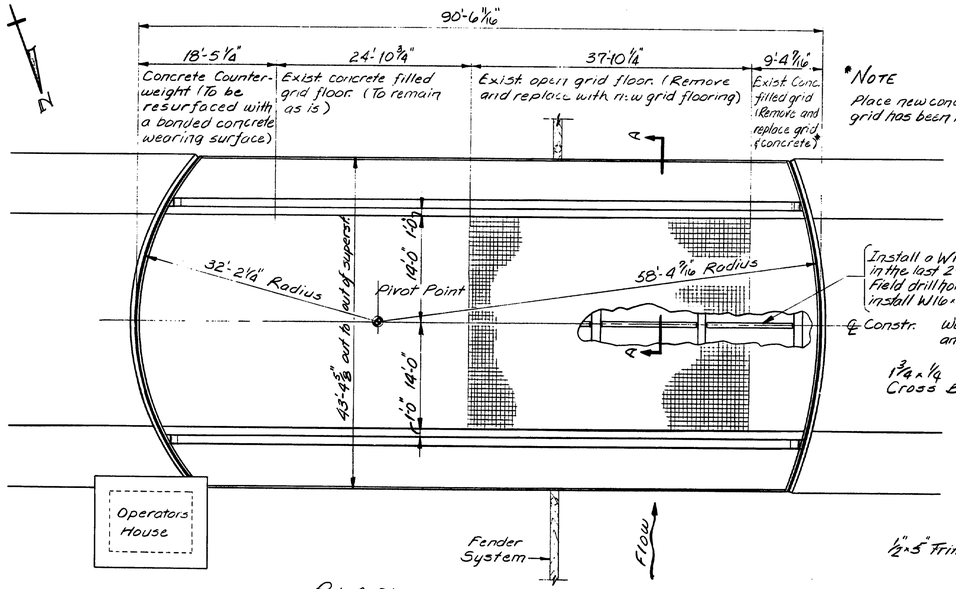
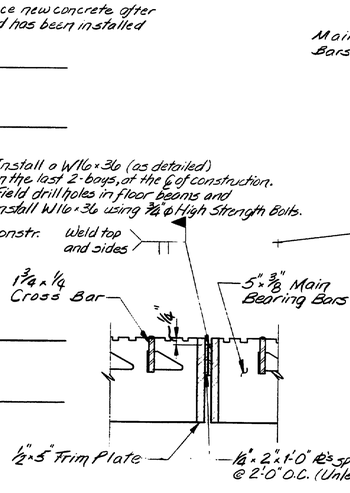
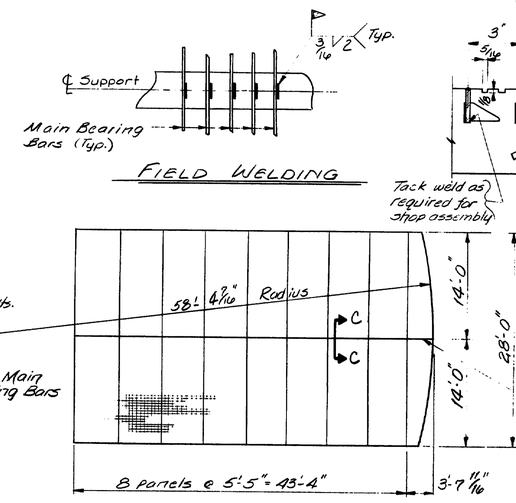
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO	TOTAL SHEETS
1	MAINE	2049	1	1



PLAN

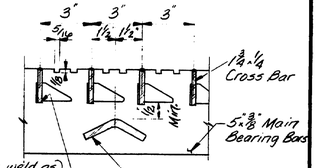
*NOTE
Place new concrete after grid has been installed





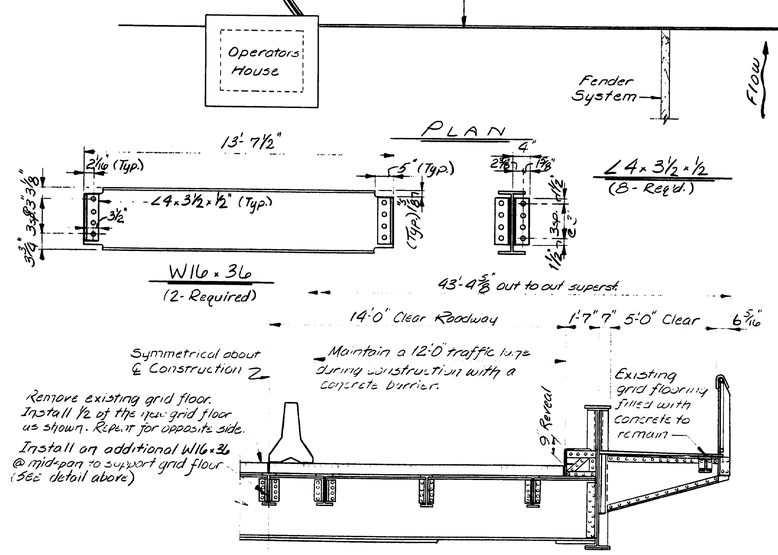
PANEL LAYOUT

FIELD WELDING



SECTION B-B
Serration shape may vary per manufacturer

Install 1-1/4" Connection ℄ on each panel @ 2'-6" long.



HALF TRANSVERSE SECTION A-A

BONDING GROUT NOTES

The deck surface must be thoroughly sandblasted and cleaned to remove all dust or loose materials immediately before bonding grout is placed.

Deck surface to be surface dry with no standing water in pockets or low areas when bonding grout is applied.

The bonding grout shall consist of equal parts by weight of Portland Cement and concrete sand with the plus #8 material removed and mixed with enough water to give a thick, creamy consistency.

Bonding grout to be evenly broomed onto the concrete surface ensuring that the entire surface, including face of curb to the finish grade of the wearing surface, is coated and that no excess grout collects in low spots or pockets. Grout shall be thoroughly broomed under and around reinforcing bars.

Rate of application must be controlled so that the grout does not dry before the new concrete is placed.

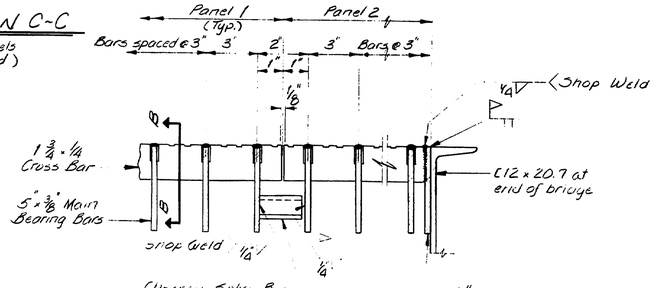
GENERAL NOTES

1. Remove existing wearing surface.
2. If main reinforcing steel is exposed, concrete should be removed under the steel to a depth of 1" minimum.
3. Blast clean the slab before any placement of bonding grout or concrete. Note: SLAB IS TO BE SURFACE DRY BEFORE PLACEMENT OF BONDING GROUT.
4. Broom on a layer of bonding grout just prior to placing concrete. See bonding grout notes this sheet.
5. Concrete to be cured using burlap and water.
6. Concrete to be Class AA and aggregate to be crushed ledge.
7. Minimum cover to be 2" unless otherwise noted.
8. Chamfer all exposed edges of concrete 1/2" unless otherwise noted.
9. Any exposed concrete shall be thoroughly cleaned before placing new concrete.

SCOPE OF WORK

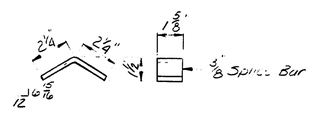
Install a new bonded concrete wearing surface on the counterweight, matching the existing grade. Remove and replace steel grid flooring as noted. Fill grid with concrete as noted.

SECTION C-C
(Typ. for all panels unless noted)



GRID FLOOR ERECTION DETAIL

111-50



CHEVRON SPLICE BAR

PROJECT DESIGN ENGINEER	BY	DATE
PLANS DESIGN - DETAILED	JCB	6-88
CHECKED		
REVISIONS		
FIELD CHANGES		

BRUNING 44-132 457101

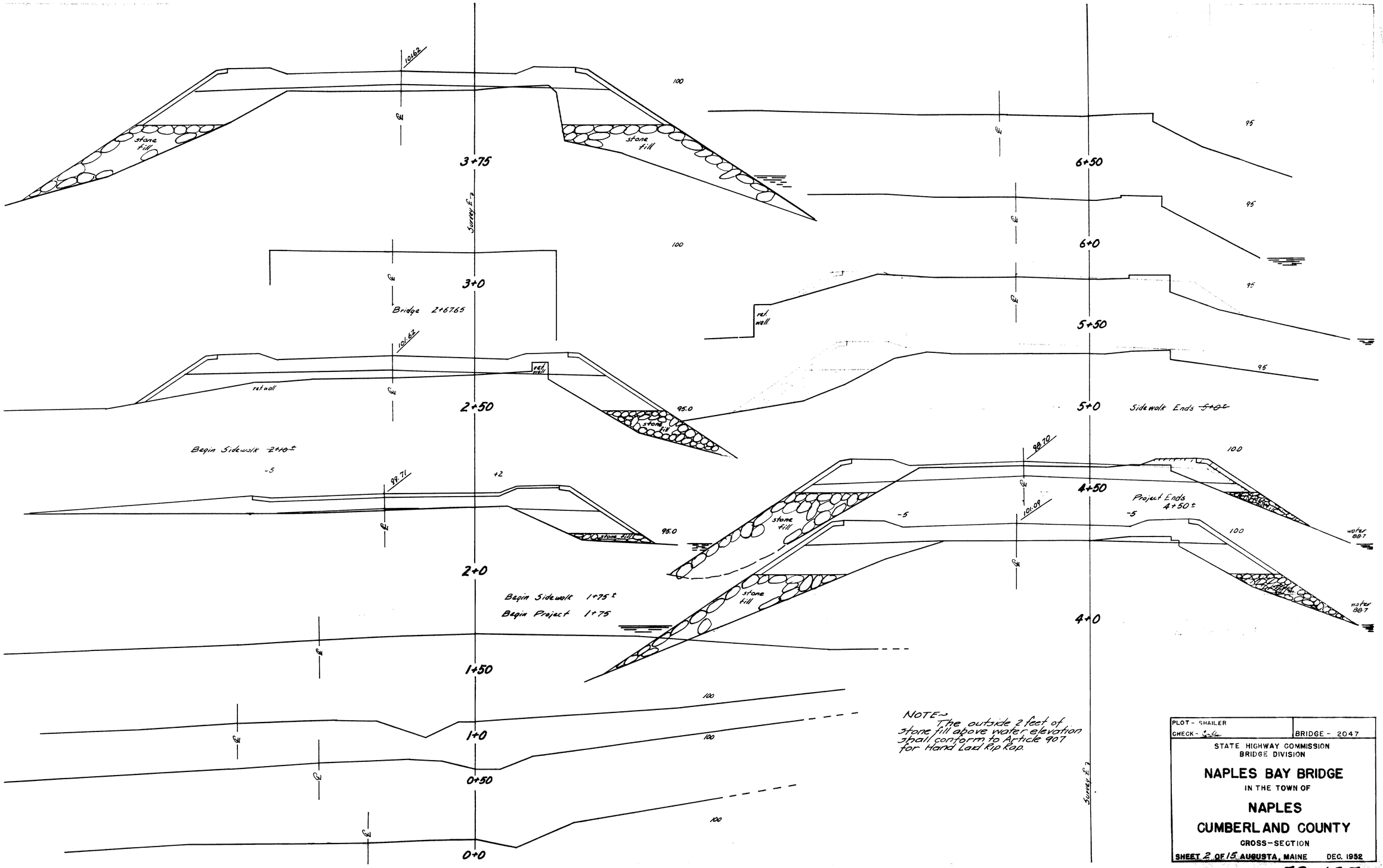
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NAPLES BAY BRIDGE
OVER
CHUTES RIVER
IN
NAPLES
CUMBERLAND COUNTY

GENERAL PLAN

SHEET 1 OF 1 AUGUSTA, MAINE June, 1988

U.S. Route 302
To Portland
Gas Station
Office
R. of Way limits. Span in open position.
Stone Wall
Sta 2+75.15
End Sidewalk 2+10±
Begin Project 1+75
N 70°-15' W
End Sidewalk 1+75±
20' Drive To Hotel
12" CMP
BM #1 - Square cut in D.S. corner of Abut #2 backwall and marked U.S.B.M. Elev - 100.00
Flow
Sand Bar
Howard Johnson Restaurant
Porch
Parking
Parking
Gas Station
Fence
End Project
Existing Concrete Pedestal
5' Conc. Walk
Wooden Landing Platform
Match Line
Match Line
Construction ℄ parallel to Survey Line.
For ℄ location see sheet No 9.
End Sidewalks 5+0±
LONG LAKE
Removal of existing concrete to be paid for under item 204-13
PLAN
Scale 1" = 30 Ft.
Curb at Backwall
45'-0" berm to berm
3" bit. conc. surf. course
1" gravel levelling course, treated
2" bit. conc. surf. course
18" gravel base
6" loam & seeding
1½:1 slope
stone fill to elev. 95.0±
Note - Payment for Gravel Levelling Course shall be made under contract item 401-10
HALF NORMAL SECT. APPROACH
Ramp to level crown on bridge in 50'±
3/4" Wire Cable
Turn Buckle Connection
12'-6" c to c Posts
Direction of Traffic
Beam Type Guard Rail with End Wings
Hook Bolt
Detail of Cable End at Outer End Posts
4 Req'd
Stud to be screwed tight against wedge
15" Stud & Cable End
At Bridge Ends
4 Req'd
All Guard Rail parts and fittings to be furnished by the General Contractor.
Begin Project 1+75
50' V.C. Ext. 0.30
50' V.C. Ext. 0.30
End Project 4+50
50'± Transition
50'± Transition
Fin. Gr. 101.82'
Water Elev. 88.7
Piles not shown
PROFILE ON ℄ RDWY.
Hor. Scale 1" = 30 Ft.
Vert. " 1" = 5 Ft.
Survey - Ferguson
Plot & Trace - Welch
Bridge - 2047
State Highway Commission
Bridge Division
NAPLES BAY BRIDGE
in the Town of
NAPLES
CUMBERLAND COUNTY
SURVEY PLAN
Sheet 1 of 15 Augusta, Maine Jan. 1950
59-126
0 1 2 3 4 5 INCHES



NOTE- The outside 2 feet of stone fill above water elevation shall conform to Article 907 for Hand Laid Rip Rap.

PLOT - SHAILER
CHECK - [illegible]
BRIDGE - 2047

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES

CUMBERLAND COUNTY

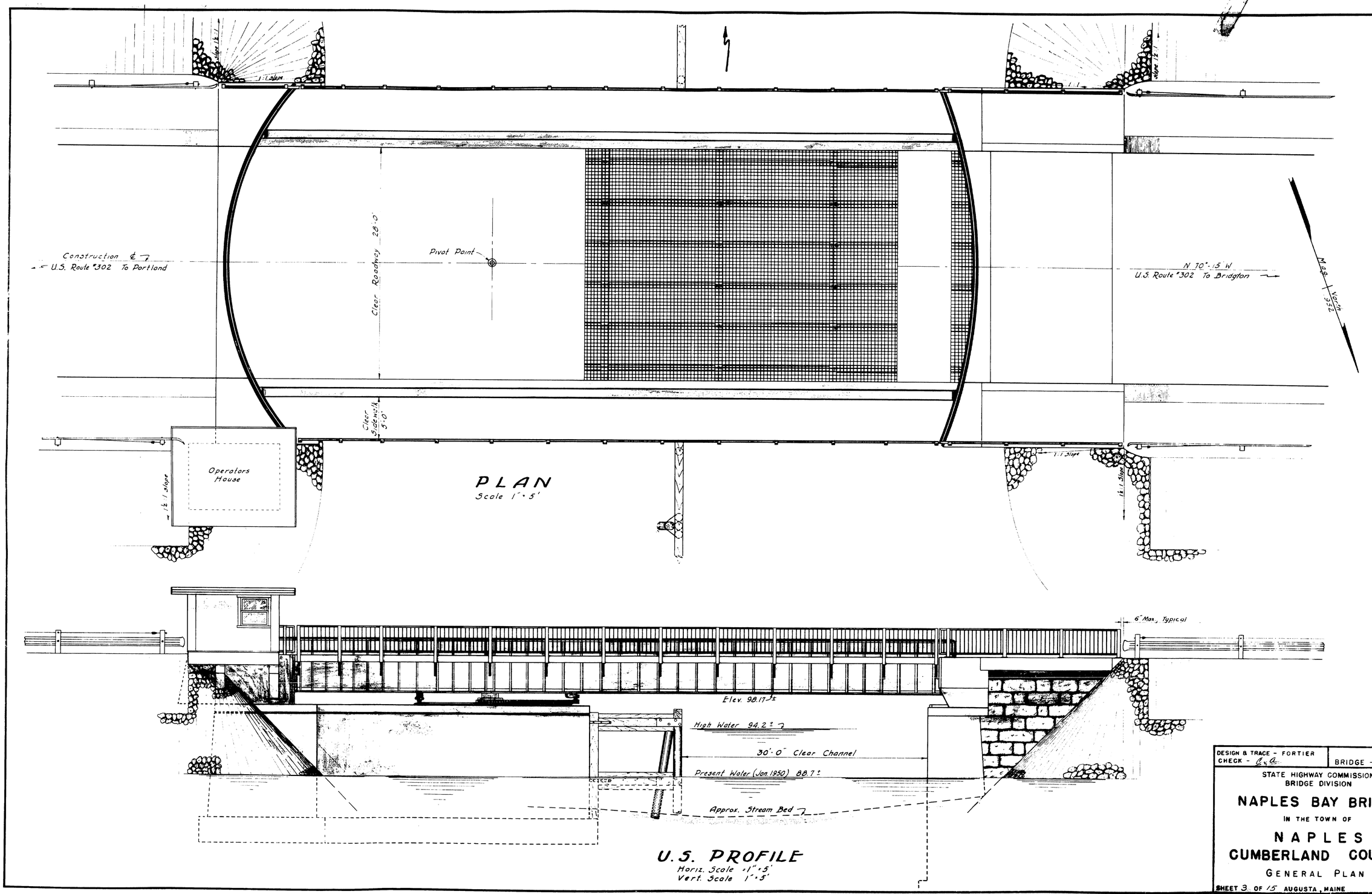
GROSS-SECTION

SHEET 2 OF 15 AUGUSTA, MAINE DEC. 1952

59-127

K & E FORM NO. 341-10CA

0 1 2 3 4 5 INCHES



DESIGN & TRACE - FORTIER
CHECK - C.A.

BRIDGE - 2047

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

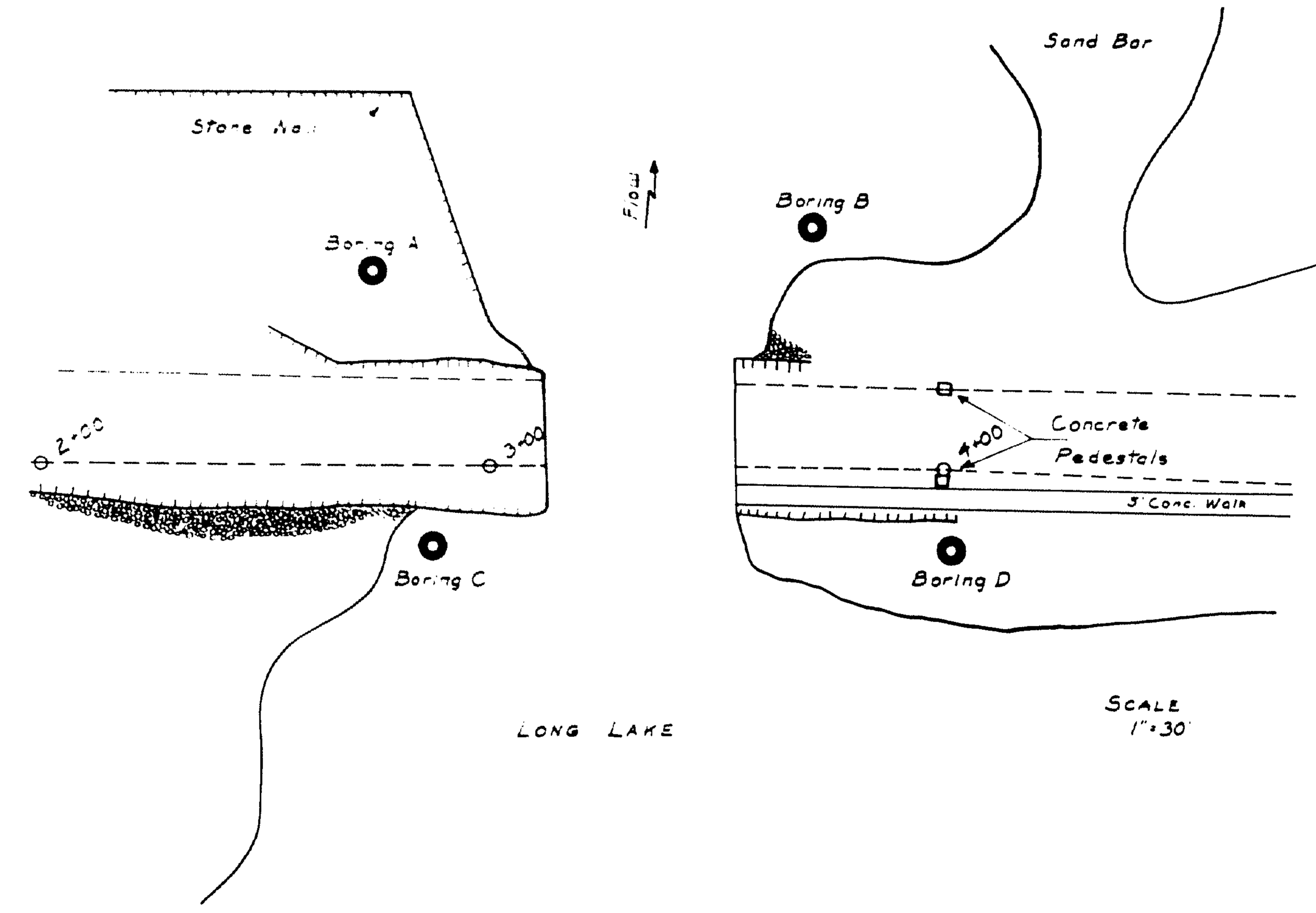
IN THE TOWN OF

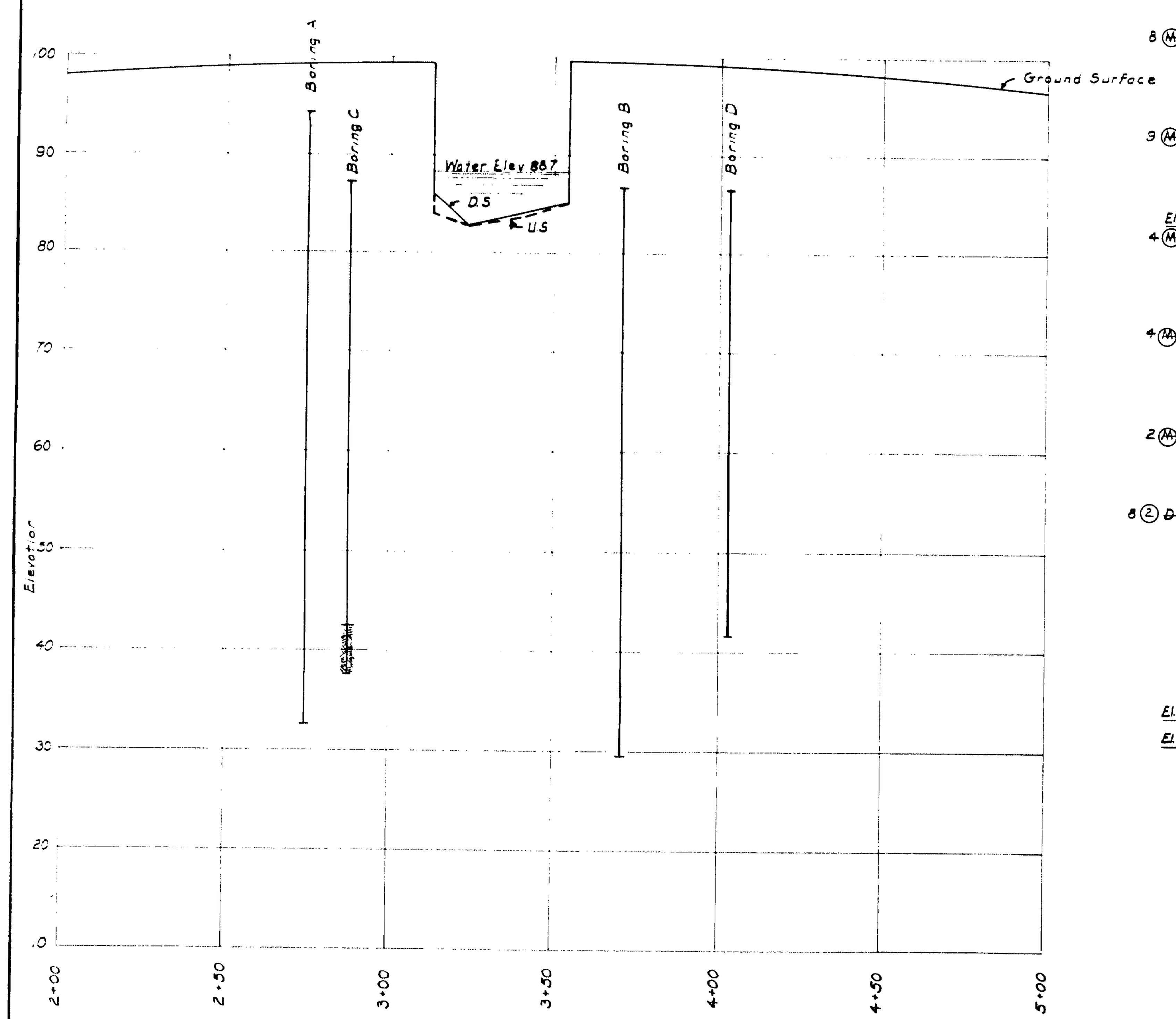
NAPLES
CUMBERLAND COUNTY

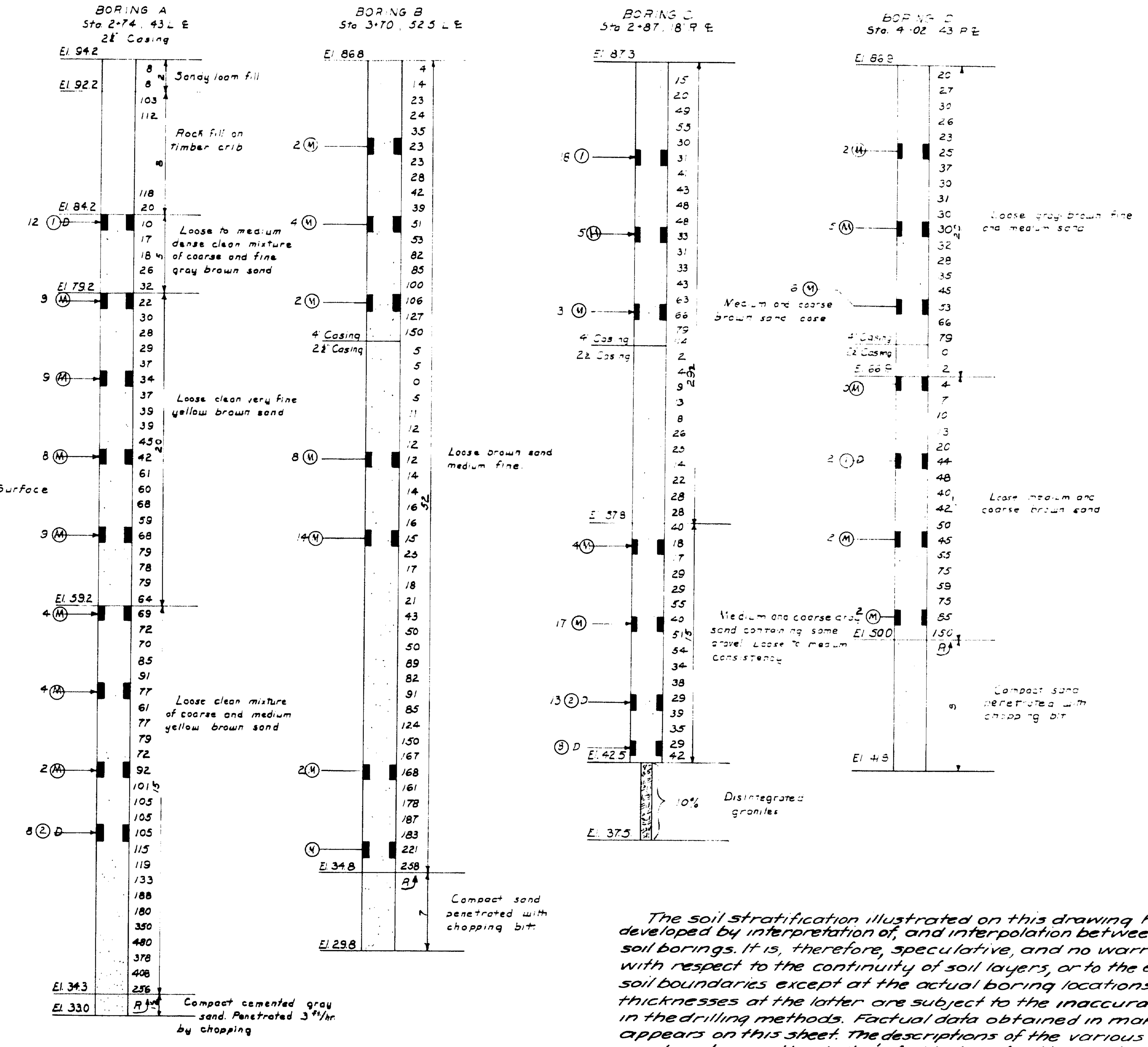
GENERAL PLAN

SHEET 3 OF 15 AUGUSTA, MAINE JAN. 1953

59-12







BORING NOTES

1. Scales as noted on drawings
2. Casing size as noted on drawing
3. Ground water table indicated thus:
4. Number of blows of 275# hammer falling 18 inches required to drive extra heavy one foot indicated thus:
5. W, S, or / indicate respectively that the hole was washed, sampled, or driven ahead of casing
6. Location and designation of "dry" samples taken in S&H sampler #12.90s indicated thus
7. Location and designation of "dry" samples taken in O.D. [illegible] seamless tubing indicated thus
8. Location and designation of "dry" samples taken in 3½" O.D. 16 ga. seamless tubing indicated thus
9. Location and designation of wash samples indicated thus:
10. Unsuccessful attempts to secure dry samples indicated thus
11. Number of blows of 275# hammer falling [illegible] required to drive sampling spoon or seamless tubing one foot indicated thus:
12. Sampling spoon or seamless tubing driven by static load not exceeding ½ ton indicated thus
13. Sampling spoon or seamless tubing driven by static weight of drill rods and 275# hammer indicated thus:
14. Where no resistance is specified sampling spoon or seamless tubing was driven by the static weight of drill rods
15. Natural water contents given as percent of dry weight, are indicated thus:
16. Bottom of boring indicated thus
17. Refusal of drill rods or casing indicated thus.
18. Recovery of rock core by size E diamond bit indicated thus:

The soil stratification illustrated on this drawing has been developed by interpretation of, and interpolation between, the various soil borings. It is, therefore, speculative, and no warranty is implied with respect to the continuity of soil layers, or to the elevations of the soil boundaries except at the actual boring locations. Depths and thicknesses at the latter are subject to the inaccuracies inherent in the drilling methods. Factual data obtained in making the borings appears on this sheet. The descriptions of the various soil layers are based upon the driller's field classification and upon the engineer's inspection of samples and interpretation of the driller's record.

SOILS ENGINEER - H. GRAY	
TRACE - JOSE	BRIDGE - 2047

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES

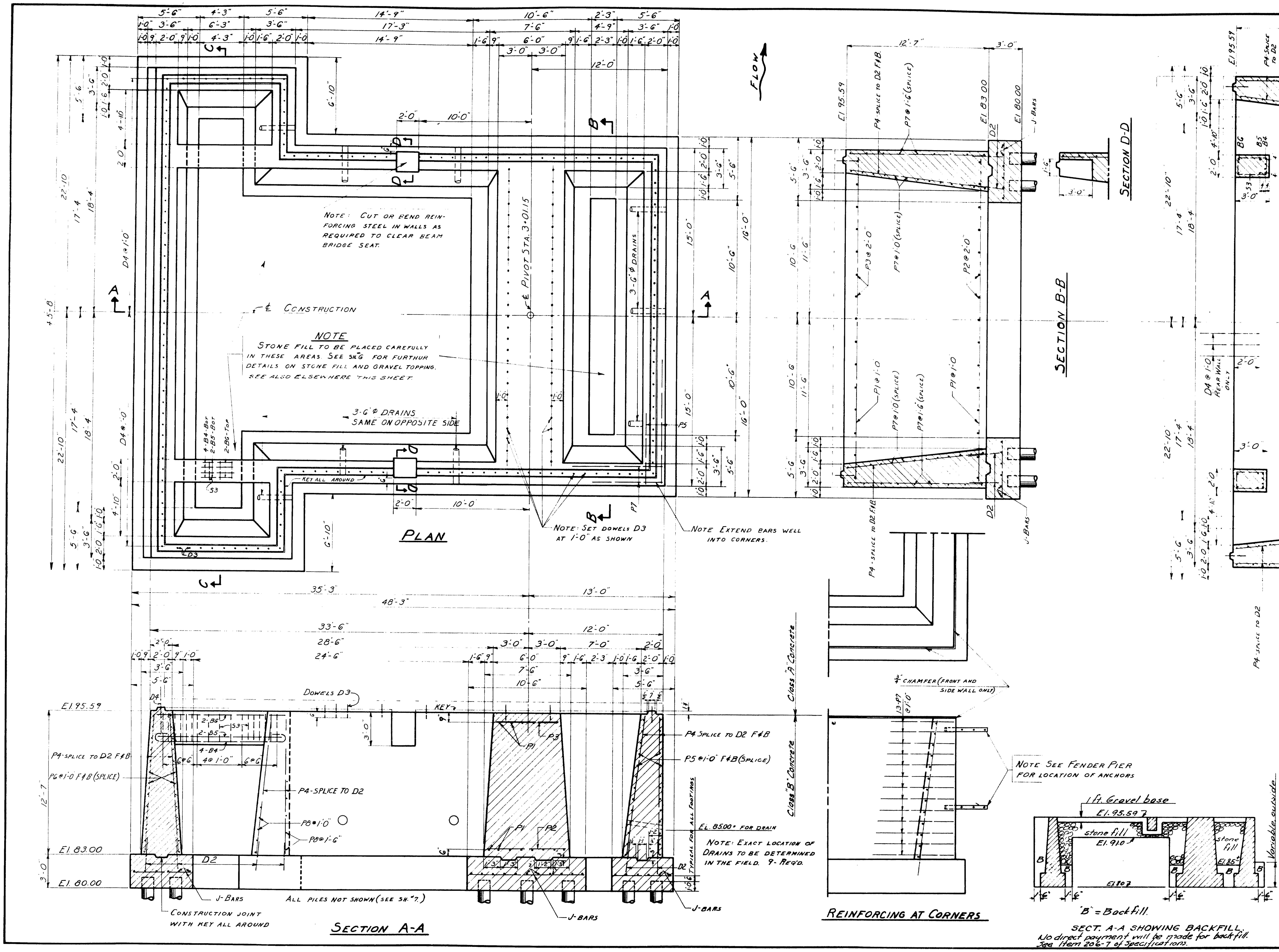
CUMBERLAND COUNTY

PLAN, PROFILE & BORING LOG

SHEET 4 OF 15 AUGUSTA, MAINE JAN. 1953

59-129

0 1 2 3 4 5 INCHES



DESIGN	HAMILTON
TRACE	R.L.V.
CHECK	

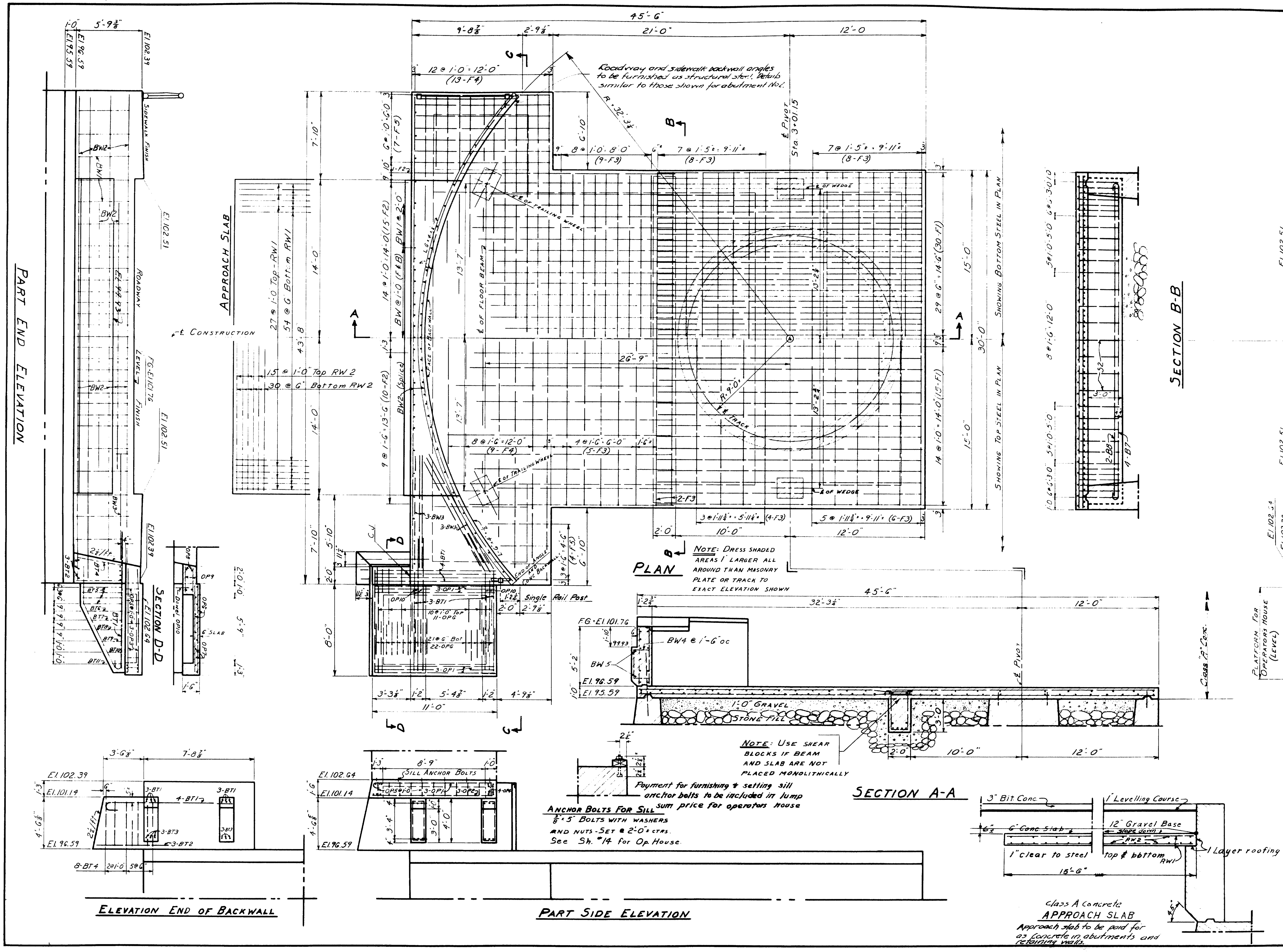
BRIDGE

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY
ABUT. NO.1

SHEET 5 OF 15 AUGUSTA, MAINE JAN. 1953

59-130



DESIGN HAMILTON
TRACE R.L.V.
CHECK

BRIDGE

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

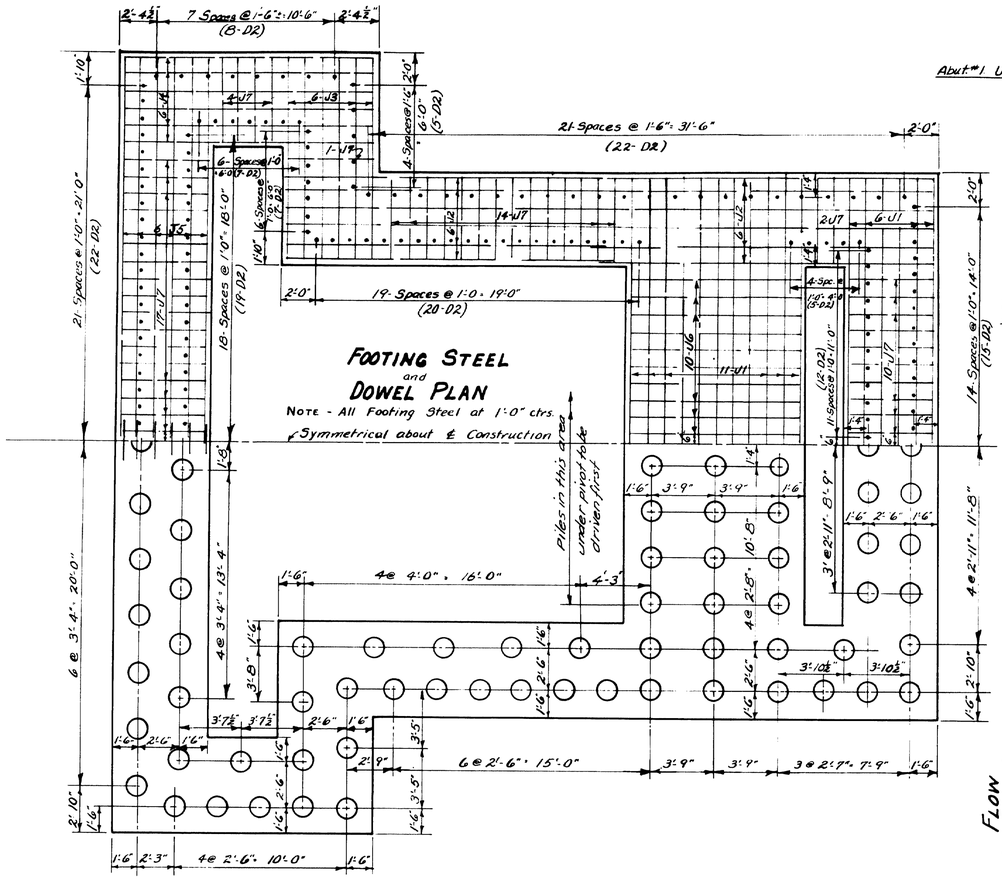
NAPLES

CUMBERLAND COUNTY

ABUT. NO.1

SHEET 6 OF 15 AUGUSTA, MAINE JAN. 1953

59-131

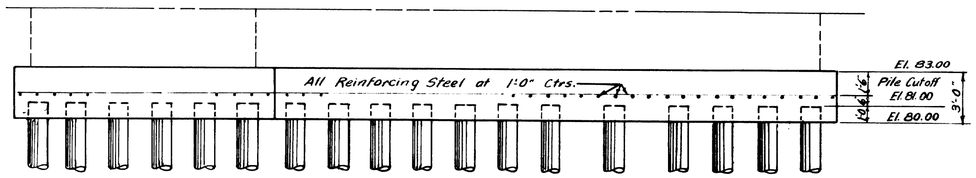


FOOTING STEEL and DOWEL PLAN

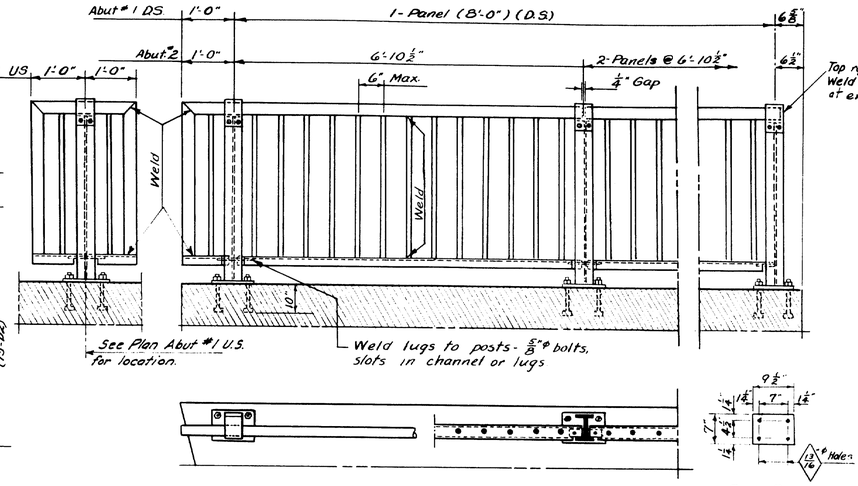
NOTE - All Footing Steel at 1'-0" ctrs.
℄ Symmetrical about ℄ Construction

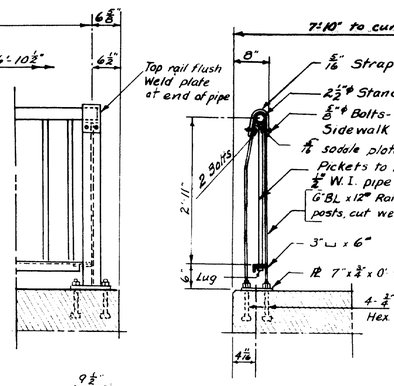
PILE PLAN

127- Wooden, untreated Piles req'd
Estimated Length - Variable, Probable Maximum = 40'±
Pile Load - 18 Tons.



PART SIDE ELEVATION





BASE PLATE
7 x ¾ x 0'-9½"

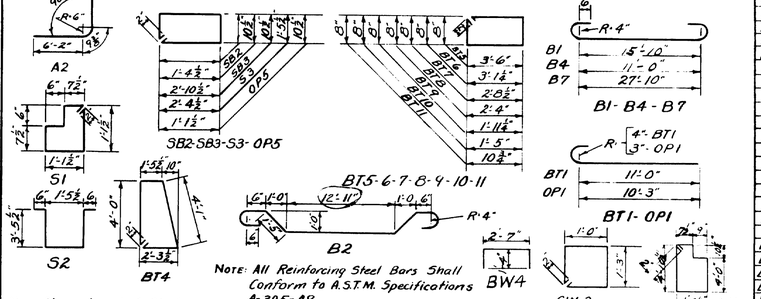
RAIL DETAILS

Pickets to be 1½" Extra Strong W.I. Pipes.
Complete Rail details to be furnished by Supplier for approval before fabrication is started. Top rail bars and pickets to be Wrought Iron. Wrought Iron Rail to include top and bottom rail bars, pickets, top post straps, and all ⅝"ø Bolts. Rail posts, ⅜" saddle plates, lugs, base plates and machine bolts to be Structural Steel.

Concrete in existing abutment to be entirely removed (55 C.Y.)
Existing piles that interfere with new forms to be cut off at bottom of footing
The new pile spacing may be varied as necessary to be clear of the old piles.

STEEL SCHEDULE

Bent Bars



Note: Dimensions to ℄ Steel.

Note: All Reinforcing Steel Bars Shall Conform to A.S.T.M. Specifications A-305-49

Mark	Size	No.	Length	Location
A2	#5	36	9'-5"	Abut #2 - Slab and Backwall
A11	#4	27	12'-10"	" "
SB2	#4	73	4'-10"	" " Saddle Beam
SB3	#5	4	7'-10"	" " " (Ends)
53	#4	34	8'-0"	Abut #1 (Strut)
0P5	#3	19	5'-4"	" " (Operators Platform)
S1	#3	34	4'-10"	Abut #2 (Sidewalk Beams)
S2	#4	31	9'-4½"	Abut #1 (Cross Beam)
BT4	#4	8	12'-2"	" " (End Brackets)
BT5		8	8'-8"	" " (Side Brackets)
BT6		2	7'-10½"	" " " "
BT7		2	7'-1"	" " " "
BT8		2	6'-4"	" " " "
BT9		2	5'-6½"	" " " "
BT10		2	4'-6"	" " " "
BT11		2	3'-5½"	" " " "
B2	#9	2	13'-10"	Abut #2 (Sidewalk Beams)
B1	#9	4	15'-1"	" " " "
B4	#9	8	14'-1"	Abut #1 (Strut)
B7	#9	4	30'-11"	" " (Cross Beam)
BT1	#9	10	12'-6"	" " (Bracket)
0P1	#6	6	11'-6"	" " (Operators Platform)
BW4	#4	19	3'-3"	Abut #2 (Backwall)
CW3	#4	26	4'-10"	Curbs (Swing Span)

Straight Bars

Mark	Size	No.	Length	Location
A1	#4	42	19'-0"	Abut #2 (Slab)
A3	#4	21	6'-8"	" "
A4	#4	7	8'-0"	" "
A5	#11	4	30'-0"	" " (Backwall)
A6	#4	6	30'-0"	" " (Backwall)
A7	#9	12	13'-0	" " "
A8	#4	72	4'-0"	" " "
A9	#4	24	5'-6"	" " "
A10	#4	12	7'-6"	" " "
B3	#4	8	16'-8"	" " (Sdwlk Bms & Curbs)
SW1	#4	102	6'-8"	" " (Sidewalk Slabs)
SW2	#4	16	16'-9"	" " " "
SW3	#4	6	4'-8"	" " " Diaphs
S91	#9	20	15'-0"	" " (Saddle Beam)
D1	#6	16	1'-6"	" " (Sdwlk Bms & Curbs)
RW1	#4	166	15'-3"	" " #2 (Roadway Slab)
RW2	#4	94	27'-10"	" " #2 " "
J1	#6	34	31'-6"	Abut #1 (Footing)
J2		24	19'-6"	" " "
J3		12	12'-0"	" " "
J4		12	14'-9"	" " "
J5		12	23'-0"	" " "
J6		20	10'-0"	" " "
J7		96	5'-0"	" " "
D2	#4	285	2'-6"	" " "

Straight Bars (Cont)

Mark	Size	No.	Length	Location
P1	#6	14	29'-0"	Abut #1 (Pivot Support)
P2	#4	15	7'-0"	" " "
P3		15	5'-3"	" " "
P4		285	12'-3"	" " (Walls)
P5		52	16'-0"	" " "
P6		52	22'-6"	" " "
P7		88	18'-6	" " "
P8		44	8'-6"	" " "
P9		44	12'-0"	" " "
B5	#9	4	11'-0"	" " (Strut)
B6	#4	4	11'-0"	" " "
D3	#6	175	1'-0"	" " (Front & Side Walls)
D4	#6	43	5'-0"	" " (Rear wall)
B8	#9	2	28'-6"	" " (Cross Beam)
F1	#6	90	23'-6"	" " (Slab)
F2	#6	52	22'-0"	" " "
F3	#6	42	29'-6"	" " "
F4	#6	44	23'-0	" " "
F5	#6	22	12'-0"	" " "
BW1	#6	62	5'-0"	" " (Backwall)
BW2	#4	18	24'-0"	" " "
BW3	#9	6	12'-0"	" " "
BT2	#6	3	6'-0"	" " (Brackets)
BT3	#6	6	9'-6"	" " "
0P2	#6	6	10'-6"	" " (Operators Platform)
0P3	#6	6	9'-6"	" " " "
0P4	#6	4	7'-6"	" " " "
0P6	#4	33	7'-6"	" " " "
0P7	#4	8	10'-6"	" " " "
0P8	#4	4	3'-0"	" " " "
0P9	#4	3	2'-6"	" " " "
0P10	#6	4	1'-6"	" " " "
CW1	#5	35	30'-6"	Floor (swing span)
CW2	#4	34	18'-0"	" " "
BW5	#4	2	27'-6"	Abut #2 (Backwall)

DESIGN HAMILTON
TRACE SIROIS
CHECK

BRIDGE

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES

CUMBERLAND COUNTY

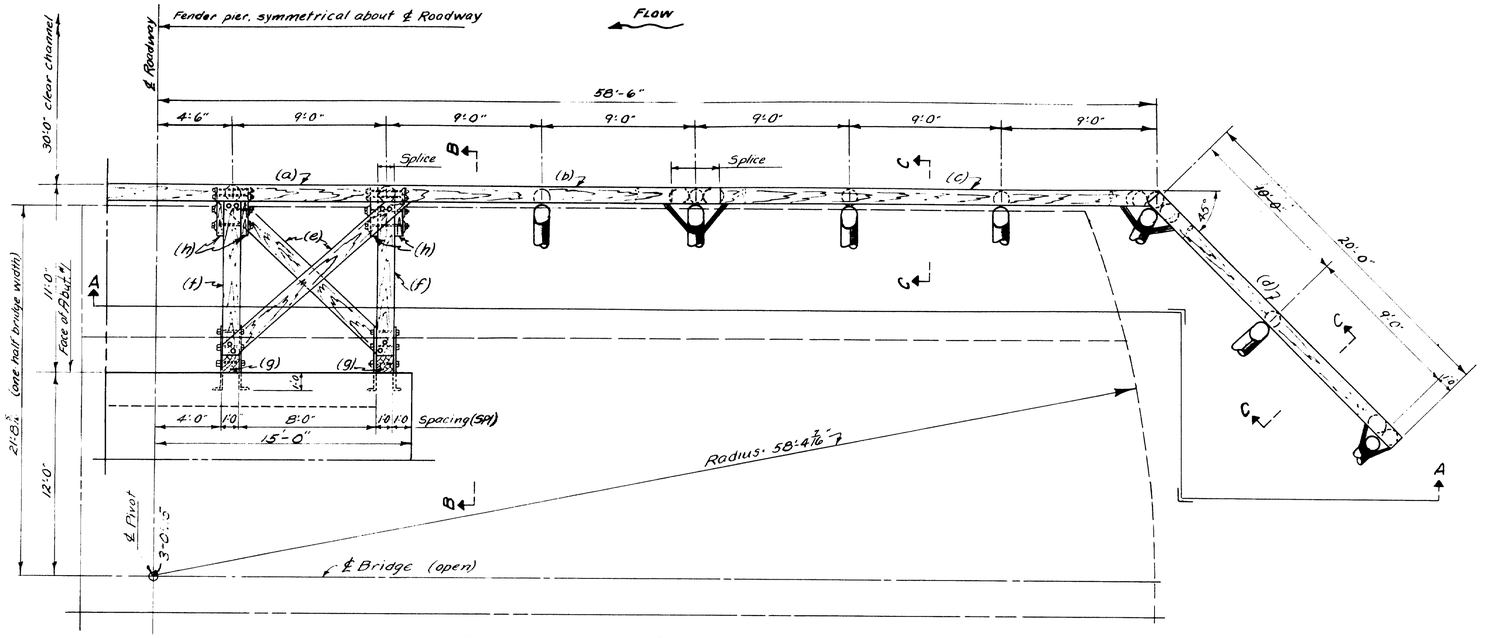
ABUT. No 1, DETAILS
STEEL & RAIL DETAILS

SHEET 7 OF 15 AUGUSTA, MAINE JAN. 1953

Revised-Steel Schedule Nov. 5, 1953

59-132

0 1 2 3 4 5 INCHES



PLAN- HALF OF FENDER

TIMBER SCHEDULE

Mark	No	Size	Dress	Length	Location
a	1	12 x 12	——	30'-0"	Cap
b	2	"	——	20'-0"	"
c	2	"	——	30'-0"	"
d	2	"	——	20'-0"	"
e	8	6 x 12	——	16'-0"	Braces
f	8	12 x 12	——	10'-0"	Struts
g	4	12 x 12	——	14'-0"	Verticals
h	16	6 x 12	——	3'-0"	Side plates

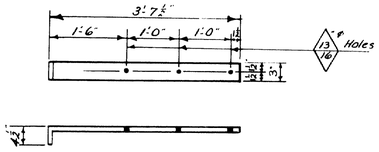
All Timber to be Creosoted.

