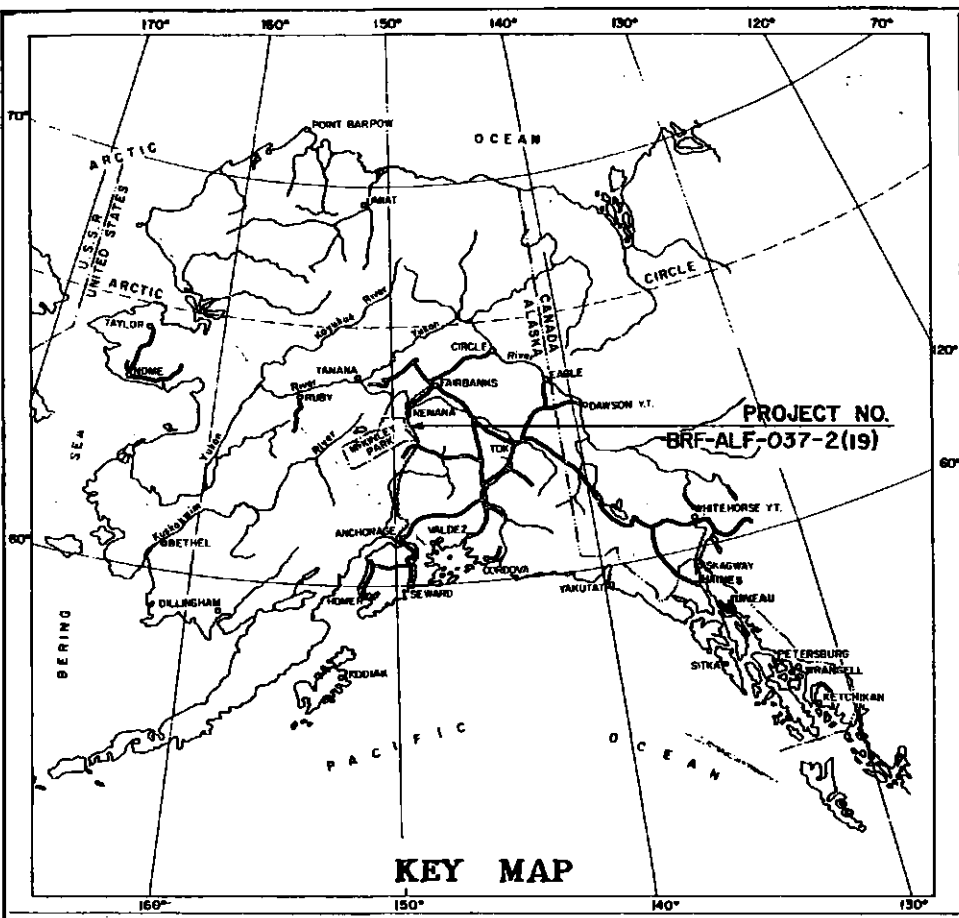


STATE	PROJECT DESIGNATION
ALASKA	F-037-2(19)

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS

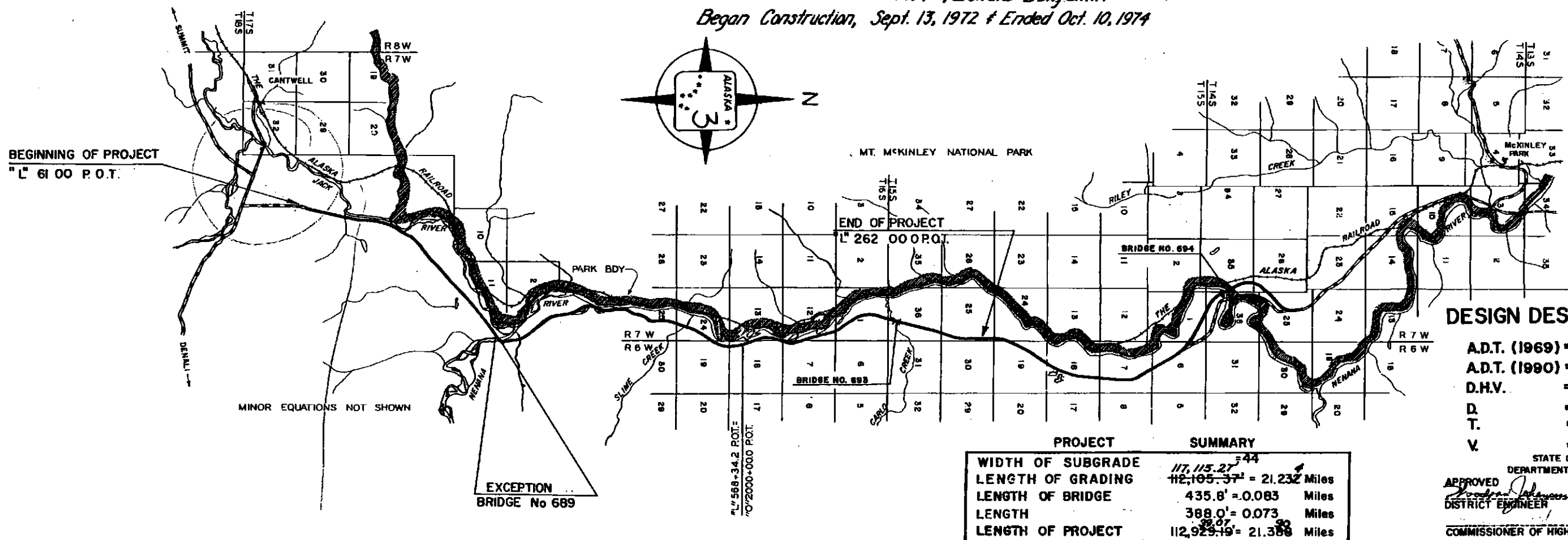
PLAN AND PROFILE
PROPOSED HIGHWAY PROJECT
BRF-ALF-037-2(19)
ANCHORAGE-FAIRBANKS HIGHWAY
CANTWELL-McKINLEY PARK
GRADING, DRAINAGE & BRIDGES



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	TYPICAL SECTIONS
4-7	ESTIMATE OF QUANTITIES
8-10	SUMMARY SHEETS
11-12	RIPRAP SECTIONS & DETAILS
13	SPECIAL DRAINAGE STRUCTURE
14	INTERCEPT DRAIN DETAILS
15-16	MATERIAL SOURCES
17-53	PLAN & PROFILE
54-61	BRIDGE No. 693
62-73	BRIDGE No. 694

AS-BUILTS
Contractor: *AtG Construction Co. Inc.*
Project Engineer: 1972-1973, *James Lane*
1974, *Donald Benjamin*
Began Construction, *Sept. 13, 1972* & Ended *Oct. 10, 1974*

The following Standard Drawings apply to this Project: A-1, D-1A, D-5, D-9A, M-1, M-2, M-3, R-2, R-3, R-4, R-5, R-6, R-7, R-8, T-1, T-2, T-3, T-9, T-10, T-11, T-15, T-16, T-17, T-18, T-19, T-20.



DESIGN DESIGNATION

A.D.T. (1969)	= 270
A.D.T. (1990)	= 1890
D.H.V.	= 380
D.	= 40-60%
T.	= 15%
V.	= 60

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS

APPROVED *Donald Benjamin* Date: *7/12/71*
DISTRICT ENGINEER

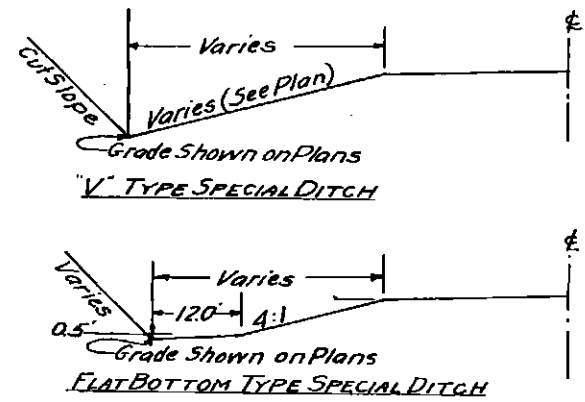
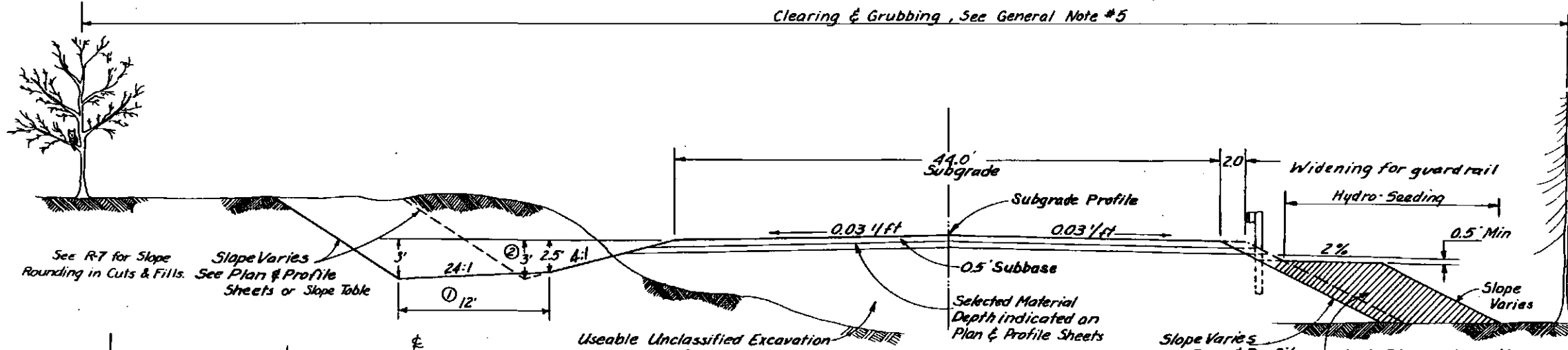
COMMISSIONER OF HIGHWAYS Date: *7/12/71*

PROJECT	SUMMARY
WIDTH OF SUBGRADE	117,115.27 ⁴⁴
LENGTH OF GRADING	112,195.37 ¹ = 21.232 Miles
LENGTH OF BRIDGE	435.8 ¹ = 0.083 Miles
LENGTH	388.0 ¹ = 0.073 Miles
LENGTH OF PROJECT	112,929.19 ¹ = 21.388 Miles

11-1-71

GENERAL NOTES

1. Culvert lengths and locations are approximate only and are subject to minor revisions.
2. Grades and alignment shown on these plans are subject to minor revisions.
3. Curve data for this project is based on a 1° curve having a radius of 5730'.
4. Existing ditches and original ground at the toe of fill slope shall all be graded to secure adequate drainage, as directed by the engineer. This work will not be measured or paid for directly, but will be considered incidental to other items of work.
5. Clearing & Grubbing Limits shall be a neat orderly line, as established by the engineer, within the Right of Way limits approximately fifteen feet outside of the slope limits, except as shown on plan sheets 40 through 50.
6. All waste and/or surplus material encountered on this project will be disposed of as stipulated in the Standard Specifications, as modified, and Section 203-3.01 of the Special Provisions.
7. Miscellaneous and minor encroachments within the Right of Way limits at the time of construction, such as fences, signs, abandoned foundations, etc., shall be removed by the contractor as directed by the engineer. This work will not be paid for directly, but will be considered incidental to other items of work.
8. Riprap obtained from unclassified excavation will not be deducted from pay quantities.

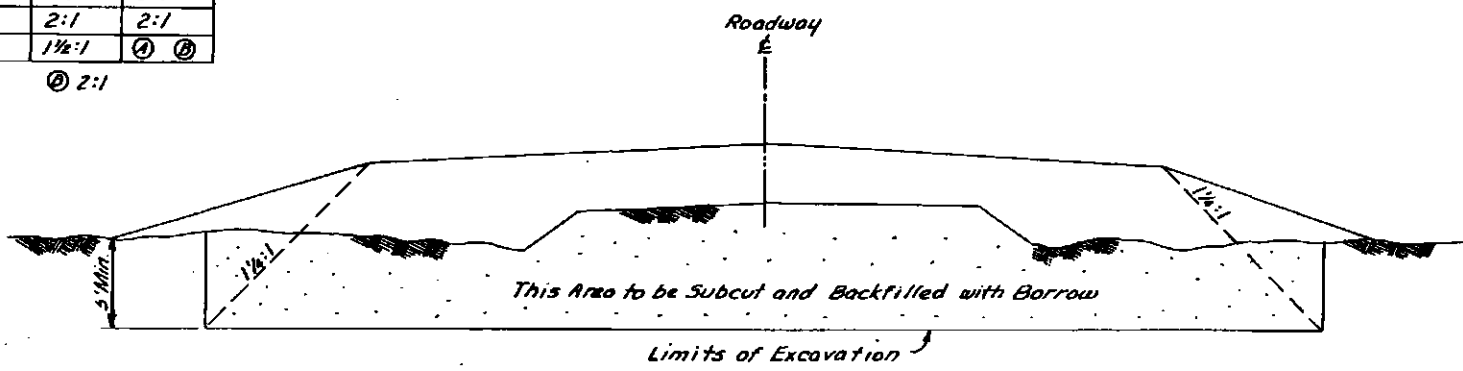


SLOPE TABLE for
 Station L+ 265+00 to L+ 390+00 ①
 Station 2445+00 to E.O.P ②

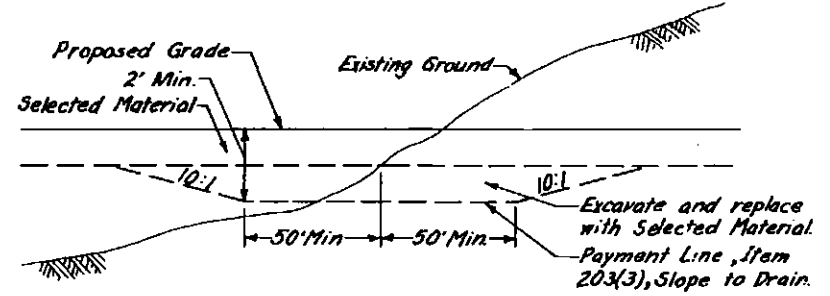
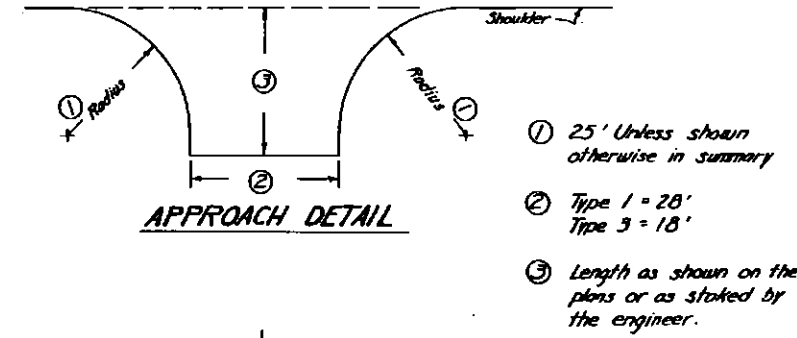
Height of Cut or Fill	Cut Slope	Fill Slope
0-5'	4:1	4:1
5'-10'	3:1	3:1
10'-15'	2:1	2:1
Over 15'	1 1/2:1	② 2:1

① 1 1/2:1 ② 2:1

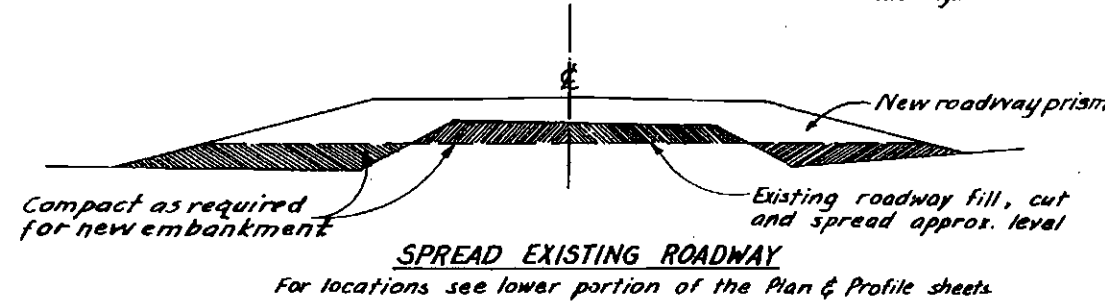
TYPICAL SECTION OF IMPROVEMENT
 ① 12' Ditch - L+ 61+00 to L+ 245+00
 ② V' Ditch - L+ 2445+00 to L+ 2622+00



SUBCUT TYPICAL
 Station 212+35 to 213+00
 Station 216+00 to 219+00
 Note: This Station Interval includes 100' Tapers on both ends.



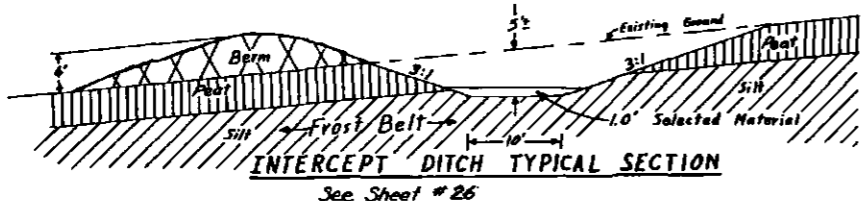
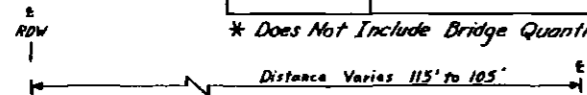
CUT & FILL LONGITUDINAL TRANSITION
 To be used where difference between ground slope and proposed grade is 5.0% or greater.



SPREAD EXISTING ROADWAY
 For locations see lower portion of the Plan & Profile sheets

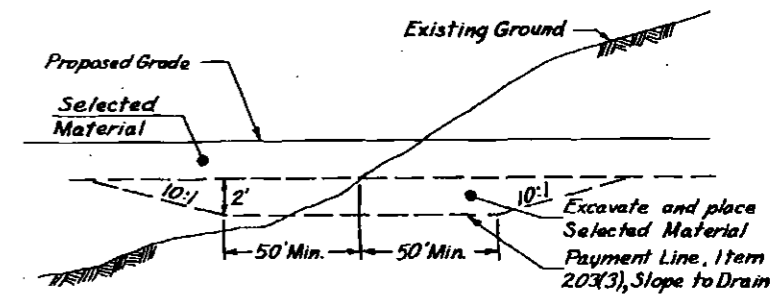
Station	Class A	Class W	Remarks
L' 86+00		8.4 Cu. Yd.	Type II Headwalls
O' 96+97	77.8 Cu. Yd.		Drainage Structure
L' 512+00		8.028 Cu. Yd.	Type I Headwalls
O' 2061+00		8.4 Cu. Yd.	Type II Headwalls
O' 2133+00		8.4 Cu. Yd.	Type II Headwalls

* Does Not Include Bridge Quantities



30 lbs *	Cellulose Fiber Mulch or Peat Fertilizer
1.00 lbs	Manchar Smooth Brome
1.00 lbs	Oats
0.02 lbs	Iceland Poppy
① 23 lbs	Glass Fiber Matting
① 3.45 gal	Emulsified Asphalt

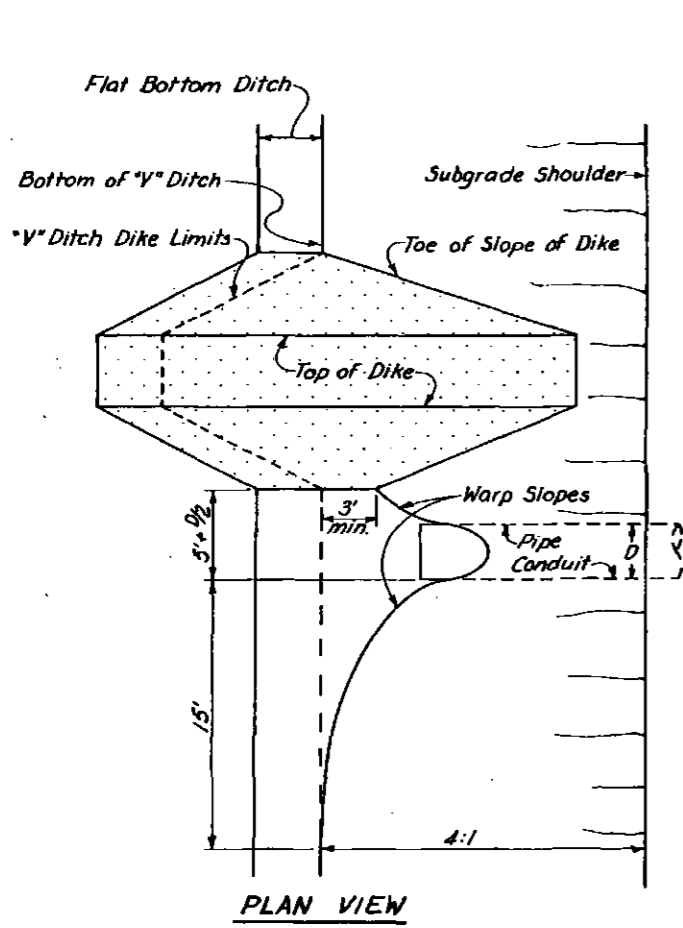
① NOTE: Will be paid for under Item 619 (1) Soil Stabilization Matting. Asphalt to be diluted at the rate of 1 part Emulsion to 5 parts water
* As per section 618 Standard Specifications



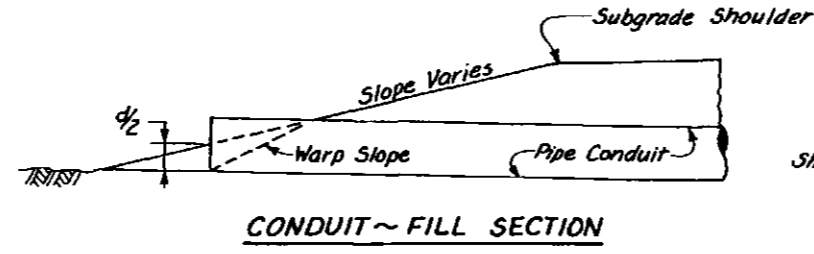
CUT AND FILL LONGITUDINAL TRANSITION
At locations designated by the engineer.

Station	Station	Lt./Rt.	Seeding M Sq. Ft.	Lt./Rt.	M Sq. Ft.
L' 61+00	L' 2527+50	See Note 1	702.35		
L' 61+00	L' 2527+50	See Note 2	300.00		
L' 2527+50	L' 2530+70	Rt.	65.00		
L' 2542+32	L' 2559+00	Lt.	61.40	Lt.	13.34
L' 2542+32	L' 2548+00	Rt.	20.39	Rt.	4.54
L' 2572+25	L' 2588+00	Lt.	61.30	Lt.	12.60
L' 2573+00	L' 2579+00	Rt.	23.63	Rt.	4.80
L' 2591+00	L' 2611+00	Lt.	118.11	Lt.	16.00
L' 2596+00	L' 2611+00	Rt.	68.56	Rt.	12.00

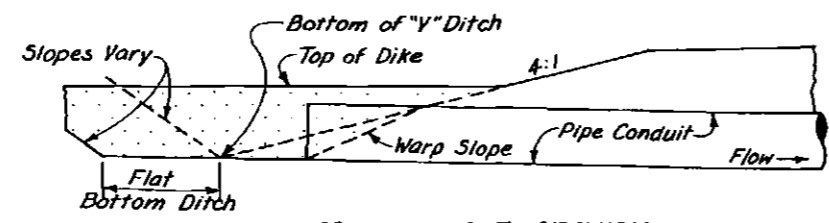
1. All existing berm piles and waste areas designated by the engineer between these Stations shall be dressed and seeded. Dressing of berm piles shall be in accordance with sub-section 201-1.01 of the Standard Specifications.
2. These quantities are estimated for seeding backslopes and ditches as directed by the engineer.



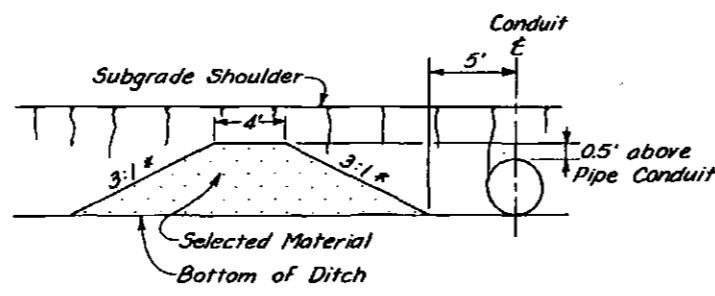
DITCH DIKE DETAILS



CONDUIT ~ FILL SECTION

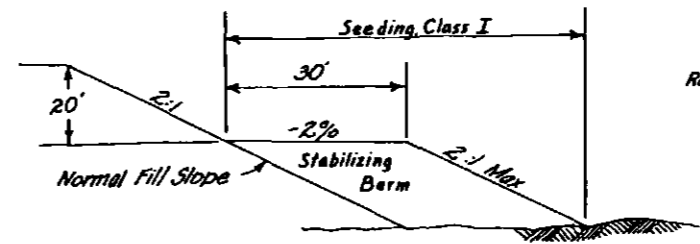
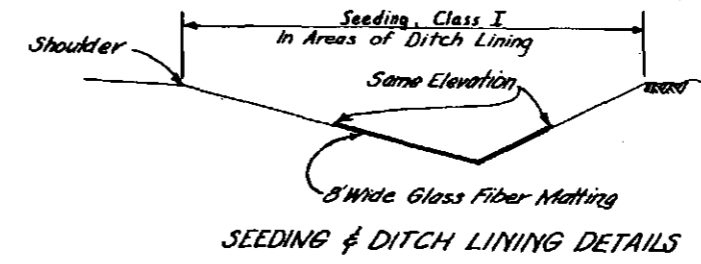


CONDUIT ~ CUT SECTION



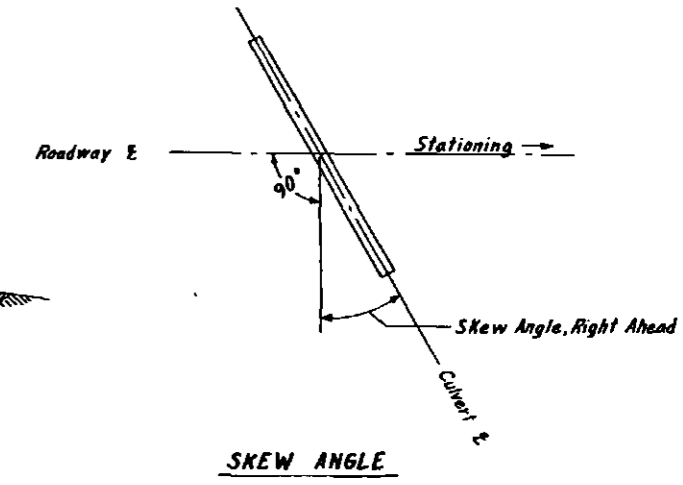
DIKE CROSS SECTION

* Slope facing oncoming traffic shall be 6:1



STABILIZING BERM DETAIL

Sta. L' 2527+50 to 2530+70 Rt.
Constructed of Waste obtained from cut station L' 2520+00 to 2529+00



SKEW ANGLE

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	UNIT	SHEET NUMBER										Sheet Total				
			17	18	19	20	21	22	23	24	25	26		27			
1	Furnishing & Maintaining Engineering Facilities	Lump Sum															All Required
2A	Meals	Each															
2B	Lodging	Each															
110(1)	Mobilization	Lump Sum															All Required
111(1)	Temporary Erosion & Pollution Control	Cont. Sum															All Required
112(1)	Training Program	Cont. Sum															All Required
201(3A)	Clearing & Grubbing	Acre	3.6	5.2	1.9	2.4	3.2	5.1	5.5	5.6	7.7	5.5	8.1			53.8	
201(4A)	Hand Clearing	Acre			1.5	0.1						1.4				3	
202(1A)	Remove Existing Bridge at Park Boundary	Lump Sum															
202(1)	Removal of Structures and Obstructions	Lump Sum															
202(4)	Removal and Disposal of Culvert Pipe	Lin. Ft.	40	131	45		42	41	40				193	169		701	
203(3)	Unclassified Excavation	Cu. Yd.	3018	32,541	55,501	74,886	2,262	23,055	12,840				133,972			338,075	
203(5B)	Borrow	Ton	7056	8316	0	0	0	89,342	87,144	106,646			46,862			345,366	
203(10)	Spread Existing Roadway	Station	13	6			23.79	30	30	17						119.79	
203(11)	Obliterate Existing Roadway	Station															
205(1)	Structure Excavation	Cu. Yd.	52	123	285	156	68	33	133	61	44	688	264			1907	
206(1)	Class I Excavation for Structures	Cu. Yd.															
206(2)	Class II Excavation for Structures	Cu. Yd.															
304(1)	Subbase, Grading C	Ton	1,926	580	5,206	5,308	8,658	1,140	7,588	6,090	6,270		12,898			55,664	
501(1)	Class A Concrete	Lump Sum															All Required
501(2)	Class S Concrete	Cu. Yd.															
501(3)	Class W Concrete	Lump Sum															
503(1)	Reinforcing Steel	Lump Sum															
504(1)	Structural Steel Furnished, Fabricated & Erected	Lump Sum															
505(3)	Structural Steel Piles, Furnished and Driven (About)	Lin. Ft.															
505(11)	Cast-in-place Concrete Piles (Piers)	Lin. Ft.															
507(1)	Metal Bridge Railing	Lin. Ft.															
603(22E)	18" Pipe Conduit	Lin. Ft.	28	34												62	
603(22G)	24" Pipe Conduit	Lin. Ft.	172	98	448	158	242	190	190	74	140		74	268		1,786	
603(22I)	36" Pipe Conduit	Lin. Ft.				220			228							716	
603(22K)	48" Pipe Conduit	Lin. Ft.			96								244			340	
603(22Q)	72" Pipe Conduit	Lin. Ft.														100	
603(23K)	48" Bituminous Coated Paved Invert C.S.P., 14 Ga.	Lin. Ft.			100											100	
606(2)	Beam Type Guard Rail, Type II Posts	Lin. Ft.				4,075							162.5		1,200	5,437.5	
506(3)	Fixed Timber Barricade, Type III	Each									3		4			7	
611(2A)	Riprap, Class I A	Ton															
611(2B)	Riprap, Class II	Ton				15,761					9847	11,550				37,158	
508(1)	Maintenance of Traffic at Caric Creek	Lump Sum															
613(1)	Right of Way Monuments	Each	6	14	5	10	8	8	6	4	0	11	8	6		96	
613(2)	Culvert Marker Posts	Each	4	6	10	8	6	4	8	2	4	4	4	6		62	
615(1)	Standard Signs	Sq. Ft.	37.0	28.0			28.0	28.0			9.0	30.00				160.0	
616(2)	Culvert Thaw Wire Installation	Each												1		1	
618(1)	Seeding	M.Sq. Ft.	12.00			24.75	93.50	103.70	79.60	18.50						332.05	
618(2)	Water for Maintenance	M. Gal.	22.5			46.3	174.8	193.9	148.9	34.6						621.0	
619(1)	Soil Stabilization Matting	M.Sq. Ft.															
627(1)	Watering	M. Gal.															
629(1)	Guide Markers	Each															
629(2)	Object Markers	Each			34			17	17							68	
624(1)	Calcium Chloride	Ton															
203(14)	Obliteration of Park Roads	Lump Sum															
690(1)	Insulation Board	MBM															

① Includes 3 RIW Monuments on E Line ~ See Sheet # 12

ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	7	74

ITEM NO.	ITEM	UNIT	SHEET NUMBER					Sheet Total	Project Total	CONTRACT TOTAL
			50	51	52	53	54			
1	Furnishing & Maintaining Engineering Facilities	Lump Sum						All Required	All Required	All Required
2A	Meals	Each							15,750	15,750
2B	Lodging	Each							5,250	5,250
110(1)	Mobilization	Lump Sum							All Required	All Required
111(1)	Temporary Erosion & Pollution Control	Cont. Sum							All Required	All Required
112(1)	Training Program	Cont. Sum						All Required	All Required	All Required
201(3A)	Clearing & Grubbing	Acre	19.0	13.3	9.9	9.6	7.4	59.20	308.9	310
201(4A)	Hand Clearing	Acre							3	3
202(1A)	Remove Existing Bridge at Park Boundary	Lump Sum			All Required			All Required	All Required	All Required
202(1)	Removal of Structures and Obstructions	Lump Sum						All Required	All Required	All Required
202(4)	Removal and Disposal of Culvert Pipe	Lin. Ft.							1,890	1,890
203(3)	Unclassified Excavation	Cu. Yd.	90,906	240,757		235,624		567,287	1,480,266	1,480,000
203(5B)	Borrow	Ton	15,668	6,376				22,044	839,010	839,000
203(10)	Spread Existing Roadway	Station							223.02	223
203(11)	Obliterate Existing Roadway	Station							17.5	17.5
205(1)	Structure Excavation	Cu. Yd.							3,824	3,825
206(1)	Class I Excavation for Structures	Cu. Yd.			560			560	580	580
206(2)	Class II Excavation for Structures	Cu. Yd.			200			200	200	200
304(1)	Subbase, Grading C	Ton	13,748	5,048		13,698		32,494	200,436	200,500
501(1)	Class A Concrete	Lump Sum			Bridge 694			All Required	All Required	All Required
501(2)	Class S Concrete	Cu. Yd.			192.1			192.1	192.1	192.1
501(3)	Class W Concrete	Lump Sum								
503(1)	Reinforcing Steel	Lump Sum			Bridge 694			All Required	All Required	All Required
504(1)	Structural Steel Furnished, Fabricated & Erected	Lump Sum			All Required			All Required	All Required	All Required
505(3)	Structural Steel Piles, Furnished and Driven (Abut)	Lin. Ft.			420			420	611	611
505(11)	Cast-in-place Concrete Piles (Piers)	Lin. Ft.			372			372	372	372
507(1)	Metal Bridge Railing	Lin. Ft.			754			754	935	935
603(22E)	18" Pipe Conduit	Lin. Ft.							528	528
603(22G)	24" Pipe Conduit	Lin. Ft.							3,508	3,508
603(22I)	36" Pipe Conduit	Lin. Ft.				412		412	2,476	2,476
603(22K)	48" Pipe Conduit	Lin. Ft.							358	358
603(22Q)	72" Pipe Conduit	Lin. Ft.							104	104
603(23K)	48" Bituminous Coated Paved Invert C.S.P., 14 Ga.	Lin. Ft.							100	100
606(2)	Beam Type Guard Rail, Type II Posts	Lin. Ft.		2650	3225			5,875	19,087.5	19,087.5
506(3)	Fixed Timber Barricade, Type III	Each							7	7
611(2A)	Riprap, Class I A	Ton		2,900				2,900	2,900	2,900
611(2B)	Riprap, Class II	Ton			300				89,947	89,950
508(1)	Maintenance of Traffic at Carlo Creek	Lump Sum						All Required	All Required	All Required
613(1)	Right of Way Monuments	Each	9	11	6	4	6	36	249	249
613(2)	Culvert Marker Posts	Each				6		6	138	138
615(1)	Standard Signs	Sq. Ft.	9.25	12.50	16.0		6.25	44.0	464.50	464.50
616(2)	Culvert Thaw Wire Installation	Each							1	1
618(1)	Seeding, Class I	M. Sq. Ft.				788.39		788.39	1,420.74	1,420.74
618(2)	Water for Maintenance	M. Gal.				1,380.8		1,380.8	3,255.7	3,260.00
619(1)	Soil Stabilization Matting	M. Sq. Ft.				63.28		63.28	63.28	64
627(1)	Watering	M. Gal.							30,000	30,000
629(1)	Guide Markers	Each							204	204
629(2)	Object Markers	Each			12			12	16	16
624(1)	Calcium Chloride	Ton							200	200
203(14)	Obliteration of Park Roads	Lump Sum						All Req'd.	All Req'd.	All Req'd.
690(1)	Insulation Board	MBM		35.2				35.2	35.2	35.2

① Includes Drainage Flume

② For Special Intercept Drain
③ Includes 11,550 Tons for Sheet 12

④ Includes 300 M. Sq. Ft. for back slopes

⑤ Includes 561 M. Gals. for Back slopes

SUMMARY OF STANDARD SIGNS

STATION	DIST. FROM &		CODE NO.	DESCRIPTION	SIZE	AREA SQ. FT.	REMARKS
	LT.	RT.					
"L"64+00	24'		W5-1	ROAD NARROWS	36" x 36"	9.0	Deleted
"L"65+00	24'	24'	D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"L"80+00		24'	D7-2AL	← REST AREA	48" x 42"	14.0	
"L"87+00	24'		D7-2AR	REST AREA →	48" x 42"	14.0	
"L"102+00	24'		D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"0"183+00		24'	D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"0"198+00		24'	D7-2AL	← REST AREA	48" x 42"	14.0	
"0"204+00	24'		D7-2AR	REST AREA →	48" x 42"	14.0	
"0"219+00	24'		D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"L"273+00		24'	W5-1	ROAD NARROWS	36" x 36"	9.0	
300' S. of Bridge	24'		W5-2	NARROW BRIDGE	30" x 30"	6.25	
"L"309+00	24'		W5-2	NARROW BRIDGE	30" x 30"	6.25	
"L"310+50	24'		W5-1	ROAD NARROWS	36" x 36"	9.0	
"L"311+50	24'		W1-2R		30" x 30"	6.25	
			W13-1	30 MPH	18" x 18"	2.25	
"0"420+00		24'	D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"0"435+00		24'	D7-2AL	← REST AREA	48" x 42"	14.0	
"L"441+00	24'		D7-2AR	REST AREA →	48" x 42"	14.0	
"0"456+00	24'		D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"L"484+00		24'	D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"L"499+00		24'	D7-2AL	← REST AREA	48" x 42"	14.0	
"L"507+00		24'	D7-2AR	REST AREA →	48" x 42"	14.0	
"L"512+00		25'	T1-1	Slime Creek	36" x 24"	6.0	
"L"512+00		25'	T1-1	Slime Creek	36" x 24"	6.0	
"L"522+00	24'		D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"0"2045+00		24'	D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"0"2060+00		24'	D7-2AL	← REST AREA	48" x 42"	14.0	
"0"2067+00	24'		D7-2AR	REST AREA →	48" x 42"	14.0	
"0"2082+00	24'		D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"0"2159+54		25'	T1-1	Carlo Creek	36" x 24"	6.0	
"0"2160+23		25'	T1-1	Carlo Creek	36" x 24"	6.0	
"L"2415+00		24'	D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"L"2430+00		24'	D7-2AL	← REST AREA	48" x 42"	14.0	
"L"2431+70		40'	RI-1	STOP	30" x 30"	6.25	
"L"2437+00	24'		D7-2AR	REST AREA →	48" x 42"	14.0	
"L"2452+00	24'		D7-2C	REST AREA 1500 Ft	48" x 42"	14.0	
"L"2472+20		40'	RI-1	STOP	30" x 30"	6.25	
"L"2500+00		24'	W7-1		30" x 30"	6.25	(Hill - Trucks)
		24'	W7-2	Use Low Gear	24" x 18"	3.0	
"L"2533+08	40'		RI-1	STOP	30" x 30"	6.25	
"L"2533+42	40'		RI-1	STOP	30" x 30"	6.25	
"L"2538+51		25'	T1-1	Nenana River	48" x 24"	8.0	
"L"2542+20		25'	T1-1	Nenana River	48" x 24"	8.0	
"L"2611+20	40'		RI-1	STOP	30" x 30"	6.25	Deleted
TOTAL						464.50	

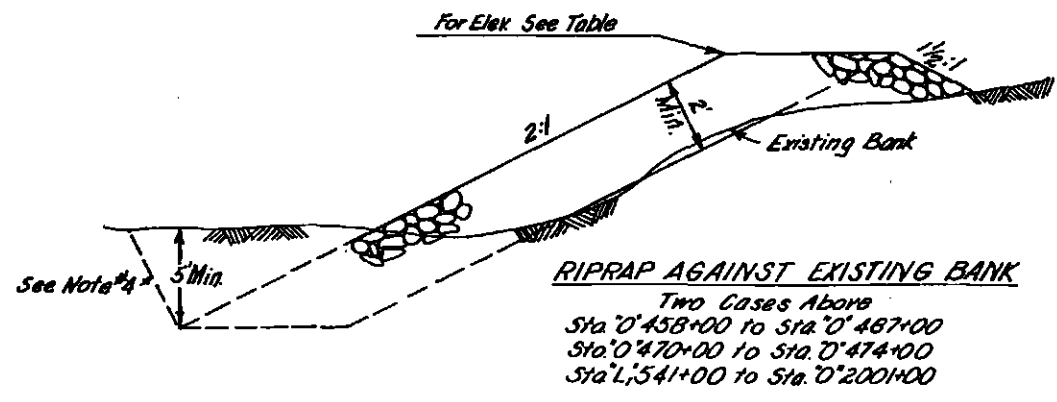
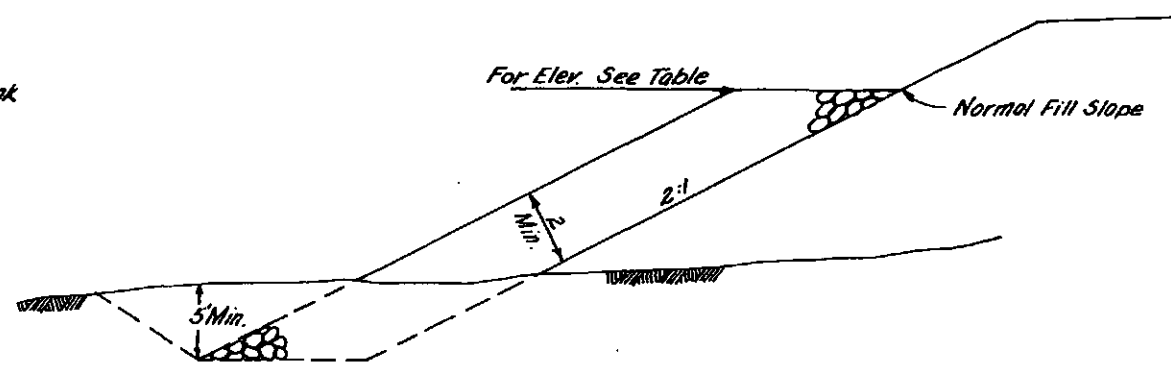
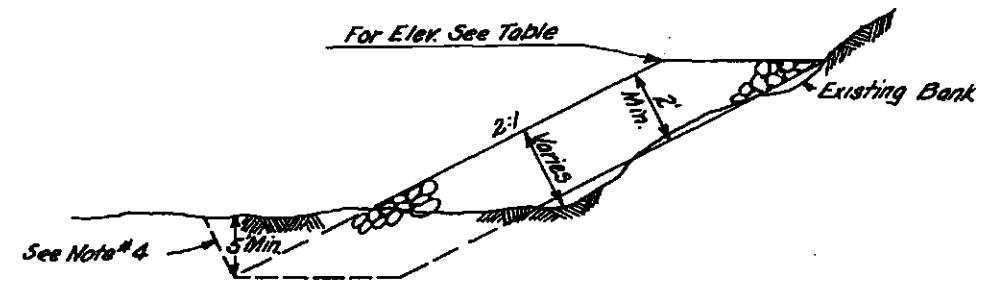
SUMMARY OF OBJECT MARKERS

STATION	DIST. FROM &		CODE NO.	REMARKS
	LT.	RT.		
"0"2159+33	22'		III-L	Install One
"0"2159+44		22'	III-R	Install One
"0"2160+23	22'		III-R	Install One
"0"2160+44		22'	III-L	Install One
"L"2538+45	✓		III-L	Install Three
"L"2538+51		✓	III-R	Install Three
"L"2542+20		✓	III-L	Install Three
"L"2542+26	✓		III-R	Install Three
TOTAL				16

Note: See Standard Drawing T-9.

SIGNING NOTES

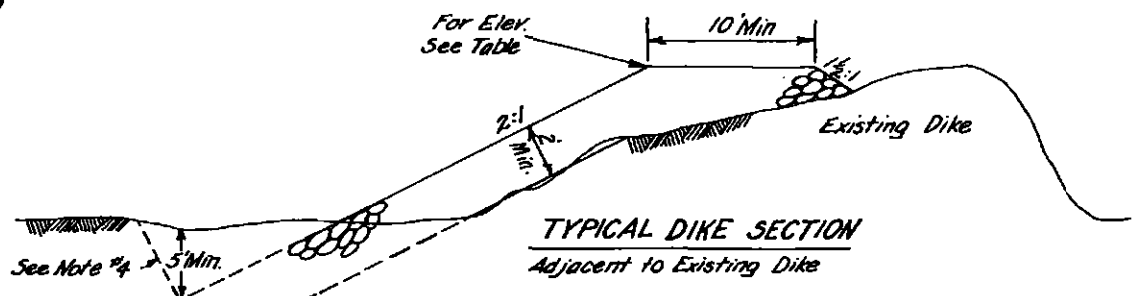
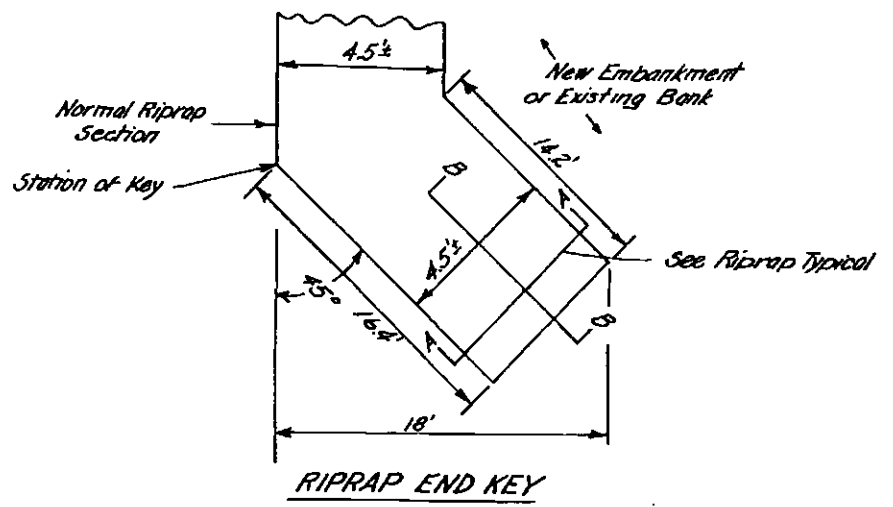
- All sign dimensions, lettering, color, symbols, illumination and/or reflectorization shall conform to the Alaska Sign Design Specifications.
- Reflective Sheeting for sign plates shall conform to Section 615 of the Standard Specifications.
- For mounting and placement of signs, see Standard Sheets T-1 and T-4.
- Distance shown from & is to nearest edge of sign plate.



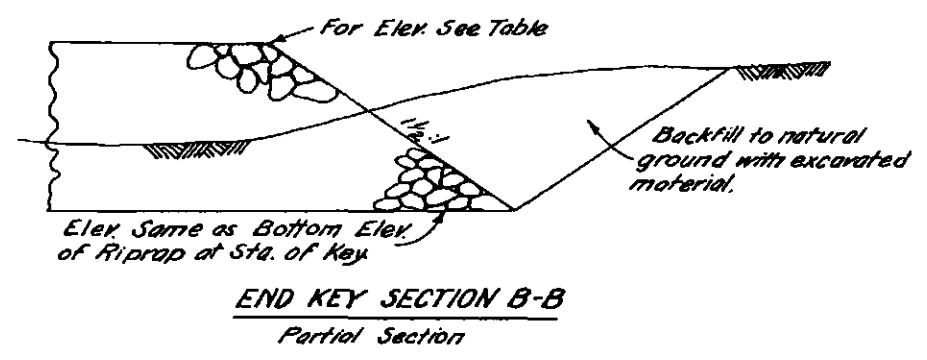
RIPRAP: NEW FILL ENDANGERED BY RIVER FLOW^①
 0+102+00 to 2+139+00
 0+409+00 to 0+423+00
 0+467+00 to 0+470+00
 0+206+91 to 0+2065+91
 0+2087+92 to 0+2090+00
 ① Exception: See Sheet No. 12.

- NOTES**
- 1- Location of riprap shown on the plans is approximate and may be varied by the engineer to fit river bank condition at time of construction.
 - 2- Excavation encountered in placing riprap shall be incidental to Item 611(2B) Riprap. Excavated material shall be distributed uniformly along the toe of riprap unless under water.
 - 3- No riprap shall be placed on roadway embankment at an elevation higher than the bottom of Selected Material. (Exception: See Sheet No. 12.)
 - 4- Cut slopes at toes of trenches and keys may be as steep as the natural material will stand until placement of riprap.
 - 5- Riprap end key shall be constructed at the beginning and end of all riprap sections. No end key is required of dike Sta. 9+58.
 - 6- Existing dike material shall be cleaned and dressed as directed by the engineer prior to placing of the riprap.

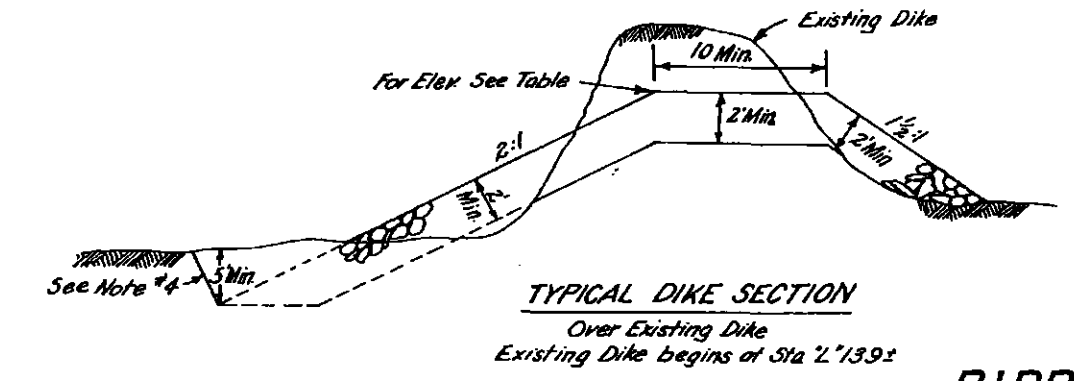
RIPRAP AGAINST EXISTING BANK
 Two Cases Above
 Sta. 0+458+00 to Sta. 0+487+00
 Sta. 0+470+00 to Sta. 0+474+00
 Sta. 2+541+00 to Sta. 2+200+00



TYPICAL DIKE SECTION
 Adjacent to Existing Dike



END KEY SECTION B-B
 Partial Section



TYPICAL DIKE SECTION
 Over Existing Dike
 Existing Dike begins at Sta. 2+139+

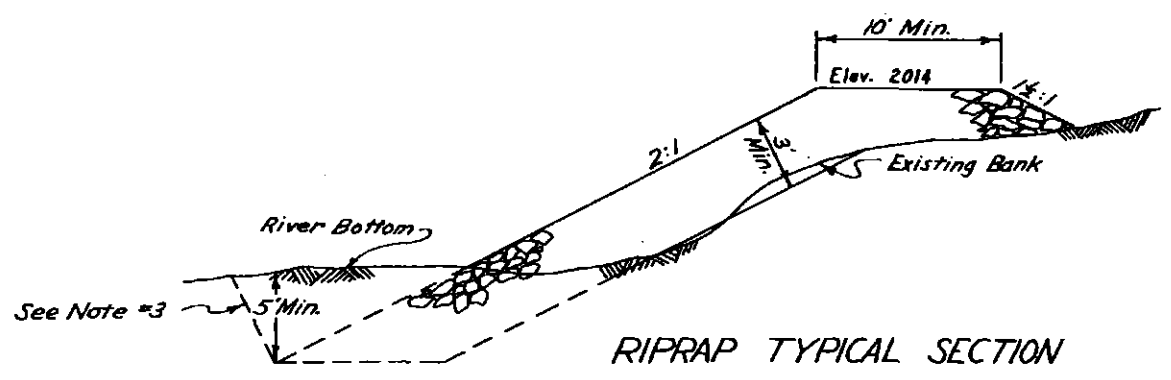
RIPRAP ELEVATIONS & QUANTITIES					
Station	Top of Dike Elevation	Riprap Toe Elevation	Tons	Class	Remarks
8+00 To 19+50	See Sheet 12	See Sheet 12	11,550	II	See Sheet 12
Carlo Creek Bridge	See Sheet 55	See Sheet 55	1,358	II	See Sheet 55
0+102+00 Lt. To 2+139+00 Lt.	2081.0	2075.0	15,761	II	
Dike 0+18 Lt. To Dike 3+00 Lt.	2074.0	2055.0	9,847	II	See Sheets 19+20
To 50 Dike 9+58 Lt.	2074.0	2060.0			
0+409+00 Lt. To 0+423+00 Lt.	1996.0	1985.0	5,978	II	
0+58+03 Lt. To 0+466+00 Lt.	1994.0	1977.0			
To 2+474+00 Lt.	1987.0	1981.0	12,009	II	
2+541+00 Lt. To 2+200+00 Lt.	1985.0	1970.0			
	①	1950.0	14,233	II	
0+2026+00 Lt. To 0+2090+00 Lt.	②	1940.0	18,911	II	
0+2026+00 Lt. To 0+2090+00 Lt.		1944.0			
Bridge 694	See Sh. 63	See Sh. 63	300	II	See Sh. 63
TOTAL			89,947		

① Elev. of top of River Bank.
 ② Elev. of Bottom of Selected Material

RIPRAP TYPICAL SECTIONS & DETAILS

NOTES

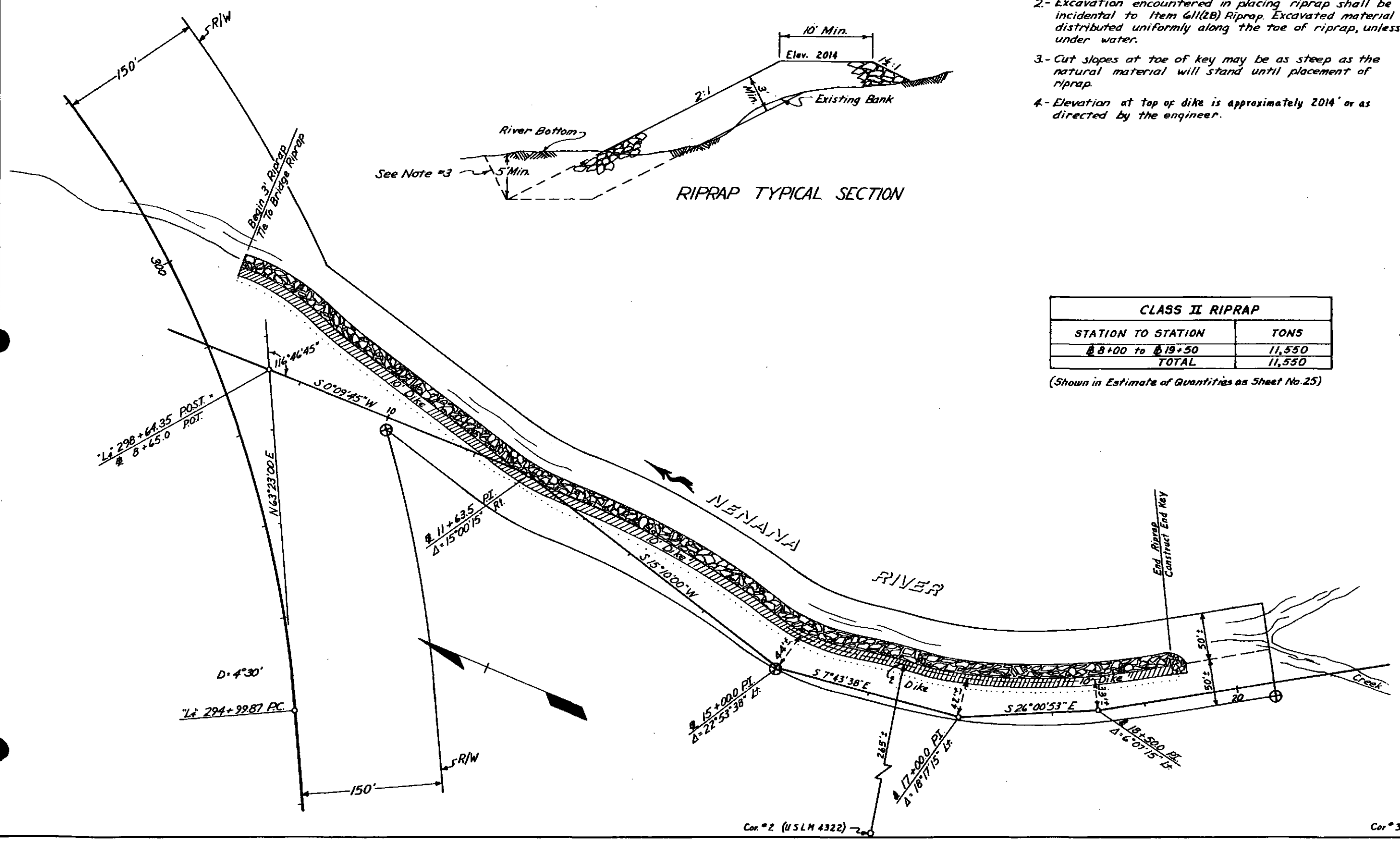
- 1- Location of riprap shown on the plans is approximate and may be varied by the engineer to fit the river bank condition at the time of construction.
- 2- Excavation encountered in placing riprap shall be incidental to Item 611(2B) Riprap. Excavated material shall be distributed uniformly along the toe of riprap, unless under water.
- 3- Cut slopes at toe of key may be as steep as the natural material will stand until placement of riprap.
- 4- Elevation at top of dike is approximately 2014' or as directed by the engineer.



