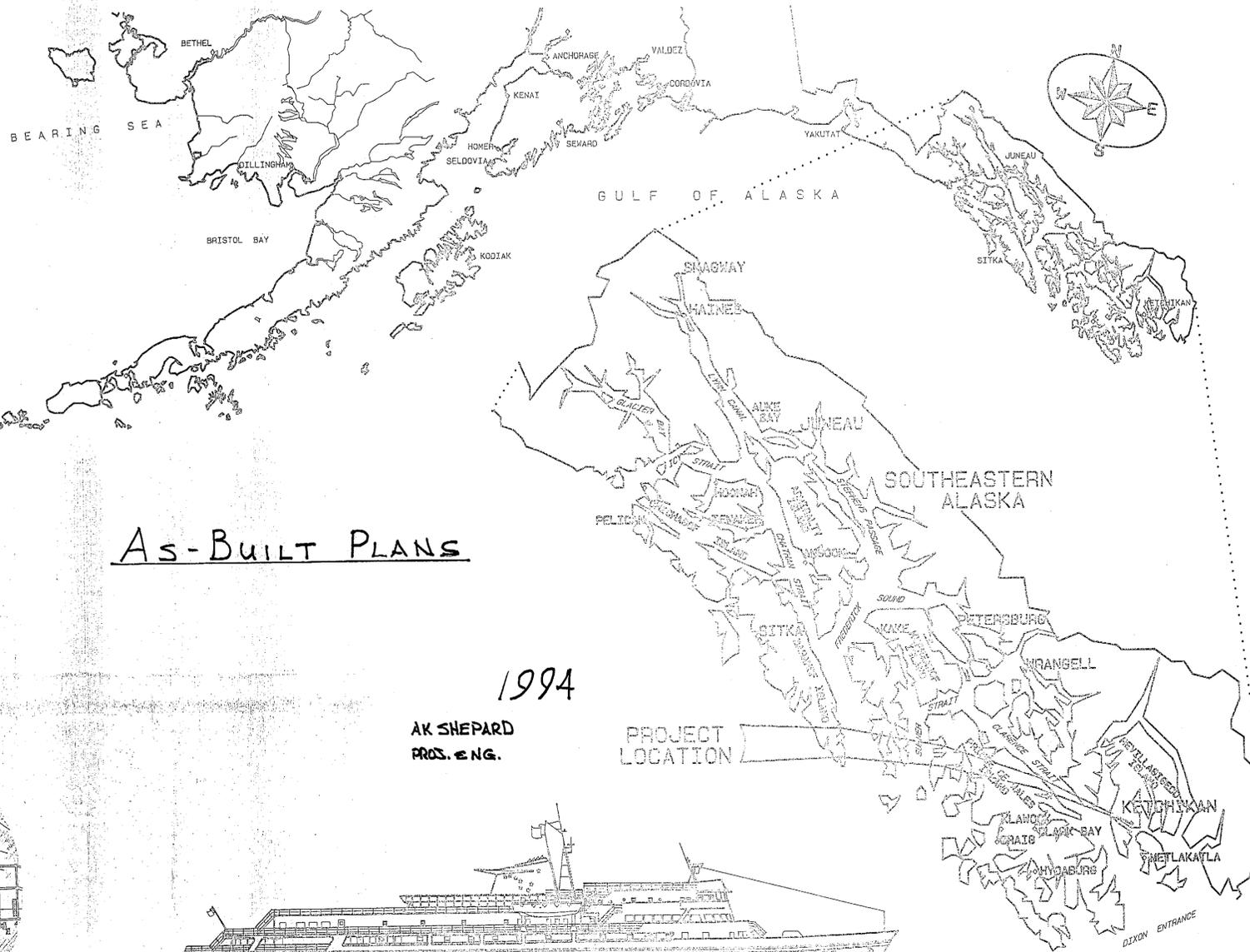


KETCHIKAN FERRY TERMINAL

MOORING REALIGNMENT

PROJECT NO. F-095-2(16)
& NO. 75120 & 75285

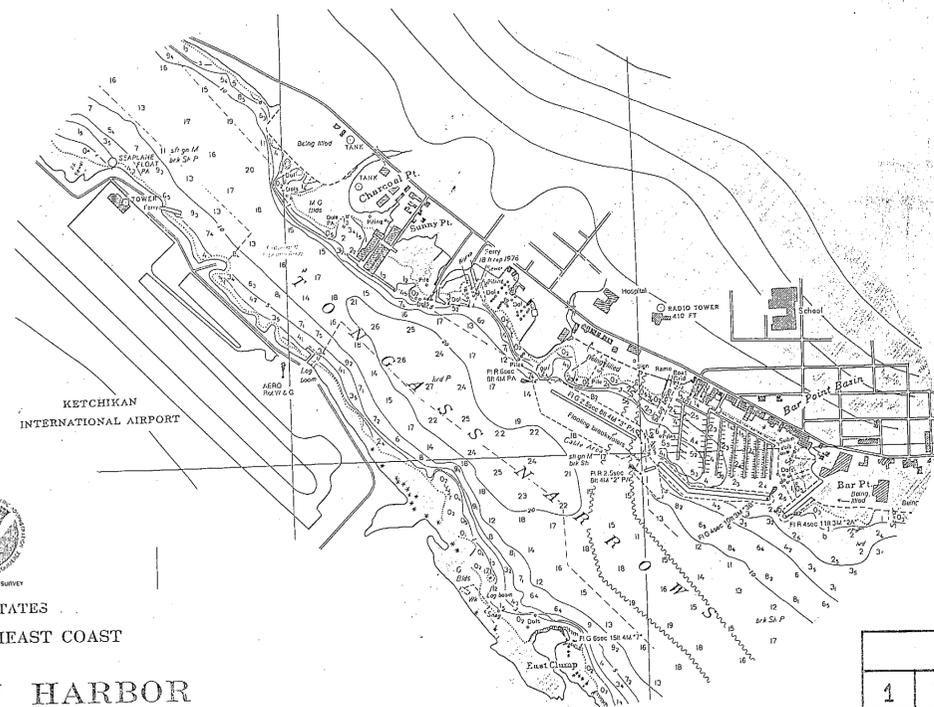
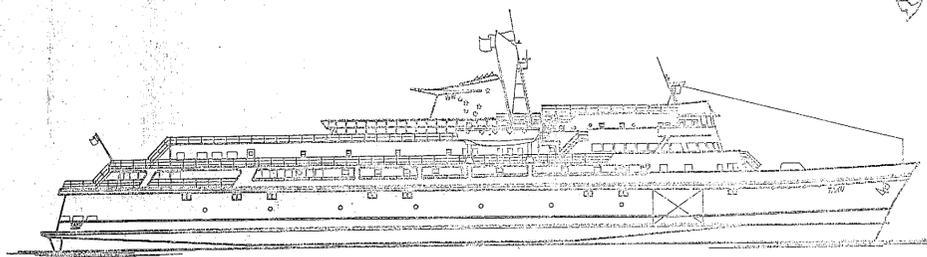


As-Built Plans

1994

AK SHEPARD
PROS. & ENG.

PROJECT
LOCATION



UNITED STATES
ALASKA - SOUTHEAST COAST

KETCHIKAN HARBOR

Map Projection
Scale 1:10,000 at Lat. 55°20'
North, American 1927 Datum
SOUNDINGS IN FATHOMS
(FATHOMS AND FEET TO ELEVEN FATHOMS)
AT MEAN LOWER LOW WATER



INDEX TO SHEETS

1	TITLE SHEET	15	BARGE RESTRAINT STRUCTURE (AS-BUILT)	35	MOORING STRUCTURE "2A", DETAILS (AS-BUILT)
2	QUANTITIES & GENERAL NOTES	17	PLATFORM "A" ACCESS & DETAILS (AS-BUILT)	36	STANDARD MOORING STRUCTURE, DETAILS
3	EXISTING LAYOUT	18	PLATFORM "B" ACCESS & DETAILS (AS-BUILT)	39	INTERMEDIATE MOORING STRUCTURE, DETAILS
4	PROPOSED LAYOUT	19	PLATFORM "B" MODIFICATIONS	42	LEAD-IN MOORING STRUCTURE, DETAILS
5	TRAFFIC CONTROL	20	DOCK PLAN, PILING & DETAILS (AS-BUILT)	45	SOUTH BERTH WORK FLOAT/DOCK ACCESS
6	SEAWARD LAYOUT	21	CATWALK "A" DETAILS	46	SO. BERTH TRACK/GUIDE & HANDRAIL DETAILS
7	UPLANDS LAYOUT	22	CATWALK "A" EXTENSION & CATWALK "B"	47	SO. BERTH DOCK PLATFORM DETAILS
8	RIPRAP, SIDEWALK & MISC. DETAILS	23	GANGWAYS A/B, CATWALKS 108'/68' (AS-BLT)	48	SO. BERTH FLOAT GANGWAY
9	BRIDGE WATERLINE (AS-BUILT)	25	32' CATWALK DETAILS	49	SO. BERTH DOCK GANGWAY
10	WALKWAY COVER PLAN, ELEV. & DETAILS	26	44' CATWALK DETAILS	50	SOUTH BERTH COVERED WALKWAY DETAILS
11		27		51	
12	APPROACH LAYOUT & DETAILS	28	NORTH DOLPHIN DETAILS, EXPANSION (AS-BLT)	52	ELECTRICAL
13		30		53	
14		31			
15	BRIDGE OVERALL PLAN & ELEV. (AS-BUILT)	32	MOORING STRUCTURE A, FENDER/MODIFICATIONS		

STATE
OF
ALASKA

DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
MARINE FACILITIES

APPROVED

Tom Van Nieuw
Shore Facilities Engineer

Recommend for Approval
[Signature]
Group Design Chief

Sheet 1 of 53

SUMMARY
ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	ESTIMATED QUANTITIES	UNIT	TOTAL
110	Mobilization	L.S.	All Req'd	L.S.	All Req'd
111	Temp. Erosion & Pollution Control	C.S.	All Req'd	C.S.	All Req'd
115	Traffic Maintenance and Control	L.S.	All Req'd	L.S.	All Req'd
116	Furnish and Maintain Field Office				
109	DBE & WBE Adjustment	C.S.	All Req'd	C.S.	All Req'd
201 (1)	Removal of Structures and Obstructions	L.S.	All Req'd	L.S.	All Req'd
201 (2)	Relocate Bridge and Barge	L.S.	All Req'd	L.S.	All Req'd
201 (3)	Salvage/Relocate Barge Restraints	L.S.	All Req'd	L.S.	All Req'd
201 (4)	Salvage/Relocate Mooring Structure "B" "2A"	L.S.	All Req'd	L.S.	All Req'd
201 (5)	Salv./Reloc. Gangways, Catwalks & Platforms	L.S.	All Req'd	L.S.	All Req'd
201 (6)	Disposal Of Salvaged Pile	L.S.	All Req'd	L.S.	All Req'd
203	D-1, Crushed Rock Base	CY	286	TON	110.82
205	Riprap, Class III	CY	1400	CY	1400.04
207 (1)	Hot Asphalt Pavement	TON	1522	TON	1522.08
207 (2)	AC-5, Asphalt Cement	TON	9.7	TON	9.7
301 (1)	14"Ø x 1/2" wall Pipe Pile, Furnished	L.F.	352	L.F.	352.7
301 (2)	14"Ø x 1/2" wall Pipe Pile, Driven	EA.	4	EA.	4
301 (3)	18"Ø x 1/2" wall Pipe Pile, Furnished	L.F.	2582	L.F.	2582.2
301 (4)	18"Ø x 1/2" wall Pipe Pile, Driven	EA.	27	EA.	27
301 (5)	24"Ø x 1/2" wall Pipe Pile, Furnished	L.F.	1722	L.F.	1722.5
301 (6)	24"Ø x 1/2" wall Pipe Pile, Driven	EA.	21	EA.	21
301 (7)	36"Ø x 1/2" wall Pipe Pile, Furnished	L.F.	4475	L.F.	4475.7
301 (8)	36"Ø x 1/2" wall Pipe Pile, Driven	EA.	28	EA.	28
302 (1)	Mooring Structure "A", Fender Modifications	L.S.	All Req'd	L.S.	All Req'd
302 (2)	Mooring Structures C & D, "Std" Caps & Fenders	EA.	2	EA.	2
302 (3)	Mooring Structures E, F, G, H & I, "Inter" Cap & Fdr	EA.	5	EA.	5
302 (4)	Mooring Structure J, "Lead-In" Cap & Fenders	EA.	1	EA.	1
302 (5)	Catwalks	L.S.	All Req'd	L.S.	All Req'd
302 (6)	Steel Approach and Abutment	L.S.	All Req'd	L.S.	All Req'd
302 (7)	South Berth Platform and Gangway	L.S.	All Req'd	L.S.	All Req'd
302 (8)	Covered Walkway To Main Berth	LF	187	LF	187
302 (9)	Covered Walkway To South Berth	LF	638	LF	638
501	Electrical and Illumination System	L.S.	All Req'd	L.S.	All Req'd
602	4" Concrete Sidewalk	SY	133	SY	133.67
603	Curb and Gutter	LF	300	LF	300
608	Striping and Marking	LS	All Req'd	LS	All Req'd

① Includes approximately 5100 sq. ft. of 2" thick overlay and approximately 7700 sq. ft. of asphalt paving over new base.

② If Alternate "B" is awarded, total piling furnished will be a combination of New & Salvaged piling as follows:

Pile Size	Furnished New	Furnished Salvaged
14"Ø x 1/2" wall	134 LF	218 LF
18"Ø x 1/2" wall	199 LF	2383 LF
24"Ø x 1/2" wall	581 LF	1141 LF

Quantities of salvage pile DO NOT include all pile to be removed from existing structures. Following are quantities of pile assumed to be available for reuse

Existing Structure	Pile Size	Approx. Quant.
North Dolphin (Struct. "A") Fender	24"Ø	333 LF
Mooring Structure "2A", Fender	24"Ø	323 LF
Support	18"Ø	444 LF
Restraint Structure, Vertical	24"Ø	485 LF
Battered	18"Ø	352 LF
Platforms A & B, Support	14"Ø	218 LF
Mooring Structures 5, 6 & 7, Support	18"Ø	1587 LF

Where A Piling In A New Or Relocated Structure Is Made Up Of New & Salvaged Piling, The Salvaged Piling Shall Be Driven First.

③ Work includes all material, fabrication, & installation of catwalk "A" extension & platform "B" extension required for reuse of salvaged structures at the new locations.

GENERAL NOTES

Specifications:

Construction: Per Contract Documents for Project No. F-095-2(16)/75120 & 75285

Design: Transfer Ramp: AASHTO 1983 with latest interim specifications.
Barge and Restraint and Mooring Structures: Marine Facilities Design Standards.

Design Loads:
Bridge: LL - HS20-44 and 60 psf pedestrian
DL - no allowance for future wearing surfaces
Support Barge: DL+LL of Bridge floating with ballast, or suspended (from restraint) without ballast.
Mooring Structure: Berthing E 30 ft. - Kips
Mooring Line - 30 Kips
Restraint Structure: Vertical - Barge (no ballast) + Bridge (LL+DL)
Horizontal - Barge with 6 Kt current
Catwalks and Gangways: LL - 60 psf

Design Unit Stresses:
Steel: A36 F_y = 20 Ksi
A252 Gr. 2 F_y = 19.25 Ksi
A500 Gr. B F_y = 25 Ksi
A572 F_y = 27 Ksi
A108 F_y = 29 Ksi
A608 Gr. D F_y = 30 Ksi
Fender Timber: EKKI, F_b = 4.0 Ksi.
Concrete: Min. 28 day strength F_c: Class A-A = 5 ksi. & Class A = 4 ksi.
Reinforcement: F_y = 60 ksi

Materials:
Steel: Tube Sections A500 Gr. B
Pipe A252 Gr. 2, A501 or A53, Gr. B, type E or S
Pipe A53, Gr. B, type E or S
Stainless Type 302, 304 or 316
All other shall be A36 or A572 as noted.
Charpy Group 2 impact requirements shall apply.
Timber: Fender Faces: EKKI (Lophira Procera)
Framing Lumber: Framing, siding and sheathing per Section 502.
Concrete: Class A-A & Class A
Reinforcement: A615 Gr. 60

Protective Coatings:
Platforms, Landings, and Gangways: Galvanize after fabrication
Catwalks: System 2, 3, 4 or 5 (Section 303), except handrails, grate decking, hardware, cable, chain and hangers. Galvanized after fabrication.
Pipe Piles and Structural Steel Caps, Wales, Rails and Hardware: Galvanized after fabrication
Reinforcing Steel: Epoxy Coat
EKKI: Untreated.

