

ESTIMATE OF BRIDGE QUANTITIES		
ITEM NO.	DESCRIPTION	QUANTITY
24.2	Type I-1 Hot Asphalt Conc. W.C. Course	147 Ton
32.1	Concrete Class A	339 C.Y.
35	Reinforcing Steel	59,000 Lb
36.1	Structural Steel	600,000 Lb
36.2	Bridge Shoes	± Unit
36.3	Steel Grid Floor (open)	1568 Sq. Ft.
36.4	Steel Grid Sidewalk (open)	1578 Sq. Ft.
43.3	Steel Bearing Piles	257,000 Lb
43.4	Pile Loading Tests	2 Each
43.5	Pile Driving Equipment	± Each
44	Bridge Railing 'E'	797 L.F.
47	Membrane Waterproofing	1043 S.Y.
31 A	Removing Superstructure	1 Unit

DOWNSTREAM ELEVATION

**GENERAL NOTES:-**  
 Design Loading: A 20-516-44  
 Specifications: A.A.S.H.O. 1953 and NHHD 1954.  
 All concrete shall be Class A.  
 For Surface Finish of Concrete, see Special Provisions.  
 Order of placing concrete in superstructure shall meet the approval of the Bridge Engineer.  
 Main reinforcing steel shall be 2" clear from surface of concrete unless otherwise noted.  
 The steel bearing piles are to have a special primer, Koppers Bitumastic Mill Undercoat, or equivalent, and two coats of Shopper Bitumastic No. 150 or equivalent, as called for on the plans and in the Special Provisions. Materials and application of above primer and protective coatings will not be paid for directly but will be subsidiary to Item 43.3 Steel Bearing Piles.

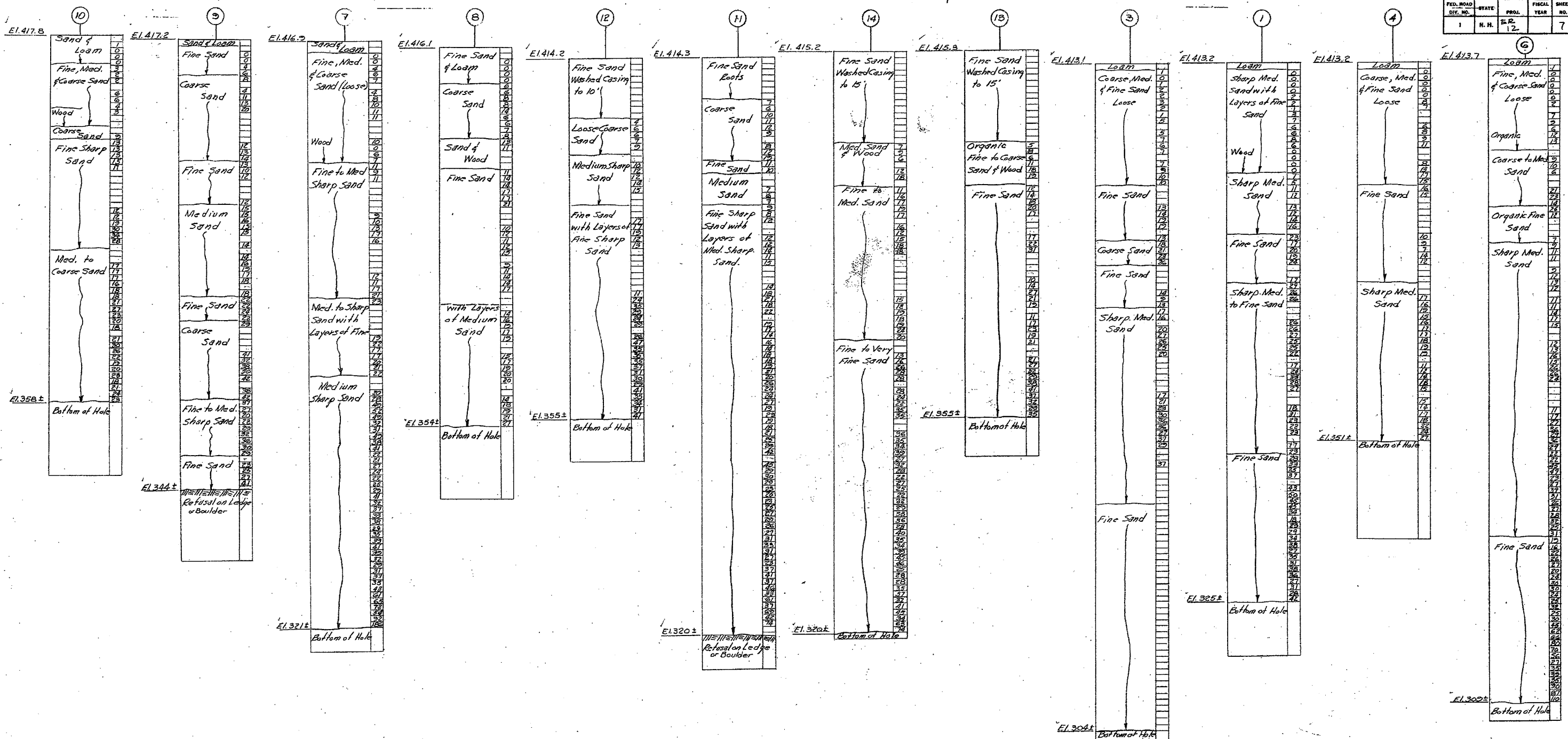
Cont.  
 For further information see sheets titled "Addenda to Specifications" attached to Proposal.

Structural Steel and all items pertaining to structure left for reuse shall be carefully cleaned and salvaged to the State, as called for Section 31-3 of Act 31 of the Statutes - Dept. Pub. Works & Highways - 1954 - Department is to be notified when and storage is complete.

STATE DEPARTMENT OF	
TOWN: OLSBEE, TN	FEDERAL PROJECT: 5871
ROUTE NO.: NH 116	LOCATION: APPROX. 5.0
DESIGNED BY: J.E.B.	DATE: 11/25/53
DRAWN BY: J.E.B.	DATE: 11/25/53
CHECKED BY: J.E.B.	DATE: 11/25/53
IN CHARGE: J.E.B.	DATE: 11/25/53

REVISIONS

FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	E.R. 12		7	101



**NOTE:**  
 Borings indicated thus ● made by N.H.D.R.W. & H.W.S. in June 1954. Figures in right hand column indicate the number of blows required to drive 1 1/2" pipe one foot using 135# weight falling two feet. Borings are for design and show conditions at boring points only and do not necessarily indicate material to be encountered during construction. Samples taken during the boring operation may be examined at the office of the Bridge Engr., Concord, N.H.