RIPRAP TYPICAL SECTION

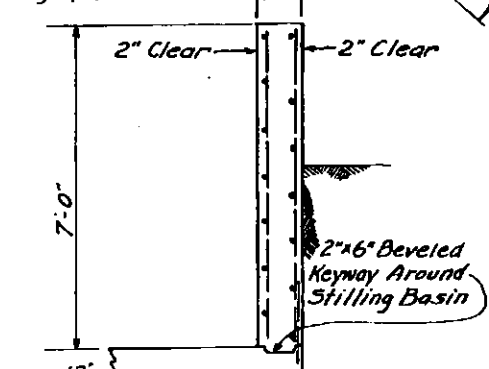
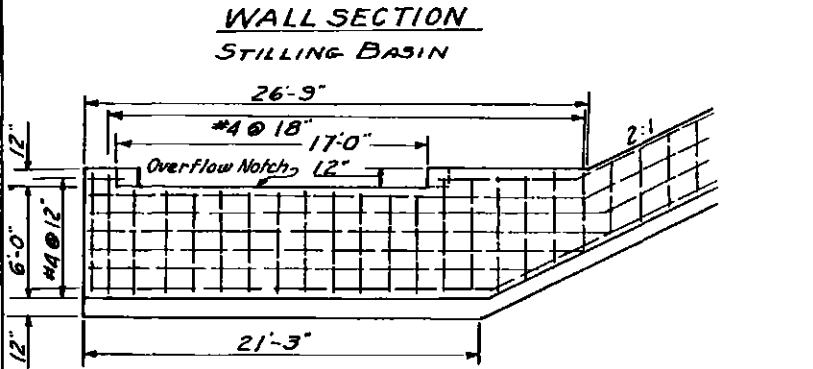
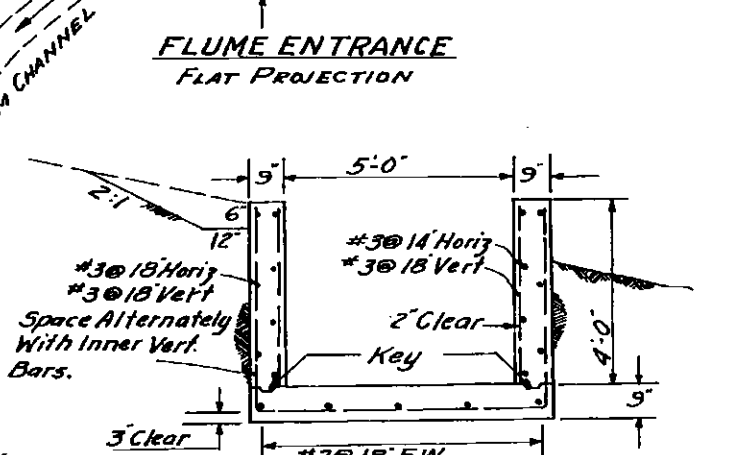
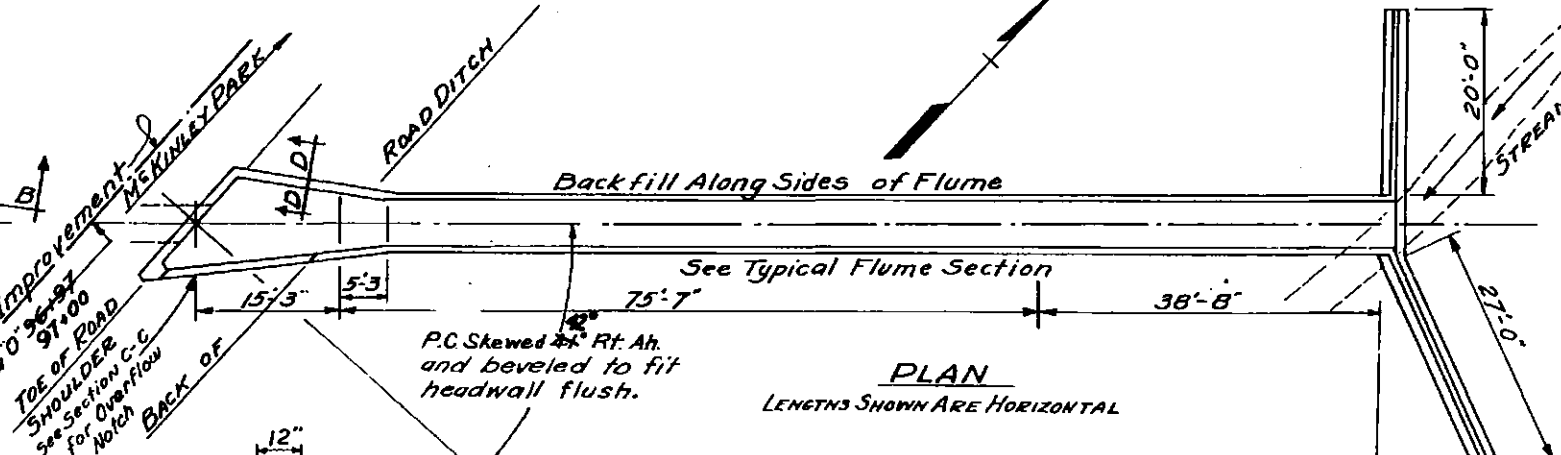
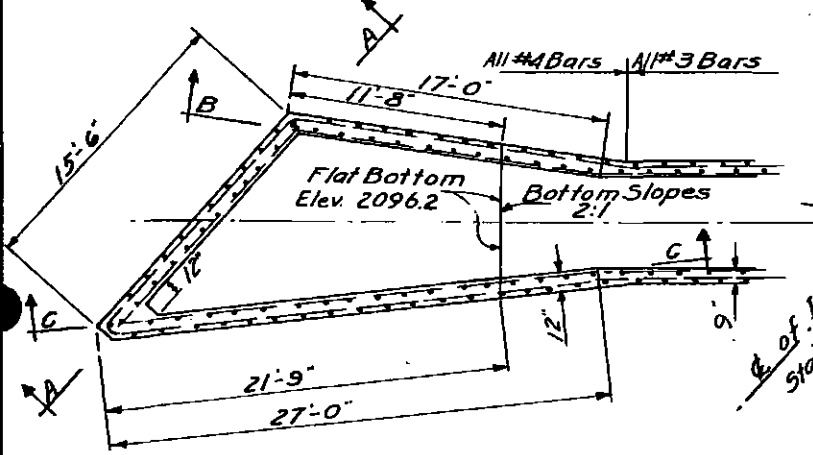
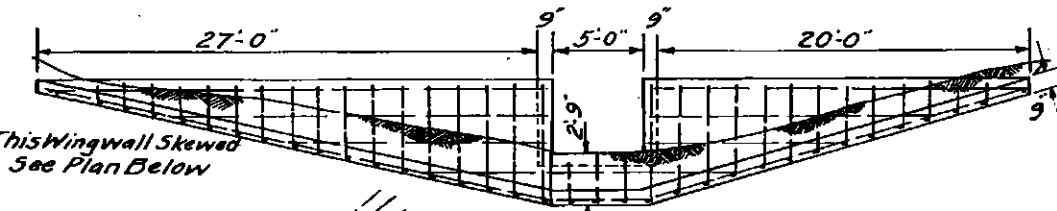
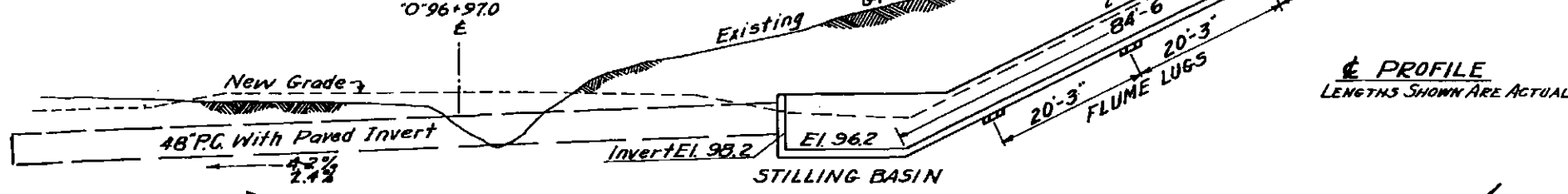
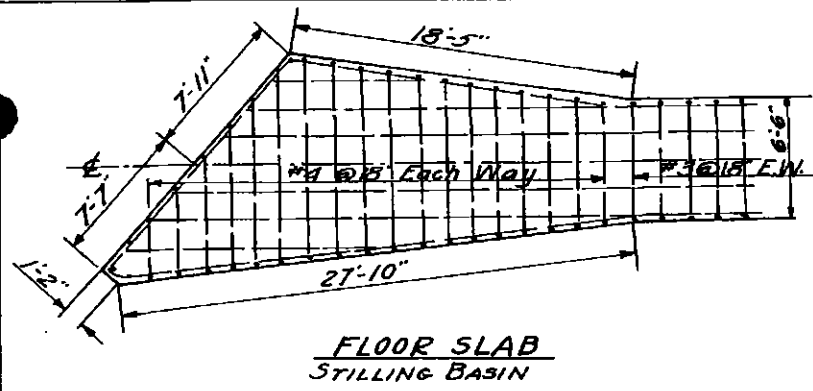
CLASS II RIPRAP	
STATION TO STATION	TONS
8+00 to 19+50	11,550
TOTAL	11,550

(Shown in Estimate of Quantities as Sheet No.25)

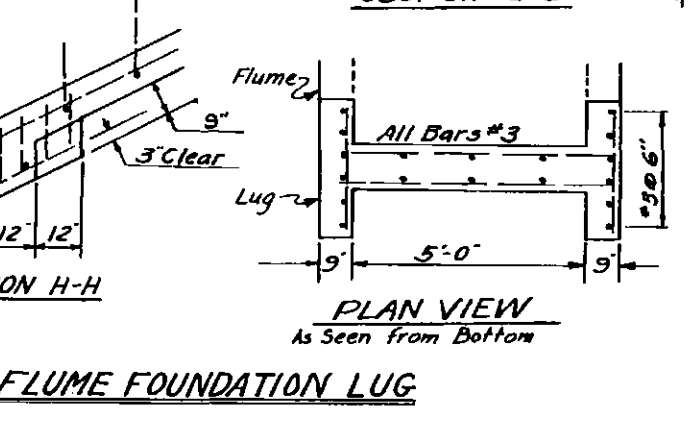
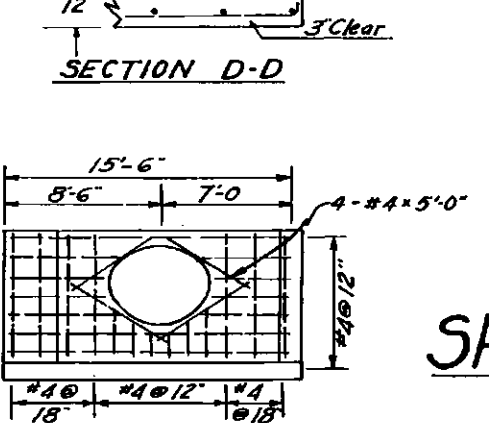
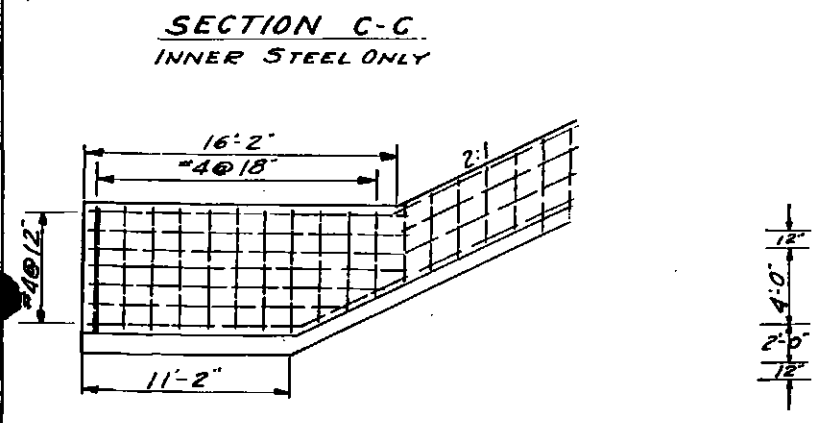
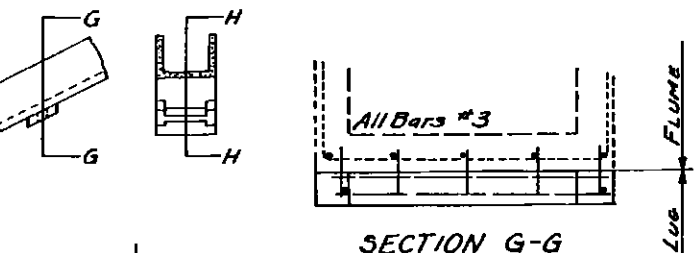
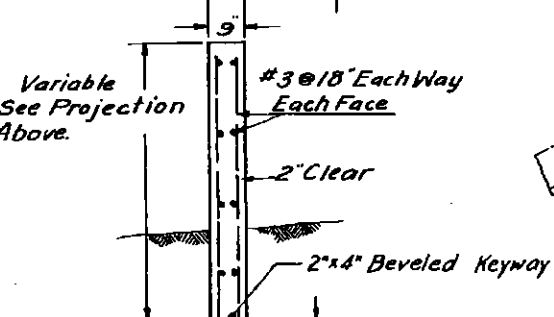


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	13	74

ESTIMATE OF QUANTITIES		
ITEM	UNIT	TOTAL
Class A Concrete	Cu. Yd.	77.8
Reinforcing Steel	Lb.	2816
Excavation:		
Flume	Cu. Yd.	245
48" Pipe Conduit	Cu. Yd.	128



- NOTES**
- 1- Roadway excavation shall be completed prior to installation of pipe and construction of the inlet works.
 - 2- Concrete shall be Class A. Exposed corners shall be chamfered 3/4 inch.
 - 3- Reinforcing bars shall be intermediate grade, deformed. Lap all splices 24 bar diameters. Use 2" cover on wall steel, and 3" cover for bottom slabs.
 - 4- Excavation required for the flume and the 48" pipe conduit with paved invert will not be paid for as a separate pay item, but will be considered incidental to Item 501(1).

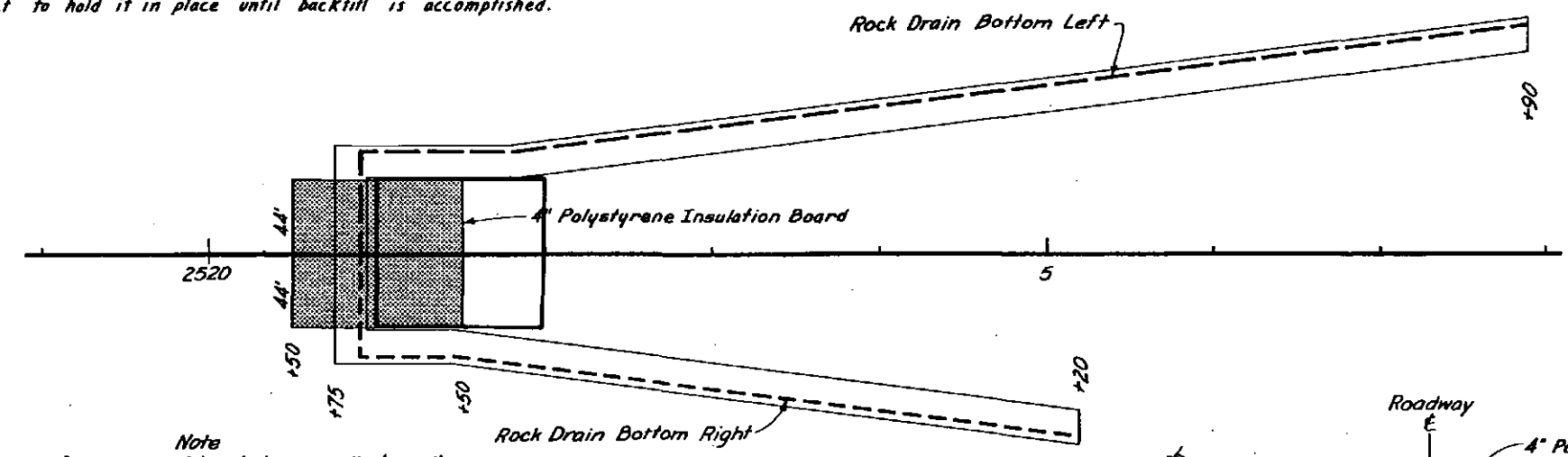


SPECIAL DRAINAGE STRUCTURE STA. "0" 96+97 97+00

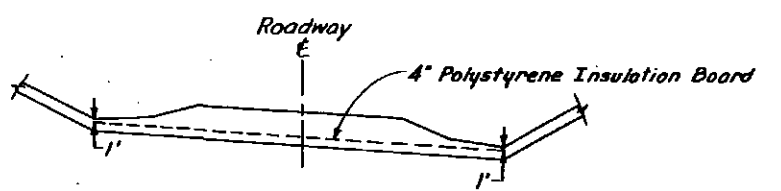
INTERCEPT DRAIN DETAILS

"L"2520+25 to "L"2527+90

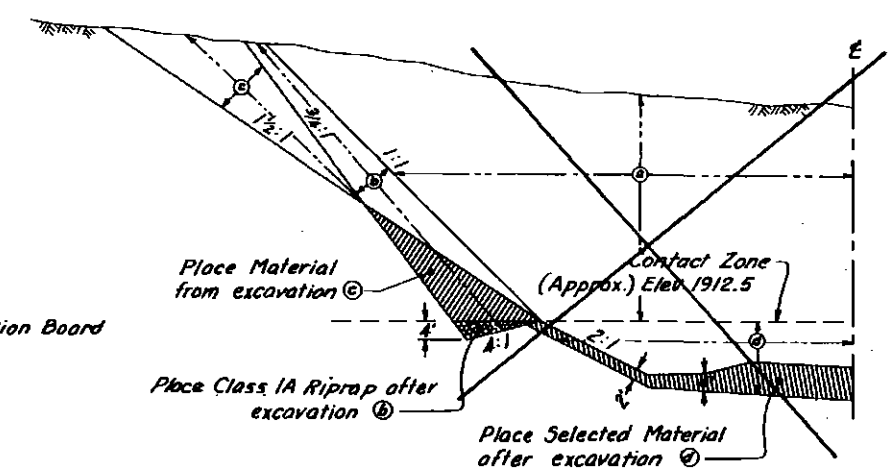
NOTE
To protect the insulation board from rock punctures, an 4" sand bed shall be provided before placement and an 8" sand cover before backfill with selected material. The insulation board shall be pegged with 6 1/2"x10" sharpened dowels evenly spaced per sheet to hold it in place until backfill is accomplished.



Note
Where 4" thickness of insulation is called for the insulation shall be placed to the extreme limits of trench width to prevent silt infiltration. Payment will be limited to 88' foot width.

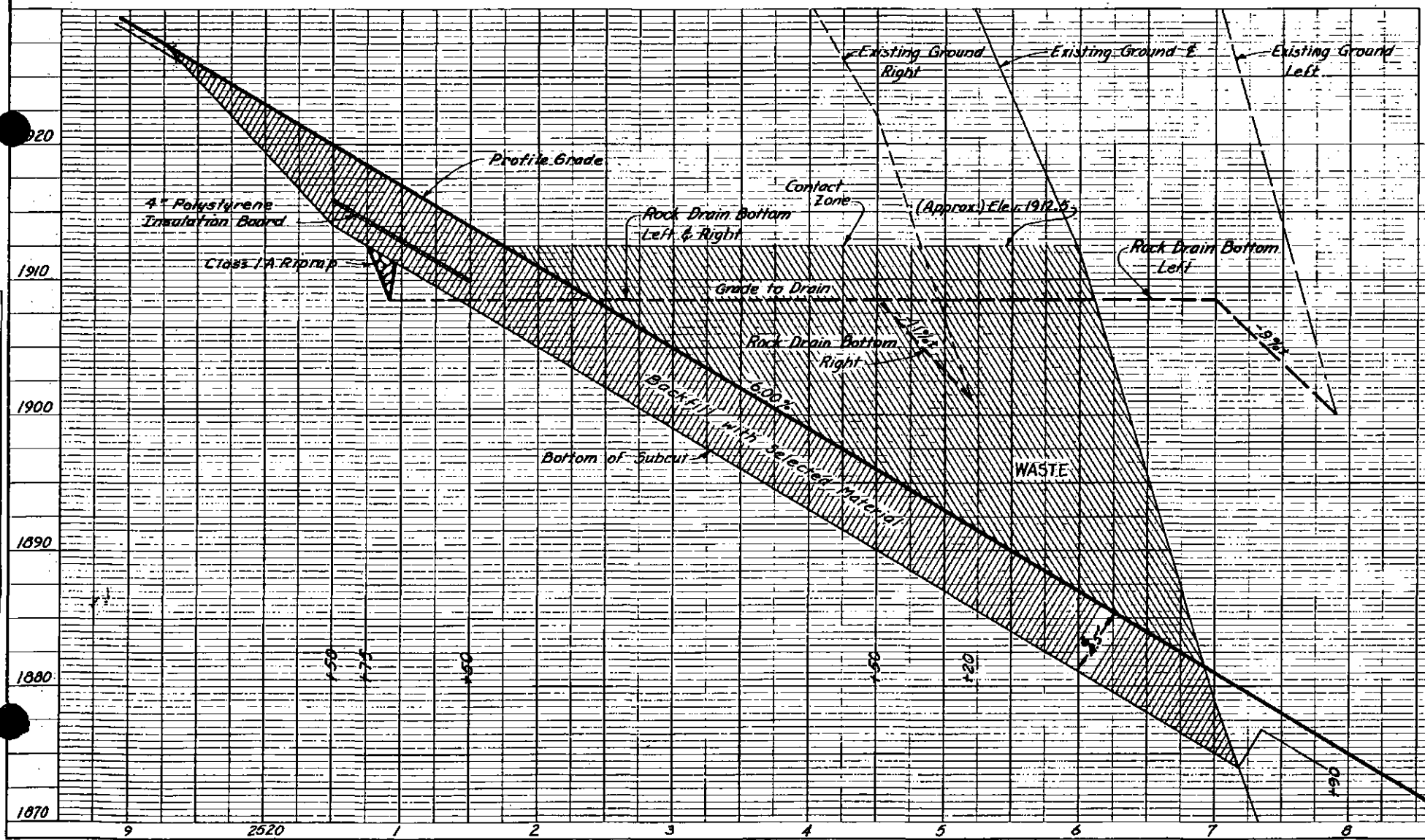


INSULATION LOCATION TYPICAL



EXCAVATION TYPICAL

Note: All Excavation from "L"2520+00 to "L"2529+00 will be sequential from ① thru ④.

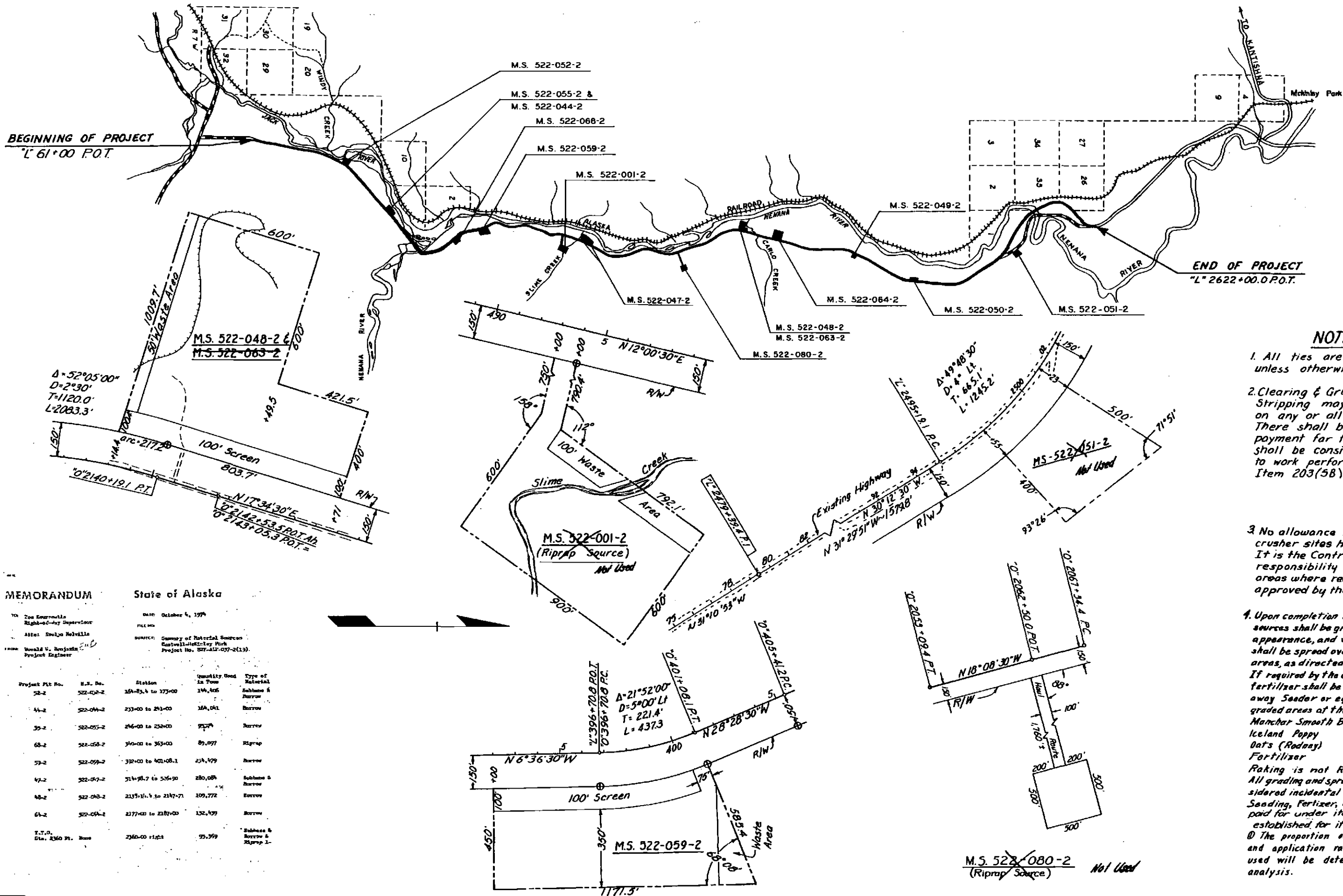


ESTIMATE OF QUANTITIES		
611(2A)	Class IA Riprap	2900 Tons
690(1)	Insulation Board	35.2 MBM

(Shown in Estimate of Quantities for Sheet No. 51)

STATE FURNISHED MATERIAL SOURCES

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	15	74



NOTES

- All ties are right angles unless otherwise indicated.
- Clearing & Grubbing and/or Stripping may be required on any or all material sites. There shall be no direct payment for this work. It shall be considered incidental to work performed under Item 203(58)
- No allowance for stockpile or crusher sites has been made. It is the Contractor's responsibility to provide these areas where required, and as approved by the Engineer.
- Upon completion of use, material sources shall be graded to a neat appearance, and waste material shall be spread over exposed gravel areas, as directed by the engineer. If required by the engineer, seed and fertilizer shall be spread with a Whirl-away Seeder or equivalent over the graded areas at the following rates:
 Manchar Smooth Brome - 1 lb./1000 Sq. Ft.
 Iceland Poppy - 0.02 lb./1000 Sq. Ft.
 Oat's (Roadway) - 1 lb./1000 Sq. Ft.
 Fertilizer O
 Raking is not Required
 All grading and spreading shall be considered incidental to other pay items. Seeding, Fertilizer, and Watering shall be paid for under item 111(1) at unit prices established for item 61B(1) & 61B(2).
 O The proportion of chemical ingredients and application rate of fertilizer to be used will be determined by laboratory analysis.

MEMORANDUM

State of Alaska

To: Tom Kouroukalis
Right-of-Way Supervisor

From: Donald V. Benjamins
Project Engineer

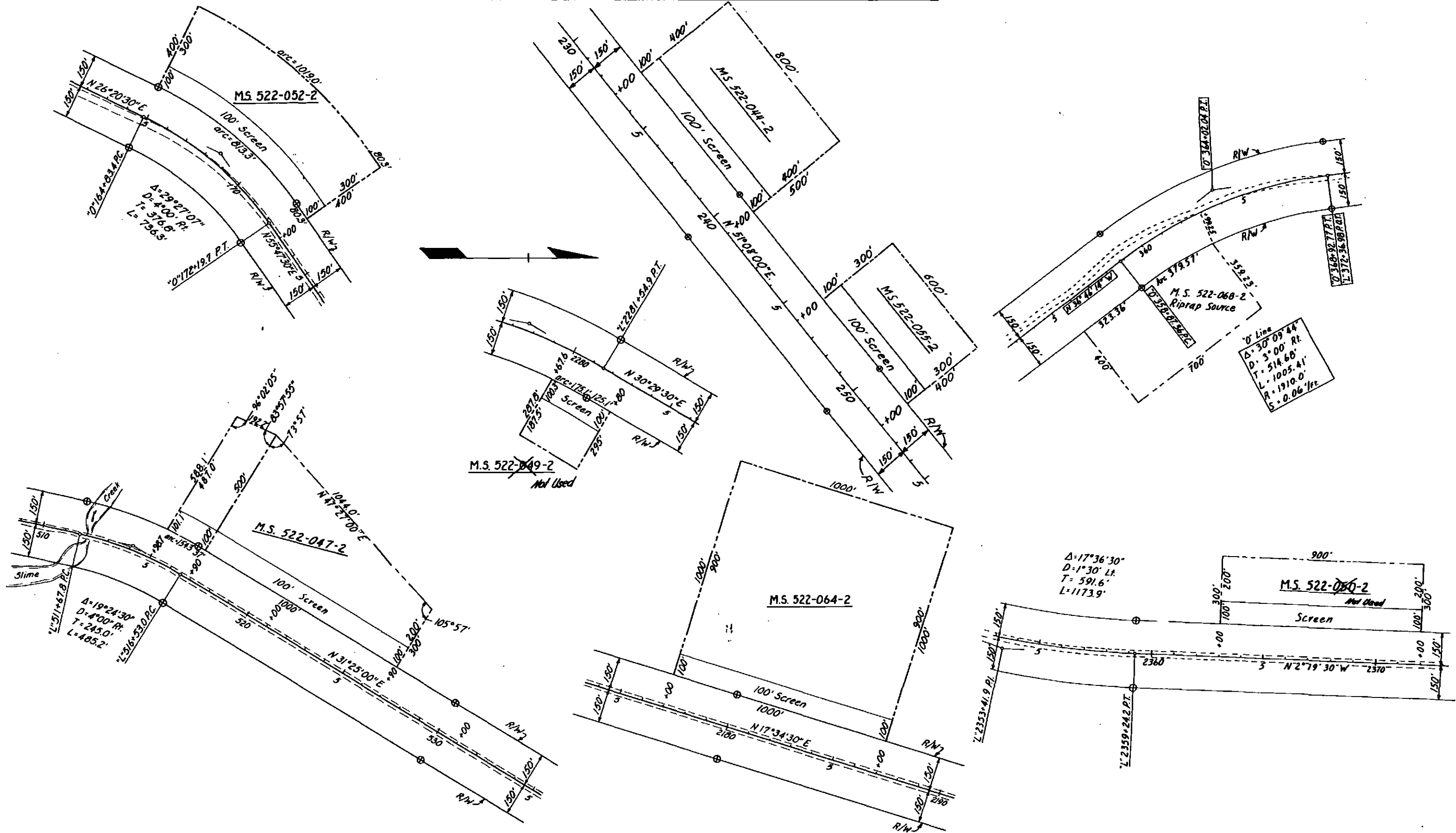
DATE: October 4, 1972

SUBJECT: Summary of Material Sources
Southwest of Sockeye Hook
Project No. 522-117-07-2(13)

Project Pit No.	M.S. No.	Station	Quantity Used In Tons	Type of Material
52-2	522-052-2	164+83.4 to 175+00	194,405	Subbase & Barrow
44-2	522-044-2	233+00 to 241+00	164,041	Barrow
39-2	522-039-2	246+00 to 252+00	95,279	Barrow
68-2	522-068-2	340+00 to 363+00	89,077	Riprap
59-2	522-059-2	332+00 to 401+08.1	234,479	Barrow
47-2	522-047-2	314+98.7 to 326+90	280,084	Subbase & Barrow
48-2	522-048-2	2135+16.4 to 2147+71	109,772	Barrow
64-2	522-064-2	2177+00 to 2187+00	132,459	Barrow
T.T.O. Sta. 2360 St. Run		2360+00 to 2364	75,359	Subbase & Barrow & Riprap 1-

STATE FURNISHED MATERIAL SOURCES

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1971	16	74

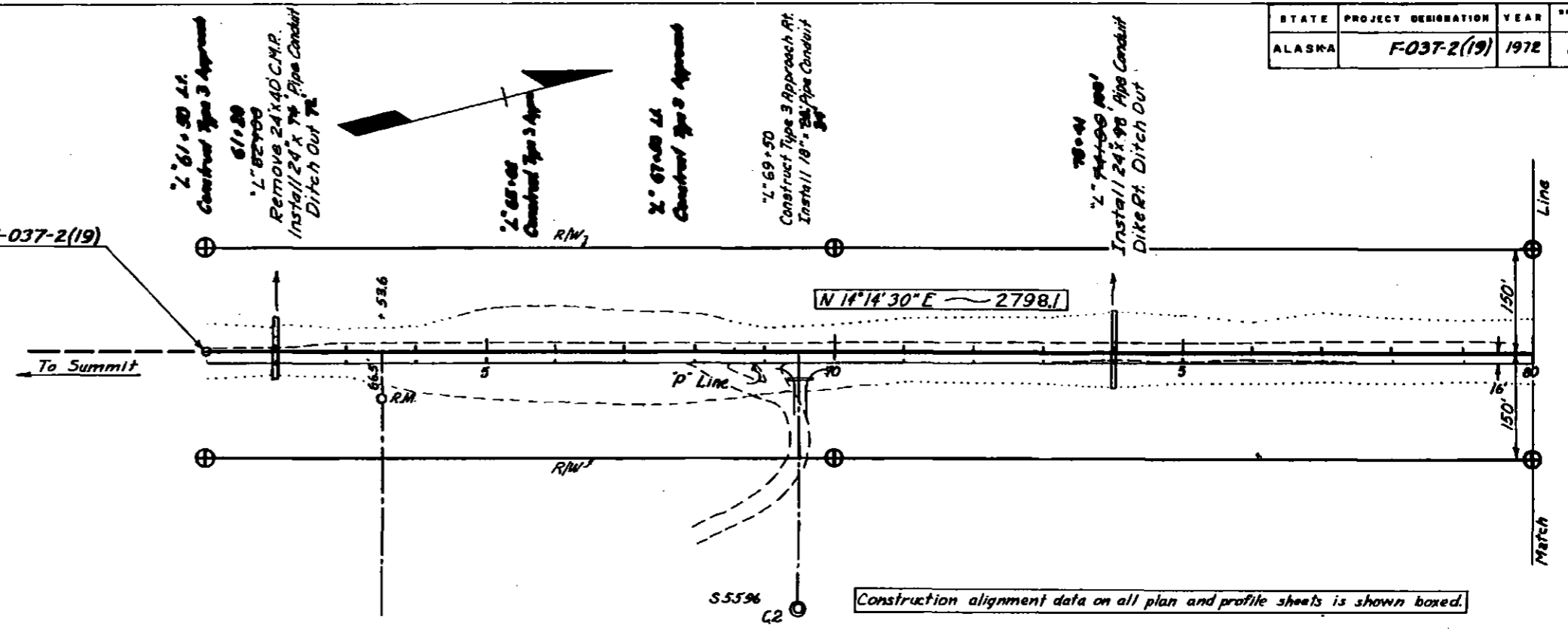


STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	17	74

BEGINNING OF PROJECT
Sta. L 61+00.0

Origin of bearings is centerline of Paxson-Cantwell Sta. road, determined by B.L.M. to be N.70°05'W. on U.S. Surveys No. 3203 and No. 3229.

Origin of elevations is U.S.C. & G.S. monument "P3-1922" 2.8 miles south of Cantwell R.R. siding. Elevation carried by differential levels to B.L.M. brass corner cap on U.S.S. No. 3229 located 174' West and 100' South of existing Cantwell-McKinley Park road intersection.



Construction alignment data on all plan and profile sheets is shown boxed.

B.L.M. 53229 El. 2157.99
Brass Cap 174' West & 100'
South Cantwell-McKinley Rd.

T.B.M. 6N. El. 2101.02
Spike in top of 10" Spruce Stump
132' Lt. Sta. 66+84

T.B.M. 7N. El. 2094.15
R.R. Spike in top of 8" Spruce Stump
114' Lt. Sta. 74+81

Construction Line

Excavation	Cu Yds.
Embankment	Tons
Borrow	Tons
Selected Material	Tons
Subbase	Tons

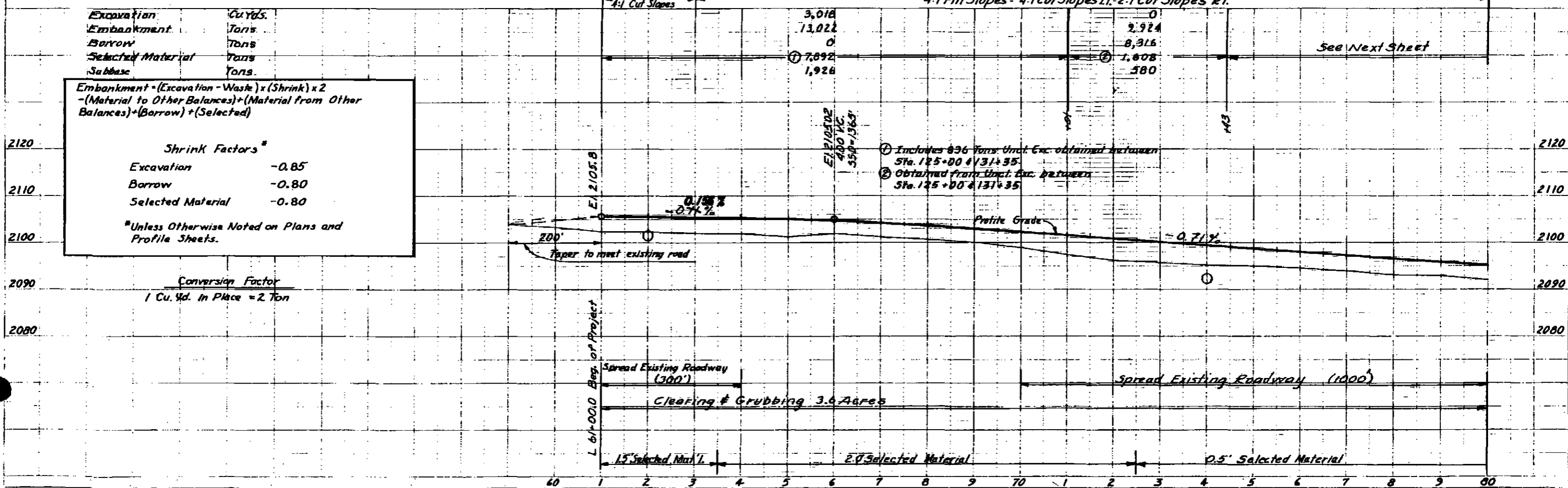
$$\text{Embankment} = (\text{Excavation} - \text{Waste}) \times (\text{Shrink}) \times 2$$

$$- (\text{Material to Other Balances}) + (\text{Material from Other Balances}) + (\text{Borrow}) + (\text{Selected})$$

Shrink Factors*

Excavation	-0.85
Borrow	-0.80
Selected Material	-0.80

*Unless Otherwise Noted on Plans and Profile Sheets.



Spread Existing Roadway (300')

CLEARING & GRUBBING 3.6 ACRES

1.5' Selected Mat'l.

2.0' Selected Material

0.5' Selected Material

Spread Existing Roadway (1000')

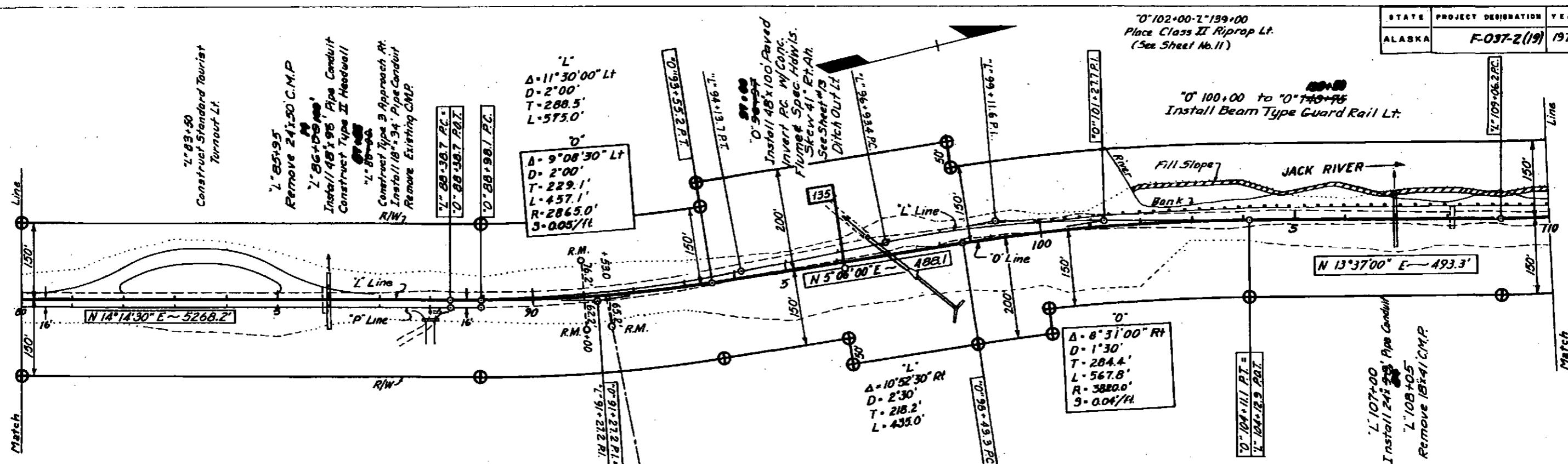
PLAN

PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	18	74

0+102+00-2+139+00
Place Class II Riprap Lt.
(See Sheet No. 11)

0+100+00 to 0+140+00
Install Beam Type Guard Rail Lt.



T.B.M. 8N El. 2093.67
Spike in top of 11" Spruce Stump
134 Lt. Sta. 93+42

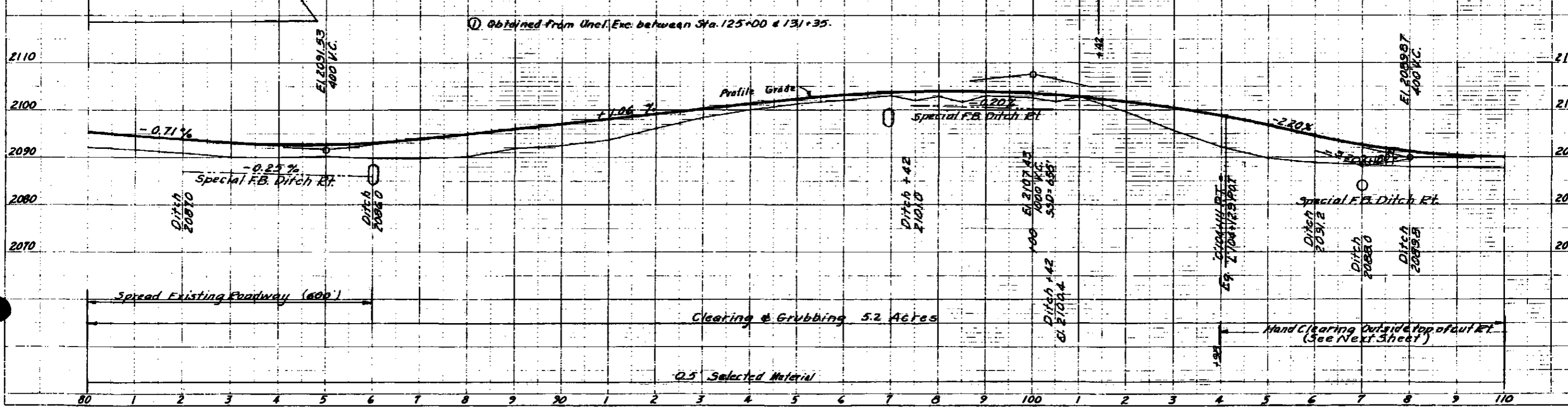
T.B.M. 9N El. 2204.17
Spike in top Spruce Stump
164 Rt. Sta. 101+84

Construction Line
T.B.M. 10N El. 2222.16
Spike in top of 11" Spruce Stump
114 Rt. Sta. 109+87

4:1 Fill Slopes - 4:1 Cut Slopes 3:1 Fill Slopes Lt. - 4:1 Fill Slopes Rt. 4:1 Fill Slopes - 4:1 Cut Slopes Lt. - 1 1/2:1 Cut Slopes Rt. 2:1 Fill Slopes Lt. - 4:1 F.S. Rt. 2:1 Fill Slopes Lt. - 1/2:1 Cut Slopes Rt.

Excavation	cu. yd.	Embankment	Tons	Borrow	Tons	Selected Material	Tons	Sabbars	Tons
			82,541		61,124	0	5,206	5,206	

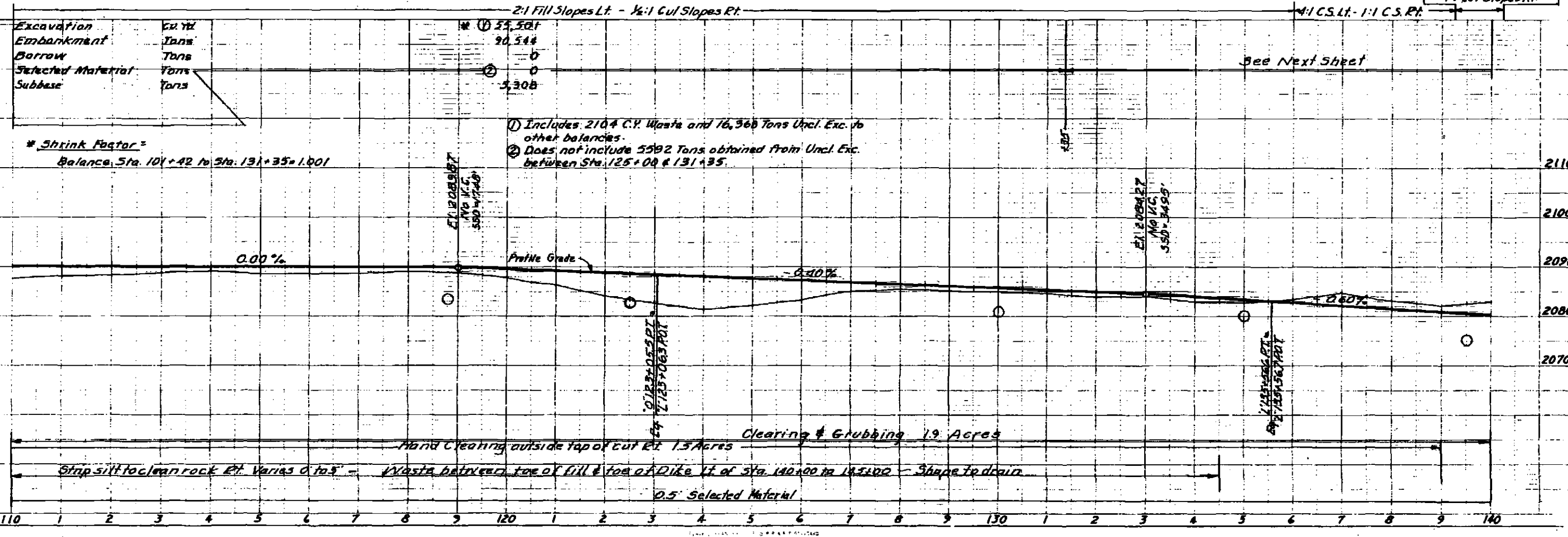
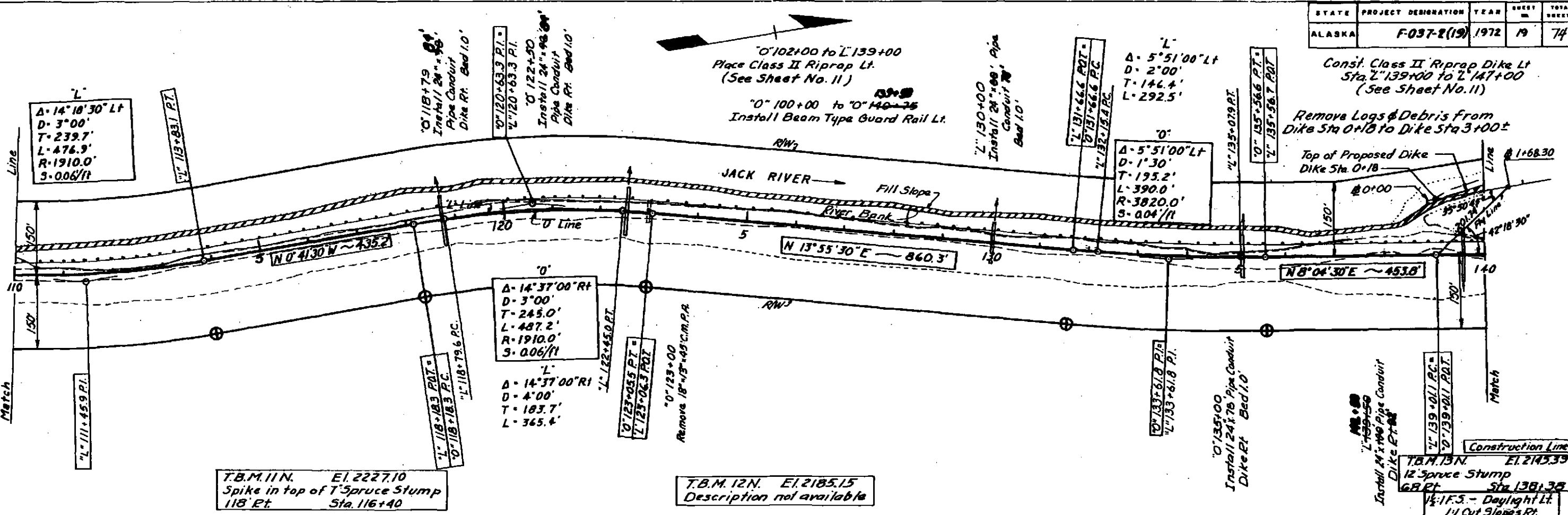
① Obtained from Uncl. Elev. between Sta. 125+00 & 131+35.