Piling: Size: 14" dia. x 1/2" wall steel pipe or 18" dia. x 1/2" wall steel pipe or 24" dia. x 1/2" wall steel pipe or 36" dia. x 1/2" wall steel pipe
Tips: Open End (a): Reinforced tips w/ APF 0-14000 or APF 0-14001 drive shoes as req'd., or approved equal.
Closed End (c): 1" Galvanized Plate with diameter 1" larger than pile O.D., Secured to pile tip with 3/8" fillet weld all around.
Driving Requirements: (See table this sheet)

Oils / Lubrication:
Contractor shall provide all oils and lubrications to fill reservoirs and grease all bearings, cables and sliding surfaces. Hydraulic oil shall be per Sec. 302, cable dressing shall be Certified CCX-77, bearing/bushing lube shall be Certified Perma-lube and lube for sliding surfaces shall be Chevron Pinion Grease MS.

PILING DATA

PILE LOCATION (Layout Sht. 4) STRUCTURE ORIENTATION & (pile tip)	Pile No.	DIA. Inches	CAPACITY (TONS)		ELEVATIONS		TIP ELEVATIONS		TOTAL ESTIMATED LENGTH
			BEARING	UPLIFT	APPROX. MUDLINE	CUT-OFF	MIN.	EST.	
MOORING STRUCTURE "A"									
Fender (a)	5	24	15	---	-30	24.00	-50	-50	370
MOORING STRUCTURE "B"									
Fender (a)	4	24	10	---	-50	23.97	-50	-50	296
Vertical (a)	1	18	120	120	-30	22.97	-100	-132	155
3:1 batter (a)	2	18	65	50	-30	23.0	-70	-82	234
MOORING STRUCTURE "C"									
Fender (a)	4	24	10	---	-25	24.00	-45	-45	276
Vertical (a)	1	18	120	120	-25	24.00	-95	-127	151
3:1 batter (a)	2	18	65	50	-25	23.0	-65	-77	214
MOORING STRUCTURE "D"									
Fender (a)	4	24	10	---	-27	24.00	-47	-47	284
Vertical (a)	1	18	120	120	-27	24.00	-97	-129	153
3:1 batter (a)	2	18	65	50	-27	23.0	-67	-79	218
MOORING STRUCTURE "E"									
Vertical (a)	2	36	100	100	-35	22.00	-80	-80	204
3:1 batter (a)	2	36	140	100	-35	23.0	-80	-92	256
MOORING STRUCTURE "F"									
Vertical (a)	2	36	100	100	-47	22.00	-92	-92	228
3:1 batter (a)	2	36	140	100	-47	23.0	-90	-104	280
MOORING STRUCTURE "G"									
Vertical (a)	2	36	100	100	-62	22.00	-107	-107	258
3:1 batter (a)	2	36	140	100	-62	23.0	-105	-119	312
MOORING STRUCTURE "H"									
Vertical (a)	2	36	100	100	-70	22.00	-115	-115	274
3:1 batter (a)	2	36	140	100	-70	23.0	-113	-127	328
MOORING STRUCTURE "I"									
Vertical (a)	2	36	100	100	-70	22.00	-115	-115	274
3:1 batter (a)	2	36	140	100	-70	23.0	-113	-127	328
MOORING STRUCTURE "J"									
Vertical (a)	4	56	300	250	-70	+2.00	-176	-197	796
2:1 batter (a)	2	56	300	250	-70	27.19	-165	-184	472
2.5:1 batter (a)	2	56	300	250	-70	27.19	-168	-188	464
BARGE RESTRAINT STRUCTURES									
Vertical (a)	4	24	100	---	-40	20.00	-90	-104	496
4:1 batter (a)	4	18	50	10	-40	23.50	-70	-81	432
PLATFORM "A"									
Vertical (a)	1	14	10	---	-45	24.92	-60	-60	85
4:1 batter (a)	1	14	10	10	-45	28.50	-60	-60	91
PLATFORM "B"									
Vertical (a)	1	14	10	---	-25	24.92	-60	-60	85
4:1 batter (a)	1	14	10	10	-25	28.50	-60	-60	91
APPROACH & ABUTMENT									
Vertical (a)	3	18	60	---	+22	18.58	-20	-29	144
@ MIDDLE BENT									
Vertical (a)	3	18	60	---	+10	18.52	-20	-41	180
@ END / BRIDGE SUPPORT									
Vertical (a)	3	18	65	---	0	15.40	-20	-72	261
4:1 batter (a)	4	18	65	---	0	19.40	-20	-70	368
Vertical (a)	1	18	60	---	0	18.34	-20	-51	69

DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KETCHIKAN ALASKA

QUANTITIES AND GENERAL NOTES

DESIGNED BY	CHECKED BY	DRAWN BY	DATE
PROJECT NUMBER	SHEET		OF
F-095-2(16)/75120 & 75285	2		53

9-1-92
ketch209

P.I. 26+88.47 TO P.O.T. 43+03.18 BK = 43+10.74 AHD
S 50°02'05"E - 1620.87' (1621.17' MEAS.)

TONGASS AVENUE

U.S. POSTAL SERVICE

LONG TERM PARKING

STAGING AREA

SOUTH BERTH ACCESS ROAD

EXISTING TERMINAL BLDG.

TRANSITORY PARKING

Existing Luminaires To Be Removed

Existing Sidewalk, Curb, Gutter & Timber Cover To Be Removed

Portion Of Existing Pavement To Be Removed

Existing Mooring Structures To Be Removed

Existing 3' x 60' Catwalk To Be Removed

Existing Mooring Structure To Be Removed

Existing 3' x 108' Catwalk To Be Removed
(Contractor May Opt To Salvage / Fabricate New Catwalks)

Existing Mooring Structure To Be Removed

Existing Catwalk 3' x 44.5' To Be Extended To 3' x 53' And Relocated

Existing Mooring Structure "2A" To Be Salvaged And Relocated

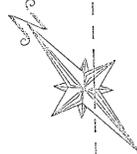
Existing Barge Restraint Structures To Be Salvaged & Relocated

Existing Concrete Dock On Steel Piles & Fenders To Be Removed

Existing 3' x 108' Catwalk To Be Removed
(Contractor May Opt To Salvage / Fabricate New Catwalks)

Existing Mooring Structure To Remain and Fender System To Be Modified

PIERHEAD LINE S 63° 38' 18" E



EG NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KETCHIKAN, ALASKA
**KETCHIKAN MOORING REALIGNMENT
EXISTING LAYOUT**

DESIGNED	CHECKED BS	DRAWN W.N.	DATE APR. 1992
PROJECT F-095-2 (16) / 75120 / 75265		SHEET 3	OF 53

KETCH202 9-1-92

P.I. 26+88.47 TO P.O.T. 43+03.18 BK = 43+10.74 AHD
 S 50°02'05"E - 1620.87' (1621.17' MEAS.)

TONGASS AVENUE

U.S. POSTAL SERVICE

LONG TERM PARKING

STAGING AREA

SOUTH BERTH ACCESS ROAD

New Walkway Cover To South Berth (See Shts. 50, 51)

New Pavement and Overlay (See Sht. 7)

New Riprap on Existing Slope (See Sht. 8)

See Sheet 3 For Location Of Existing Structures.

New Sidewalk, Curb, Gutter and Cover (See Shts. 10, 11)

New Approach & Bridge Abutment, w/ New Cover On Pedestrian Walkway Portion Of Approach (See Shts. 12-14)

Salvage & Reuse Exist. Bridge & Support Barge (See Sht. 15)

Salvage & Reuse Existing Gangway & Platform "A" (See Shts. 17, 23)

New 44' Catwalks (Sht. 27)

Salvage & Reuse Exist. Gangway (See Sht. 23)

Salvage Exist. Platform "B" Add Extension & Relocate (See Sht. 19)

New 44' Catwalk (See Sht. 27)

South Berth Work Float Access Gangways & Platform (See Shts. 45-49)

Realign Fender At Mooring Structure "A" North Dolphin (See Shts. 28-32)

Salvage & Reuse Existing Mooring Structure "2A" & Fender (See Shts. 33-35)
 New 26' Catwalk (See Sht. 27)

New Intermediate Mooring Structure & Fender (See Shts. 36-41)
 Salvage & Reuse Exist. Barge Restraint Dolphins, Typ. Es. Side (See Sht. 16)
 New Intermediate Mooring Structure & Fender (See Shts. 39-41)
 Salvage Exist. Catwalk "A", Add Extension & Relocate (See Sht. 22)

New Lead-In Mooring Structure & Fenders (See Sht. 42-44)
 New 52' Catwalk (See Sht. 26)

New Intermediate Mooring Structure & Fenders (See Shts. 39-41)
 Salvage Exist. Catwalk "A", Add Extension & Relocate (See Sht. 22)

HORIZONTAL CONTROL

Pt. No.	Description	Northings	Eastings	Elev.
K1-1	Man. in case of Tongass Ave. - P.O.T. 26+88.47	83369.9150	28380.6108	25.71
K1-2	Man. in case of Tongass Ave. - P.O.T. 43+03.18=43.74 Ahd Intersection of Fender Face & Transfer Bridge.	80328.6828	28623.4789	22.26
		80298.4173	28506.7037	

VERTICAL CONTROL

Braer Cap in concrete sidewalk, at the West end of the sidewalk along the South side of U.S. Post Office 80201 - Elev. 25.78 (Verify All Other Vertical Control)

TIDAL DATUM:

Highest Water Level (est.)	20.20
Mean Higher High Water	15.40
Mean High Water	14.50
Mean Tide Level	8.00
Mean Low Water	1.20
Mean Lower Low Water	0.00
Lowest Water Level (est.)	-5.00

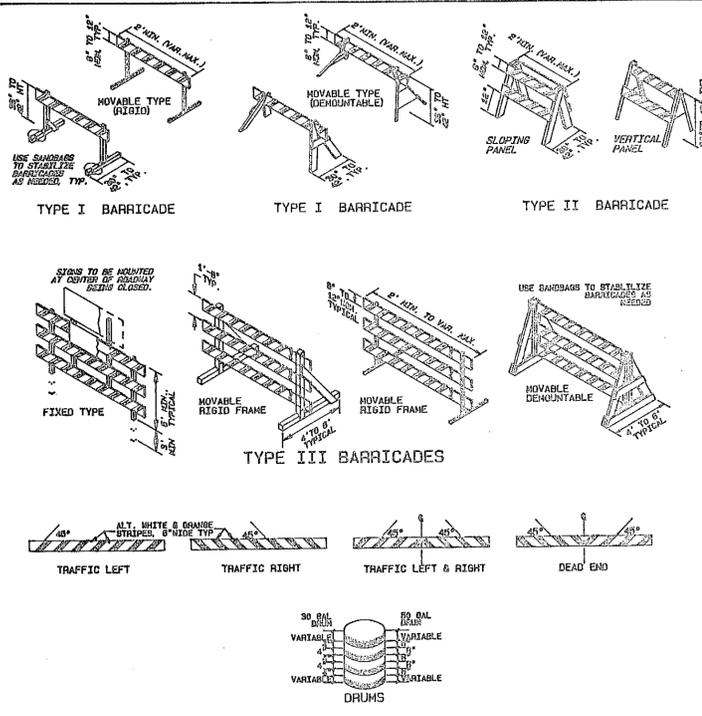


NOTE:
 Additional "As-Built" Drawings Not Included In This Plan Set Are Available For Review At:
 3132 Channel Drive, Room 105, Juneau, Alaska.

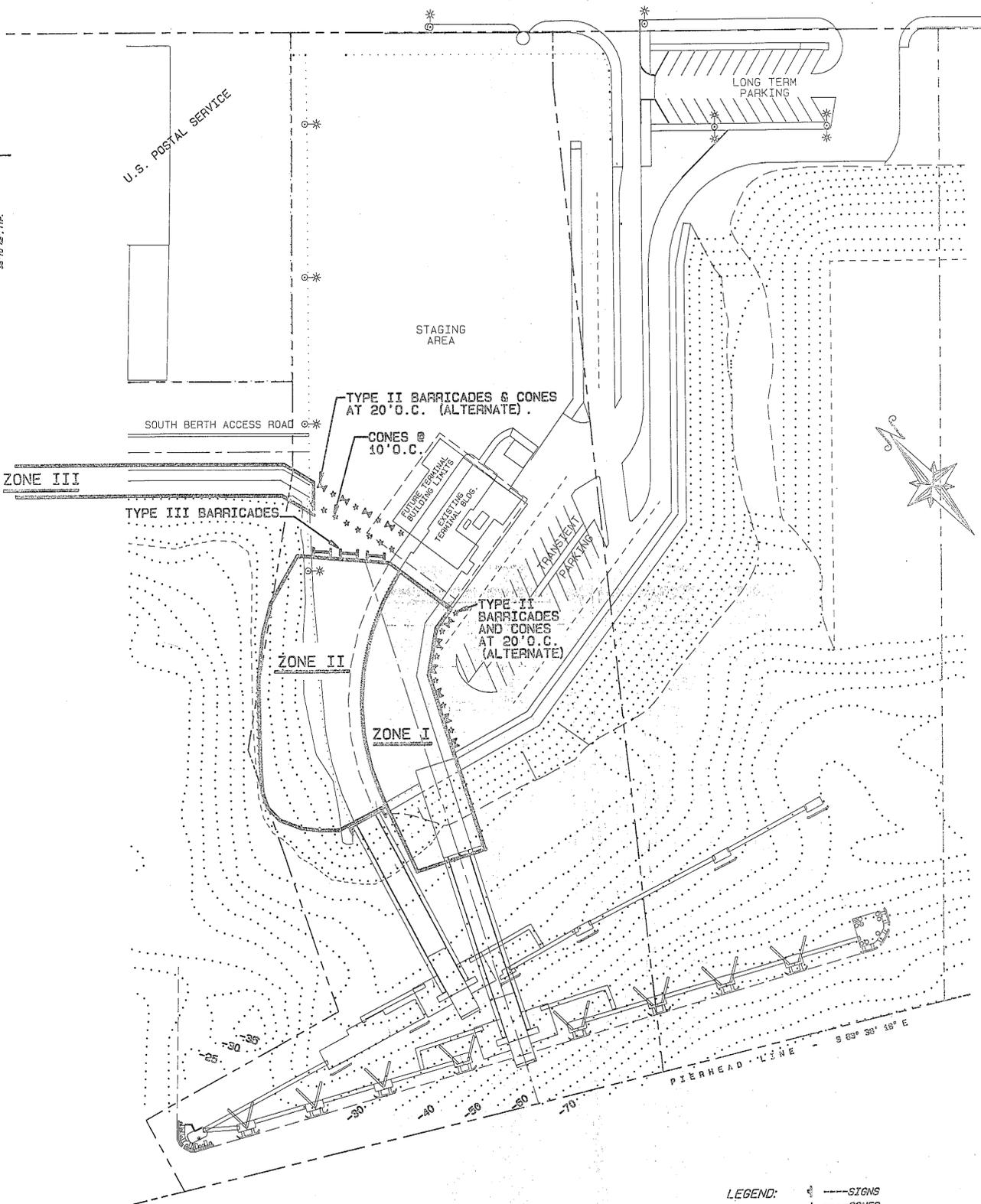
KETCH203

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	
KETCHIKAN, ALASKA	
KETCHIKAN MOORING REALIGNMENT PROPOSED LAYOUT	
DESIGNED J. S. / B. S.	CHECKED
DRAWN W. N.	DATE APR. 1992
PROJECT NUMBER T-095-2 (16) / 75120 / 75285	SHEET 4 OF 53

CONSTRUCTION BARRICADES and SIGNS



- BARRICADE NOTES:**
1. Construction barricades and construction signs shall be made of wood, metal, or other suitable weather resistant material.
 2. Barricades shall be fabricated structurally sound and sufficiently rigid to maintain the purpose and intent of a barricade facility and not be a hazard to motorists.
 3. Barricades and traffic control devices shall be maintained in a neat and orderly fashion prior to and during construction and maintenance operations. They shall remain in place only as needed.
 4. Barricades shall be subject to the approval of the engineer.
 5. Orange and white stripes shall be reflectorized.
 6. Type I and Type II barricades shall be striped on both sides, and stripes shall slope down toward the traffic side of barricade.
 7. Weights of concrete, stone, or brick shall not be allowed, and weights other than sandbags used to stabilize barricades shall be rigidly attached to the barricade so as not to create a hazard when struck by a vehicle.
 8. Construction signs shall be reflectorized or illuminated and per Alaska Sign Design Specifications (ASDS) and as per the MUTCD Alaska Supplement.



