FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.	F033-1 (1)	1958	1	142

[redacted]

INDEX OF SHEETS

SHEET NO. 1	TITLE PAGE			
2	TYPICAL SECTION OF IMPROVEMENT			
3	SUMMARY			
4	"			
5	"			
6	"			
6-7	BRIDGE SHEETS			
8-18	PLAN "			
19-135	CROSS SECTIONS			
136	STANDARD SHEET	NO. 1	REVISED	JUNE 12, 1951
137	" "	" 2	"	DEC. 22, 1954
138	" "	" 3	"	AUG. 1, 1957
139	" "	" 4	"	JUNE 24, 1955
140	" "	" 5	"	SEPT. 21, 1956
141	" "	" 6	"	DEC. 22, 1954
142	" "	" 9	"	AUG. 1, 1957

STATE OF NEW HAMPSHIRE

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PLANS OF PROPOSED
FEDERAL AID PRIMARY PROJECT
NO. F 033-1(1)

N. H. PROJECT NO. P-3343

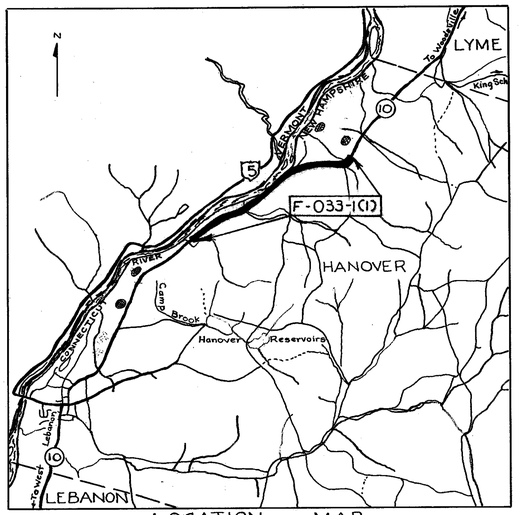
DARTMOUTH COLLEGE HIGHWAY

SCALES (PLAN 1" = 50'-0"
(PROFILE VERT. 1"=10'-0" HOR. 1" = 50'-0"
(CROSS SECTION VERT. 1" = 5'-0" HOR. 1" = 5'-0"

THIS PROJECT TO BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS DATED JULY 1, 1954 AND STANDARD SHEETS LISTED IN THE INDEX ON FILE WITH THE BUREAU OF PUBLIC ROADS AND SPECIAL PROVISIONS ATTACHED TO PROPOSAL.

DESIGN DATA

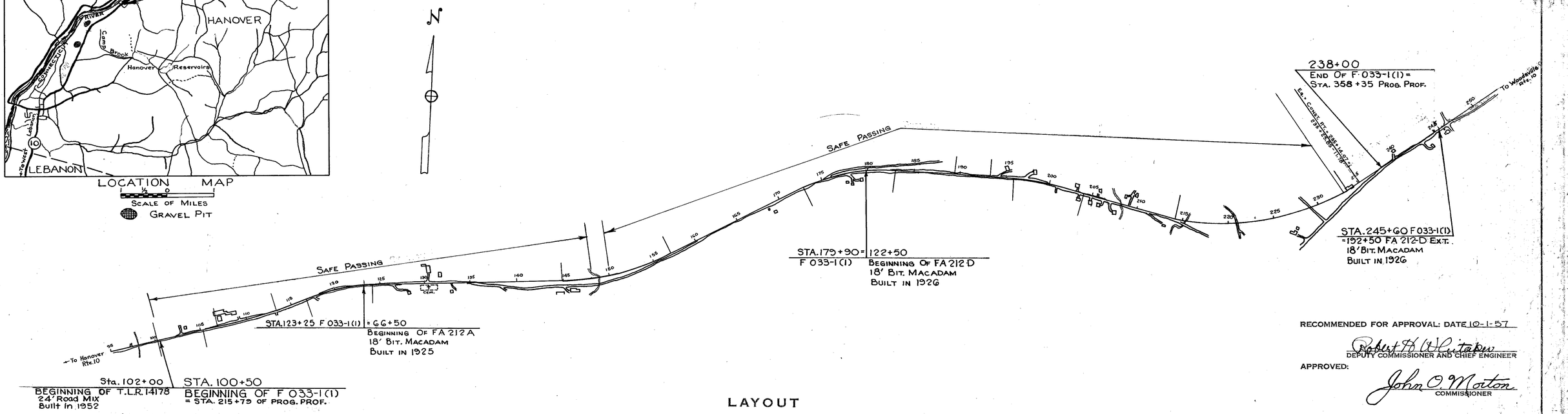
AVERAGE DAILY TRAFFIC	1956	1100
AVERAGE DAILY TRAFFIC	1976	1800
TRAFFIC CLASSIFICATION		M
DESIGN SPEED		50 M.P.H.
MAXIMUM CURVATURE		3.0 DEGREES
MAXIMUM GRADIENT		7.34 %
NON-PASSING SIGHT DISTANCE		405 FEET
LENGTH OF PROJECT		2.602 MILES



LOCATION MAP

SCALE OF MILES

GRAVEL PIT



LAYOUT

SCALE 1" = 500 FEET

TOWN OF HANOVER

COUNTY OF GRAFTON

RECOMMENDED FOR APPROVAL: DATE 10-1-57

Robert H. Whitaker
DEPUTY COMMISSIONER AND CHIEF ENGINEER

APPROVED:

John O. Morton
COMMISSIONER

SECONDARY ROADS ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

DISTRICT ENGINEER DATE

CONVENTIONAL SIGNS

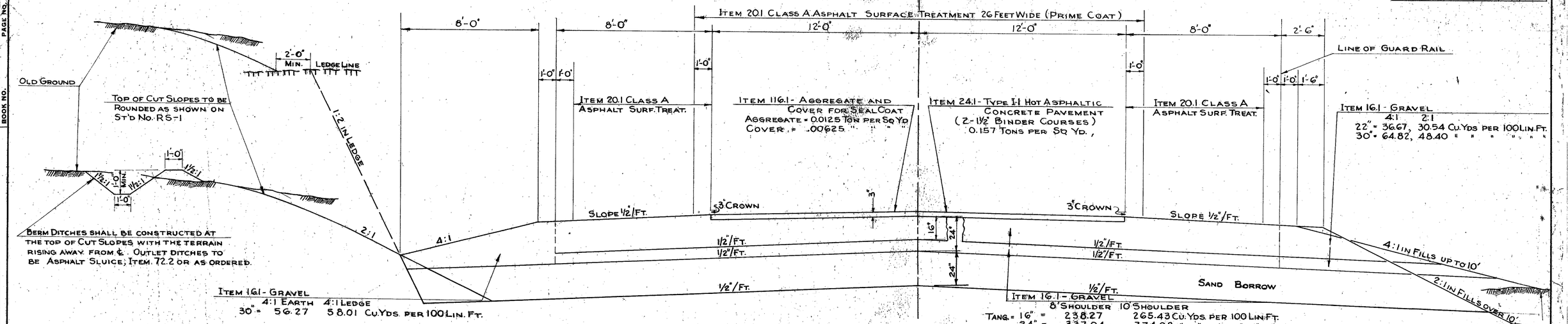
STATE LINE
TOWN LINE
FENCE
STONE WALL
UNFENCED PROPERTY
TRAVELED WAY
RAILROADS
RETAINING WALL
SEWER MANHOLE
HYDRANT
LEDGE
R O W LINE
SURVEY LINE
CULVERTS
POWER POLES
TELEPHONE POLES
GROUND ELEVATION
GRADE ELEVATION
SLOPE LINE (Cut, Fill)
CATCH BASIN
DROP INLET
BRUSH LINE

Concrete Bounds Set ⊡ R.M.

DRAWN BY ANDERSON DATE 4-29-57
CHECKED BY MacGowan DATE 8-22-57

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	1	142

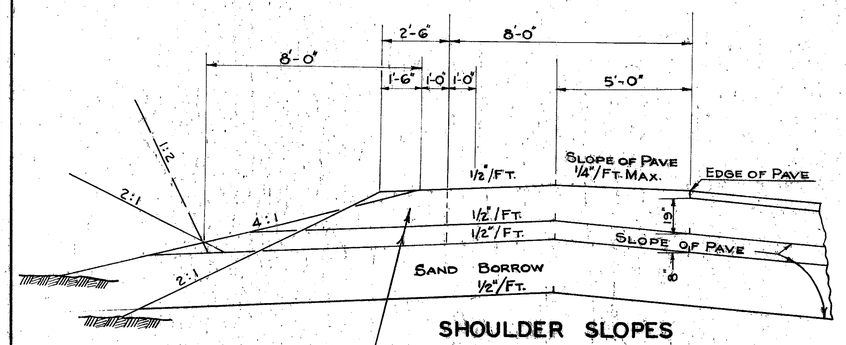
FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	2	142



TYPICAL SECTION OF IMPROVEMENT
TYPE I-1 HOT ASPHALTIC CONCRETE PAVEMENT
(WITH PEASTONE SEAL)

FOR LOCATION OF ALL DETAILS SEE SHEET

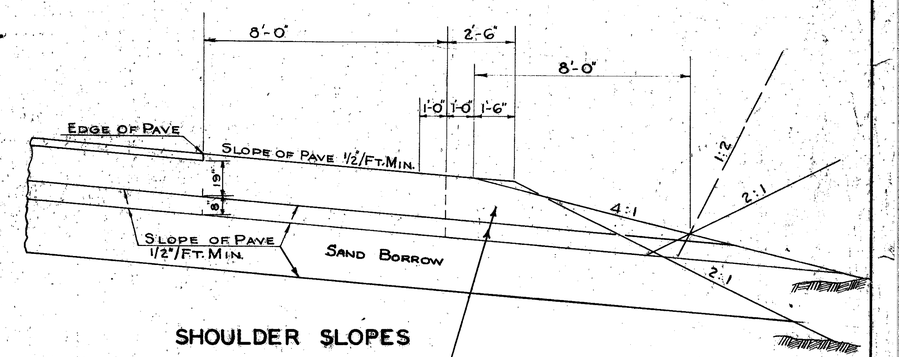
SCALE – 3/8" = 1'-0"



SHOULDER SLOPES
OUTSIDE BANKED CURVES

ITEM 16.1 GRAVEL

4:1 E. FILL	4:1 E. CUT	2:1	LEDGE	
31.57	—	27.13	—	CU. YDS. PER 100 LIN. FT.
57.95	52.17	44.19	52.61	" " " " " "



SHOULDER SLOPES
INSIDE BANKED CURVES

ITEM 16.1 GRAVEL

4:1 E. FILL	4:1 E. CUT	2:1	LEDGE	
37.91	—	30.81	—	CU. YDS. PER 100 LIN. FT.
67.13	59.90	48.87	58.88	" " " " " "

GENERAL NOTES

TOPSOIL, STUMPS, AND LARGE ROOTS, WHERE ENCOUNTERED FIVE FEET OR LESS FROM FINISHED GRADE, SHALL BE REMOVED.

ADJUSTMENT OF UTILITY COVERS, SHUTOFFS OR SIMILAR STRUCTURES TO THE NEW PAVEMENT GRADE AND THE MOVING OF UTILITY POLES WILL BE DONE BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, NOT A PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH THE OWNER IN EVERY WAY TO EXPEDITE SUCH ADJUSTMENTS.

ITEM 20.1, CLASS A ASPHALT SURFACE TREATMENT, 26 FEET WIDE, AS A PRIME COAT ON THE FOUNDATION COURSE, 1.25 GALLONS PER. SQ. YD. (361.11 GALLONS PER 100 LIN. FT.) OR AS ORDERED, TO BE APPLIED IN 3 APPLICATIONS OF 0.50, 0.25 AND 0.50 GAL. PER. SQ. YD. RESPECTIVELY, (THE THIRD APPLICATION WILL BE APPLIED AS ORDERED BY THE CONSTRUCTION ENGINEER.)

ITEM 20.1, CLASS A ASPHALT SURFACE TREATMENT, 7 FEET WIDE AS A SHOULDER TREATMENT, 1.00 GALLON PER. SQ. YD. (77.78 GALLONS PER 100 LIN. FT. - ONE SIDE) OR AS ORDERED, TO BE APPLIED AS DIRECTED BY THE CONSTRUCTION ENGINEER.

ITEM 20.2, CLASS A TAR SURFACE TREATMENT, 26 FEET WIDE, AS A PRIME COAT ON THE FOUNDATION COURSE, 0.50 GALLON PER. SQ. YD., TO BE APPLIED IN ONE APPLICATION PRIOR TO WINTER SUSPENSION WHEN ORDERED BY THE ENGINEER.

ITEM 116.2, ASPHALT CUT-BACK FOR SEAL COAT, SHALL BE APPLIED TO THE SURFACE AT THE RATE OF 0.30 GALLON PER. SQ. YD., OR AS ORDERED, TO BE APPLIED IN 2 APPLICATIONS OF 0.20 AND 0.10 GALLON PER. SQ. YD. RESPECTIVELY.

ITEM 116.5, THE ASPHALT CUT-BACK CONTAINING AN ANTI-STRIPPING AGENT SHALL BE APPLIED AT THE RATE OF 1.50 GALLONS PER TON OF AGGREGATE, OR AS ORDERED.

