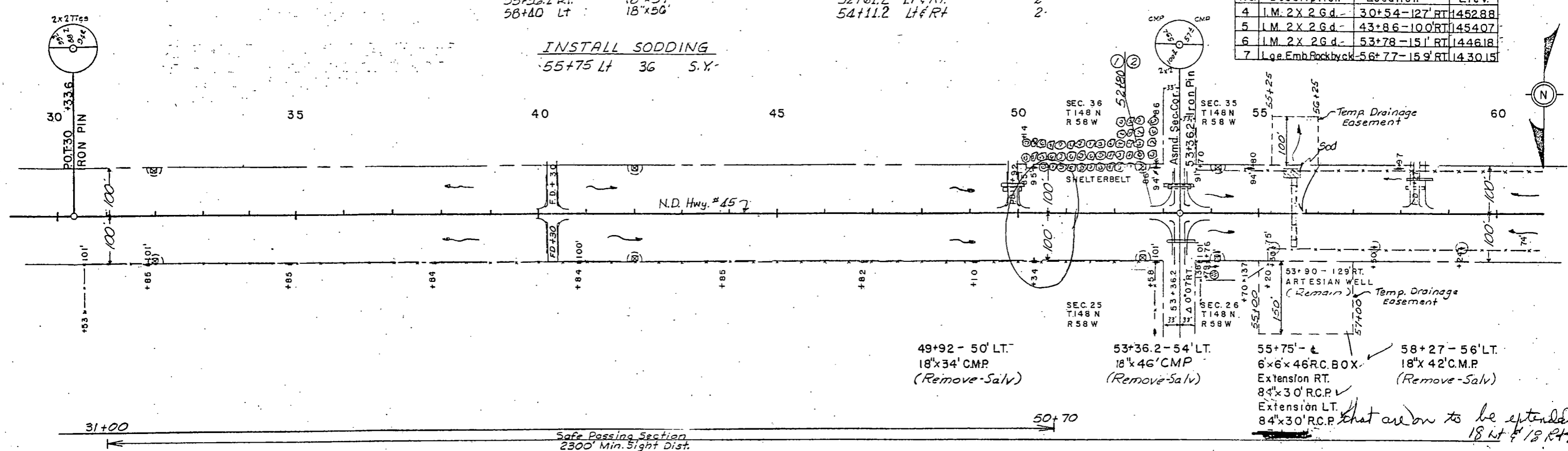
INSTALL RIW MARKERS

32+00 Lt & Rt. 2'
 42+00 Lt & Rt. 2'
 52+61.2 Lt & Rt. 2'
 54+11.2 Lt & Rt. 2'

INSTALL SODDING

55+75 Lt 36 S.Y.

BENCH MARKS			
NO.	Description	Location	Elev.
4	I.M. 2 X 2 G.d.	30+54-127 RT	1452.88
5	I.M. 2 X 2 G.d.	43+86-100 RT	1454.07
6	I.M. 2 X 2 G.d.	53+78-151 RT	1446.18
7	Lge. Emb. Rock byck	56+77-159 RT	1430.15



Sub Cut Exc 404 C.Y.
 Exc 9230 C.Y.
 Emb 9634 C.Y.
 Ave Haul - 11.0% Stas. (8306 C.Y.)

Exc 400 C.Y. (Use) 57+16
 Sub Cut Exc 369 C.Y.
 Exc 7809 C.Y.
 Emb 8178 C.Y.
 Ave Haul - 5.18 Stas. (7618 C.Y.)

