State of Alaska

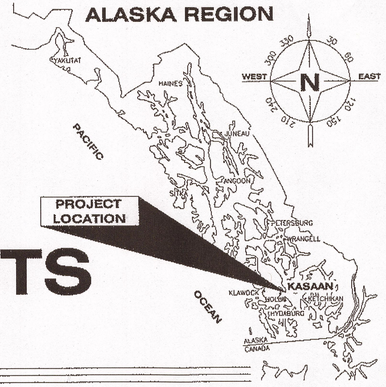
Department of Transportation and Public Facilities Southeast Region

KASAAN HARBOR IMPROVEMENTS
KASAAN, ALASKA

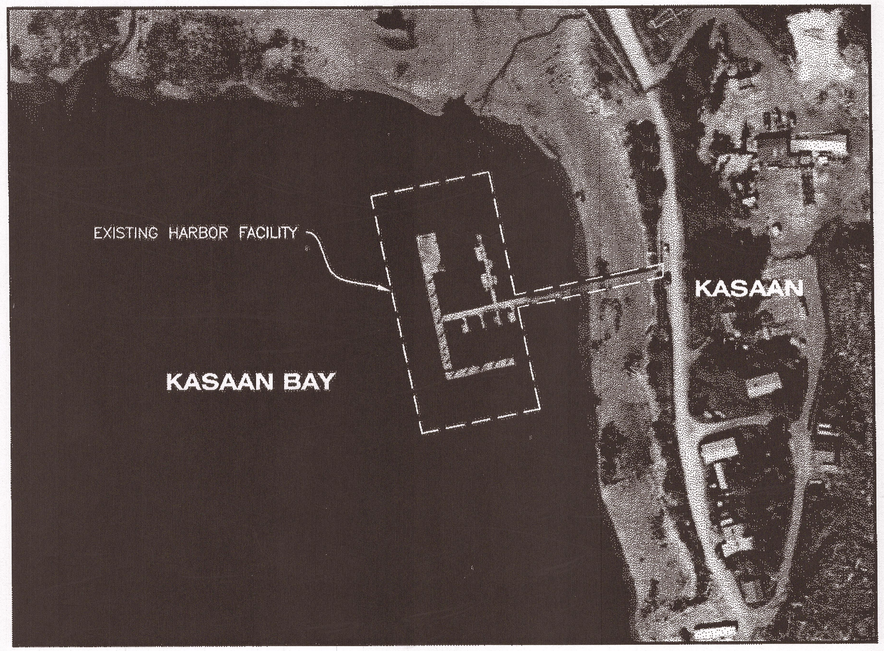
PROJECT No. 67953

As-Built PLANS
CONTRACTOR: Pool Engineering, Inc.
PROJECT ENGINEER: Kraig Norheim
BEGIN DATE: April 4, 2012
END DATE: September 19, 2012

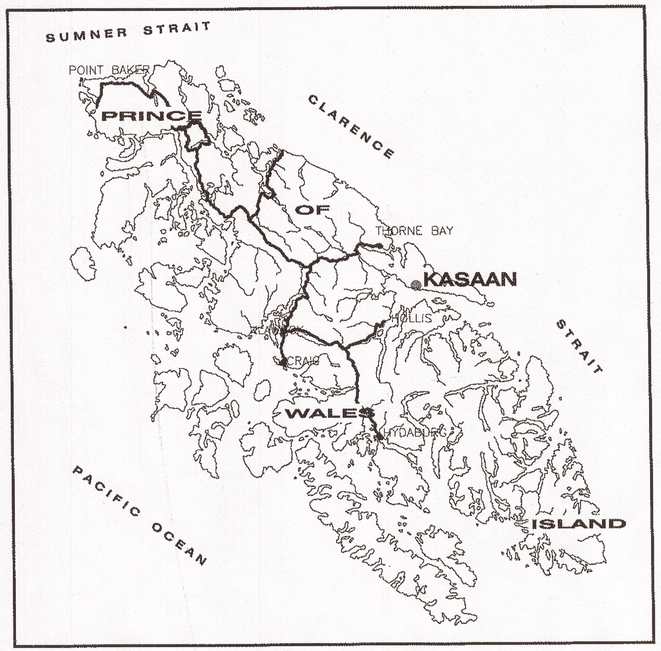
SOUTHEAST ALASKA REGION



TIDAL DATA	
HTL	+21.3'
MHW	+14.5'
MLLW	0.0'
ELW	−5.25'



SITE MAP



VICINITY MAP

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Kraig Norheim Date 3-7-14

SHEET INDEX

SHEET NO.	DESCRIPTION
01	TITLE SHEET
02	ESTIMATE OF QUANTITIES
03	EXISTING SITE & DEMOLITION PLAN
04	NEW SITE PLAN
05–07	STEEL BREAKWATER FLOAT
08–10	TIMBER MOORING FLOATS
11	SKIFF FLOAT
12–13	TRESTLE MODIFICATIONS
14–17	ALUMINUM GANGWAY
18	CONCRETE BREAKWATER FLOAT REPAIR
19	TRANSITION PLATES

PATH: Q:\POW\67953\MF\PLANSET\FINAL\01 - TITLE SHEET.DWG TAB:01
Wednesday, May 04, 2011 9:57:34 AM
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

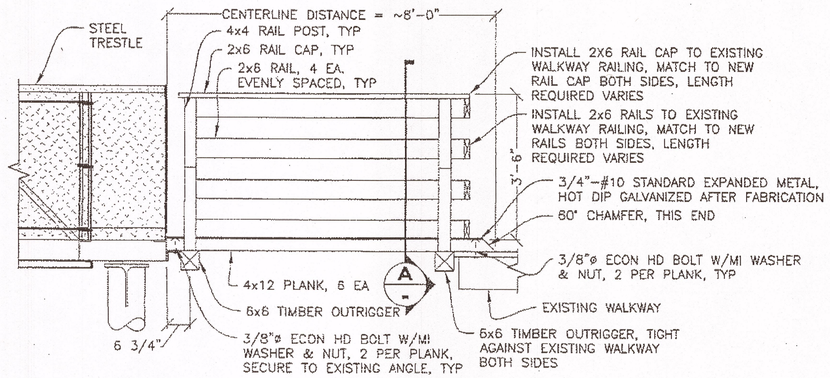
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STATE OF ALASKA 49th — David H. Lowell CE-12614 REGISTERED PROFESSIONAL ENGINEER — 5/13/11
STATE OF ALASKA 49th — Joel D. Osburn CE-11014 REGISTERED PROFESSIONAL ENGINEER — 5/13/11

APPROVED: Chuck Correa 5/13/11
REGIONAL PRE-CONSTRUCTION ENGINEER — DATE
CHUCK CORREA, P.E.

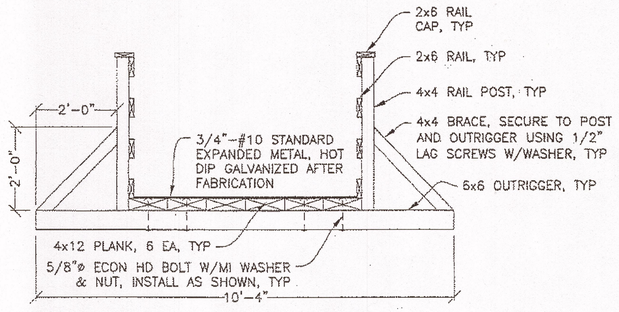
APPROVED: Gary L. Davis 5-16-11
DIRECTOR, SOUTHEAST REGION — DATE
GARY L. DAVIS

CERTIFIED TRUE & CORRECT AS-BUILT OF ACTUAL FIELD CONDITION:
2/11/15
CONSTRUCTION PROJECT MANAGER — DATE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	67953	2011	01	19



ELEVATION
TIMBER APPROACH



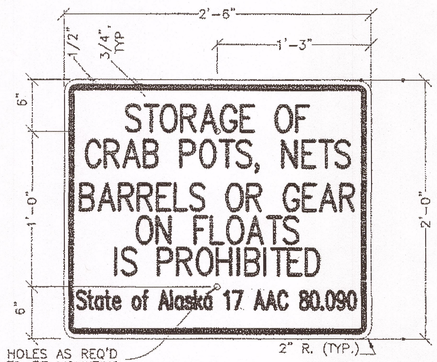
A - SECTION
TIMBER APPROACH



PICTURE
EXISTING TIMBER APPROACH

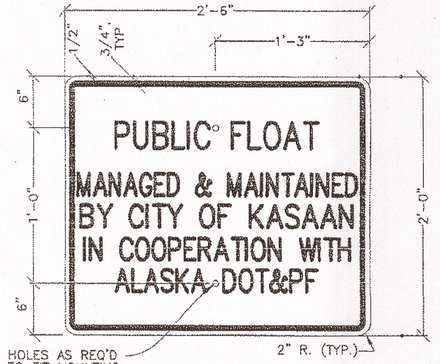
TIMBER APPROACH NOTES

1. REMOVE AND DISPOSE OF ALL EXISTING TIMBER AND HARDWARE REQUIRED TO COMPLETE NEW TIMBER APPROACH AS SHOWN.
2. ALL EXISTING FEATURES AND DIMENSIONS MAY NOT BE SHOWN. CONTRACTOR SHALL FIELD VERIFY PRIOR TO FABRICATION.
3. NEW TIMBERS SHALL CONFORM TO SECTION 506 OF THE SPECIAL PROVISIONS AND THE GENERAL NOTES, SHEET 02 EXCEPT PRESSURE TREATMENT FOR THE RAILS AND POSTS EXPOSED TO PEDESTRIANS SHALL BE ACQ, 0.40 PCF NET RETENTION. CONNECTION HARDWARE FOR RAILING AND RAIL CAPS SHALL BE #8 OR LARGER DECK SCREWS, HOT-DIP GALVANIZED, COATED OR STAINLESS STEEL RATED FOR LONG TERM USE IN THE MARINE ENVIRONMENT.



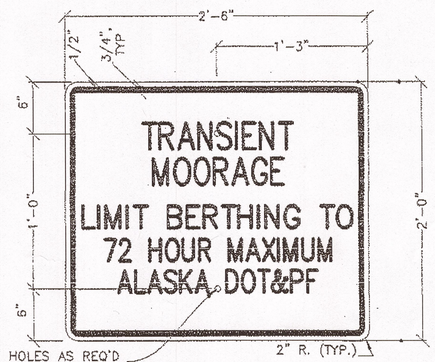
SIGN "A"
(2 EA REQD)

#6 Pile
Existing Breakwater
Float



SIGN "B"
(2 EA REQD)

#4 Pile
Existing Breakwater
Float



SIGN "C"
(2 EA REQD)

#2 Pile
Existing Breakwater
Float

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig J. Tomlin Date 3-7-14

SIGN NOTES

1. SIGNS SHALL BE FABRICATED OUT OF 1/8-INCH THICK, 5000 OR 6000 SERIES ALUMINUM ALLOY, SHEETED WITH WHITE HIP REFLECTIVE BACKGROUND AND BLACK LETTERS.
2. LETTERING SHALL CONFORM TO THE GENERAL SIZE AND STYLE SHOWN AND PER THE ALASKA SIGN DESIGN SPECIFICATION CRITERIA.
3. INSTALL SIGNS NEAR TOP OF NEW OR EXISTING STEEL PIPE PILES, AT LOCATIONS AND ORIENTATION DIRECTED BY THE ENGINEER, AND VISIBLE TO APPROACHING TRAFFIC. SIGNS MAY BE MOUNTED TO EITHER 16-INCH DIAMETER OR 24-INCH DIAMETER PILES OR COMBINATION THEREOF. SOME SIGNS MAY ALSO BE MOUNTED BACK TO BACK ON THE SAME PILE.
4. AFFIX SIGNS TO STEEL PILES WITH 2 EACH, 3/4-INCH WIDE STAINLESS STEEL BANDS PER SIGN AND ASSOCIATED MOUNTING HARDWARE TO MATCH (BAND-IT OR APPROVED EQUAL). ALL MOUNTING HARDWARE AND SIGN BRACKETS SHALL BE STAINLESS STEEL. USE 1/2-INCH MINIMUM DIAMETER BOLTS. DRILL HOLES IN SIGNS TO MATCH THE SELECTED MOUNTING BRACKETS.
5. SIGN FABRICATION AND MATERIALS SHALL ALSO CONFORM TO SECTION 615 OF THE STANDARD SPECIFICATIONS.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. MILLER
DESIGNED BY: STAFF
DRAWN BY: STAFF

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

KASAAN HARBOR IMPROVEMENTS PROJECT #67953

ADDENDUM #2 ATTACHMENT 2

PATH: O:\POW\67953\MF\ADMIN\ADDENDUM #2\PLANSET\ADDENDUM #2 - SHEET 1.DWG
TAB: 1 Friday, June 10, 2011 10:44:31 AM LOWELL, DAVID H (DOT)

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	1	1

ESTIMATE OF QUANTITIES

ITEM NO.	PAY ITEM	UNIT	QUANTITY
202 (1)	REMOVE & DISPOSE OF EXISTING STRUCTURES	LS	ALL REQ'D
504 (1)	18'x106' STEEL BREAKWATER FLOAT	LS	ALL REQ'D
504 (2)	6'x80' ALUMINUM GANGWAY	LS	ALL REQ'D
504 (3)	ALUMINUM TRANSITION PLATES	EA	4
504 (4)	TRESTLE MODIFICATIONS	LS	ALL REQ'D
505 (1)	12 3/4" DIA x 1/2" WALL PIPE PILES, FURNISHED	LF	~~131~~ 135.4
505 (2)	12 3/4" DIA x 1/2" WALL PIPE PILES, DRIVEN	EA	2
505 (3)	16" DIA x 1/2" WALL PIPE PILES, FURNISHED	LF	391
505 (4)	16" DIA x 1/2" WALL PIPE PILES, DRIVEN	EA	5
505 (5)	24" DIA x 1/2" WALL PIPE PILES, FURNISHED	LF	424
505 (6)	24" DIA x 1/2" WALL PIPE PILES, DRIVEN	EA	5
505 (7)	REMOVE & REDRIVE EXISTING 12 3/4" DIA PIPE PILES	EA	2
505 (8)	DRILLED ROCK SOCKET, FURNISHED	LS	ALL REQ'D
505 (9)	DRILLED ROCK SOCKET, INSTALLED	EACH	~~14~~ 4
505 (10)	100 LB. PILE ANODE	EA	23
506 (1)	12'x125' TIMBER MOORING FLOAT	LS	ALL REQ'D
506 (2)	10'x100' TIMBER MOORING FLOAT	LS	ALL REQ'D
506 (3)	25'x20' SKIFF FLOAT	EA	2
506 (4)	LEVELING FLOTATION BILLET, 5"x20"x4'-6"L, FURNISHED	EA	8
506 (5)	LEVELING FLOTATION BILLET, INSTALLED	EA	8
506 (6)	CONCRETE BREAKWATER FLOAT REPAIR	LS	ALL REQ'D
506 (7)	FIRE EXTINGUISHER STATION	EA	3
506 (8)	LIFE RING STATION	EA	3
506 (9)	FISH CLEANING STATION TABLE	EA	1
615 (7)	HARBOR SIGNS	LS	ALL REQ'D
640 (1)	MOBILIZATION & DEMOBILIZATION	LS	ALL REQ'D
640 (4)	WORKER MEALS & LODGING, OR PER DIEM	LS	ALL REQ'D
642 (1)	CONSTRUCTION SURVEYING	LS	ALL REQ'D

Pay Item	Unit	Quantity
Pile Collar Revision CO #1	LS	All Reqd
Miscellaneous Modifications CO #2		
12'x125' Mooring Float for Powerful CO #2		
Steel Breakwater Float Modifications CO #3		
504(5)		
506(10)		
506(11)		
504(5)		

PILE DATA

PILE ID	LOCATION	PILE SIZE	APPROX MUDLINE ELEV	EST PENETRATION	EST TIP ELEV	CUTOFF ELEV	EST PILE LENGTH
1	10'x100' TIMBER MOORING FLOAT	REDRIVE 12 3/4"ø	-22.0'	20'	-42.0'	+28.0'	70'
2			-23.0'		-43.0'		71'
3		12 3/4"ø x 1/2"	-20.0'		-40.0'		68'
4			-15.0'		-35.0'		63'
						REDRIVE 12 3/4"ø	141'
						12 3/4"ø TOTAL	131'
5	12'x125' TIMBER MOORING FLOAT	16"ø x 1/2"	-13.0'	25'	-38.0'	+28.0'	66'
6			-20.0'		-45.0'		73'
7			-27.0'		-52.0'		80'
8			-31.0'		-56.0'		84'
9			-35.0'		-60.0'		88'
						16"ø TOTAL	391'
10	18'x106' STEEL BREAKWATER FLOAT	24"ø x 1/2"	-20.0'	25'	-45.0'	+28.0'	73'
11			-27.0'		-52.0'		80'
12			-32.0'		-57.0'		85'
13			-38.0'		-63.0'		91'
14			-42.0'		-67.0'		95'
						24"ø TOTAL	424'

NOTE:
1. ALL ELEVATIONS ARE IN FEET REFERENCED TO MLLW.
2. DRIVE ALL PILES TO ESTIMATED TIP ELEVATION OR REFUSAL.
3. CONICAL CAPS REQUIRED ON ALL EXISTING AND NEW PILES.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig J. Mathias Date 3-7-14

GENERAL NOTES

DESIGN SPECIFICATIONS

PER CONTRACT DOCUMENTS, SEE SPECIAL PROVISIONS. REFERENCE AS-BUILT DRAWINGS FOR EXISTING HARBOR FEATURES NOT SHOWN.

MATERIALS

STEEL:
- HSS- ASTM A500 GRADE B
- PILING- SEE SECTION 505 OF SPECIFICATIONS
- PIPE- ASTM A53, GRADE B
- PONTOONS- SEE SECTION 504 OF SPECIFICATIONS
- HORIZ STRUT- SEE SECTION 504 OF SPECIFICATIONS
- W-SECTION- ASTM A992
- PLATES- ASTM A36, UNLESS OTHERWISE NOTED
- STAINLESS- ASTM A276 TYPE 316
- PILE TIPS- APF-0-14000 OR APF 0-14001 DRIVE SHOES OR APPROVED EQUAL. DRIVESHOES ARE REQUIRED ON ALL PILING.
- GRATING- WELDED W/ 1/8" BEARING BARS SPACED AT 1 3/16", SERRATED TOP
- FASTENERS- STEEL CONNECTIONS: ASTM A325; TIMBER CONNECTIONS: ASTM A307; ALUMINUM CONNECTIONS: ASTM A276 TYPE 316
- PROTECTIVE COATINGS- FLOTATION PONTOON, HORIZONTAL STRUT, & DECK BEAMS TO BE THERMALLY SPRAY METALLIZED ACCORDING TO COATING SYSTEM 10 AND TOP COATED TO COATING SYSTEM 1 OF THE SPECIFICATIONS.

  ALL OTHER SHAPES, DECKING, FASTENERS AND MISCELLANEOUS ASSEMBLIES TO BE HOT DIP GALVANIZED AFTER FABRICATION IN CONFORMANCE WITH ASTM A123 AND A153.

ALUMINUM:
- SHAPES- ASTM 6061-T6
- PLATES- ASTM 5068 H112
- COATINGS- TRANSITION PLATES TO BE COATED WITH NON-SKID COATING IN CONFORMANCE WITH PROJECT SPECS.

TIMBER:
- SAWN- S4S DOUGLAS FIR NO. 1 OR BETTER PER WCLIB/WWPA GRADING RULES.
- DECKING- MILLED S1S2E DOUGLAS FIR SELECTED GRADE PER WWPA GRADING RULES.
- GLULAM- DF/DF, COMBINATION 24F-V8
- TREATMENT- SAWN TIMBER BELOW DECK LEVEL TO BE TREATED WITH CREOSOTE, 20 PCF RETENTION. GLULAM TIMBER BELOW DECK LEVEL TO BE TREATED WITH CREOSOTE, 12 PCF RETENTION. DECKING, BULL RAILS, AND BUMPER BOARDS TO BE TREATED WITH ACZA, 0.6 PCF RETENTION.

UHMW:
ULTRA HIGH MOLECULAR WEIGHT PLASTIC (UHMW) TO BE MADE FROM MATERIALS CONFORMING TO ASTM D4020, COLOR TO BE BLACK UNLESS OTHERWISE NOTED.

SQUARE FENDERS:
SQUARE FENDERS TO BE HEAVY DUTY, MARINE GRADE RUBBER TYPE.

POLYSTYRENE FLOTATION:
FLOTATION PLANKS SHALL BE CONSTRUCTED FROM CLOSED CELL EXPANDED POLYSTYRENE (EPS) PER ASTM D1621. MINIMUM DENSITY SHALL BE 1.1 PCF. MATERIALS SHALL HAVE A MAXIMUM WATER ABSORPTION OF 4 PERCENT BY VOLUME IN ACCORDANCE WITH ASTM C272. THE PLANKS SHALL BE CUT AND NOTCHED TO THE NOMINAL DIMENSIONS INDICATED ON THE PLANS. ALL NOTCHES AND CUTS SHALL BE PERFORMED USING A HOT-WIRE OR OTHER APPROVED METHODS. ALL FLOTATION PLANKS SHALL BE COATED AFTER FABRICATION WITH A POLYURETHANE ELASTOMERIC COATING TO A MINIMUM DRY FILM THICKNESS OF 50 MILS. POLYURETHANE COATINGS SHALL BE "HYDROSEAL 2090" BRAND OR APPROVED EQUAL. ALL FIELD CUTS, NICKS AND ABRASIONS TO THE COATING SHALL BE REPAIRED WITH ADDITIONAL COATINGS TO THE SPECIFIED THICKNESS.

FABRICATION

WELDING:
ALL WELDING TO BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH AWS D1.1 OR AWS D1.2. ALL WELDS TO BE 1/4 FILLET UNLESS OTHERWISE NOTED.

TIMBER FLOAT SYSTEM:
ALL FABRICATION AND CONNECTION DETAILS MAY NOT BE SHOWN. PROVIDE DETAILED SHOP DRAWINGS SHOWING ALL MEMBERS AND FABRICATION SEQUENCE.

MACHINE OR POWER DRIVEN NAILS WILL NOT BE PERMITTED.

FOR LEVELING THE TIMBER FLOATS AND THE STALL FLOATS, THE CONTRACTOR SHALL PROVIDE LEVELING FLOTATION BILLETS AS NOTED ON THE BID SCHEDULE AND 1/2" DIA. X 20" LONG TREATED WOODEN DOWELS POINTED ON ONE END OR 1/2"ø PVC PIPE AT SHARP BEVEL IN ONE END. PROVIDE A MINIMUM OF 4 DOWELS PER LEVELING BILLET. WHERE LEVELING IS REQUIRED, PLACE LEVELING BILLET BETWEEN LOWER SILL MEMBERS AND DRIVE DOWELS THROUGH THE FLOTATION BILLETS. PIN EACH LEVELING BILLET WITH 4 DOWELS EQUALLY SPACED. DOWELS MAY BE DRIVEN FROM THE TOP DOWN BETWEEN DECK BOARDS.

ALL TIMBER BOLTS ARE ECONOMY HEAD TYPE WITH LUGS AND M.I. WASHERS, UNLESS OTHERWISE NOTED. PROVIDE DOUBLE NUTS OR JAM NUTS WHERE NOTED ON THE PLANS.

ALIGN BUMPER BOARD SPLICES WITH EXTERIOR STRINGER SPLICES, MINIMUM BUMPER BOARD LENGTH IS 10'-0". SECURE BUMPER BOARDS WITH 16D GALV COMMON NAILS SPACED AT 12" OC, STAGGERED ROW AND 2 NAILS AT EACH END. PREDRILL PILOT HOLE TO PREVENT SPLITTING.

DECKING SHALL BE SPACED 1/4" APART AND SECURED TO EACH STRINGER WITH 2~20D GALVANIZED BOX NAILS. PREDRILL ALL ENDS WHERE SPLITING MAY OCCUR.

COUNTERBORE FOR ALL BOLT HEADS FACING DECKING OR OTHERWISE NOTED TO BE FLUSH.

CUT ALL MEMBERS TO LENGTH PRIOR TO PRESSURE TREATMENT. DRILL ALL HOLES/COUNTERBORING AND CUT ALL DAPS PRIOR TO PRESSURE TREATMENT UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE ENGINEER. TREAT ALL FIELD DRILLED HOLES AND CUTS WITH COPPER NAPHTHENATE SOLUTION.

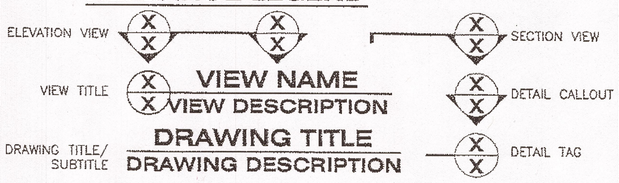
STEEL FLOAT SYSTEM:
FLOTATION PONTOON SPLICES SHALL BE FULL PENETRATION WELDS AND BE LIMITED TO (2) PER FLOAT MODULE.

PRESSURE TESTING OF PONTOONS AND HORIZONTAL STRUTS IS REQUIRED. SEE SECTION 504 OF THE SPECIFICATIONS FOR DETAILS.

UNLESS OTHERWISE NOTED, ALL BOLTED CONNECTIONS ARE PRETENSIONED USING 3/4"ø ASTM A325 BOLTS. PRETENSION ACCORDING TO "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" (RCSC) METHODS 8.2.1 TURN-OF-NUT PRETENSIONING OR 8.2.4 DIRECT-TENSION-INDICATOR PRETENSIONING. INSPECT IN ACCORDANCE WITH 9.2 PRETENSIONED JOINTS.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

REFERNCE LEGEND



NOTES:
1. USE THE SHEET NUMBER WHERE THE REFERENCE IS FOUND WHEN REFERENCING TO A DIFFERENT SHEET.
2. USE A DASH MARK WHEN REFERENCE IS FOUND ON THE SAME SHEET.

CHECKED BY: K. Miller

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

STATE OF ALASKA 49th David H. Lowell CE-12814 PROFESSIONAL ENGINEER 2/18/11

DESIGNED BY: D. Lowell
DRAWN BY: D. Lowell

PATH: O:\POW\67953\MF\ADMIN\ADDENDUM #2\PLANSET\02 - ESTIMATE OF QUANTITIES.DWG
TAB: 02 Thursday, June 09, 2011 9:27:37 AM LOWELL, DAVID H (DOT)

REVISIONS NO.	DATE	DESCRIPTION

KASAAN HARBOR IMPROVEMENTS
PROJECT #67953
ADDENDUM #2
ESTIMATE OF QUANTITIES

PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
67953	2011	02	19

~64'-1"

EXISTING 30'X61' SEAPLANE FLOAT W/2 EA. 12 3/4"ø STEEL PILES TO REMAIN

REMOVE EXISTING 6'X110'-6" TIMBER MOORING FLOAT W/ 3 EA. TIMBER PILES

REMOVE EXISTING 10'X125' TIMBER MOORING FLOAT W/ 3 EA. TIMBER PILES, AND REMOVE & REDRIVE 12 3/4"ø PIPE PILES, 2 EA

REMOVE EXISTING 10'X25' TIMBER GANGWAY FLOAT W/ 1 EA. TIMBER PILE

REMOVE EXISTING 6'X50' STEEL GANGWAY

EXISTING 12'X148' CONCRETE BREAKWATER FLOAT W/ 7 EA. 24"ø STEEL PILES TO REMAIN

EXISTING BOARDWALK

EXISTING 6'X150' PILE SUPPORTED STEEL APPROACH TRESTLE TO REMAIN

S. THORNE BAY ROAD

USS 280

Existing to Remain

REMOVE EXISTING 2'-6"X23' TIMBER STALL FLOATS, TYP. 4 EA.

~77'-1"

REMOVE EXISTING 12'X106' CONCRETE BREAKWATER FLOAT W/ 5 EA. 24"ø STEEL PILES, ESTABLISH LOCATION OF EXISTING PILES PRIOR TO REMOVAL TO ALLOW FOR INSTALLATION OF NEW PILES IN SAME LOCATION/SOCKET

Easement Tract I
State of Alaska

Easement Tract II
State of Alaska

-40.0' -30.0' -20.0' -10.0' 0.0' -4.5'

MLW MHW HTL

ATS 106
PACIFIC AMERICAN CORP.

EXISTING SITE PLAN

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller
STATE OF ALASKA · 29th · David H. Lowell · CE-12614 · REGISTERED PROFESSIONAL ENGINEER · 5/13/11
DESIGNED BY: D. Lowell
DRAWN BY: Staff
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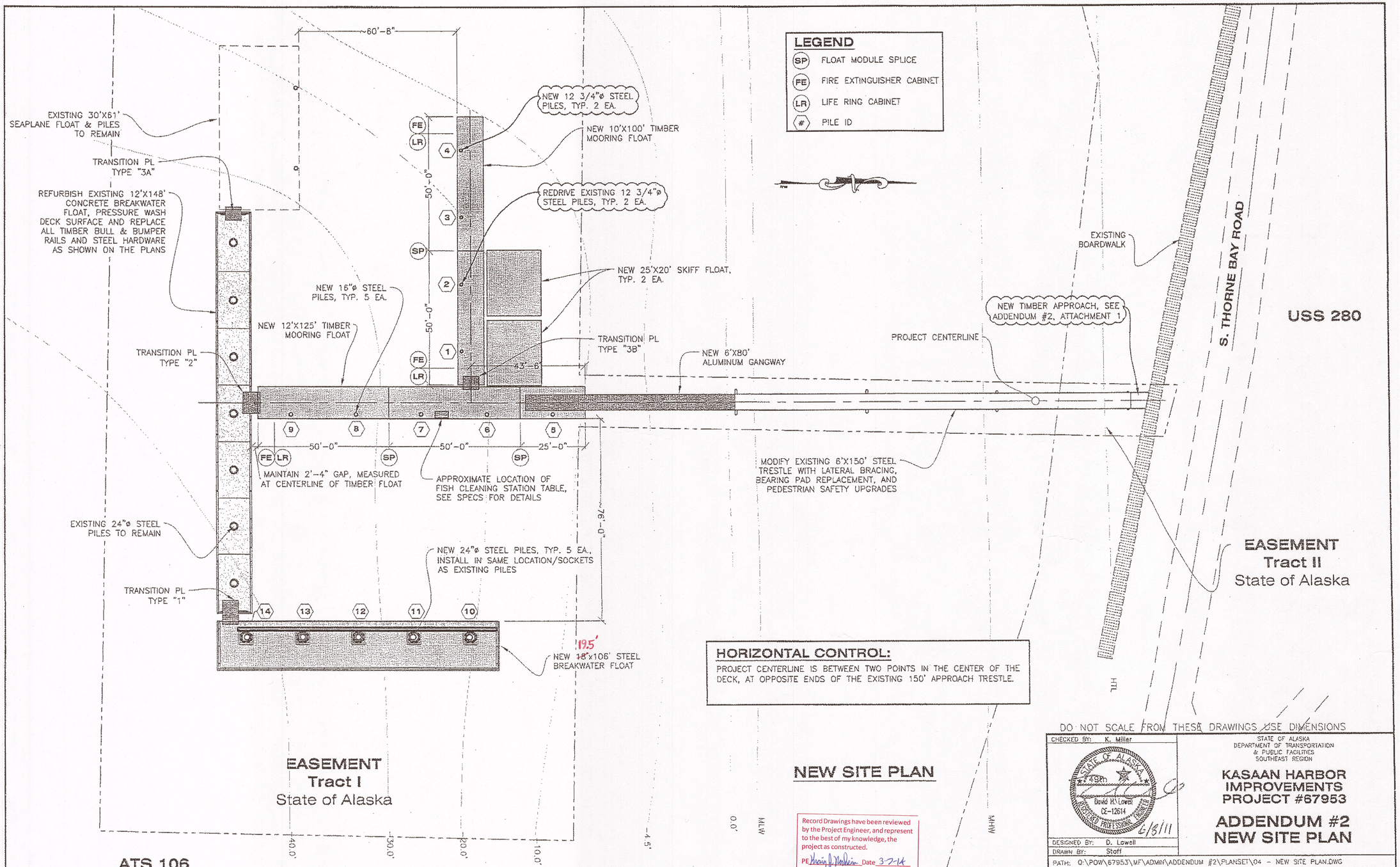
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

KASAAN HARBOR IMPROVEMENTS PROJECT #67953

EXISTING SITE & DEMOLITION PLAN

REVISIONS NO.	DATE	DESCRIPTION

PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
67953	2011	03	19



HORIZONTAL CONTROL:

PROJECT CENTERLINE IS BETWEEN TWO POINTS IN THE CENTER OF THE DECK, AT OPPOSITE ENDS OF THE EXISTING 150' APPROACH TRESTLE.

NEW SITE PLAN

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Irving J. Harlan Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller
DESIGNED BY: D. Lowell
DRAWN BY: Staff

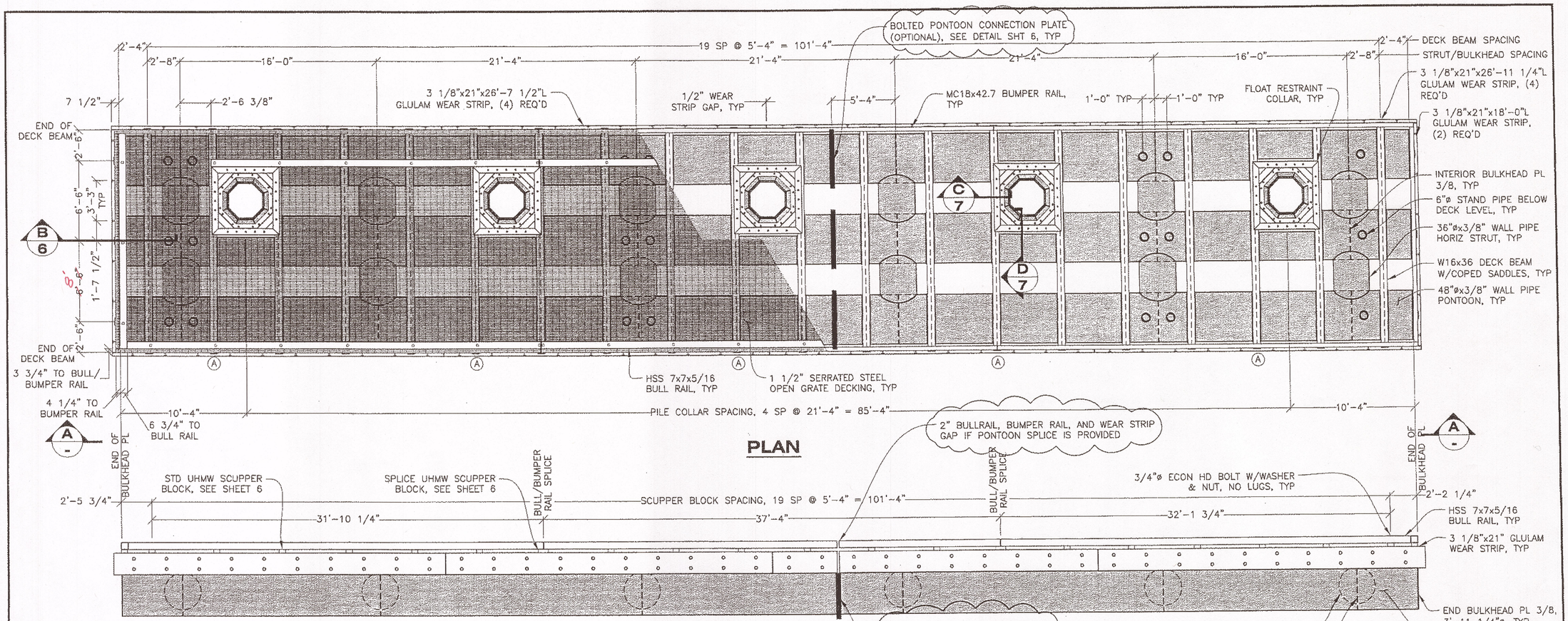
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

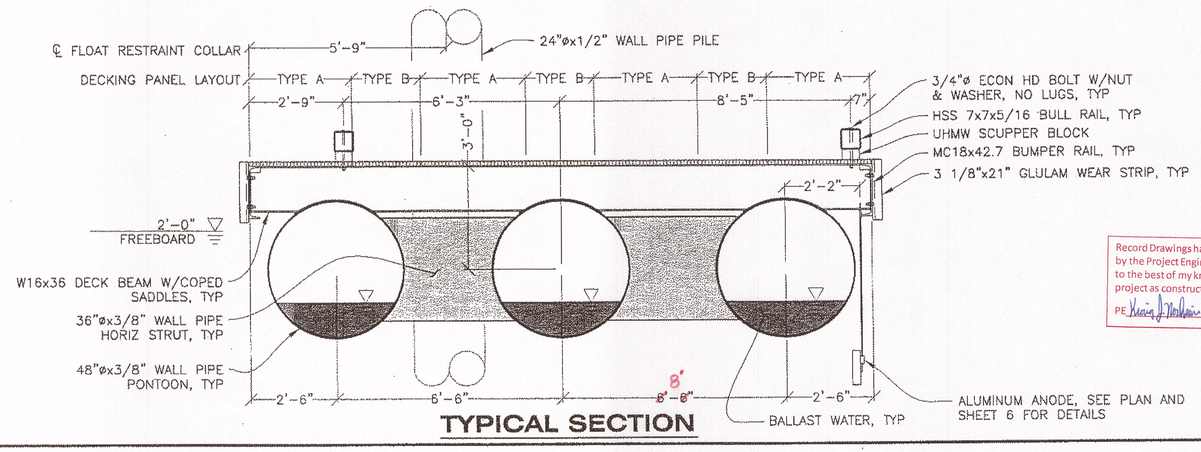
KASAAN HARBOR IMPROVEMENTS PROJECT #67953

ADDENDUM #2 NEW SITE PLAN

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TAB: 04 Thursday, June 09, 2011 9:35:23 AM LOWELL, DAVID H (DOT)

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	04	19





TYPICAL SECTION

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Kevin J. Markham Date 3-7-14

NOTE:
1. CONTRACTOR TO PROVIDE LIFT & ERECTION DETAILS TO BE APPROVED BY ENGINEER.
2. SPLICES IN THE PONTOONS SHALL BE LIMITED TO ONE (1) PER MODULE IF FABRICATED IN TWO SECTIONS OR TWO (2) PER MODULE IF THE FLOAT IS FABRICATED IN ONE SECTION. ANY SPLICES SHALL BE FULL PENETRATION WELDS PERFORMED IN A SHOP ENVIRONMENT.
3. (A) = ALUMINUM ANODE LOCATION
4. TYPE A – 3' WIDE PANEL, SECURED W/THRU BOLTS
   TYPE B – 2' WIDE PANEL, SECURED W/STUDS

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

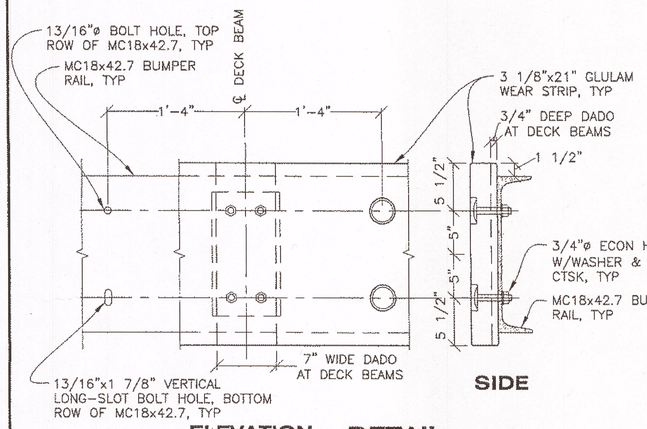
CHECKED BY: K. Miller
STATE OF ALASKA – 49th – David R. Lowell – CE-12614 – REGISTERED PROFESSIONAL ENGINEER – 6/28/11
DESIGNED BY: D. Lowell
DRAWN BY: D. Lowell
PATH: O:\POW\67953\MF\ADMIN\ADDENDUM #4\05 – 18'X106' BREAKWATER FLOAT.DWG
TAB: 05 Tuesday, June 28, 2011 10:51:54 AM FUNK, JOSEPH R (DOT)

REVISIONS NO.	DATE	DESCRIPTION

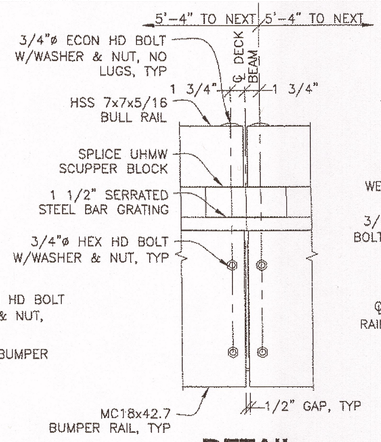
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

KASAAN HARBOR IMPROVEMENTS PROJECT #67953
ATT 2 / ADDENDUM #4
18'x106' STEEL BREAKWATER FLOAT

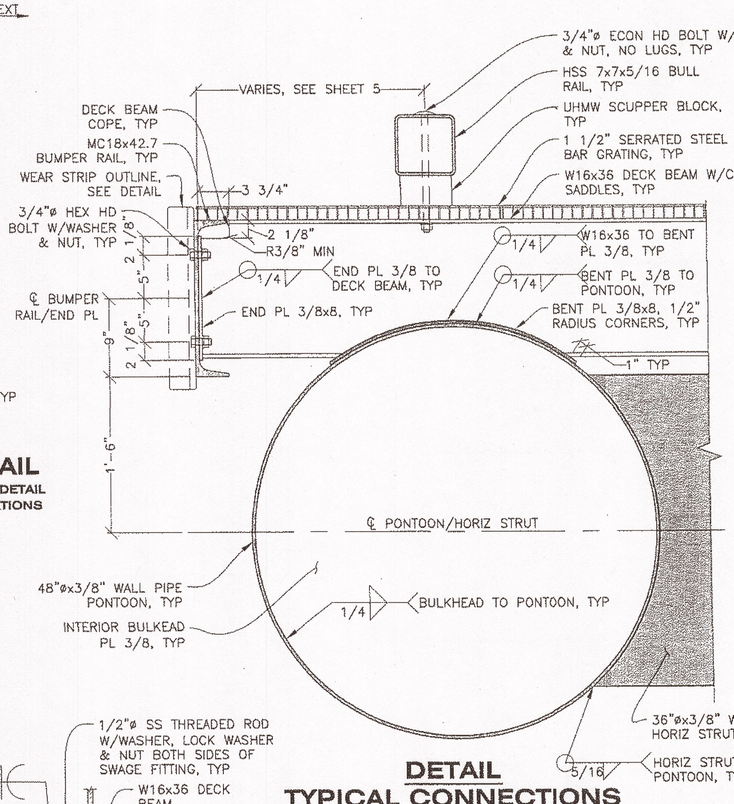
PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
67953	2011	05	19



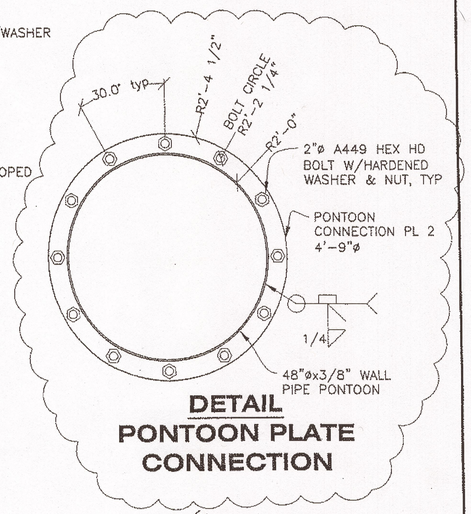
DETAIL
WEAR STRIP



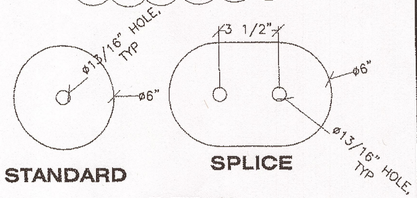
DETAIL
BULL/BUMPER RAIL
SPLICE LOCATION SHOWN, SAME DETAIL & LAYOUT FOR NON-SPLICE LOCATIONS



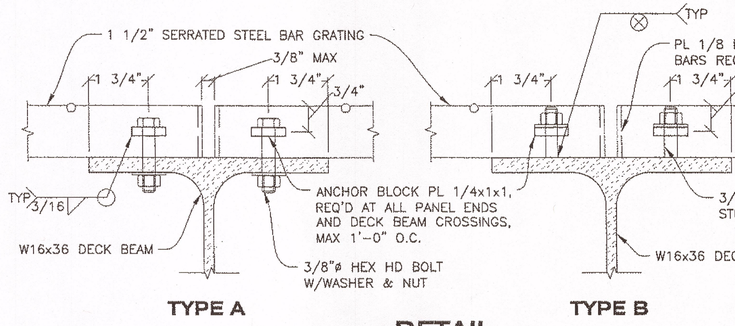
DETAIL
TYPICAL CONNECTIONS



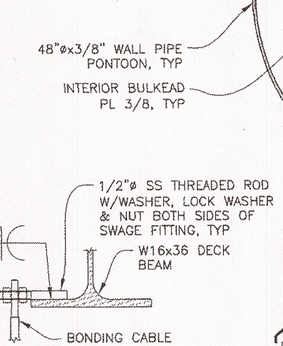
DETAIL
PONTOON PLATE CONNECTION



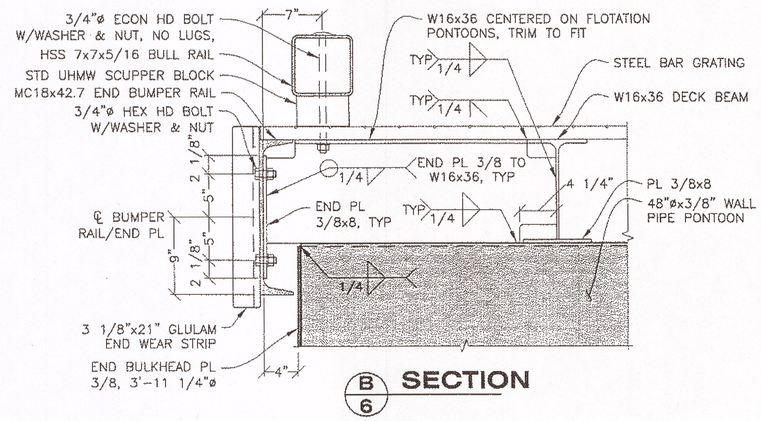
DETAIL
UHMW SCUPPER BLOCK
THICKNESS = 3 1/2"



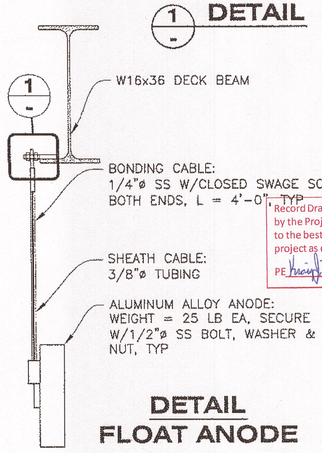
DETAIL
GRATING CONNECTION
END PANEL DETAIL SHOWN, WHERE GRATING IS CONTINUOUS OVER DECK BEAM, ONLY (1) FASTENER REQUIRED



1 DETAIL

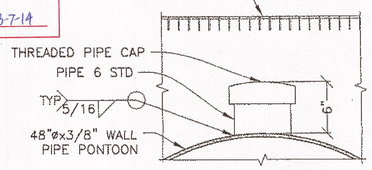


B/6 SECTION

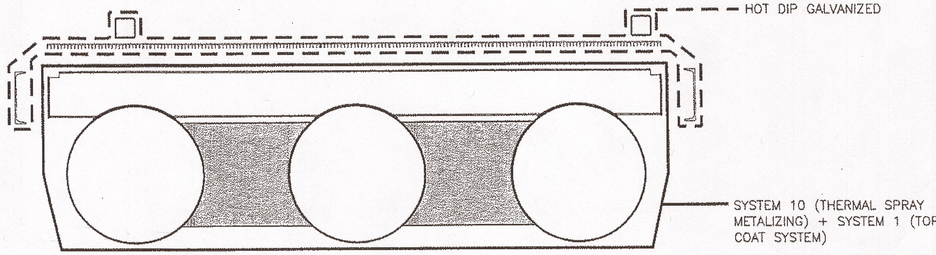


DETAIL
FLOAT ANODE

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig Monkman Date 3-7-14



DETAIL
STAND PIPE



COATING DIAGRAM

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

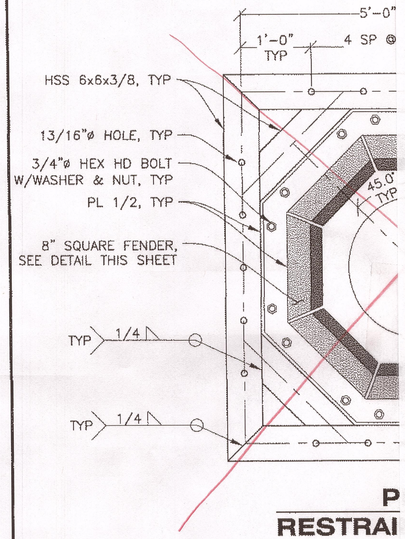
STATE OF ALASKA — 49th — David H. Lowell — CE-12674 — REGISTERED PROFESSIONAL ENGINEER — 6/28/11

KASAAN HARBOR IMPROVEMENTS PROJECT #67953

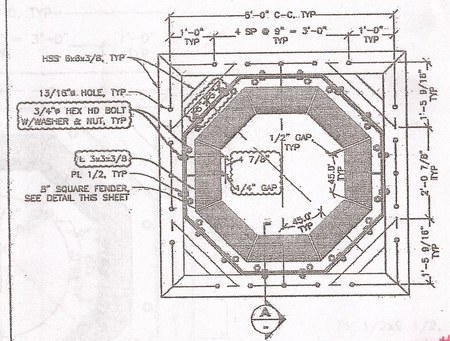
ATT 2 / ADDENDUM #4
18'x106' STEEL BREAKWATER FLOAT DETAILS I

DESIGNED BY: D. Lowell
DRAWN BY: D. Lowell
PATH: Q:\POW\67953\MF\ADMIN\ADDENDUM #4\06 - 18'X106' BREAKWATER FLOAT DETAILS I.DWG
TAB: 06 Tuesday, June 28, 2011 10:51:44 AM FUNK, JOSEPH R (DOT)

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	06	19

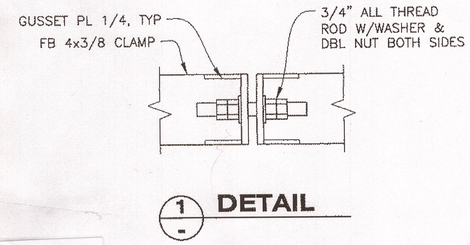


P
RESTRAI

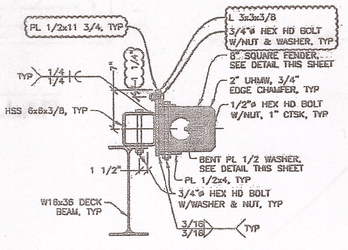


PLAN
RESTRAINT COLLAR

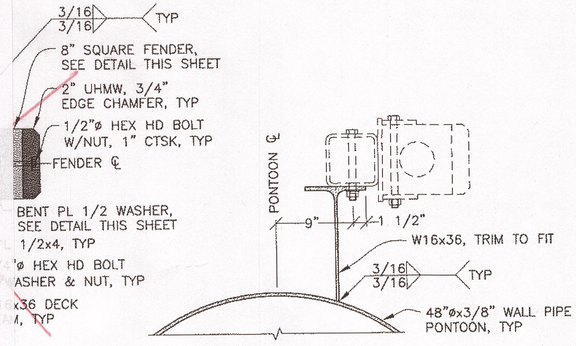
CO#1
Pile Collar Revision



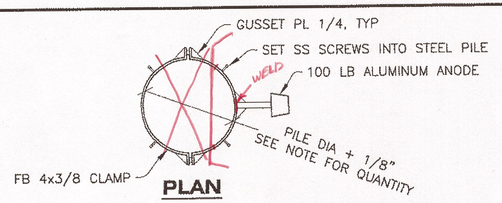
1 / - **DETAIL**



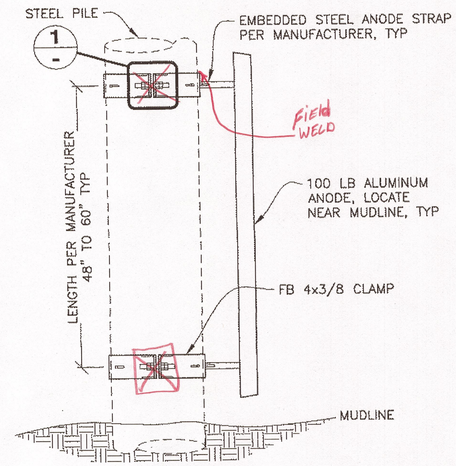
A **SECTION**



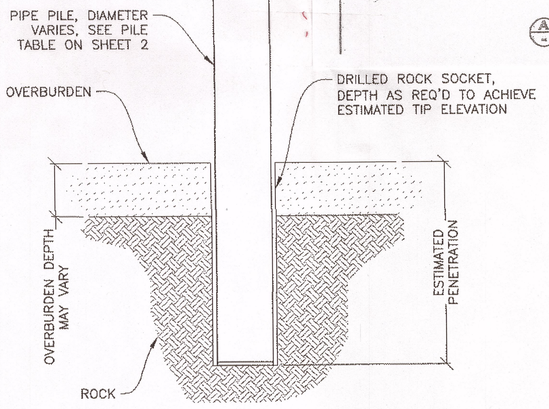
D / 7 **SECTION**



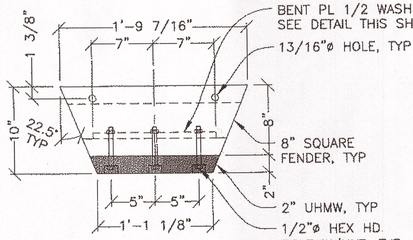
PLAN



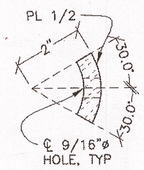
ELEVATION
PILE ANODE



ELEVATION
DRILLED ROCK SOCKET



PLAN
8" SQUARE FENDER



DETAIL
BENT PL WASHER

PILE ANODE SCHEDULE

LOCATION	CONDITION	SIZE	QUANTITY
10'x100' TIMBER MOORING FLOAT	NEW	12 3/4"øx1/2"	4
30'x61' TIMBER SEAPLANE FLOAT	EXISTING		2
12'x125' TIMBER MOORING FLOAT	NEW	16"øx1/2"	5
18'x106' STEEL BREAKWATER FLOAT	NEW	24"øx1/2"	5
12'x148' CONCRETE BREAKWATER FLOAT	EXISTING		7

NOTES:
1. ANODES MAY BE WELDED UNDERWATER TO PILE IN LIEU OF USING ANODE BRACELET.