RECOMMENDED FOR APPROVAL: DATE Nov. 6, 1957
Malcolm T. Cross
DESIGN ENGINEER

APPROVED: DATE Nov. 7, 1957
R. W. Gibbs
DEPUTY COMMISSIONER AND CHIEF ENGINEER

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	2	142

STANDARD TYPICAL A

NOTE BOOKS (USE BOTTOM LINES)

BOOK NO.	PAGE NO.	BOOK NO.	PAGE NO.
" "	" "	" "	" "
" "	" "	" "	" "
" "	" "	" "	" "

REVISIONS AFTER PROPOSAL

DATE	STA.	TO STA.	DESCRIPTION
Aug. 6, 1957	–	–	Changed from Rd. Mix to Type I-1

		DATE
PLAN DRAWN BY	N. P. Whitte	4-16-57
" CHECKED "	KLUN	5-13-57
PROFILE TRACED BY		
" CHECKED "		
INKED BY	KLUN	5-14-57
CHECKED BY		

1500-4-55 N. B. P. CO. Micrograme Tracing Cloth 1180

SUMMARY OF QUANTITIES (ESTIMATED)

THIS INFORMATION IS FOR BIDDING PURPOSES ONLY
FOR ADDITIONAL QUANTITIES SEE SHEET NO. 4,5

*NOT AN ITEM TOTAL

REMOVING TREES

Item No.		2.1 Removing Small Trees Each	2.2 Removing Large Trees Each
113+10	R	1	1
114+03	R		1
116+45-116+73	R	3	
128+86	R	1	
129+19	R		1
130+54	R		1
131+44	R		1
134+00-134+76	L	2	3
134+31-134+89	R	1	2
160+63-160+78	R	2	
168+71	R		1
178+19-178+66	L	2	
178+39-178+87	R	4	
179+15-179+66	R	5	
180+13-180+46	R	4	
194+94	L		1
205+12-205+39	R	1	1
205+75-205+83	L	1	1
206+07-206+11	R	2	
206+66	L		1
208+36	R	1	
233+15	L	1	
234+20	L	1	
Total		32	15

EARTHWORK SUMMARY

	Unit
Earth Excavation in Sections	93,784
Muck Excavation (Not Item 54)	82
Topsoil Excavation	685
Drive and Road Approach Excav. (Earth)	2,866
Total Earth Excavation	97,417
Earth Excavation for Estimate, ITEM 5.1	98,000
Surplus Trench Excavation (Earth)	2,499
Earth Excavation for Earth Fill	99,834
Ledge Excavation in Sections (Solid)	21,018
Ledge Overbreakage (Estimated)	3,536
Total Ledge Excavation	24,554
Ledge Excavation for Estimate, ITEM 5.2	25,000
Solid Ledge Expanded 20%	25,222
Surplus Trench Excavation (Ledge)	1,926
Ledge for Fill	30,684
Sections Fill	156,523
Topsoil Replacement	685
Muck Replacement	82
Drive and Road Approach Fill	37,122
Total Fill	194,412
Ledge for Fill	30,684
Total Earth Fill	163,728
Expanded Earth Fill	204,660
Shrinkage Factor 20%	
15% Gravel	9,900
Total Expanded Earth Fill	214,560
Earth for Fill	99,834
Total Earth Borrow	114,726
Earth Borrow for Estimate, ITEM 11.1	116,000
Sand Borrow for Pay Quantity	41,473
Sand Borrow for Estimate, ITEM 11.2	42,000
Waste (Muck)	82

GUARD RAIL

Item No.		60.1 Cable Guard Rail GR-1A Lin. Ft.	60.2 Multi-Cable Guard Rail GR-2A Lin. Ft.	60.3 Wood Guard Rail GR-3A Lin. Ft.	61.1 Anchorages Each Reg.	61.1 Anchorages Each Multi	62 Post Markers Each
98+50-100+75	L	275			2		
119+25-126+75	L		750			4	
138+75-144+75	L		600			4	
147+25-152+75	L		550			4	
148+25-149+75	R		150			2	
155+75-161+75	L	600			4		
162+75-168+75	L		600			4	
172+75-188+50	L		1,575			6	
189+50-194+75	L		525			2	
195+75-197+60	L	185			2		
199+00-202+25	L		325			2	
202+75-208+75	L		600			4	
214+25-223+75	L		950			4	
219+25-224+25	R		500			4	
0+00-4+75 (Town Rd)	R	475			2		
0+00-7+50 (Town Rd)	L		750			4	
Sub-Totals		1,535	7,875		10	44	70
Estimated		65	125	100	6		
Totals		1,600	8,000	100	60		70

ITEM 75 RESETTING RAILING OR FENCING

Unit	Lin. Ft.
Location	
129+50± - 131+50 R	200

ITEM 77 UNIFORMED OFFICERS

Unit	Hour
Location	
Total	1,300

ITEM 78.1 PROJECT MARKERS

Unit	Each
Location	
238+00 R	1

ITEM 56.5 GRANITE CURB

Item	Straight Granite Curb "C" Lin. Ft.	Mark	Radius Lin. Ft.
Unit Location			
107+14-107+54	40	A	
107+54-107+65	17.3	B	11
107+45-107+65	25.1	C	16
107+19-107+49	30	D	
107+03-107+19	25.1	E	16
107+03-107+14	17.3	F	11
Sub-Total	154.8		
Estimated	5.2		
Total	160.0		

ITEM 85 CALCIUM CHLORIDE

Unit	Ton
Est.	60

ITEM 86 WATER

Unit	Unit
Est.	2700

ITEM No. 1 CLEARING & GRUBBING

Unit Location		Letter	Acres
118+00-126+51	R	A	0.45
119+00-124+47	L	B	0.18
132+19-133+54	R	C	0.08
147+46-149+16	L & R	D	0.39
161+68-168+29	R	E	0.22
163+35-175+98	L	F	0.97
170+63-176+40	R	G	0.26
177+77-183+05	L	H	0.43
178+95-185+00	L	I	0.35
180+95-201+00	R	J	0.97
188+45-194+33	L	K	0.47
198+99-201+20	L	L	0.17
201+35-201+87	R	M	0.01
203+98-205+50	L	N	0.16
205+99-208+18	L	O	0.25
208+30-212+00	R	P	0.21
209+30 Lt.-224+20 L & R		Q	3.70
211+70-213+90	R	R	0.08
228+75-228+90 L & R		S	0.04
229+10-231+25 L & R		T	0.63
236+65-238+10	R	U	0.17
Sub-Total			10.18
Estimated			.82
Total			11

SLOPE PROTECTION

Item No.	6.1 Earth Tren. Exc. Class A Cu. Yd.	69 Curb Board Lin. Ft.	72.2 Asphalt Sluice Sq. Yd.	81 Sod Sq. Yd.	84 Mulch Ton
Slopes	44	4,000	310	700	65
Berm Ditches	217		90		
Total	*	4,000	400	700	65

(* To Drainage Summary)

LANDSCAPING

Item No.	3 Removing Aban. Road Surface Sq. Yd.	80 Loam 4" Deep Sq. Yd.	82 Fertilizer Lb.	83 Grass Seed Lb.
Island		170	46	2
Aban. Road	4,470	4,845	1,308	54
Improved Slopes		3,823	1,032	43
Sub-Totals	4,470	8,838	2,386	99
Estimated	130	62	114	1
Totals	4,600	8,900	2,500	100

SURFACING MATERIALS *

Item No.		16.1 Gravel Cu. Yd.	16.3 Gravel Overhaul Cu. Yd. Mi. (½ Mi.)	20.1 Class A Asph. Surf. Treatment Gal.	20.2 Class A Tar Surf. Treatment Gal.	24.1 Type I-1 Hot Asph. Conc. Pave Ton	116.1 Aggregate & Cover for Seal Coat Ton	116.2 Asphalt Cut-Back for Seal Coat Gal.
Bridges						417		
Roadway & Shoulders		57,513		70,979	19,844	5,752	687	10,991
Drives & Appr's		2,190		4,549		145	17	272
Maint. Exist. Rd.				6,580				
Sub-Total		59,703		82,108	19,844	5,938.7	704	11,263
Estimated		6,297		1,892	1,156	61.3	96	737
Total		66,000	16,500	84,000	21,000	6,000	800	12,000

ITEM 78.2 RECONSTRUCTING PROJECT MARKERS

Unit	Each
Location	
100+50 R	1

ITEM 91.1 BOUNDS (FURNISHING & SETTING)

Unit	Each
Total	50

ITEM 79 MAINTENANCE OF TRAFFIC

Unit	Unit
Lump Sum	1

*ITEM 116.5 ASPHALT CUT BACK WITH ANTI-STRIPPING AGENT

Unit	Gals
Total	1200

STOP SIGNS (NOT A PART OF THIS PROJECT)

Unit Location	Each
143+50± Rt.	1
189+00 Lt.	1
232+85 Rt.	1
Total	3

ITEM 72.1 ASPHALT GUTTER

Unit Location	Sq. Yd.
178+37-180+65 R	77
180+73-184+48 R	125
184+52-187+91 R	113
187+95-191+48 R	118
191+52-194+48 R	99
194+52-197+48 R	99
197+52-200+90 R	113
1+75-5+46 R (On Town Rd)	124
Sub-Total	868
Estimated	32
Total	900

BRIDGE QUANTITIES

Item No.	6.1 Earth Trench Excav. R Cu. Yd. Cl. A	6.2 Earth Trench Excav. R Cu. Yd. Cl. B	8.3 Unclassified Structure Excavation Cu. Yd.	16.2 Gravel Backfill Cu. Yd.	24.1 Type I-1 Hot Asph. Conc. Pave Ton	38.4 Mortar Rubble Masonry Cu. Yd.	40.12 Structural Plate Pipe Unit	49.5 Rip Rap "E" Cu. Yd.
148+00	1500	280		158	16.5	7.00	1	22
220+85			475	325	25.2	25.00	1	14
Total	*	*	475	*	*	*	2	*

ITEM 2.3 REMOVING STUMPS

Unit Location	Each
143+65 R	1
178+80 R	1
Total	2

ITEM 14.2 SCARIFYING "B"

Unit Location	Sq. Yd.
100+50-238+00 (-11.78)	38,688

ITEM 41.2 REMOVING & RELAYING WATER PIPE

Unit Location	Lin. Ft.
112+00± - 113+24 L	160

REFLECTORIZED DELINEATORS (NOT A PART OF THIS PROJECT)

Unit	Est.
Each	470

ITEM 74 STOCK-WIRE FENCE

Unit	Lin. Ft.
Estimated	10,000

ITEM 74.1 STOCK-WIRE FENCE GATES

Unit	Each
Total	10

R.O.W. ITEMS

Item No.	32.1 Concrete (Class A) Cu. Yd. Std. No. CS-1	35 Reinforcing Steel Lb.	40.10 Bit. Coat. Corr. Metal Pipe Lin. Ft.
130+60 R	2.6	134	
133+87 L			280
Total	2.6	134	*

COMPILED BY Anderson
CHECKED BY MacGown & Phipps
INKED BY Anderson
CHECKED BY MacGown

DATE 8-10-51
DATE 8-22-51
DATE 9-23-52
DATE 9-24-52

8-19-51 1798M Vellum Boston Blue Print Company, Boston, Mass.

SUMMARY OF QUANTITIES (ESTIMATED)

THIS INFORMATION IS FOR BIDDING PURPOSES ONLY
FOR ADDITIONAL QUANTITIES SEE SHEET NO. 3, 5

* NOT AN ITEM TOTAL

DRAINAGE SUMMARY

Item No.		6.1 Earth Excavation Class A	6.2 Trench Excavation Class B	6.3 Ledge Trench Excav.	16.2 Gravel Backfill	38.4 Mortar Rubble Masonry	Header Standard Number	40.10 Bit. Coated Corr. Metal Pipe 24"	40.1-A Standard Reinforced Pipe 12"	40.1-B 15"	40.1-C 18"	40.1-D 24"	40.1-E Strength Concrete Pipe 42"	40.1-F Extra Strength Reinforced Conc. Pipe 36"	40.1-G 42"	42.5 Rip Rap "E"	53.5 Conc. Sewer Pipe Underdrain 12"	53.6 Rein. Conc. Sewer P. Underdrain 15"	53.7 Bit. Coated Perf. Corr. Met. Pipe Underdrain 6"	64.1 Catch Basins Type C Act.	Est.	64.3 Reconstruct Catch Basin	64.4 Drop Inlets Type C Act.	Est.	71 Pipe Sleeve 4"	Remarks
Unit		Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.		Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Cu. Yd.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Each		Each	Each		Lin. Ft.	
Location																										
98+00-99+50	R																					1				
99+52-102+20	R																									Retain 24" R.C.P.
102+20-102+48	R	22									28															" 268' x 18" R.C.P.
102+50				1					16											1	1/6					Remove 28' x 18" R.C.P. & Check C.B. Etc.
102+52-105+98	R								356																	Retain C.B. Lt. & 44' of Exist. 52' x 12" R.C.P.
102+57-102+89	L (29')								32																	
106+00									60											1	1		1	1		
106+02-109+48	R								356																	
109+50	R																			1	1					
113+24																									60	
115+50										96										1	1					
115+52-122+23	R			128														680								
116+33		13		1																						Remove Exist. 12" R.C.P.
122+25		4		25						72										1	1					Const. Asphalt Sluice Lt.
125+70		8	19	1						92										1	1					Remove 12" R.C.P., Const. Outlet Ditch
125+72-128+48	R									284																
128+50	R																			1	1					
128+52-131+98	R								356																	
132+00	R																						1	1		
133+87		5		2		2.41	P.C.-4	280				72														Remove 18" C.I.P. Const. 280' 18" C.M.P. to River
135+25-136+50	R	90																								
138+18		4				1.65	P.C.-4				92															Const. Ditch
138+25	R	14		3																						Remove Exist. 18" C.I.P.
140+80				2																						" " 12" C.M.P. Rt.
141+50-142+38	R	56																								Const. Ditch
142+40		11		2		2.41	P.C.-4					100														Remove Exist. 18" C.I.P. Rt.
142+80-143+52	R (42')								72																	
148+00		1500	280		158	7.00										22										See Bridge
149+15-150+50	R	89																								Const. Ditch
153+09		7		1		1.32	P.C.-4			84																Remove Exist. 12" C.I.P.
153+10-154+00	R	10																								Const. Ditch
157+31		5				1.32	P.C.-4			80																Remove Exist. 12" C.I.P.
158+00-160+55	R																	259								
160+57				26						76										1	1					Remove Exist. 12" C.I.P.
160+60-163+88	R			79														332								
162+25	R	2		1																						Remove Exist. 12" C.I.P.
163+90				34							100									1	1					" " 18" "
163+95-165+98	R			43														207								
166+00				23							100									1	1					
166+05		42		2																						Remove Exist. 18" C.I.P.
168+22		14				1.32	P.C.-4			88																" " 12" C.I.P. & Asph. Sluice Lt.
168+50-171+98	R																	352								
172+00		37								84										1	1					Const. Outlet Ditch
172+02-174+85	R			21														288								
174+90		2		22						72										1	1					Remove Exist. 12" C.I.P. Const. Asph. Sluice
174+92-178+30	R			94														342								
177+63		9		1																						Remove Exist. 12" C.M.P.
178+35				2							76									1	1					Remove Exist. 18" C.I.P. Const. Asph. Sluice Lt.
178+37-180+66	R																	232								
180+71		4		1							72									1	1					Remove 18" C.M.P. Lt. (Twin Rd.) & 18" C.M.P. Asph. Sluice Lt.
180+73-184+45	R			41														376								
183+51		7		1																						Remove Exist. 12" C.I.P.
184+50				33						72										1	1					
184+52-187+88	R			113														340								
187+93				45							72									1	1					Remove Conc. Box
187+95-191+45	R			50														354								
191+50		3		41						76										1	1					Const. Asphalt Sluice Lt.
191+52-194+45	R			99														298								
192+50		5		1																						Remove 12" C.M.P.
194+50				36							80									1	1					
194+52-197+45	R			99														298								
194+95		17		3																						Remove Exist. 12" C.I.P. & 12" C.M.P. (In Drive Lt.)
197+50		18		42						80										1	1					Const. Outlet Ditch
197+52-201+45	R			74														398								
200+00																										Remove 12" C.I.P. (Roadway Excav.)
201+50										72										1	1					Const. Asphalt Sluice Lt.
201+52-203+95	R																	248								
Sub-Totals Carried To Sheet # 5		1998	299	1193	158	17.43		280	1248	1328	620	172				22		5004			20%	1	2		60	