Traffic Control Plan

1. The Contractor shall designate one of his employees the responsibility of installing and maintaining all required traffic control elements. All traffic control elements shall be maintained 24 hr/day. Refer to Section 114 of the specifications.
2. All construction signing shall remain in place until the condition they delineate no longer exists.
3. Once the Contractor begins improvements the following traffic controls will remain in force until the project is completed.
 - A. The Contractor shall conduct his operations so as not to interfere with normal scheduled ferry access or vehicular traffic to and from the existing ferry facilities.
 - B. Ferry traffic shall have priority over construction activities and it shall be the Contractor's responsibility to coordinate his activities with ferry arrivals and departures.
 - C. Terminal personnel will dock, linehandle, stage traffic, and operate the transfer equipment.
 - D. Contractor shall provide safe access and lighting for terminal personnel to tie up points as required throughout the contract.
4. The Contractor shall not stockpile any materials in the existing staging area without approval of the Engineer.
5. Construction Phasing Plans and a Traffic Control Plan for each phase shall be required in accordance with Section 114 of the Specifications.
6. Refer to Section 114 for minimum number of signs and barricades to be provided. Signs shown show ASDS coding. All signs to be Class 5.1.
7. Contractor's Hauling Vehicles which are travelling "north" on Tongass Avenue shall use the Ketchikan Shipyard exit north of the U.S. Post Office.
8. Delineate pedestrian access with cones as required during work (cones at 10' max.).
9. Provide vehicular access thru work zone.

TCP ZONE I

Major items of work under Zone I include Removal of existing asphalt pavement; Installation of new covered sidewalk w/ foundation, curb & gutter; Construction of new steel approach & new bridge abutment with waterline, powerline & utilities extensions; Grading to drain & asphalt paving to match new curb and approach.

TCP ZONE II

Major items of work under Zone II include Removal of existing sidewalk, curb, gutter & wood sidewalk cover; Removal of luminaras; Placement of new Riprap shore protection; Extension of waterline & insulation; and Relocation of existing transfer bridge & barge.

TCP ZONE III

The Major item of work under Zone III is the construction of a cover over the existing sidewalk along the South Berth access road.

Additional Traffic Control For Zone III

1. Existing sidewalk to/from South Berth shall be clear for passengers/personel for a period 1/2 hour before ship arrival to 1/2 hour after ship departure.
2. Existing South Berth approach road shall be open full width same period as sidewalk. A 12' width shall be open all other times.



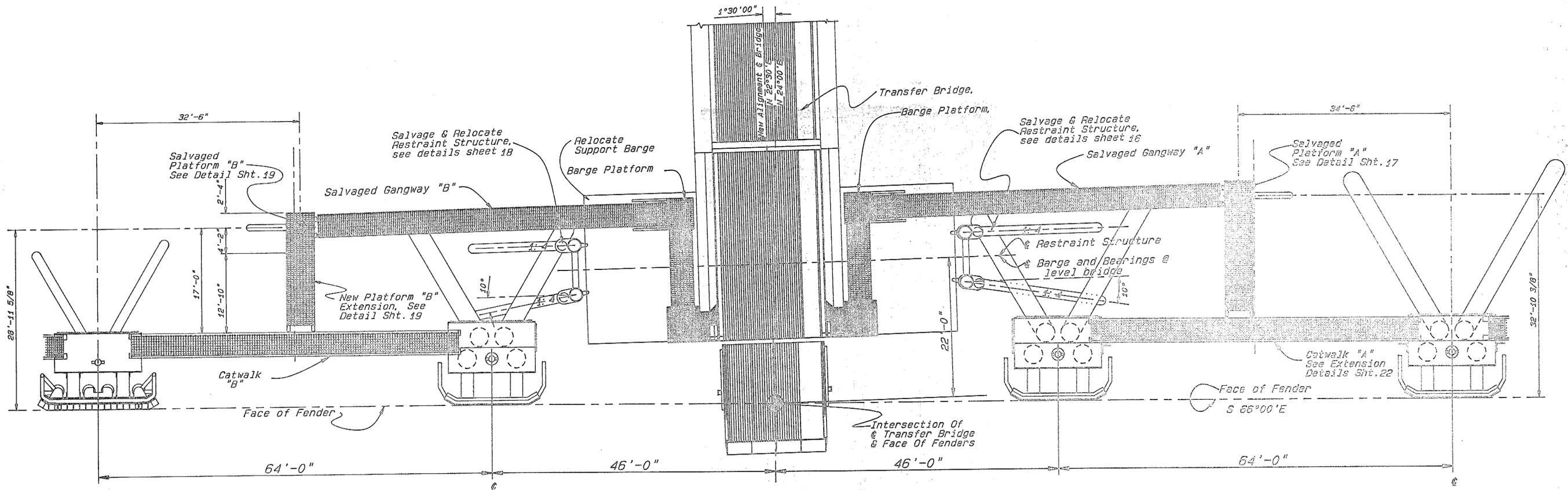
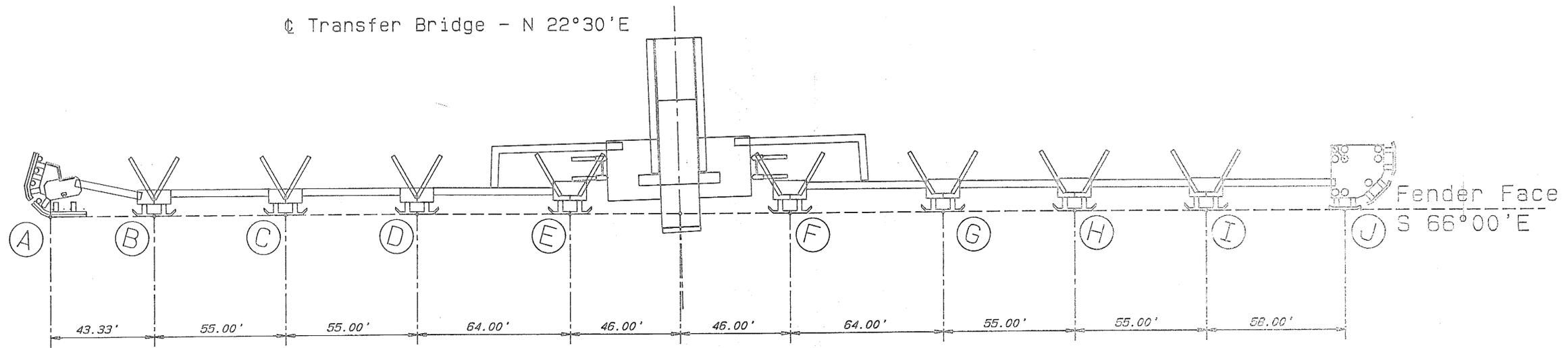
- LEGEND:**
- SIGNS
 - CONES
 - TYPE II BARRICADE
 - TYPE III BARRICADE

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	
KETCHIKAN, ALASKA KETCHIKAN MOORING REALIGNMENT TRAFFIC CONTROL	
DESIGNED J.S./D.S.	CHECKED
DRAWN W.N.	DATE APR. 1992
PROJECT F-085-2 (16) / 75/20 # 75285	SHEET 5 OF 53

KETCH20T

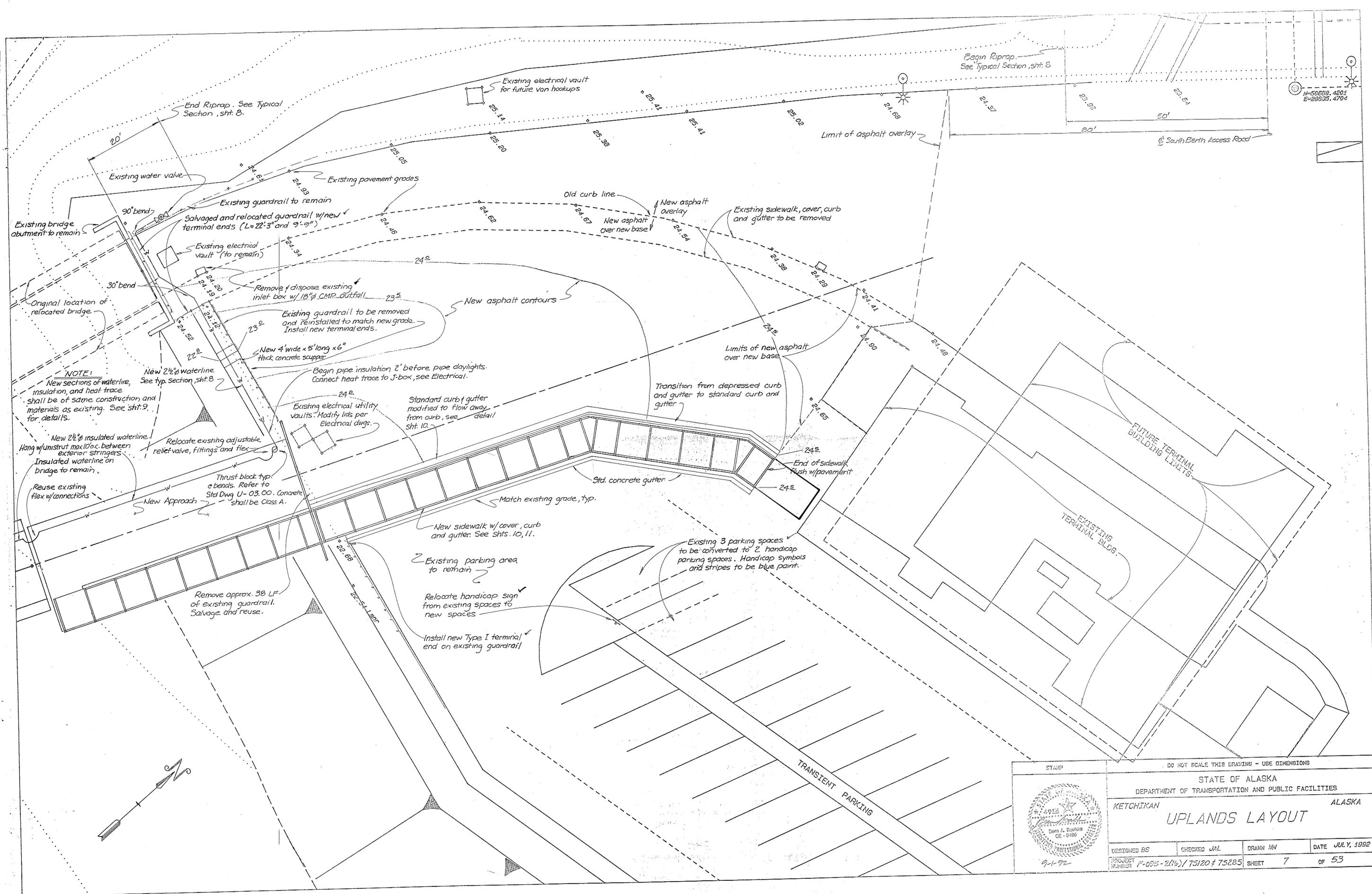


Transfer Bridge - N 22°30'E



TONGASS NARROWS

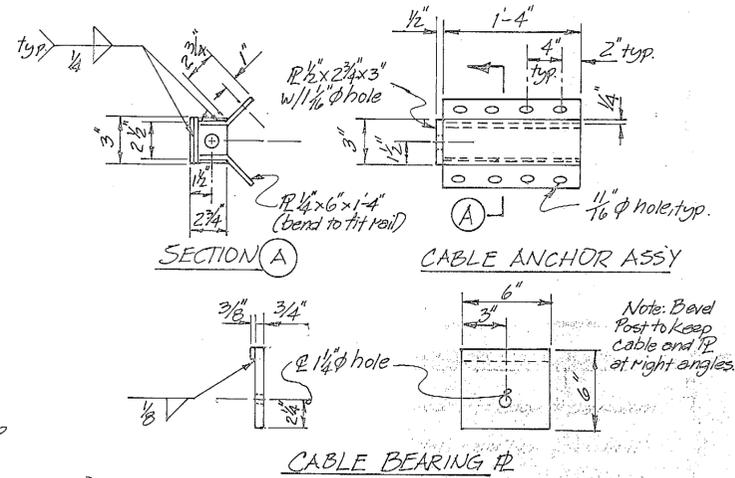
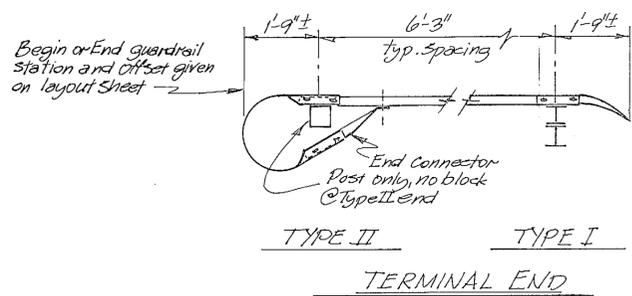
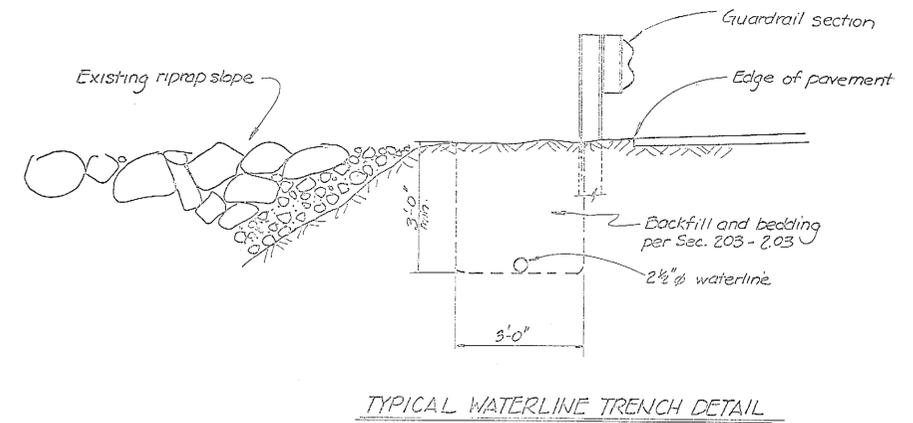
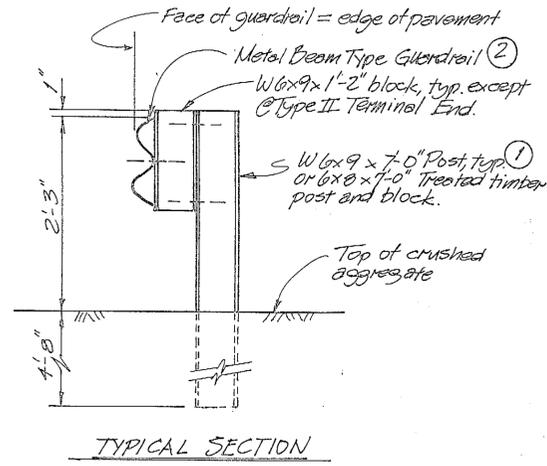
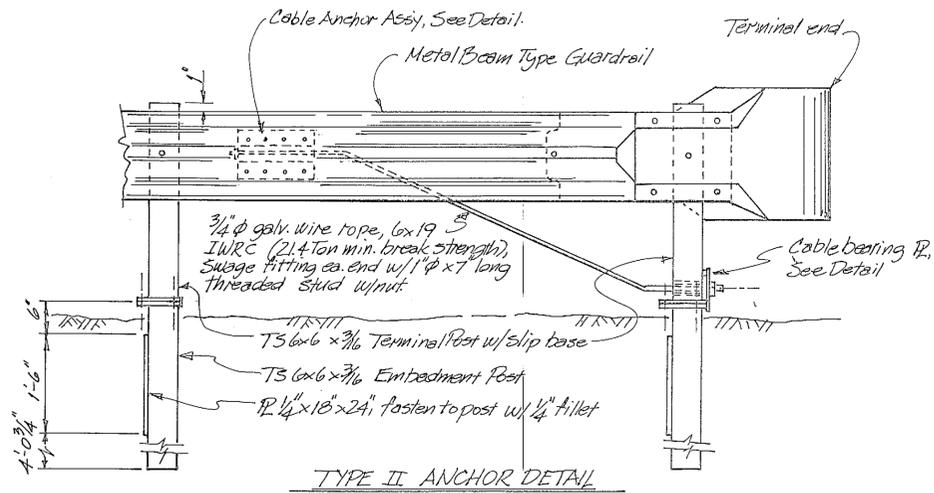
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
		STATE OF ALASKA			
		DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
		KETCHIKAN		ALASKA	
SEAWARD LAYOUT					
DESIGNED	JAL	CHECKED	JS	DRAWN	Geoal
DATE	JUNE 88		SHEET		6 OF 53
PROJECT NUMBER	F-085-2 (16)				