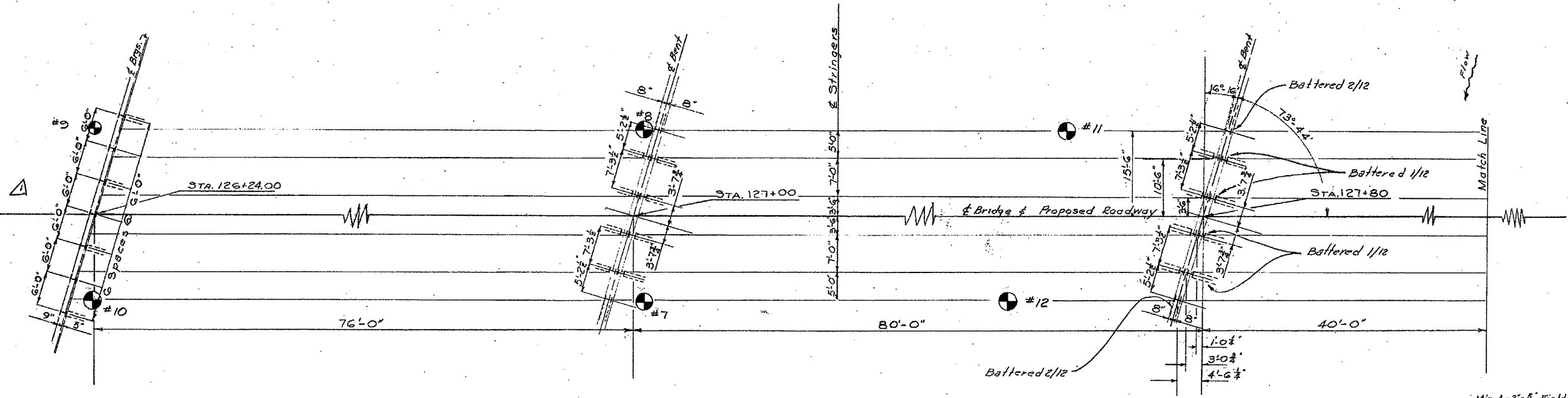
**STATE OF NEW HAMPSHIRE  
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
 BRIDGE DIVISION**

TOWN OSSEPEE-TAMWORTH BRIDGE NO. 139/297  
 FEDERAL PROJECT EE12 STATE PROJECT P-2738  
 ROUTE NO. N.H. #16 OVER BEARCAMP RIVER  
 LOCATION APPROX. 20 MI. S. OSSEPEE-TAMWORTH T.I.

BORINGS			
DESIGNED	BY	DATE	CHECKED
BY	DATE	BY	DATE
DRAWN	EX	7-54	CHECKED
TRACED			CHECKED
QUANTITIES			CHECKED

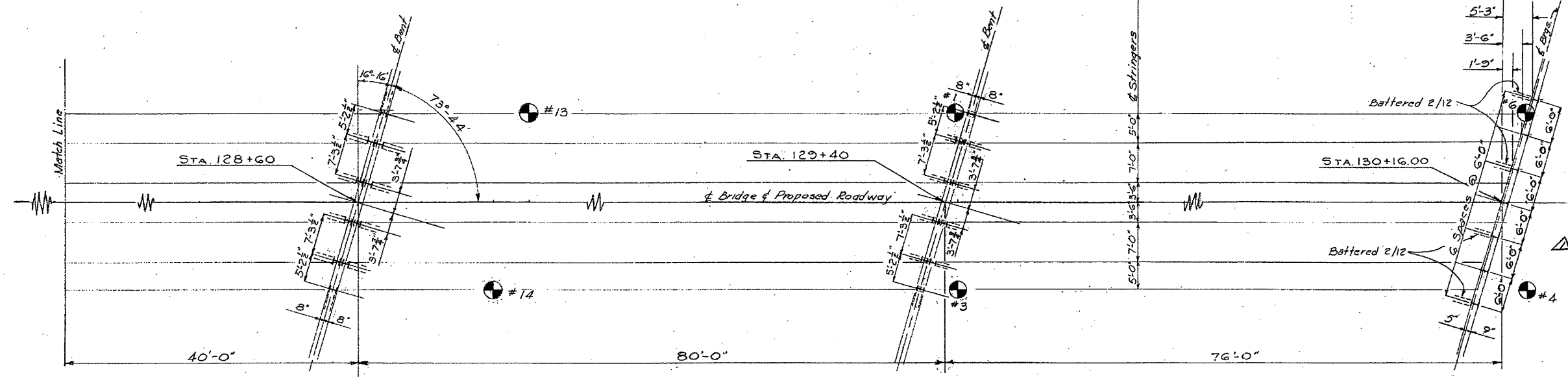
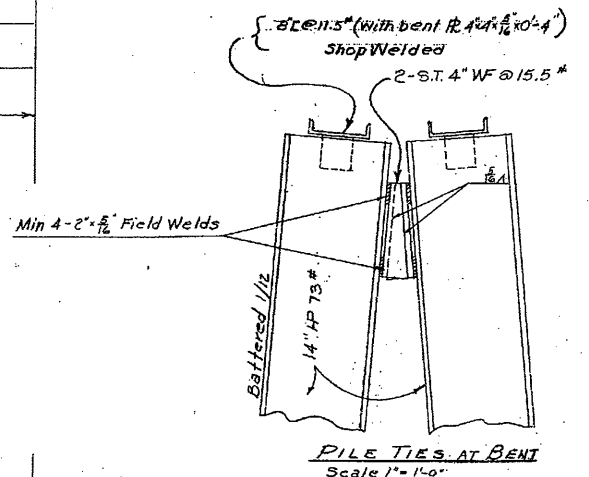
  

BRIDGE SHEET NO.	2 OF 12
FILE NUMBER	3-4-3-2
PROJ. NO.	ER-12
SHEET NO.	7
TOTAL SHEETS	101



**NOTE:**  
 Two Pile Loading Tests will be required.  
 Design Load per pile is 28 tons.  
 All piles to be 14" HP 73 #  
 Length of piles for estimating purposes is 65'-0". Actual lengths to be determined from tests prior to delivery.  
 Hammer to be used shall be McKeon-Terry #10-BB or equivalent.

**TYPICAL LAYOUT AT BENT**



**PILE LAYOUT & LOCATION OF BORINGS**  
 Scale: 1" = 10'-0"

**TYPICAL LAYOUT AT ABUTMENT**

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

TOWN: OSSISPEE-TAMMORTH BRIDGE NO. 197/297  
 FEDERAL PROJECT: ER 12 STATE PROJECT: R2738  
 ROUTE NO. N.H. # 16 OVER BEARCAMP RIVER  
 LOCATION: APPROX. 2.0 MI. SO. OSSISPEE-TAMMORTH T.L.

