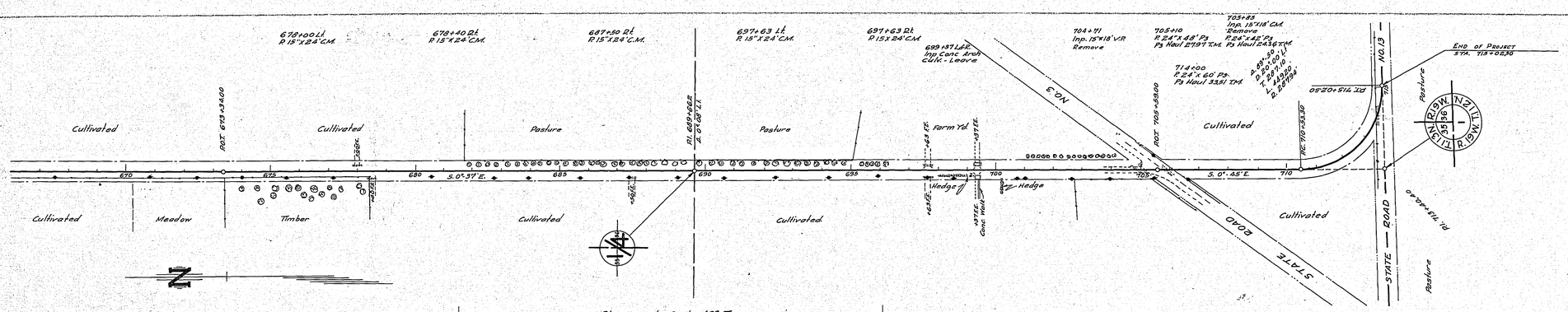

MILE SEVEN

ESTIMATED QUANTITIES

STA. 671+41 TO STA. 715+02.5

Clearing Trees		433
Grubbing	"	433
Exc. Earth	Cu Yds	3323
" L.D.		50
" S.R.		25
" O.H.		2872
Install 15" C.M.	Lin. Ft.	120
" 24" P3	" "	150
P3 Cu.M. Haul	T.M.	85.84
Remove old Culv.	Lin. Ft.	36

PLAN — SURVEYED, PLOTTED, GRADES CHECKED, STRUCTURE NOTES CHECKED, NOTE BOOK, NO., BY, DATE, RT. OF WAY CHECKED

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, STRUCTURE NOTES CHECKED, NOTE BOOK, NO., BY, DATE

PLATE 2 - PLAN-PROFILE C. P. W. & M. S. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

