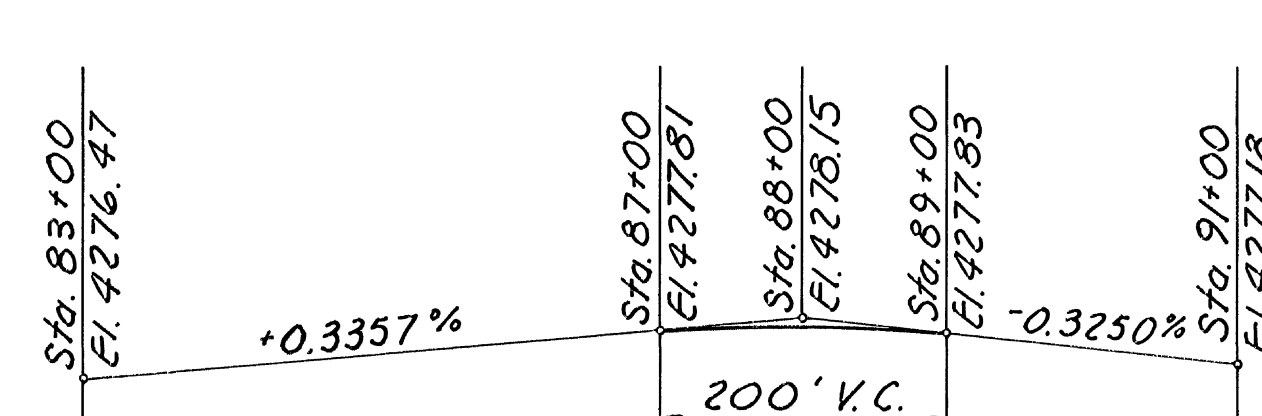
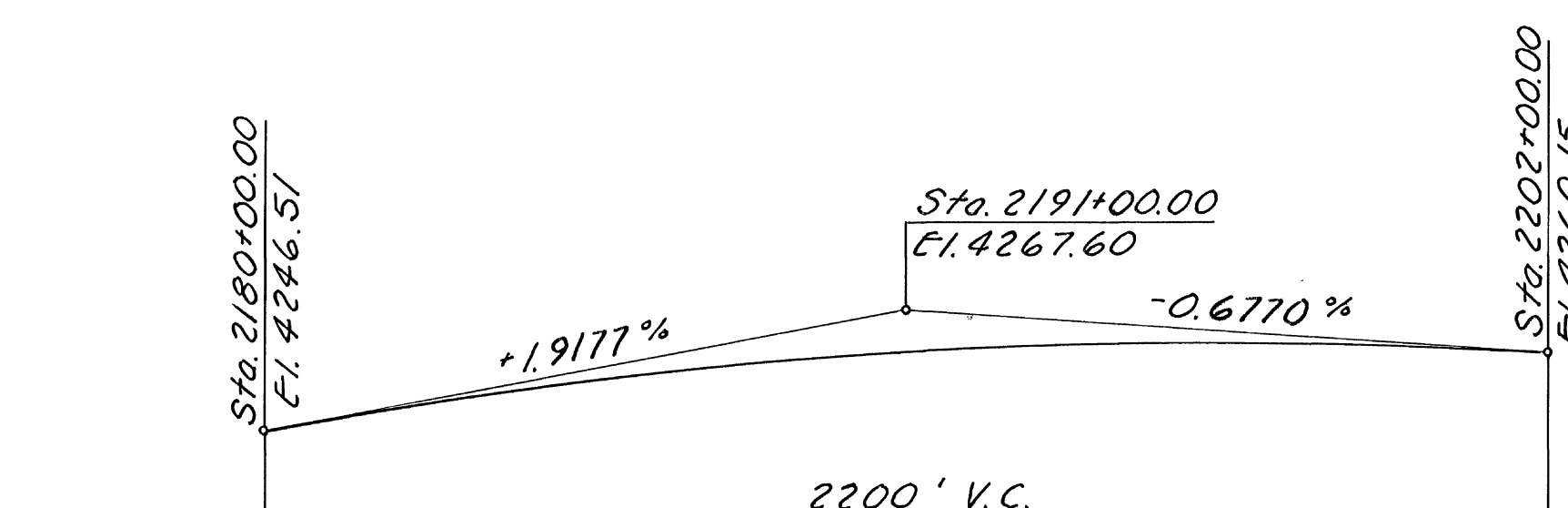