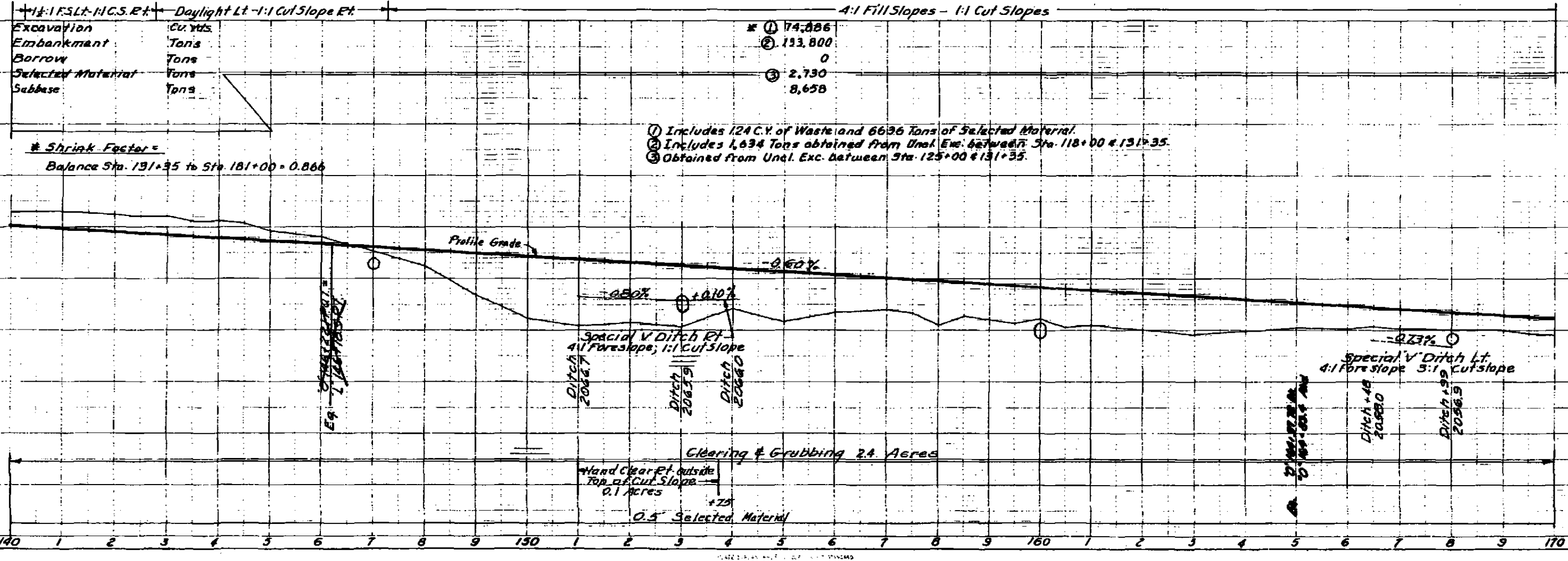
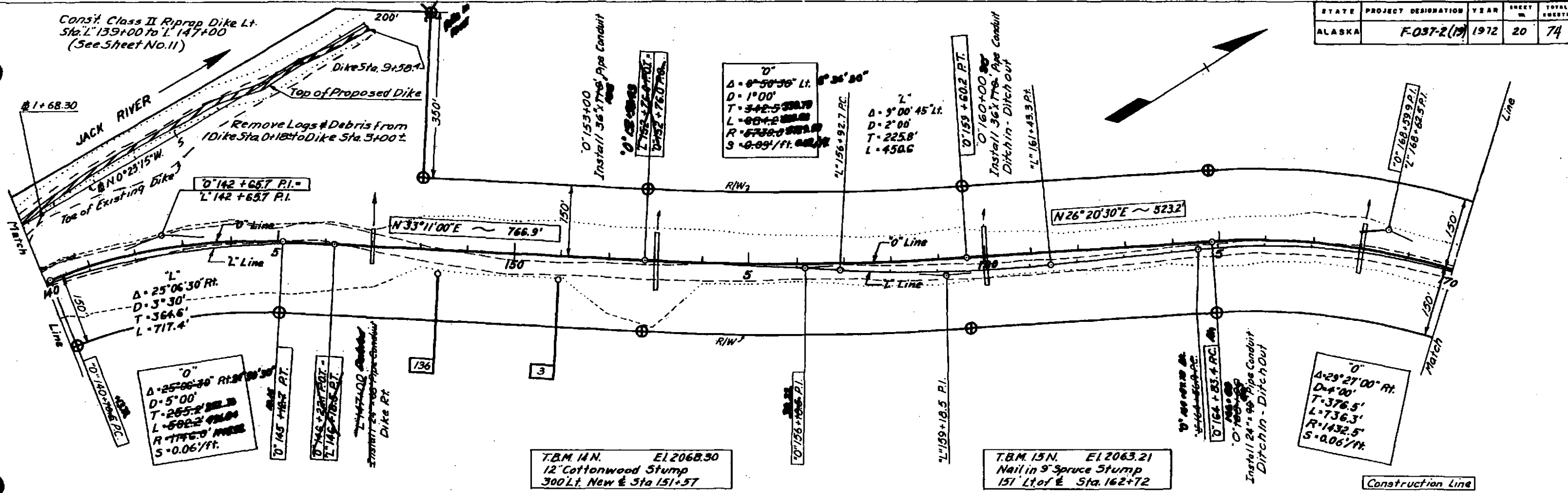


PLAN

PROFILE

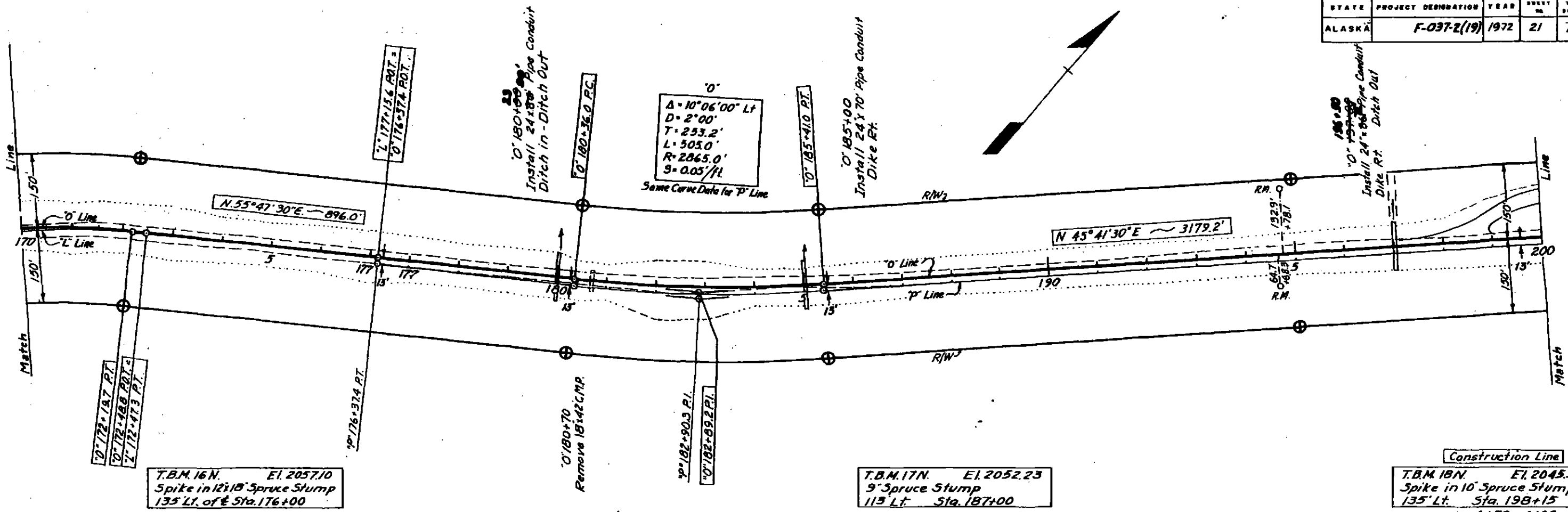
STATE	PROJECT DESIGNATION	YEAR	SHEET	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	19	74





STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	21	74

PLAN

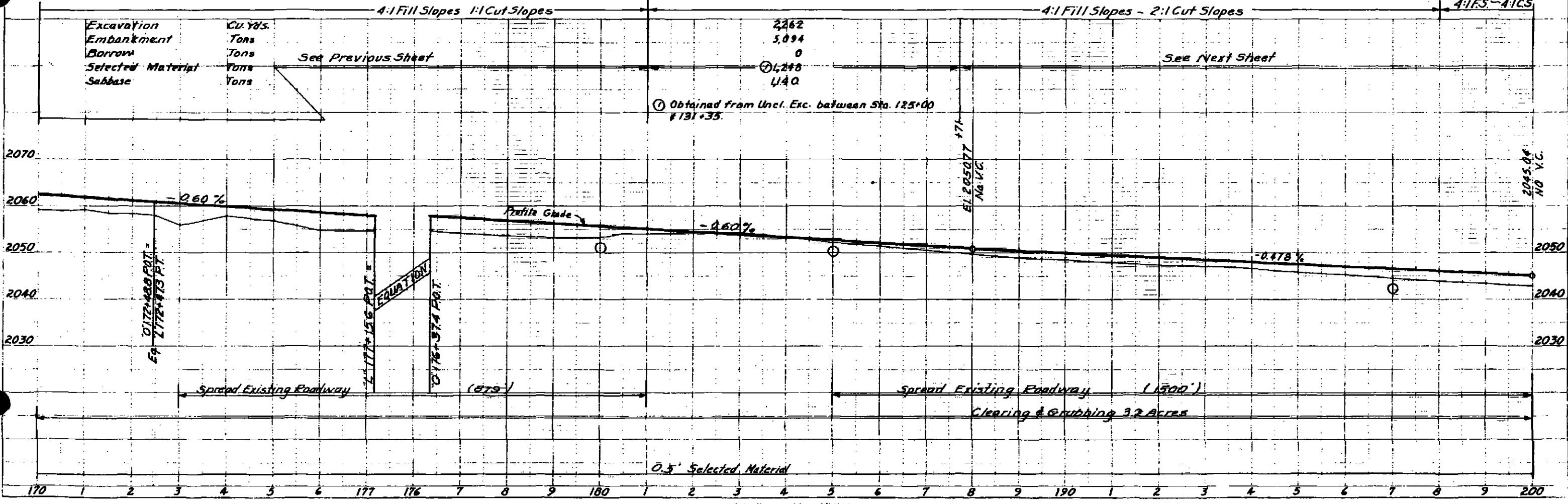


T.B.M. 16 N. El. 2057.10
Spike in 12" x 18" Spruce Stump
135' Lt. of Sta. 176+00

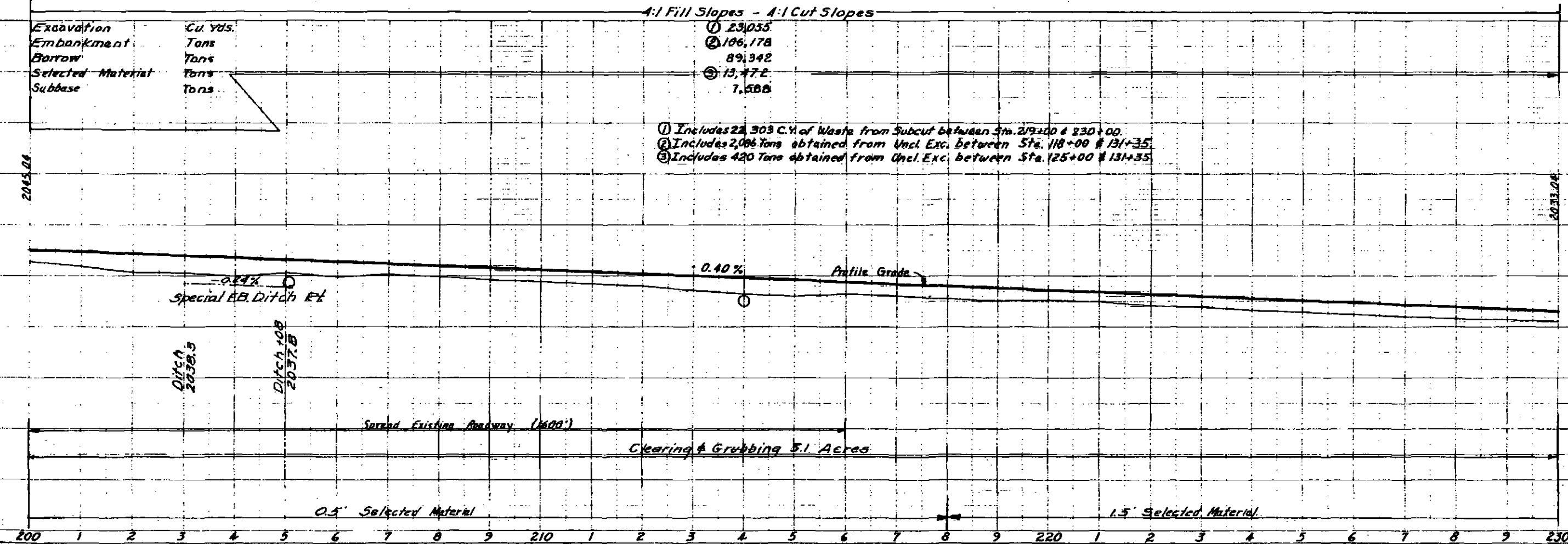
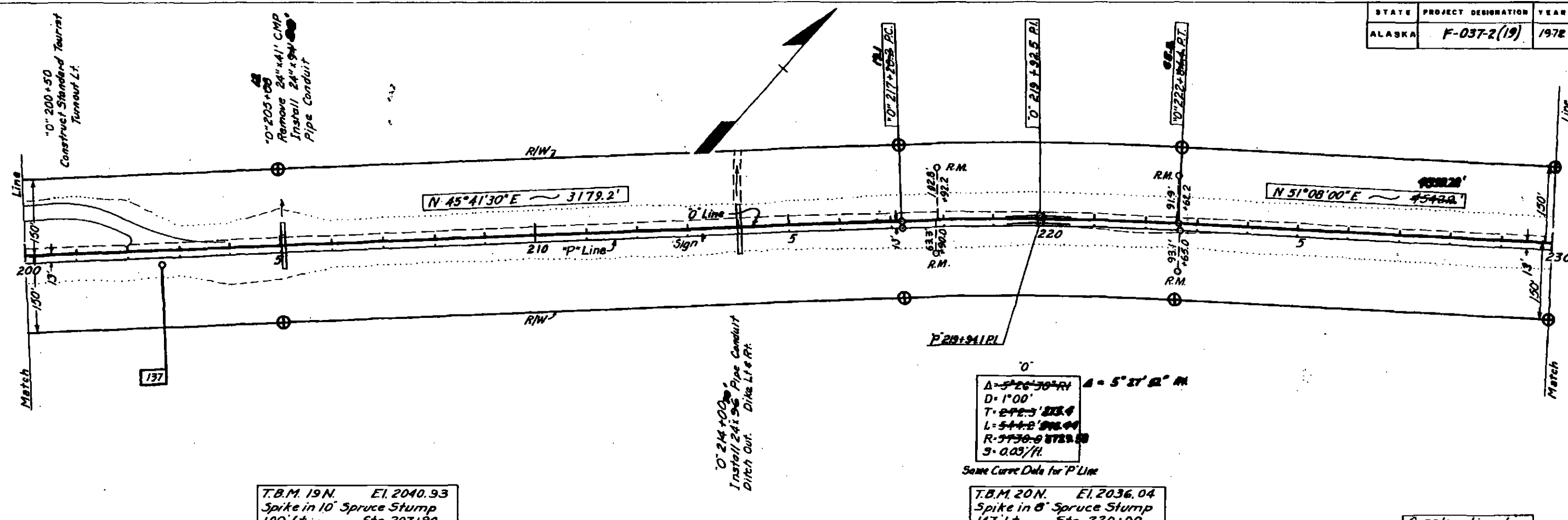
T.B.M. 17 N. El. 2052.23
9" Spruce Stump
113' Lt. Sta. 187+00

Construction Line
T.B.M. 18 N. El. 2045.34
Spike in 10" Spruce Stump
135' Lt. Sta. 198+15

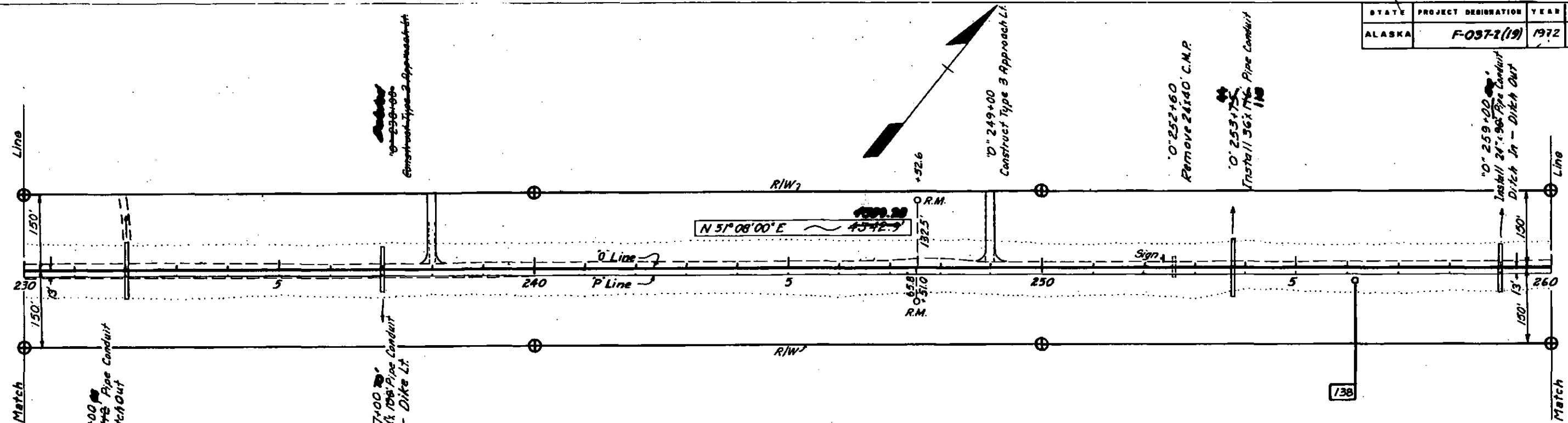
PROFILE



STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	22	74



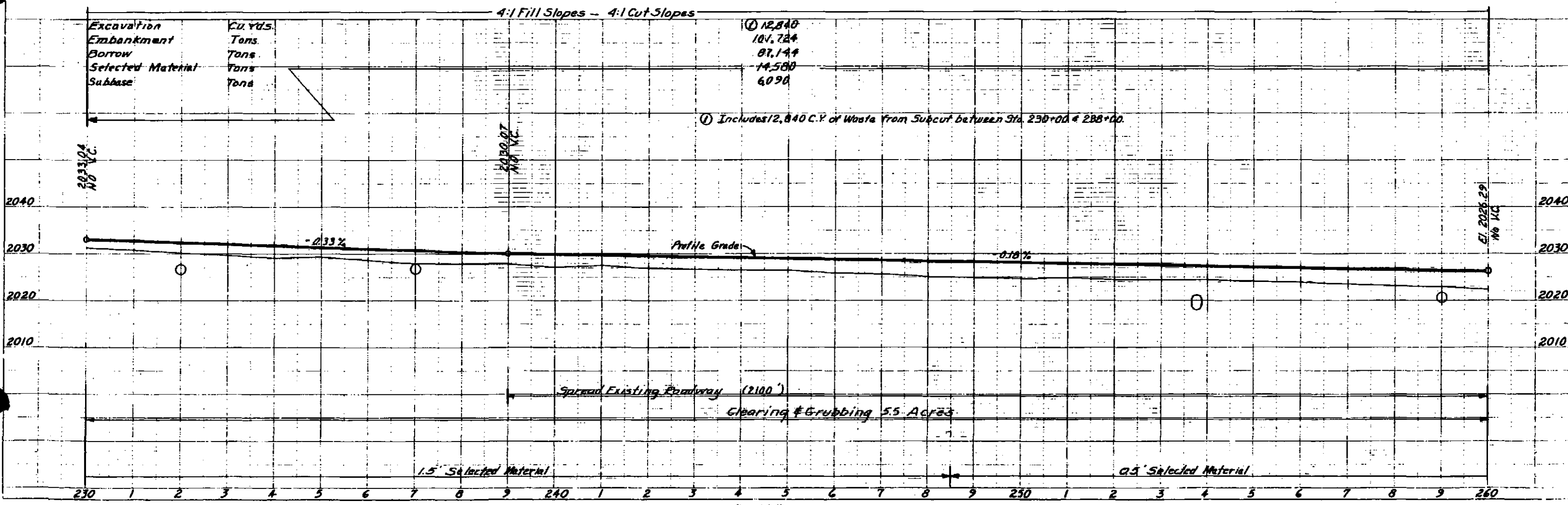
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	25	74



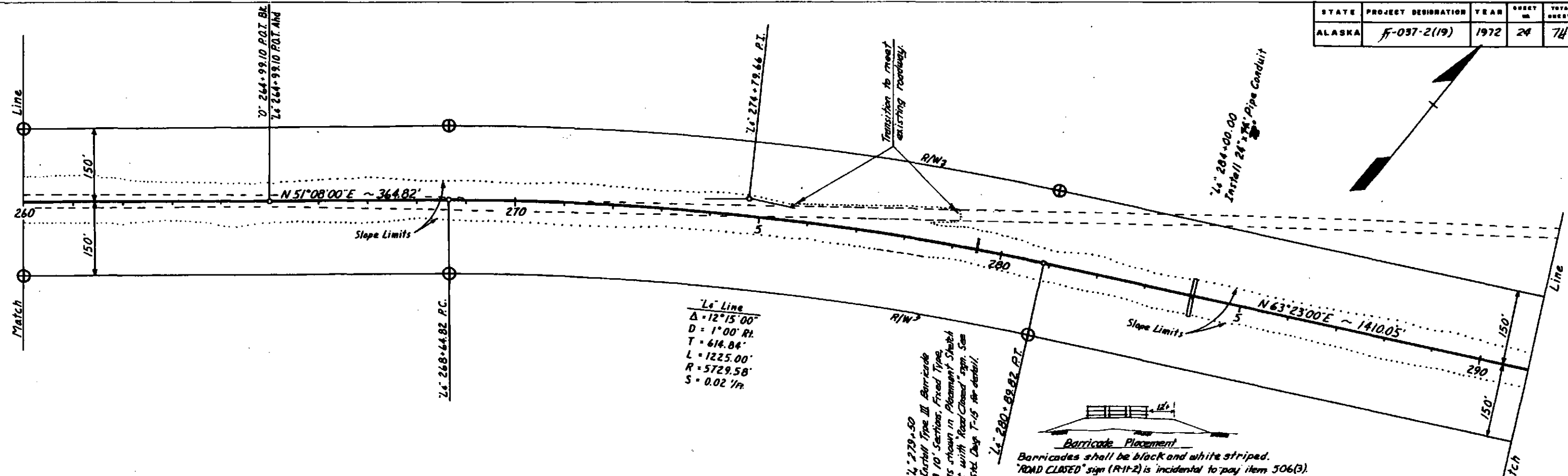
T.B.M. 21 N. El. 2030.21
Spike in top of 9" Spruce Stump
99' Pt. Sta. 233+36

T.B.M. 22 N. El. 2026.55
Spike in top of 9" Spruce Stump
128' Lt. Sta. 244+61

Construction Line
T.B.M. 23 N. El. 2025.00
Spike in top of 10" Spruce Stump
106' Rt. Sta. 256+07

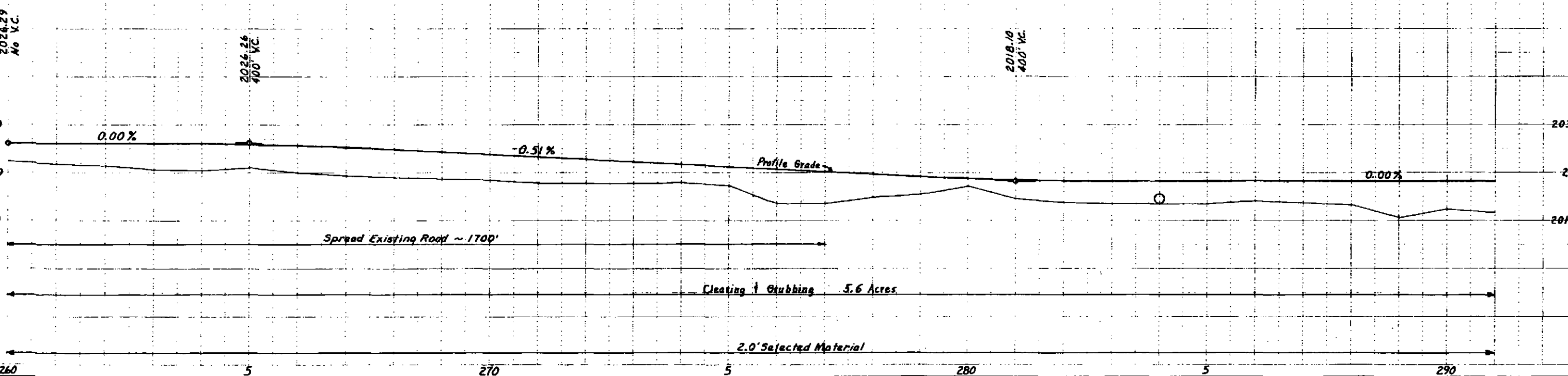


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	24	74

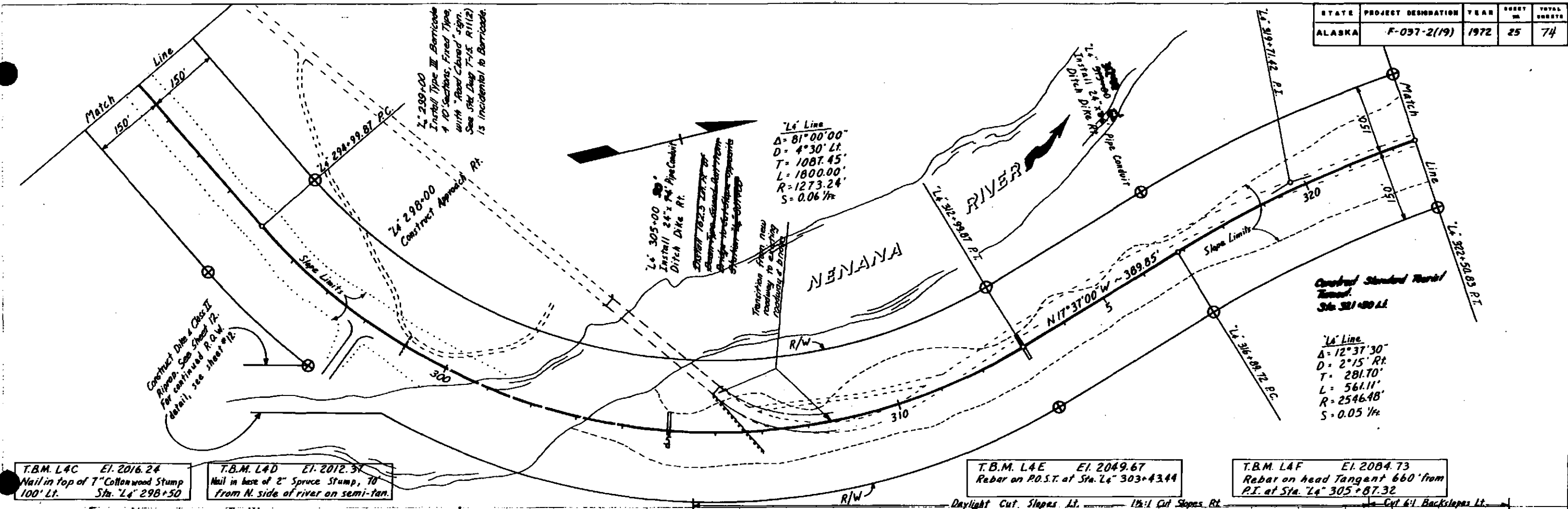


Excavation	Cu. Yd.	0	Cu. Yd.
Embankment	Tons	135,066	Tons
Borrow	Tons	106,646	Tons
Selected Material	Tons	28,420	Tons
Subbase	Tons	6,270	Tons

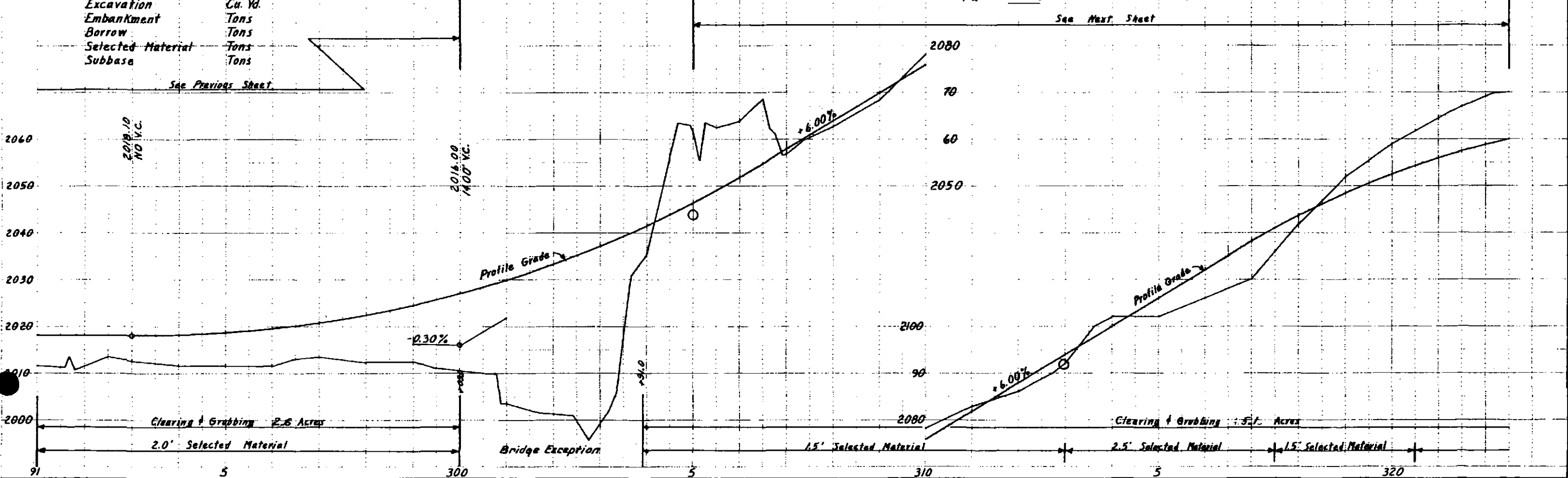
See Previous Sheet



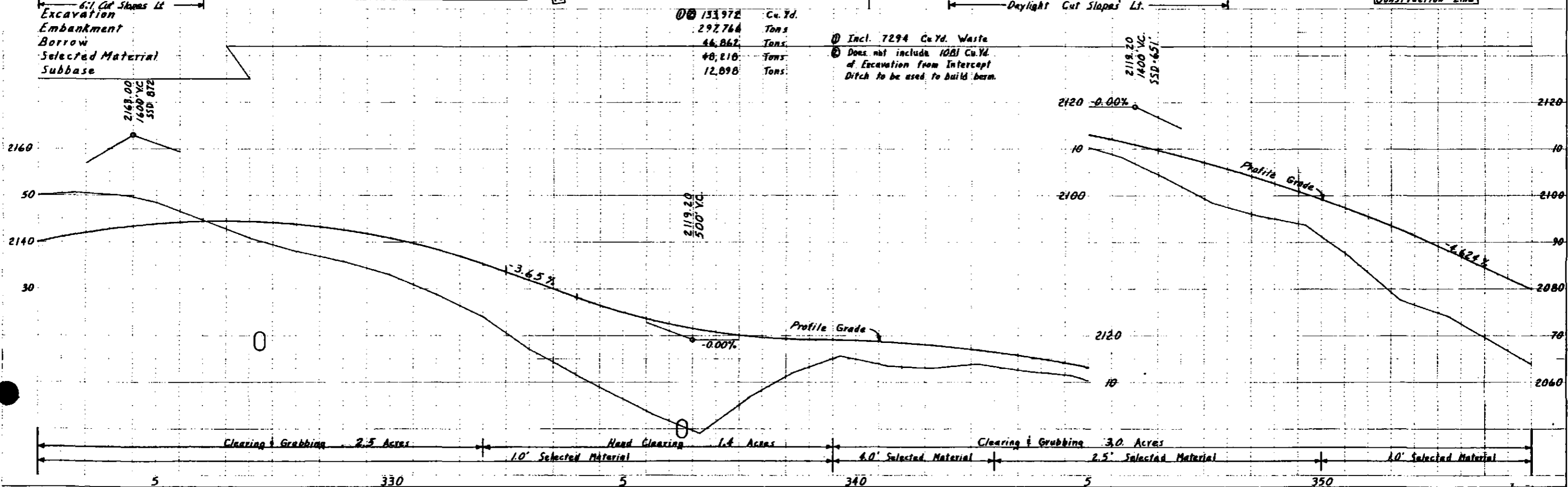
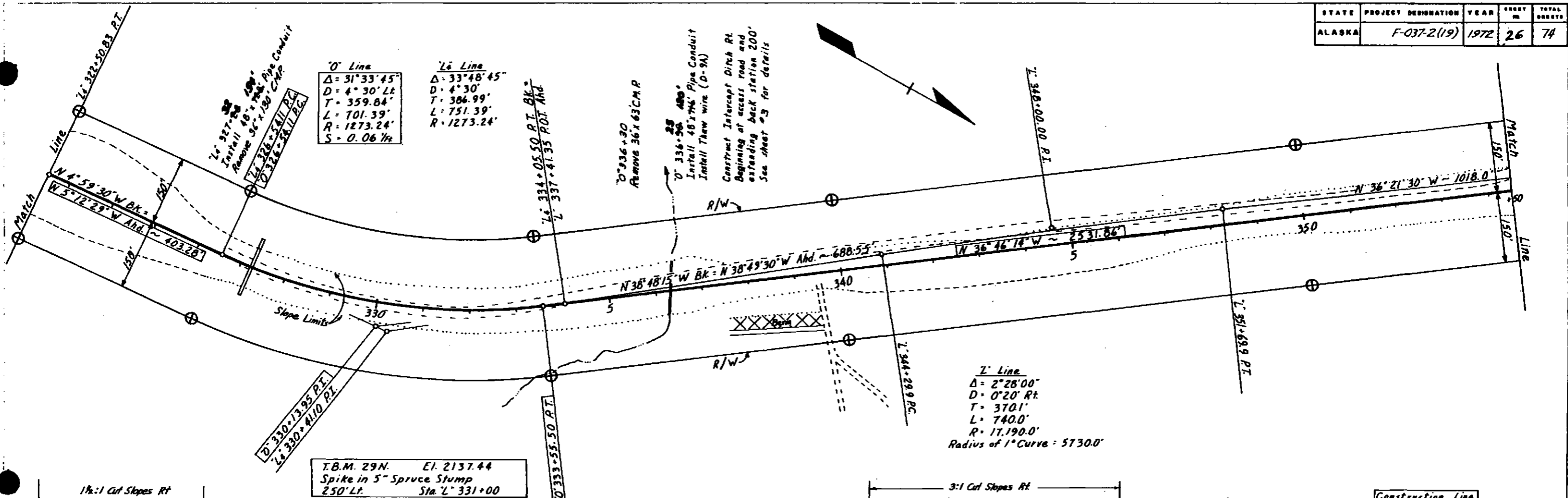
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	25	74



T.B.M. L4C El. 2016.24 Nail in top of 7" Cottonwood Stump Sta. L4 298+50
 T.B.M. L4D El. 2012.31 Nail in base of 2" Spruce Stump, 70' from N. side of river on semi-tan.
 T.B.M. L4E El. 2049.67 Rebar on P.O.S.T. at Sta. L4 303+43.44
 T.B.M. L4F El. 2084.73 Rebar on head Tangent 660' from P.I. at Sta. L4 305+87.32



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	26	74



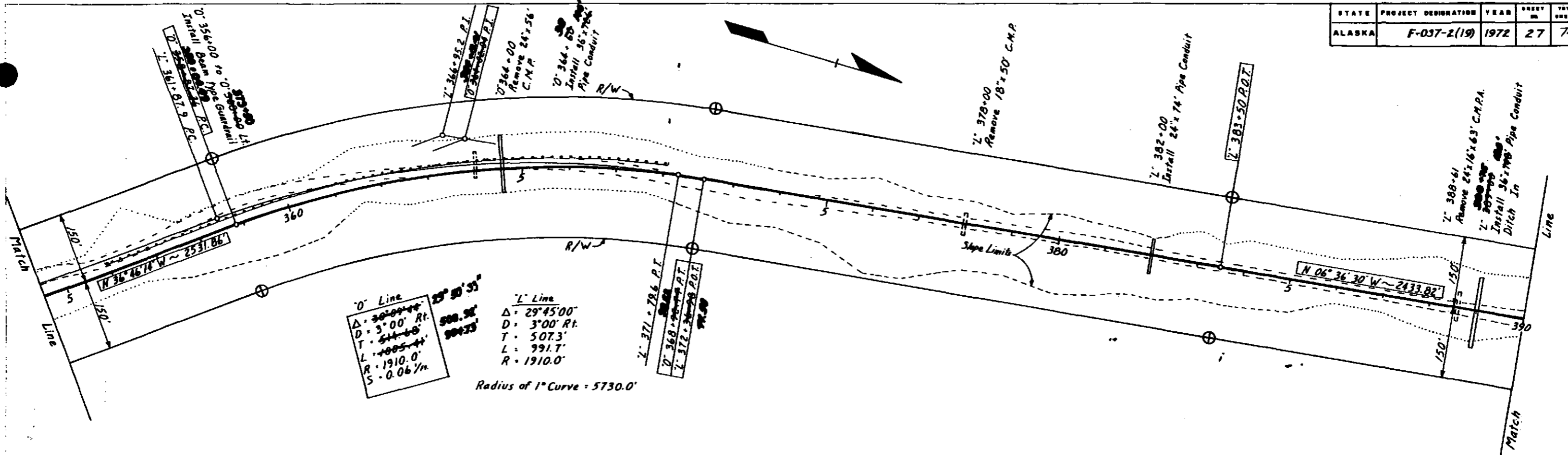
133,972	Cu. Yd.
29,764	Tons
46,862	Tons
48,810	Tons
12,898	Tons

Incl. 7294 Cu. Yd. Waste
 Does not include 1081 Cu. Yd. of Excavation from Intercept Ditch to be used to build berm.

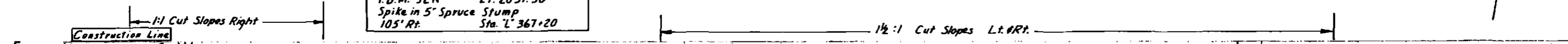
Clearing & Grubbing 2.5 Acres
 Hand Clearing 1.4 Acres
 Clearing & Grubbing 3.0 Acres

1.0' Selected Material
 4.0' Selected Material
 2.5' Selected Material
 1.0' Selected Material

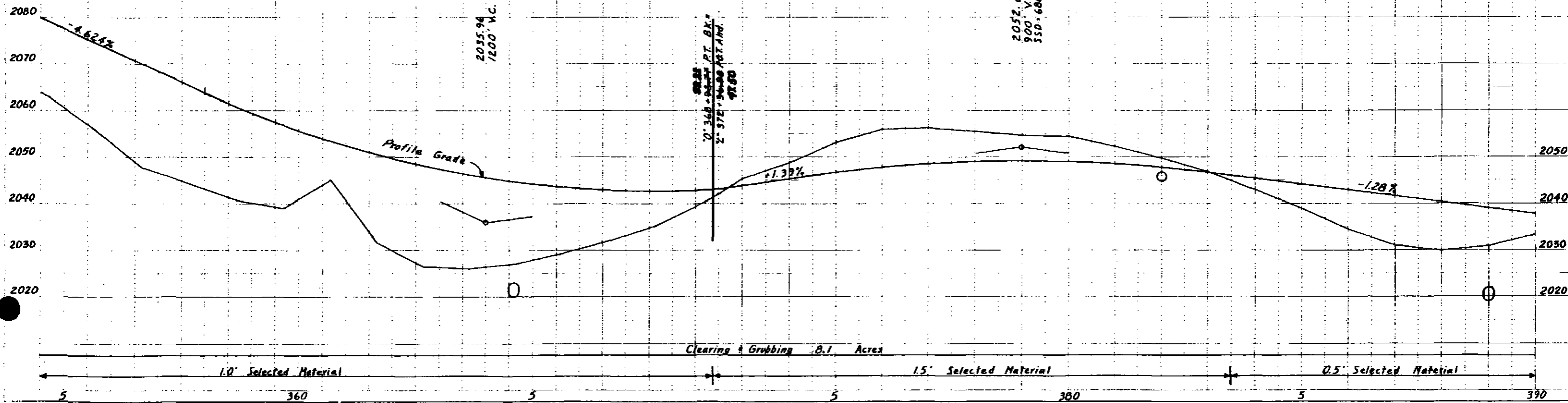
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	27	74



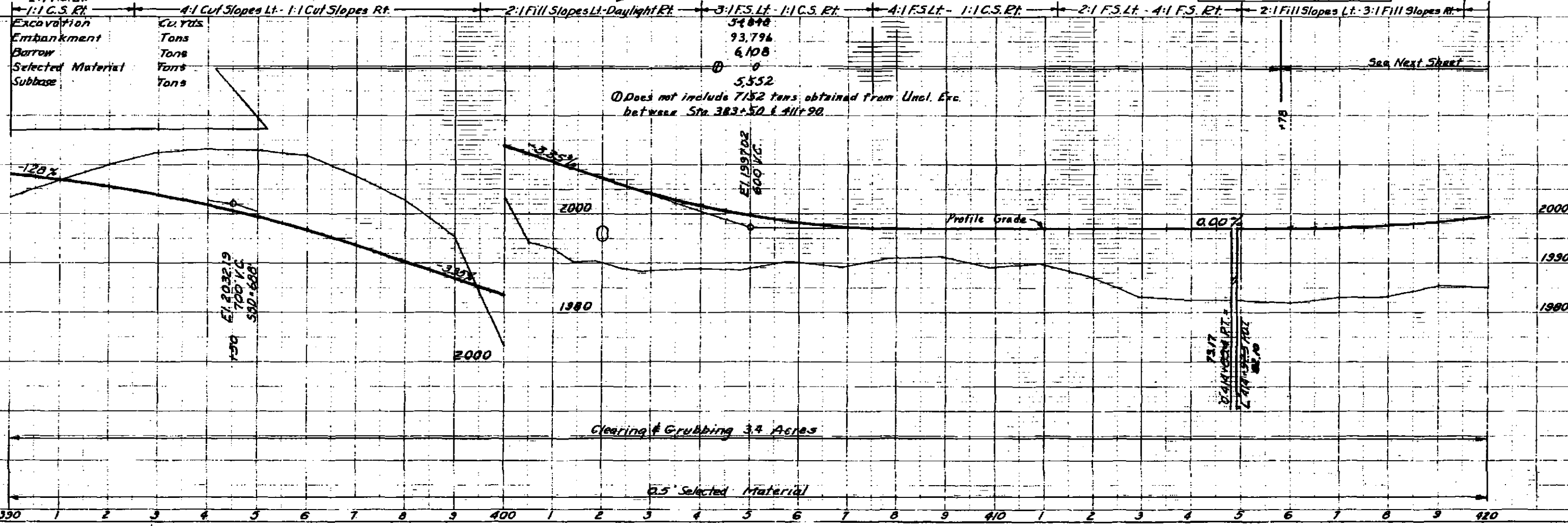
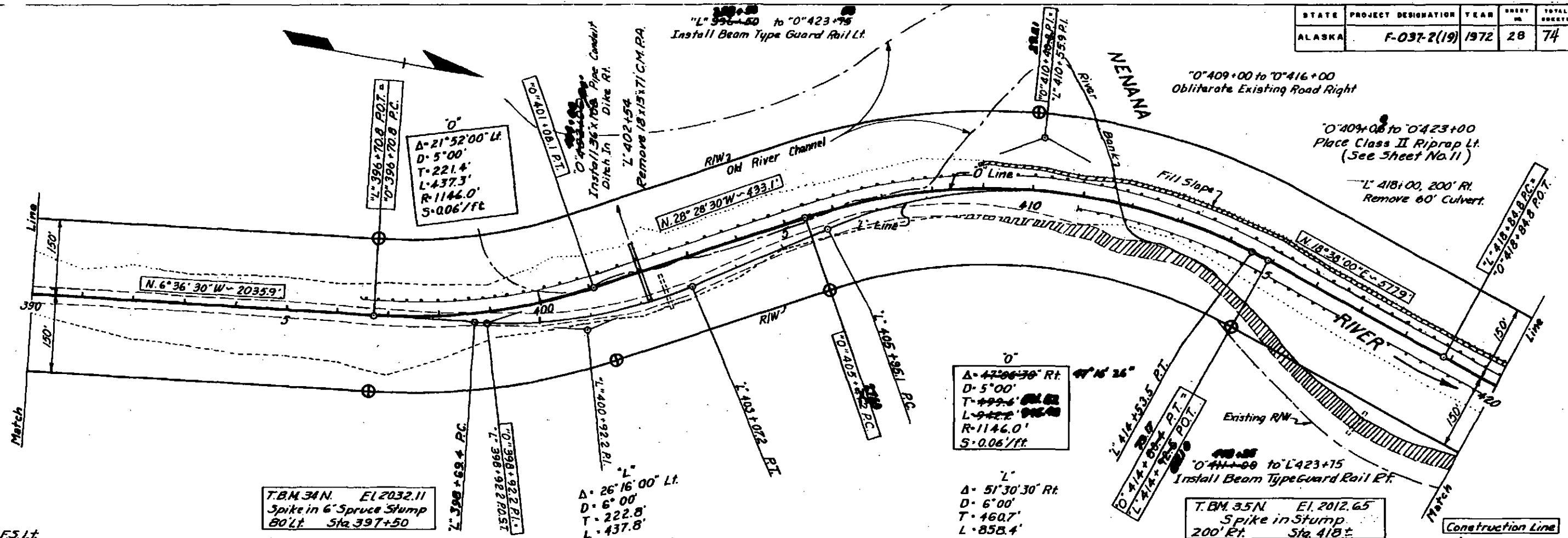
T.B.M. 32N Et. 2031.50
Spike in 5" Spruce Stump
105' Rt. Sta. L' 367+20



Excavation	Cu Yd.
Embankment	Tons
Borrow	Tons
Selected Material	Tons
Subbase	Tons



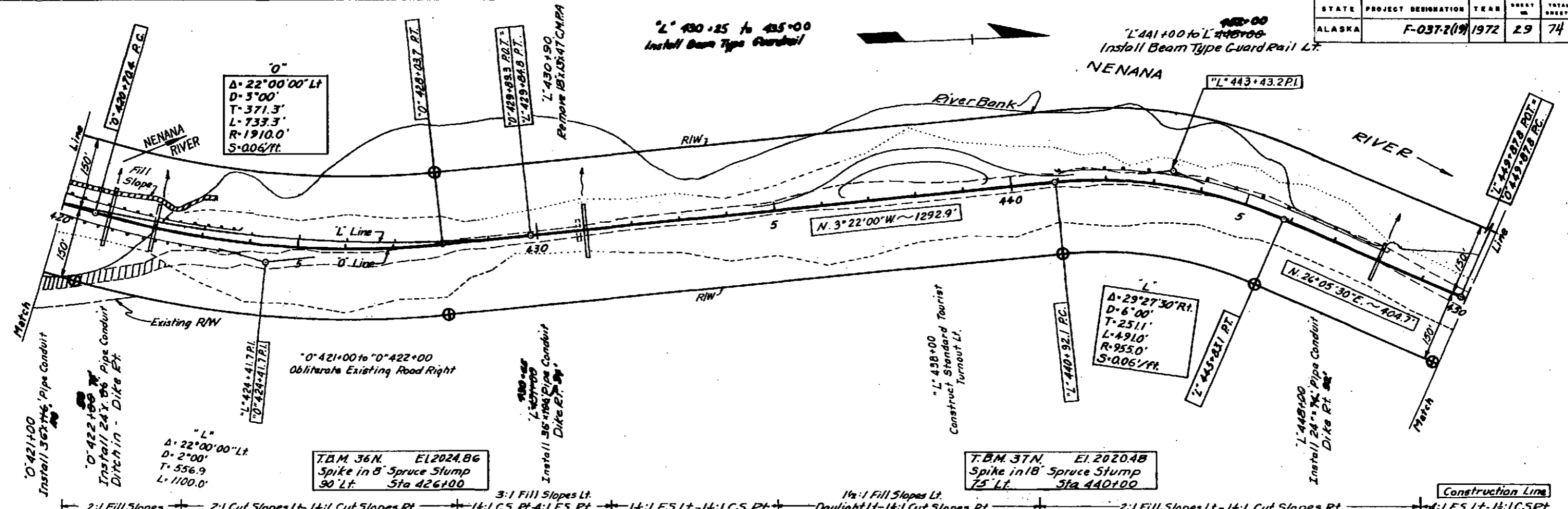
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	28	74



STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	29	74

"L" 430+25 to 435+00
Install Beam Type Guardrail

"L" 441+00 to "L" 448+00
Install Beam Type Guard Rail Lt.

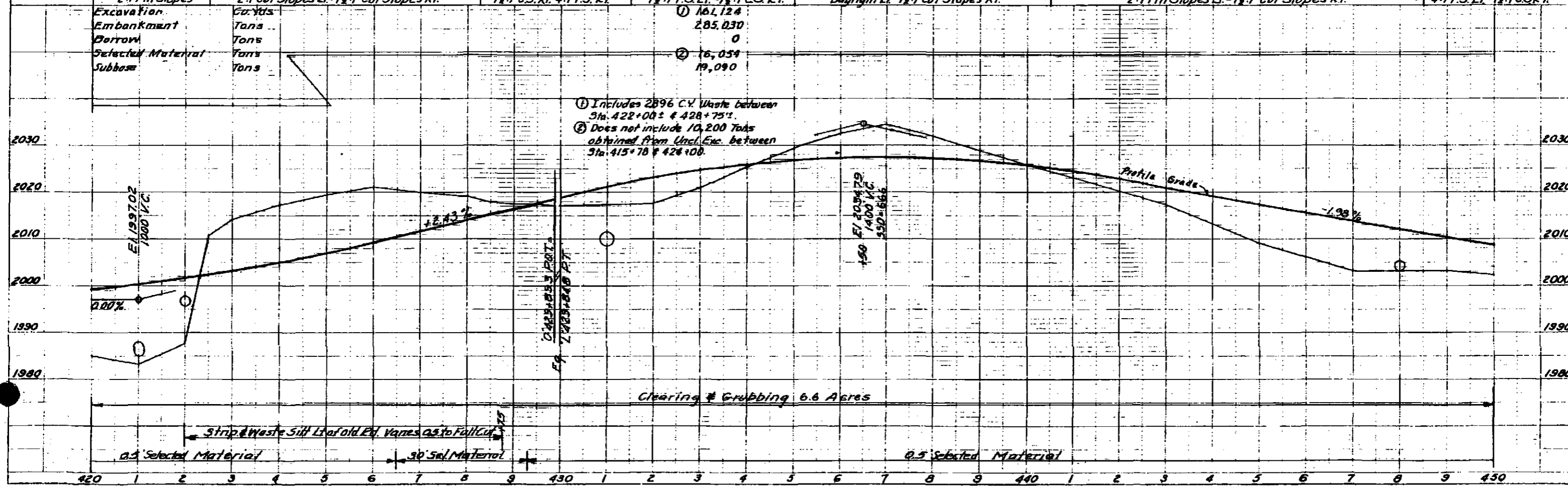


T.B.M. 36N. El. 2024.86
Spike in 8" Spruce Stump
90' Lt. Sta 426+00

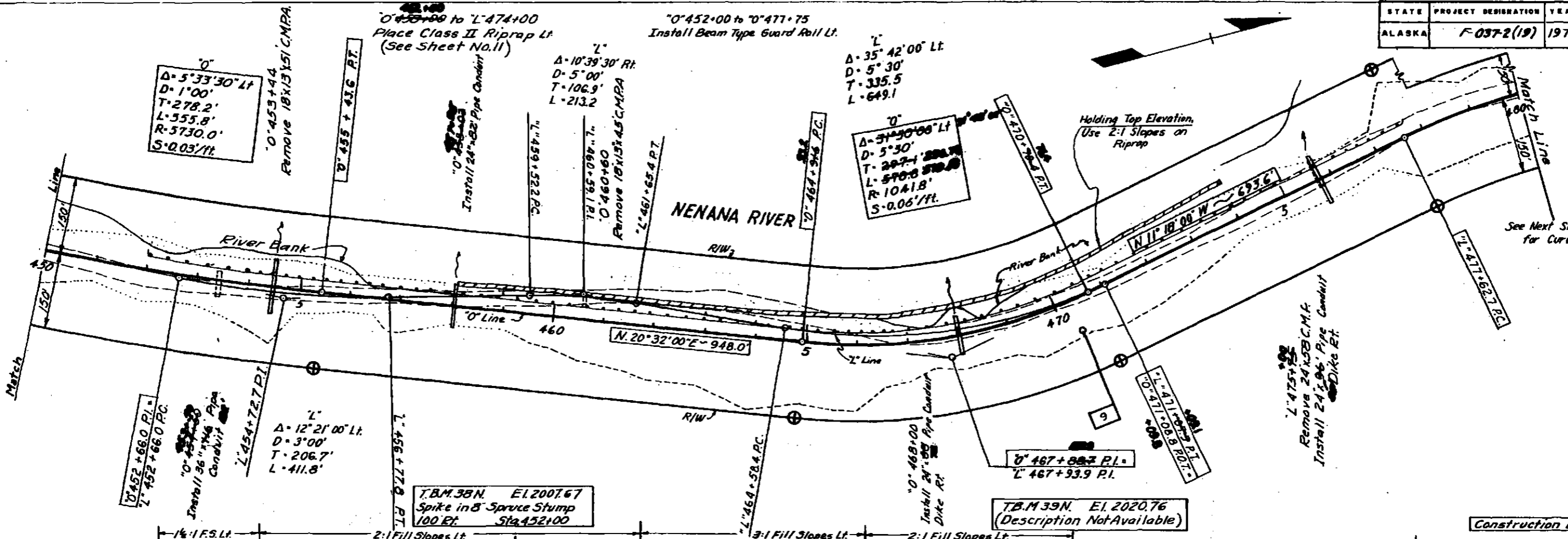
T.B.M. 37N. El. 2020.48
Spike in 18" Spruce Stump
75' Lt. Sta 440+00

Excavation	Embankment	Borrow	Selected Material	Subbase	Cu Yds	Tons	Tons	Tons	Tons
2:1 Fill Slopes	2:1 Cut Slopes Lt.	1 1/2:1 Cut Slopes Rt.	1 1/2:1 C.S. Rt.	4:1 F.S. Rt.	1 1/2:1 F.S. Lt.	1 1/2:1 C.S. Rt.	1 1/2:1 F.S. Lt.	1 1/2:1 C.S. Rt.	2:1 Fill Slopes Lt.
161,124	285,030	0	16,059	19,090					

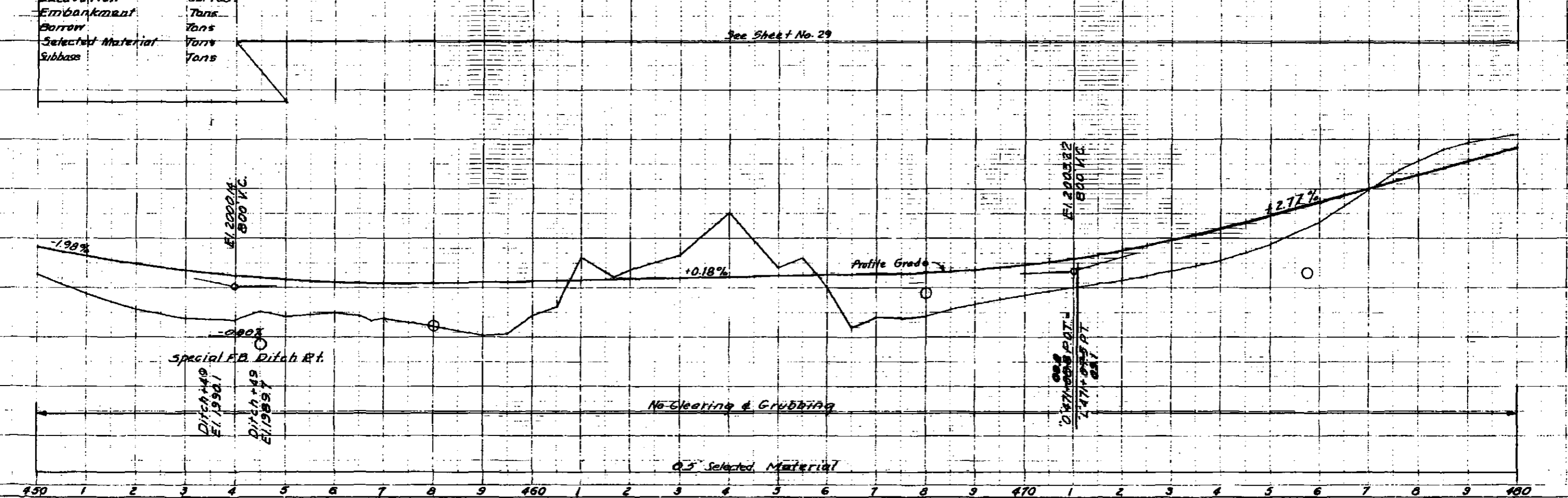
- ① Includes 2896 C.Y. Waste between Sta. 428+00 ± & 428+75 ±.
- ② Does not include 10,200 Tons obtained from Uncl. Exc. between Sta. 415+78 & 426+00.