Proj. No.	Sheet No.	Total Sheets
F033-1(1)	4	142

Note Books — Book No. / Page No.

Revisions — Date / Station

Description

Compiled by Anderson — Date 8-15-57
Checked by MacGown — Date 8-22-57
Inked by Anderson — Date 9-23-57
Checked by MacGown — Date 9-25-57

After Proposal

1M 8-30-51 1791i Vellum Boston Blue Print Company, Boston, Mass.

SUMMARY OF QUANTITIES

THIS INFORMATION IS FOR BIDDING PURPOSES ONLY (ESTIMATED)
FOR ADDITIONAL QUANTITIES SEE SHEET NO. 3, 4

"NO" IN ITEM TOTAL

DRAINAGE SUMMARY

Item No. / Item / Unit / Location		6.1 Earth Excavation Class A Cu. Yd.	6.2 Trench Excavation Class B Cu. Yd.	6.3 Ledge Trench Excav. Cu. Yd.	16.2 Gravel Backfill Cu. Yd.	38.4 Mortar Rubble Masonry Cu. Yd.	Header Standard Number	40.10 Bit. Coated Corr. Metal Pipe 24" Lin. Ft.	40.1-A Standard Reinforced Pipe 12" Lin. Ft.	40.1-B Standard Reinforced Pipe 15" Lin. Ft.	40.1-C Standard Reinforced Pipe 18" Lin. Ft.	40.1-D Strength Concrete Pipe 24" Lin. Ft.	40.1-E Strength Concrete Pipe 42" Lin. Ft.	40.1-F Extra Strength Reinforced Conc. Pipe 36" Lin. Ft.	40.1-G Strength Reinforced Conc. Pipe 42" Lin. Ft.	42.5 Rip Rap 12" Cu. Yd.	53.5 Conc. Sewer Pipe Underdrain 12" Lin. Ft.	53.6 Rein. Conc. Sewer P. Underdrain 15" Lin. Ft.	53.7 Bit. Coated Perf. Corr. Met. Pipe Und. 6" Lin. Ft.	64.1 Catch Basins Type C Each Act.	64.1 Catch Basins Type C Each Est.	64.3 Reconstruct. Catch Basin Each	64.4 Drop Inlets Type C Each Act.	64.4 Drop Inlets Type C Each Est.	71 Pipe Sleeve 4" Lin. Ft.	Remarks
204+00				8						76										1	1					Remove Exist. 12" C.I.P. (Roadway Excav.)
204+88 - 205+12	R (29')								24																	
207+00	R																									Remove Exist. 12" C.M.P. (Roadway Excav.)
207+50 Lt. 60' - 208+50 Rt. 31'		75	57			12.53	P.C.-8								140											Remove 3'x3' Conc. Box, Const. Ditches
208+25 - 214+75	L					0.30	U.L.-4																			Const. U.L.-4 Hdr. @ 208+25 Lt.
208+56 - 211+98	R																352		654							
212+00	R																			1	1					
212+02 - 214+50	R																									
215+28		18	13	11		3.13	P.C.-8							104					252							
220+85					325	25.00										14										Remove 2'x2.5' Conc. Box, Angle of Skew = 20° See Bridge
224+00 - 227+48	L	11		270		0.54	U.L.-4											356								Const. U.L.-4 Hdr. @ 224+00
224+30 - 227+45	R			106		0.30	U.L.-4												319							Const. U.L.-4 Hdr. @ 224+30
227+50				98					60											2	2					
227+52 - 229+50	R																		203							
227+52 - 230+74	L			240													332									
230+76									64											2	2					
230+78 - 236+98	L																		628							
230+78 - 236+98	R																		628							
237+00									60											2	2					
237+02 - 240+70	L																376									
5+46 Lt. (On Town Rd. Appr.)	L	19				1.65	P.C.-4				60															Const. Asphalt Sluice, Wreck 12" C.M.P.
Sub-Totals		113	70	733	325	49.45			208	76	60			104	140	14	1060	356	2684		8					
Sub-Totals From Sheet #4		1998	299	1193	158	17.43		280	1248	1328	620	172				22			5004		20⅔	1		2	60	
" " " " #5		113	70	733	325	49.45			208	76	60			104	140	14	1060	356	2684		8					
Slope Protection		261																								
Sub-Totals		2372	369	1926	483	66.88		280	1456	1404	680	172		104	140	36	1060	356	7688		28⅔	1		2	60	
Estimated		128	31	74	17	12		10	40	128	68	12		12	12		40	44	112		1⅓			1		
Totals		2500	400	2000	500	67		290	1496	1532	748	184		116	152	36	1100	400	7800		30	1		3	60	

Book No. Page No.

Compiled by Anderson Date 8-15-57
Checked by MacGown Date 8-22-57
Inked by Anderson Date 9-23-57
Checked by MacGown Date 9-25-57

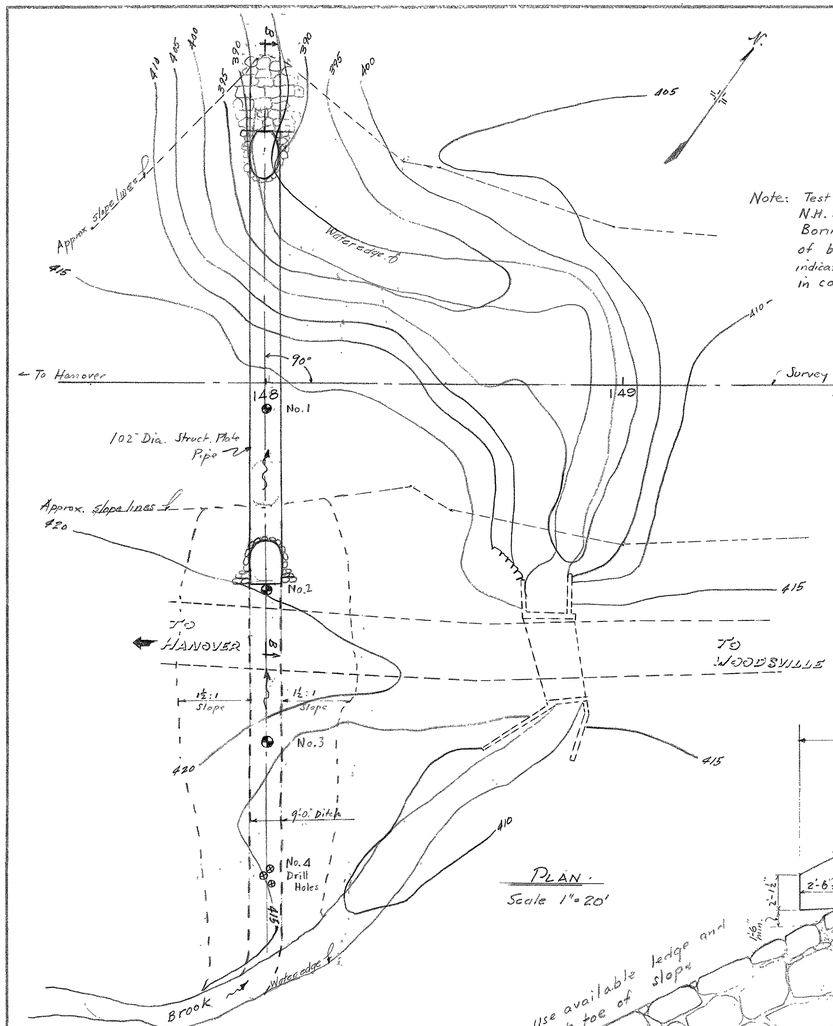
IM 5-30-51 173H Velvum Boston Blue Print Company, Boston, Mass.

FED. ROAD DIV. NO.	STATE	FAP PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	6	142

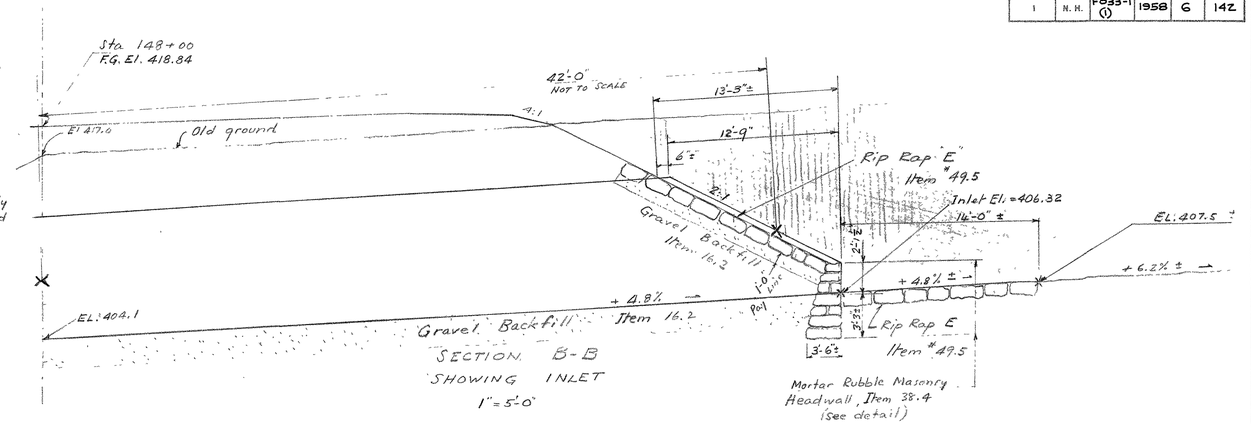
BORING DATA

No.1 BORING	SAND to 32.0'
No.2 "	SAND to 30.0'
No.3 "	SAND & BOULDERS to 6.0' fine to Coarse SAND to 30.0'
No.4 { 3 Drill Holes }	SAND & BLDRS. to 6.0' BLDRS. to 9.0' Total Refusal @ 9.0'

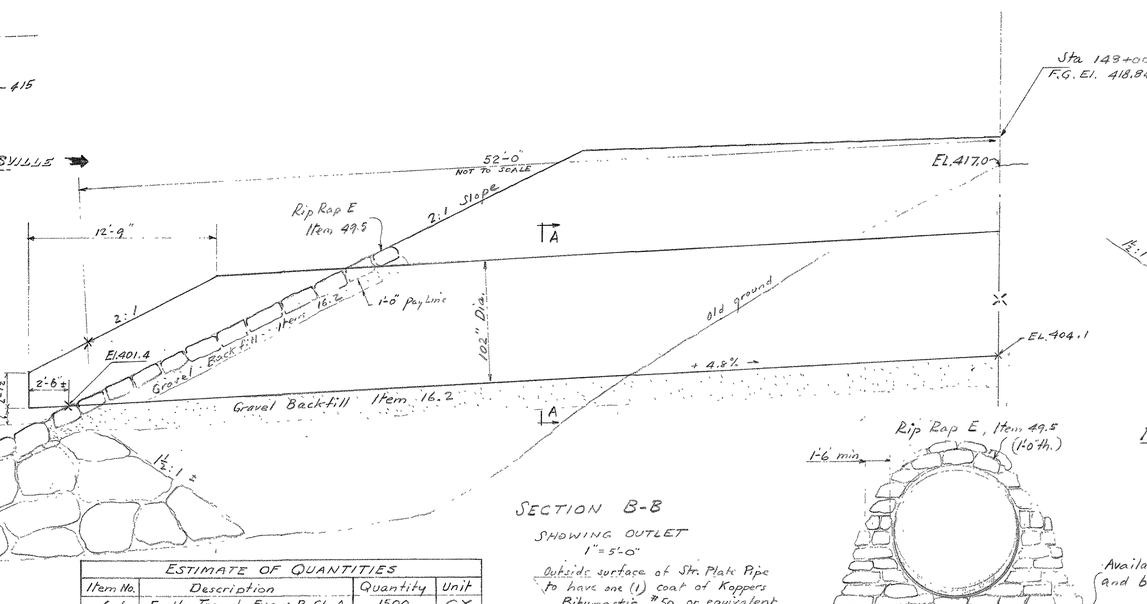
Note: Test Borings and pits were taken by N.H. Dept. P.W. & Hwys. - June 1957. Borings are for design and show conditions of boring points only and do not necessarily indicate nature of materials to be encountered in construction.