HARDWARE SCHEDULE

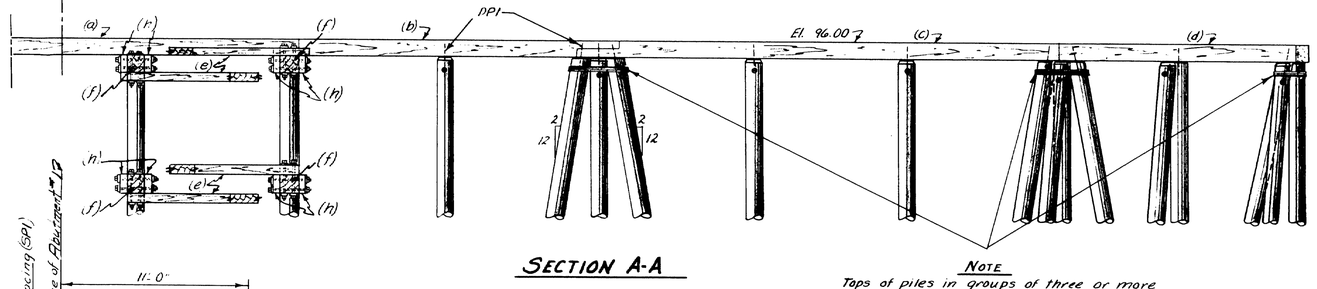
Mark	No	Size	Type	Washers & Nuts	Location
B1	32	3/4" x 2'-4"	Mach	2-0.G 1-nut	Side plates (h)
B2	24	3/4" x 1'-4"	"	2 cut 1 nut	" " (SP1)
B3	32	3/4" x 1'-9"	"	2 O.G - 1 nut	Braces (e)
B4	14	3/4" x 2'-6"	Rod 6" Thd 2 ends	2 O.G - 2 nuts	Piles
DP1	28	3/4" x 2'-0"	Drift Pin	——	Caps to piles
SP1	16	1 x 3 1/2 - 4'-0"			See Details
Cable and cable clips					

All Hardware Except Drift Pins to be Galvanized

42- Treated Piles Required
Est. Length - 30 Feet.
Piles to be Driven about 15 Feet into stream bed.

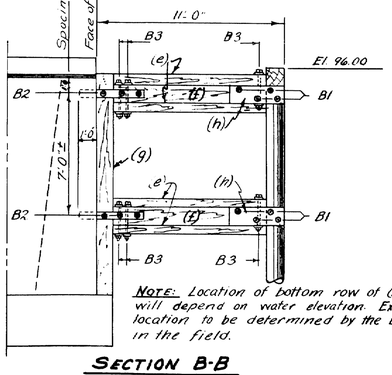


SP1
Bent plate 3" x 3/8" x 4'-0" (Galvan.)
16- Req'd



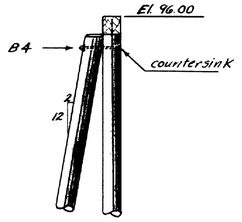
SECTION A-A

NOTE
Tops of piles in groups of three or more to be held in position by wrapping 3/4" galvanized cable four times around group, pulling tight and securing ends of cable with two cable clips. Cable and cable clips to be paid for as hardware.



NOTE: Location of bottom row of (SP1) will depend on water elevation. Exact location to be determined by the Engineer in the field.

SECTION B-B



SECTION C-C

DESIGN HAMILTON TRACE SIROIS CHECK ———	BRIDGE

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

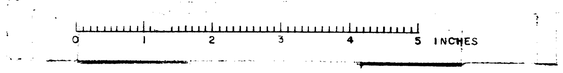
NAPLES

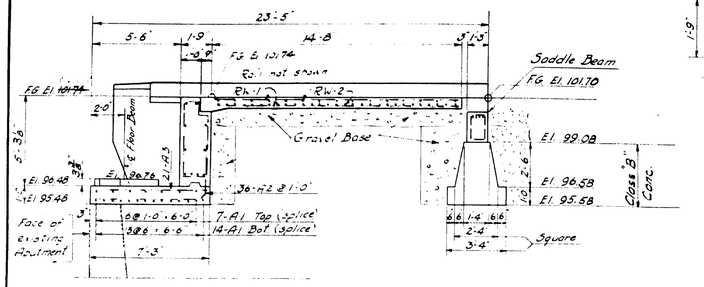
CUMBERLAND COUNTY

FENDER PIER

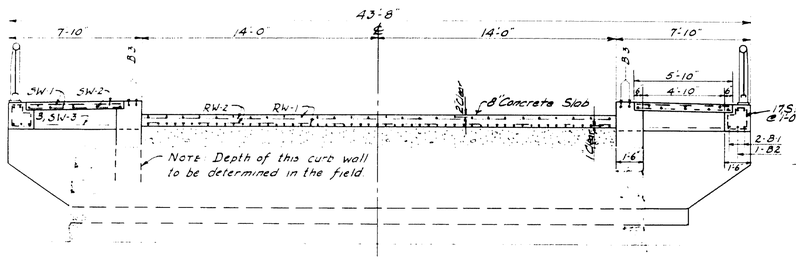
SHEET 8 OF 16 AUGUSTA, MAINE JAN. 1953

59-133

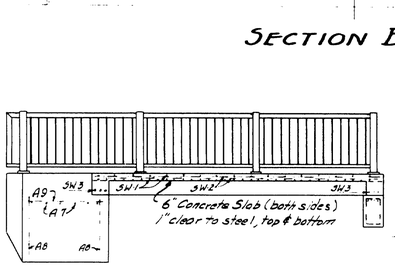




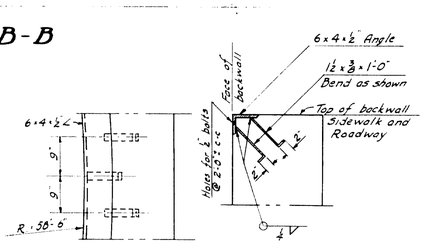
SECTION A-A



SECTION B-B

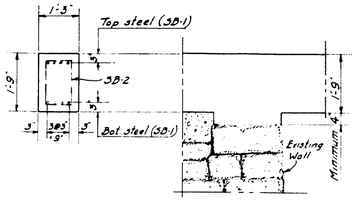


SECTION C-C

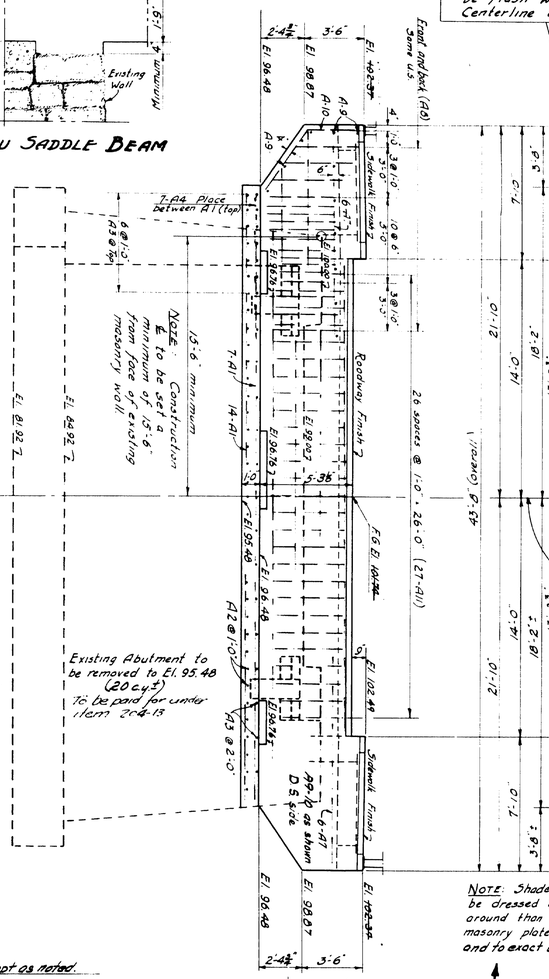


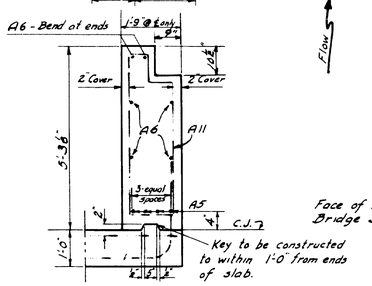
DETAIL of ANGLE for BACKWALL

All backwall angles to be furnished as structural steel



SECTION THRU SADDLE BEAM

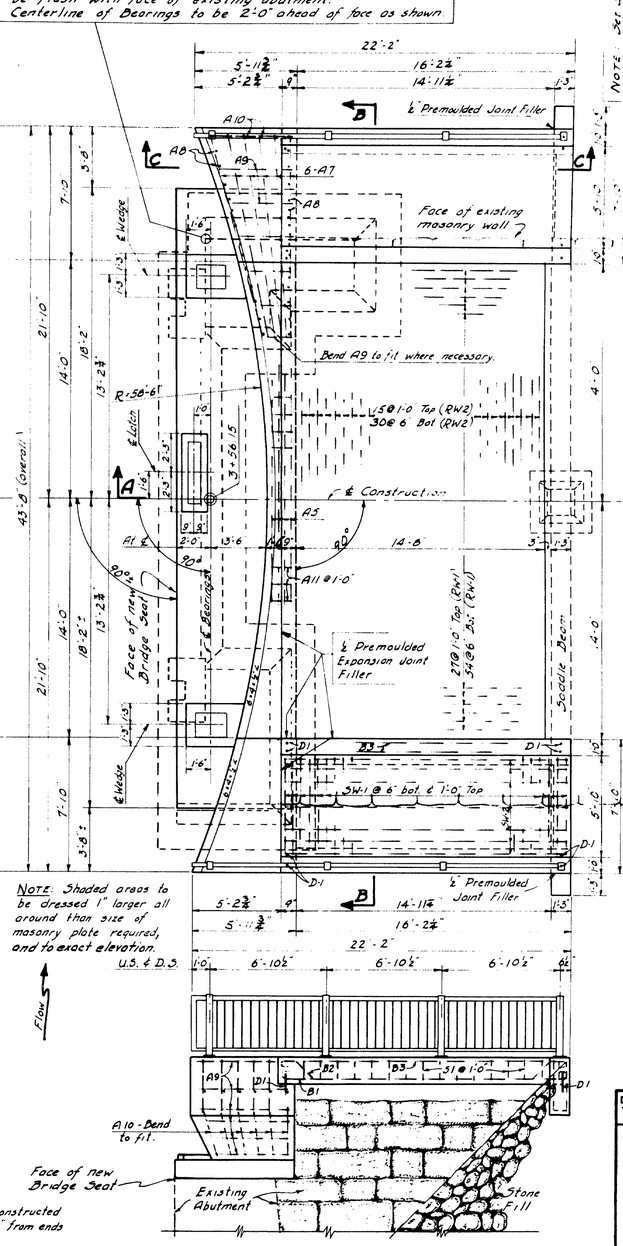




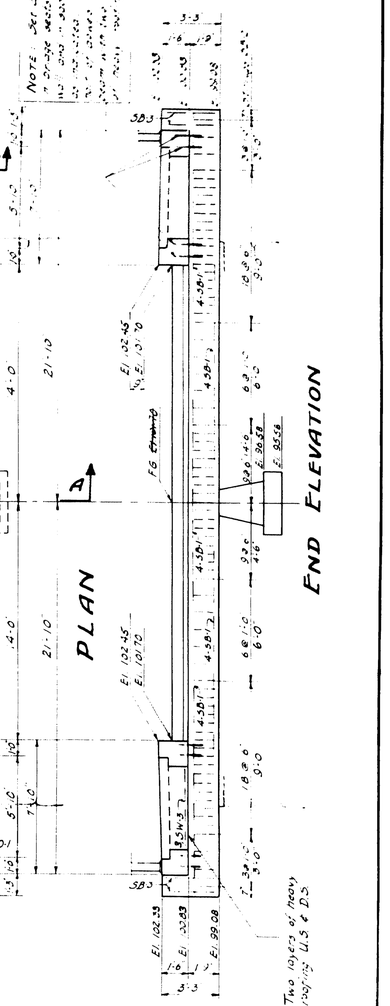
SECTION THRU BACKWALL AT ℄ ROADWAY

NOTE: Backwall to be built after swing span has been erected.

NOTE: This point on existing abutment is the B.M. El 100.00 and is Sta. 3+55.82 as calculated from Survey notes. Face of new bridge seat to be flush with face of existing abutment. Centerline of Bearings to be 2'-0" ahead of face as shown



PART U.S. ELEVATION



END ELEVATION

PLAN

DESIGN - HAMILTON
TRACE - FORTIER
CHECK -

BRIDGE - 2047

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES
CUMBERLAND COUNTY

ABUTMENT No. 2

SHEET 9 OF 16 AUGUSTA, MAINE JAN. 1953

59-134

0 1 2 3 4 5 INCHES

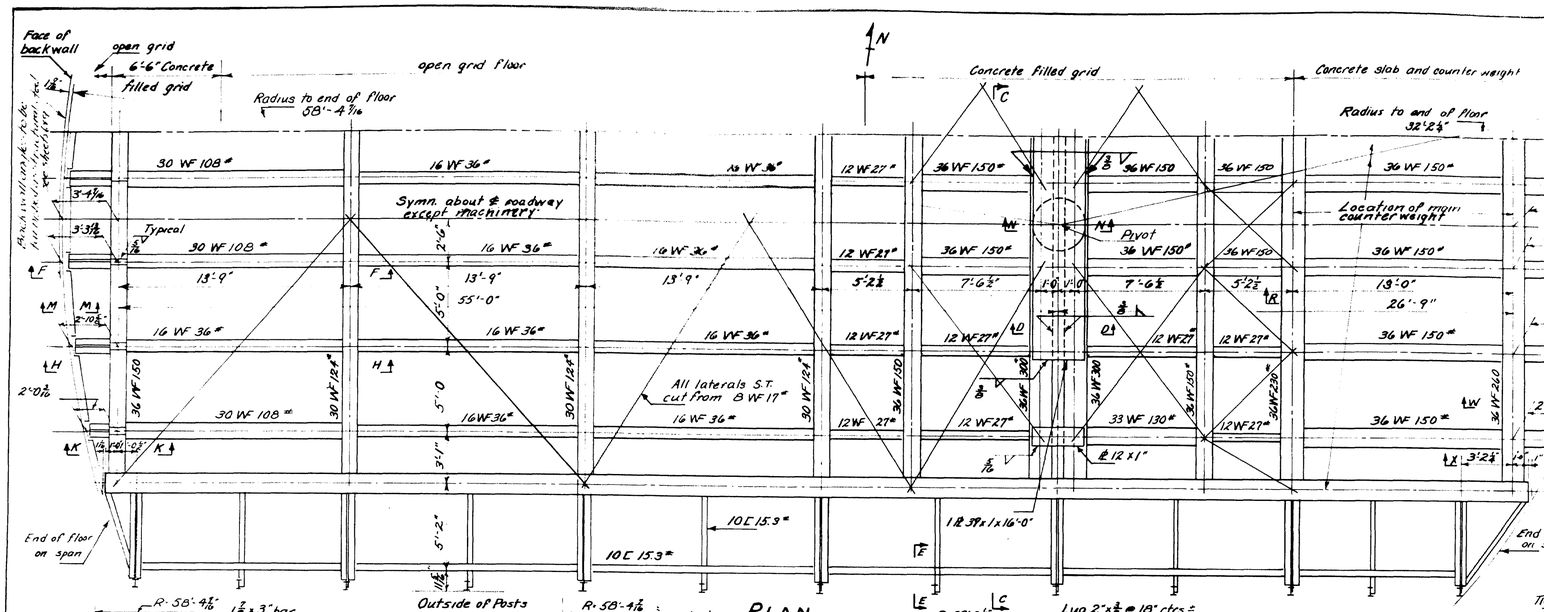
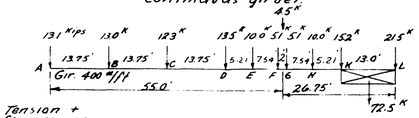


PLATE GIRDER
Stress Table

CASE I Dead Load: Bridge open or closed with no end reactions.
CASE II Dead Load: Bridge closed, with its ends lifted to cause positive end reactions equal to ½ times max. live load negative reactions without impact.
CASE III Live Load: Bridge closed, with one arm loaded and considered as a simple span, but with no dead load reactions.
CASE IV Live Load: Bridge closed and considered as a continuous girder.



Tension +
Compression –

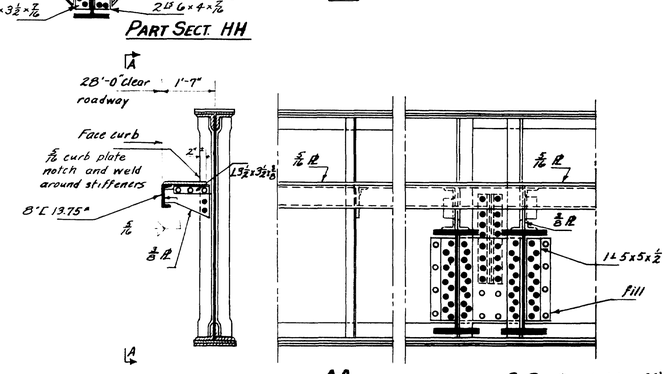
Point	CASE I	CASE II	CASE III	CASE IV	I+20%	I+III	II+IV	Design
A								
B	-222.2	- 72.6	+649.7	+ 566.9	-266.6	+427.5	+494.3	+494.3
C	-698.7	- 651.9	+839.3	- 45.1	-838.4	+140.6	- 679.0	- 838.4
D	-1919.8	-1349.7	+649.7	- 627.6	-1703.8	- 770.1	-1417.3	-1703.8
E	-1892.7	-1811.1	+939.0	- 193.9	-2271.2	-1553.7	-2005.0	-2271.2
F	-2388.3	-2296.5	+ 545	- 514.7	-2866.0	-2333.8	-2811.2	-2866.0
G	-2343.5	-2253.4	+ 43.8	- 521.9	-2812.2	-2299.7	-2775.3	-2812.2
H	-1572.0	-1502.9	+2785	- 365.3	-1886.4	-1292.5	-1868.2	-1886.4
K	- 788.6	- 743.1	+3391	- 260.4	- 946.3	- 449.5	- 983.5	- 983.5
L								

Moments in Kip feet.
Girder Loading H20-44
Max. shear 155 Kips
4 Ls 6 x 6 x 3/8
Web 78 x 7/16
2-C. PLs 14 x 1/2"
2-C. PLs 14 x 3/8"
78 1/2" b.b.Ls

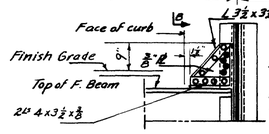
Loading Girder
Max Moment · 2271 K
Max. Shear · 152 K
36 WF 300#
2-C PL's 1"

SPECIFICATIONS
Loading H20-44 Rivets 7/8"ø unless noted
Maine State Highway Commission, Bridge Division.
Specifications for Steel Highway Bridges Nov 1945.

All posts to be 6 BL 12 lb. To shape post, cut web, bend and weld.



SECT CC

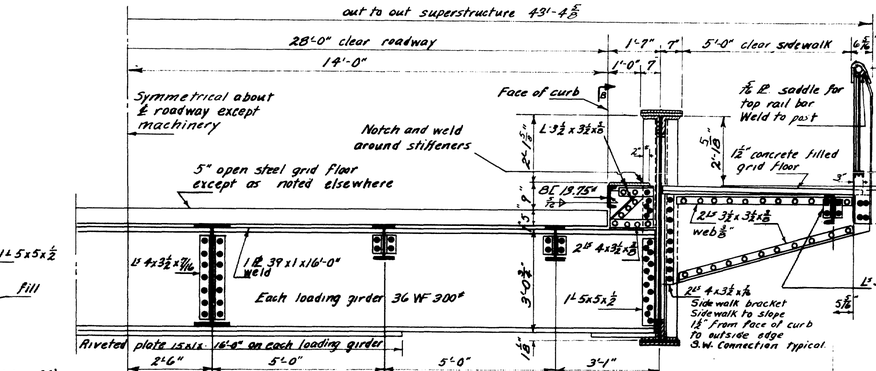


BRACKET
Type "B"
For location see elsewhere

INTERMEDIATE CURB SUPPORT

A-A
Curb support at int. stiffeners (typical)

B-B (bracket type "A")
Curb support and bracket at loading girders. For location of type "A" brackets see elsewhere.



RAIL DETAILS

INTERMEDIATE POST AND DIAPHRAGM SECT EE

Pickets to be ¾"ø Extra Strong WI pipe. Complete rail details to be furnished by Supplier for approval before fabrication is started. Top rail bar and pickets to be wrought iron. "Wrought Iron Rail" to include top and bottom rail bars, pickets, top post straps and 5/8"ø bolts.

Rail posts, 9/16" saddle plates, and lugs are to be "Structural Steel." The 7/8"ø bolts for fastening posts to brackets and diaphragms will be furnished as "Structural Steel."

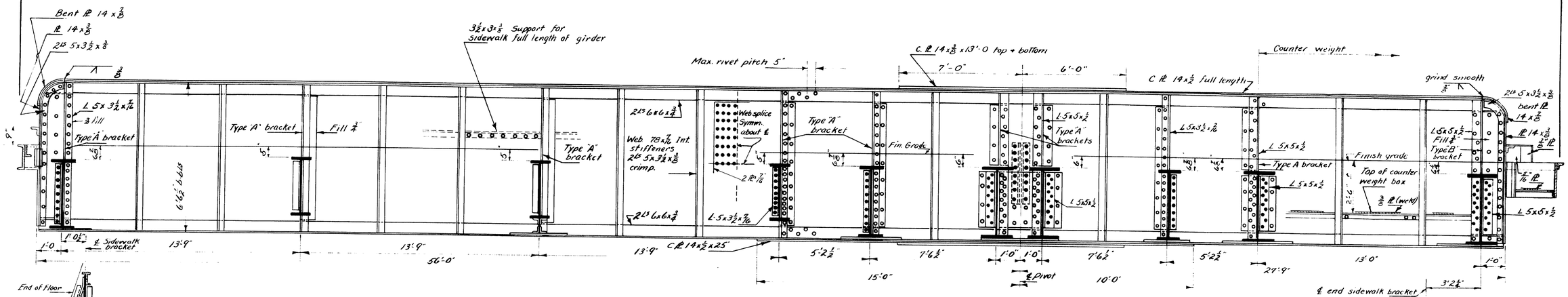
DESIGN - EVERETT
TRACE - ILLINOIS
CHECK
BRIDGE_ 2047

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

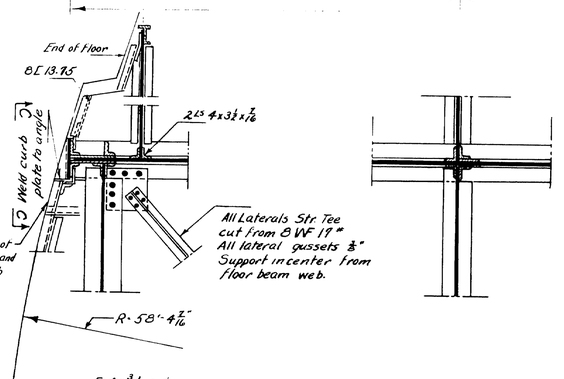
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY
SWING SPAN DETAILS

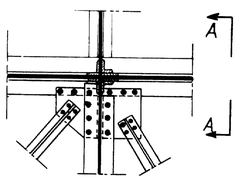
SHEET 10 OF 15 AUGUSTA, MAINE DEC. 1952

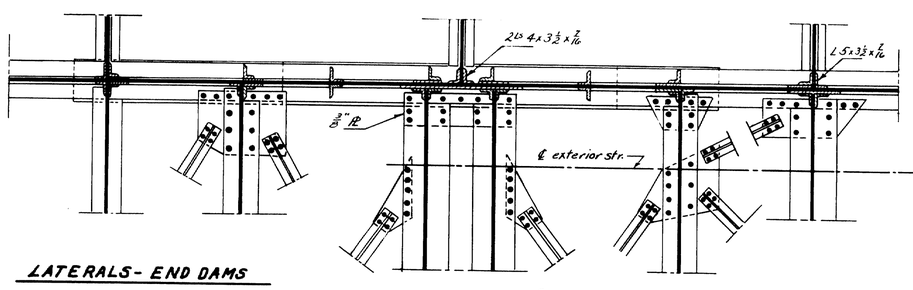
59-135

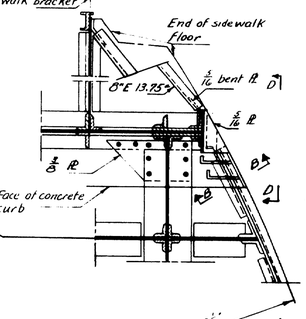


ELEV. NORTH GIRDER

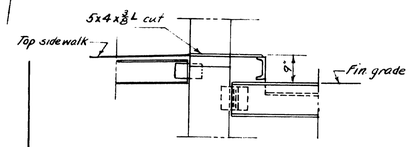




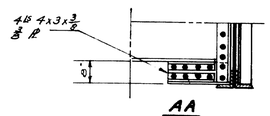




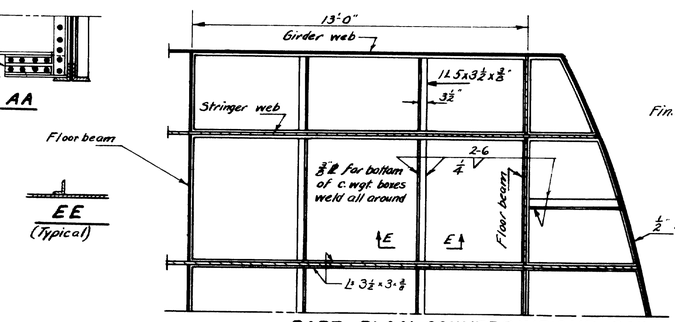
LATERALS - END DAMS



CC

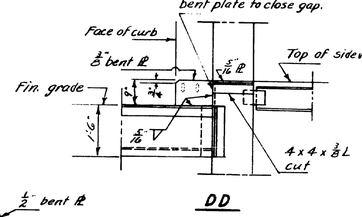


AA

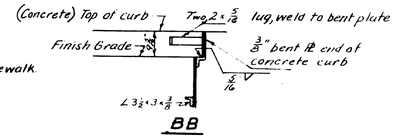


EE
(Typical)

PART PLAN COUNTERWEIGHT BOX
(Typical)



DD



BB

DESIGN - EVERETT TRACE - SIROIS CHECK Ltd	BRIDGE

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

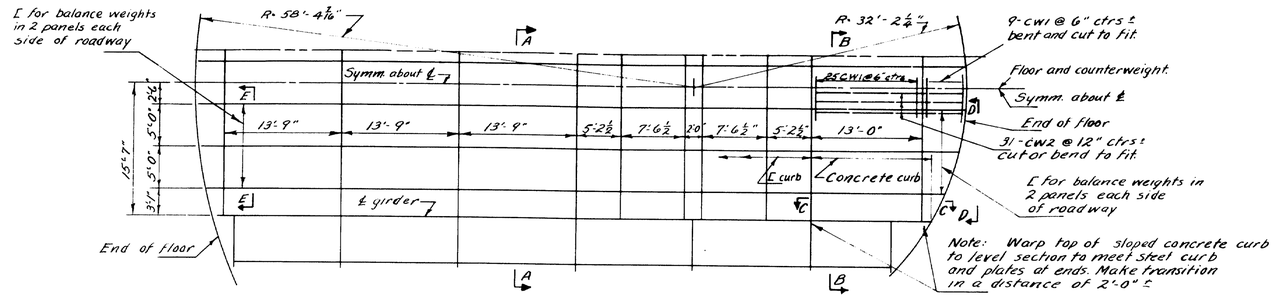
NAPLES

CUMBERLAND COUNTY

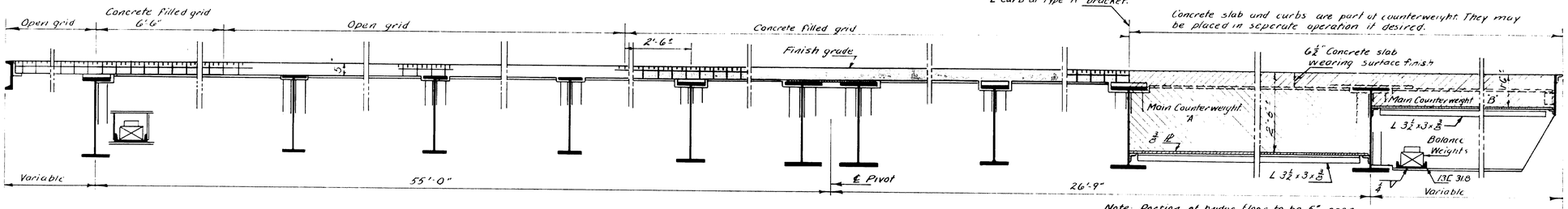
SWING SPAN DETAILS

SHEET 11 OF 15 AUGUSTA, MAINE DEC. 1952

59-136



HALF FLOOR PLAN



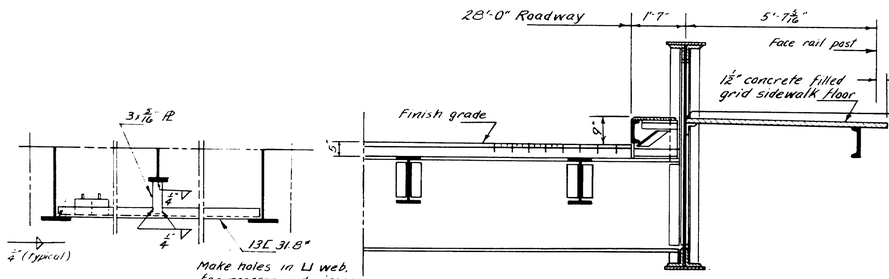
PART LONGITUDINAL SECT. ROADWAY FLOOR

Note: Portion of bridge floor to be 5" open grid, and concrete filled grid as indicated
The supplier shall furnish the Engineer with grid floor details before fabrication is started
Open grid floor shall be painted one shop coat red lead primer.
Filled portion under form strips, and outside face of curb trim material to be painted one shop coat red lead primer.
Specs. AASHO, M183

COUNTERWEIGHT NOTE:

Concrete counterweight is estimated as follows:
A - 150 #, B - 28 # for depths as indicated.
Exact weight and depths to be determined by the supplier from the shop details. Counterweight to be figured to balance the span. 30 Cast iron balance weights to be furnished for adjustment.
Counterweight concrete estimated at 144 lb/cu ft

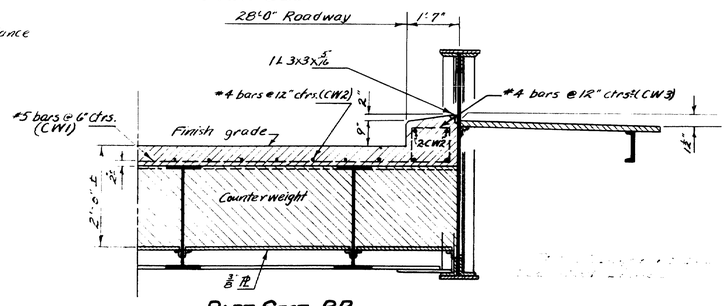
Main counterweight "A" below top of stringers to be Class "B" Concrete. Concrete filled grid sidewalk to be Class "V". All other concrete in swing span to be Class "A" Concrete. All concrete in sidewalk slab, grid floor & counterweights to be paid for under Item 701-40



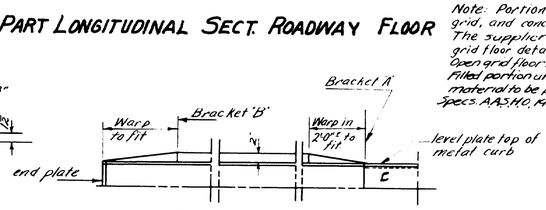
EE

Showing location of balance weights and support

PART SECT AA

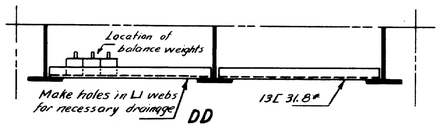


PART SECT. BB



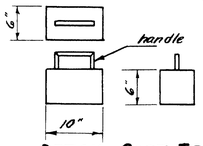
PART VIEW CC

Showing face of concrete curb



DD

Showing location of balance weights and support



DETAIL CAST IRON BALANCE WEIGHT

Weight 95 lbs 30 Required

DESIGN	EVERETT	
TRACE	SIROIS	BRIDGE
CHECK		

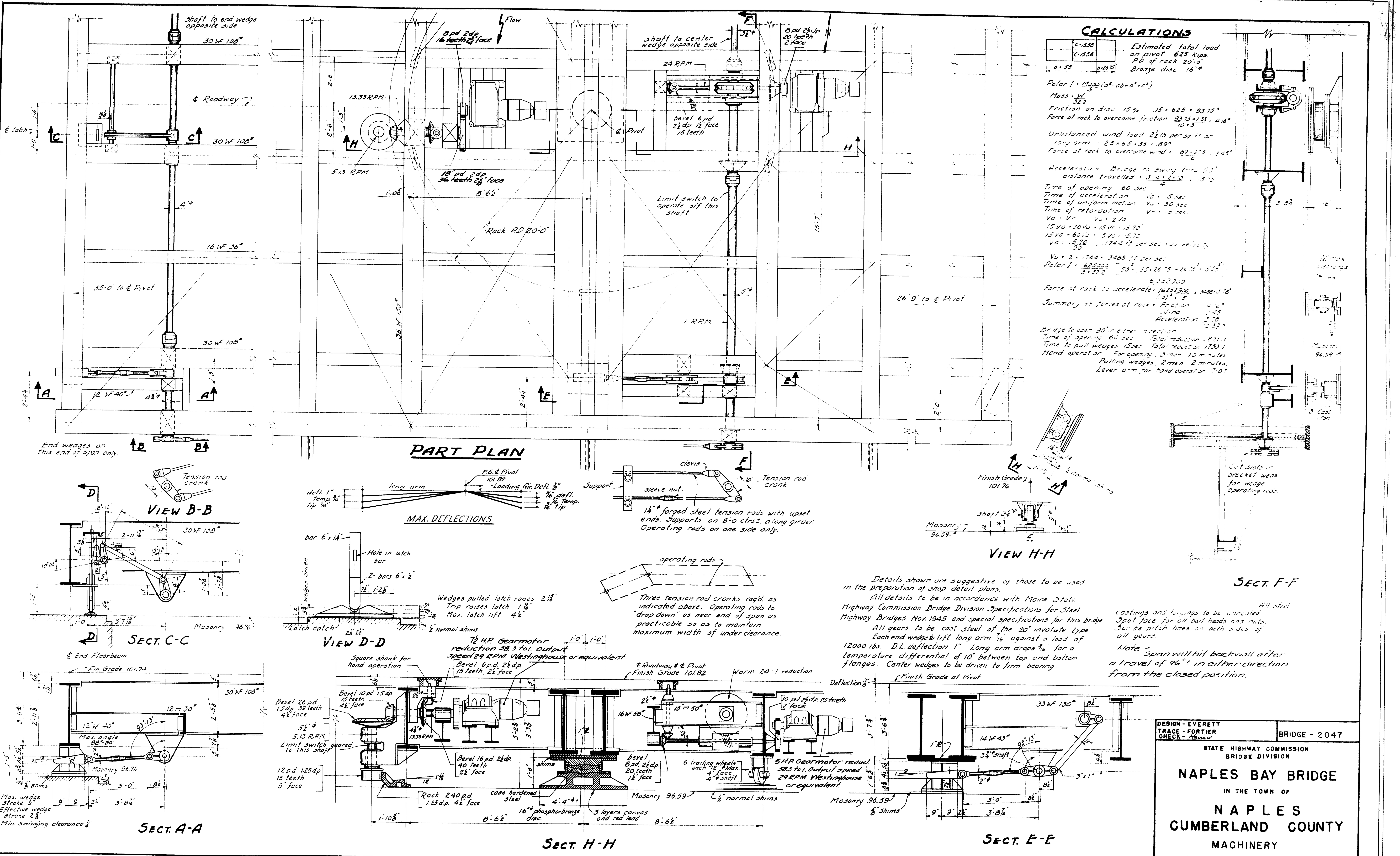
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY
FLOOR & COUNTERWEIGHTS

SHEET 12 OF 15 AUGUSTA, MAINE DEC 1962

59-137

0 1 2 3 4 5 INCHES



Details shown are suggestive of those to be used in the preparation of shop detail plans.

All details to be in accordance with Maine State Highway Commission Bridge Division Specifications for Steel Highway Bridges Nov. 1945 and special specifications for this bridge.

All gears to be cast steel of the 20° involute type.

Each end wedge to lift long arm 1/16 against a load of 12000 lbs. D.L. deflection 1". Long arm drops ⅜ for a temperature differential of 10° between top and bottom flanges. Center wedges to be driven to firm bearing.

All steel castings and forgings to be annealed. Spot face for all bolt heads and nuts. Scr be pitch lines on both sides of all gears.

Note: Span will hit backwall after a travel of 96°± in either direction from the closed position.

DESIGN - EVERETT TRACE - FORTIER CHECK - Hawes	BRIDGE - 2047

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

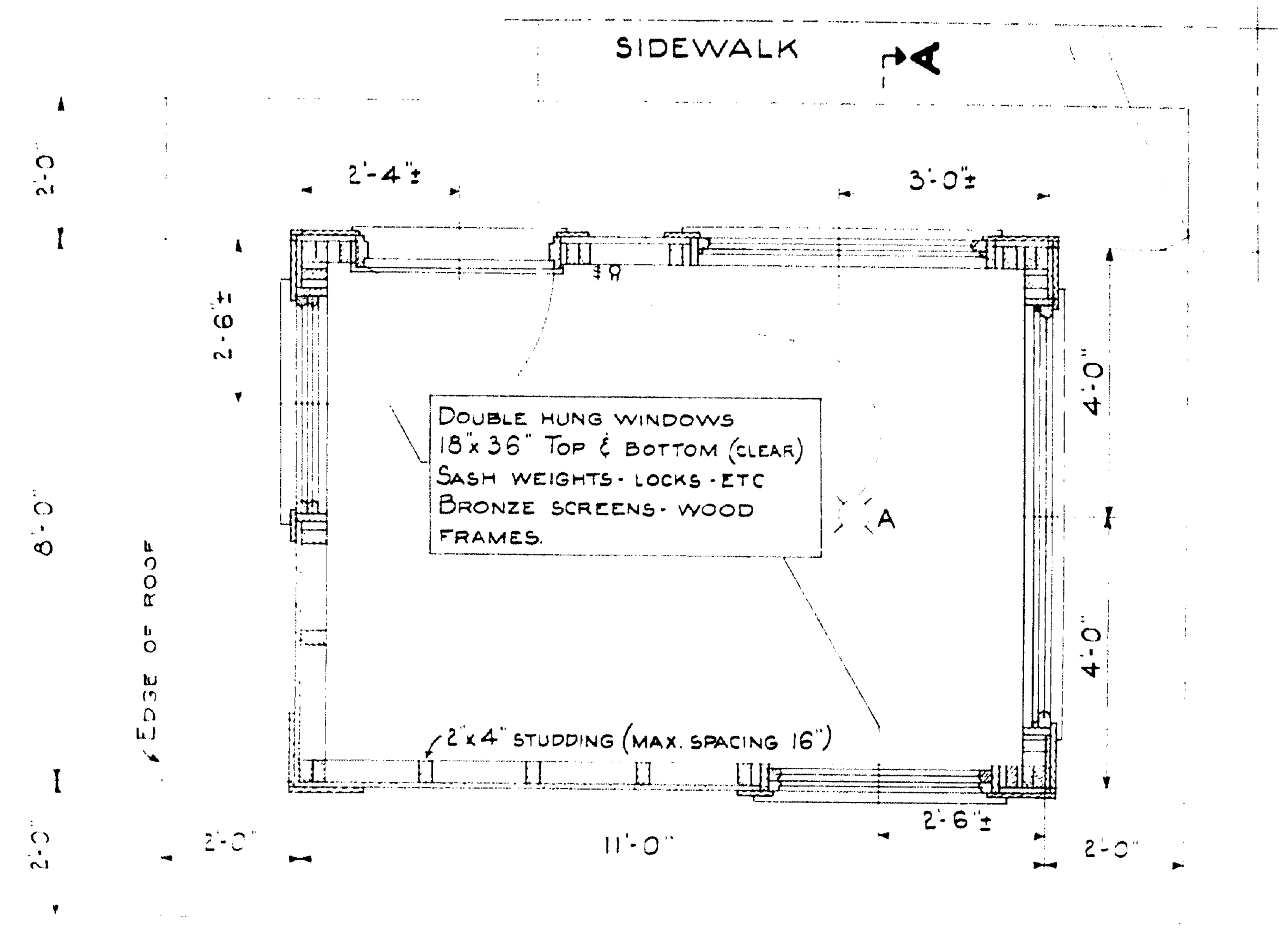
NAPLES
CUMBERLAND COUNTY

MACHINERY

SHEET 13 OF 15 AUGUSTA, MAINE JAN. 1953

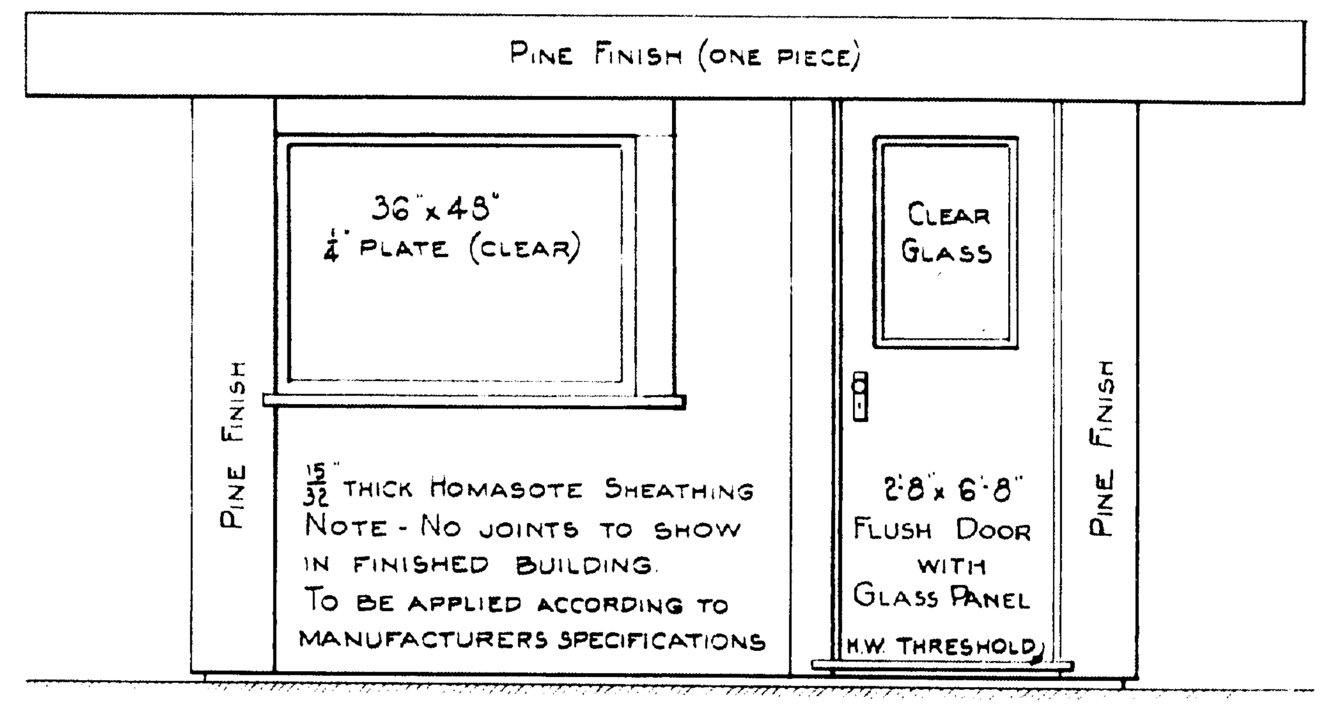
59-138

0 1 2 3 4 5 INCHES



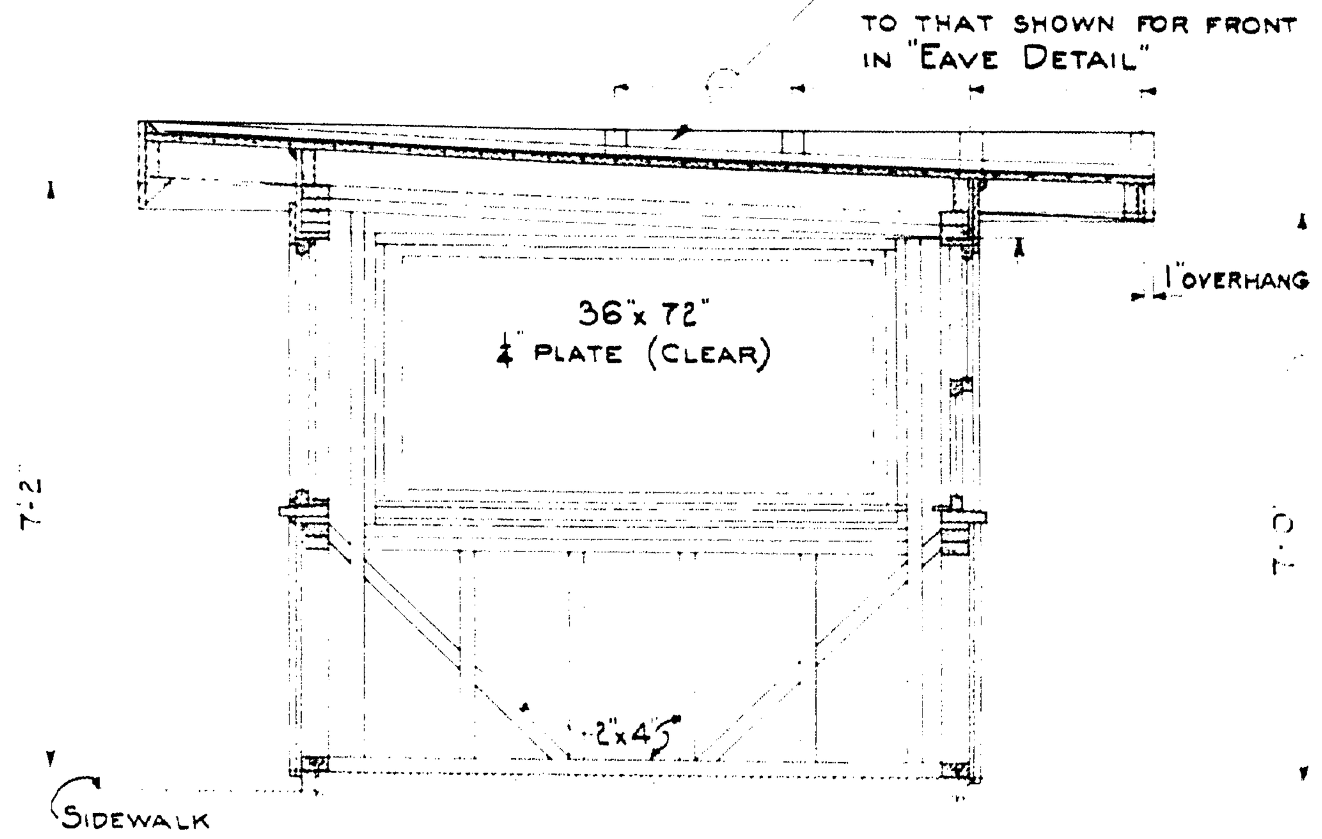
PLAN

NOTE:
A - Westinghouse #1218051 - 150 watt lamp
S - Wall switch
D - Double wall outlet



FRONT ELEVATION

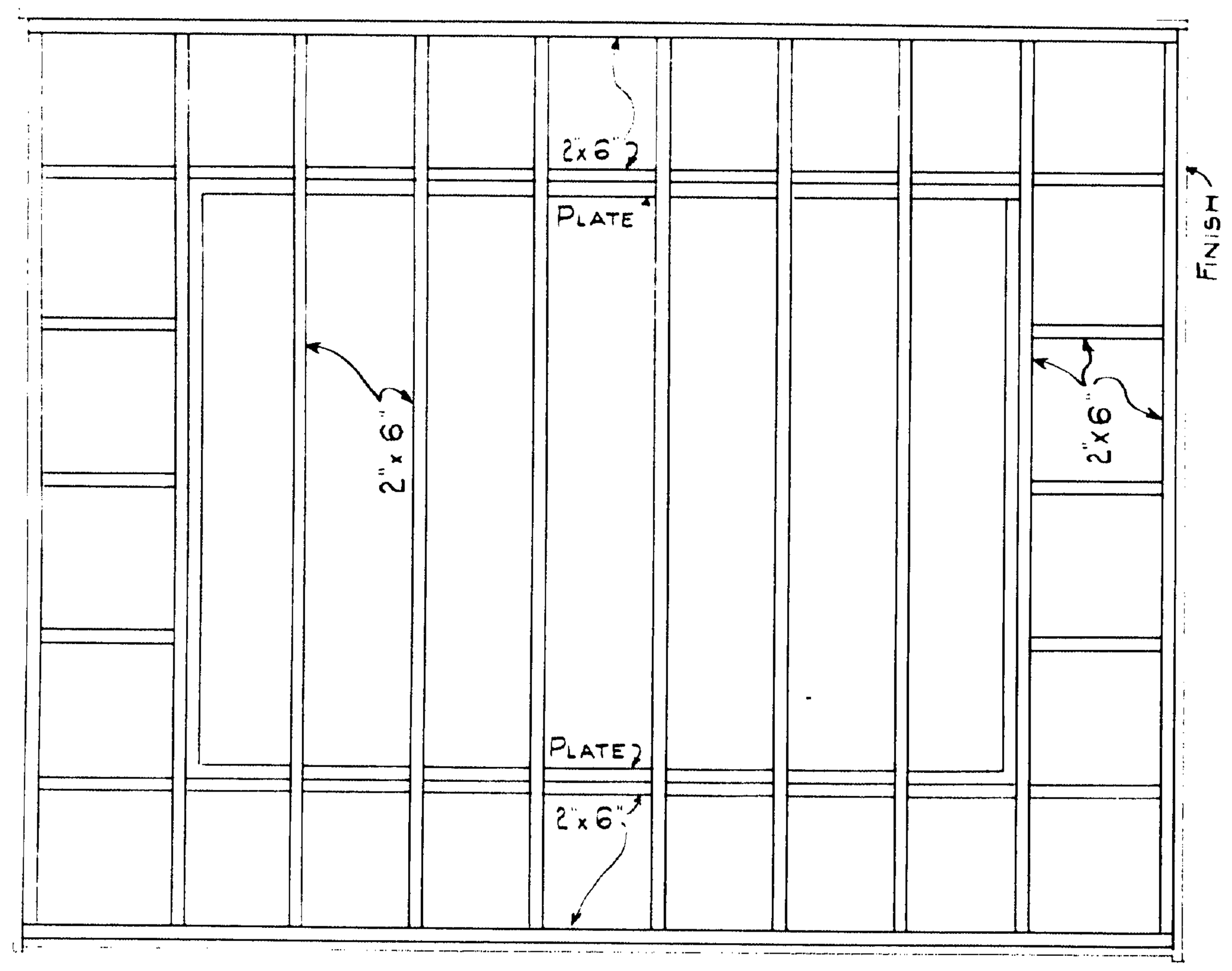
OTHER ELEVATIONS ARE SIMILAR



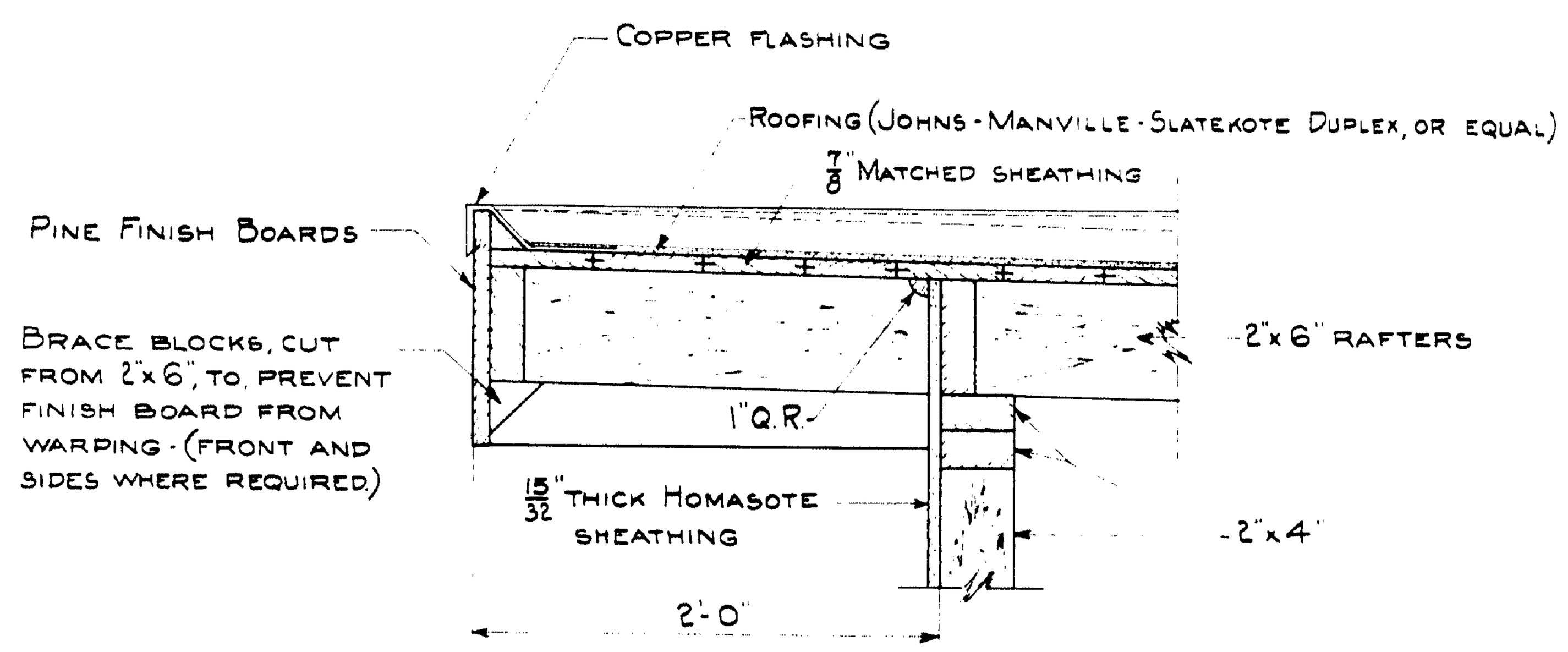
¾"x 3" wood straps at 2'-0" ± ctrs fastened to finish boards on inside face to keep from warping

NOTE: Bottom of rear plate to govern height to which windows shall be set.

SECTION A-A



FRAMING PLAN - ROOF



EAVE DETAIL (TYPICAL)

—GENERAL NOTES—

LUMBER — All lumber No. 1, Merchantable, D4S
HARDWARE — Brass or Bronze - All hardware for door and windows, including locks.
PAINTING — Seal coat only, exterior, lead and oil paint. Cut two parts paint to one part varnish size for Homasote.

DESIGN & TRACE - HAMILTON CHECK -	BRIDGE - 2047

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

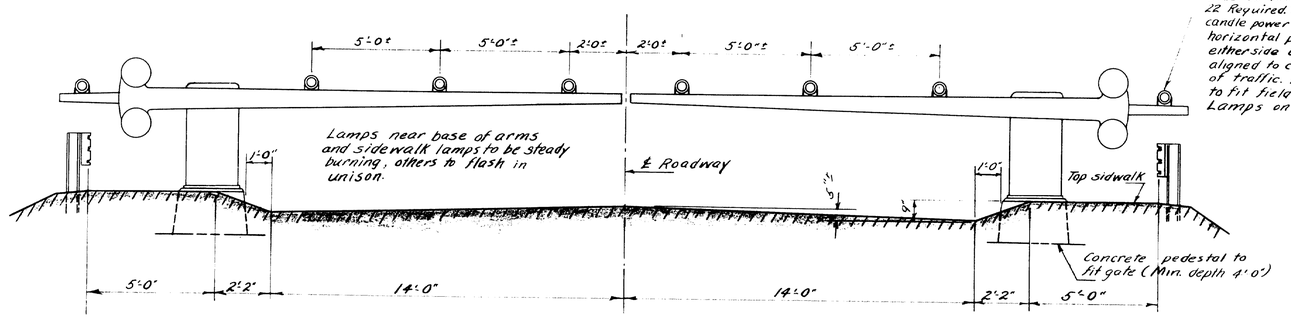
NAPLES
CUMBERLAND COUNTY

OPERATORS HOUSE

SHEET 14 OF 15 AUGUSTA, MAINE JAN. 1953

59-139

0 1 2 3 4 5 INCHES



GRS. Co. lamp No. 5659B (or equivalent) 22 Required. To have a clear beam candle power of not less than 20 in the horizontal plane at any angle up to 12½° on either side of the axis. Lamps shall be aligned to coincide with the direction of traffic. Dimensions may be varied to fit field conditions. Lamps on all gates.