N=50689.4204
E=20635.4704

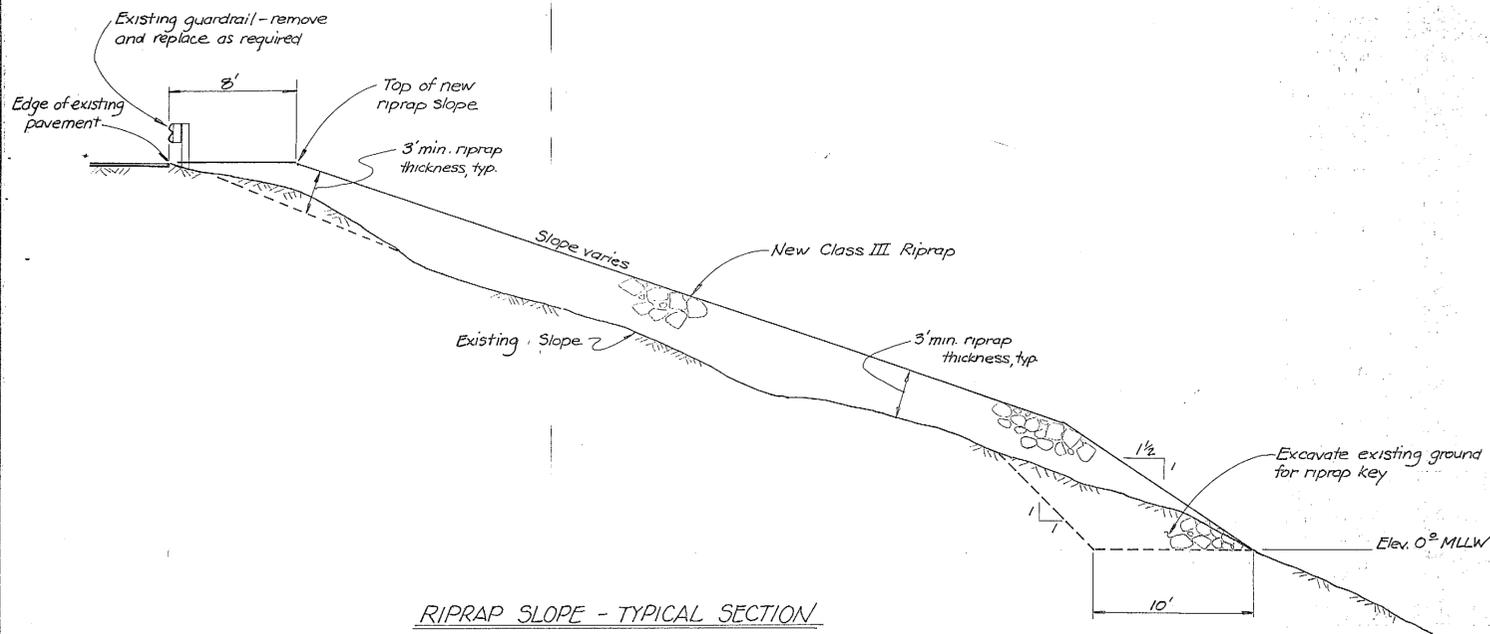
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		ALASKA	
UPLANDS LAYOUT			
DESIGNED BS	CHECKED JAL	DRAWN HW	DATE JULY, 1992
PROJECT NUMBER F-055-2(16)/75120 & 75285		SHEET 7	OF 53



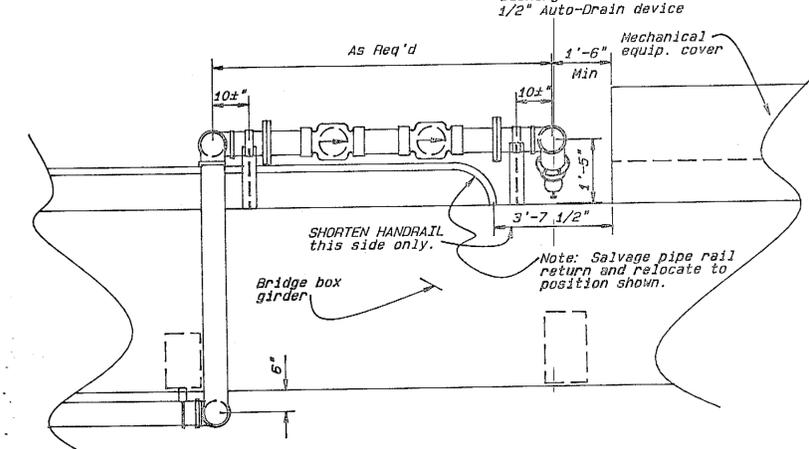
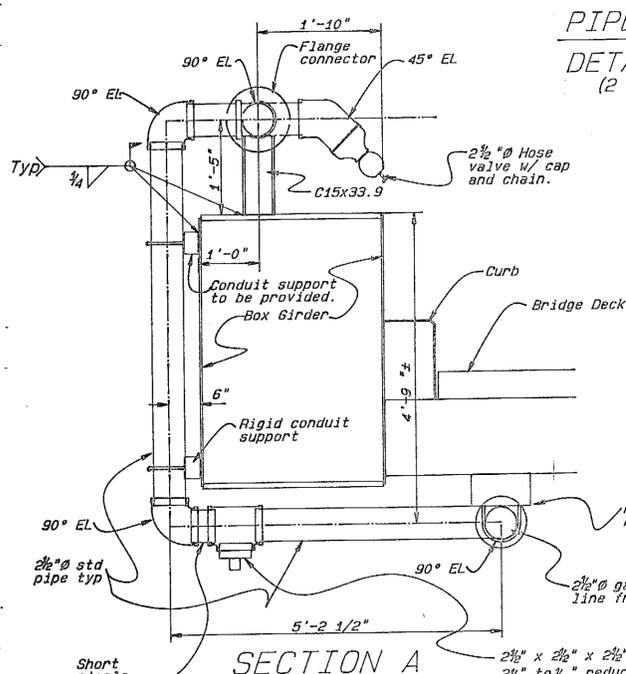
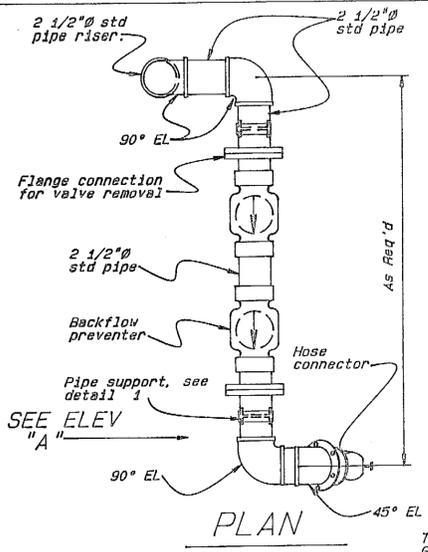


NOTES:

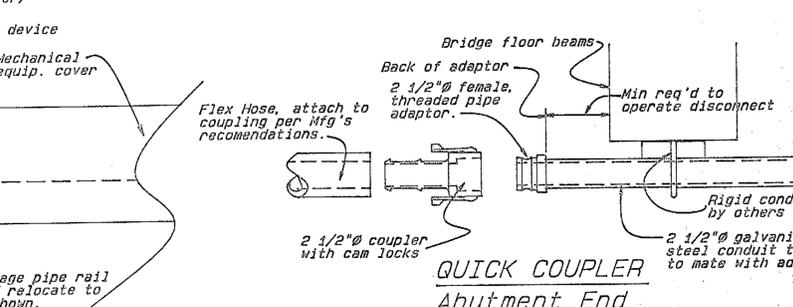
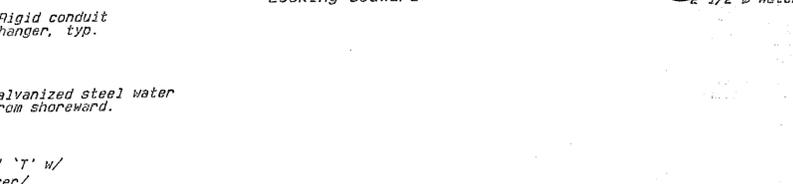
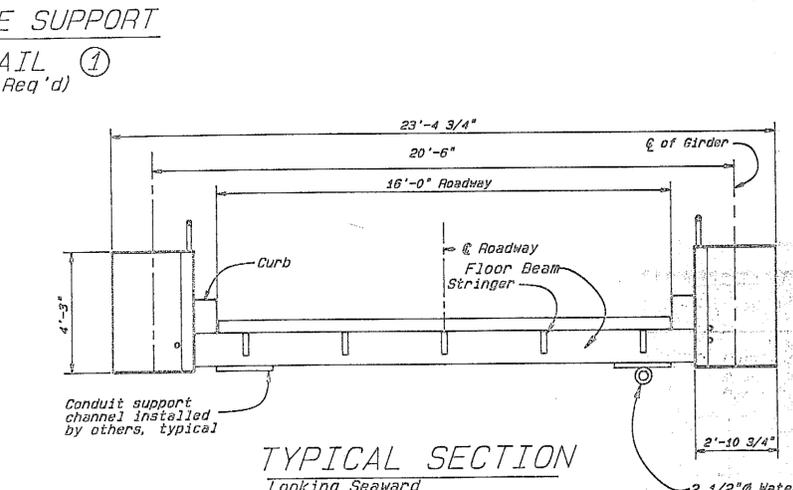
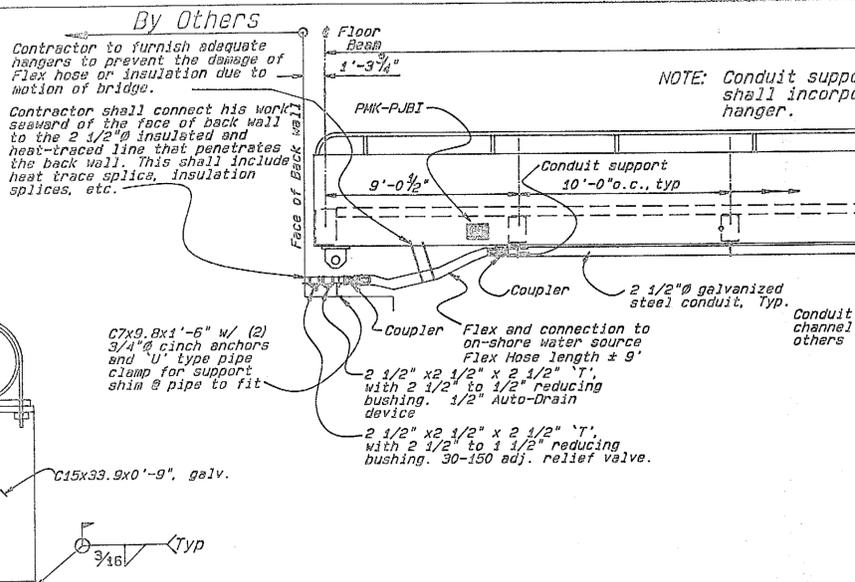
- Posts, blocks, rails and hardware shall be galvanized after fabrication.
- Metal Beam Guardrail and hardware shall conform to AASHTO M-180 Class A, Type 2.
- Alternate Type II Anchor and Post details are allowed (See Section 601-2.02).



STAMP	DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
	Ketchikan		Alaska	
RIPRAP SLOPE and UPLAND DETAILS				
DESIGNED BS	CHECKED	DRAWN	DATE July '92	
PROJECT NUMBER F-095-2(16)	SHEET 8		OF 53	
9-1-92				



ELEVATION A



ELEVATION A

NOTE: Conduit support system selected shall incorporate a "U" style pipe hanger.

ELEVATION

NOTES:

- Heat Trace, Insulation and Jacket:
- Insulation:
 - Rigid conduit, piping and fittings insulation shall be nominal 2 lb./cu.ft. density polyurethane foam, "K" factor less than or equal to 0.13 BTU/Hr-Sqft-F/In. The insulation thickness (approx. 1") shall be such that the heat loss does not exceed 4 watts/ft with the carrier pipe at +40°F and the ambient temperature at +10°F with a 15 mph wind.
 - Flex hose insulation shall be 1-1/2" single or layered thickness minimum for all hose sizes, closed cell elastomeric insulation. Insulation shall consist of preformed tubular shapes/sheets field formed to the tube surface, or a combination of both as recommended by the manufacturer to meet the total specified thickness. Provide multiple layer insulation with longitudinal and circumferential joints staggered where sheets only are used. Provide manufacturers recommended adhesive and seal all joints and adhere all layers per manufacturers recommendations.
 - Jacketing:
 - Rigid Conduit. For straight sections of insulated piping shall be 60 mils thickness, factory applied, high density black polyethylene, with ultraviolet inhibitors for exposed outdoor installation. For insulated fittings, and field joints containing heat trace channel for straight sections where factory applied. If field applied overlap wrappings of black heat shrink tape built up to 60 mils.
 - Flex Hose. Final outer layer of flex hose insulation shall consist of spiral overlap wrap of closed cell elastomeric tape with pressure sensitive adhesive, protected with a weather resistant coating as recommended by the manufacturer for high humidity, outdoor/marine locations.
 - Insulation/Jacket Installation:
 - Piping and Fittings. Where possible lengths of piping, fittings and attachments shall be insulated and jacketed in the factory/shop and shall be furnished complete with a metallic channel sized and installed to accommodate the installation and future replacement of the electric heat trace adjacent to the carrier O.D. Coordinate channel size and details with the tracing supplier. Provide field connection kits consisting of channel, preformed split insulation, adhesives and jacketing system as recommended by the manufacturer. Total system to result in a continuous insulated waterproof jacket to protect the piping and appurtenances and the heat trace system from moisture including field joints.
 - Valves, Flanges, Irregular Equipment Surfaces. These portions of the system shall be insulated and covered with a removable, reusable, flexible jacketed waterproof insulation packs consisting of silicone impregnated fiberglass inner liner, 1" thick fiberglass insulation and a silicone impregnated fiberglass outer jacket. Outer jacket to be constructed with lapping to support the insulation without any through cover pins to protect against water penetration. The parting line fastener/closure system shall consist of stainless steel lacing hooks and stainless wire, clinch belts, velcro hook and loop placket or a combination of the above. Provide wind flaps with drawstrings at assembly openings, and drain grommets at bottom of assembly where parting line is not located at the bottom. Containment of heat trace in channel not required on valve bodies, flanges and irregular equipment surfaces.
 - Heat Trace:

Provision of heat trace controls and connection of trace cable to controls and power source shall be done by others. Provide under this contract a power connection kit at the shoreward end of piping installed on this project. To provide matching system and components already in service on AHS, facilities heat trace system/components shall be as manufactured by Raychem-Chemlex and shall be as manufactured by NEHA 4X.