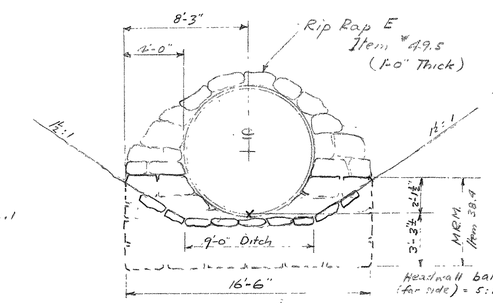


PLAN
Scale 1"=20'

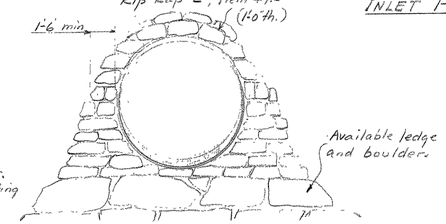


SECTION B-B
SHOWING INLET
1"=5'-0"





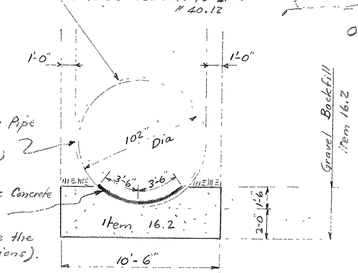
INLET PROTECTION - M.R.M HEADWALL
Scale 1"=5'-0"



OUTLET PROTECTION
Scale 1"=5'-0"

SECTION B-B
SHOWING OUTLET
1"=5'-0"

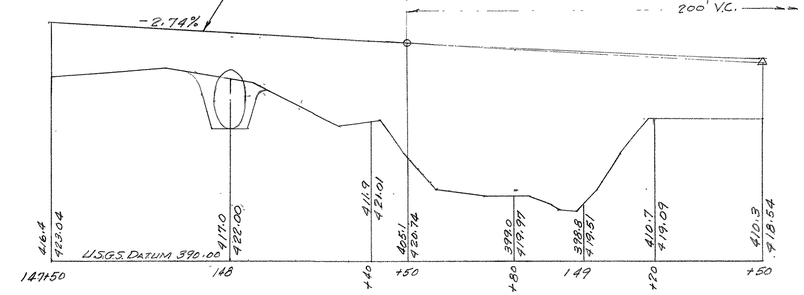
Outside surface of Str. Plate Pipe to have one (1) coat of Koppers Bitumastic #50 or equivalent. Cost of this protective coating is to be subsid. to Item #40.12



SECTION A-A

ESTIMATE OF QUANTITIES			
Item No.	Description	Quantity	Unit
6.1	Earth Trench Excav. R. Cl. A	1500	C.Y.
6.2	Earth Trench Excav. R. Cl. B	280	C.Y.
16.2	Gravel Backfill	158	C.Y.
24.1	Type I-1 Hot Asph. Conc. Pavement	16.5	Ton
38.4	Mortar Rubble Masonry	7	C.Y.
40.12	Struct. Plate Pipe	1	Unit
49.5	Rip Rap E	22	C.Y.

GRADE LINE ℄ FINISHED ROADWAY



PROFILE
Vert. Scale 1"=10'
Horiz. Scale 1"=20'

Mover should be Item 6.1 Class A, approx. construction. A.M.W. 10-29-58

GENERAL NOTES
Design Load H20-S16-44
Specifications; A.A.S.H.O. 1953
N.H. D.P.W. & H. 1954
See Road Plans for BM's & Ties

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DIVISION

TOWN Hanover BRIDGE NO. C 072/127
FEDERAL PROJECT F 033-1 (1) STATE PROJECT P.3343
ROUTE NO. 10 OVER (No Name) Brook
LOCATION 2.33 Mi. Southerly Hanover-Lyme T.L.

PLAN, PROFILE & DETAILS

	BY	DATE		BY	DATE
DESIGNED	J.S.B.	7-57	CHECKED	E.A.H.	2/10/58
DRAWN	J.S.B.	7-57	CHECKED	E.A.H.	9-57
TRACED			CHECKED		
QUANTITIES	J.S.B.	7-57	CHECKED	E.A.H.	9-57

BRIDGE SHEET NO. 1 OF 1
FILE NUMBER 3-5-4-12

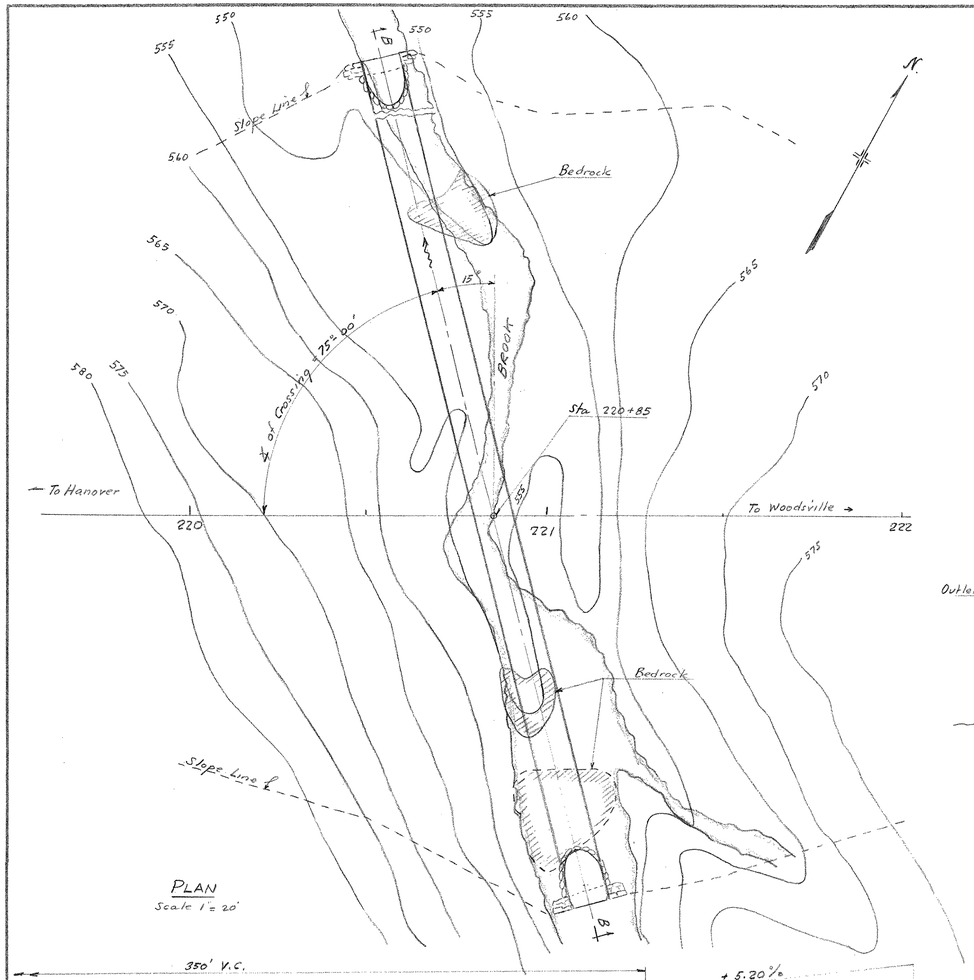
PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	6	142

△	DESCRIPTION	BY	DATE

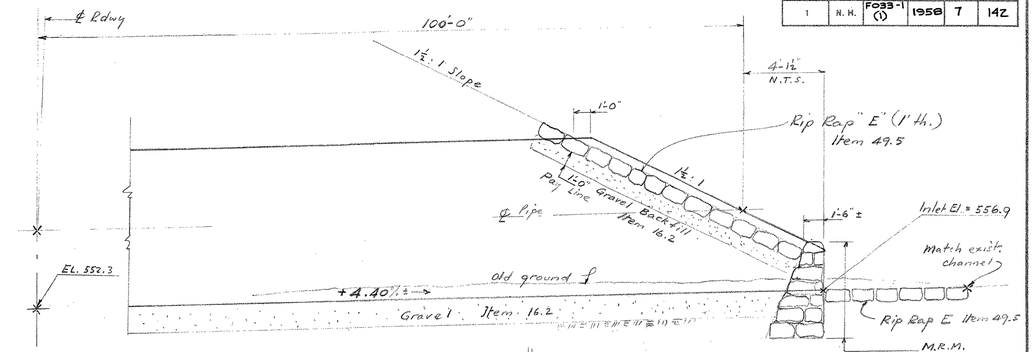
REVISIONS

PRINTED BY STAGG-HO-NO-S CO. SOUTH HAS 10-09251 NO 1 9348

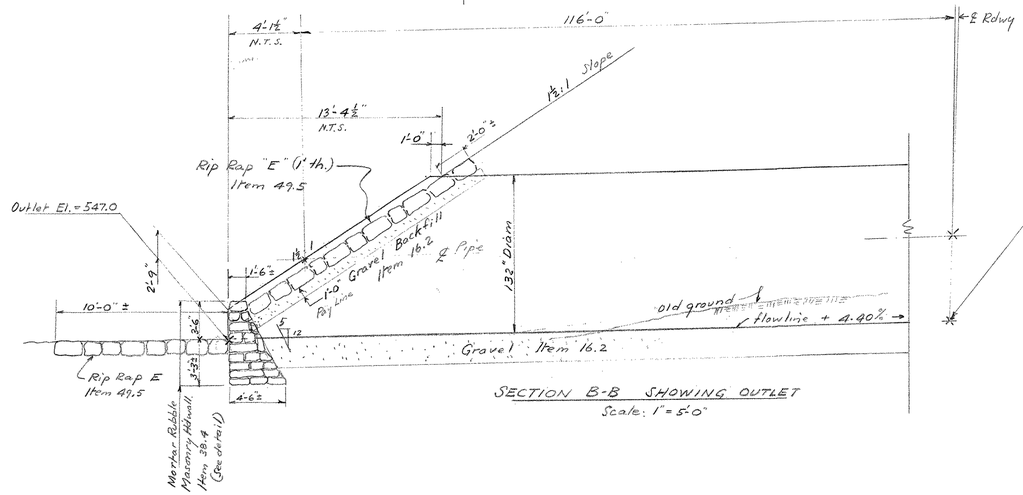
FED. ROAD DIV. NO.	STATE	FAP PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	7	142



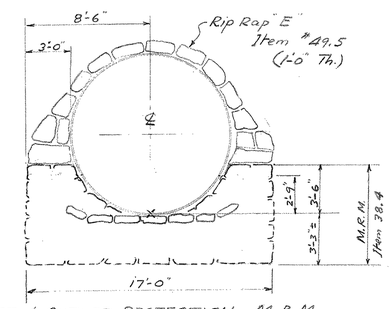
PLAN
Scale 1" = 20'



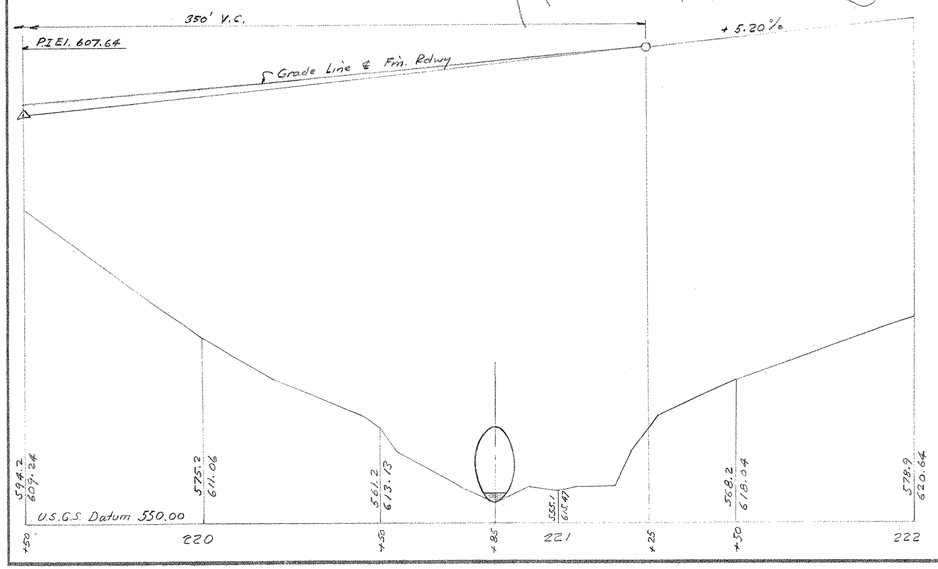
SECTION B-B
SHOWING INLET
Scale: 1" = 5'-0"
See Outlet part of Section B-B for details not shown.