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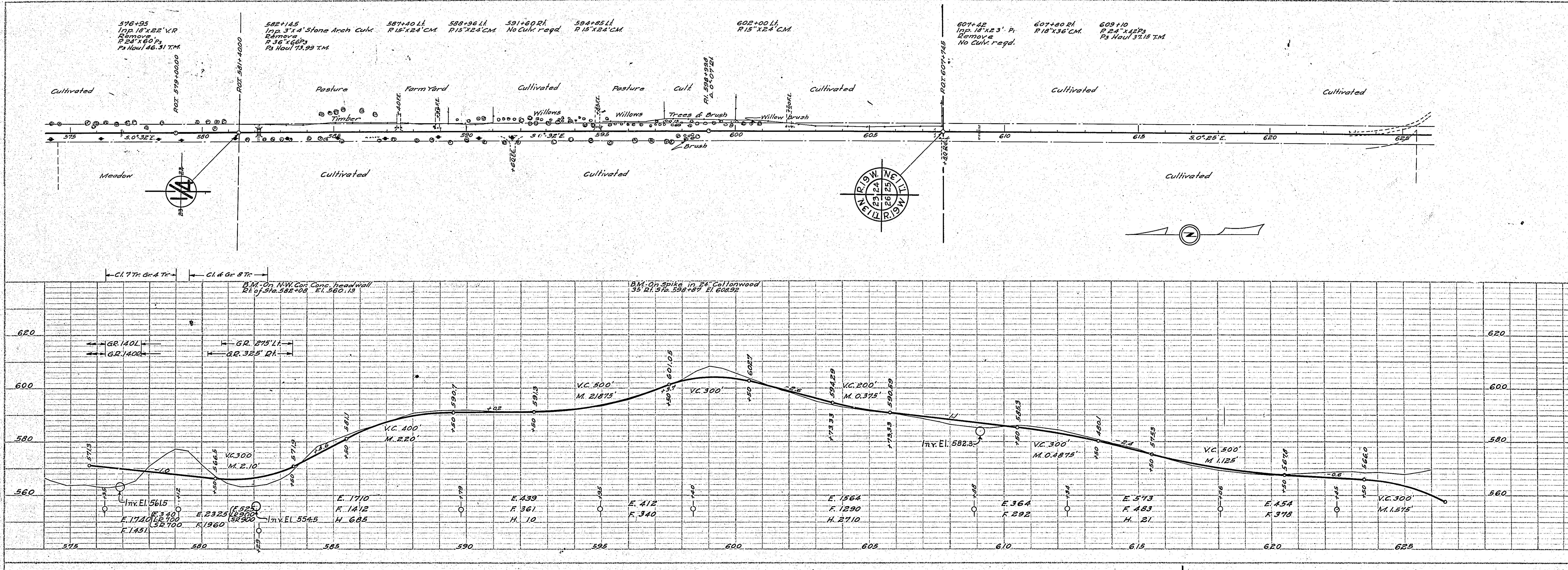
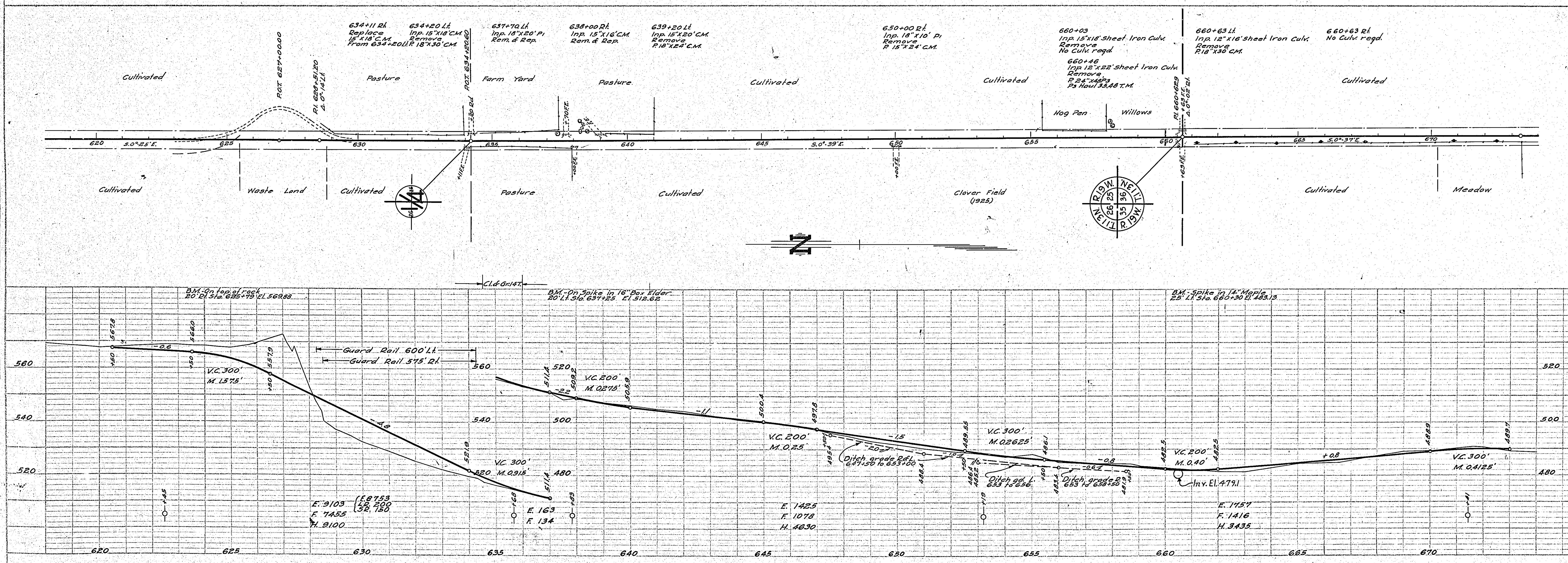


MILE FIVE

ESTIMATED QUANTITIES

STA. 576+35 TO STA. 622+45

Clearing Trees	15
Grubbing "	12
Exc. Earth Cu. Yds.	6481
" L.R. " "	1600
" S.R. " "	1600
" O.H. " "	3426
Install 15" C.M. Lin. Ft.	96
" 18" C.M. " "	36
" 24" P3 " "	102
" 36" P3 " "	66
P3 Culv. Haul T.M.	157.45
Remove old Culv. Lin. Ft.	45
Guard Rail-Cable " "	880
" " Anchors Each	6
Remove stone arch Culvert	Lump Sum 1



MILE SIX

ESTIMATED QUANTITIES

STA. 622+45 TO STA. 671+41

Clearing Trees	14
Grubbing "	14
Exc. Earth Cu. Yds	12098
" L.R. " "	200
" S.R. " "	150
" O.H. " "	17165
Install 15" C.M. Lin. Ft	24
" 18" C.M. " "	84
" 24" P3 " "	48
P3 Culv. Haul T.M.	35.48
Remove old Culv. Lin. Ft	140
Replace " " " "	54
Guard Rail-Cable " "	1175
" " Anchors Each	4