 - Cable. Catalog No. LBTY2-CR
 - Power Connection Kit. Catalog No. PMK-PJBI
 - Splice Kit. Catalog No. PMK-LS

Miscellaneous:

- Provide stainless steel sheet metal shields over piping insulation jacketing at bearing points for hangers and supports.
- The ends of pipe insulation at insulation terminations points shall be sealed and jacketed to prevent ingress of moisture.
- Penetrations of the jacket for heat trace cables and other penetrations shall be sealed with waterproof sealant.
- Coating Repair and Touchup:

All protective coatings damaged by the installation of the waterline shall be repaired per the coating manufacturers recommendations. The protective coating system utilized on the Transfer Bridge is manufactured by Fortner Coatings. It is a three part system.

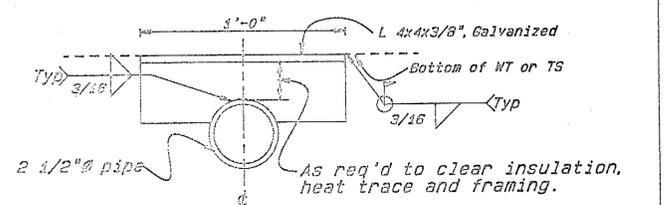
 - Primer is "Zinc Lock 351" (DFT 2-3 mils)
 - Intermediate coat is "MCR-45" "High Build" (DFT 4-6 mils)
 - Top Coat is "HYTHANE" (DFT 2-3 mils)

The Color used is "Classic Blue No. 5177p"

Galvanized surfaces damaged shall be appropriately prepared and coated with 3 coats of an approved cold galvanizing paint.

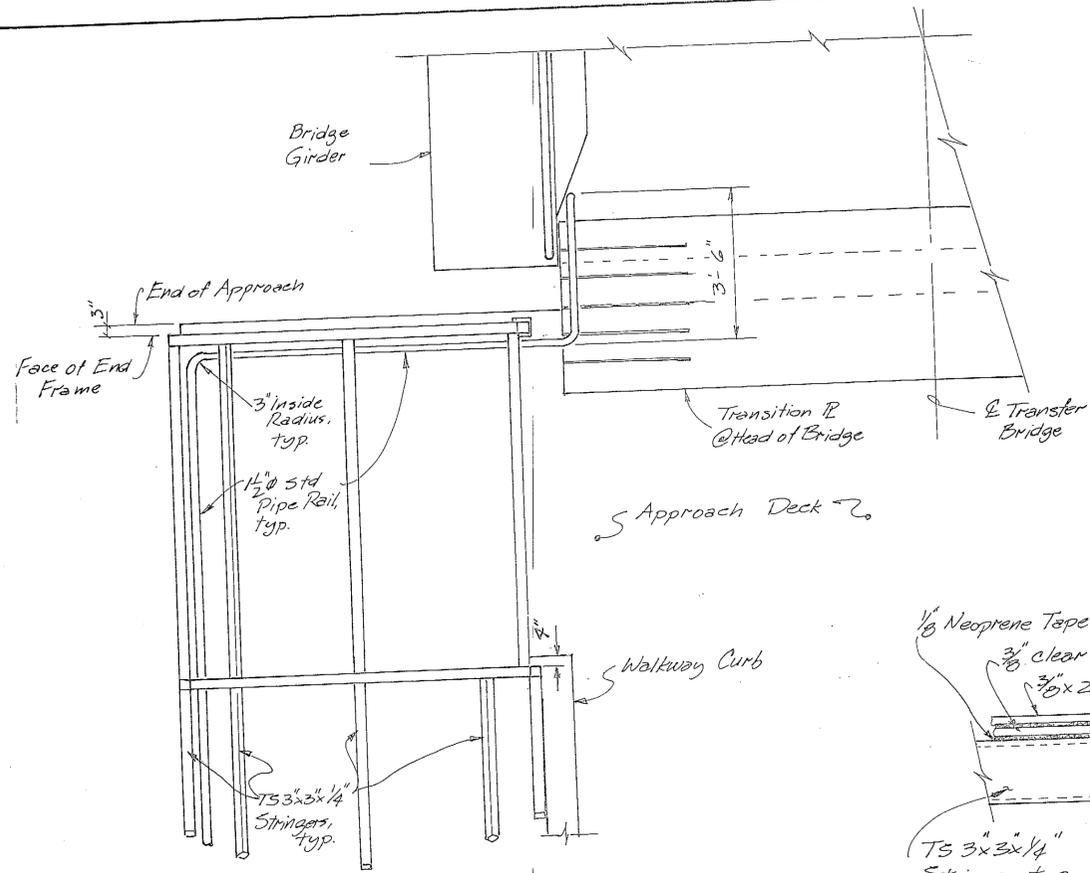
NOTES:

- 2 1/2" Conduit to be rigid galvanized steel Std. wt. pipe. If welded pipe and fittings are used then galvanize after fab.
- Flex hose shall be heavy duty water discharge hose rated up to 150 psi. min. working pressure. Wear and abrasion resistant cover suitable for saltwater exposure, multi-ply carcass, and tube material per manufacturer's recommendations for service indicated. Integral duck and rubber flanged ends to match ANSI Class 150 Flanges, complete with steel retaining rings. Allowable min. bend radius shall be six times the inside diameter of the hose, or less. Length as required.
- Fittings, Nipples and hardware to be galvanized or Stainless Steel. (Hose flange inserts may be Brass, depending on the Stainless.)
- Hose valve to be brass, 2 1/2" with cap and chain. Model shown is similar to Potter-Rosemer Model 4065-B. Threads to be NPT - Highy Cut.
- Automatic drain device shall be 1/2" cast brass straight pattern, male NPT both ends, and seal automatically under pressure.
- All threaded and fitting joints to be sealed with Teflon tape or Teflon dope.
- Upon completion pressure test to 150 psi. for 4 hours. No visible leakage to result. If fail, repair/correct and retest.
- Flush line after line completed and tested with fresh potable water. Disinfect with chlorine by flooding line at 50 ppm solution of sodium hypochlorite and potable water for 24 hours then flush with fresh potable water, drain and seal.
- Hose Couplers at Abutment to be stainless steel or Bronze with Stainless Steel hardware. Similar to Andrew Inc., 2 1/2" female threaded adaptor cam and groove style quick coupler or equal.
- Back flow preventer to be 2 1/2" Stainless Steel lined Ductile Iron, similar to Fabco Model 803Y LC or equal, with 125 psi working pressure.
- Adjustable Relief Valve to be 1/4" to 1/2". Bronze body, 30-150 psi.

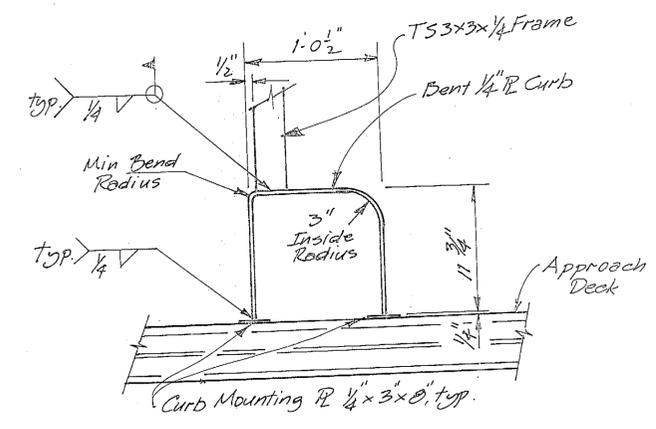


RIGID SUPPORT ELEVATION (2 Req'd) AS-BUILT

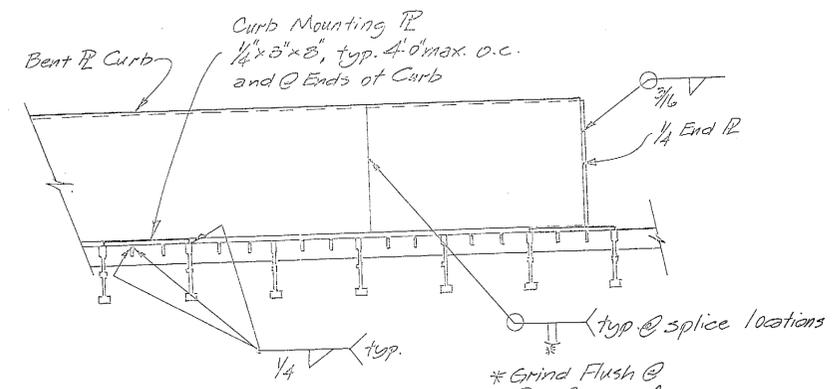
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
		KETCHIKAN		ALASKA	
BRIDGE WATERLINE					
DESIGNED	JS	CHECKED	JAL	DRAWN	Geoj
PROJECT		SHEET	9	DATE	13 JUL 89
				OF	53