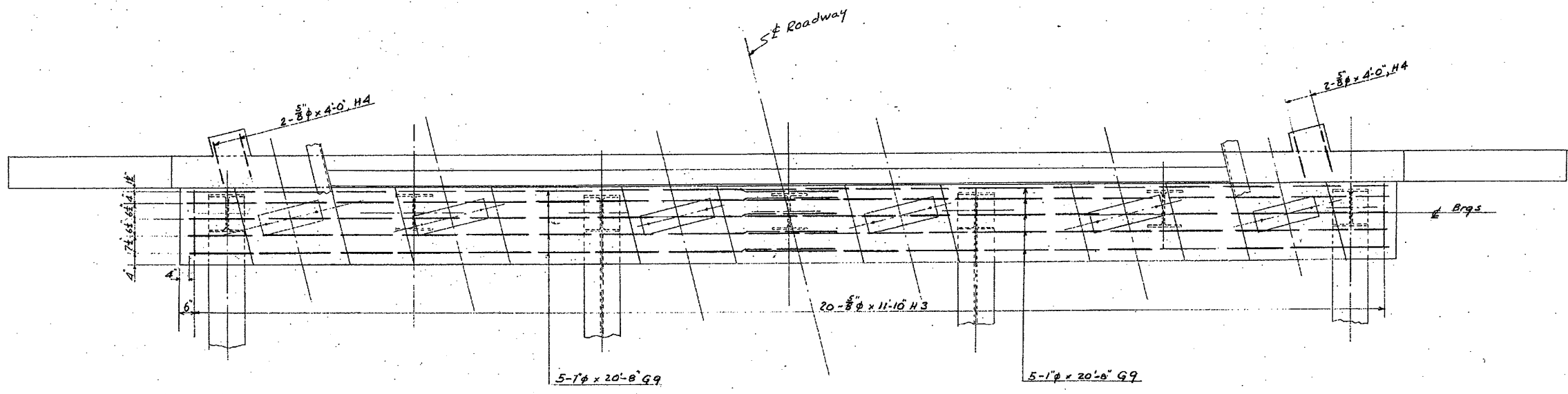
LAYOUT OF STEEL BEARING PILES			
BY	DATE	BY	DATE
DESIGNED		CHECKED	
DRAWN		CHECKED	
TRACED		CHECKED	
QUANTITIES		CHECKED	

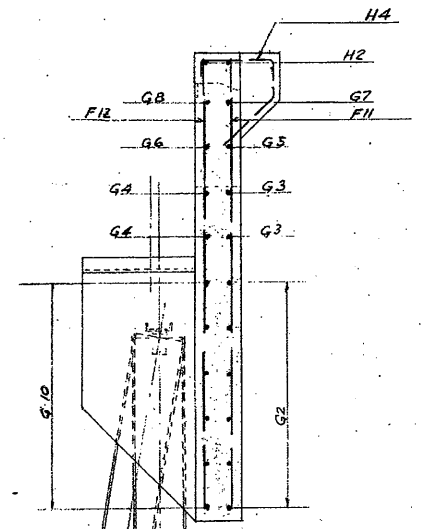
BRIDGE SHEET NO.	3 OF 12
FILE NUMBER	3-4-3-2
PROJ. NO.	ER-12
SHEET NO.	8
TOTAL SHEETS	100



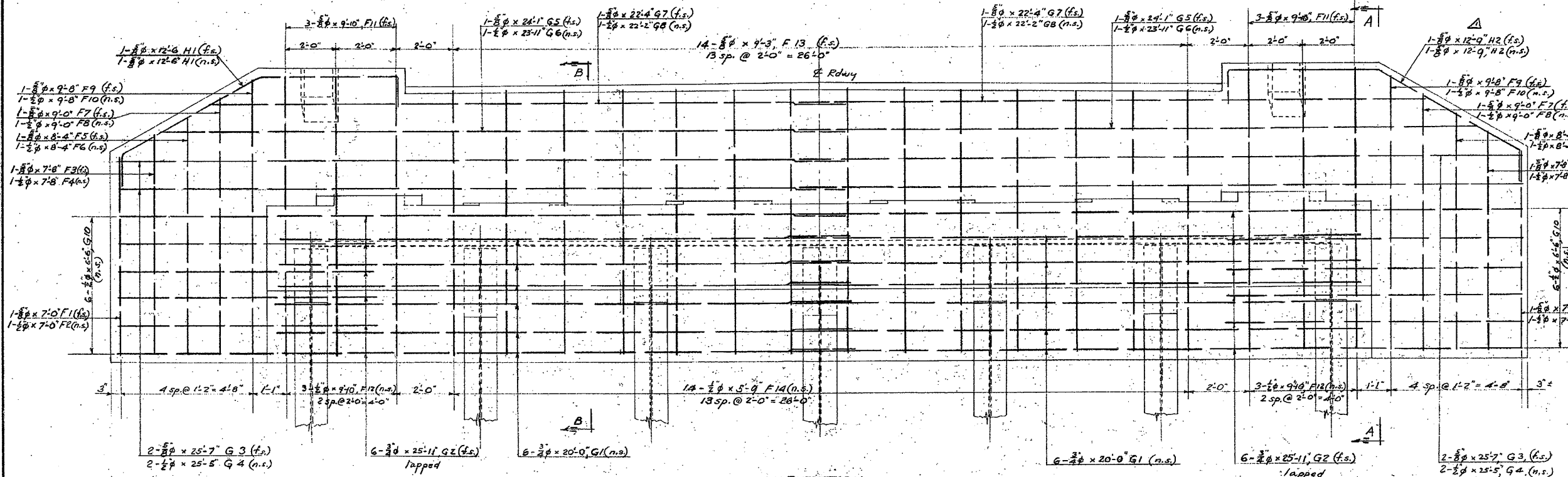
FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	12		10	16



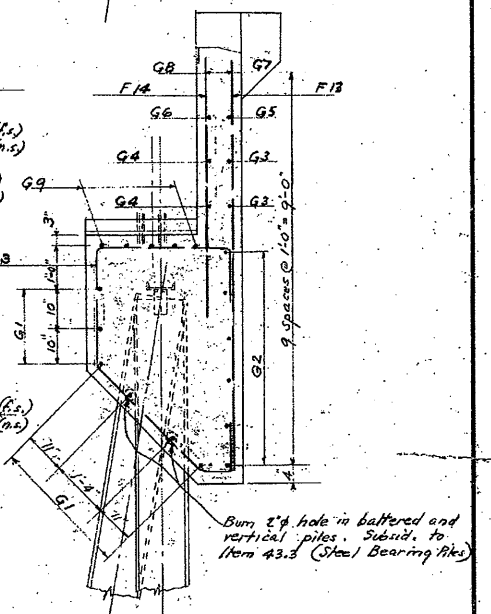
PLAN



SECTION A-A



ELEVATION



SECTION B-B

10  
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STATE OF NEW HAMPSHIRE  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
BRIDGE DIVISION

TOWN OSISPEE-TAMWORTH BRIDGE NO. 137/297  
FEDERAL PROJECT ER 12 STATE PROJECT P2738  
ROUTE NO. N.H. 16 OVER BEAR CAMP RIVER  
LOCATION APPROX. 2.0 MI. SO. OSSIPEE-TAMWORTH T.L.