NOTES:
1. DRIVE ALL PILES TO ESTIMATED TIP ELEVATION UNLESS OTHERWISE APPROVED BY THE ENGINEER. SEE SHEET 2 FOR ESTIMATED TIP ELEVATIONS AND PILE LENGTHS.
2. WHERE MINIMUM PENETRATION CANNOT BE ACHIEVED, DRILL ROCK SOCKET TO ESTIMATED DEPTH NOTED AND DRIVE PILE TO BOTTOM OF SOCKET. ALL SOCKETING TECHNIQUES SHALL DISPLACE A MINIMUM AMOUNT OF OVERBURDEN.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig J. Mahlen Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

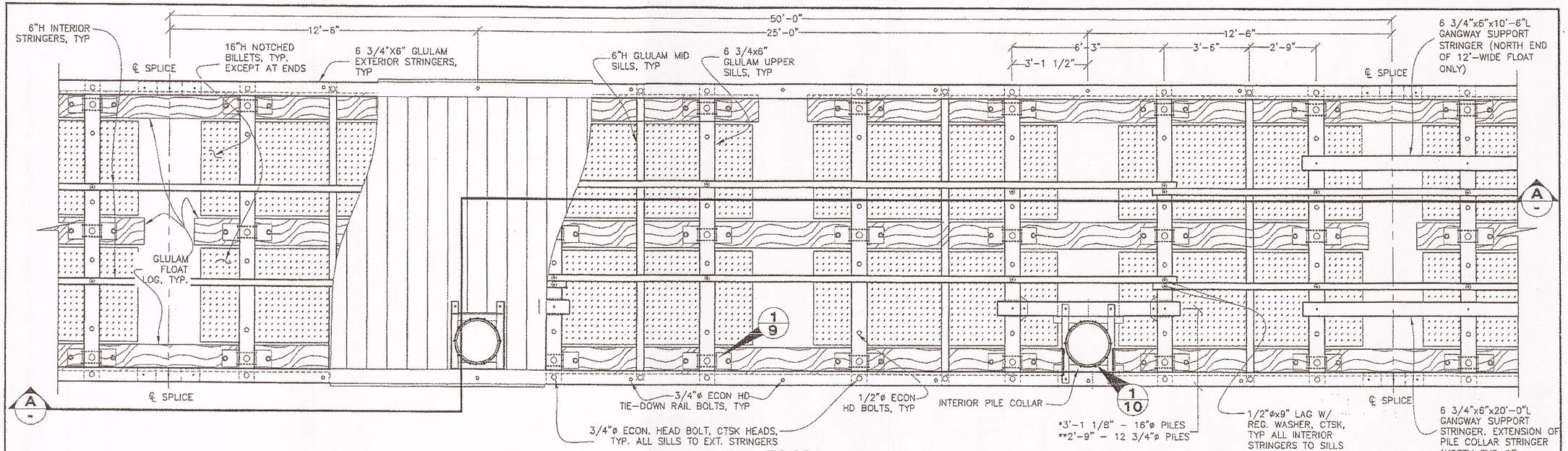
CHECKED BY: K. Miller
STATE OF ALASKA — 29th — David H. Lowell — CE-12614 — REGISTERED PROFESSIONAL ENGINEER — 5/13/11
DESIGNED BY: D. Lowell
DRAWN BY: D. Lowell
PATH: Q:\POW\67953\MF\PLANSET\FINAL\07 - 18'X106' BREAKWATER FLOAT DETAILS II.DWG
TAB: 07 Friday, May 13, 2011 12:31:50 PM LOWELL, DAVID H (DOT)

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

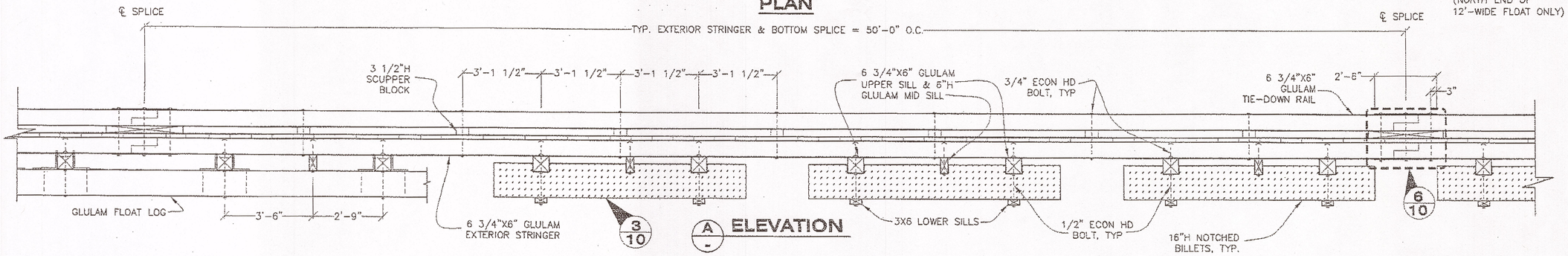
KASAAN HARBOR IMPROVEMENTS PROJECT #67953
18'x106' STEEL BREAKWATER FLOAT DETAILS II

REVISIONS NO.	DATE	DESCRIPTION

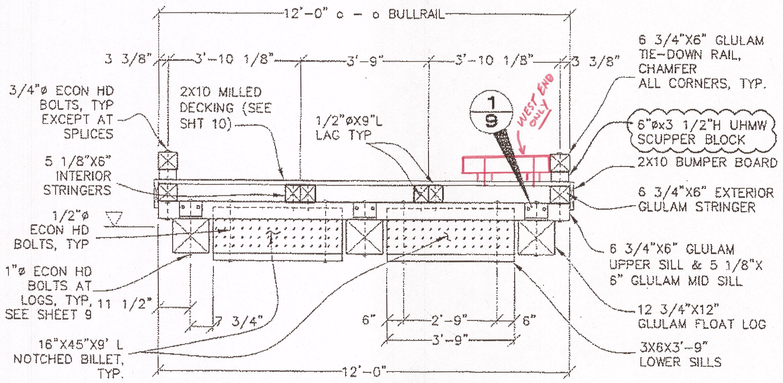
PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
67953	2011	07	19



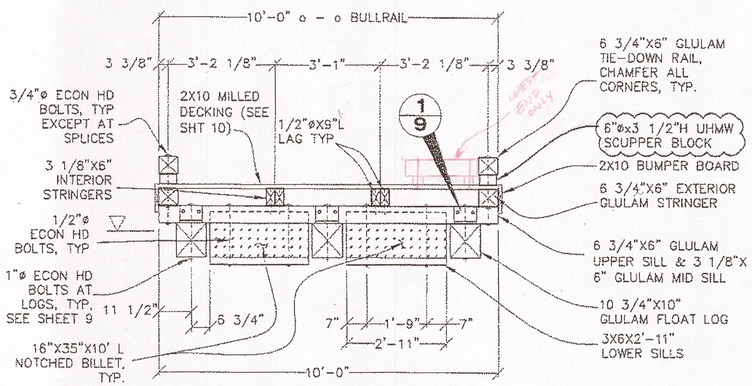
PLAN



ELEVATION



TYPICAL SECTION 12'-WIDE FLOAT



TYPICAL SECTION 10'-WIDE FLOAT

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Kevin Monkheim Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller

STATE OF ALASKA · 49th · REGISTERED PROFESSIONAL ENGINEER · Lowell V. Osburn · CE-11014

6/8/11

DESIGNED BY: J. Osburn

DRAWN BY: J. Osburn

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

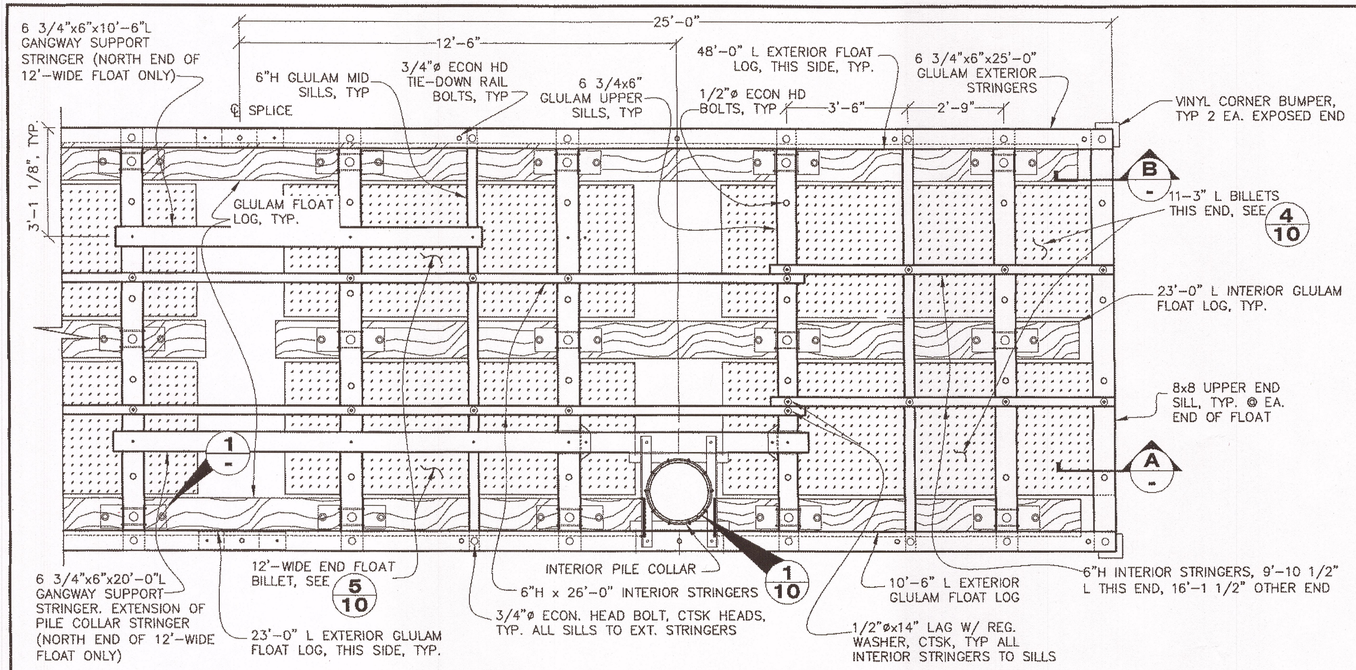
KASAAN HARBOR IMPROVEMENTS PROJECT #67953
ADDENDUM #2
TIMBER MOORING FLOATS

PATH: C:\POW\67953\MF\ADMIN\ADDENDUM #2\PLANSET\08 - TIMBER MOORING FLOATS.DWG

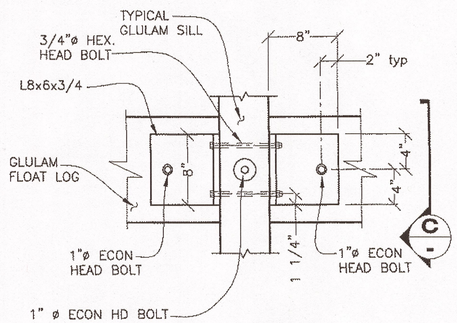
TAB: 08 Thursday, June 09, 2011 9:41:44 AM LOWELL, DAVID H (DOT)

REVISIONS NO.	DATE	DESCRIPTION

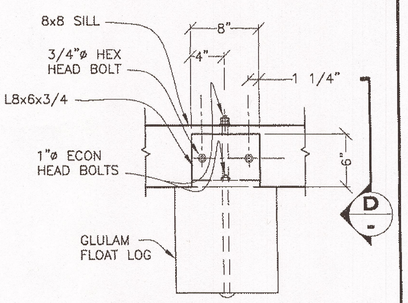
PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
67953	2011	08	19



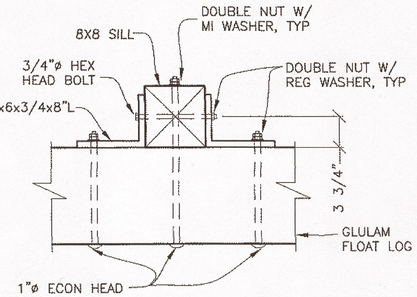
TYPICAL END FLOAT PLAN



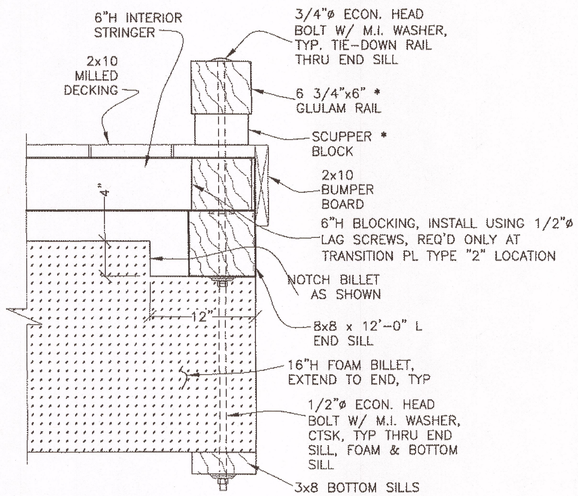
1 DETAIL
TYPICAL LOG TO SILL CONNECTION



C SECTION

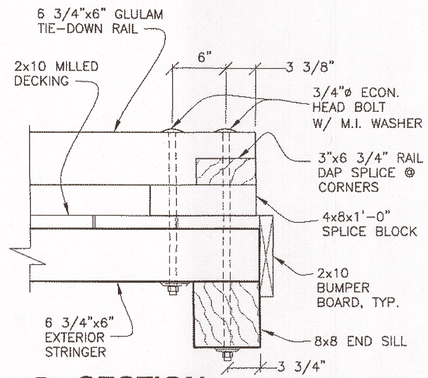


D SECTION

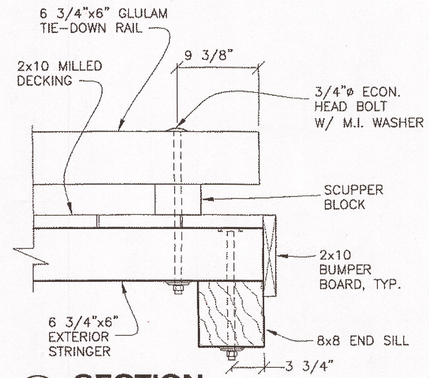


A SECTION

* NOTE: OMIT GLULAM RAIL AT SOUTH END OF 12' FLOAT & EAST END OF 10' FLOAT.



B SECTION
NORTH END OF 12'-WIDE FLOAT & WEST END OF 10'-WIDE FLOAT



B SECTION
SOUTH END OF 12'-WIDE FLOAT & EAST END OF 10'-WIDE FLOAT

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig J. Nerhus Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

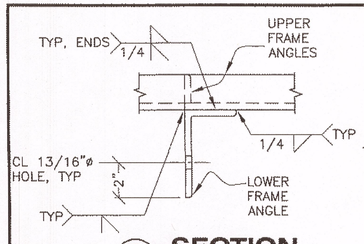
CHECKED BY: K. Miller
DESIGNED BY: J. Osburn
DRAWN BY: J. Osburn
PATH: O:\POW\67953\MF\PLANSET\FINAL\09 - END FLOAT & DETS.DWG
TAB: 09 Friday, May 13, 2011 12:32:06 PM LOWELL, DAVID H (DOT)

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

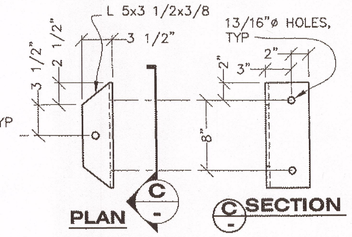
KASAAN HARBOR IMPROVEMENTS PROJECT #67953

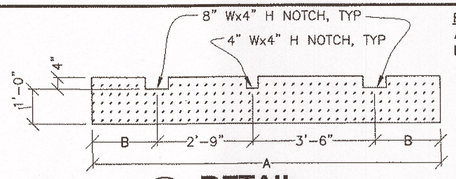
END MOORING FLOAT & DETAILS

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	09	19



B - SECTION

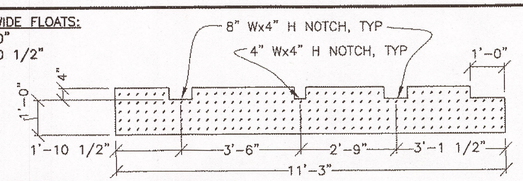




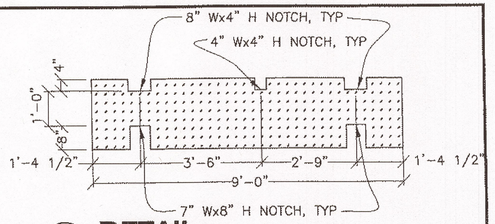
3/8 DETAIL
TYPICAL INTERIOR BILLET

FOR 10'-WIDE FLOATS:
A = 10'-0"
B = 1'-10 1/2"

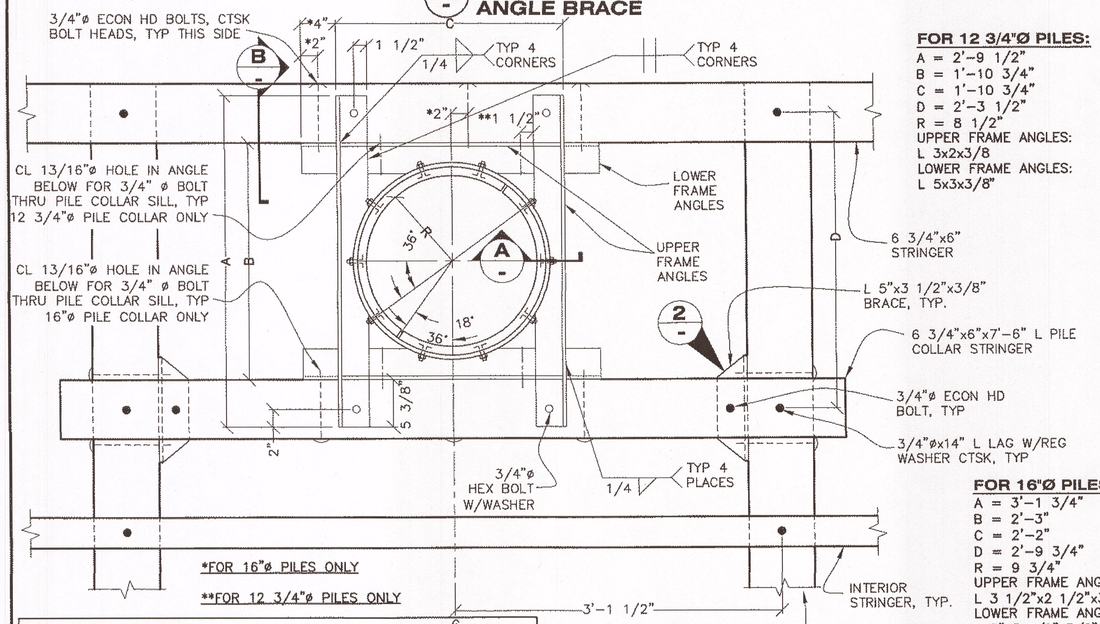
FOR 12'-WIDE FLOATS:
A = 9'-0"
B = 1'-4 1/2"



4/9 DETAIL
TYPICAL END FLOAT BILLET



5/9 DETAIL
12'-WIDE CUSTOM FLOAT BILLET



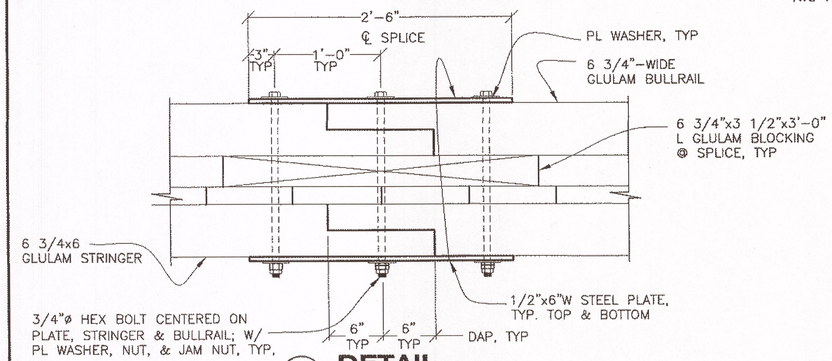
FOR 12 3/4"Ø PILES:
A = 2'-9 1/2"
B = 1'-10 3/4"
C = 1'-10 3/4"
D = 2'-3 1/2"
R = 8 1/2"
UPPER FRAME ANGLES:
L 3x2x3/8
LOWER FRAME ANGLES:
L 5x3x3/8"

FOR 16"Ø PILES:
A = 3'-1 3/4"
B = 2'-3"
C = 2'-2"
D = 2'-9 3/4"
R = 9 3/4"
UPPER FRAME ANGLES:
L 3 1/2"x2 1/2"x3/8"
LOWER FRAME ANGLES:
L 5"x3 1/2"x3/8"

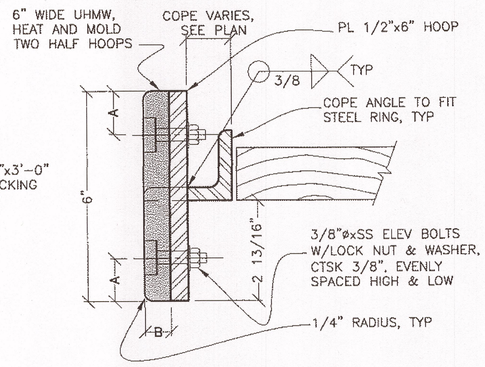
1/8 DETAIL
INTERIOR PILE COLLAR

PILE COLLAR NOTES

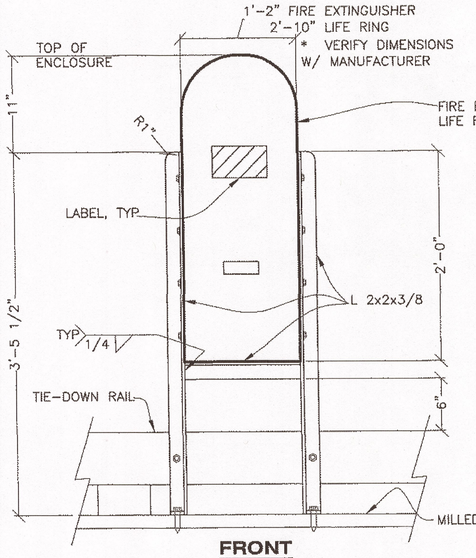
1. MATCH DECK BOARDS FLUSH W/ EDGES OF PILE COLLARS. NOTCH DECK BOARDS AROUND COLLAR ANGLES WHEN REQ'D.
2. SPLICE BOLT LENGTHS VARY DEPENDING ON THICKNESS OF BULLRAIL.



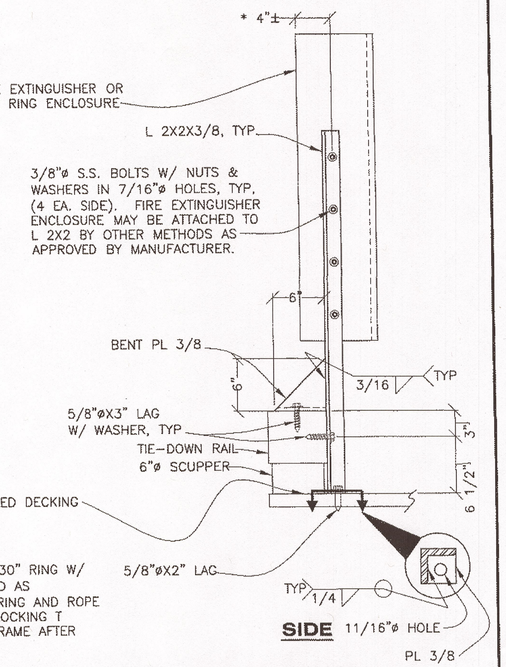
6/8 DETAIL
TYPICAL FLOAT SPLICE



A - SECTION
TYPICAL PILE COLLAR



FRONT



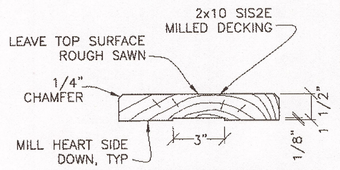
SIDE

NOTE:
PROVIDE 20 LB. FIRE EXTINGUISHERS RATED FOR 2A, 20-B:C. & 30" RING W/ 90' ROPE, AS REQUIRED. (LOCATE WHERE NOTED ON SHEET 4 AND AS OTHERWISE DIRECTED BY THE ENGINEER). EXTINGUISHERS & LIFE RING AND ROPE SHALL BE INSTALLED IN AN APPROVED ENCLOSURE WITH A NON-LOCKING T HANDLE, CHEYENNE PRODUCTS OR EQUAL. HOT DIP GALVANIZE FRAME AFTER FABRICATION.

FIRE EXTINGUISHER/LIFE RING ENCLOSURE

FOR 12 3/4"Ø PILES:
A = 1 1/4"
B = 3/4"
ANGLE - L 2 1/2x2x3/8

FOR 16"Ø PILES:
A = 1 3/4"
B = 1"
ANGLE - L 3 1/2"x2 1/2"x3/8"



MILLED DECKING

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
P.E. Kevin J. Markham Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller
DESIGNED BY: J. Osburn
DRAWN BY: J. Osburn
PATH: Q:\POW\67953\MF\PLANSET\FINAL\10 - MISC FLOAT DETS.DWG
TAB: 10 Friday, May 13, 2011 12:32:16 PM LOWELL, DAVID H (DOT)

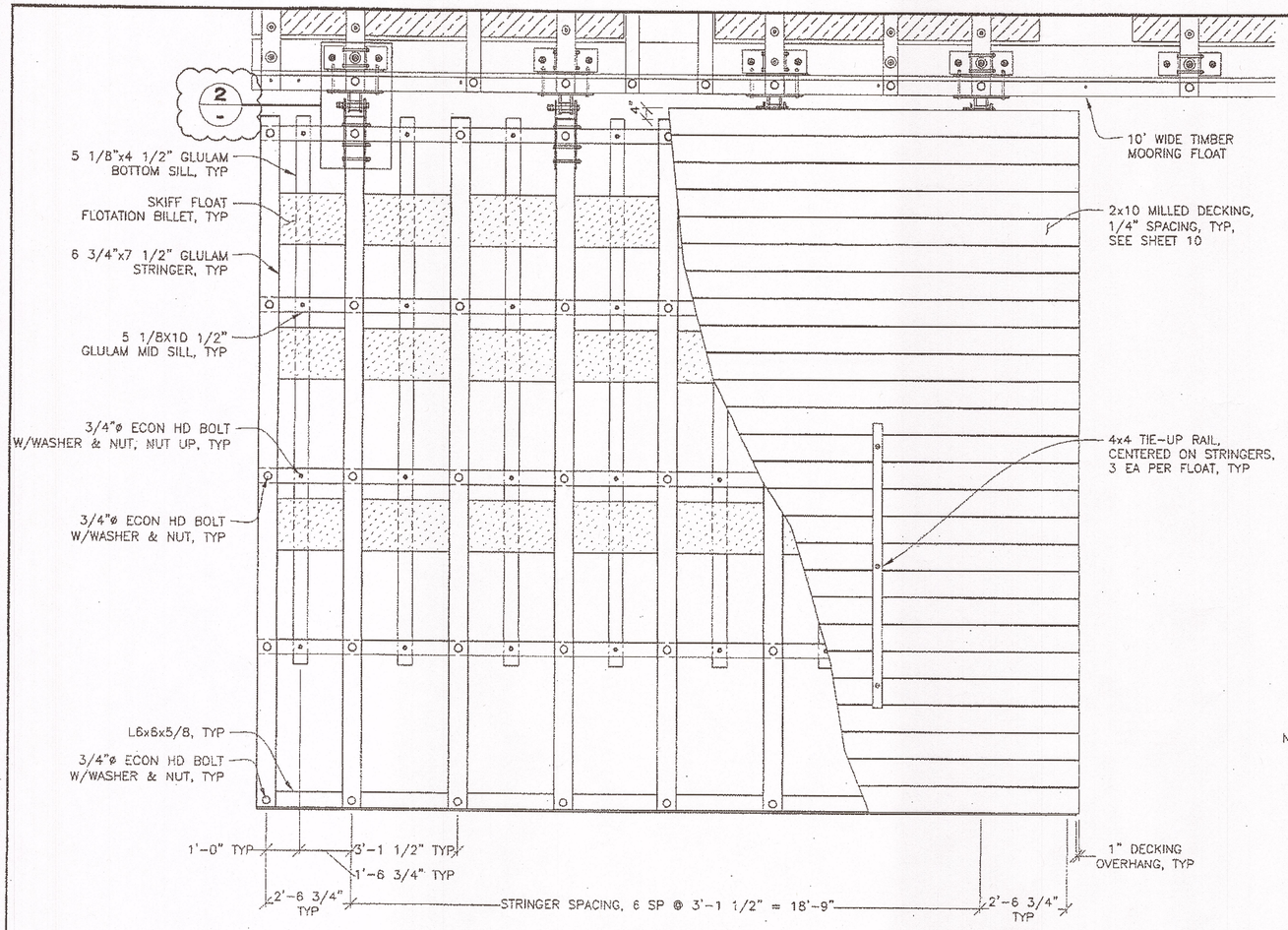
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

Joel D. Osburn CE-11014 REGISTERED PROFESSIONAL ENGINEER 5/13/11

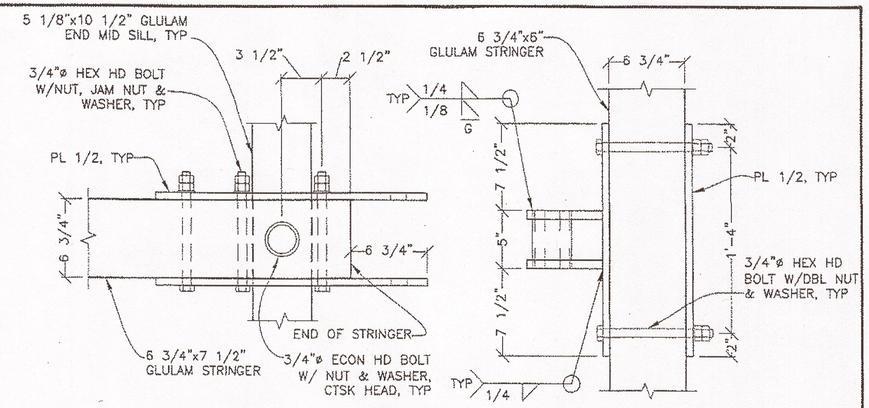
KASAAN HARBOR IMPROVEMENTS PROJECT #67953

PILE COLLARS & MISC FLOAT DETAILS

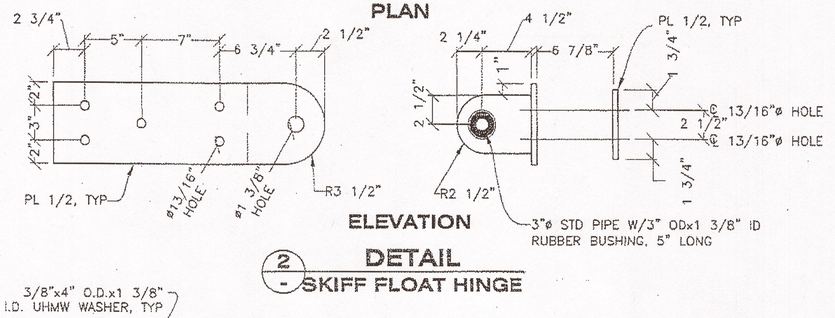
REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	10	19



PLAN

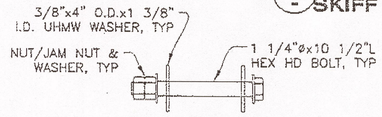


PLAN

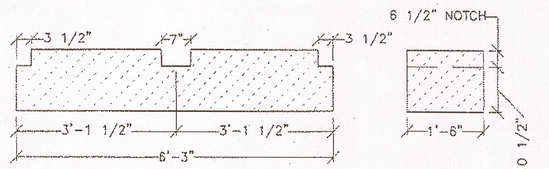


ELEVATION

2 - DETAIL - SKIFF FLOAT HINGE

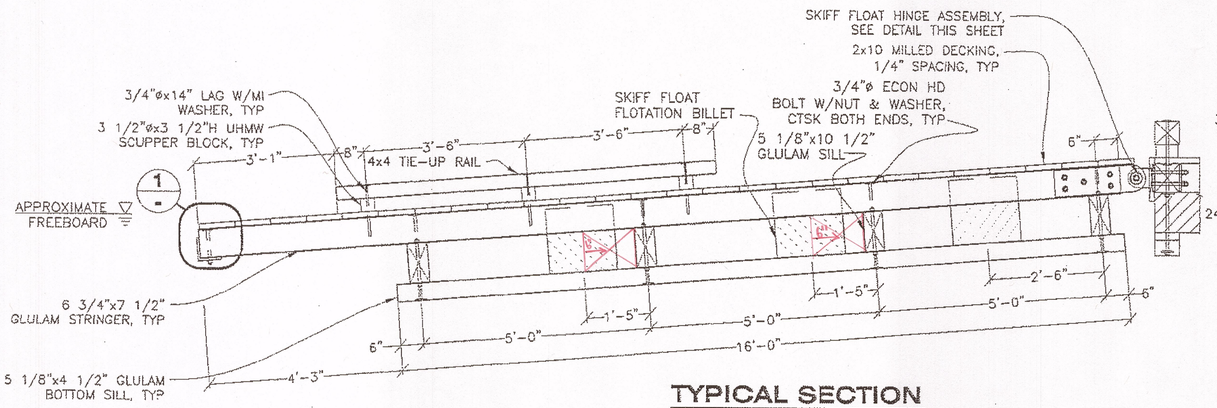


DETAIL
HINGE BOLT

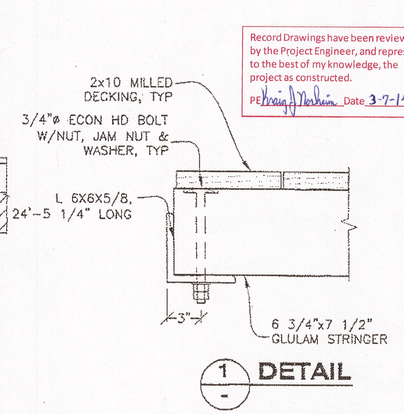


SIDE VIEW END VIEW

TYPICAL SKIFF FLOTATION BILLETS



TYPICAL SECTION



1 - DETAIL

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig J Nerbun Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller
DESIGNED BY: D. Lowell
DRAWN BY: D. Lowell

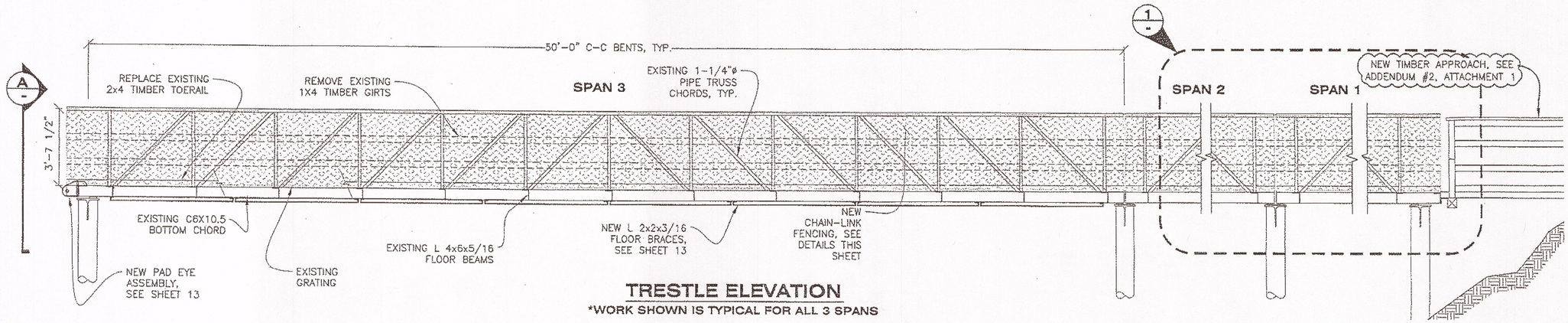
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

STATE OF ALASKA 49th David H. Lowell CE-12614 REGISTERED PROFESSIONAL ENGINEER 6/8/11

KASAAN HARBOR IMPROVEMENTS PROJECT #67953 ADDENDUM #2 25' x 20' SKIFF FLOAT

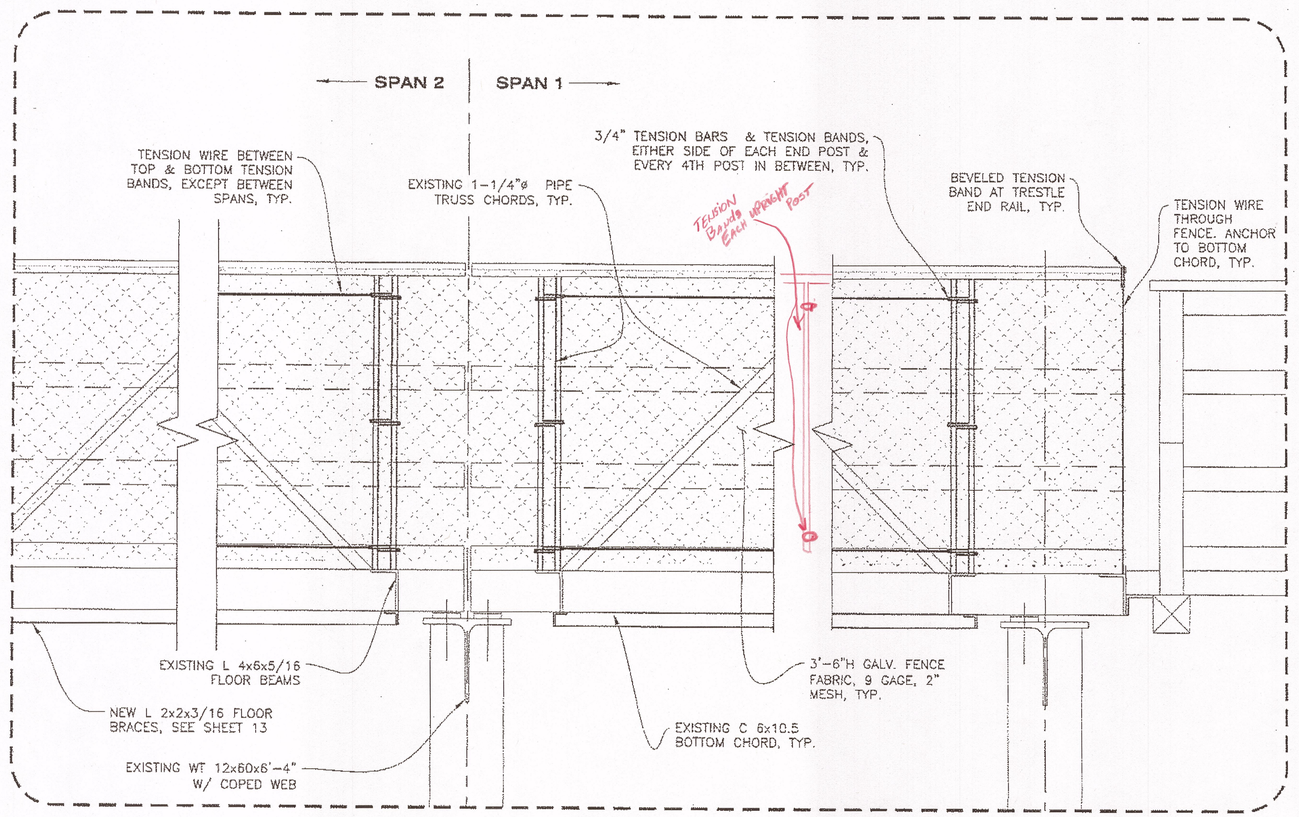
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TAB: 11 Thursday, June 09, 2011 9:42:47 AM LOWELL, DAVID H (DOT)

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	11	19

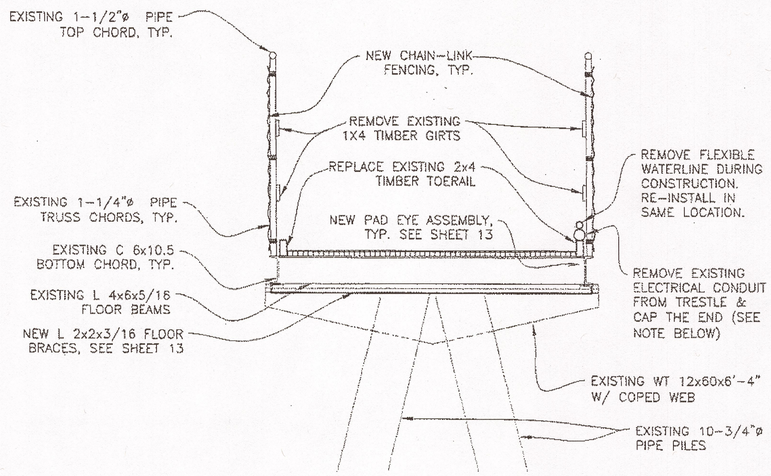


TRESTLE ELEVATION

*WORK SHOWN IS TYPICAL FOR ALL 3 SPANS



1 - DETAIL CHAIN-LINK FENCE



A - SECTION

NOTE: PRIOR TO REMOVAL OF CABLE/CONDUIT, CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY TO DE-ENERGIZE POWER.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig J. Markham Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. MILLER

STATE OF ALASKA
Joel D. Osburn
CE-11014
EXPIRES: 06/30/2011
6/9/11

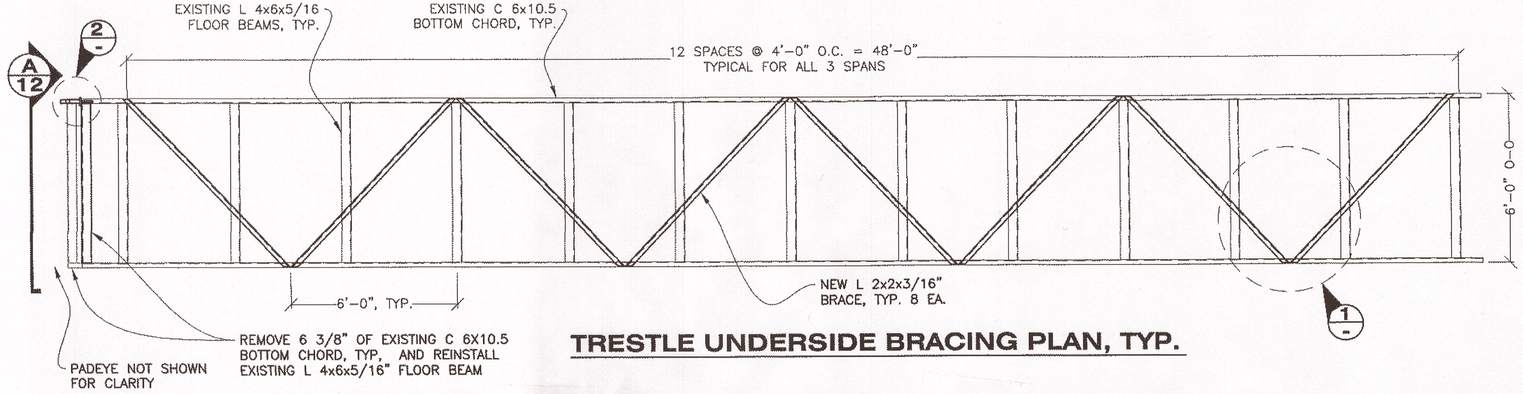
DESIGNED BY: J. OSBURN
DRAWN BY: J. OSBURN

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

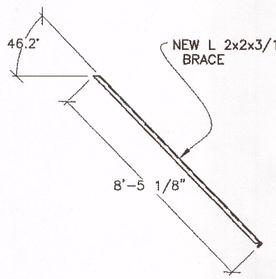
KASAAN HARBOR IMPROVEMENTS PROJECT #67953
ADDENDUM #2 TRESTLE MODIFICATIONS

PATH: O:\POW\67953\NF\ADMIN\ADDENDUM #2\PLANSET\12 - TRESTLE WIRE MESH.DWG
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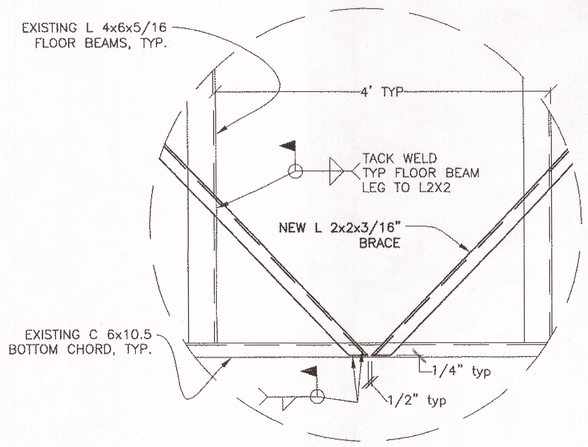
REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	12	19



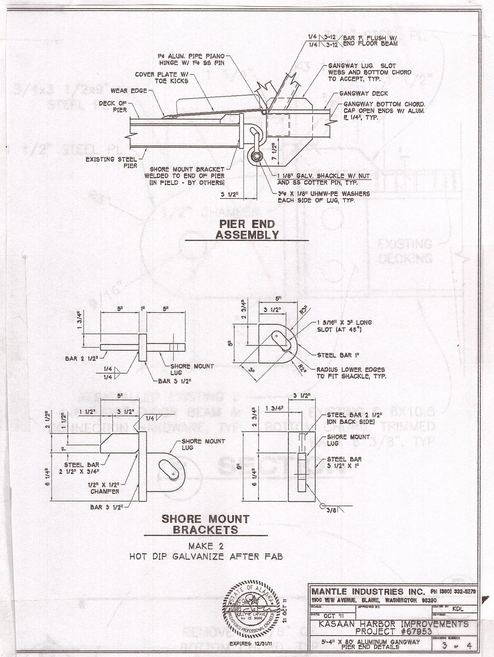
TRESTLE UNDERSIDE BRACING PLAN, TYP.