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	30	74



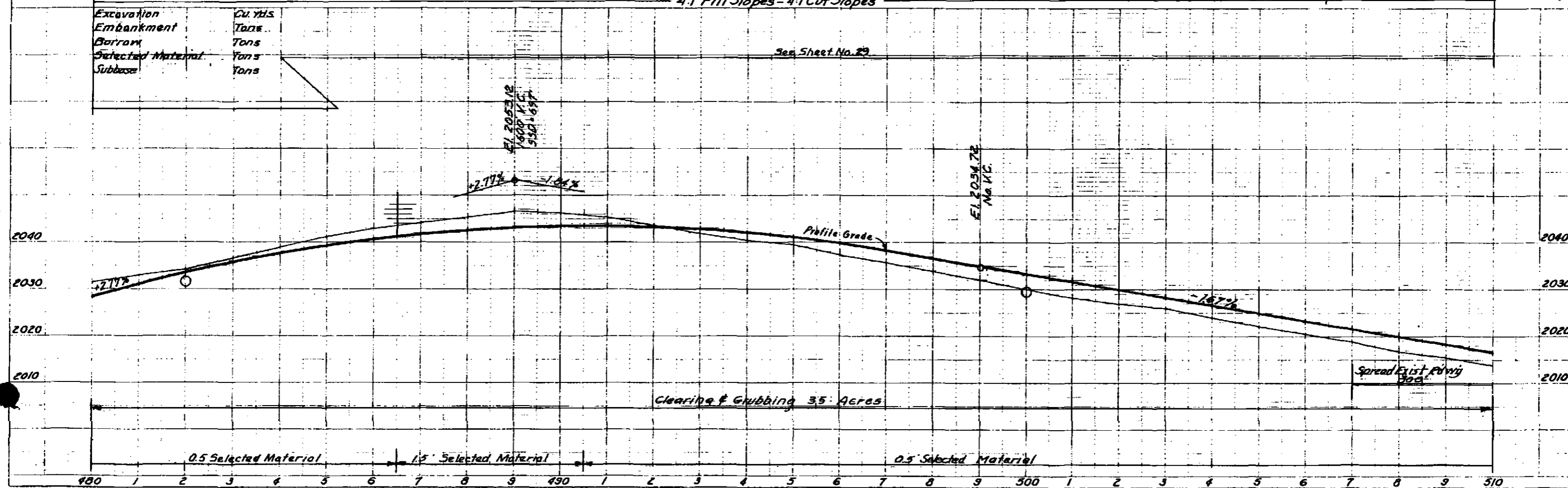
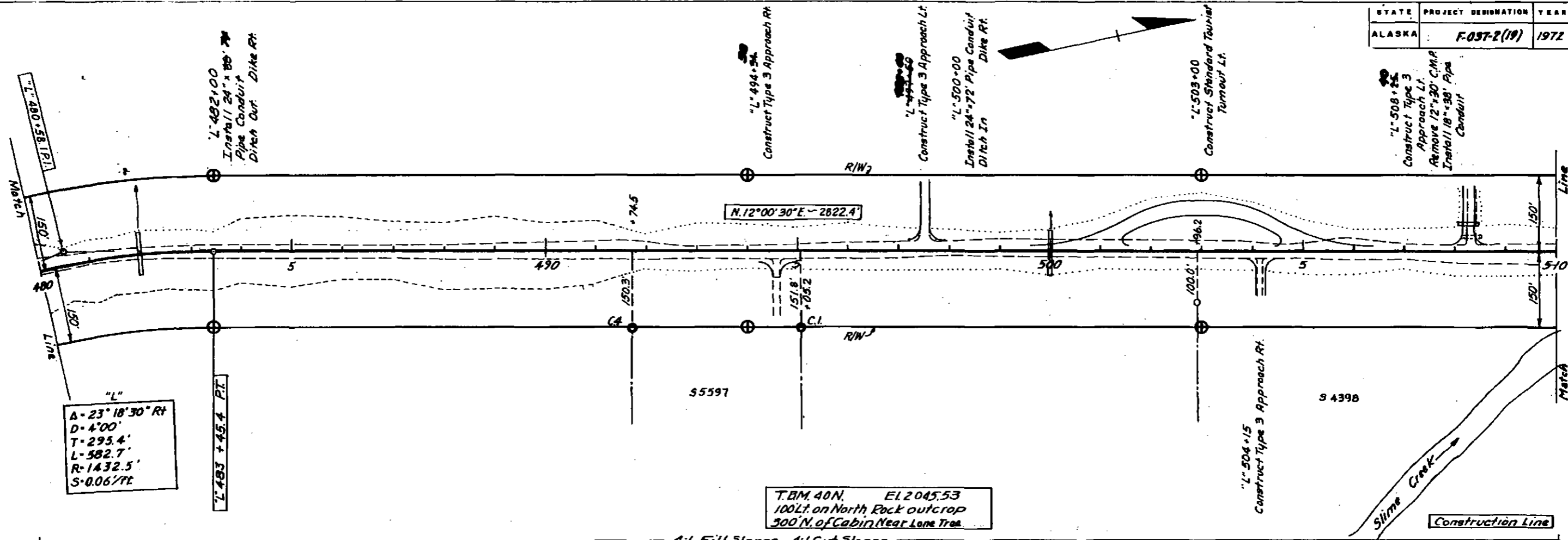
2:1 FS Lt - 4:1 FS Rt - 1/4:1 FS Lt - 4:1 FS Rt - 4:1 Fill Slopes Rt - 1/4:1 Cut Slopes Rt - 2:1 Fill Slopes Lt - 1:1 Cut Slopes Rt - 2:1 Fill Slopes Lt - 1/4:1 Fill Slopes Lt - 1:1 Cut Slopes Rt - 4:1 Fill Slopes Rt - 4:1 Fill Slopes - 4:1 Cut Slopes



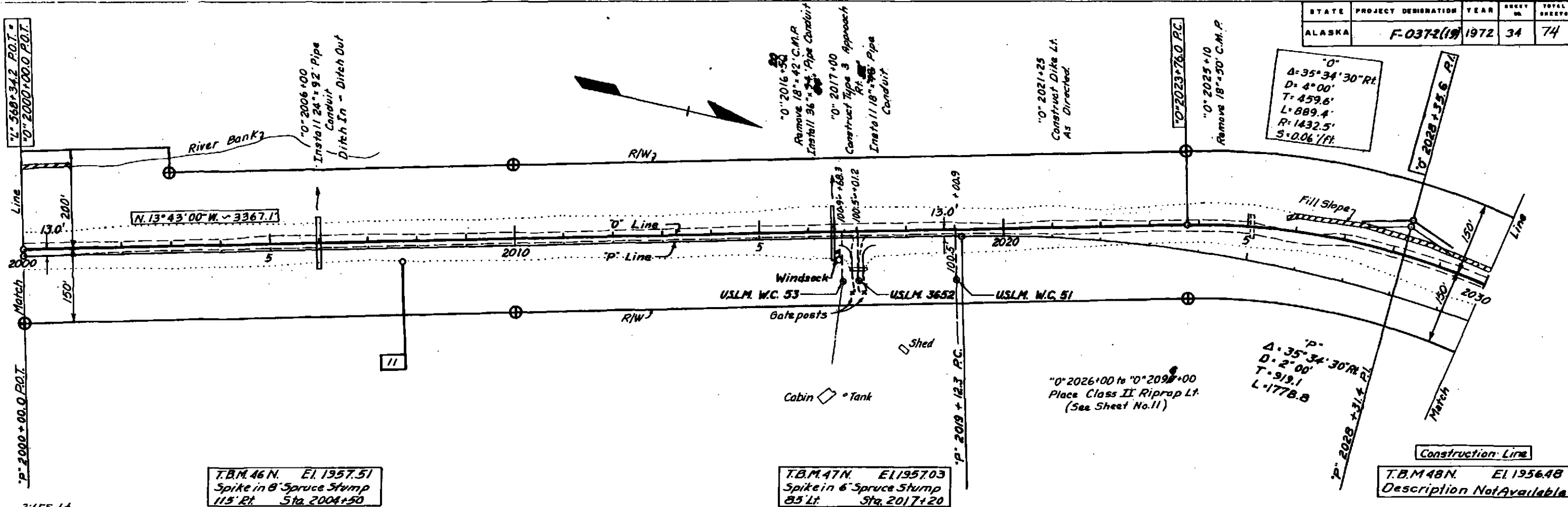
PLAN

PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	31	74



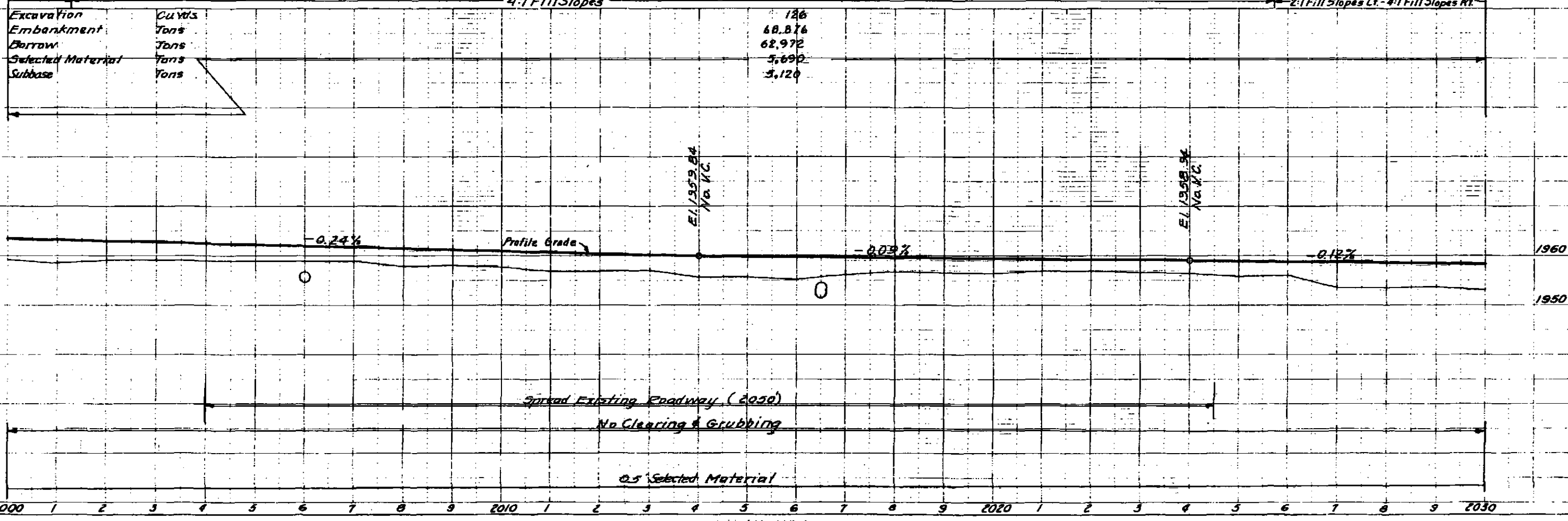
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-0372(19)	1972	34	74



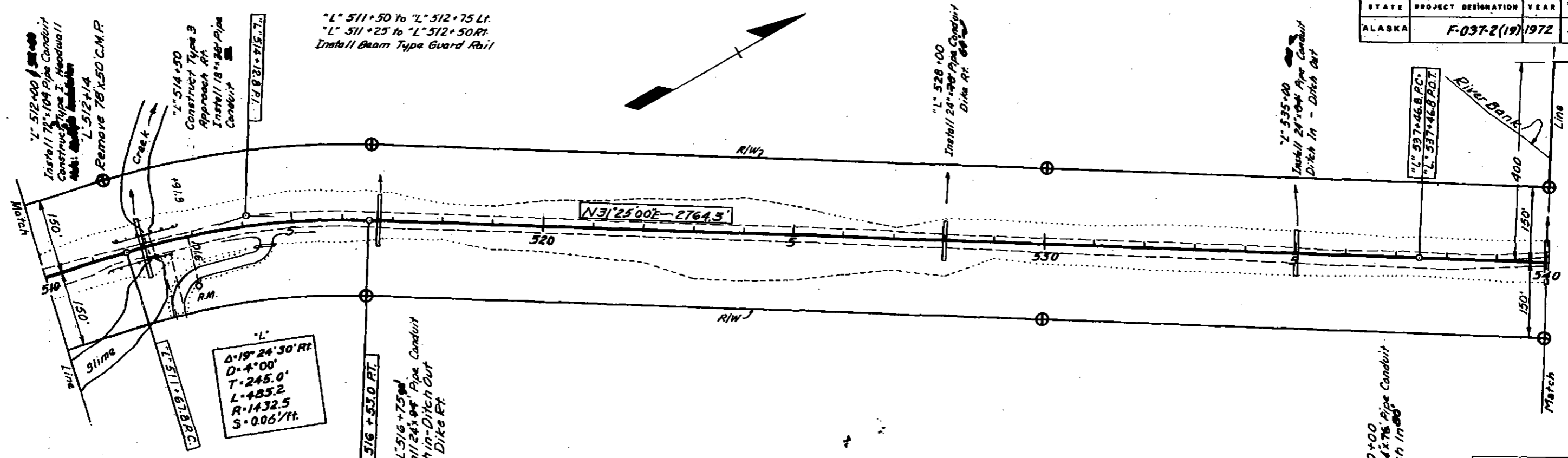
T.B.M. 46 N. El. 1957.51
Spike in 8" Spruce Stump
115' Rt Sta. 2004+50

T.B.M. 47 N. El. 1957.03
Spike in 6" Spruce Stump
85' Lt Sta. 2017+20

T.B.M. 48 N. El. 1956.48
Description Not Available



STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	32	74

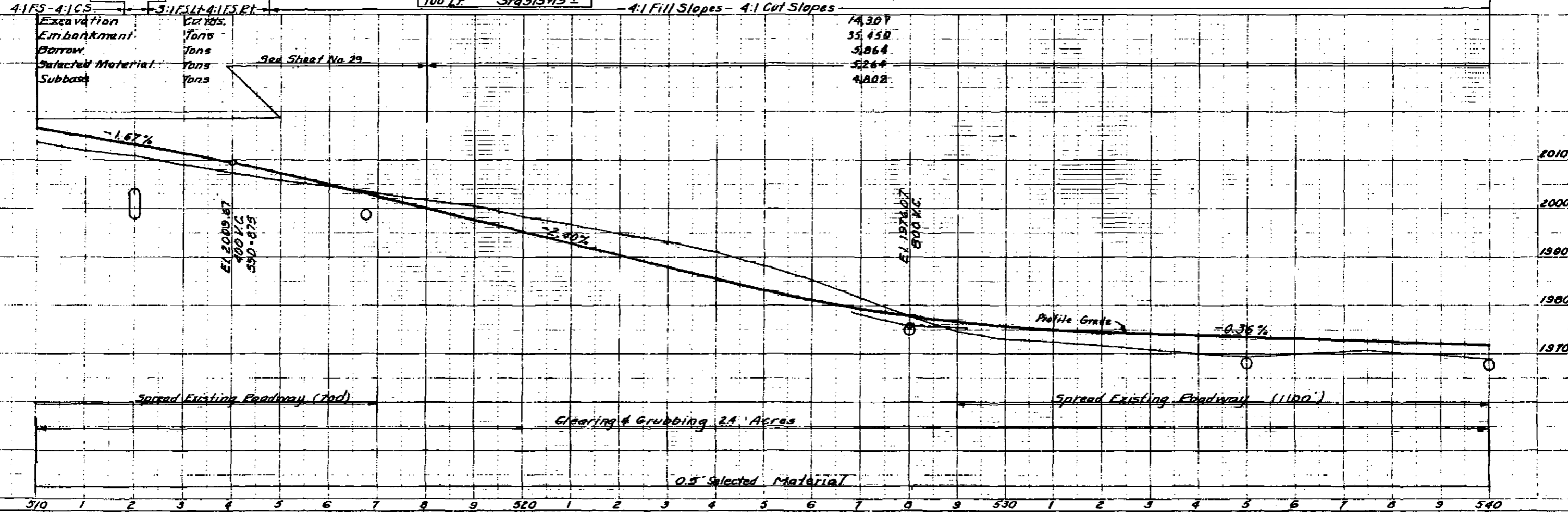


$\Delta = 19^\circ 24' 30''$ RT
 $D = 4^\circ 00'$
 $L = 485.2$
 $R = 1432.5$
 $S = 0.067/ft.$

T.B.M. 41N. El. 2005.73
 Spike in 6" Spruce Stump
 100 Ft. Sta. 513+15 L

T.B.M. 42N. El. 1991.35
 Spike in 6" Spruce Stump
 125 Ft. Sta. 525+00

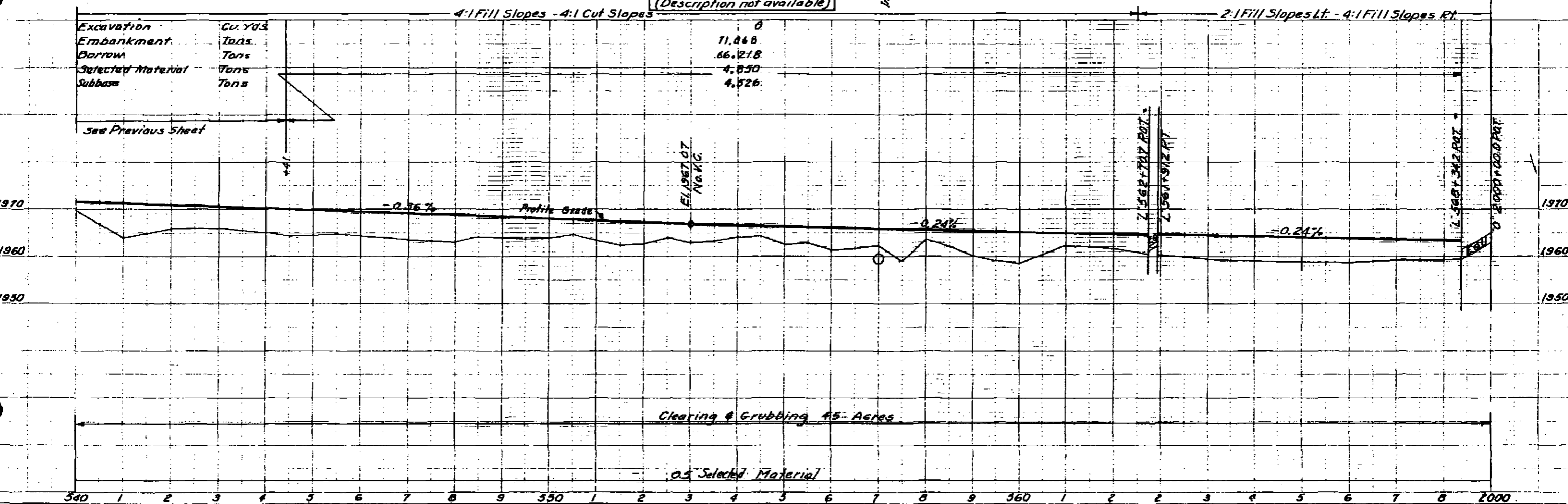
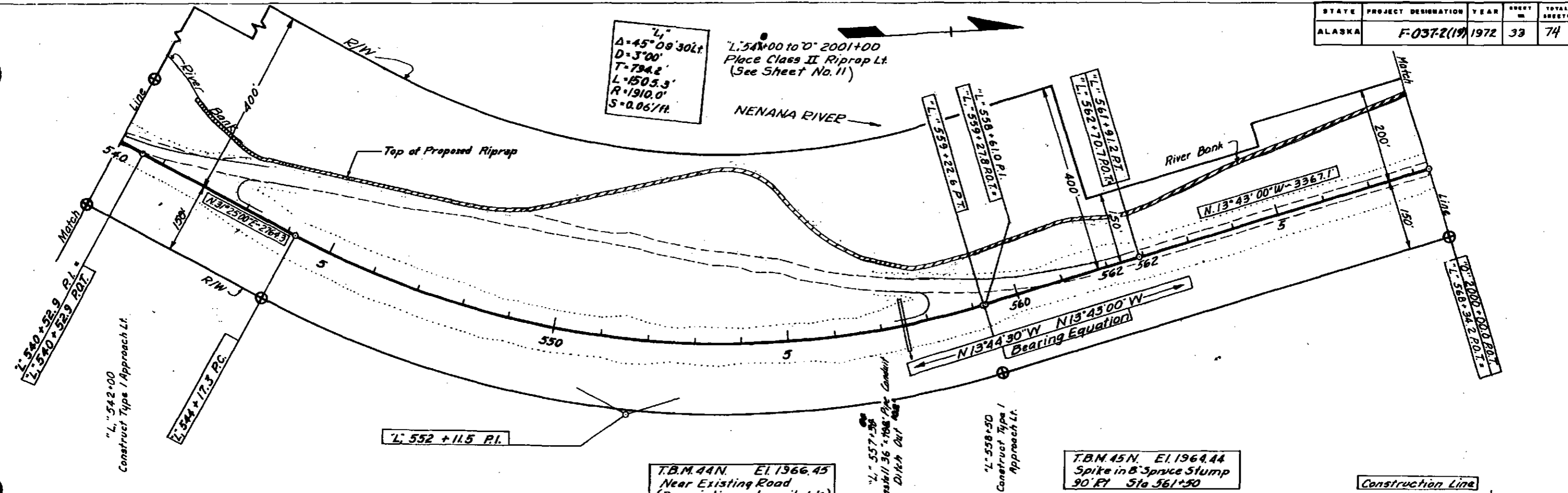
T.B.M. 43N. El. 1975.94
 6" Spruce Stump
 125 Ft. Sta. 539+00

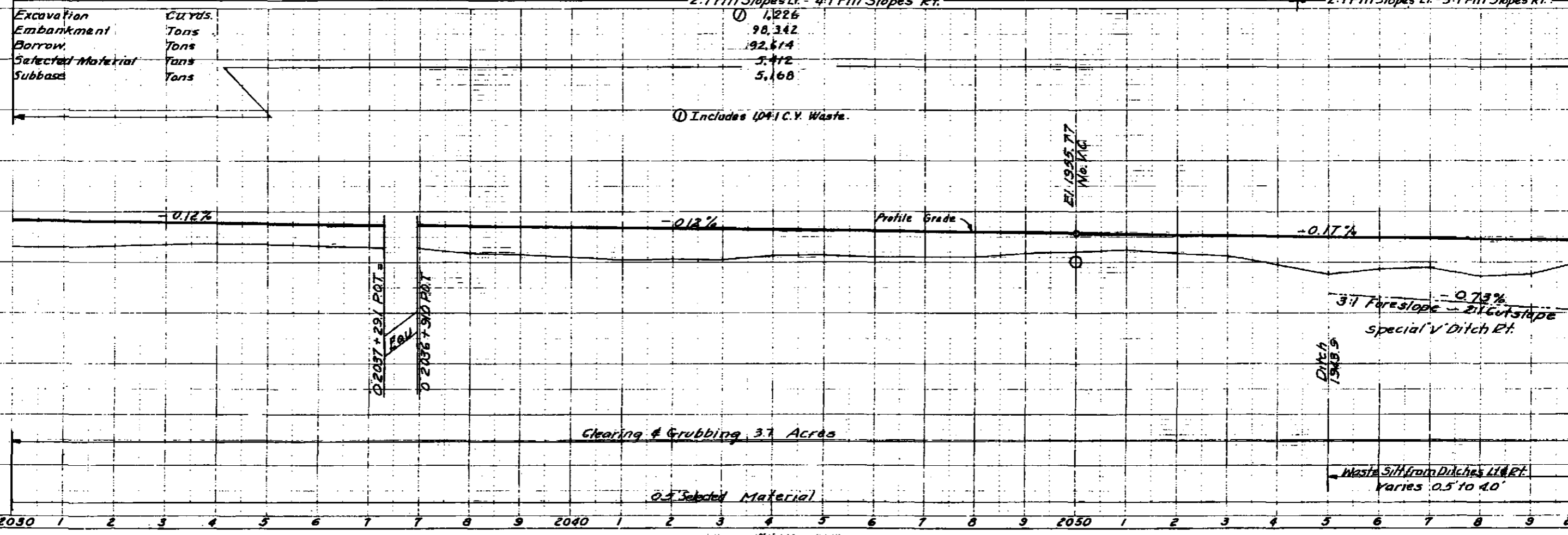
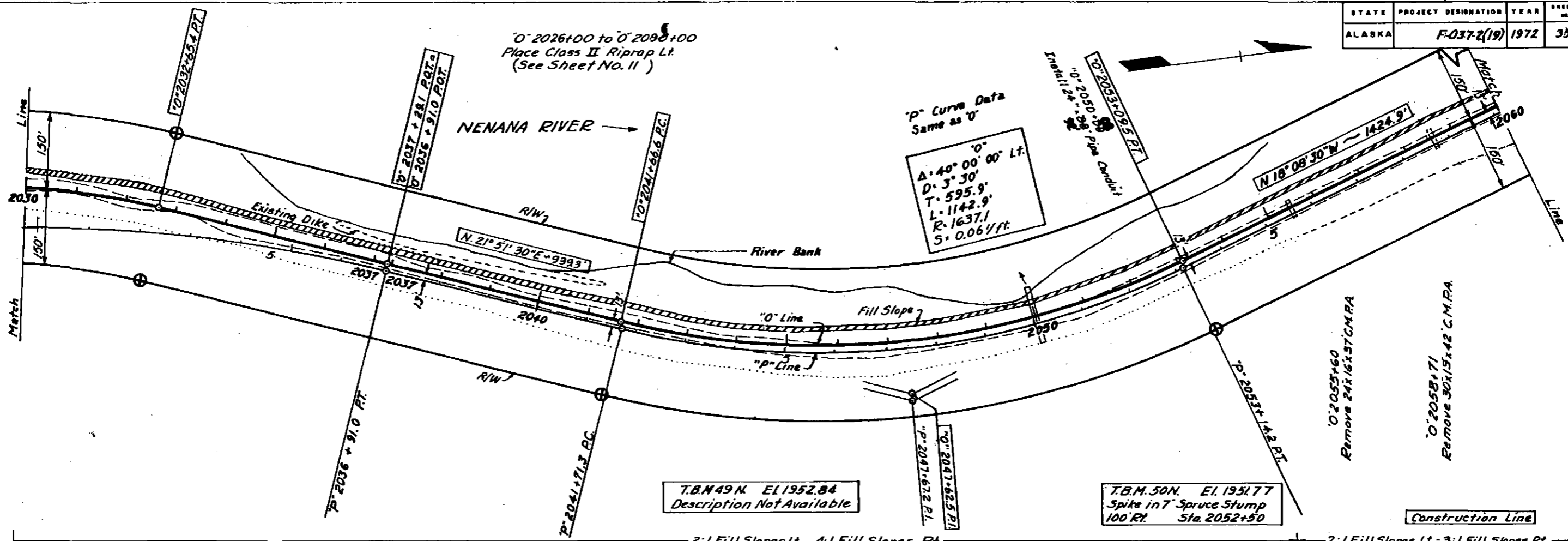


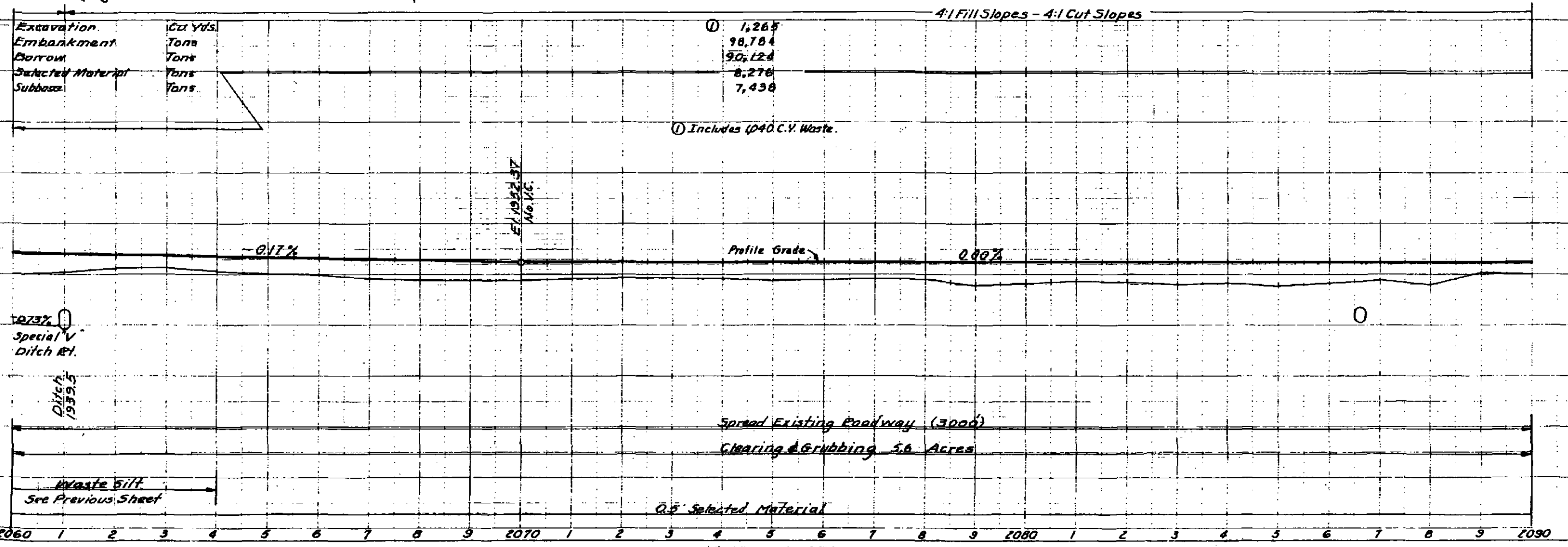
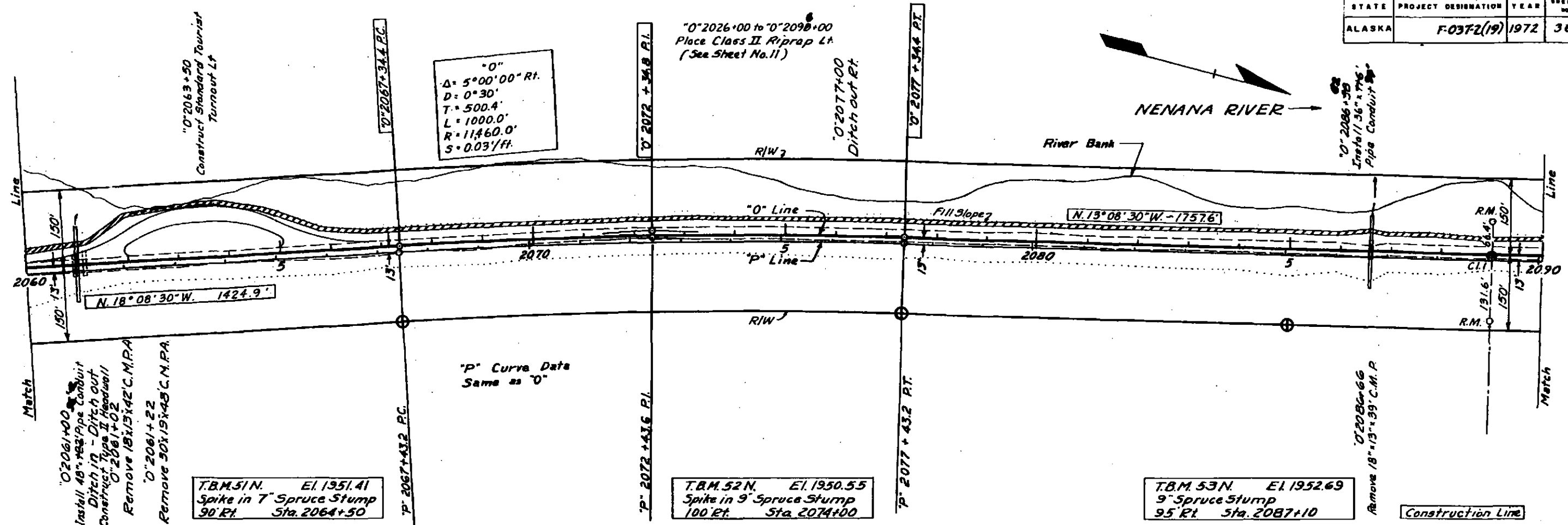
PLAN

PROFILE

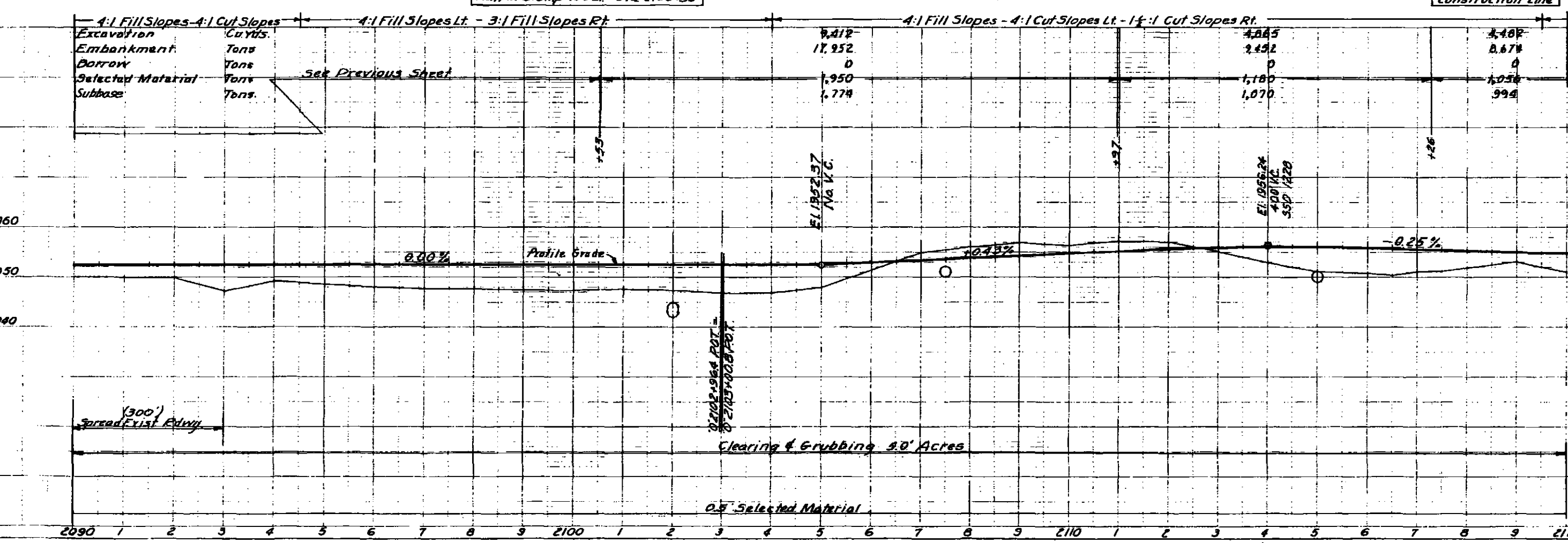
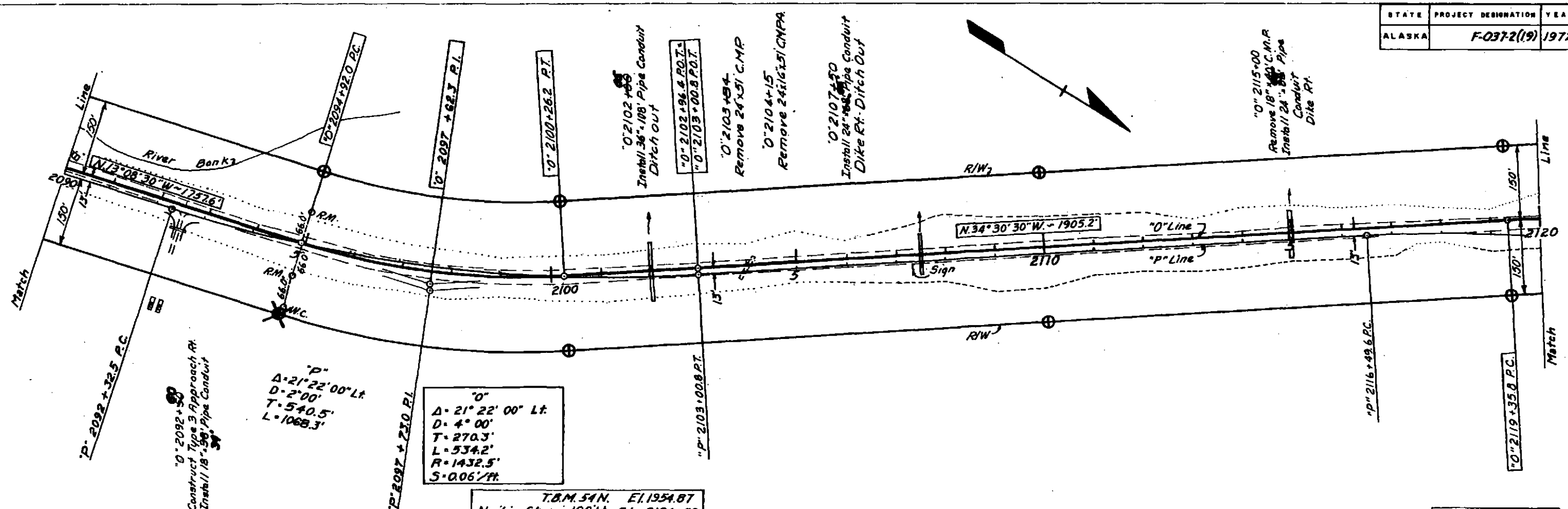
STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	33	74



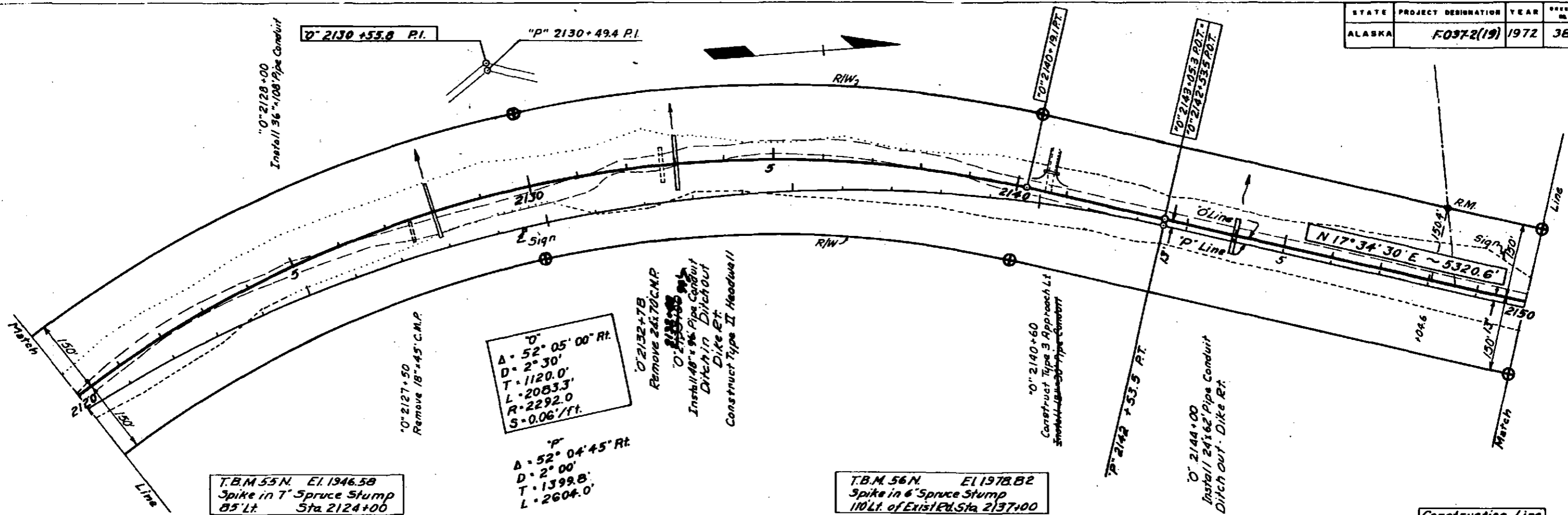




STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	37	74



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F0372(19)	1972	38	74

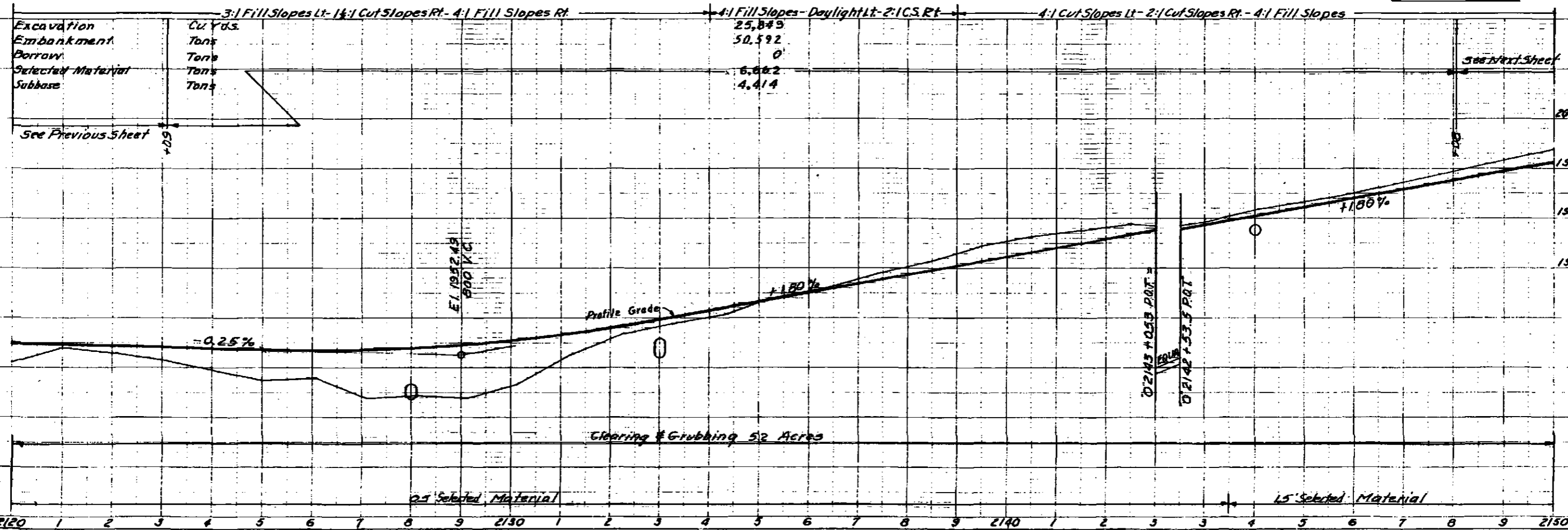


T.B.M. 55 N. El. 1946.58
Spike in T Spruce Stump
85' Lt. Sta. 2124+00

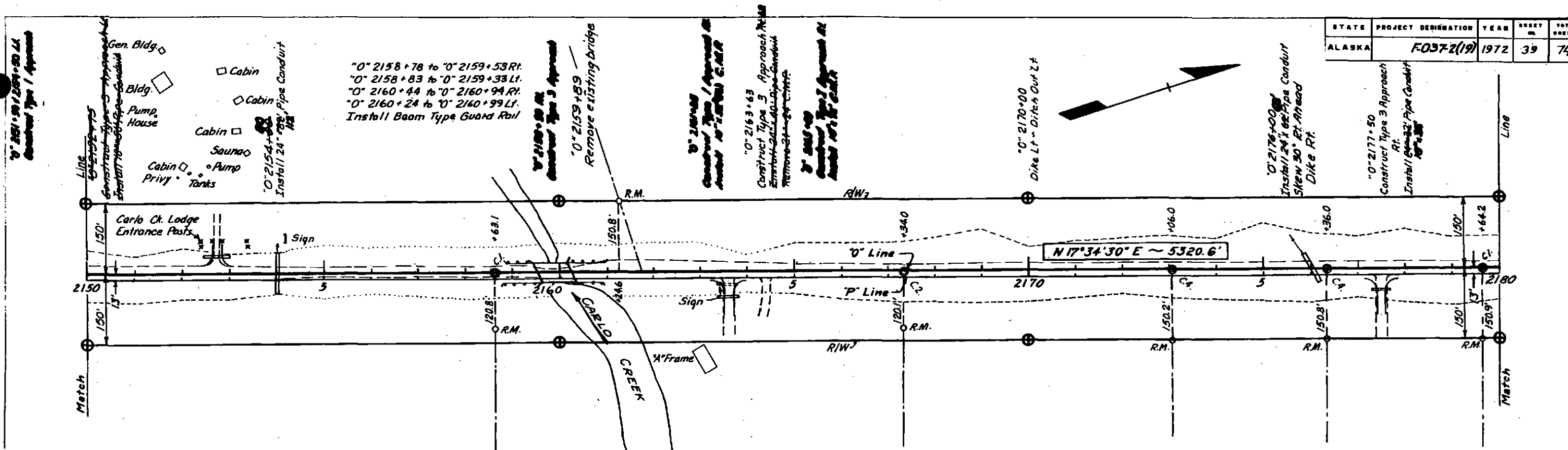
O
A = 52° 05' 00" Rt.
D = 2° 30'
T = 1120.0'
L = 2083.3'
R = 2292.0'
S = 0.06'/ft.

P
A = 52° 04' 45" Rt.
D = 2° 00'
T = 1399.8'
L = 2604.0'

T.B.M. 56 N. El. 1978.82
Spike in 6 Spruce Stump
110' Lt. of Exist. Rd. Sta. 2137+00



STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F037-2(19)	1972	39	74

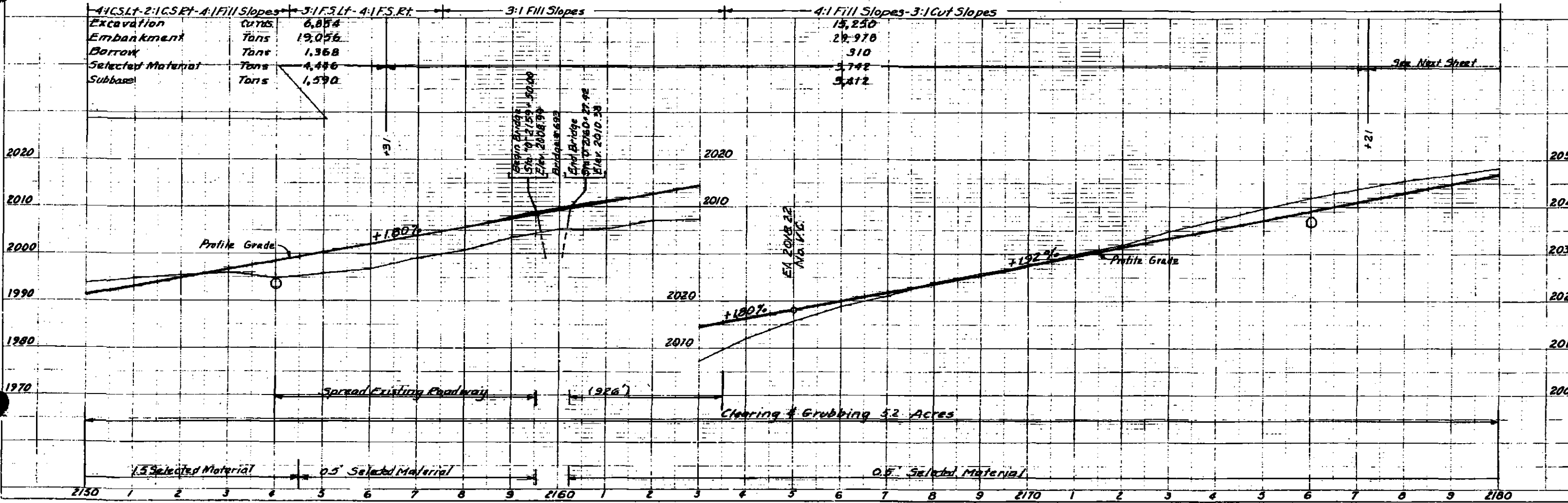


T.B.M. 57N. El. 2000.49
6" Spruce Stump
140' Rt. Sta. 2151+00

T.B.M. 58N. El. 2008.02
Spike in 8" Spruce Stump
120' Lt. Sta. 2161+00

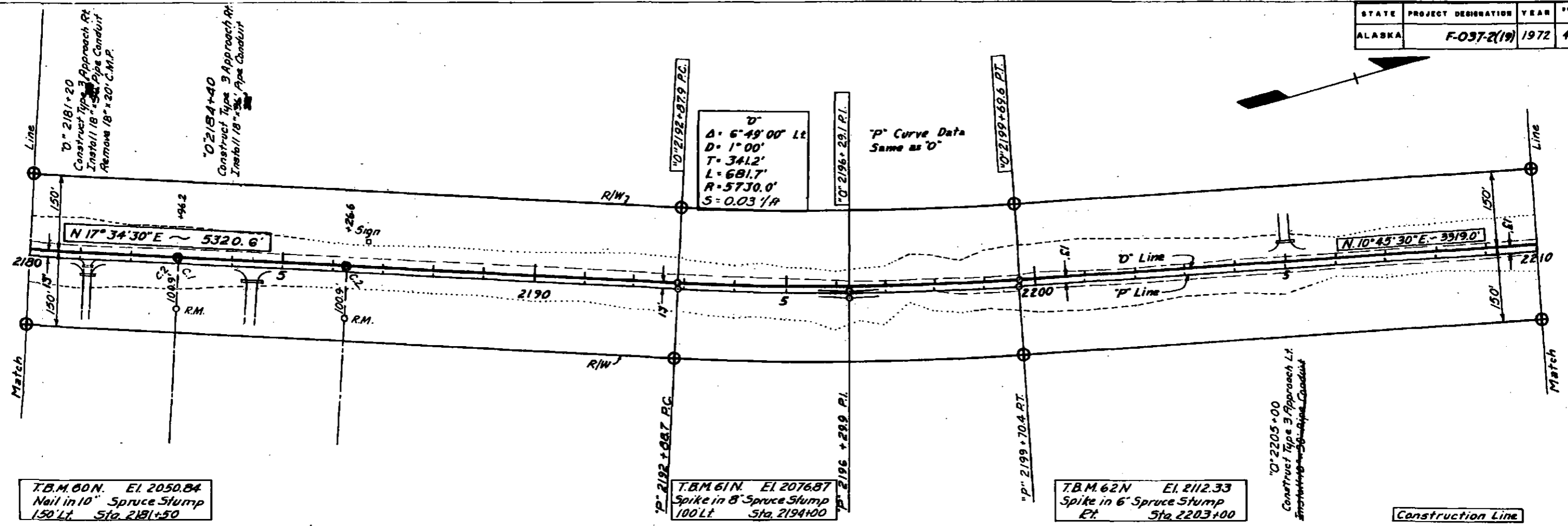
T.B.M. 59N. El. 2037.91
Nail in 7" Spruce Stump
105' Rt. Sta. 2172+00

Construction Line

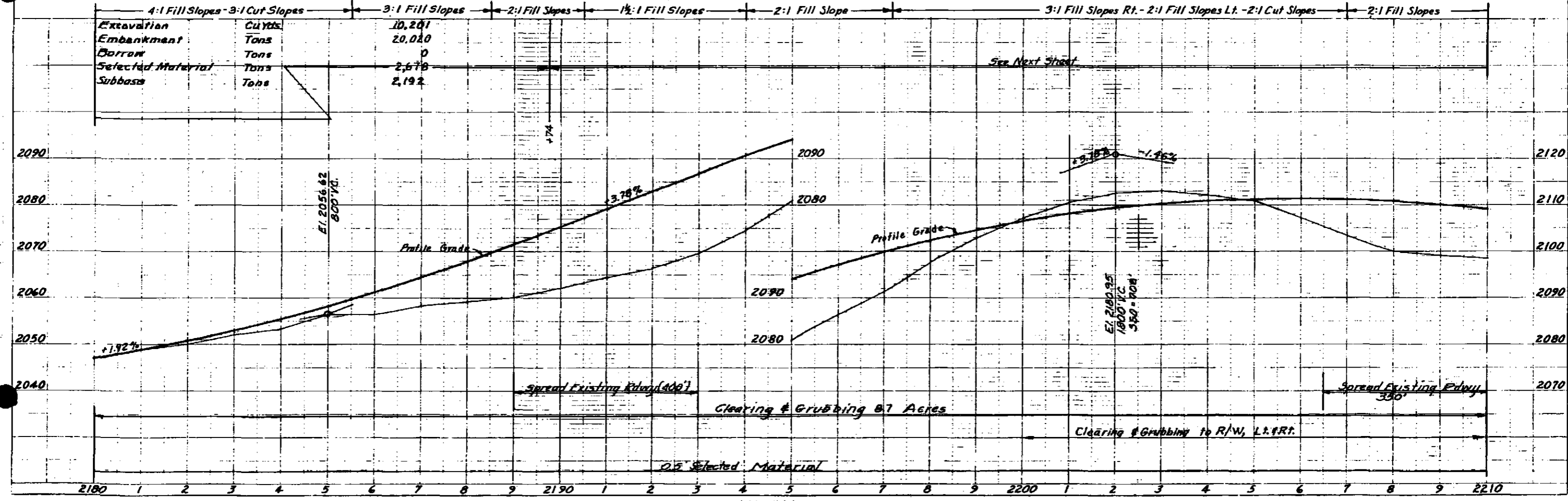


STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	40	74

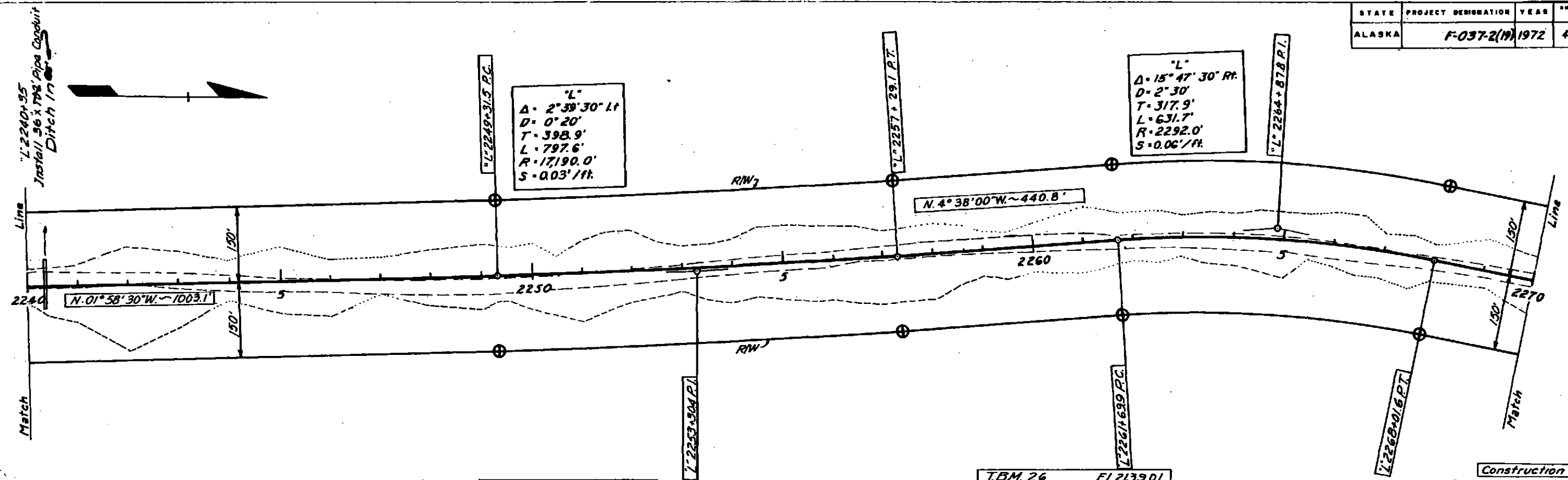
PLAN



PROFILE



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	42	74



"L"
 $\Delta = 2^\circ 39' 30''$ Lt
 $D = 0^\circ 20'$
 $T = 398.9'$
 $L = 797.6'$
 $R = 17190.0'$
 $S = 0.03'/ft.$

"L"
 $\Delta = 15^\circ 47' 30''$ Rt
 $D = 2^\circ 30'$
 $T = 317.9'$
 $L = 631.7'$
 $R = 2292.0'$
 $S = 0.06'/ft.$

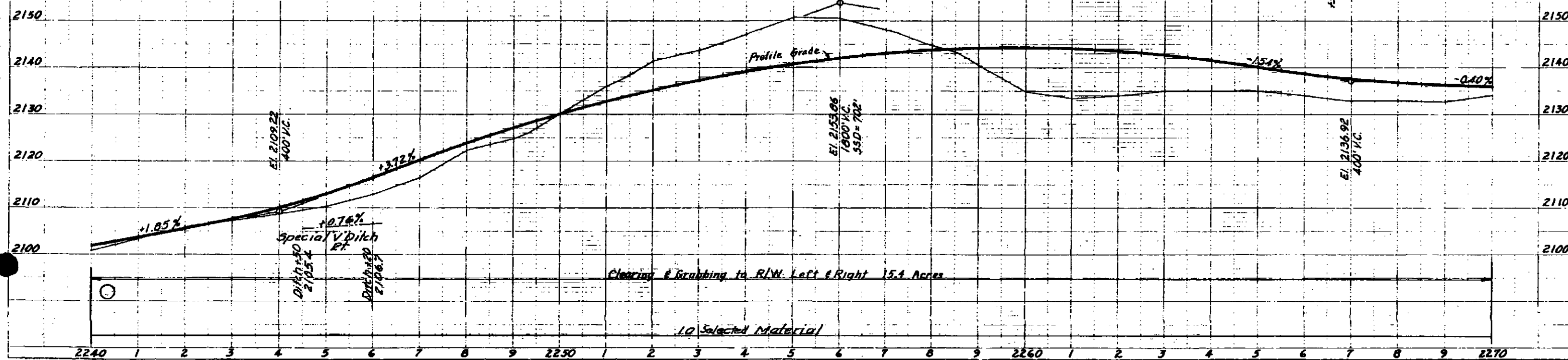
T.B.M. 27 El. 2118.53
 4' Aspen Stump
 70' Lt. Sta. 2249+00

T.B.M. 26 El. 2139.01
 Nail In 2" Spruce Stump
 Surrounded by 6" Trees
 Sta. 2258+00±

Construction Line
 T.B.M. 25 El. 2133.39
 Spruce Stump
 100' Rt. Sta. 2269+00

4:1 Fill Slopes Lt. 4:1 Fill Slopes Rt. 4:1 Fill Slopes Rt. 4:1 Fill Slopes Lt. 4:1 Fill Slopes 2:1 Cut Slopes Lt. 1 1/2:1 Cut Slopes Rt. 3:1 F.S. Lt. 1 1/2:1 C.S. Rt. 2:1 Fill Slopes Slopes 3:1 Fill Slopes 2:1 Cut Slopes 4:1 F.S. Lt. 4:1 F.S. Lt.