SHEET SCALE 1/2" = 1'-0"

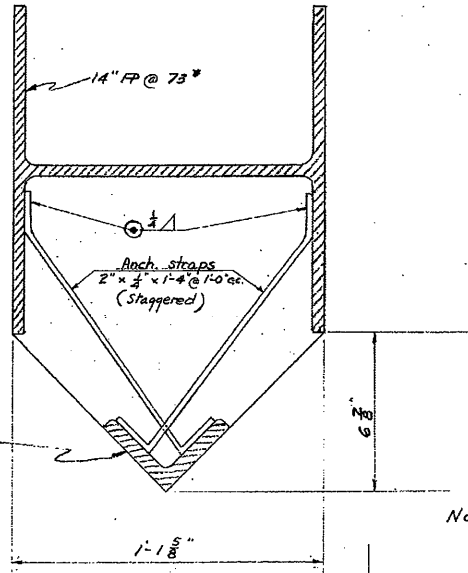
REINFORCING STEEL ABUTMENTS			
BY	DATE	BY	DATE
DESIGNED <u>U.S.B.</u>	<u>7/54</u>	CHECKED <u>U.S.B.</u>	<u>7/54</u>
DRAWN <u>U.S.B.</u>	<u>7/54</u>	CHECKED <u>J.T.H.</u>	<u>8-54</u>
TRACED <u>U.S.B.</u>	<u>7/54</u>	CHECKED <u>J.T.H.</u>	<u>8-54</u>
QUANTITIES <u>U.S.B.</u>	<u>7/54</u>	CHECKED <u>J.T.H.</u>	<u>8-54</u>

NO.	DESCRIPTION	BY	DATE
1	Changed bar H3 length	U.S.B.	3/55

PROJ. NO.	SHEET NO.	TOTAL SHEETS
ER 12	10	159

FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.	ER-12		11	16

NOTE: Nose Piling to be used on upstream side only. See table for lengths and Stations.

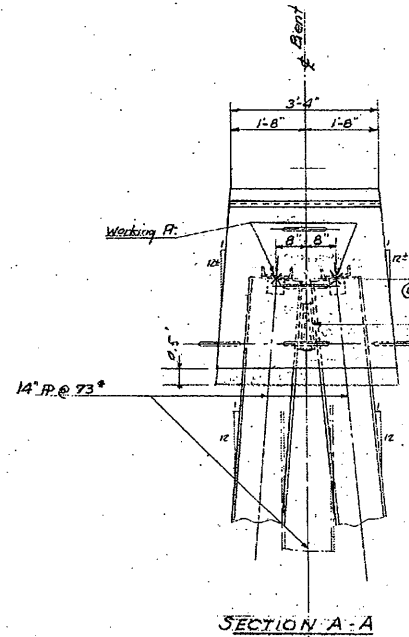
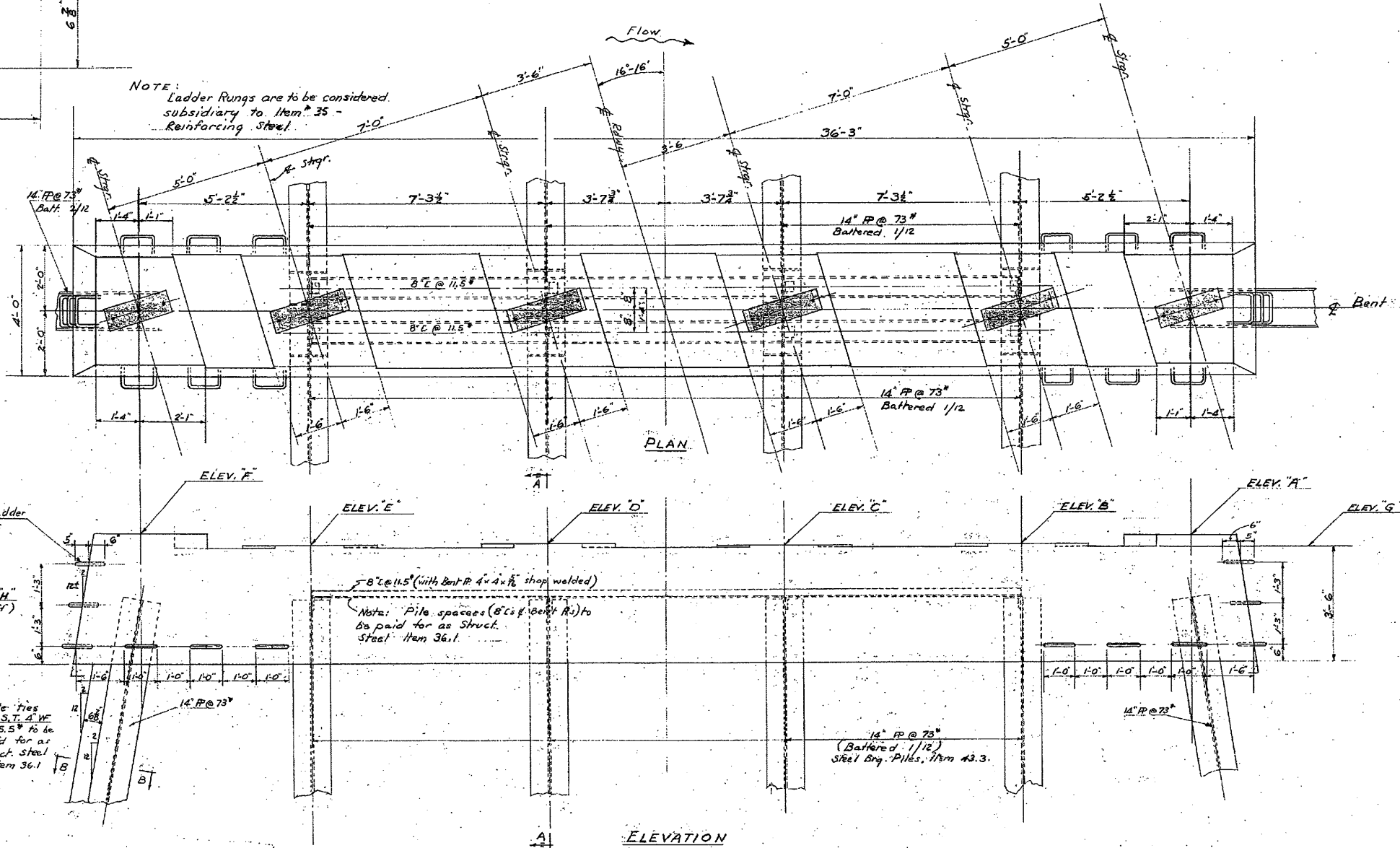


L 4"x4"x 5/8"  
See table below for length and station  
(Angle and Anchor straps to be paid for as Struct. Steel Item 36.1)

Station	Approx. Ground Line El.	Length of L 4"x4"x 5/8"
127+04.52	415.3±	5'-0"±
127+84.52	405.2±	16'-0"±
128+64.52	405.5±	16'-0"±
129+44.52	414.1±	7'-0"±

NORMAL SECTION OF NOSE  
PILING B-B  
Scale 3"=1'-0"

NOTE: Ladder Rungs are to be considered subsidiary to Item 35 - Reinforcing Steel.