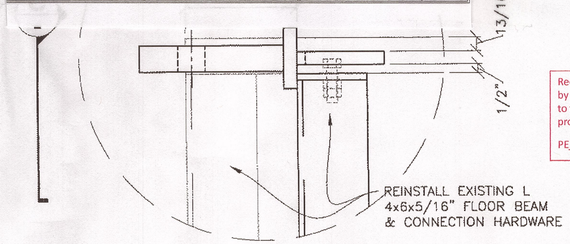


TYPICAL BRACE DETAIL

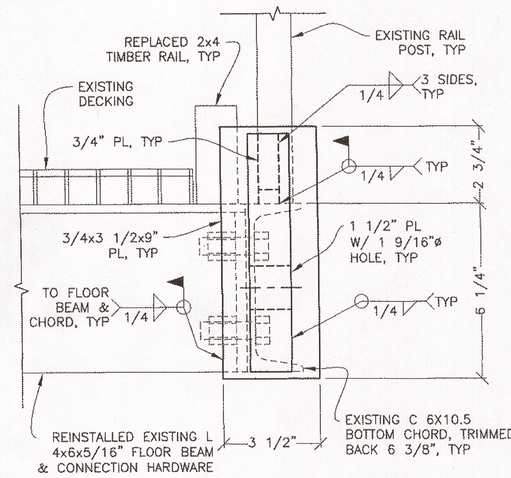


1 - DETAIL
TYPICAL BRACE CONNECTION





2 - DETAIL
PADEYE ASSEMBLY



C - SECTION

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Joel D. Osburn Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. MILLER
DESIGNED BY: J. OSBURN
DRAWN BY: J. OSBURN
PATH: Q:\POW\67953\MF\PLANSET\FINAL\13 - TRESTLE BRACING.DWG
TAB: 13 Friday, May 13, 2011 12:32:35 PM LOWELL, DAVID H (DOT)

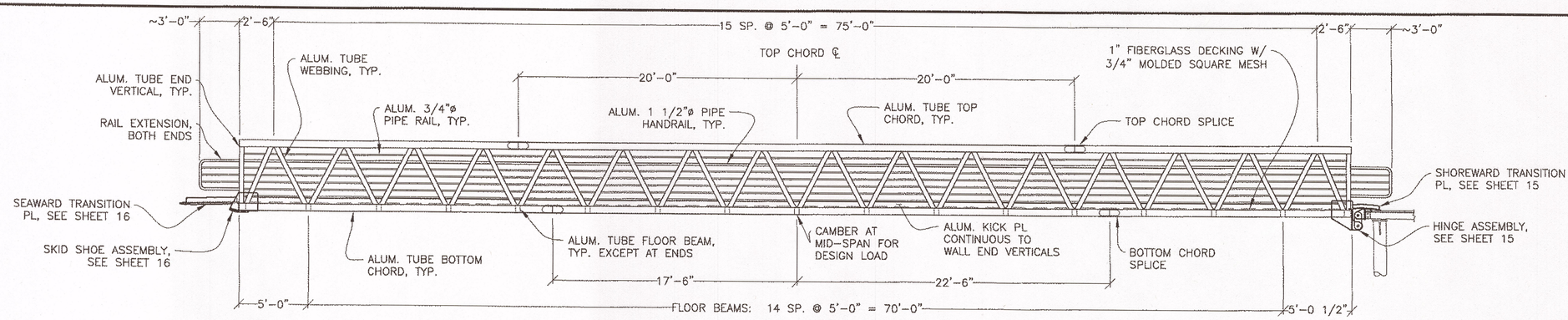
STATE OF ALASKA
JOEL D. OSBURN
ICE-11014
REGISTERED PROFESSIONAL ENGINEER
5/13/11

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

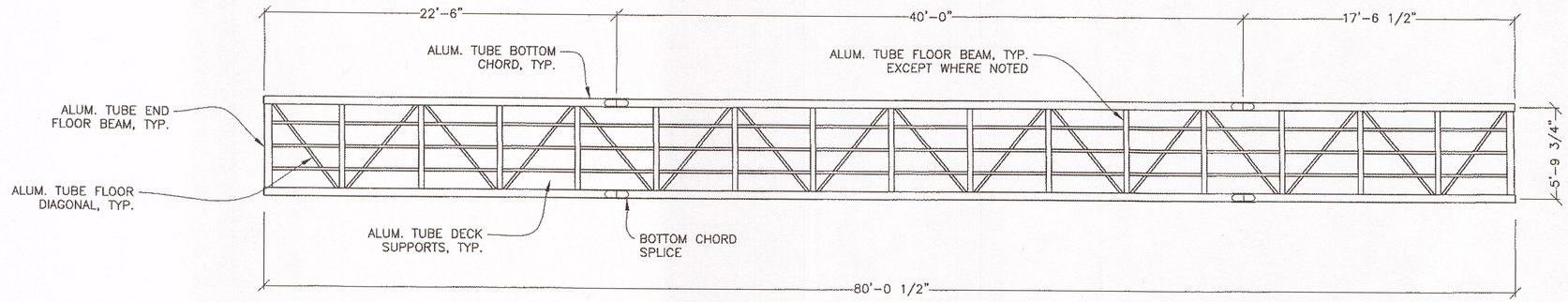
KASAAN HARBOR IMPROVEMENTS PROJECT #67953

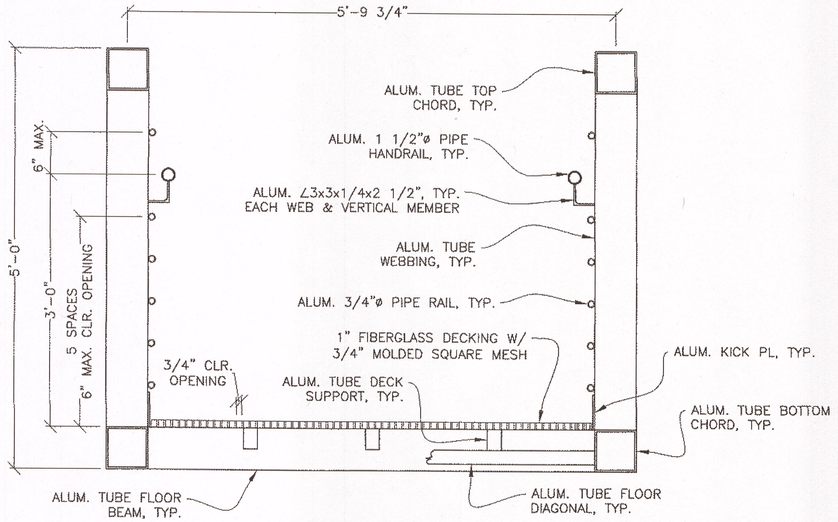
TRESTLE MODIFICATIONS

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	13	19



ELEVATION





TYPICAL SECTION

FLOOR FRAMING PLAN

GENERAL
ALL GANGWAY DETAILS ARE NOT SHOWN. FINAL DESIGN OF GANGWAY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALTERNATIVES TO THE GENERAL FEATURES, ORIENTATION OF MEMBERS AND MATERIALS NOTED MAY BE PROPOSED FOR APPROVAL BY THE ENGINEER. SUPPORTING DOCUMENTATION AND STRUCTURAL CALCULATIONS SHALL BE PERFORMED BY A REGISTERED ENGINEER IN THE STATE OF ALASKA. DETAILED SHOP DRAWINGS AND CALCULATIONS SHALL BE PROVIDED FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

DESIGN CRITERIA:
ALL DESIGN AND FABRICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING CODES:

1. UNIFORM BUILDING CODE, 2008 OR LATER EDITION
2. ALUMINUM DESIGN MANUAL, CURRENT EDITION
3. AASHTO GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009
4. AISC STEEL CONSTRUCTION MANUAL (LATEST EDITION)
5. AWS D1.1 & D1.2, STRUCTURAL WELDING CODE (LATEST EDITION)
6. APPLICABLE ASTM STANDARDS

MATERIALS:
ALUMINUM – SHAPES ASTM 6061-T6, PLATES ASTM 5086-H112

HARDWARE – ALL BOLTS AND HARDWARE SHALL BE STAINLESS STEEL ASTM T316 ALLOY OR A325 GALV. STEEL AS INDICATED ON THE DRAWINGS.

DECK GRATING – 1" FIBERGLASS DECKING SHALL BE INSTALLED ACROSS THE FULL WIDTH OF THE GANGWAY AS NOTED ON THE DRAWINGS. DECK MATERIALS SHALL BE 3/4" MOLDED SQUARE MESH OR APPROVED EQUAL.

TRANSITION PLATES – TRANSITION PLATES SHALL BE FULL SIZE ALUMINUM SHEET STOCK WITH A "SLIP-NOT" FINISH OR OTHER NON-SKID SURFACE APPROVED EQUAL.

UHMW – ULTRA HIGH MOLECULAR WEIGHT PLASTIC SHALL BE MADE FROM MATERIALS CONFORMING TO ASTM 4020. MATERIAL SHALL BE CHEMICALLY CROSS LINKED, ULTRA-VIOLET LIGHT STABILIZED, AND SUITABLE FOR LONG TERM EXPOSURE. UHMW SHALL BE BLACK.

LOADS:
DEAD LOADS – ALL
LIVE LOADS – UNIFORM 90 PSF, CONCENTRATED 1,000 LBS.
WIND LOAD – 100 MPH, EXPOSURE D
SNOW LOAD (STORAGE) – 85 PSF

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Kirk D. Miller Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller
DESIGNED BY: J. Stephens
DRAWN BY: J. Stephens

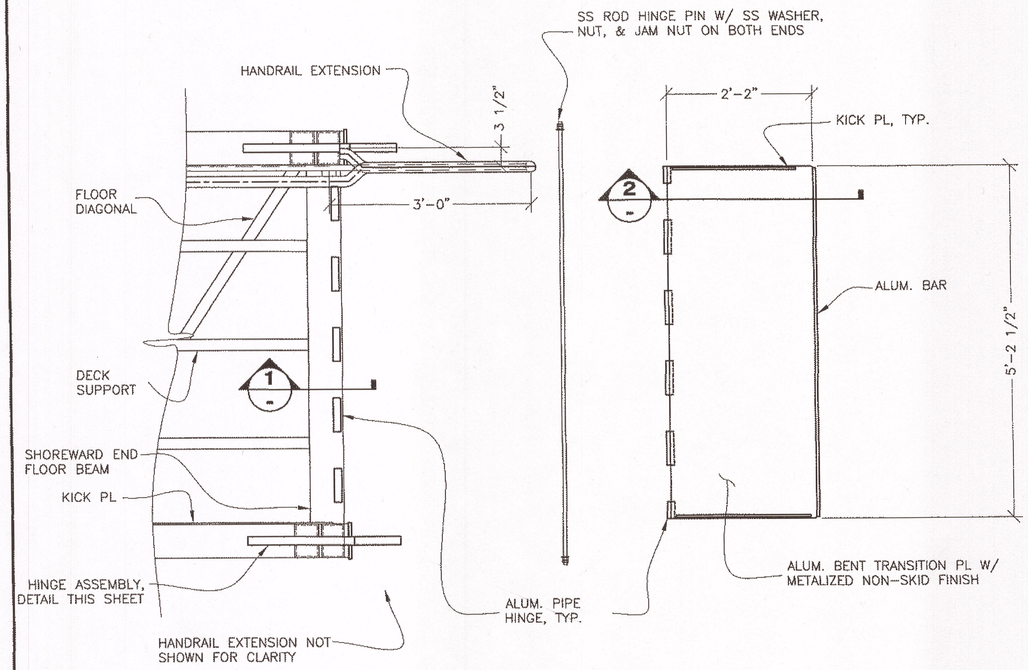
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

KASAAN HARBOR IMPROVEMENTS PROJECT #67953

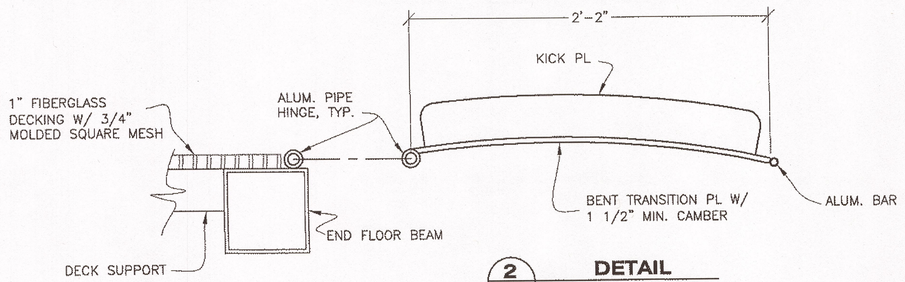
6'x80' ALUMINUM GANGWAY

PATH: Q:\POW\67953\MF\PLANSET\FINAL\14-17 - 6'X80' ALUMINUM GANGWAY.DWG
TAB: 14 Friday, May 13, 2011 12:32:40 PM LOWELL, DAVID H (DOT)

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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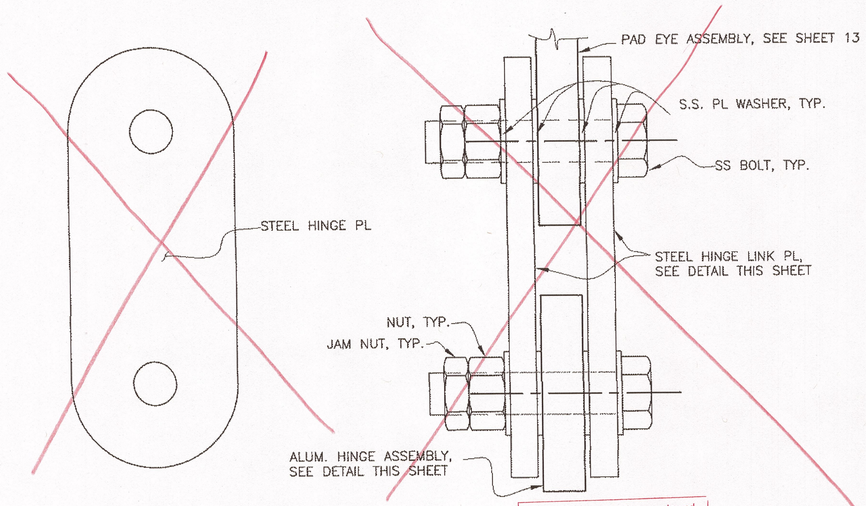


ALUM. TRANSITION PL ASSEMBLY PLAN
(SHOREWARD END)

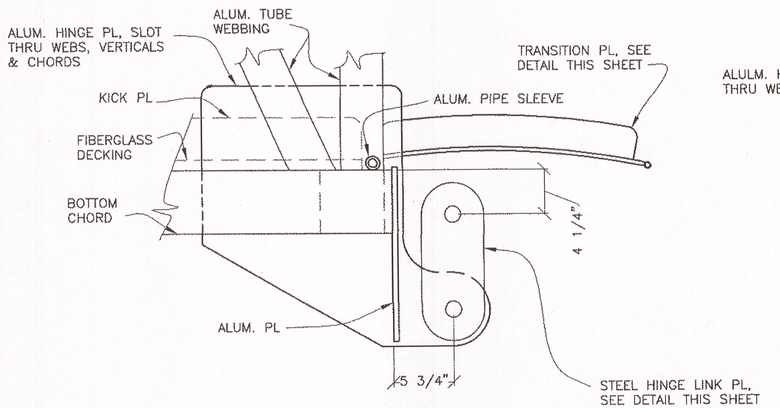


1 - DETAIL TRANSITION PL HINGE

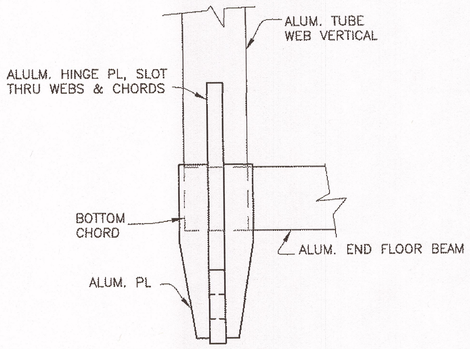
2 - DETAIL TRANSITION PL



HINGE LINK PLATE



SIDE VIEW



FRONT VIEW

HINGE ASSEMBLY

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Kirk D. Miller Date 3-7-14

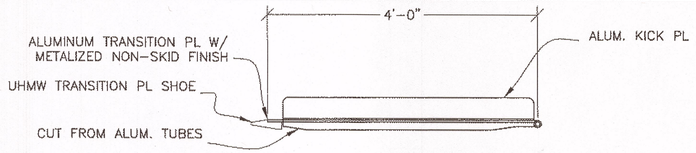
DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller
DESIGNED BY: J. Stephens
DRAWN BY: J. Stephens
PATH: Q:\POW\67953\MF\PLANSET\FINAL\14-17 - 6'X80' ALUMINUM GANGWAY.DWG
TAB: 15 Friday, May 13, 2011 12:32:48 PM LOWELL, DAVID H (DOT)

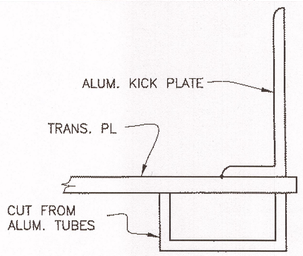
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

KASAAN HARBOR IMPROVEMENTS PROJECT #67953
GANGWAY SHOREWARD END DETAILS

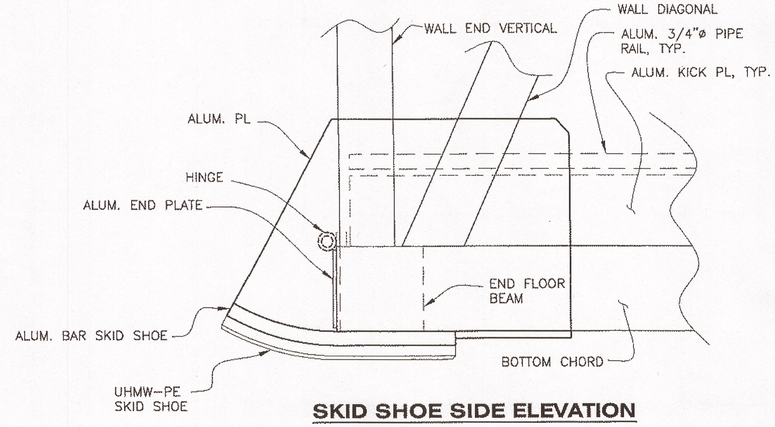
REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	15	19



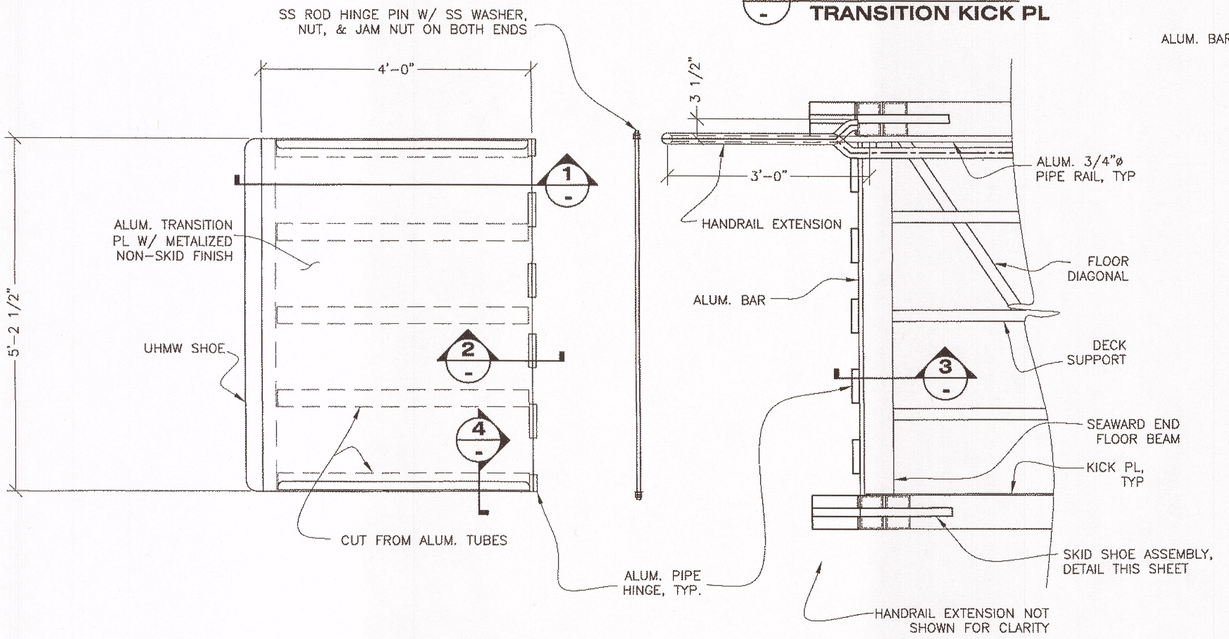
1 — DETAIL TRANSITION PL



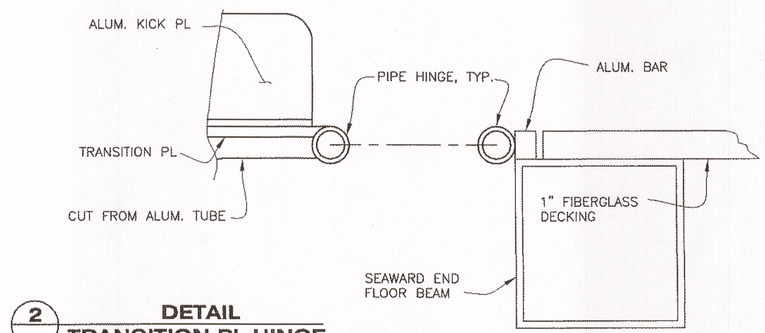
4 — DETAIL TRANSITION KICK PL



SKID SHOE SIDE ELEVATION

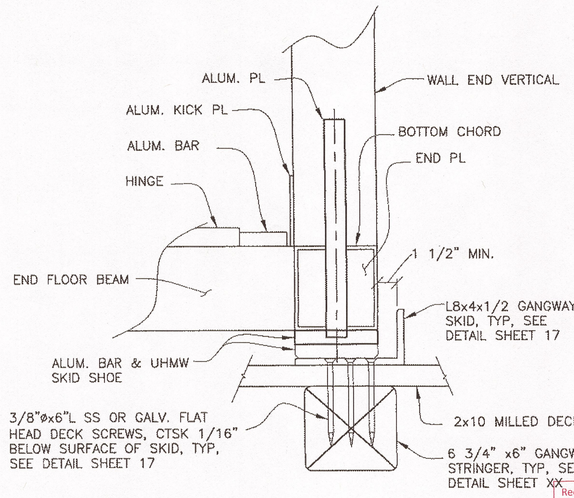


ALUM. TRANSITION PL ASSEMBLY PLAN
(SEAWARD END)



2 — DETAIL TRANSITION PL HINGE

3 — DETAIL GANGWAY HINGE



SKID SHOE FRONT ELEVATION

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Kirk D. Miller Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller
DESIGNED BY: J. Stephens
DRAWN BY: J. Stephens

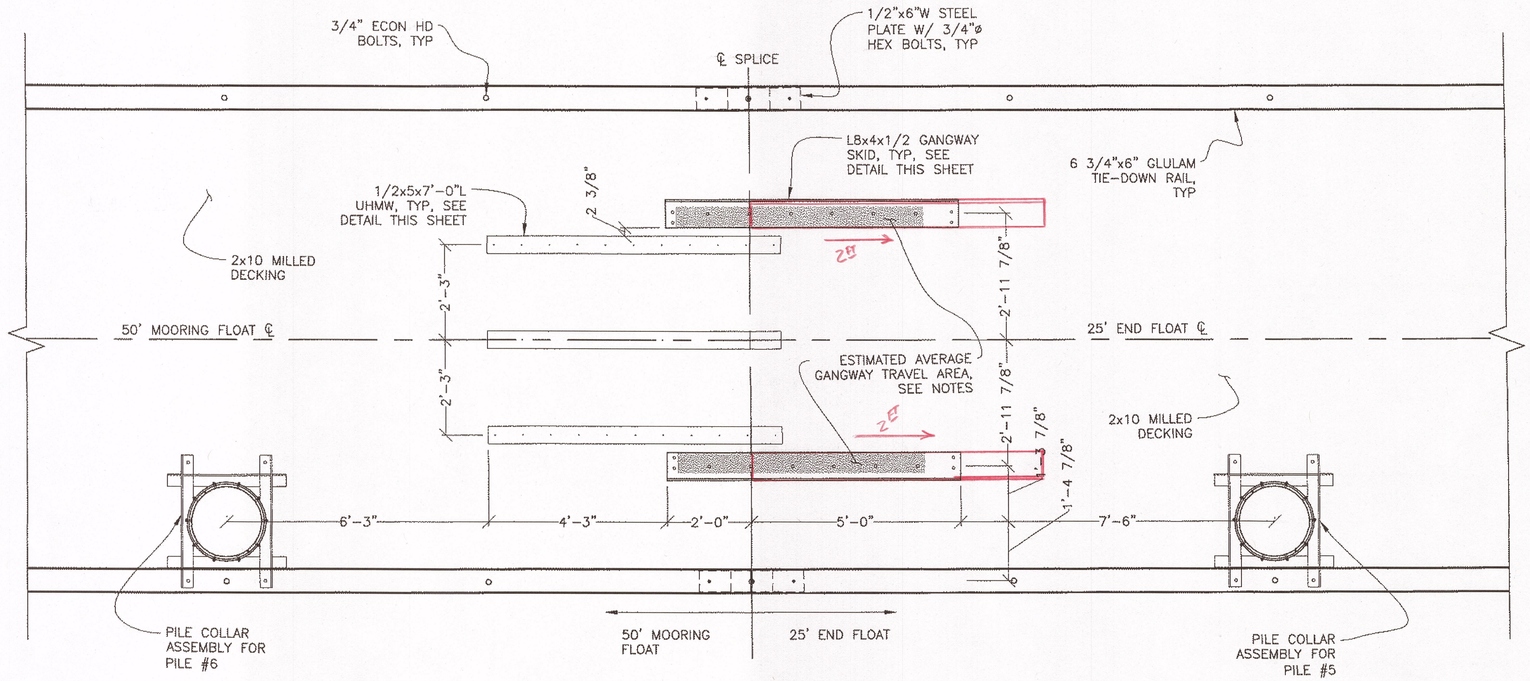
STATE OF ALASKA
Kirk D. Miller
CE-8550
REGISTERED PROFESSIONAL ENGINEER
5/13/14

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

KASAAN HARBOR IMPROVEMENTS PROJECT #67953
GANGWAY SEAWARD END DETAILS

PATH: Q:\POW\67953\MF\PLANSET\FINAL\14-17 - 6'X80' ALUMINUM GANGWAY.DWG
TAB: 16 Friday, May 13, 2011 12:32:53 PM LOWELL, DAVID R (DOT)

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	16	19

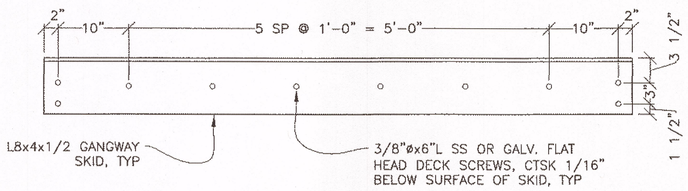


GANGWAY SKIDS

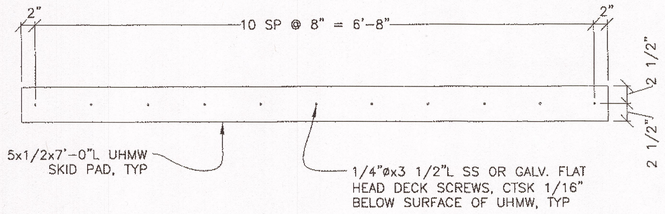
NOTES:
1. TACK GANGWAY SKIDS & SKID PADS IN PLACE.
2. MONITOR GANGWAY TRAVEL AREA DURING AT LEAST ONE FULL TIDE CYCLE BEFORE PERMANENTLY INSTALLING SKIDS & SKID PADS ACCORDING TO PLANS.
3. TIDE CYCLE MONITORED MUST HAVE A MIN. ELEVATION CHANGE OF 20' BETWEEN HIGH & LOW TIDE.
4. ADJUST SKIDS AND SKID PADS ACCORDINGLY W/ CONSIDERATION TO HTL AND ELW
5. FINAL LOCATION OF GANGWAY SKIDS AND SKID PADS MUST BE APPROVED BY THE ENGINEER.



SKID ELEVATION



DETAIL GANGWAY SKID



DETAIL UHMW

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Kirk Miller Date 3-7-14

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller
DESIGNED BY: J. Stephens
DRAWN BY: J. Stephens
PATH: Q:\POW\67953\MF\PLANSET\FINAL\14-17 -- 6'X80' ALUMINUM GANGWAY.DWG
TAB: 17 Friday, May 13, 2011 12:32:57 PM LOWELL, DAVID H (DOT)

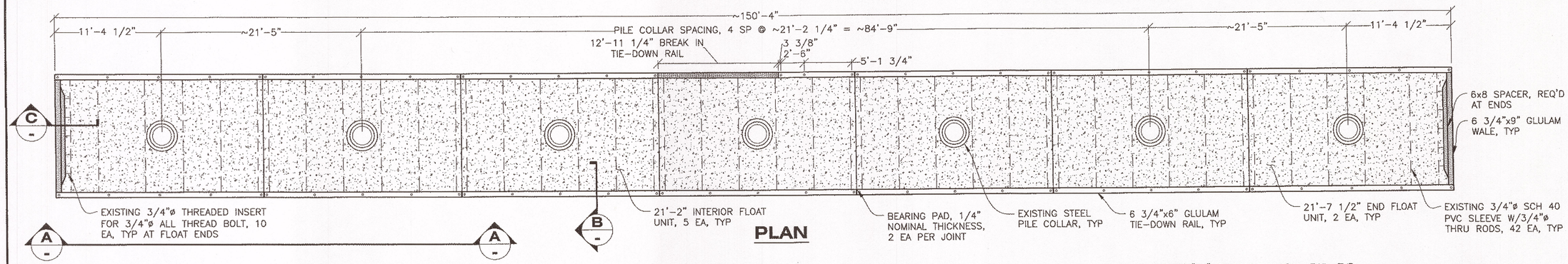
STATE OF ALASKA
Kirk D. Miller
CE-8550
REGISTERED PROFESSIONAL ENGINEER
5/13/11

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

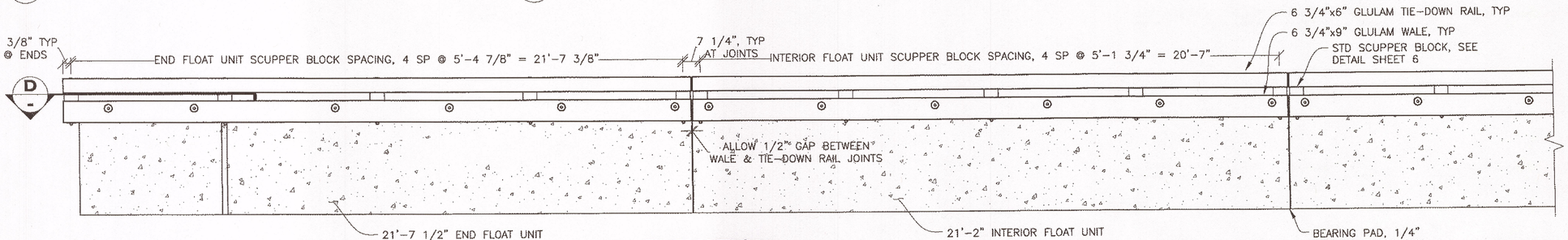
KASAAN HARBOR IMPROVEMENTS PROJECT #67953

GANGWAY SKID DETAILS

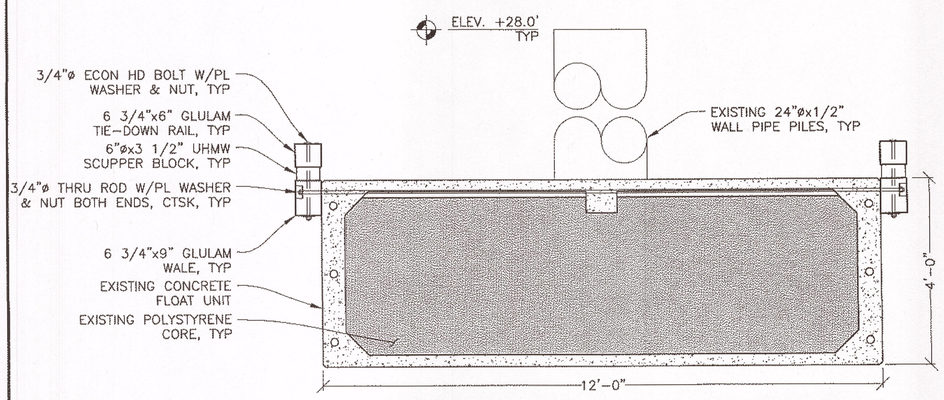
REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	17	19



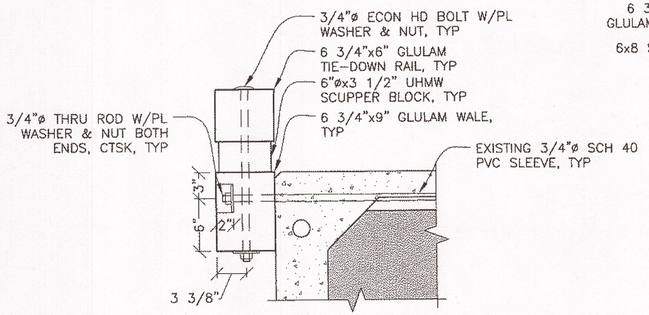
PLAN



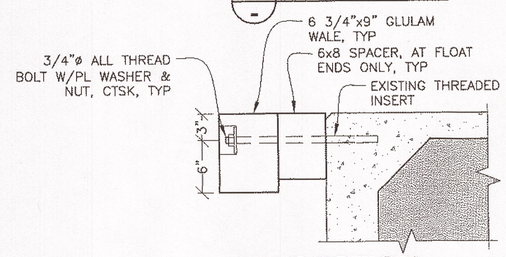
A ELEVATION



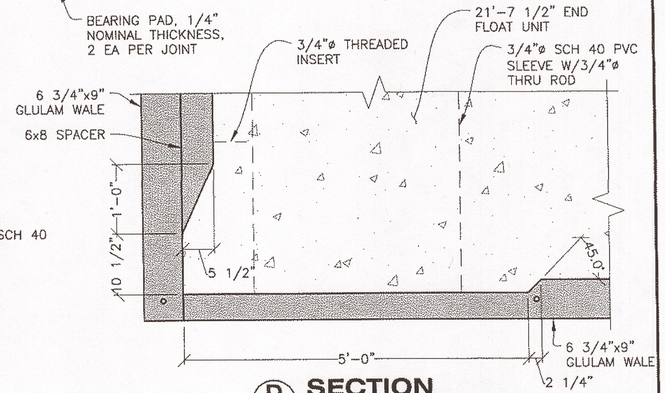
REFURBISHED TYPICAL SECTION



B SECTION



C SECTION



D SECTION

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

DESCRIPTION OF WORK, ITEM 506 (6):

1. REMOVE ALL EXISTING WALES, TIE-DOWN RAILS, AND STEEL HARDWARE USED TO SECURE WALES AND TIE-DOWN RAILS.
2. PRESSURE WASH CONCRETE DECK SURFACE TO ORIGINAL CONCRETE.
3. INSTALL NEW 3/4"ø THRU RODS AND ALL THREAD BOLTS, GLUALM TIE-DOWN RAILS AND WALES AS SHOWN ON THE PLANS.
4. ALL WORK NECESSARY TO COMPLETE THE REFURBISHMENT SHOWN MAY NOT BE IDENTIFIED HEREIN. PAYMENT FOR THIS ITEM SHALL BE CONSIDERED FULL COMPENSATION FOR LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO REFURBISH THE EXISTING BREAKWATER FLOAT TO THE CONDITION SHOWN IN THE PLANS.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig Markham Date 3-7-14

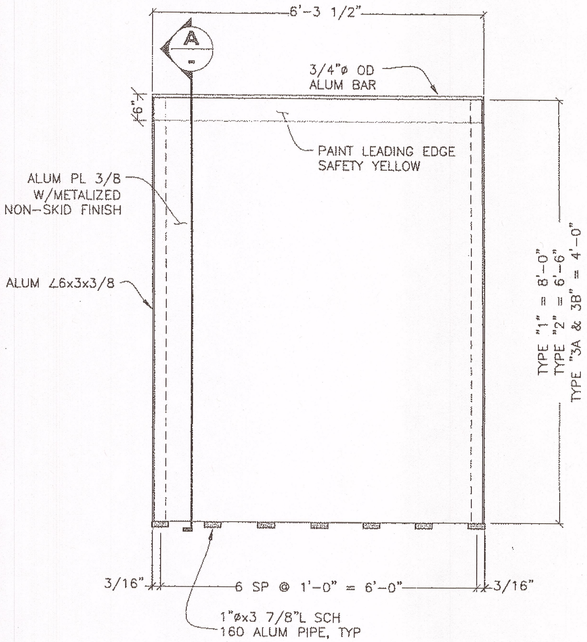
CHECKED BY: K. Miller
STATE OF ALASKA — 29th — DAVID H. LOWELL — CE-12614 — REGISTERED PROFESSIONAL ENGINEER — 5/13/11
DESIGNED BY: D. Lowell
DRAWN BY: D. Lowell

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

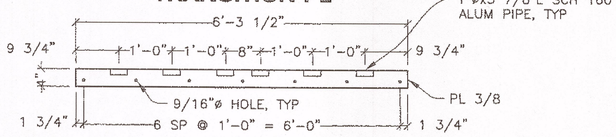
KASAAN HARBOR IMPROVEMENTS PROJECT #67953
CONCRETE BREAKWATER FLOAT REPAIR

PATH: Q:\POW\67953\MF\PLANSET\FINAL\18 - CONCRETE BREAKWATER FLOAT REPAIR.DWG
TAB: 18 Friday, May 13, 2011 12:33:05 PM LOWELL, DAVID H (DOT)

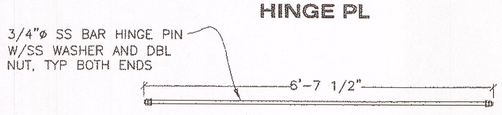
REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	18	19



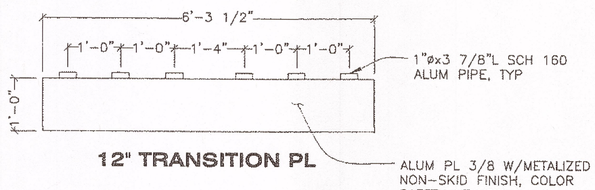
TRANSITION PL



HINGE PL

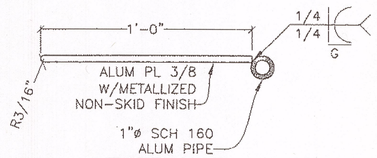


HINGE PIN

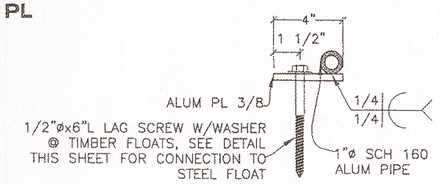


12" TRANSITION PL

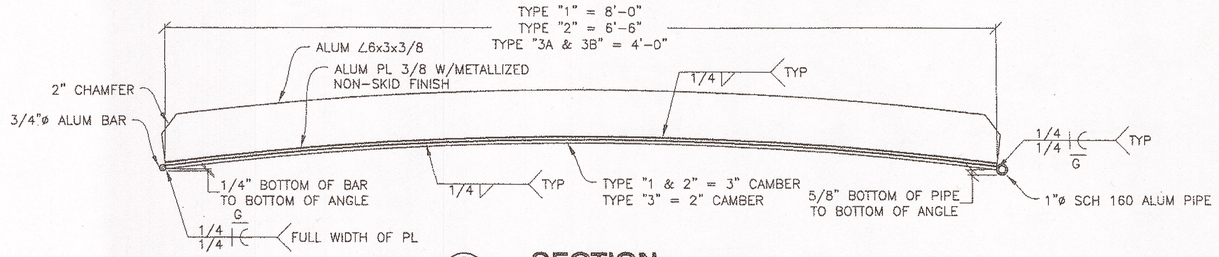
DETAIL
ALUMINUM TRANSITION PL



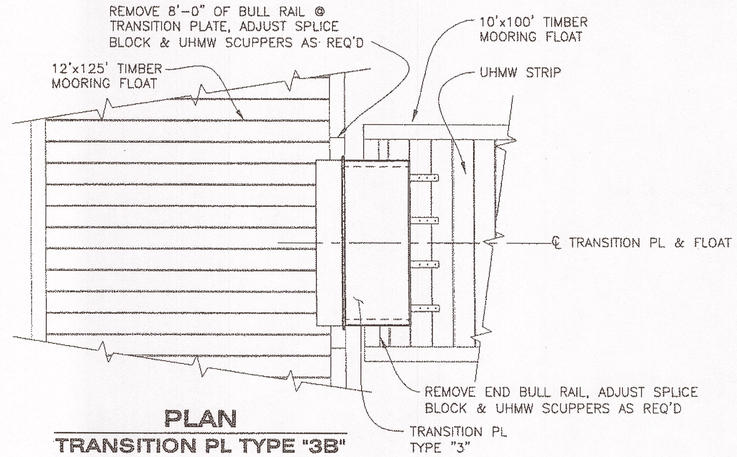
DETAIL
12" TRANSITION PL



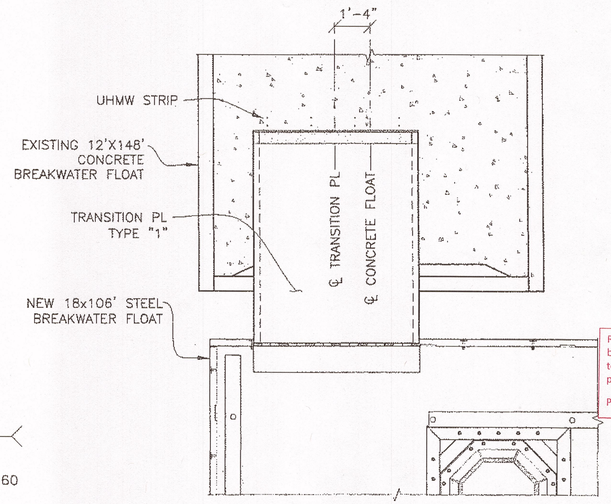
DETAIL
HINGE PL



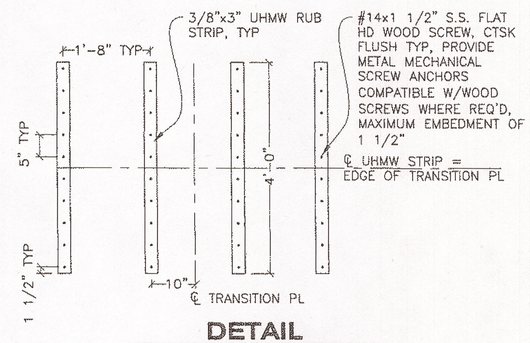
A SECTION
TRANSITION PL



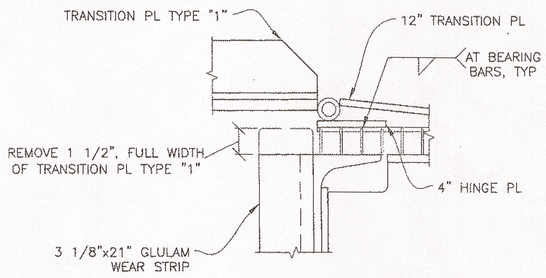
PLAN
TRANSITION PL TYPE "3B"



PLAN
TRANSITION PL TYPE "1"



DETAIL
UHMW WEAR STRIPS



DETAIL
STEEL FLOAT CONNECTION

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.
PE Craig J. Marlen Date 3-7-14

CHECKED BY: K. Miller
STATE OF ALASKA 49th
David H. Lowell CE-12614 REGISTERED PROFESSIONAL ENGINEER
3/13/11
DESIGNED BY: D. Lowell
DRAWN BY: D. Lowell
PATH: O:\POW\6795.3\MF\PLANSET\FINAL\19 - TRANSITION PLATES.DWG
TAB: 19 Friday, May 13, 2011 3:06:15 PM LOWELL, DAVID H (DOT)

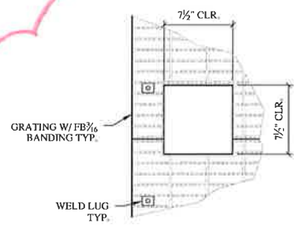
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

KASAAN HARBOR IMPROVEMENTS PROJECT #67953

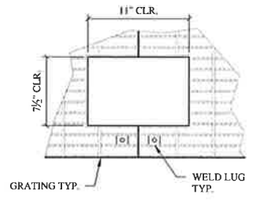
TRANSITION PLATE DETAILS

REVISIONS NO.	DATE	DESCRIPTION	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			67953	2011	19	19

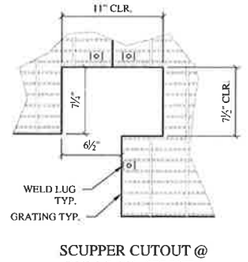
No Scupper Cutouts Req'd. Bullrail will be too close to grating. If deviation from plans, provide justification for change.



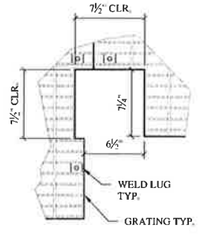
1 / 1.2 TYP. SCUPPER CUTOUT
SCALE: 1½"=1'-0"



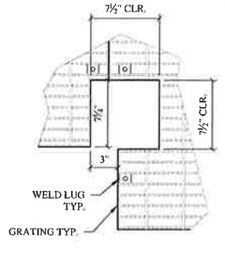
2 / 1.2 SCUPPER CUTOUT @ BULLRAIL SPLICE
SCALE: 1½"=1'-0"



3 / 1.2 SCUPPER CUTOUT @ BULLRAIL SPLICE / RESTRAINT COLLAR
SCALE: 1½"=1'-0"

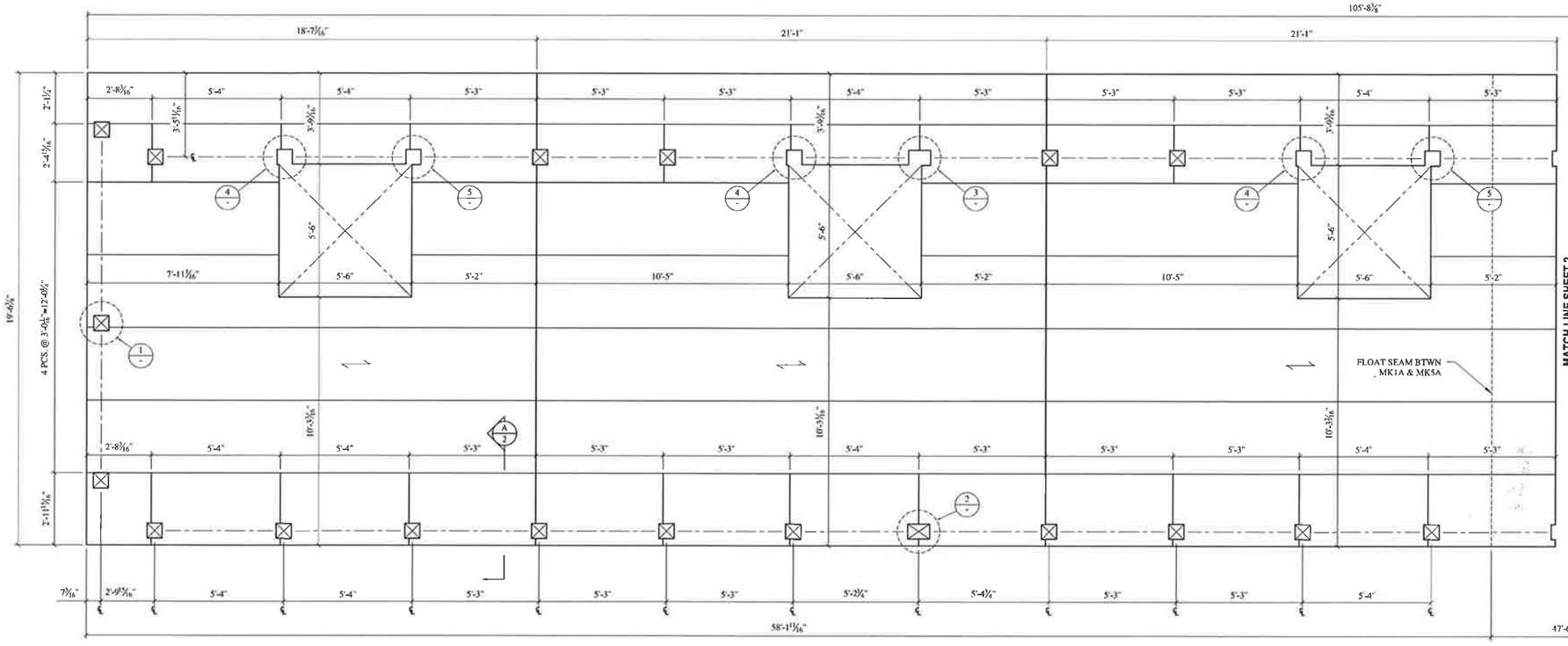


4 / 1.2 SCUPPER CUTOUT @ RESTRAINT COLLAR
SCALE: 1½"=1'-0"



5 / 1.2 SCUPPER CUTOUT @ RESTRAINT COLLAR
SCALE: 1½"=1'-0"

BILL OF MATERIALS			SHT: 1 OF 4
GRATING PACIFIC		CUSTOMER: RAINIER WELDING INC.	
DRAWING/SO#: 42-05-002		CUSTOMER P.O.#: 2892-9	
ITEM	QTY.	DESCRIPTION (WIDTH X SPAN)	CLIPS EACH PIECE
		GRATING	
		SERRATED W-19-4 1 1/2" x 3/16"	
		APPROX. 1,118 SQ. FT. 12,091#	



GRATING PLAN @ BREAKWATER FLOAT
REF. DWG# E1 REV. 2, 1 REV. 2, 5 REV. 2
SCALE: ⅜"=1'-0"

NOTES:

1. GRATING TO BE SERRATED W-19-4 1½" x 3/16" STEEL BAR W/ WELD LUGS FB¼ x 1½
2. ALL CUT EDGES TO BE TRIM BANDED
3. FINISH: ASTM A123 HOT DIP GALV.
4. ALL CUTOUTS NOT SHOWN TO BE FIELD FABRICATED BY OTHERS
5. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION
6. ALL UNCHANGED DIMENSIONS AND TEXT WILL BE PRESUMED CORRECT

Dept. of Preservation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction and for coordination of the work of all trades.

ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 5.29.12 Project Engineer

FOR APPROVAL

THIS DRAWING HAS BEEN PREPARED FOR YOUR REVIEW AND APPROVAL
☐ APPROVED AS SUBMITTED
☐ APPROVED AS CORRECTED
☐ RESUBMIT
PLEASE CHECK THE APPROPRIATE BOX AND RETURN ONE SIGNED COPY SO THAT WE MAY PROCEED WITH FABRICATION.