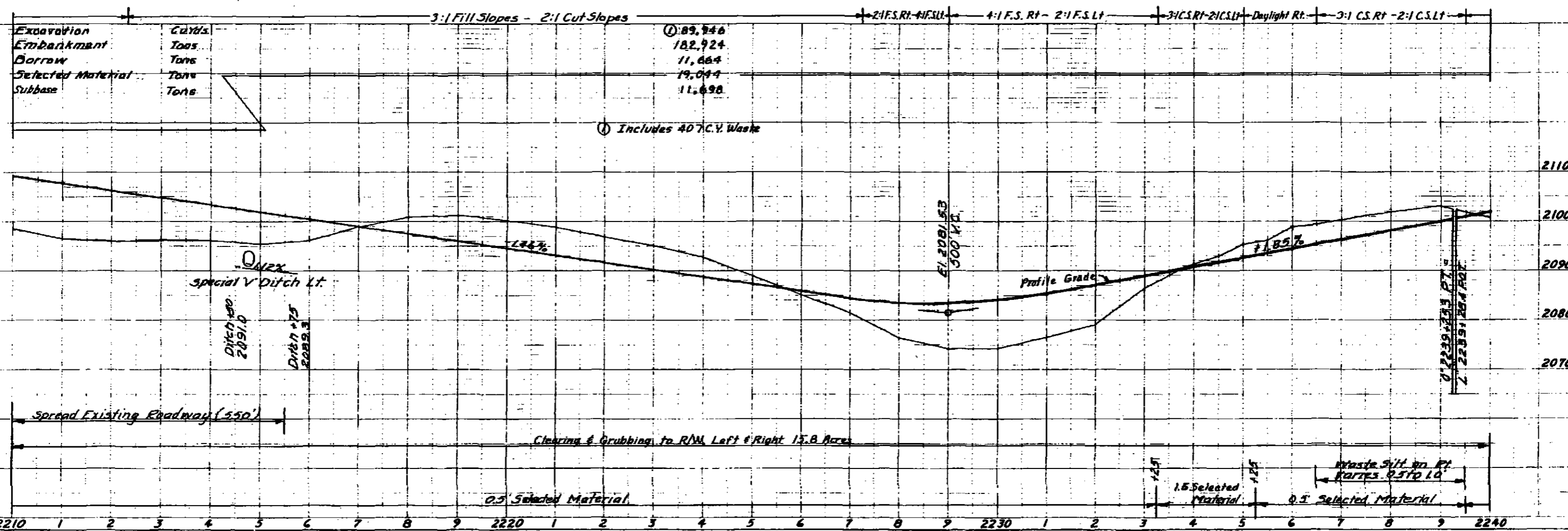
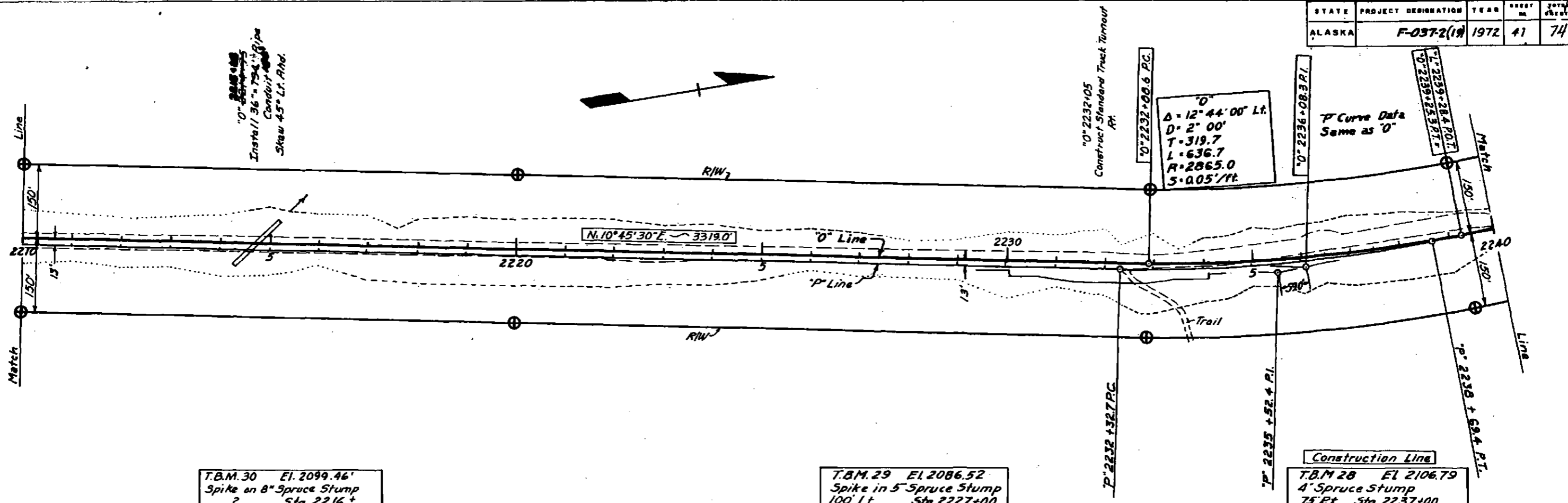
Excavation	Embarkment	Barrow	Selected Material	Subbase



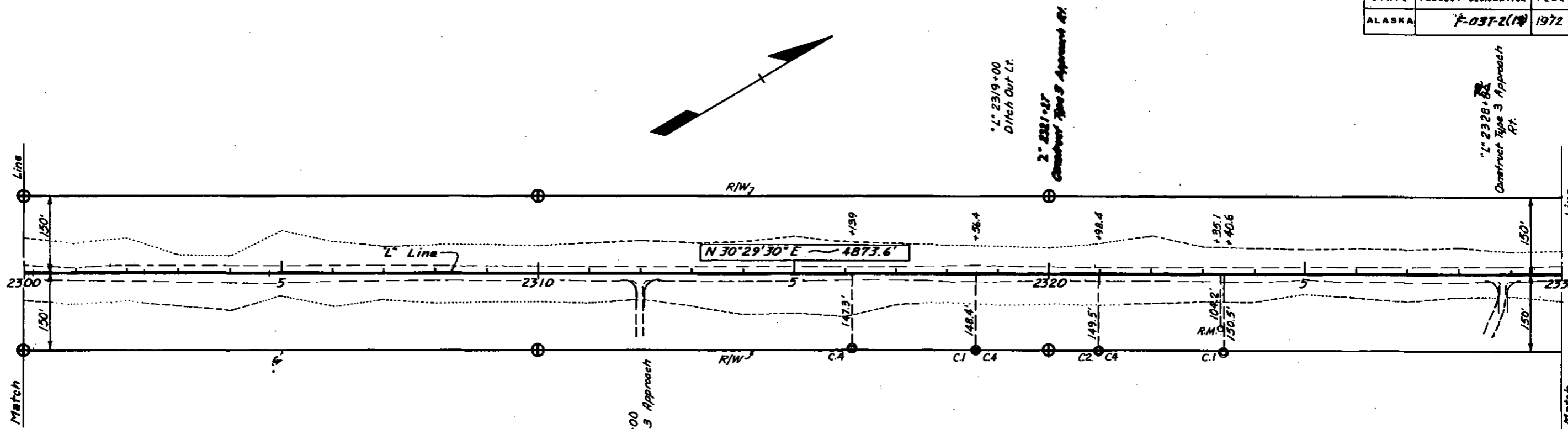
PLAN

PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	41	74



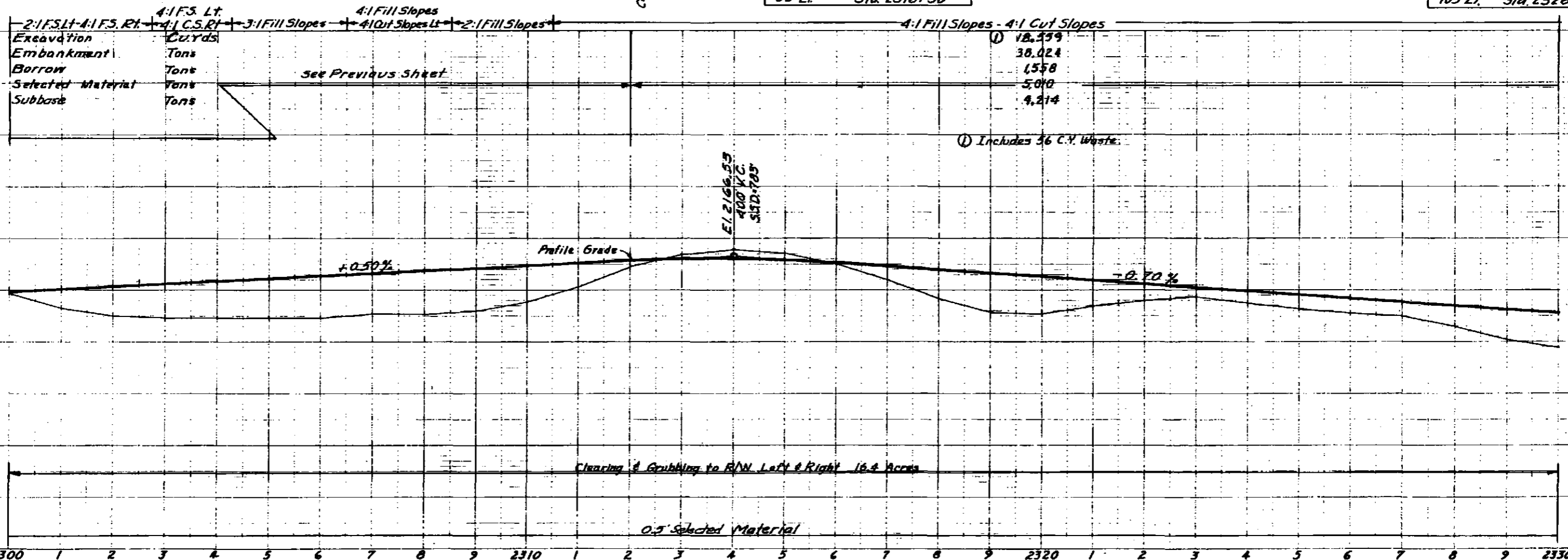
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	44	74



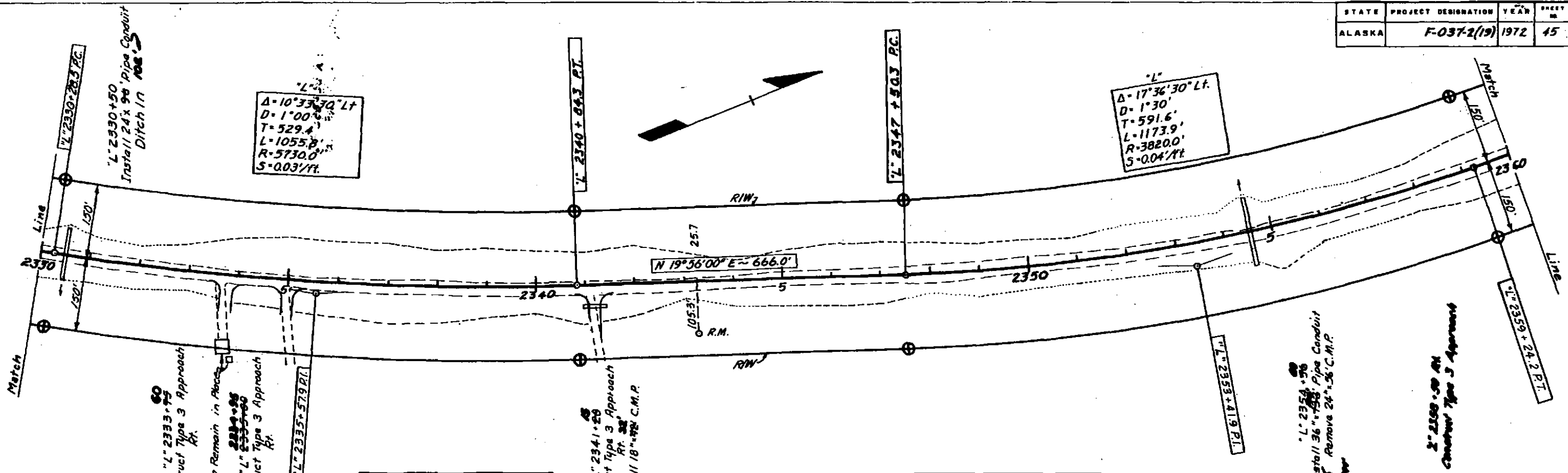
T.B.M. 22 El. 2151.12
Description Not Available

T.B.M. 21 El. 2164.57
Spruce Stump
50' Lt. Sta. 2316+30

Construction Line
T.B.M. 20 El. 2160.95
Spruce Stump
105' Lt. Sta. 2328+00



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	45	74

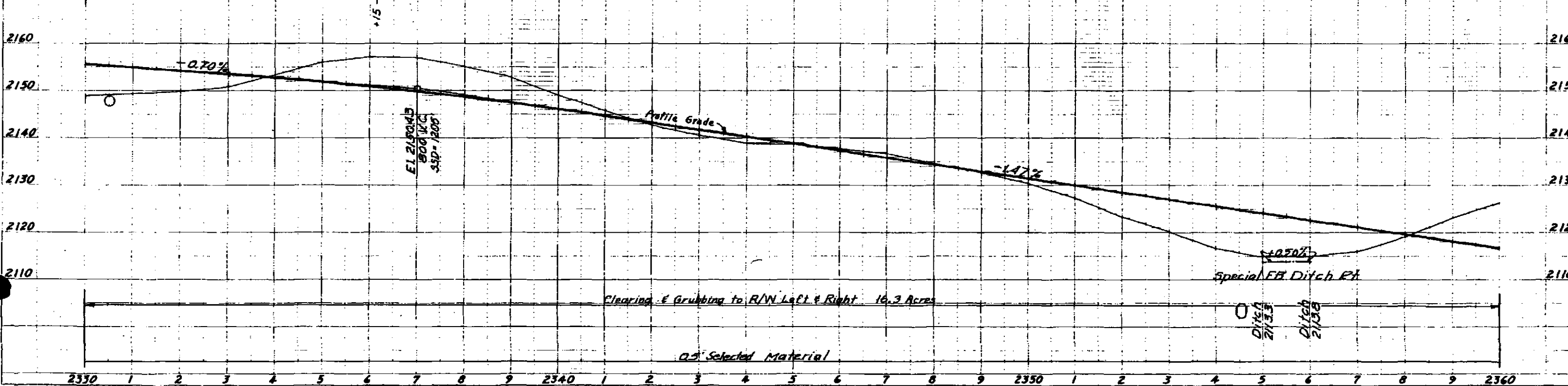


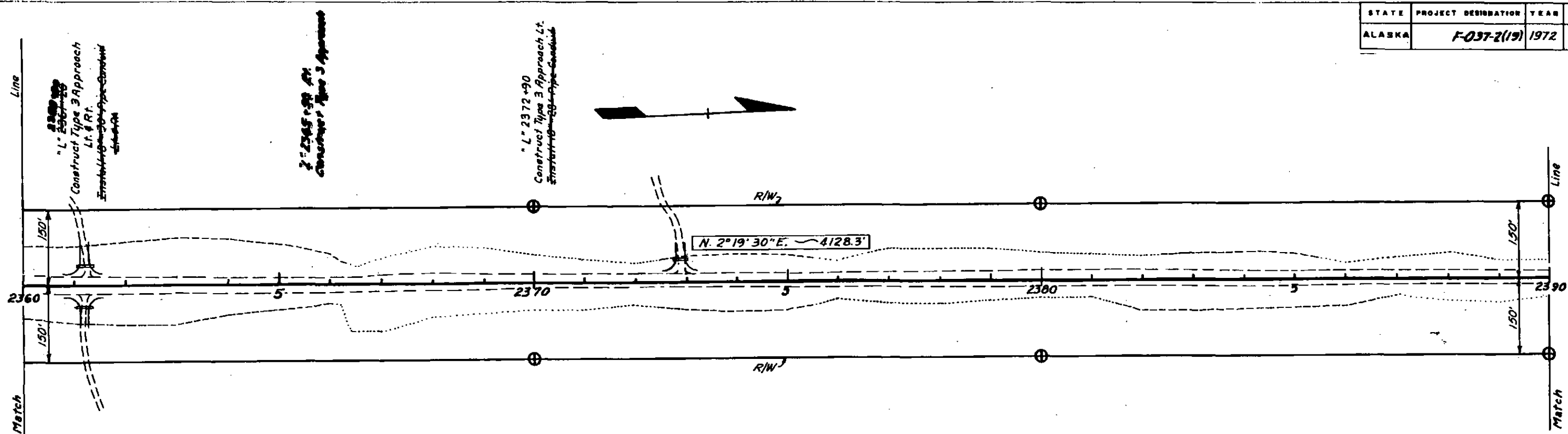
T.B.M. 19 El. 2155.35
Spike in Spruce Stump
100 Lt. Sta. 2335+50

T.B.M. 18 El. 2138.68
Spike in Spruce Stump
100 Lt. Sta. 2350+00

4:1 F.S. 4:1 Cut Slopes Lt. 3:1 Cut Slopes Lt. 4:1 Cut Slopes Rt. 3:1 C.S. Lt. 2:1 F.S. Rt. 2:1 Cut Slopes 2:1 Fill Slopes Lt. 2:1 Cut Slopes Rt. 4:1 Fill Slopes 2:1 Cut Slopes 2:1 Fill Slopes 2:1 Cut Slopes 2:1 F.S. Lt. 3:1 F.S. Rt. 2:1 Cut Slopes 4:1 Fill Slopes 2:1 Cut Slopes

Excavation	Embarkment	Borrow	Selected Material	Subbase	Exc. Yds.	Tons	Tons	Tons





T.B.M. 17 El. 2130.28
 8" Spruce Stump
 100' Lt. Sta. 2361+70

T.B.M. 16 El. 2102.11
 4" Spruce Stump
 100' Lt. Sta. 2374+00

T.B.M. 15 El. 2106.61
 4" Spruce Stump
 100' Lt. Sta. 2385+00

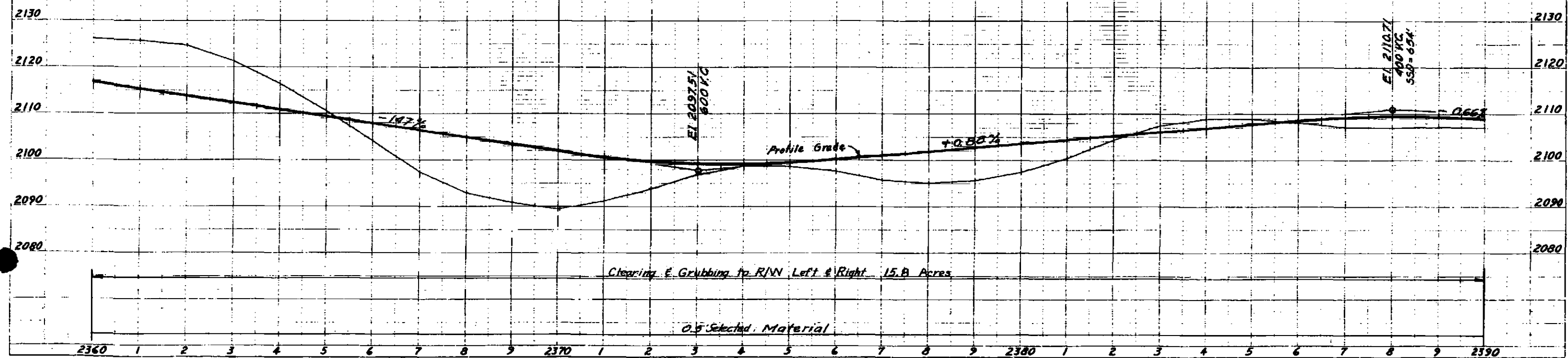
Construction Line

4:1 Fill Slopes - 2:1 Cut Slopes | 4:1 F.S. Lt. | 3:1 Fill Slopes Lt. | 4:1 Fill Slopes Lt. | 2:1 Cut Slopes | 3:1 Fill Slopes Lt. | 2:1 Fill Slopes Lt. | 4:1 Fill Slopes - 2:1 Cut Slopes

Excavation	Cu. Yds.
Embankment	Tons
Borrow	Tons
Selected Material	Tons
Subbase	Tons

Excavation	68.885
Embankment	129.054
Borrow	0
Selected Material	12,808
Subbase	11,474

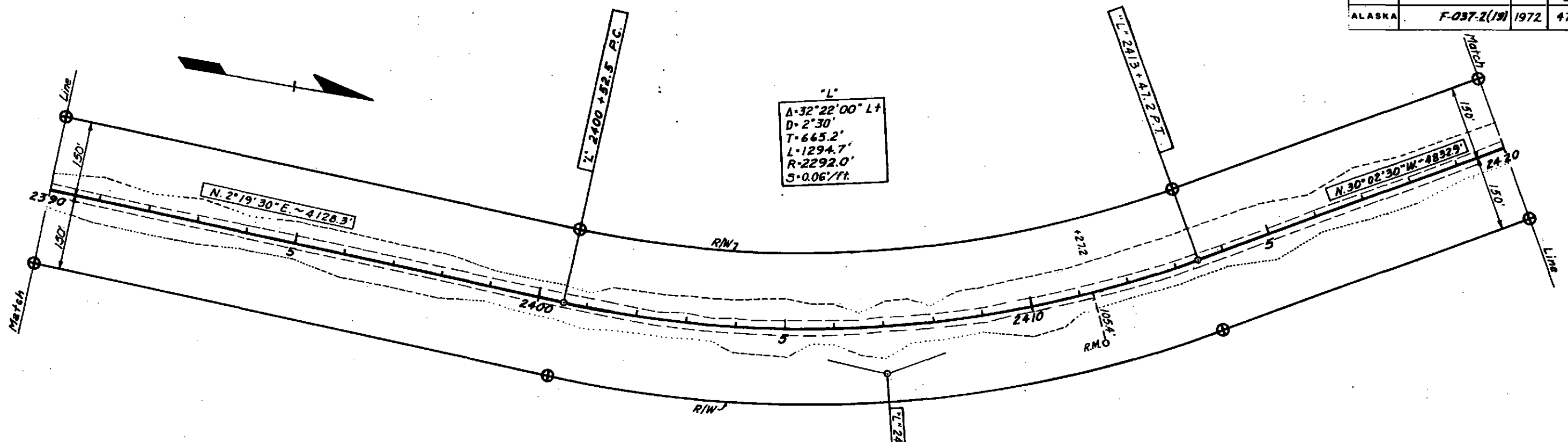
① Includes 505 C.V. Waste.



Clearing & Grubbing to R/W Left & Right 15.8 Acres

0.5 Selected Material

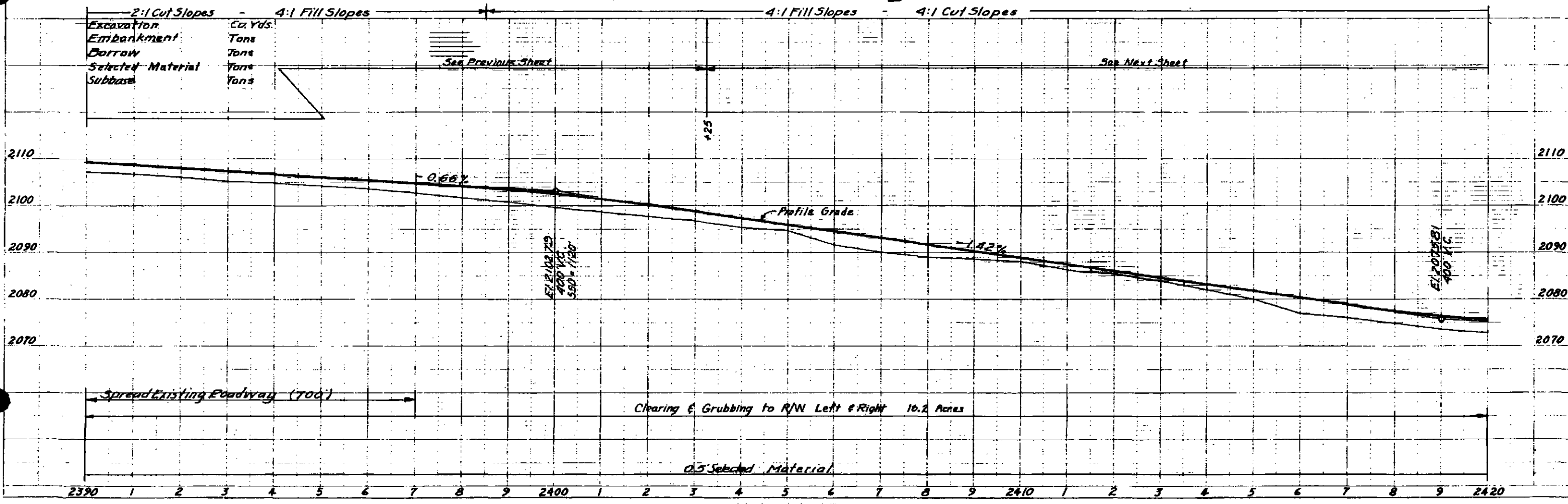
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	47	74



T.B.M. 14 El. 2105.01
4" Spruce Stump
80' Lt. Sta. 2396 + 30

T.B.M. 13 El. 2094.87
Spike in 4" Spruce Stump
100' West of Rd. Sta. 2412 + 22 ±

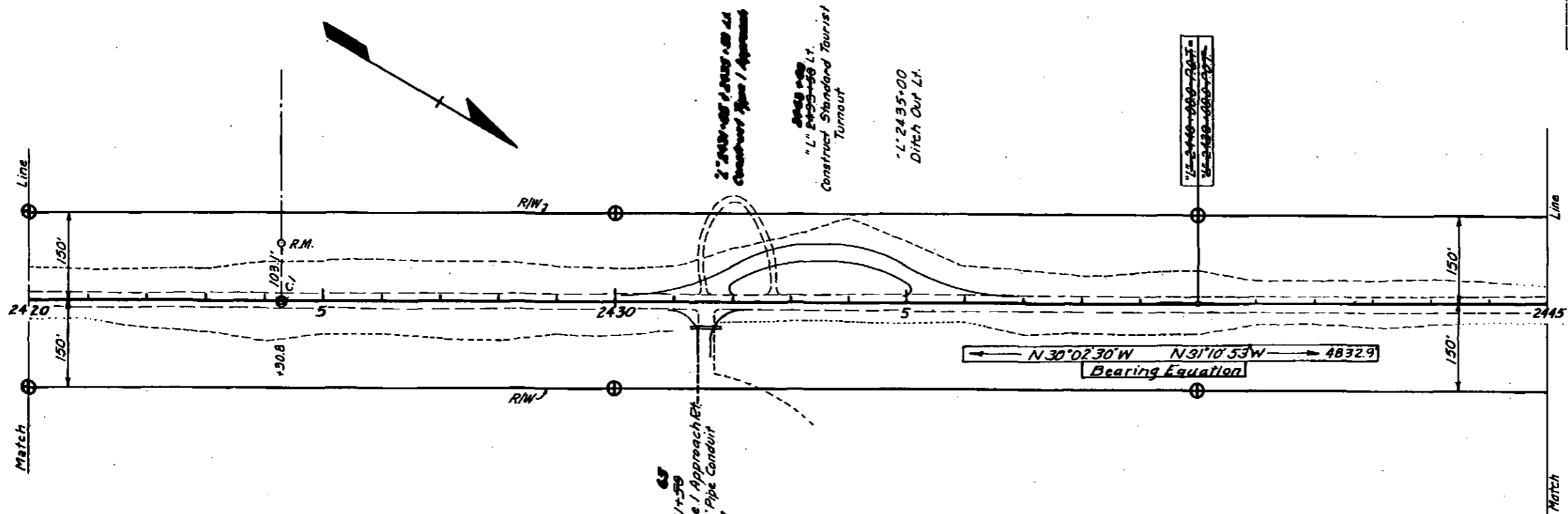
Construction Line



PLAN

PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	48	74



T.B.M. 12 El. 2082.26
Spike in 4" Spruce Stump
100' West of Rd. Sta. 2422+78 ±

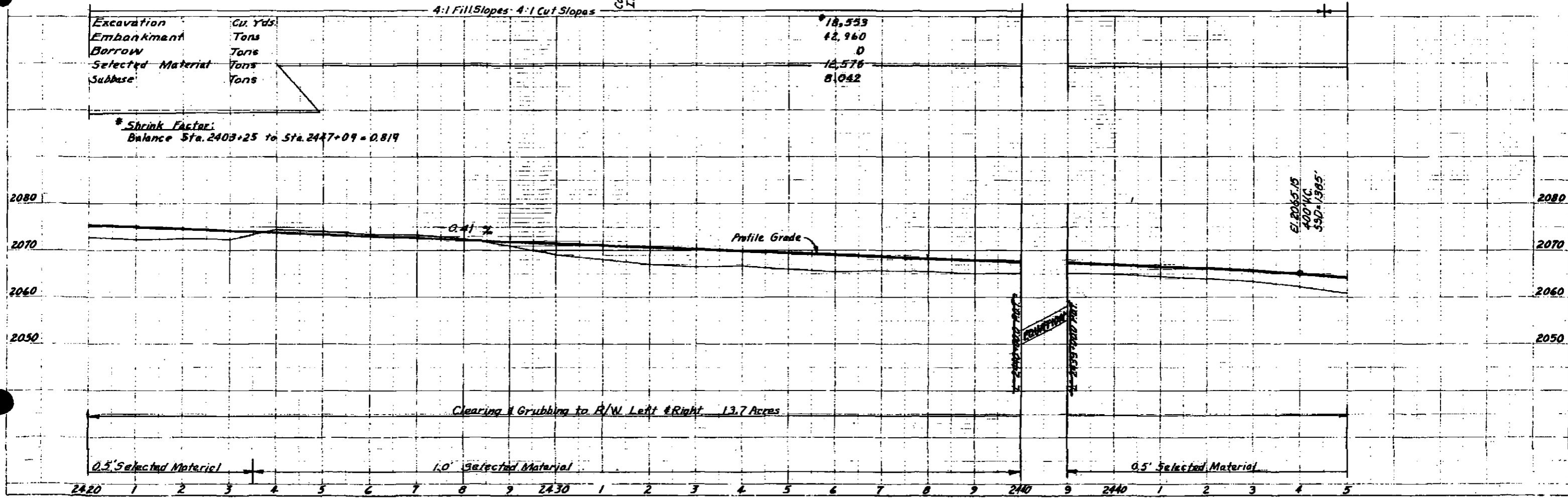
T.B.M. 11 El. 2076.98
Spike in 6" Spruce Stump
90' West of Rd. Sta. 2433+34 ±

Construction Line

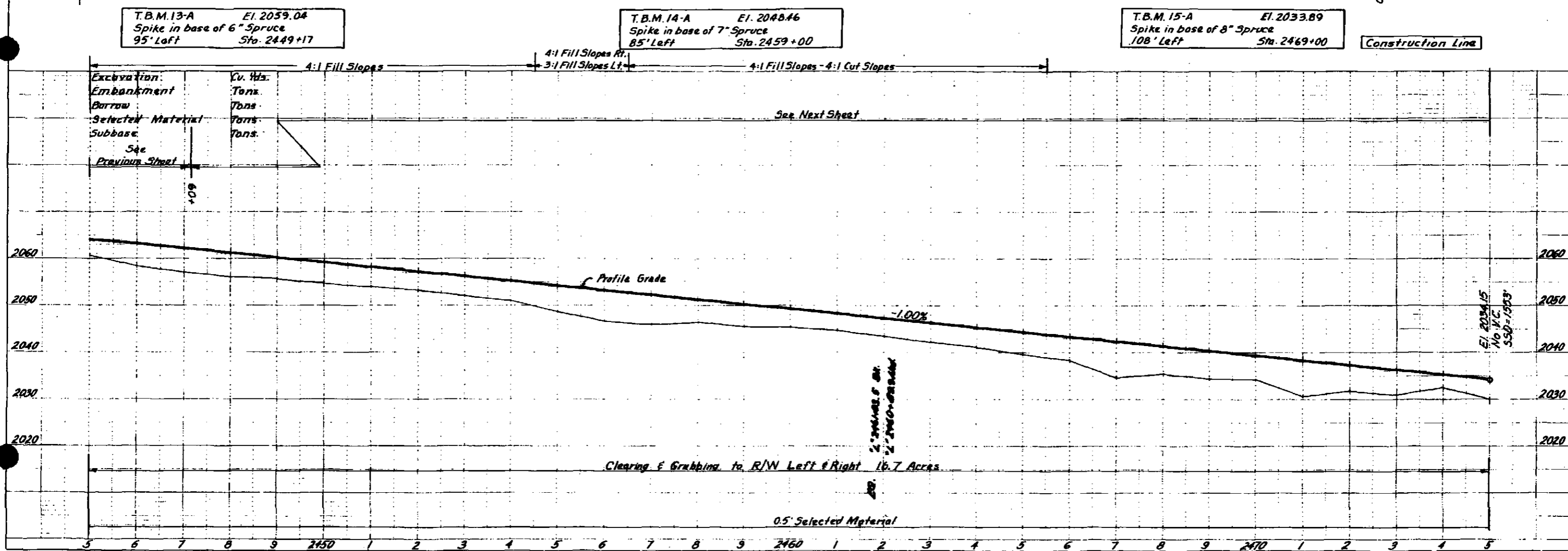
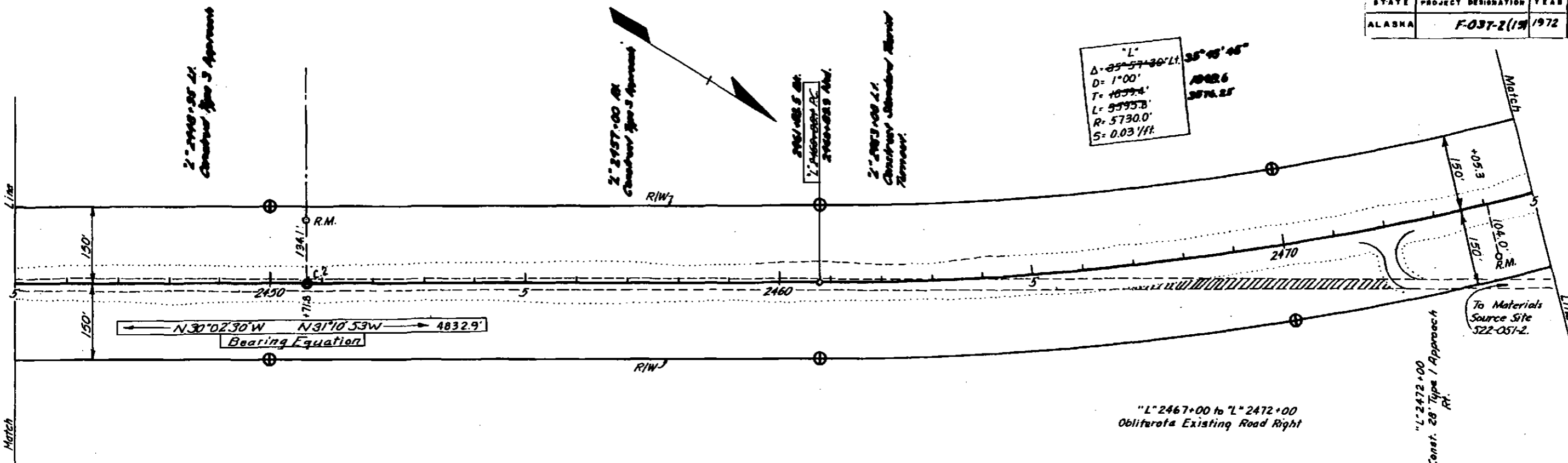
	Cu. Yds.
Excavation	Tons
Embankment	Tons
Borrow	Tons
Selected Material	Tons
Subbase	Tons

18,533
42,960
0
12,576
8,042

* Shrink Factor:
Balance Sta. 2403+25 to Sta. 2447+09 = 0.819

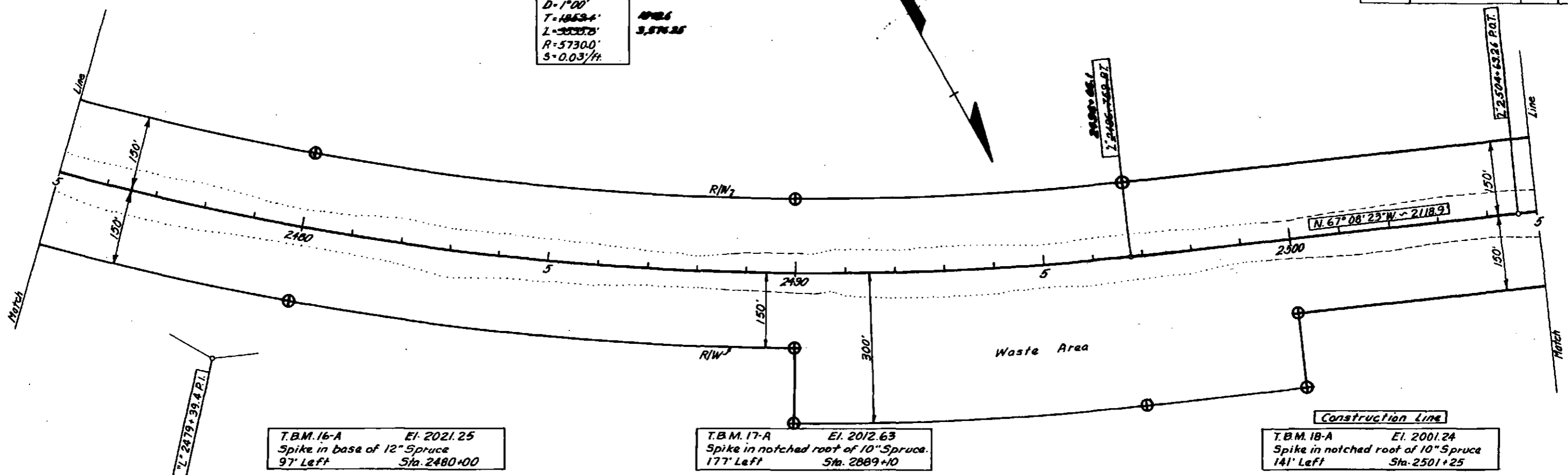


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(15)	1972	49	74



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	50	74

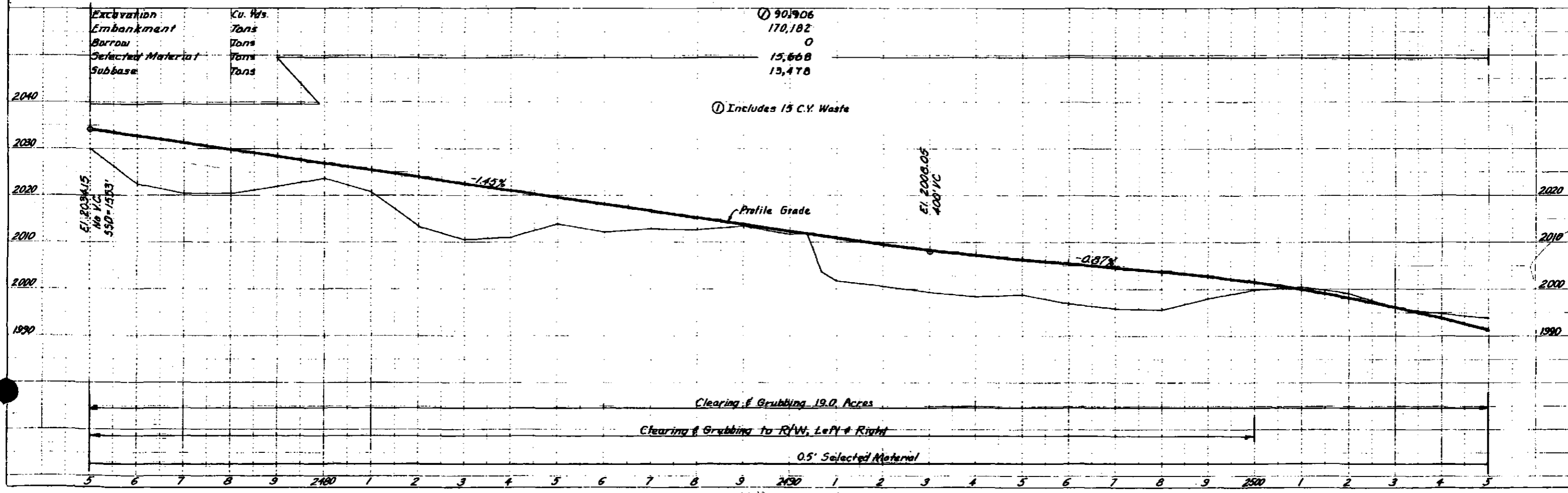
"L"
 $\Delta = 3557.30$ Lt. $35^{\circ}45'45''$
 $D = 1^{\circ}00'$
 $T = 1863.4$ 1092.6
 $L = 3035.7$ $3,576.25$
 $R = 5730.0$
 $S = 0.03\%/ft.$



T.B.M. 16-A El. 2021.25
 Spike in base of 12" Spruce
 97' Left Sta. 2480+00

T.B.M. 17-A El. 2012.63
 Spike in notched roof of 10" Spruce
 177' Left Sta. 2489+10

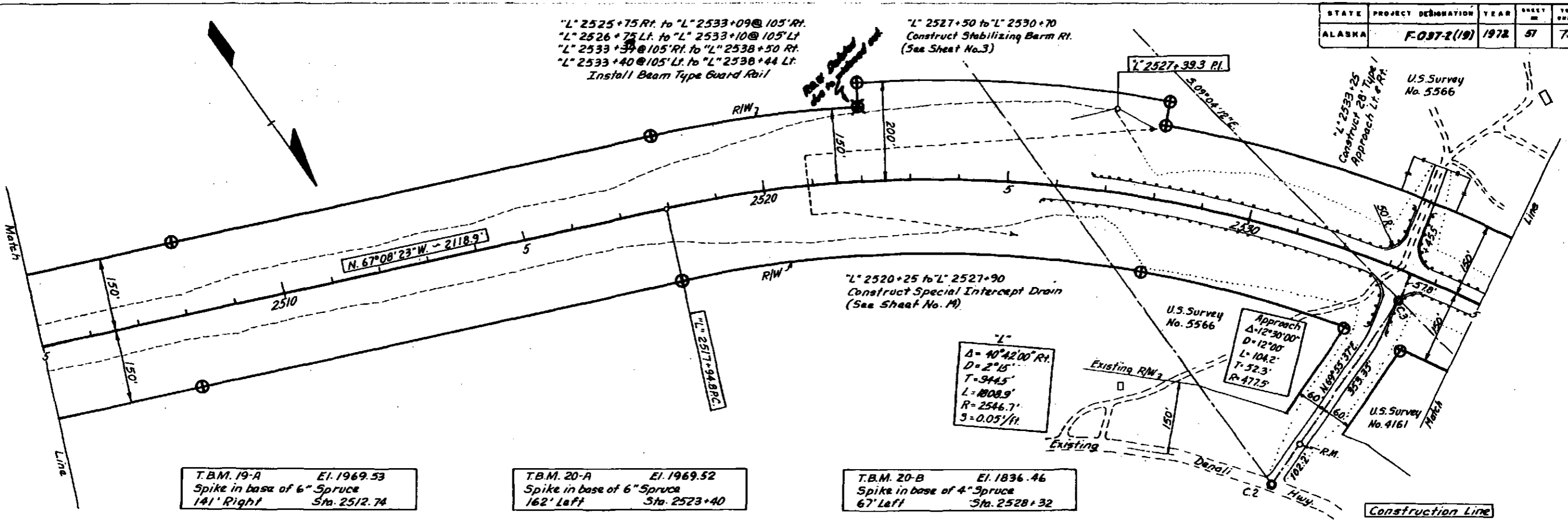
T.B.M. 18-A El. 2001.24
 Spike in notched roof of 10" Spruce
 141' Left Sta. 2501+25



STATE	PROJECT DESIGNATION	YEAR	SHEET #	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	57	74

"L" 2525+75 Rt. to "L" 2533+09 @ 105' Rt.
 "L" 2526+75 Lt. to "L" 2533+10 @ 105' Lt.
 "L" 2533+39 @ 105' Rt. to "L" 2538+50 Rt.
 "L" 2533+40 @ 105' Lt. to "L" 2538+44 Lt.
 Install Beam Type Guard Rail

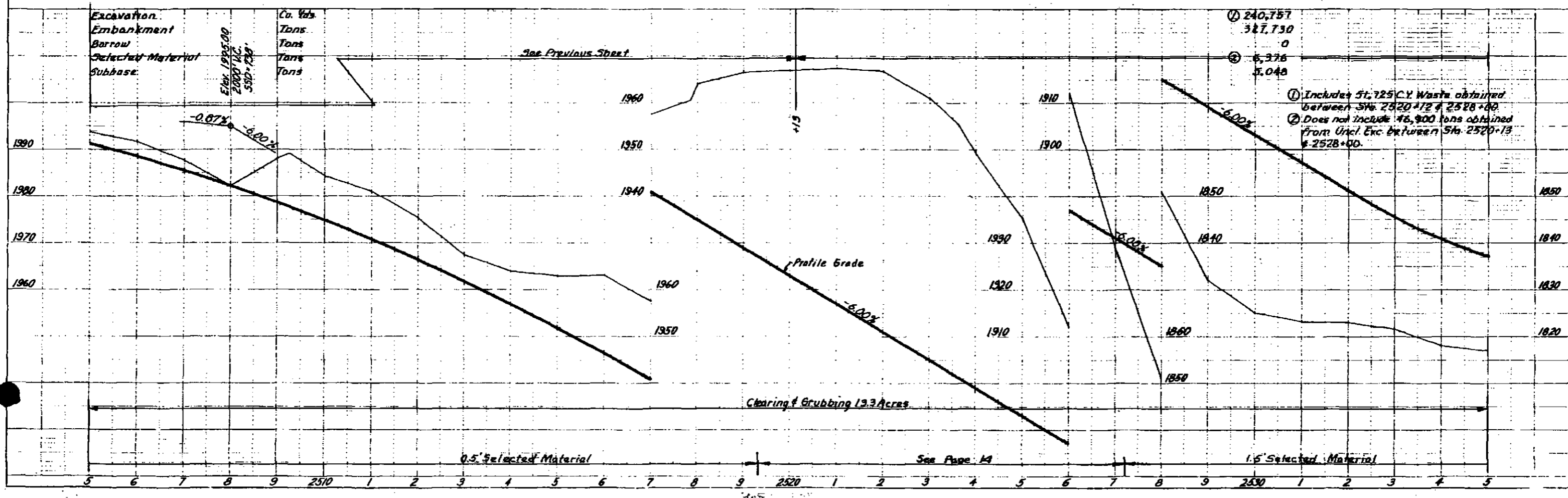
"L" 2527+50 to "L" 2530+70
 Construct Stabilizing Berm Rt.
 (See Sheet No. 3)



T.B.M. 19-A El. 1969.53
 Spike in base of 6" Spruce
 141' Right Sta. 2512.74

T.B.M. 20-A El. 1969.52
 Spike in base of 6" Spruce
 162' Left Sta. 2523+40

T.B.M. 20-B El. 1836.46
 Spike in base of 4" Spruce
 67' Left Sta. 2528+32

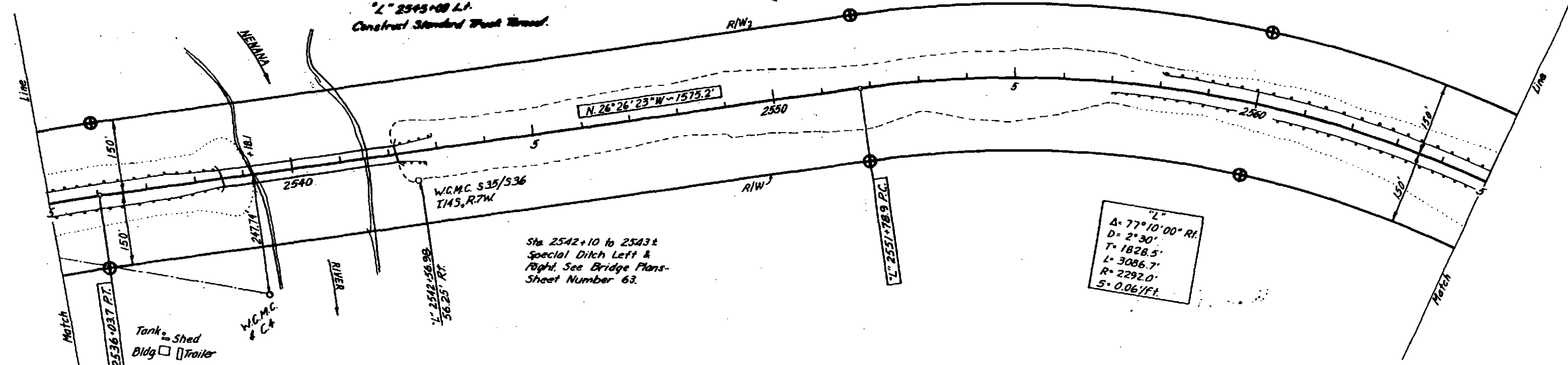


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	52	74

"L" 2533+30 @ 105' Rt. to "L" 2538+50 Rt.
 "L" 2533+40 @ 105' Lt. to "L" 2538+44 Lt.
 "L" 2542+26 to "L" 2542+76 Rt.
 "L" 2542+20 to "L" 2542+25 Lt.
 Install Beam Type Guard Rail

"L" 2551+00 to 2573+00 Rt.
 "L" 2551+00 to "L" 2573+00 Lt.
 Install Beam Type Guard Rail

"L" 2543+00 Lt.
 Construct Standard Foot Broad.