SECTION A-A

Sheet Scale 1/2"=1'-0" except as otherwise noted

BENTS									
Location (Sta. Rdwy)	CONDITION	EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G	EL. H
127+00	EXP.	423.97	423.72	423.79	423.83	423.82	424.12	423.65	422.15
127+80	FIXED	424.89	424.63	424.68	424.69	424.66	424.92	424.56	423.04
128+60	EXP.	424.94	424.66	424.69	424.68	424.63	424.89	424.56	423.06
129+40	EXP.	424.12	423.82	423.83	423.79	423.72	423.97	423.65	422.15

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

TOWN OSSISPEE-TAMWORTH BRIDGE NO. 137/297  
FEDERAL PROJECT ER-12 STATE PROJECT P 2238  
ROUTE NO. N.H. 16 OVER BEARCAMP RIVER  
LOCATION APPROX. 2.0 MI. SO. OSSISPEE-TAMWORTH T.L.

TYPICAL BENT DETAILS

DESIGNED	BY	DATE	CHECKED	BY	DATE	BRIDGE SHEET NO.
H.E.L.			J.T.H.		8-59	6 OF 12
DRAWN	J.S.B.	7/34	CHECKED	J.T.H.	8-59	FILE NUMBER
TRACED			CHECKED	J.T.H.	8-59	3-4-3-2
QUANTITIES	F.C.S.	7/29				

PROJ. NO.	SHEET NO.	TOTAL SHEETS
ER-12	11	16

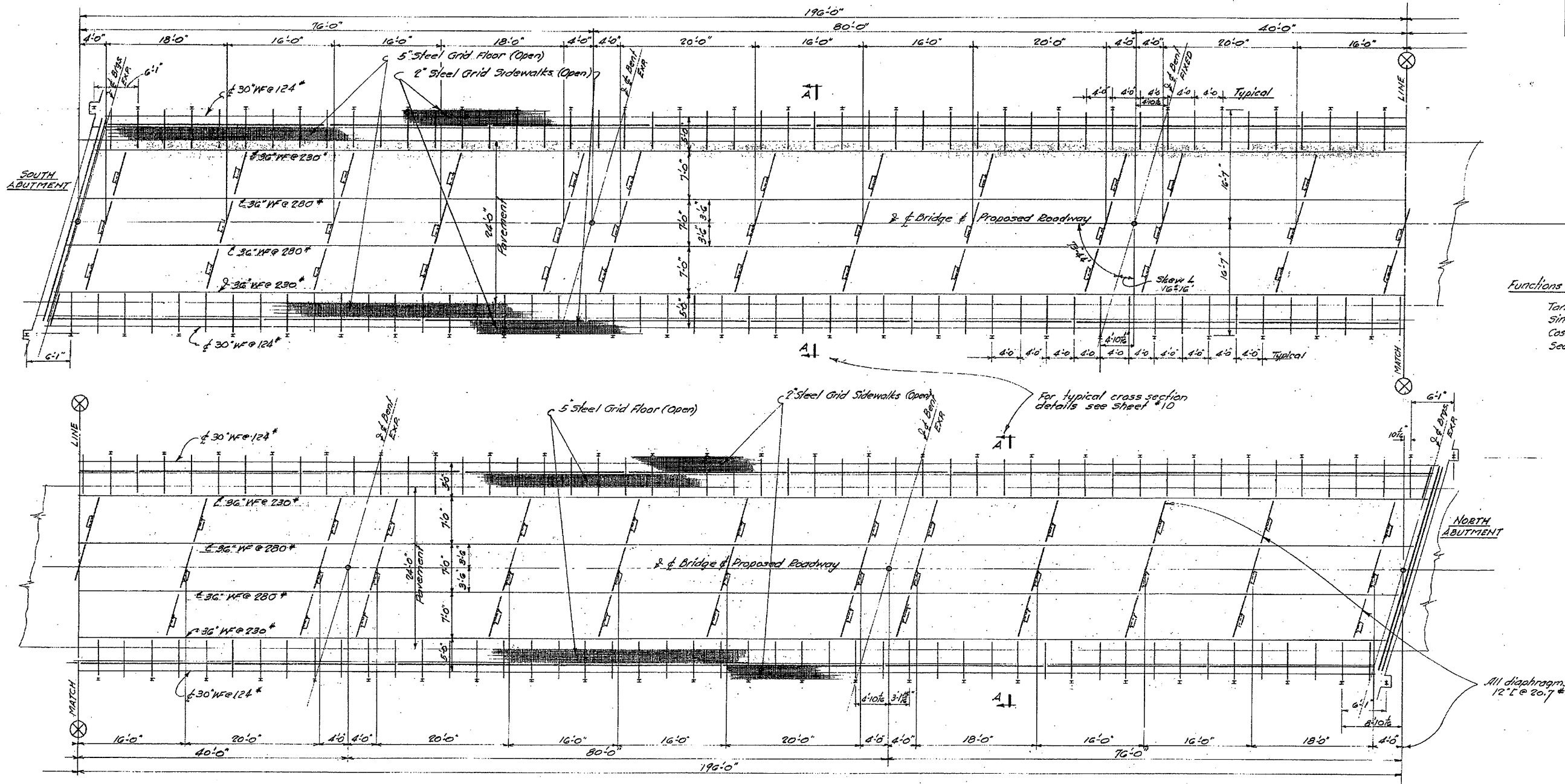
REVISIONS	BY	DATE
Δ		







FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.	ER-12		14	160



Functions of Skew Angle 16°16'

Tan. .2918905  
 Sin. .28010827  
 Cos. .95996841  
 Sec. 1.04170994

**FRAMING PLAN**  
 Scale 1/8" = 1'-0"

**NOTE:**  
 For material and details of end dams and railings see sheets #10 and #11  
 For details of bridge shoes see sheet #8