SIGNED _____

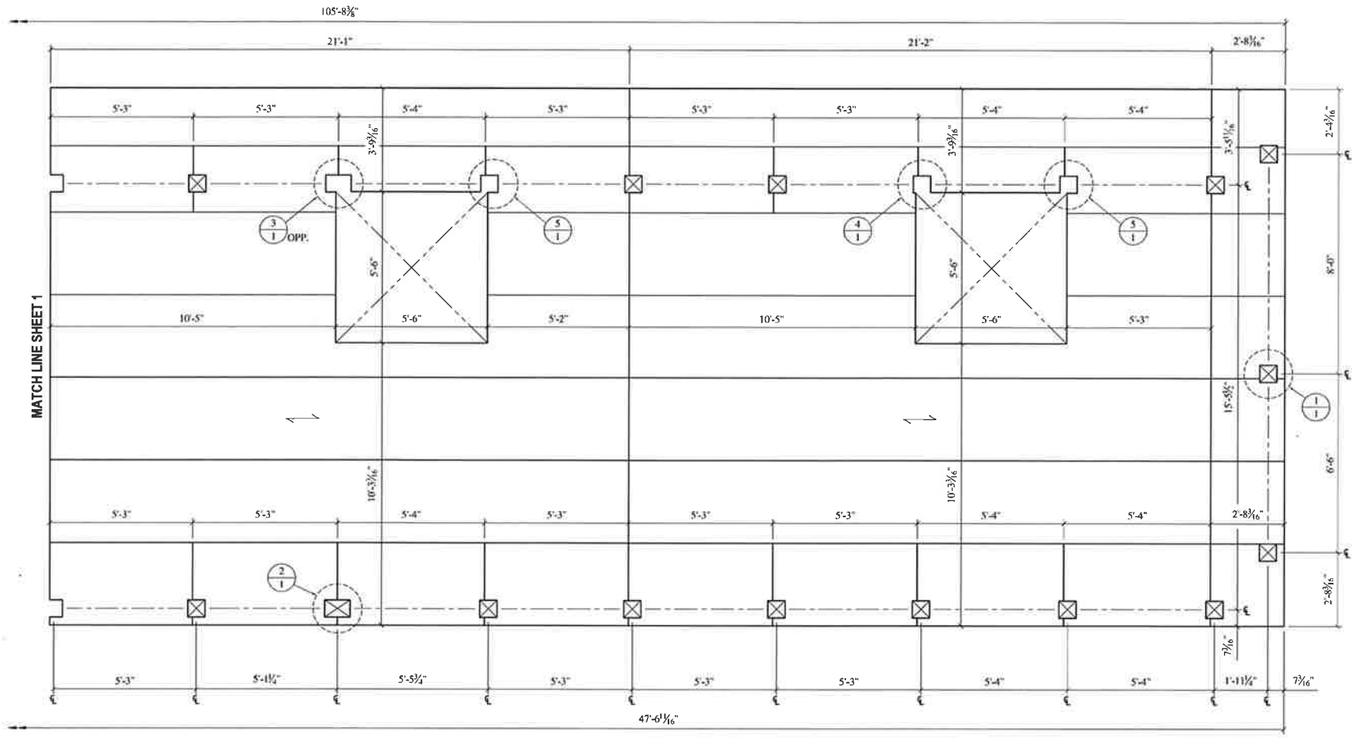
TITLE _____ DATE _____

REV	DESCRIPTION	DATE	REV. BY
1	PER MARK UP'S	5/21/12	WJB

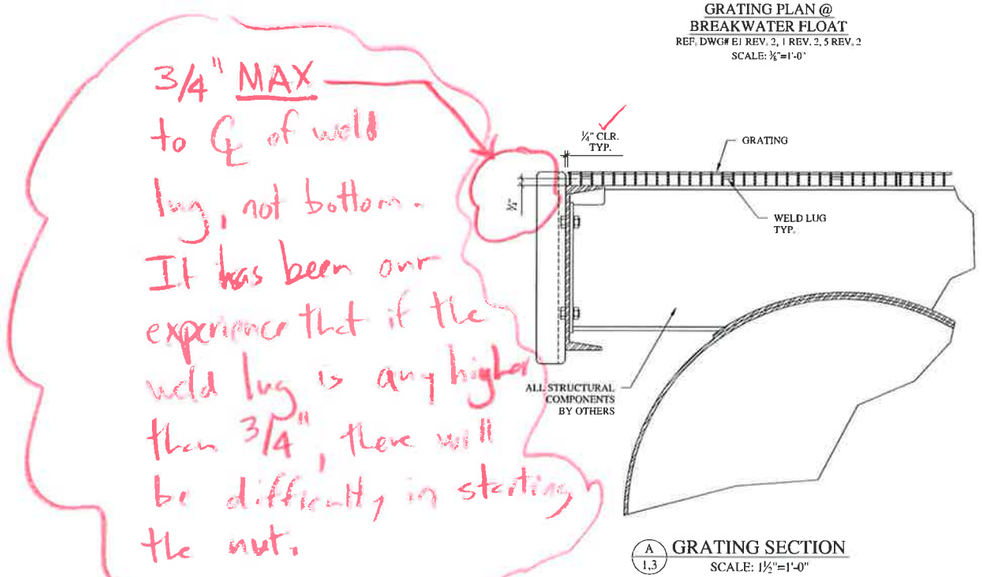
GRATING PACIFIC LLC
SERVICE • QUALITY • RELIABILITY

3775 N. FRONT ST. WOODBURN, OR. 97071 TOLL FREE: 800-982-4561 FAX: 503-980-3069
19411 66th AVE. S. KENT, WA. 98032 TOLL FREE: 800-283-3939 FAX: 253-872-5653

CUSTOMER:	RAINIER WELDING INC.	DRAWING /S.O.#:	42-05-002
PROJECT:	BREAKWATER FLOAT	SALES AGENT:	BC
CUSTOMER P.O.#:	2892-9	CHECKED:	
DRAWN BY:	WJB	DATE:	5/4/12
☒ CUST. ☐ SHOP		SCALE:	NOTED
WWW.GRATINGPACIFIC.COM		SIZE:	D
SHEET: 1 OF 4		APPROVED ☐	



GRATING PLAN @
BREAKWATER FLOAT
REF. DWG# E1 REV. 2, 1 REV. 2, 5 REV. 2
SCALE: ⅛"=1'-0"



A / 1,3 GRATING SECTION
SCALE: 1½"=1'-0"

BILL OF MATERIALS		SHT: 2 OF 4
GRATING PACIFIC	CUSTOMER: RAINIER WELDING INC.	
DRAWING/SO#: 42-05-002	CUSTOMER P.O.#: 2892-9	

ITEM	QTY.	DESCRIPTION (WIDTH X SPAN)	CLIPS EACH PIECE
		GRATING	
		SERRATED W-19-4 1 1/2" x 3/16"	
		APPROX. 832 SQ. FT. 8,998#	

NOTES:

1. GRATING TO BE SERRATED W-19-4 1½" x 3/16" STEEL BAR W/ WELD LUGS FB¼ x 1¼
2. ALL CUT EDGES TO BE TRIM BANDED
3. FINISH: ASTM A123 HOT DIP GALV.
4. ALL CUTOUTS NOT SHOWN TO BE FIELD FABRICATED BY OTHERS
5. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION
6. ALL UNCHANGED DIMENSIONS AND TEXT WILL BE PRESUMED CORRECT

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction and for coordination of the work of all trades.

ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 5.29.12 Project Engineer

FOR APPROVAL

THIS DRAWING HAS BEEN PREPARED FOR YOUR REVIEW AND APPROVAL
☐ APPROVED AS SUBMITTED
☐ APPROVED AS CORRECTED
☐ RESUBMIT
PLEASE CHECK THE APPROPRIATE BOX AND RETURN ONE SIGNED COPY SO THAT WE MAY PROCEED WITH FABRICATION.

SIGNED _____
TITLE _____ DATE _____

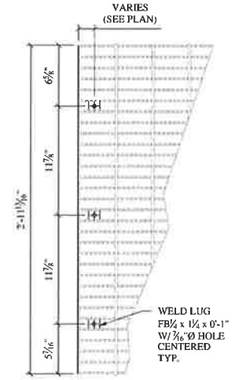
REV.	DESCRIPTION	DATE	REV. BY
1	PER MARK UP'S	5/23/12	WJB

GRATING PACIFIC LLC
SERVICE • QUALITY • RELIABILITY

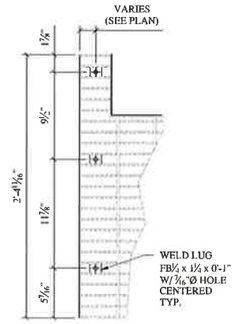
2375 N. FRONT ST
WOODBURN OR. 97071
TOLL FREE: 800-942-9501
FAX: 503-980-3569

19411 66th AVE. S
KENT, WA. 98032
TOLL FREE: 800-343-3939
FAX: 253-872-8853

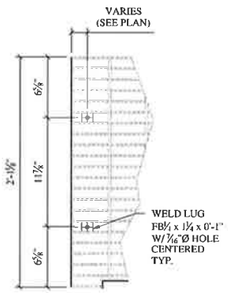
CUSTOMER:	RAINIER WELDING INC.	DRAWN BY: WJB	
PROJECT:	BREAKWATER FLOAT	DATE: 5/4/12	
CUSTOMER P.O.#:	2892-9	DRAWING/S.O.#: 42-05-002	☒ CUST. ☐ SHOP
		SALES AGENT: BC	CHECKED:
		SCALE: NOTED	
		WWW.GRATINGPACIFIC.COM	SIZE: D
		SHEET: 2 OF 4	APPROVED ☐



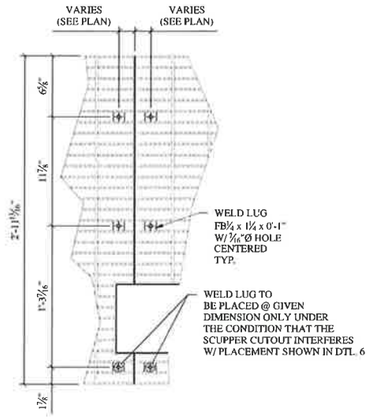
6 TYP. 3'-0 1/16" WIDE PANEL WELD LUG LAYOUT
SCALE: 1½"=1'-0"



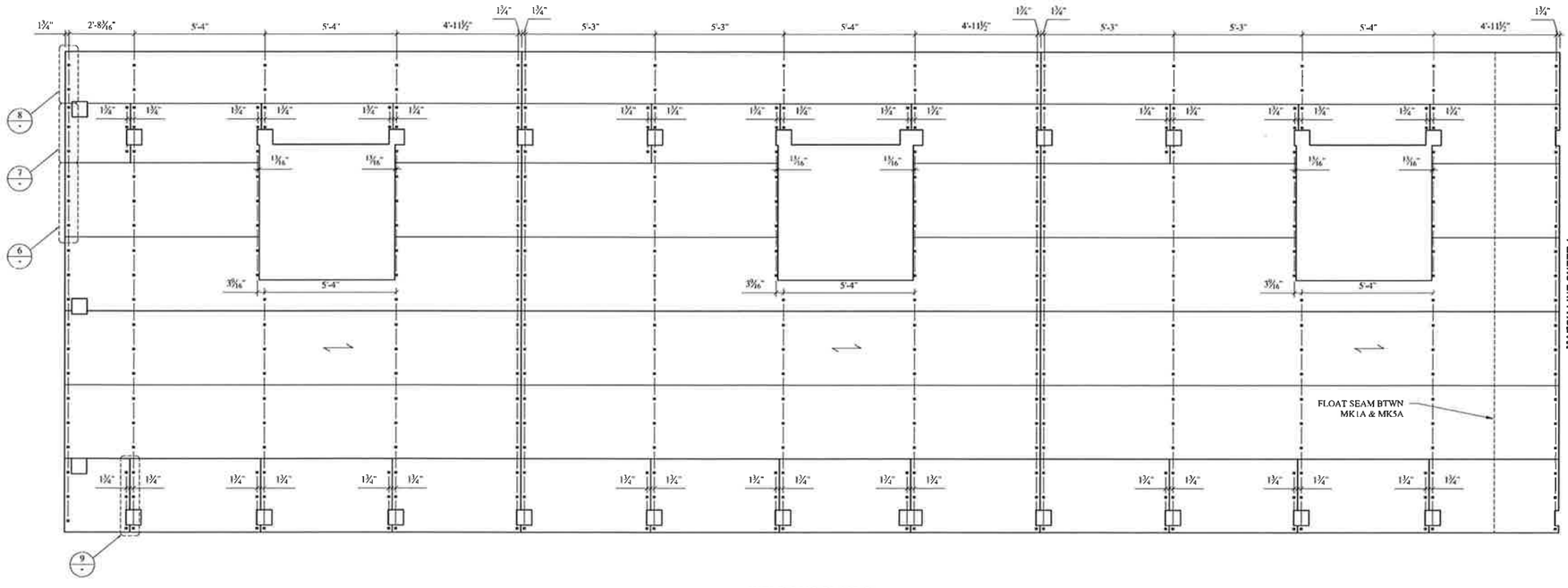
7 TYP. 2'-4 5/16" WIDE PANEL WELD LUG LAYOUT
SCALE: 1½"=1'-0"



8 TYP. 2'-1 1/4" WIDE PANEL WELD LUG LAYOUT
SCALE: 1½"=1'-0"



9 CONDITIONAL 3'-0 1/16" WIDE PANEL WELD LUG LAYOUT
SCALE: 1½"=1'-0"



WELD LUG PLAN @
BREAKWATER FLOAT
REF. DWG# E1 REV. 2, 1 REV. 2, 5 REV. 2
SCALE: ¾"=1'-0"

BILL OF MATERIALS

SHT: 3 OF 4

GRATING PACIFIC | CUSTOMER: RAINIER WELDING INC.

DRAWING/SO#: 42-05-002 | CUSTOMER P.O.#: 2892-9

ITEM	QTY.	DESCRIPTION (WIDTH X SPAN)	CLIPS EACH PIECE
		GRATING	
		SERRATED W-19-4 1 1/2" x 3/16"	

NOTES:

1. GRATING TO BE SERRATED W-19-4 1½" x 3/16" STEEL BAR W/ WELD LUGS FB¼ x 1¼
2. ALL CUT EDGES TO BE TRIM BANDED
3. FINISH: ASTM A123 HOT DIP GALV.
4. ALL CUTOUTS NOT SHOWN TO BE FIELD FABRICATED BY OTHERS
5. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION
6. ALL UNCHANGED DIMENSIONS AND TEXT WILL BE PRESUMED CORRECT

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction and for coordination of the work of all trades

ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 5.29.12 Project Engineer

FOR APPROVAL

THIS DRAWING HAS BEEN PREPARED FOR YOUR REVIEW AND APPROVAL
☐ APPROVED AS SUBMITTED
☐ APPROVED AS CORRECTED
☐ RESUBMIT
PLEASE CHECK THE APPROPRIATE BOX AND RETURN ONE SIGNED COPY SO THAT WE MAY PROCEED WITH FABRICATION.

SIGNED _____

TITLE _____ DATE _____

NAAMM

REV.	DESCRIPTION	DATE	REV. BY

GRATING PACIFIC LLC

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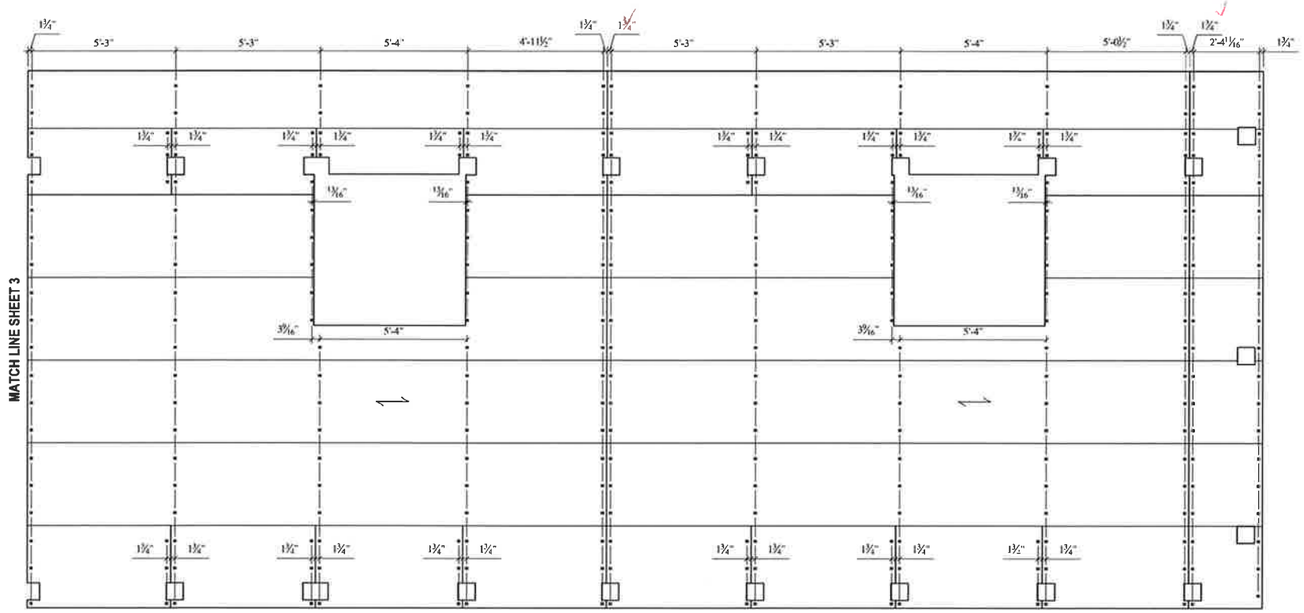
2275 N. FRONT ST
WOODBURN, OR. 97071
TOLL FREE: 800-922-4081
FAX: 503-981-2860

19411 66th AVE. S.
KENT, WA. 98032
TOLL FREE: 800-243-3939
FAX: 253-872-0851

DRAWN BY: WJB
DATE: 5/4/12

CUSTOMER:	RAINIER WELDING INC.	DRAWING /S.O.#:	42-05-002
PROJECT:	BREAKWATER FLOAT	SALES AGENT: BC	CHECKED:
CUSTOMER P.O.#:	2892-9	SHEET: 3 OF 4	APPROVED ☐

☒ CUST. ☐ SHOP
SCALE: NOTED
WWW.GRATINGPACIFIC.COM
SIZE: D



WELD LUG PLAN @
BREAKWATER FLOAT
REF. DWG# E1 REV. 2, 1 REV. 2, 5 REV. 2
SCALE: ⅜"=1'-0"

BILL OF MATERIALS			SHT: 4 OF 4
GRATING PACIFIC		CUSTOMER: RAINIER WELDING INC.	
DRAWING/SO#: 42-05-002		CUSTOMER P.O.#: 2892-9	
ITEM	QTY.	DESCRIPTION (WIDTH X SPAN)	CLIPS EACH PIECE
		GRATING	
		SERRATED W-19-4 1 1/2" x 3/16"	

NOTES:

1. GRATING TO BE SERRATED W-19-4 1½" x 3/16" STEEL BAR W/ WELD LUGS FB⅛ x 1¼
2. ALL CUT EDGES TO BE TRIM BANDED
3. FINISH: ASTM A123 HOT DIP GALV.
4. ALL CUTOUTS NOT SHOWN TO BE FIELD FABRICATED BY OTHERS
5. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION
6. ALL DIMENSIONS SHOWN AS DETAILED WILL BE CHECKED CORRECT

State of Washington
Dept. of Natural Resources
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 5.29.12 Project Engineer

FOR APPROVAL

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☐ APPROVED AS CORRECTED
☐ RESUBMIT
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SIGNED _____

TITLE _____ DATE _____

REV.	DESCRIPTION	DATE	REV. BY

GRATING PACIFIC LLC

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2777 N. FRONT ST.
WOODBURN, OR. 97071
TOLL FREE: 800-452-4011
FAX: 503-980-2960

19411 66th AVE. S.
KENT, WA. 98032
TOLL FREE: 800-243-3939
FAX: 253-872-6455

CUSTOMER:	RAINIER WELDING INC.	DRAWN BY: WJB	
PROJECT:	BREAKWATER FLOAT	DRAWING /S.O.#: 42-05-002	DATE: 5/4/12
CUSTOMER P.O.#:	2892-9	SALES AGENT: BC / CHECKED:	☒ CUST. ☐ SHOP
		SCALE: NOTED	
		WWW.GRATINGPACIFIC.COM	SIZE: D
		SHEET: 4 OF 4	APPROVED ☐

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

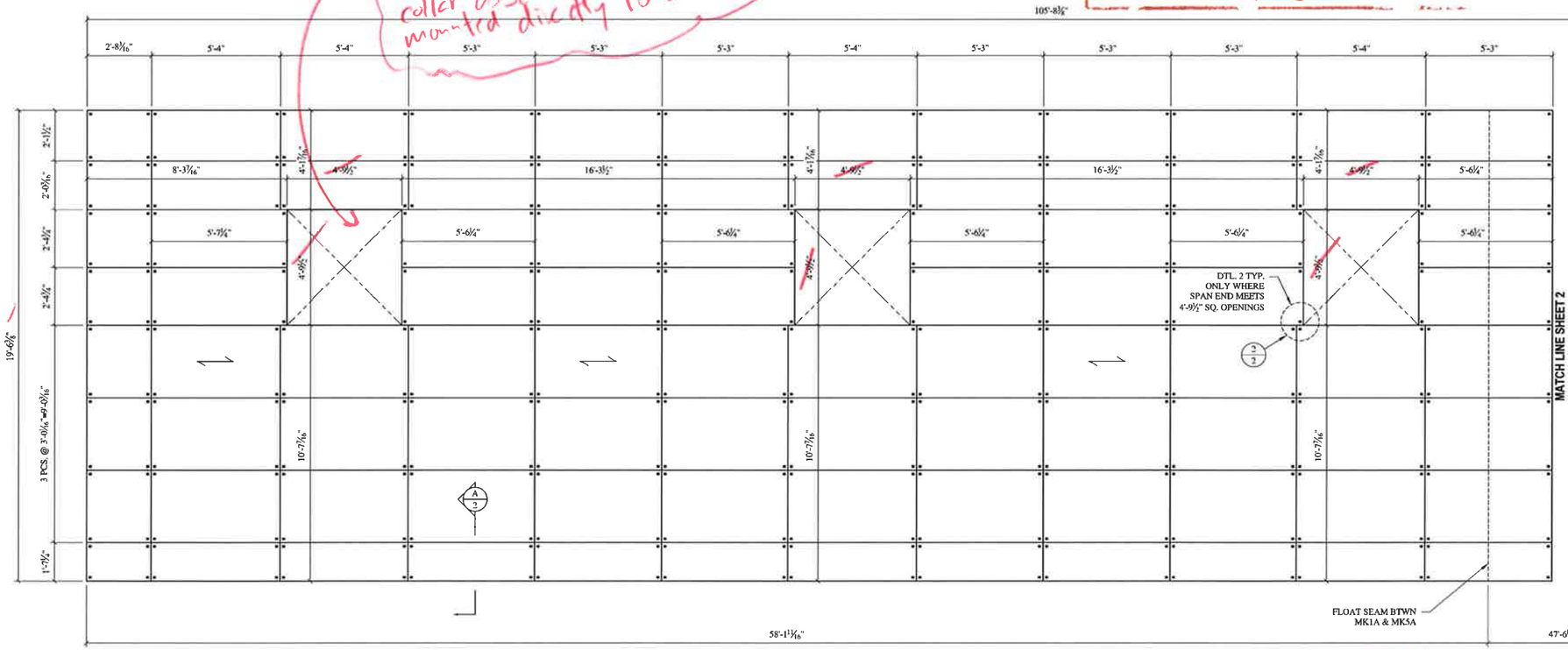
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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 5.16.12 Project Engineer

BILL OF MATERIALS		SHT: 1 OF 2	
GRATING PACIFIC		CUSTOMER: RAINIER WELDING INC.	
DRAWING/SO#: 42-05-002		CUSTOMER P.O.#: 2892-9	
ITEM	QTY.	DESCRIPTION (WIDTH X SPAN)	CLIPS EACH PIECE
		GRATING	
		SERRATED W-19-4 1 1/2" x 3/16"	
		APPROX. 1,118 SQ. FT. 12,091#	

Pile Collar Blackout needs to be larger so collar assembly can be mounted directly to deck beam



GRATING PLAN @
BREAKWATER FLOAT
REF. DWG# E1 REV. 2, 1 REV. 2, 5 REV. 2
SCALE: ⅜"=1'-0"

NOTES:

1. GRATING TO BE SERRATED W-19-4 1½" x 3/16" STEEL BAR W/ WELD LUGS FB¼ x 1¼
2. ALL CUT EDGES TO BE TRIM BANDED
3. FINISH: ASTM A123 HOT DIP GALV.
4. ALL CUTOUTS NOT SHOWN TO BE FIELD FABRICATED BY OTHERS
5. DIMENSION TOLERANCE TO BE ± ¼"
6. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION
7. ALL UNCHANGED DIMENSIONS AND TEXT WILL BE PRESUMED CORRECT

* See Sheet 6 of planset for weld lugs ~~anchor blok~~ details. A tolerance of ± ¼" will not provide proper alignment w/ studs & bolt holes
* Max spacing for ~~anchor~~ weld lugs 1'-0" O.C. per note on sheet 6.
* What about blockouts for bullrail bolts?

* Longer grating ~~Spans~~ Panels could be utilized to substantially reduce the bolting/stud quantity

FOR APPROVAL

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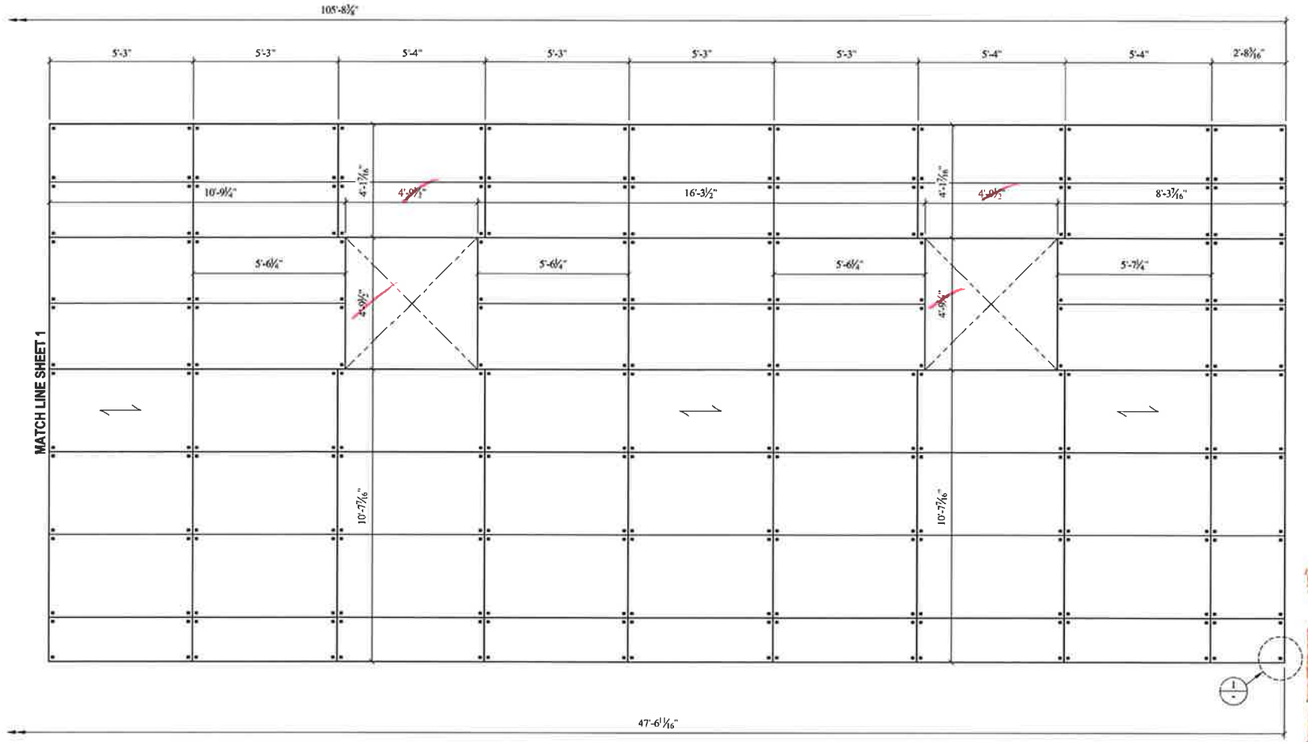
SIGNED _____

TITLE _____ DATE _____

REV.	DESCRIPTION	DATE	REV. BY

GRATING PACIFIC LLC
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2727 N. FRONT ST. WOODBURN, OR. 97071 TOLL FREE: 800-443-4041 FAX: 503-982-7869
19441 66th AVE. S. KENT, WA. 98032 TOLL FREE: 800-345-3939 FAX: 253-872-8853

CUSTOMER:	RAINIER WELDING INC.	DRAWN BY: WJB	
PROJECT:	BREAKWATER FLOAT	DATE: 5/4/12	
DRAWING/S.O.#:	42-05-002	☒ CUST. ☐ SHOP	
SALES AGENT: BC	CHECKED:	SCALE: NOTED	
WWW.GRATINGPACIFIC.COM		SIZE: D	
CUSTOMER P.O.#: 2892-9	SHEET: 1 OF 2	APPROVED ☐	



GRATING PLAN @
BREAKWATER FLOAT
REF. DWG# E1 REV. 2, 1 REV. 2, 5 REV. 2
SCALE: ⅜"=1'-0"

BILL OF MATERIALS			SHT: 2 OF 2
GRATING PACIFIC		CUSTOMER: RAINIER WELDING INC.	
DRAWING/SO#: 42-05-002		CUSTOMER P.O.#: 2892-9	
ITEM	QTY.	DESCRIPTION (WIDTH X SPAN)	CLIPS EACH PIECE
		GRATING	
		SERRATED W-19-4 1 1/2" x 3/16"	
		APPROX. 832 SQ. FT. 8,998#	

NOTES:

1. GRATING TO BE SERRATED W-19-4 1½" x 3⁄16" STEEL BAR W/ WELD LUGS FB⅛ x 1¼
2. ALL CUT EDGES TO BE TRIM BANDED
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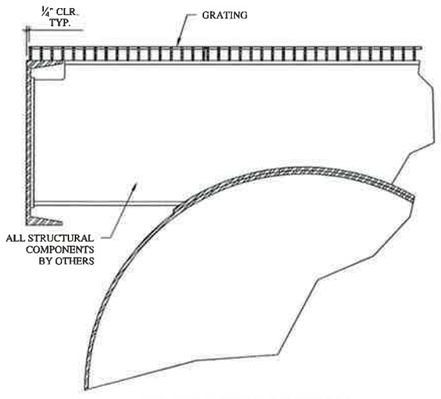
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

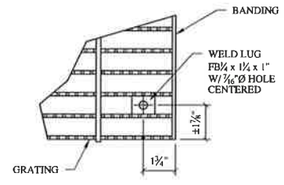
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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

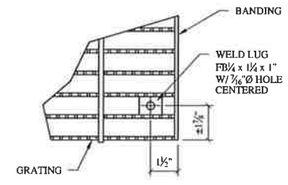
Date 5.16.12 Project Engineer



A/1 GRATING SECTION
SCALE: 1½"=1'-0"



1/- TYP. WELD LUG DETAIL
SCALE: 3"=1'-0"



2/- WELD LUG DETAIL @ OPENINGS
SCALE: 3"=1'-0"

FOR APPROVAL

THIS DRAWING HAS BEEN PREPARED FOR YOUR REVIEW AND APPROVAL
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- ☐ APPROVED AS CORRECTED
- ☐ RESUBMIT

PLEASE CHECK THE APPROPRIATE BOX AND RETURN ONE SIGNED COPY SO THAT WE MAY PROCEED WITH FABRICATION.

SIGNED _____

TITLE _____ DATE _____

NAAMM

REV.	DESCRIPTION	DATE	REV. BY

GRATING PACIFIC LLC

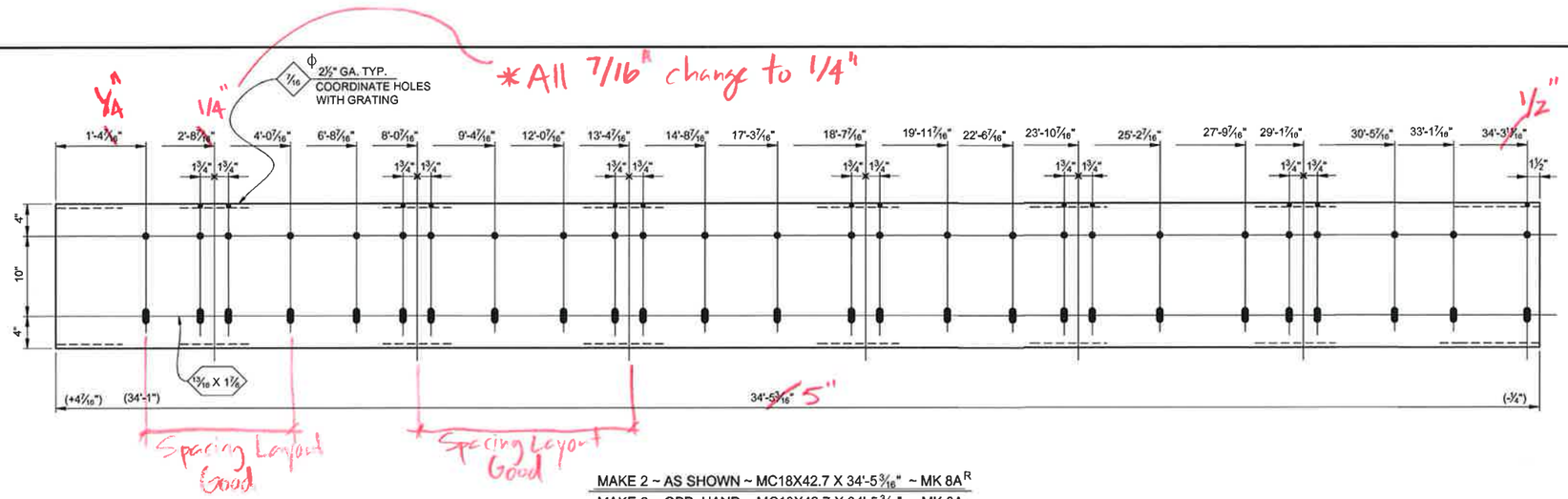
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FAX: 503-980-3060

19111 66th AVE. S.
KENT, WA. 98032
TOLL FREE: 800-243-3939
FAX: 253-872-8803

DRAWN BY: WJB
DATE: 5/4/12

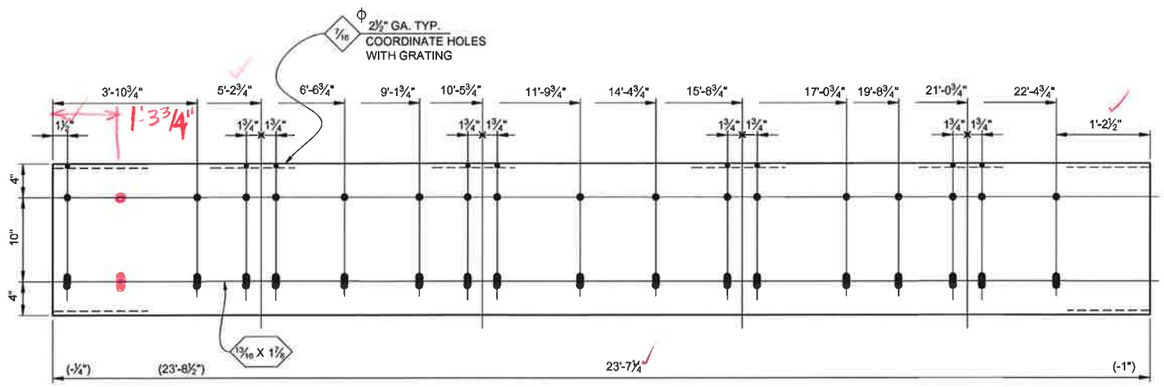
CUSTOMER:	RAINIER WELDING INC.	DRAWING /S.O.#: 42-05-002	☒ CUST. ☐ SHOP
PROJECT:	BREAKWATER FLOAT	SALES AGENT: BC CHECKED:	SCALE: NOTED
		WWW.GRATINGPACIFIC.COM	SIZE: D
CUSTOMER P.O.#:	2892-9	SHEET: 2 OF 2	APPROVED ☐



MAKE 2 ~ AS SHOWN ~ MC18X42.7 X 34'-5⅜" ~ MK 8A^{R}

MAKE 2 ~ OPP. HAND ~ MC18X42.7 X 34'-5⅜" ~ MK 8A$_{L}$

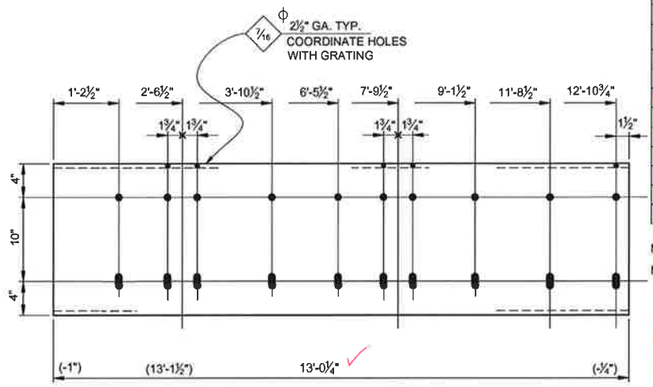
REF : SHEET NO. 6



MAKE ONE ~ AS SHOWN ~ MC18X42.7 X 23'-7¼" ~ MK 8B^{R}

MAKE ONE ~ OPP. HAND ~ MC18X42.7 X 23'-7¼" ~ MK 8B$_{L}$

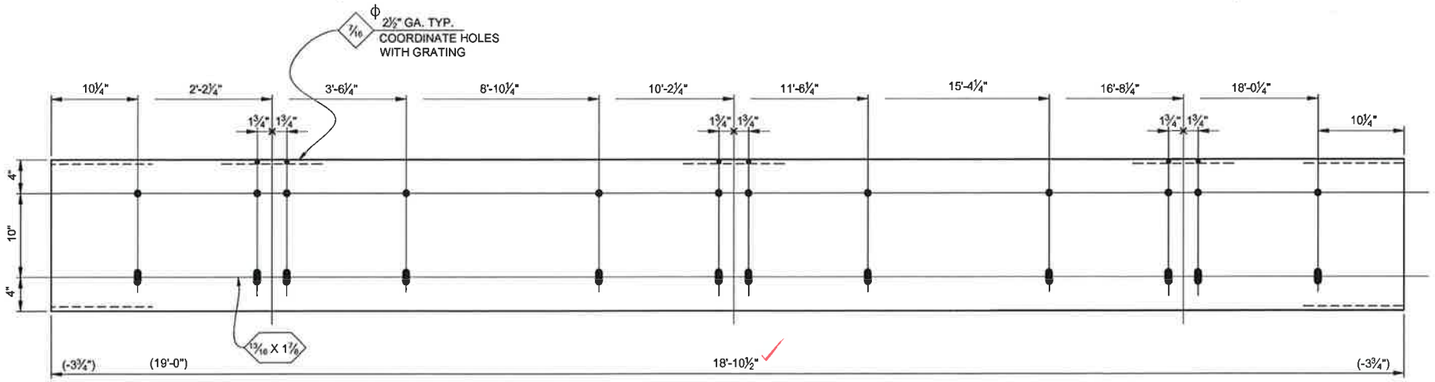
REF : SHEET NO. 6



MAKE ONE ~ AS SHOWN ~ MC18X42.7 X 13'-0¼" ~ MK 8D^{R}

MAKE ONE ~ OPP. HAND ~ MC18X42.7 X 13'-0¼" ~ MK 8D$_{L}$

REF : SHEET NO. 6



MAKE ONE ~ AS SHOWN ~ MC18X42.7 X 18'-10½" ~ MK 8C^{R}

MAKE ONE ~ OPP. HAND ~ MC18X42.7 X 18'-10½" ~ MK 8C$_{L}$

REF : SHEET NO. 6

BILL OF MATERIAL

NO. TO SHIP	SHIP MARK	PC MARK	NO. PCS	SECTION	LENGTH FT	LENGTH IN	REMARKS	UNIT WT	WEIGHT	PO NO
2	8A^{R}			MC18X42.7	34	5⅝				
2	8A$_{L}$			MC18X42.7	34	5⅝				
ONE	8B^{R}			MC18X42.7	23	7¼				
ONE	8B$_{L}$			MC18X42.7	23	7¼				
ONE	8C^{R}			MC18X42.7	18	10½				
ONE	8C$_{L}$			MC18X42.7	18	10½				
ONE	8D^{R}			MC18X42.7	13	0¼				
ONE	8D$_{L}$			MC18X42.7	13	0¼				
				FIELD BOLT LIST: FOR DWG. E-1 :						
72				2" H.S.B.	0	6½	A449, GALV.			
184				¾"H.S.B.	0	2	A325, GALV.			
100				¾"H.S.B.	0	7¾	A325, GALV.			
49				¾" ECON. HD. BOLTS	1	1¾	NO LUGS, GALV.			
72				2" HARD. WASH			F436, GALV.			
329				¾" HARD. WASH			F436, GALV.			

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

MILL CERTS REQ'D.

MATERIAL :

CHANNEL : A36

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 5.2.12 Project Engineer

NO.	DESCRIPTION	DATE	BY
1	REVISED PER APPROVAL	4-5-12	M.L.B.
1	REVISED PER APPROVAL	2-21-12	M.L.B.

REVISION

CERT. WELDERS W.A.B.O.

PRINTS DATE REV. | APPVL | SHOP | FIELD

OPEN HOLES 13/16" Ø U.N. EDGE & END DISTANCE U.N.

PAINT GALVANIZE

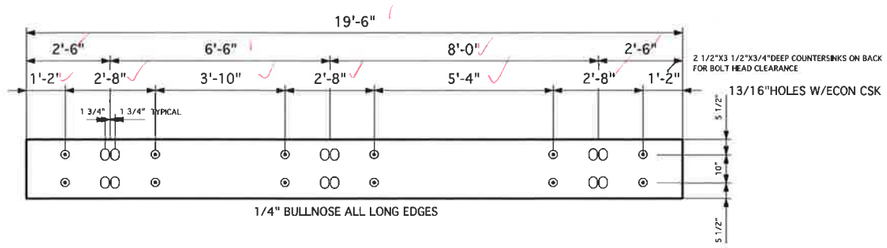
RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	BUMPER RAIL
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

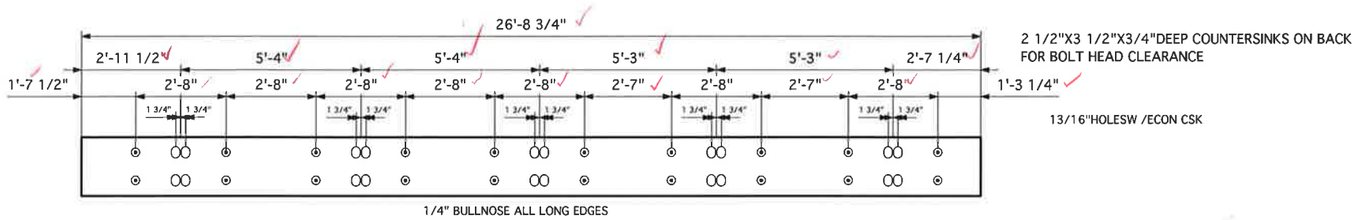
DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO.	REV.
M.L.B.	J.M.R.	11-18-11	2692	8	1

STEEL BREAKWATER FLOAT RUBSTRIP

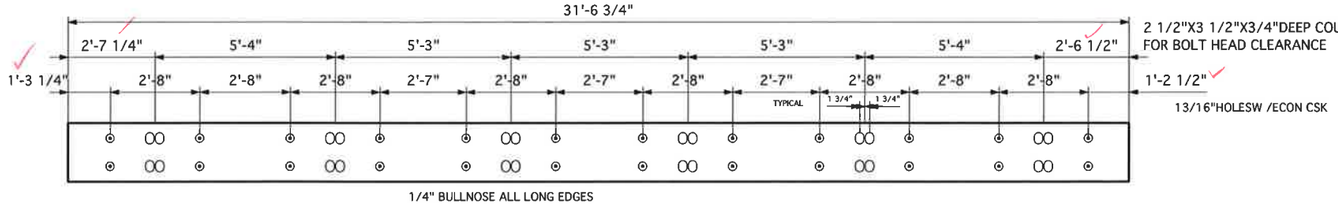
MK#1
3 1/8X21GLB
QTY 2
ACZA
ACROSS ENDS



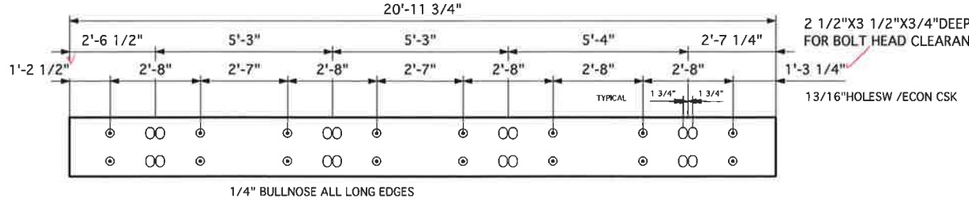
MK#2
3 1/8X21GLB
QTY 4
ACZA
AT CORNERS



MK#3
3 1/8X21GLB
QTY 2
ACZA
MID SPAN



MK#4
3 1/8X21GLB
QTY 2
ACZA
MID SPAN



State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

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ACCEPTED
ACCEPTED AS NOTED
NOT APPROVED/CORRECTION

Date 5.2.12 Project Engineer

DRWN BY:

REVISIONS	BY
4-28-12	BT

PAGE DESCRIPTION:

SCALE:

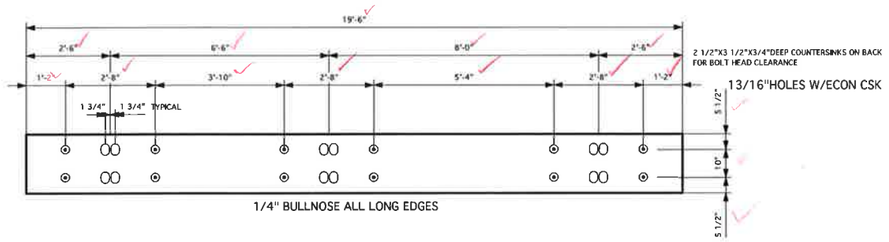
KASAAN HARBOR
IMPROVEMENTS
PROJECT # 67953

MATHEWS LUMBER COMPANY INC.
15800 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE (206) 284-7500.

DATE:
JOB#:
PAGE: 1

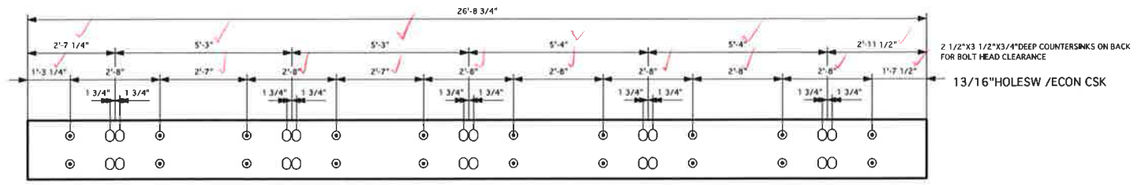
STEEL BREAKWATER FLOAT RUBSTRIP

MK#1
3 1/8X21GLB
QTY 2
ACZA
ACROSS ENDS



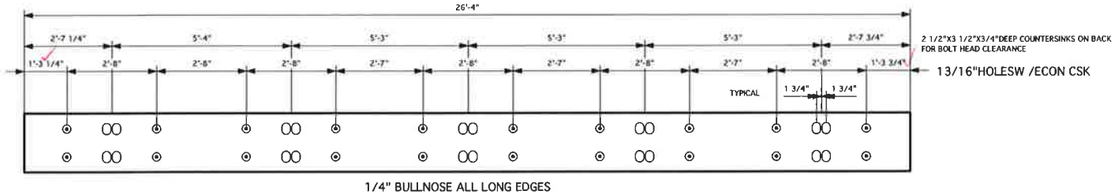
1/4" BULLNOSE ALL LONG EDGES

MK#2
3 1/8X21GLB
QTY 4
ACZA
AT CORNERS



1/4" BULLNOSE ALL LONG EDGES

MK#3
3 1/8X21GLB
QTY 4
ACZA
MID SPAN



1/4" BULLNOSE ALL LONG EDGES

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

DRWN BY:

REVISIONS	BY
11-06-11	BT

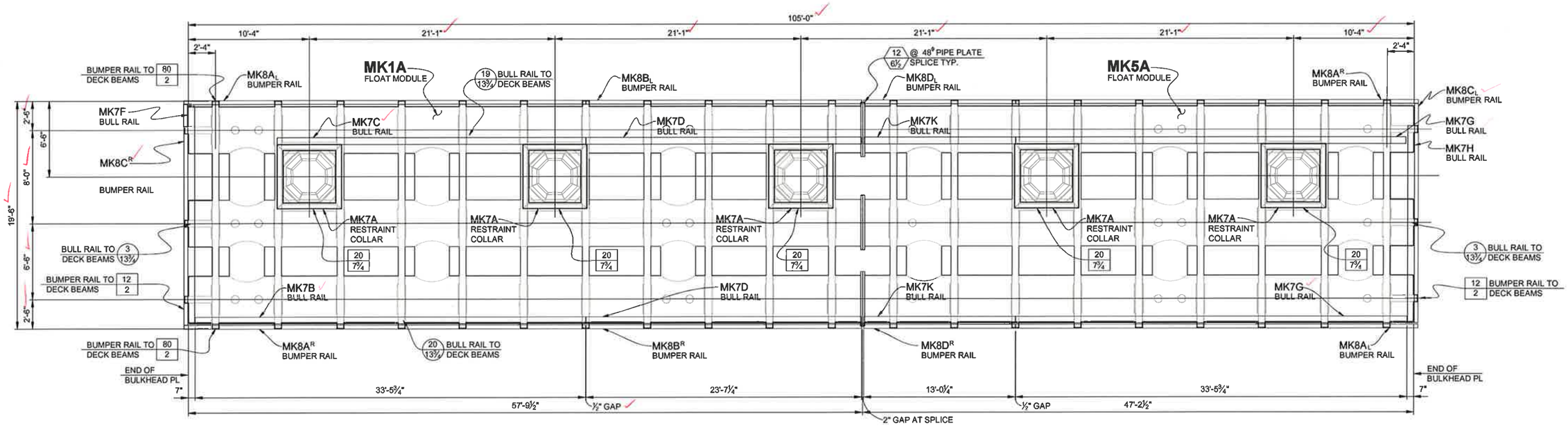
PAGE DESCRIPTION:

SCALE:

KASAAN HARBOR
IMPROVEMENTS
PROJECT # 67953

MATHEUS LUMBER COMPANY INC.
15800 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE [206] 284-7500.

DATE:
JOB#:
PAGE: 1



State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction and for coordination of the work of all trades.

ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

BREAKWATER FLOAT
REF : 05

- DENOTES NO. REQ'D. 2" H.S.B. (A449)
- DENOTES LENGTH W / HARD. WASH.
- DENOTES NO. REQ'D. ¾" H.S.B. (A325)
- DENOTES LENGTH W / HARD. WASH.
- DENOTES NO. REQ'D. ¾" ECON HD. BOLTS, NO LUGS
- DENOTES LENGTH W / HARD. WASH.

FOR FIELD BOLT LIST SEE DWG. 8

NO.	DESCRIPTION	DATE	BY
	REVISION		
2	REVISED PER APPROVAL	4-4-12	M.L.B.
1	REVISED PER APPROVAL	2-16-12	M.L.B.

CERT. WELDERS W.A.B.O.