TYPICAL GATE (2 Arms electrically operated)

Required: 2 gates as indicated above. (double arm)
2 gates with single roadway arm and no sidewalk arm.
All gates to operate thru 90°

Gates to be Norwood-Noonan Electric Crossing Gate or equivalent, to operate on 110 volt, 60 cycle, single phase power supply.

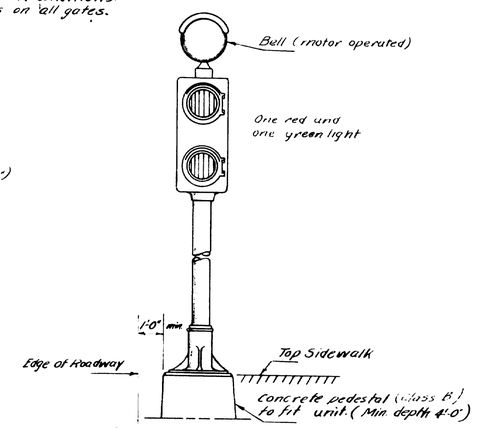
Gate motors to be furnished complete with built-in overload protection.

SEQUENCE OF OPERATION FOR TRAFFIC GATES AND WARNING SIGNALS

Green traffic signal lights to show at all times when span is closed.

Before opening span:

1. Green lights to go off, red lights to show, bells to ring, and single arm gates to lower. Bells to ring only while gates are being lowered or raised. Each single gate to be controlled separately from operators house, and be interlocked with double gates.
2. Double gates to be lowered. Both sets of double gates to be operated simultaneously from operators house. Double gates to be interlocked with wedge operating machinery.
3. After span is fully closed it should be possible to raise gates simultaneously, if desired.

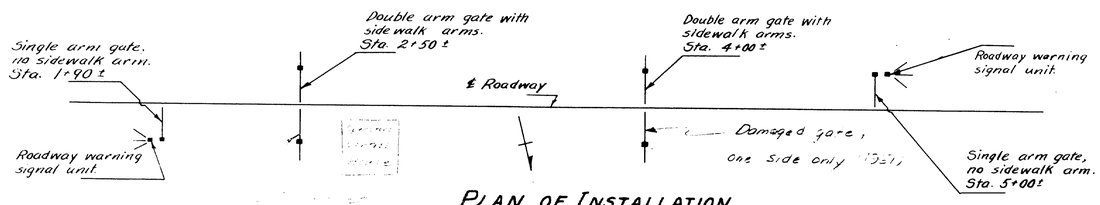


ROADWAY WARNING SIGNAL UNIT

(Typical) 2 Required

Signal unit to be Norwood-Noonan Signal light unit SL-50 or equivalent. To operate on 110 volt 60 cycle single phase power supply.

Note: Payment for complete installation of all concrete pedestals to be included in lump sum price for installing electrical equipment as bid by the General Contractor.



PLAN OF INSTALLATION

All underground wiring to be placed in conduit.

Note ~ Control wiring for the operation of gates signals etc. on the westerly approach to be carried overhead. It is contemplated that overhead wiring will be carried on existing utility poles.

DESIGN - EVERETT
TRACE - SIROIS
CHECK

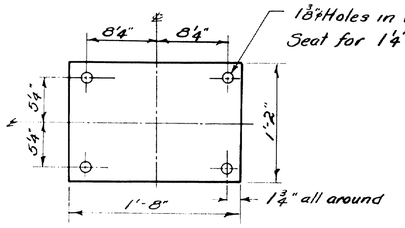
BRIDGE

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY
TRAFFIC CONTROL SYSTEM

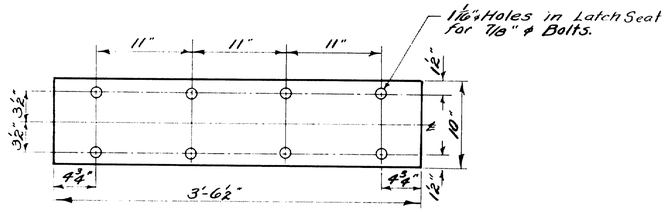
SHEET 15 OF 15 AUGUSTA, MAINE DEC. 1952

59-140



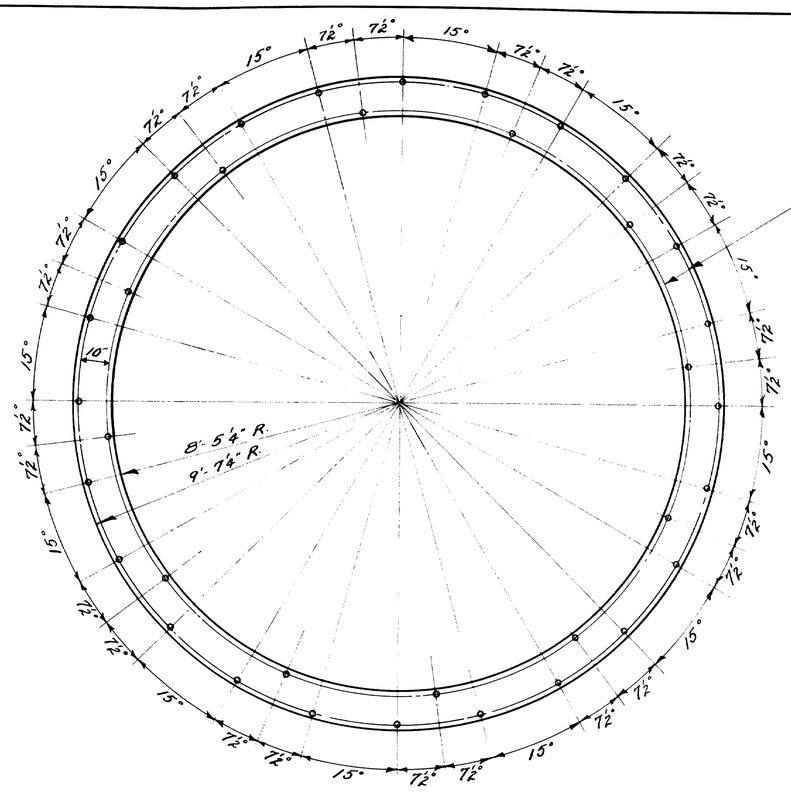
WEDGE

Abutment No. 2, 2 Required.



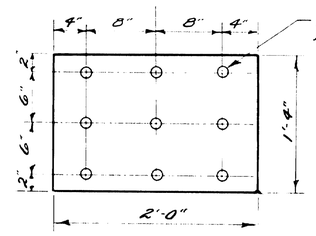
LATCH

Abutment No. 2, 1 Required.



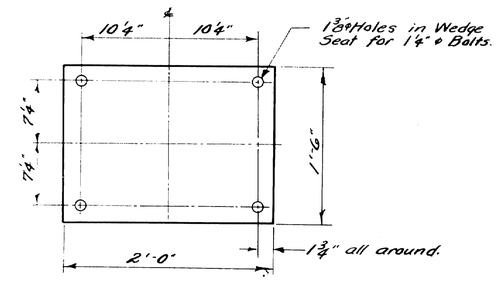
TRACK

Abutment No. 1, 1 Required



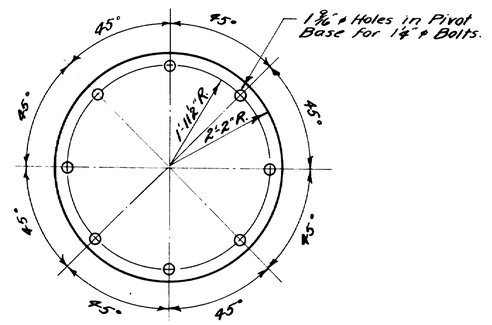
TRUCK PAD

Abutment No. 1, 2 Required.



CENTER WEDGE

Abutment No. 1, 2 Required.



PIVOT

Abutment No. 1, 1 Required.

NOTE:

The outline dimensions shown are the same as those for the metal bases.

DESIGN - HARRIS
DETAIL & TRACE - SIROIS
CHECK ZWO

BRIDGE

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

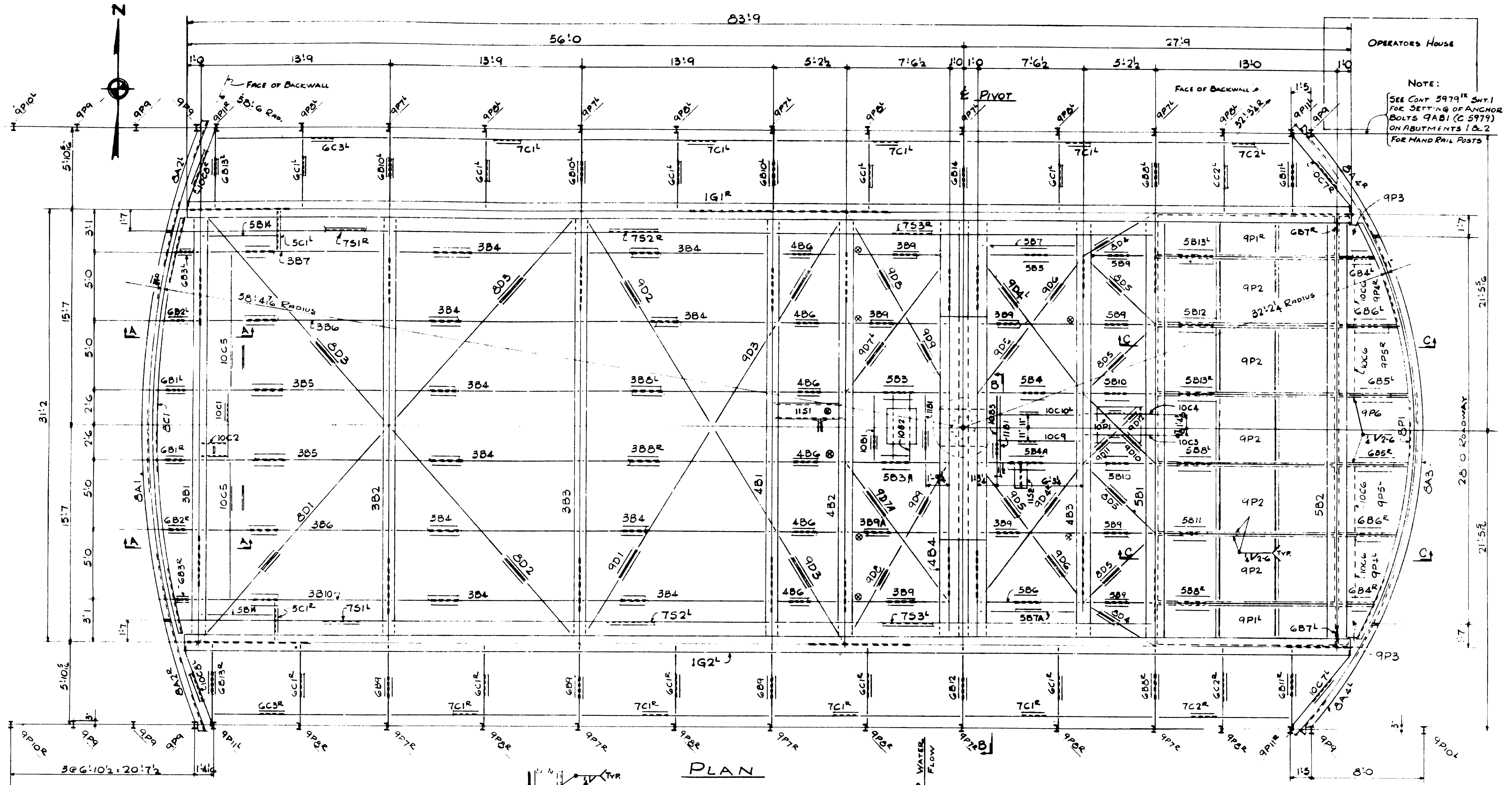
NAPLES

CUMBERLAND COUNTY

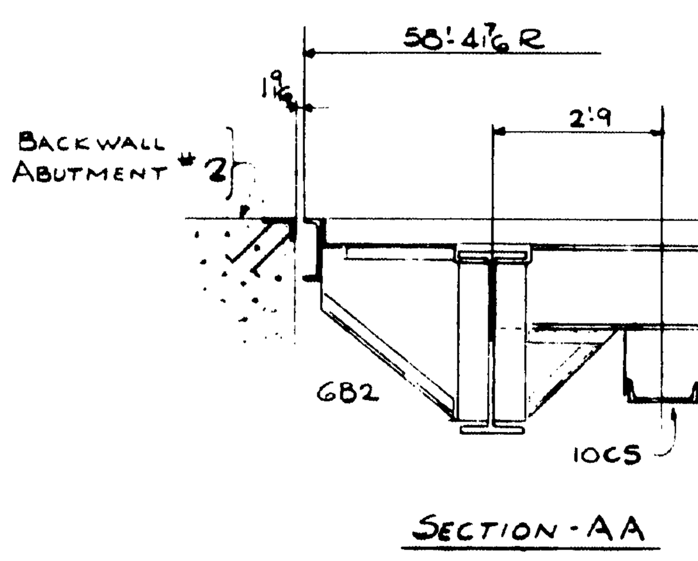
Metal Bearing Areas

AUGUSTA ME. DEC. 1953

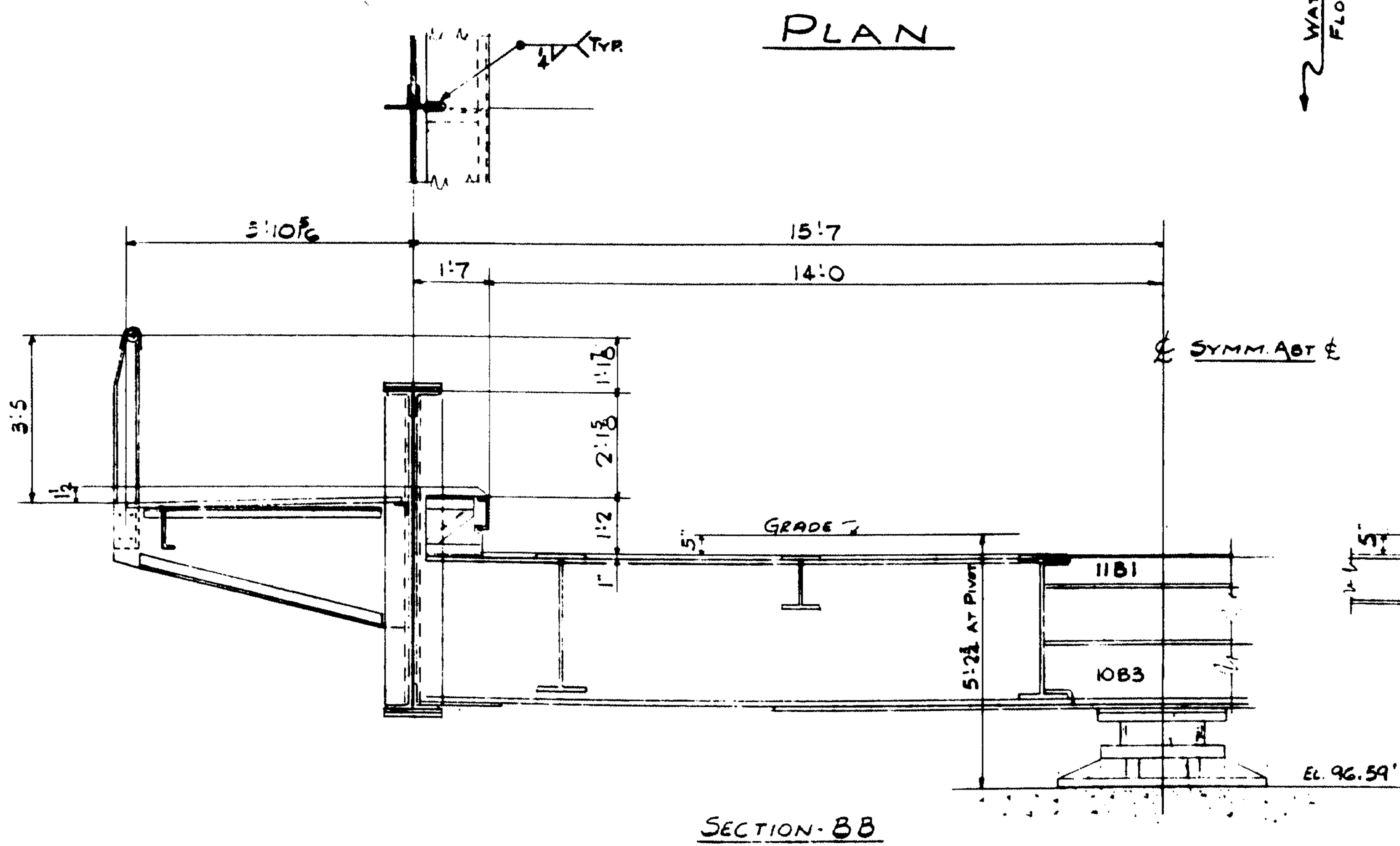
59-141



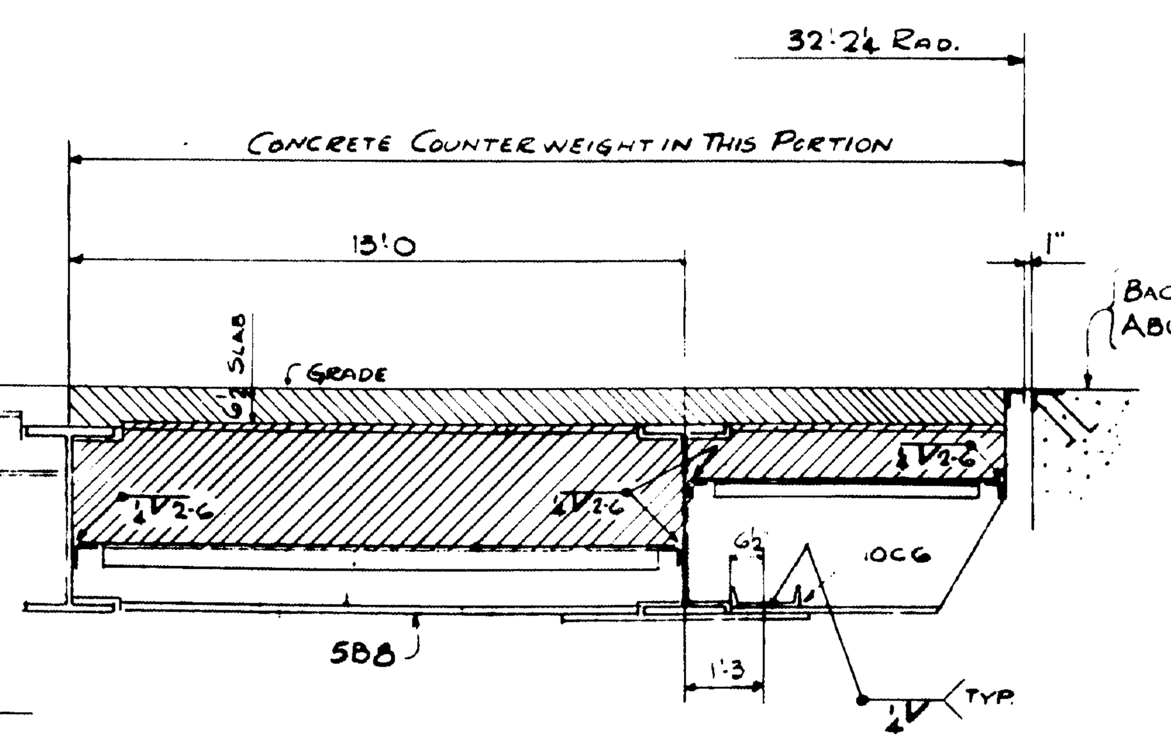
PLAN



SECTION-AA



SECTION-BB



SECTION-CC

SHOP ERECTION PROCEDURE

(1)— Place pivot assembly and rack-track ring, with [illegible] level and at same elevation.

(2)— Place steel as noted under "Field Erection Procedure" items # 2 to 10 inclusive.

(3)— Ream as indicated on shop drawings and bolt securely.

(4)— Place all machinery, using temporary bolts.

(5)— Line up machinery and motors, check for operation, then ream for permanant bolts and place same.

(6)— Place temporary needle beams, parallel to girders, at ends and across top flanges of beams 4B1, 2, 3, 4 and 5B1 to hold these beams securely in place.

(7)— Match mark all pieces.

(8)— Remove all steel and machinery, including girders, except steel and machinery located between floor beams 4B1 and 5B1

(9)— Revolve this portion of bridge 96° to right and 96° to left to check for smooth operation.

(10)— Dismantle

FIELD ERECTION PROCEDURE

(1)— Place pivot assembly, rack and track, wedge seats, latch and truck pads to proper elevation, location and level. Contractor to place pads of Fabreeka type under all bearings

2 — Place girder 1G2L in its correct position. Block up ends to temporary elev. 98.17' at back of bottom chord angles.

3 — Place loading beam 4B4, bolt south end to girder, block up north end to level and check for square with 1G2L

4 — Place these beams in order given. 5B3, 11B1, 10B2, 10B1, 5B4, 10B3, 11B1, 10C9, 10C10L, 5B7, 4B2, 4B3, 3B9, 5B5, 5B6. Note that beams are match makked

5 — Block up beams 4B2-3 to level and place bracing 9D4 to 9D9 inclusive.

6 — Place 5B9, 10, 10C3, 10C4, 10P1 and 5B1. Block up 5B1 to level and place bracing 8D4, 5, 9D10, 11, 12

7 — Place Bms 5B8 L/R, B11, B12, B13 L/R. Bolt west ends. Block up east ends to level, slide plates 9P1-2 in place from the east, place 5B2 and level. Do not weld until all bracing is riveted up, to prevent warping.

8 — Place beam 3B1, bolt to 1G2L and block up to level.

9 — Place girder 1G1R by moving in from the north and block up ends to temp. El. 98.17' at bott. of chord Ls.

10 — Fill in remainder of steel as desired. Square up bridge by pinning and bolting bracing.

11 — Rivet up. Note that pieces 10C9, 10P1, 10B2 and 9D10-11-12 are conn with turned bolts to facilitate removal of machinery. Do not drive 11S1 and 4B6 noted by ⊗ on plan, until main drive assembly is in place.

12 — Weld plates 9P1 - 9P6 inclusive.

13 — Install machinery.

14 — Pour counterweight concrete.

15 — Place road and sidewalk grid, filling in with concrete where specified.

16 — Remove all blocking and check operation of mach, wedges, etc. Place movable ctwts. to balance properly

17 — Make necessary adjustments at wedge, truck and latch seats, also adjust trailer wheels for 1/2" max. clearance, adjust balance wheels.

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS — OPEN HOLES — UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

Structure: Naples Bay Swing Bridge
For: State of Maine
Details of: Erection Plan
Specifications: Maine Steel Highway Br. 1945
Shop Paint: 1-Coat Red Lead & Oil per Specs
Field Paint:

Drawn By	Date	Checked By	Date	Squad Foreman
Lux	11-17-58			A.M.

Revisions No.	Date	By	Description
1			
2			
3			
4			
5			

CONTRACT NO. 5979 SHEET NO. E1

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

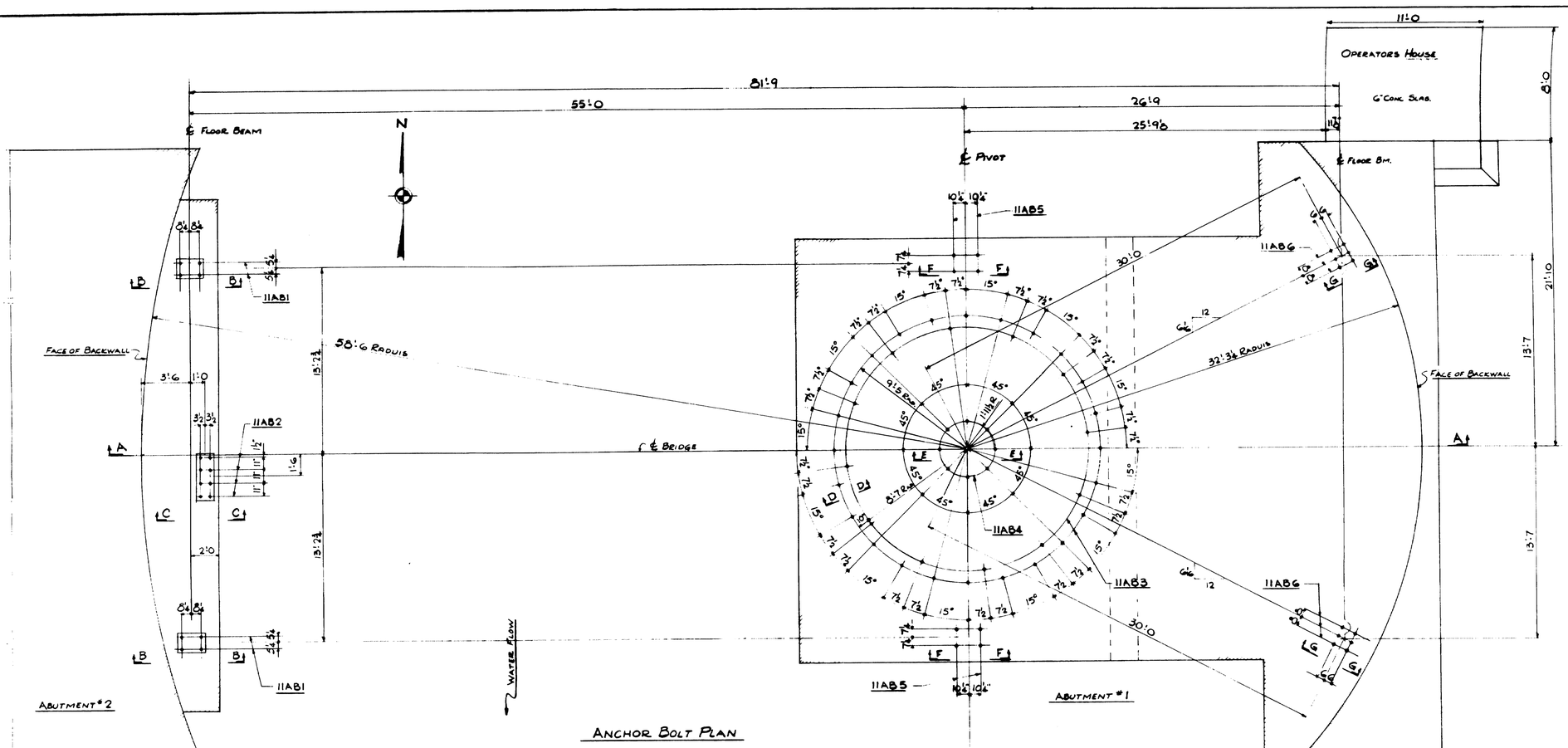
NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES
CUMBERLAND COUNTY

61-105

0 1 2 3 4 5 INCHES



Inspection	Shop Rivets	Weight

Rivets — Open Holes — Unless Noted

Lackawanna Steel Construction Corp'n
Buffalo, N. Y.

Structure: Naples Bay Swing Bridge
For: State of Maine
Details of: Foundation Plan
Specifications: Maine Steel Highway Br 1925
Shop Paint:
Field Paint:

Drawn By	Date	Checked By	Date	Squad Foreman
Lux	12-2-53			A M

Revisions No.	Date	By	Description
1			
2			
3			
4			
5			

Contract No. 5979 Sheet No. F1

State Highway Commission
Bridge Division

Naples Bay Bridge
In the Town of
Naples
Cumberland County

61-106

83'-9 OVERALL

56'-0 to ℄ OF PIVOT

81'-9

ONE GIRDER SPAN - 1G1R (AS SHOWN)

ONE DO 1G2L (OPP HD)

SHOP NOTES:

GIRDERS MUST BE FABRICATED PERFECTLY STRAIGHT WITH NO CAMBER.

HOLES MARKED (R) TO BE SUBPUNCHED 11/16" ϕ AND REAMED TO 13/16" ϕ WITH CONNECTING PARTS ASSEMBLED OR TO A METAL TEMPLATE WITH STEEL BUSHINGS NOT LESS THAN 1" THICK.

WORK SHEETS 1 & 2 TOGETHER.

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS 7/8" ϕ	OPEN HOLES 13/16" ϕ	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF GIRDERS
SPECIFICATIONS MAINE HIGHWAY BRIDGE 1945
SHOP PAINT 1 COAT RED LEAD PER SPECS
FIELD PAINT —

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
LUK	9-19-53	E.F.Lam		A.M.

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT NO. 5979 SHEET NO. 1

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

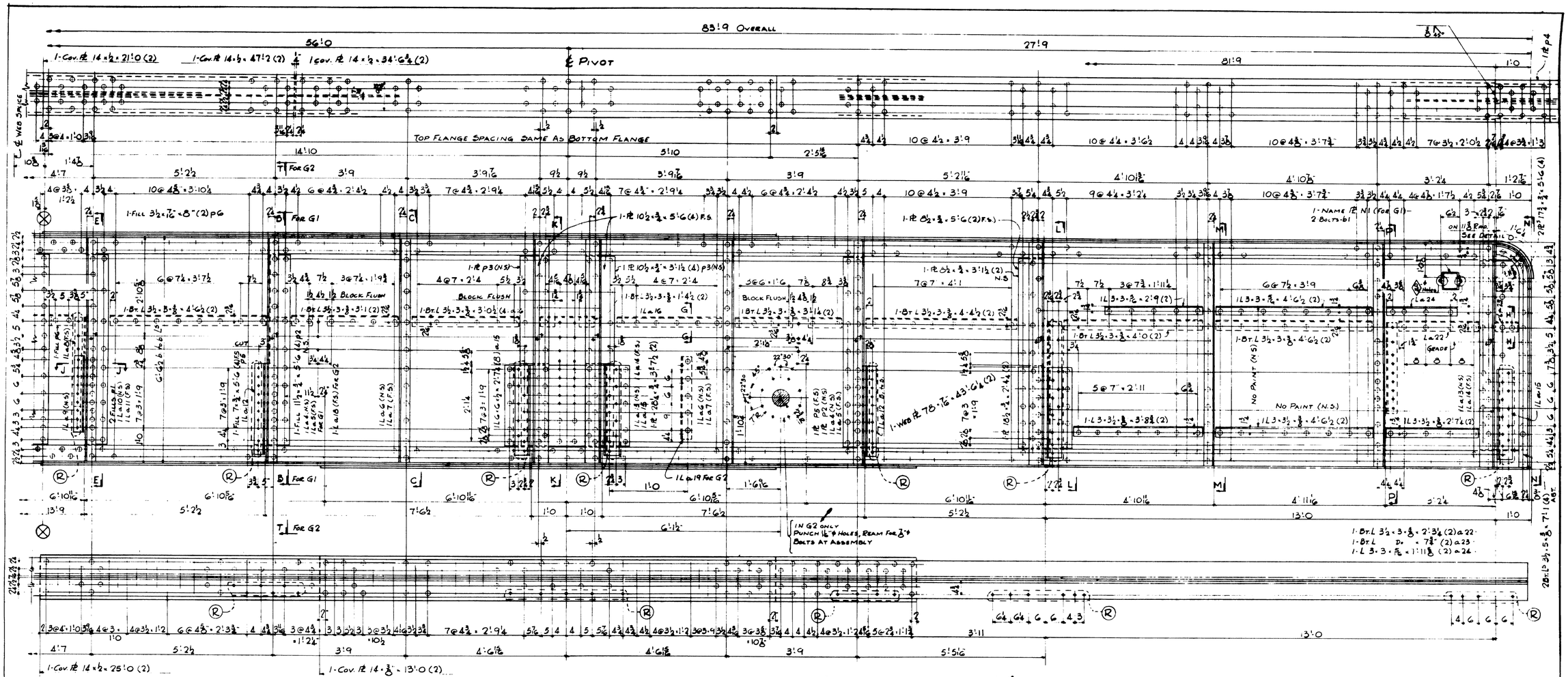
IN THE TOWN OF

NAPLES

CUMBERLAND COUNTY

61-10.7

COMMERCIAL BLUE PRINT CO.



Work Sheets 1 & 2 Together

Inspection	Shop Rivets	Weight
Rivets 7/8 ℄	Open Holes 15/16 ℄	Unless Noted

Lackawanna Steel Construction Corp'n
Buffalo, N. Y.

Structure Naples Bay Swing Bridge
For State of Maine
Details of Girders
Specifications Maine Steel Highway Br 1965
Shop Paint 1 Coat Redlead per Spec's
Field Paint

Drawn By	Date	Checked By	Date	Squad Foreman
LWK	9-26-58	E Kam		A.M

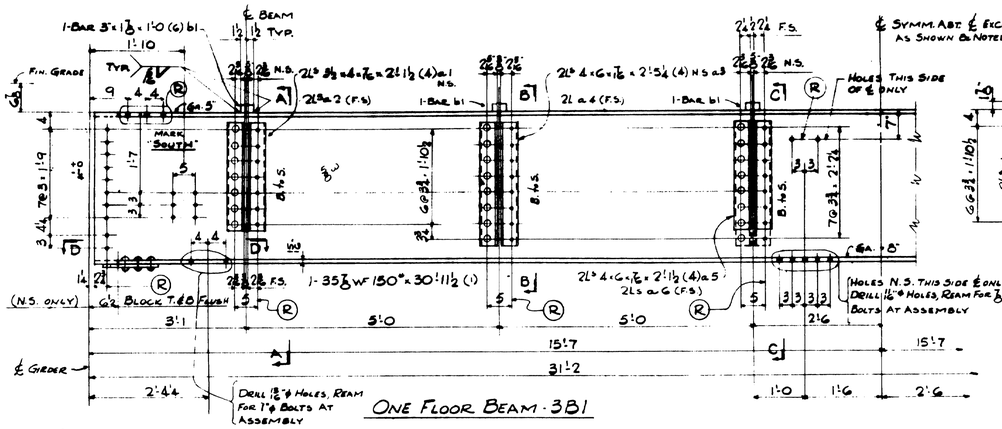
Revisions	No.	Date	By	Description
	1			
	2			
	3			
	4			
	5			

Contract No. 5979 Sheet No. 2

State Highway Commission
Bridge Division

Naples Bay Bridge
In the Town of
Naples
Cumberland County

61-108

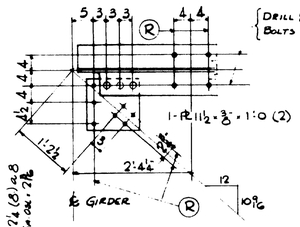


ONE FLOOR BEAM - 3B1

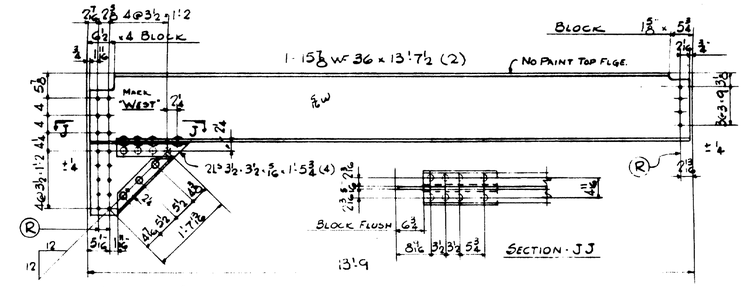
SECT. AA

SECTION - BB

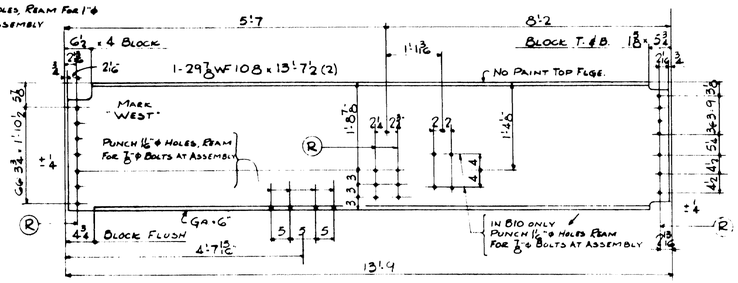
SECTION - CC



SECTION - DD

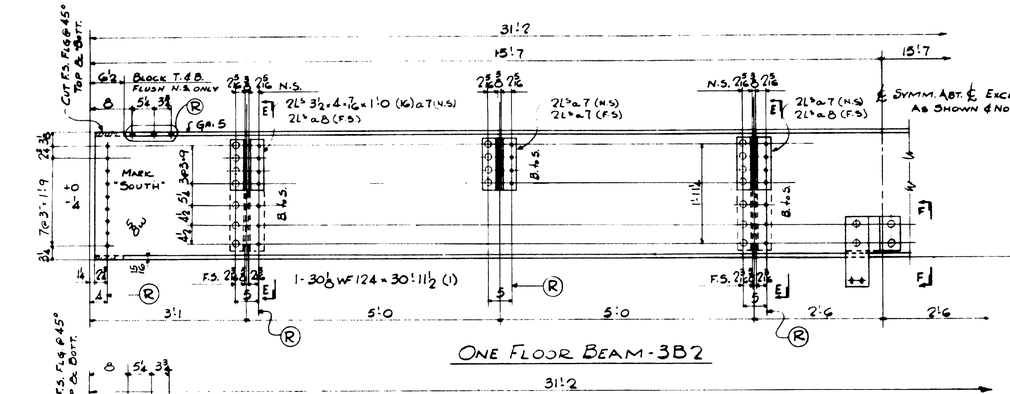


2-STRINGERS-3B6



ONE STRINGER - 3B7

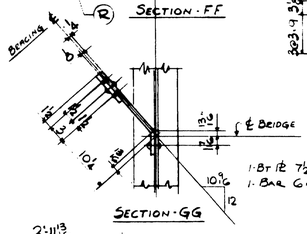
ONE STRINGER - 3B10



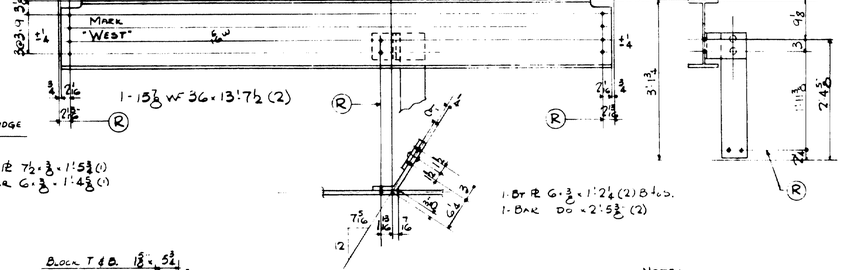
ONE FLOOR BEAM - 3B2

SECTION - EE

SECTION - FF

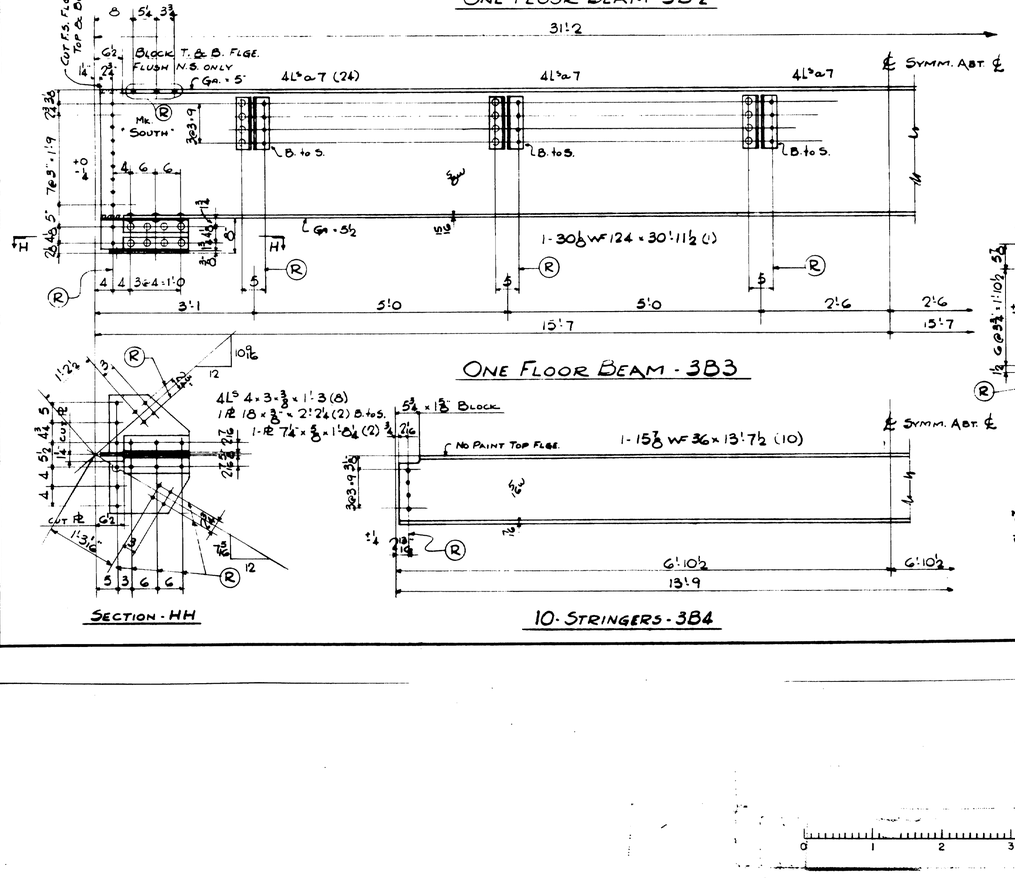


SECTION - GG



ONE STRINGER - 3B8ᴿ (AS SHOWN)

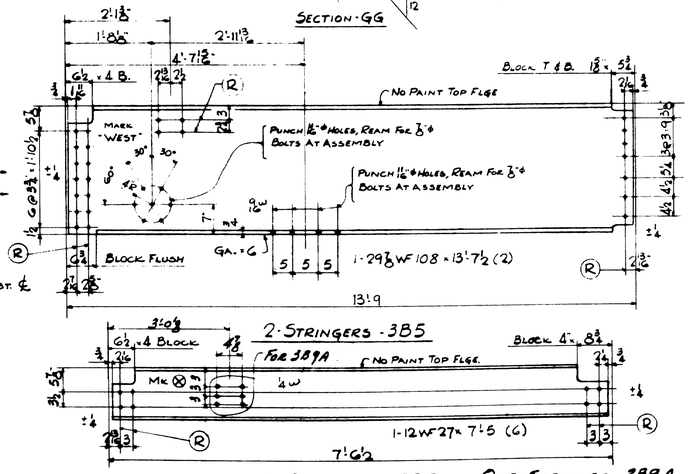
ONE Do -3B8ᴸ (OPP. HD.)



ONE FLOOR BEAM - 3B3

SECTION - HH

10-STRINGERS-3B4



5-STRINGERS-3B9

ONE STRINGER 3B9A

NOTE:
ALL RE-ENTRANT CUTS TO HAVE 1" CORNER RADIUS ON WEBS ½" RADIUS ON FLGES.

INSPECTION	SHOP RIVETS	WEIGHT
P.T.L		

RIVETS ⅞ ø OPEN HOLES 15/16 ø UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Floor Beams
SPECIFICATIONS Maine Highway Bridge 1945
SHOP PAINT 1-Ct Red Lead & Oil per Specs
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
LUX	10-2-53	E Kam		A.M

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT NO. 5979 SHEET NO. 3

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

61-109

0 1 2 3 4 5 INCHES

ONE FLOOR BEAM - 4B1

SECTION - GG

ONE FLOOR BEAM - 4B2

ONE FLOOR BEAM - 4B3

ONE FLOOR BEAM - 4B4

SECTION - EE

SECTION - FF

SECTION - HH

VIEW - AA

SECTION - BB

SECTION - CC (AS NOTED)

SECTION - DD (AS NOTED)

6 - STRINGERS - 4B6

Parts not shown opposite hand to View A-A

Note:
All re-entrant cuts to have 1" corner radius on webs and 5" radius on flanges

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS 7/8" ϕ OPEN HOLES 15/16" ϕ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE GIRDER SPAN SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF FLOOR BEAMS
SPECIFICATIONS MAINE STEEL HIGHWAY BR 1945
SHOP PAINT 1 CT RED LEAD & OIL PER SPECS.
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
LUX	10-7-53	E Kem		AM

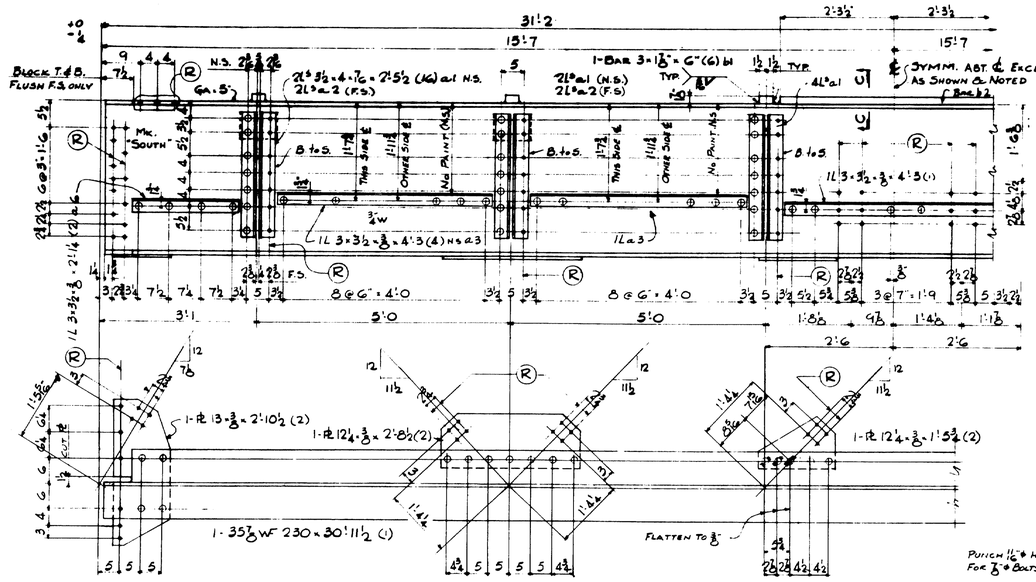
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

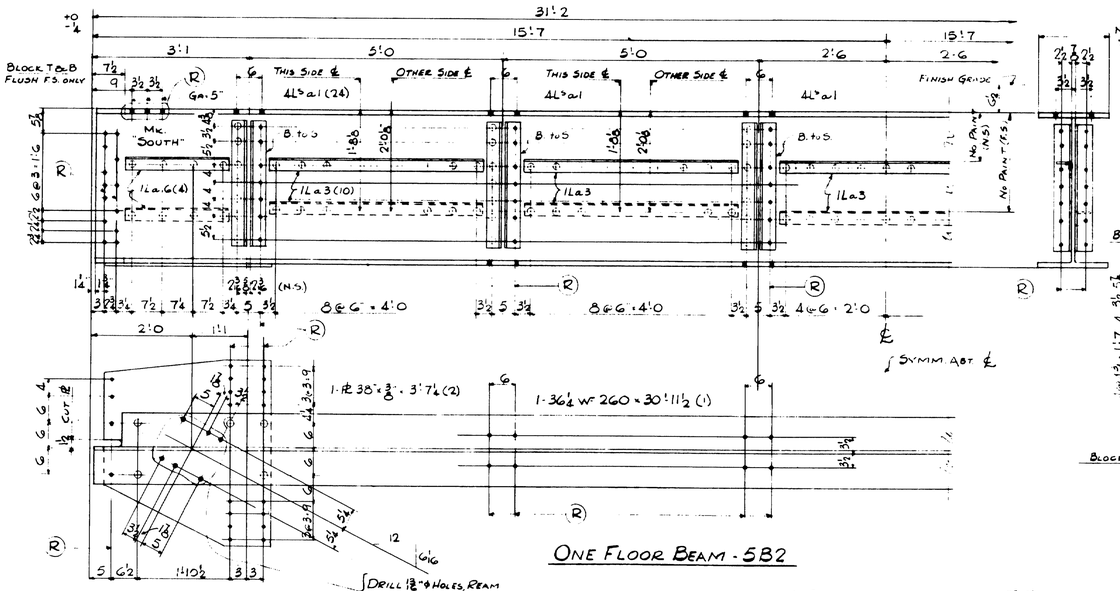
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

CONTRACT NO. 5979 SHEET NO. 4

61-110



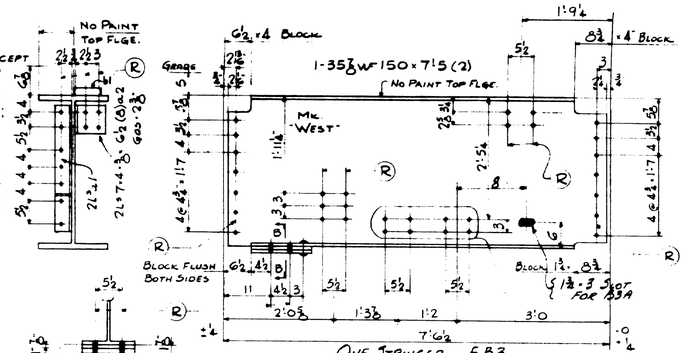
ONE FLOOR BEAM - 5B1



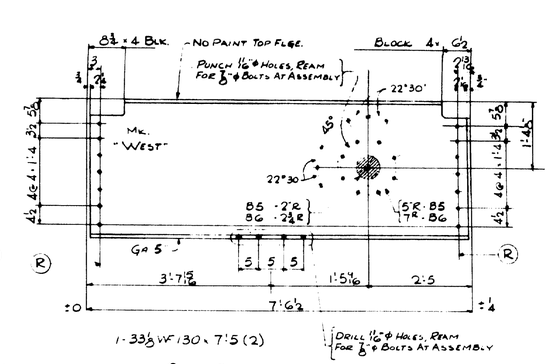
ONE FLOOR BEAM - 5B2

2-BEAMS - 5B14

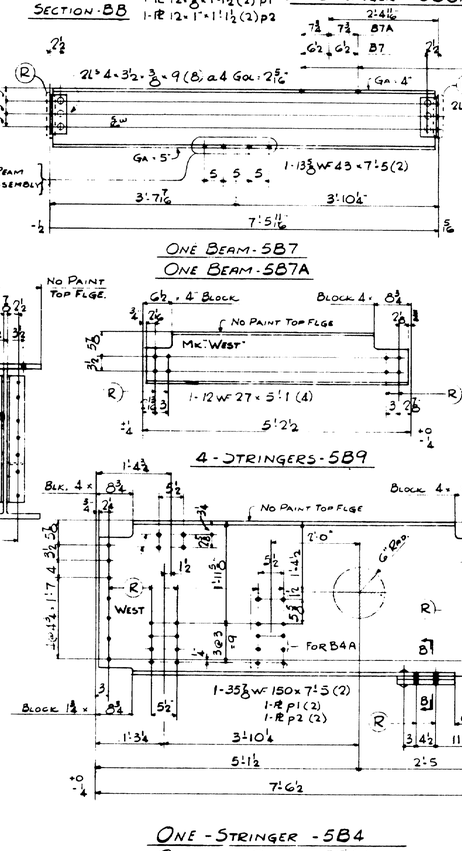
SECTION - BB



ONE STRINGER - 5B3
ONE-STRINGER - 5B3A

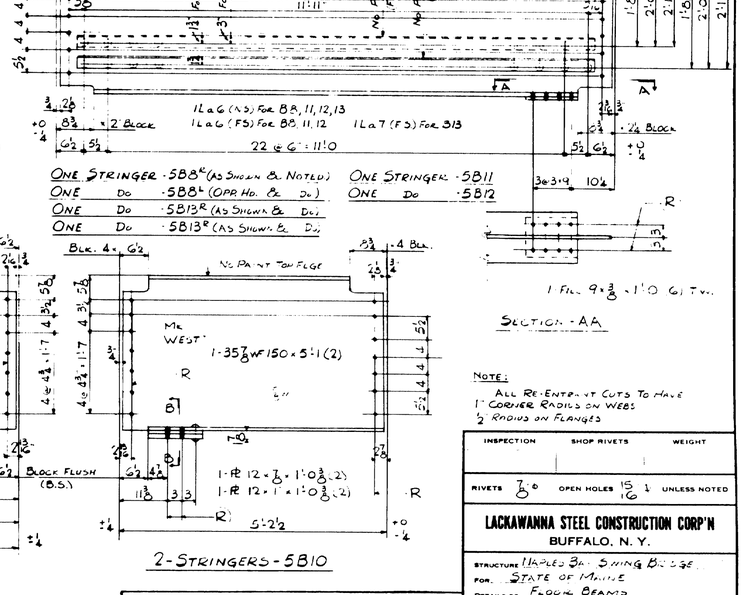


ONE-STRINGER-585
ONE Do -586



ONE BEAM - 5B7
ONE BEAM - 5B7A

4 - STRINGERS - 5B9

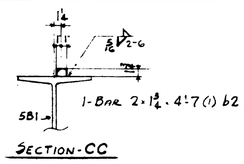


ONE STRINGER - 5B8[L] (As Shown & Noted)
ONE Do - 5B8[L] (Opp. Hd. & Dwl.)
ONE Do - 5B13[R] (As Shown & Dwl.)
ONE Do - 5B13[R] (As Shown & Dwl.)

ONE STRINGER - 5B11
ONE Do - 5B12

SECTION - AA

ONE-STRINGER - 5B4
ONE Do 5B4A



SECTION - CC

2-STRINGERS - 5B10

NOTE:
ALL RE-ENTRANT CUTS TO HAVE 1" CORNER RADIUS ON WEBS 1/2" RADIUS ON FLANGES

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS 7/8" ϕ OPEN HOLES 15/16" UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE 11 NAPLES 3H. SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF FLOOR BEAMS
SPECIFICATIONS MAINE STEEL HIGHWAY BR 1946
SHOP PAINT 1 COAT RED LEAD & OIL PER SPEC.
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
LW	11-3-53	E.Kam		

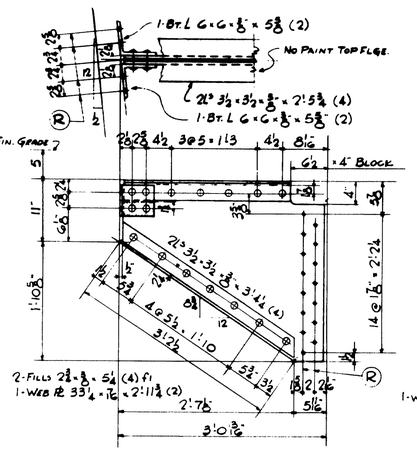
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

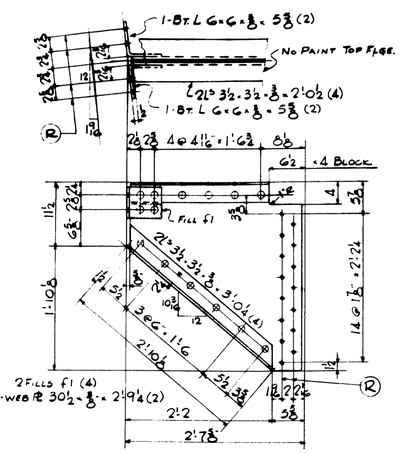
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

CONTRACT No. 5979 SHEET No. 5

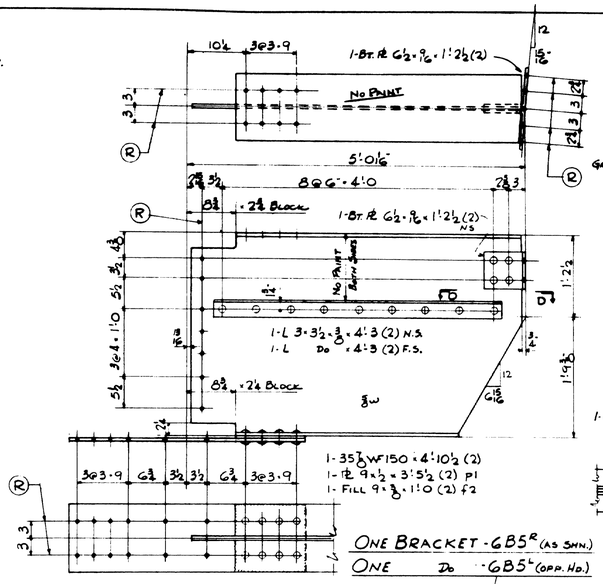
61-111



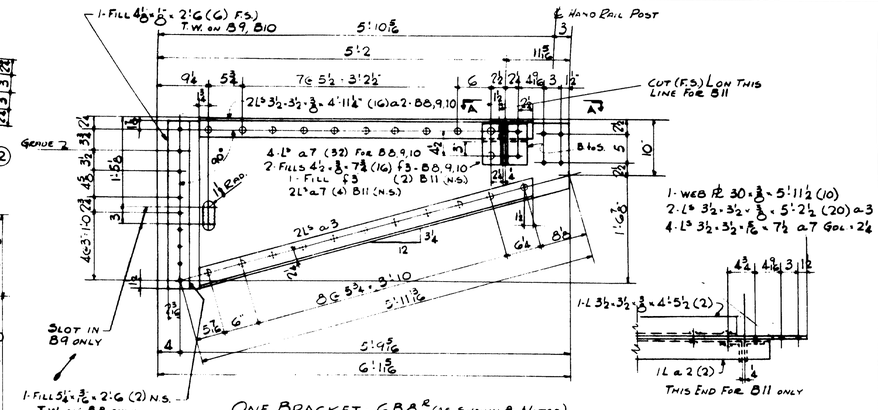
ONE END BRACKET - 6B1R (AS SHOWN)
ONE Do -6B1L (OPP. HD.)