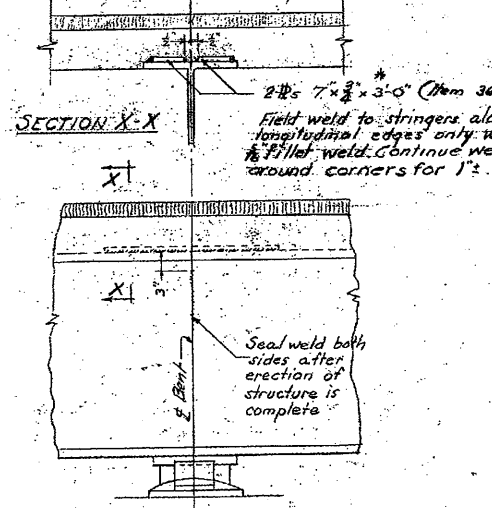
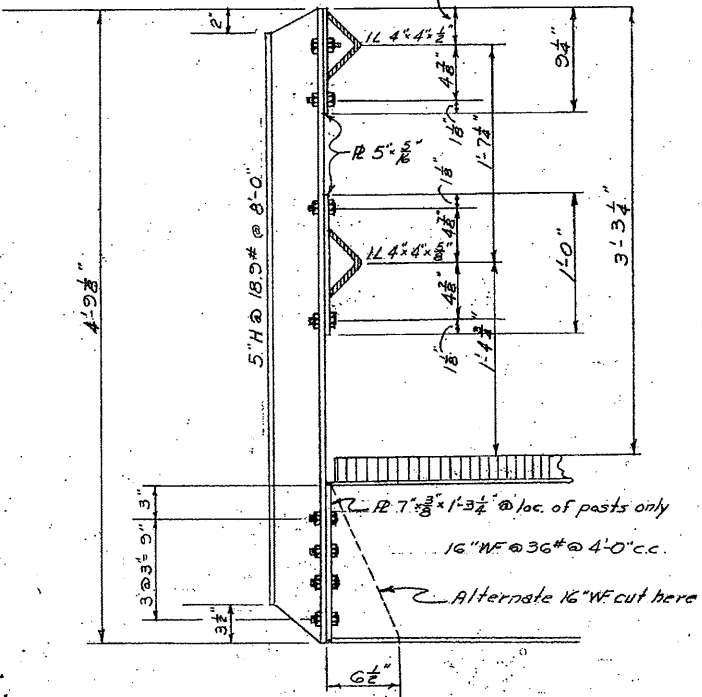
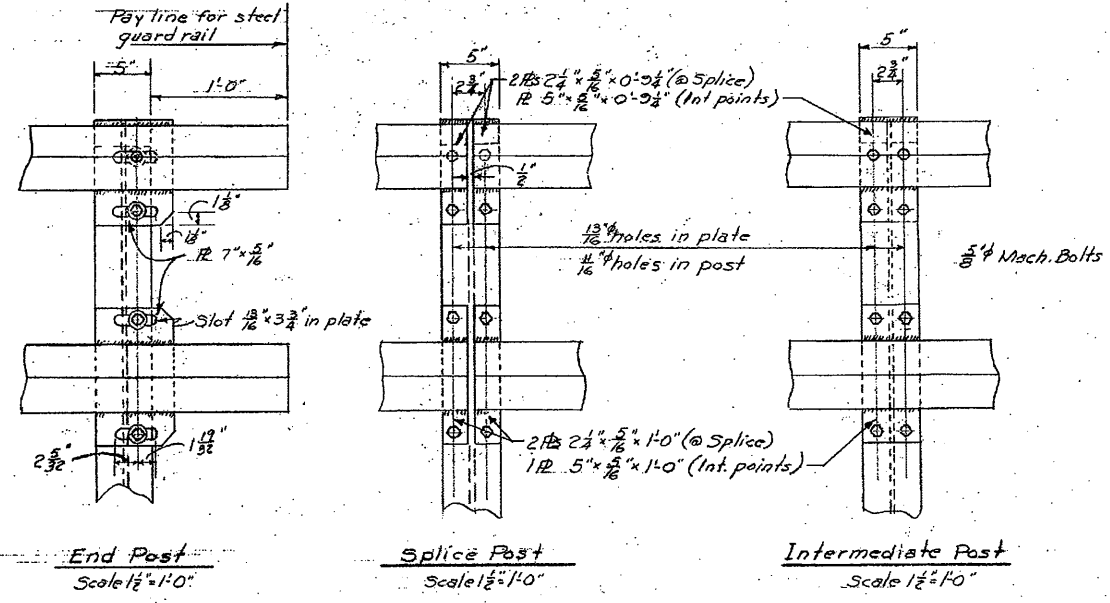