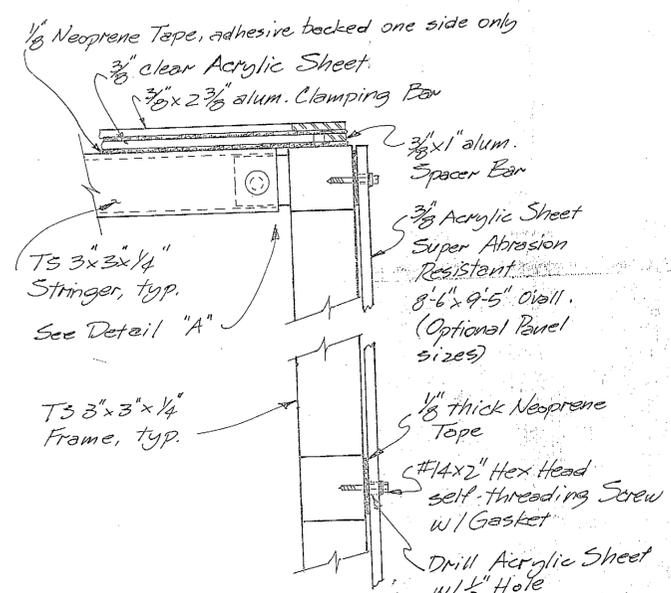
WALKWAY END DETAIL - PLAN



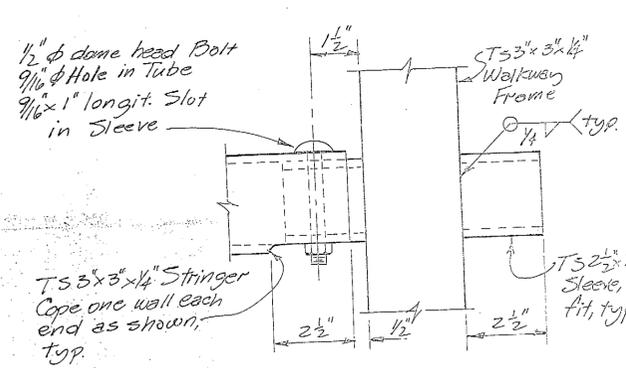
CURB DETAIL - SECTION



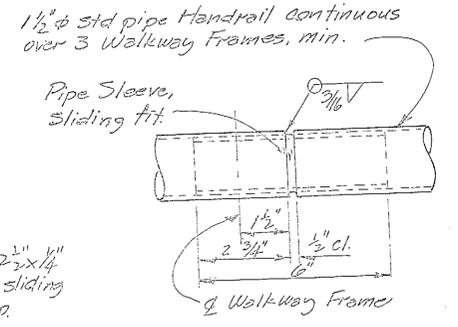
CURB MOUNTING DETAIL - SECTION



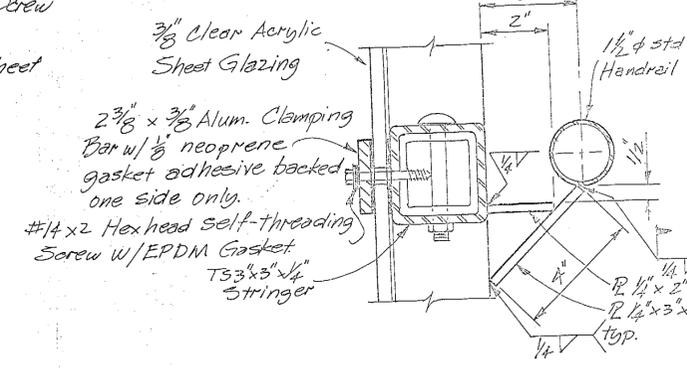
END FRAME/GLAZING DETAIL SECTION A



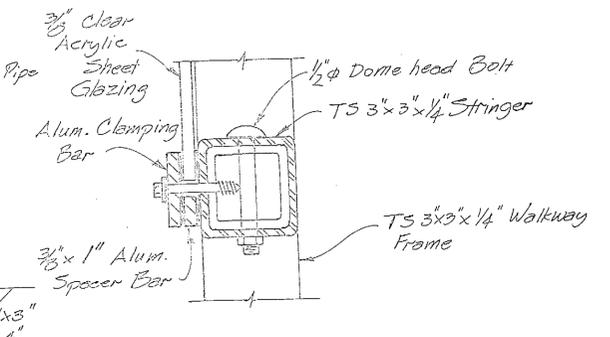
DETAIL A



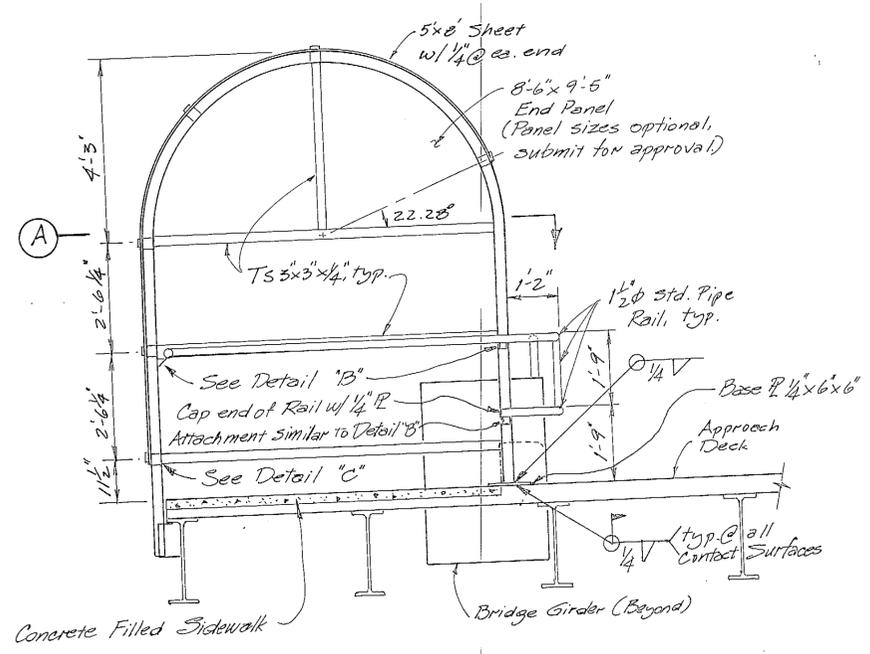
HANDRAIL SPLICE



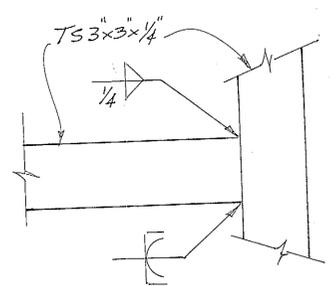
DETAIL B



DETAIL C

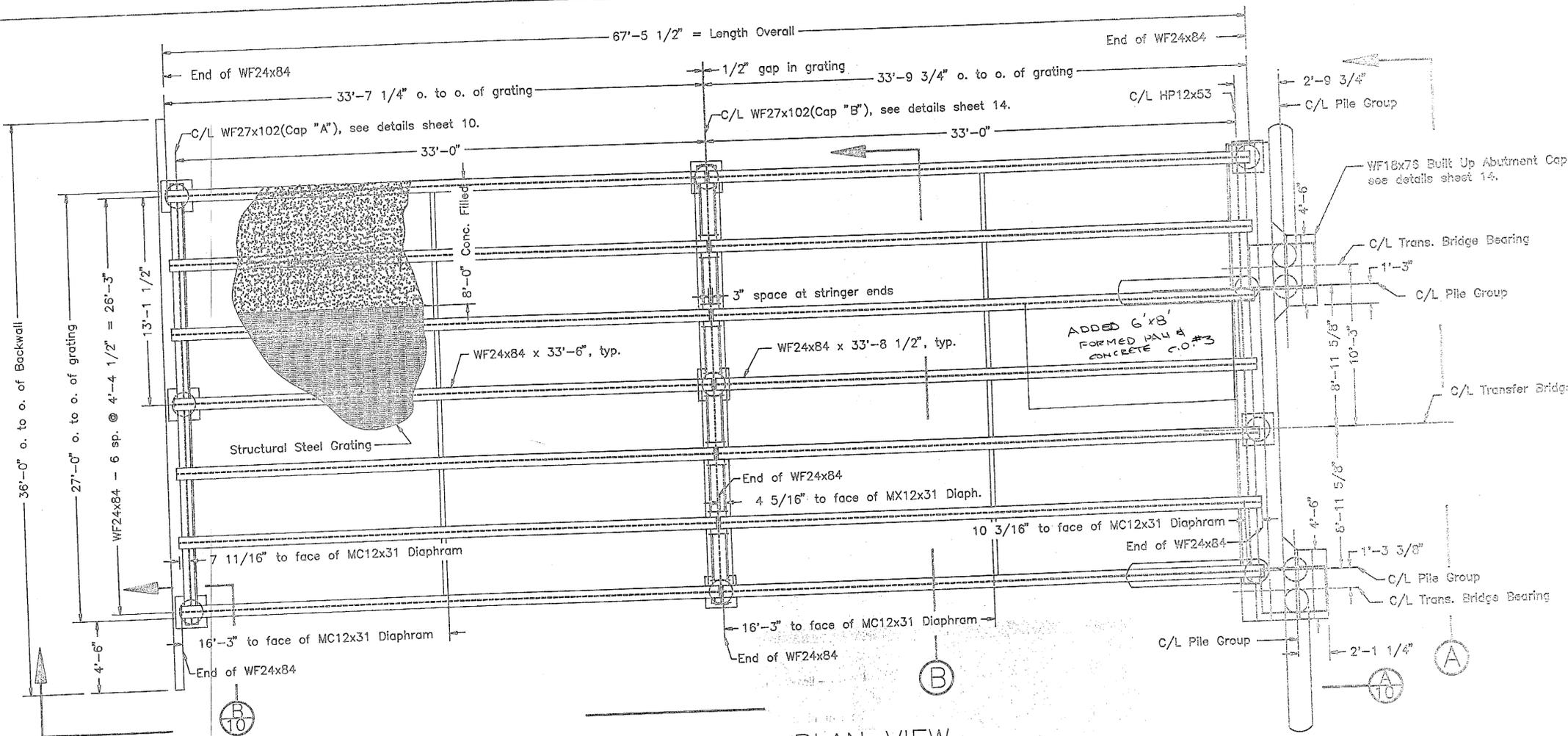


WALKWAY END FRAME ELEV.

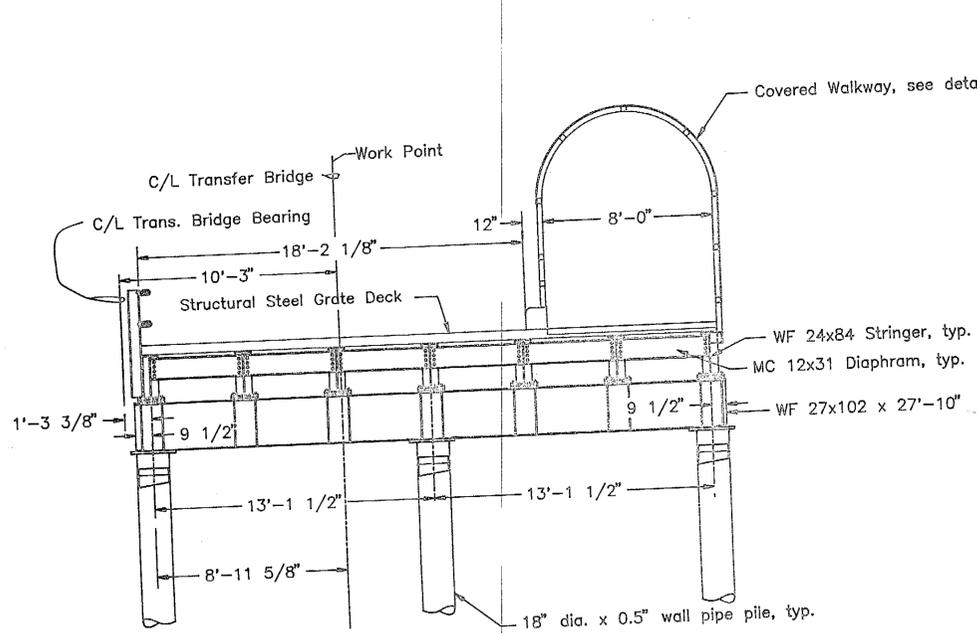


TYP. TS 3x3x1/4 TO TS 3x3x1/4 CONNECTION DETAIL

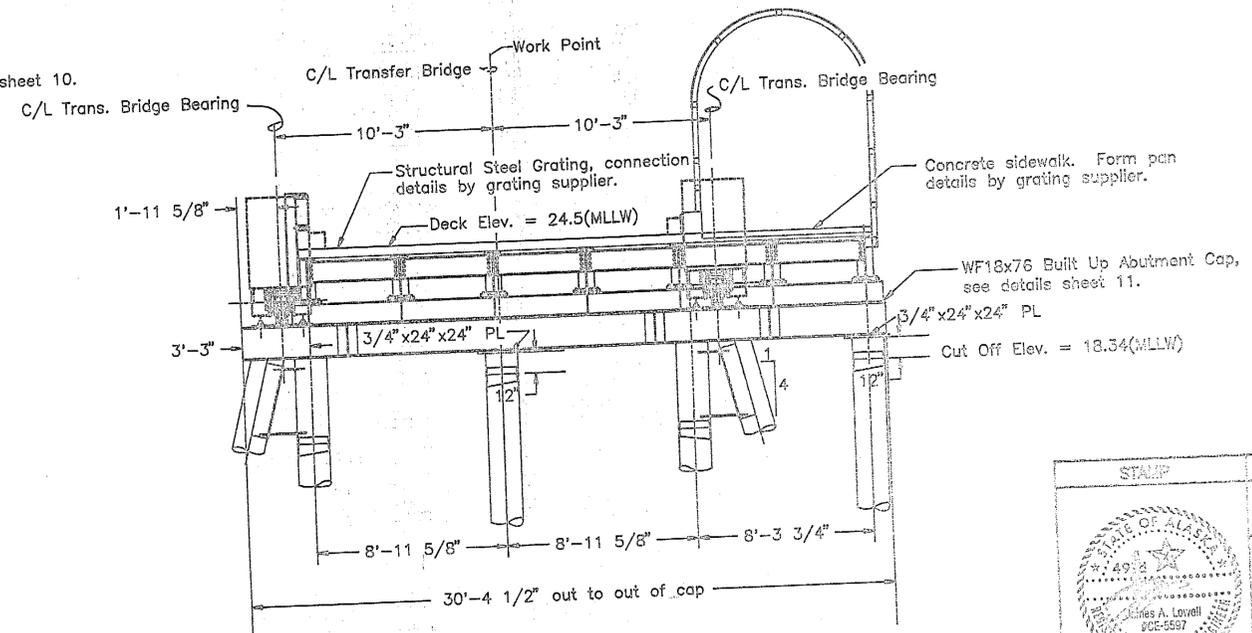
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
Ketchikan		Alaska	
COVERED WALKWAY END FRAME AND DETAILS			
DESIGNED <i>DAS/LJB</i>	CHECKED	DRAWN <i>DB</i>	DATE <i>6-92</i>
PROJECT NUMBER <i>F-035-2(11)/75120/75285</i>	SHEET <i>11</i>	OF <i>53</i>	



PLAN VIEW



SECTION B

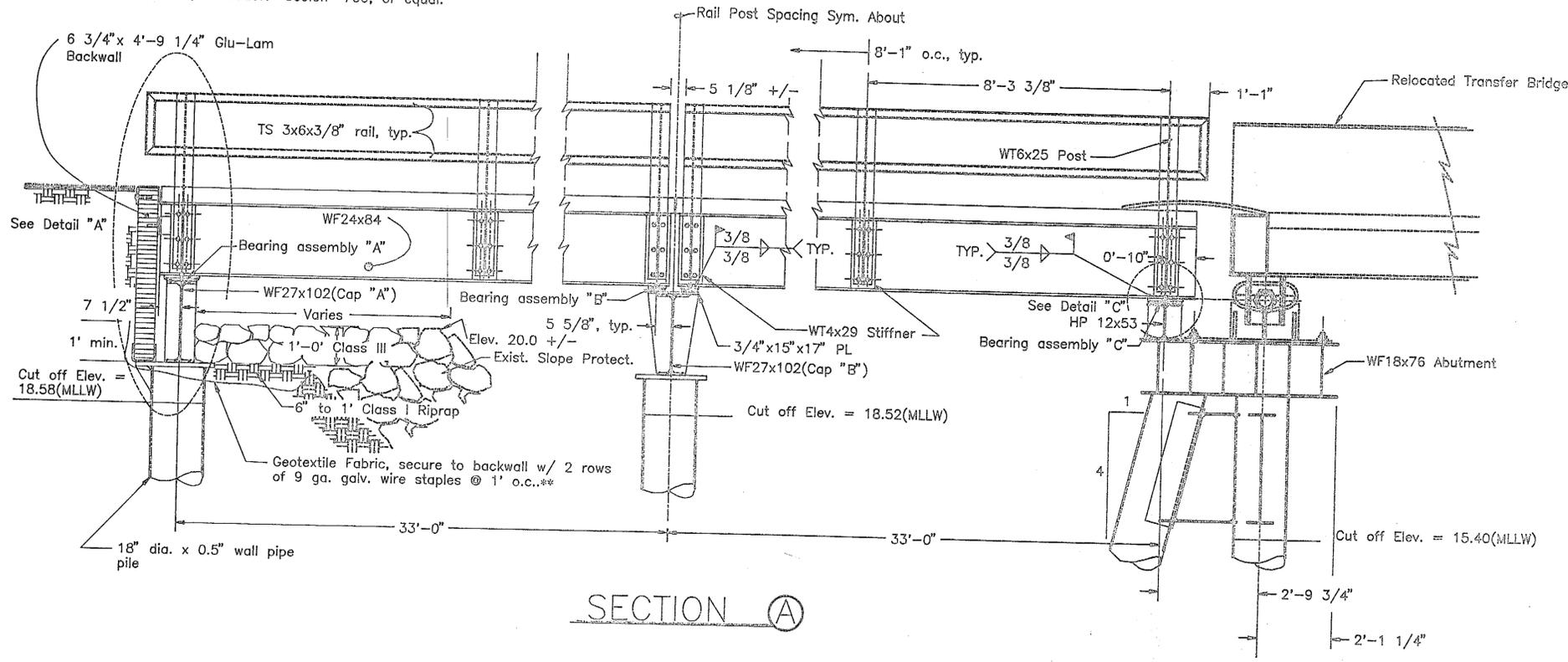


SECTION A

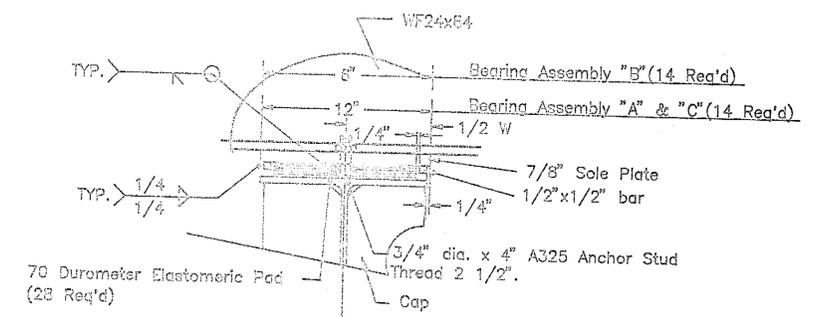
C:/JAL/KAPPRD

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
Ketchikan		Alaska	
27' x 67' Approach Layout			
DESIGNED BY	JAL	CHECKED BY	BAS
DRAWN BY	JAL/ACAD	DATE	6-7/92
PROJECT	F-095-2(16)/75120	SHEET	12 OF

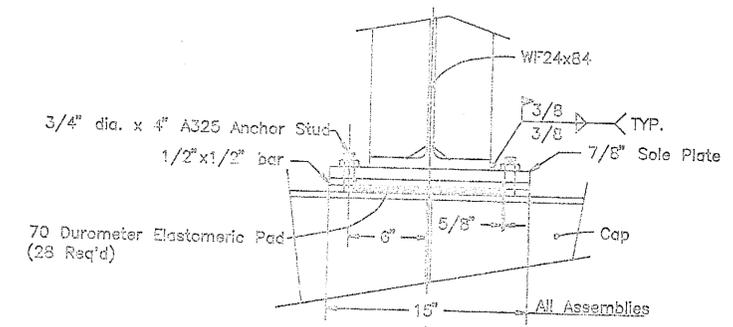
** - Geotextile fabric shall be SUPAC 6WS(UV), MIRAFI 600X, NICOLON "Geolon" 700, or equal.