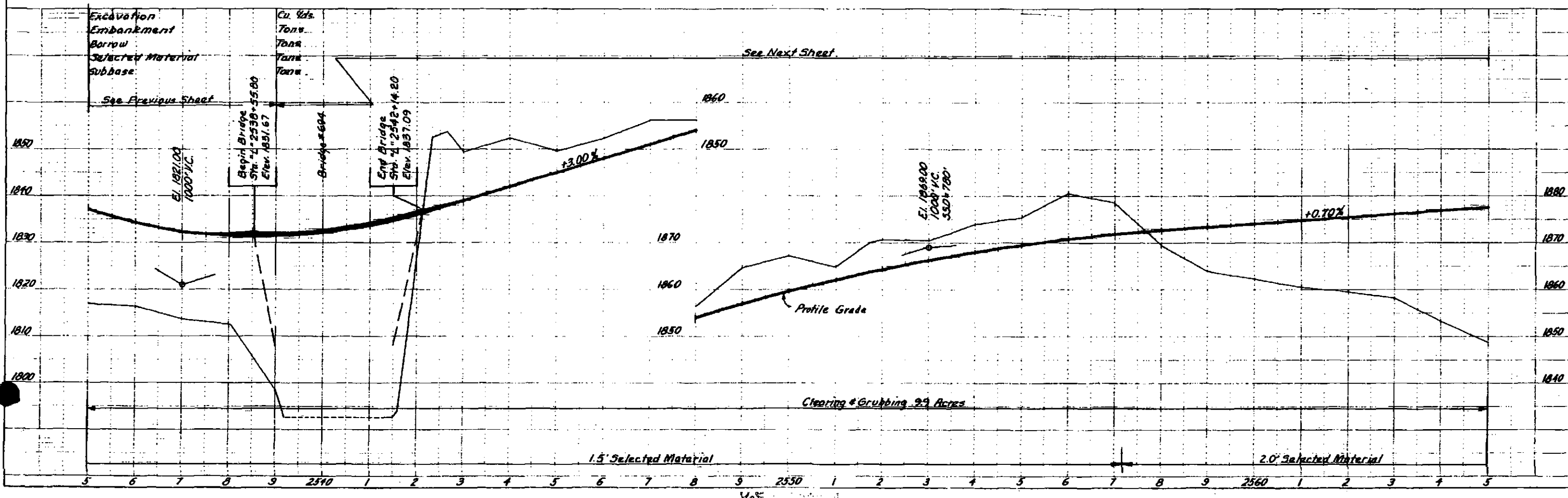
T.B.M. 21-A El. 1813.25
 Spike in base of 3" Spruce
 75' Left Sta. 2538+09

T.B.M. 22-A El. 1854+56
 Spike in base of 5" Spruce
 94' Right Sta. 2544+37

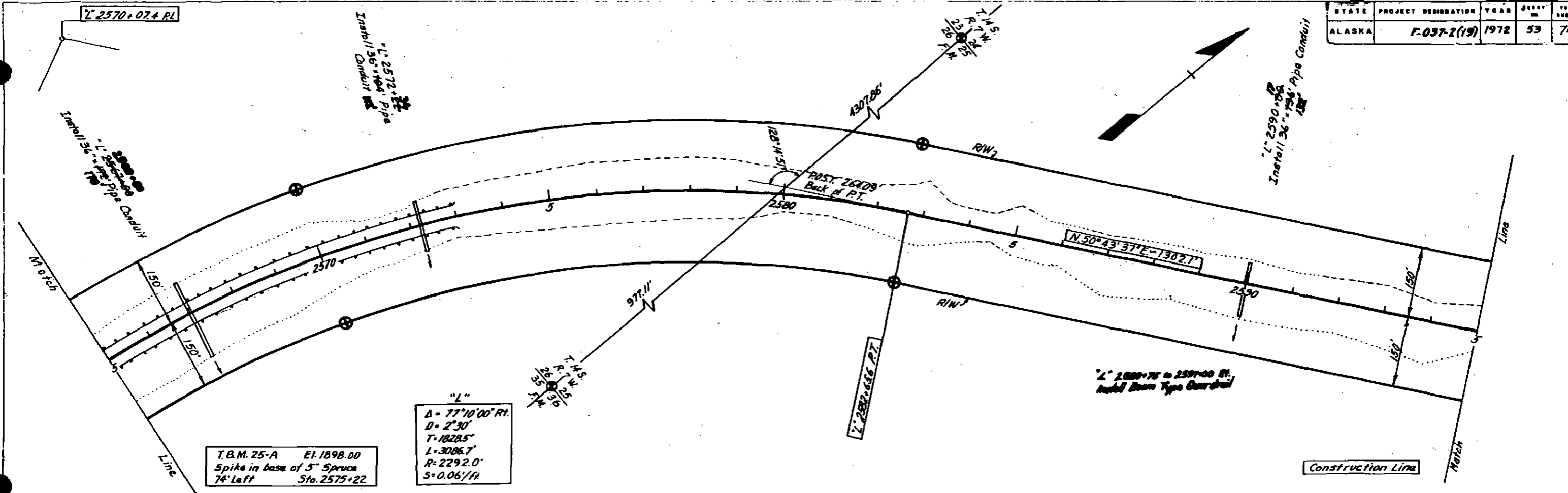
T.B.M. 23-A El. 1889.11
 Spike in base of 6" Spruce
 117' Left Sta. 2555+00±

T.B.M. 24-A El. 1860.46
 Spike in base of 7" Spruce
 60' Left Sta. 2564+72

Construction Line

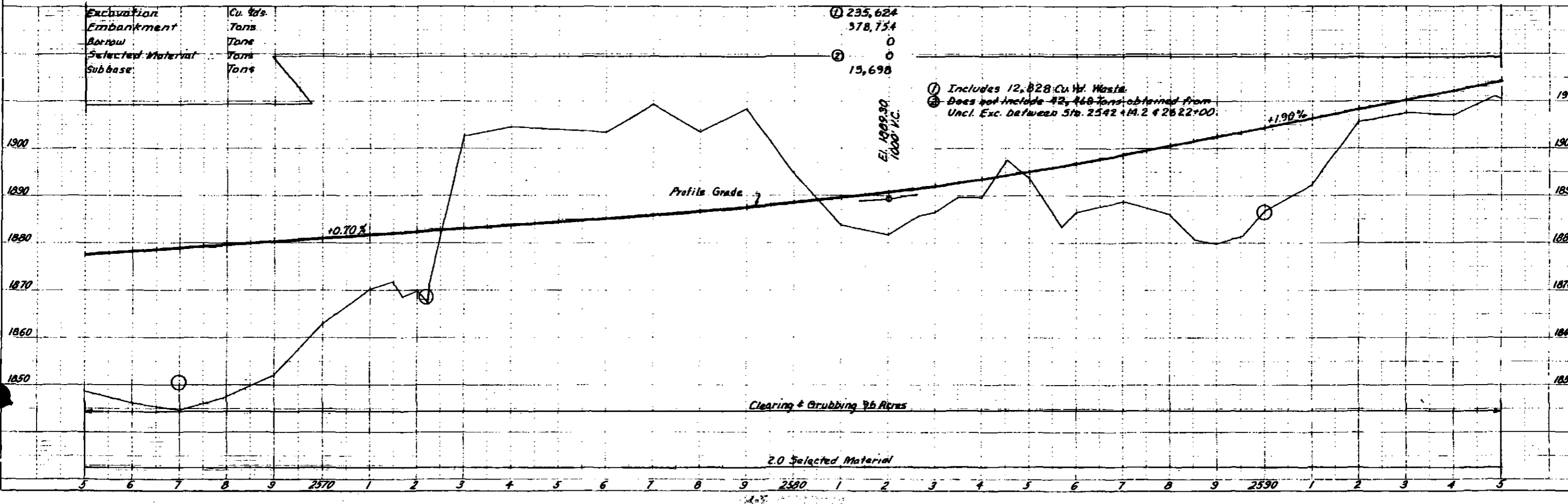


STATE	PROJECT DEMONSTRATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	53	74



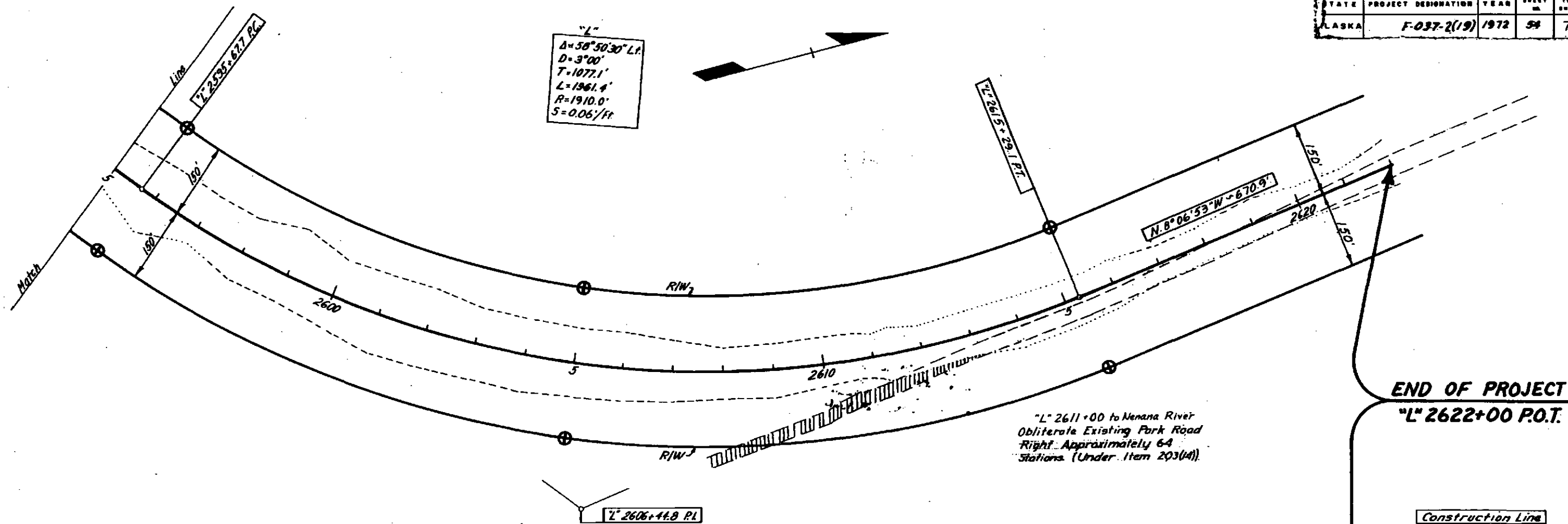
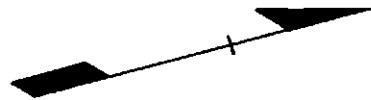
"L"
 $\Delta = 77^{\circ}10'00''$ RT.
 $D = 2^{\circ}30'$
 $T = 1828.5'$
 $L = 3086.7'$
 $R = 2292.0'$
 $S = 0.06'/ft$

T.B.M. 25-A El. 1898.00
 Spike in base of 5" Spruce
 7' Left Sta. 2575+22



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-037-2(19)	1972	54	74

"L"
 $\Delta = 58^{\circ}50'30''$ L.I.
 $D = 3^{\circ}00'$
 $T = 1077.1'$
 $L = 1961.4'$
 $R = 1910.0'$
 $S = 0.06'/ft$

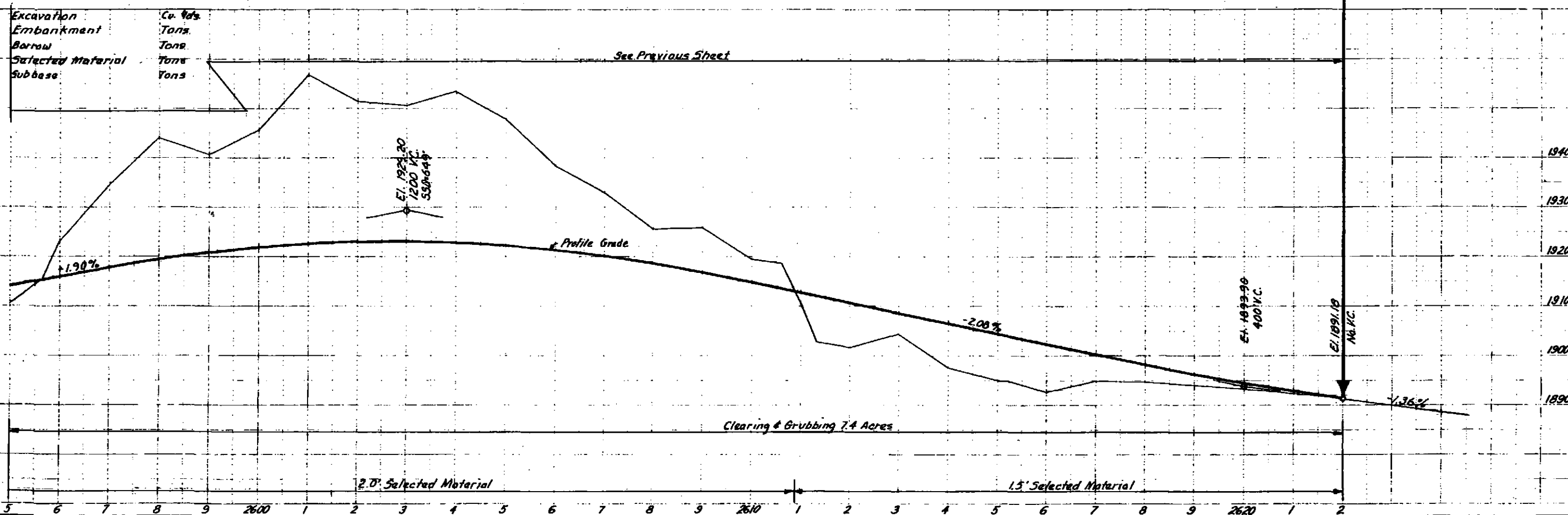


END OF PROJECT
"L" 2622+00 P.O.T.

Construction Line

"L" 2611+00 to Nenana River
 Obliterate Existing Park Road
 Right. Approximately 64
 Stations (Under Item 203(4))

"L" 2606+44.8 P.I.



See Previous Sheet

Clearing & Grubbing 7.4 Acres

2.0' Selected Material

1.5' Selected Material

Excavation
 Embankment
 Borrow
 Selected Material
 Subbase

Cu. Yds.
 Tons
 Tons
 Tons

Profile Grade

E.I. 1899.96
 400 V.C.

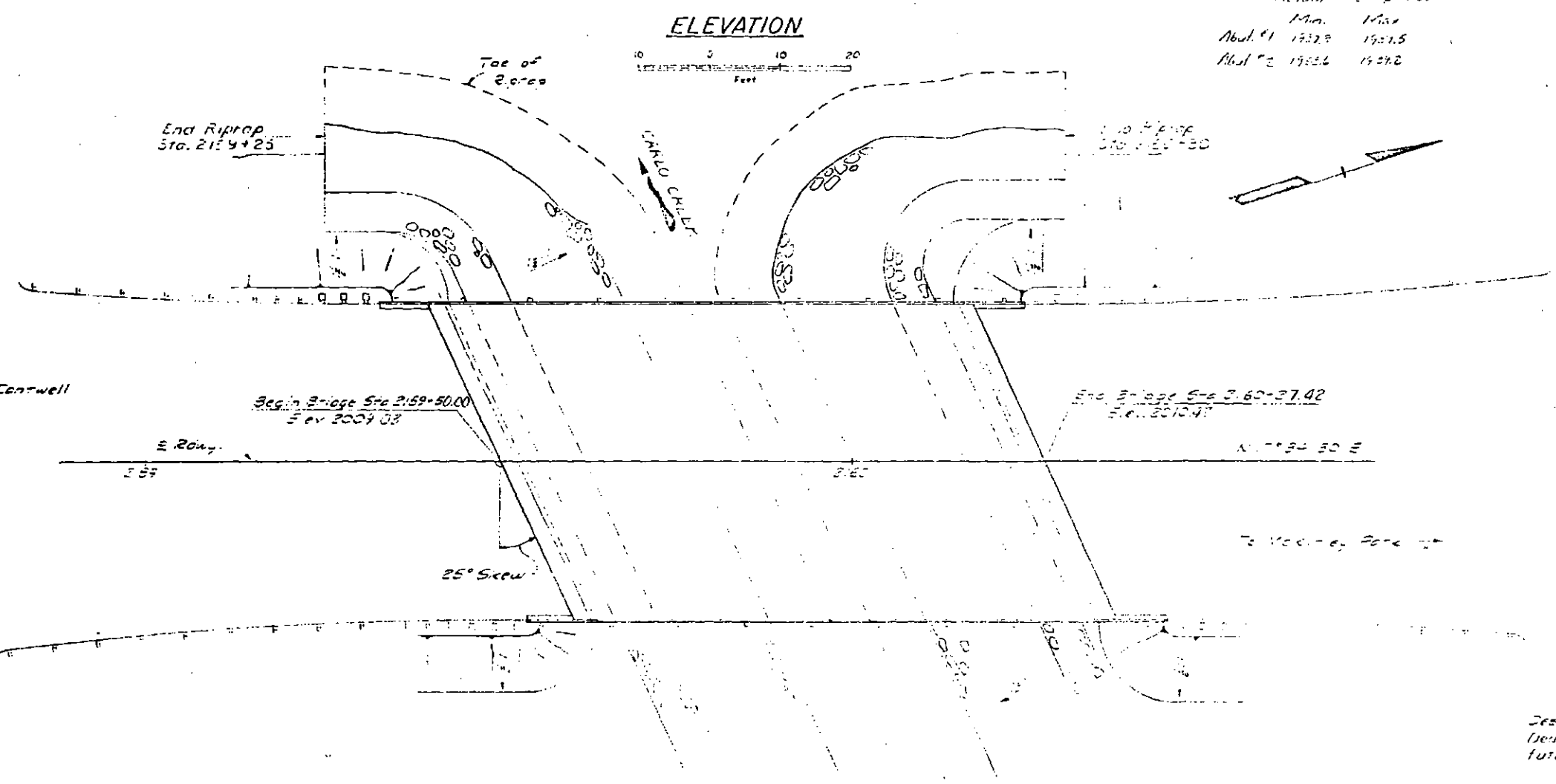
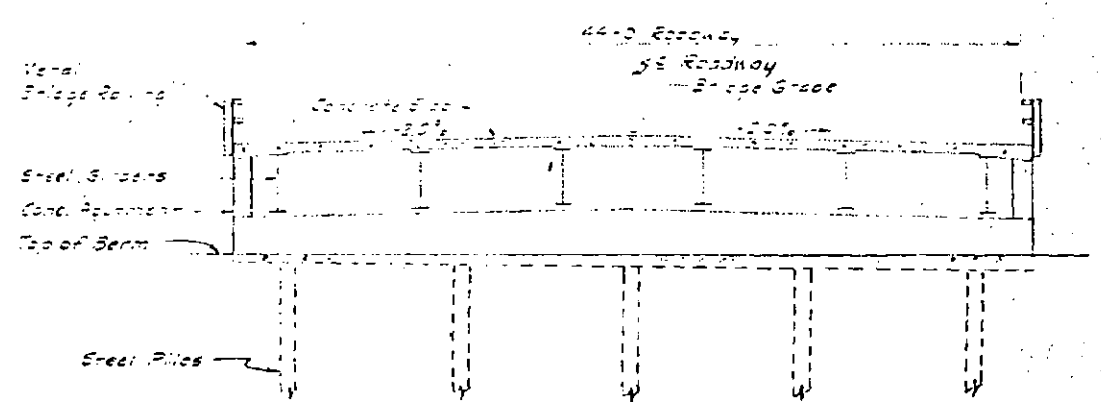
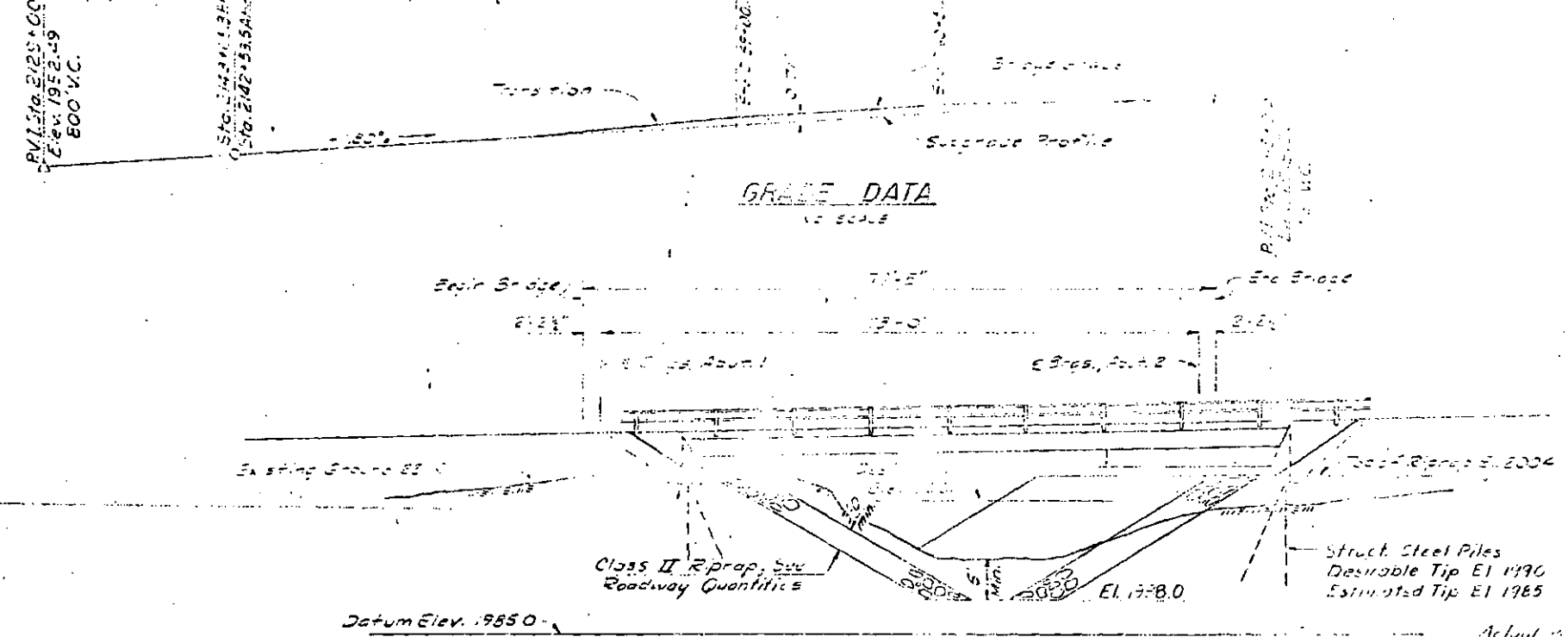
E.I. 1891.19
 160 V.C.

-1.36%

-2.00%

+1.90%

5 6 7 8 9 2600 1 2 3 4 5 6 7 8 9 2610 1 2 3 4 5 6 7 8 9 2620 1 2



INDEX

GENERAL LAYOUT	2416
FOUNDATION PLAN	2417
ABUTMENTS	2418
WINGWALLS	2419
TYPICAL SECTION	2420
SUPERSTRUCTURE	2421
RAILING	2422
LOG of TEST BORINGS	2423

The following Standard Drawings shall apply: R5, R6 & T9

Designed by: J.V.
 Checked by: J.V.
 Date: 11-1-60

PLAN

Note: To enter into the 25' skew approach using Street location from bridge.

Design Load: HS20
 (Design load includes 25 psf for future paving.)

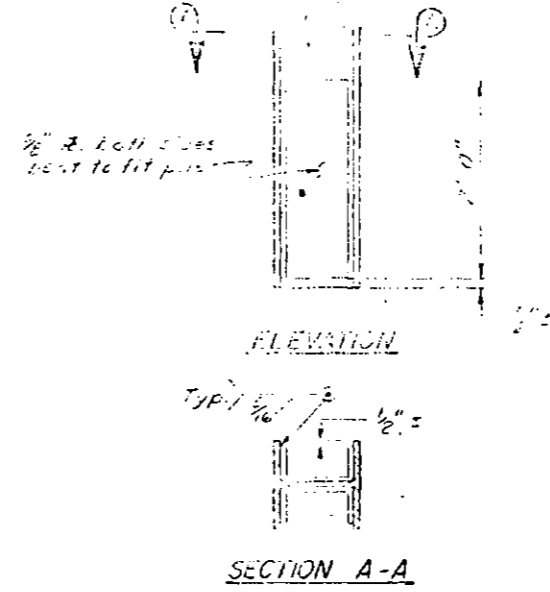
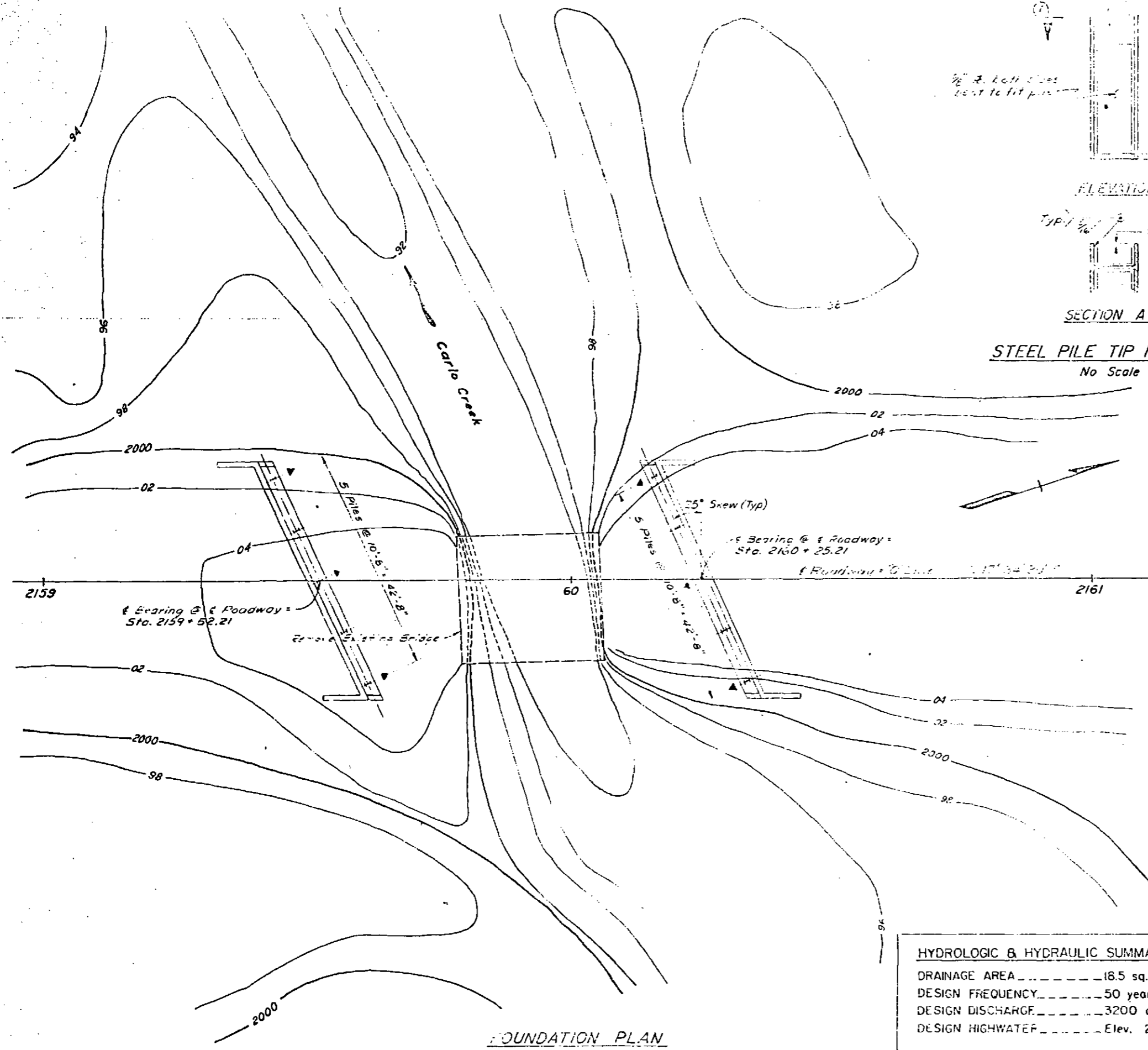
CARLO CREEK BRIDGE
 Route No. F-37

GENERAL LAYOUT ✓

State of Alaska
DEPARTMENT OF HIGHWAYS
 Juneau, Alaska

Date: _____
 Approved: _____

BRIDGE NO. 693
 DWNS. NO. 2416



SECTION A-A
STEEL PILE TIP REINFORCEMENT
No Scale

GENERAL NOTES

Specifications:
 Design: AASHO Standard Specifications for Highway Bridges, 1969 Edition, with latest interim specifications.
 Construction: State of Alaska Standard Specifications for Highway Construction, 1972, and the special provisions.

Live Load: HS20 - 44

Unit Stresses:
 Reinforced Concrete: $F_c = 1200 \text{ psi}$, $F_s = 20,000 \text{ psi}$
 $n = 10$

Structural Steel: Bending Stress in extreme fiber:

Type of Steel	Thickness	Allowable Stress
A-36	All	20,000 psi
A-572 Grade 50	All	27,000 psi

Concrete: All concrete shall be Class A

Reinforcing Steel: All reinforcing steel shall be intermediate grade.

Structural Steel: Bottom flange plates shall be A-572 steel, grade 50. All other structural steel shall be A-36 unless otherwise shown on the plans or noted in the specifications. Field connections shall be made with 7/8" high strength bolts conforming to ASTM A-325 except as otherwise noted.

Piles:
 Type: HP 10 x 57
 Loading: 55 Tons

ESTIMATE OF QUANTITIES				
ITEM	Unit	Substr.	Super.	Total
Removal of structures and obstructions	Lump Sum	—	—	All Req'd.
Class I excavation for structures	C. Y.	20	—	20
Class A Concrete	C. Y.	57.2	85.2	142.4
Reinforcing Steel	Lb.	6310	20,480	26,790
Structural Steel, furnished, fabricated and erected	Lb.	—	70,850	70,850*
Structural Steel Piles, furnished and driven	L.F.	131	—	131
Metal Bridge Railing	L.F.	—	181	181

* Includes approximately 43,675 lbs. A-36 and 27,175 lbs. A-572.

HYDROLOGIC & HYDRAULIC SUMMARY	
DRAINAGE AREA	18.5 sq. mi.
DESIGN FREQUENCY	50 years
DESIGN DISCHARGE	3200 cfs
DESIGN HIGHWATER	Elev. 2001

REVISIONS	
No.	Date

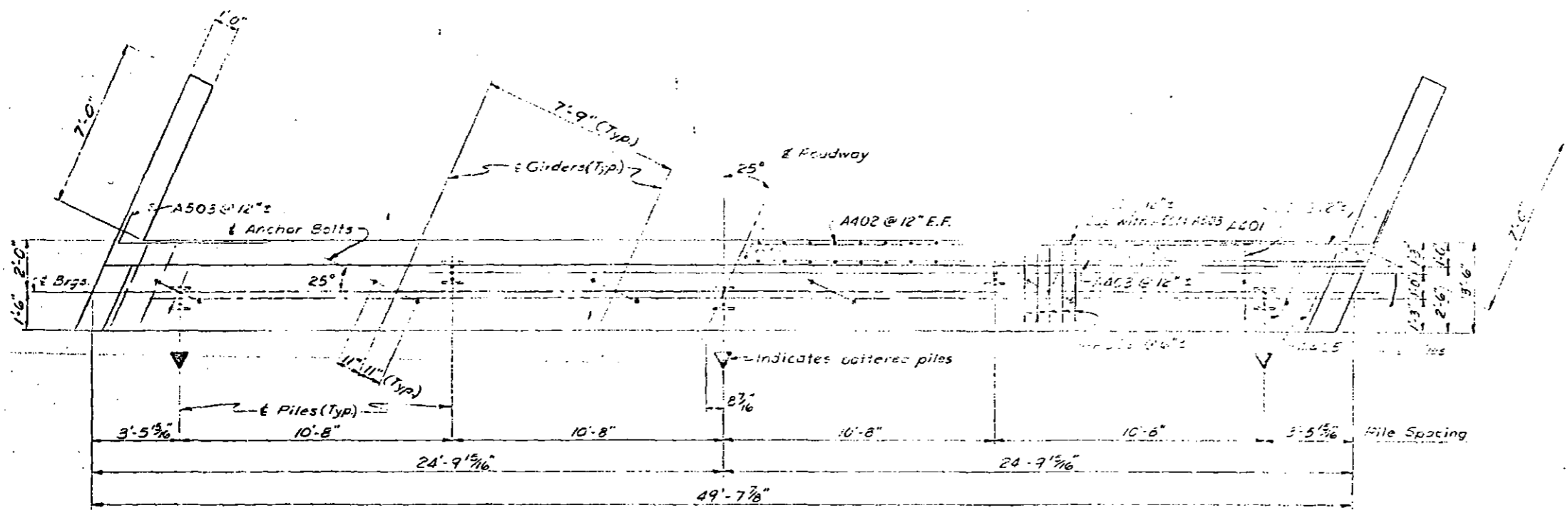
CARLO CREEK BRIDGE
 ROUTE NO. F-37
 FOUNDATION PLAN ✓
 BRIDGE NO. 693

Alaska Department of Public Works
 DEPARTMENT OF HIGHWAYS
 Juneau, Alaska

DWNS NO. 2417

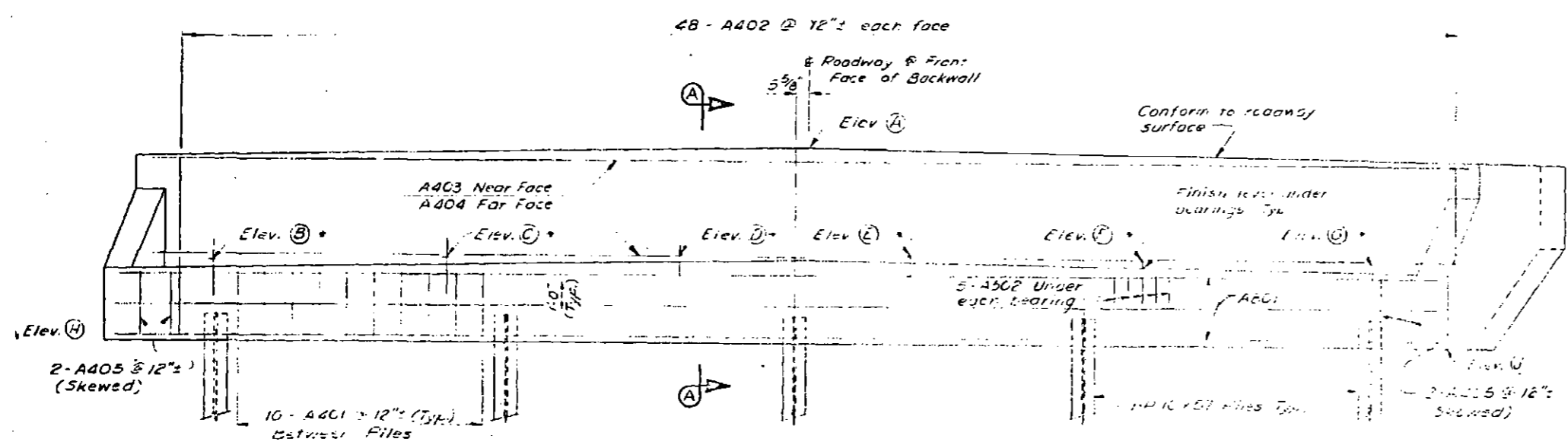
Designed by
 Checked by
 Drawn by
 Plotted by

Contours as of August 27, 1963



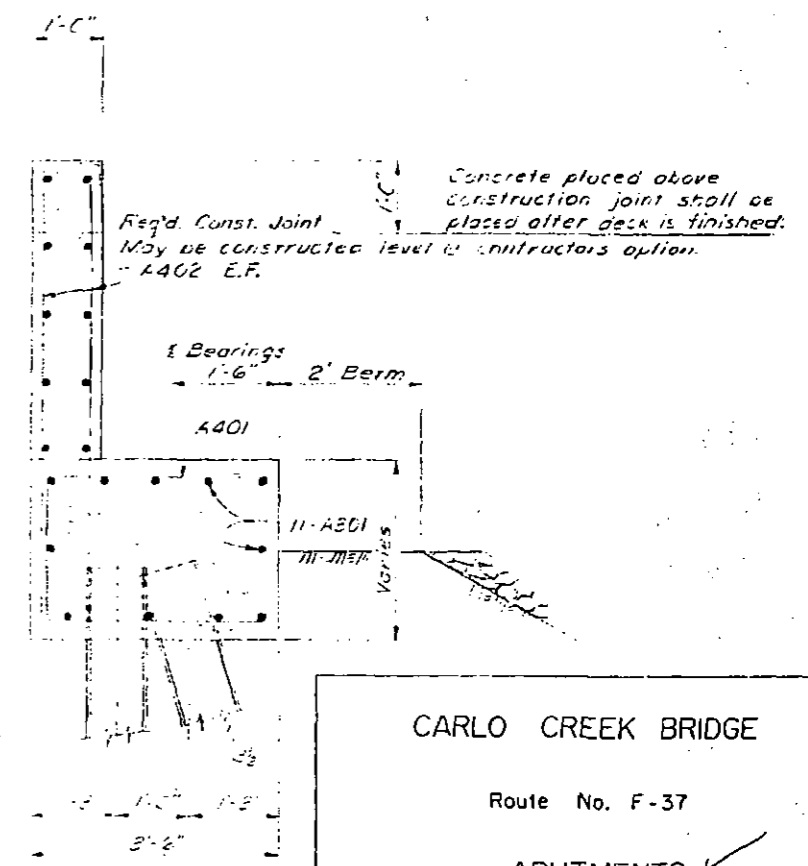
Bar Size	No.	Length	Type	Bending Diagram	
A401	4	11'-6"	Bent	6"	6"
A402	96	6'-4"		2'-1"	2'-1"
A403	5	56'-4"			
A404	5	20'-0"			
A405	4	12'-2"	Bent	3'-2"	3'-6"
A501	5	5	Bent	115"	
A502	30	5'-2"	Bent	6'-0"	3'-2"
A503	5	5	Bent	1'-0"	
A504	5	3'-2"		5'-0"	
A505				5'-0"	

* Length includes allowance for one lap splice.



Elev.	Abutment 1	Abutment 2
(A)	2009.0±2	2010.4±3
(B)	2004.981	2005.970
(C)	2005.071	2006.190
(D)	2005.161	2006.410
(E)	2005.096	2006.375
(F)	2004.876	2006.565
(G)	2004.656	2006.375
(H)	2002.225	2003.102
(J)	2001.848	2003.450

* Elevations are top of sole plate before dead load. (Assumes 1/2" compression in elastomeric pad due to total dead load)



CARLO CREEK BRIDGE

Route No. F-37

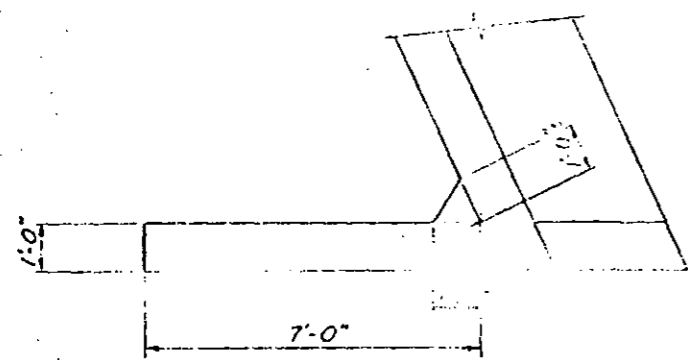
ABUTMENTS ✓

State of Alaska
DEPARTMENT OF HIGHWAYS
Juneau, Alaska

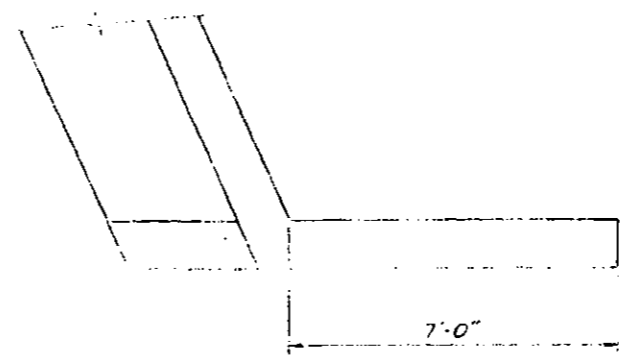
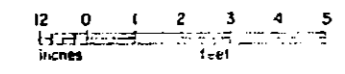
Date: _____
Approved: _____

BRIDGE NO. 693
DWG. NO. 2418

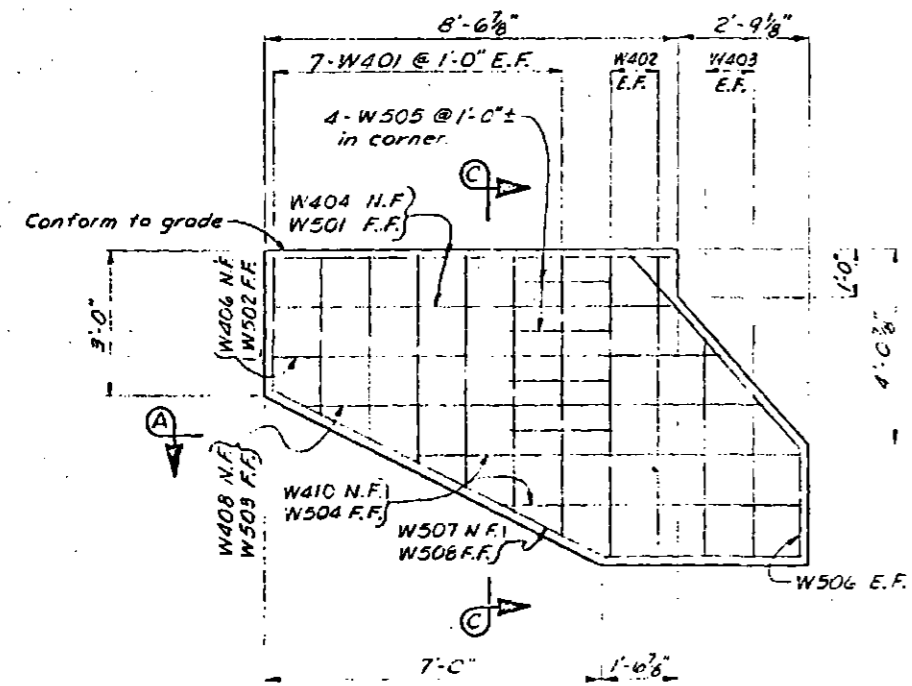
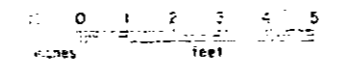
Designed by: P.M. Date: 12-1-70
Checked by: J.P. Date: 12-1-70
Traced by: J.P. Date: 12-1-70



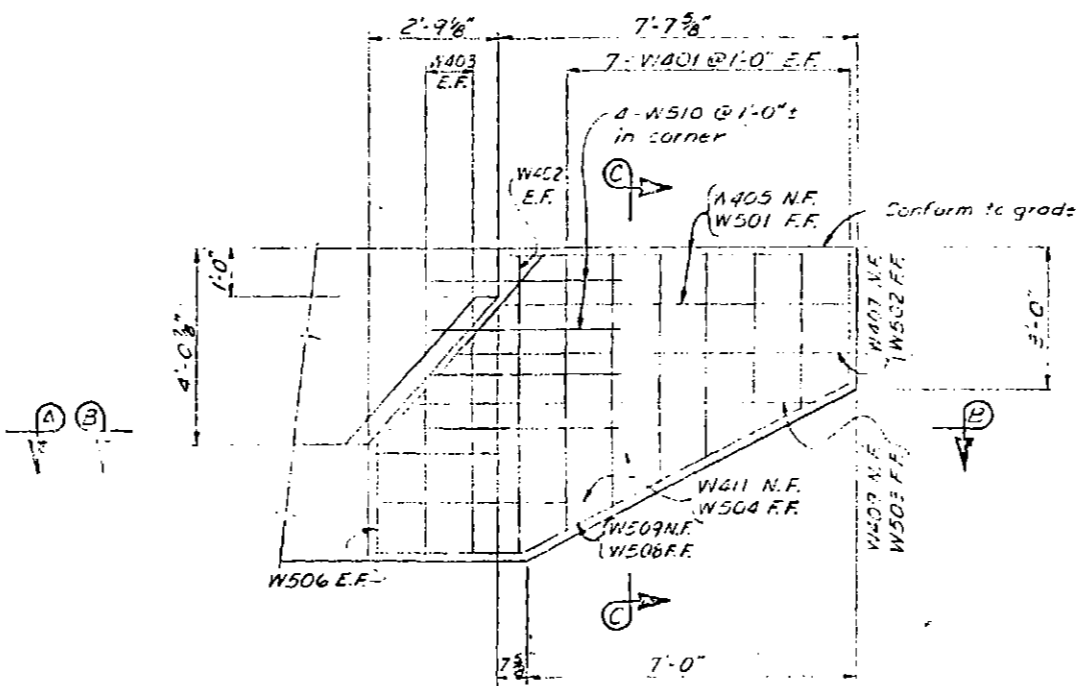
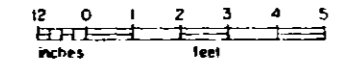
PLAN - ACUTE ANGLE



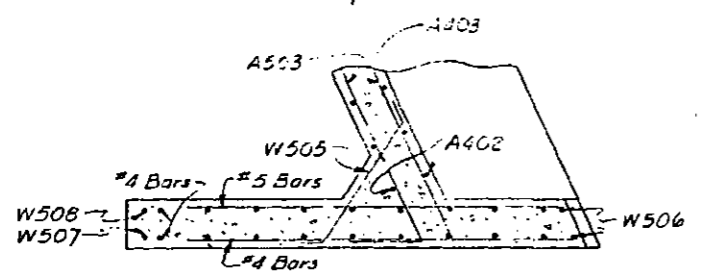
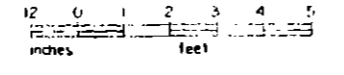
PLAN - OBTUSE ANGLE



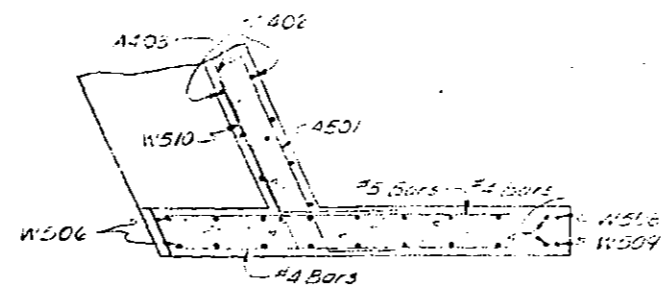
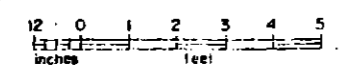
ELEVATION - ACUTE ANGLE



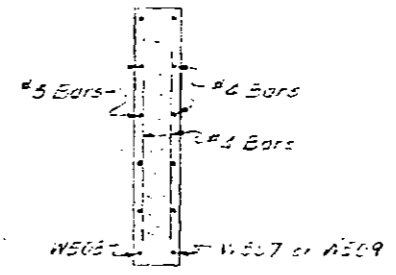
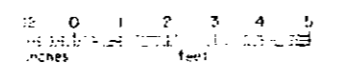
ELEVATION - OBTUSE ANGLE



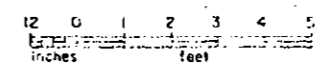
SECTION A-A



SECTION B-B



SECTION C-C



REINFORCING STEEL (GHE ABUTMENT)					
Bar	Size	No.	Length	Type	Ending Diagrams
W401	2	2	Varies		
W402	2	2	6'-1"		
W403	2	2	8'-5"		
W404	2	2	7'-2"		
W405	1	1	9'-3"		
W407	1	1	8'-4"		
W408	1	1	9'-8"		
W409	1	1	8'-8"		
W410	2	2	Varies		
W411	4	2	Varies		
W501	5	4	7'-9"		
W502	2	2	8'-9"		
W503	2	2	9'-2"		
W504	4	4	Varies		
W505	4	4	6'-0"	Bent	
W506	4	4	7'-7"	Bent	
W507	1	1	11'-9"	Bent	
W508	2	2	11'-3"	Bent	
W509	1	1	10'-9"	Bent	
W510	5	4	6'-0"	Bent	

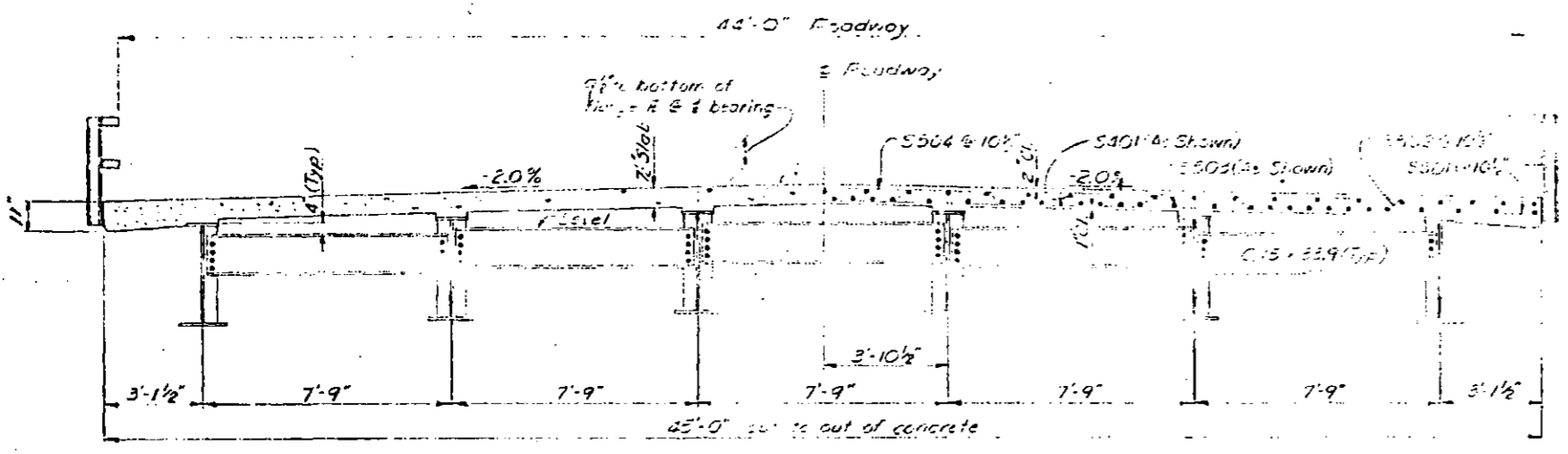
Note:
See Dwg. No. 2422 For Railing Connections.

CARLO CREEK BRIDGE
Route No. F-37
WINGWALLS ✓

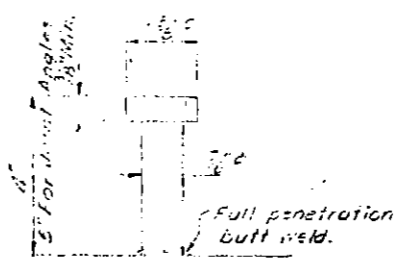
State of Alaska
DEPARTMENT OF HIGHWAYS
Juneau, Alaska

BRIDGE NO. 693
DWG. NO. 2419

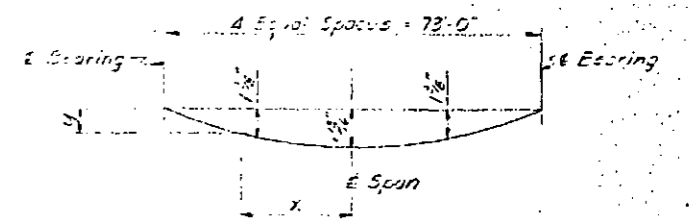
By: [Signature] Date: 12-20-70
Checked by: [Signature] Date: 1-1-71
Approved by: [Signature] Date: 1-1-71



TYPICAL SECTION
 12 0 1 2 3 4 5
 inches feet

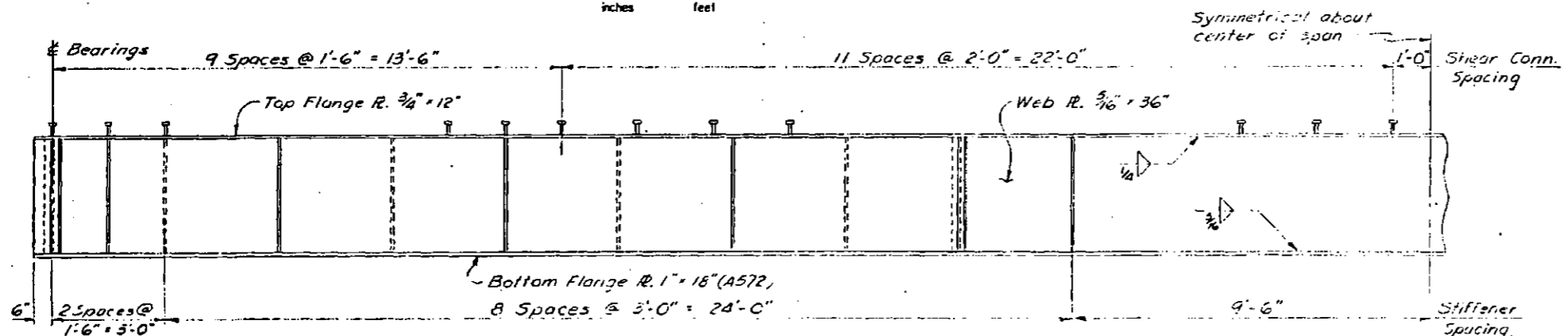


GIRDER CONNECTOR DETAIL
 No Scale



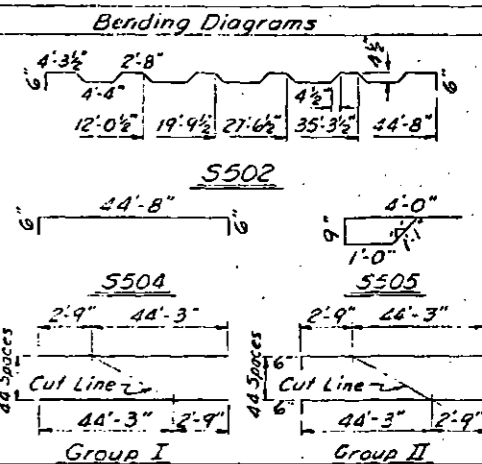
LOAD DEFLECTION DIAGRAM FOR DECK SLAB
 No Scale

Deck screeds shall be set above theoretical grade to compensate for deflections shown.
 For points other than those shown; $y = 1.812 - 0.0136x^2$, where x is in feet, y is in inches.
 Shop camber for total dead load deflection shall be 2% @ 1/2 span. (Parabolic)

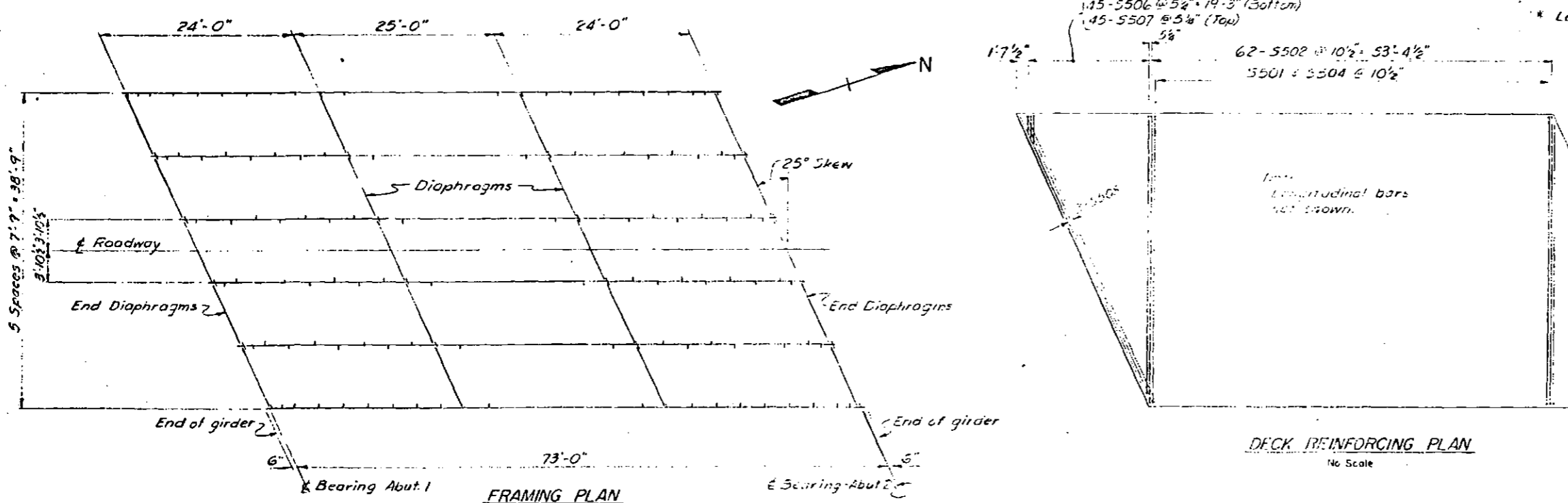


GIRDER ELEVATION
 12 0 1 2 3 4 5
 inches feet

SLAB REINFORCING SCHEDULE				
Mark	No.	Size	Length	Type
S401	37	4	75'-7"	
S501	61	5	44'-8"	
S502	62		47'-3"	Bent
S503	56		75'-10"	
S504	61		45'-8"	Bent
S505	60		6'-10"	Bent
S506	45		47'-0"	Group I
S507	45		48'-0"	Group II
S508	8		49'-3"	
S509	10	5	5'-2"	



* Length includes allowance for 1 lap splice.



FRAMING PLAN
 No Scale

DECK REINFORCING PLAN
 No Scale

Note: See Dwg. No. 2421 for miscellaneous superstructure details.

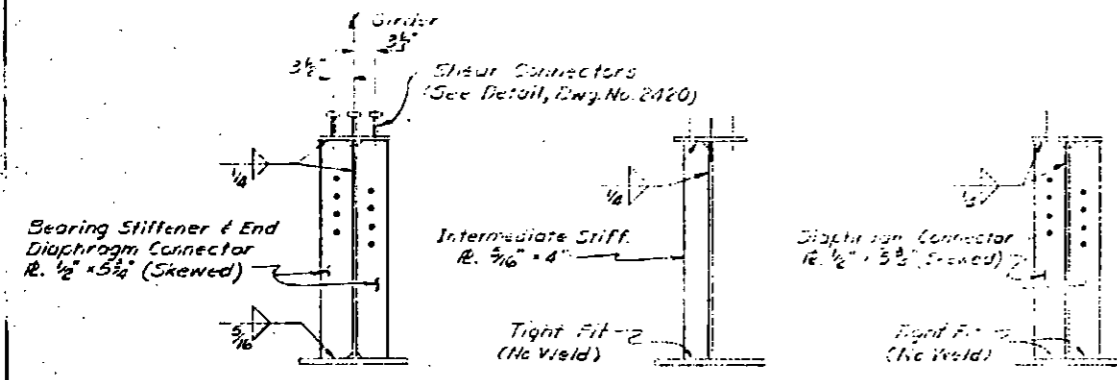
Use cut off portions of S506 & S507 from outer end of slab.