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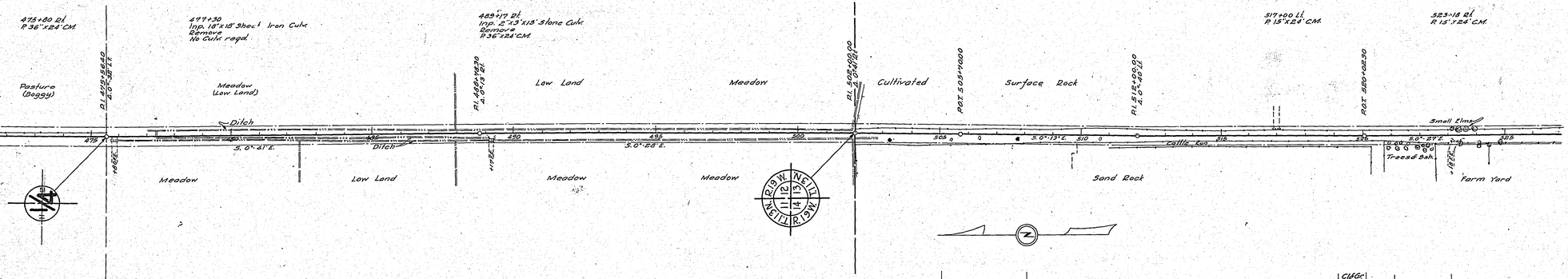
PLATE 2 - PLAN-PROFILE

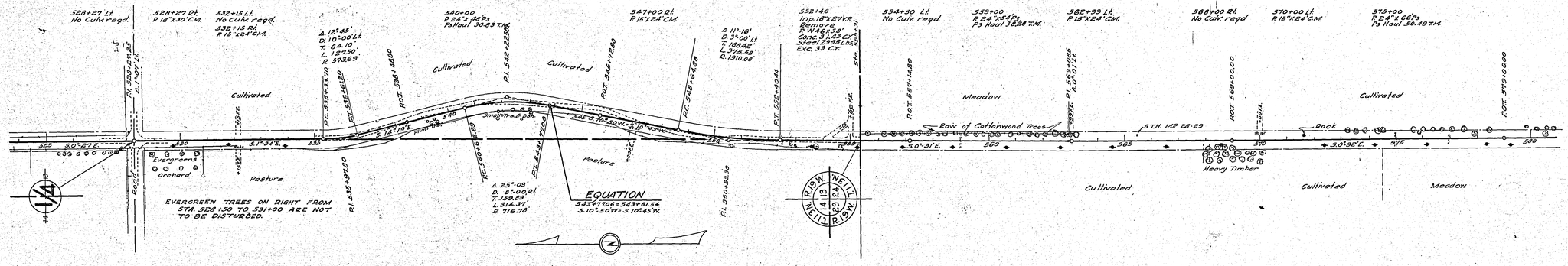
Ramsey Co. Minnesota. Co. Proj. 27-88 Sheet 5 of 16 Sheets

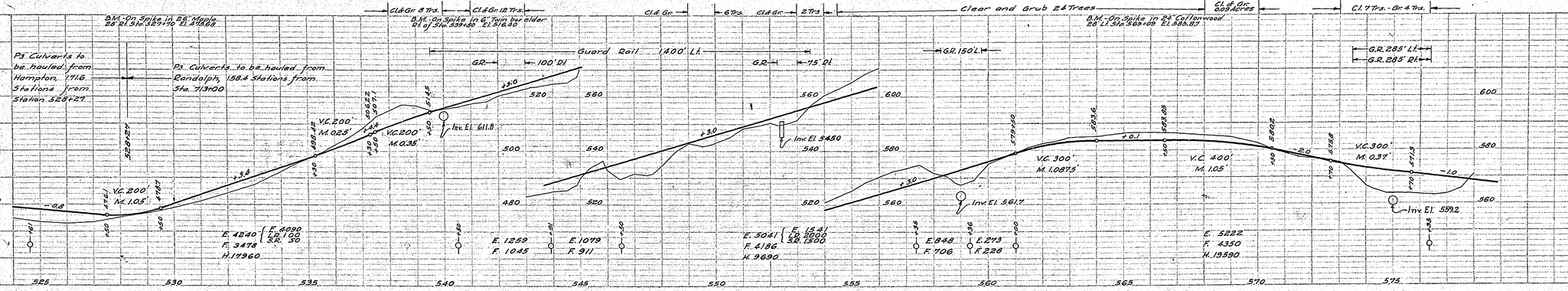


MILE THREE

ESTIMATED QUANTITIES
STA. 471+50 to STA. 524+61

Clearing	Trees	19
Grubbing	"	19
Exc. Earth	Cu. Yds.	8410
" LR.	" "	50
" SR.	" "	4100
" OH.	" "	117360
" ND.	" "	2169
Install 15" C.M. Lin. Ft.		48
" 36" C.M.	"	48
Remove old Culv.	"	31





MILE FOUR

ESTIMATED QUANTITIES
STA. 524+61 to STA. 576+35

Clearing	Trees	59
Grubbing	"	56
Clearing	Acres	0.09
Grubbing	"	0.09
Exc. Earth	Cu. Yds.	14312
" LR.	" "	2100
" SR.	" "	1550
" OH.	" "	47240
Install 15" C.M. Lin. Ft.		96
" 18" C.M.	"	30
" 24" Ps	"	168
Ps Culvert Haul	T.M.	119.60
Remove old culv. Lin. Ft.		27
Guard Rail Cable	" "	2295
" " Anchors	Each	10
Monolithic Culvert Conc.	C.Y.	31.43
" Steel	Lbs.	2995
" Exc. Earth	C.Y.	33

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

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
NO.
GRADES CHECKED
B. M.'S NOTED
STRUCTURE NOTATIONS CHKD.