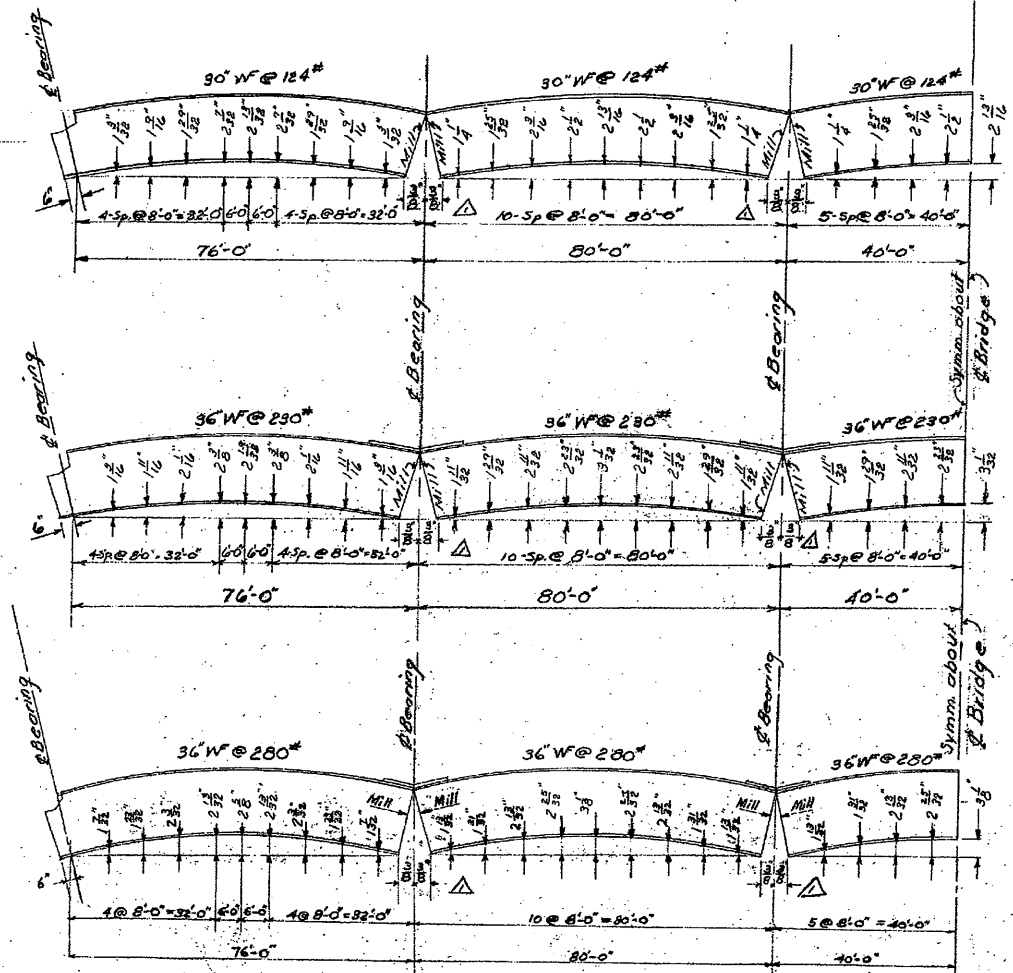
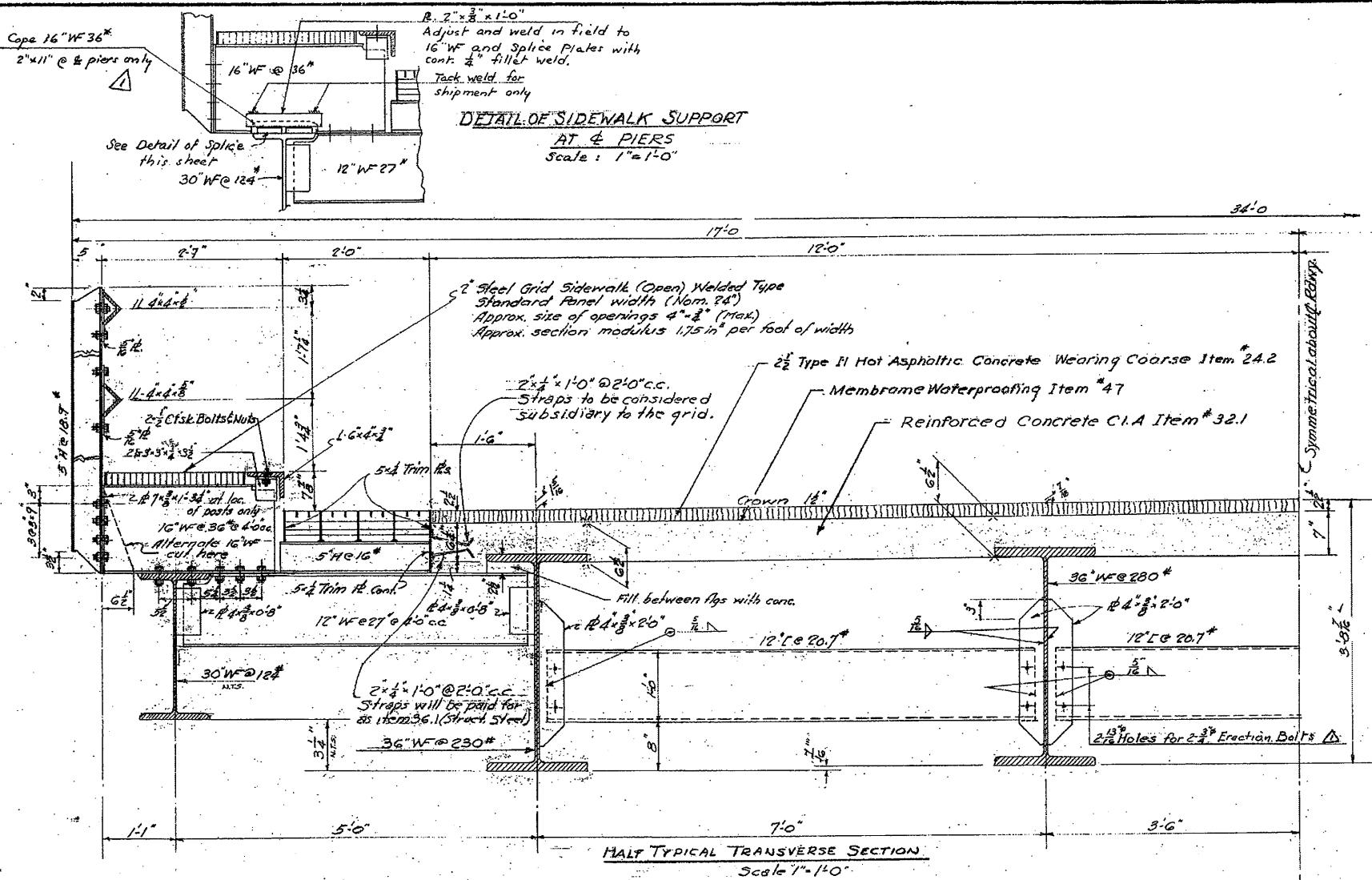
14  
203