CARLO CREEK BRIDGE
 Route No. F-37
TYPICAL SECTION

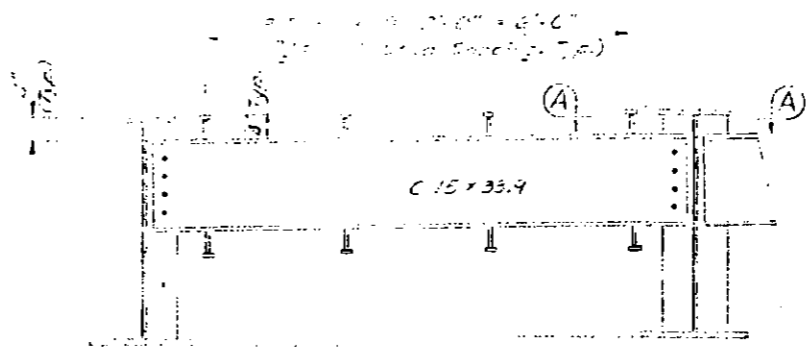
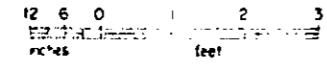
State of Alaska
DEPARTMENT OF HIGHWAYS
 Juneau, Alaska

Date: 1/26/71
 Approved: [Signature]
 BRIDGE NO. 693
 DWNG. NO. 2420

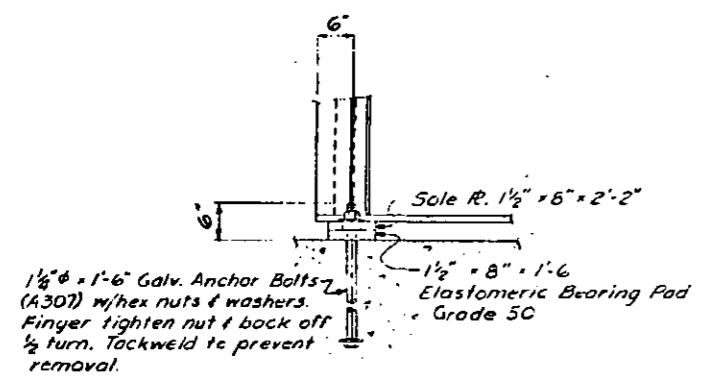
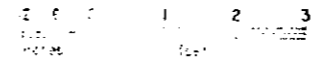
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 Checked by: [Signature]
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 Created by: [Signature]
 Revised by: [Signature]
 Title: [Signature]



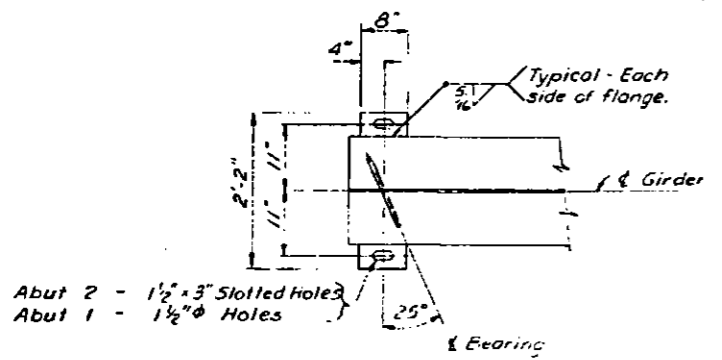
TYPICAL GIRDER SECTIONS



TYPICAL END DIAPHRAGM @ ABUTMENT

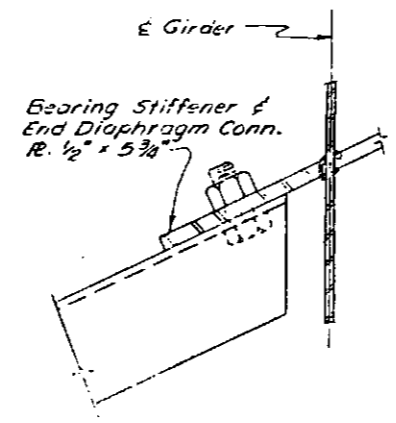
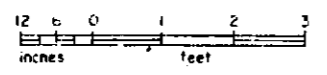


ELEVATION



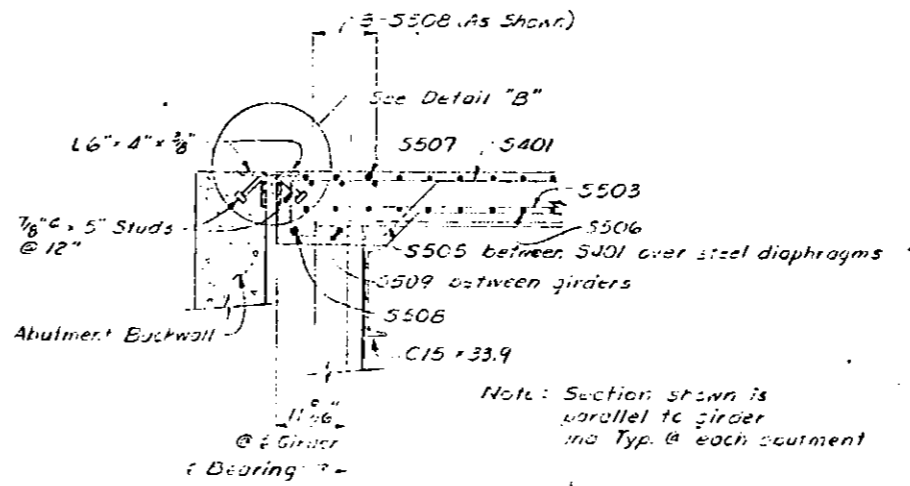
PLAN

BEARING DETAILS

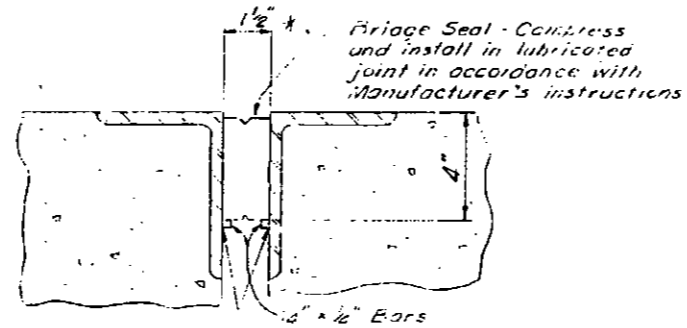
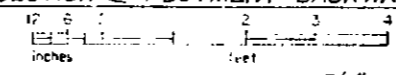


SECTION A-A

No Scale



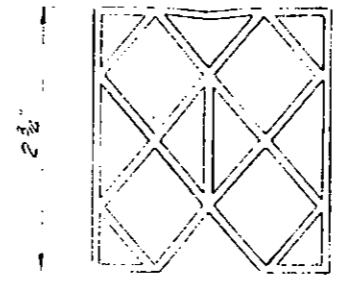
SECTION @ ABUTMENT BACKWALL



DETAIL "B"

No Scale

* Dimension shown is perpendicular to Abut 2 backwall and at 50°F. Adjust 1/16" for each 10°F change in temperature.



BRIDGE SEAL

No Scale

Note: Install continuous across deck.

Designed By: P.M. Date: 12/70
 Checked By: W.S.G. Date: 12/70
 Drawn By: J.C. Date: 12/70
 Copied By: J.C. Date: 1/71
 Traced By: J.C. Date: 1/71

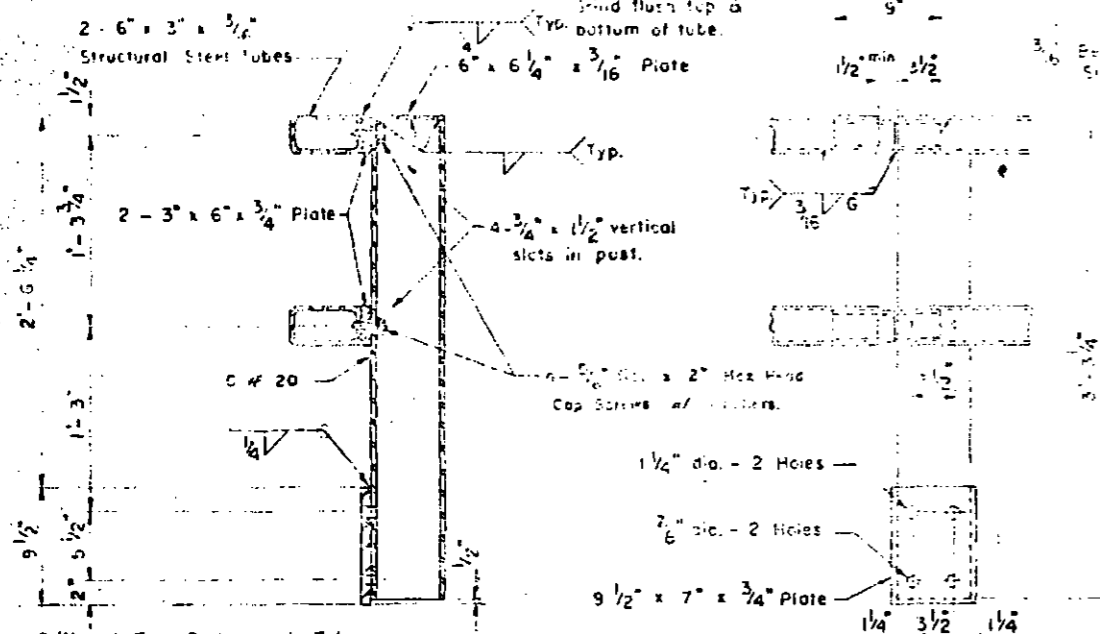
CARLO CREEK BRIDGE

Route No. F-37

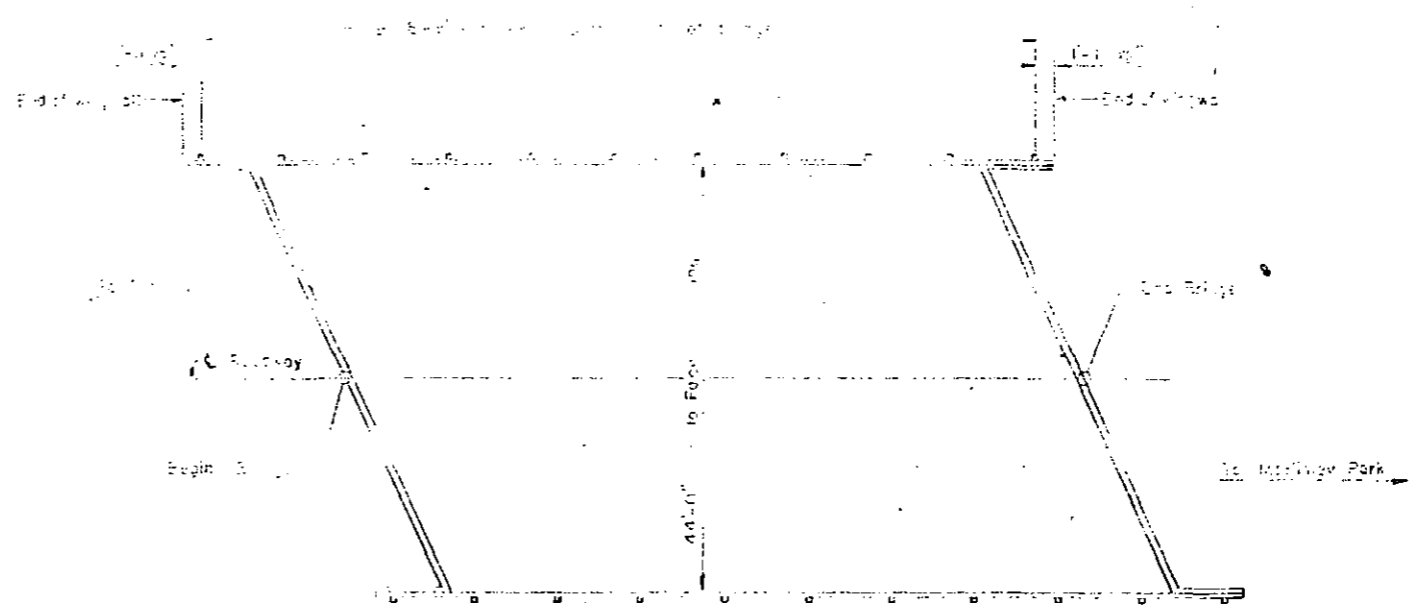
SUPERSTRUCTURE

State of Alaska
DEPARTMENT OF HIGHWAYS
 Juneau, Alaska

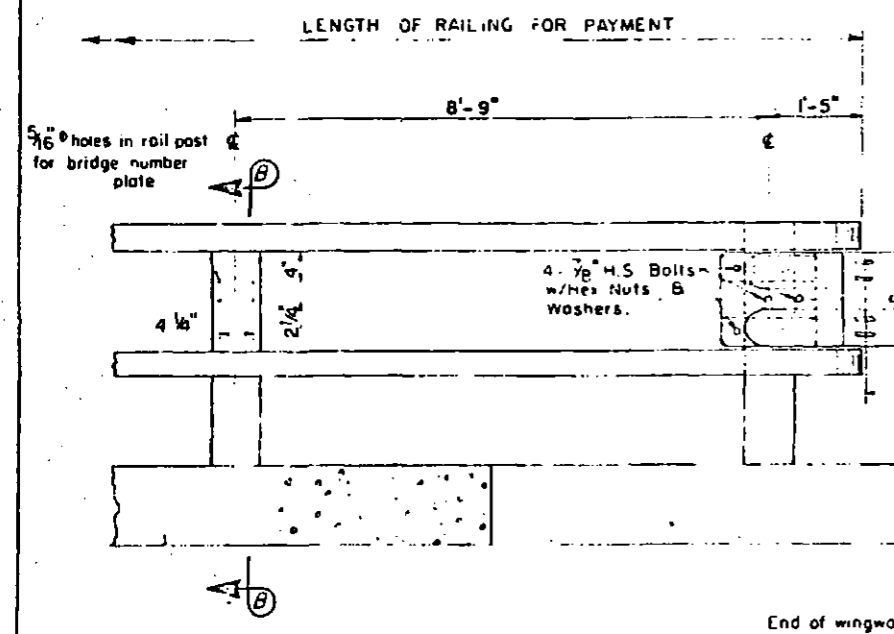
BRIDGE NO. 693
 DWG. NO. 2421



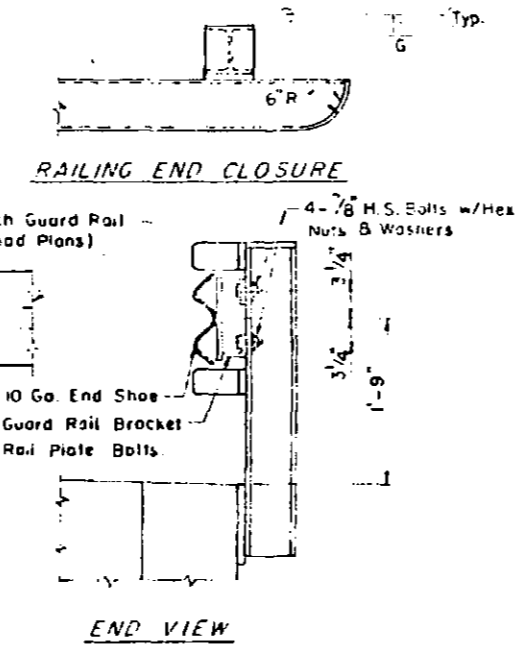
SECTION B-B EXPANSION JOINT STEEL RAIL AND POST



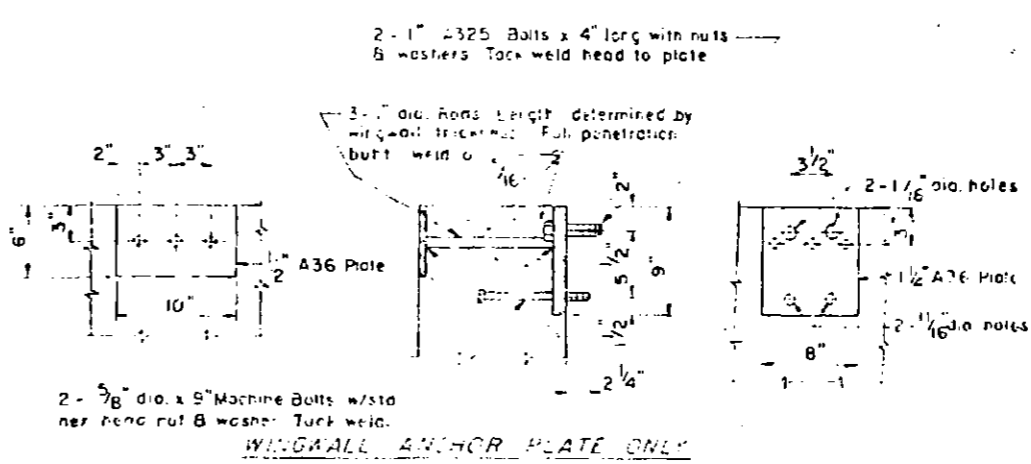
RAILING LAYOUT



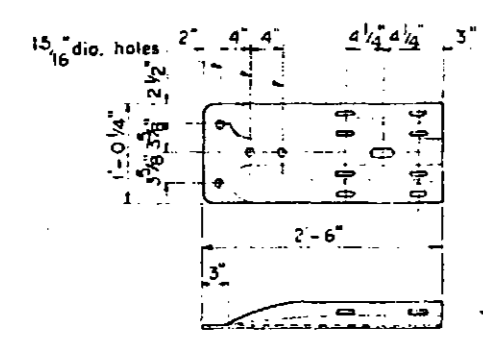
ELEVATION



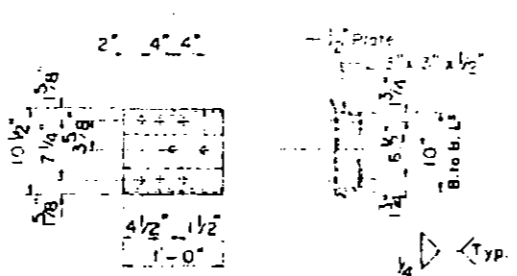
END VIEW



WINGWALL ANCHOR PLATE ONLY

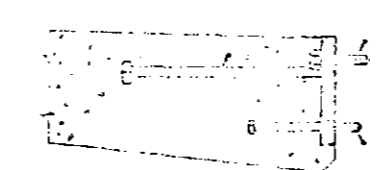


END SHOE

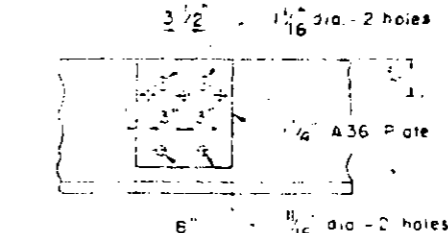


END POST APPROACH GUARD RAIL BRACKET

3- 1" dia. Concrete Anchor Studs
16" long. Full penetration butt weld



2- 1" A325 Bolts x 4" long, with one nut and one washer each.
Tack weld head to plate



2- 5/8" x 9" Machine bolt with std hex head, nut and washer. Tack weld to plate leaving 2 1/4" exposed.

ANCHOR PLATE DETAILS

NOTES

- (1) All railing, posts, anchor assemblies and other steel components shall be galvanized after fabrication. Galvanized steel shims shall be furnished by the contractor as required.
- (2) Locate bridge number plate on right side of roadway at each end of bridge as shown.
- (3) Bridge number plate to be furnished by the state.
- (4) Increase gap in railing expansion joint to match deck joint opening.
- (5) All machine bolts and cap screws shall have locking nuts or lock washers.
- (6) Railing expansion joints must be provided in panels over the deck expansion joints and at 30'-0" maximum intervals throughout the railing.
- (7) Railing expansion joints shall be located immediately adjacent to a rail post.

CARLO CREEK BRIDGE

Route No. F-37

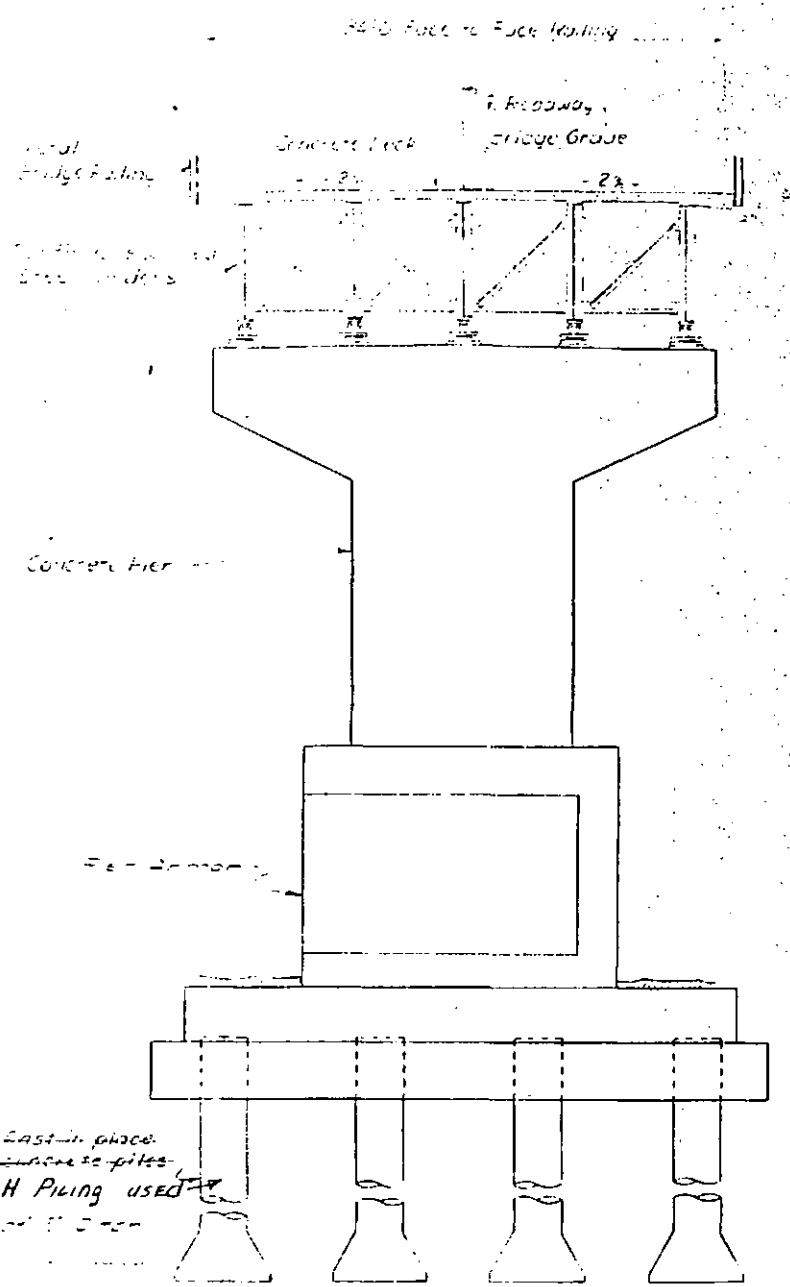
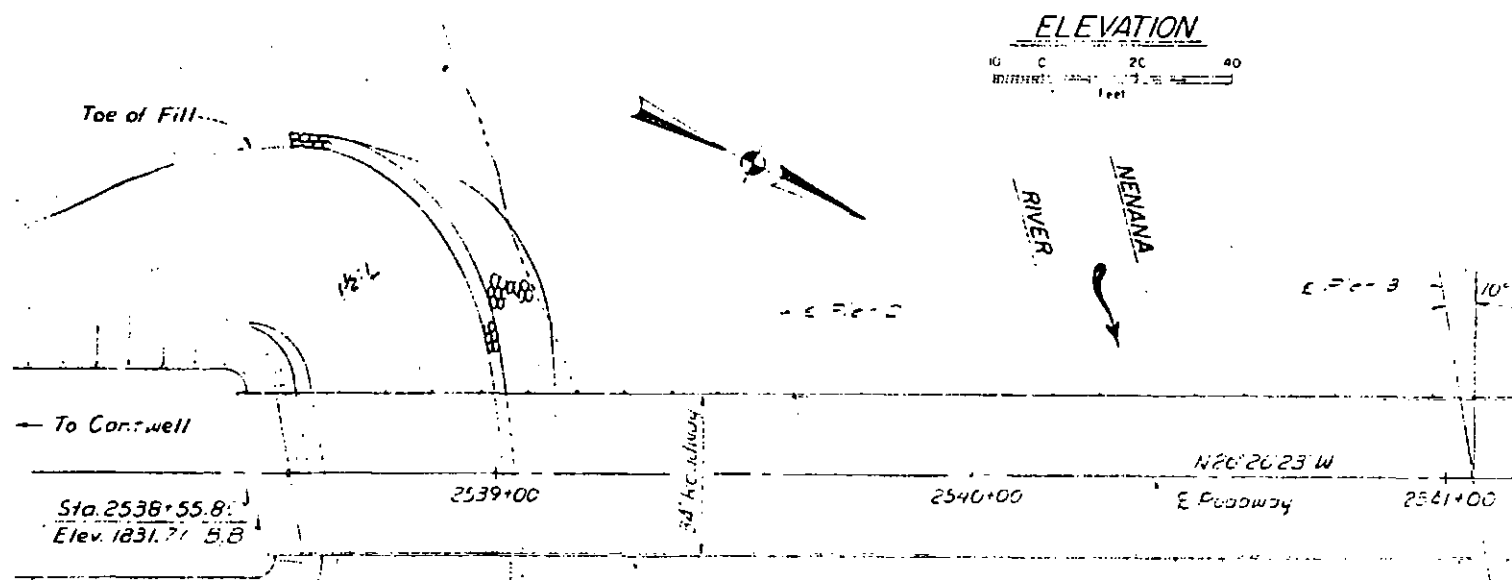
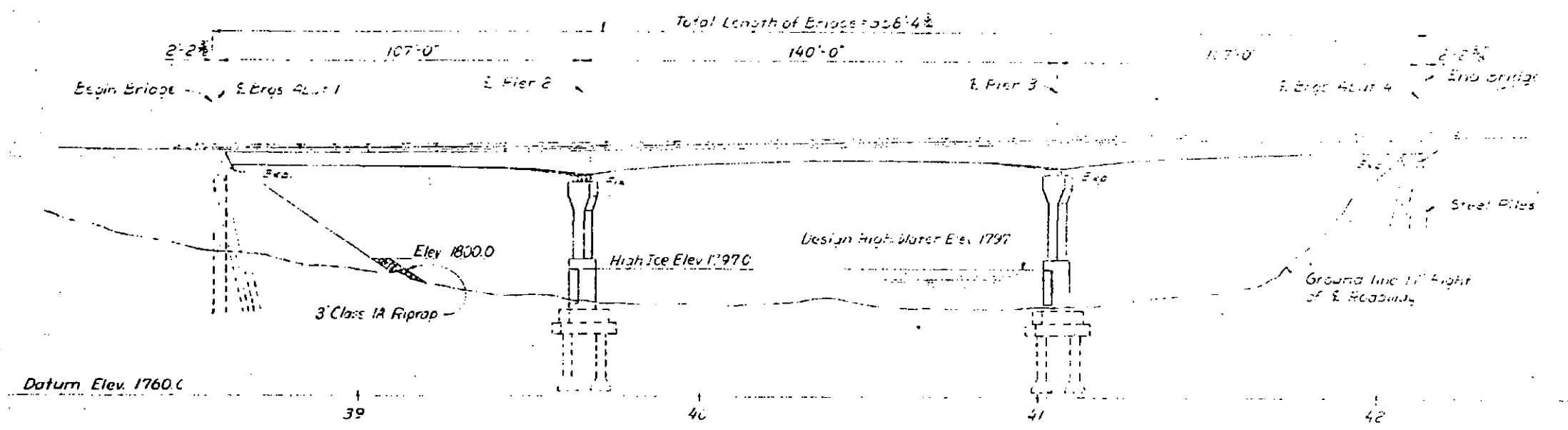
RAILING

No Scale

State of Alaska
DEPARTMENT OF HIGHWAYS
Juneau, Alaska

NOTE
 Due to lack of camber in the Str. Steel, bridge grades at each Pier was lowered 1/4" & feathered out toward each Abut.

GRADE DATA
 As Shown



TYPICAL SECTION

INDEX

TITLE	DWG. NO.
GENERAL LAYOUT	2390
SITE PLAN	2391
ABUTMENTS	2392
WINGWALLS	2393
PIERS	2394
SUPERSTRUCTURE	2395
GIRDERS	2396
DIAPHRAGMS & SPLICES	2397
EXPANSION DEVICE	2398
BEARINGS	2399
BRIDGE PAINTING	2400
LOG OF TEST BEARINGS	2401
STANDARD DRAWINGS R.S., R.E., T.E.	

NENANA RIVER BRIDGE
 AT PARK BOUNDARY
 Route No F-37
 GENERAL LAYOUT

State of Alaska
DEPARTMENT OF HIGHWAYS
 Juneau, Alaska

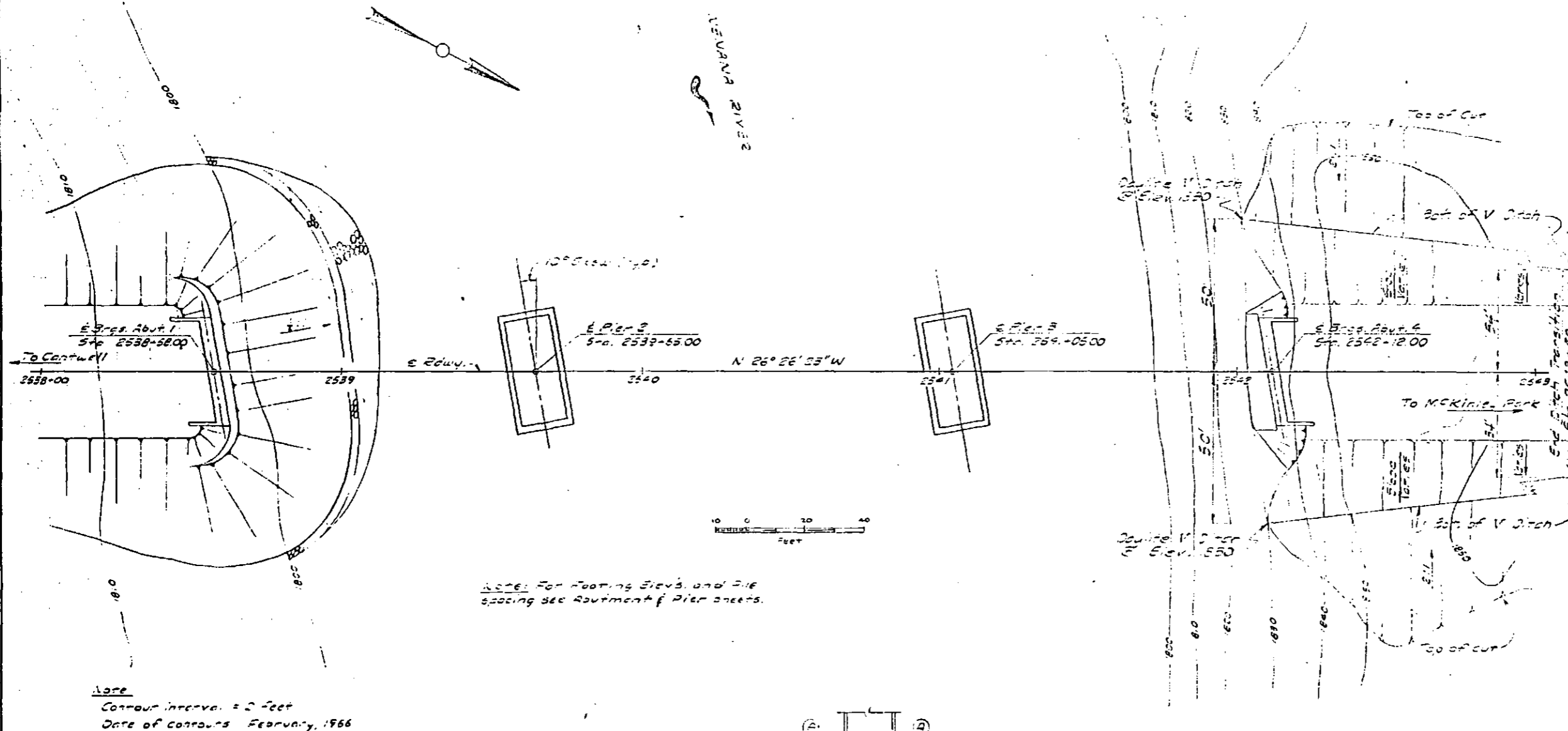
BRIDGE NO. 694
 DWG. NO. 2390

Designed by
 Checked by
 Drawn by
 Checked by
 Plotted by

GENERAL NOTES

- Design: A.A.S. - O. Standard Specifications for Highway Bridges, 2nd Edition, with latest interim specifications.
- Construction: State of Alaska Standard Specifications for Highway Construction, 1972, and the Special Provisions.
- Live Load: HS20-44
- Reinforced Concrete: $F_c = 4000$ psi, $F_s = 20,000$ psi, $n = 10$
- Structural Steel: Bending Stress in extreme fiber. Type of Steel Thickness Allowable Stress.

A-36	All	20,000 psi
A-572 Grade 50	All	27,000 psi
- Concrete: All concrete shall be Class A except for seals which shall be Class S.
- Reinforcing Steel: All reinforcing steel shall be intermediate grade.
- Structural Steel: Flange Rs. and girder webs shall be A-572 steel, Grade 50. All other structural steel shall be A-36 unless otherwise shown on the plans or noted in the specification. Field connections shall be made with $\frac{3}{8}$ " high strength bolts conforming to ASTM A-325 except as otherwise shown.
- Piers: Abutments:
 - Type: HP 10x57 with reinforced tips.
 - Loading: 50 Tons
- Piers:
 - Type: Cast in Place Concrete or reinforced tips
 - Loading: 200 Tons or 70 Tons
- Design Ice Loading on Piers:
 - 70% on nose of pier at Elev 1795
 - 7% on side of pier at Elev 1795



Contour interval = 2 feet
Date of contours February, 1966

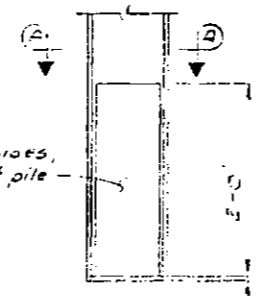
HYDROLOGIC - HYDROLOGIC SUMMARY

Drainage Area	500 sq. mi.
Design Flood Frequency	50%
Design Discharge	35000 cfs
Design High Water	El. 1795.0

PILE TIP ELEVATIONS

Location	Desirable	Estimated	Minimum	Maximum
Abut. 1	1785.0	1780.0	1754.5	1777.8
Pier 2*	1762.0	1762.0	1761.6	1753.5
Pier 3*	1755.0	1755.0	1756.2	1752.5
Abut. 4	1810.0	1805.0	1809.5	1805.4

* These pile tip elevations apply to CIP Conc. Piles and Steel H Piles



STEEL PILE TIP REINFORCEMENT
No Scale

ESTIMATE OF QUANTITIES

ITEM	UNIT	QTY	SUB TOTAL	TOTAL
Removal of Structures and obstructions	Lump Sum			8200
Class I Excavation for Structures	C.Y.	500		500
Class II Excavation for Structures	C.Y.	200		200
Class I Concrete	C.Y.	325.5	1196.2	1711
Class II Concrete	C.Y.	157.4		157.4
Reinforcing Steel	Lb.	10,060	125,800	135,860
Structural Steel Piles, furnished and driven	L.F.	250		250
Cast in Place Concrete	C.Y.	396.4		396.4
Structural Steel Piles, furnished and driven	L.F.	250		250
Structural Steel, furnished fabricated & erected	Lb.	11,760	285,800	421,660
Metal Bridge Rating	L.F.		254	254

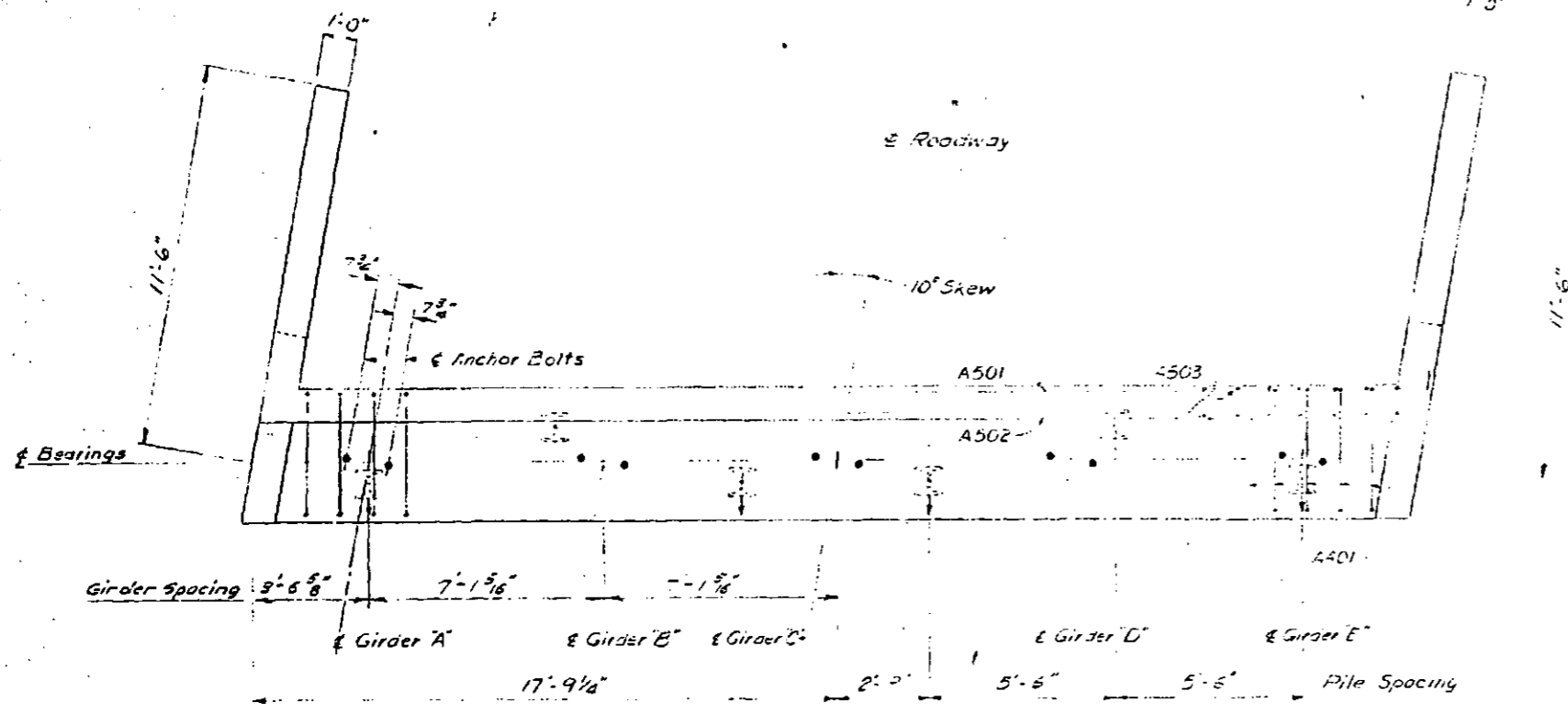
* Includes 2000 lbs. A-36, 324,450 lbs. A-572 and 11,760 lbs. A-572.

5/21/72	Final P. File Alternate	F
DATE	REVISION	BY

**NENANA RIVER BRIDGE
AT PARK BOUNDARY**
Route No. F-37
SITE PLAN

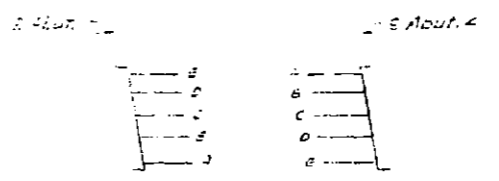
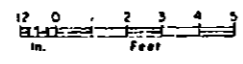
State of Alaska
DEPARTMENT OF HIGHWAYS
Juneau, Alaska

Designed By: J.C. 6/59
Checked By: J.C. 7/59
Drawn By: J.C. 8/59
Checked By: J.C. 9/59
Title: _____ Date: 11/70
Project: _____



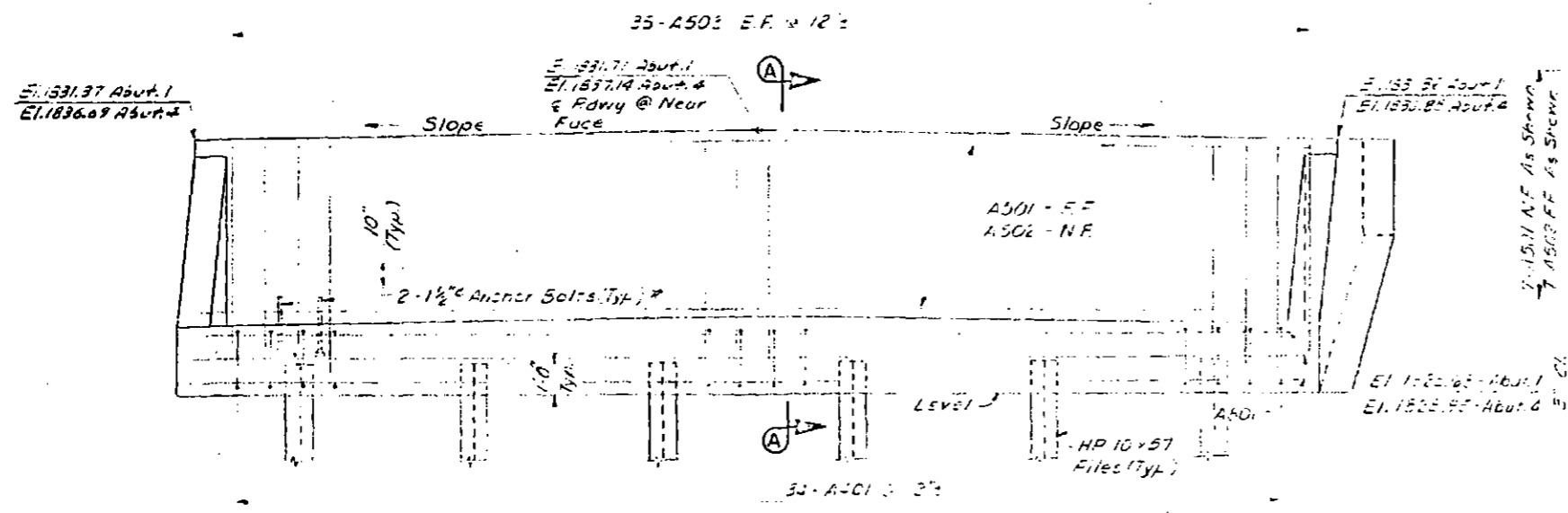
Note: For Ringwall Details See Dwg. No. 2393

PLAN



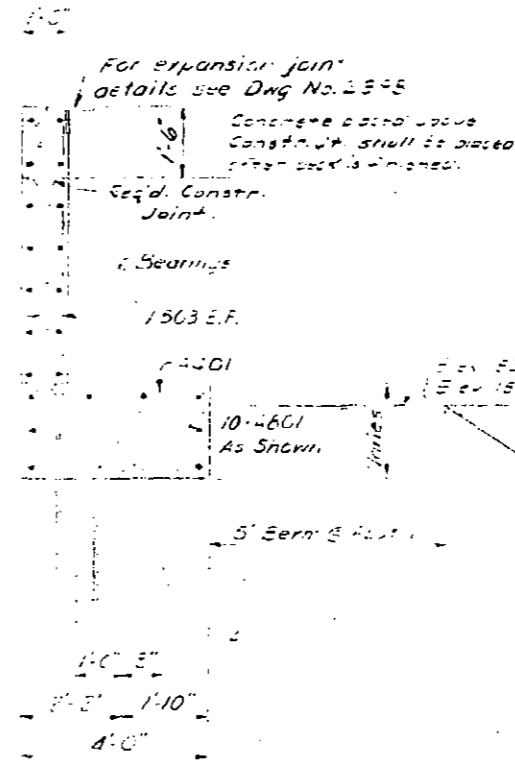
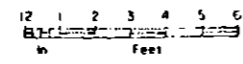
ELEVATIONS @ & BEARINGS			
Girder Letter	TOP OF MASONRY P.L.'s		
	Abutment No. 1	Abutment No. 4	
A"	1826.03	1831.47	E"
B"	1826.17	1831.57	D"
C"	1826.31	1831.68	C"
D"	1826.16	1831.49	B"
E"	1826.02	1831.31	A"

Note: It is anticipated that predrilling will be required at Abut. 4 to obtain pile penetration. Predrilling through fill at Abut. 1 is required per Standard Spec. Sections.

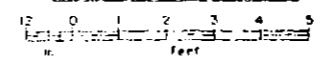


* For bearing & anchor bolt details, See Dwg. No. 2394.

ELEVATION



SECTION A-A



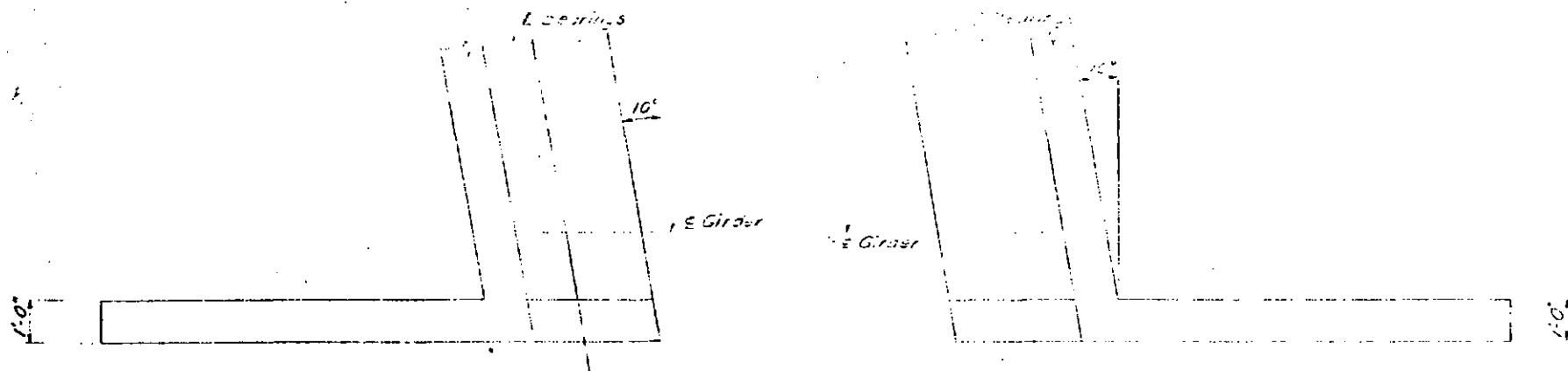
REINFORCING STEEL - One Abutment (2 Req'd.)					
Mark	No.	Size	Length	Type	Bending Diagrams
A401	34	4	11'-6"	Bent	3'-8"
A501	7	5	36'-2"	Bent	A401
A502	7	1	35'-2"		
A503	70	5	7'-0"		35'-2"
A801	10	8	35'-2"		A501

NENANA RIVER BRIDGE
AT PARK BOUNDARY
Route No. F-37
ABUTMENTS

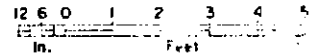
State of Alaska
DEPARTMENT OF HIGHWAYS
Juneau, Alaska

BRIDGE NO. 694
DWG. NO. 2392

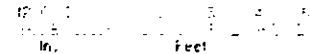
Designed By: J.P.P. Date: 11/67
Checked By: R.H. Date: 11/67
Drawn By: R.H. Date: 11/67
Checked By: J.P.P. Date: 11/67
Title: 2392



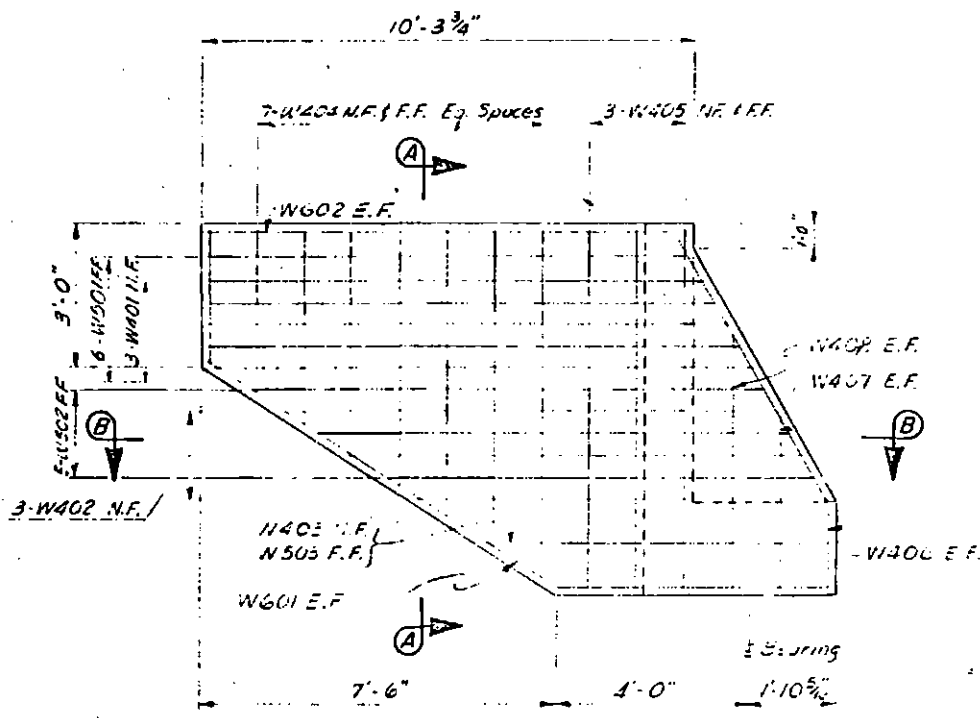
WINGWALL PLAN — ACUTE ANGLE



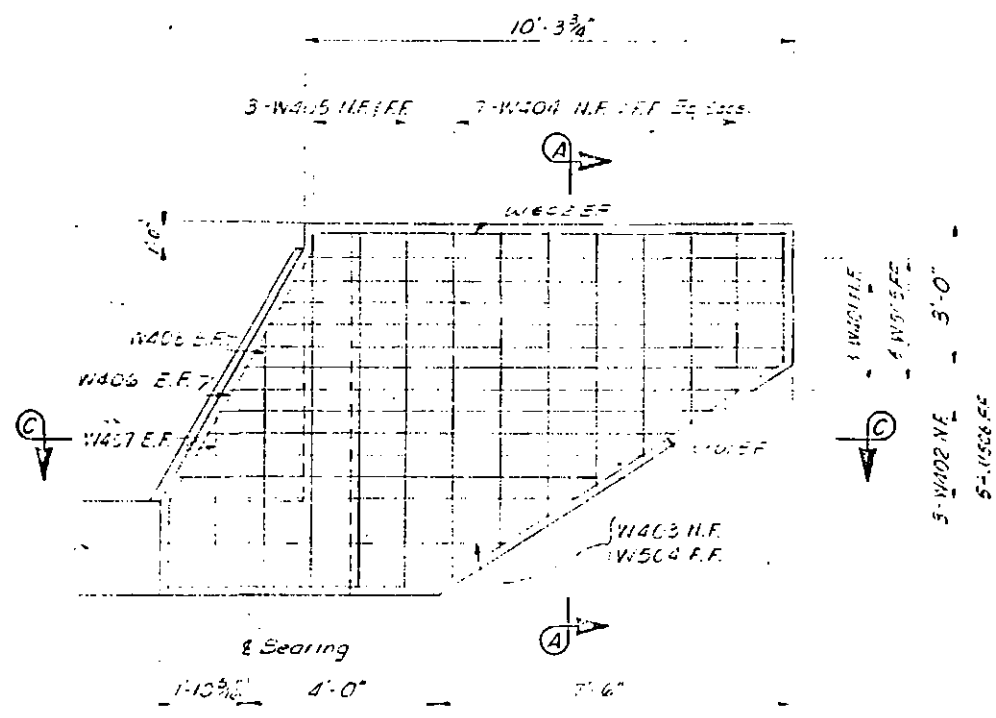
WINGWALL PLAN — OBTUSE ANGLE



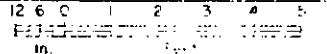
Note See Reiling sheet for Reilcost Anchors.



ELEVATION — ACUTE ANGLE

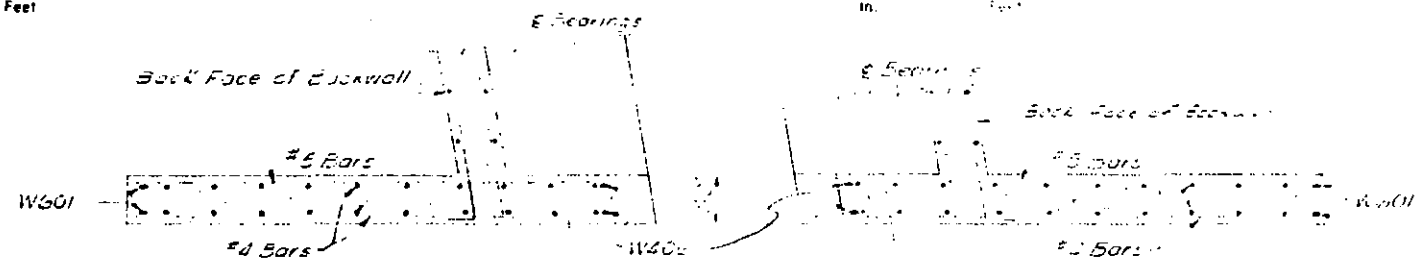
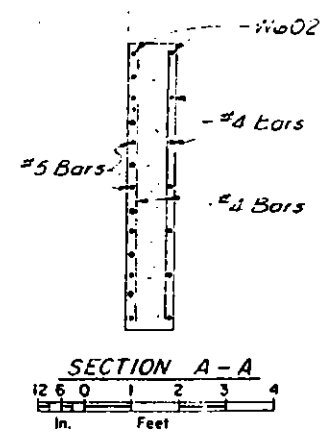
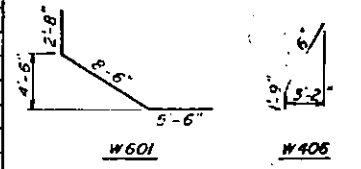


ELEVATION — OBTUSE ANGLE

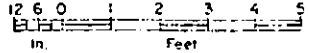


WINGWALL REINFORCING STEEL — ONE ABUTMENT				
Mark	No.	Size	Length	Type
W401	6	4	Varies	
W402	6		Varies	
W403	2		7'-4"	
W404	28		Varies	
W405	12		7'-4"	
W406	4		8'-3"	Bent
W407	4		3'-8"	
W408	4	4	5'-5"	
W501	6	5	Varies	
W502	5		Varies	
W503	1		7'-3"	
W504	1		7'-5"	
W505	6		Varies	
W506	5	5	Varies	
W601	4	6	16'-8"	Bent
W602	4	6	10'-0"	

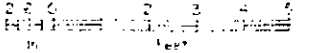
Bending Diagrams	
10'-4" to 11'-4" @ 6" increments	W401
8'-7" to 10'-7" @ 12" increments	W402
3'-2" to 7'-2" @ 2" increments	W404
9'-10" to 11'-4" @ 3" increments	W501
8'-10" to 10'-10" @ 6" increments	W502
9'-11" to 11'-5" @ 3" increments	W505
9'-0" to 11'-0" @ 6" increments	W506



SECTION B-B



SECTION C-C



NENANA RIVER BRIDGE
 AT PARK BOUNDARY

Route No. F - 37

WINGWALLS

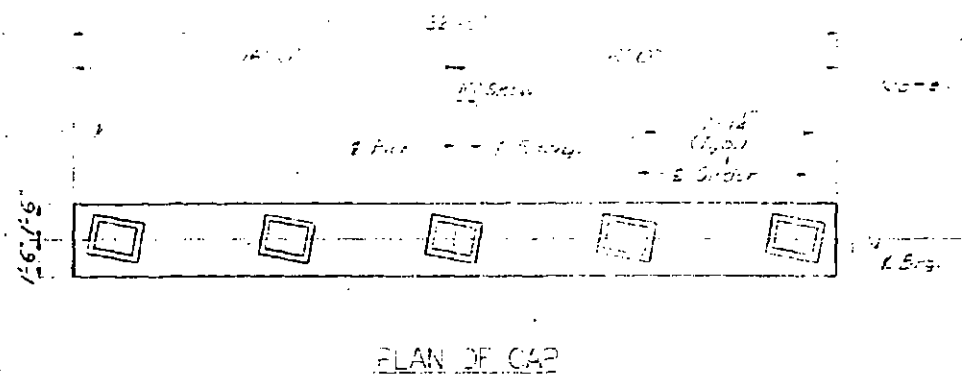
State of Alaska
 DEPARTMENT OF HIGHWAYS
 Juneau, Alaska



BRIDGE NO. 694
 DWG. NO. 2393

Designed by: [Name]
 Checked by: [Name]
 Drawn by: [Name]
 Date: 11-16-69
 Checked by: [Name]
 Date: 1-27-70
 Traced by: [Name]

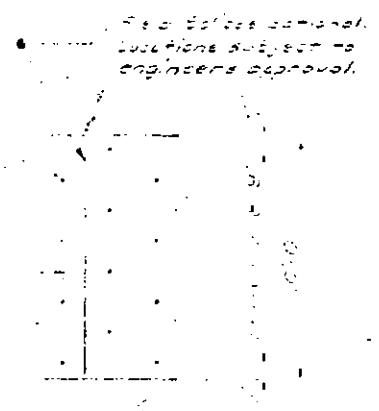
NO.	DATE	BY	NO.	NO.
REVISION	PA-F-037-2(19)	1971	67	74



SMS. ELEVATION

	Pier 2	Pier 3
D	1824.55	1824.75
B	1824.75	1824.95
C	1824.95	1825.15
E	1825.15	1825.35
F	1825.35	1825.55
G	1825.55	1825.75
H	1825.75	1825.95

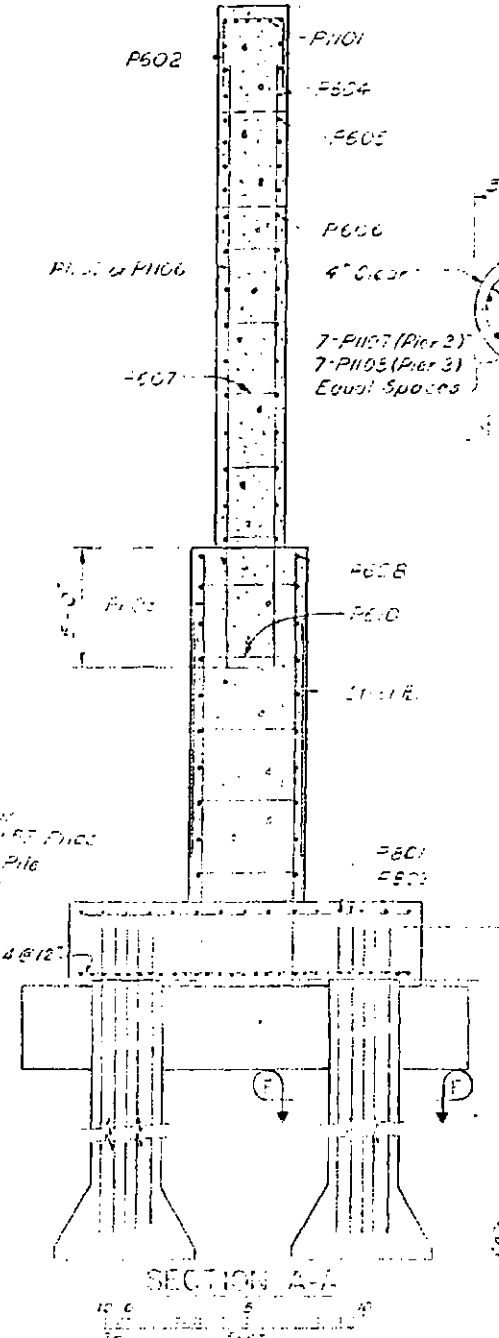
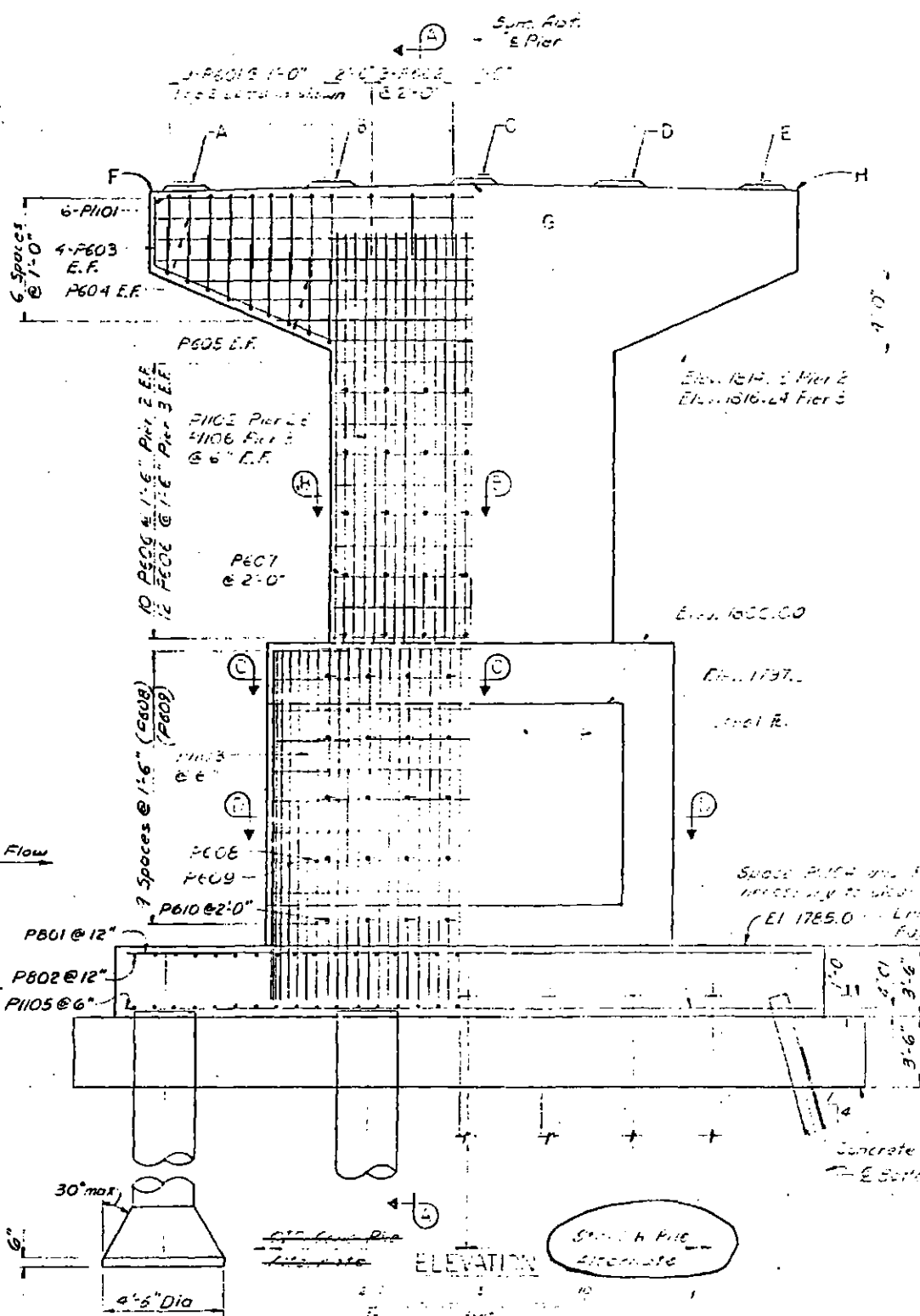
Note: Elevations are in Elevation of masonry, piers.