DATE
BY

PLATE 2—PLAN-PROFILE U. S. BUR. OF P. R. STANDARD
KOHFELD & KISER CO., NEW YORK

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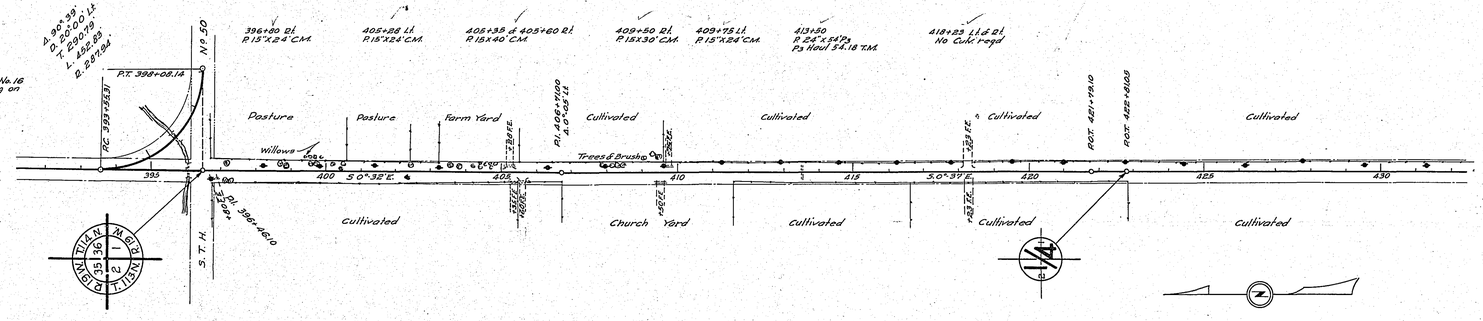
Ramsey Co. Minnesota. County Proj. 27-88 Sheet 4 of 16 Sheets

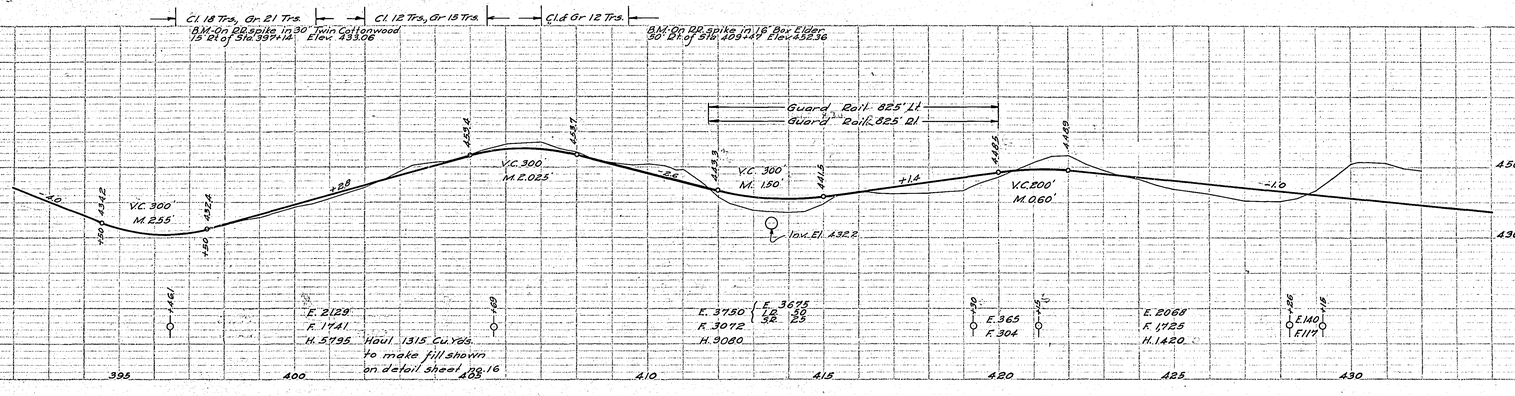


Cl. 18 Trs, Gr. 21 Trs. | Cl. 12 Trs, Gr 15 Trs. | Cl.d Gr 12 Trs.