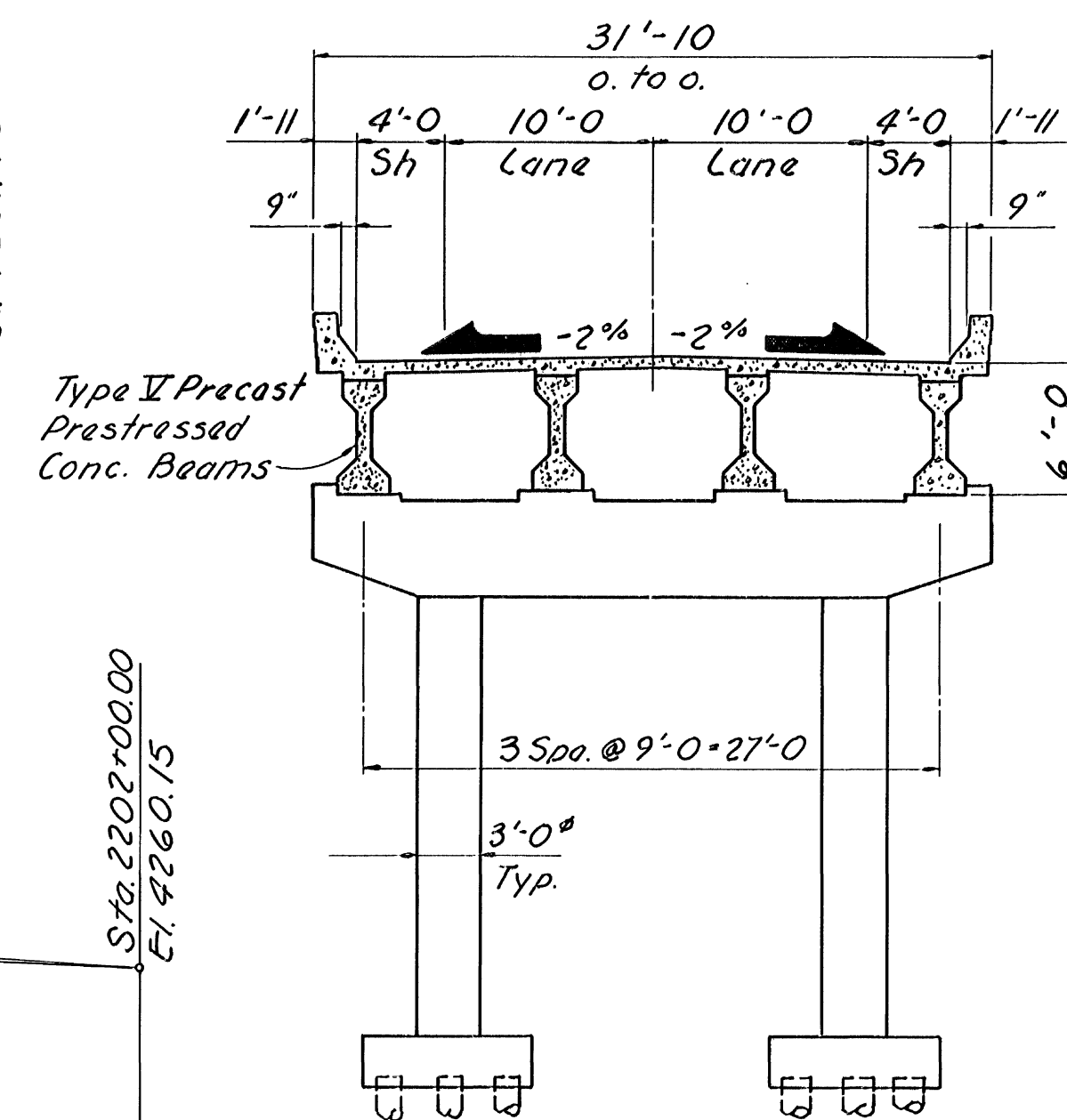
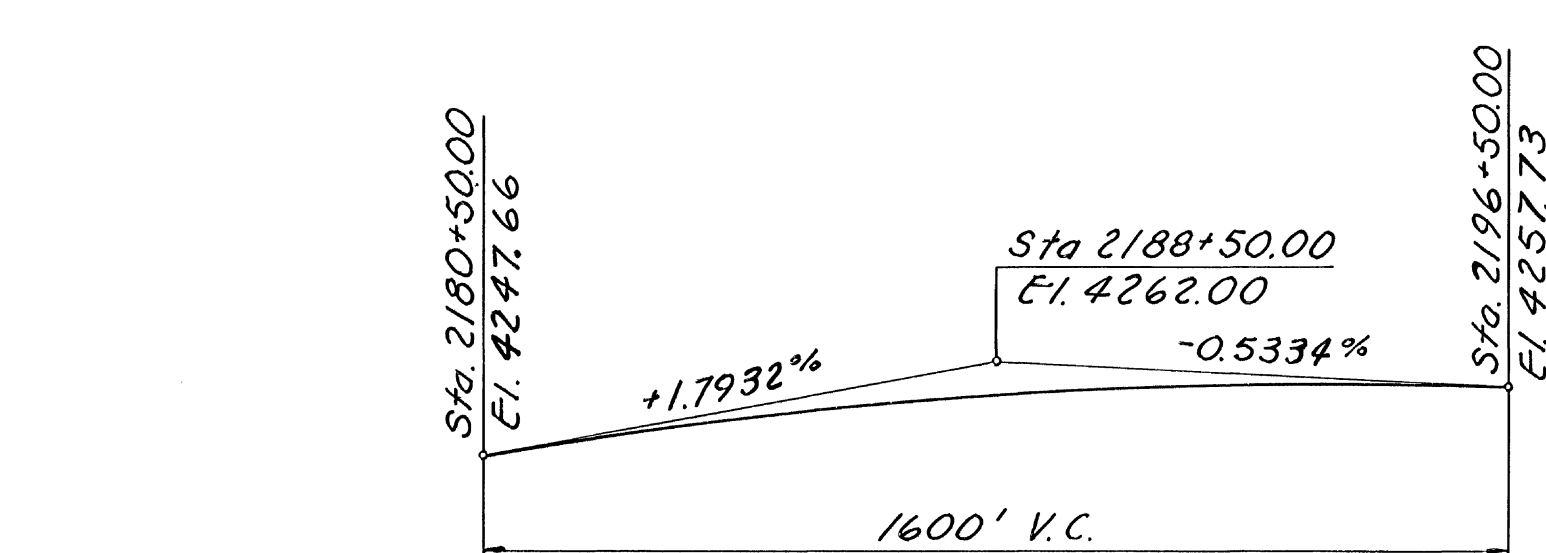