40+30 Lt & Rt.
 572 C.Y. Prov. for P.D.'s

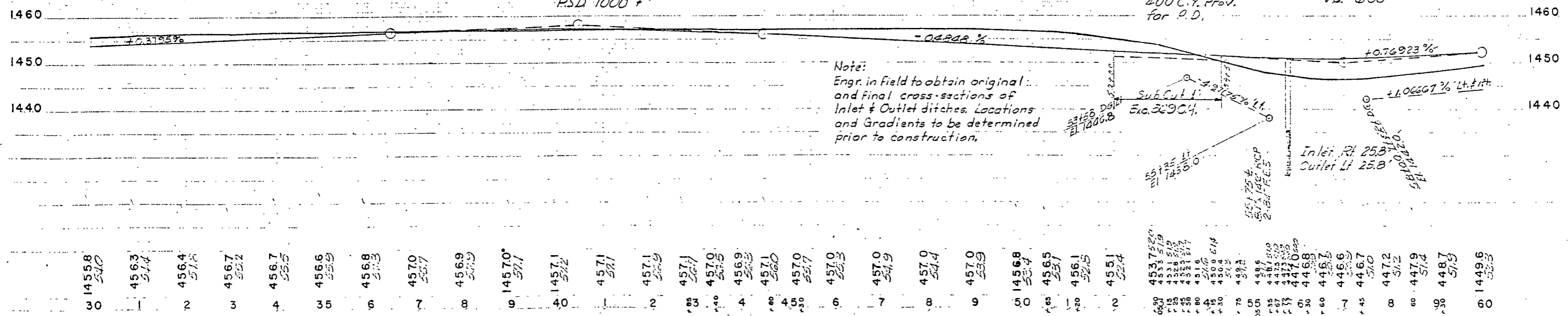
49+92 Lt.
 58 C.Y. Prov. for P.D.

53+36.2 Lt & Rt.
 Sec. Line Appr's. Prov.

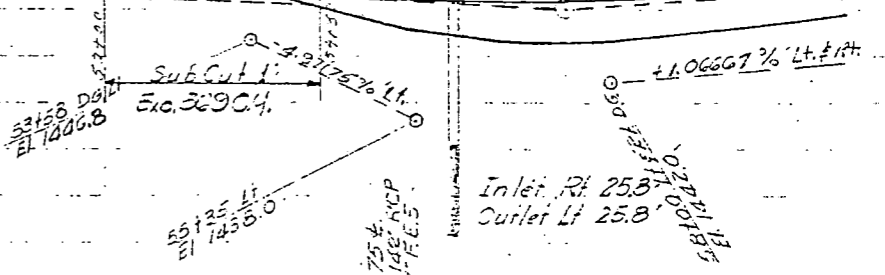
55+75 Lt. Exc. 100 C.Y. for Outlet Ditch (Use)
 55+75 Rt. Exc. 300 C.Y. for Inlet Ditch (Use)
 PI 57+00
 Elev. 1450.0
 VC 600'

PI 40+50
 Elev. 1458.0
 VC 800'
 PSD 1000' +

58+40 Lt.
 400 C.Y. Prov. for P.D.



Note:
 Engr. in field to obtain original and final cross-sections of Inlet & Outlet ditches. Locations and Gradients to be determined prior to construction.



30	1455.8	540
1	4563	514
2	4564	518
3	4567	522
4	4567	525
5	4566	529
6	4568	533
7	4570	537
8	4569	539
9	1457.0	541
10	1457.1	542
11	4571	541
12	4571	540
13	4571	539
14	4571	538
15	4570	537
16	4569	536
17	4569	535
18	4569	534
19	4569	533
20	4568	532
21	4567	531
22	4566	530
23	4565	529
24	4564	528
25	4563	527
26	4562	526
27	4561	525
28	4560	524
29	4559	523
30	4558	522
31	4557	521
32	4556	520
33	4555	519
34	4554	518
35	4553	517
36	4552	516
37	4551	515
38	4550	514
39	4549	513
40	4548	512
41	4547	511
42	4546	510
43	4545	509
44	4544	508
45	4543	507
46	4542	506
47	4541	505
48	4540	504
49	4539	503
50	4538	502
51	4537	501
52	4536	500
53	4535	499
54	4534	498
55	4533	497
56	4532	496
57	4531	495
58	4530	494
59	4529	493
60	4528	492