ONE END BRACKET - 6B2R (AS SHOWN)
ONE Do -6B2L (OPP. HD.)

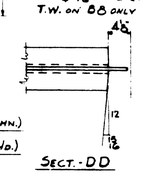


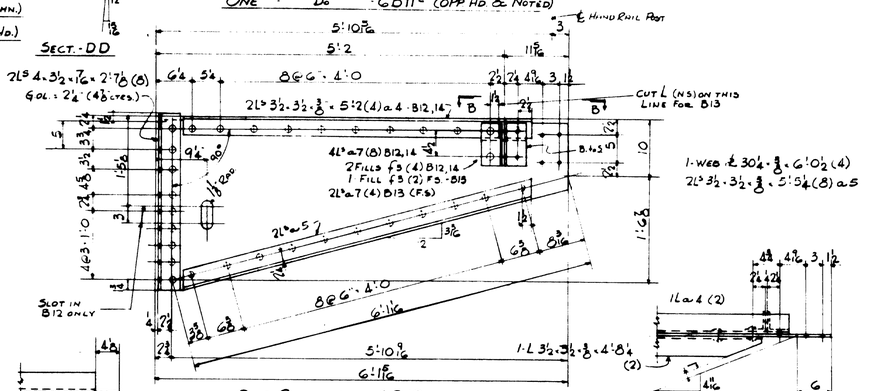
ONE BRACKET - 6B5R (AS SHN.)
ONE Do -6B5L (OPP. HD.)



ONE BRACKET - 6B8R (AS SHOWN & NOTED)
ONE Do -6B8L (OPP. HD. & NOTED)
3 · Do -6B9 (AS SHOWN & NOTED)
3 · Do -6B10L (OPP. HD. & NOTED)
ONE · Do -6B11R (AS SHOWN & NOTED)
ONE · Do -6B11L (OPP. HD. & NOTED)

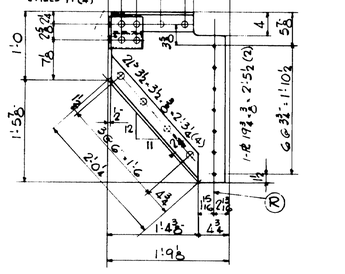
VIEW - AA



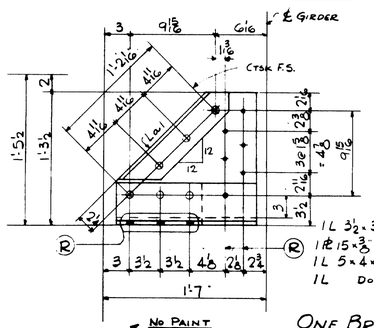


ONE BRACKET - 6B12 (AS SHOWN & NOTED)
ONE Do - 6B13R Do
ONE Do - 6B13L (OPP. HD. & NOTED)
ONE Do - 6B14 (AS SHOWN & NOTED)

VIEW - BB

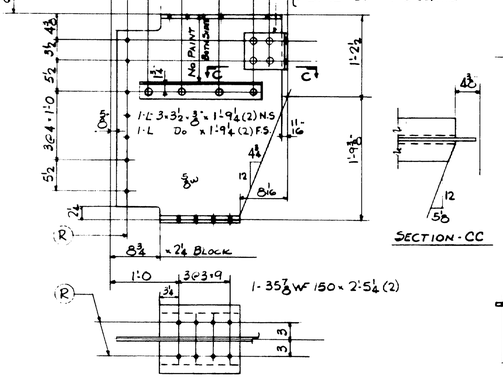


ONE END BRACKET - 6B3R (AS SHOWN)
ONE Do -6B3L (OPP. HD.)

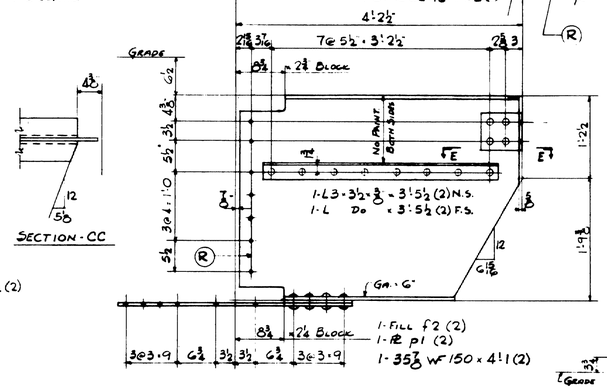


1L 3½×3½×⅜ × 1'-3¼ (2) a 1
1 Pl 15×⅜ × 1'-4¼ (2)
1L 5×4×⅝ × 10" (2) Ga. ox. = 2⅛ (cut c. 4L)
1L Do × 1'-4¼ (2) Ga. ox. = 2⅛ (Do)

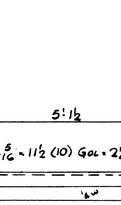
ONE BRACKET - 6B7R (AS SHOWN)
ONE Do -6B7L (OPP. HD.)

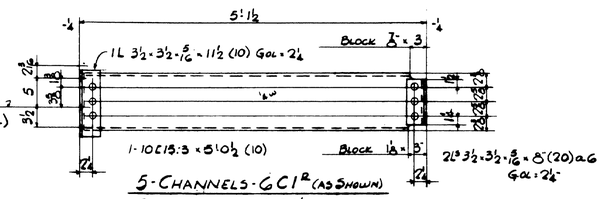


ONE END BRACKET - 6B4R (AS SHOWN)
ONE Do -6B4L (OPP. HD.)

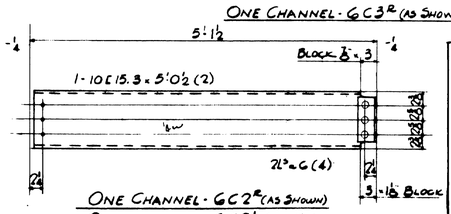


ONE END BRACKET - 6B6R (AS SHOWN)
ONE Do -6B6L (OPP. HD.)

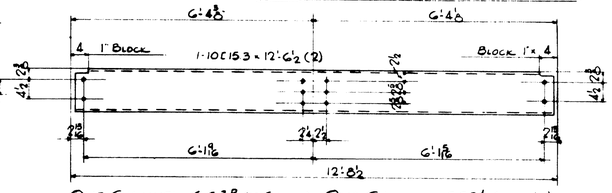




5 - CHANNELS - 6C1R (AS SHOWN)
5 · Do -6C1L (OPP. HD.)



ONE CHANNEL - 6C2R (AS SHOWN)
ONE Do -6C2L (OPP. HD.)



ONE CHANNEL - 6C3R (AS SHOWN) ONE CHANNEL - 6C3L (OPP HD.)

NOTE:
ALL RE-ENTRANT CUTS TO HAVE 1" CORNER RADIUS ON WEBS ½ RADIUS ON FLANGES

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ⅞" ϕ OPEN HOLES 15/16" ϕ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF END BRACKETS & CHANNELS
SPECIFICATIONS MAINE STEEL HIGHWAY DR 1946
SHOP PAINT 1 COAT RED LEAD & OIL per SPEC'S
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
LUX	10-23-53	[illegible]	12-7-53	A M

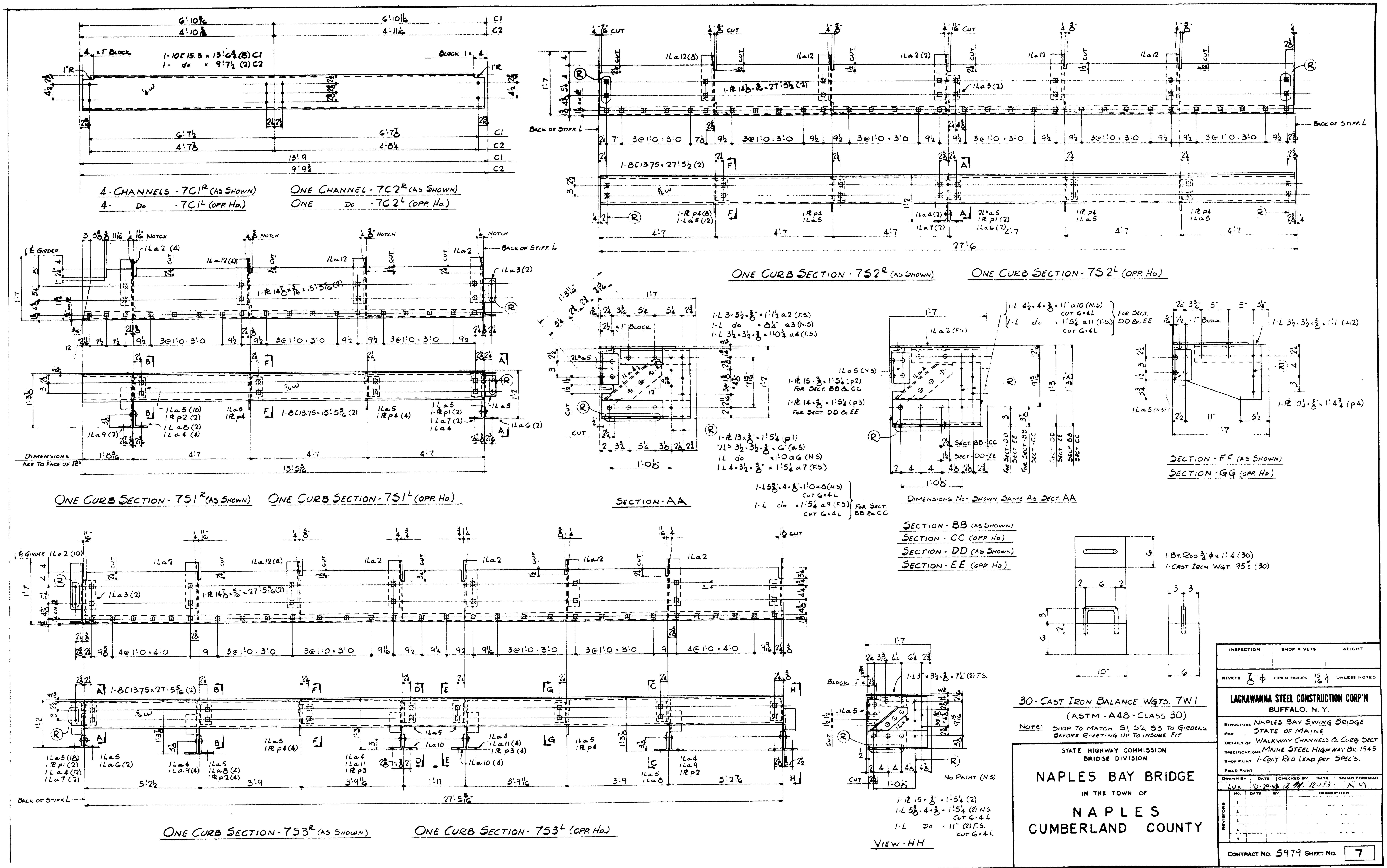
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

CONTRACT No. 5979 SHEET No. 6

61-112



STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS 7/8 φ	OPEN HOLES 15/16 φ	UNLESS NOTED

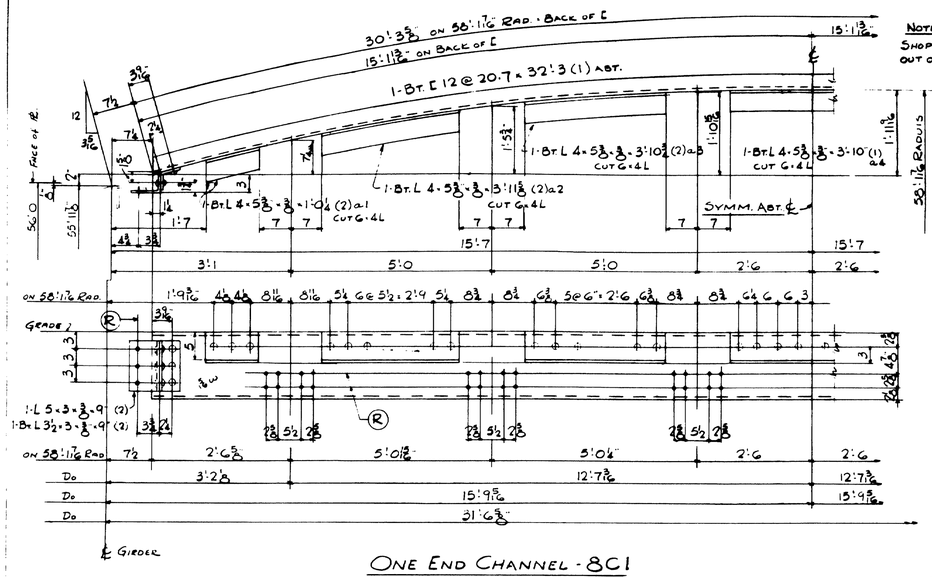
LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N.Y.

STRUCTURE: NAPLES BAY SWING BRIDGE
FOR: STATE OF MAINE
DETAILS OF: WALKWAY CHANNELS & CURB SECT.
SPECIFICATIONS: MAINE STEEL HIGHWAY BR 1945
SHOP PAINT: 1-COAT RED LEAD per SPEC'S.
FIELD PAINT:

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
LUX	10-29-53	A.M.	12-1-53	A.M.

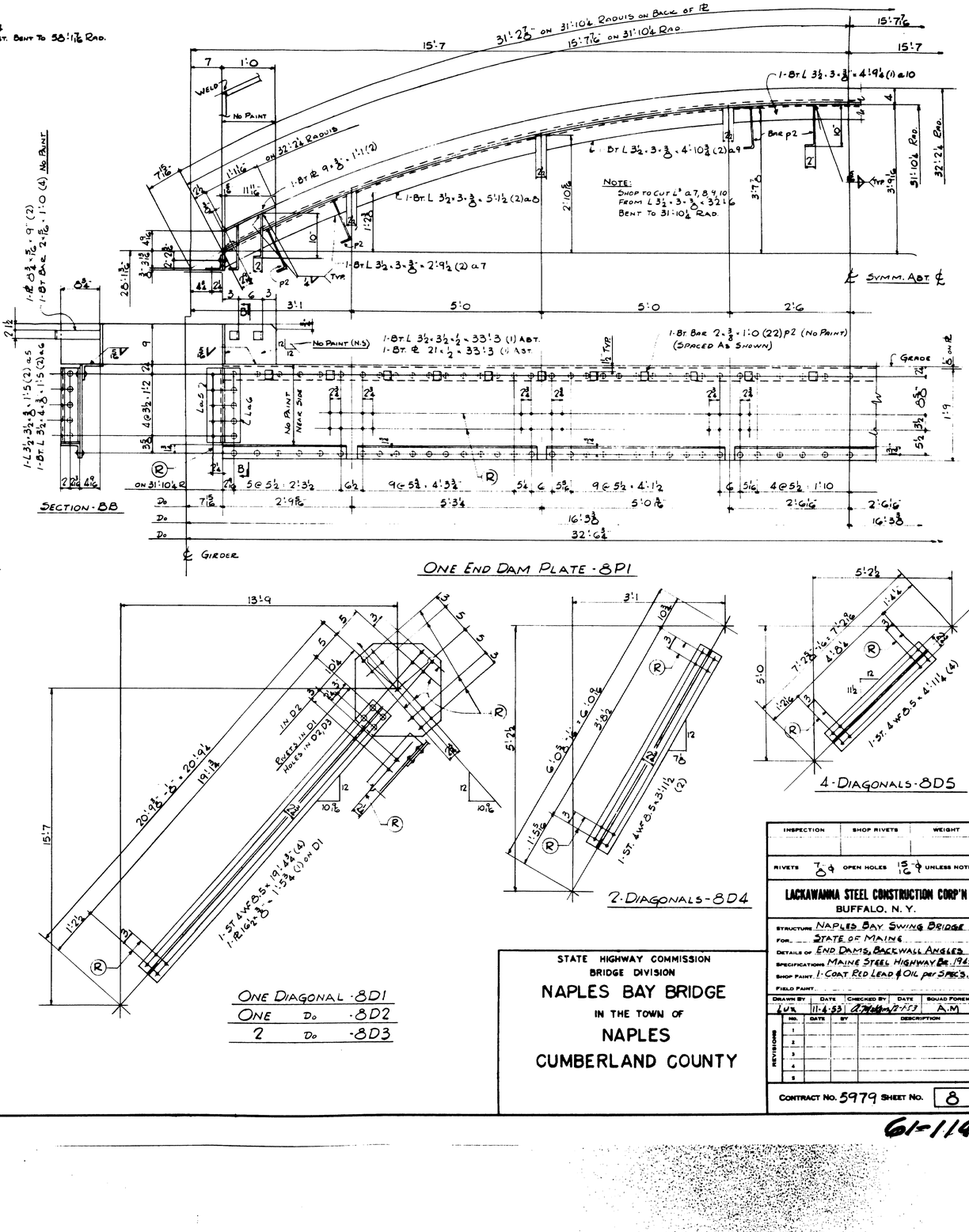
CONTRACT NO. 5979 SHEET NO. 7

61-113



NOTE:
SHOP TO CUT L^b a1, 2, 3, 4
OUT OF G × 4 × ⅜ × 23'-6 ABT. BENT TO 58'-11⅞ RAD.

ONE END CHANNEL - 8C1



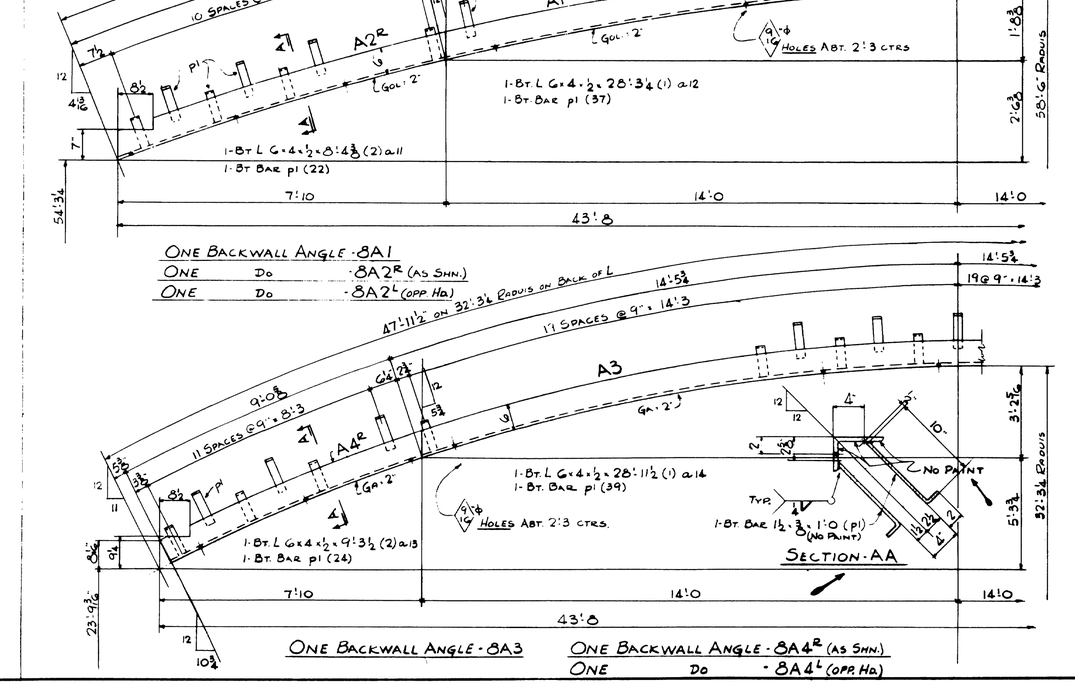
SECTION - BB

ONE END DAM PLATE - 8P1

ONE DIAGONAL - 8D1
ONE Do - 8D2
2 Do - 8D3

2-DIAGONALS-8D4

4-DIAGONALS-8D5



STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ⅞ ℄ OPEN HOLES 15/16 ℄ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF END DAMS, BACKWALL ANGLES
SPECIFICATIONS MAINE STEEL HIGHWAY DE. 1945
SHOP PAINT 1 COAT RED LEAD & OIL per SPEC'S.
FIELD PAINT

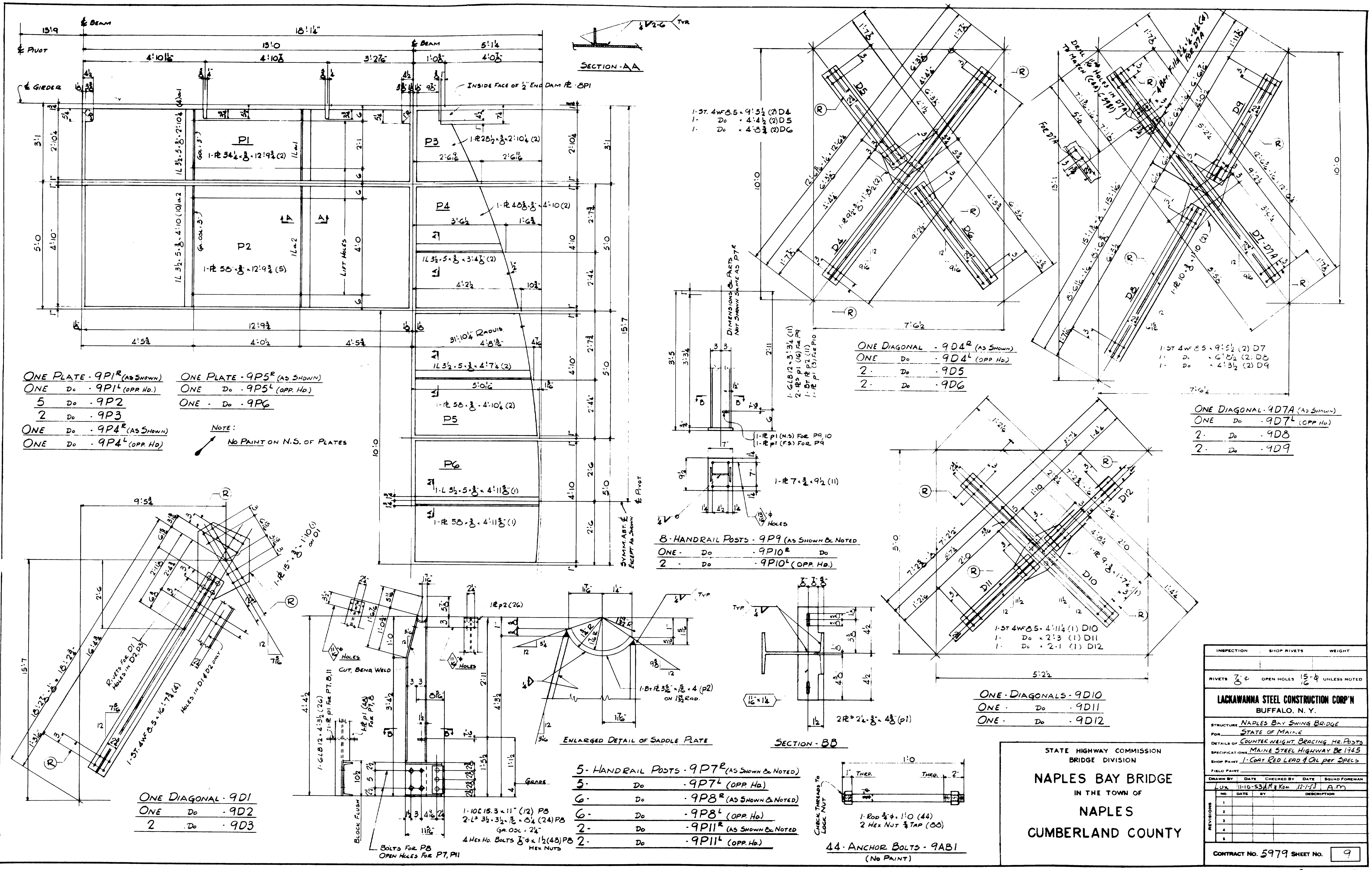
DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
L.W.S.	11-4-53	[illegible]	12-1-53	A.M.

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT NO. 5979 SHEET NO. 8

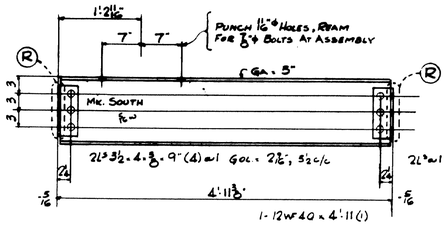
61-114

0 1 2 3 4 5 INCHES

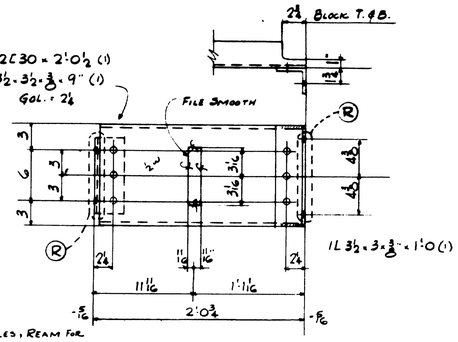


61-115

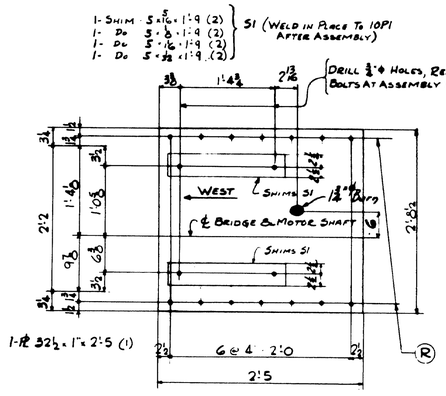
0 1 2 3 4 5 INCHES



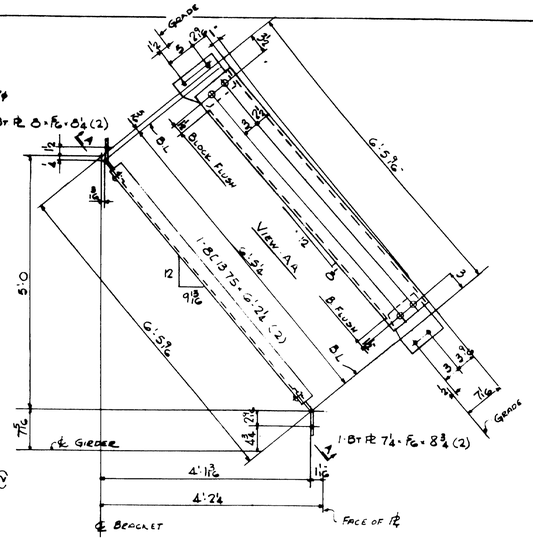
ONE BEAM - 10B1



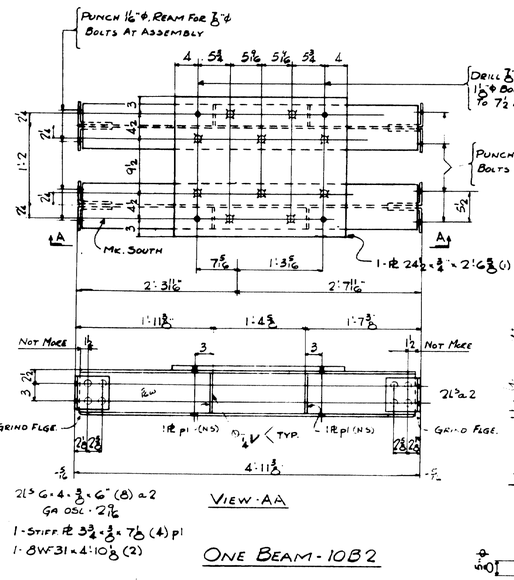
ONE CHANNEL - 10C2



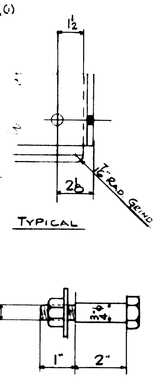
ONE PLATE - 10P1

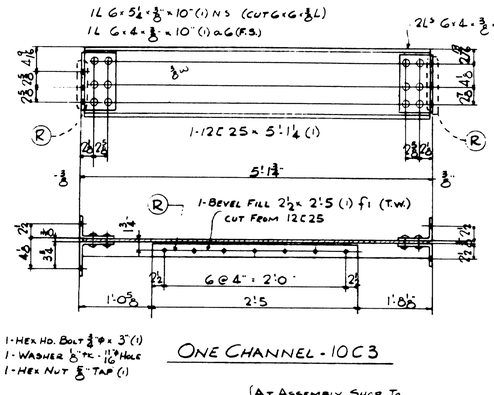


ONE CHANNEL - 10C7R (AS SHOWN)
ONE Do - 10C7L (OPP. HD.)

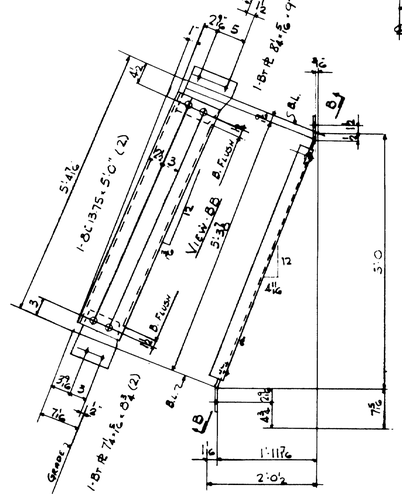


ONE BEAM - 10B2

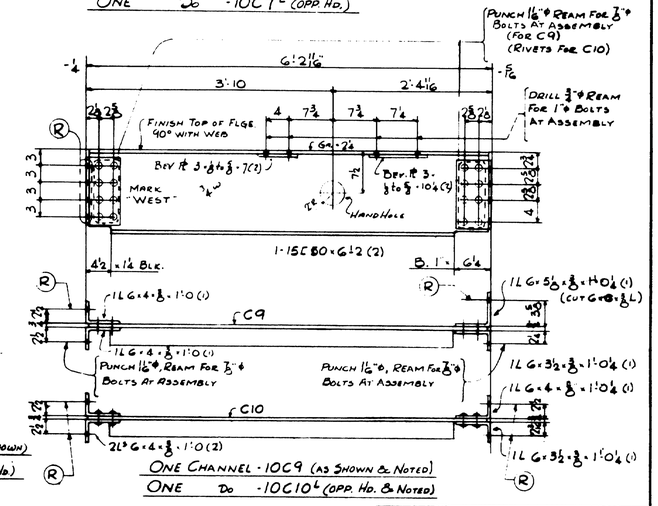




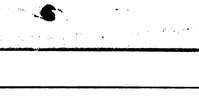
ONE CHANNEL - 10C3



ONE CHANNEL - 10C8E (AS SHOWN)
ONE Do - 10C8L (OPP. HD.)

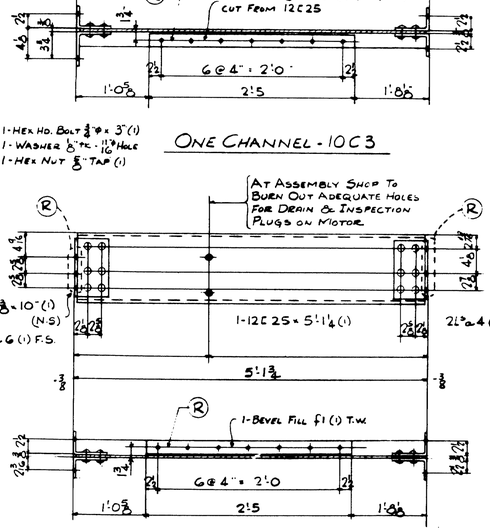


ONE CHANNEL - 10C9 (AS SHOWN & NOTED)
ONE Do - 10C10L (OPP. HD. & NOTED)



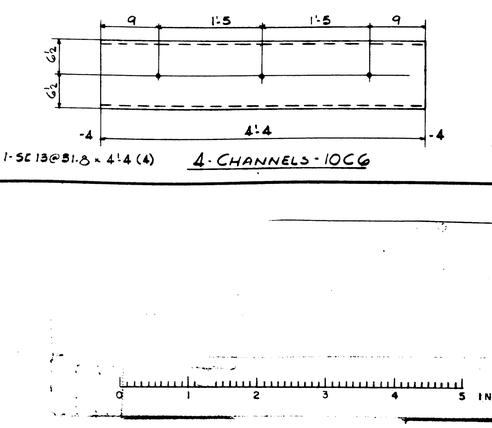
DETAIL "S"
(Ship With 10C1)

ONE CHANNEL - 10C1

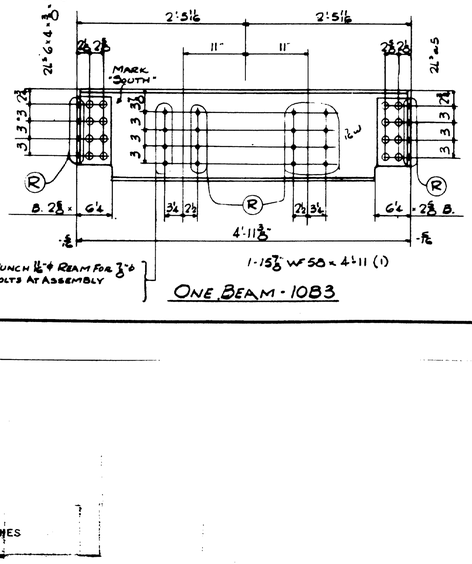


ONE CHANNEL - 10C4

2-CHANNELS - 10C5



4 - CHANNELS - 10C6



Punch 1⅛"ϕ Ream For ⅞"ϕ Bolts At Assembly

ONE BEAM - 10B3

Note:
All Re-Entrant Cuts To Have A Corner Radius of 1" on Web & ½" Radius on Flanges

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

Inspection	Shop Rivets	Weight
Rivets ⅞ϕ	Open Holes 15/16"-ϕ unless noted	

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

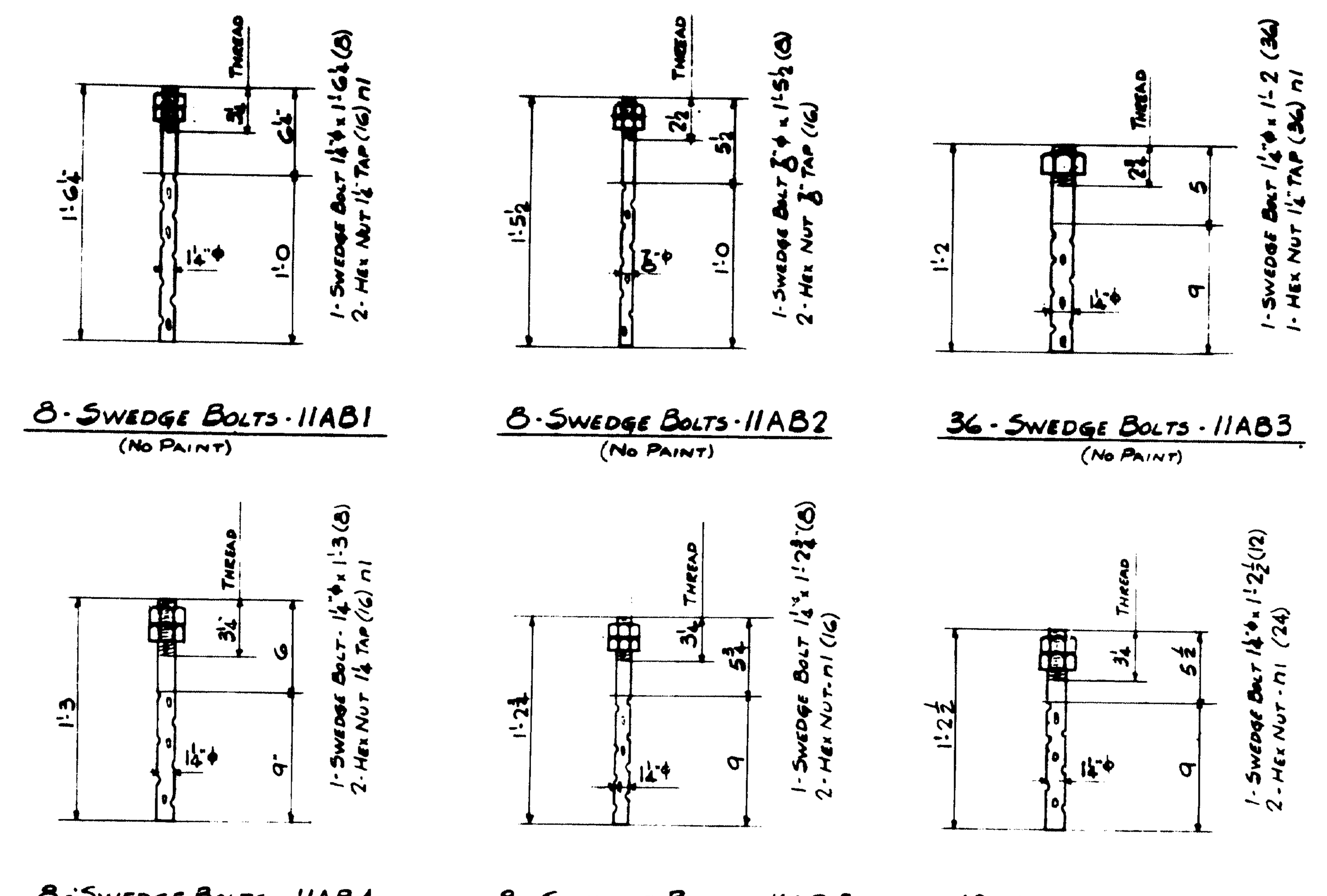
Structure: Naples Bay Swing Beidge
For: State of Maine
Details of: Beams & Channels
Specifications: Maine Steel Highway Br. 1945
Shop Paint: 1-Coat Red Lead per Specs.
Field Paint:

Drawn By	Date	Checked By	Date	Squad Foreman
Lux	11-13-53	R.M.	12-4-53	A.M.

Revisions	No.	Date	By	Description
	1			
	2			
	3			
	4			
	5			

Contract No. 5979 Sheet No. 10

61-116



8-Swedge Bolts-11AB1 (No Paint)

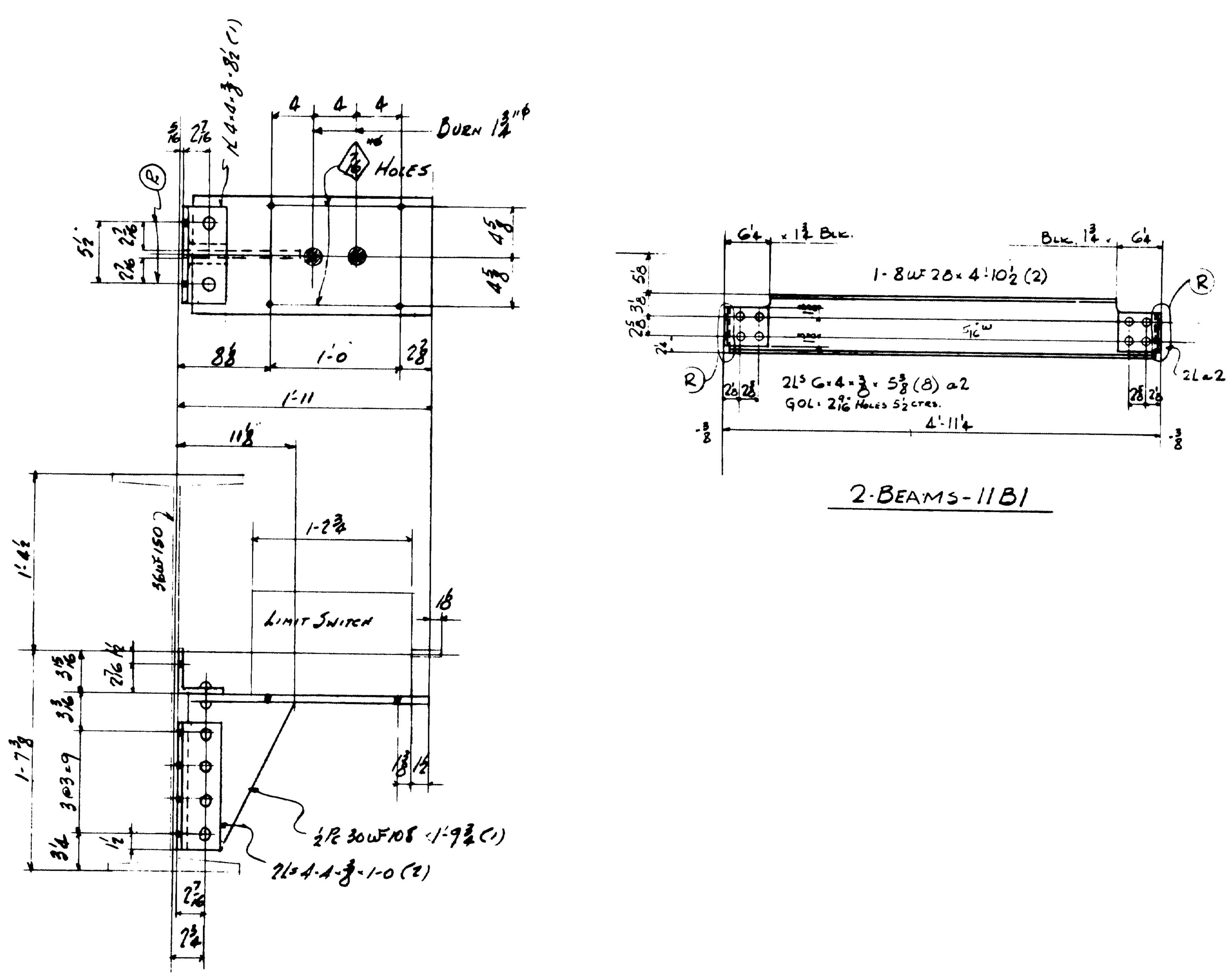
8-Swedge Bolts-11AB2 (No Paint)

36-Swedge Bolts-11AB3 (No Paint)

8-Swedge Bolts-11AB4 (No Paint)

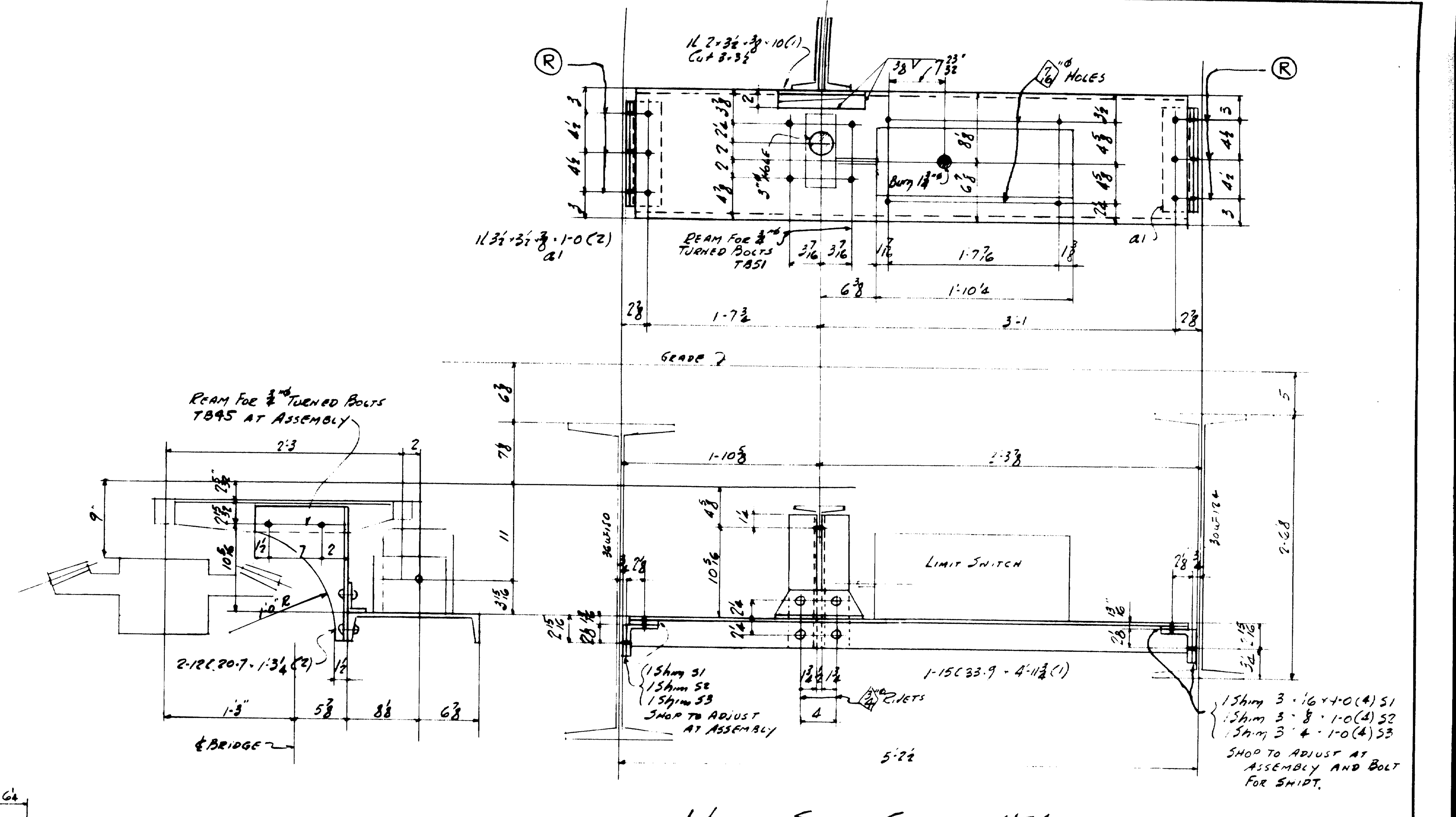
8-Swedge Bolts-11AB5 (No Paint)

12-Swedge Bolts-11AB6 (No Paint)



2-Beams-11B1

1 Limit Switch Support 1152



1 Limit Switch Support 1151

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES

CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ⅞"φ OPEN HOLES 15/16"φ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

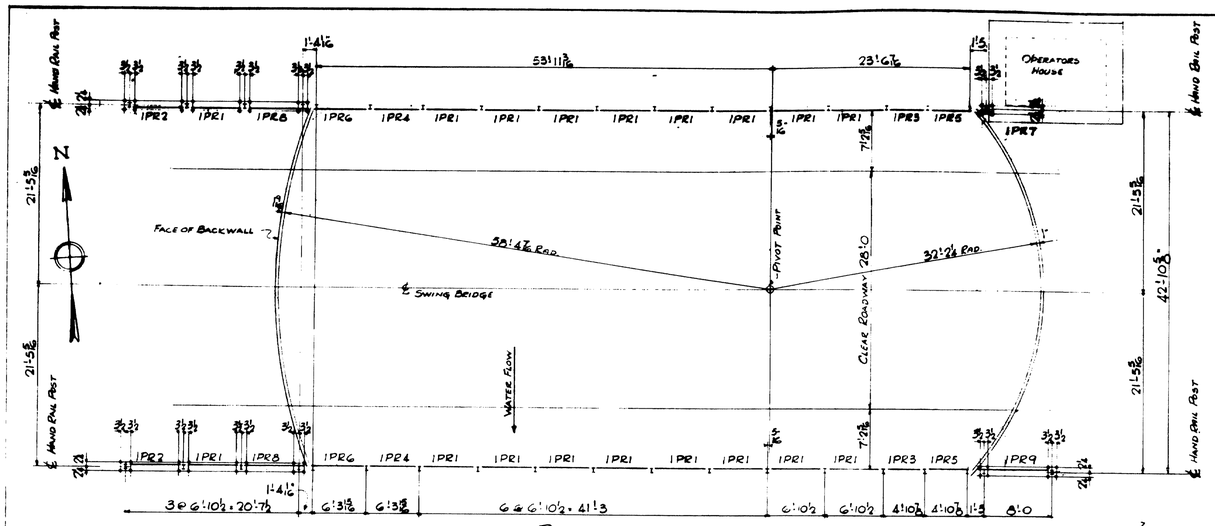
STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Anchor Bolts -
SPECIFICATIONS Maine Steel Highway Br. 1943
SHOP PAINT
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Lux	5 33 AM		27-13	A.M

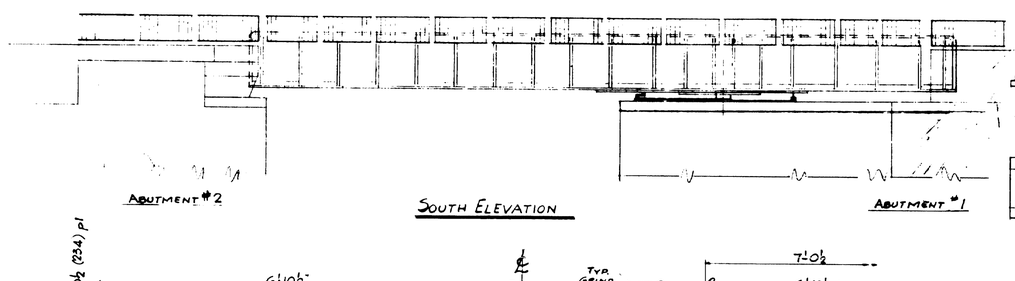
REVISIONS NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

CONTRACT No. 5979 SHEET No. 11

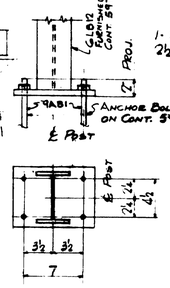
61-117



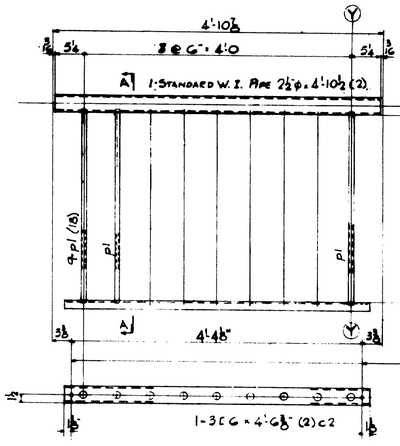
PLAN

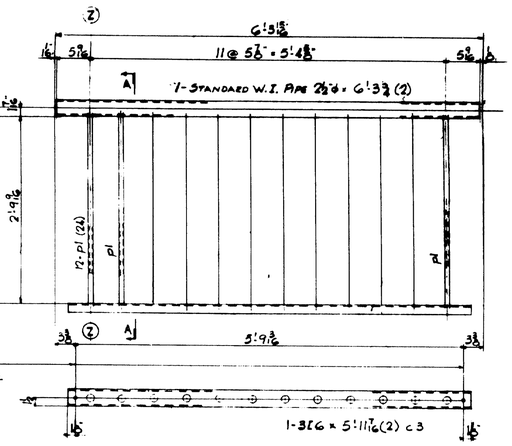


South Elevation

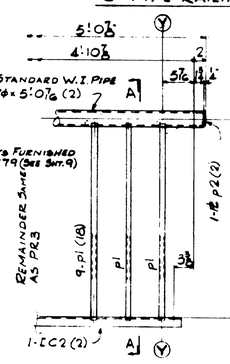


Anchor Bolt Setting For Hand Rail Posts on Abutments 1 & 2

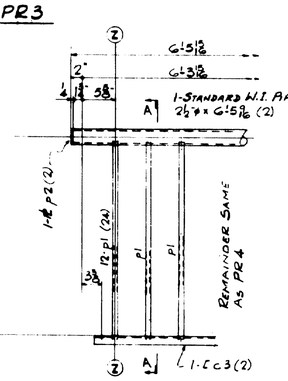




2-Pipe Railings-1PR3



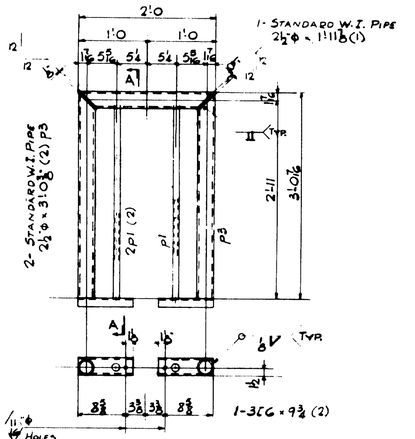
2-Pipe Railings-1PR4

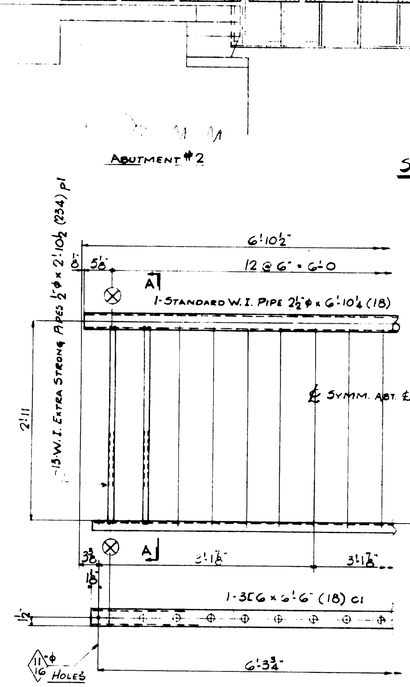


2-Pipe Railings-1PR5

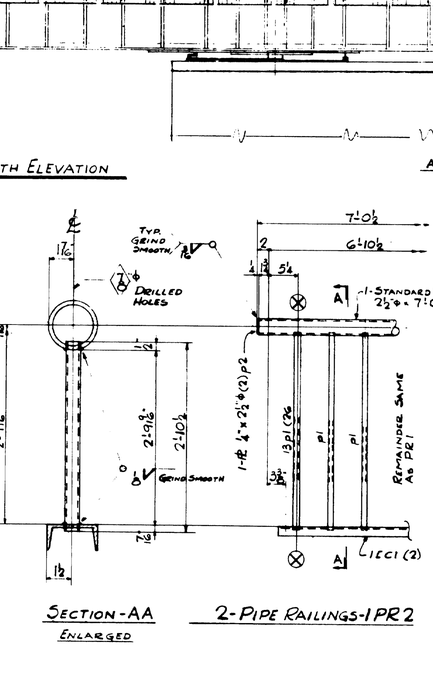
2-Pipe Railings-1PR6

2-Pipe Railings-1PR7



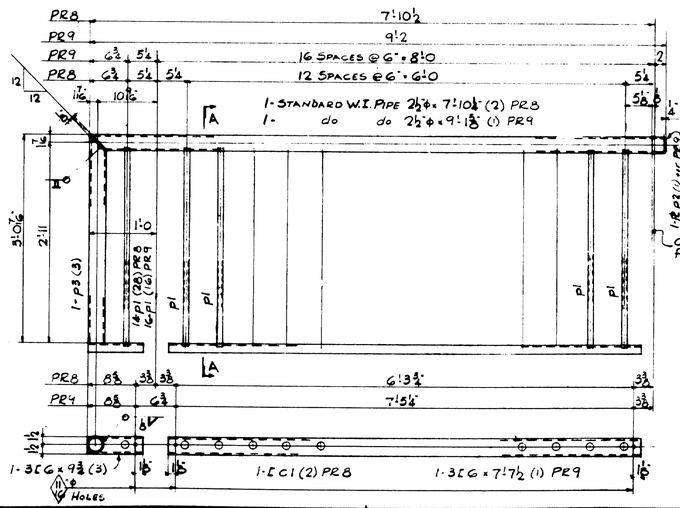


18-Pipe Railings-1PR1

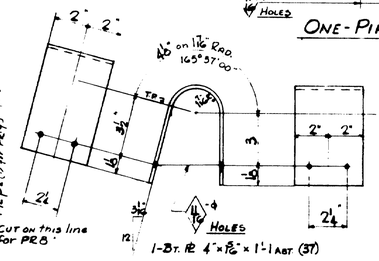


Section-AA
Enlarged

2-Pipe Railings-1PR2



2-Pipe Railings-1PR8
One Do -1PR9



37-Hand Rail Straps-1S1

(210: 4½ Lineal feet of Railing)

INSPECTION	SHOP RIVETS	WEIGHT
P.T.L		

RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N.Y.