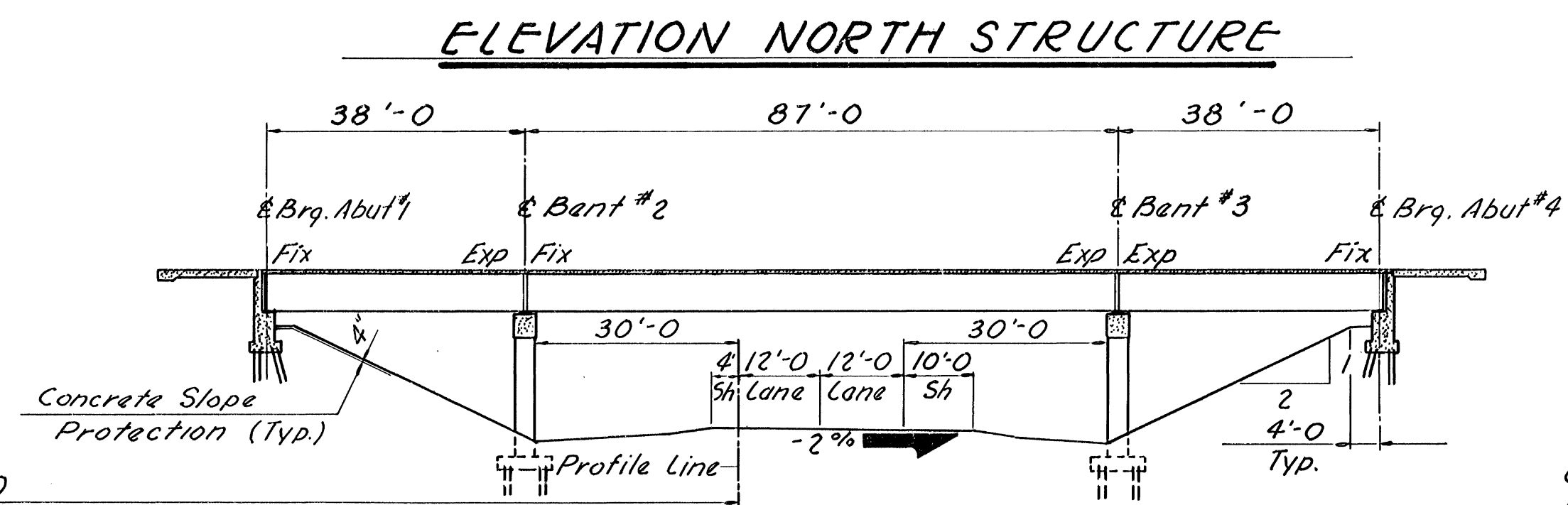
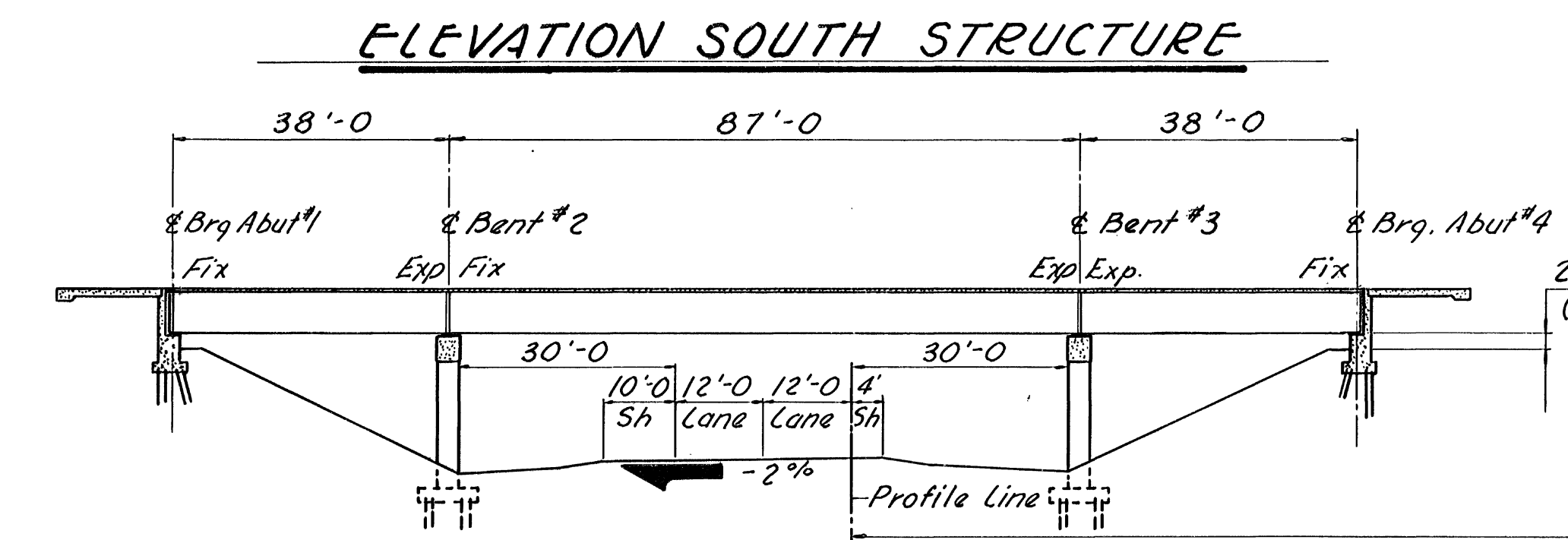
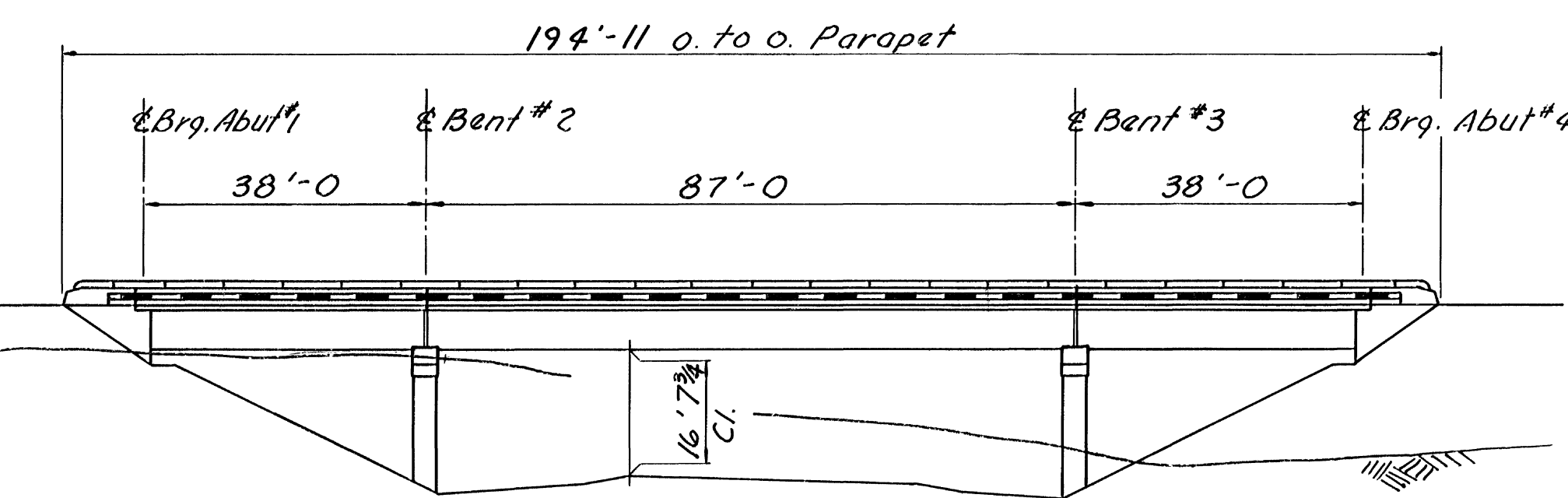