B.M.-On DP spike in 30" Twin Cottonwood 13' Rt. of Sta. 397+14 Elev. 433.06

B.M.-On DP spike in 16" Box Elder 30' Rt. of Sta. 409+49 Elev. 452.36

NOTE: All Ps Culverts used between Sta. 396+46.1 and Sta. 528+27 to be hauled from Hampton, Minn. 171.6 Sta's. from Sta. 528+27

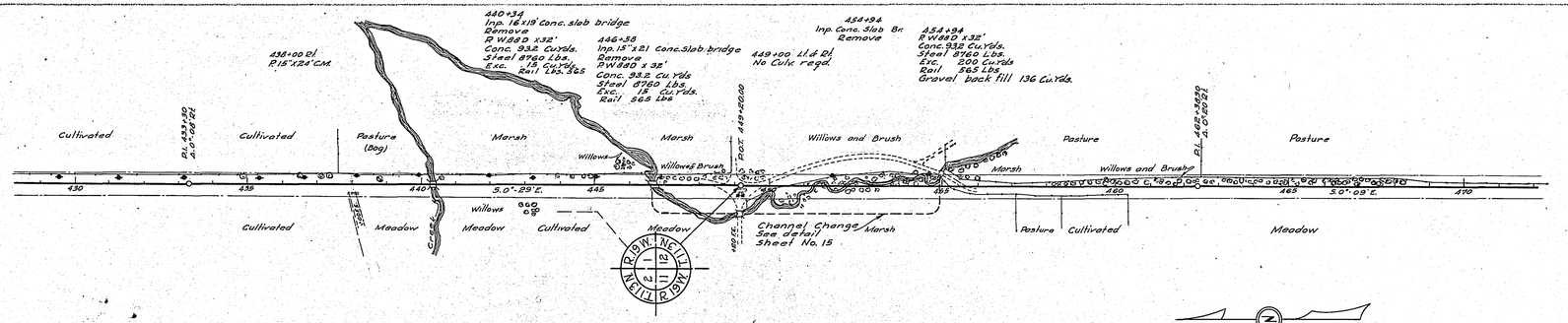


MILE ONE

ESTIMATED QUANTITIES

STA. 396+46.1 TO STA. 429+15

Clearing Trees		50
Grubbing "		48
Exc. Earth Cu. Yds.		8377
" L.R. " "		50
" S.R. " "		25
" O.H. " "		16295
Install 15" CM Lin. Ft.		142
" 24" Ps " "		54
Ps Culvert Haul T.M.		54.18
Guard Rail-Cable Lin. Ft.		1850
" " Anchors Each		8
Monolithic Culv. Conc. Cu. Yds.		22.02
" " Steel Lbs		2011
" " Exc. Cu. Yds.		10
" " H.D. " "		15
Remove old Guard Rail Lin. Ft.		150
Replace " " "		150



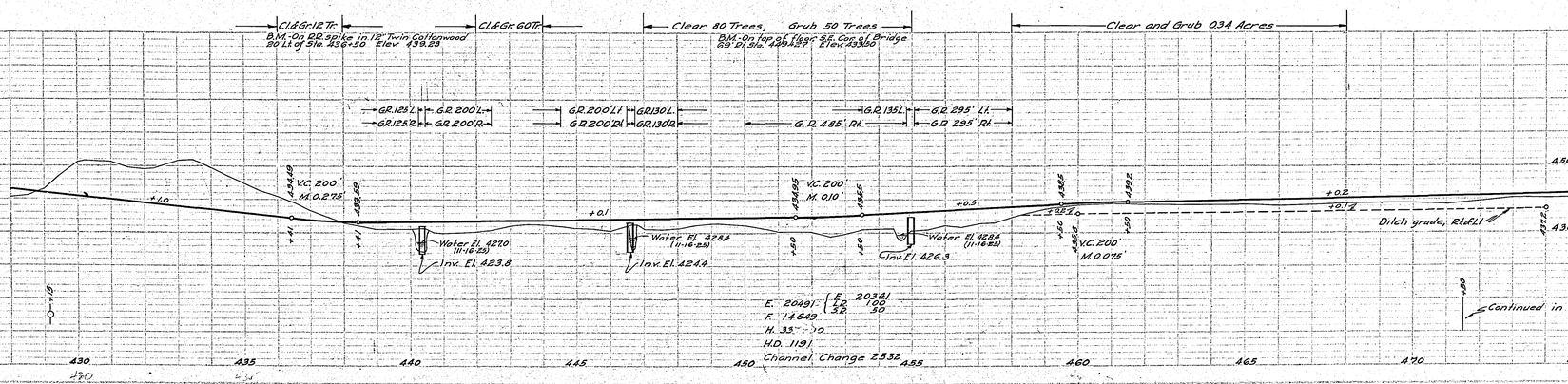
Cl. & Gr. 12 Tr. | Cl. & Gr. 60 Tr. | Clear 80 Trees, Grub 50 Trees | Clear and Grub 0.34 Acres

B.M.-On DP Spike in 12" Twin Cottonwood 20' Lt. of Sta. 436+50 Elev. 439.23

B.M.-On top of Floor SE Cor. of Bridge 69' Rt. Sta. 449+37 Elev. 433.50

G.R. 125' Lt. | G.R. 200' Lt. | G.R. 200' Lt. | G.R. 130' Lt. | G.R. 135' Lt. | G.R. 295' Lt.

G.R. 125' Rt. | G.R. 200' Rt. | G.R. 200' Rt. | G.R. 130' Rt. | G.R. 485' Rt. | G.R. 295' Rt.