45-016.992

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	N. D.	323-B	1926	1	71

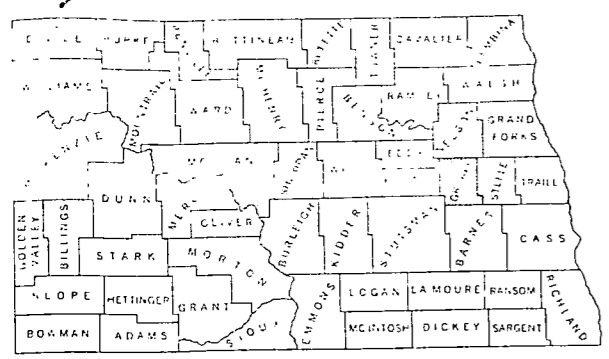
INDEX OF DRAWINGS

SHEET NO.	TITLE PAGE
1	TITLE PAGE
2	TYPICAL SECTIONS & SUMMARY OF QUANTITIES
3	CULVERT & BRIDGE LIST
4	TO 18 INCL. PLAN AND PROFILE DRAWINGS
19	TO 23 INCL. STRUCTURAL DRAWINGS
24	TO 71 INCL. CROSS SECTIONS

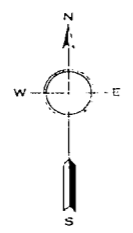
NORTH DAKOTA STATE HIGHWAY COMMISSION PLANS

Revised 1924 SPECIFICATIONS TO GOVERN

FOR THE PROPOSED IMPROVEMENT OF A STATE HIGHWAY IN GRIGGS COUNTY FEDERAL AID PROJECT NO. 323-B



SKETCH-MAP OF NORTH DAKOTA SHOWING COUNTIES



SCALES
 LAYOUT SHEET 1 IN. = 1 MILE
 PLAN AND PROFILE DRAWINGS 1 IN. = 100 FT.
 STRUCTURAL DRAWINGS AS SHOWN
 CROSS SECTION SHEETS 1 IN. = 5 FT.