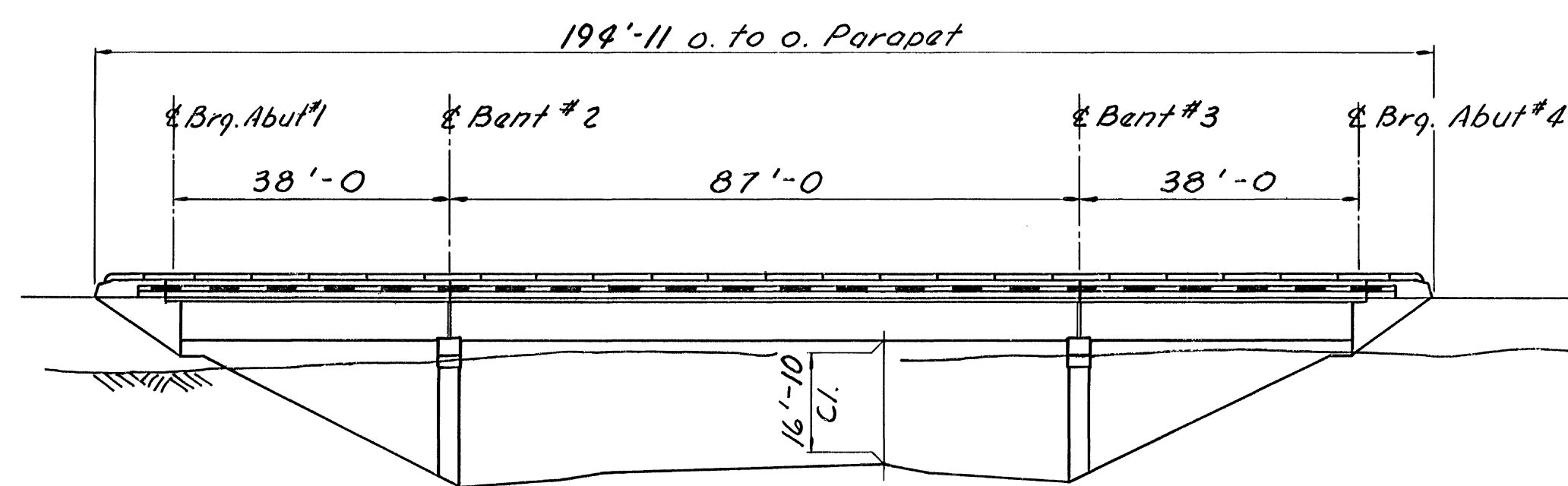
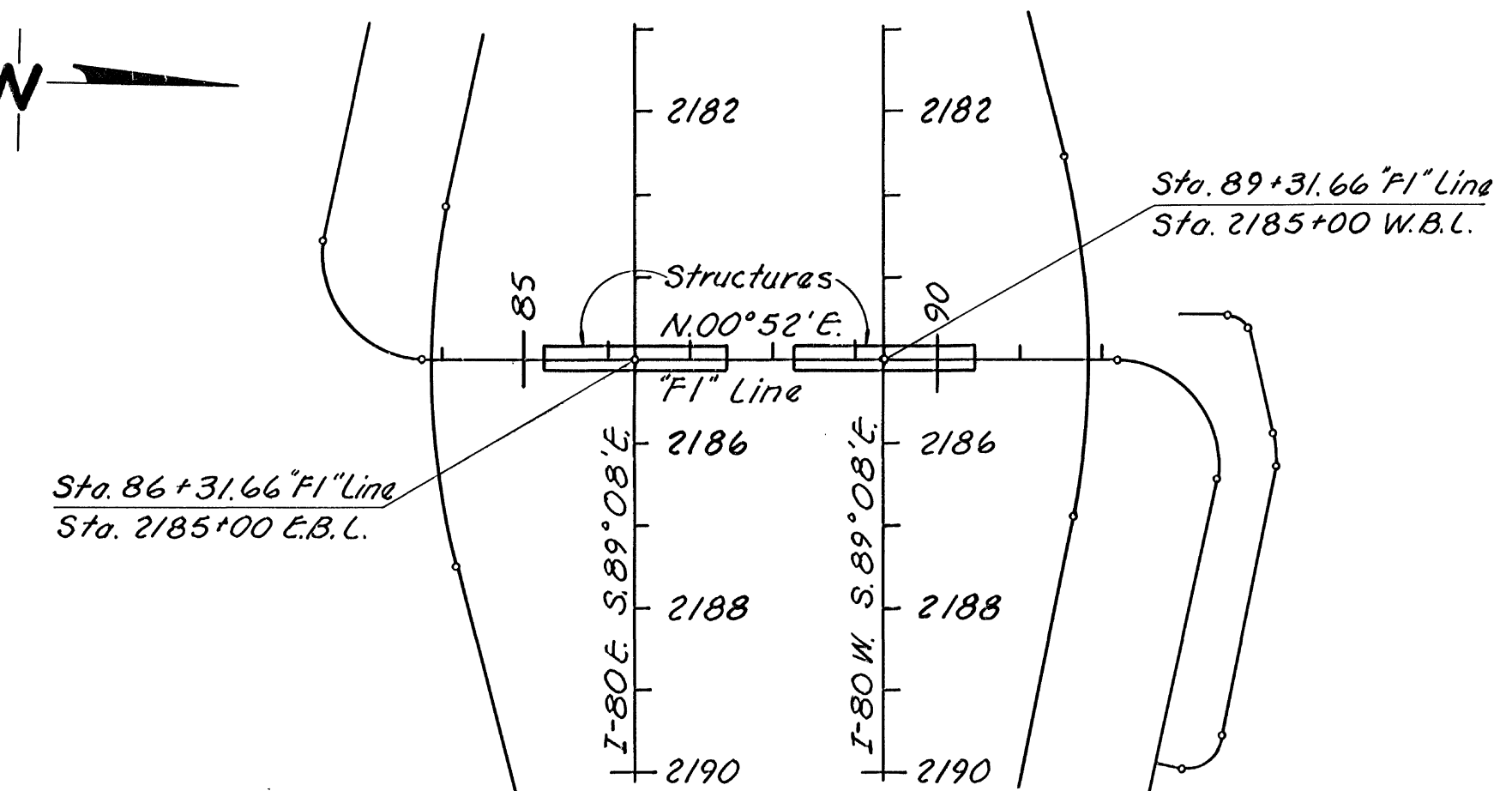