SECTION A

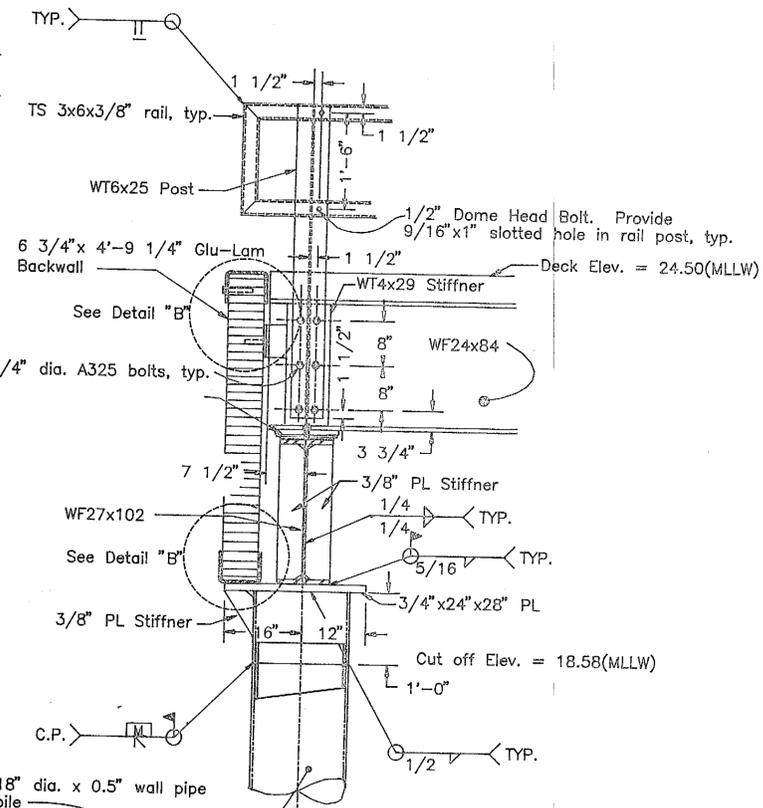


SIDE VIEW

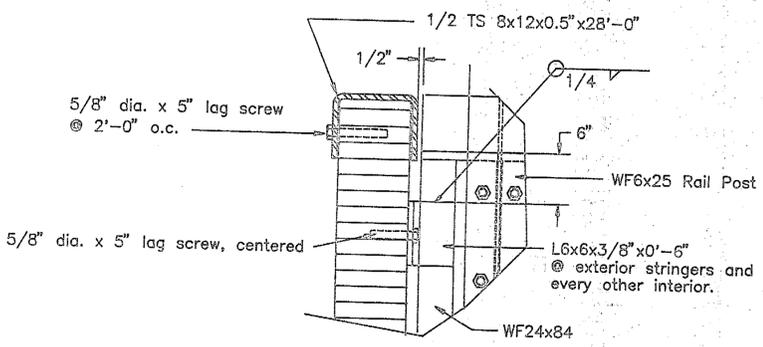


END VIEW

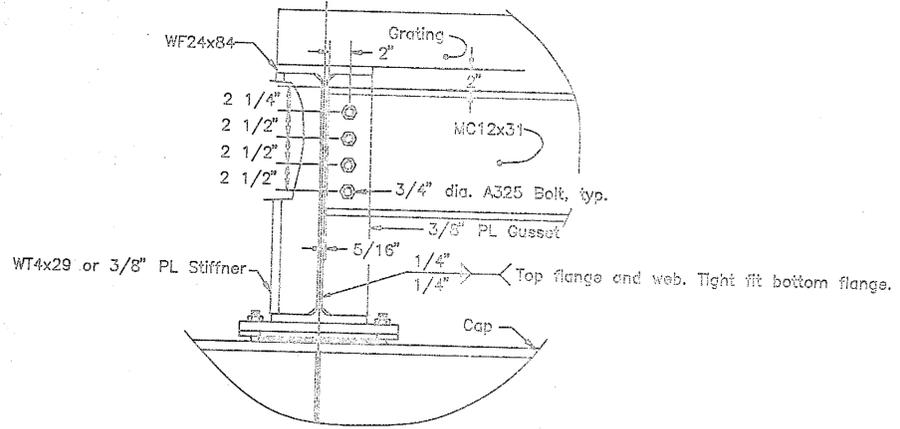
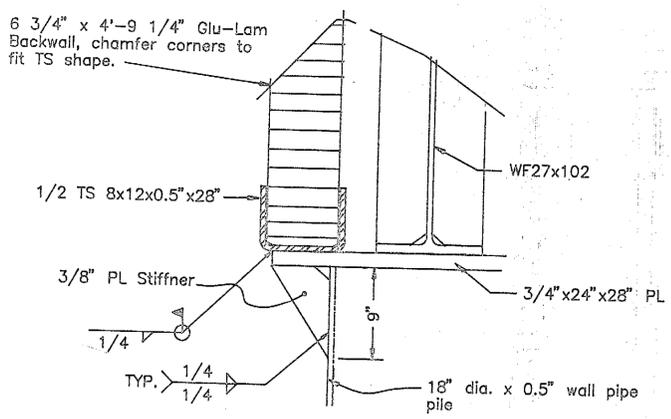
DETAIL "C"



DETAIL "A"

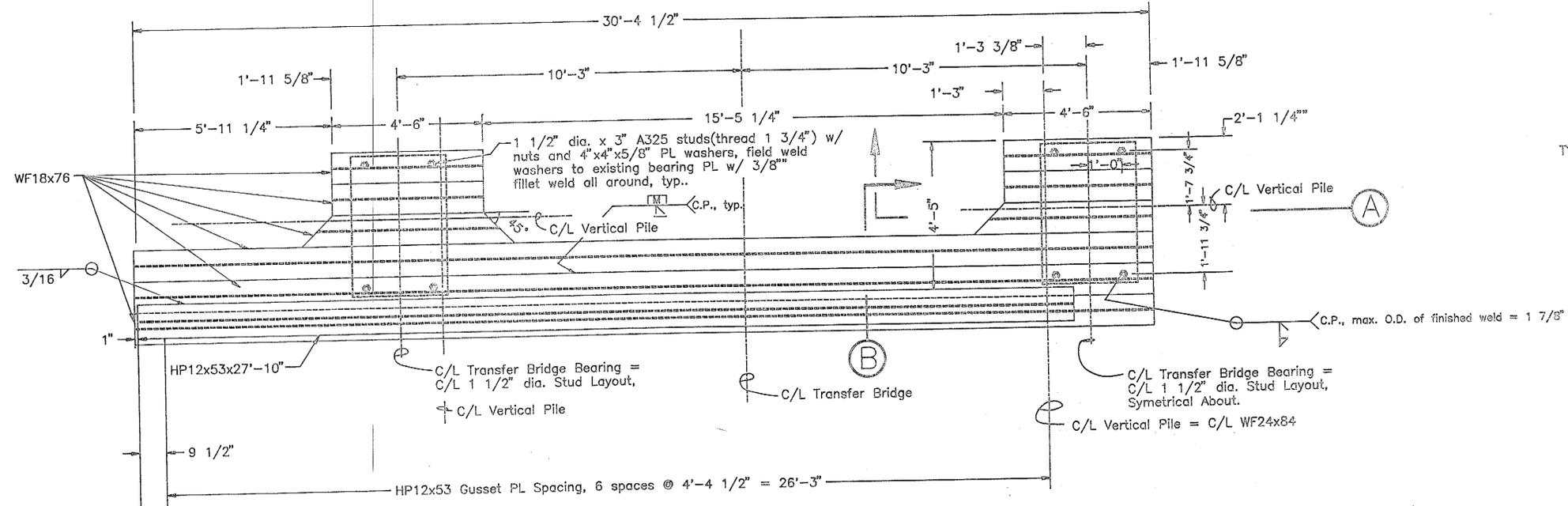


DETAIL "B"

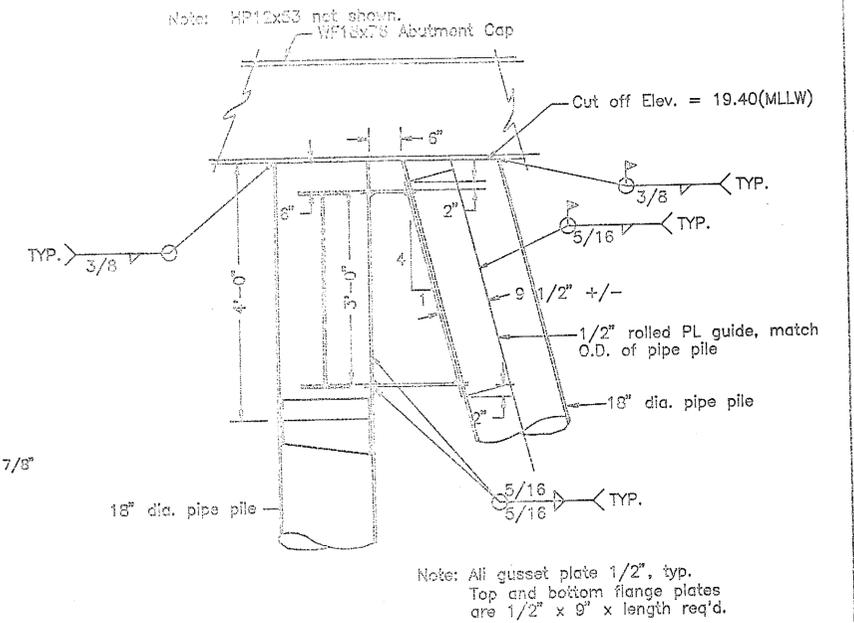


SECTION B

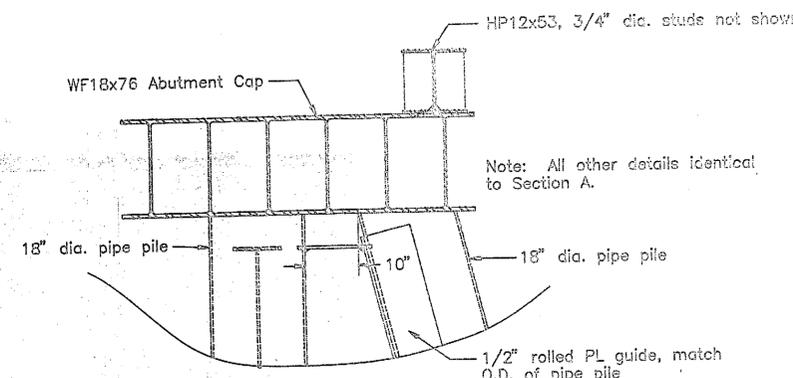
STAMP		C:/JAL/KAPPRE	
DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
Ketchikan		Alaska	
27' x 67' Approach Details			
DESIGNED BY JAL	CHECKED BY BAS	DATE JAL/ACAD	DATE 6-7/92
PROJECT NO. F-095-2(16)/75120		SHEET 13 OF	



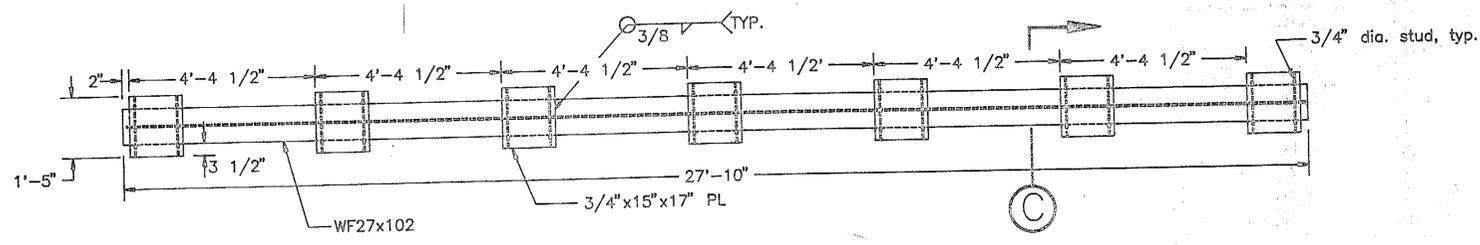
ABUTMENT PLAN



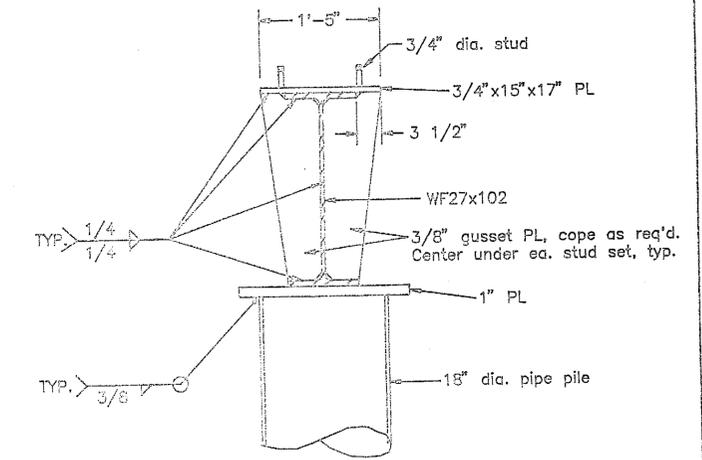
SECTION A



SECTION B



CAP "B" PLAN

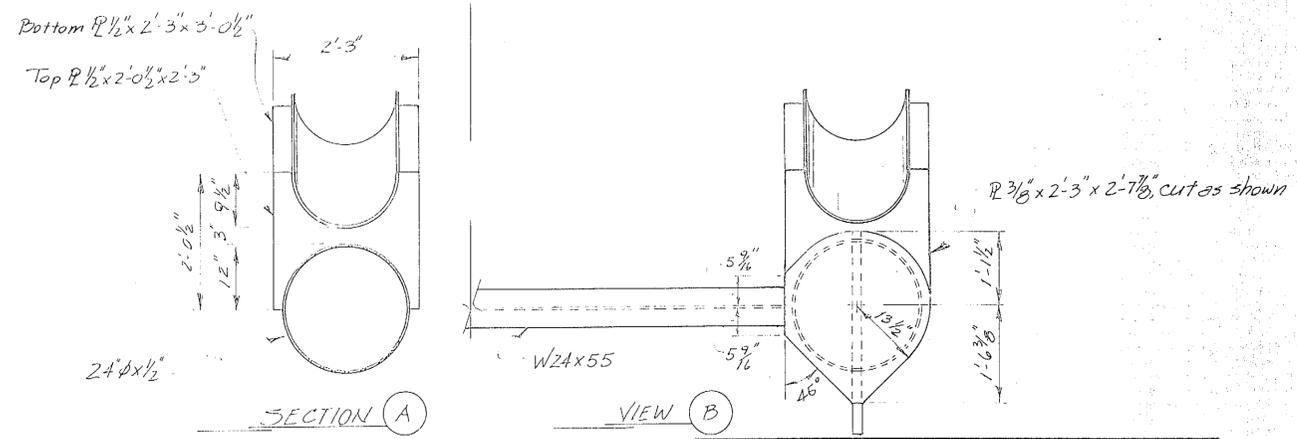


SECTION C

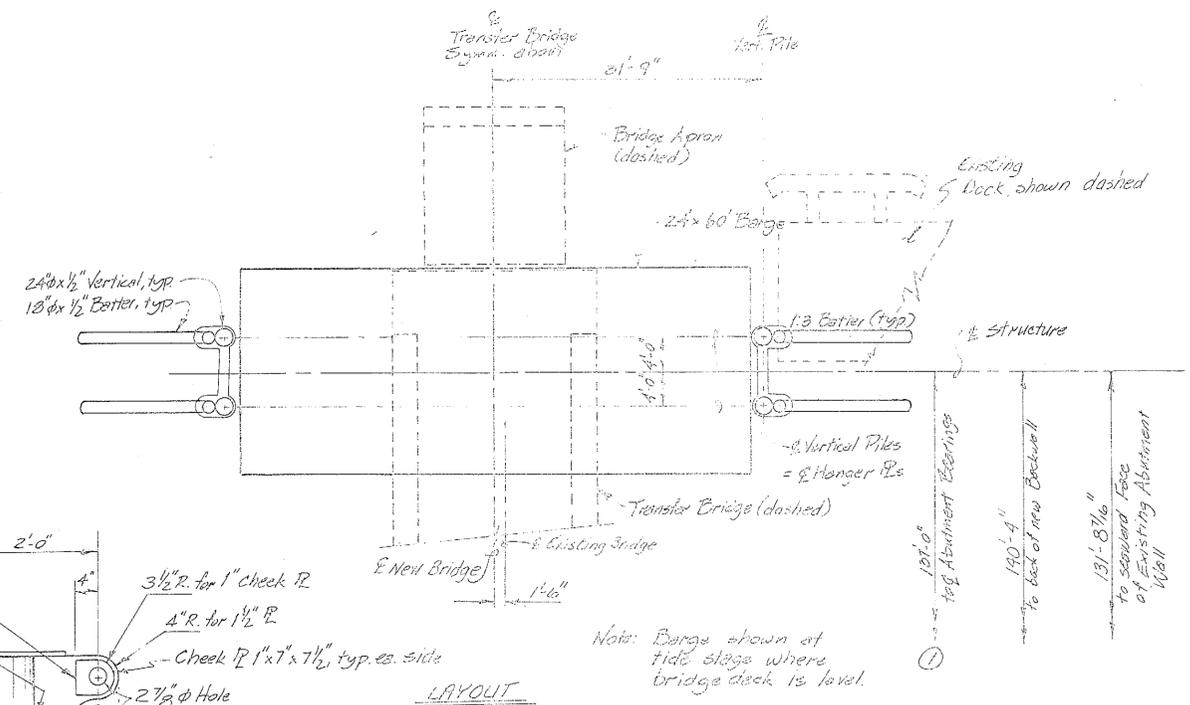
C:/JAL/KAPPRF

	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
	Ketchikan		Alaska	
	27' x 67' Approach Details			
DESIGNED: JAL	DRAWN: BAS	CHECKED: JAL/ACAD	DATE: 6-7-92	
PROJECT: F-095-2(16)/75120		SHEET: 14 OF		