LENGTH OF PROJECT		
SEC.	GROSS	NET
A		
B		
C		
D		
TOTALS		

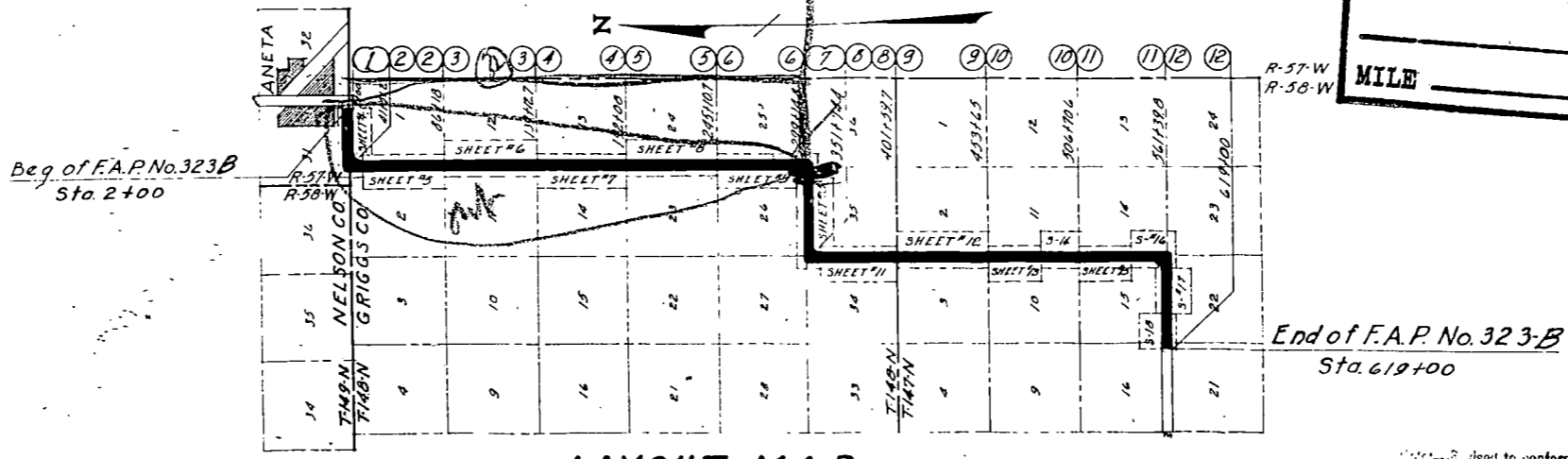
KEY TO CONVENTIONAL SIGNS

- STATE & NATIONAL LINES
- COUNTY LINE
- TOWNSHIP & RANGE LINES
- GRADE LINE
- CENTERLINE OF CONSTRUCTION
- OLD RIGHT OF WAY LINE
- NEW RIGHT OF WAY LINE
- ABANDONED RIGHT OF WAY LINE
- PROPERTY LINE
- STONE WALL
- OTHER FENCES
- POLE LINES
- POWER LINES
- BRIDGE
- GROUND GRADE ELEVATION
- TRAVELED WAY
- RAILROADS
- HEDGES AND TREES
- TRAILS
- CITY OR VILLAGE CORPORATE LIMITS
- SECTION CORNER
- QUARTER SECTION CORNER
- BUILDINGS
- OLD CULVERTS
- NEW CULVERTS
- DRAINAGE
- BENCH MARKS
- WATERS EDGE
- MARSH
- WIRE ROPE GUARD RAILS
- SNOW FENCE
- RIPRAP
- GUARDS POSTS
- COBBLE GUTTERS
- CONCRETE GUTTERS

SYSTEM DIST. HWY. AGREEMENT
 5-2-45
 MILE 17

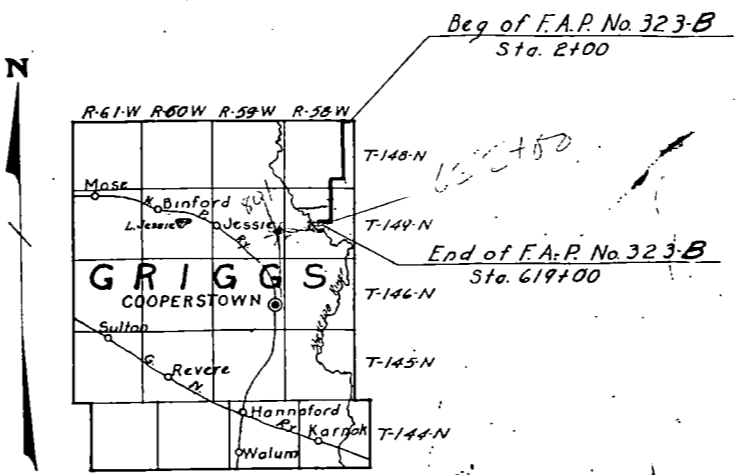
DESCRIPTION: Beginning at Sta. 2100 a point on the Griggs-Nelson Co. line 200 ft. West of the S.E. Cor. of Sec. 31-T-149-R-57 thence West on the Sec. line to Sta. 397+0.5 P.I. the N.W. Cor. of Sec. 1-T-148-R-58 thence South on the Sec. line to Sta. 298+0.42 P.I. the S.E. Cor. of Sec. 26-T-148-R-58 thence West on the Sec. line to Sta. 350+0.36 P.I. the S.W. Corner of Sec. 26-T-148-R-58 thence South on the Sec. line to Sta. 559+49.0 P.I. the S.E. Cor. of Sec. 15-T-147-R-58 thence West on the Sec. line to Sta. 619+00 a point on the South line of Sec. 16-T-147-R-58 761 ft. West of the S.E. Cor. of said Sec. 16, the end of F. A. P. 323-B

SYSTEM DIST. HWY. AGREEMENT
 MILE



LAYOUT MAP Scale 1" = 1 Mi.