PRINTS DATE	PRINTS REV.	APPVL.	SHOP	FIELD

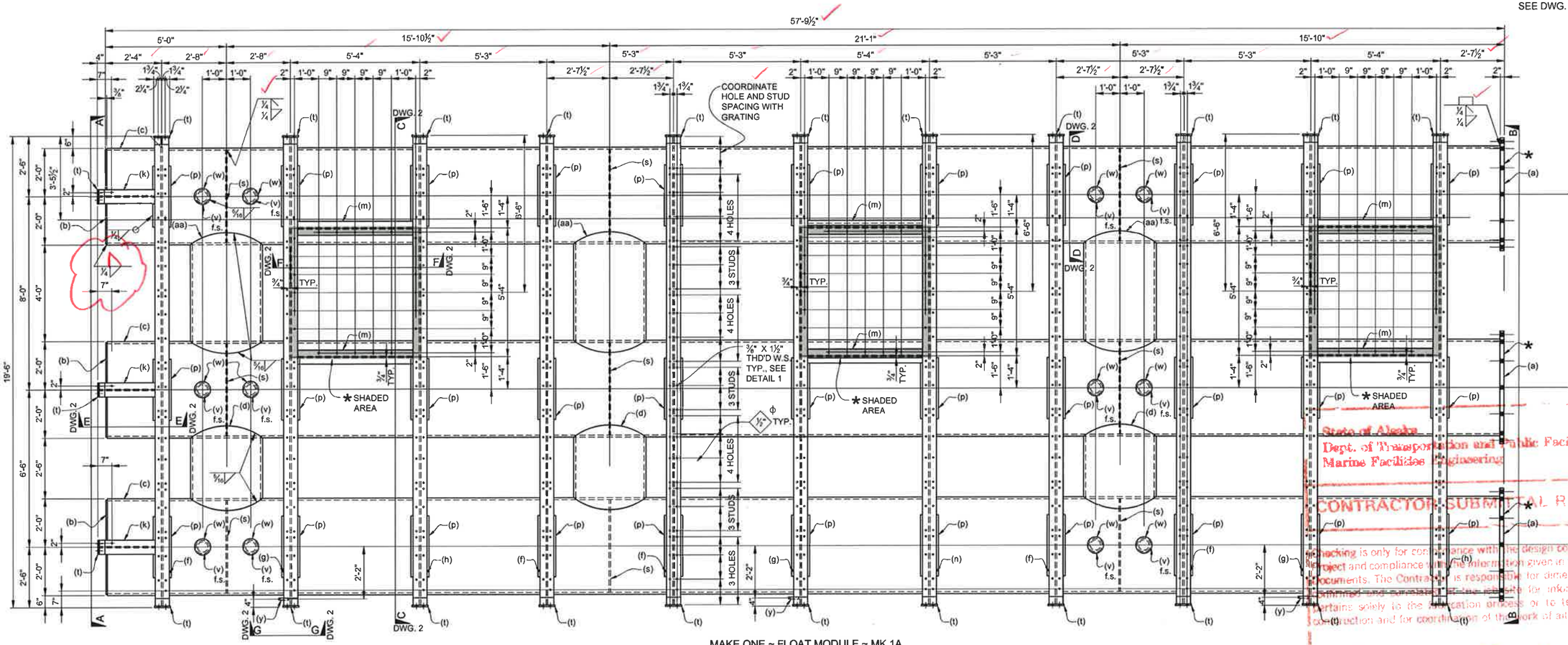
OPEN HOLES ◇ Ø U.N. EDGE & END DISTANCE U.N.
PAINT

RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	BREAKWATER FLOAT ERECTION PLAN
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR	POOL ENGINEERING

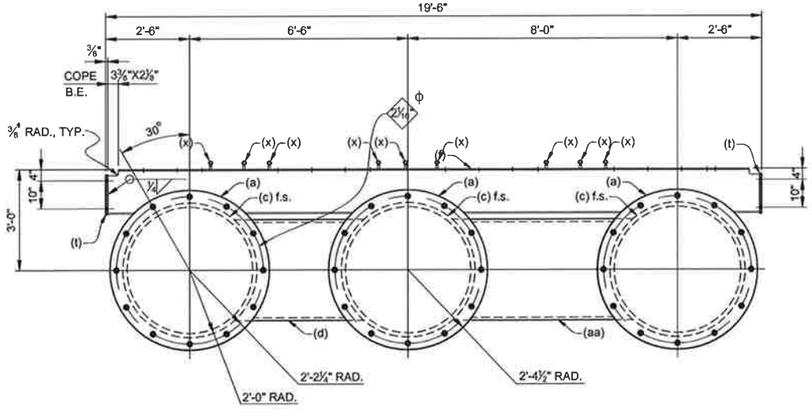
DRWN BY	CH'CD. BY	DATE	JOB NO.	DWG. NO	REV.
M.L.B.	J.M.R.	11-17-11	2892	E-1	2

FOR BILL OF MATERIAL
SEE DWG. 2

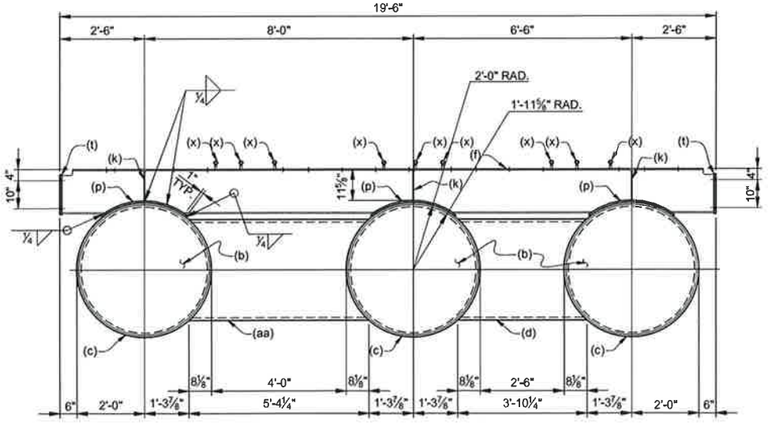


MAKE ONE ~ FLOAT MODULE ~ MK 1A

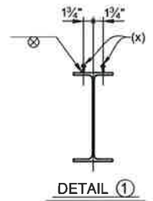
REF : SHEET NO. 5, 6, 7



VIEW B - B



VIEW A - A



DETAIL ①

WORK THIS DWG. WITH DWGS. 2, 10, 11 &12

NO	DESCRIPTION	DATE	BY
2	REVISED PER APPROVAL	4-02-12	M.L.B.
1	REVISED PER APPROVAL	2-22-12	M.L.B.
	REVISION		

CERT. WELDERS W.A.B.O.

PRINTS DATE	REV.	APPVL.	SHOP	FIELD

OPEN HOLES 13/16" Ø U.N. — EDGE & END DISTANCE U.N.

PAINT PER SPECS.

RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA. 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	FLOAT MODULE ~ BREAKWATER FLOAT
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO	REV.
M.L.B.	J.M.R.	10-31-11	2692	1	2

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for compliance with the design concept of the project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the jobsite, for information that pertains solely to the fabrication process or to techniques of construction and for coordination of the work of all trades.

ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

BILL OF MATERIAL

NO. TO SHIP	SHIP MARK	PC MARK	NO. PCS	SECTION	LENGTH FT	LENGTH IN	REMARKS	UNIT WT	WEIGHT	PO NO
ONE	1A			FLOAT MODULE						
		a1	3	PL 2" X 57"	4	9				
		b1	3	PL ⅜" X 47¼"	3	11¼				
		c	3	48ϕ X ⅜" PIPE	57	7⅛				
		d1	3	36ϕ X ⅜" PIPE	3	10¼				
		f1	5	W16X36	19	5¼	DETAIL 1 DWG. 10			
		g1	3		19	5¼	DETAIL 1 DWG. 11			
		h1	2		19	5¼	DETAIL 1 DWG. 12			
		k1	3		2	7⅞				
		m1	6		5	3⅝				
		p1	33	BAR 8" X ⅜"	2	6⅝	ROLL			
		s1	9	PL ⅜" X 47¼"	3	11¼				
		t1	25	BAR 8" X ⅜"	1	2¼				
		v1	12	6ϕ STD. PIPE	0	5	THD FOR PIPE CAP			
		w1	12	6ϕ THD'D. PIPE CAP						
		y1	3	½ϕ ALL-TH'D.	0	5	ST. ST.			
		x1	174	⅜ϕ THD'D W.S.	0	1½	ST. ST.			
			174	⅜" WASH			ST. ST.			
			174	⅜" NUTS			ST. ST.			
			6	½" NUTS			ST. ST.			
		n	1	W16 x 36	19	5¼	DETAIL 13			
		aa1	3	36ϕ X ⅜" PIPE	5	4¼				

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

SECTION G-G
REF : SHEET 06

SECTION D-D
REF : SHEET 06

SECTION E-E
REF : SHEET 06

SECTION F-F

SECTION C-C
REF : SHEET 06

MILL CERTS REQ'D.

MATERIAL:
PIPE : A252, GR. 3, OR SPIRAL
PLATE, WF, BAR, ANGLE : A36
ST. ST. : A276, TYPE 316

WORK THIS DWG. WITH DWG. 1

NO.	DESCRIPTION	DATE	BY
	REVISION		
2	REVISED PER APPROVAL	4-3-12	M.L.B.
1	REVISED PER APPROVAL	2-22-12	M.L.B.

CERT. WELDERS W.A.B.O.

PRINTS DATE	REV.	APPVL.	SHOP	FIELD

OPEN HOLES 13/16 Ø U.N. — EDGE & END DISTANCE U.N.

PAINT PER SPECS.

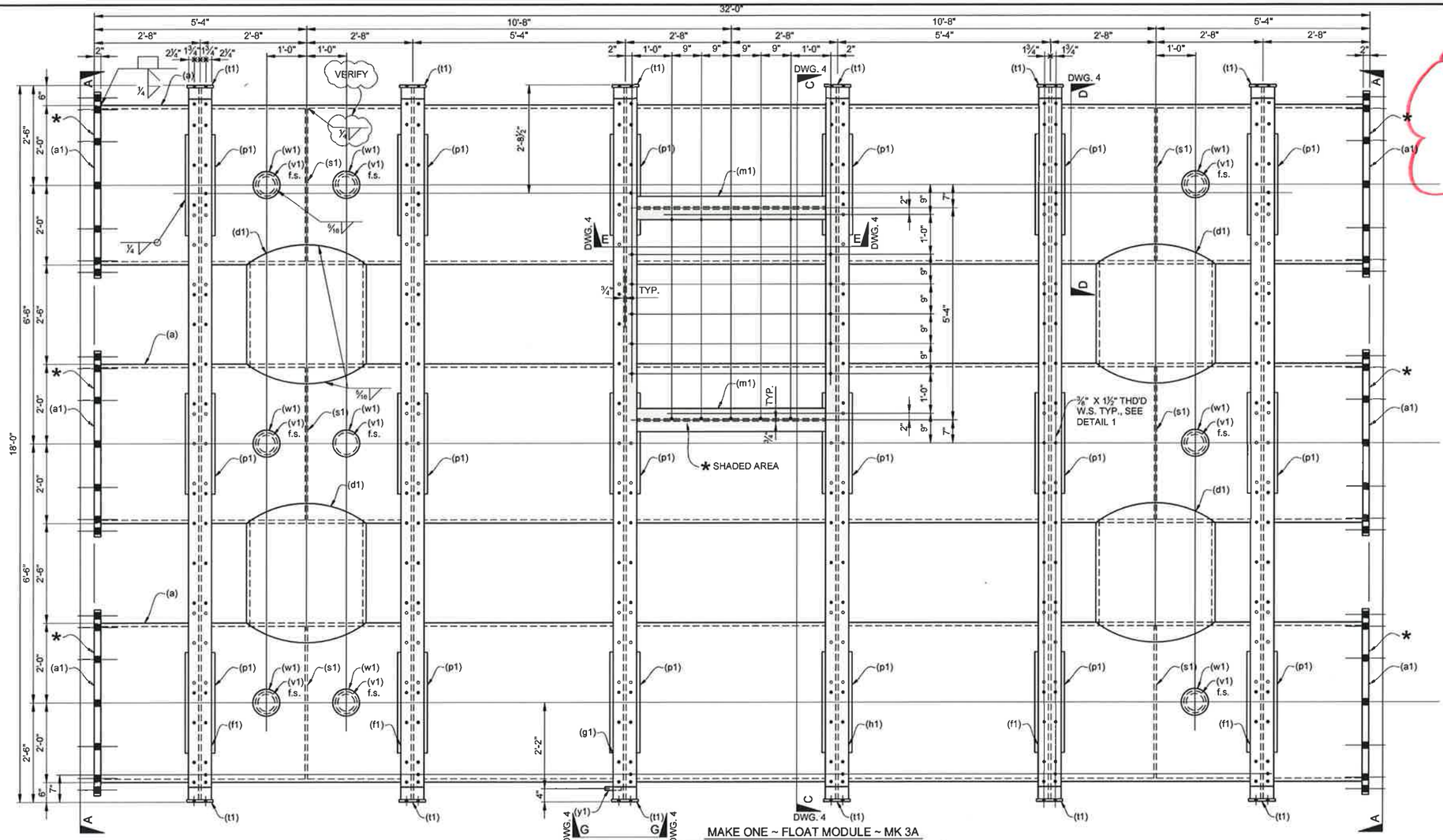
RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND ,WA. 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	FLOAT MODULE SECTIONS
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO	REV.
M.L.B.	J.M.R.	11-03-11	2892	2	2

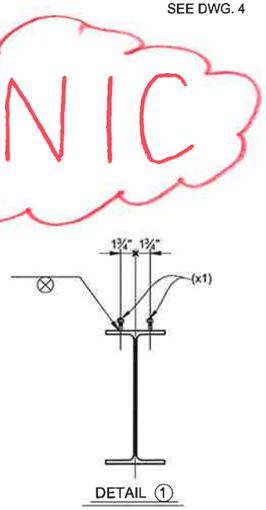
FOR BILL OF MATERIAL
SEE DWG. 4

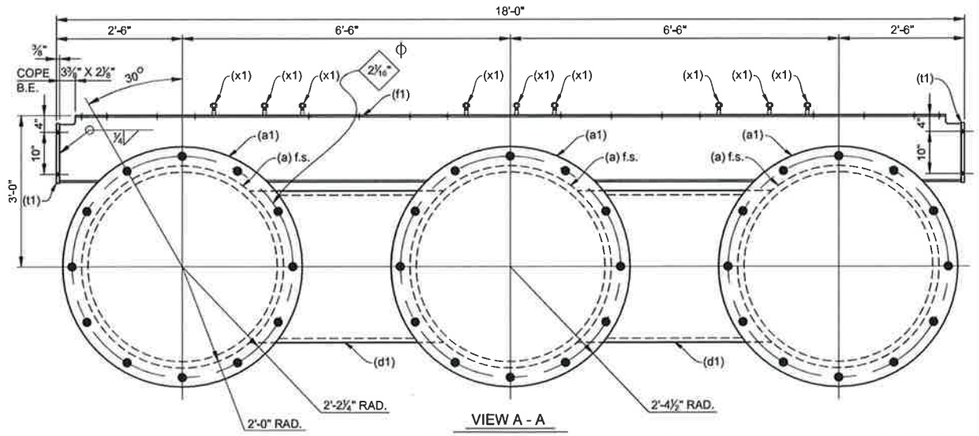
NIC



MAKE ONE ~ FLOAT MODULE ~ MK 3A

REF : SHEET NO. 5, 6, 7





VIEW A - A

PAINT NOTES:

1. THERMAL SPRAY METALLIC COATING TO 6 MILS D.F.T.
2. FIRST COAT SHALL BE WASSER'S MC-MIOZINC, OR APPROVED EQUAL, TO A MINIMUM DRY FILM THICKNESS (DFT) OF 3 MILS.
3. SECOND COAT SHALL BE WASSER'S MC-TAR, OR APPROVED EQUAL, TO A MINIMUM DRY FILM THICKNESS (DFT) OF 6 MILS.
4. THIRD COAT SHALL BE WASSER'S MC-TAR, OR APPROVED EQUAL, TO A MINIMUM DRY FILM THICKNESS (DFT) OF 6 MILS. COLOR SHALL BE BLACK.
5. "★" INDICATES "FAYING SURFACETO HAVE THERMAL SPRAY METALLIC COATING ONLY" - NO PAINT, TO 12 MILS D.F.T.

WORK THIS DWG. WITH DWGS. 4, 10, 11 & 12

NO.	DESCRIPTION	DATE	BY
	REVISION		

CERT. WELDERS W.A.B.O.

PRINTS DATE	REV.	APPVL.	SHOP	FIELD

OPEN HOLES 13/16 Ø U.N. EDGE & END DISTANCE U.N.

PAINT SEE PAINT NOTES

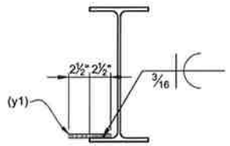
RAINIER WELDING

19020 N.E. 84TH STREET - REDMOND ,WA 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

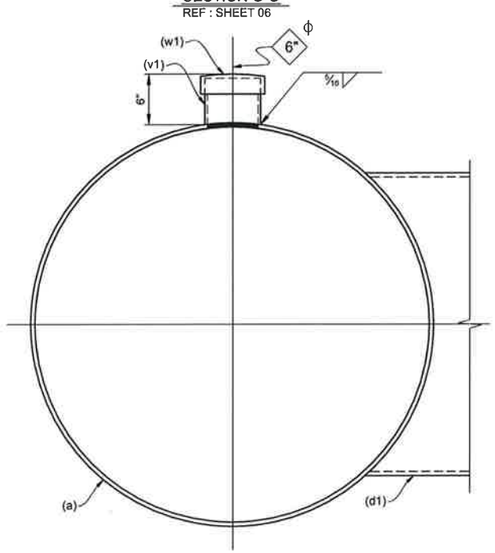
ITEM	FLOAT MODULE ~ BREAKWATER FLOAT
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO	REV.
M.L.B.	J.M.R.	11-16-11	2892	3	

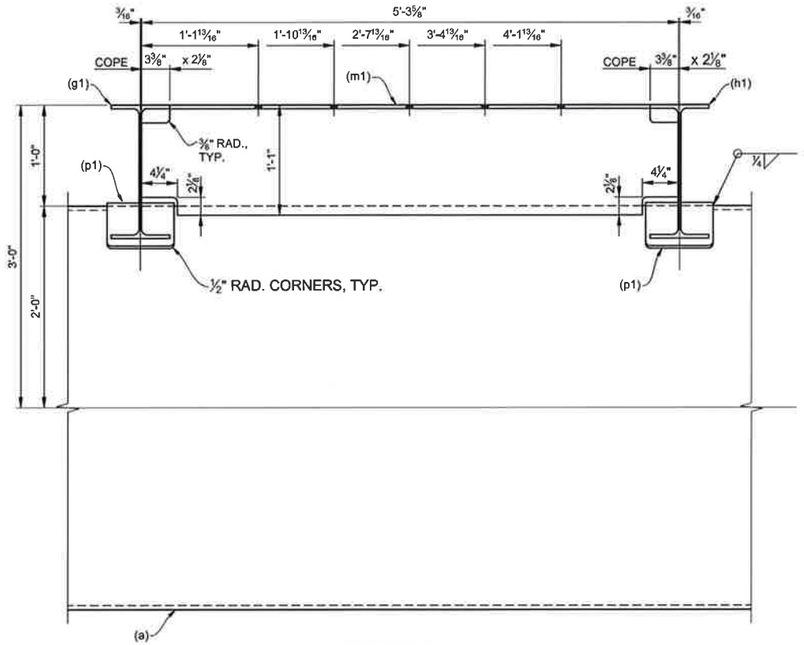
NIC



SECTION G-G
REF : SHEET 06



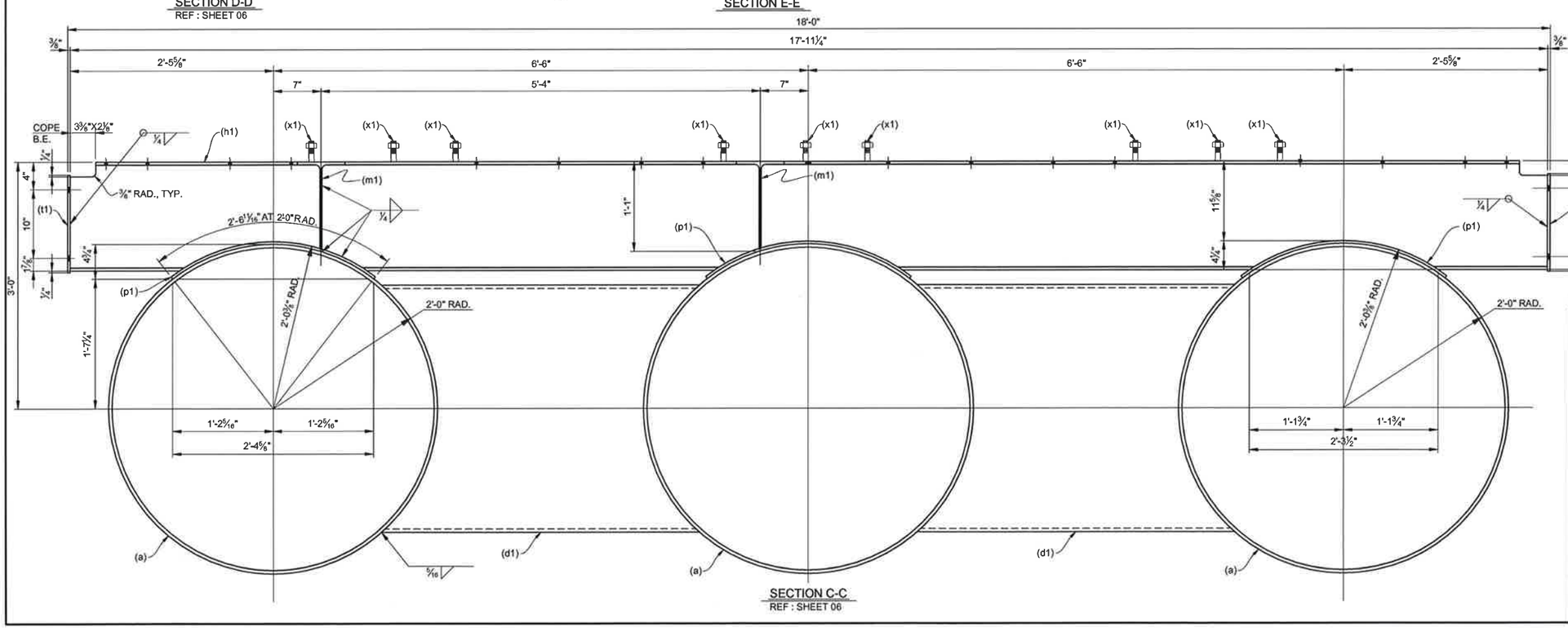
SECTION D-D
REF : SHEET 06



SECTION E-E

BILL OF MATERIAL

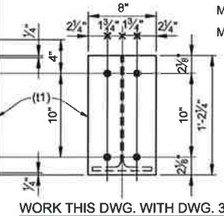
NO TO SHIP	SHIP MARK	PC MARK	NO PCS	SECTION	LENGTH FT	LENGTH IN	REMARKS	UNIT WT.	WEIGHT	PO NO.
ONE	3A			FLOAT MODULE						
		a	3	48ϕ X ⅜" PIPE	31	8				
		a1	6	PL 2" X 57"	4	9				
		d1	4	36ϕ X ⅜" PIPE	3	10⅛				
		f1	4	W16X36	17	11¼	DETAIL 1 DWG. 10			
		g1	1		17	11¼	DETAIL 1 DWG. 11			
		h1	1		17	11¼	DETAIL 1 DWG. 12			
		m1	2		5	3⅝				
		p1	18	BAR 8" X ⅜"	2	6¹⁵/₁₆	ROLL			
		s1	6	PL ⅜" X 47¼"	3	11¼				
		t1	12	BAR 8" X ⅜"	1	2¼				
		v1	6	6ϕ STD. PIPE	0	5	THD FOR PIPE CAP			
		w1	6	6ϕ THD'D. PIPE CAP						
		y1	1	½ϕ ALL-THD.	0	5½	ST. ST.			
		x1	98	⅜ϕ THD'D W.S.	0	1½	ST. ST.			
			98	⅜ϕ WASH			ST. ST.			
			98	⅜ϕ NUTS			ST. ST.			
			2	½ϕ NUTS			GALV.			



SECTION C-C
REF : SHEET 06

PAINT NOTES:

1. THERMAL SPRAY METALLIC COATING TO 8 MILS D.F.T.
2. FIRST COAT SHALL BE WASSER'S MC-MIOZINC, OR APPROVED EQUAL, TO A MINIMUM DRY FILM THICKNESS (DFT) OF 3 MILS.
3. SECOND COAT SHALL BE WASSER'S MC-TAR, OR APPROVED EQUAL, TO A MINIMUM DRY FILM THICKNESS (DFT) OF 6 MILS.
4. THIRD COAT SHALL BE WASSER'S MC-TAR, OR APPROVED EQUAL, TO A MINIMUM DRY FILM THICKNESS (DFT) OF 6 MILS. COLOR SHALL BE BLACK.



MILL CERTS REQ'D.

MATERIAL:

PIPE : A53, GR. B
PLATE, WF, BAR, ANGLE : A36
ST. ST. : A276, TYPE 316

WORK THIS DWG. WITH DWG. 3

NO	DESCRIPTION	DATE	BY
	REVISION		

CERT WELDERS W.A.B.O.

PRINTS DATE | REV. | APPVL | SHOP | FIELD

OPEN HOLES 13/16" ϕ U.N. — EDGE & END DISTANCE U.N.

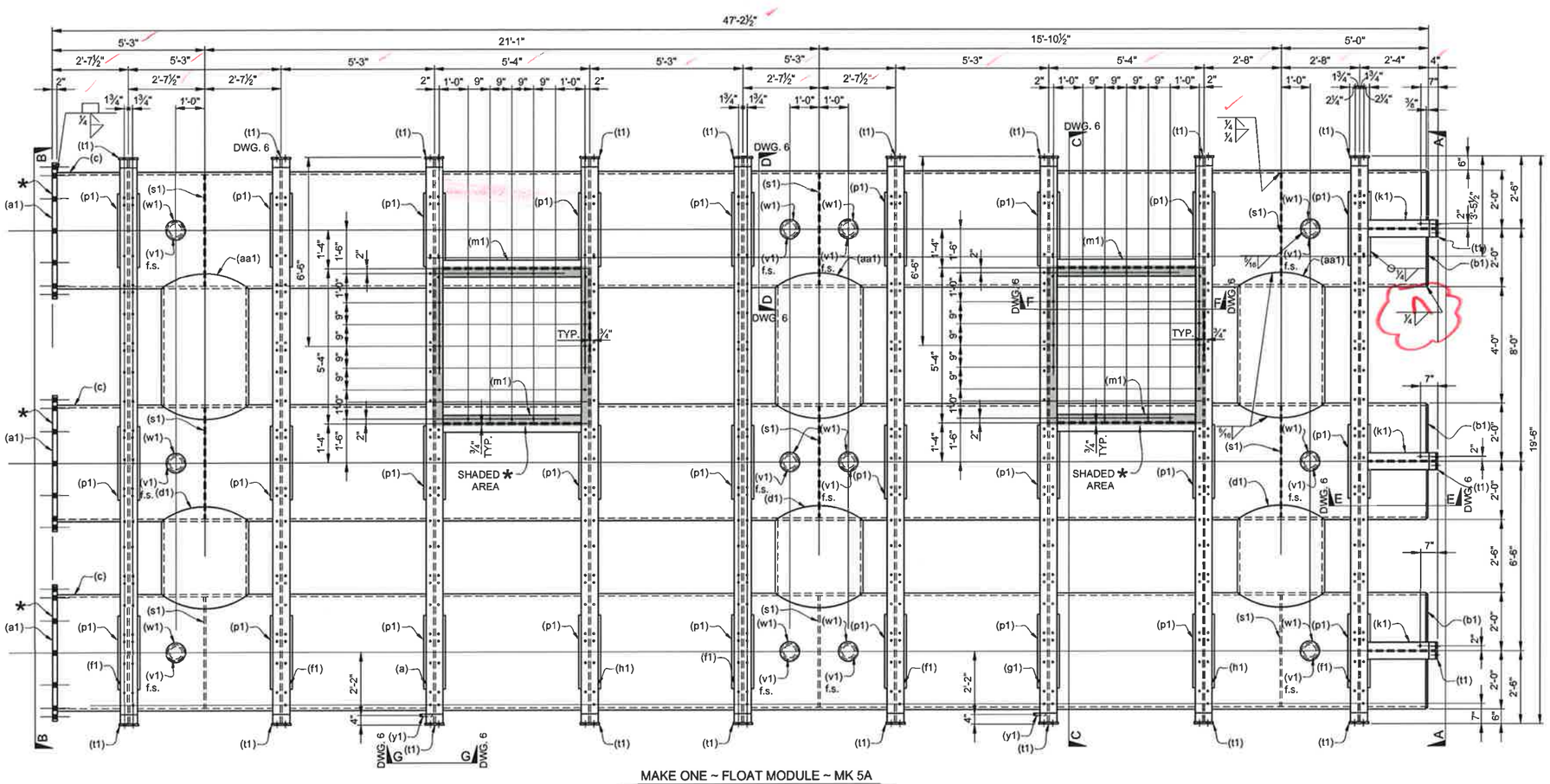
PAINT SEE PAINT NOTES

RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	FLOAT MODULE SECTIONS
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR	POOL ENGINEERING

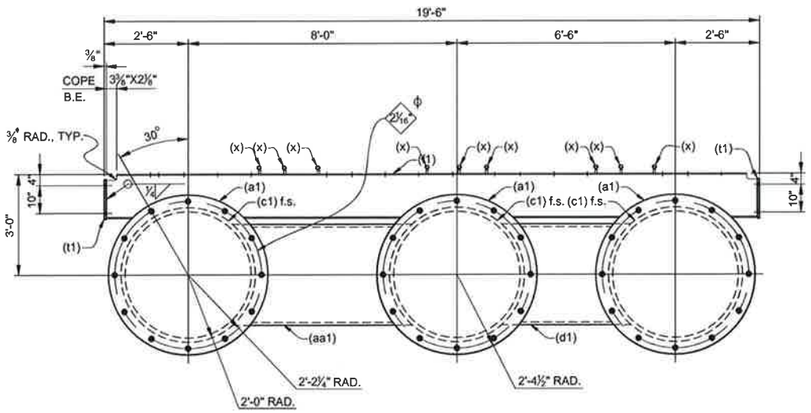
DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO.	REV.
M.L.B.	J.M.R.	11-16-11	2892	4	

FOR BILL OF MATERIAL
SEE DWG. 6

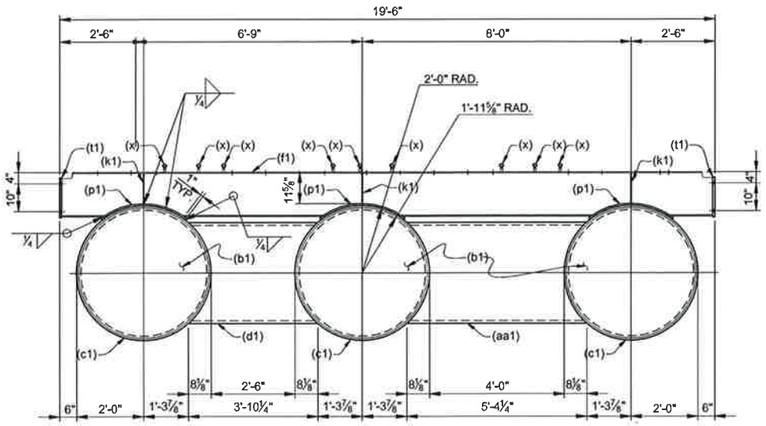


MAKE ONE ~ FLOAT MODULE ~ MK 5A

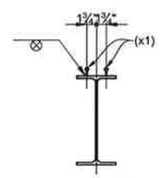
REF : SHEET NO. 5, 6, 7



VIEW B - B



VIEW A - A



DETAIL ①

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

WORK THIS DWG. WITH DWGS. 6, 10, 11 &12

NO.	DESCRIPTION / REVISION	DATE	BY
2	REVISED PER APPROVAL	4-3-12	M.L.B.
1	REVISED PER APPROVAL	2-22-12	M.L.B.

CERT. WELDERS W.A.B.O.

PRINTS		APPVL	SHOP	FIELD
DATE	REV.			

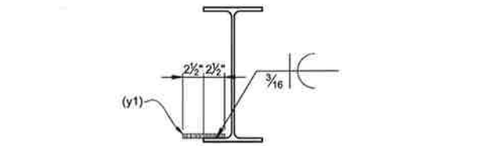
OPEN HOLES 13/16" Ø U.N. — EDGE & END DISTANCE U.N.

PAINT PER SPECS.

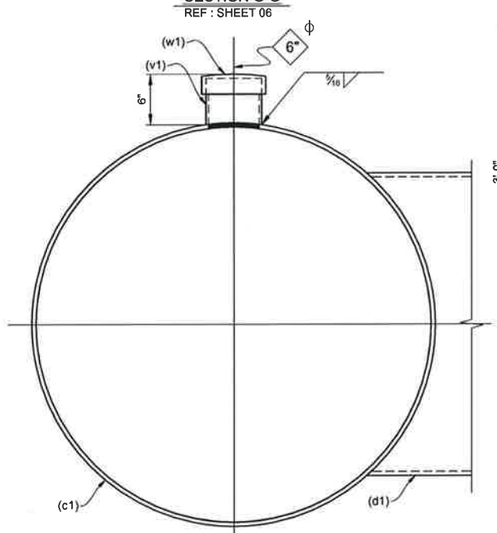
RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA. 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM FLOAT MODULE ~ BREAKWATER FLOAT
JOB KASAAN HARBOR IMPROVEMENTS
LOCATION KASAAN, ALASKA
CONTR. POOL ENGINEERING

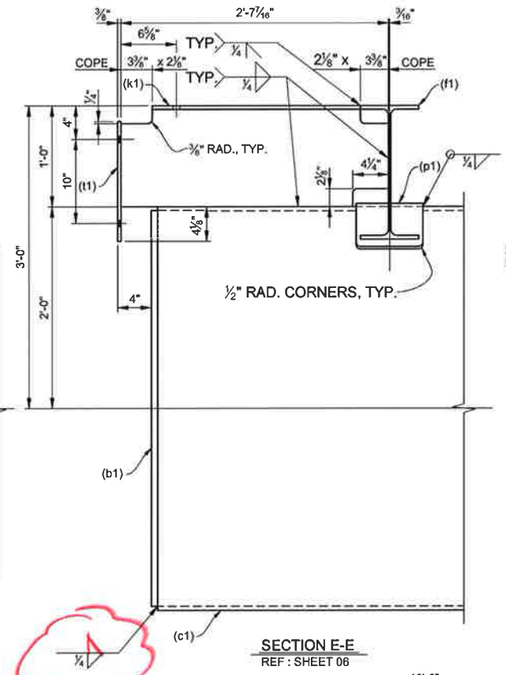
DRWN BY	CHK'D BY	DATE	JOB NO.	DWG. NO.	REV.
M.L.B.	J.M.R.	11-30-11	2892	5	2



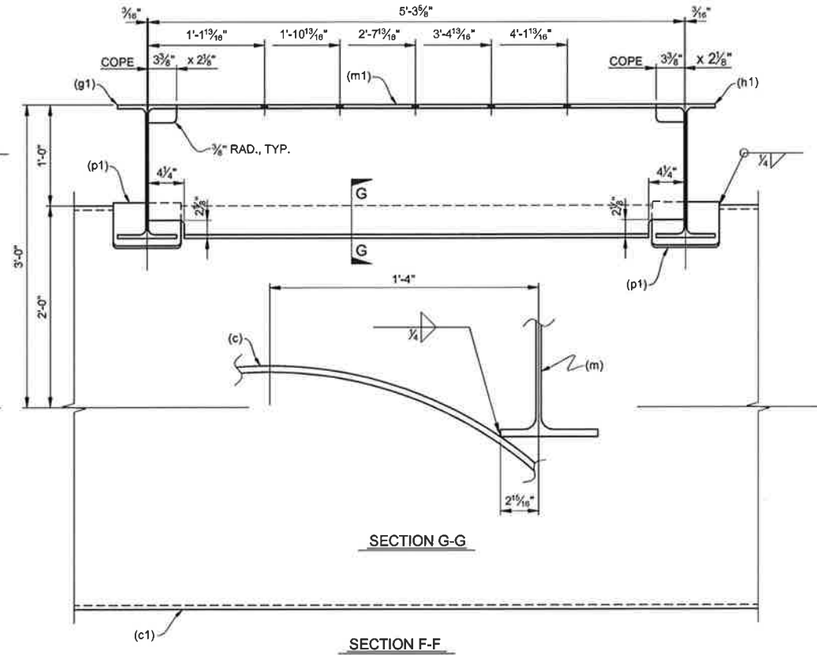
SECTION G-G
REF : SHEET 06



SECTION D-D
REF : SHEET 06



SECTION E-E
REF : SHEET 06

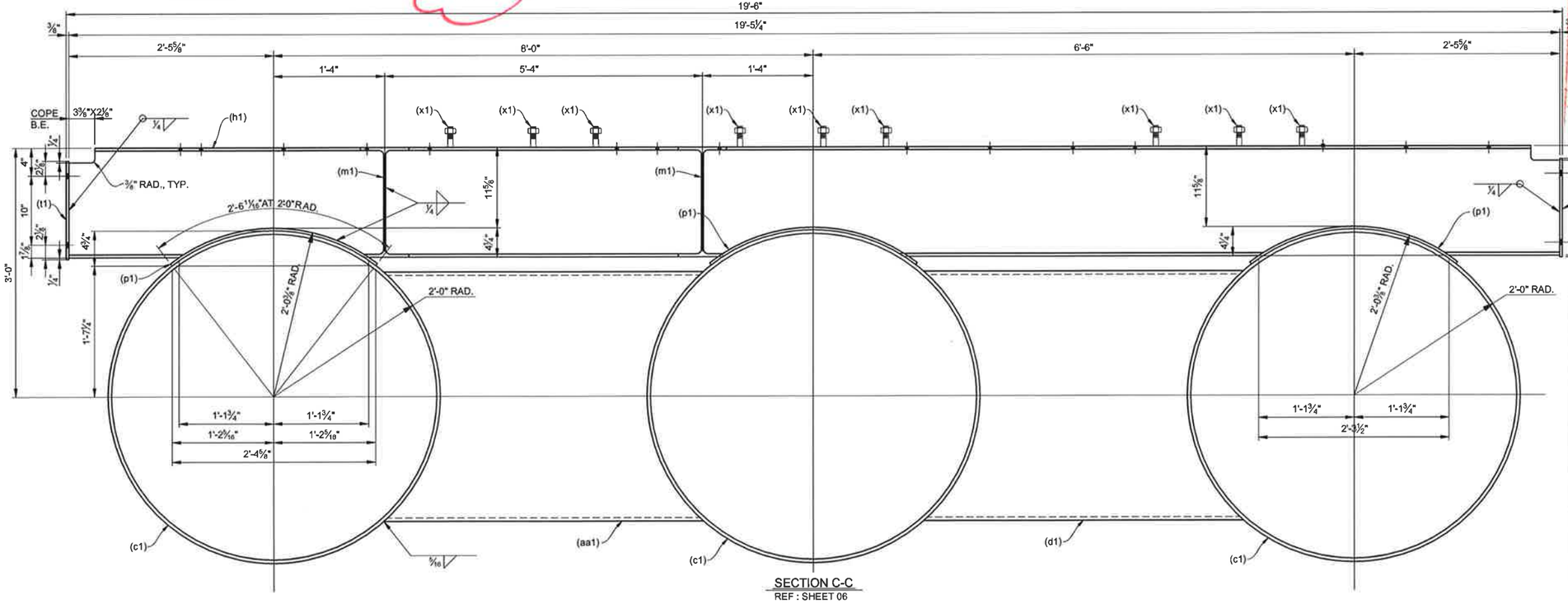


SECTION F-F

SECTION G-G

BILL OF MATERIAL

NO TO SHIP	SHIP MARK	PC MARK	NO. PCS	SECTION	LENGTH FT	LENGTH IN	REMARKS	UNIT WT	WEIGHT	PO NO
ONE	5A			FLOAT MODULE						
		a1	3	PL 2" X 57"	4	9				
		b1	3	PL 3/8" X 47 1/4"	3	11 1/4				
		c	3	48° X 3/8" PIPE	47	0 1/8				
		d1	3	36° X 3/8" PIPE	3	10 1/4				
		f1	5	W16X36	19	5 1/4	DETAIL 1 DWG. 10			
		g1	1		19	5 1/4	DETAIL 1 DWG. 11			
		h1	2		19	5 1/4	DETAIL 1 DWG. 12			
		k1	3		2	7 7/16				
		m1	4		5	3 5/8				
		p1	27	BAR 8" X 3/8"	2	6 15/16	ROLL			
		s1	9	PL 3/8" X 47 1/4"	3	11 1/4				
		t1	21	BAR 8" X 3/8"	1	2 1/4				
		v1	12	6° STD. PIPE	0	5	THD FOR PIPE CAP			
		w1	12	6° THD'D. PIPE CAP						
		y1	2	1/2° ALL-TH'D.	0	5	ST. ST.			
		x1	146	3/8° THD'D W.S.	0	1 1/2	ST. ST.			
			146	3/8° WASH			ST. ST.			
			146	3/8° NUTS			ST. ST.			
			4	1/2° NUTS			ST. ST.			
		a	1	W16 x 36	19	5 1/4	DETAIL 14 DWG. 11			
		aa1	3	36° X 3/8" PIPE	5	4 1/4				



SECTION C-C
REF : SHEET 06

WORK THIS DWG. WITH DWG. 5

NO	DESCRIPTION	DATE	BY
	REVISION		
2	REVISED PER APPROVAL	4-4-12	M.L.B.
1	REVISED PER APPROVAL	2-22-12	M.L.B.

CERT. WELDERS W.A.B.O.

PRINTS: DATE | REV. | APPVL | SHOP | FIELD

OPEN HOLES 13/16" Ø U.N. — EDGE & END DISTANCE U.N.

PAINT PER SPECS.

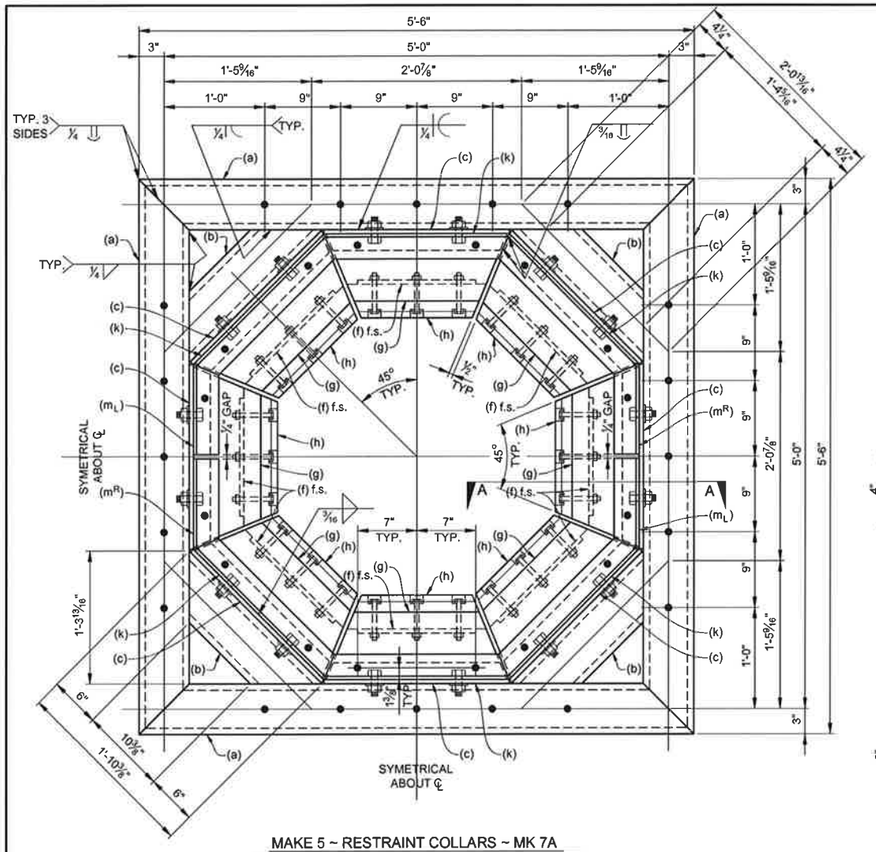
RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	FLOAT MODULE SECTIONS
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

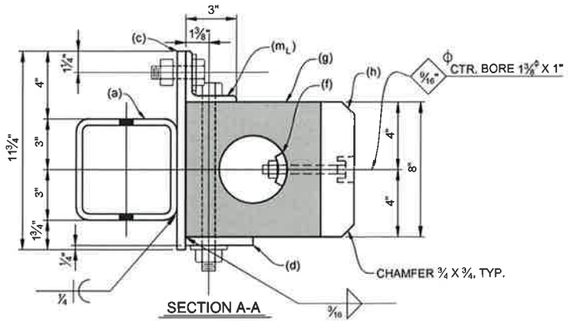
DRAWN BY	CHK'D BY	DATE	JOB NO.	DWG. NO	REV.
M.L.B.	J.M.R.	11-30-11	2892	6	2

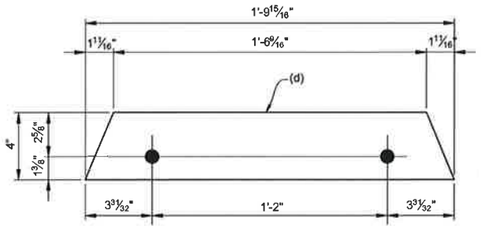
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering
CONTRACTOR SUBMITTAL REVIEW
Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication process or to techniques of construction and for coordination of the work of all trades.
ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION
Date 4-26-12 Project Engineer

MILL CERTS REQ'D.
MATERIAL:
PIPE : A252, GR. 3, OR SPIRAL
PLATE, WF, BAR, ANGLE : A36
ST. ST. : A276, TYPE 316

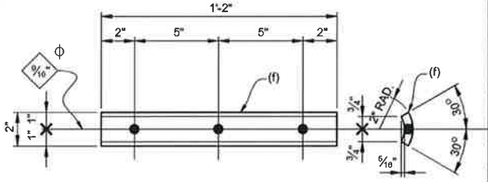


MAKE 5 ~ RESTRAINT COLLARS ~ MK 7A
REF : SHEET NO. 7

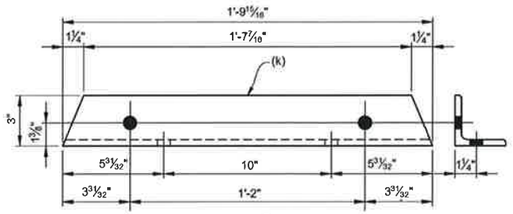




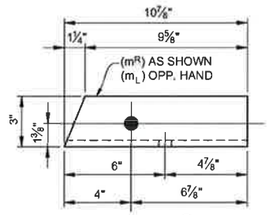
DETAIL ①



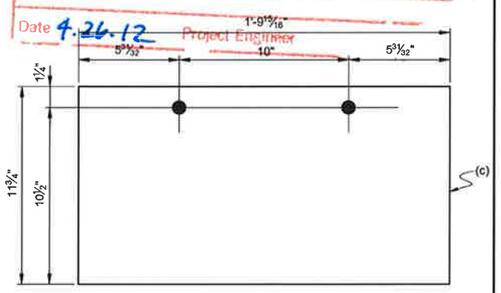
DETAIL ②



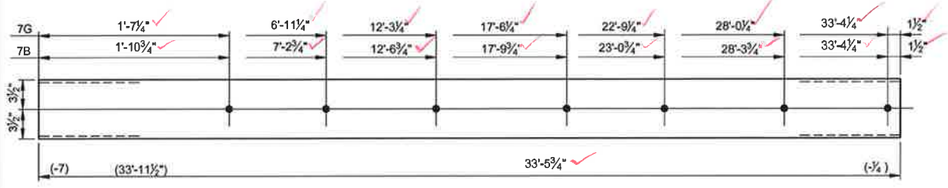
DETAIL ③



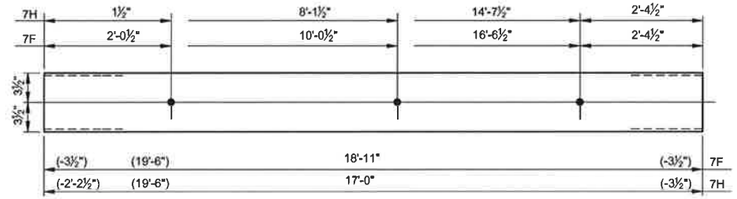
DETAIL ④



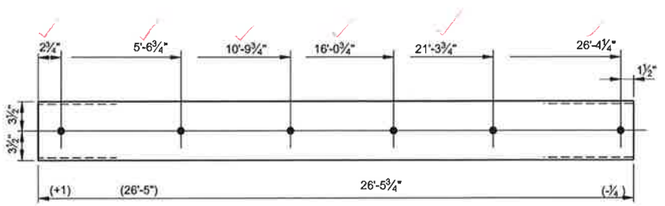
DETAIL ⑤



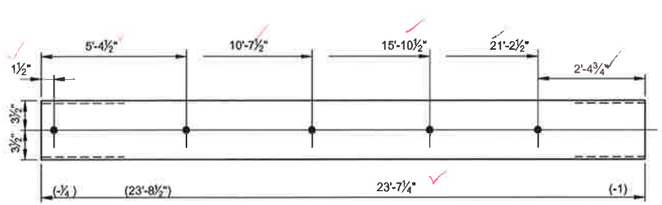
MAKE ONE ~ TS7X7X5⁄16 X 33'-5¾" ~ MK 7B
MAKE 2 ~ TS7X7X5⁄16 X 33'-5¾" ~ MK 7G
REF : SHEET NO. 6



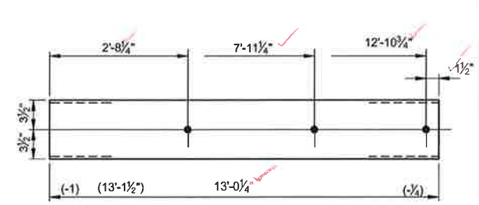
MAKE ONE ~ TS7X7X5⁄16 X 18'-11" ~ MK 7F
MAKE ONE ~ TS7X7X5⁄16 X 17'-0" ~ MK 7H
REF : SHEET NO. 6



MAKE ONE ~ TS7X7X5⁄16 X 26'-5¾" ~ MK 7C
REF : SHEET NO. 6



MAKE 2 ~ TS7X7X5⁄16 X 23'-7¼" ~ MK 7D
REF : SHEET NO. 6



MAKE 2 ~ TS7X7X5⁄16 X 13'-0¼" ~ MK 7K
REF : SHEET NO. 6

BILL OF MATERIAL

NO. TO SHIP	SHIP MARK	PC MARK	NO. PCS	SECTION	LENGTH FT	LENGTH IN	REMARKS	UNIT WT	WEIGHT	PO NO
5	7A			RESTRAINT COLLARS						
		a	20	TS6X6X3⁄8	5	6				
		b	20	TS6X6X3⁄8	1	10⅜				
		c	40	PL ½ X 11¾"	1	9¹⁵⁄₁₆	DETAIL 5			
		d	40	BAR 4" X ½"	1	9¹⁵⁄₁₆	DETAIL 1			
		f	40	PL ½ X 1¹³⁄₁₆	1	2	DETAIL 2			
		g	40	8"X8" RUBBER FENDER	1	9⁷⁄₁₆	80xSC			
		h	40	2"X8" RUBSTRIP	1	2¹³⁄₁₆	Ø80xUHMW - PE			
		k	30	L3X3X3⁄8	1	9¹⁵⁄₁₆	DETAIL 3			
		m_L^R 10/10		L3X3X3⁄8	0	10⅞	DETAIL 4			
			120	½"Ø H.S.B.	0	4½	A325, GALV.			
			80	¾"Ø H.S.B.	0	10	A325, GALV.			
			80	¾"Ø H.S.B.	0	2	A325, GALV.			
			160	¾"Ø HARD. WASH.			F436, GALV.			
			120	½"Ø HARD. WASH.			F436, GALV.			
ONE	7B			TS7X7X5⁄16	33	5¾				
2	7G			TS7X7X5⁄16	33	5¾				
ONE	7C			TS7X7X5⁄16	26	5¾				
2	7K			TS7X7X5⁄16	13	0¼				
ONE	7F			TS7X7X5⁄16	18	11				
ONE	7H			TS7X7X5⁄16	17	0				
2	7D			TS7X7X5⁄16	23	7¼				

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering
CONTRACTOR SUBMITTAL REVIEW
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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION
Date 4.26.12 Project Engineer

MILL CERTS REQ'D
MATERIAL:
BAR, PLATE : A36
TS : A500, GR. B

NO.	DESCRIPTION	DATE	BY
2	REVISED PER APPROVAL	4-4-12	M.L.B.
1	REVISED PER APPROVAL	2-21-12	M.L.B.
	REVISION		

CERT. WELDERS W.A.B.O.