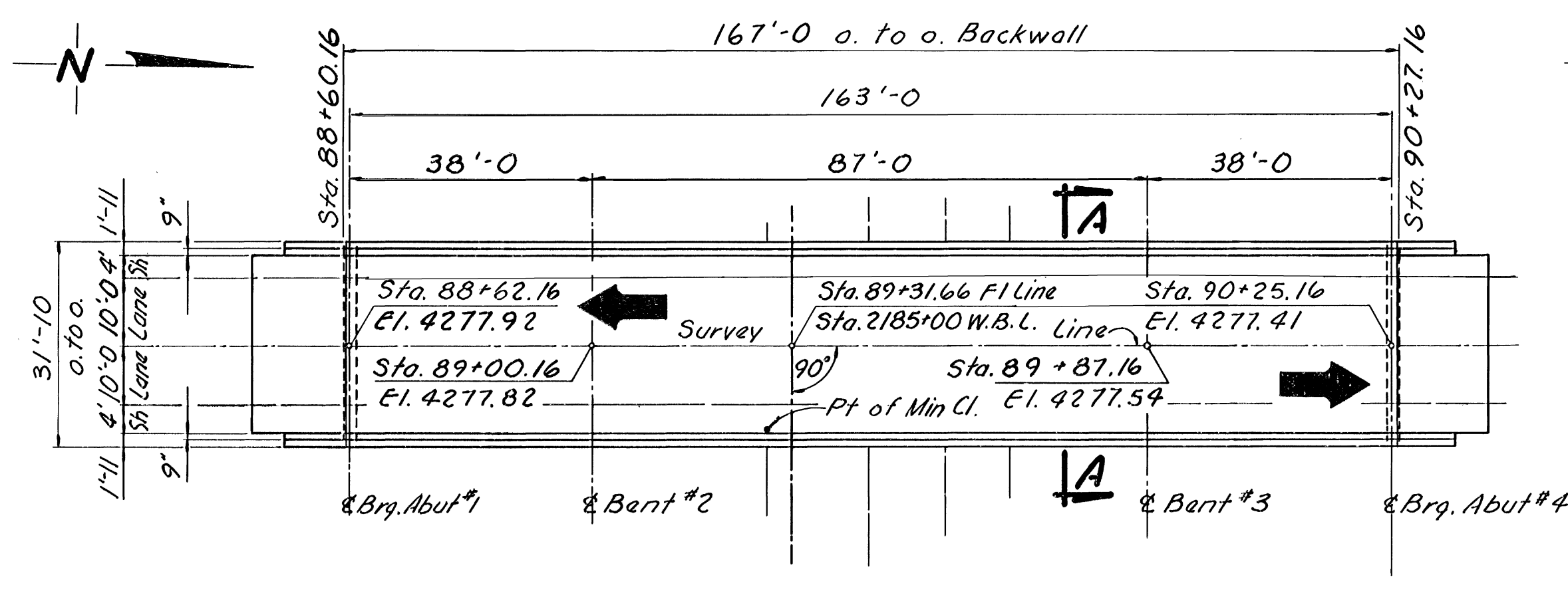
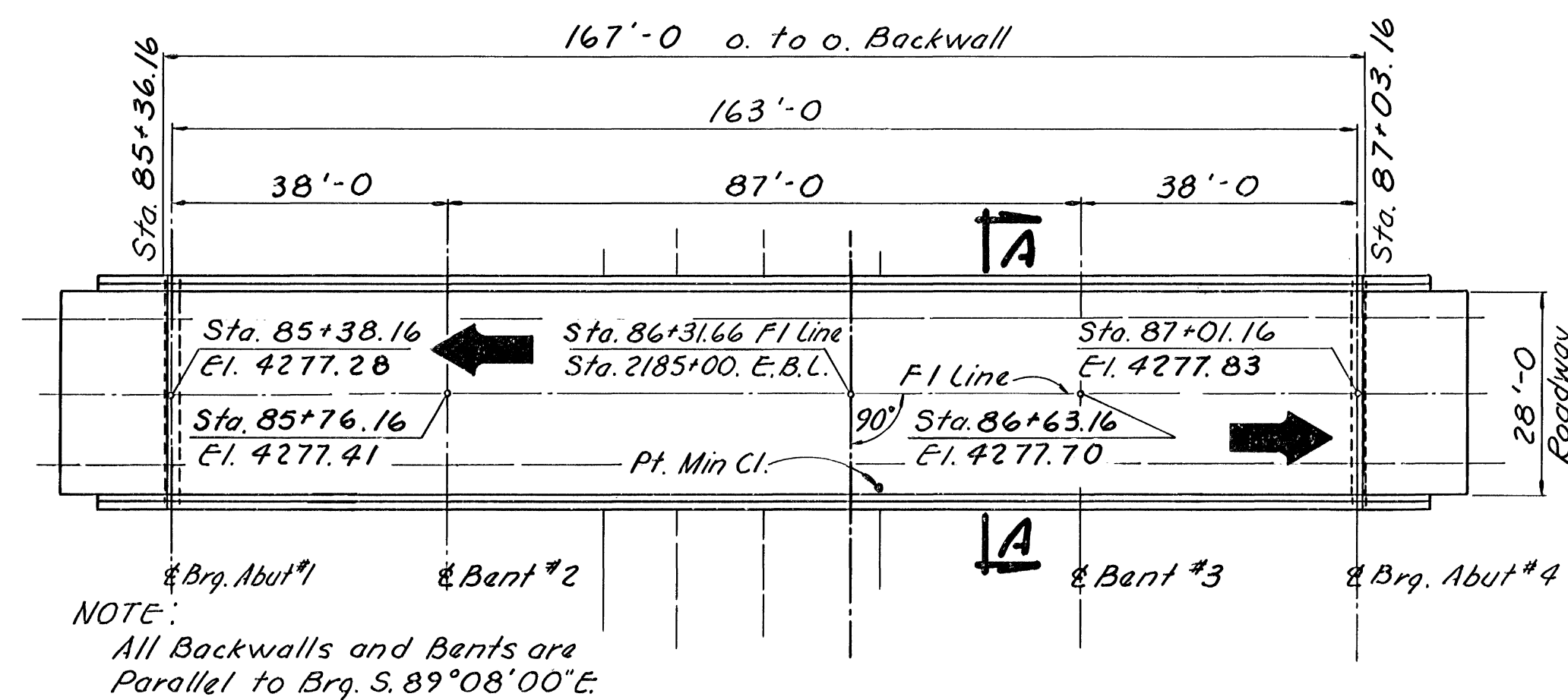