STRUCTURE Naples Bay Bridge
FOR State of Maine
DETAILS OF Pipe Railing, Straps - Plan
SPECIFICATIONS Maine Highway Bridges - 1945
SHOP PAINT 1 Coat Redlead Per Spec's
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
LWR	9-13-52	E. Rem		A.M.

REVISIONS

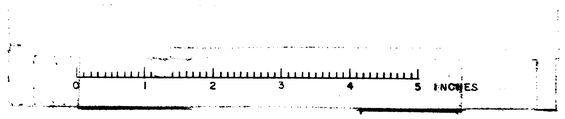
NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

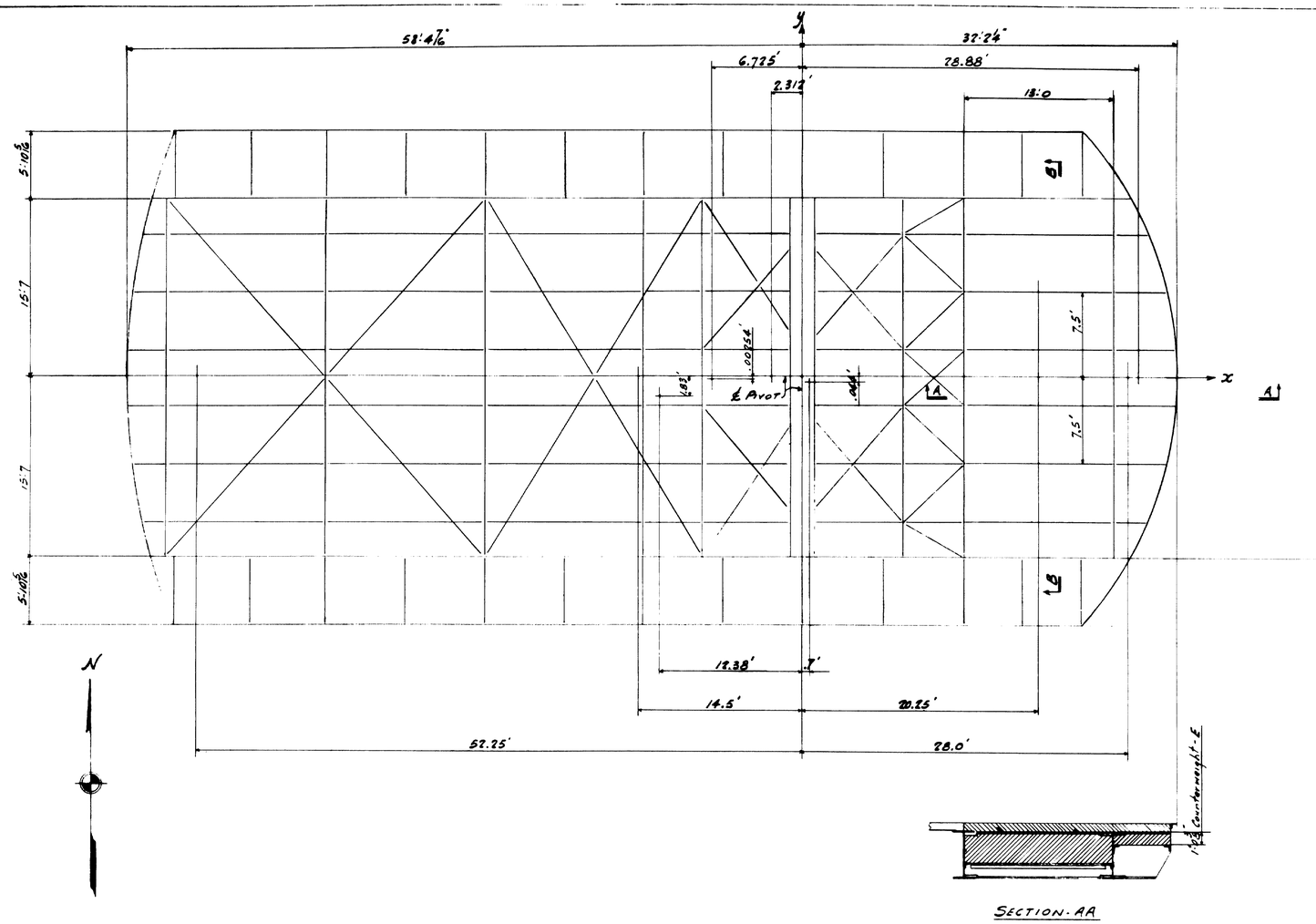
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY
MAINE RAILING DETAILS

CONTRACT NO. 5979 SHEET NO. 1

61-118





SECTION-BB

SECTION-AA

NOTES

Weights used to calculate counterweight
Concrete - 144# per. cu. ft.
Concrete filled Sidewalk Grids with "20 Ga. form plates. } 24.9# per. sq. ft.
Roadway Grids - 19# per. sq. ft.
Concrete filled Roadway Grids with 8 form plates } 76# per. sq. ft.

ITEMS	W	x	y	Wx	Wy
Structural Steel	218091	- 6.725	- .00254	- 1466660	- 554
Roadway Grids & Pavement	135227	- 2.312	± 0	- 312644	± 0
Sidewalk Grids	23355	- 14.5	± 0	- 338647	± 0
Machinery	24229	- 12.38	- 1.83	- 299955	- 44339
Electrical	3475	+ .7	- .044	+ 2433	- 152
Counterweight - A	25776	+ 20.25	- 7.5	+ 520951	- 192945
Counterweight - B	17568	+ 20.25	± 0	+ 355752	± 0
Counterweight - C	31732	+ 20.25	+ 7.5	+ 642573	+ 237990
Counterweight - D	21666	+ 20.25	± 0	+ 438737	± 0
Counterweight - E	15840	+ 78.88	± 0	+ 457460	± 0
Counterweight - F	3599	+ 20.25	± 0	+ 72879	± 0
TOTALS	520508	x̄ = +.14'	± 0	+ 72879	± 0

MOVABLE WEIGHTS AT WEST END OF BRIDGE SPAN

ITEMS	W	x	Wx
Bridge Span	520508	+ .14	+ 72879
30 Movable Weights	2850	- 52.25	- 148912
TOTALS	523358	x̄ = -.145	- 76033

MOVABLE WEIGHTS AT EAST END OF BRIDGE SPAN

ITEMS	W	x	Wx
Bridge Span	520508	+ .14	+ 72879
30 Movable Weights	2850	+ 28.0	+ 79800
TOTALS	523358	x̄ = +.29	+ 152679

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS	OPEN HOLES	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAIL CALCULATIONS FOR COUNTERWEIGHT
SPECIFICATIONS MAINE HIGHWAY BRIDGE 1945
SHOP PAINT
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
E.Kom				

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
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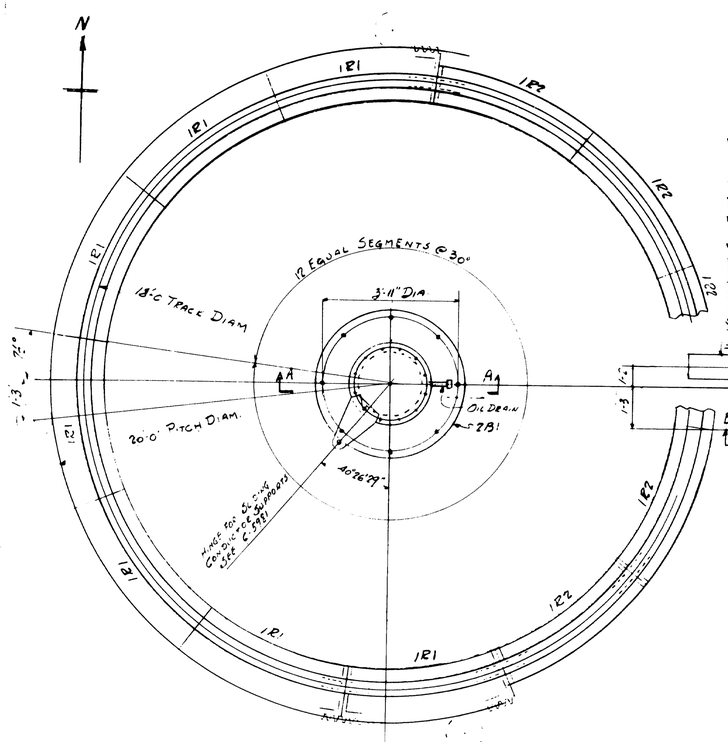
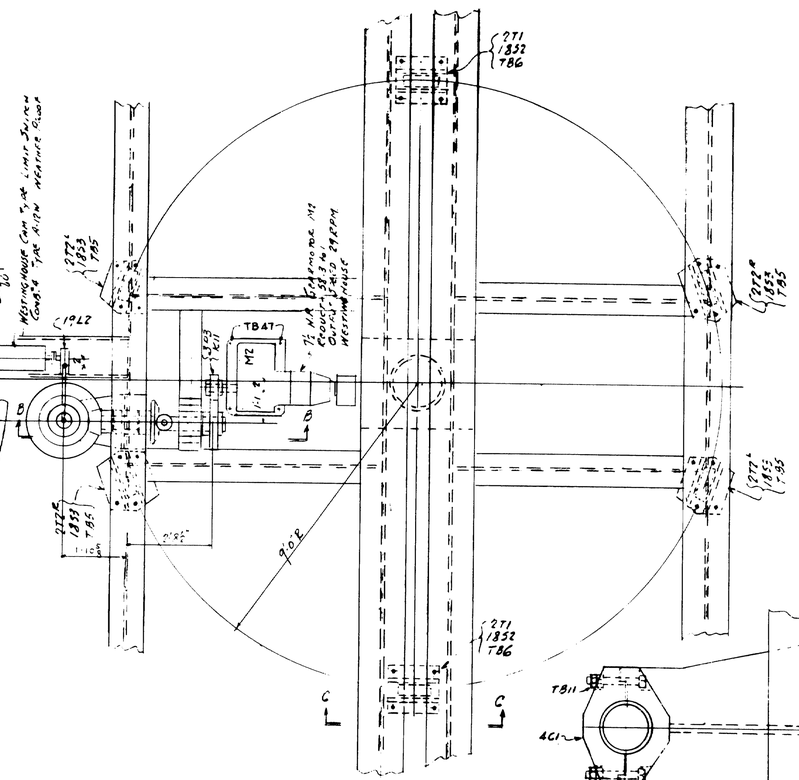
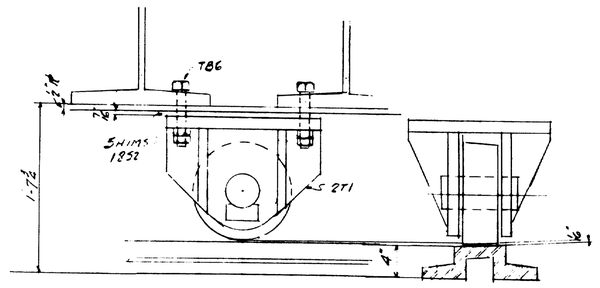
CONTRACT No. 5979 5980 SHEET No. W1

61-119

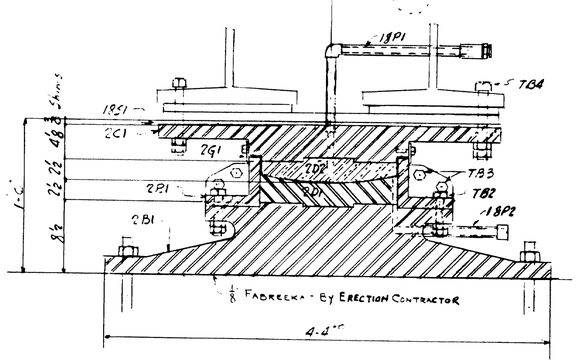




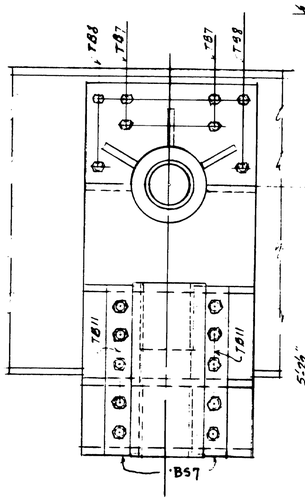
PLAN OF SWING MECHANISM



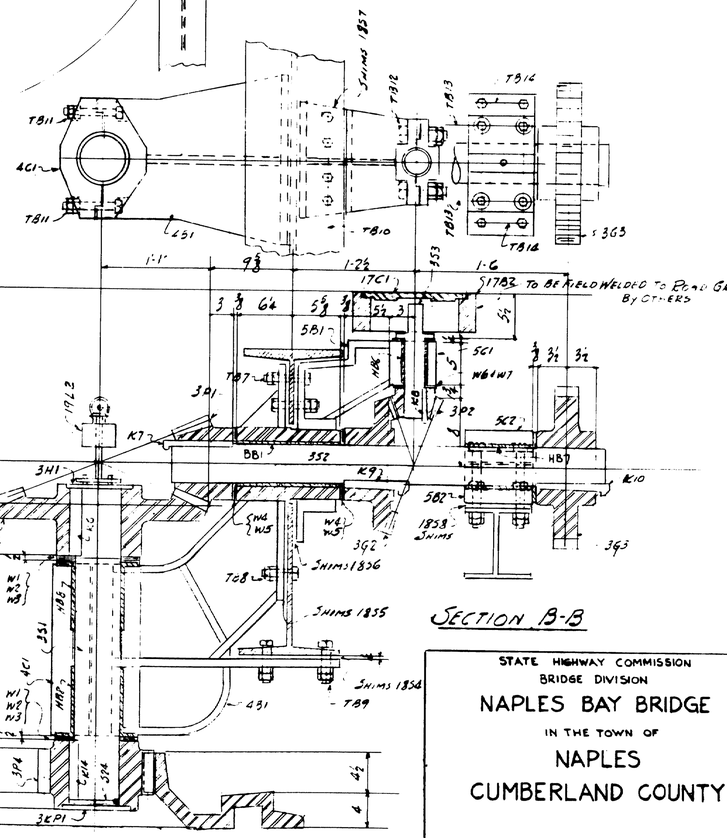
BALANCE WHEELS
SECTION C-C



SECTION A-A



PLAN OF RACK & TEACK



SECTION B-B

MAINTENANCE TOOLS

1- CAPSTAN HEAD - 17B1
3- CAPSTAN HANDLES - 17H1
1- CAP. BOX WRENCH - 17W1
1- ALEMITE GREASE GUN - # GG79-J
1- ALEMITE HOSE # 7089
1- BOX WRENCH # 8037A
1- Do # 8039A
1- Do # 8742B
1- Do # H811A
1- SET SOCKET SCREW KEYS # 22HK
1- WRENCH FOR TURNBUCKLES ON WEDGE RODS.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS	OPEN HOLES	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF ERECTION PLAN OF SWING MACH.
SPECIFICATIONS MAINE STATE HIGHWAY DEPT 1945
SHOP PAINT
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller	11/4/46			

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
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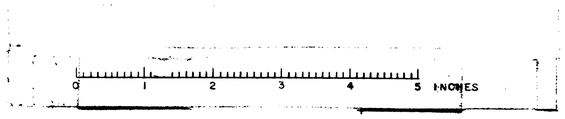
CONTRACT No. 5980 SHEET No. E1

61-120



SECT. E-E

SECT. F-F

SECT. C-C

SECT. D-D

SECT. A-A

SECT B-B

SECT K-K

SECT. L-L

SECT. J-J

SECT G-G

SECT H-N

SECT M-M

VIEW N-N

FIELD CHANGE
Latch Indicator Added

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES

CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS OPEN HOLES UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Erection Plan of Wedge Drive
SPECIFICATIONS Maine State Highway Dept 1945
SHOP PAINT
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller	1/11/54			

REVISIONS	NO.	DATE	BY	DESCRIPTION
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	2			
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	4			
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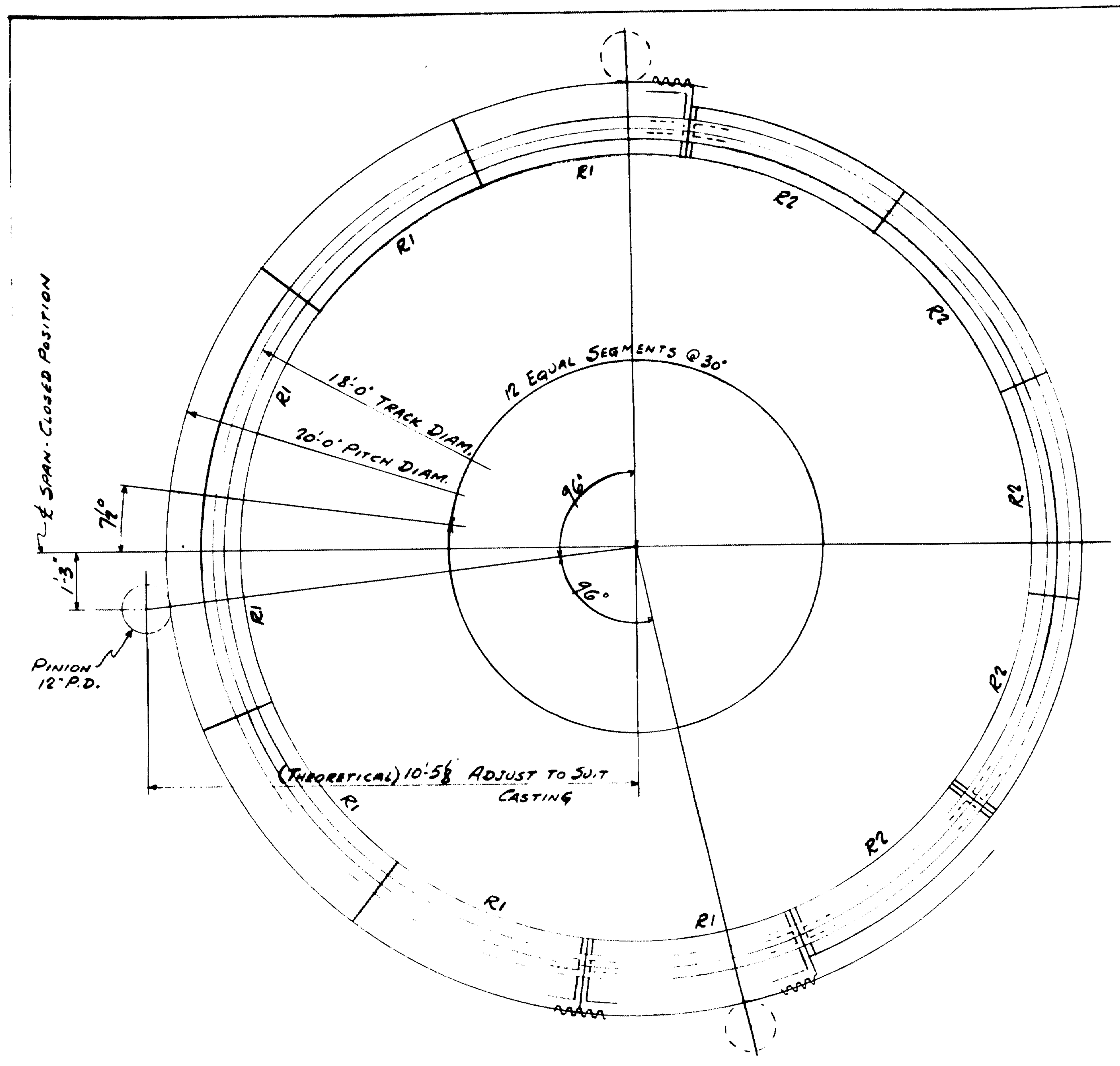
CONTRACT NO. 5980 SHEET NO. E2

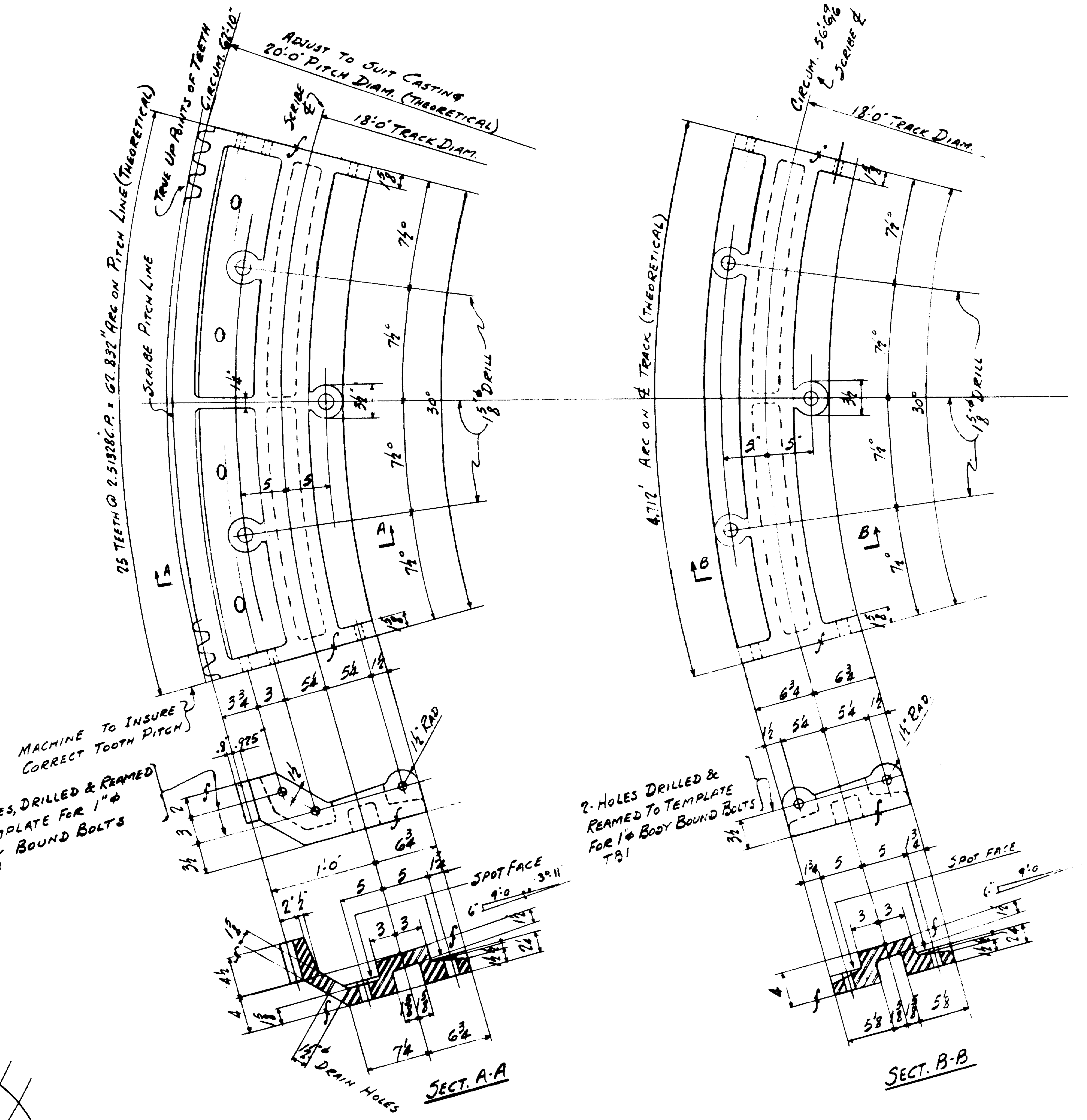
61-1.21

0 1 2 3 4 5 INCHES



PLAN OF RACK & TRACK

ASSEMBLE AND MATCH MARK



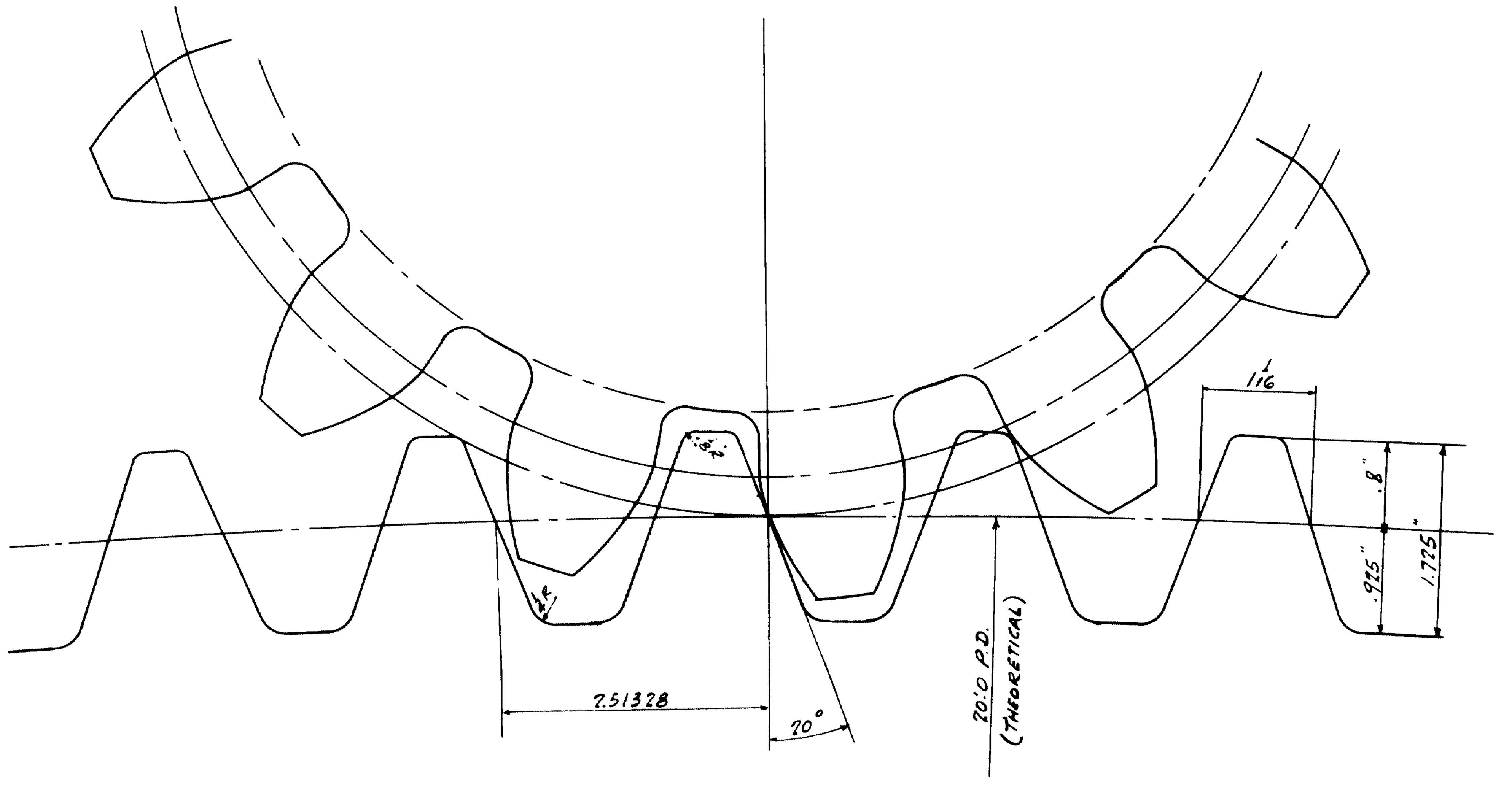
7-RACK SECTIONS - PATT # 5980-1R1

CAST STEEL ANNEALED

20° INVOLUTE CAST TEETH (MAYBE HAND MOLDED)
175 TEETH TOTAL
25 TEETH PER SEG.
D.P. 1¼
P.D. 20'-0"
FACE 4½"

5-TRACK SECTIONS - PATT # 5980-1R2

CAST STEEL ANNEALED



MATERIAL - CAST STEEL

A.S.T.M. DESIGNATION: A27-46T GRADE 65-35

NOTES

All Dimensions Marked "Theoretical" Are To Be Adjusted To Suit Errors In Estimation Of Shrinkage, And Adjustments Reported By Machine Shop, So These Adjustments May Be Incorporated On Drawings.
Special Tooth Thickness Of 1 1/16" On Rack To Provide Additional Backlash, On Account Of Cast Teeth.
Fillets At Tooth Tips And Roots ⅛ & ¼ Respectively.
Rack To Mesh With A.G.M.A. Std. 1¼ D.P. 20° Involute, Full Depth Tooth Form, Cut Tooth Pinion, Having 15 Teeth And Std. Tooth Thickness.

PAINT NOTE

All Finished Rubbing And Bearing Surfaces Of Machinery Parts Shall Be Coated With SV Sovakote #302 Before Shipment. All Remaining Surfaces Shall Be Given One Shop Coat Red Lead And Oil Per Specifications

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF RACKS & TRACKS
SPECIFICATIONS MAINE STEEL HIGHWAY BR. 1945
SHOP PAINT SEE PAINT NOTE
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
E. Kam Culler		R. M.		Markmann

REVISIONS NO.	DATE	BY	DESCRIPTION
1			
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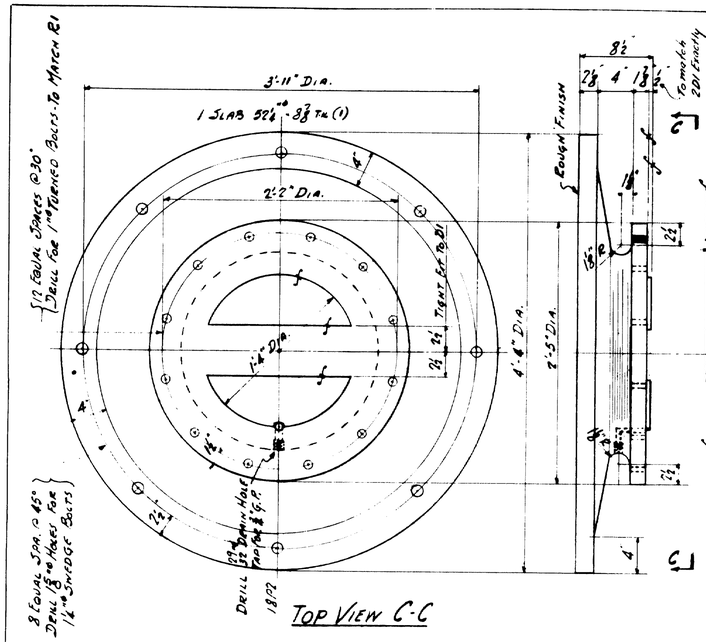
CONTRACT NO. 5980 SHEET NO. 1

61-1.22

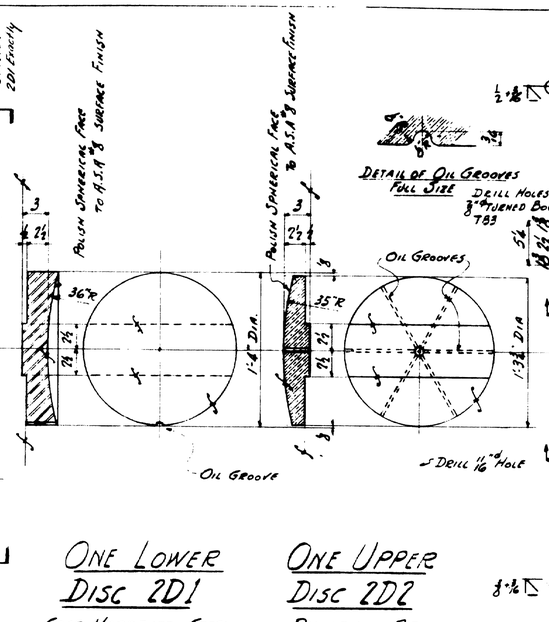
0 1 2 3 4 5 INCHES



TOP VIEW C-C

ONE CENTER PIVOT BASE 2B1

STEEL

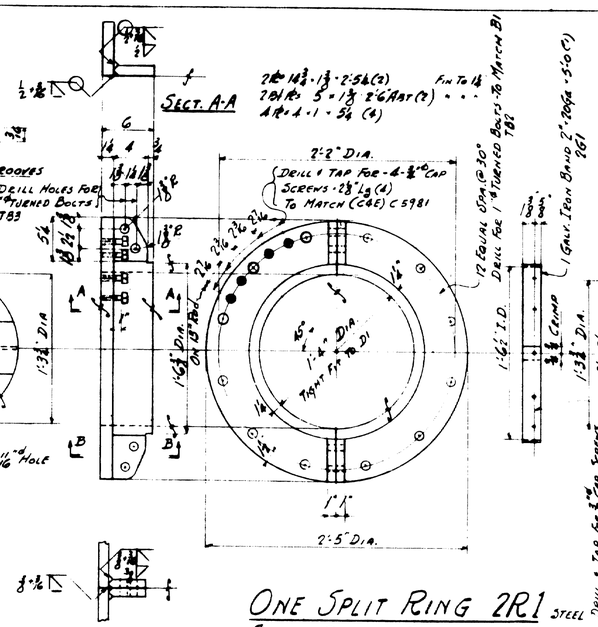


ONE LOWER DISC 2D1

CASE HARDENED STEEL
A235 - A.S.T.M.
CLASS G FORGING

ONE UPPER DISC 2D2

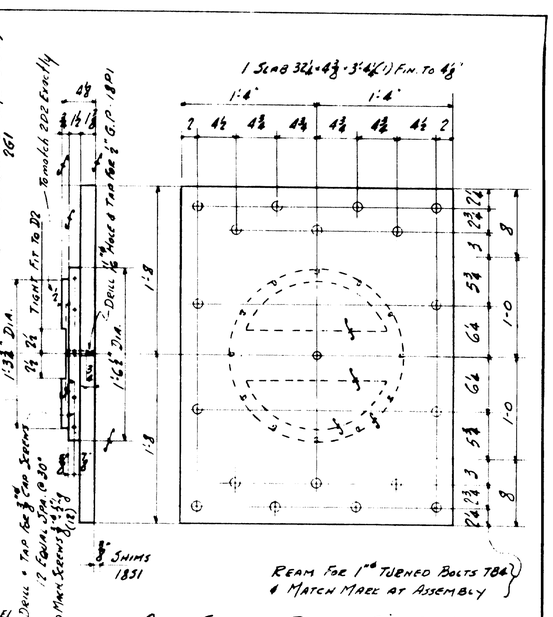
PHOSPHOR BRONZE
A.S.T.M. - B22-51 CLASS A

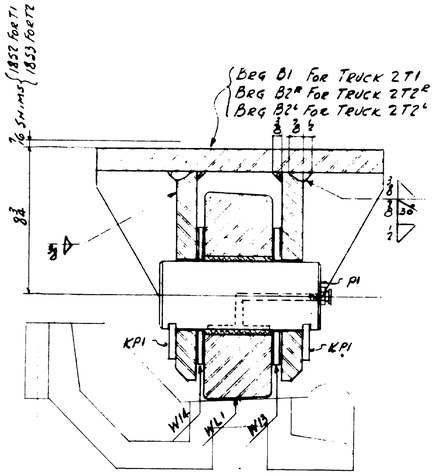


ONE SPLIT RING 2R1 STEEL

ONE DUST GUARD 2G1 STEEL

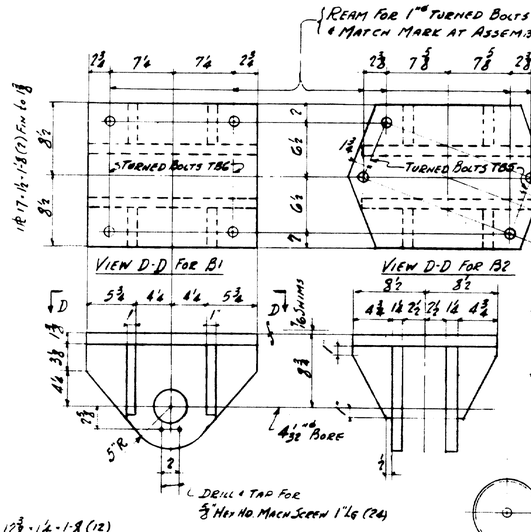
SHIP 2B1 WITH 2B1
SHIP 2G1 WITH 2C1





2 BALANCE TRUCKS 2T1

2	Do	Do	2T2R
2	Do	Do	2T2L



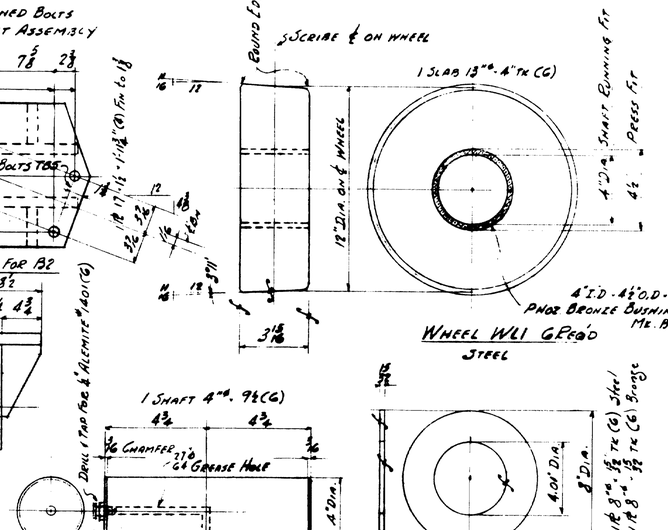
2 R 12⅜-1¼-1⅜ (12)
4 R 4½-1-8⅜ (24)

BEARING B1 - 2 REQ'D

BEARING B2R - 2 REQ'D

BEARING B2L - 2 REQ'D

STEEL



WHEEL W11 G REQ'D

STEEL

WASHER W13 - G REQ'D

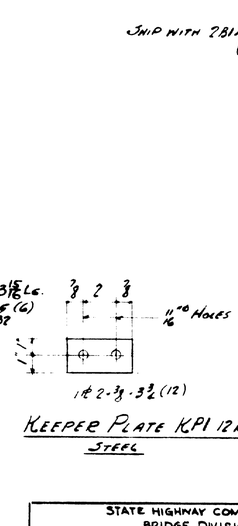
STEEL

WASHER W14 - G REQ'D

PHOS. BRONZE

PIN P1 - G REQ'D

STEEL



1 R 2-3⅜-3½ (12)

KEEPER PLATE KP1 12 REQ'D

STEEL

SHIP WITH 2B1 { 1 R 12-14 oz Duck 29" O.D. - 16" I.D. - 2B1 to 2B1 (Shellac)
2 Rs " " " 6" - 6½ " - 2B1 to 2B1 (Shellac)

NOTES
DISCS 2D1 & 2D2 SHALL BE FITTED ACCURATELY, FINISHED TO GAGE, AND SHALL BE ACCURATELY GROUND TO THE FINAL FINISH. THE SLIDING SURFACES OF STEEL AND PHOSPHOR BRONZE DISCS SHALL BE POLISHED TO A.S.A. #8 SURFACE FINISH.
SEE GENERAL NOTES ON SH. #5

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS ✓	OPEN HOLES ✓	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY CROSSING BRIDGE
FOR STATE OF MAINE
DETAILS OF CENTER PIVOT & BALANCE TRUCKS
SPECIFICATIONS MAINE STEEL HIGHWAY SP. 1945
SHOP PAINT SEE PAINT NOTE - SHT #1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
E. Eller	12/7/53	A.M.		A.M.

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
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CONTRACT NO. 5980 SHEET NO. 2

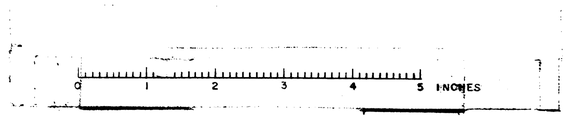
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE

IN THE TOWN OF

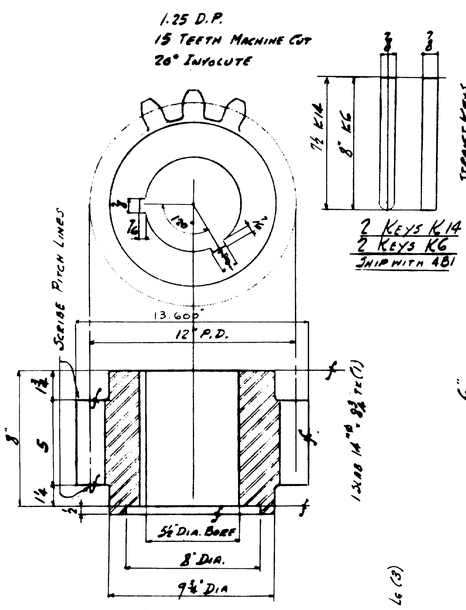
NAPLES

CUMBERLAND COUNTY



COMMERCIAL BLUE PRINT CO.

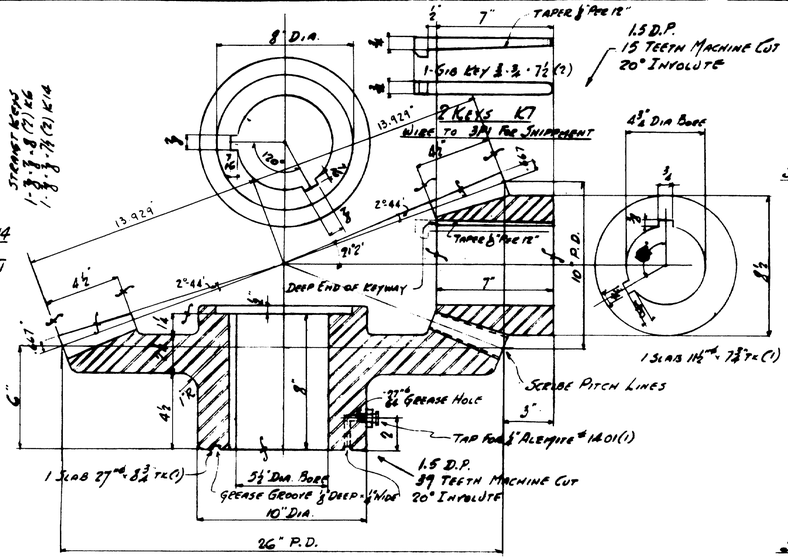
61-123



SHIP WITH 481

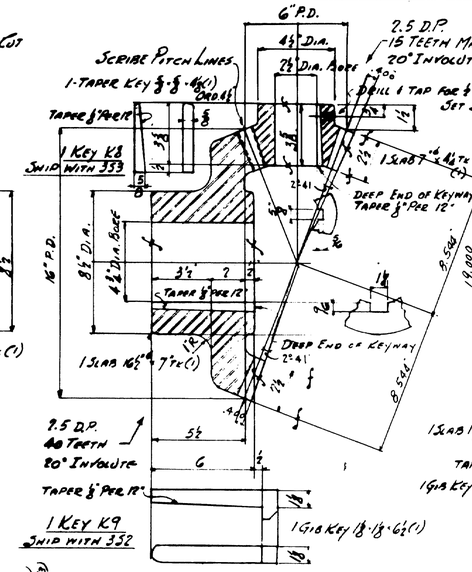
ONE PINION 3P4 STEEL

2 KEYS K14
2 KEYS K6
SHIP WITH 481



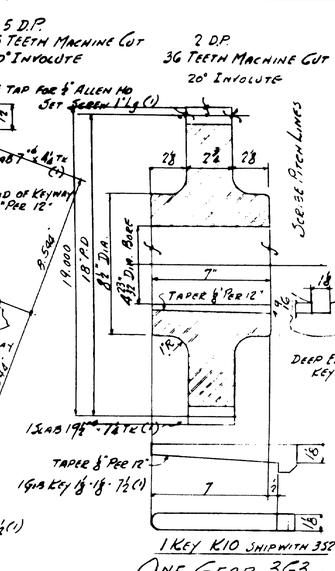
ONE BEVEL GEAR 3G1 SHIP WITH 481
ONE BEVEL PINION 3P1 SHIP LOOSE

STEEL



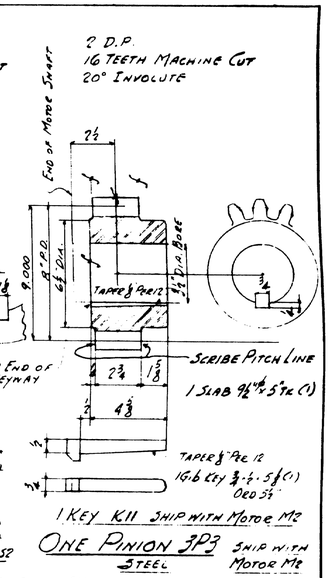
ONE BEVEL GEAR 3G2 SHIP WITH 332
ONE BEVEL PINION 3P2 SHIP WITH 333

STEEL



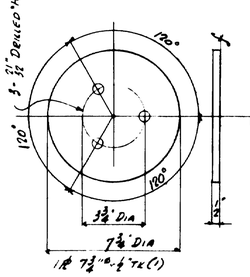
ONE GEAR 3G3 SHIP WITH 332

STEEL



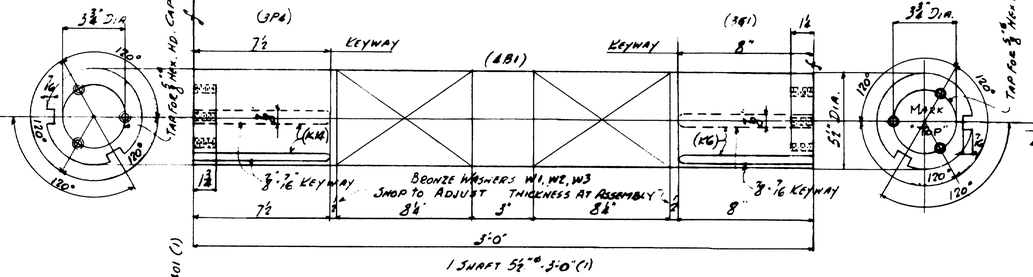
ONE PINION 3P3 SHIP WITH MOTOR MZ

STEEL



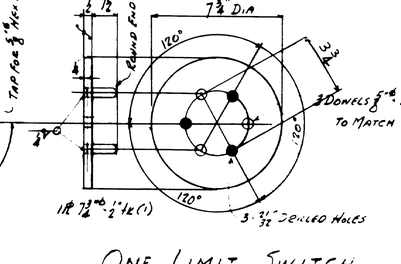
ONE PLATE 3KP1 STEEL

SHIP WITH 481



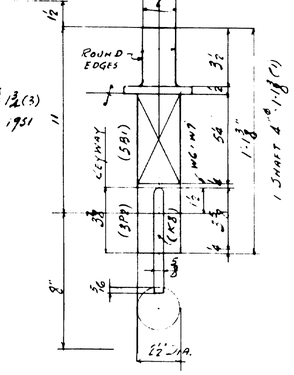
ONE SHAFT 351 SHIP WITH 481

STEEL



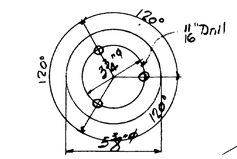
ONE LIMIT SWITCH DRIVE HUB 3H1 STEEL

SHIP WITH 481



2 COLLAR 3C1 STEEL

SHIP WITH 651

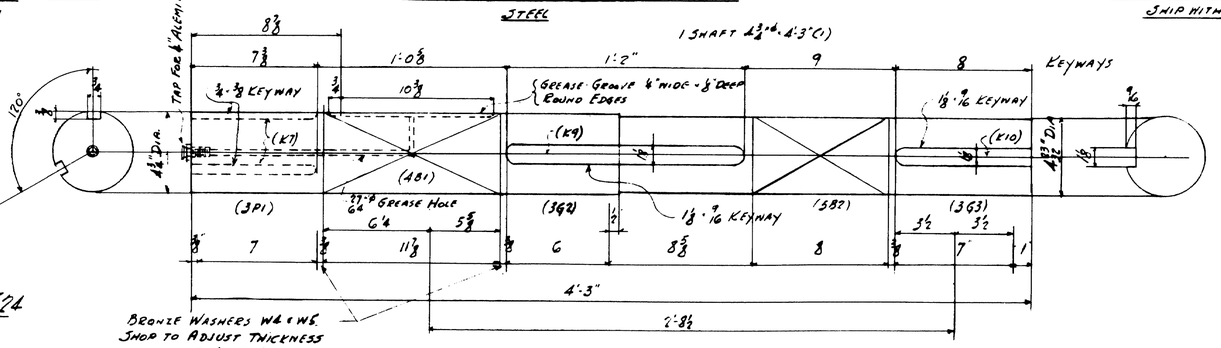


3 - Shims 5⅞"·⅛ TK (3)
2 Shims 5⅞"·1/16 TK (2)

ONE SET SHIMS 524

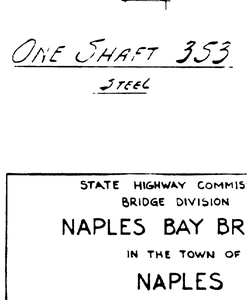
STEEL

SHIP WITH 481



ONE SHAFT 352

STEEL



ONE SHAFT 353

STEEL

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS	OPEN HOLES	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF SWING MECHANISM
SPECIFICATIONS MAINE STEEL HIGHWAY BR. 1945
SHOP PAINT SEE PAINT NOTE SNT "1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
E.J.G.	12/30/53	A.M.	1/5/54	A.M.