PRINTS DATE	PRINTS REV.	APPVL.	SHOP	FIELD

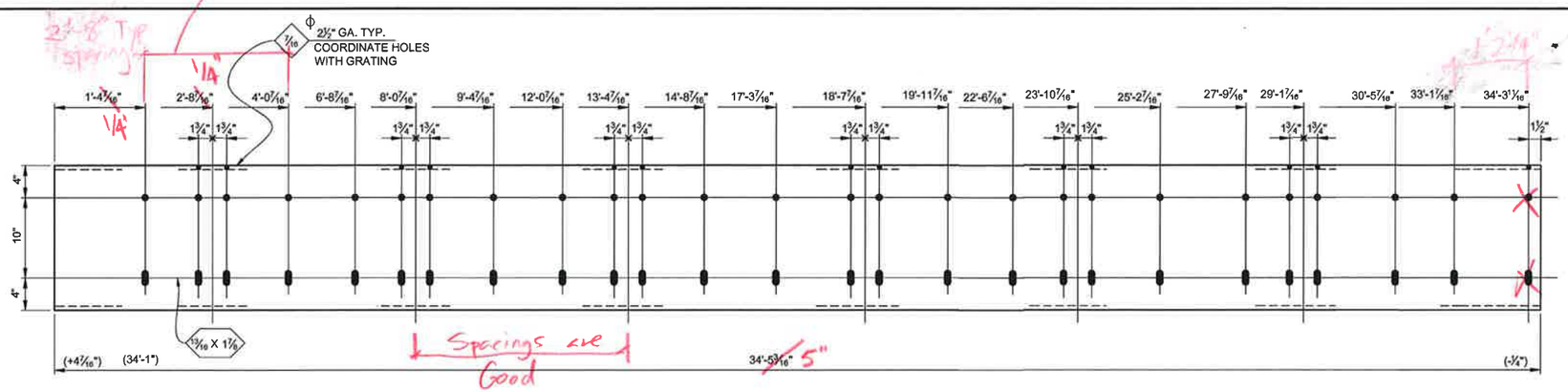
OPEN HOLES 13⁄16" Ø U.N. — EDGE & END DISTANCE U.N.
PAINT GALVANIZE

RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND ,WA. 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	RESTRAINT COLLARS & BULL RAIL
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

DRWN. BY	CHKD. BY	DATE	JOB NO.	DWG. NO.	REV.
M.L.B.	J.M.R.	11-16-11	2892	7	2

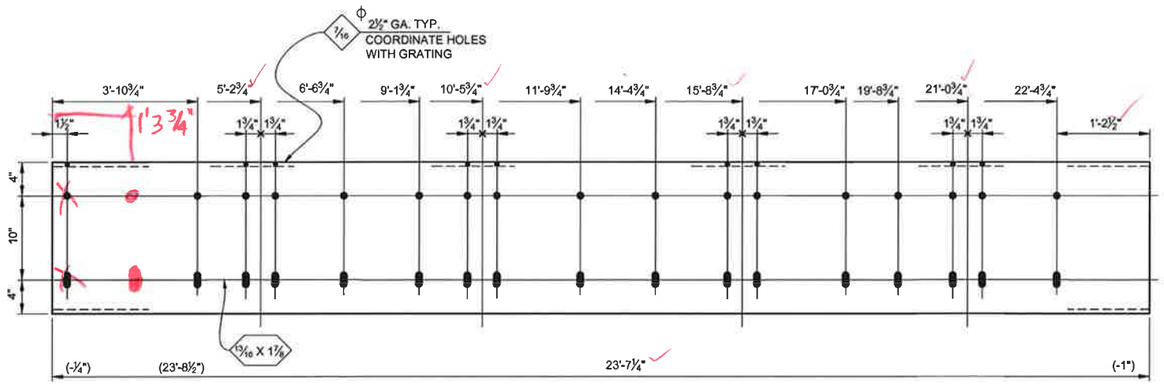
Spacings are good



MAKE 2 ~ AS SHOWN ~ MC18X42.7 X 34'-5 3/16" ~ MK 8A^{R}

MAKE 2 ~ OPP. HAND ~ MC18X42.7 X 34'-5 3/16" ~ MK 8A$_{L}$

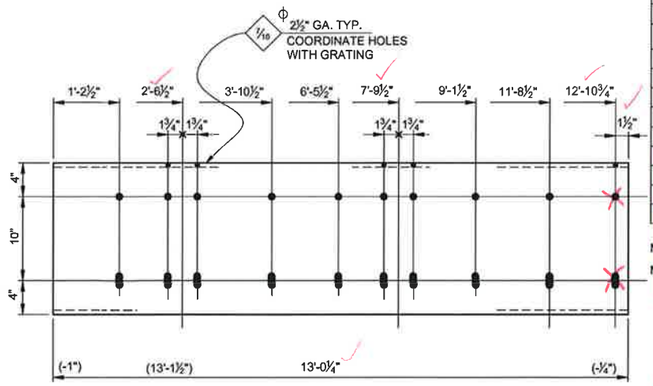
REF : SHEET NO. 6



MAKE ONE ~ AS SHOWN ~ MC18X42.7 X 23'-7¼" ~ MK 8B^{R}

MAKE ONE ~ OPP. HAND ~ MC18X42.7 X 23'-7¼" ~ MK 8B$_{L}$

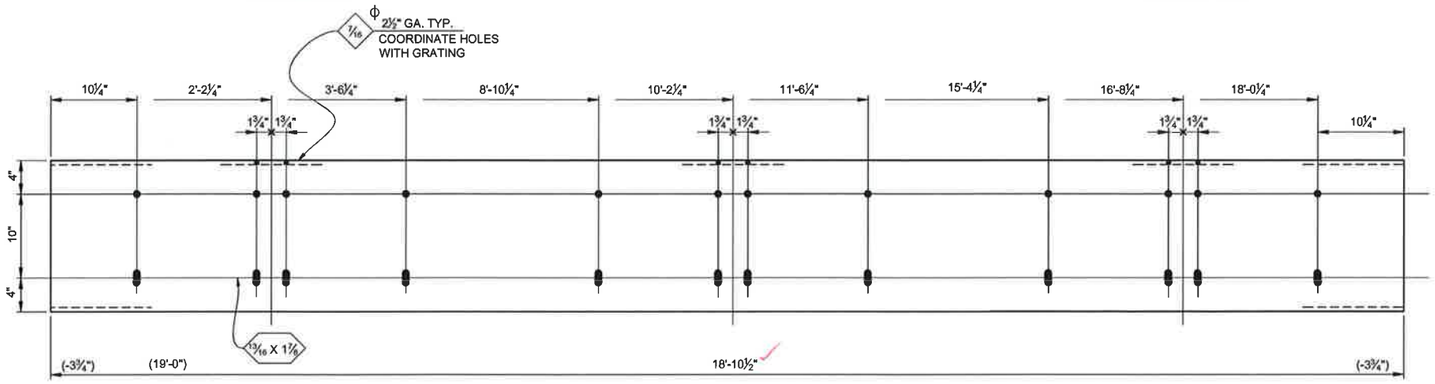
REF : SHEET NO. 6



MAKE ONE ~ AS SHOWN ~ MC18X42.7 X 13'-0¼" ~ MK 8D^{R}

MAKE ONE ~ OPP. HAND ~ MC18X42.7 X 13'-0¼" ~ MK 8D$_{L}$

REF : SHEET NO. 6



MAKE ONE ~ AS SHOWN ~ MC18X42.7 X 18'-10½" ~ MK 8C^{R}

MAKE ONE ~ OPP. HAND ~ MC18X42.7 X 18'-10½" ~ MK 8C$_{L}$

REF : SHEET NO. 6

BILL OF MATERIAL

NO TO SHIP	SHIP MARK	PC MARK	PO POS	SECTION	LENGTH FT	LENGTH IN	REMARKS	UNIT WT.	WEIGHT	PO NO
2	8A^{R}			MC18X42.7	34	5 5/16				
2	8A$_{L}$			MC18X42.7	34	5 5/16				
ONE	8B^{R}			MC18X42.7	23	7¼				
ONE	8B$_{L}$			MC18X42.7	23	7¼				
ONE	8C^{R}			MC18X42.7	18	10½				
ONE	8C$_{L}$			MC18X42.7	18	10½				
ONE	8D^{R}			MC18X42.7	13	0¼				
ONE	8D$_{L}$			MC18X42.7	13	0¼				
				FIELD BOLT LIST: FOR DWG. E-1 :						
72				2" H.S.B.	0	6½	A449, GALV.			
184				¾"H.S.B.	0	2	A325, GALV.			
100				¾"H.S.B.	0	7¾	A325, GALV.			
49				¾" ECON. HD. BOLTS	1	1¾	NO LUGS, GALV.			
72				2" HARD. WASH			F436, GALV.			
329				¾" HARD. WASH			F436, GALV.			

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

MILL CERTS REQ'D.

MATERIAL :
CHANNEL : A36

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction and for coordination of the work of all trades.

ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

NO	DESCRIPTION	DATE	BY
2	REVISED PER APPROVAL	4-5-12	M.L.B.
1	REVISED PER APPROVAL	2-21-12	M.L.B.

REVISION

CERT. WELDERS: W.A.B.O.

PRINTS: DATE, REV. | APPVL. | SHOP | FIELD

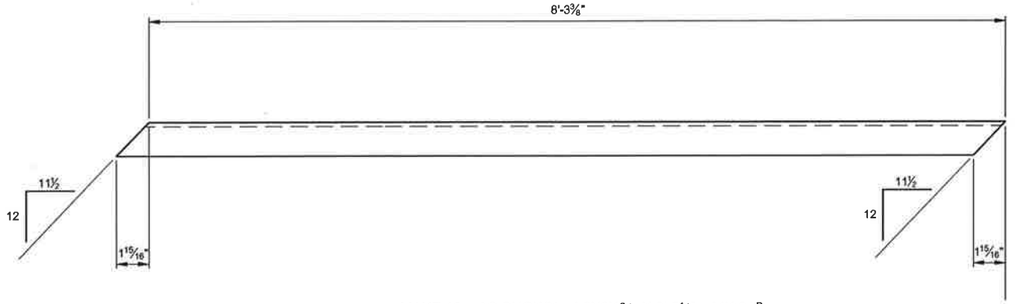
OPEN HOLES 13/16" Ø U.N. — EDGE & END DISTANCE U.N.

PAINT GALVANIZE

RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND ,WA. 98052
(425) 868 - 1300 FAX (425) 868 - 6872
STEEL AND ALUMINUM FABRICATING

ITEM	BUMPER RAIL
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

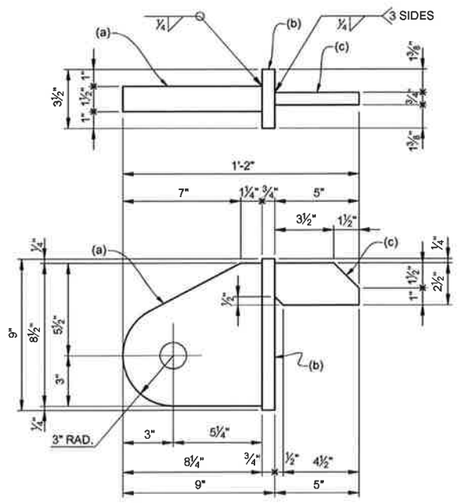
DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO.	REV.
M.L.B.	J.M.R.	11-18-11	2892	8	2



MAKE 12 ~ AS SHOWN ~ L2X2X3/16 X 8'-5⅛" ~ MK 9A^{R}

MAKE 12 ~ OPP. HAND ~ L2X2X3/16 X 8'-5⅛" ~ MK 9A$_{L}$

REF : SHEET NO. 13



MAKE 2 ~ PADEYE ASSEMBLIES ~ MK 9B

REF : SHEET NO. 13

BILL OF MATERIAL

NO. TO SHIP	SHIP MARK	PC MARK	NO. PCS.	SECTION	LENGTH FT	LENGTH IN	REMARKS	UNIT WT.	WEIGHT	PO NO
12	9A^{R}			LX2X2X3/16	8	5⅛				
12	9A$_{L}$			LX2X2X3/16	8	5⅛				
2	9B			PADEYE ASSEMBLIES						
		a	2	PL 1½ " X 8¼"	0	8½				
		b	2	BAR 3½" X ¾"	0	9				
		c	2	BAR 2½" X ¾"	0	5				

MILL CERTS REQ'D.

MATERIAL :

PLATE, ANGLE : A36

Previously Reviewed

NO.	DESCRIPTION	DATE	BY
	REVISION		

CERT. WELDERS W.A.B.O.

PRINTS: DATE | REV. | APPVL | SHOP | FIELD

OPEN HOLES 1 9/16 Ø U.N.

EDGE & END DISTANCE U.N.

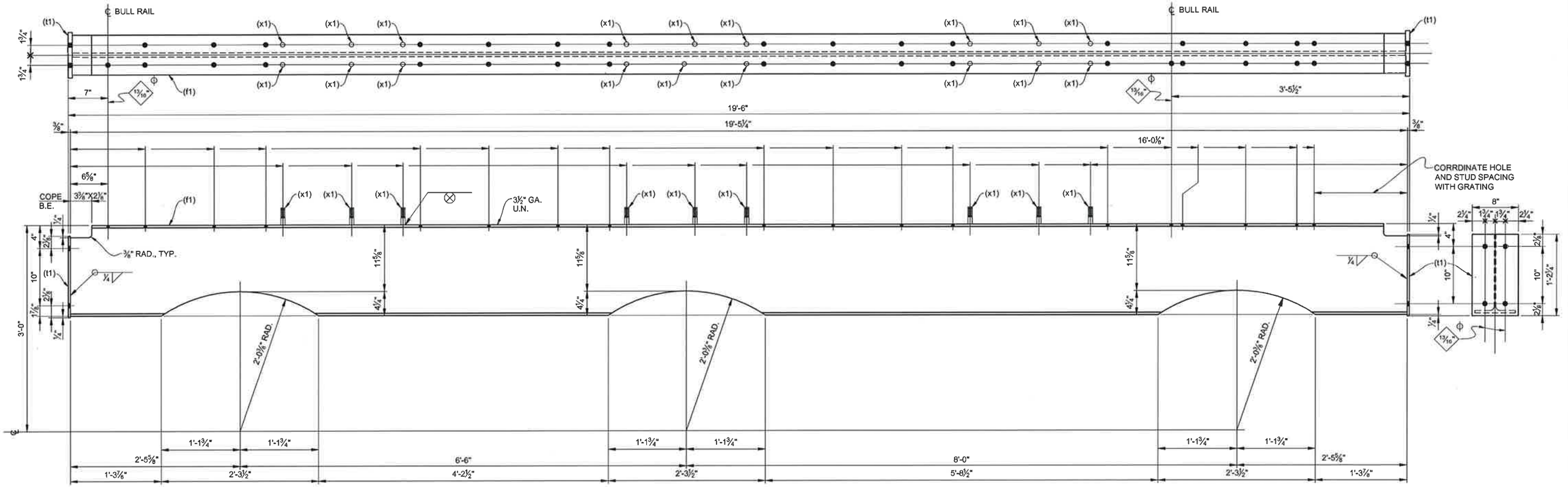
PAINT GALVANIZE

RAINIER WELDING

19020 N.E. 84TH STREET - REDMOND ,WA 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	BUMPER RAIL
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO.	REV.
M.L.B.	J.M.R.	11-22-11	2892	9	



DETAIL ①

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

WORK THIS DWG. WITH DWGS. 1 & 2

NO.	DESCRIPTION	DATE	BY
1	REVISED PER APPROVAL	4-5-12	M.L.B.

REVISION

CERT. WELDERS W.A.B.O.

PRINTS		APPVL.	SHOP	FIELD
DATE	REV.			

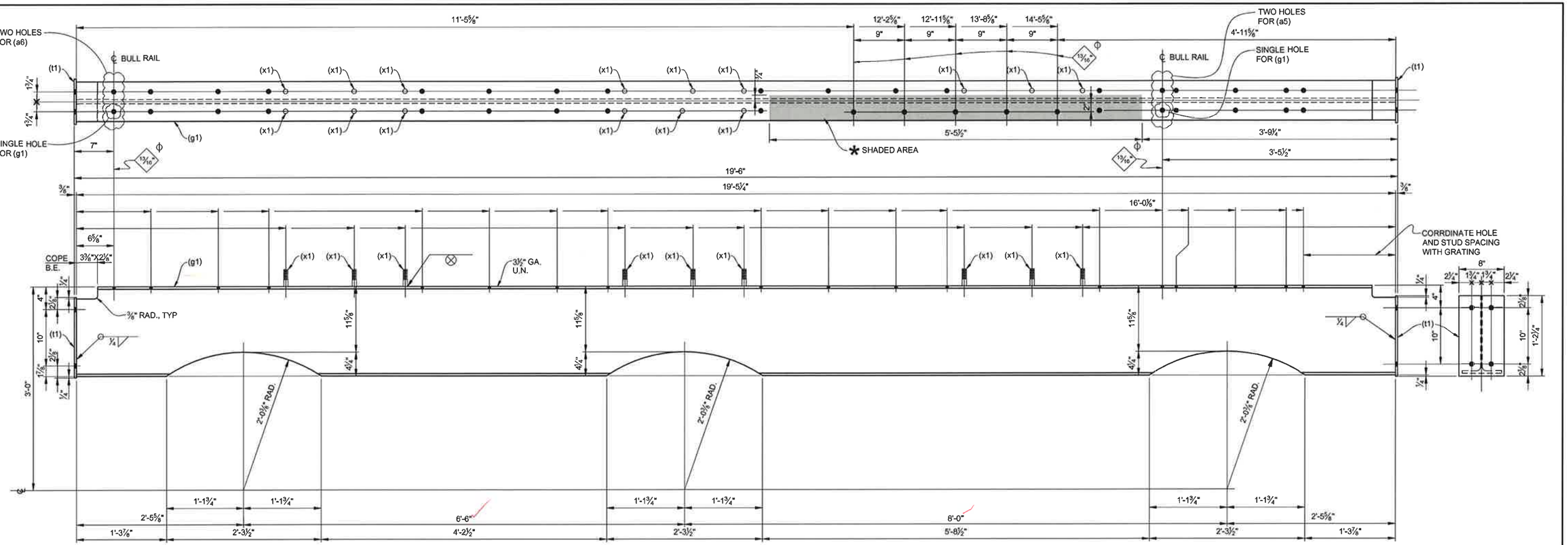
OPEN HOLES 13/16" Ø U.N. — EDGE & END DISTANCE U.N.

PAINT PER SPECS.

RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA. 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	DECK BEAM (f1)
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO	REV.
M.L.B.	J.M.R.	11-28-11	2892	10	1



DETAIL ① - (g1)

DETAIL ⑭ - (a6)

SHOP NOTE:

(g1) AND (a6) ARE IDENTICAL EXCEPT FOR THE SINGLE HOLE AT EACH END AT THE BULL RAIL FOR (g1), OR THE TWO HOLES AT EACH END AT THE BULL RAIL FOR (a5).

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

"*" INDICATES "FAYING SURFACE TO HAVE THERMAL SPRAY METALLIC COATING ONLY" - NO PAINT, TO 12 MILS D.F.T.

WORK THIS DWG. WITH DWGS. 1, 2, 3, 4, 5 & 6

NO	DESCRIPTION	DATE	BY
	REVISION		
2	REVISED PER APPROVAL	4-5-12	M.B.
1	ADDED DETAIL 14	2-27-12	M.R.

CERT. WELDERS W.A.B.O.

PRINTS DATE	PRINTS REV.	APPVL.	SHOP	FIELD

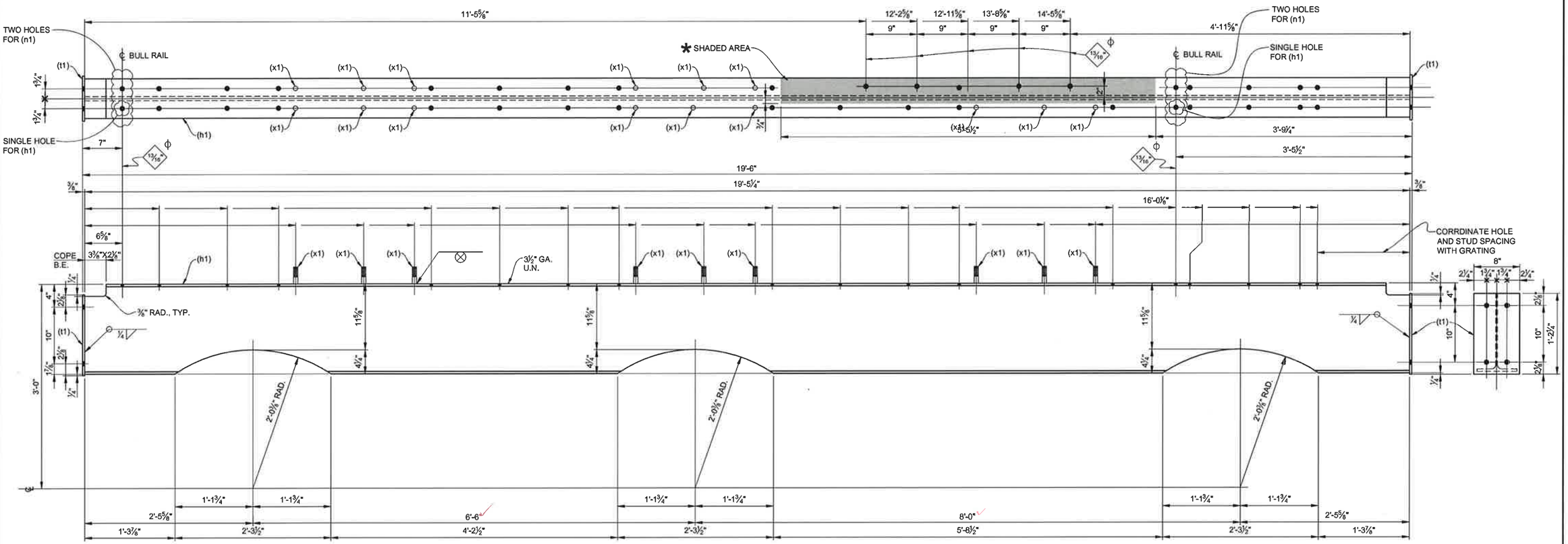
OPEN HOLES 7⁄16" Ø U.N. — EDGE & END DISTANCE U.N.

PAINT PER SPECS

RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA. 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	DECK BEAMS (g1) AND (a6)
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

DRWN. BY	CHKD. BY	DATE	JOB NO.	DWG. NO	REV.
M.L.B.	J.M.R.	11-29-11	2892	11	2



DETAIL ① - (h1)

DETAIL ⑬ - (n1)

SHOP NOTE:

(h1) AND (n1) ARE IDENTICAL EXCEPT FOR THE SINGLE HOLE AT EACH END AT THE BULL RAIL FOR (h1), OR THE TWO HOLES AT EACH END AT THE BULL RAIL FOR (n1).

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

"✱" INDICATES "FAYING SURFACETO HAVE THERMAL SPRAY METALLIC COATING ONLY" - NO PAINT, TO 12 MILS D.F.T.

WORK THIS DWG. WITH DWGS. 1, 2, 3, 4, 5 & 6

NO.	DESCRIPTION	DATE	BY
2	REVISED PER APPROVAL	4-5-12	M.B.
1	ADDED DETAIL 13	2-27-12	M.R.

REVISION

CERT. WELDERS W.A.B.O.

PRINTS DATE	PRINTS REV.	APPVL.	SHOP	FIELD

OPEN HOLES 1/16" Ø U.N. — EDGE & END DISTANCE U.N.

PAINT PER SPECS.

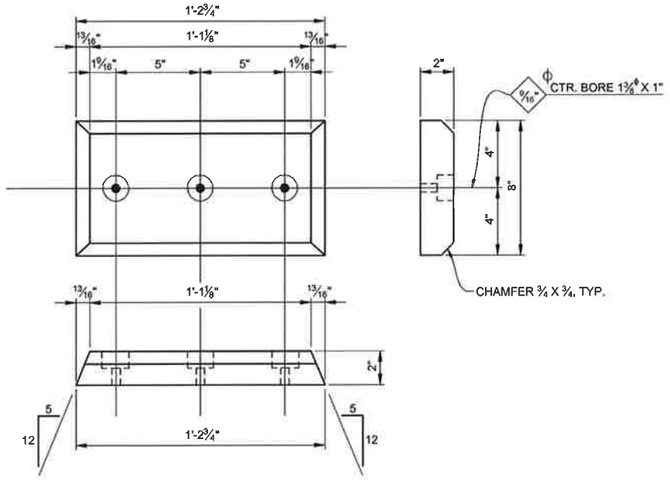
RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND ,WA. 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM	DECK BEAMS (h1) AND (n1)
JOB	KASAAN HARBOR IMPROVEMENTS
LOCATION	KASAAN, ALASKA
CONTR.	POOL ENGINEERING

DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO	REV.
M.L.B.	J.M.R.	11-29-11	2892	12	2

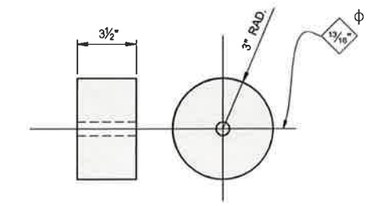
BILL OF MATERIAL

NO TO SHIP	SHIP MARK	PC MARK	NO PCS	SECTION	LENGTH FT	LENGTH IN	REMARKS	UNIT WT.	WEIGHT	PO NO
40	13A			2"X 8" RUB STRIPS	1	2¾	UMHW			
41	13B			6"x 3½" SCUPPER BLOCKS	0	6	UMHW			
4	13C			6" x 3½" SCUPPER BLOCKS	0	9½	UMHW			



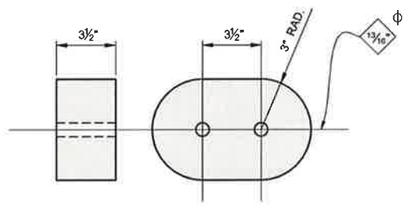
MAKE ~ 40 ~ UMHW RUB STRIPS ~ MK 13A

REF : C/ 07, PART (h7)



MAKE ~ 41 ~ UMHW SCUPPER BLOCKS ~ MK 13B

REF : UHMW SCUPPER BLOCK SHEET 06



MAKE ~ 4 ~ UMHW SCUPPER SPLICE BLOCKS ~ MK 13C

REF : UHMW SCUPPER BLOCK SHEET 06

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction and for coordination of the work of all trades.

ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 4.26.12 Project Engineer

NO	DESCRIPTION	DATE	BY
	REVISION		
1	REVISED PER APPROVAL	2-22-12	M.L.B.

CERT. WELDERS W.A.B.O.

PRINTS DATE	PRINTS REV.	APPVL	SHOP	FIELD

OPEN HOLES 13/16" Ø U.N. — EDGE & END DISTANCE U.N.

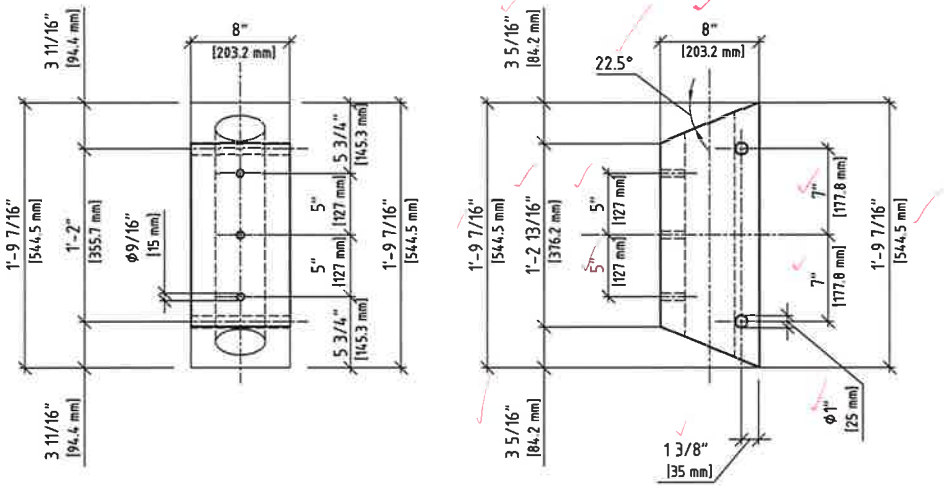
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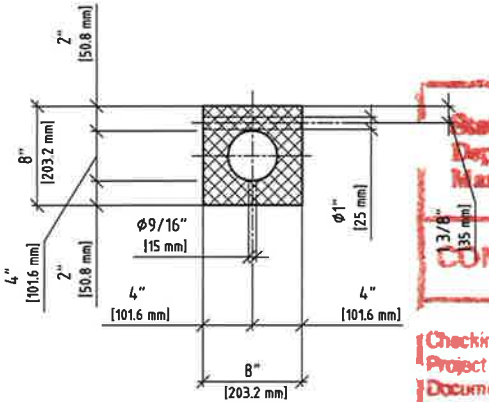
RAINIER WELDING
19020 N.E. 84TH STREET - REDMOND, WA. 98052
(425) 868 - 1300 FAX (425) 868 - 8872
STEEL AND ALUMINUM FABRICATING

ITEM UHMW RUB STRIP & SCUPPER BLOCKS
JOB KASAAN HARBOR IMPROVEMENTS
LOCATION KASAAN, ALASKA
CONTR. POOL ENGINEERING

DRWN. BY	CHK'D. BY	DATE	JOB NO.	DWG. NO.	REV.
M.L.B.	J.M.R.	12-23-11	2892	13	1

① 80xSC-Fender 8"x8"x1'-9 7/16"
Rubber





Tolerances:
Length: 0/+40mm
Cross section: +/-4%
Drillings: +/-2mm not cumulative
Material: NR/ SBR

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

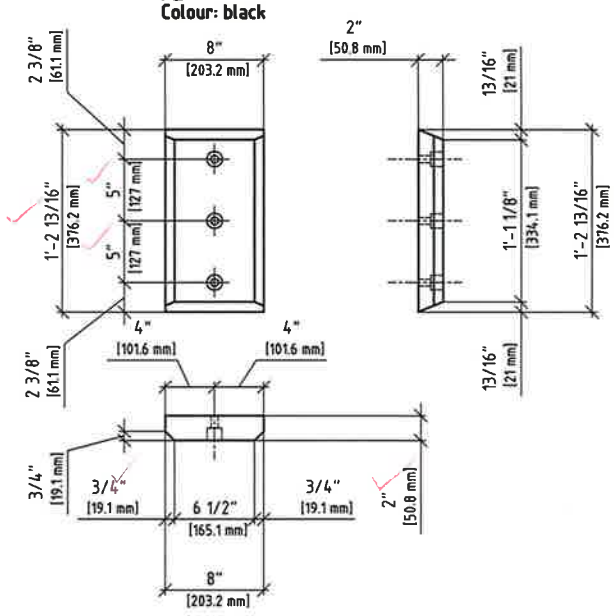
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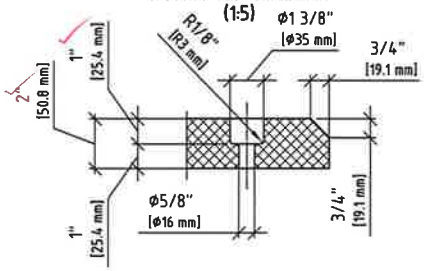
ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 1/6/12 Project Engineer

② 80xUHMW-PE 2"x1'-2 13/16"x8"
FQ
Colour: black



typical for all parts
(1:5)



Index	Amendment	Name	Date

All tolerances acc. to Fenderteam catalogue edition 04/2011 - Alle Toleranzen gemäß Fenderteam-Katalog Ausgabe 04/2011

Project: **Kasaan Harbour Improvements - AK**
SC-Fender 8"x8" with UHMW-PE 2"
Fender and UHMW-PE

© This drawing is allowed to be used for its intended purpose only. Handing out to a third person is not permitted, nor its usage for other purposes. It shall not be copied or stored electronically without prior agreement of the owner.

Fender Team
on the safe side
FenderTeam Americas Inc.
44084 Riverside Parkway - Lansdowne, VA 20176 - USA
Phone: + 1 (571) 281-3770 - Fax: + 1 (571) 223-3267

INGENIEURBÜRO ROSSBURGER
Dipl.-Ing. Peter Roßburger
-Beratender Ingenieur für Bauwesen-
Tarpen 40 - Haus 1b, 22419 Hamburg / Germany
Tel. +49-(0)40-20 90 764 90, info@rossburger.eu

Drawn:	OR	26.10.11
Designed:		
Checked:	PR	26.10.11
Scale:	1:10/5	Size: A3
Drawing-No.:	FTA-0074-001	

Fender Team

on the safe side

Physical Properties of UHMW-PE

UHMW-PE (ASTM D-4020) is characterised by corrosion resistance, water resistance, as well as high impact strength even with very low temperatures and UV-stabilized. The material offers a combination of low friction together with high wear resistance. Consequently, UHMW-PE material is most suitable for marine application.

PROPERTY	STANDARD	VIRGIN MATERIAL	RECLAIMED MATERIAL	UNIT
Density	ASTM D-792	0,93~0,94	0,94~0,96	g/cm^3
Molecular Weight	Viscosimetric Method	~5.000.000	~4.000.000	g/mol
Friction Coefficient	ASTM D-1894	0,13~0,20	0,15~0,20	-
Ultimate Tensile Strength	ASTM D-638	5,800	4800	psi
Break Elongation	ASTM D-638	400	350	%
Hardness	ASTM D-2240	63-66	64~63	Shore D
Izot Impact	ASTM D-256	34	24	ft-lb/sqin
Abrasion (Steel = 100)		10	15	
Temperature Range	-	(-112 up to +176)	(-112 up to +176)	°F
Water Absorption	ASTM D-570	Nil	Nil	
Coefficient of Linear Expansion	DIN 53752	~2 x 10^{-4}	~1,8 x 10^{-4}	k^{-1}

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 1/6/12 Project Engineer

POOL
ENGINEERING, INC.

Engineers & Constructors

P.O. Box 6000 • Ketchikan, Alaska 99901 • Ph: (907) 225-6684
Contractors License Number: AA-1946 • Fx: (907) 225-1893

TRANSMITTAL

TO:	**State of Alaska DOT & PF, Southeast Region** 6860 Glacier Highway Juneau, AK 99801-7999	DATE:	**November 8, 2011**
		RE:	**Revised Shop Dwgs for Gangway, Trans. Plates & Fish Table**
ATTN:	**Mr. Kraig Norheim** Ph: **907.465.2392** Fx: **206.448.9076**	PROJECT:	**Kasaan Harbor Improvements ADOT & PF Project No. 67953**

WE ARE SENDING YOU: ☒ Herewith ☐ Under Separate Cover ☐ _____

Submittal No. 06-02 ☒ Submittal ☐ Shop Drawings ☐ Cert's ☐ Other

QTY	DESCRIPTION
1	Revised Shop Drawings for 6' x 80' Aluminum Gangway to be Fabricated by Mantle Industries, Inc.
1	

THESE ITEMS TRANSMITTED AS CHECKED BELOW:

☒	For approval. Please return this many copies:	1	☐	For your general information.
☐	Revised for approval. Please return this no. copies:		☐	For your use as requested
☐	Please submit a Proposal on work indicated as being revised		☐	For your files
☐	For your general information.		☐	For your review and comments.
☐	Approved as Noted (AAN).		☐	Returned for Corrections (RFC).
☐	Approved as Submitted (AAS).		☐	For your signature and return
☐	For construction use, proceed immediately		☐	For:

REMARKS: **These Drawings have been revised per ADOT's Comments on Submittal No. 06-01**

COPY TO: Project File

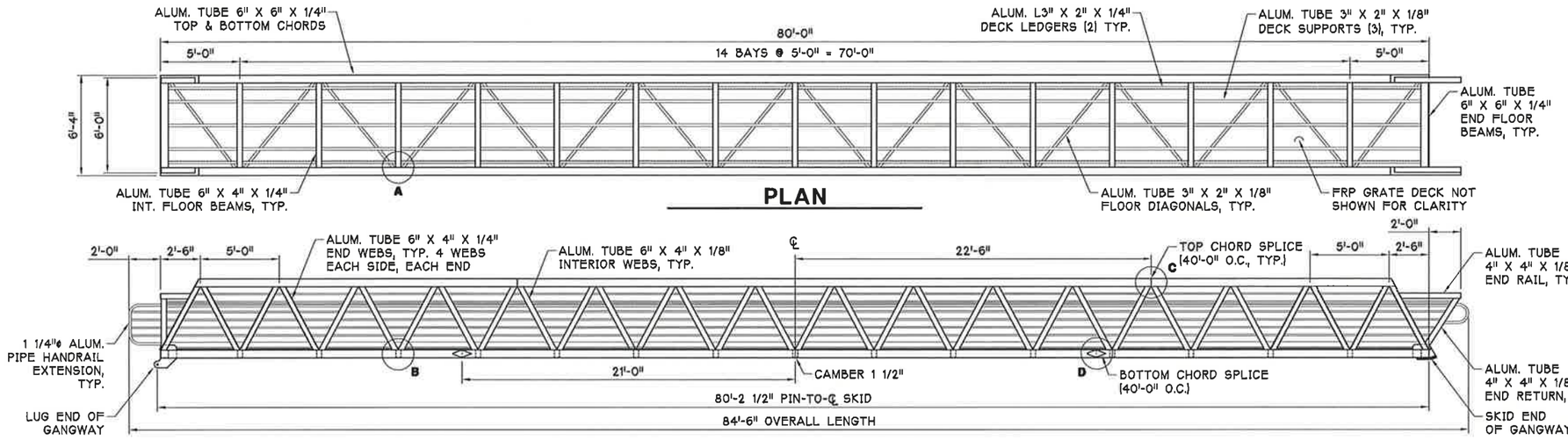
Chuck Pool – Superintentdent, POOL Engineering, Inc.

John Pool – Vice President, POOL Engineering, Inc.

Sincerely,

Grant Pool

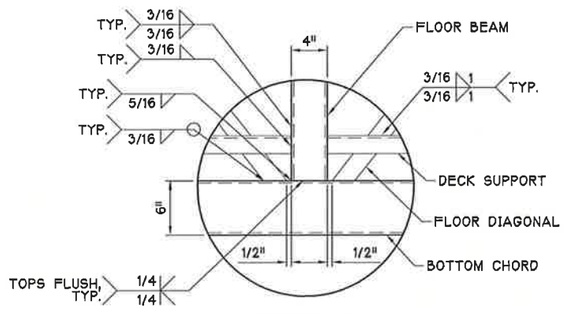
Grant Pool, Project Engineer



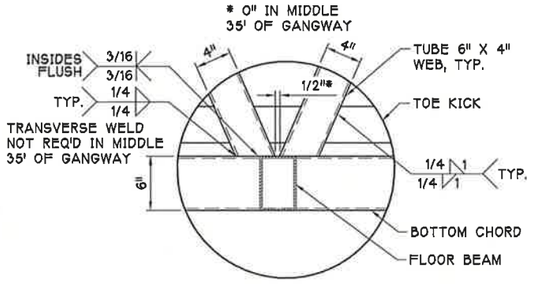
PLAN

ELEVATION

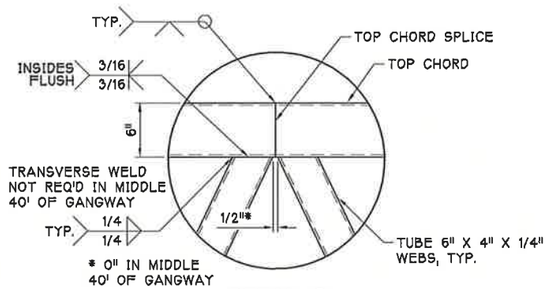
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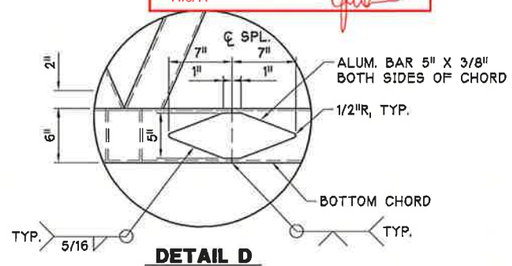
DETAIL A



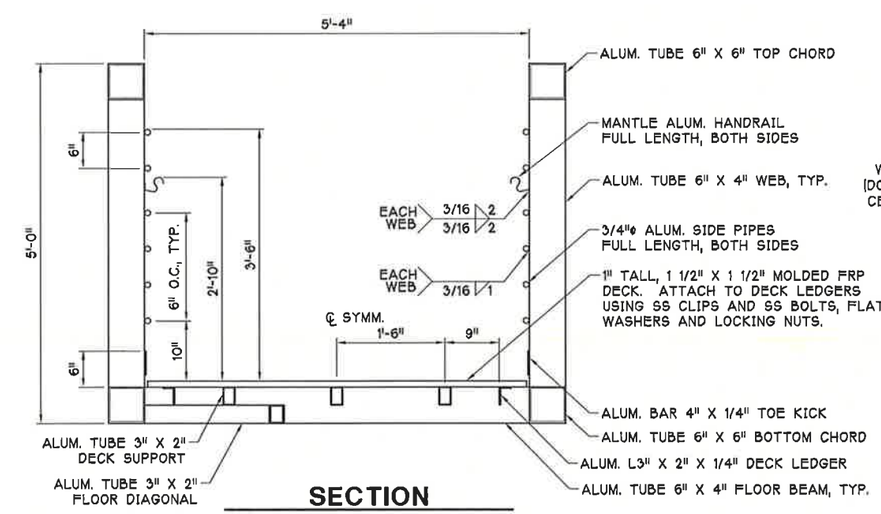
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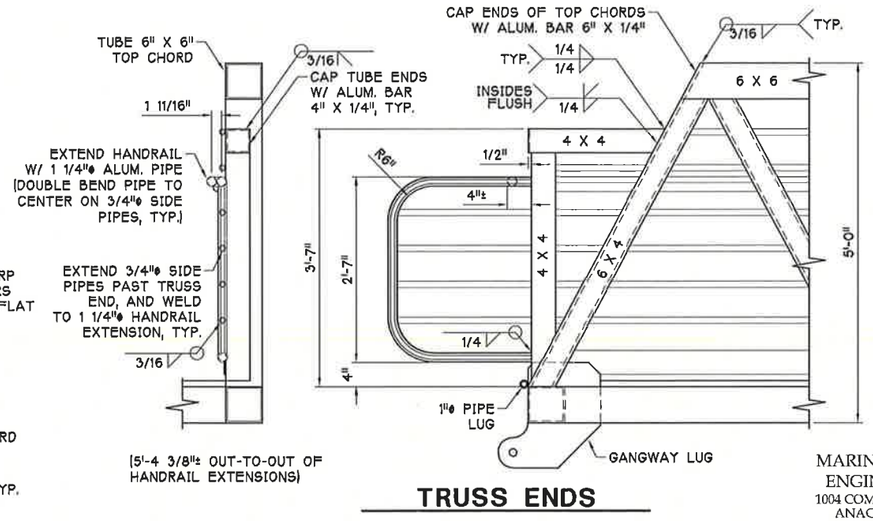
DETAIL C



DETAIL D



SECTION



TRUSS ENDS

DESIGN NOTES

DESIGN OF GANGWAY ASSUMES THAT THE APPROACH PIER AND LANDING FLOATS (BY OTHERS) ARE ADEQUATE FOR THE SAFE AND STABLE SUPPORT OF THE GANGWAY.

ALL WELDING SHALL BE PERFORMED IN CONFORMANCE WITH THE LATEST AWS D1.1 (STEEL) OR D1.2 (ALUMINUM) WELDING CODES BY CERTIFIED STRUCTURAL WELDERS.

ALL ALUMINUM IS ALLOY 6061-T6 EXCEPT AS NOTED.

ALL CARBON STEEL SHALL BE ASTM A36 AND SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

ESTIMATED (FLOAT END) DEAD LOAD REACTION OF THE GANGWAY (INCL. SKIDR GUIDES) IS 3,600 LBS.

SHIPPING WEIGHT, (INCL. SHORE MOUNT) IS 6,877 LBS.

DESIGN LIVE LOAD REACTION IS 19.2 KIPS. (VERTICAL)

DESIGN WIND LOAD REACTION IS 3.25 KIPS (HORIZONTAL)

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/8/11 Project Engineer

DESIGN CRITERIA

APPLICABLE CODE: 2009 INTERNATIONAL BUILDING CODE.

DEAD LOAD: ALL STRUCTURE PLUS 20 PPF UTILITY

LIVE LOAD: 90 PSF (UNIFORM) OR 1,000 LBS (ON 1 SF)

WIND LOAD: IBC 100 MPH, EXP. 'D'

SNOW LOAD: 85 PSF (NON-CONCURRENT W/ LIVE LOAD)

STATE OF ALASKA — KELLY S. LAFAVE — No. CE 9668 — REGISTERED PROFESSIONAL ENGINEER — 07 NOV 11

EXPIRES: 12/31/11

REVISED
07 NOV 11

MARINE STRUCTURES ENGINEERING, INC.
1004 COMMERCIAL AVE. #364
ANACORTES, WA 98221

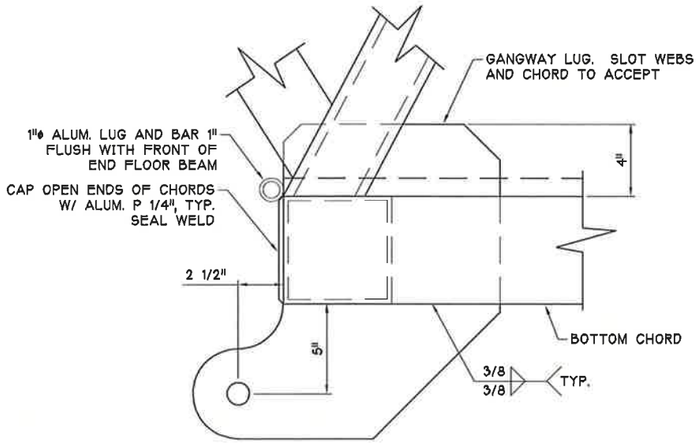
MANTLE INDUSTRIES INC. PH (360) 332-5276
1100 YEW AVENUE, BLAINE, WASHINGTON 98230

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DATE: OCT '11		REVISED: NOV '11

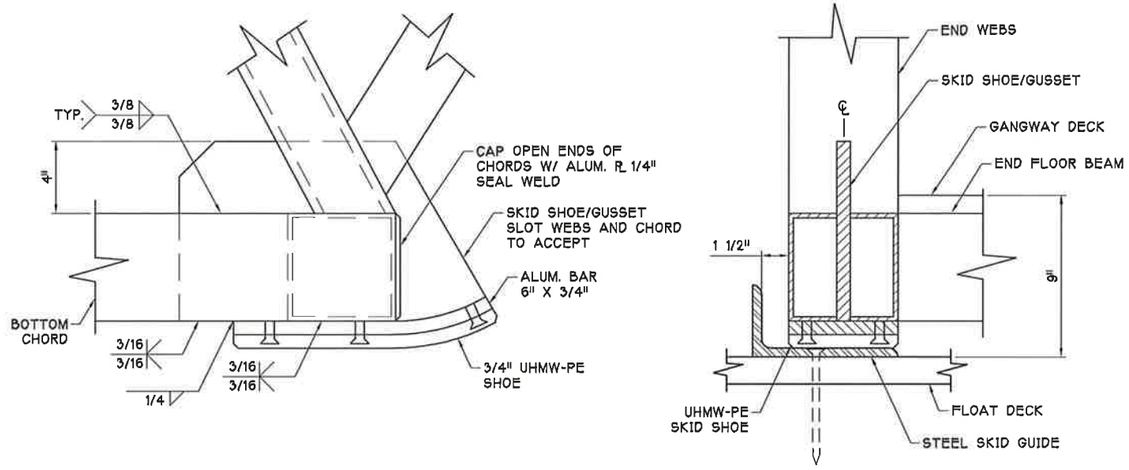
KASAAN HARBOR IMPROVEMENTS PROJECT #67953

5'-4" X 80' ALUMINUM GANGWAY PLAN, ELEVATION, SECTION & DETAILS — DRAWING NUMBER 1 OF 4

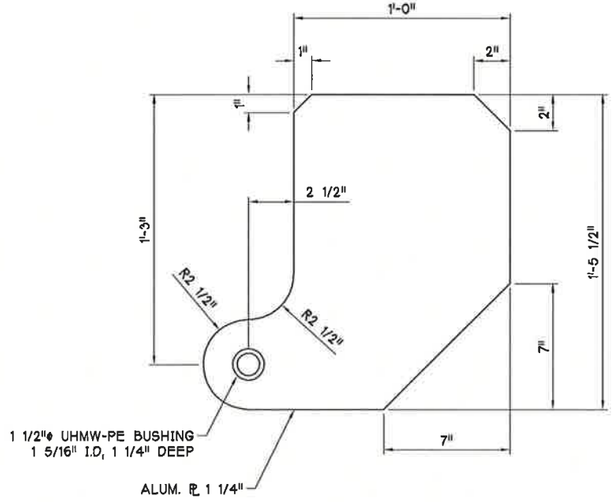
1245-KASAAN-80\GANG5X80.DWG
07 NOVEMBER 2011



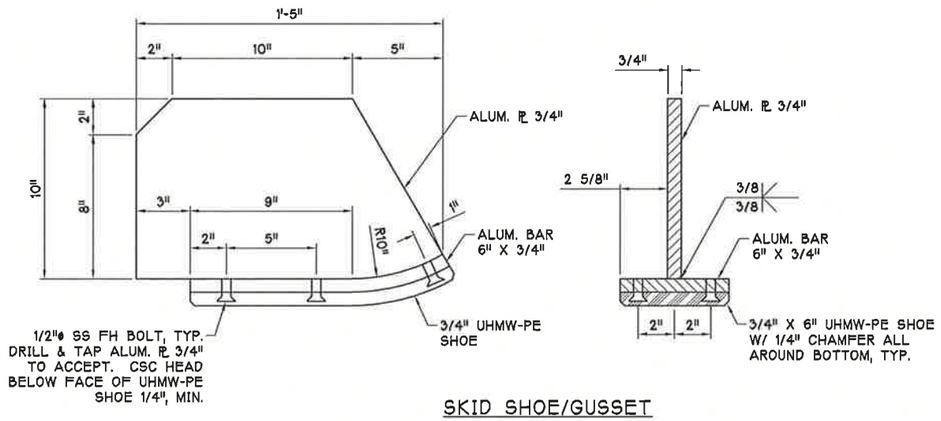
GANGWAY LUG ASSY.



SKID SHOE/GUSSET ASSY.