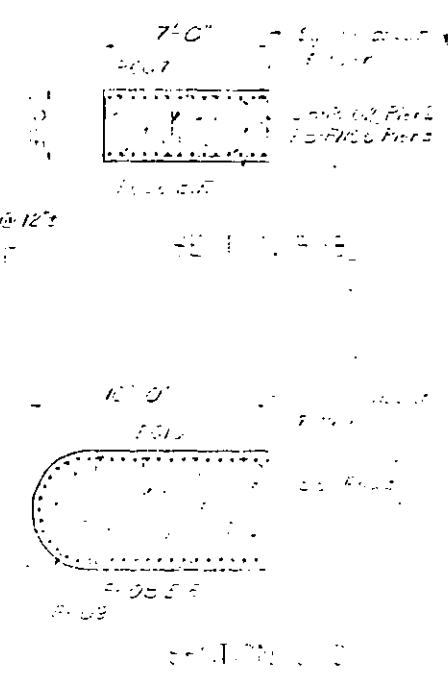
SECTION E-E
No Scale

REINFORCING STEEL (TWO PIERS)
BENDING DIAGRAMS

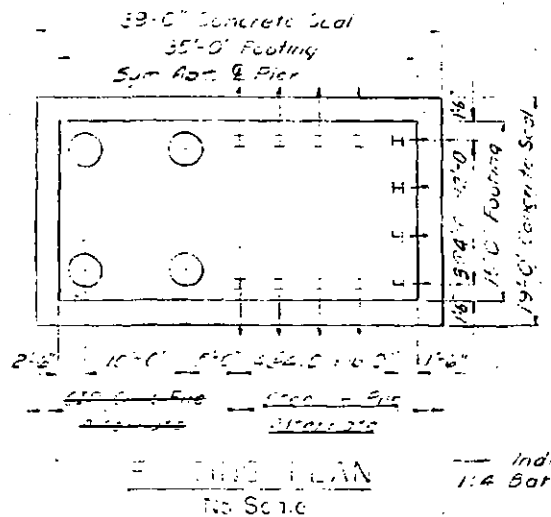
BAR NO.	SIZE	LENGTH	TYPE
P601	3/8"	8'-2"	Bent
P602	3/8"	21'-0"	Bent
P603	3/8"	28'-5"	Bent
P604	3/8"	28'-5"	Bent
P605	3/8"	28'-5"	Bent
P606	3/8"	28'-5"	Bent
P607	3/8"	28'-5"	Bent
P608	3/8"	28'-5"	Bent
P609	3/8"	28'-5"	Bent
P610	3/8"	28'-5"	Bent
P611	3/8"	28'-5"	Bent
P612	3/8"	28'-5"	Bent
P613	3/8"	28'-5"	Bent
P614	3/8"	28'-5"	Bent
P615	3/8"	28'-5"	Bent
P616	3/8"	28'-5"	Bent
P617	3/8"	28'-5"	Bent
P618	3/8"	28'-5"	Bent
P619	3/8"	28'-5"	Bent
P620	3/8"	28'-5"	Bent
P621	3/8"	28'-5"	Bent
P622	3/8"	28'-5"	Bent
P623	3/8"	28'-5"	Bent
P624	3/8"	28'-5"	Bent
P625	3/8"	28'-5"	Bent
P626	3/8"	28'-5"	Bent
P627	3/8"	28'-5"	Bent
P628	3/8"	28'-5"	Bent
P629	3/8"	28'-5"	Bent
P630	3/8"	28'-5"	Bent
P631	3/8"	28'-5"	Bent
P632	3/8"	28'-5"	Bent
P633	3/8"	28'-5"	Bent
P634	3/8"	28'-5"	Bent
P635	3/8"	28'-5"	Bent
P636	3/8"	28'-5"	Bent
P637	3/8"	28'-5"	Bent
P638	3/8"	28'-5"	Bent
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P644	3/8"	28'-5"	Bent
P645	3/8"	28'-5"	Bent
P646	3/8"	28'-5"	Bent
P647	3/8"	28'-5"	Bent
P648	3/8"	28'-5"	Bent
P649	3/8"	28'-5"	Bent
P650	3/8"	28'-5"	Bent



SECTION A-A
No Scale



SECTION F-F
No Scale



TWO PLAN
No Scale

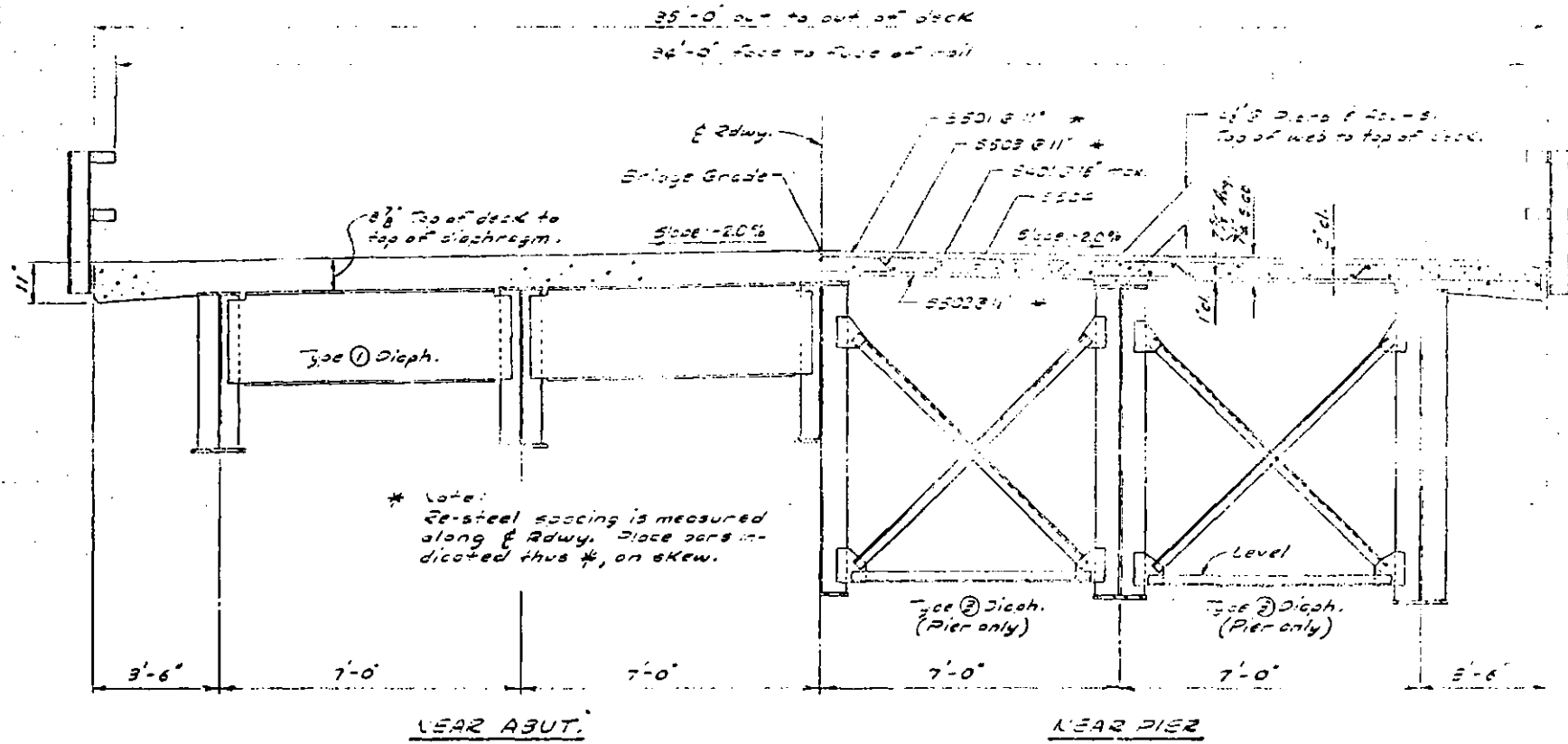
**NENANA RIVER BRIDGE
AT PARK BOUNDARY
ROUTE NO. F-37
PIERS**

State of Alaska
DEPARTMENT OF HIGHWAYS
Juneau, Alaska

BRIDGE NO. 694
DWG. NO. 2394

DESIGNED BY: M. G. ...
 CHECKED BY: H. J. ...
 DRAWN BY: H. J. ...
 DATE: 11-15-69
 REVISION 5/31/72 147

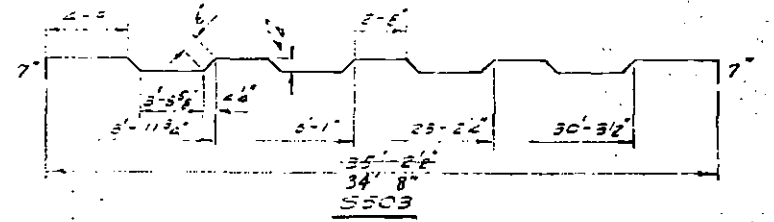
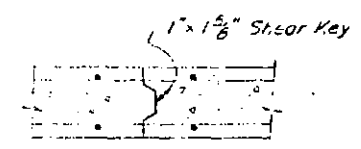
STATE	PROJECT LOCATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RAF-037-2(19)	1971	68	74



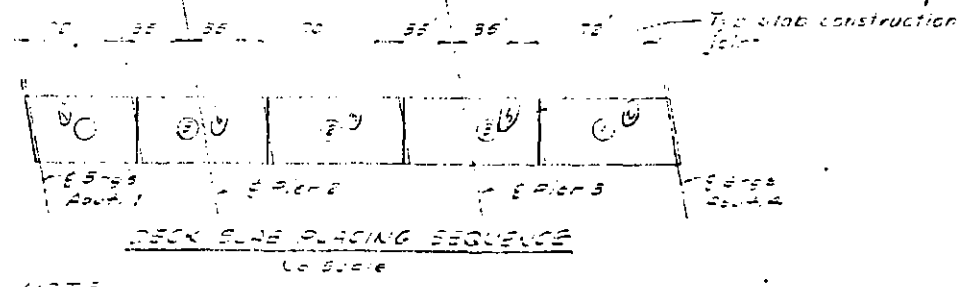
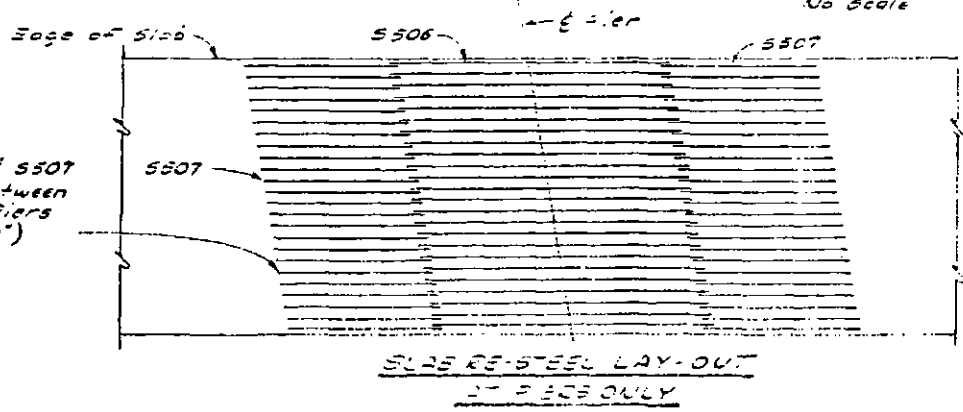
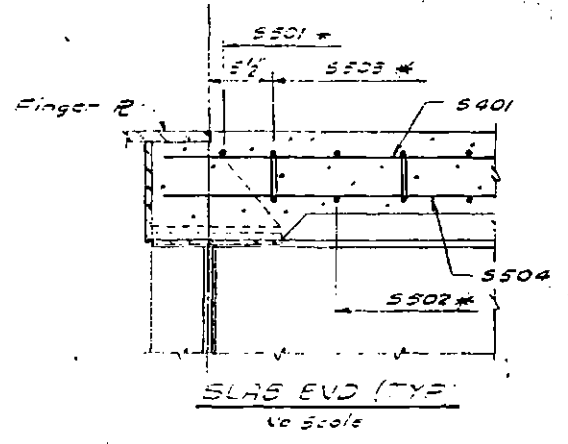
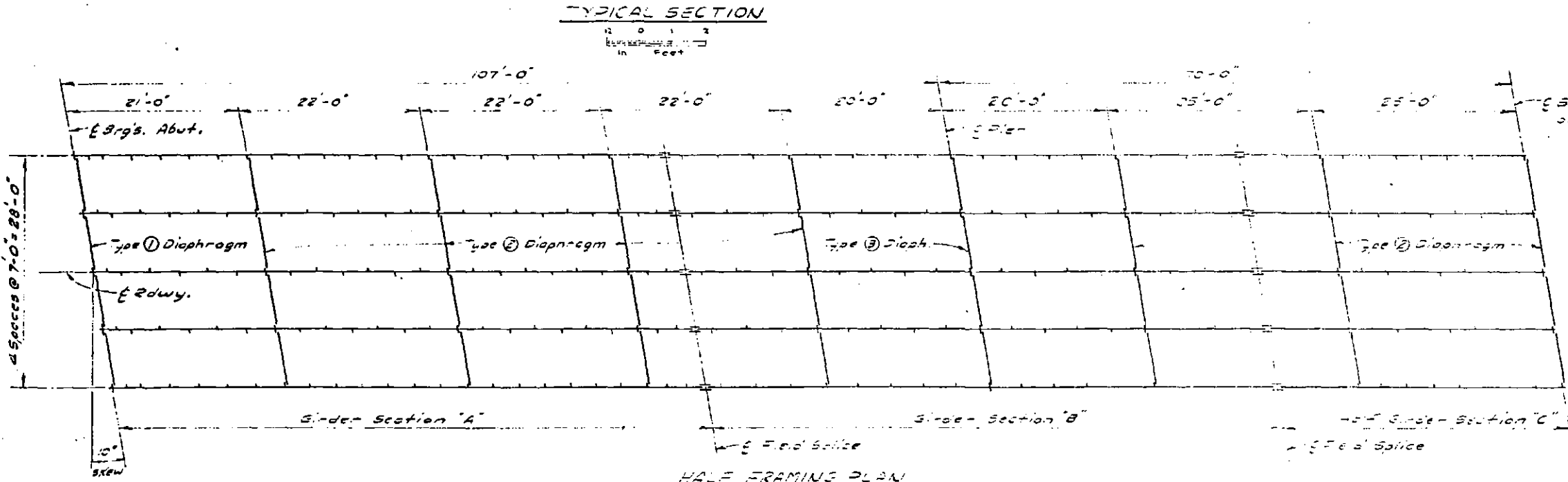
NOTE
 Expansion Joints used to form the deck. Side curbs are indicated by a dashed line and shown in elevation to be 2'-0" high.

REINFORCING SCHEDULE - DECK SLAB

Bar No.	Size	Length	Type	Quantity
S501	357	55'-5"	Span	1
S502	352	55'-3"	Span	1
S503	365	27'-7"	Span	1
S504	34	55'-5"	Span	1
S506	48	40'-0"	Span	1
S507	96	20'-0"	Span	1



* Length includes allowances for 7 lap splices.



NOTE
 The numbers 1, 2, 3 represent the sequence in which the slab concrete is to be placed. Sections of the concrete deck are to be placed in the order shown. However, all re-steel must be placed on the deck of any section of the slab before the concrete is placed.

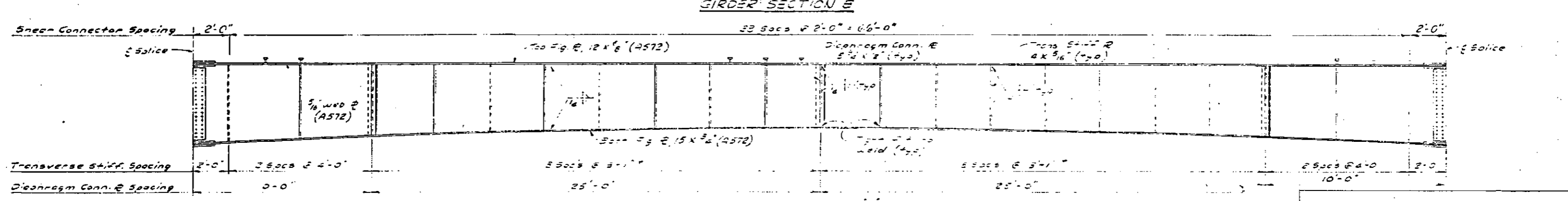
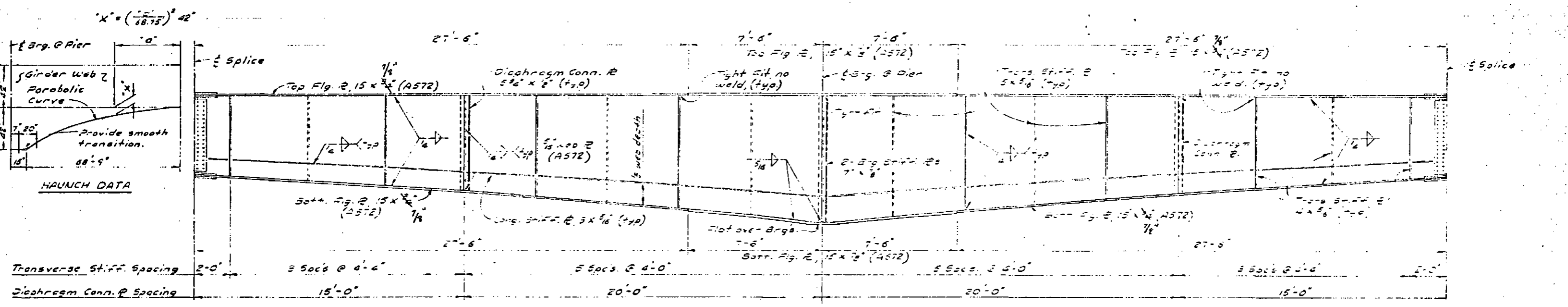
**NENANA RIVER BRIDGE
 AT PARK BOUNDARY**
 Route No. F-37
SUPERSTRUCTURE

State of Alaska
DEPARTMENT OF HIGHWAYS
 Juneau, Alaska

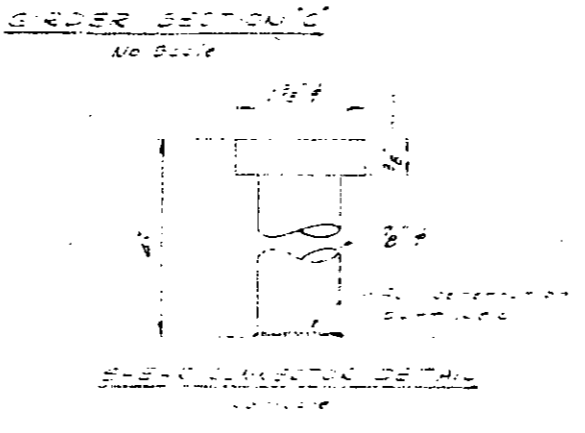
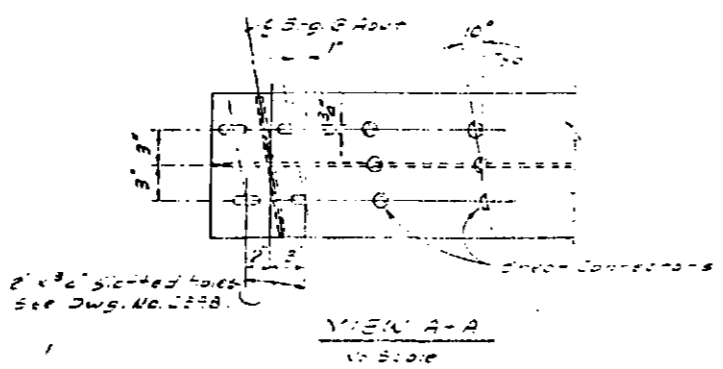
BRIDGE NO. 694
 DWG. NO. 2395

Checked by: [Signature]
 Drawn by: [Signature]
 Date: [Date]

Design similar to Bridge No. 1147, Veneno River Bridge at Park Station.



Notes:
 All dimensions are measured along girders.
 Place connection plates and bearing stiffeners on 10° skew.
 Longitudinal stiffeners to be placed on one side of web of interior girders between transverse stiffeners as shown, and on the outside of exterior girders.



Web splice shall be full penetration butt weld. Girders shall be full penetration butt welded on exterior flanges and web to web shall be full penetration flange splice. All splices shall be dimensioned as shown.

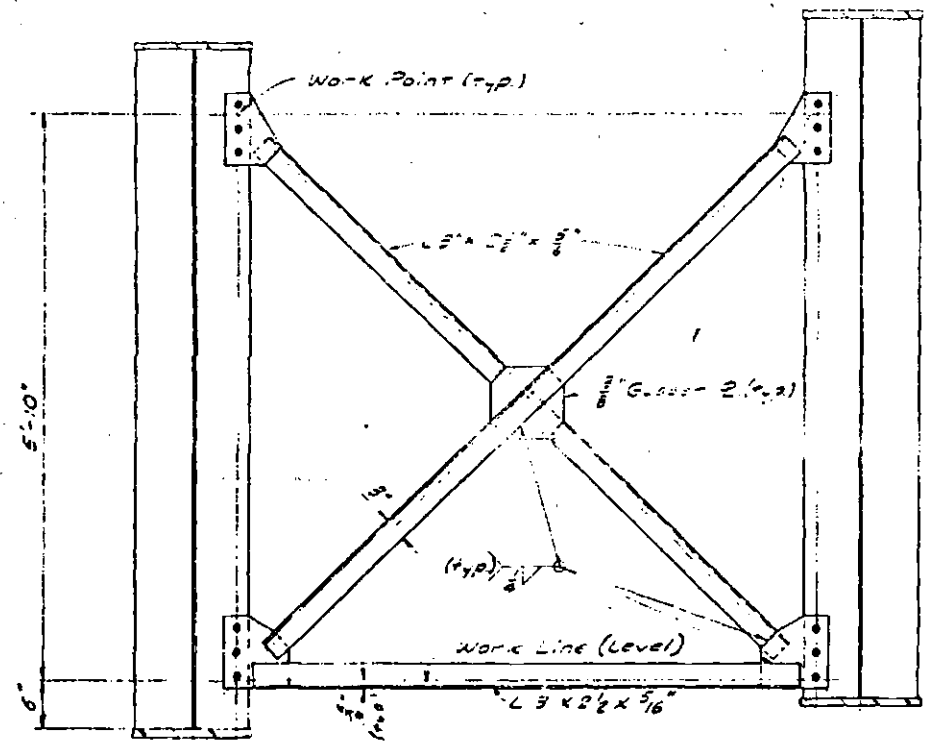
**NENANA RIVER BRIDGE
AT PARK BOUNDARY**
 Route No. F-37
GIRDERS

State of Alaska
DEPARTMENT OF HIGHWAYS
 Juneau, Alaska

Date: 6/20/71
 Author: [Signature]

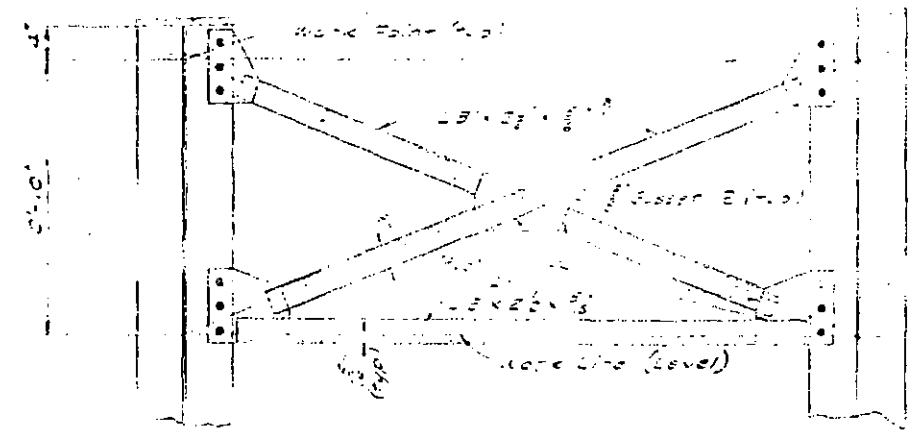
FIGURE NO. 694
 DWG NO. 2396

Designed by: [Signature]
 Checked by: [Signature]
 Drawn by: [Signature]
 Date: 7/15/71
 Checked by: [Signature]
 Date: 7/20/71
 Title: [Signature]

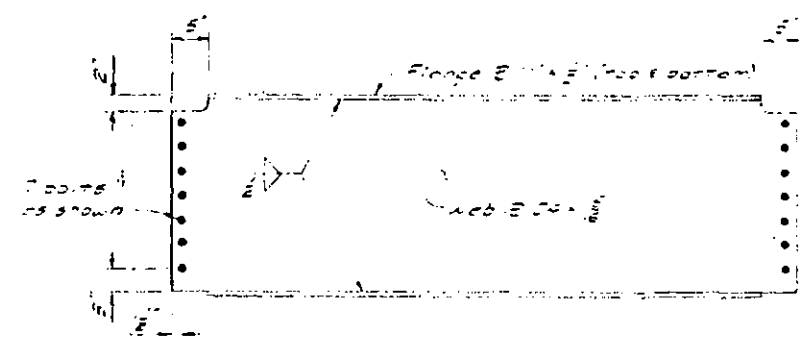


TYPE 5 DIAPHRAGM

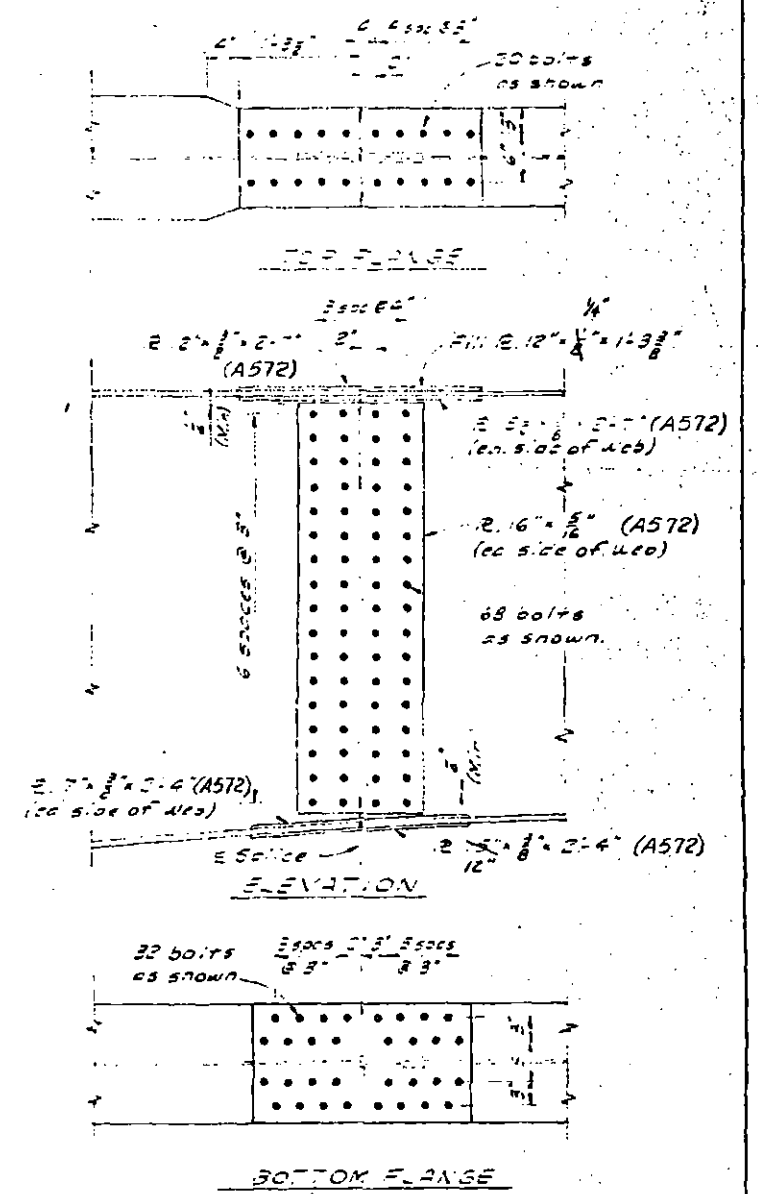
NOTE:
Each angle attached to a gusset & showing bolt holes shall be welded with a minimum of 1/2 linear inches of 1/4" fillet weld or equivalent.



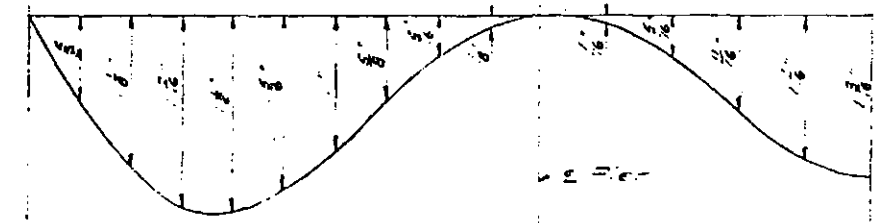
TYPE 2 DIAPHRAGM



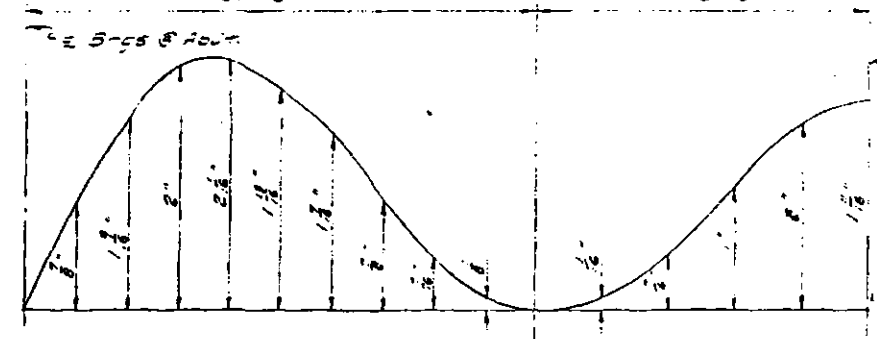
TYPE 1 DIAPHRAGM



GIRDER SPICE DETAILS



DEAD LOAD DEFLECTION DUE TO CONCRETE



CAMBER DIAGRAM

Offsets & low points of span (top of web) to scale

Sum. elev. center of center span.

SEE STEEL LINE SPECIFICATIONS FOR DETAILS

* Design similar to Bridge No. 1147

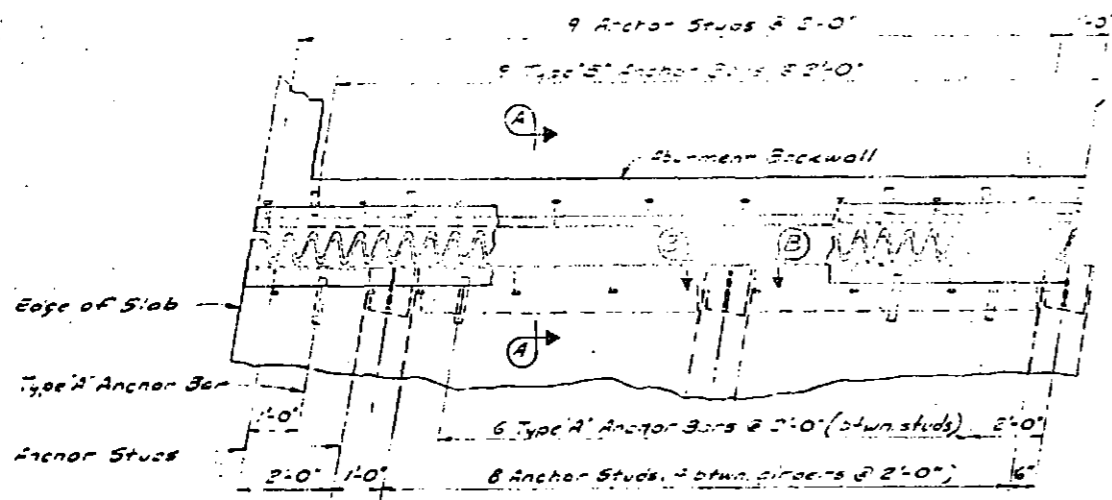
Checked By: J.C.C. Date: 11/1/71
 Drawn By: J.C.C. Date: 11/1/71
 Checked By: J.C.C. Date: 11/1/71
 Traced By: J.C.C. Date: 11/1/71

NENANA RIVER BRIDGE
 AT PARK BOUNDARY
 Route No. F-37
 DIAPHRAGMS & SPLICES

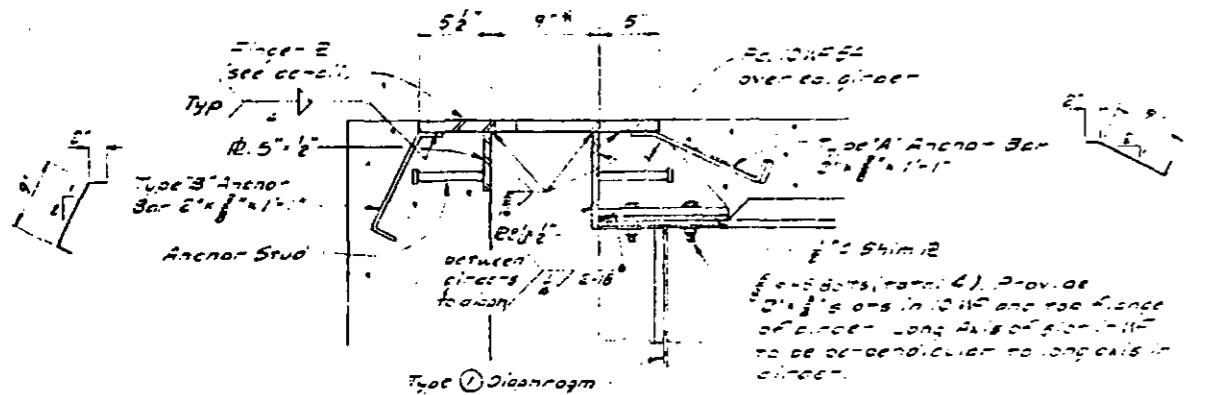
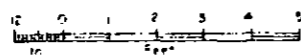
State of Alaska
 DEPARTMENT OF HIGHWAYS
 Juneau, Alaska

Date: 5/23/71
 Approved: [Signature]

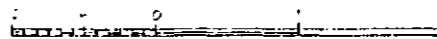
BRIDGE NO. 2397
 DWG. NO. 2397



HALF PLAN-EXPANSION DEVICE AT ABUTMENTS

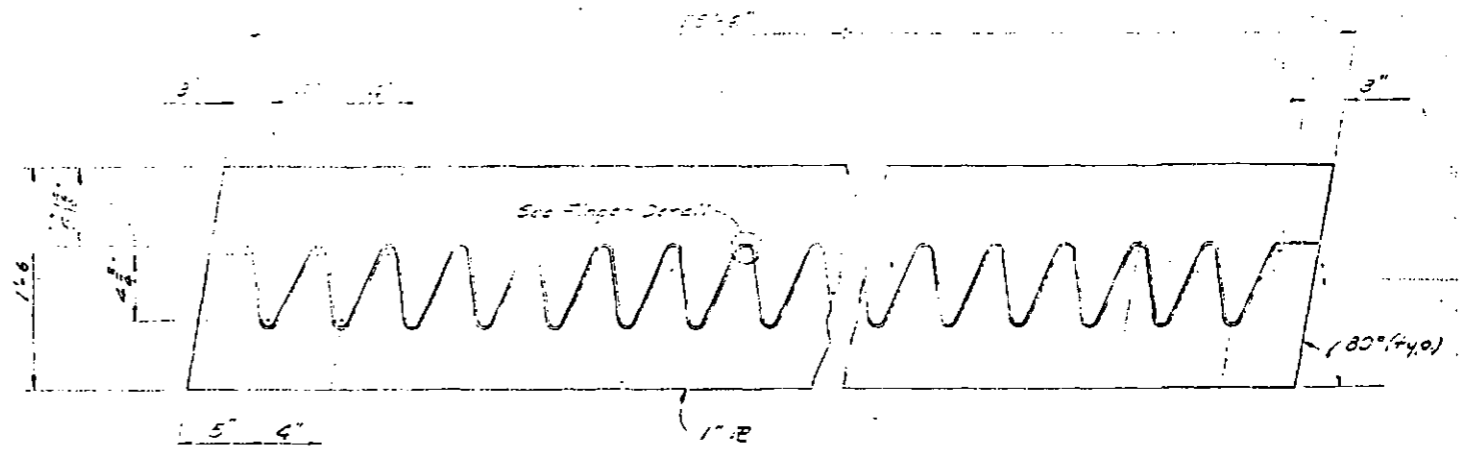


SECTION A-A



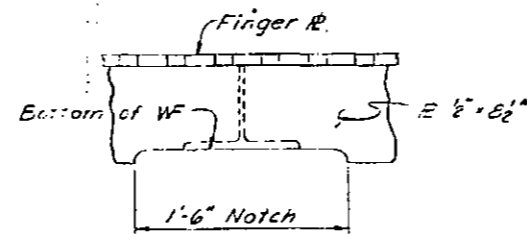
* Dimension shown is for an erection temperature of 40°F and varies 1/8" @ About 4 1/8" @ About 1" for each 10°F in temperature

Anchor Bar about 6" long. Fabricate to fit crown



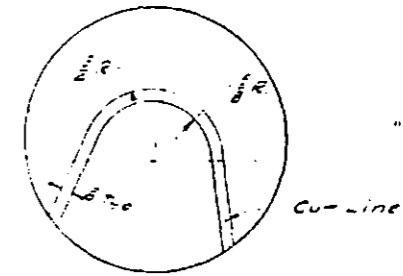
FINGER PLATE DETAIL

to Scale



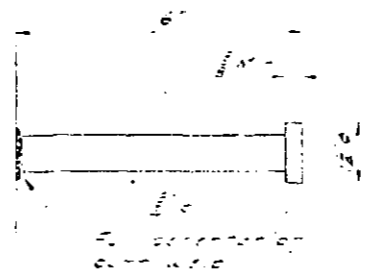
SECTION B-B

NO SCALE



FINGER DETAIL

to Scale



TYPE 'D' ANCHOR STUD

to Scale

NENANA RIVER BRIDGE
AT PARK BOUNDARY
Route No. F-37
EXPANSION DEVICE

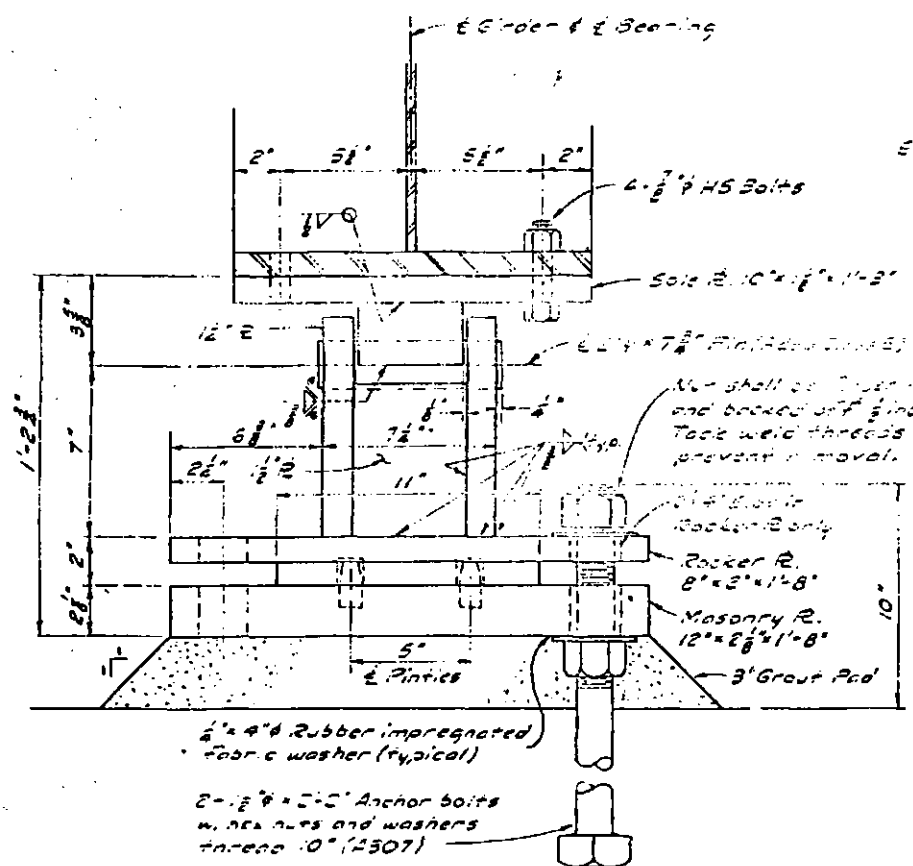
State of Alaska
DEPARTMENT OF HIGHWAYS
Juneau Alaska



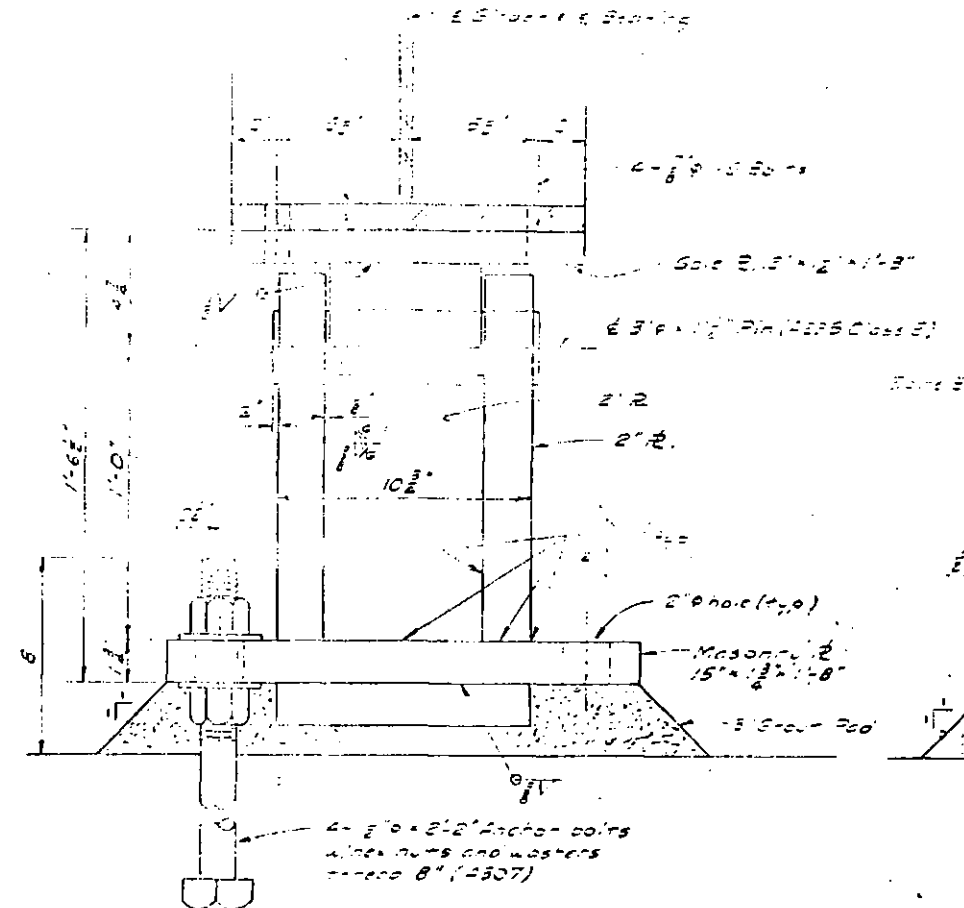
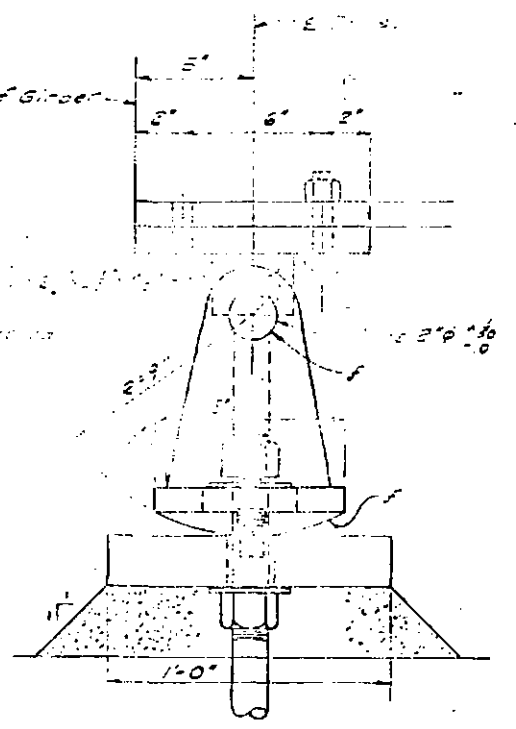
Date 7/20/71
Approved 10/1/71

BRIDGE NO. 694
DWG NO 2398

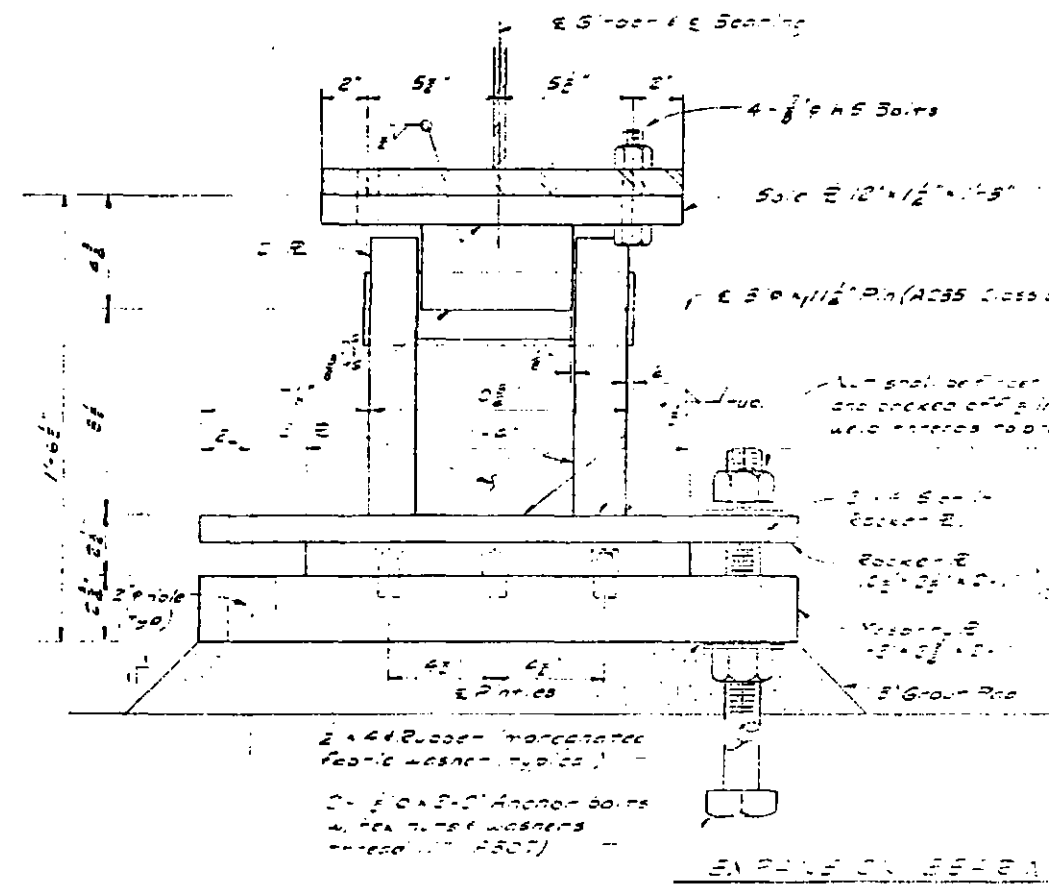
Design by: [unclear]
 Checked by: [unclear]
 Date: [unclear]



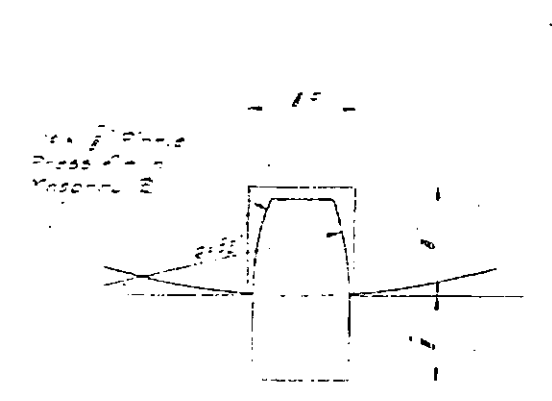
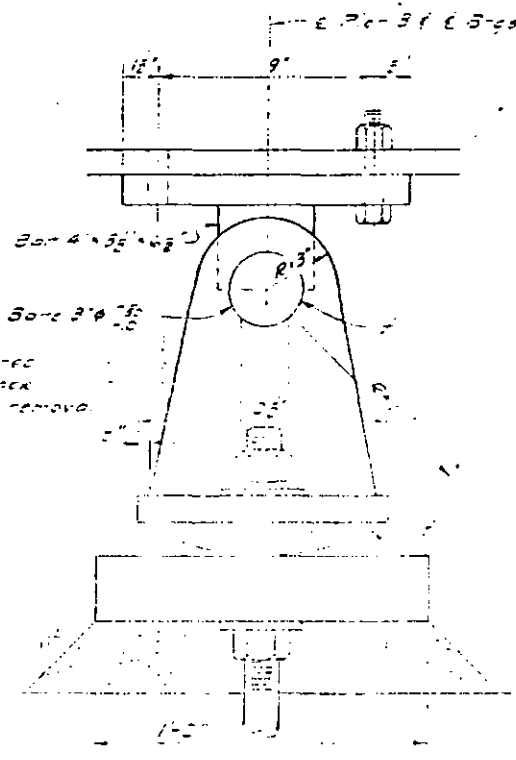
EXPANSION BEARING AT ABUTMENTS
(10 REQ'D)



FIXED BEARING AT PIER 2
(5 REQ'D)



EXPANSION BEARING AT PIER 3
(5 REQ'D)



TYPICAL DETAIL

- NOTES:
1. Excess of bearing rollers are to be placed in the 40°F offset & in from masonry roller for each 30°F temperature variation from 40°F. As follows: Abutment = 1/16", Pier = 1/8".
 2. Masonry roller shall be level.

NOTE:
Steel is of AISC Class C
Grade 100 Rolled Steel
Elastic Limit & Yield Strength
of 58,000 lb.

NENANA RIVER BRIDGE
AT PARK BOUNDARY
Route No. F-37
BEARINGS

State of Alaska
DEPARTMENT OF HIGHWAYS
Juneau, Alaska

5/25/74
13

994
1999

* Design similar to S-10-1147

Checked By: [Signature]
Designed By: [Signature]
Date: 5/25/74