Revised to conform to B. P. R. Comments dated 5-20-1926 affected are as follows:
 L-2-3-A-15-16



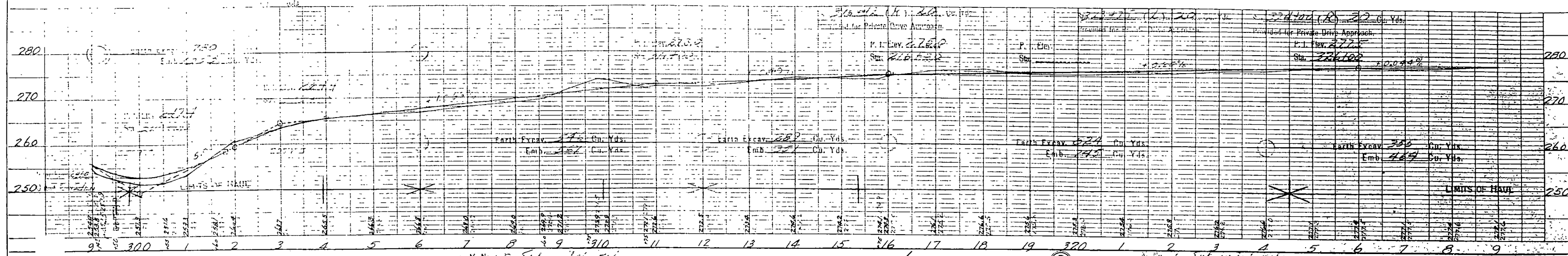
Sketch Map of Griggs Co.

NOTE: Right of Way necessary to construct this project according to the approved plans will be acquired.
 Signed: *H. L. Freeman*
 Chief Engineer & Sec'y.

F.A.P. #323-B GRIGGS CO.

EXECUTED UNDER: *J. N. O'Leary* CHIEF DRAFTSMAN
 REVIEWED AND PASSED AS TO DESIGN AND EXECUTION
 DATE 5/4 1926 *J. E. O'Neil* CONSTRUCTION ENGINEER

STATE OF NORTH DAKOTA STATE HIGHWAY COMMISSION	
RECOMMENDED FOR APPROVAL: DATE 5/4 1926 <i>Coughlin</i> ASST. CHIEF ENGINEER	
APPROVED AND SUBMITTED TO BUREAU OF PUBLIC ROADS DATE 5/4 1926 <i>H. L. Freeman</i> CHIEF ENGINEER & SECY.	
U. S. DEPARTMENT OF AGRICULTURE BUREAU OF PUBLIC ROADS	
EXAMINED BY	
RECOMMENDED FOR APPROVAL:	
RECOMMENDED FOR APPROVAL:	
APPROVED:	
APPROVED BY THE SECRETARY OF AGRICULTURE	



M. No. Sub. 1017
 Sta. 338+00
 Elev. 280.25

$\Delta = 90^\circ 16' \text{ Lt.}$
 $D = 5^\circ$
 $T = 1151.6$
 $R = 1146.3$
 $L = 1805.3$

M. No. Sub. 1017
 Sta. 351+74
 Elev. 279.05

Obliterate old Curve Sta.
 347+86 to 350+86 = 300 L.F.

SUMMARY - TITLE #1		QUANTITY	UNIT
CLEARING AND GRUBBING			ACR.
PLOWING AND HARROWING			ACR.
EARTH EXCAVATION	2890		CU. YD.
ROCK EXCAVATION	50		CU. YD.
41 18" C.M.P. Cul.	30		LINEAL FT.
132 Rip Rap	34		CU. YD.
200 Wire Rope C. Rail	250		LINEAL FT.
300 Class # 56 Sand	2500		CU. YD.
350 4" Dia. Pipe	2000		LINEAL FT.
100 4" Dia. Pipe	100		LINEAL FT.