GANGWAY LUG
MAKE 2



SKID SHOE/GUSSET
MAKE 2

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

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ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/8/11 Project Engineer

REVISED
07 NOV 11

STATE OF ALASKA
GREGORY D. LAFAVE
No. CE 9668
REGISTERED PROFESSIONAL ENGINEER
07 NOV 11

EXPIRES: 12/31/11

MANTLE INDUSTRIES INC. PH (360) 332-5278
1100 YEW AVENUE, BLAINE, WASHINGTON 98230

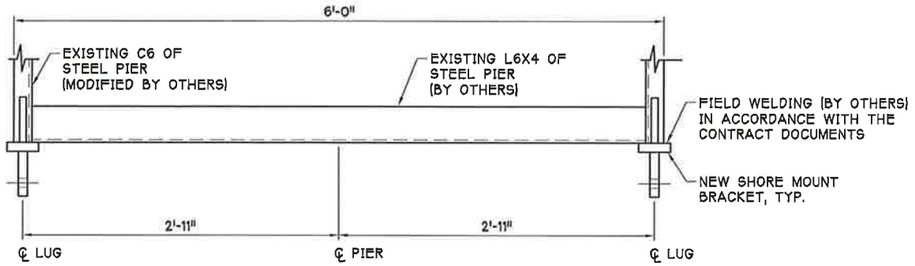
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DATE: OCT '11		REVISED: NOV '11

KASAAN HARBOR IMPROVEMENTS
PROJECT #67953

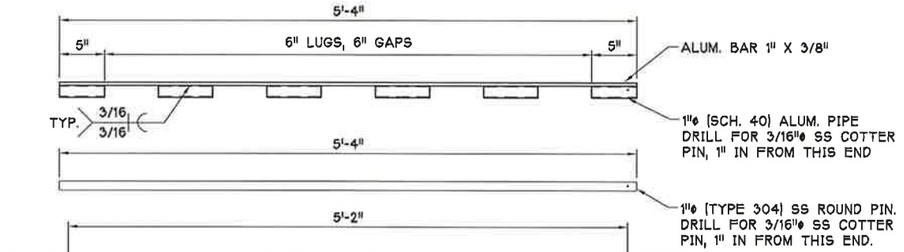
5'-4" X 80' ALUMINUM GANGWAY
LUG AND GUSSET/SKID SHOE DETAILS

DRAWING NUMBER 2 OF 4

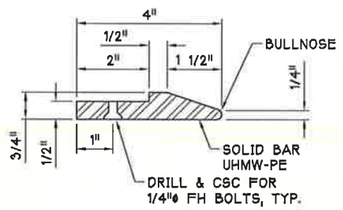
1245-KASAAN-80GANG5X80.DWG
07 NOVEMBER 2011



PIER MOUNT



COVER PLATE



WEAR EDGE

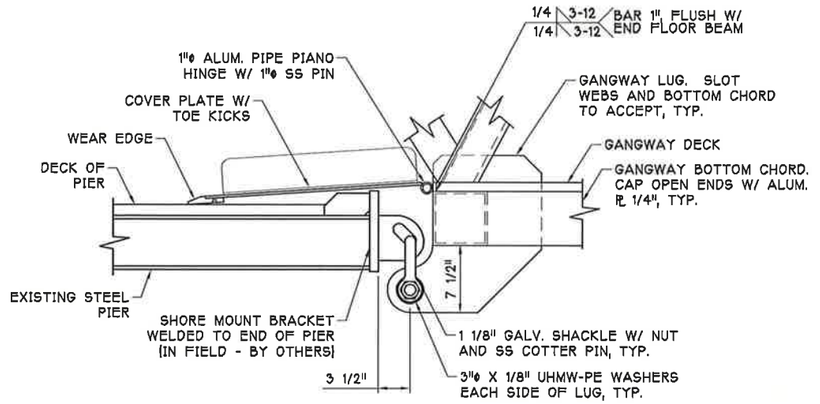
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

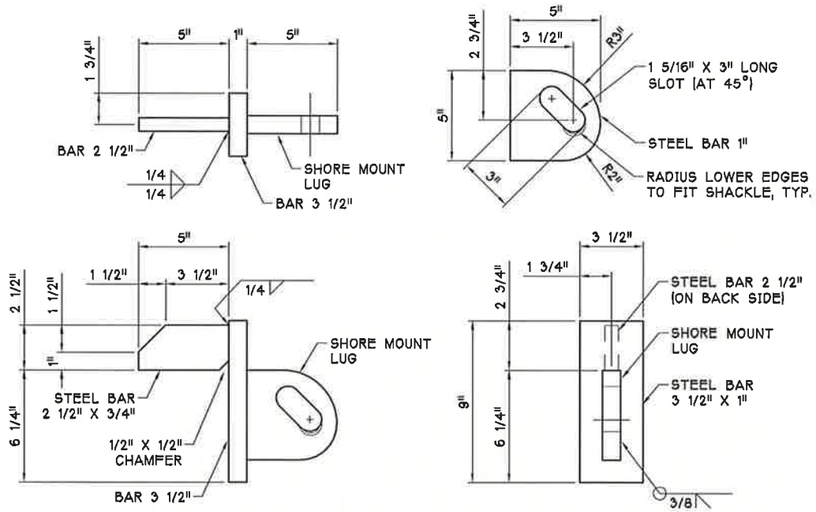
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ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/8/11 Project Engineer



PIER END ASSEMBLY



SHORE MOUNT BRACKETS

MAKE 2
HOT DIP GALVANIZE AFTER FAB

STATE OF ALASKA
GARY D. LAFAVE
No. CE 9068
REGISTERED PROFESSIONAL ENGINEER
21 OCT 11
EXPIRES: 12/31/11

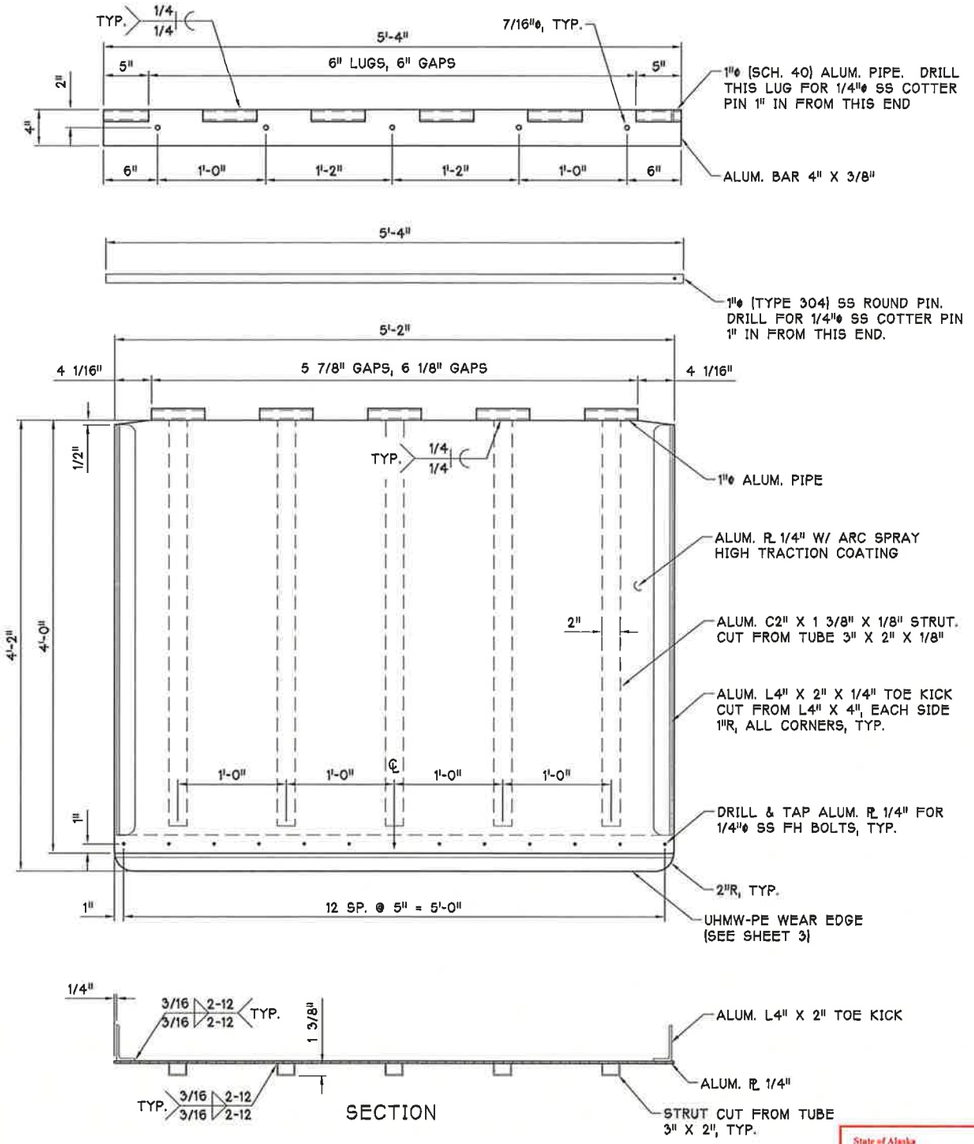
MANTLE INDUSTRIES INC. PH (380) 332-5276
1100 YEW AVENUE, BLAINE, WASHINGTON 98230

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DATE: OCT '11		FILYNED:

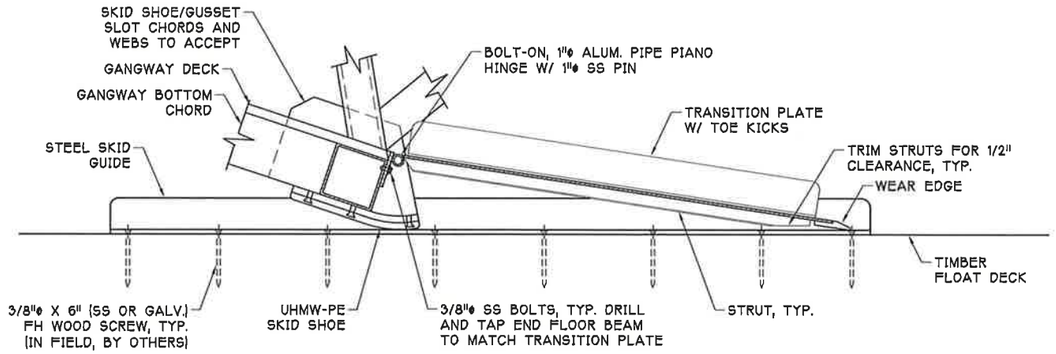
KASAAN HARBOR IMPROVEMENTS
PROJECT #67953

5'-4" X 80' ALUMINUM GANGWAY PIER END DETAILS — DRAWING NUMBER 3 OF 4

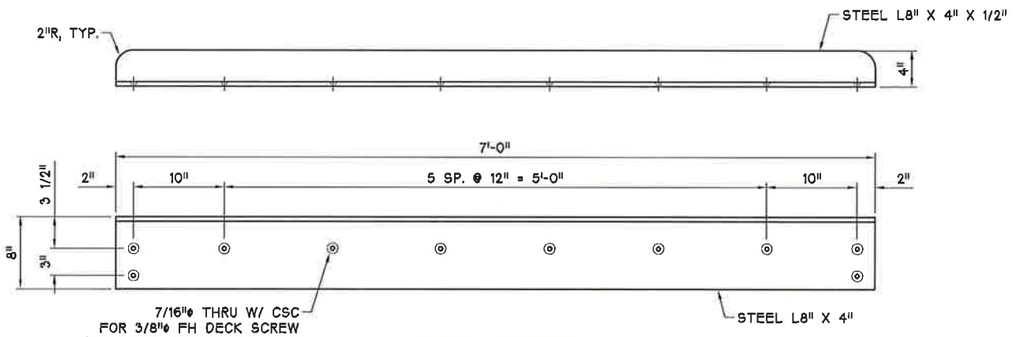
12-45-KASAAN-80\GANG5X80.DWG
21 OCTOBER 2011



TRANSITION

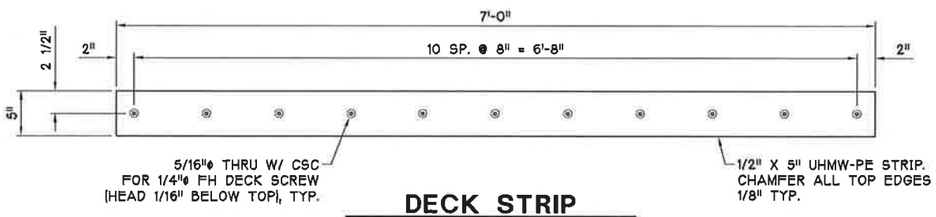


FLOAT END ASSEMBLY



SKID GUIDE

MAKE 2
HOT DIP GALVANIZE AFTER FAB.



DECK STRIP

MAKE 3

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

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ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/8/11 Project Engineer

STATE OF ALASKA
GALE F. LAFAVE
No. CE 9550
REGISTERED PROFESSIONAL ENGINEER
21 OCT 11

EXPIRES: 12/31/11

MANTLE INDUSTRIES INC. PH (360) 332-5276
1100 YEW AVENUE, BLAINE, WASHINGTON 98230

SCALE:	APPROVED BY:	DRAWN BY: KDL
DATE: OCT '11		REVISED:

KASAAN HARBOR IMPROVEMENTS PROJECT #67953

5'-4" X 80' ALUMINUM GANGWAY FLOAT END DETAILS — DRAWING NUMBER 4 OF 4

1245-KASAAN-80\GANG5X80.DWG
21 OCTOBER 2011

POOL
ENGINEERING, INC.
Engineers & Constructors

P.O. Box 6000 • Ketchikan, Alaska 99901 • Ph: (907) 225-6684
Contractors License Number: AA-1946 • Fx: (907) 225-1893

TRANSMITTAL

TO:	**State of Alaska DOT & PF, Southeast Region** 6860 Glacier Highway Juneau, AK 99801-7999	DATE:	**November 8, 2011**
		RE:	**Timber Float Submittals = Rev. Wood Shop Dwgs & New Steel Dwgs,**
ATTN:	**Mr. Kraig Norheim** Ph: **907.465.2392** Fx: **206.448.9076**	PROJECT:	**Kasaan Harbor Improvements ADOT & PF Project No. 67953**

WE ARE SENDING YOU: ☒ Herewith ☐ Under Separate Cover ☐ _____

Submittal No. 04-02 ☒ Submittal ☒ Shop Drawings ☐ Cert's ☐ Other

QTY	DESCRIPTION
1	Revised Shop Drawings for Timber Walkway & Skiff Floats – Fabrication by Matheus Lumber
1	1st Submittal = steel items for Timber Floats incl. pile hoops, support brackets for fire/life ring cabinets, hinge connections for floats

THESE ITEMS TRANSMITTED AS CHECKED BELOW:

☒	For approval. Please return this many copies:	1	☐	For your general information.
☐	Revised for approval. Please return this no. copies:		☐	For your use as requested
☐	Please submit a Proposal on work indicated as being revised		☐	For your files
☐	For your general information.		☐	For your review and comments.
☐	Approved as Noted (AAN).		☐	Returned for Corrections (RFC).
☐	Approved as Submitted (AAS).		☐	For your signature and return
☐	For construction use, proceed immediately		☐	For:

REMARKS: The above Submittals have been reviewed by POOL Engineering for General Conformance w/the contract documents. Matheus has accepted the Figures 1 thru 3 returned with Submittal 04-01 Review Comments

COPY TO: Project File

Chuck Pool – Superintentdent, POOL Engineering, Inc.

John Pool – Vice President, POOL Engineering, Inc.

Sincerely,

Grant Pool

Grant Pool, Project Engineer

Shop Dwg:

Δ-11-6-11
REV 1.

LEGEND

- (SP) FLOAT MODULE SPLICE
- (FE) FIRE EXTINGUISHER CABINET
- (LR) LIFE RING CABINET
- (#) PILE ID

60'-8"

EXISTING 30'X61' SEAPLANE FLOAT & PILES TO REMAIN

TRANSITION PL TYPE "3A" (By others)

REFURBISH EXISTING 12'X148' CONCRETE BREAKWATER FLOAT, PRESSURE WASH DECK SURFACE AND REPLACE ALL TIMBER BULL & BUMPER RAILS AND STEEL HARDWARE AS SHOWN ON THE PLANS.

Shop dwg Page 1

506(1) p. 4,5+6

NEW 16"ø STEEL PILES, TYP. 5 EA.

NEW 12'X125' TIMBER MOORING FLOAT MLC

TRANSITION PL TYPE "2" (By others)

NEW 12 3/4"ø STEEL PILES, TYP. 2 EA.

NEW 10'X100' TIMBER MOORING FLOAT MLC > 506(2) P. 2+3

REDRIVE EXISTING 12 3/4"ø STEEL PILES, TYP. 2 EA.

NEW 25'X20' SKIFF FLOAT, TYP. 2 EA. MLC > 506(3) Page 7

TRANSITION PL TYPE "3B" (By others)

NEW 6'X80' ALUMINUM GANGWAY

PROJECT CENTERLINE

NEW TIMBER APPROACH, SEE ADDENDUM #2, ATTACHMENT 1

EXISTING BOARDWALK

S. THORNE BAY ROAD

USS 280

50'-0" 50'-0" 25'-0"

MAINTAIN 2'-4" GAP, MEASURED AT CENTERLINE OF TIMBER FLOAT

APPROXIMATE LOCATION OF FISH CLEANING STATION TABLE, SEE SPECS FOR DETAILS

MODIFY EXISTING 6'X150' STEEL TRESTLE WITH LATERAL BRACING, BEARING PAD REPLACEMENT, AND PEDESTRIAN SAFETY UPGRADES

From
MATHEUS LUMBER COMPANY INC
P.O. BOX 2260
15800 WOODINVILLE REDMOND RD. N.E.
WOODINVILLE, WA 98072
(206) 284-7500 FAX (425)483-9744
(800) 284-7501 (800) 966-3121
JR

EXISTING 24"ø STEEL PILES TO REMAIN

NEW 24"ø STEEL PILES, TYP. 5 EA., INSTALL IN SAME LOCATION/SOCKETS AS EXISTING PILES

TRANSITION PL TYPE "1" (By others)

NEW 18'x106' STEEL BREAKWATER FLOAT

Shop dwg P.1

EASEMENT
Tract I
State of Alaska

EASEMENT
Tract II
State of Alaska

76'-0"

40'-0" 30'-0" 20'-0" 0'-0"

HTL HHW MHW

HORIZONTAL CONTROL:

PROJECT CENTERLINE IS BETWEEN TWO POINTS IN THE CENTER OF THE DECK, AT OPPOSITE ENDS OF THE EXISTING 150' APPROACH TRESTLE.

MATHEUS LUMBER COMPANY INC
P.O. BOX 2260
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WOODINVILLE, WA 98072
(206) 284-7500 FAX (425)483-9744
(800) 284-7501 (800) 966-3121

NEW SITE PLAN

Page Engineering

FOR APPROVAL

Page 0 of 7

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY: K. Miller

DESIGNED BY: D. Lowell
DRAWN BY: Staff
PATH: O:\POW\67953\MF\ADMIN\ADDENDUM #2\PLANSET\04 - NEW SITE PLAN.DWG
TAB: 04 Thursday, June 09, 2011 9:35:23 AM LOWELL, DAVID H (DOT)

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

KASAAN HARBOR IMPROVEMENTS
PROJECT #67953

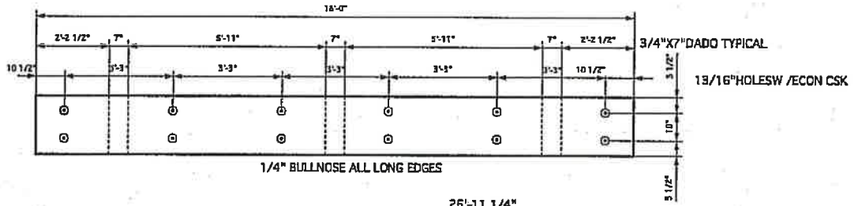
ADDENDUM #2
NEW SITE PLAN

PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
67953	2011		

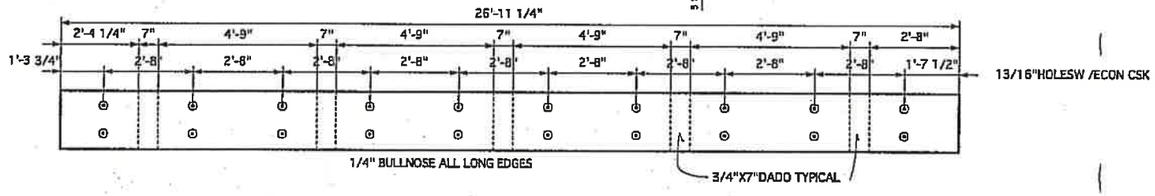
ATS 106
PACIFIC AMERICAN CORP.

Bid Item 504(4) Treated wood
2x4 310 LF .60 ACZA

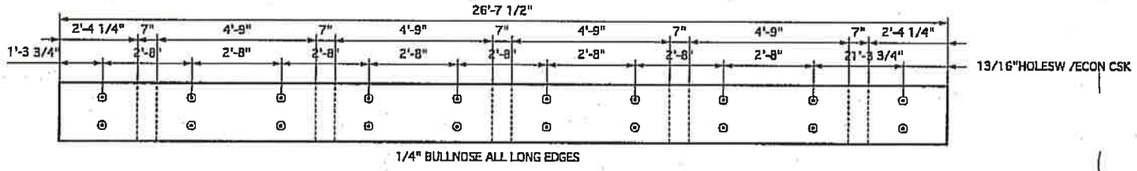
MK#1
3 1/8X21GLB
QTY 2
ACZA
ACROSS ENDS



MK#2
3 1/8X21GLB
QTY 4
ACZA
AT CORNERS



MK#3
3 1/8X21GLB
QTY 4
ACZA
MID SPAN

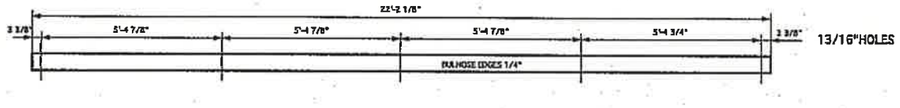


Bid Item 504(1)
STEEL BREAKWATER FLOAT RUBSTRIP

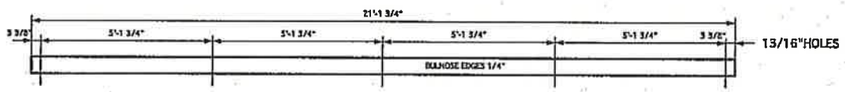
TO Steel supplier

Glue-Lams

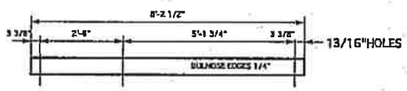
MK#4
6 3/4X6GLB
QTY 4
ACZA
CORNERS



MK#5
6 3/4X6GLB
QTY 9
ACZA
MID SPAN

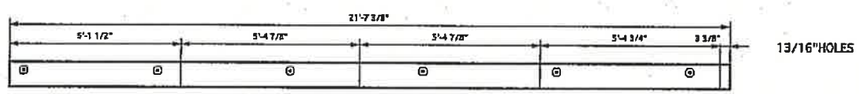


MK#6
6 3/4X6GLB
QTY 1
ACZA
AT OPENING

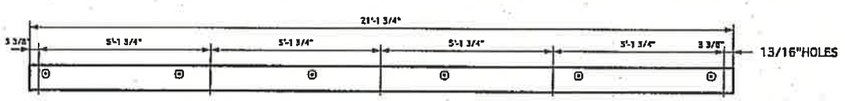




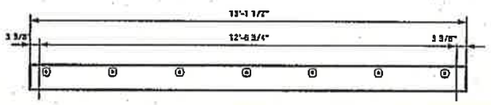
MK#7
6 3/4X9GLB
QTY 4
ACZA
CORNERS



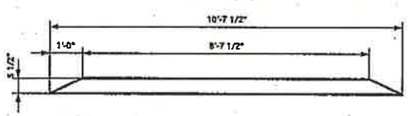
MK#8
6 3/4X9GLB
QTY 10
ACZA
MID SPAN



MK#9
6 3/4X9GLB
QTY 2
ACZA
ENDS



MK#10
6X8S4S
QTY 2
ACZA
ENDS



Bid Item 506(6)
CONCRETE BREAKWATER FLOAT BULLRAIL AND WALERS

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for conformance with the design concepts of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction for coordination of the work of all trades.

ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/9/11 Project Engineer

DRWN BY:

REVISIONS	BY
11-06-11	JIT

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SCALE:

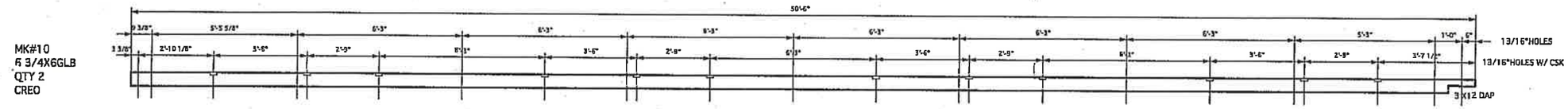
KASAAN HARBOR
IMPROVEMENTS
PROJECT # 67953

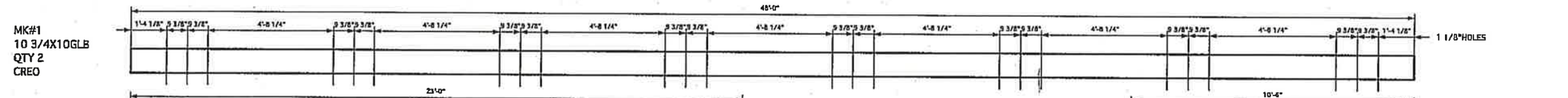
Pool Engineering
MATHEUS LUMBER COMPANY INC.
15600 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE [206] 284-7500

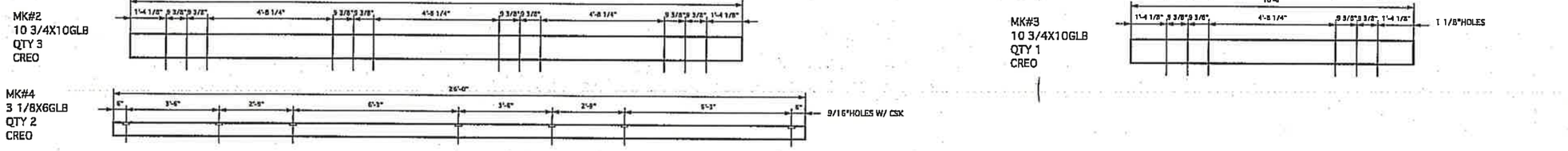
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JOB#:
PAGE: 1

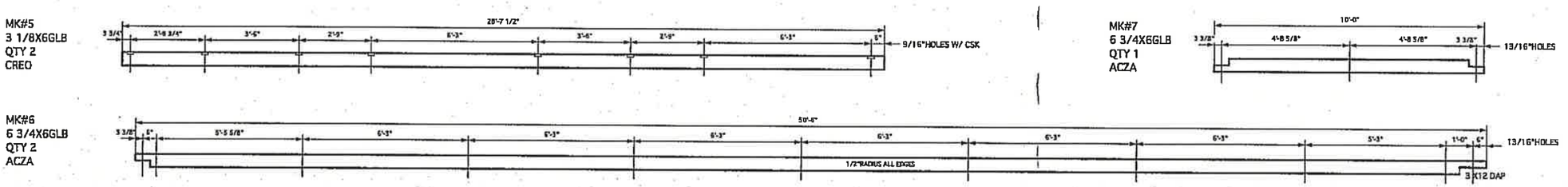
Bid Item 506(2) - Page 1 of 2

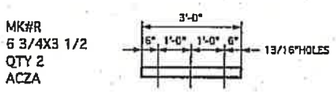
Section 10-West











NOTES:
1. GLULAMS ARE 24F V-8/INDUSTRIAL/ZERO CAMBER COASTAL DOUG FIR.
2. ALL TIMBER TO BE DOUGLAS FIR #1/BTR.
3. TREATMENT TO BE CREOSOTE 12LBS FOR GLULAMS AND 20LBS FOR SUBMERGED WOOD MEMBERS.
4. ACZA CHEMONITE 0.60LBS FOR RUB STRIPS, WEAR DECK, AND GLULAM BULLRAILS.
5. BOLTS AND MISC. HARDWARE PARTS TO BE A-307 HOT DIP GALVANIZED TO A-153.
6. FOAM BLOCKS SHALL BE EPS 1.1LB/CU.FT. MIN. ASTM D1621, COATED WITH HYDROSEAL2090 TO A MIL OF 50MIL.
7. DECKING TO BE 2X10 MILLED TO STATE PATTERN ***QTY 64 PIECES***
8. TWO INTERNAL PILE HOOPS
9. ALL STEEL TO BE A36 HOT DIP GALV. A-153
10. UHMW SCUPPER BLOCKS PER PLAN***QTY 15***
11. BUMPER BOARD IS 2X10S4S ***QTY 110LF*** CHAMFER EDGES 1/2" RADIUS

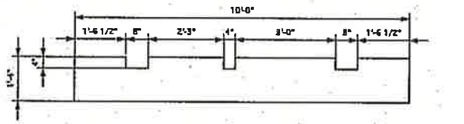
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

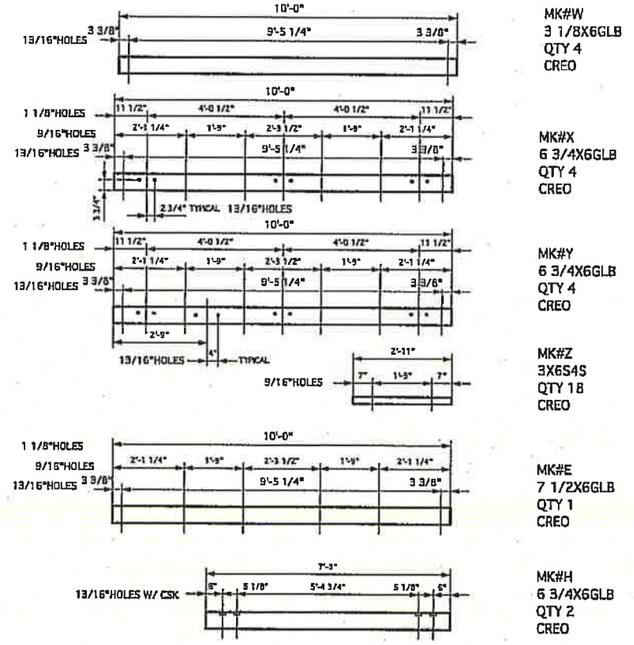
Date 11/9/11 Project Engineer

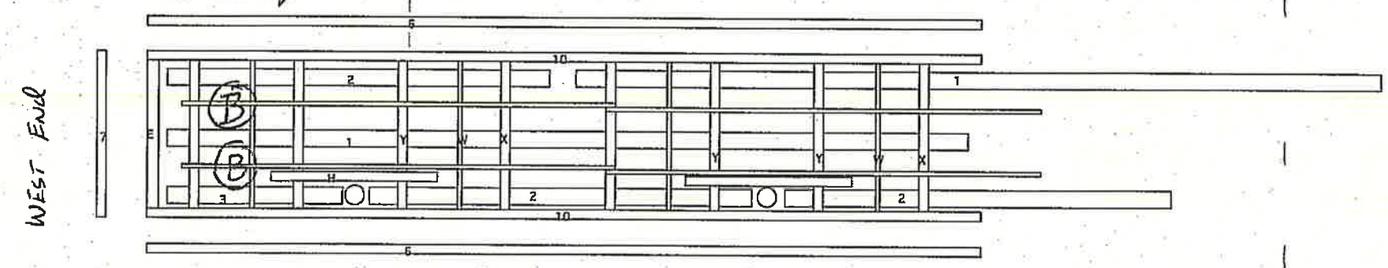


(Revise Figure one to above)
(Flip - Flop)

MK#A
35" WIDE FOAM
QTY 6
COATED HYDRO 2090

MK#B
35" WIDE FOAM
QTY 2
COATED HYDRO 2090





DRWN BY:

REVISIONS	BY
11-09-11	BT

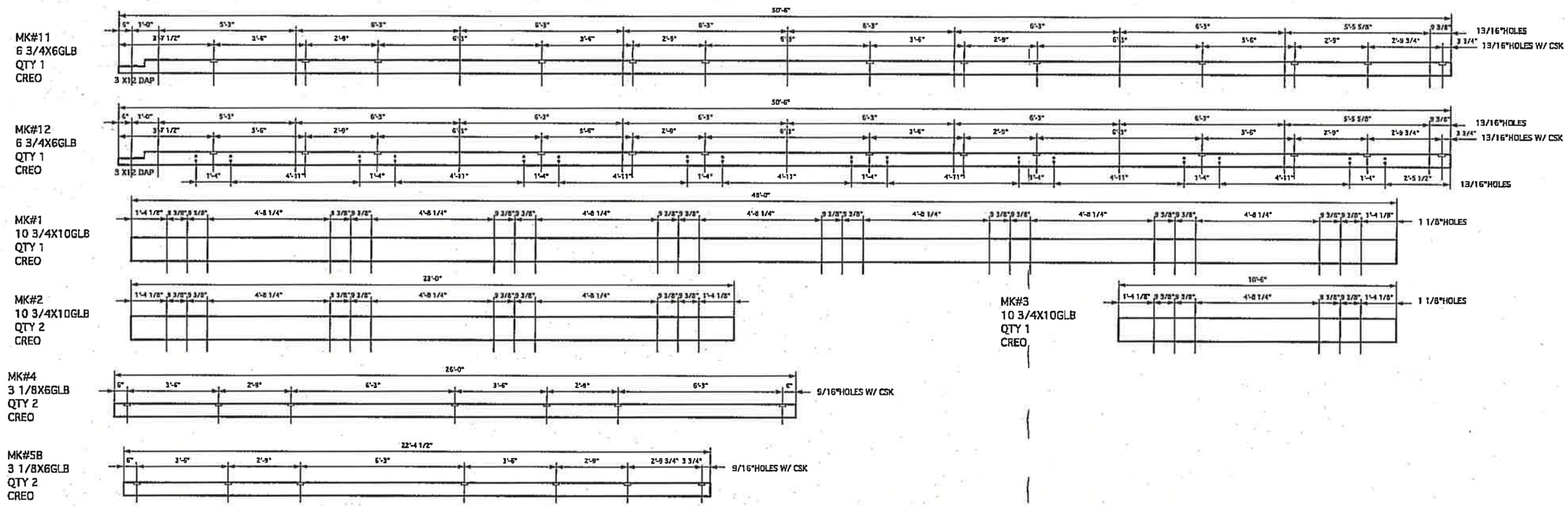
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SCALE: 1/2" EQUALS 1'

KASAAN HARBOR
IMPROVEMENTS
PROJECT # 67953

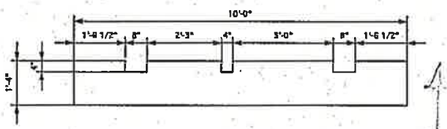
POOL ENGINEERING
MATHEUS LUMBER COMPANY INC.
15800 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE [206] 284-7500.

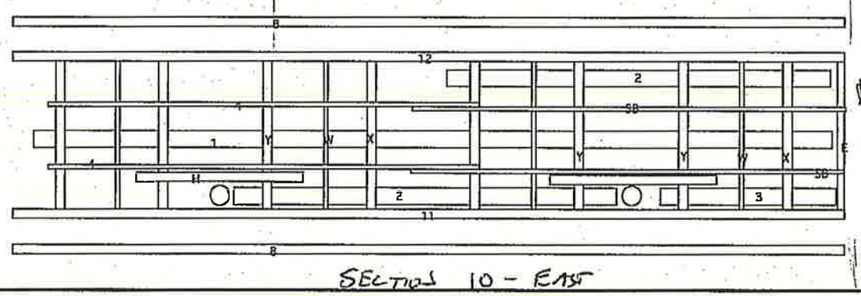
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JOB#:
PAGE: 2



NOTES:

1. GLULAMS ARE 24F V-8/INDUSTRIAL/ZERO CAMBER COASTAL DOUG FIR.
2. ALL TIMBER TO BE DOUGLAS FIR #1/BTR.
3. TREATMENT TO BE CREOSOTE 12LBS FOR GLULAMS AND 20LBS FOR SUBMERGED WOOD MEMBERS.
4. ACZA CHEMONITE 0.60LBS FOR RUB STRIPS, WEAR DECK, AND GLULAM BULLRAILS.
5. BOLTS AND MISC. HARDWARE PARTS TO BE A-307 HOT DIP GALVANIZED TO A-153.
6. FOAM BLOCKS SHALL BE EPS 1.1LB/CU.FT. MIN. ASTM D1621, COATED WITH HYDROSEAL2090 TO A MIN. OF 50MIL.
7. DECKING TO BE 2X10 MILLED TO STATE PATTERN ***QTY 64 PIECES***
8. TWO INTERNAL PILE HOOPS
9. ALL STEEL TO BE A36 HOT DIP GALV. A-153
10. UHMW SCUPPER BLOCKS PER PLAN***QTY 15***
11. BUMPER BOARD IS 2X10S4S ***QTY 110LF*** CHAMFER EDGES 1/2" RADIUS





SECTION 10 - EAST

MK#A
35" WIDE FOAM
QTY 8
COATED HYDRO 2090

Transition Plate

East End

(12' for Grate)

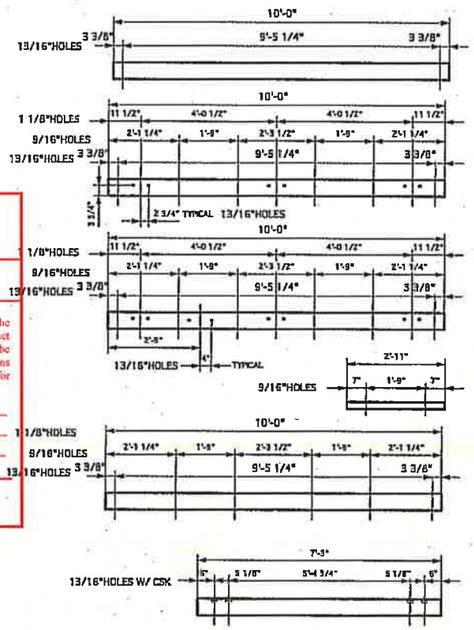
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

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ACCEPTED X
ACCEPTED AS NOTED
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Date 11/9/11 Project Engineer



DRWN BY:

REVISIONS	BY
11-06-11	BT

PAGE DESCRIPTION: 10X50' FLOAT SECTION

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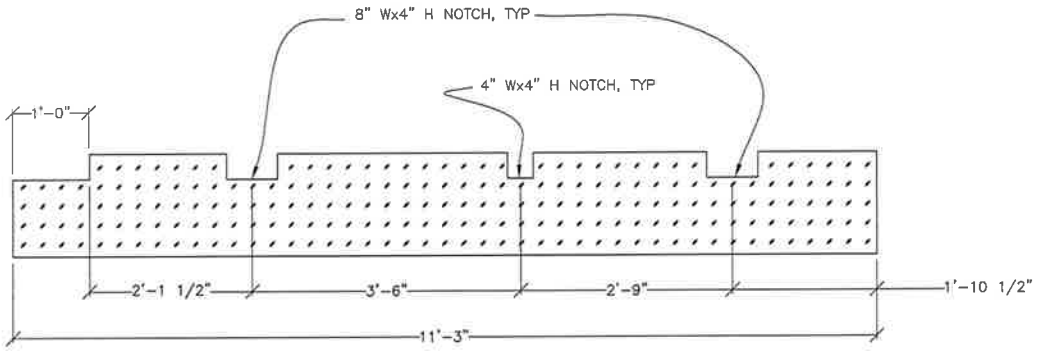
KASAAN HARBOR IMPROVEMENTS PROJECT # 67953

POOL ENGINEERING
MATHEWS LUMBER COMPANY INC.
15800 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE [206] 284-7500

DATE:
JOB#:
PAGE: 3

Bid Item 506(2) - Page 2 of 2

SECTION 10 - EAST

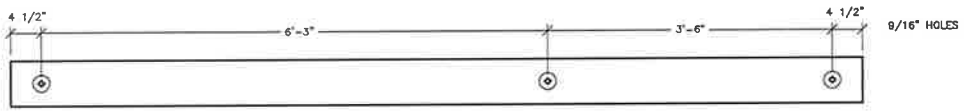


SIDE VIEW

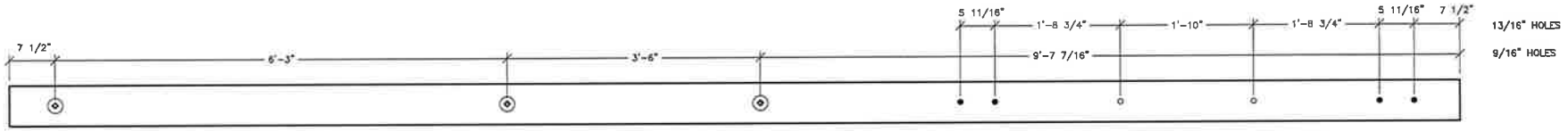
MAIN FLOAT END BILLET -

2 EA @ WEST END OF 10' FLOAT &
SOUTH END OF 12' FLOAT

FIGURE 1

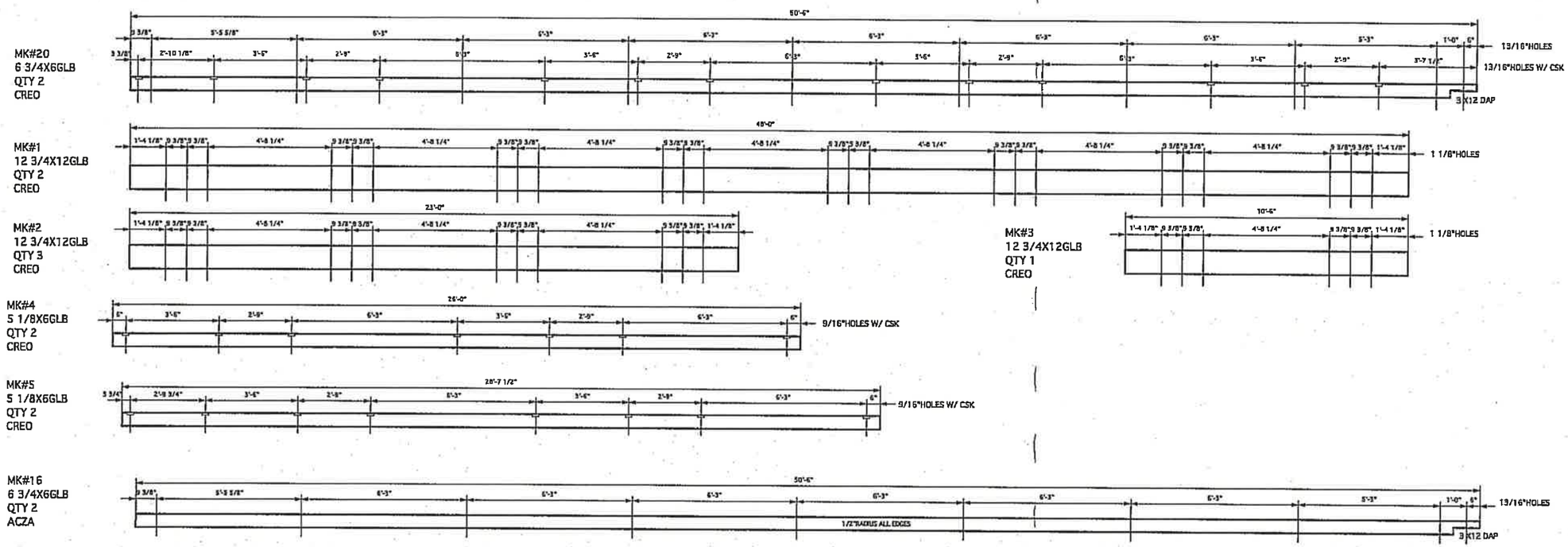


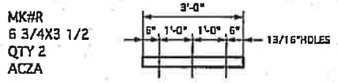
J **GANGWAY SUPPORT STRINGER**



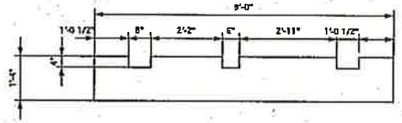
K **GANGWAY SUPPORT STRINGER/ PILE COLLAR STRINGER**

FIGURE 2

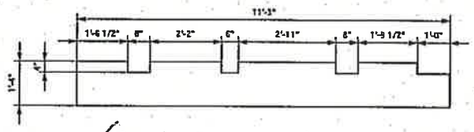




NOTES:
1. GLULAMS ARE 24F V-8/INDUSTRIAL/ZERO CAMBER COASTAL DOUG FR.
2. ALL TIMBER TO BE DOUGLAS FIR #1/BTR.
3. TREATMENT TO BE CREOSOTE 12LBS FOR GLULAMS AND 20LBS FOR SUBMERGED WOOD MEMBERS.
4. ACZA CHEMONITE 0.60LBS FOR RUB STRIPS, WEAR DECK, AND GLULAM BULLRAILS.
5. BOLTS AND MISC. HARDWARE PARTS TO BE A-307 HOT DIP GALVANIZED TO A-153.
6. FOAM BLOCKS SHALL BE EPS 1.1LB/CU.FT. MIN. ASTM D1621, COATED WITH HYDROSEAL2080 TO A MIN. OF 50MIL.
7. DECKING TO BE 2X10 MILLED TO STATE PATTERN ***QTY 64 PIECES***
8. TWO INTERNAL PILE HOOPS
9. ALL STEEL TO BE A36 HOT DIP GALV. A-153
10. UHMW SCUPPER BLOCKS PER PLAN***QTY 16***
11. BUMPER BOARD IS 2X10S4S ***QTY 110LF*** CHAMFER EDGES 1/2" RADIUS

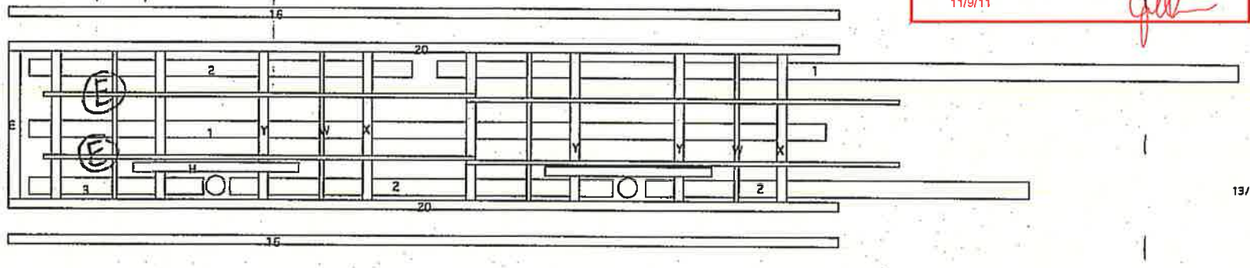


MK#D
45" WIDE FOAM
QTY 6
COATED HYDRO 2090



MK#E
45" WIDE FOAM
QTY 2
COATED HYDRO 2090

(Revise Figure one)
(Flip - Flop)



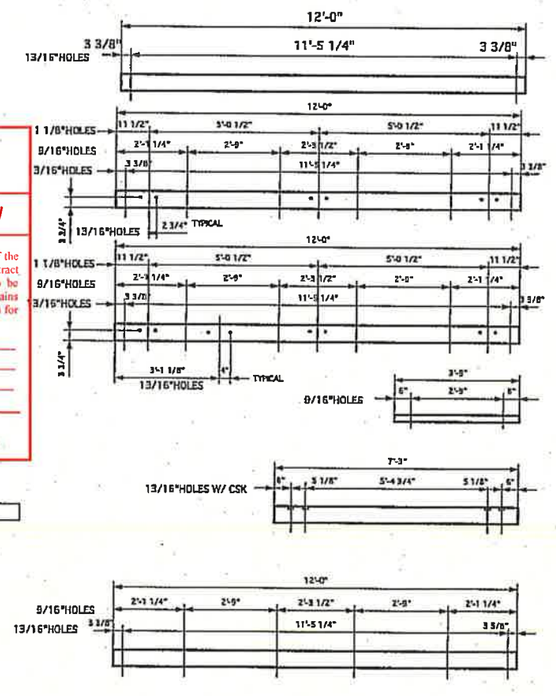
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for conformance with the design concepts of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction for coordination of the work of all trades.

ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/9/11 Project Engineer



Bid Item 506 (1) P.1 of 3

South End

DRWN BY:

REVISIONS	BY
11-08-11	BT

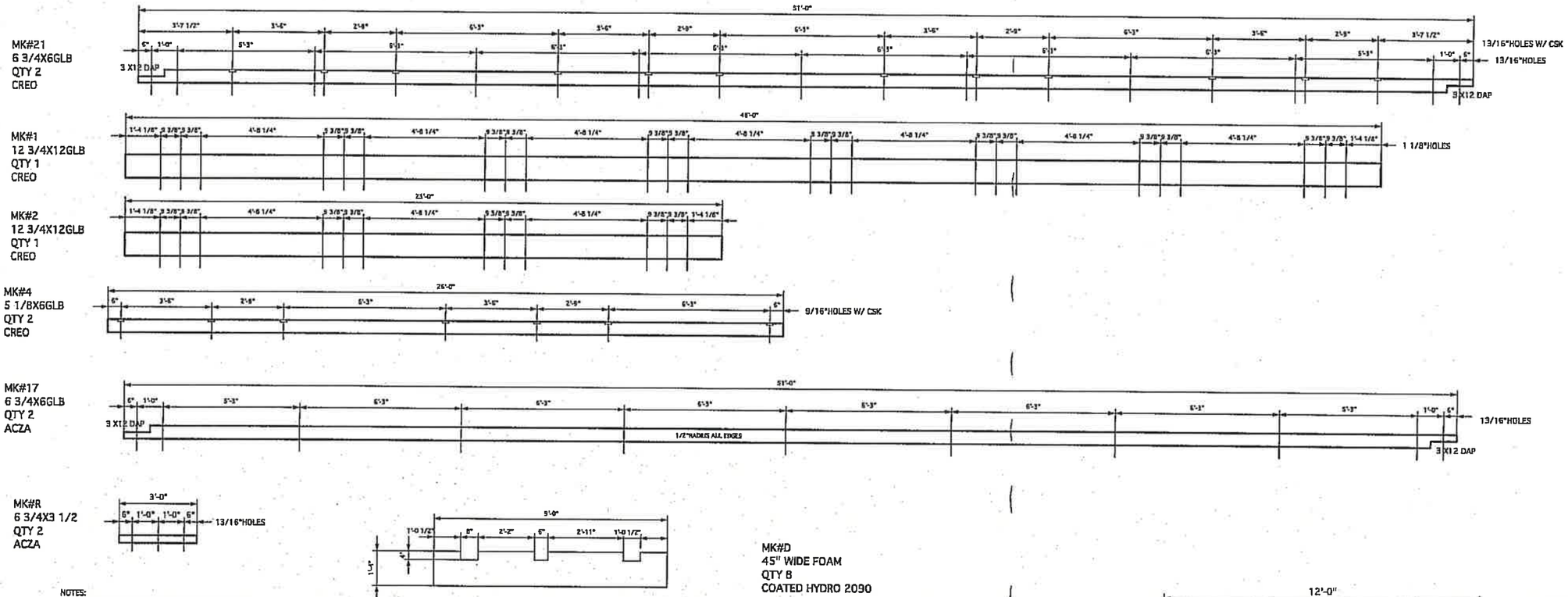
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SCALE: 1/2" EQUALS 1'

KASAAN HARBOR
IMPROVEMENTS
PROJECT # 67953

POOL ENGINEERING
MATHEUS LUMBER COMPANY INC.
15800 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE [206] 284-7500.