SECTION B-B SHOWING OUTLET
Scale: 1" = 5'-0"



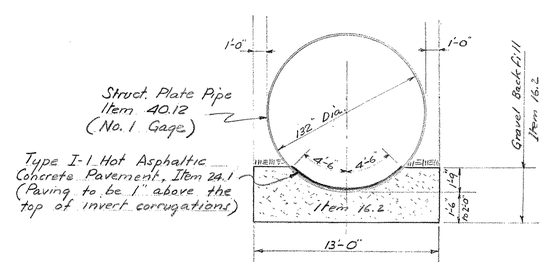
INLET & OUTLET PROTECTION M.R.M.
HEADWALL
Scale: 1" = 5'-0"
Hdwall batter (far side) 5:12



PROFILE
Horiz. Scale: 1" = 20'
Vert. Scale: 1" = 10'

ESTIMATE OF QUANTITIES

Item No.	Description	Quantity	Unit
8.3	Unclass. Structure Excavation	475	C.Y.
16.2	Gravel Backfill	325	C.Y.
24.1	Type I-1 Hot Asph. Conc. Pavem't.	25.2	Ton
38.4	Mortar Rubble Masonry	25	C.Y.
40.12	Struct. Plate Pipe	1	Unit
49.5	Rip Rap E	14	C.Y.



GENERAL NOTES
Design Load H20-S16-44
Specifications A.A.S.H.O. 1953
N.H.D.P. Wks. & Hwys 1954
See Road Plans for BM's & Ties

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DIVISION

TOWN HANOVER STA. 220+85 BRIDGE NO. 088/147
FEDERAL PROJECT F 033-1 (1) STATE PROJECT P 3343
ROUTE NO. N.H. 10 OVER (No Name) Brook
LOCATION 1.73 Mi. Southerly Hanover - Lyme T.L.

PLAN, PROFILE & SECTIONS

	BY	DATE		BY	DATE	BRIDGE SHEET NO.
DESIGNED	J.S.B.	8/57	CHECKED	E.A.H.	9/24/57	1 OF 1
DRAWN	J.S.B.	8/57	CHECKED			
TRACED	-	-	CHECKED	-	-	FILE NUMBER
QUANTITIES	J.S.B.	8/57	CHECKED			3-5-4-11

△	DESCRIPTION	BY	DATE

REVISIONS

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	7	142

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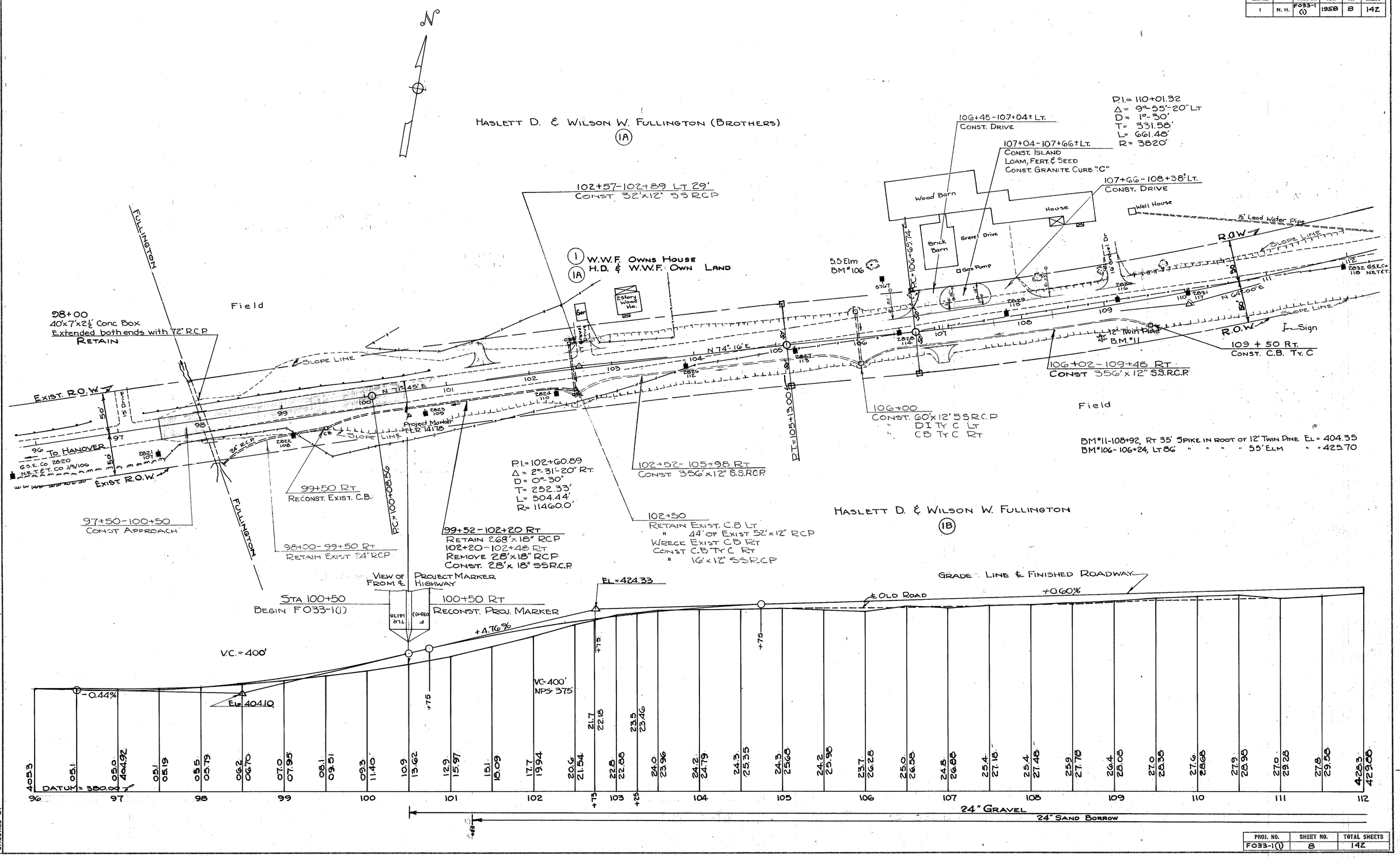
HANOVER P 3343

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	8	142



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	8	142

NOTE BOOKS (USE BOTTOM LINES FIRST)

BOOK NO.	PAGE NO.
" "	" "
" "	" "
" "	" "
" "	" "
BOOK NO. 4936	PAGE NO. 20

REVISIONS AFTER PROPOSAL

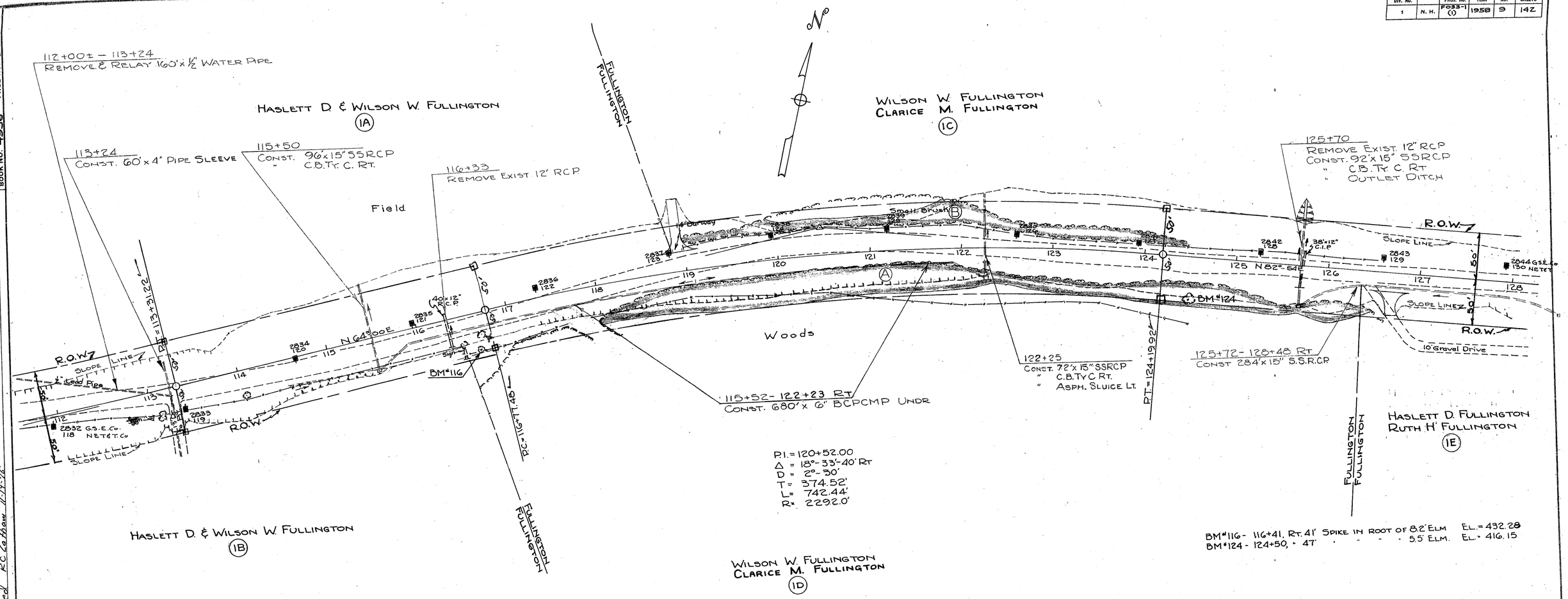
DATE	STA.	TO STA.	DESCRIPTION
			ROW Verified RC Latham 11-19-75

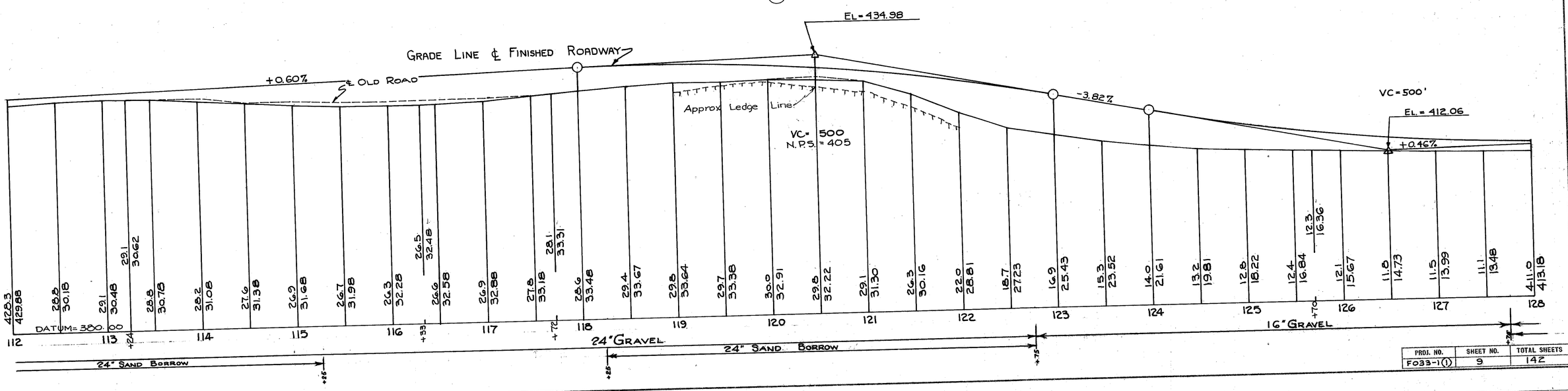
PLAN TRACED BY	K.R. MacGown	DATE 4-25-57
" CHECKED "	T.J. ANDERSON	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-23-57
" CHECKED "	N.P. White	5-23-57
INKED BY	K.R. MacGown	9-16-57
CHECKED BY		

A-8-53 B.L. M. INC. "ARKWRIGHT" TRACING CLOTH 4263

HANOVER P 331

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	9	142





PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	9	142

BOOK NO. 4936 PAGE NO. 22

(USE BOTTOM LINES FIRST)