MILE TWO

ESTIMATED QUANTITIES

STA. 429+15 TO STA. 471+50

Clearing Acres		0.34
Grubbing "		0.34
Clearing Trees		152
Grubbing "		122
Exc. Earth Cu. Yds		20371
" L.R. " "		100
" S.R. " "		50
" O.H. " "		337900
" H.D. " "		1191
" Channel Change Cu. Yds.		2532
Install 15" CM Lin. Ft.		24
Guard Rail-Cable "		2520
" " Anchors Each		20
Monolithic Culvert Conc. C.Y.		219.6
" " Steel Lbs.		26280
" " Exc. Earth C.Y.		230
" " Steel Rail Lbs.		16695
Remove old bridge	Lump Sum	3
Temporary Crossing	"	3
Gravel back fill	Cu. Yds.	136

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FORM 129-C REV. AUG. 1926.

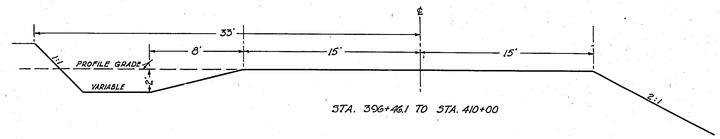
STATEMENT OF ESTIMATED QUANTITIES AND COSTS.

		ITEM	UNIT	MILE 1 Sta. 396+46.1 to Sta. 429+15	MILE 2 Sta. 429+15 to Sta. 471+50	MILE 3 Sta. 471+50 to Sta. 524+61	MILE 4 Sta. 524+61 to Sta. 576+35	MILE 5 Sta. 576+35 to Sta. 622+45	MILE 6 Sta. 622+45 to Sta. 671+41	MILE 7 Sta. 671+41 to Sta. 715+02.5	MILE Sta. to Sta.	MILE Sta. to Sta.	MILE Sta. to Sta.	MILE Sta. to Sta.	MILE Sta. to Sta.	MILE Sta. to Sta.	MILE Sta. to Sta.	TOTAL ESTIMATED QUANTITIES	ESTIMATED UNIT PRICES	AMOUNTS	TOTALS
GRADING	1	Clearing	Acre		0.34		0.09											0.43			
	2	Clearing	Tree	50	152	19	59	15	14	433								742			
	3	Grubbing	Acre		0.34		0.09											0.43			
	4	Grubbing	Tree	48	122	19	56	12	14	433								704			
	5	Excavation - Earth	Cu. Yd.	8377	20341	8470	14312	6481	12098	3523								73602			
	6	Excavation - Loose Rock	Cu. Yd.	50	100	50	2100	1600	200	50								4150			
	7	Excavation - Solid Rock	Cu. Yd.	25	50	4100	1550	1600	150	25								7500			
	8	Excavation - Overhaul	Cu. Yd.	16295	337900	117360	47240	3426	17165	2872								542258			
	9	Excavation - Channel Change	Cu. Yd.		2532													2532			
	10	Hand Ditching	Cu. Yd.	15	1191	2169												3375			
	11	Tile Drain ..... in.	Lin. Ft.																		
	12	Tile Drain ..... in.	Lin. Ft.																		
	13	Tile Drain ..... in.	Lin. Ft.																		
	14	Porous Back Fill Material	Cu. Yd.																		
	15	Stone Rip - Rap	Cu. Yd.																		
	16	Hauling Rip-Rap or Stone Drain Material	Cu. Yd. mile																		
	17	Install 15" C.M.	Lin. Ft.	142	24	48	96	96	24	120								550			
	18	Install 18" "	Lin. Ft.				30	36	84									150			
	19	Install 36" "	Lin. Ft.			48												48			
	20	Install	Lin. Ft.																		
	21	Install	Lin. Ft.																		
	22	Rem. old Guard Rail	Lin. Ft.	150														150			
	23	" "	Lin. Ft.																		
	24	Install	Lin. Ft.																		
	25	Install 24" P3	Lin. Ft.	54			168	102	48	150								522			
	26	Install 30" P3	Lin. Ft.																		
	27	Install 36" P3	Lin. Ft.					66										66			
	28	P1 Culvert Haul	Ton Mile																		
	29	P3 Culvert Haul	Ton Mile	54.18			119.60	157.45	35.48	85.84								452.55			
	30	Rem. Old Culv.	Lin. Ft.			31	27	45	140	36								279			
	31	Rep. Old Culv.	" "						54									54			
	32	Rem. Stone Arch Culv.	Lump Sum					1										1			
		TOTAL ESTIMATED COST OF GRADING (IN 'TOTALS' COLUMN)																			
PORTABLE CULVERTS	33	C.M. Culv. Material 15"	Lin. Ft.	142	24	48	96	96	24	120								550			
	34	" Culv. Material 18"	Lin. Ft.				30	36	84									150			
	35	" Culv. Material 36"	Lin. Ft.			48												48			
	36	Culv. Material	Lin. Ft.																		
	37	Culv. Material	Lin. Ft.																		
	38	Culv. Material	Lin. Ft.																		
	39	P3 Culv. Material 24"	Lin. Ft.	54			168	102	48	150								522			
	40	P3 Culv. Material 30"	Lin. Ft.																		
	41	P3 Culv. Material 36"	Lin. Ft.					66										66			
		TOTAL ESTIMATED COST OF PORTABLE CULVERT MATERIAL (IN 'TOTALS' COLUMN)																			
GRAVEL HAUL	42	Gravel Pit Stripping	Cu. Yd.																		
	43	Screening	Cu. Yd.																		
	44	Loading	Cu. Yd.																		
	45	Hauling	Cu. Yd. Mile																		
	46	Shaping & Compacting	Man Hour																		
	47	Shaping & Compacting	Man & Team Hour																		
	48																				
	49																				
	50																				
	51																				
		TOTAL ESTIMATED COST OF GRAVEL HAUL (IN 'TOTALS' COLUMN)																			
GRAVEL MATERIAL	52	Gravel Material F. O. B. Pit	Cu. Yd.																		
	53	Freight (If any)	Cu. Yd.																		
	54	Unloading from Cars	Cu. Yd.																		
		TOTAL ESTIMATED COST OF GRAVEL MATERIAL (IN 'TOTALS' COLUMN)																			
PAVEMENT CONSTRUCTION	55	Fine Grading - Exc. & Emb.	Cu. Yd.																		
	56	Shoulders - Earth	Cu. Yd.																		
	57																				
	58																				
	59	Pavement	Sq. Yd.																		
	60	Integral Curb (One Course Concrete)	Lin. Ft.																		
	61	Sloping Curb	Lin. Ft.																		
	62	Surface Drain	Lin. Ft.																		
	63	Surface Drain Basins	Basin																		
	64	Bridge Approach Slabs (Square)	Slab																		
	65	Bridge Approach Slabs (Skew)	Slab																		
	66																				
	67																				
	68																				
		TOTAL ESTIMATED COST OF PAVEMENT CONSTRUCTION (IN 'TOTALS' COLUMN)																			
STRUCTURES	69	Concrete	Cu. Yd.	22.02	279.60		31.43											333.05			
	70	Reinforcing Steel	Lb.	2011	26280		2995											31286			
	71	Excavation - Earth	Cu. Yd.	10	230		33											273			
	72	Excavation - Loose Rock	Cu. Yd.																		
	73	Excavation - Solid Rock	Cu. Yd.																		
	74	Bridge	* Bridge No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.	Br. No.				
	75		Station																		
	76	Concrete	Cu. Yd.																		
	77	Reinforcing Steel	Lb.																		
	78	Structural Steel - (Railing)	Lb.		1695													1695			
	79	Piling	Lin. Ft.																		
	80	Temporary Crossing	Lump Sum		3													3			
	81	Removing old Bridge	Lump Sum		3													3			
	82	Bituminous Surface	Sq. Yd.																		
	83	Gravel back fill	Cu. Yd.		136													136			
	84																				
		TOTAL ESTIMATED COST OF STRUCTURES (IN 'TOTALS' COLUMN)																			
MISCELLANEOUS	85	Guard Rail - (Cable)	Lin. Ft.	1850	2520		2295	880	1175									8720			
	86	" " Anchors	Each	8	20		10	6	4									48			
	87	Rep. old Guard Rail	Lin. Ft.	150														150			
		TOTAL ESTIMATED COST OF MISCELLANEOUS ITEMS IN 'TOTALS' COLUMN																			