DATE:
JOB#:
PAGE: 4



NOTES:
1. GLULAMS ARE 24F V-8/INDUSTRIAL/ZERO CAMBER COASTAL DOUG FIR.
2. ALL TIMBER TO BE DOUGLAS FIR #1/BTR.
3. TREATMENT TO BE CREOSOTE 12LBS FOR GLULAMS AND 20LBS FOR SUBMERGED WOOD MEMBERS.
4. ACZA CHEMONITE 0.60LBS FOR RUB STRIPS, WEAR DECK, AND GLULAM RAILRAILS.
5. BOLTS AND MISC. HARDWARE PARTS TO BE A-307 HOT DIP GALVANIZED TO A-153.
6. FOAM BLOCKS SHALL BE EPS 1.1LB/CU.FT. MIN. ASTM D1621, COATED WITH HYDROSEAL2090 TO A MIN. OF 50MIL.
7. DECKING TO BE 2X10 MILLED TO STATE PATTERN ***QTY 64 PIECES***
8. TWO INTERNAL PILE HOOPS
9. ALL STEEL TO BE A36 HOT DIP GALV. A-153
10. UHMW SCUPPER BLOCKS PER PLAN***QTY 16***
11. BUMPER BOARD IS 2X10S4S ***QTY 110LF*** CHAMFER EDGES 1/2" RADIUS

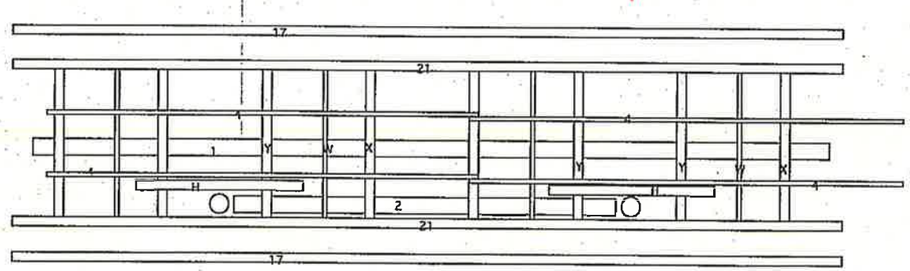
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

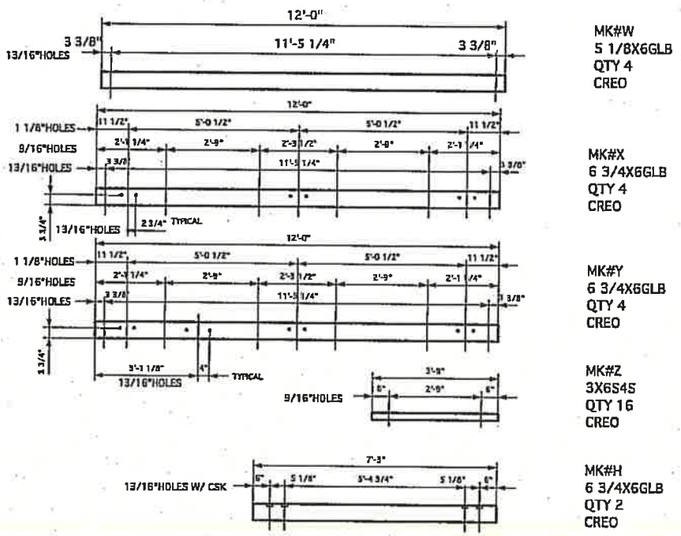
CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/9/11 Project Engineer





Bid Item 506(1) P. 2 of 3

12" mid section

DRWN BY:

REVISIONS	BY
11-06-11	BT

PAGE DESCRIPTION: 12X50' FLOAT SECTION

SCALE: 1/2" EQUALS 1'

KASAAN HARBOR
IMPROVEMENTS
PROJECT # 67953

Pool Engineering

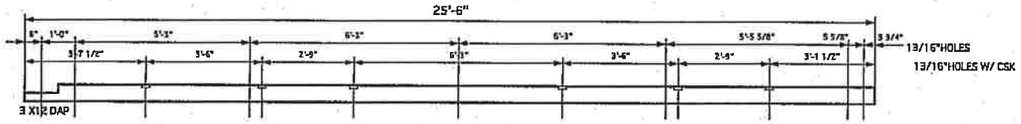
MATHEUS LUMBER COMPANY INC.
15800 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE [206] 284-7500

DATE:
JOB#:
PAGE: 5

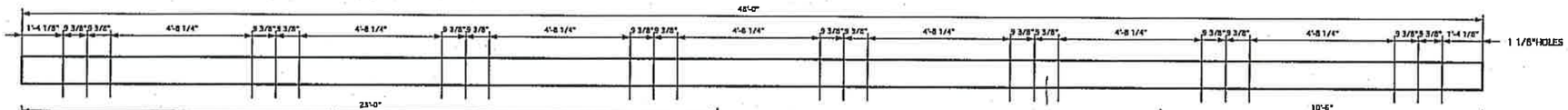
Bid Item 506 (1) P. 30 of 3

North end section

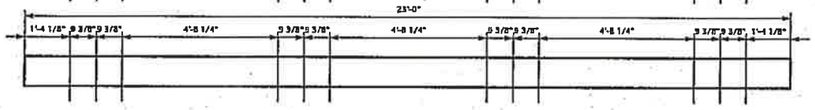
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QTY 2
CREO



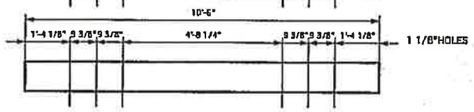
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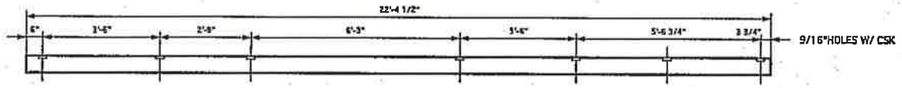
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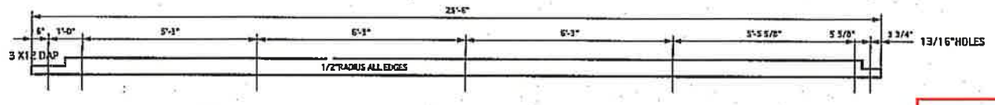
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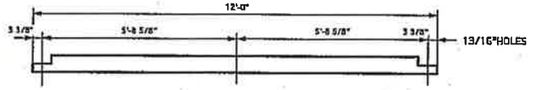
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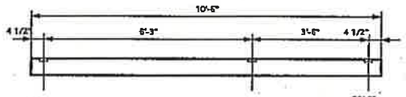
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QTY 2
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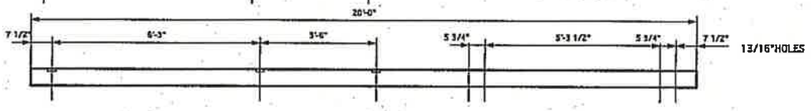
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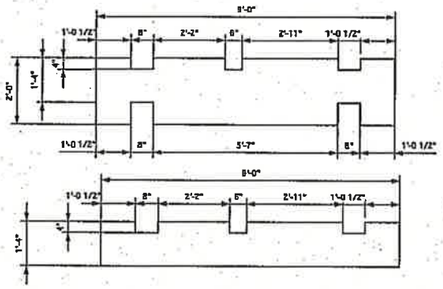
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QTY 1
CREO

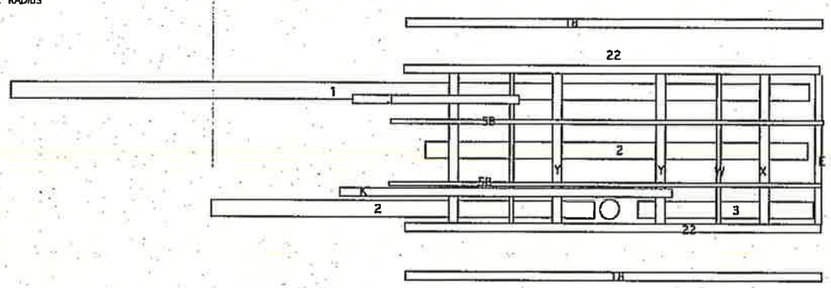


NOTES:
1. GLULAMS ARE 24F V-8/INDUSTRIAL/ZERO CAMBER COASTAL DOUG FIR.
2. ALL TIMBER TO BE DOUGLAS FIR #1/STR.
3. TREATMENT TO BE CREOSOTE 12LBS FOR GLULAMS AND 20LBS FOR SUBMERGED WOOD MEMBERS.
4. ACZA CHEMONITE 0.60LBS FOR RUB STRIPS, WEAR DECK, AND GLULAM BULLRAILS.
5. BOLTS AND MISC. HARDWARE PARTS TO BE A-307 HOT DIP GALVANIZED TO A-153.
6. FOAM BLOCKS SHALL BE EPS 1.1LB/CU.FT. MIN. ASTM D1621, COATED WITH HYDROSEAL2090 TO A MIN. OF 50MIL.
7. DECKING TO BE 2X10 MILLED TO STATE PATTERN ***QTY 32 PIECES***
8. ONE INTERNAL PILE HOOP
9. ALL STEEL TO BE A36 HOT DIP GALV. A-153
10. UHMW SCUPPER BLOCKS PER PLAN***QTY 7***
11. BUMPER BOARD IS 2X10S4S ***QTY 70LF*** CHAMFER EDGES 1/2" RADIUS



MK#F
45" WIDE FOAM
QTY 2
COATED HYDRO 2090

MK#D
45" WIDE FOAM
QTY 2
COATED HYDRO 2090



NORTH End

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED X
RETURNED FOR CORRECTION
Date 11/9/11 Project Engineer

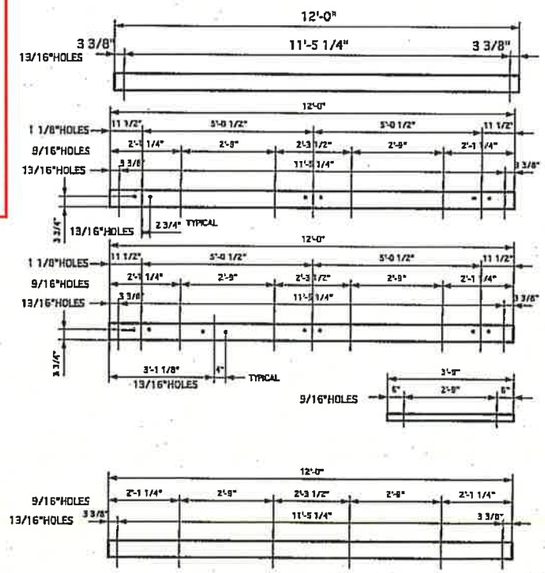
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QTY 2
CREO

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QTY 2
CREO

MK#Y
6 3/4X6GLB
QTY 2
CREO

MK#Z
3X6S4S
QTY 10
CREO

MK#E
7 1/2X6GLB
QTY 1
CREO



SEE FIGURE 2 FOR GANGWAY SUPPORT STRINGERS (J & K)

DRWN BY:

REVISIONS	BY
11-09-11	BT

PAGE DESCRIPTION: 12X25' FLOAT SECTION

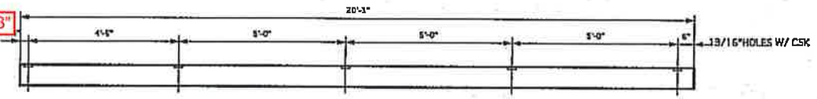
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KASAAN HARBOR IMPROVEMENTS
PROJECT # 67953

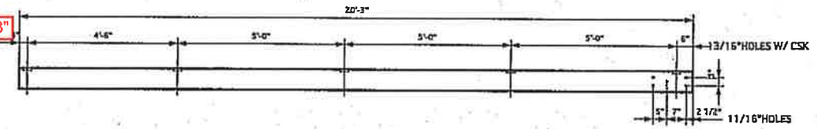
PDL Engineering
MATHEUS LUMBER COMPANY INC.
15800 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE (206) 284-7500.

DATE:
JOB#:
PAGE: 6

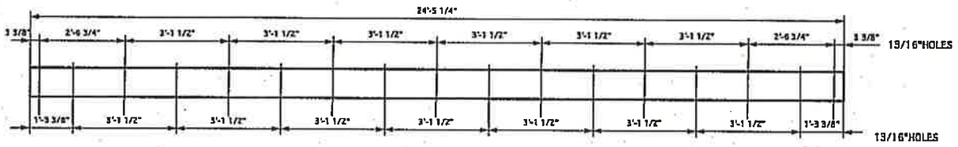
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CREO



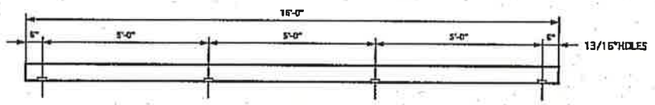
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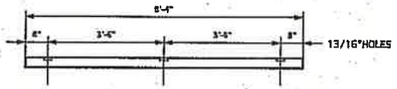
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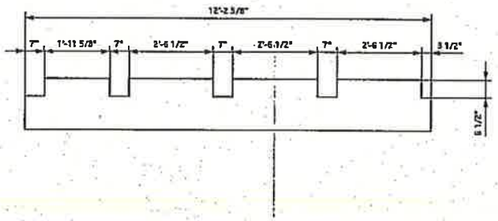
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QTY 8
CREO



MK#24
4X4S4S
QTY 3
ACZA



MK#S
18"X17"FOAM
QTY 6
COATED HY2090



NOTES:
1. GLULAMS ARE 24F V-8/INDUSTRIAL/ZERO CAMBER COASTAL DOUG FIR.
2. ALL TIMBER TO BE DOUGLAS FIR #1/DTR.
3. TREATMENT TO BE CREOSOTE 12LBS FOR GLULAMS AND 20LBS FOR SUBMERGED WOOD MEMBERS.
4. ACZA CHEMONITE 0.60LDS FOR RUB STRIPS, WEAR DECK, AND GLULAM BULLRAILS.
5. BOLTS AND MISC. HARDWARE PARTS TO BE A-307 HOT DIP GALVANIZED TO A-153.
6. FOAM BLOCKS SHALL BE EPS 1.1LB/CUFT, MIN. ASTM D1621, COATED WITH HYDROSEAL2090 TO A MIL OF 50MIL.
7. DECKING TO BE 2X10 MILLED TO STATE PATTERN ***QTY 25 PIECES @24'-7 1/4"***
9. ALL STEEL TO BE A36 HOT DIP GALV. A-153
10. 9 SCUPPERS UHMW 3.5X3.5"
11. BUMPER BOARD IS 2X12S4S ***QTY 40LF Total

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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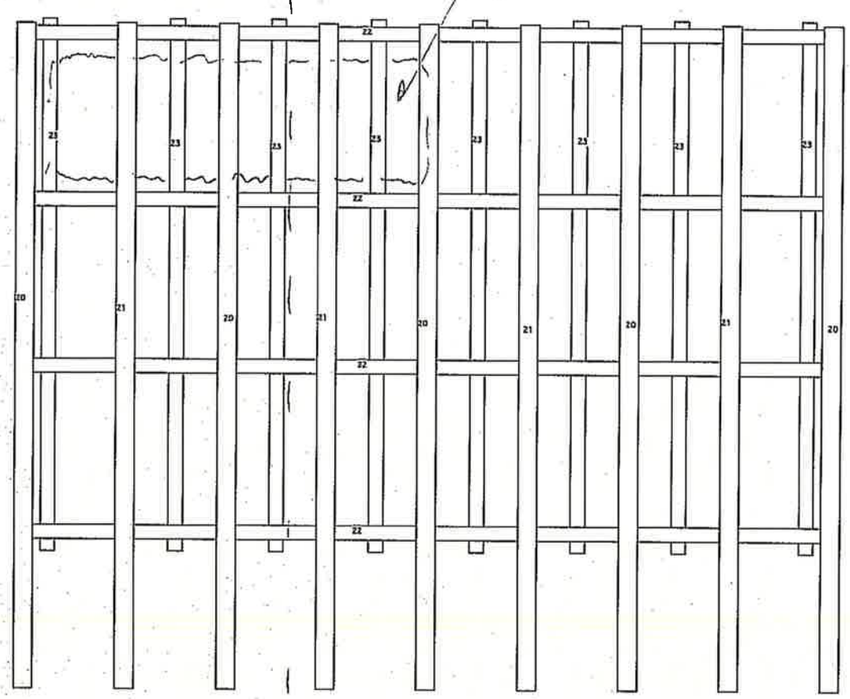
ACCEPTED
ACCEPTED AS NOTED X
RETURNED FOR CORRECTION

Date 11/9/11 Project Engineer

25X20' SKIFF FLOAT SECTION
QTY AS SHOWN ~~(2 FLOATS)~~
per EACH
TOTAL OF 2.

Bid Item SD6 (3)

Bill 6 each



DRWN BY:

REVISIONS	BY
11-09-11	BT

PAGE DESCRIPTION: Skiff Floats

SCALE: 1/2" EQUALS 1'

KASAAN HARBOR
IMPROVEMENTS
PROJECT # 67953

Prel Engineering
MATHEUS LUMBER COMPANY INC.
15800 WOODINVILLE-REDMOND RD NE
WOODINVILLE, WA. 98072-2260
PHONE [206] 284-7500.

DATE:
JOB#:
PAGE: 7

SPECIFICATIONS – 872 KASAAN HARBOR

HARDWARE:

SHALL BE SUPPLIED BY OTHERS

FABRICATED STEEL:

ALL STEEL SHALL MEET THE FOLLOWING:

MISC. SHAPES AND PLATE	ASTM A36
W SHAPES	ASTM A992
PIPE	ASTM A53, GRADE B, TYPE E OR S
HOLLOW STRUCTURAL STEEL	ASTM A500, GRADE B.

GALVANIZING:

ALL STEEL, PIPE AND HARDWARE SHALL BE HOT-DIP GALVANIZED PER ASTM A123 OR A153 AFTER FABRICATION UNLESS OTHERWISE NOTED.

SHOP REPAIR OF GALVANIZED COATING:

REPAIR OF SHOP DAMAGE TO GALVANIZED COATING SHALL BE DONE UTILIZING A HOT STICK PROCESS. REPAIR STICKS USED SHALL BE ZINC-CADMIUM ALLOYS SUCH AS "REV-GALV," OR ZINC-TIN-LEAD ALLOYS SUCH AS "GALV-WELD," "ZILT" AND "GALVOVER." THE ZINC-TIN-LEAD ALLOYS SHALL COMPLY WITH US FEDERAL SPECIFICATION O-G-93 AND CONTAIN FLUXING INGREDIENTS.

THE WELDS SHALL BE CLEANED AND THE AREA PREHEATED TO BETWEEN 600°F AND 750°F, THEN THE AREA WIRE BRUSHED AGAIN. THE ALLOY SHALL BE APPLIED (WHILE IT IS HOT ENOUGH TO MELT THE ALLOY), AND SPREAD USING WIRE BRUSH OR BY RUBBING WITH A FLAT EDGED STRIP OF STEEL OR PALETTE KNIFE. FLUX RESIDUES SHALL BE REMOVED BY WIPING WITH A DAMP CLOTH OR RINSING WITH WATER.

BRUSH APPLY TWO COATS OF ZINC RICH PAINT (COLD GALVANIZED REPAIR PAINT) OVER TOP OF THE REPAIRED AREA.

ULTRA HIGH MOLECULAR WEIGHT (UHMW) PLASTIC:

UHMW PLASTIC MATERIALS SHALL BE PROVIDED IN ACCORDANCE WITH ASTM D-4020. MATERIALS SHALL BE A MIXTURE OF VIRGIN POLYETHYLENE RESIN AND RECYCLED POLYETHYLENE CHIPS (20-50 PERCENT BY WEIGHT), BLACK IN COLOR (UNLESS OTHERWISE NOTED). UHMW MIXTURE SHALL BE CHEMICALLY CROSS LINKED, ULTRAVIOLET LIGHT STABILIZED AND SUITABLE FOR LONG TERM EXPOSURE AND HAVING THE FOLLOWING PROPERTIES:

SPECIFIC GRAVITY:	0.94	ASTM D792
ULTIMATE TENSILE STRENGTH	4200 PSI	ASTM D638
HARDNESS	65-70	ASTM D785

MATERIAL AND PROCEDURE CERTIFICATION REQUIREMENTS FOR PROJECT

CONCRETE TEST REPORTS	N/A
EXPANDED POLYSTYRENE TEST REPORTS	N/A
WOOD TREATMENT REPORTS	N/A
UHMW MATERIAL CERTIFICATION REPORTS	YES
RUBBER/NEOPRENE MATERIAL CERTIFICATION REPORTS	N/A
METALS REQUIREMENTS	
WELD PROCEDURES	SUBMIT
STEEL MANUFACTURING REQUIREMENTS	DOMESTIC OR FOREIGN
STEEL MATERIAL CERTIFICATIONS REQUIRED	YES
GALVANIZING REPAIR MATERIALS CERTIFICATION	YES
ALUMINUM MANUFACTURING REQUIREMENTS	N/A
ALUMINUM MATERIAL CERTIFICATIONS REQUIRED	N/A
WELDER QUALIFICATION REQUIREMENTS	WABO – CERTS REQUIRED
WELDING INSPECTIONS REQUIRED	YES
IF INSPECTION REQUIRED, WHAT LEVEL?	* SEE BELOW
SPRAY METALIZING METHOD/PROCEDURE	N/A
SPRAY METALIZING MATERIAL CERTIFICATIONS REQ'D	N/A
TRACTION PLATE PRODUCT INFO AND SAMPLE REQ'D	N/A
GALVANIZING CERTIFICATION REQUIRED	YES

*VISUAL INSPECTION REQUIRED ON 100% OF WELDS, PRIOR TO THE ITEMS BEING GALVANIZED. CONTACT AN INDEPENDENT TESTING COMPANY FOR INSPECTIONS.

FOR APPROVAL

From:
MATHEUS LUMBER COMPANY INC
P.O. BOX 2260
15800 WOODINVILLE REDMOND RD. N.E.
WOODINVILLE, WA 98072
(206) 284-7500 FAX (425)483-9744
(800) 284-7501 (800) 966-3121

1ST SUBMITTAL 11-8-11

POOL ENGINEERING - KTN

Shoreside Marinas
Specialists in Marina Design and Construction
4110 Bakerview Spur, Bellingham, WA 98226

SHORESIDE MARINAS (SM) IS NOT RESPONSIBLE FOR SAFETY PROGRAMS, METHODS OR PROCEDURES OF OPERATION, OR THE CONSTRUCTION OF THE DESIGN SHOWN ON THESE DRAWINGS. WHERE SPECIFICATIONS ARE GENERAL OR NOT CALLED OUT, THE SPECIFICATIONS SHALL CONFORM TO STANDARDS OF INDUSTRY. DRAWINGS ARE FOR USE ON THIS PROJECT ONLY AND ARE NOT INTENDED FOR REUSE WITHOUT WRITTEN APPROVAL FROM SM. DRAWINGS ARE ALSO NOT TO BE USED IN ANY MANNER THAT WOULD CONSTITUTE A DETRIMENT DIRECTLY OR INDIRECTLY TO SM.

REVISIONS

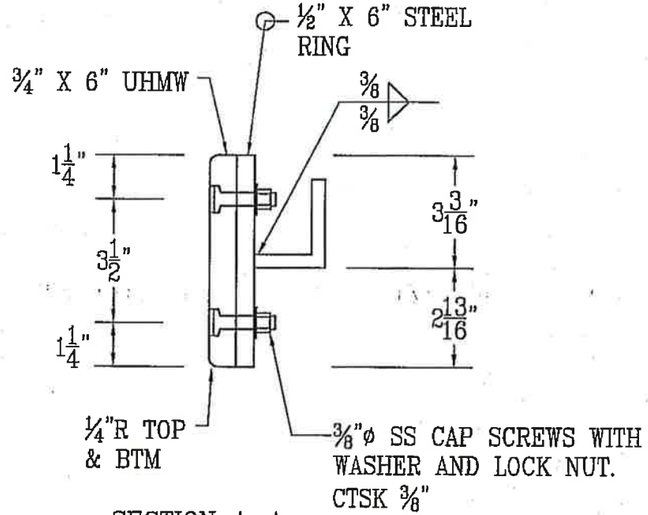
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PROJECT: 872 - KASAAN HARBOR Improvements
State of Alaska # 67953

TITLE: SPECIFICATIONS AND INSPECTIONS

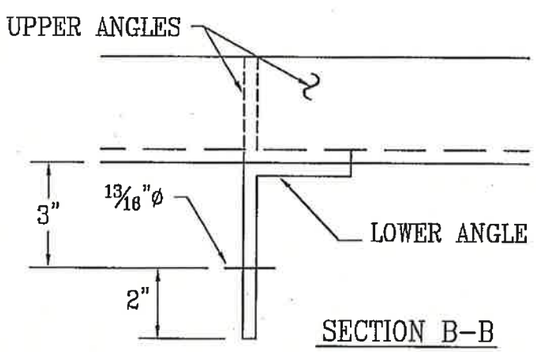
DESIGNED BY:	AK	PROJECT NO:	872	SHEET NO:	1
DRAWN BY:	KAS	DATE:	10-28-2011		
CHECKED BY:		SCALE:			

10-28-2011
872 Kasaan Steel/872 Kasaan drgs



SECTION A–A

FOR IPC–1 (12¾" PILES)



SECTION B–B

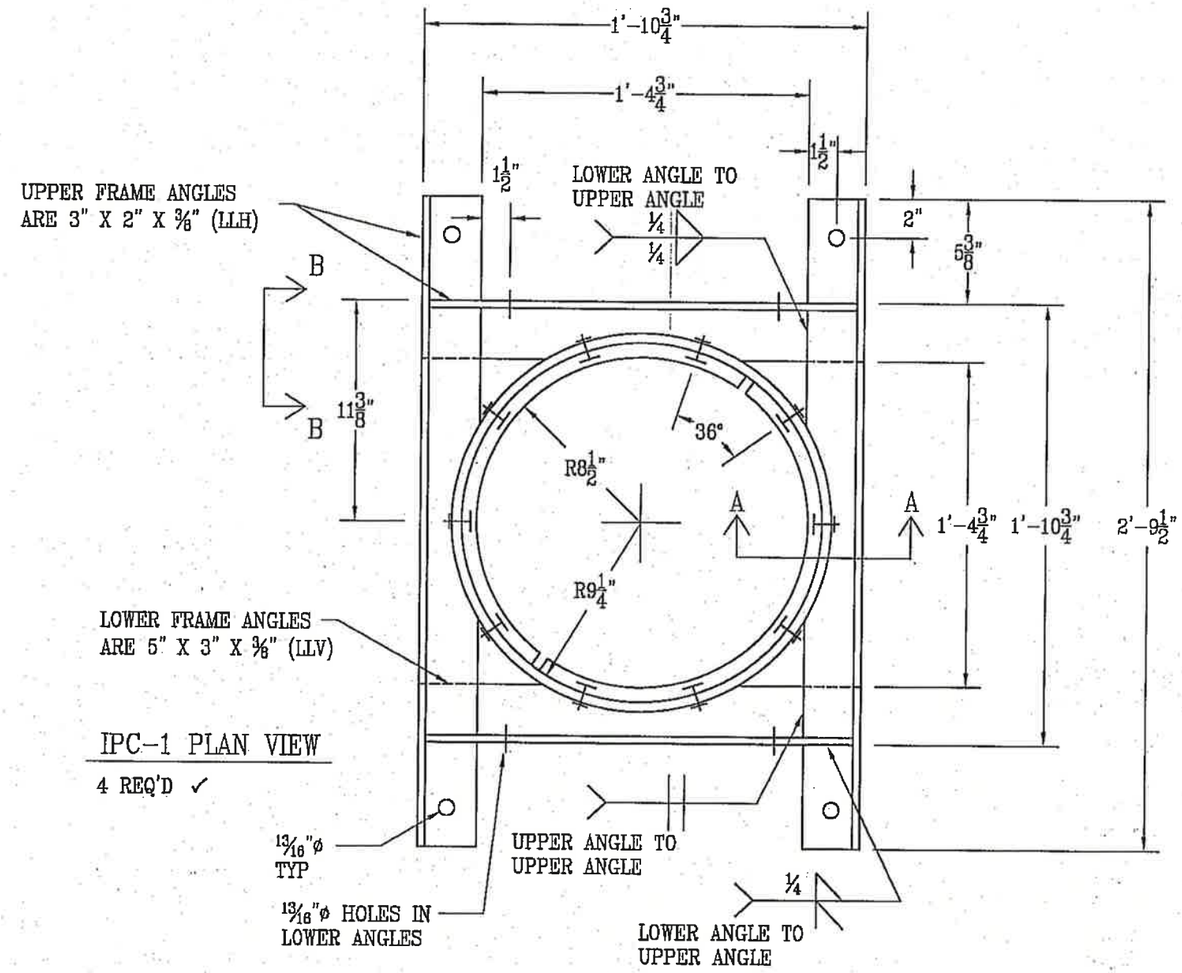
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

Checking is only for conformance with the design concepts of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques of construction for coordination of the work of all trades.

ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/9/11 Project Engineer



IPC–1 PLAN VIEW

4 REQ'D ✓

Bid Item 506(2)

FOR APPROVAL

MATHEUS LUMBER COMPANY INC
P.O. BOX 2260
15800 WOODINVILLE REDMOND RD. N.E.
WOODINVILLE, WA 98072
(206) 284-7500 FAX (425)483-9744
(800) 284-7501 (800) 966-3121

10-28-2011
872 Kasaan Steel/872 Kasaan drgs

Shoreside Marinas
Specialists in Marina Design and Construction
4110 Bakerview Spur, Bellingham, WA 98226

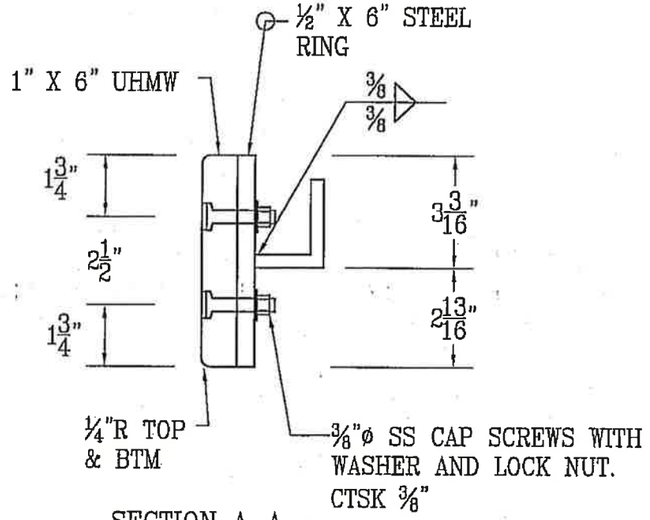
SHORESIDE MARINAS (SM) IS NOT RESPONSIBLE FOR SAFETY PROGRAMS, METHODS OR PROCEDURES OF OPERATION, OR THE CONSTRUCTION OF THE DESIGN SHOWN ON THESE DRAWINGS. WHERE SPECIFICATIONS ARE GENERAL OR NOT CALLED OUT, THE SPECIFICATIONS SHALL CONFORM TO STANDARDS OF INDUSTRY. DRAWINGS ARE FOR USE ON THIS PROJECT ONLY AND ARE NOT INTENDED FOR REUSE WITHOUT WRITTEN APPROVAL FROM SM. DRAWINGS ARE ALSO NOT TO BE USED IN ANY MANNER THAT WOULD CONSTITUTE A DETRIMENT DIRECTLY OR INDIRECTLY TO SM.

REVISIONS		
REV	DATE	DESCRIPTION
R-0	11-8-2011	

PROJECT: 872 - KASAAN HARBOR Improvements
State of Alaska

TITLE: INTERNAL PILE FRAMES – 12.75" PILES

DESIGNED BY:	AK	PROJECT NO:	872	SHEET NO:	2
DRAWN BY:	XAS	DATE:	10-28-2011		
CHECKED BY:		SCALE:			



SECTION A–A

FOR IPC–2 (16" PILES)

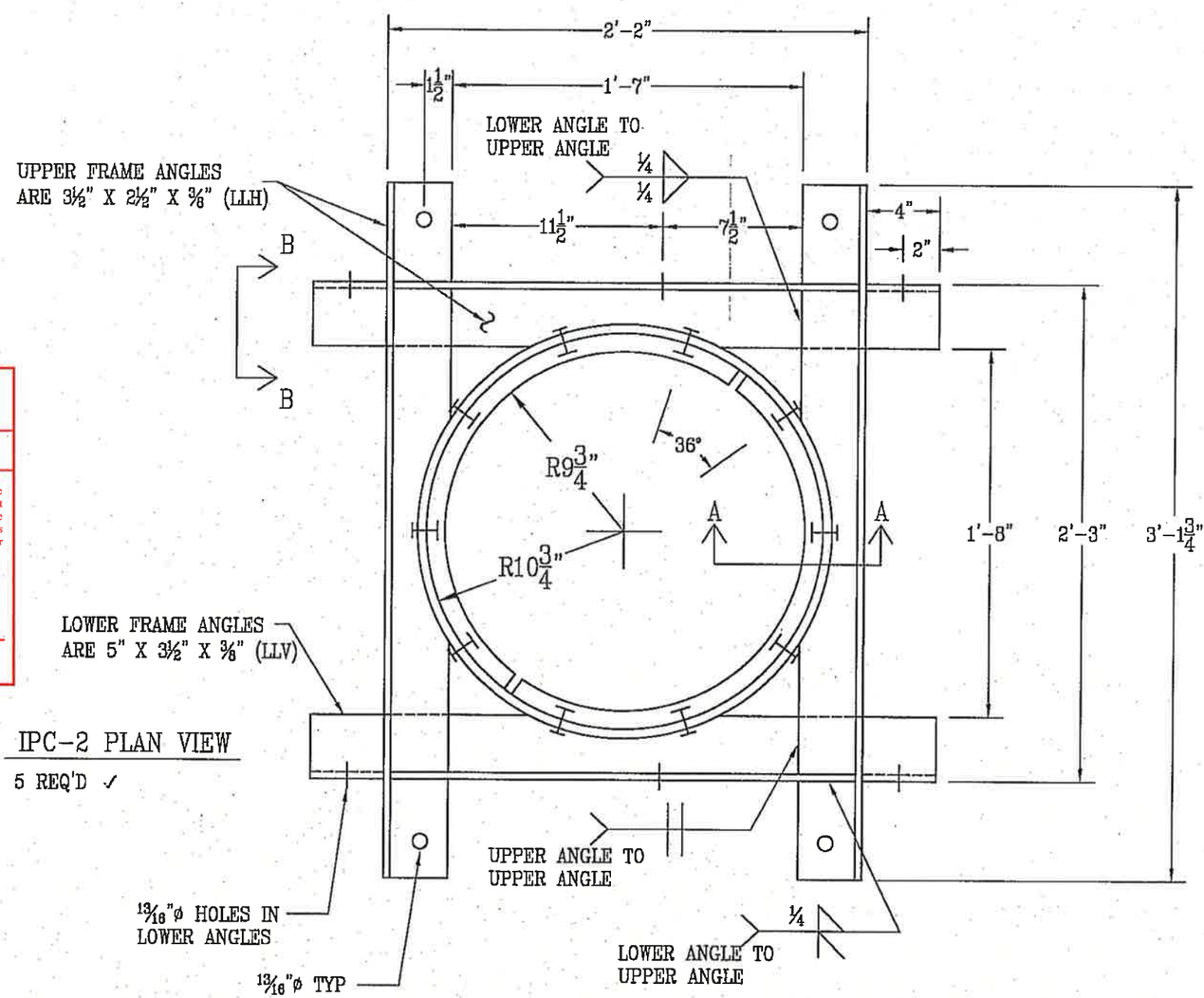
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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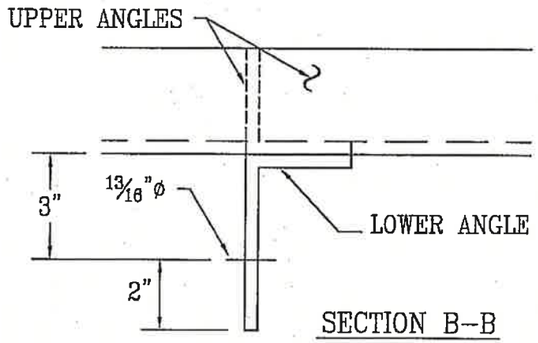
ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/9/11 Project Engineer



IPC–2 PLAN VIEW

5 REQ'D ✓



SECTION B–B

Bid Item 506 (1)

FOR APPROVAL

MATHEUS LUMBER COMPANY INC
P.O. BOX 2260
15800 WOODINVILLE REDMOND RD. N.E.
WOODINVILLE, WA 98072
(206) 284-7500 FAX (425)483-9744
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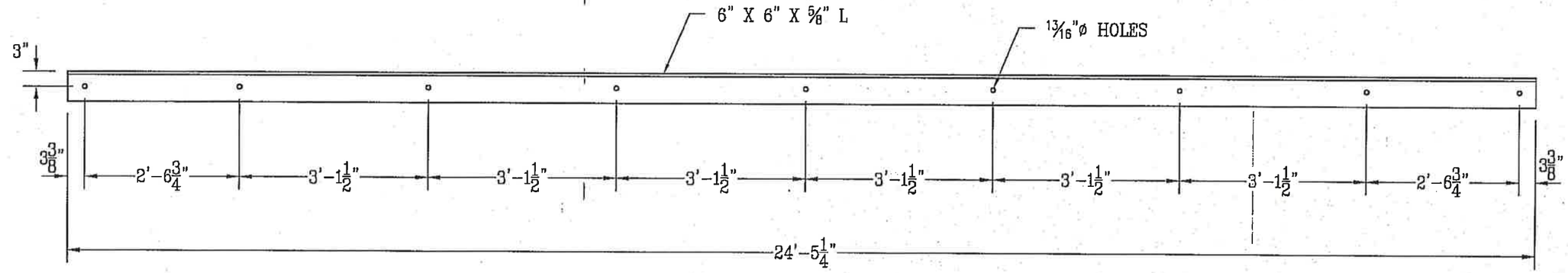
REVISIONS		
REV	DATE	DESCRIPTION
B-0	11-8-2011	

PROJECT: 872 - KASAAN HARBOR Improvements
State of Alaska

TITLE: INTERNAL PILE FRAMES – 16" PILES

DESIGNED BY:	AK	PROJECT NO:	872	SHEET NO: 3
DRAWN BY:	KAS	DATE:	10-28-2011	
CHECKED BY:		SCALE:		

10-28-2011
872 Kasaan Steel/872 Kasaan dngs



SKIFF FLOAT ANGLE – 2 REQ'D ✓

Bid Item 506(3)

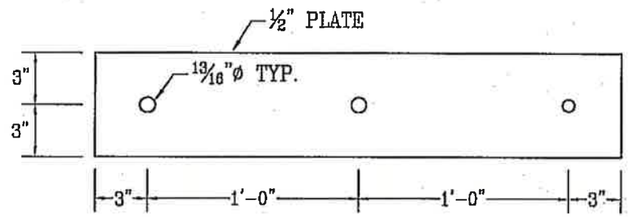
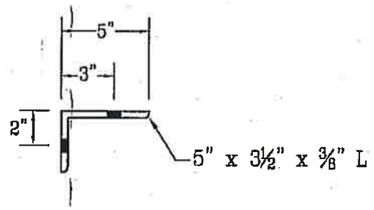
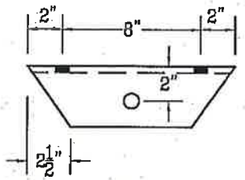


PLATE SP-1
12 REQ'D ✓ [8 EA 506(1)] [4 EA 506(2)]

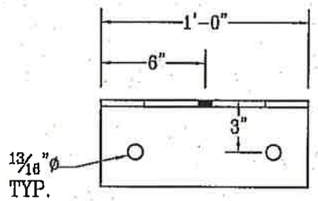


END VIEW

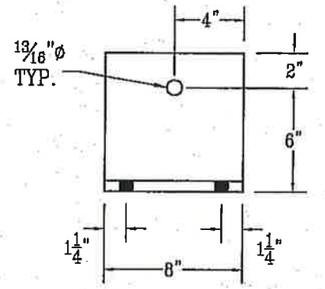


TOP VIEW

AB-1 – 18 REQ'D ✓
[8 - 506(2)
10 - 506(1)]

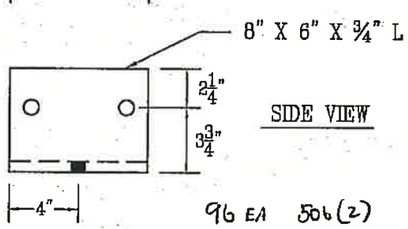


SIDE VIEW



TOP VIEW

216 EACH. ✓
AB-2 – ~~78~~ REQ'D



SIDE VIEW

96 EA 506(2)
120 EA 506(1)

State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

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ACCEPTED X
ACCEPTED AS NOTED
RETURNED FOR CORRECTION

Date 11/9/11 Project Engineer

MATHEUS LUMBER COMPANY INC
P.O. BOX 2260
15800 WOODINVILLE REDMOND RD. N.E.
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FOR APPROVAL

Shoreside Marinas
Specialists in Marina Design and Construction
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REVISIONS		
REV	DATE	DESCRIPTION
R-0	11-6-2011	

PROJECT: 872 - KASAAN HARBOR Improvements
State of Alaska

TITLE: ANGLES AND PLATES

DESIGNED BY:	AK	PROJECT NO: 872	SHEET NO: 4
DRAWN BY:	KAS	DATE: 10-28-2011	
CHECKED BY:		SCALE:	

10-28-2011
872 Kasaan Steel/872 Kasaan dngs

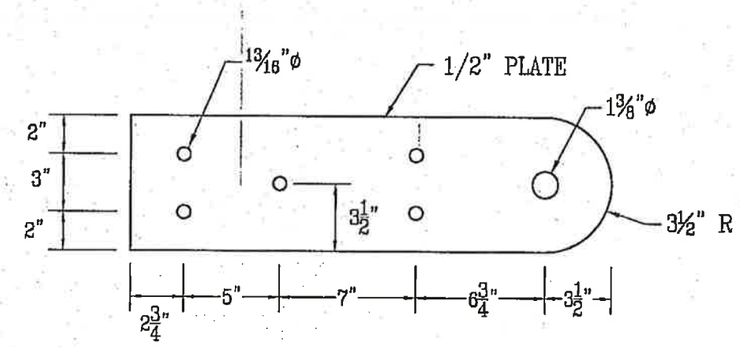
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED X
RETURNED FOR CORRECTION

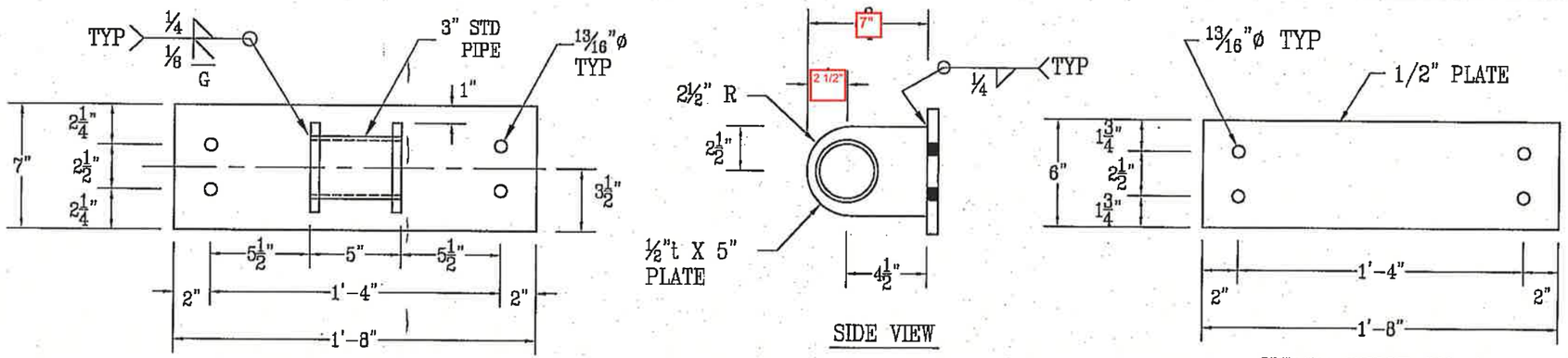
Date 11/9/11 Project Engineer



HINGE PIECE H1

16 PIECES REQ'D ✓

Bid Item 506(3)



HINGE PIECE H2-1

HINGE PIECE H2-1
BACKUP PLATE

Bid Item 506(3)

8 SETS OF HINGE PIECE 'H2-1' AND BACKUP PLATE REQ'D ✓
NOTE THAT BUSHINGS, BOLTS, NUTS AND WASHERS BY OTHERS.

FOR APPROVAL

MATHEUS LUMBER COMPANY INC
P.O. BOX 2260
15800 WOODINVILLE REDMOND RD. N.E.
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REVISIONS

REV	DATE	DESCRIPTION
R-0	11-8-2011	

PROJECT: 872 - KASAAN HARBOR Improvements
State of Alaska

TITLE: HINGES

DESIGNED BY:	AK	PROJECT NO:	872	SHEET NO: 5
DRAWN BY:	KAS	DATE:	10-28-2011	
CHECKED BY:		SCALE:		

10-28-2011
872 Kasaan Steel/872 Kasaan dgs

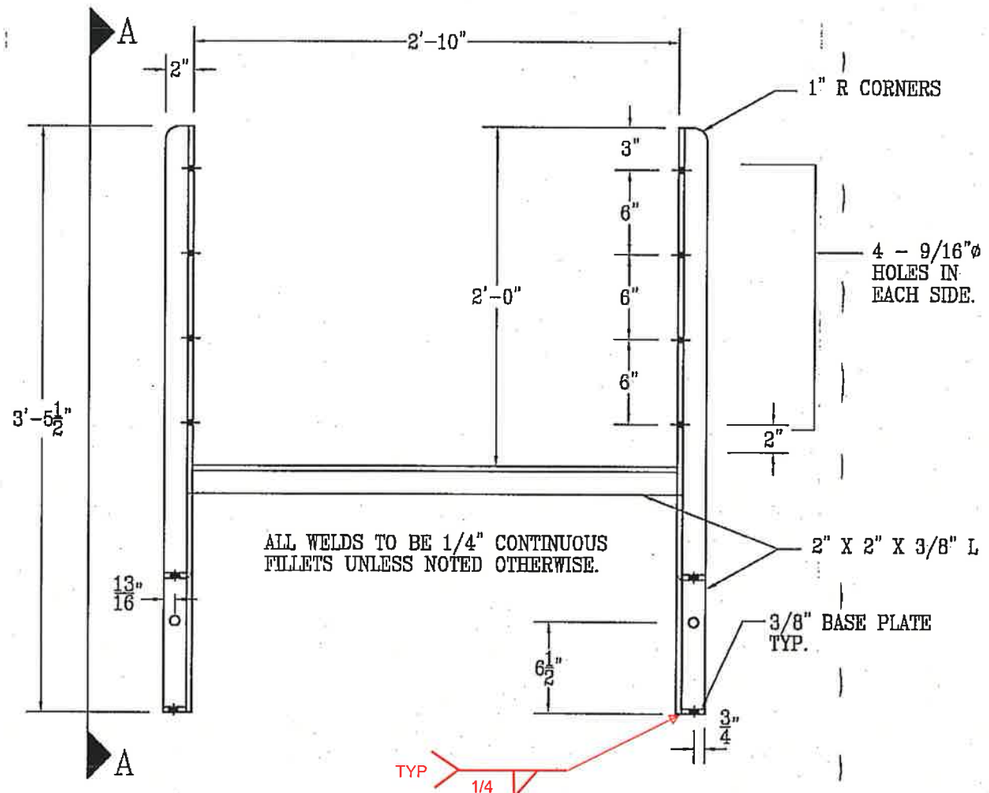
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering

CONTRACTOR SUBMITTAL REVIEW

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ACCEPTED
ACCEPTED AS NOTED x
RETURNED FOR CORRECTION

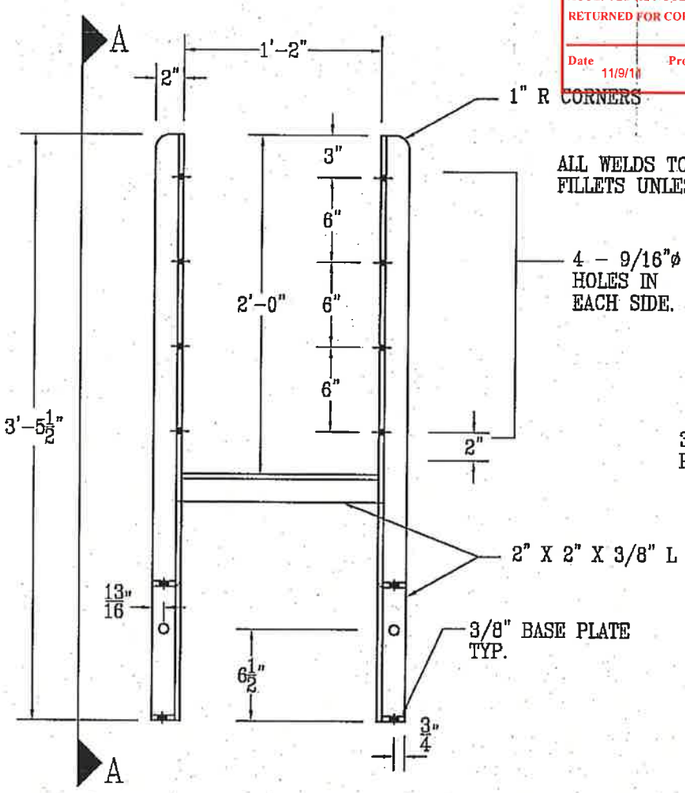
Date 11/9/11 Project Engineer



* LIFE RING CABINET FRAME

3 REQ'D AS SHOWN ✓

Bid Item 506(8)

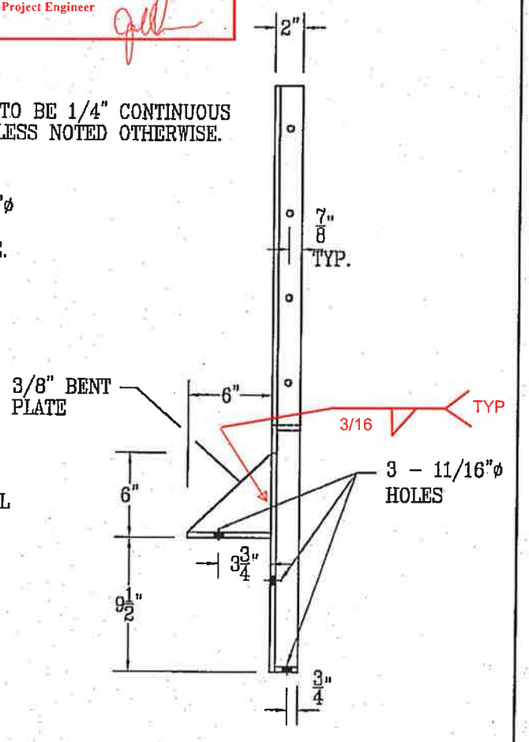


* FIRE EXTINGUISHER FRAME

3 REQ'D AS SHOWN ✓

Bid Item 506(7)

ALL WELDS TO BE 1/4" CONTINUOUS FILLETS UNLESS NOTED OTHERWISE.



VIEW A-A

* IN CONJUNCTION WITH CHEYENNE MFG TOUGH GUY CABINETS

FOR APPROVAL

MATHEUS LUMBER COMPANY INC
P.O. BOX 2260
15800 WOODINVILLE REDMOND RD. N.E.
WOODINVILLE, WA 98072
(206) 284-7500 FAX (425)483-9744
(800) 284-7501 (800) 966-3121

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REVISIONS		
REV	DATE	DESCRIPTION
B-0	11-8-2011	

PROJECT: 872 - KASAAN HARBOR Improvements
State of Alaska

TITLE: CABINET STANDS

DESIGNED BY:	AK	PROJECT NO:	872	SHEET NO:	6
DRAWN BY:	KAS	DATE:	10-25-2011		
CHECKED BY:		SCALE:			

10-25-2011
872 Kasaan Steel/872 Kasaan drgs