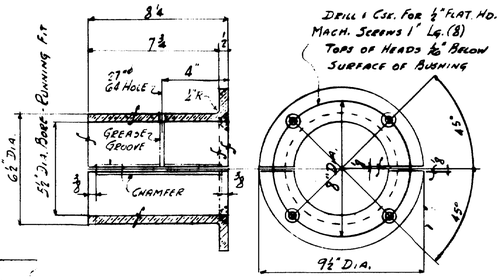
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT No. 5980 SHEET No. 3

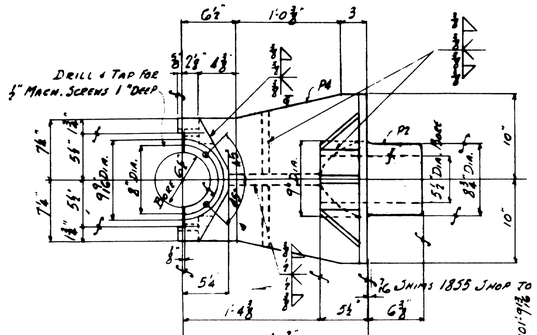
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

61-124

0 1 2 3 4 5 INCHES

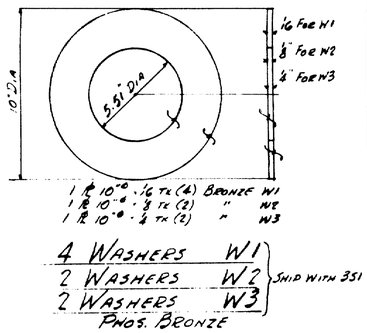


4 Half Bushings - HB8 Ship with 4B1
Phos. Bronze



List of Material For 4B1 & 4C1

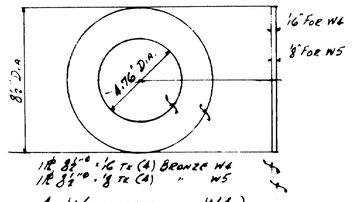
1 Pl	20 - 1⅛	2'-3⅜ (1) P1
1 Slab	9¼	1'-0¼ (1) P2
1 Pl	15⅜ - 1½	2'-4¼ (1) P3
1 Bt Pl	20 - 1	2'-6" Abt (1) P4
1 Pl	20 - 1	2'-2⅜ (1) P5
1 Bt Pl	20 - 1	2'-0 Abt (1) P6
2 Pl	9¼ - 1	10 (2) P7
1 Pl	9½ - 1	1'-8 (1) P8
3 Rs	4½ - 1	4½ (3) P9
1 Slab	14⅜ - 6½	1'-7 (1) P10
1 Slab	14⅜ - 5½	1'-7 (1) P11



1 Pl 10"-0 · 1/16 Tk (2) Bronze W1
1 Pl 10"-0 · ⅛ Tk (2) " W2
1 Pl 10"-0 · ¼ Tk (2) " W3

4 Washers	W1	Ship with 351
2 Washers	W2	
2 Washers	W3	

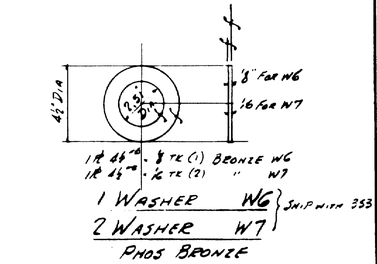
Phos. Bronze



1 Pl 8½"-0 · 1/16 Tk (4) Bronze W4
1 Pl 8½"-0 · ⅛ Tk (4) " W5

4 Washers	W4	Ship with 352
4 Washers	W5	

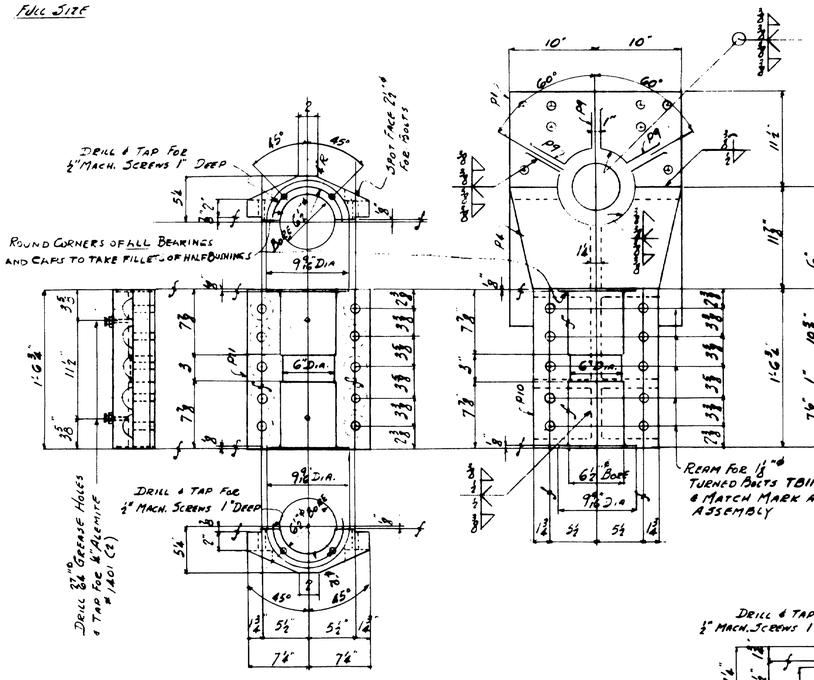
Phos Bronze



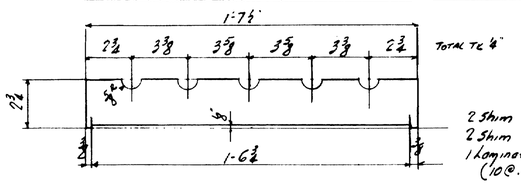
1 Pl 4½"-0 · ⅛ Tk (1) Bronze W6
1 Pl 4½"-0 · 1/16 Tk (2) " W7

1 Washer	W6	Ship with 353
2 Washer	W7	

Phos Bronze

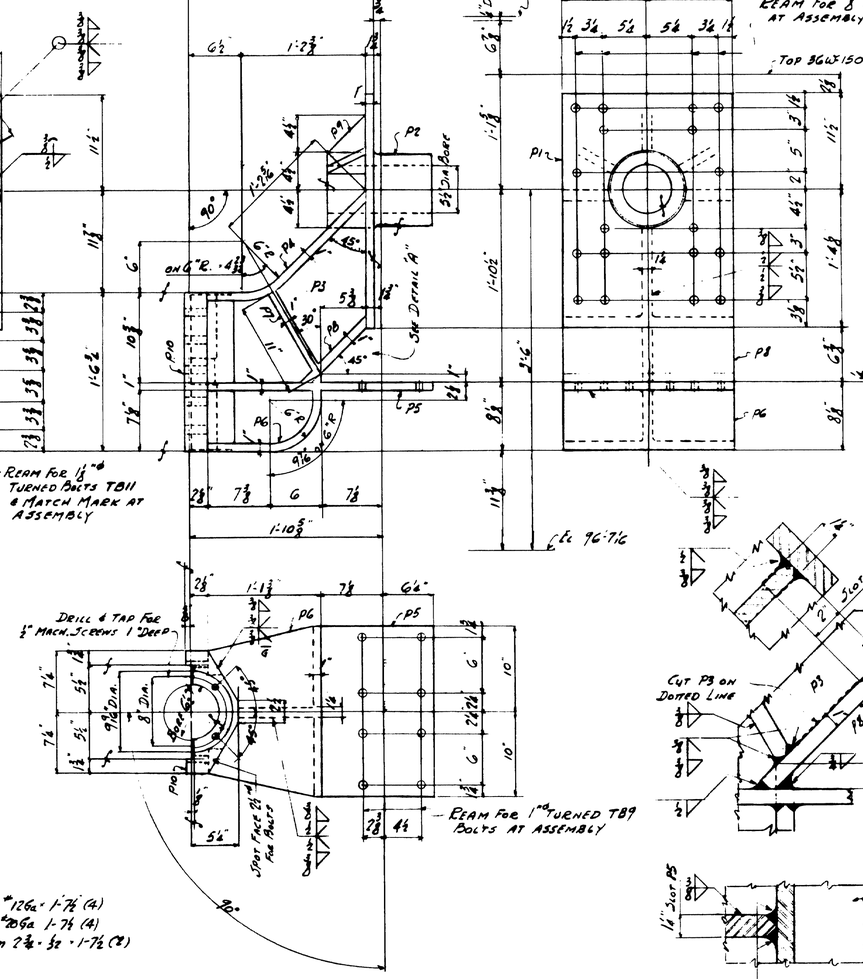


One Bearing 4B1 Steel
One Cap 4C1 Steel - Ship with 4B1



2 Shim 2¾ · "126a" · 1-7½ (4)
2 Shim 2¾ · "20a" 1-7½ (4)
1 Laminated Shim 2¾ · ½ · 1-7½ (2)
(10@.003)

2 Sets Shims B57
Brass Ship with 4B1



Note - Bearing 4B1 to be Stress Relieved Before Finishing
See Notes on Sh. 5

Inspection	Shop Rivets	Weight

Rivets ✓ Open Holes ✓ Unless Noted

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

Structure Naples Bay Swing Bridge
For State of Maine
Details of Bearing for Swing Mechanism
Specifications Maine Steel Highway Br. 1965
Shop Paint See Paint Note - Sht. 1
Field Paint

Drawn By	Date	Checked By	Date	Squad Foreman
Fuller	12/21/53	A. [illegible]		A. [illegible]

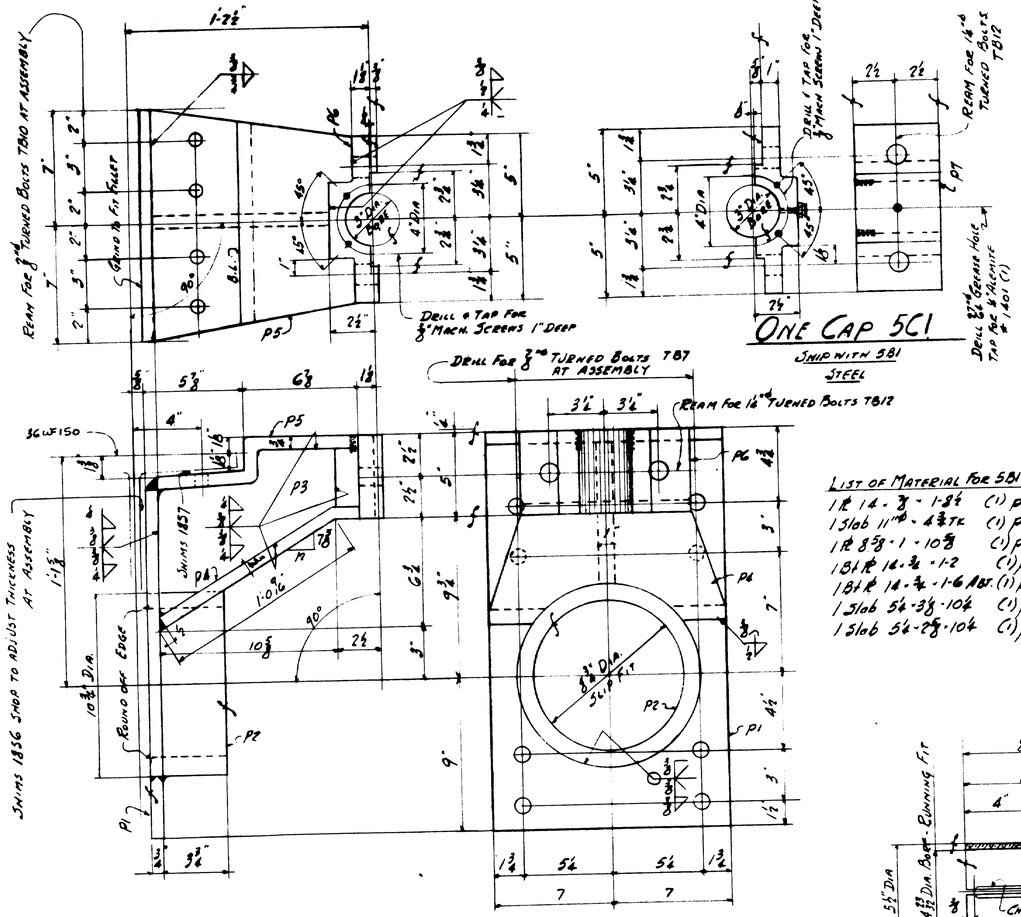
Revisions	No.	Date	By	Description
	1			
	2			
	3			
	4			
	5			

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

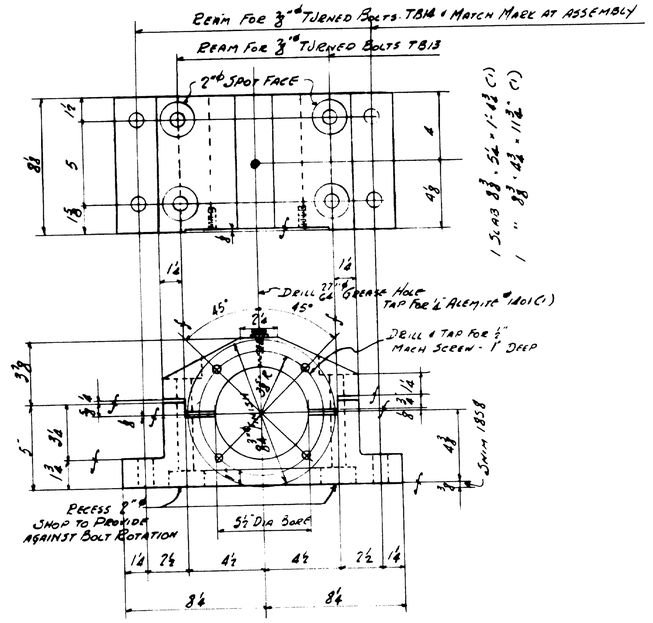
Contract No. 5980 Sheet No. 4

61-125

0 1 2 3 4 5 INCHES



ONE CAP 5C1 SHIP WITH 5B1 STEEL



ONE BEARING 5B2 STEEL

ONE CAP 5C2 SHIP WITH 5B2 STEEL

GENERAL NOTES

1 — BRONZE TO BE ASTM-B22-51 CLASS A

2 — SHAFTING, GEAR BLANKS, COUPLINGS AND OTHER MACHINE PARTS TO BE HOT ROLLED OR FORGED FROM 1020 TO 1045 STEEL UNLESS NOTED.

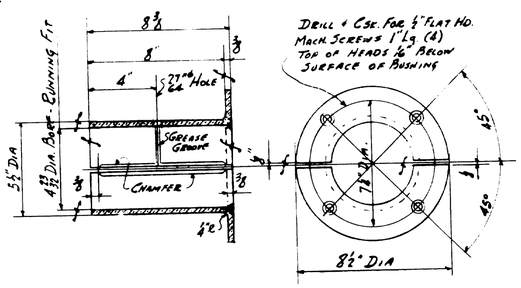
3 — ALL WELDMENTS TO BE 1020 STEEL. WELDMENTS TO BE STRESS RELIEVED WHERE SPECIFIED.

4 — WELDED PIECES, WHERE CALLED FOR IN THIS SPECIFICATION, SHALL BE STRESS-RELIEVED BY HEATING THE PIECE UNIFORMLY TO AT LEAST 1100°F IN AN ANNEALING FURNACE. THE STRUCTURE SHALL BE BROUGHT SLOWLY UP TO THE SPECIFIED TEMPERATURE AND HELD AT THAT TEMPERATURE FOR A PERIOD OF TIME PROPORTIONED ON THE BASIS OF AT LEAST ONE HOUR PER INCH OF MAXIMUM THICKNESS. THE PIECE SHALL THEN BE ALLOWED TO COOL SLOWLY IN A STILL ATMOSPHERE. AT NO TIME DURING THE STRESS-RELIEVING PERIOD SHALL THERE BE A TEMPERATURE DIFFERENCE IN ANY PART OF THE STRUCTURE GREATER THAN 200°F. EACH STRUCTURE SHALL BE PROPERLY SUPPORTED IN THE FURNACE TO PREVENT DISTORTION. HEATING OF ANY PART AFTER STRESS RELIEVING WILL NOT BE PERMITTED.

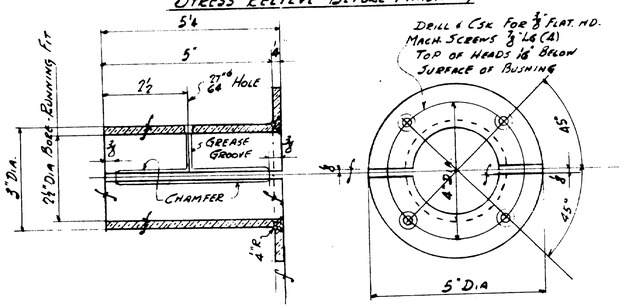
5 — PAINT:
ALL FINISHED RUBBING AND BEARING SURFACES OF MACHINERY PARTS TO BE COATED WITH SV-SOVAKOTE #302 (MADE BY STANDARD OIL COMPANY.)
INSIDE OF WORM REDUCER HOUSING TO BE PAINTED WITH APPROVED OIL RESISTANT PAINT.
REMAINING SURFACES TO RECEIVE 1 COAT OF RED LEAD PER SPEC'S.

LIST OF MATERIAL FOR 5B1 & 5C1

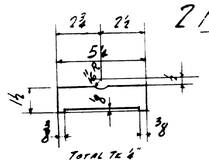
1 Pl	14 - ⅜ - 1-8¼	(1) P1
1 Slab	11" - 4¾ TK	(1) P2
1 Pl	8-5/8 - 1 - 10⅜	(1) P3
1 Bl Pl	14 - ¾ - 1-2	(1) P4
1 Bl Pl	14 - ¾ - 1-6 Abt.	(1) P5
1 Slab	5¼ - 3⅜ - 10¼	(1) P6
1 Slab	5¼ - 2⅜ - 10¼	(1) P7



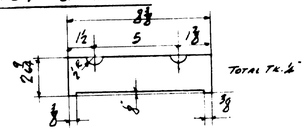
ONE BEARING 5B1 STEEL
STRESS RELIEVE BEFORE FINISHING



2 HALF BUSHINGS HB6 SHIP WITH 5B1
PHOS. BRONZE



2 HALF BUSHINGS HB7 SHIP WITH 5B2
PHOS BRONZE



2 Shim 1½ · 12Ga = 5¼ (4)
2 Shim 1½ · 20Ga = 5¼ (4)
1 Laminated Shim 1½ · 1/32 = 5¼ (2)
(10 Lb. .003)

2 SETS SHIMS B55 SHIP WITH 5B1
BRASS

2 Shim 2 3/32 · 12Ga = 8⅜ (4)
2 Shim 2 3/32 · 20 Ga = 8⅜ (4)
1 Laminated Shim 2 3/32 · 1/32 = 8⅜ (2)
10 Lb. .003

2 SETS SHIMS B56 SHIP WITH 5B2
BRASS

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

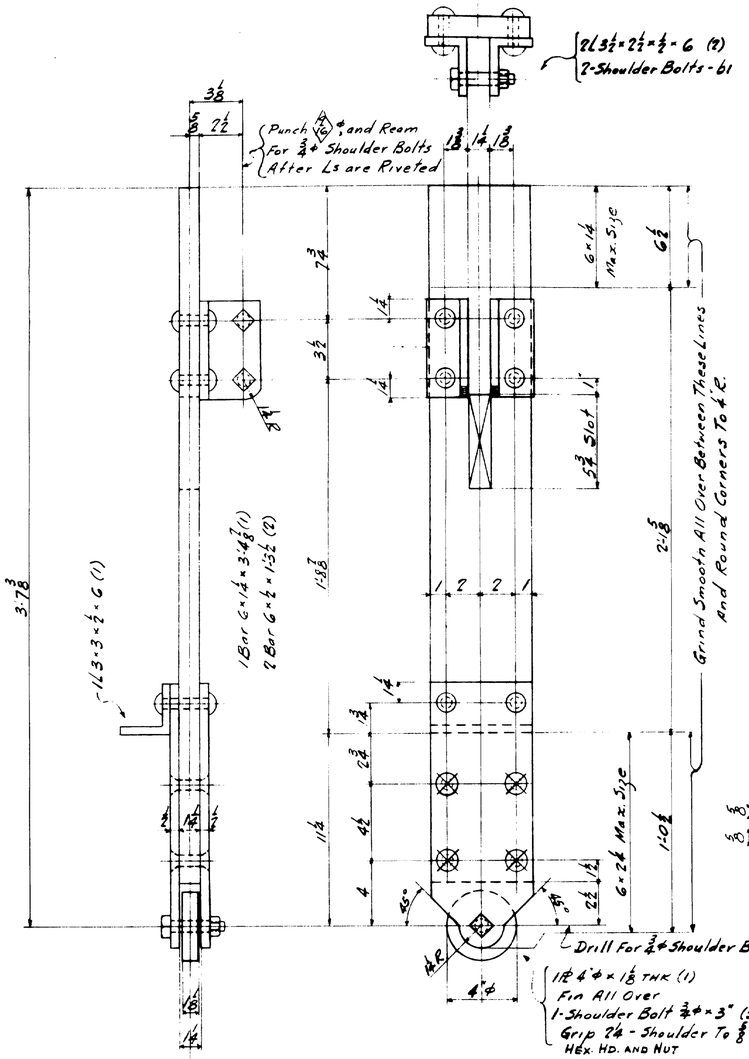
STRUCTURE Naples Bay Swing Bridge
FOR STATE OF MAINE
DETAILS OF Bearings For Swing Mechanism
SPECIFICATIONS Maine State Highway Bc 1945
SHOP PAINT See Paint Note - Sht #1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller	1/9/52	A.M.	1/22/52	A.M.

REVISIONS	No.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

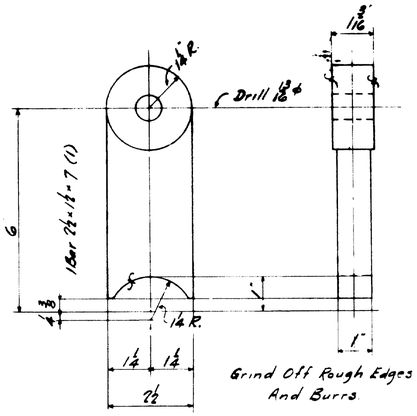
CONTRACT NO. 5980 SHEET NO. 5

61-126

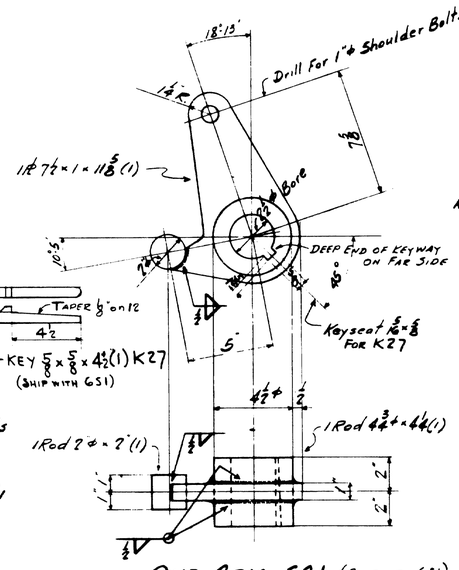


ONE-LATCH BAR-6L1 (STEEL)

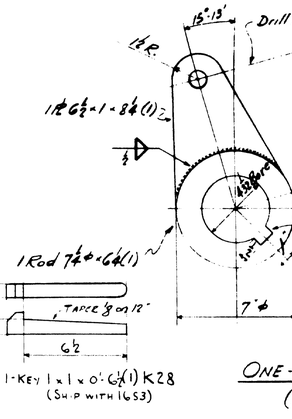
5/8 ϕ Rivets



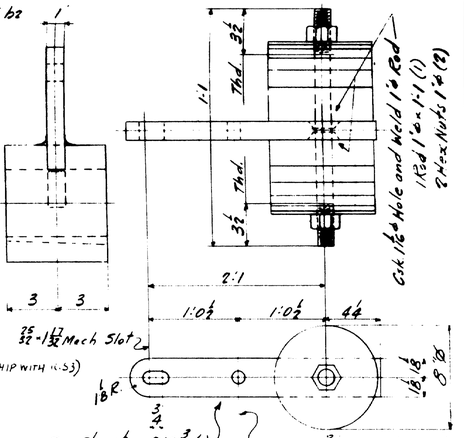
ONE-LATCH LIFT BAR-6L2 (SHIP WITH 6L1)
(STEEL)



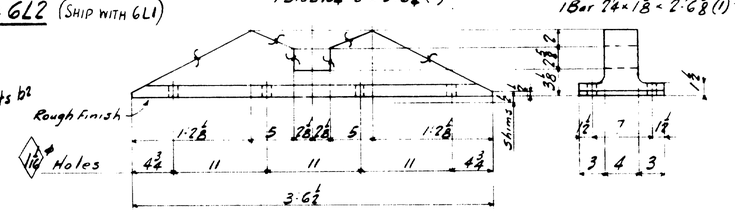
ONE-ARM-6A1 (SHIP WITH 6S1)
(STEEL)



ONE-ARM-6A2 (SHIP WITH 6S3)
(STEEL)

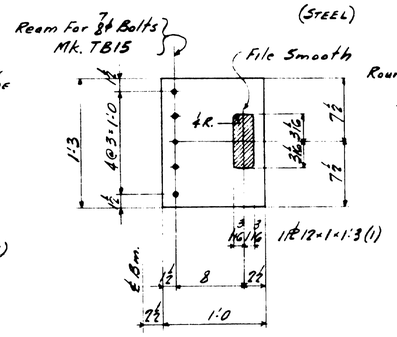


2 R 8 ϕ × 2 (2) 2 R 8 ϕ × ½ (2)
2 R 8 ϕ × 1 (2) 2 R 8 ϕ × ¼ (2)
2 R 8 ϕ × ¾ (2) 2 R 8 ϕ × ⅛ (2)

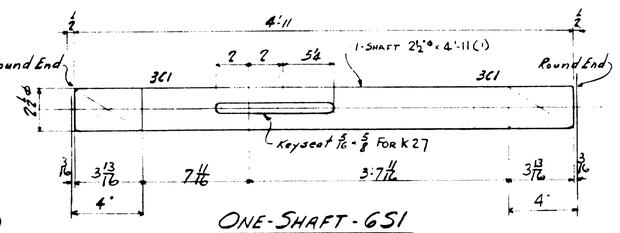


ONE-COUNTERWEIGHT-6G1
(STEEL)

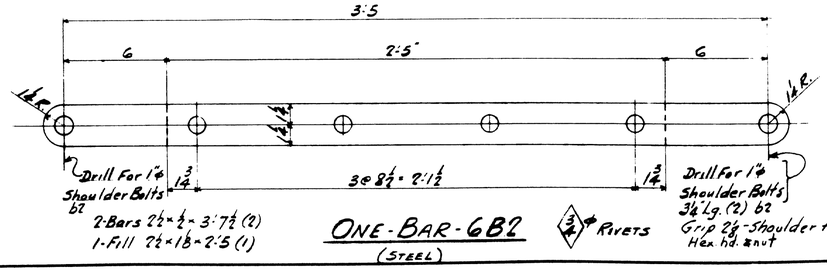
ONE-LATCH-6L3
(STEEL)



ONE-GUIDE PLATE-6P1
(STEEL)



ONE-SHAFT-6S1
(STEEL)



ONE-BAR-6B2 (¾ ϕ Rivets)
(STEEL)

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED		

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF LATCH
SPECIFICATIONS MAINE STEEL HIGHWAY BR. 1945
SHOP PAINT SEE PAINT NOTE SHT 1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
E. Kam		A.M.	1/25/51	A.M.

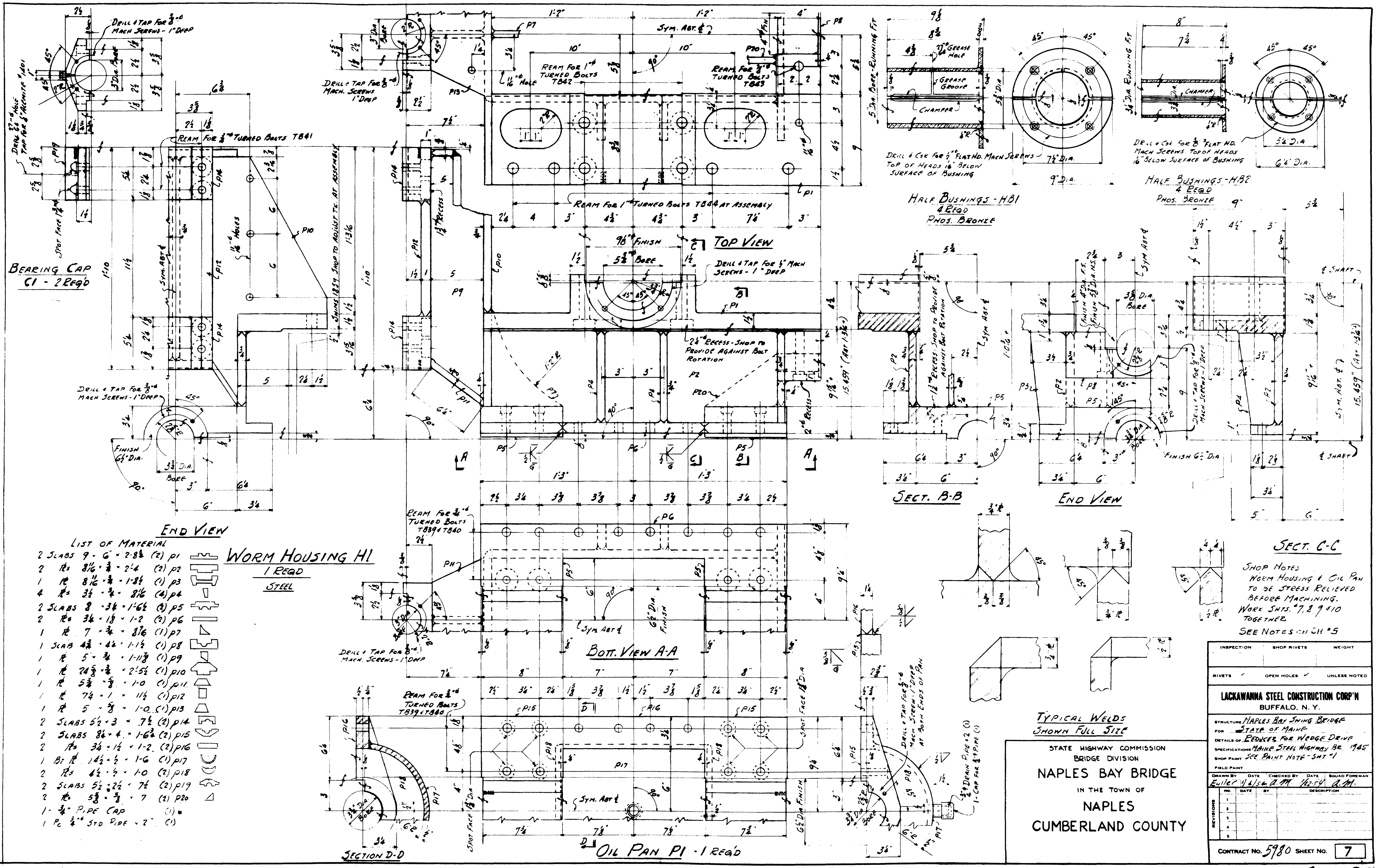
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT NO. 5980 SHEET NO. 6

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

61-127



LIST OF MATERIAL

2	Slabs	9 · 6" × 2-8 3/4	(2)	P1
2	Pls	8 11/16 · 3/4 · 2-4	(2)	P2
1	Pl	8 11/16 · 3/4 · 1-8 1/2	(1)	P3
4	Pls	3 1/2 · 3/4 · 8 1/16	(4)	P4
2	Slabs	8 · 3 1/4 · 1-6 1/2	(2)	P5
2	Pls	3 1/4 · 1 1/8 · 1-2	(2)	P6
1	Pl	7 · 3/4 · 8 7/16	(1)	P7
1	Slab	4 3/4 · 4 1/4 · 1-1 1/2	(1)	P8
1	Pl	5 · 3/4 · 1-11 7/8	(1)	P9
1	Pl	24 5/8 · 3/4 · 2-5 1/2	(1)	P10
1	Pl	5 3/4 · 5/8 · 1-0	(1)	P11
1	Pl	7 1/4 · 1 · 11 1/2	(1)	P12
1	Pl	5 · 5/8 · 1-0	(1)	P13
2	Slabs	5 1/2 · 3 · 7 1/2	(2)	P14
2	Slabs	8 1/4 · 4 · 1-6 3/4	(2)	P15
2	Pls	3 1/4 · 1 1/2 · 1-2	(2)	P16
1	Bt Pl	14 1/2 · 1/2 · 1-6	(1)	P17
2	Pls	4 1/2 · 1/2 · 1-0	(2)	P18
2	Slabs	5 1/2 · 2 1/2 · 7 1/2	(2)	P19
2	Pls	5 5/8 · 5/8 · 7	(2)	P20
1	3/4" Pipe Cap		(1)	
1	Pc 3/4" Std. Pipe · 2"		(1)	

WORM HOUSING H1
1 REQ'D
STEEL

SHOP NOTES
Worm Housing & Oil Pan to be Stress Relieved Before Machining.
Work Shts. #7, 8, 9 & 10 Together
See Notes on Sh #5

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Reducer for Wedge Drive
SPECIFICATIONS Maine Steel Highway Br. 1945
SHOP PAINT See Paint Note - Sht #1
FIELD PAINT

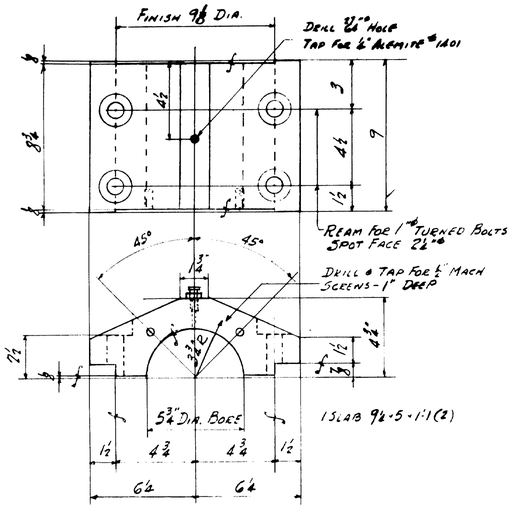
DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Euller	1/6/54	A.M.	1/22-54	A.M.

REVISIONS

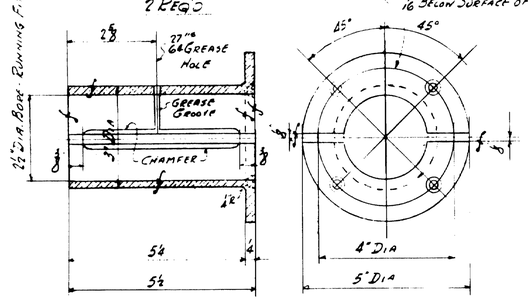
NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

CONTRACT NO. 5980 SHEET NO. 7

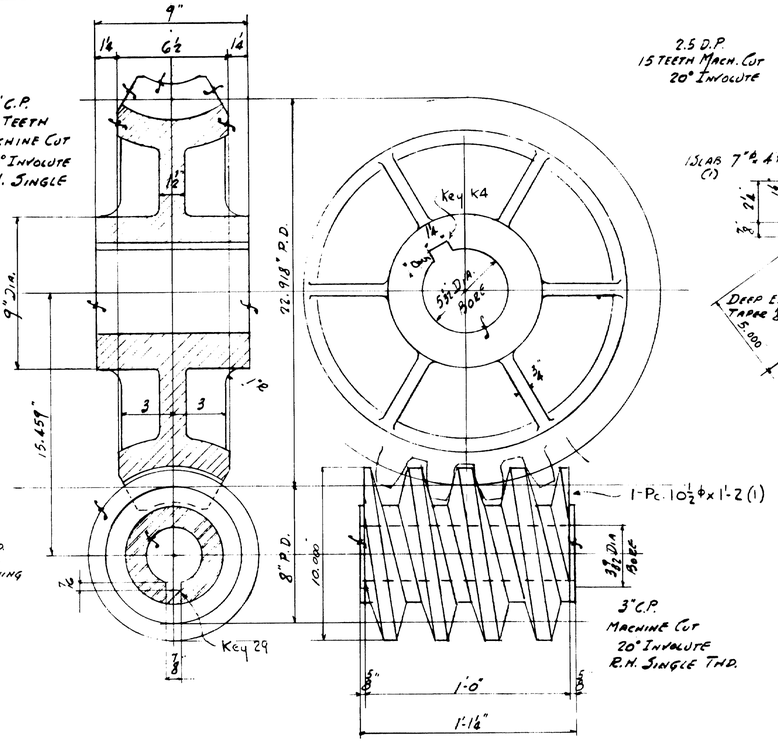
61-128



BEARING CAP C2 STEEL
2 Req'd

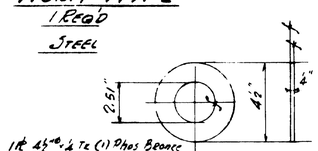


HALF BUSHINGS HB3
4 Req'd PHOS BRONZE

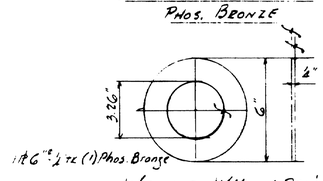


WORM WHEEL WW1
1 Req'd
MEEHANITE

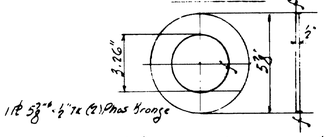
WORM WW2
1 Req'd
STEEL



1 Pc. 4½"ø - ½ Tk (1) Phos. Bronze
WASHER W10 - 1 Req'd
PHOS. BRONZE

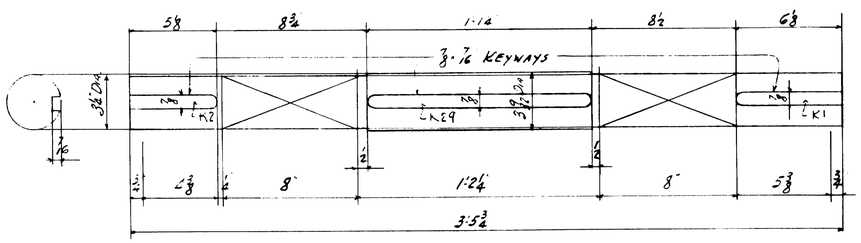


1 Pc. 6"ø - ½ Tk (1) Phos. Bronze
WASHER W11 - 1 Req'd
PHOS. BRONZE

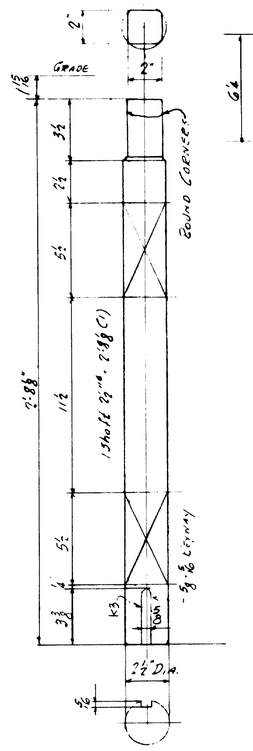


1 Pc. 5⅜"ø - ½ Tk (2) Phos. Bronze
WASHER W12 - 2 Req'd
PHOS. BRONZE

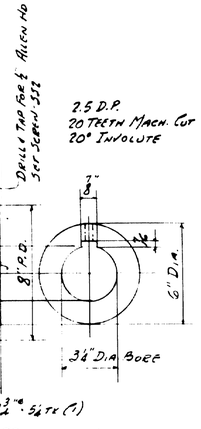
1 SHAFT 3 5/16"ø - 3:5¾ (1)



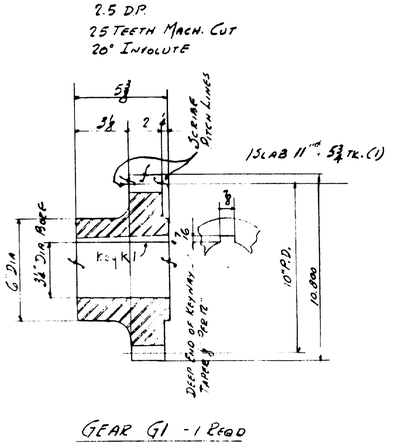
SHAFT S1 - 1 Req'd
STEEL



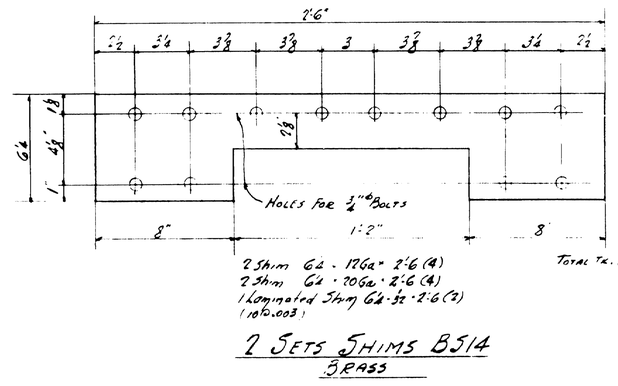
SHAFT S2 STEEL
1 Req'd



BEVEL GEAR G2 - 1 Req'd
BEVEL PINION P2 - 1 Req'd
STEEL

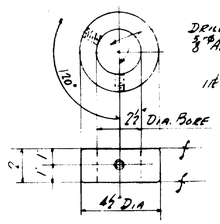


GEAR G1 - 1 Req'd
STEEL



2 Shim 6½ - 176a - 2:6 (4)
2 Shim 6½ - 206a - 2:6 (4)
1 Laminated Shim 6½ - 32 - 2:6 (2)
(10 to .003)

2 SETS SHIMS B514
BRASS



COLLAR C4 - 1 Req'd
STEEL

Work Shts 7, 8, 9 & 10 Together

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ✓ OPEN HOLES — UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Reducer for Wedge Drive
SPECIFICATIONS Maine Steel Highway Br. 1945
SHOP PAINT See Paint Note - Sht #1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Euler	11/14/58	A.M.	11/25/58	A.M.

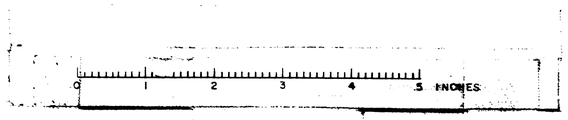
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

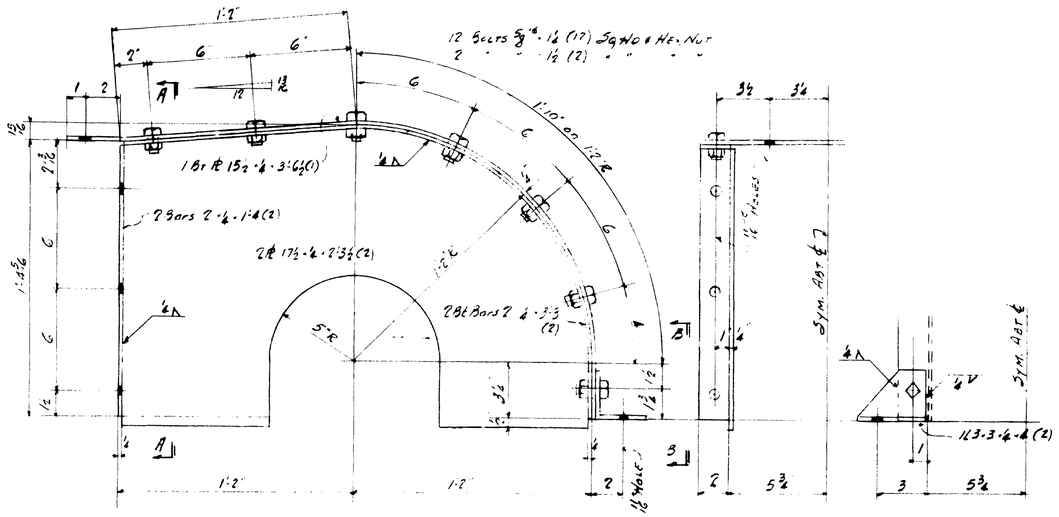
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

CONTRACT NO. 5980 SHEET NO. 8

61-129

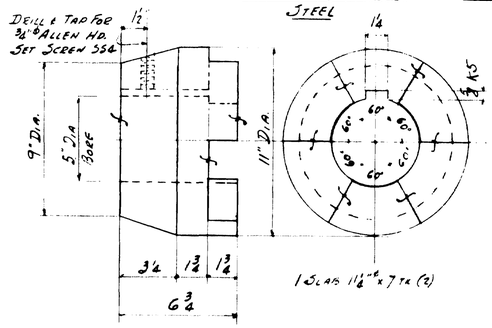




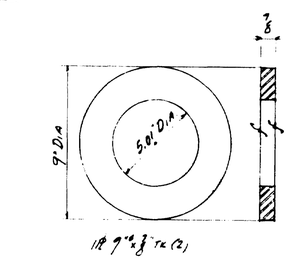
ONE HOOD H2 - 1 REQ'D
STEEL

SECT. A-A

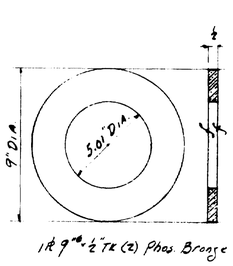
SECT. B-B



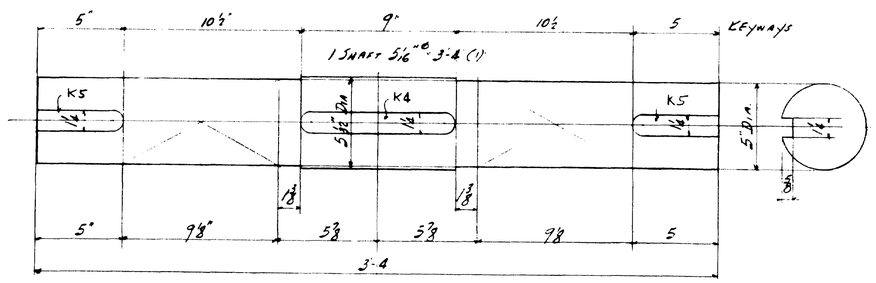
JAW COUPLINGS J1 - 2 REQD
STEEL



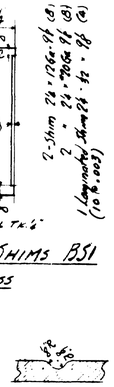
WASHER W9
2 REQD
STEEL



WASHER W8
2 REQD
PHOS. BRONZE



SHAFT S3 - 1 REQD
STEEL

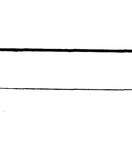


GIB KEY K1
1 REQ'D

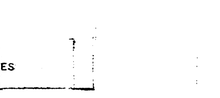
SQUARE KEY K5
2 REQD

TAPER KEY K2
1 REQ'D

SQUARE KEY K29
1 REQD



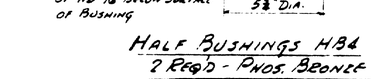
TAPER KEY K3
1 REQ'D



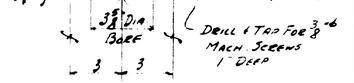
SQUARE KEY K4
1 REQD

FITTINGS

16	Turned Bolts	TB 39	See Bolt List	
8	" "	TB 40	" " "	
8	" "	TB 41	" " "	
8	" "	TB 42	" " "	
2	" "	TB 43	" " "	
2	Bolts ⅝"ø x 2¾ with Sq Hd & Hex Nut			- B3
6	" ⅝"ø x 1¾ " " " " " "			- B1
2	" 1½" " " " " " "			- B2
1	½"ø Allen Head Set Screws ⅞" Lg			- SS1
1	½"ø " " " " 1¼ Lg			- SS2
2	⅝"ø " " " " 1⅝ Lg			- SS3
2	¾"ø " " " " 2" Lg			- SS4
5	½" Alemite Fittings # 1401			
20	Flat Hd. Machine Screws ⅜"ø - ⅞" Lg			- MS1
8	" " " " ½"ø - 1" Lg			- MS2

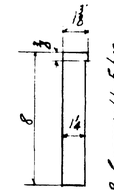


HALF BUSHINGS HB4
2 REQ'D - PHOS. BRONZE

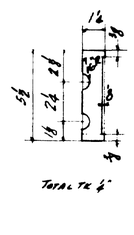


BEARING CAP C3 STEEL
1 REQ'D

4 SETS SHIMS BS1
BRASS



4 SETS SHIMS BS2
COMPRESS. FIBRE



4 SETS SHIMS BS3
BRASS

2 SETS SHIMS BS4
BRASS

DETAIL OF GREASE GROOVE
FULL SIZE

WORK SNTS #7, 8, 9 & 10 TOGETHER

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Reducer for Wedge Drive
SPECIFICATIONS Maine Steel Highway Br. 1935
SHOP PAINT See Paint Note - Sht #1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
E.W.L.	11/4/54	A.M.	11/5/54	A.M.

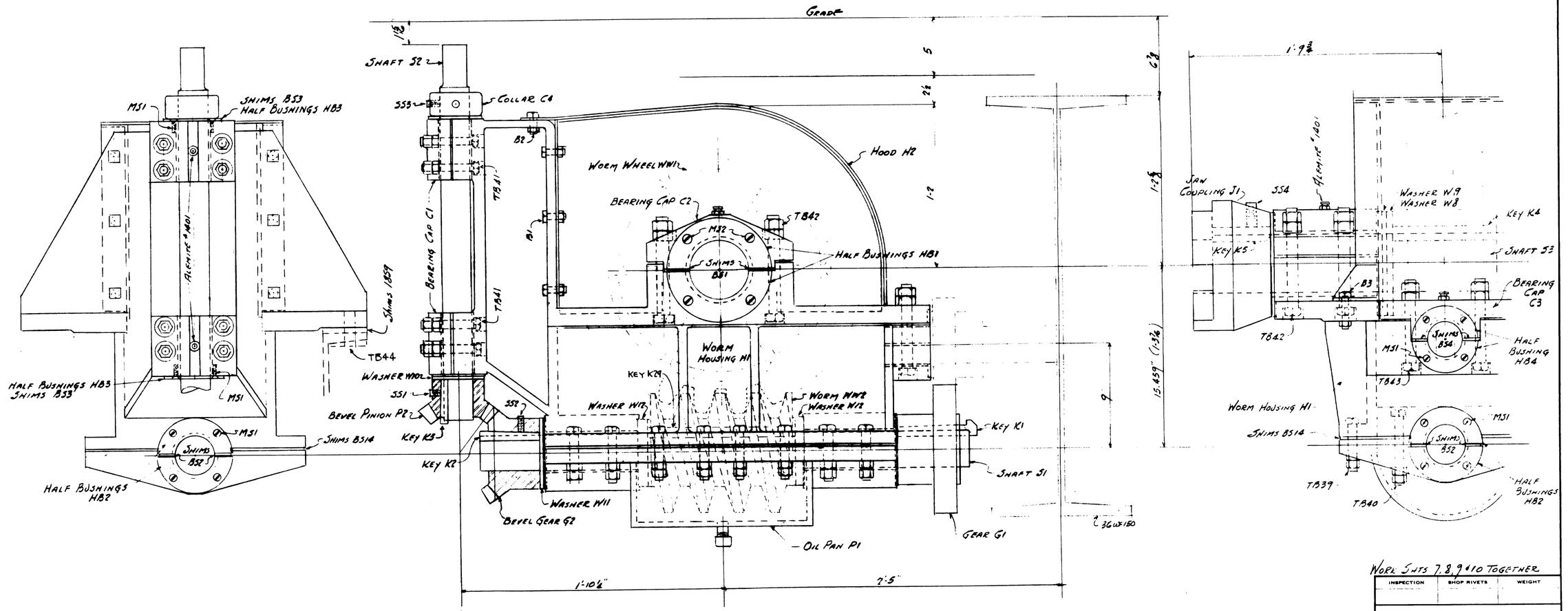
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT NO. 5980 SHEET NO. 9

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

COMMERCIAL BLUE PRINT CO.

61-136



ONE REDUCER 10R1

ASSEMBLE COMPLETE

WORK SHTS 7, 8, 9 & 10 TOGETHER

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS / OPEN HOLES / UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Reducer for Wedge Drive
SPECIFICATIONS Maine Steel Highway Bp. 1945
SHOP PAINT See Paint Note - Sht #1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller		A.M.	12-1-54	A.M.

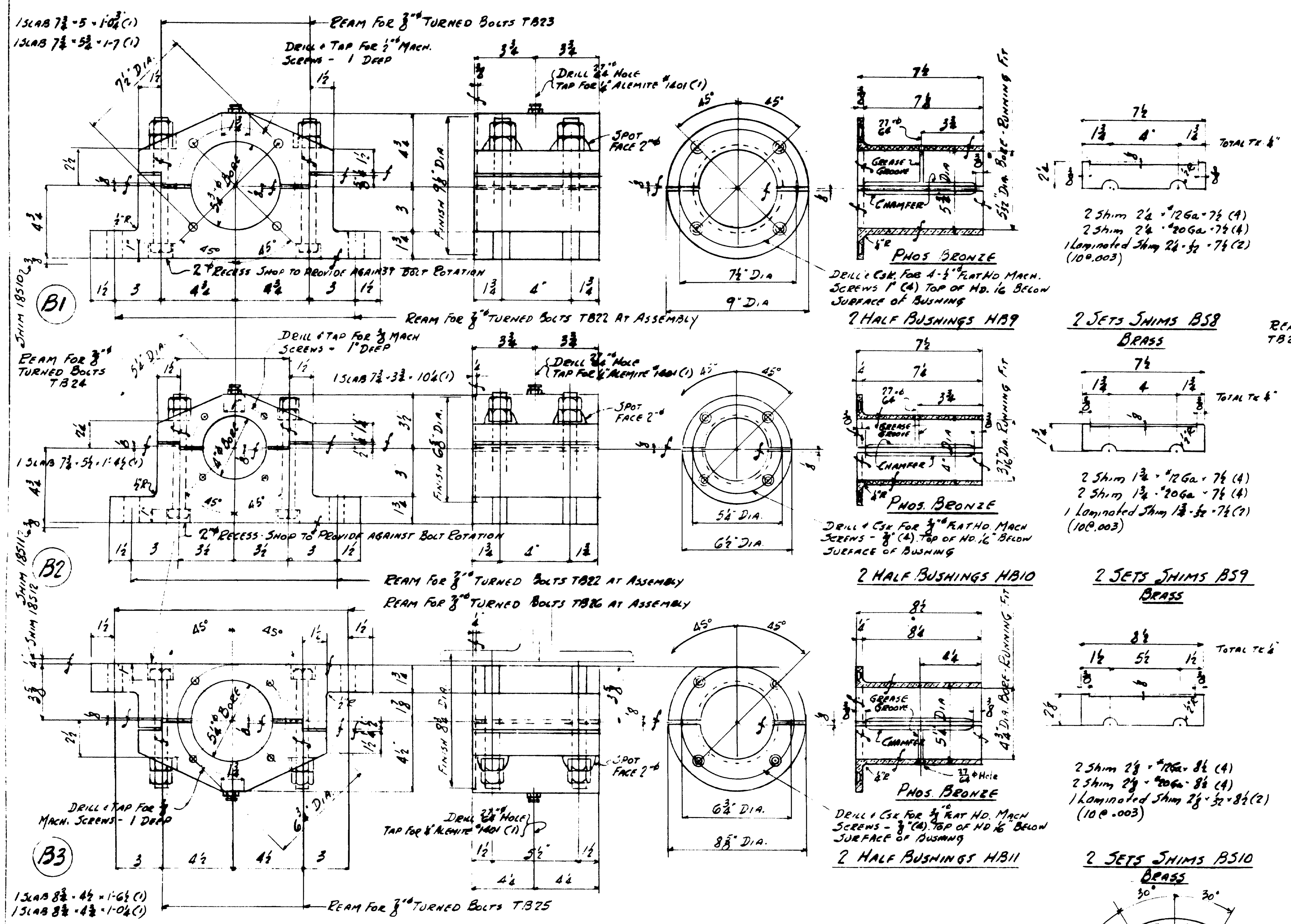
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

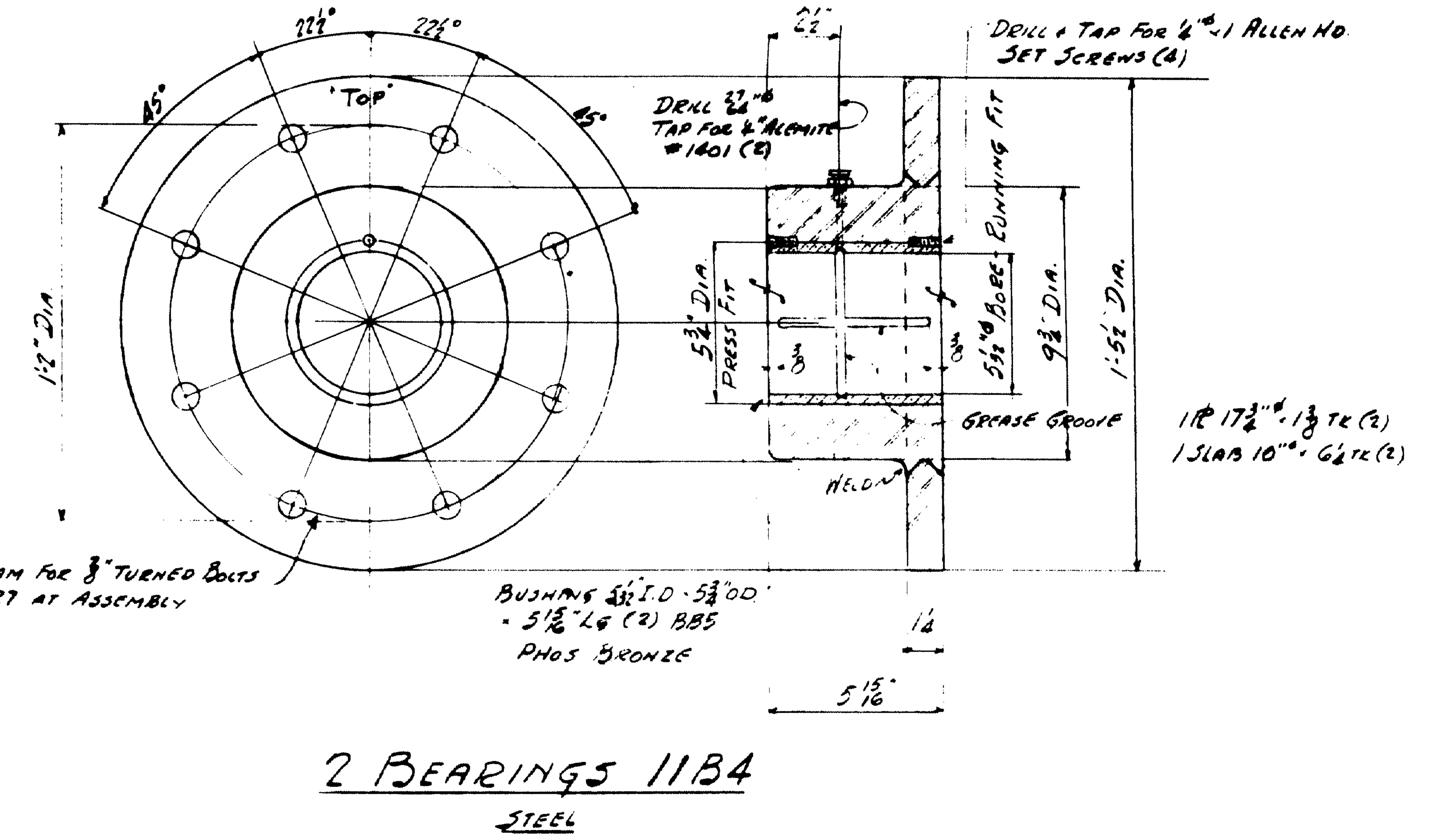
CONTRACT No. 5980 SHEET No. 10

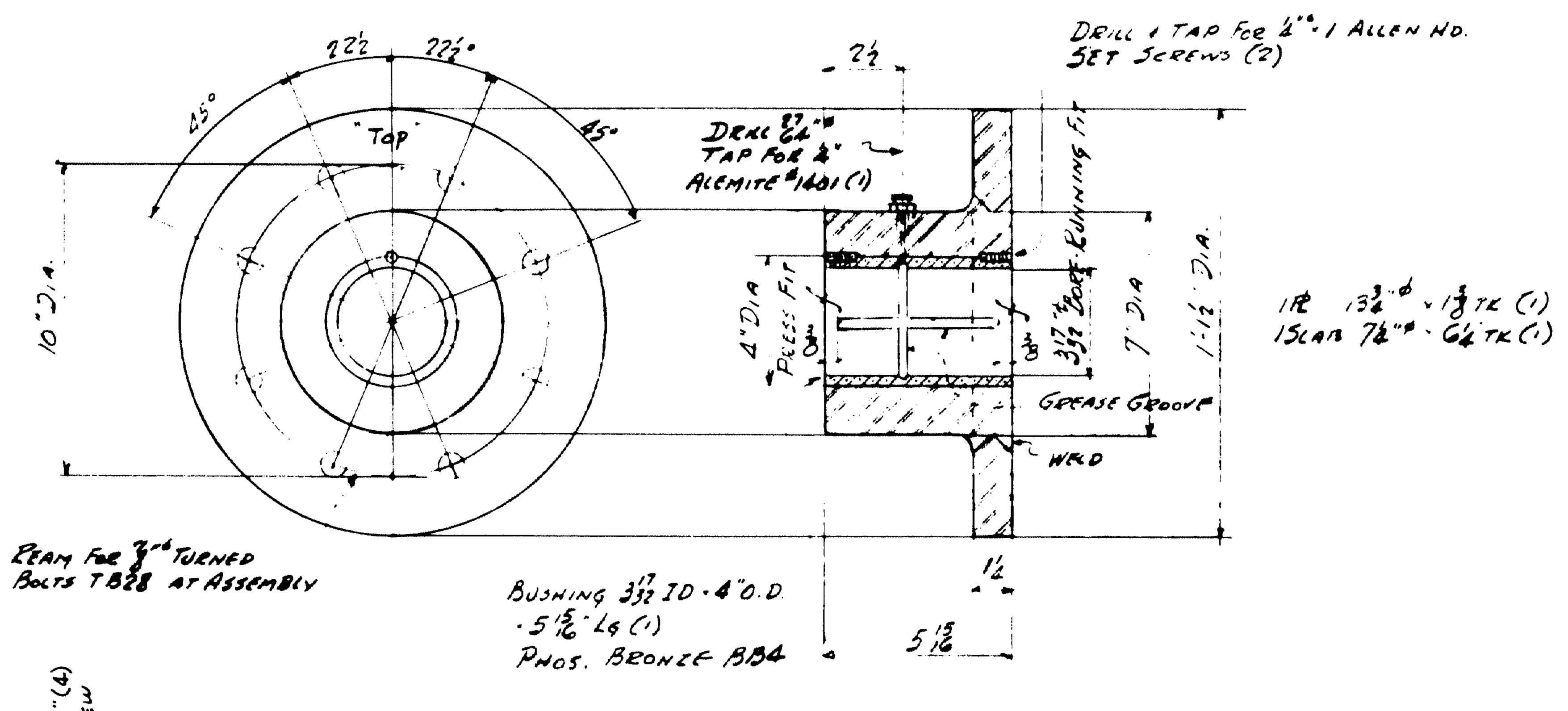
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

61-13L

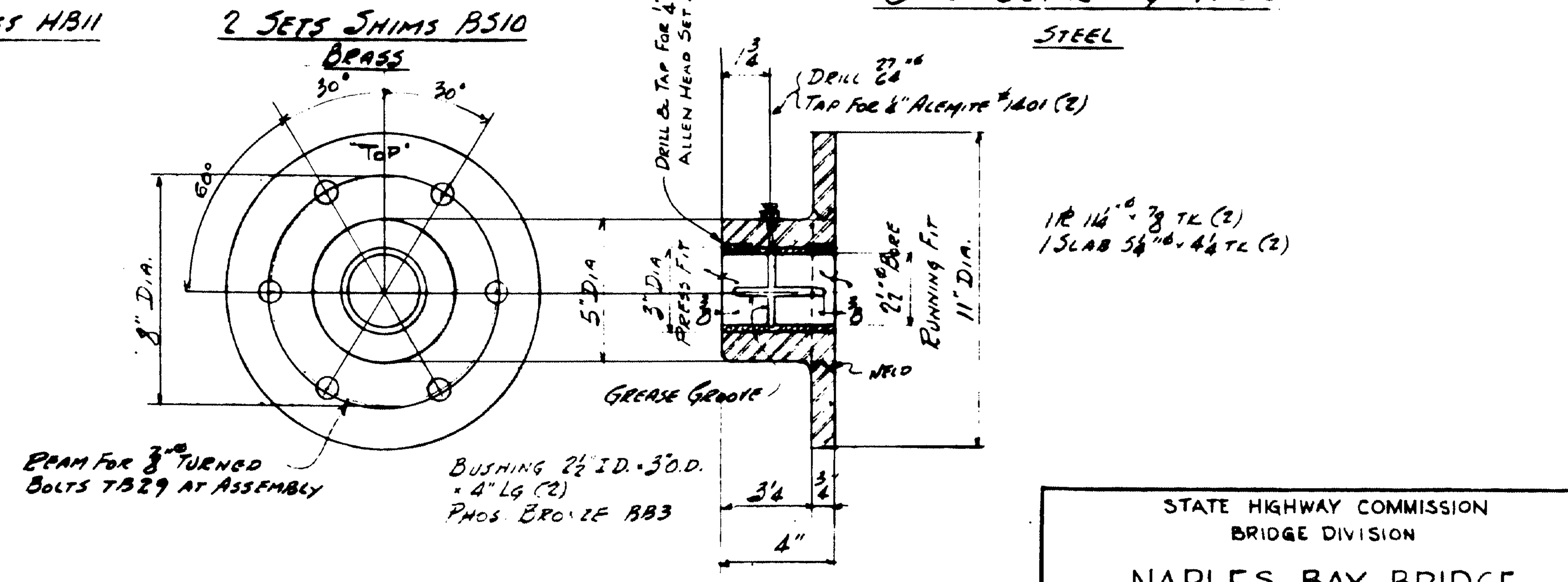






ONE	BEARING	11B1	ASSEMBLE COMPLETE	STEEL
ONE	DO	11B2	" "	STEEL
ONE	DO	11B3	" "	STEEL

DETAIL OF GREASE GROOVE
FULL SIZE



2 BEARINGS 11B6
STEEL

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS ✓	OPEN HOLES ✓	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF BEARINGS FOR WEDGE DRIVE
SPECIFICATIONS MAINE STEEL HIGHWAY BR 1945
SHOP PAINT SEE PAINT NOTE - SHT 1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Euller	1/15/56	A.M.	1/25/56	A.M.