INDEX OF SHEETS

1. *Situation & Layout*
2. *Soil Data*
3. *Foundation - Framing Plan & Screed Elevations & Pile Details*
4. *Abutment Details*
5. *Bent Details*
6. *Prestressed Beam Details (Type III)*
7. *Prestressed Beam Details (Type IV)*
8. *Prestressed Beam Details (Type V)*
9. *Diaphragm & Joint Details*
10. *Deck Plan & Section*
11. *Parapet Details*
12. *Railing Details*
13. *Concrete Slope Protection*
14. *Reinforcing Steel Schedule*

1. Materials, construction and workmanship shall be in accordance with the Utah Department of Highways Standard Specifications for Road and Bridge Construction, 1970 Edition, and Supplements thereto which are in effect at the date of request for bids.
2. All reinforcing steel shall be deformed billet-steel bars conforming to A.S.T.M. designation A615-68, Grade 40.
3. All structural steel shall be structural carbon steel conforming with A.A.S.H.O. designation M-183 (A.S.T.M. A-36) except where noted otherwise.
4. Exposed concrete corners shall be chamfered $\frac{3}{4}$ " except where noted otherwise.
5. Cover to reinforcing steel shall be 2 inches except where noted otherwise.

DESIGN DATA

HS 20-44 Loading in accordance with A.A.S.H.O. Specifications of 1969,
and Interim Specifications.

Cast-in-place Concrete $f'_c = 3,000$ p.s.i.; f_s (Reinf.) = 20,000 p.s.i.

$f_c = 1,200 \text{ p.s.i.}; n = 10$

Prestressed Concrete: $f'_c = 5,000 \text{ p.s.i.}; f_s (\text{Non prestressed}) = 20,000 \text{ p.s.i.}; n = 6$