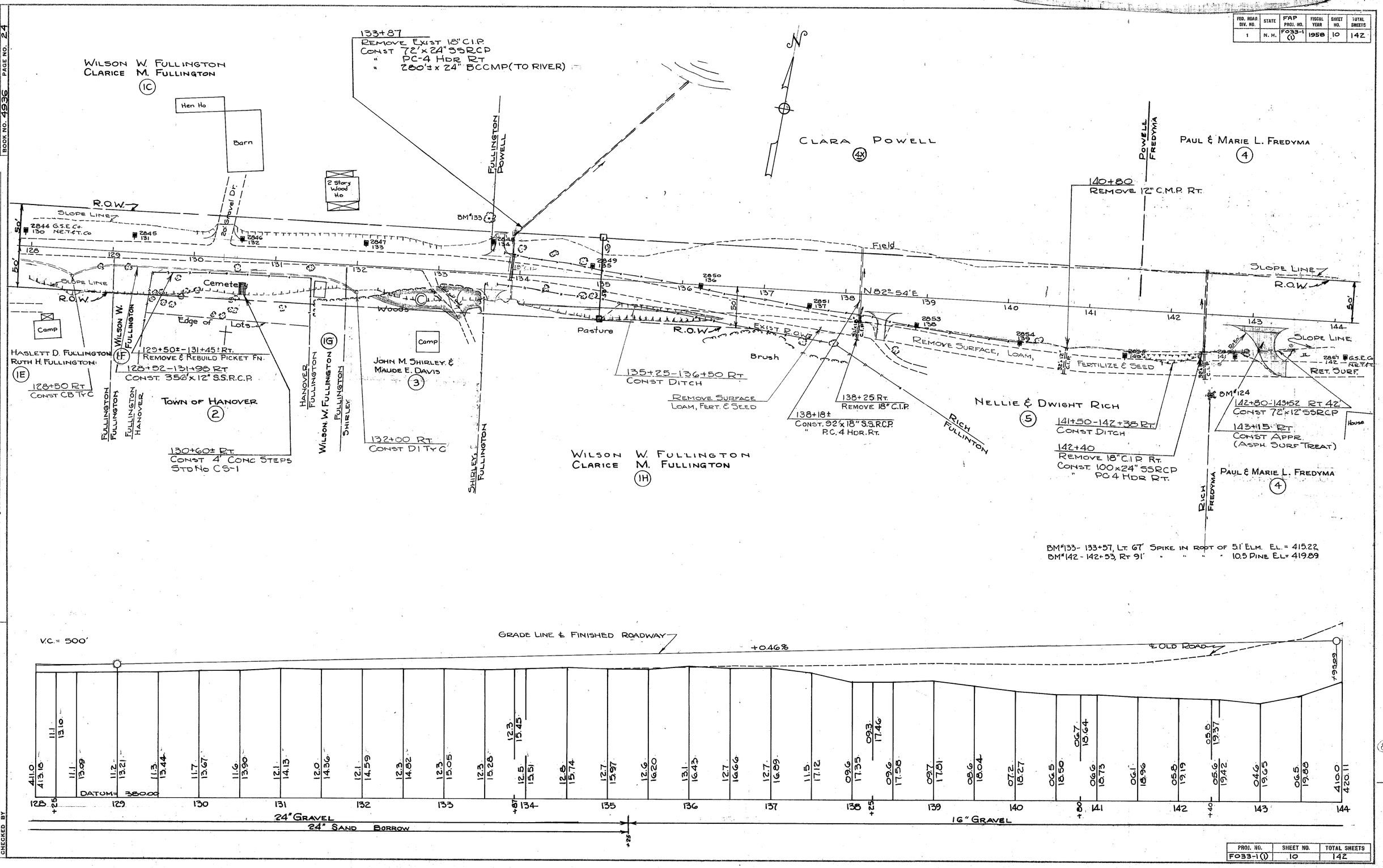
REVISIONS AFTER PROPOSAL

DATE	STA. TO STA.	DESCRIPTION
		ROW Verified R.C. Latham 11-5-56

		DATE
PLAN TRACED BY	K.R. MacGown	5-1-57
" CHECKED "	T.J. ANDERSON	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-24-57
" CHECKED "	N.P. White	" 5-23-57
INKED BY		
CHECKED BY		

1500 8-53 B. L. B. INC. "TRANSWRITE" TRACING CLOTH 4363

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	10	142



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	10	142

NOTE BOOKS (USE BOTTOM LINES FIRST)

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" "	" "
" "	" "
" "	" "
BOOK NO. 4936	PAGE NO. 24

REVISIONS AFTER PROPOSAL

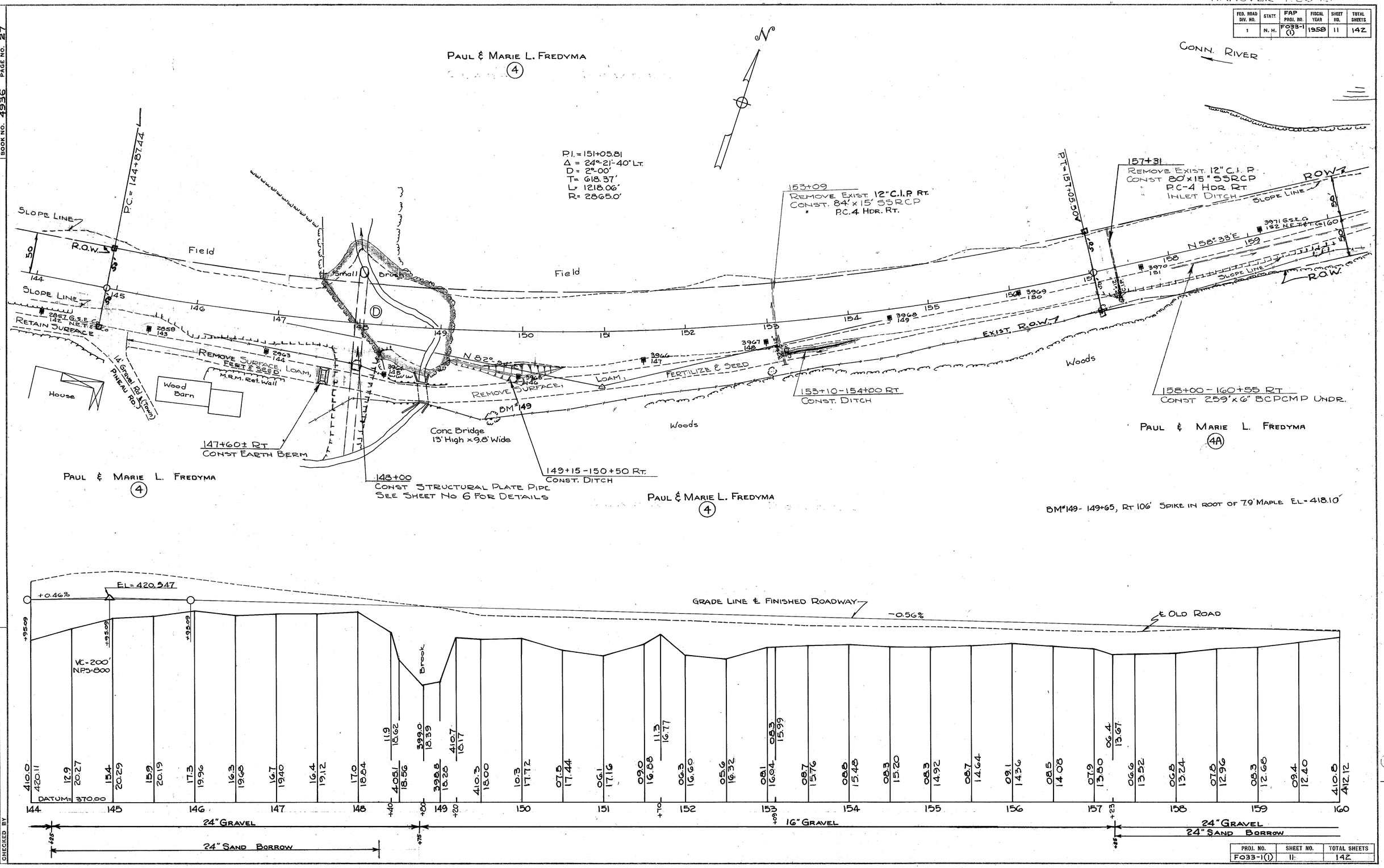
DATE	STA.	TO	STA.	DESCRIPTION
				ROW Verified RC Latham 11-19-75

PLAN TRACED BY	K.R. MacGown	DATE 4-25-57
" CHECKED "	T.J. ANDERSON	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-24-57
" CHECKED "	N.P. White	" 5-23-57
INKED BY	K.R. MacGown	" 9-17-57
CHECKED BY		

8-53 B. L. M. INC. "ARCHWRIGHT" TRACING CLOTH 4263

HANOVER P3343

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	11	142



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	11	142

NOTE BOOKS (USE BOTTOM LINES FIRST)

BOOK NO.	PAGE NO.
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"	"
"	"
BOOK NO. 4936	PAGE NO. 27

REVISIONS AFTER PROPOSAL

DATE	STA.	TO STA.	DESCRIPTION
			Row verified RC Latham 11-19-75

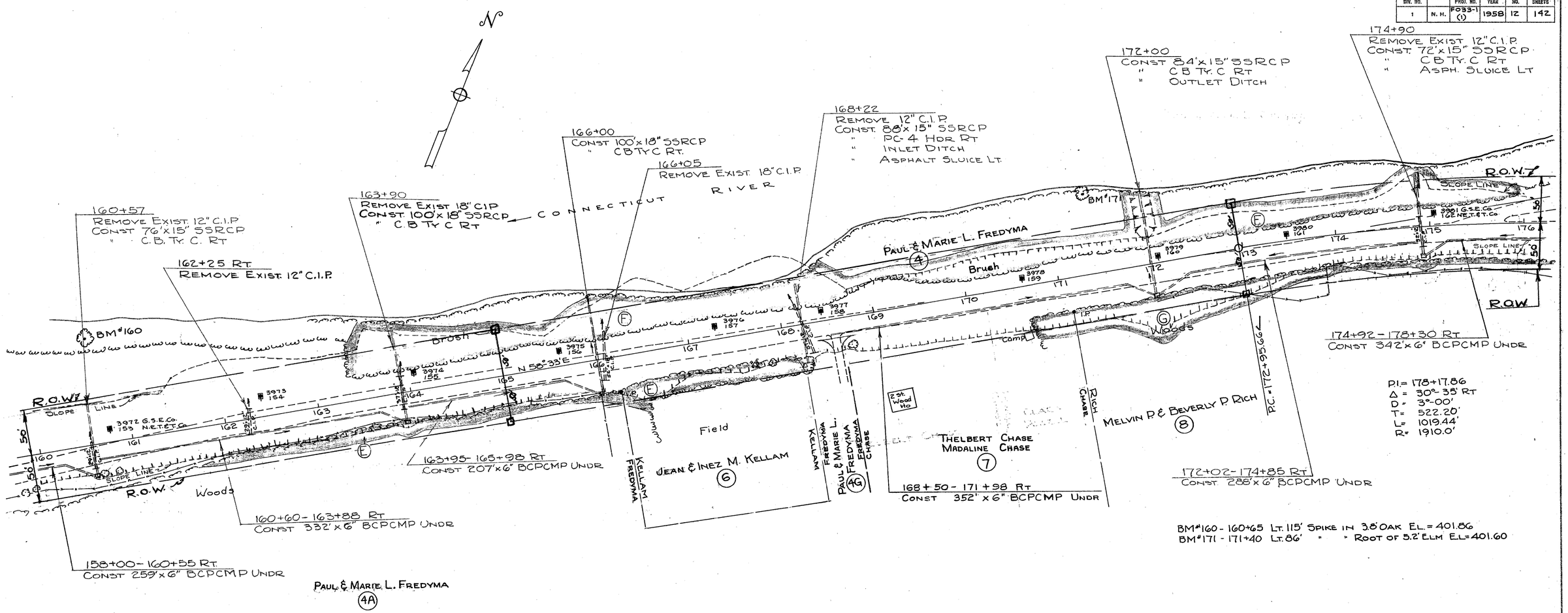
PLAN TRACED BY	K.R. MacGown	DATE 4-25-57
" CHECKED "	T.J. ANDERSON	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-24-57
" CHECKED "	N.P. White	" 8-23-57
INKED BY	K.R. MacGown	9-18-57
CHECKED BY		

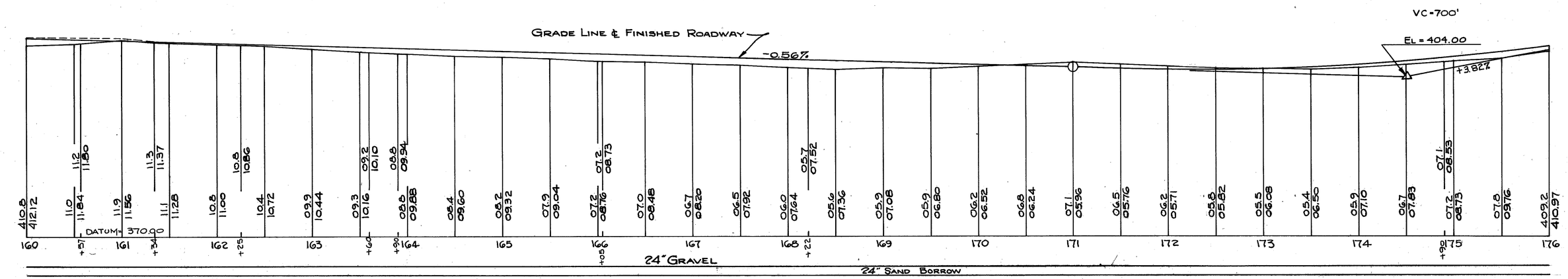
9

0-8-53 B. L. M. INC. "ARKWRIGHT" TRACING CLOTH 4263

HANOVER P 3343

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	12	142





PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	12	142

NOTE BOOKS (USE BOTTOM LINES FIRST)

BOOK NO.	PAGE NO.
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" "	" "
" "	" "
" "	" "
BOOK NO. 4936	PAGE NO. 29