REVISIONS

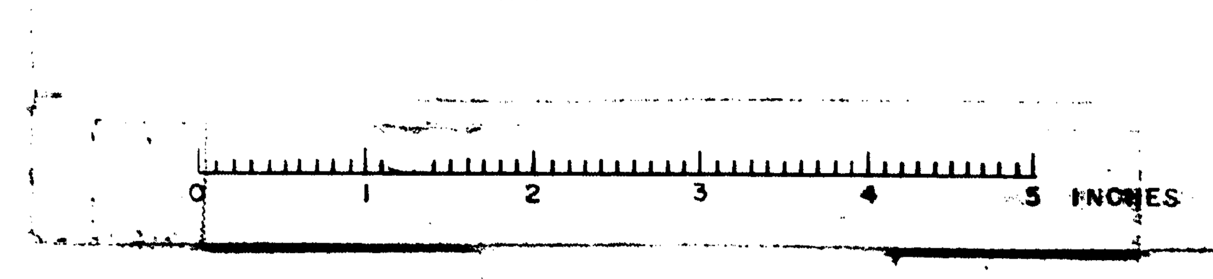
NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

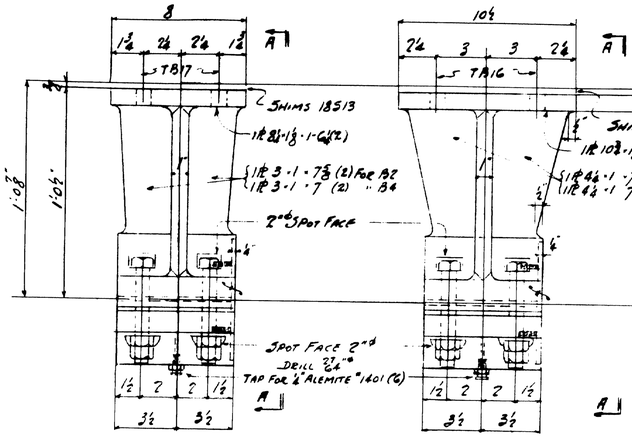
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

CONTRACT NO. 5980 SHEET NO. 11

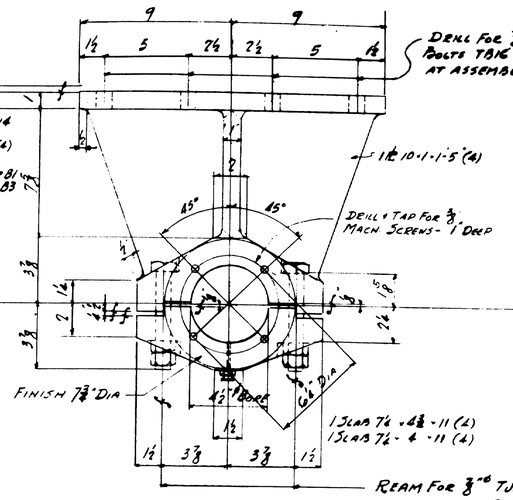
61-132



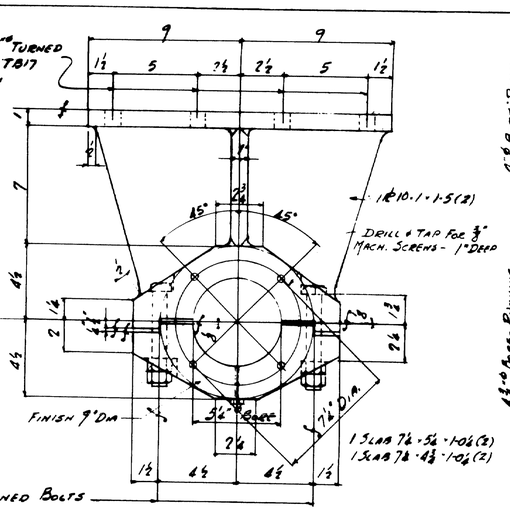


ONE BEARING 12B2
ONE BEARING 12B4
STEEL

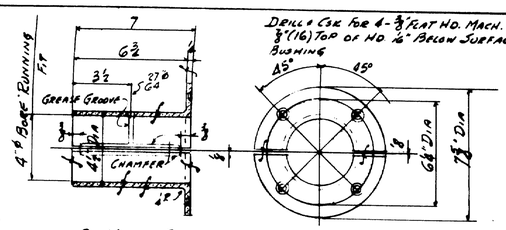
3 BEARINGS 12B1
ONE BEARING 12B3
STEEL



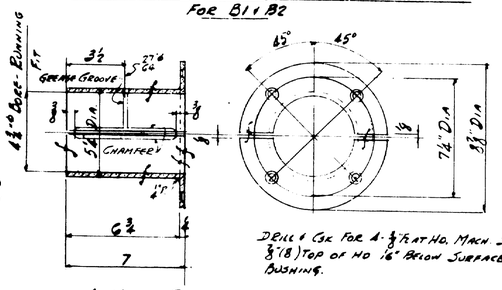
VIEW A-A
FOR B1 & B2



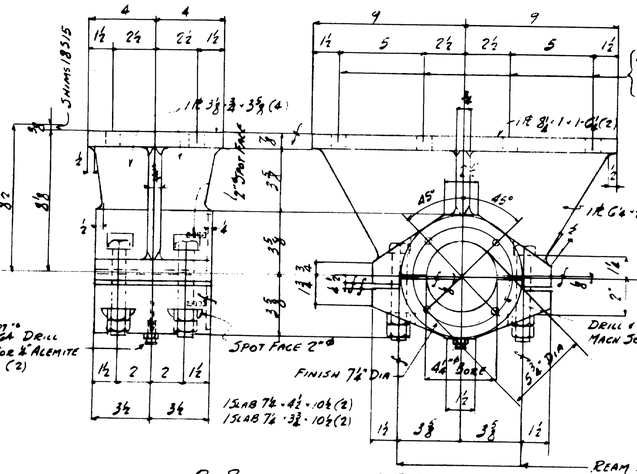
VIEW A-A
FOR B3 & B4



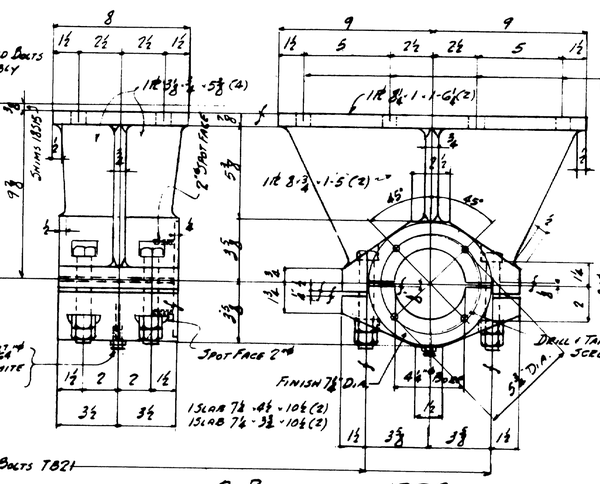
8 HALF BUSHINGS - HB18 PHOS. BRONZE
FOR B1 & B2



4 HALF BUSHINGS - HB13 PHOS BRONZE
FOR B3 & B4

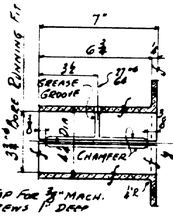


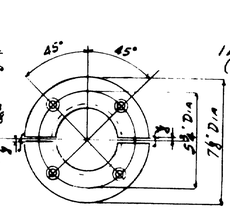
2 BEARINGS 12B5
STEEL



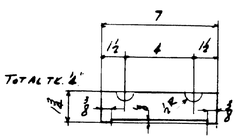
2 BEARINGS 12B6
STEEL

DETAIL OF GREASE GROOVE
FULL SIZE

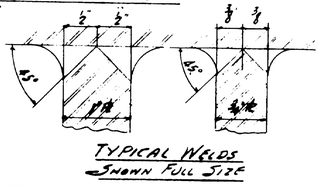




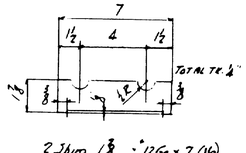
8 HALF BUSHINGS HB5 PHOS. BRONZE
FOR B5 & B6



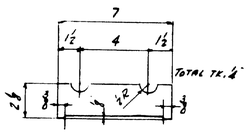
8 SETS SHIMS BS13
FOR B5 & B6
BRASS



TYPICAL WELDS
SHOWN FULL SIZE



8 SETS SHIMS BS11
FOR B1 & B2
BRASS



4 SETS SHIMS BS12
FOR B3 & B4
BRASS

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ✓ OPEN HOLES – UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Bearings for Wedge Drive
SPECIFICATIONS Maine Steel Highway Br 1945
SHOP PAINT See Paint Note - Sht 1
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller		A.M.	7-31-54	A.M.

REVISIONS	No.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT No. 5980 SHEET No. 12

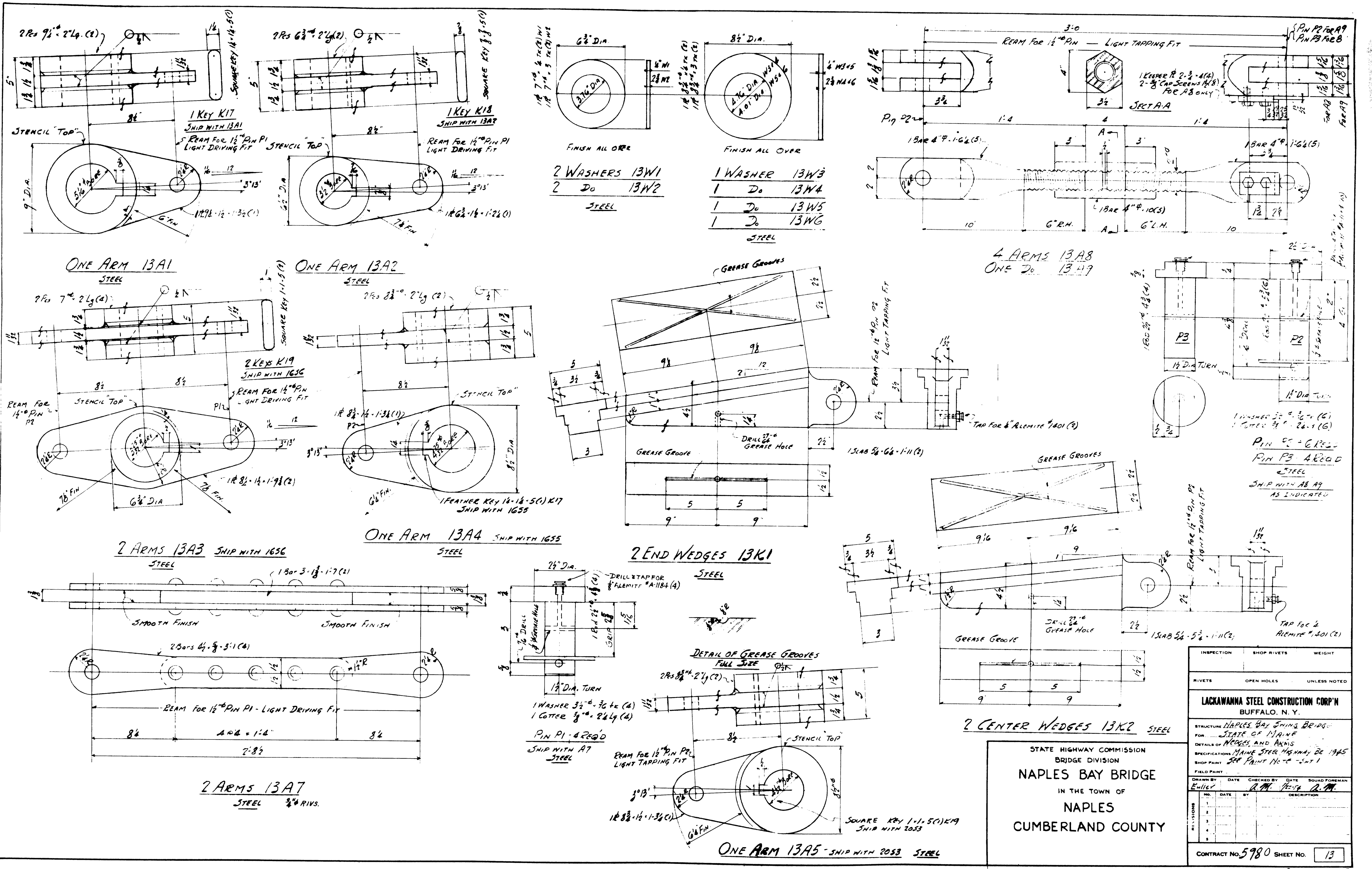
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

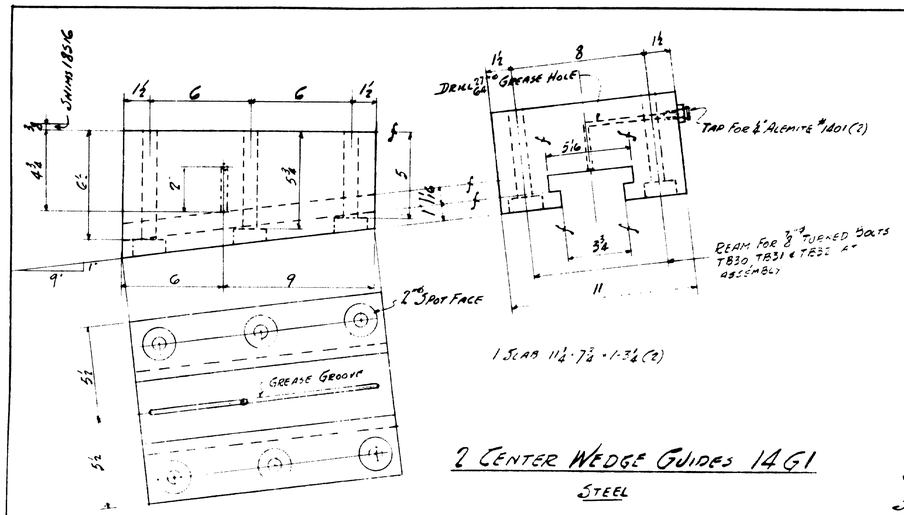
NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES
CUMBERLAND COUNTY

61-133

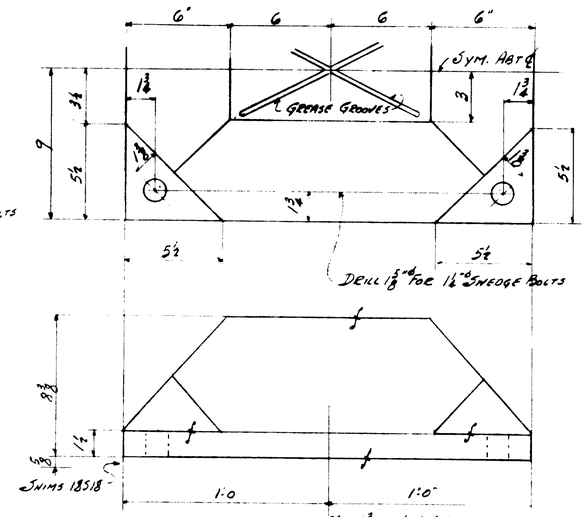

ONE ARM 13A1
STEEL
1 KEY K17
SHIP WITH 13A1
ONE ARM 13A2
STEEL
1 KEY K18
SHIP WITH 13A2
2 WASHERS 13W1
2 Do 13W2
STEEL
FINISH ALL OVER
1 WASHER 13W3
1 Do 13W4
1 Do 13W5
1 Do 13W6
STEEL
4 ARMS 13A8
ONE Do 13A9
SECT A-A
2 ARMS 13A3 SHIP WITH 1656
STEEL
SMOOTH FINISH
ONE ARM 13A4 SHIP WITH 1655
STEEL
2 KEYS K19
SHIP WITH 1656
STENCIL "TOP"
GREASE GROOVES
GREASE GROOVE
2 END WEDGES 13K1
STEEL
PIN P2 - 6 REQ'D
PIN P3 - 4 REQ'D
STEEL
SHIP WITH A8 A9
AS INDICATED
2 ARMS 13A7
STEEL 3/4" RIVS.
PIN P1 - 4 REQ'D
SHIP WITH A7
STEEL
DETAIL OF GREASE GROOVES
FULL SIZE
2 CENTER WEDGES 13K2 STEEL
ONE ARM 13A5 - SHIP WITH 2053 STEEL
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY
LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.
STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF WEDGES AND ARMS
SPECIFICATIONS MAINE STEEL HIGHWAY BR. 1945
CONTRACT NO. 5980 SHEET NO. 13
61-134



1 Slab 11½ · 7½ · 1-3¼ (2)

2 Center Wedge Guides 14G1

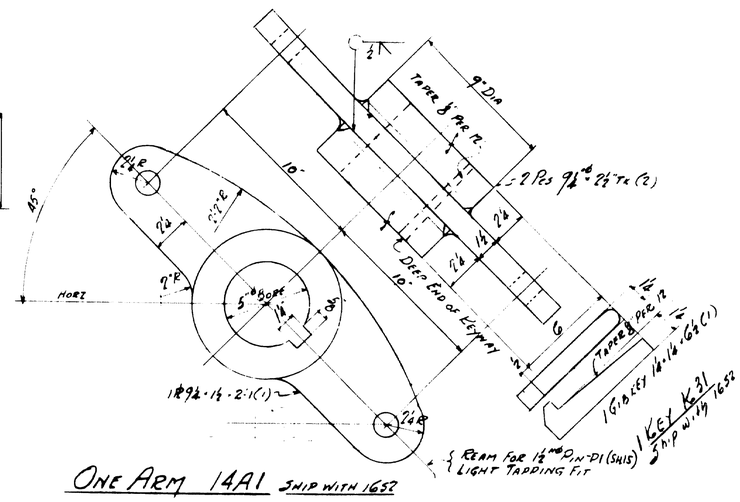
Steel



1 Slab 18½ · 8¾ · 2-0½ (2)

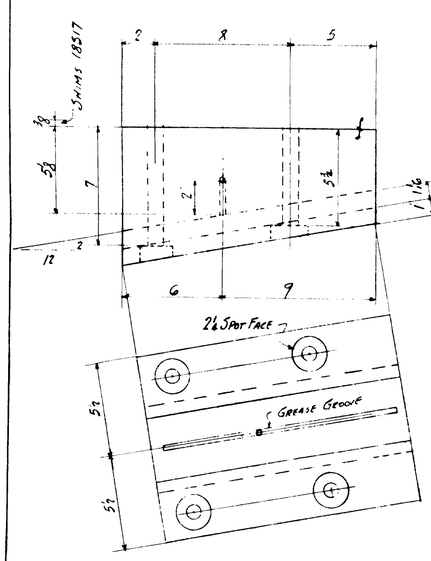
2 Center Wedge Seats 14S1

Steel



One Arm 14A1 Ship with 1652

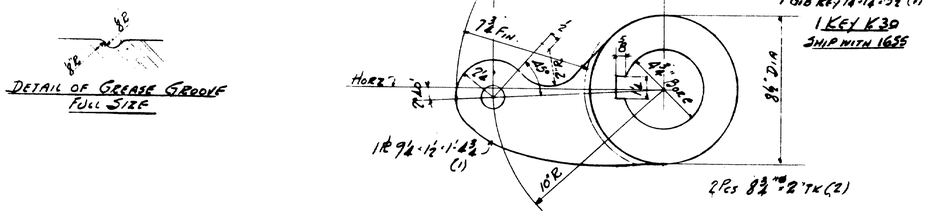
Steel



1 Slab 11½ · 8½ · 1-3½ (2)

2 End Wedge Guides 14G2

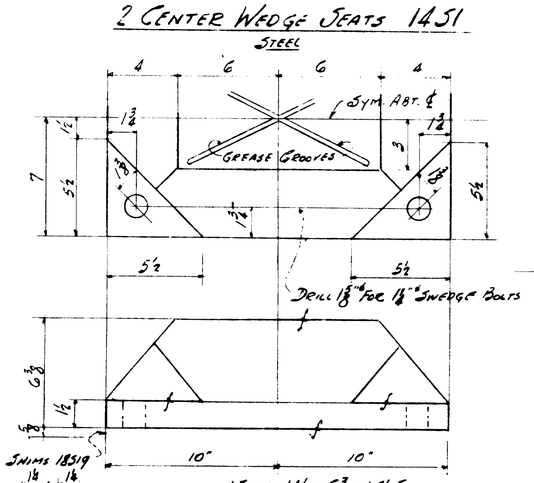
Steel



Detail of Grease Groove Full Size

One Arm 14A3 Ship with 1655

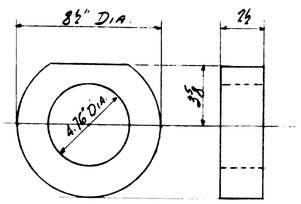
Steel



1 Slab 16½ · 6¾ · 1-8½ (2)

2 End Wedge Seats 14S2

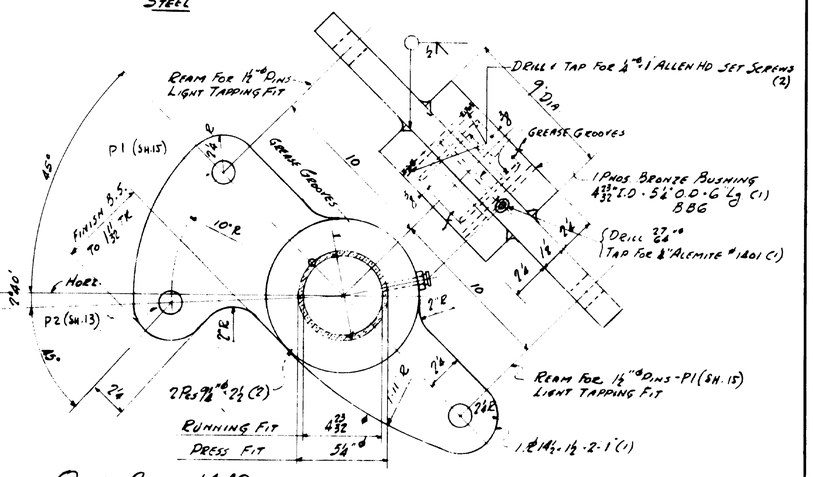
Steel



1 Slab 8½" · 2¾" (1)

One Collar 14C1

Steel



One Arm 14A2

Steel

Inspection	Shop Rivets	Weight

Rivets ✓ Open Holes ✓ Unless Noted

Lackawanna Steel Construction Corp'n
Buffalo, N. Y.

Structure Naples Bay Swing Bridge
For State of Maine
Details of Wedge Guides, Seats & Arms
Specifications Maine Steel Highway Br. 1945
Shop Paint See Paint Note Sht #1
Field Paint

Drawn By	Date	Checked By	Date	Squad Foreman
Fuller		A.M.	1/25/46	A.M.

Revisions	No.	Date	By	Description
	1			
	2			
	3			
	4			
	5			

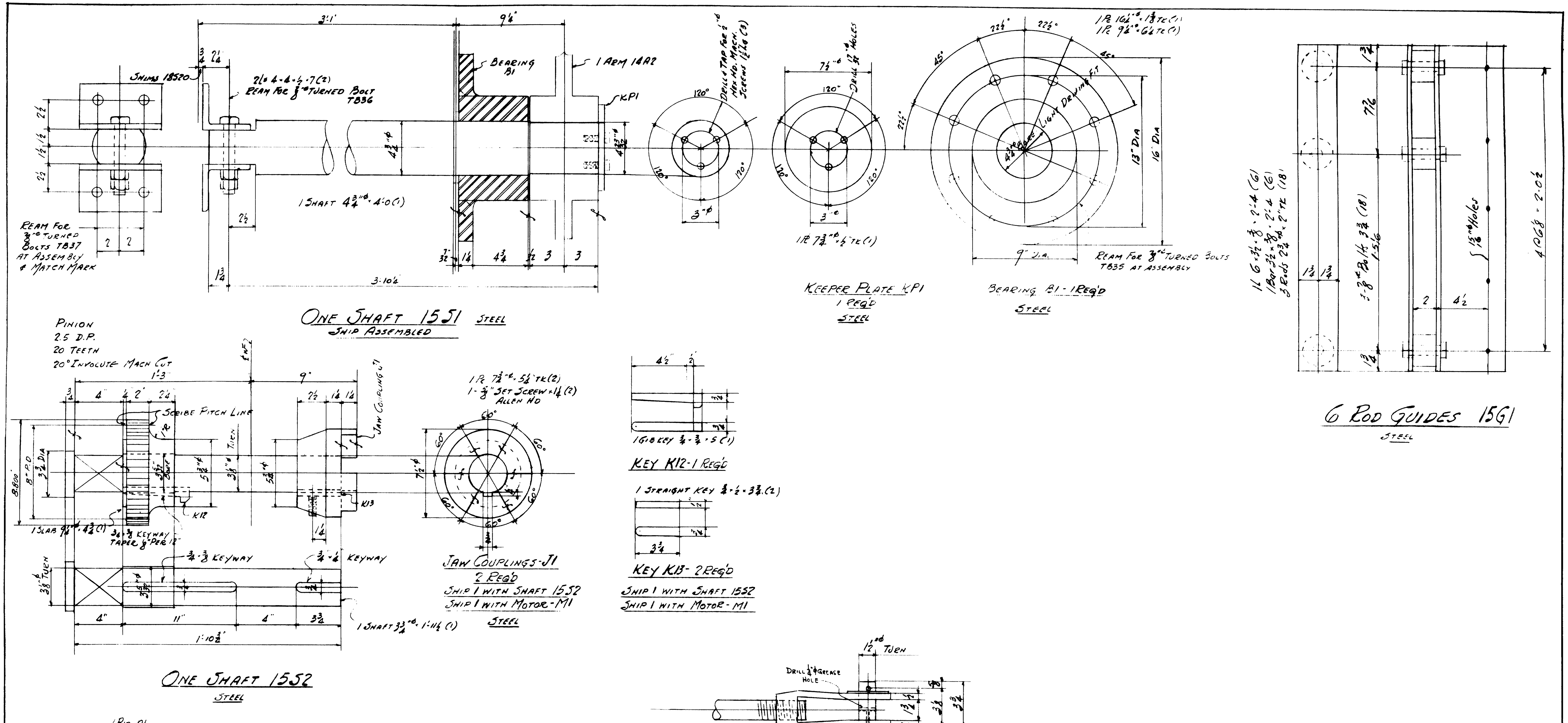
Contract No. 5980 Sheet No. 14

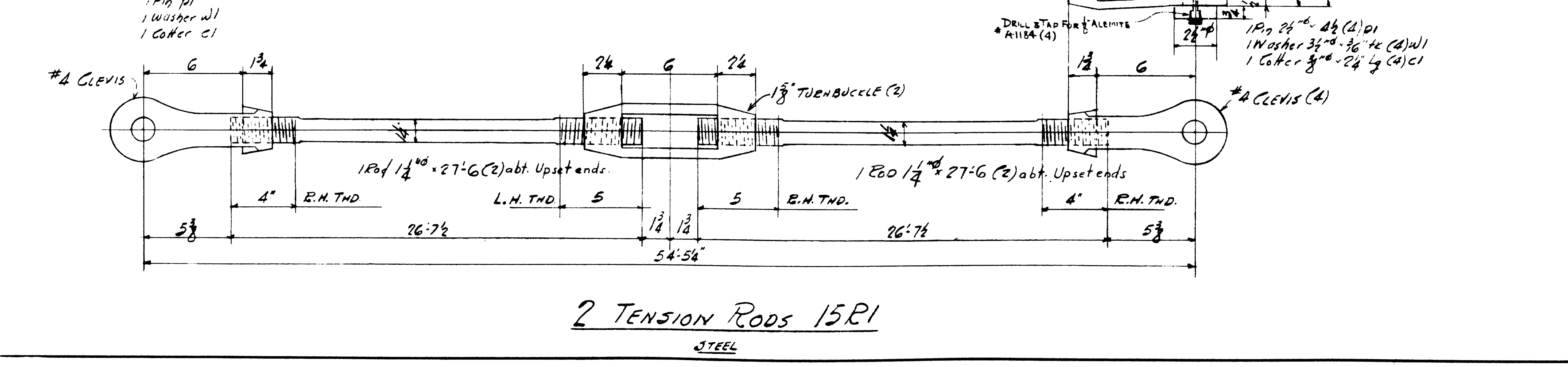
State Highway Commission
Bridge Division
NAPLES BAY BRIDGE
In the Town of
NAPLES
Cumberland County

0 1 2 3 4 5 Inches

61-135

Mercial Blue Print Co.





INSPECTION	SHOP RIVETS	WEIGHT
RIVETS	OPEN HOLES	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE: NAPLES BAY SWING BRIDGE
FOR: STATE OF MAINE
DETAILS OF: ROD & SHAFT FOR WEDGE DRIVE
SPECIFICATIONS: MAINE STEEL HIGHWAY BE 1945
SHOP PAINT: SEE PAINT NOTE SHT. 1
FIELD PAINT:

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller		A.M.		A.M.

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

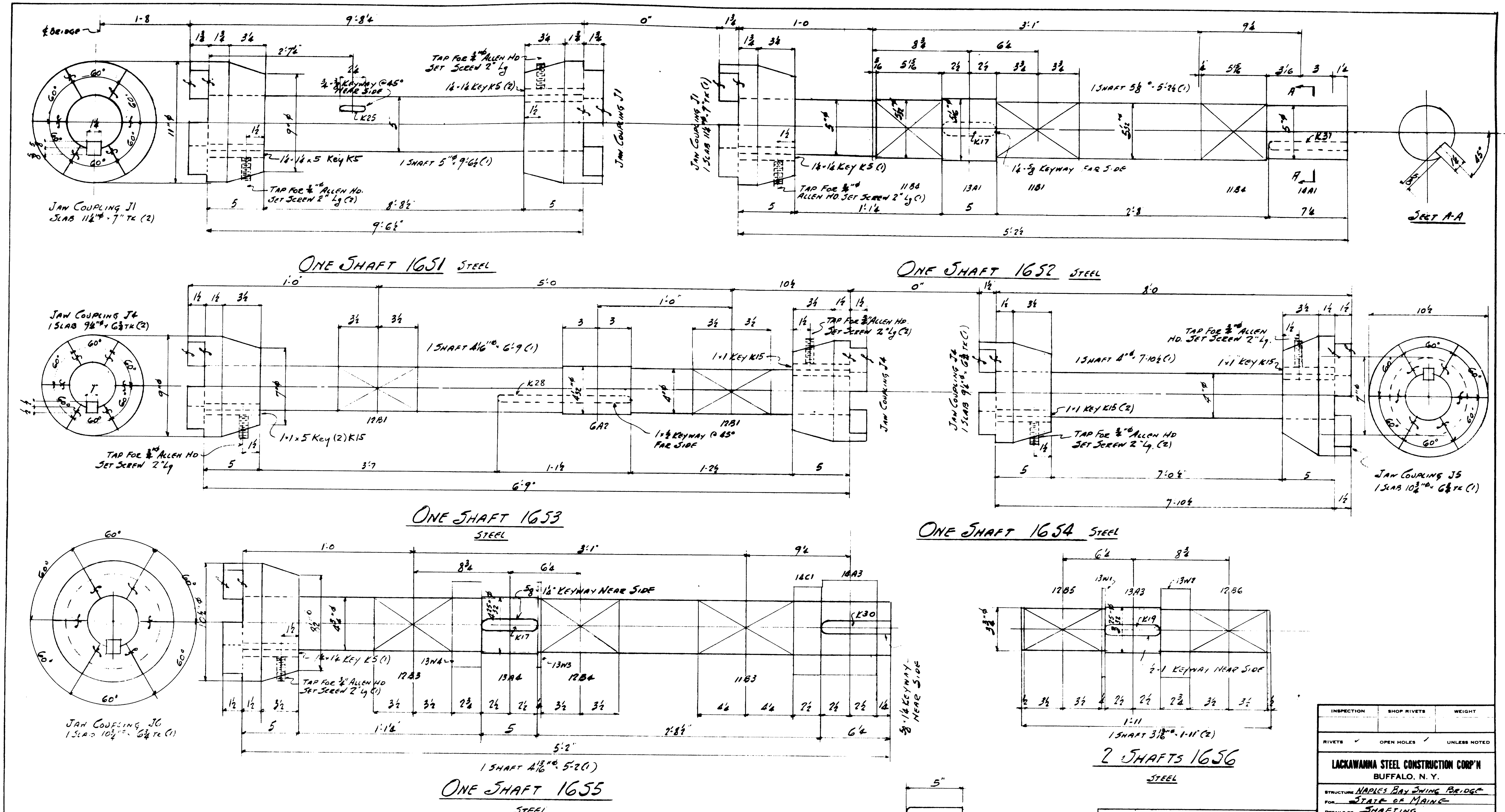
NAPLES BAY BRIDGE

IN THE TOWN OF

NAPLES
CUMBERLAND COUNTY

CONTRACT NO. 5980 SHEET NO. 15

61-136



Ship with 51, 52, 53	1¼ × 1¼	Key K5 - 4 Reqd
" " 53 & 54	1 × 1	Key K15 - 4 Reqd

Straight Keys.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS ✓	OPEN HOLES	✓ UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

Structure: Naples Bay Swing Bridge
For: State of Maine
Details of: Shafting
Specifications: Main Steel Highway Bd 1965
Shop Paint: See Paint Note Sht #1
Field Paint:

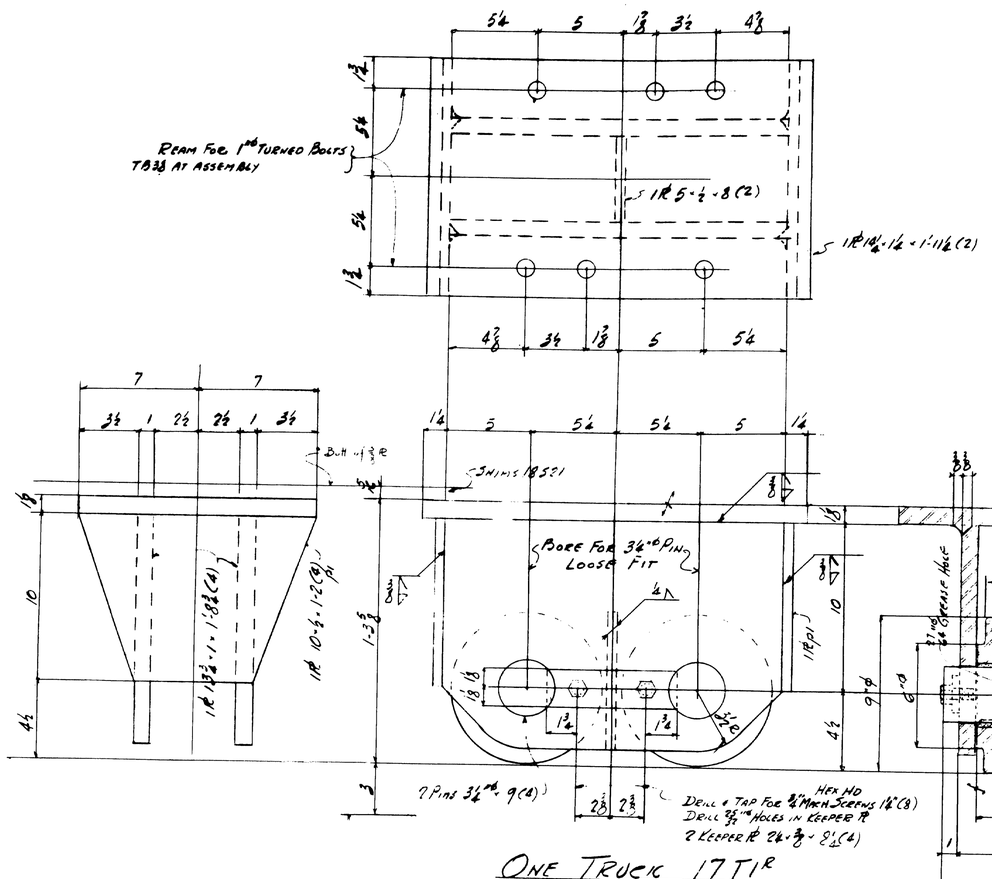
Drawn By	Date	Checked By	Date	Squad Foreman
Euller		A.M.	7-2-56	A.M.

Revisions No.	Date	By	Description
1			
2			
3			
4			
5			

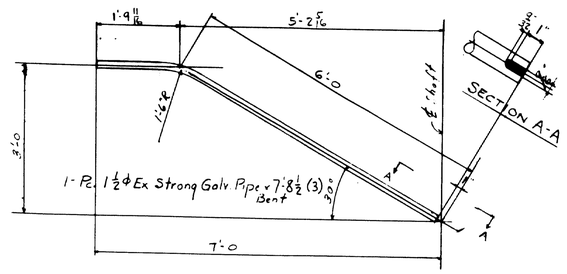
CONTRACT No. 5980 SHEET No. 16

61-137

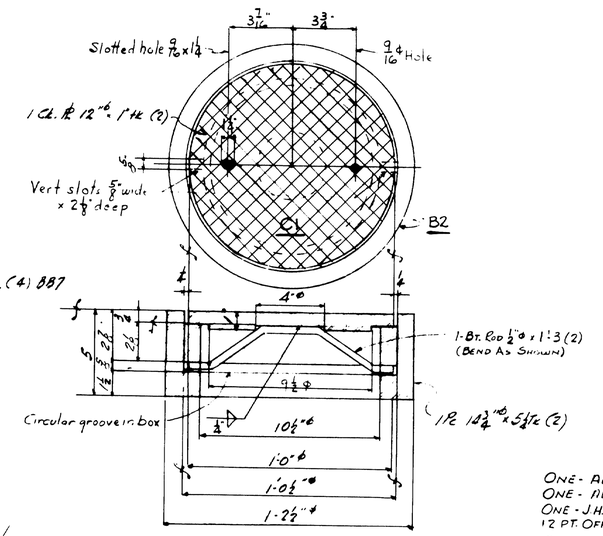
0 1 2 3 4 5 INCHES



ONE TRUCK 17T1R
ONE DO 17T1L
STEEL



3-CAPSTAN HANDLES-17H1

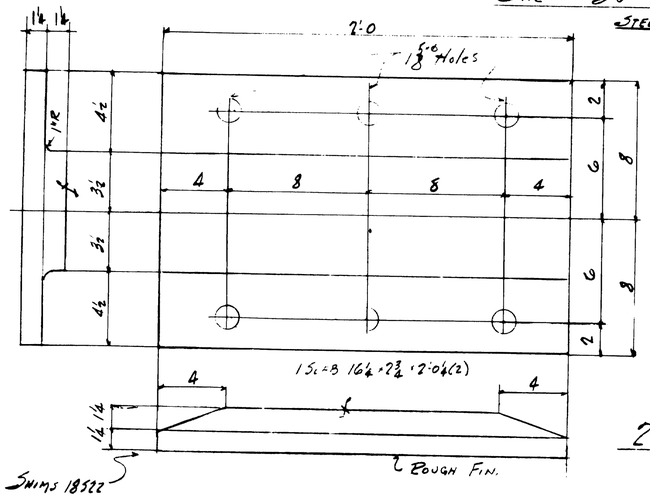


2 CAPSTAN BOXES 17B2 (STEEL)
2 CAPSTAN COVERS 17C1 (STEEL)

TO BE WELDED INTO ROAD GRID IN FIELD, AT CAPSTANS

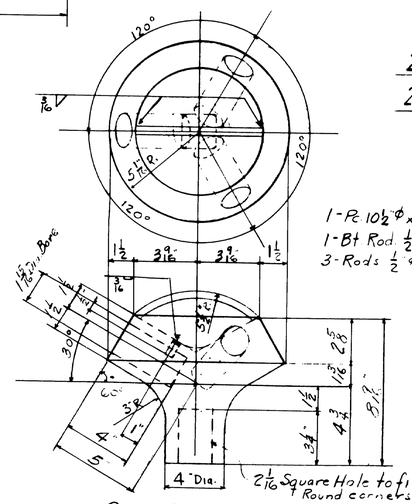
MAINTENANCE TOOLS

ONE - ALEMITE GREASE GUN # 6679-J
ONE - ALEMITE HOSE # 7089
ONE - J.H. WILLIAMS DOUBLE 12 PT. OFFSET BOX WRENCH } # 8037A FOR ¾" ⅞" 1" HEX NUTS
ONE - DO # 8039A FOR ⅞" & 1" HEX NUTS
ONE - DO # 8742B FOR 1" & 1⅛" HEX NUTS
ONE - J.H. WILLIAMS BOX WRENCH # H811A FOR 1¼" HEX NUTS
ONE - COMPLETE SET OF HOLO-KROME SOCKET SCREW KEYS # 22 HK (H.D. TAYLOR CO.)



ONE WRENCH-17W1
STEEL (FIT TO 17C1)

2 TRUCK PADS 17P1
STEEL



ONE CAPSTAN HEAD-17B1
STEEL

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS ✓ OPEN HOLES ✓ UNLESS NOTED		

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

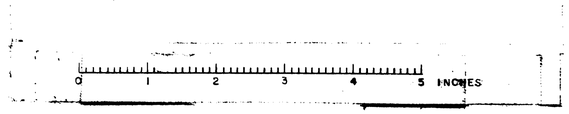
STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Capstan Arm & Boxes - Trucks
SPECIFICATIONS Maine Steel Highway Br 1945
SHOP PAINT See Paint Note - Sht 1
FIELD PAINT

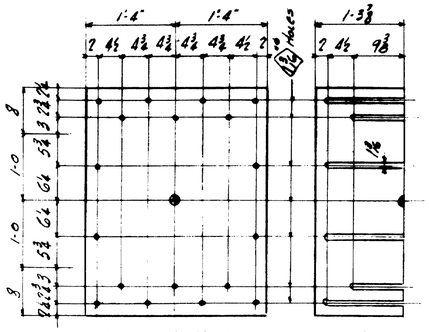
DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller		A.M.	4-7-46	A.M.

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT NO. 5980 SHEET NO. 17

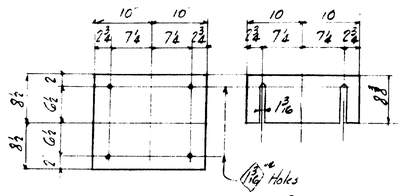
61-138





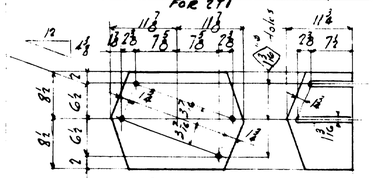
1 Shims 32 · ¼ · 3'-4 (1)
1 Shim 32 · ⅜ · 3'-4 (1)
2 Shims 15⅞ · 1/16 · 3'-4 (2)
2 Shims 15⅞ · 1/32 · 3'-4 (2)

1 SET SHIMS 1851 (Nom. Tr. ¾")
FOR 2C1



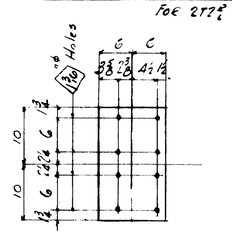
2 Shims 17 · ¼ · 1-8 (4)
1 Shim 17 · ⅜ · 1-8 (2)
2 Shims 8⅞ · 1/16 · 1-8 (4)
2 Shims 8⅞ · 1/32 · 1-8 (4)

2 SETS SHIMS 1852 (Nom. Tr. 7/16)
FOR 2T1



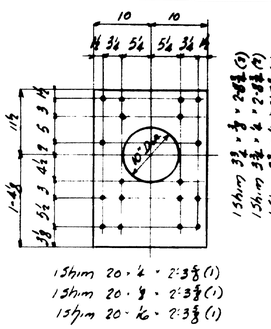
2 Shims 17 · ¼ · 1'-11¾ (8)
1 Shim 17 · ⅜ · 1'-11¾ (4)
2 Shims 11¾ · 1/16 · 1-5 (8)
2 Shims 11¾ · 1/32 · 1-5 (8)

4 SETS SHIMS 1853 (Nom. Tr. 7/16")
FOR 2T2



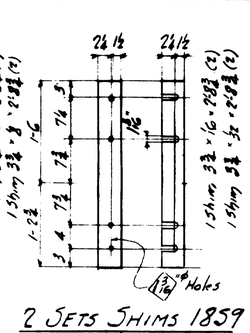
1 Shims 12 · ⅜ · 1-8 (1)
2 Shims 12 · 1/16 · 1-8 (2)

1 SET SHIMS 1854
FOR 2B1 (4 TR.)



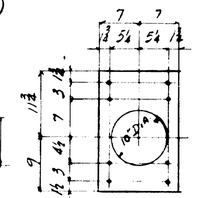
1 Shim 20 · ¼ · 2'-3⅞ (1)
1 Shim 20 · ⅜ · 2'-3⅞ (1)
1 Shim 20 · 1/16 · 2'-3⅞ (1)

1 SET SHIMS-1855
FOR 4B1 (7/16" TR.)



1 Shim 3½ · ¼ · 2'-3½ (2)
1 Shim 3½ · ⅜ · 2'-3½ (2)
1 Shim 3½ · 1/16 · 2'-3½ (2)
1 Shim 3½ · 1/32 · 2'-3½ (2)

2 SETS SHIMS 1859
(Nom. Tr. 7/16") FOR 10R1

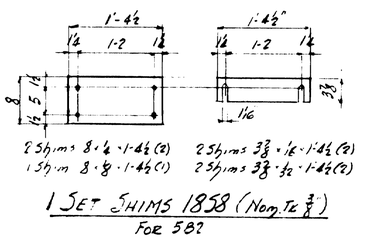


2 Shims 14 · ⅜ · 1'-8¾ (2)
1 Shim 14 · 1/16 · 1'-8¾ (1)

1 SET SHIMS 1856
FOR 5B1 (5/16 TR.)

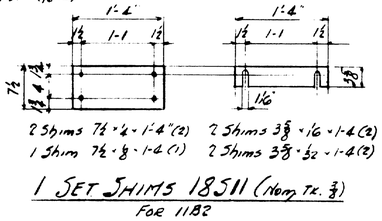
2 Shims 4 · ⅜ · 1-7 (2)
1 Shim 4 · 1/16 · 1-7 (1)

1 SET SHIMS 1857
FOR 5B1 (5/16 TR.)



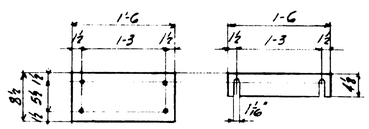
2 Shims 14 · ⅜ · 1'-8¾ (2)
1 Shim 14 · 1/16 · 1'-8¾ (1)

1 SET SHIMS 1858 (Nom. Tr. ⅜")
FOR 5B2



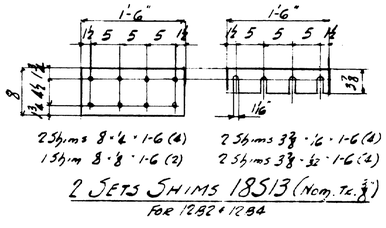
2 Shims 7½ · ¼ · 1'-4 (2)
1 Shim 7½ · ⅜ · 1-4 (1)
2 Shims 3⅞ · 1/16 · 1-4 (2)
2 Shims 3⅞ · 1/32 · 1-4 (2)

1 SET SHIMS 18511 (Nom. Tr. ⅜)
FOR 11B2



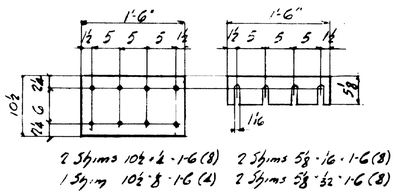
3 Shims 8½ · ⅜ · 1-6 (3)
2 Shims 4⅞ · 1/16 · 1-6 (2)
2 Shims 4⅞ · 1/32 · 1-6 (2)

1 SET SHIMS 18512 (Nom. Tr. ¼")
FOR 11B3



2 Shims 8 · ¼ · 1-6 (4)
1 Shim 8 · ⅜ · 1-6 (2)
2 Shims 3⅞ · 1/16 · 1-6 (4)
2 Shims 3⅞ · 1/32 · 1-6 (4)

2 SETS SHIMS 18513 (Nom. Tr. ⅜")
FOR 12B2 & 12B4

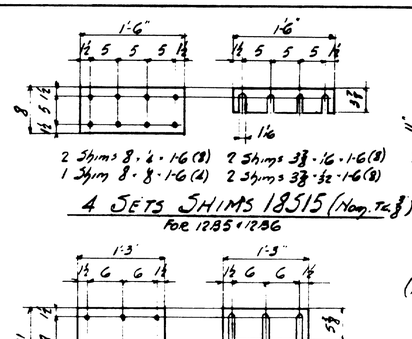


2 Shims 10½ · ¼ · 1-6 (8)
1 Shim 10½ · ⅜ · 1-6 (4)
2 Shims 5⅞ · 1/16 · 1-6 (8)
2 Shims 5⅞ · 1/32 · 1-6 (8)

4 SETS SHIMS 18514 (Nom. Tr. ⅜")
FOR 12B1 & 12B3

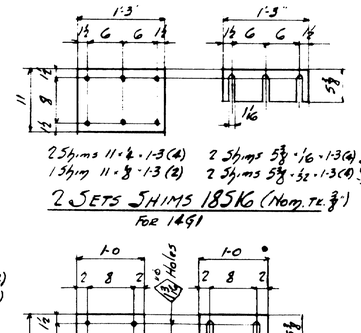
2 Shims 7½ · ¼ · 1-6½ (2)
1 Shim 7½ · ⅜ · 1-6½ (1)
2 Shims 3⅞ · 1/16 · 1-6½ (2)
2 Shims 3⅞ · 1/32 · 1-6½ (2)

1 SET SHIMS 18510 (Nom. Tr. ⅜")
FOR 11B1



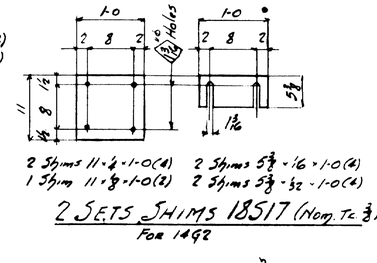
2 Shims 8 · ¼ · 1-6 (8)
1 Shim 8 · ⅜ · 1-6 (4)
2 Shims 3⅞ · 1/16 · 1-6 (8)
2 Shims 3⅞ · 1/32 · 1-6 (8)

4 SETS SHIMS 18515 (Nom. Tr. ⅜")
FOR 12B5 & 12B6



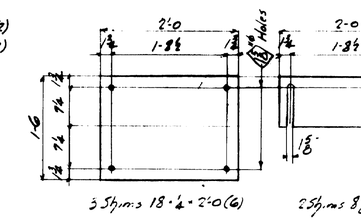
2 Shims 11 · ¼ · 1-3 (4)
1 Shim 11 · ⅜ · 1-3 (2)
2 Shims 5⅞ · 1/16 · 1-3 (4)
2 Shims 5⅞ · 1/32 · 1-3 (4)

2 SETS SHIMS 18516 (Nom. Tr. ⅜")
FOR 14B1



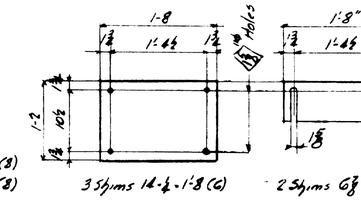
2 Shims 11 · ¼ · 1-0 (4)
1 Shim 11 · ⅜ · 1-0 (2)
2 Shims 5⅞ · 1/16 · 1-0 (4)
2 Shims 5⅞ · 1/32 · 1-0 (4)

2 SETS SHIMS 18517 (Nom. Tr. ⅜)
FOR 14B2



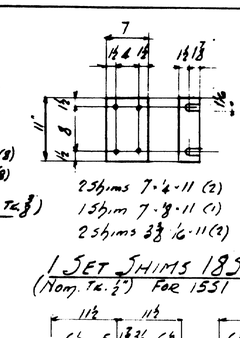
3 Shims 18 · ¼ · 2'-0 (6)
2 Shims 8⅞ · ⅜ · 2'-0 (4)

2 SETS SHIMS 18518 (Nom. Tr. ⅜")
FOR 16B1



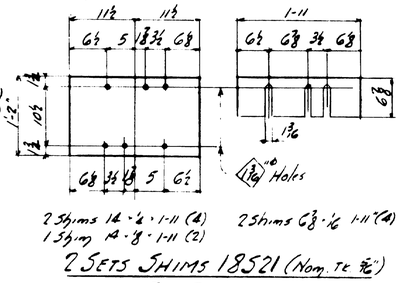
3 Shims 14 · ¼ · 1'-8 (6)
2 Shims 6⅞ · ⅜ · 1-8 (4)

2 SETS SHIMS 18519 (Nom. Tr. ⅜")
FOR 16B2



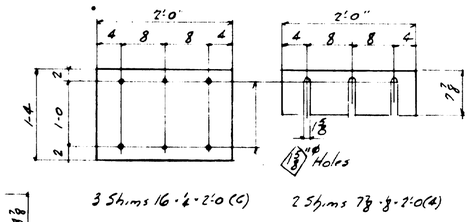
2 Shims 7 · ¼ · 11 (2)
1 Shim 7 · ⅜ · 11 (1)
2 Shims 3⅞ · 1/16 · 11 (2)

1 SET SHIMS 18520
(Nom. Tr. 7/16") FOR 15S1



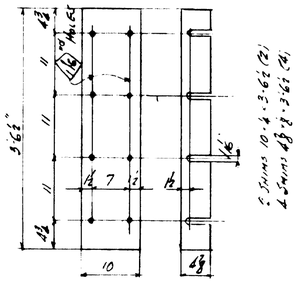
2 Shims 14 · ¼ · 1-11 (4)
1 Shim 14 · ⅜ · 1-11 (2)
2 Shims 6⅞ · 1/16 1-11 (4)

2 SETS SHIMS 18521 (Nom. Tr. 7/16")
FOR 17T1



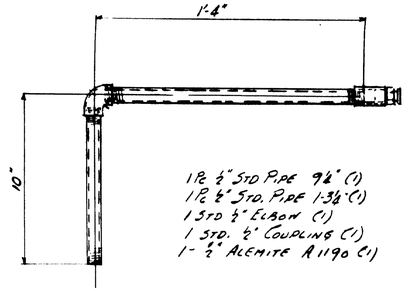
3 Shims 16 · ¼ · 2'-0 (6)
2 Shims 7⅞ · ⅜ · 2'-0 (4)

2 SETS SHIMS 18522 (Nom. Tr. ½")
FOR 17P1



2 Shims 10 · ¼ · 3'-6½ (2)
4 Shims 4⅞ · ⅜ · 3'-6½ (4)

1 SET SHIMS 18523 (Nom Tr ¼")
FOR 6L3



1 Pc 4" STD PIPE 9'-6" (1)
1 Pc 4" STD. PIPE 1'-3½ (1)
1 STD 4" ELBOW (1)
1 STD. 4" COUPLING (1)
1 - 4" ALEMITE A1190 (1)

1 GREASE PIPE 18P1

1 Pc ¾" STD PIPE 9" Lg (1)
1 - ¾" PIPE CAP (1)

1 - DRAIN PIPE 18P2

After final adjustments in shop, mark all remaining shims "Extra". All shims to be made of structural steel

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS ✓ OPEN HOLES 1/16" UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Structural Shims
SPECIFICATIONS Maine Steel Highway Br. 1945
SHOP PAINT See Paint Note - Sht 1
FIELD PAINT —

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller		A.M.	12-5-58	A.M.