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

TOWN: OSSIPEE-TAMWORTH BRIDGE NO. 137/897  
 FEDERAL PROJECT: ER-12 STATE PROJECT: P8738  
 ROUTE NO. N.H. #16 OVER BEARCAMP RIVER  
 LOCATION: APPROX. 2.0 MI. SO. OSSIPEE-TAMWORTH T.L.

REVISIONS		FRAMING PLAN		BRIDGE SHEET NO.
NO.	DESCRIPTION	BY	DATE	9 OF 12
Δ				FILE NUMBER
				3-4-3-2
				TOTAL SHEETS
				159

FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.	ER-12		15	16



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

TOWN Ossipee-Tamworth BRIDGE NO. 137/297  
FEDERAL PROJECT ER-12 STATE PROJECT P2138  
ROUTE NO. N.H. #16 OVER BEARCAMP RIVER  
LOCATION APPROX. 2.0 MI. SO. OSS�PEE-TAMWORTH T.J.W.

TYPICAL TRANSVERSE SECTION & DETAILS

DESIGNED	M.E.L.	DATE	1/54	CHECKED	V.S.B.	DATE	3/45	BRIDGE SHEET NO.	10 OF 12
DRAWN	R.J.P.	DATE	1/54	CHECKED	V.S.B.	DATE	3/45	FILE NUMBER	3-4-3-2
TRACED		DATE		CHECKED	EX	DATE	3/45		
QUANTITIES	F.E.S.	DATE	7/54	CHECKED		DATE			

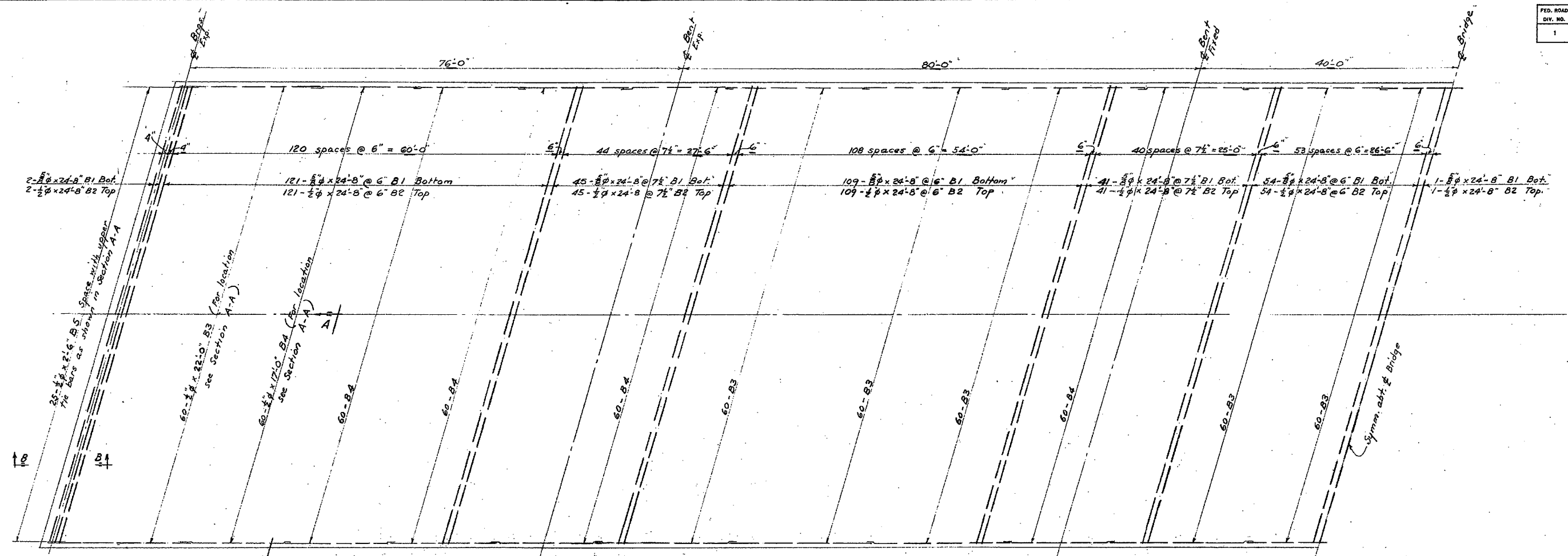
PROJ. NO.	SHEET NO.	TOTAL SHEETS
ER-12	15	16

Note: Beams shall be cambered and milled as shown on the drawings and shall be assembled and checked for geometrical outline prior to leaving the mill or shop.

15  
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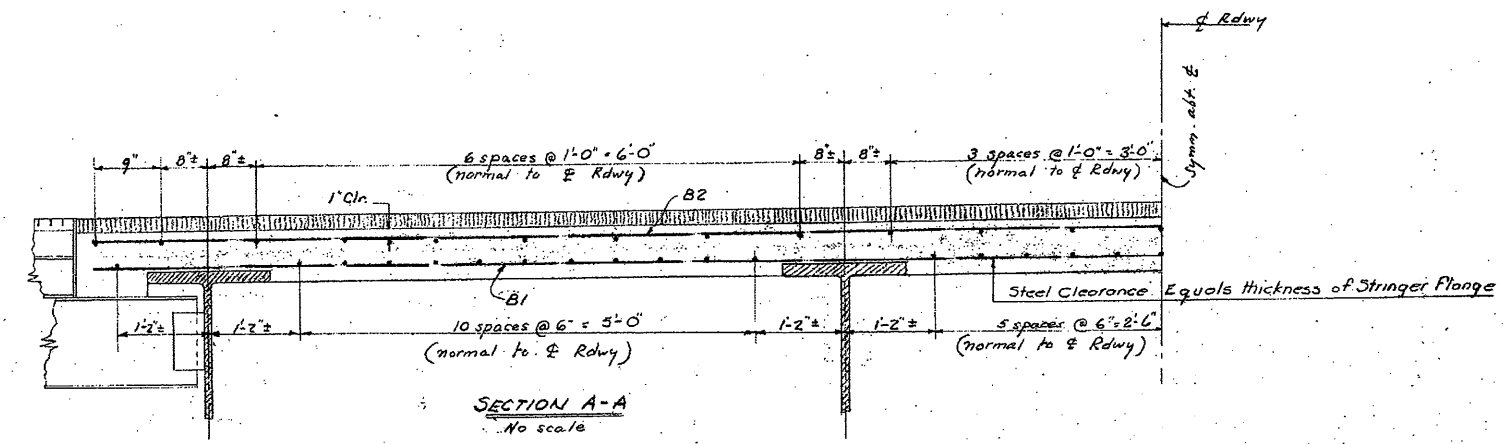
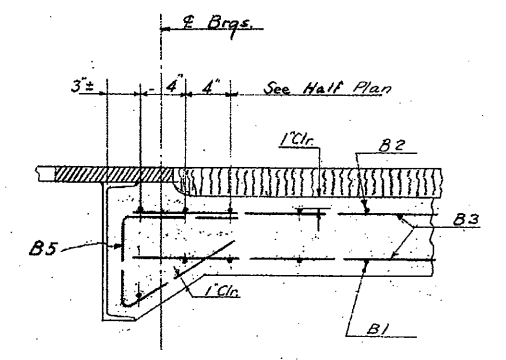
FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N. H.	ER-12		17	17



**PLAN SHOWING HALF SLAB REINFORCEMENT**

Scale: 3/8" = 1'-0" except underlined dimensions

Note: Steel shown on this drawing for one half slab only.



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

TOWN OSISPEE-TAMWORTH BRIDGE NO. 137/297  
 FEDERAL PROJECT ER-12 STATE PROJECT P2789  
 ROUTE NO. N.H. 716 OVER BEARCAMP RIVER  
 LOCATION APPROX. 2.0 MI. SO. OSISPEE-TAMWORTH T.L.

SEAB REINFORCEMENT					
BY	DATE	CHECKED	BY	DATE	BRIDGE SHEET NO.
DESIGNED	H.E.L. 7/58	CHECKED	J.T.H.	8-54	12 OF 12
DRAWN	J.S.B. 7/58	CHECKED	J.T.H.	8-54	FILE NUMBER
TRACED	-	CHECKED	J.T.H.	8-54	3-4-3-2
QUANTITIES	J.S.B. 7/58	CHECKED	J.T.H.	8-54	

REVISIONS		
Δ	DESCRIPTION	BY DATE

PROJ. NO.	SHEET NO.	TOTAL SHEETS
ER-12	17	159