REVISIONS AFTER PROPOSAL

DATE	STA.	TO	STA.	DESCRIPTION
				Row verified re Latham 11-19-75

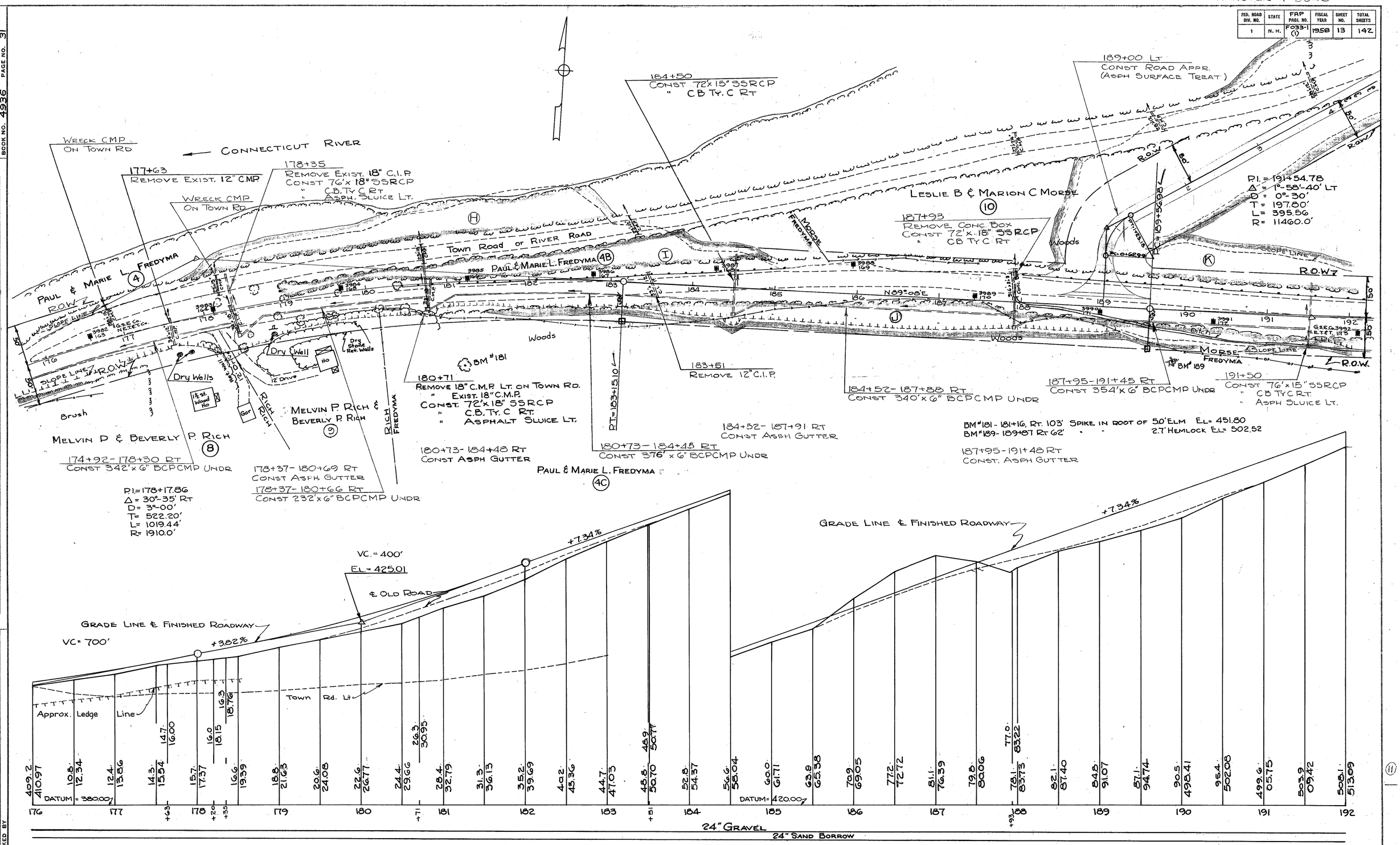
PLAN TRACED BY	K.R. MacGown	DATE 4-26-57
" CHECKED "	T.J. Anderson	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-24-57
" CHECKED "	N.P. White	" 5-23-57
INKED BY		
CHECKED BY		

(10)

8-53 B. L. M. INC. "ARMORIGHT" TRACING CLOTH 4263

HANOVER P3343

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	13	142



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	13	142

NOTE BOOKS (USE BOTTOM LINES FIRST)

BOOK NO.	PAGE NO.
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" "	" "
" "	" "
" "	" "
BOOK NO. 4936	PAGE NO. 31

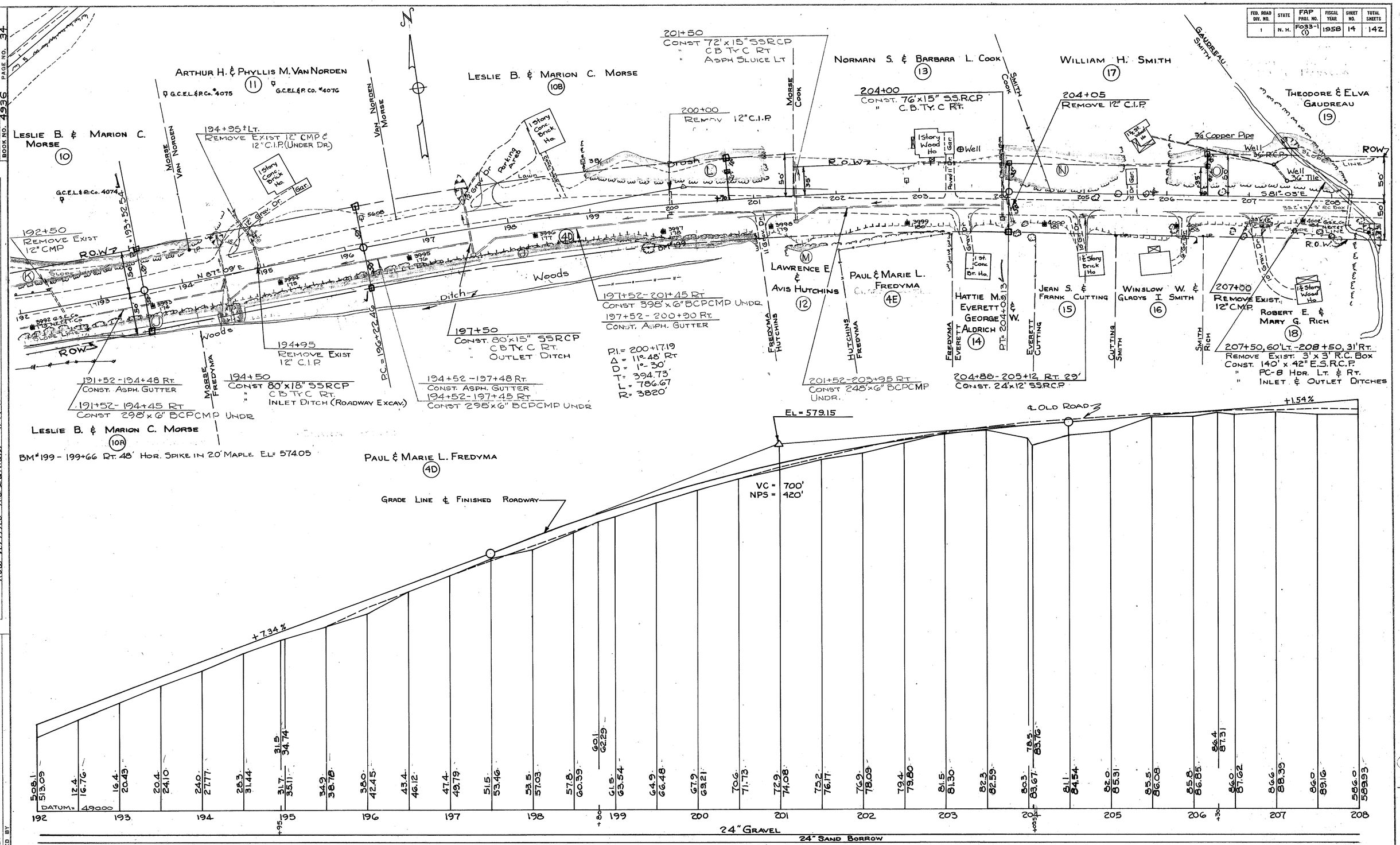
REVISIONS AFTER PROPOSAL

DATE	STA.	TO	STA.	DESCRIPTION
				ROW Verified RC Latham 11-19-25

PLAN TRACED BY	K.R. MacGown	DATE 4-26-57
" CHECKED "	T.J. ANDERSON	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-24-57
" CHECKED "	N.P. White	" 5-23-57
INKED BY	K.R. MacGown	9-18-57
CHECKED BY		

HANOVER P3343

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	14	142



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	14	142

NOTE BOOKS (USE BOTTOM LINES FIRST)

BOOK NO.	PAGE NO.
" "	" "
" "	" "
" "	" "
" "	" "
BOOK NO. 4936	PAGE NO. 34

REVISIONS AFTER PROPOSAL

DATE	STA. TO STA.	DESCRIPTION
		ROW Verified R.C. Latham 11-19-75

PLAN TRACED BY	K. MacGown	DATE 4-29-57
" CHECKED "	T.J. Anderson	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-24-57
" CHECKED "	N.P. White	" 5-23-57
INKED BY		
CHECKED BY		

HANOVER P 3343

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.	F033-1 (1)	1958	15	142

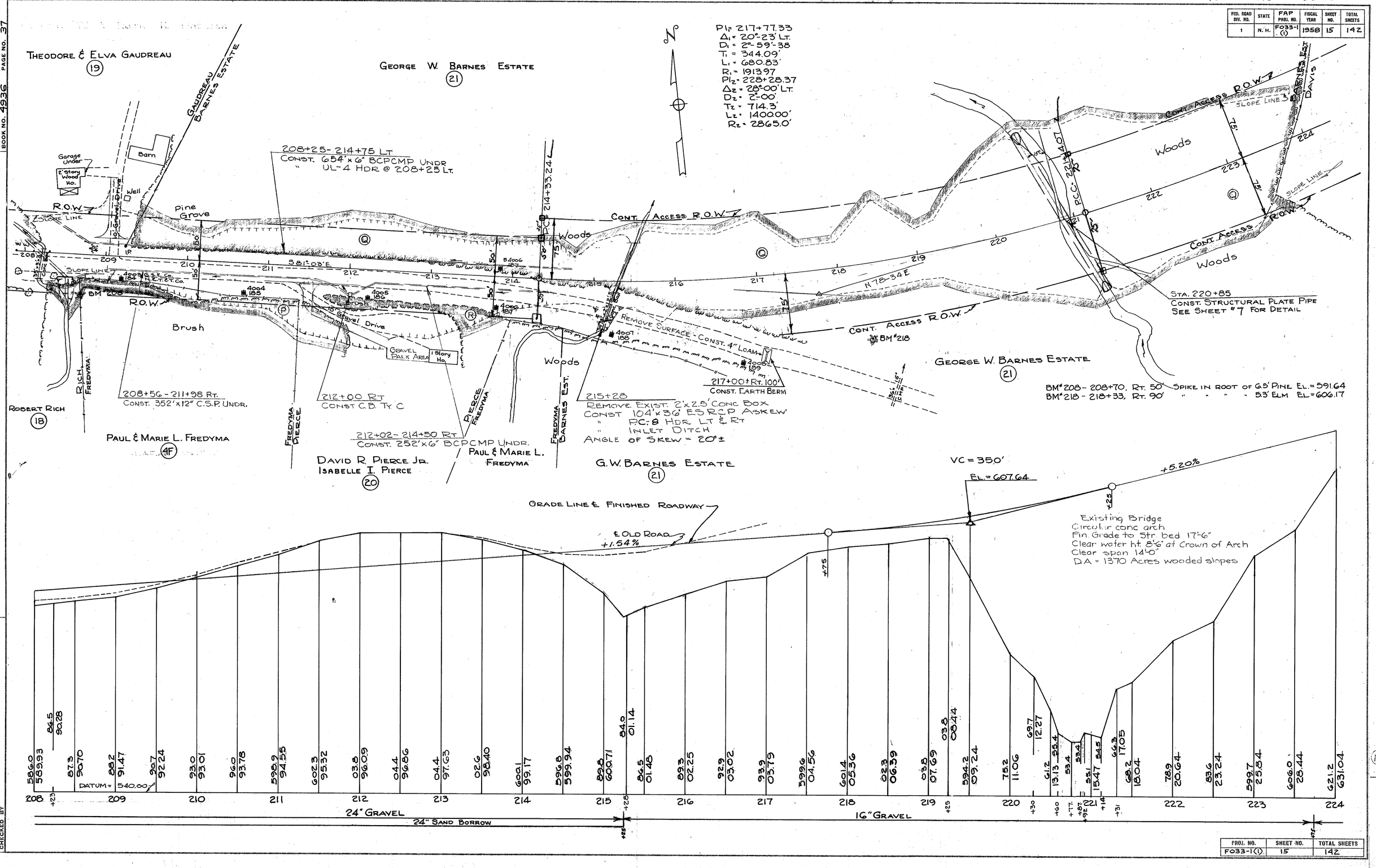
NOTE BOOKS (USE BOTTOM LINES FIRST)