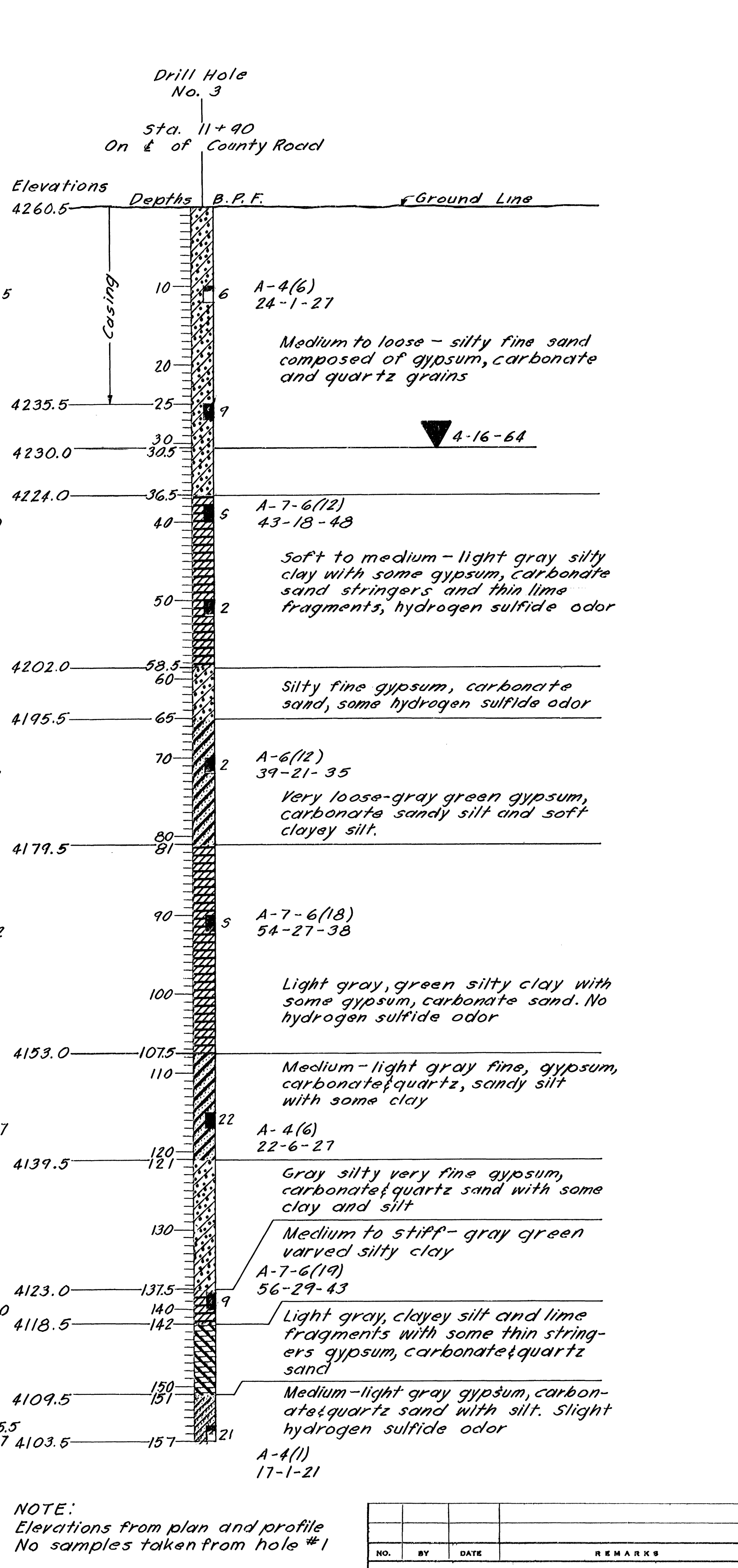
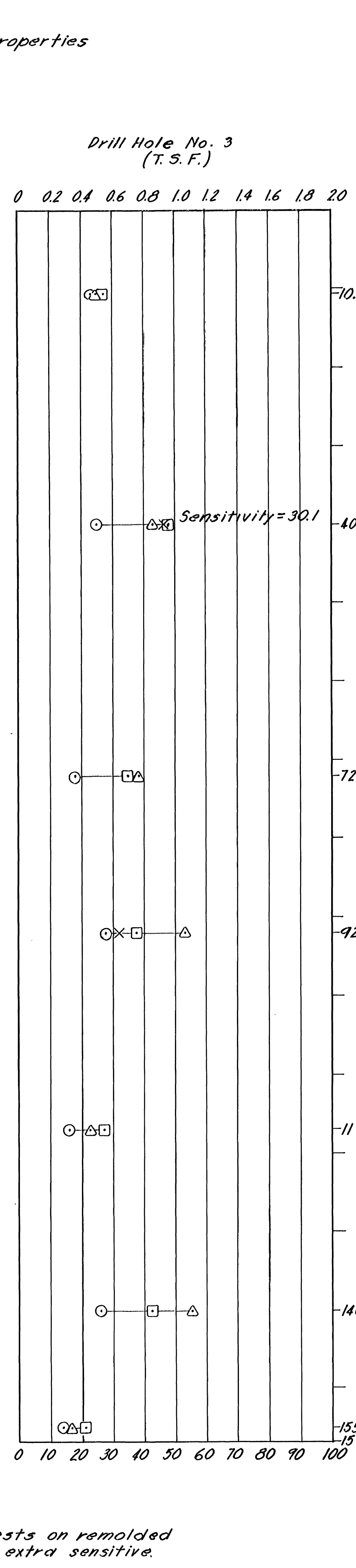
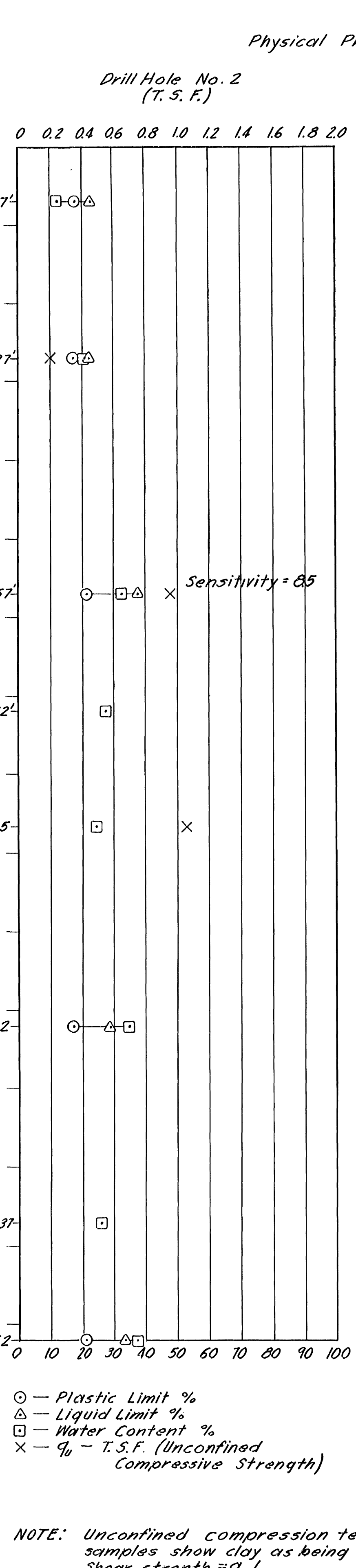
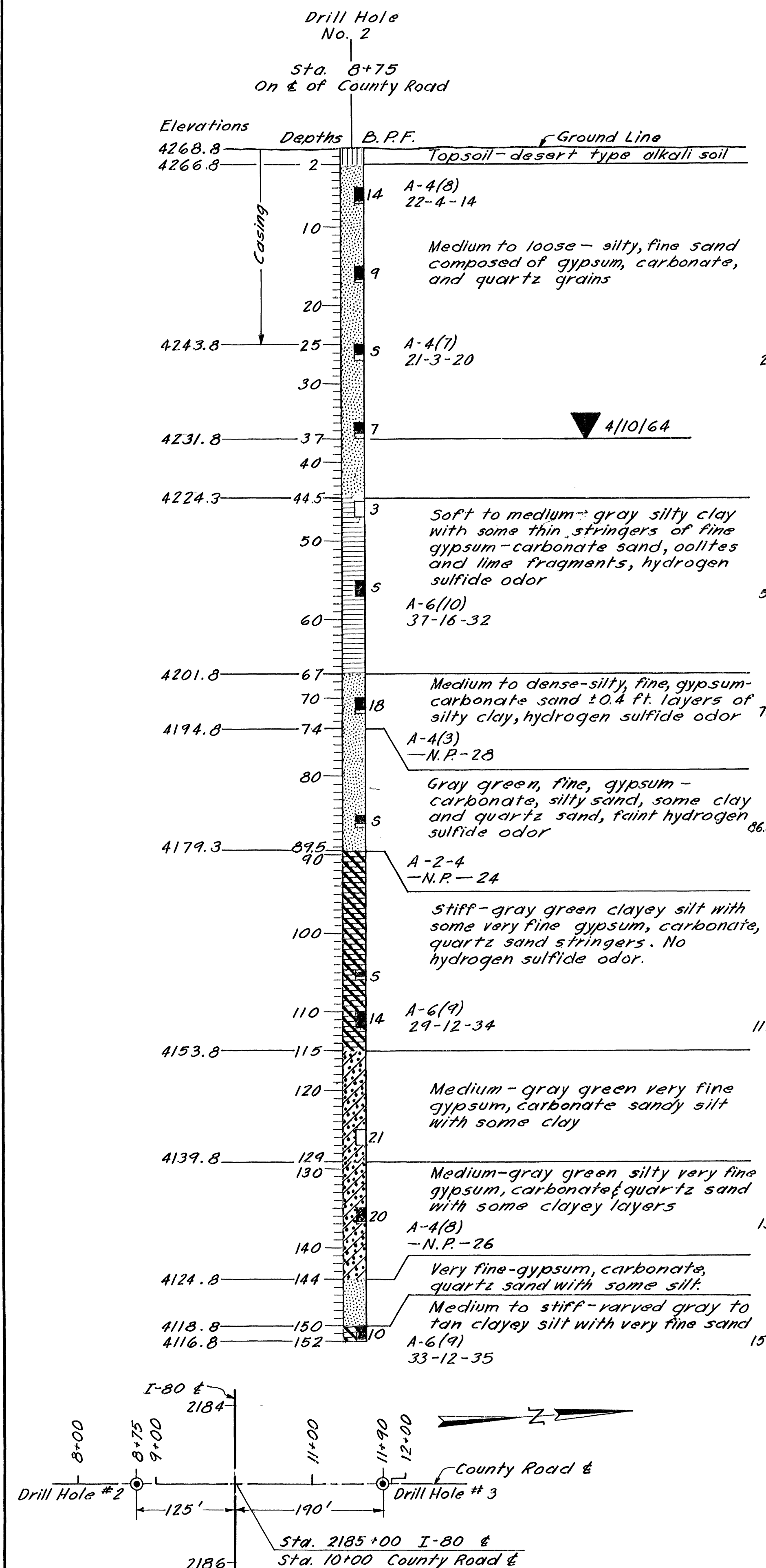
Structural Steel: $f_s = 20,000$ p.s.i.

Wearing Surface: 1" Concrete, 15/lbs/sq. ft. future surface.