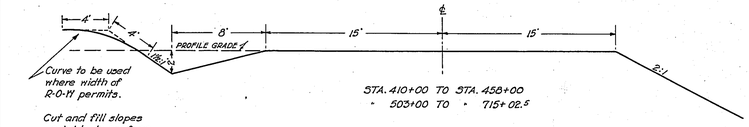
* NOTE: BRIDGE ITEMS LISTED UNDER BRIDGE NUMBERS IN MILE COLUMNS REGARDLESS OF LOCATION

TYPICAL CROSS SECTIONS AND DETAILS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SEC.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MINN.					



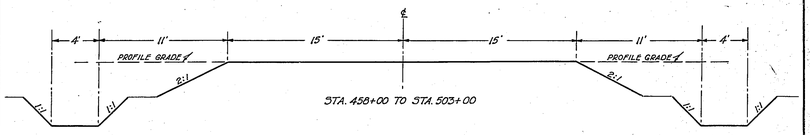
STA. 396+46.1 TO STA. 410+00



Curve to be used where width of R-O-W permits.

Cut and fill slopes variable to conform to R-O-W limits.

STA. 410+00 TO STA. 458+00
" 503+00 TO " 715+02.5



STA. 458+00 TO STA. 503+00

NOTE: ALL SECTIONS TO CONFORM TO RIGHT-OF-WAY LIMITS.

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RAMSEY COUNTY PROJ. No. 27-88 SEC. F. A. P. No. SEC. SHEET No. 2 OF 16 SHEETS.

"IMPERIAL" TRACING CLOTH K & E CO., N.Y.