BOOK NO.	PAGE NO.
" "	" "
" "	" "
" "	" "
" "	" "
BOOK NO. 4936	PAGE NO. 37

REVISIONS AFTER PROPOSAL

DATE	STA. TO STA.	DESCRIPTION
		ROW Verified RC Lathom 11-19-58

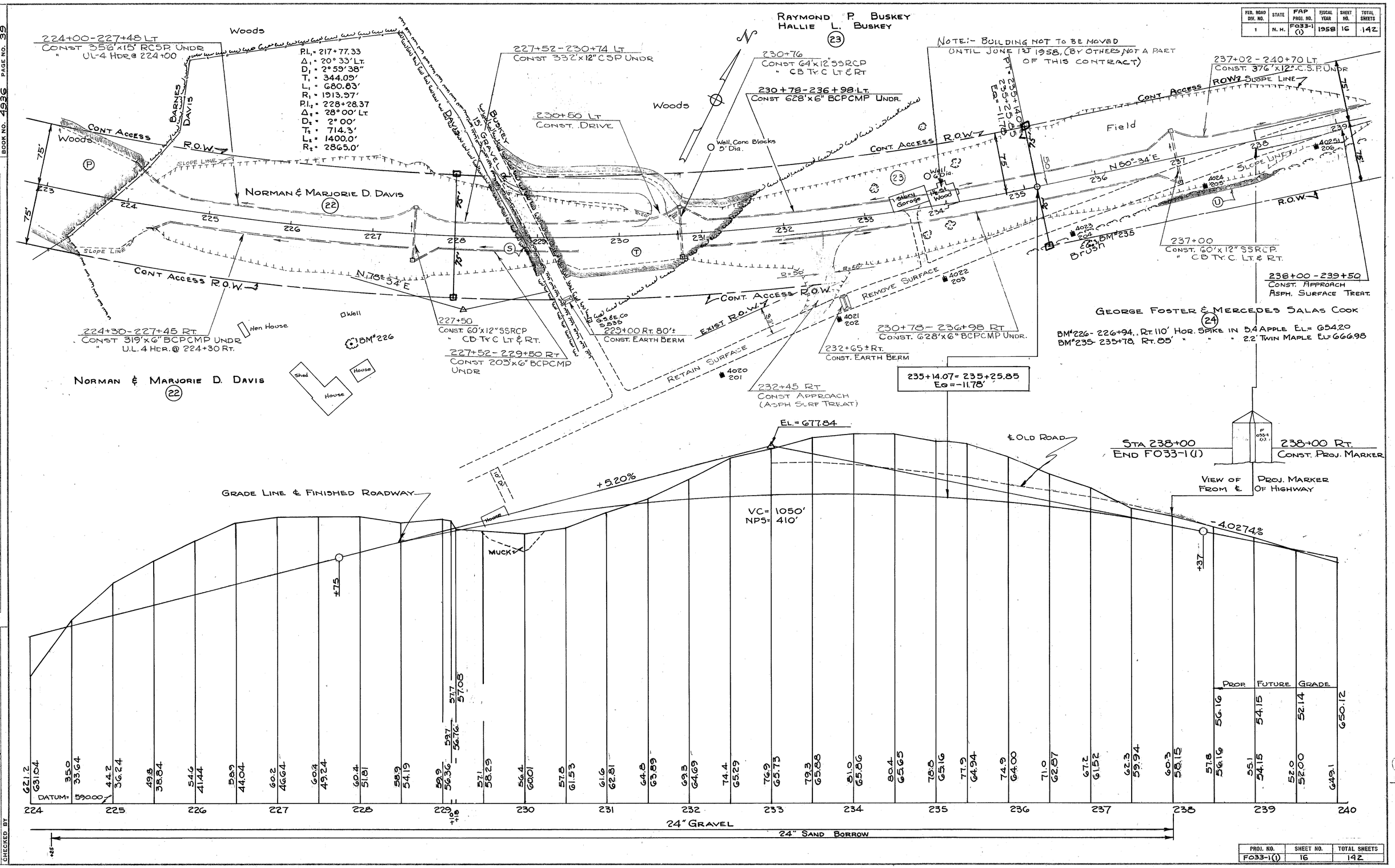
PLAN TRACED BY	K.R. MacGown	DATE 5-2-57
" CHECKED "	T.J. ANDERSON	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-24-57
" CHECKED "	T.J. ANDERSON	6-17-57
INKED BY		
CHECKED BY		



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	15	142

(13)

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	16	142



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	16	142

NOTE BOOKS (USE BOTTOM LINES FIRST)

BOOK NO.	PAGE NO.
"	"
"	"
"	"
"	"
BOOK NO. 4936	PAGE NO. 39

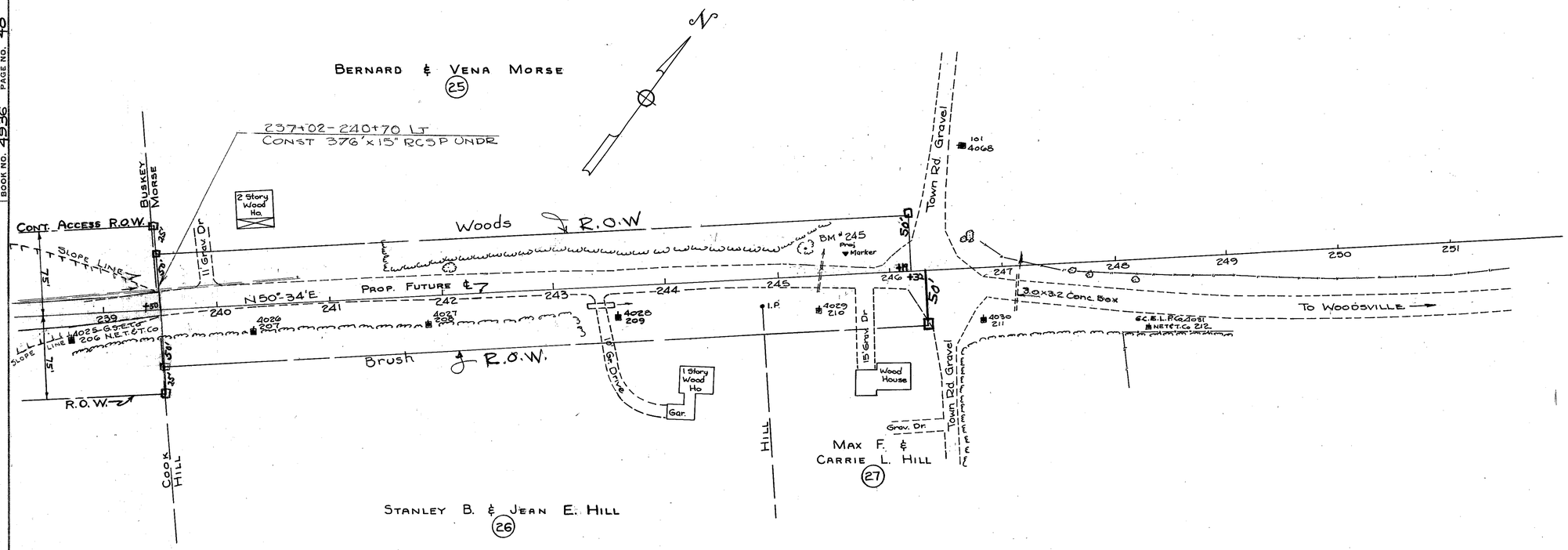
REVISIONS AFTER PROPOSAL

DATE	STA.	TO	STA.	DESCRIPTION
				Row Verified RC Latham 11-19-75

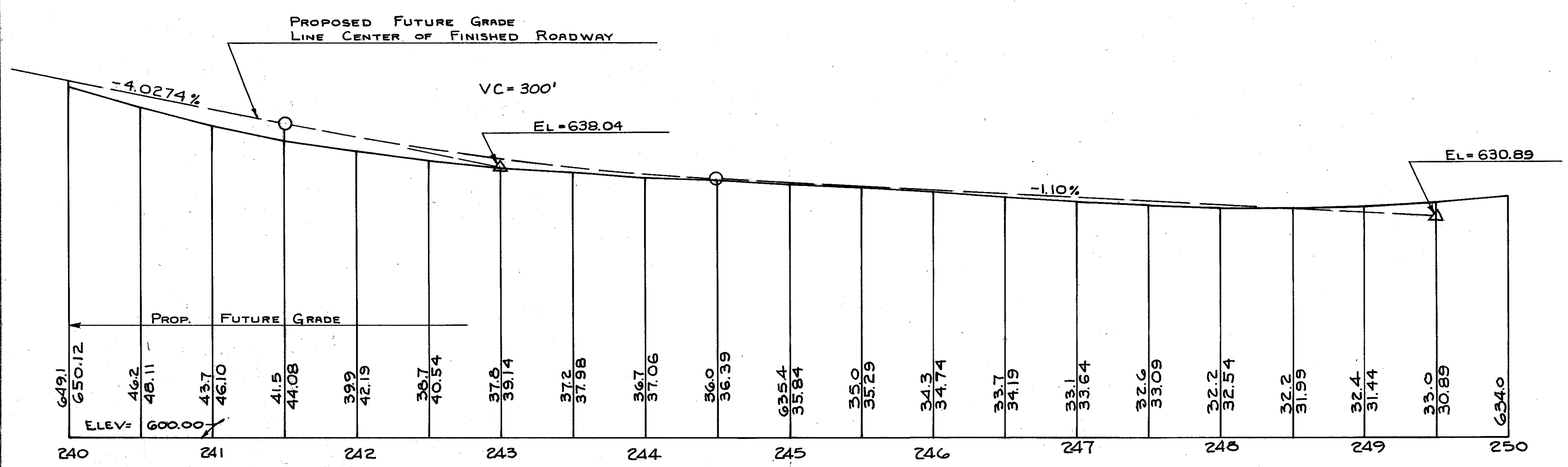
PLAN TRACED BY	K.R. MacGown	DATE 5-3-57
" CHECKED "	T.J. Anderson	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 4-24-57
" CHECKED "	T.J. Anderson	6-17-57
INKED BY	K.R. MacGown	9-19-57
CHECKED BY		

HANOVER P 3343

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	17	142



BM#245- 245+25, LT. 24' SPIKE IN ROOT OF 4.9 ELM. EL=633.10



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	17	142

NOTE BOOKS (USE BOTTOM LINES FIRST)

BOOK NO.	PAGE NO.
" "	" "
" "	" "
" "	" "
" "	" "
BOOK NO. 4936	PAGE NO. 40

REVISIONS AFTER PROPOSAL

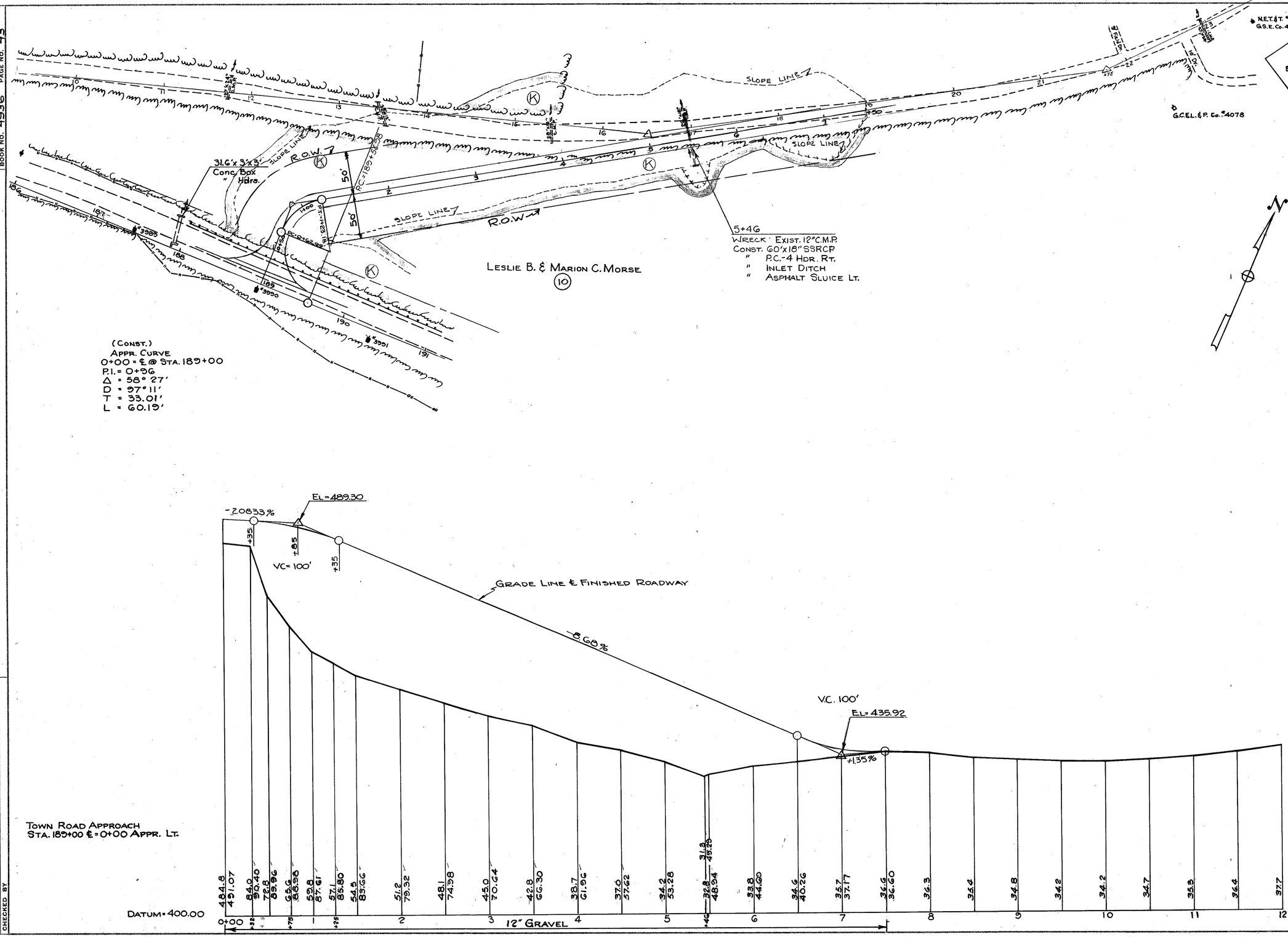
DATE	STA.	TO	STA.	DESCRIPTION
				ROW Verified RC Latham 11-18-75

PLAN TRACED BY	K.R. MacGown	DATE 5-3-57
" CHECKED "	T.J. ANDERSON	" 5-23-57
PROFILE TRACED BY	K.R. MacGown	" 5-3-57
" CHECKED "	T.J. ANDERSON	6-17-57
INKED BY		
CHECKED BY		

(15)

0-5-53 B. L. B. INC. "ARKWRIGHT" TRACING CLOTH 4253

FED. ROAD DIV. NO.	STATE	FAP PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	F033-1 (1)	1958	18	142



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F033-1(1)	18	142

(USE BOTTOM LINES FIRST)

BOOK NO. 4936 PAGE NO. 43

REVISIONS AFTER PROPOSAL

DATE	STA.	TO STA.	DESCRIPTION

PLAN TRACED BY	ANDERSON	DATE	7-10-57
" CHECKED "		"	
PROFILE TRACED BY	ANDERSON	"	7-9-57
" CHECKED "	MACGOWN	"	8-19-57
INKED BY	MACGOWN		9-18-57
CHECKED BY			

16

53 D. L. M. INC. "ARKWRIGHT" TRACING CLOTH 4262