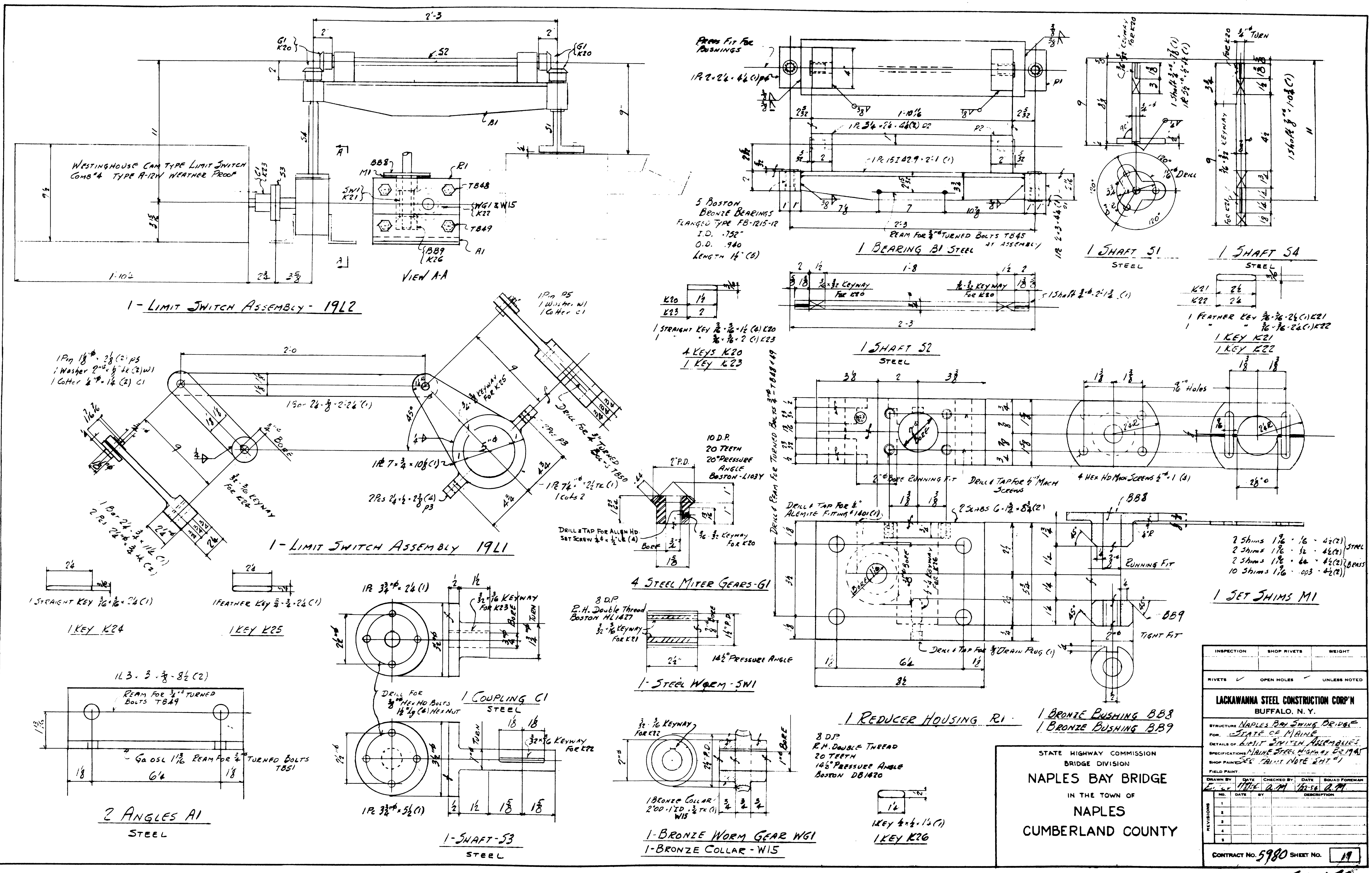
REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT NO. 5980 SHEET NO. 18

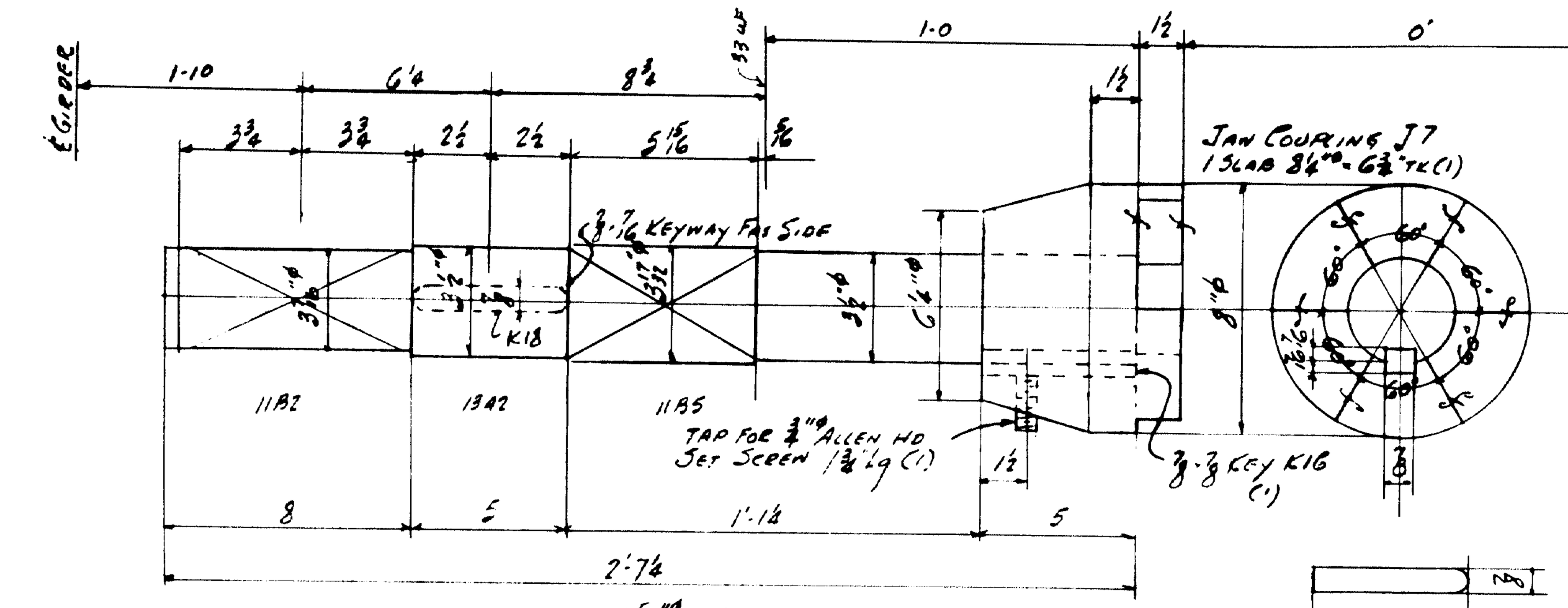
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

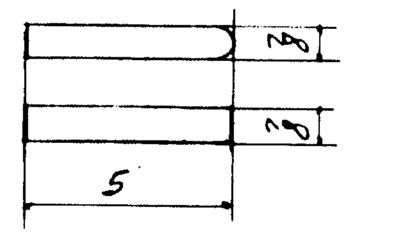
61-139



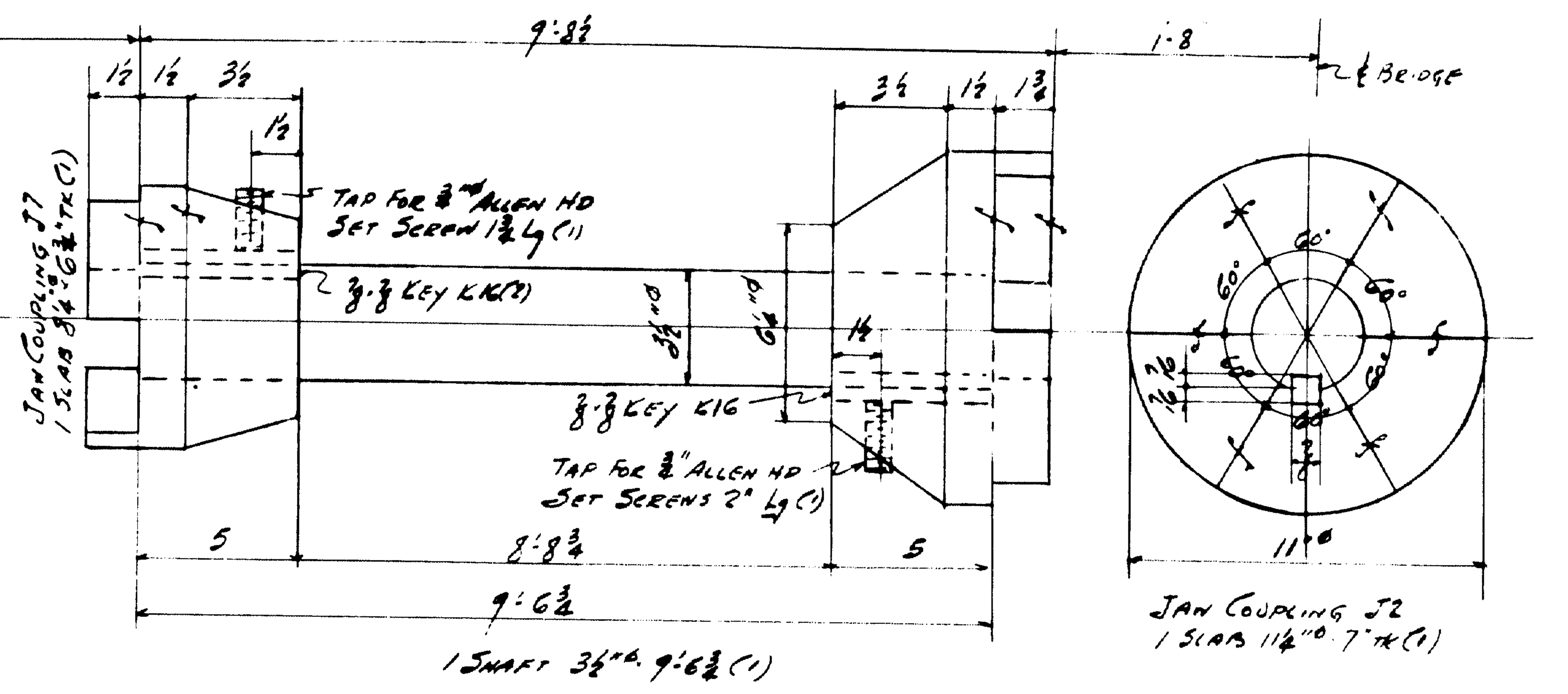
1-Limit Switch Assembly-19L2
Westinghouse Cam Type Limit Switch Comb #4 Type A-12W Weather Proof
View A-A
1-Limit Switch Assembly 19L1
1 Bearing B1 Steel
5 Boston Bronze Bearings Flanged Type FB-1215-12
1 Shaft S1
Steel
1 Shaft S4
Steel
1 Shaft S2
Steel
4 Keys K20
1 Key K23
4 Steel Miter Gears-G1
1 Set Shims M1
1 Key K24
1 Key K25
1 Key K21
1 Key K22
1 Reducer Housing R1
1 Bronze Bushing BB8
1 Bronze Bushing BB9
2 Angles A1
Steel
1 Coupling C1
Steel
1-Shaft-S3
Steel
1-Steel Worm-SW1
1-Bronze Worm Gear WG1
1-Bronze Collar-W15
1 Key K26
LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N.Y.
Structure Naples Bay Swing Bridge
For State of Maine
Details of Limit Switch Assemblies
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY
CONTRACT No. 5980 SHEET No. 19
61-140



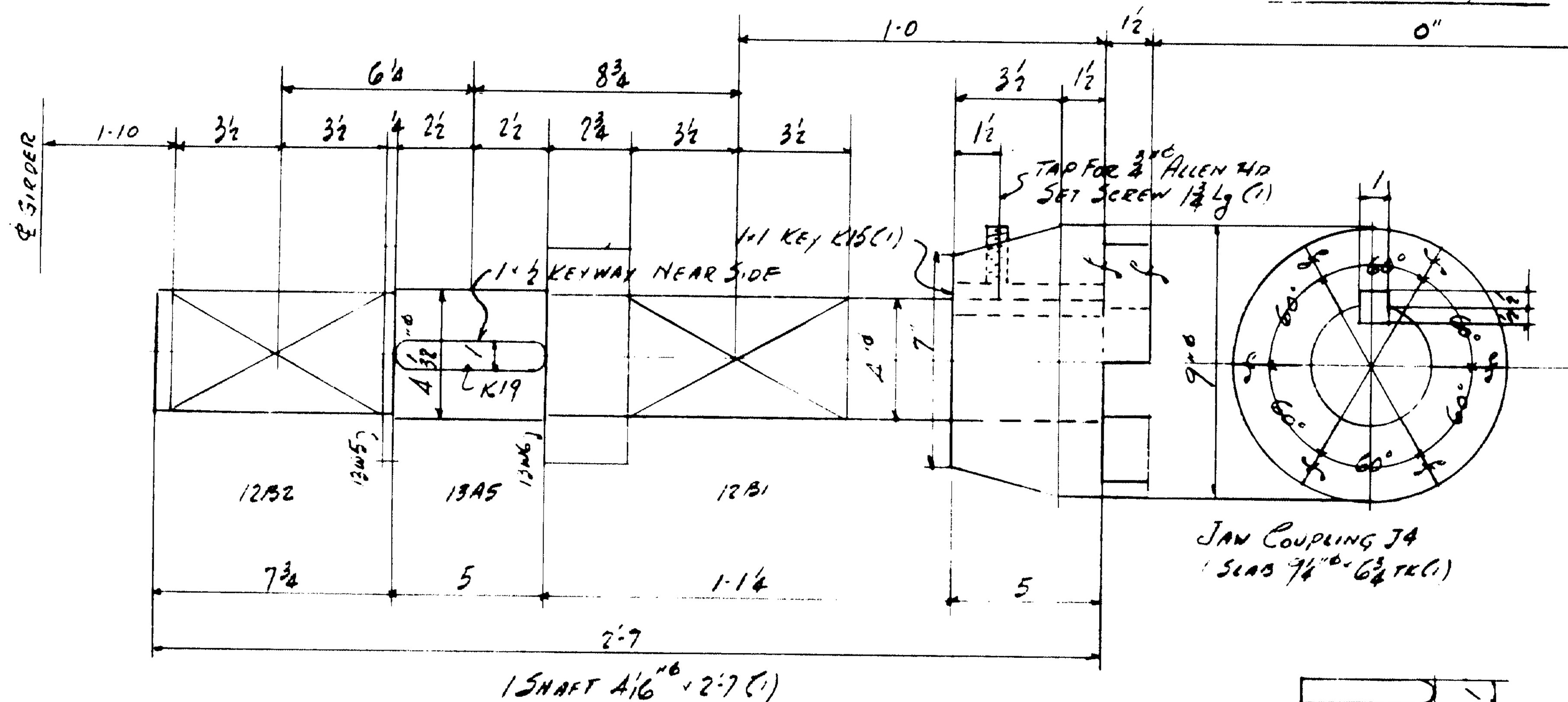
ONE SHAFT 2051 STEEL



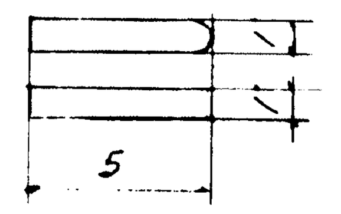
DETAIL OF KEY K16



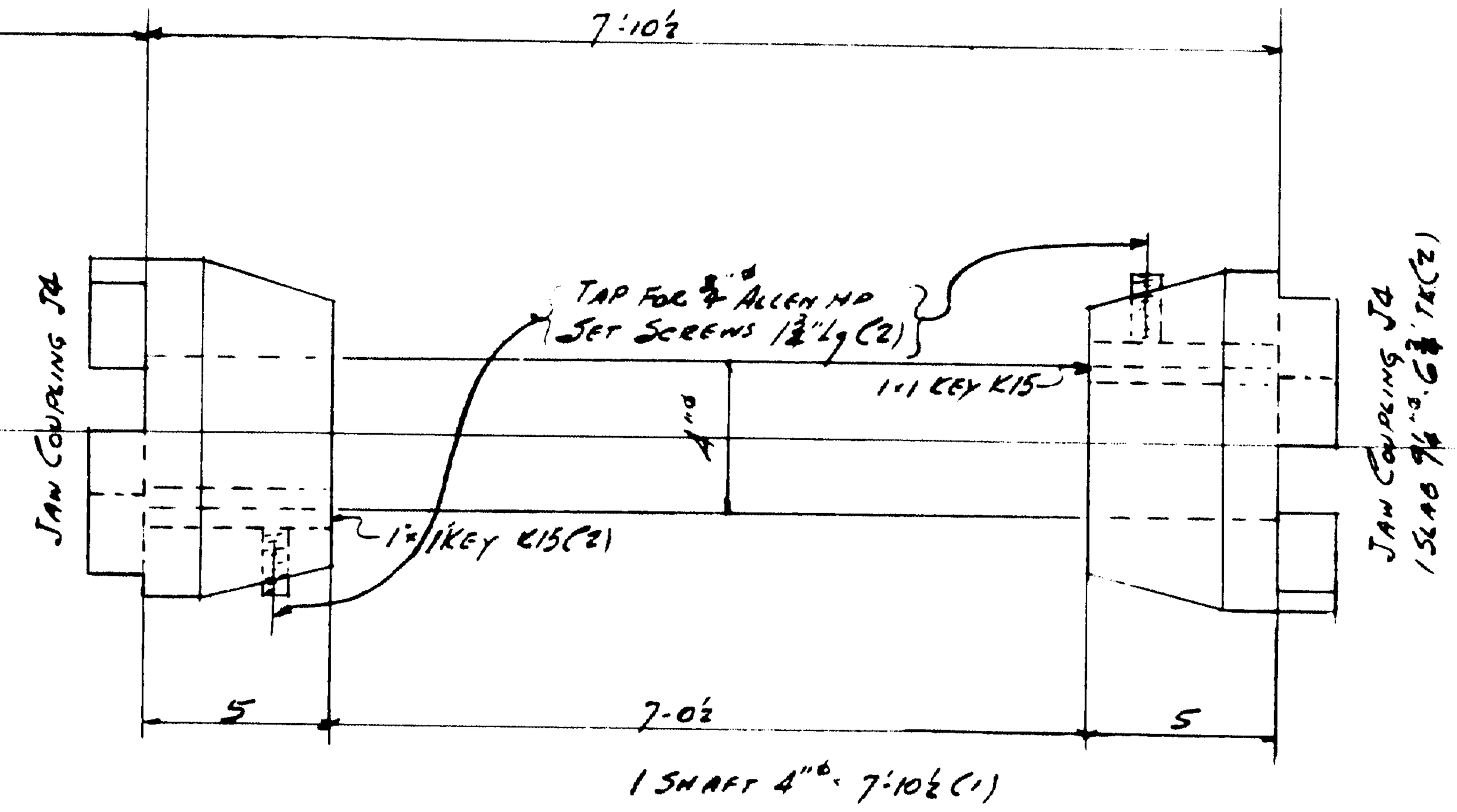
ONE SHAFT 2052 STEEL



ONE SHAFT 2053 STEEL

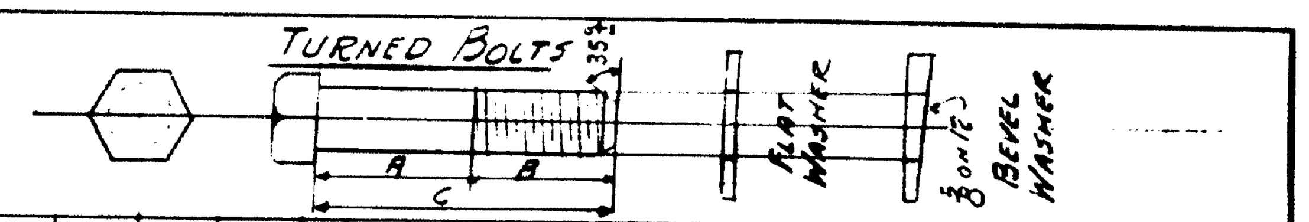


DETAIL OF KEY K15



ONE SHAFT 2054 STEEL

TURNED BOLTS



No	DIA	A	B	C	HEX NUT	STD F.W.	B.W	MARK	LOCATION
30	1	3	1½	4½	30	30	✓	TB1	1R1 TO 1R2 (THESE BOLTS FURNISHED BY WELLMAN Co.)
12	1	3	2¼	5¼	24	12	✓	TB2	2R1 TO 2S1
4	⅞	1⅞	1⅜	3¼	4	4	·	TB3	2R1 TO 2R1
18	1	5½	2¾	8¼	36	·	18	TB4	2C1 TO (4B4 - C5979)
16	1	2⅞	2⅞	5¾	32	✓	16	TB5	2T2 TO (4B2 + 4B3 - C5979)
8	1	3½	2⅞	6¼	16	✓	8	TB6	2T1 TO (4B4 - C5979)
8	⅞	2¾	2⅞	5½	16	8	✓	TB7	4B1 + 5B1 TO (4B2 - C5979)
10	⅞	1⅝	2⅞	4½	20	10	✓	TB8	4B1 TO (4B2 - C5979)
8	1	2	2⅝	4½	16	✓	8	TB9	4B1 TO (4B2 - C5979)
4	⅞	1¾	1¾	3½	4	✓	4	TB10	5B1 TO (4B2 - C5979)
10	1⅛	4½	3	7½	20	✓	·	TB11	4C1 TO 4B1 (Ship with 4B1)
2	1¼	2½	2¾	5¼	4	✓	✓	TB12	5C1 TO 5B1 (Ship with 5B1)
4	⅞	5	2½	7½	8	·	✓	TB13	5C2 TO 5B2 (Ship with 5B2)
4	⅞	2½	2¼	4¾	8	✓	4	TB14	5B2 TO (10B1 - C5979)
5	⅞	1¾	2¼	4	10	✓	5	TB15	6P1 TO (3B1 - C5979)
32	⅞	2	2¼	4¼	64	✓	32	TB16	12B1 + 3 TO (3B5 7 + 10 - C5979)
16	⅞	1¾	2¼	4	32	✓	16	TB17	12B2 + 4 TO (5B11 - C5979)
16	⅞	1½	2½	4	32	✓	16	TB18	12B5 TO (5B7-7A C5979)
16	⅞	2	2¼	4¼	32	✓	16	TB19	12B6 TO (5B5 + 6 - C5979)
24	⅞	3½	2¼	5¾	48	✓	✓	TB20	12B1, 2, 3 + 4 (Ship with B1, 2, 3 + 4)
16	⅞	3	2¼	5¼	32	✓	·	TB21	12B5 + 6 Ship with B5 + 6)
8	⅞	2½	2¼	4¾	16	✓	8	TB22	11B1 + 2 TO (5B7-7A C5979)
4	⅞	5¾	2¼	8	8	✓	·	TB23	11B1 (Ship with 11B1)
4	⅞	5½	2¼	7¾	8	✓	·	TB24	11B2 (Ship with 11B2)
4	⅞	4¾	2¼	7	8	·	·	TB25	11B3 (Ship with 11B3)
4	⅞	2½	2¼	4¾	8	4	✓	TB26	11B3 TO (1G2ᴸ - C5979)
16	⅞	1¾	2	3¾	32	16	✓	TB27	11B4 TO (5B6 + 1G2ᴸ - C5979)
8	⅞	1¾	2	3¾	16	8	✓	TB28	11B5 TO (5B5 - C5979)
12	⅞	1¼	2	3¼	24	12	·	TB29	11B6 TO (3B5 - C5979)
4	⅞	9	2½	11½	8	✓	4	TB30	14G1 TO (4B4 - C5979)
4	⅞	8¼	2½	10¾	8	4	✓	TB31	14G1 TO (4B4 - C5979)
4	⅞	7¾	2½	10¼	8	✓	4	TB32	14G1 TO (4B4 - C5979)
4	1	8	2¾	10¾	8	✓	4	TB33	14G2 TO (3B1 - C5979)
4	1	6¾	2¾	9½	8	✓	4	TB34	14G2 TO (3B1 - C5979)
8	⅞	1½	2¼	3¾	16	8	✓	TB35	15S1 TO (1G2ᴸ - C5979)
1	⅞	3¾	2	5¾	2	✓	✓	TB36	15S1 (Ship with 15S1)
4	⅞	1	2½	3½	8	4	✓	TB37	15S1 TO (3B10 - C5979)
12	1	3	2¾	5¾	24	✓	12	TB38	17T1 TO (5B2 - C5979)
16	¾	2	2¼	4¼	32	✓	✓	TB39	10R1 (Ship with 10R1)
8	¾	3¾	2¼	6	16	·	✓	TB40	10R1 (" " ")
8	¾	2½	2¼	4¾	16	·	✓	TB41	10R1 (" " ")
8	1	5¾	2¾	8½	16	✓	✓	TB42	10R1 (" " ")
2	⅞	4¾	2¼	7	4	·	·	TB43	10R1 (" " ")
8	1	2	3	5	16	·	·	TB44	10R1 TO (10C9 + 10ᴸ - C5979)
4	1	2¼	3¼	5½	8	4	✓	TB46	MOTOR M1 TO (10P1 - C5979)
4	1⅛	10	3	13	8	4	✓	TB47	MOTOR M2 TO (10B2 - C5979)
2	¾	3	1¼	4¼	2	2	✓	TB48	19R1 (Ship with 19L2)
2	¾	3½	1¼	4¾	2	2	·	TB49	19R1 TO 19A1 (Ship with 19L2)
2	¾	¾	1¼	2	2	✓	✓	TB50	19L1 (Ship with 19L1)
4	¾	¾	1	1¾	4	✓	✓	TB51	19L2 TO (11S1 - 5979)
2	¾	1	1	2	2	·	✓	TB45	19L2 TO (11S1 - 5979)

BOLT TOLERANCE

NOMINAL REAMED HOLE & BOLT DIA.	MIN DIA BOLT −	MAX DIA BOLT +
¾	0.0012	0.0000
⅞	0.0012	0.0000
1	0.0013	0.0000
1⅛	0.0014	0.0000
1¼	0.0014	0.0000

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT

RIVETS — OPEN HOLES — UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF SHAFTS & TURNED BOLTS
SPECIFICATIONS MAINE STEEL HIGHWAY BR. 1945
SHOP PAINT
FIELD PAINT

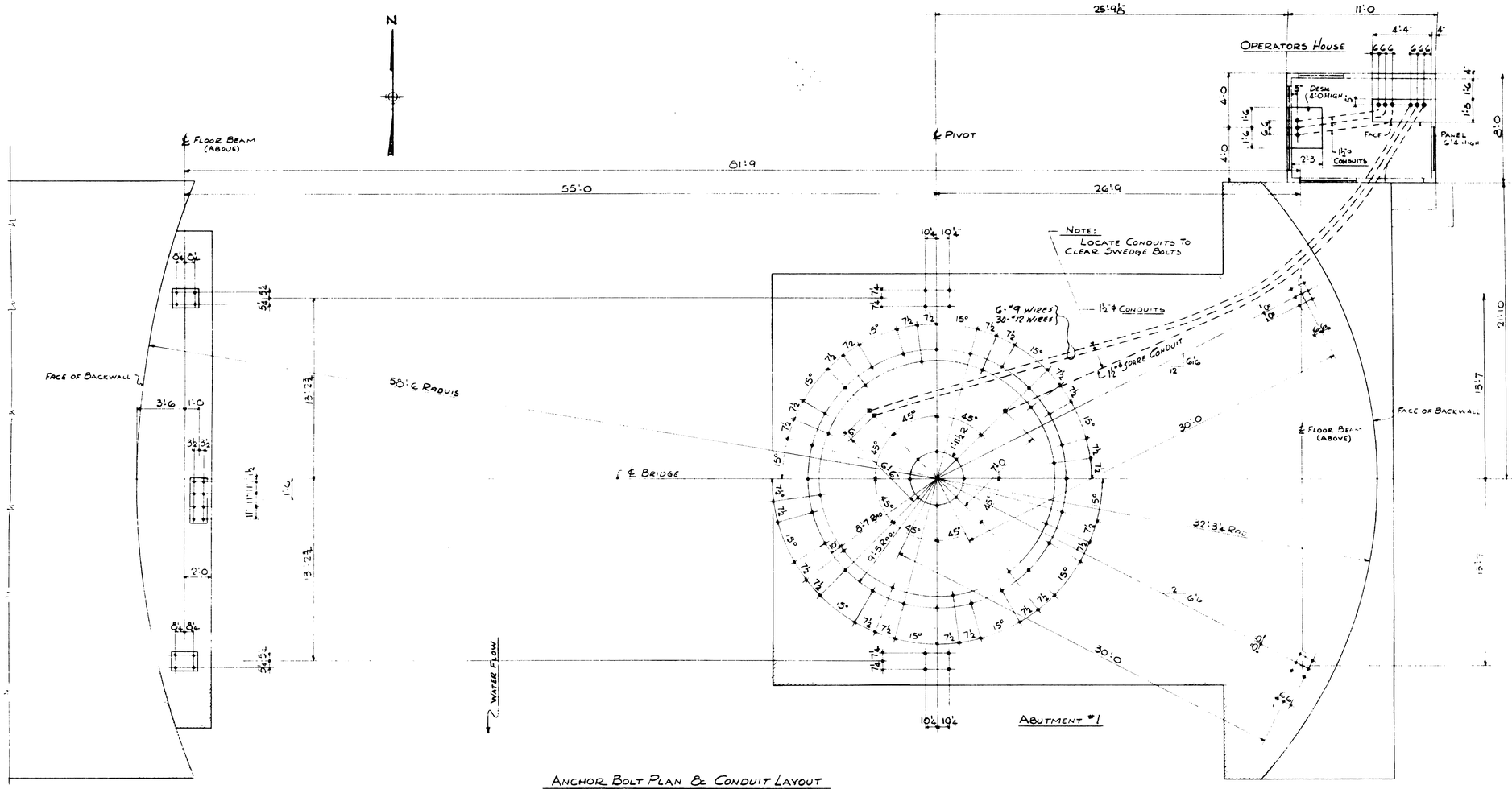
DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
E. Ilew	1/11/54	A.M.	1/12-54	A.M.

REVISIONS NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

CONTRACT NO. 5980 SHEET NO. 20

61-141

0 1 2 3 4 5 INCHES



Terminate Conduits with Couplings and Plugs.
Top of Coupling To Be Flush With Top of Finished Concrete
Conduit and Wireing only are To Be Furnished by Electrical Erector.

Inspection	Shop Rivets	Weight

Rivets — Open Holes — Unless Noted

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

Structure Naples Bay Swing Bridge
For State of Maine
Details of Conduit Layout
Specifications
Shop Paint
Field Paint

Drawn By	Date	Checked By	Date	Squad Foreman
LCK	12-9-53			A.D.

Revisions	No.	Date	By	Description
	1			
	2			
	3			
	4			
	5			

Contract No. 5981 Sheet No. C1

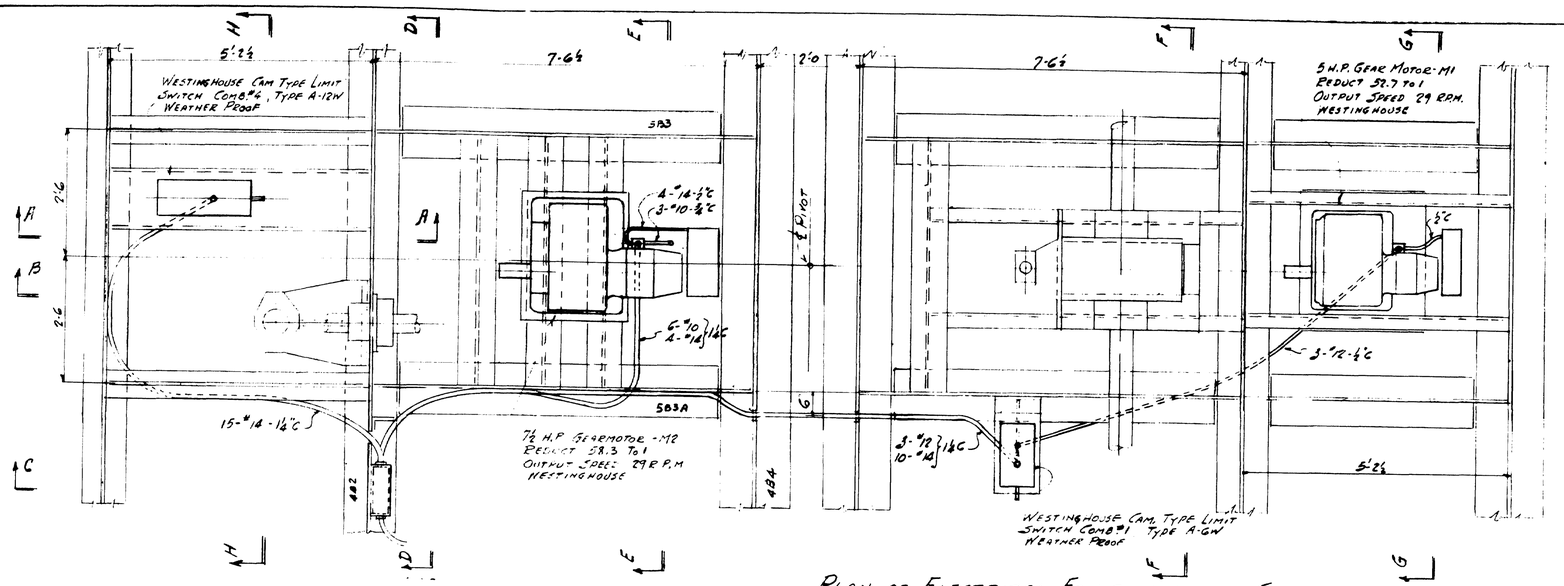
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

0 1 2 3 4 5 INCHES

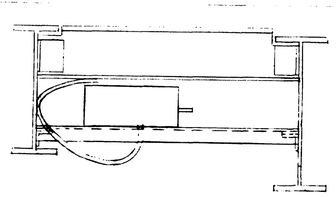
MERCIAL BLUE PRINT CO.

61-142

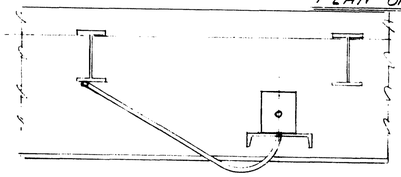


PLAN OF ELECTRICAL EQUIPMENT AND SUPPORTS

SCALE ¾"=1'0"

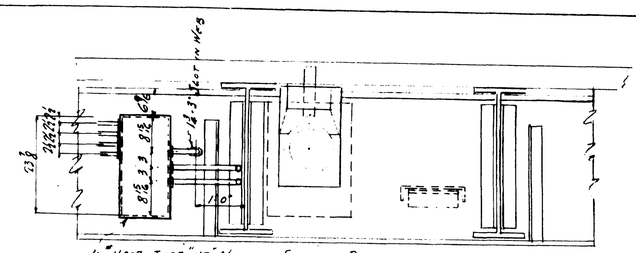


SECTION A-A

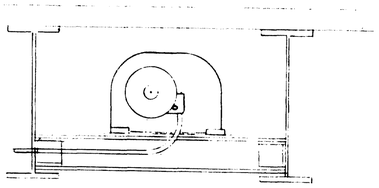


SECTION H-H

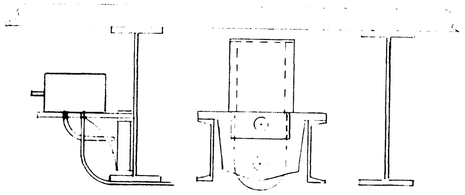
N



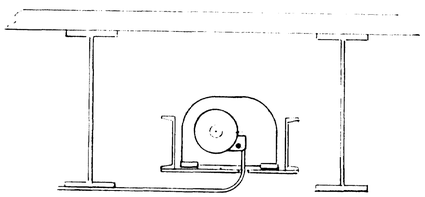
SECTION D-D



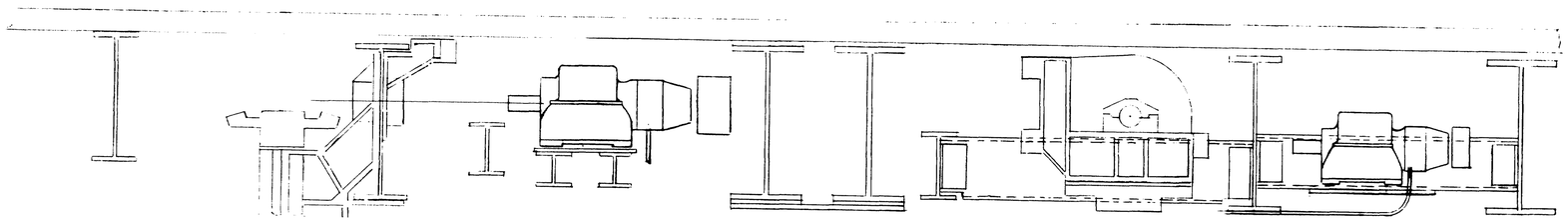
SECTION E-E



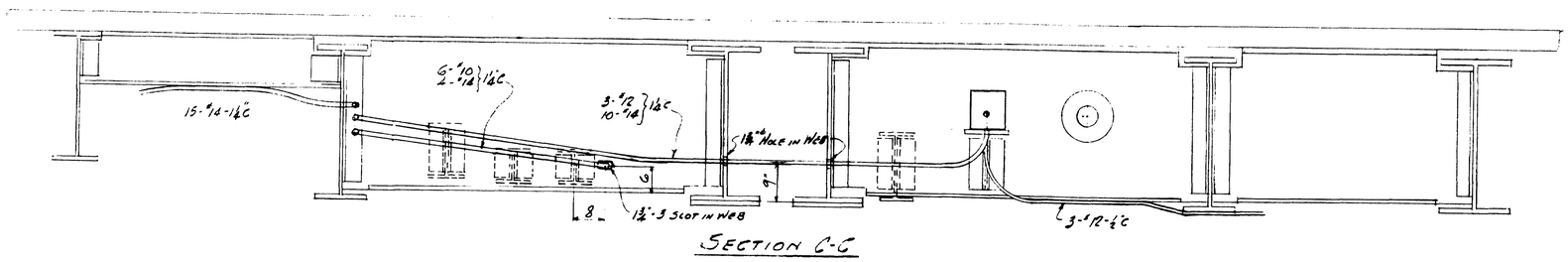
SECTION F-F



SECTION G-G



SECTION B-B



SECTION C-C

NOTE:
CONDUIT AND WIRING ONLY ARE TO BE FURNISHED BY ELECTRICAL ERECTOR.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS	OPEN HOLES	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE NAPLES BAY SWING BRIDGE
FOR STATE OF MAINE
DETAILS OF CONDUIT LAYOUT
SPECIFICATIONS MAINE STEEL HIGHWAY '32 1935
SHOP PAINT
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
L...				

REVISIONS	NO.	DATE	BY	DESCRIPTION
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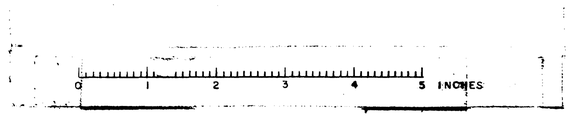
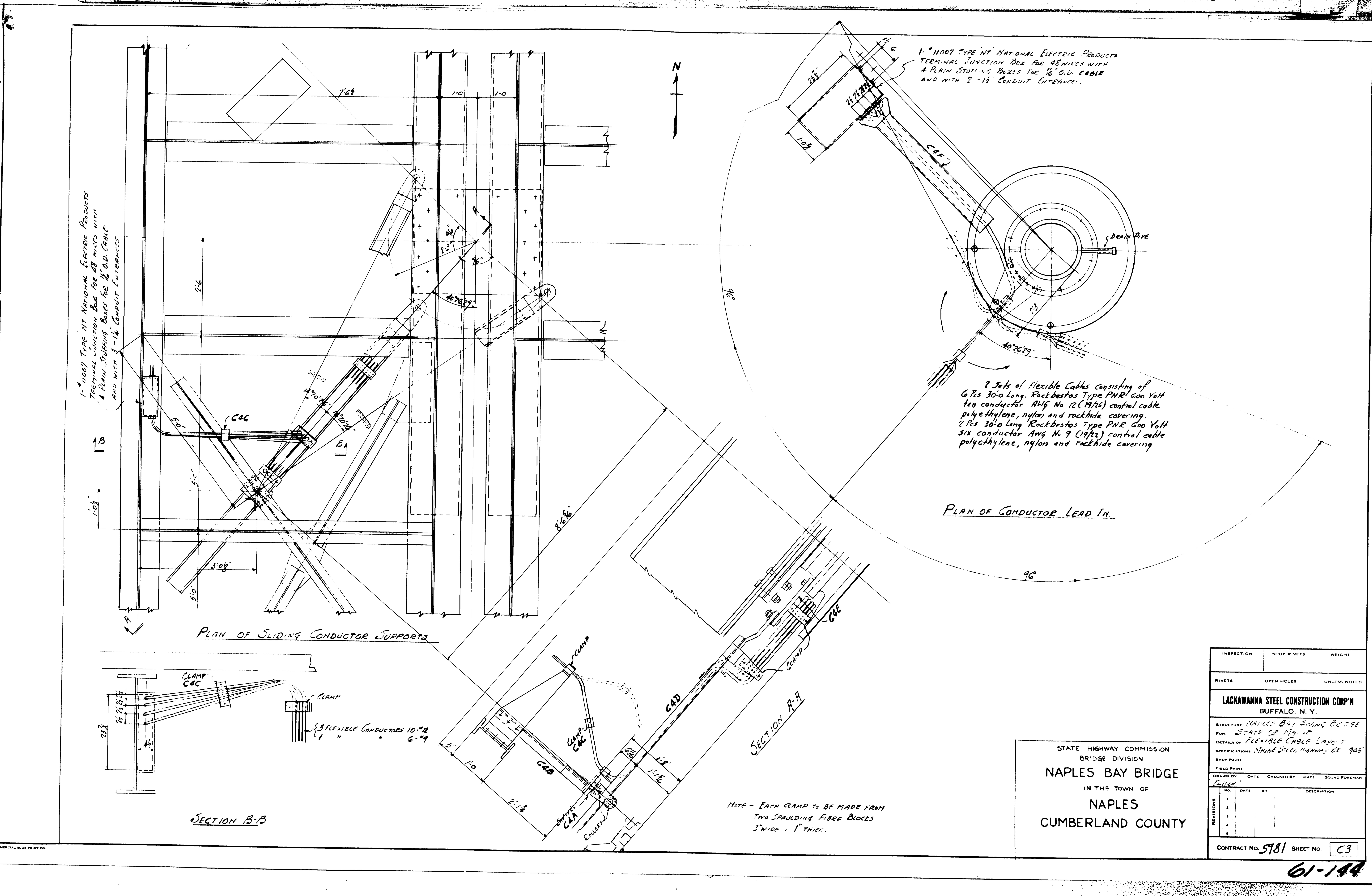
	3			
	4			
	5			

CONTRACT NO. 5981 SHEET NO. C2

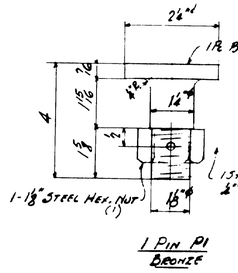
61-1.93



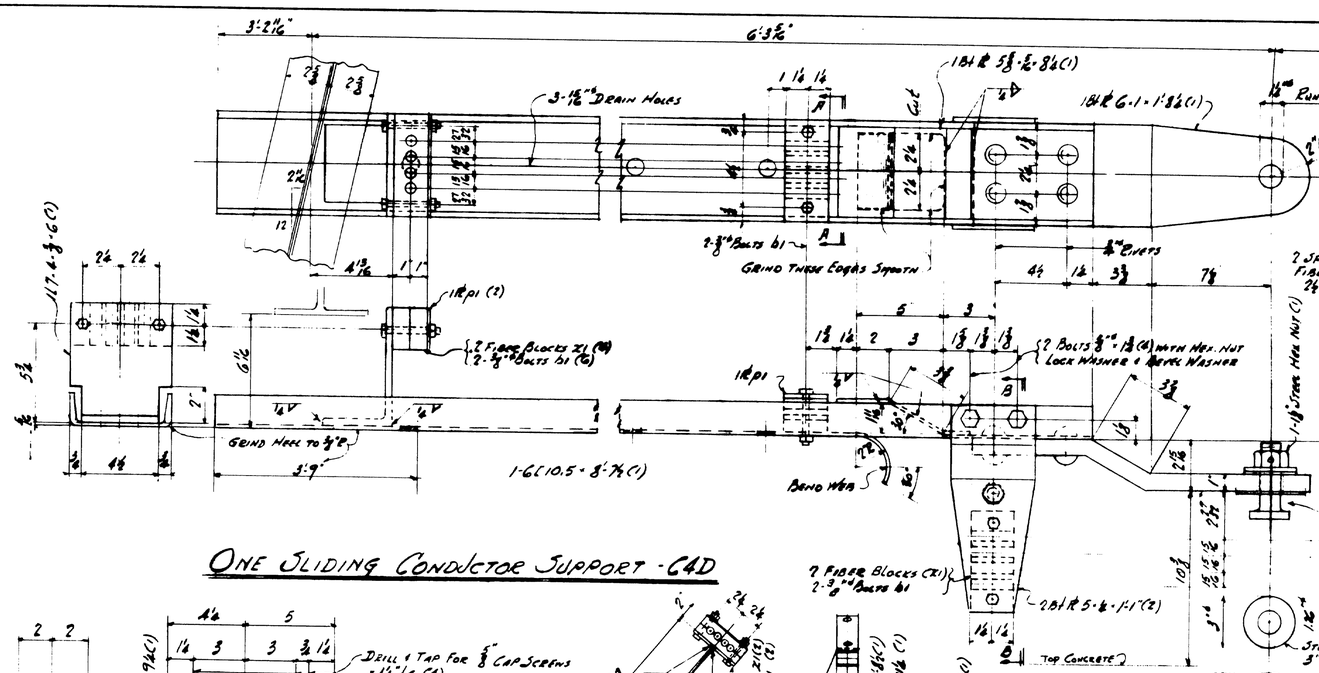


PLAN OF SLIDING CONDUCTOR SUPPORTS
1-#11007 Type NT National Electric Products Terminal Junction Box for 28 wires with 4 Plain Stuffing Boxes for 1/2" O.D. Cable and with 3-1 1/4" Conduit Entrances
C4C
SECTION B-B
Clamp C4C
Clamp
3 Flexible Conductors 10-#12
1 " " 6-#9
SECTION A-A
Clamp
C4E
C4D
C4B
Clamp C4C
Swivel C4A
Rollers
Note - Each clamp to be made from two Spaulding Fibre Blocks 3" wide - 1" thick.
N
1-#11007 Type NT National Electric Products Terminal Junction Box for 48 wires with 4 Plain Stuffing Boxes for 1/2" O.D. Cable and with 2-1 1/2 Conduit Entrances
C4F
Drain Pipe
2 Sets of Flexible Cables consisting of 6 Pcs 30'-0 Long Rockbestos Type PNR 600 Volt ten conductor AWG No 12 (19/25) control cable polyethylene, nylon and rockhide covering.
2 Pcs 30'-0 Long Rockbestos Type PNR 600 Volt six conductor AWG No 9 (19/22) control cable polyethylene, nylon and rockhide covering
PLAN OF CONDUCTOR LEAD IN.
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY
INSPECTION SHOP RIVETS WEIGHT
RIVETS OPEN HOLES UNLESS NOTED
LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N.Y.
STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Flexible Cable Layout
SPECIFICATIONS Maine Steel Highway Br. 1945
SHOP PAINT
FIELD PAINT
DRAWN BY DATE CHECKED BY DATE SQUAD FOREMAN
REVISIONS NO. DATE BY DESCRIPTION
CONTRACT No. 5981 SHEET No. C3
61-144

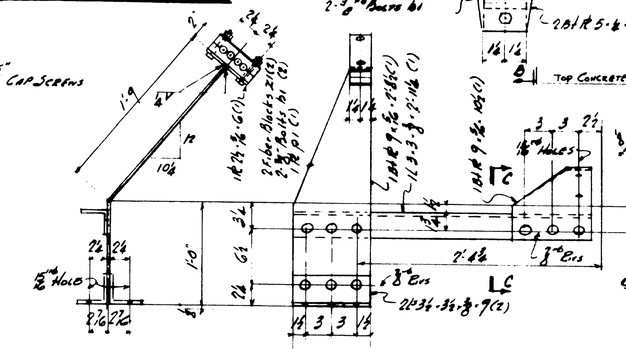
One Hinge - C4E



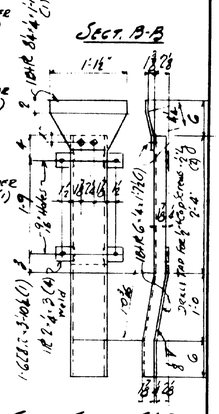
One Sliding Conductor Support - C4D



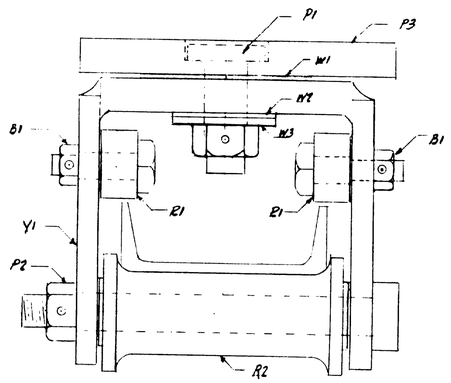
One Support C4B



One Cable Cover C4F

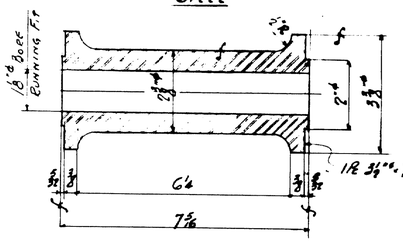


One Swivel Assembly - C4A



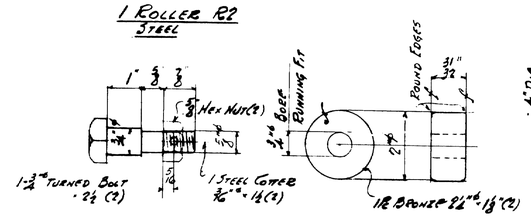
1 Yoke Y1
Steel

1 Plate P3
Steel



1 Roller R2
Steel

1 Pin P2
Bronze



2 Bolts B1
Steel

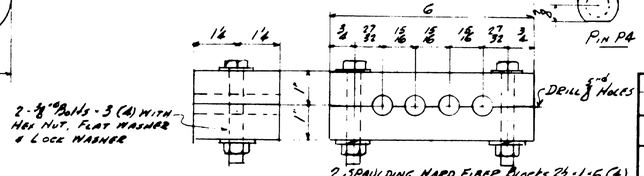
2 Rollers R1
Bronze

1 Washer W1
Brass

1 Washer W2
Brass

1 Washer W3
Steel

2 Cable Clamps C4G



STATE HIGHWAY COMMISSION
BRIDGE DIVISION

NAPLES BAY BRIDGE
IN THE TOWN OF
NAPLES
CUMBERLAND COUNTY

INSPECTION	SHOP RIVETS	WEIGHT
RIVETS	OPEN HOLES	UNLESS NOTED

LACKAWANNA STEEL CONSTRUCTION CORP'N
BUFFALO, N. Y.

STRUCTURE Naples Bay Swing Bridge
FOR State of Maine
DETAILS OF Flexible Cable Supports
SPECIFICATIONS Maine Steel Highway Br. 1945
SHOP PAINT
FIELD PAINT

DRAWN BY	DATE	CHECKED BY	DATE	SQUAD FOREMAN
Fuller		NE		

REVISIONS	NO.	DATE	BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

CONTRACT NO. 5981 SHEET NO C4

6-145

COMMERCIAL BLUE PRINT CO.