QUANTITIES

<u>ITEM</u>	<u>ESTIMATED</u>	<u>UNIT</u>	<u>AS CONST.</u>
Excavation for Structures	382	Cu. Yd.	510.20
Class "A" Concrete (A.E.)	426	Cu. Yd.	426.00
Class "A" Concrete (A.E.)	303	Cu. Yd.	303.00
Reinforcing Steel	135,721	Lb	135,650.80
Structural Steel	14,452	Lb	14,452.00
Metal Railing (Single Rail)	774	Lin Ft.	774.00
Concrete Slope Protection	1,045	Sq. Yd.	1,060.40
Granular Backfill Barrow	191	Cu. Yd.	151.00
Prestressed Concrete Member (Type V @ 38'-7 Lg.)	8	Each	8.00
Prestressed Concrete Member (Type III @ 38'-7 Lg.)	8	Each	8.00
Prestressed Concrete Member (Type V @ 86'-10 Lg.)	8	Each	8.00
Elastomeric Bearing Pad (1" Thick)	25	Sq. Ft.	25.28
Elastomeric Bearing Pad (1 1/4" Thick)	83	Sq. Ft.	83.20
Timber Piles (Treated)	6374	Lin Ft.	5,175.00
Furnishing Pile Driving Equipment	1	Lump	1.00
Test Pile	63	Lin. Ft.	59.50

UTAH STATE DEPARTMENT OF HIGHWAYS			
SALT LAKE CITY, UTAH			
STRUCTURES DIVISION			
KNOLLS - LOW			
KNOLLS INTERCHANGE			
SITUATION & LAYOUT			
DESIGN	CCA 3/14/68	CHECK	AOB 10-1-69
DRAWN	MLY 12/7/67	CHECK	M.U.S. 8/6/68
QUANT.	KCP 4/1/68	CHECK	GIT 11/5/68
APPROVAL RECOMM.	Des. 7-1968 <i>James M. Smith</i>		PROJECT NUMBER I-80-2(14)40
	DATE	GROUP LEADS	STATION 700+1.5
APPROVED	8/19/70	<i>Chas. W. Smith</i>	COUNTY
	DATE	for CIRCULAR STRUCTURAL ENG'G.	
BR.	DRG. F-219		1 of 14



KEY TO DRILLING LOGS
RELATIVE DENSITY (SAND & SILT)
VERY LOOSE - LESS THAN 4 BLOWS PER FOOT.
LOOSE - 4 TO 10 BLOWS PER FOOT.
MEDIUM - 10 TO 30 BLOWS PER FOOT.
DENSE - 30 TO 50 BLOWS PER FOOT.
VERY DENSE - MORE THAN 50 BLOWS PER FOOT.

CONSISTENCY (CLAY)
VERY SOFT - LESS THAN 2 BLOWS PER FOOT.
SOFT - 2 TO 4 BLOWS PER FOOT.
MEDIUM - 4 TO 8 BLOWS PER FOOT.
STIFF - 8 TO 15 BLOWS PER FOOT.
VERY STIFF - 15 TO 30 BLOWS PER FOOT.
HARD - MORE THAN 30 BLOWS PER FOOT.

LEGEND

TOPSOIL OR FILL	IGNEOUS	SANDY CLAY
GRAVEL	LIMESTONE	CLAYEY SAND
SAND	CONGLOMERATE	SILTY CLAY
SILT	DOLOMITE	CLAYEY SILT
CLAY		SILTY SAND
SHALE		SANDY SILT

DRILL HOLE NO.
STATION 0+00 E OR LT. OR RT. IN FT. OFFSET.

ELEVATIONS
GROUND ELEVATION
DEPTHS
GR. EL. 4562 FT.

EXAMPLE TYPICAL STIFF MEDIUM PLASTIC BRN. CLAY, SOME SILT
L.L. - P.I. - W.
17 - 7 - 11

DATE

THIN WALL SHELBY TUBE, UNDISTURBED SAMPLER USED.

SPLIT BARREL UNDISTURBED SAMPLER WITH LINER RINGS OR CALIFORNIA TYPE SAMPLER

REASON NOT RECOVERED

CLASSIFICATION OF EACH SAMPLE AND RESULTS OF CLASSIFICATION TESTS.

ABBREVIATIONS
L.L. - LIQUID LIMIT IN %
P.I. - PLASTIC INDEX
W. - NATURAL MOISTURE CONTENT IN %
W.G. - WELL GRADED
PEN. - PENETRATION
G.W.T. - GROUND WATER TABLE
B.P.F. - BLOWS PER FOOT.
N.P. - NON-PLASTIC

UTAH STATE DEPARTMENT OF HIGHWAYS
SALT LAKE CITY, UTAH
MATERIALS AND RESEARCH DIVISION

SOIL DATA

DRAWN BY: Kistler	CHECKED BY: J.C.M.	1-80-2(4)40
CHECKED BY: E.P.	CHECKED BY: J.H.A.	PROJECT NUMBER
QUANTITIES BY: Firokhi	CHECKED BY: D.T.P.	2185+00
APPROVAL	RECOMMENDED BY: Kistler	STATION
RECEIVED: 8/19/70	DATE: 8/19/70	TOO E
BR. NO.	DRG. NO. F-219	2 of 4

REVISIONS

NO.	BY	DATE	REMARKS

Adobe Acrobat Pro interface showing a PDF document titled "F 219.pdf". The document is a technical drawing or form for the Utah State Department of Highways, Structures Division, titled "KNOLLS - LOW KNOLLS INTERCHANGE SITUATION & LAYOUT". The form includes fields for design, drawing, quantity, approval, and project information. The project number is I-80-2(14)40, station is 2185+00, and county is TOOELE. The drawing is labeled "F-219" and "1 OF 14". The final date is 8-26-71.

Created)	6314	Lin Ft.	5,175.00
Driving Equipment	1	Lump	1.00
	63	Lin. Ft.	59.50

UTAH STATE DEPARTMENT OF HIGHWAYS
SALT LAKE CITY, UTAH
STRUCTURES DIVISION
KNOLLS - LOW
KNOLLS INTERCHANGE
SITUATION & LAYOUT

DESIGN	C.A.	9/11/68	CHECK	A.O.B.	10-1-69	I-80-2(14)40
DRAWN	MLY	12/7/67	CHECK	M.U.S.	8/6/68	PROJECT NUMBER
QUANT.	AKP.	11/1/68	CHECK	G.T.	11/5/68	2185+00
APPROVAL	Dec 1, 1968	James H. Moffatt	DATE	GROUP LEADER		STATION
APPROVED	8/19/70	Dennis W. Smith	DATE	CHIEF STRUCTURAL ENG'R.		TOOELE
REMARKS						COUNTY
REVISIONS						
BR. NO.						DRG. NO. F-219
					1 OF 14	

Final: Hawn Sta. 8-26-71.