FORM 302

Conventional Signs & Abbreviations

State Line		Excavation	E
County Line		Embankment	F
Township Line		Overhaul	H
Section Line		Surfacing	S
City, Village, or Borough		Guard Rail	G.R.
Fence Line		Intersection Angle	Δ
Right-of-way Line		Radius	R
Travelled Way		Elevation	El.
Railroads		Vertical Curve	V.C.
Retaining Wall		Bench Mark	B.M.
Base or Survey Line	1/36 1/30	Sectional Concrete Culvert	P.1.
Levee		Corrugated Metal Culvert	C.M.
Gravel Pit	G	Culvert Haul	Pt.H.
Sand Pit	S	Ton Miles	T.M.
Clay Pit	C	Place	P
Rock Quarry	Q	In Place	Inp.
Culverts —		Replace	Rep.
Plain		Right	R
With Facewalls		Left	L
With Wingwalls		Hand Ditching	H.D.
Drop Inlet		Point of Curve	P.C.
Power Pole Line		Point of Tangent	P.T.
Telephone or Telegraph Line		Point of Intersection	P.I.
Marsh		Special Excavation	S.E.
Hedge, Brush, or Timber		Special Plowing	S.P.
Ground Elevation	121	Telephone Pole	Tel.P.
Grade Elevation	125		

OFFICE OF COUNTY SURVEYOR

RAMSEY COUNTY

Plan and Profile of County Project No. 27-88

From N.W. Cor. Sec. 1, T113N, R19W — **To** a point 287.1 ft. East of S.W. Cor. Sec. 36, T113N, R19W

Give proper reference to Sections, Township and Range

GROSS LENGTH- 31,854.9 FEET 6.03 MILES

LENGTH OF EXCEPTIONS- FEET MILES

NET LENGTH- 31,854.9 FEET 6.03 MILES

SCALES

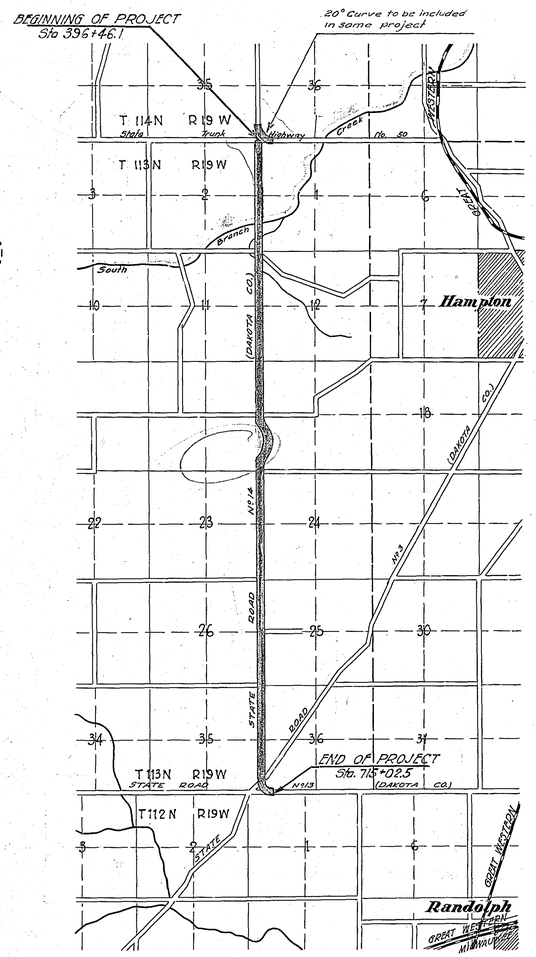
PLAN, 1 Inch = 200 Feet

PROFILE, Horz. 1 Inch = 200 Feet. Vert. 1 Inch = 20 Feet

WORKING PLANS — Horz. 1 Inch = 100 Feet; Vert. 1 Inch = 10 Feet; Cross-Sections, 1 Inch = 10 Feet

LAYOUT

SCALE, 1 Inch = 3520 Feet



INDEX OF SHEETS

4-14-27 "B"

Approved, Castle Rock Twp. 4-6th 1927 Gilbert Trout CHAIRMAN OF BOARD

Approved 4-7 1927 J. Swan COUNTY SURVEYOR, DAKOTA CO.

PLAN 27-211 INDEX

STATE HIGHWAY DEPARTMENT INDORSEMENT

Recommended for Approval _____ DIVISION ENGINEER

Recommended for Approval O. L. Kipp CONSTRUCTION ENGINEER

Approved 4/8 1927 J. W. Ellison CHIEF ENGINEER

Date of Resolution for Preparation of Plans 9-13 1926

Planned by R. Van Teuvelen ASSISTANT ENGINEER

Recommended for Approval Wm. Mackenzie CONSTRUCTION ENGINEER

Plans Approved and Recommended for Consideration Paul W. Brooks. COUNTY SURVEYOR

Approved by County Board _____ 19 _____ CHAIRMAN OF COUNTY BOARD

State Hwy.

5201

Ramsey County, Minnesota. County Proj. No. 27-88 Plan No. ..... Sheet 1 of 16 Sheets

"IMPERIAL" TRACING CLOTH K & E CO., N.Y.