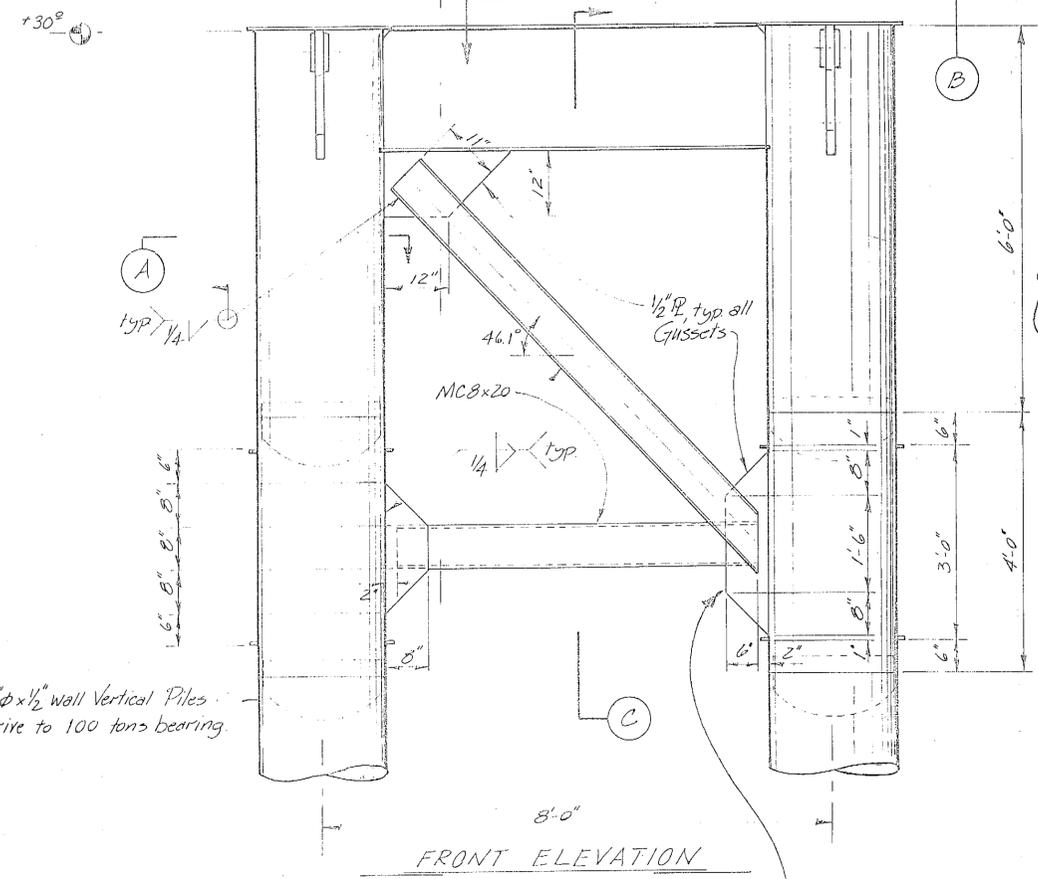
1. Distance of abutment to restraint structure 10' short
2. Excavated approx. 10 cy from under NE corner of barge to preclude grounding @ minus tide



ITEM 302(2)
 Entire restraint structure to be salvaged and relocated. Add piling req'd. in new location under Item 301.

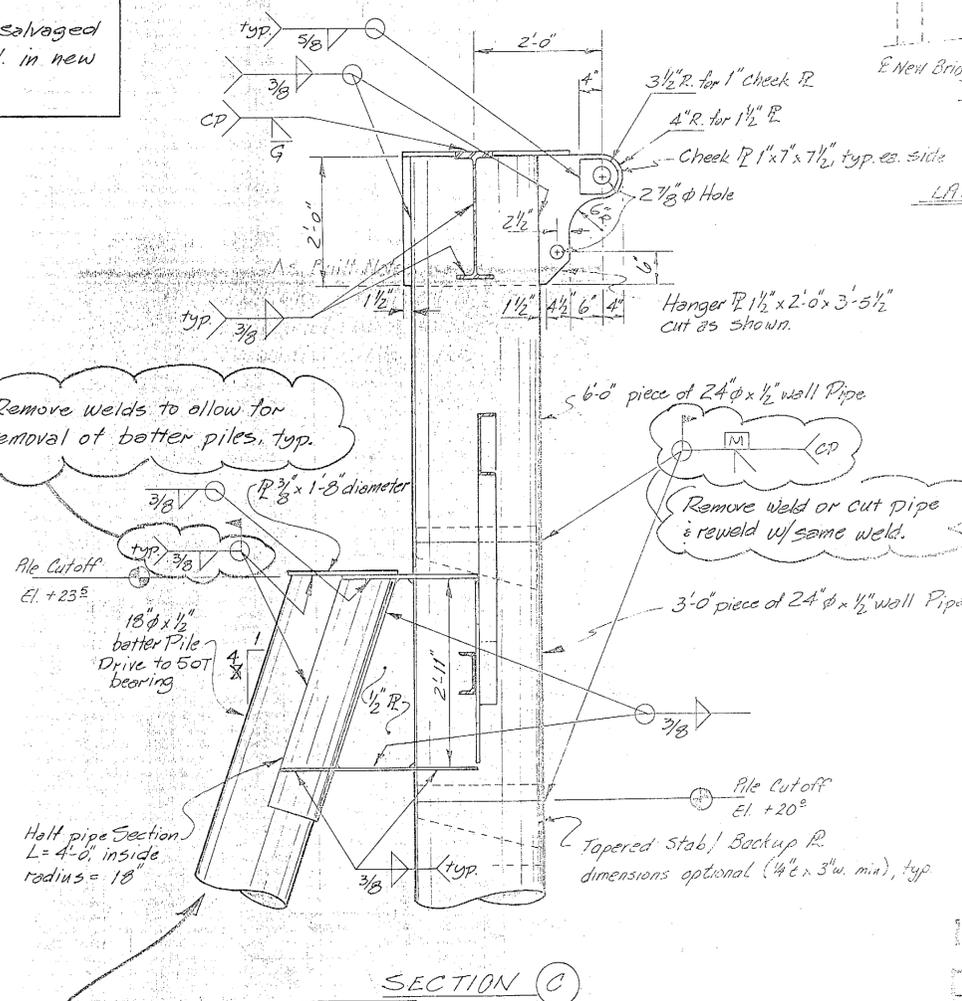


Notes: Barge shown at tide stage where bridge deck is level.



Approx. weight = 5100 lbs. each.

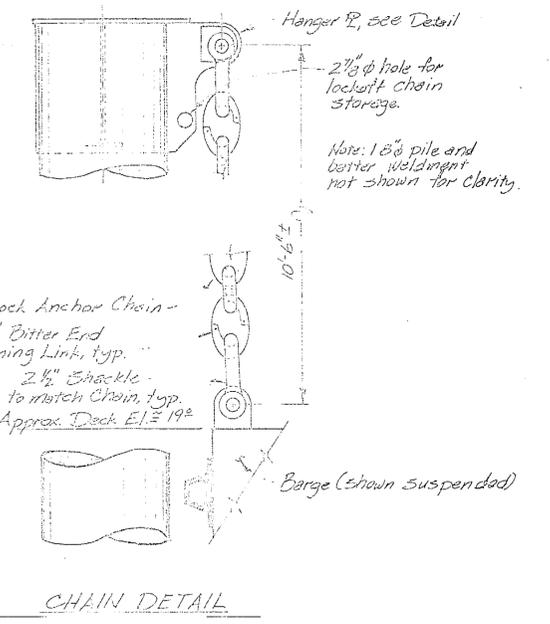
Gusset R to be relocated to allow for 10° rotation of batter pile.



Remove welds to allow for removal of batter piles, typ.

Remove weld or cut pipe & re weld w/ same weld.

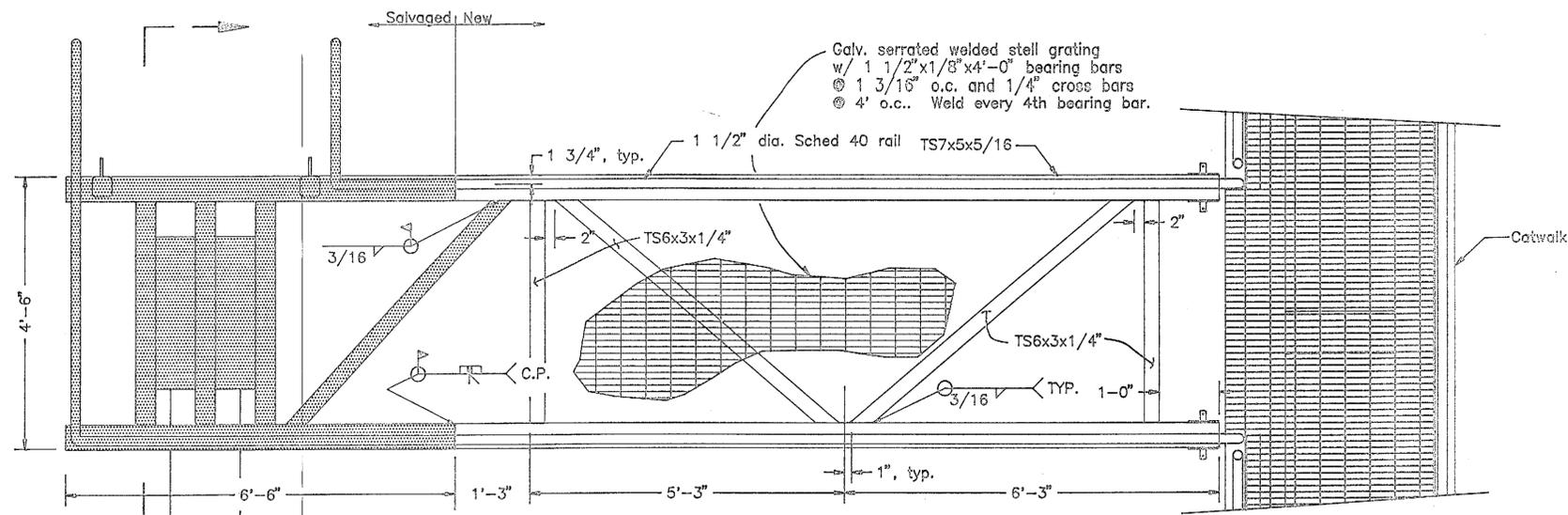
NOTE: Seaward batter pile to be rotated 10° - See "Seaward Layout" sheet



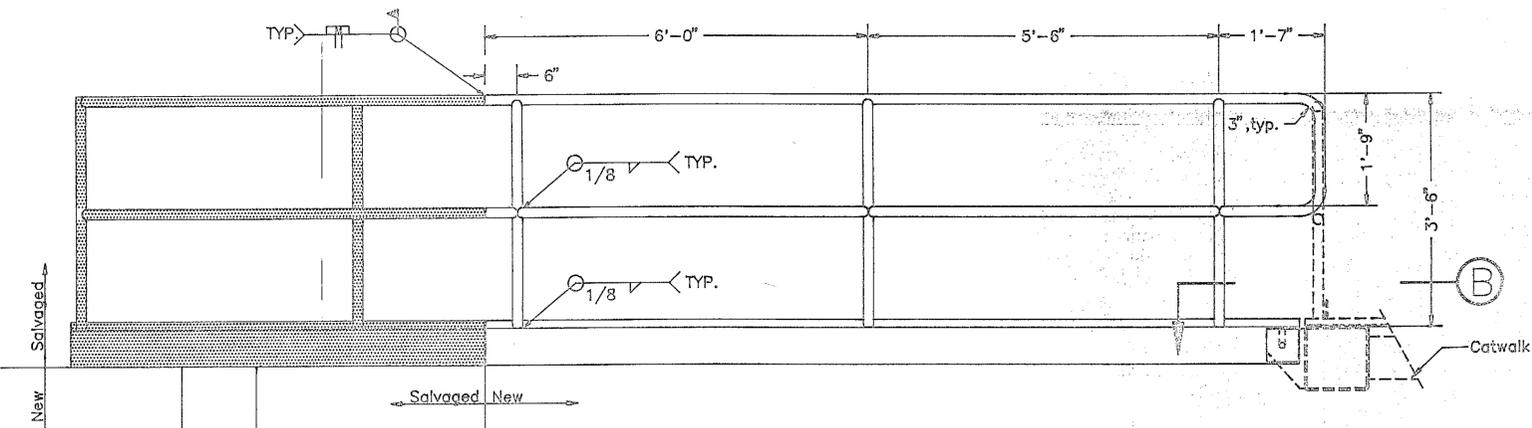
ITEM 302(2) AS-BUILT

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA			
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
Ketchikan		Alester	
BARGE RESTRAINT STRUCTURES			
DESIGNED BAS	CHECKED J	DRAWN TB	DATE 8-87
PROJECT NUMBER 11-23-87	SHEET 16		OF 53

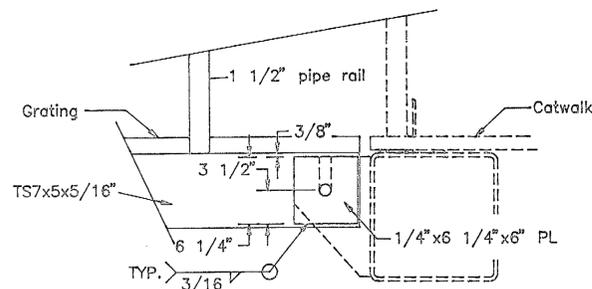
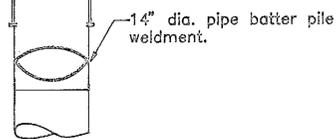
As Built
 GRF 3/30/89



PLAN VIEW



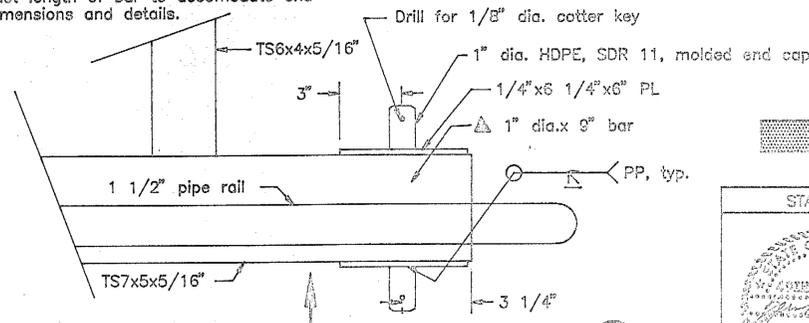
ELEVATION



SECTION C

Note: All exposed ends of tubes shall have 1/4" end closure plates flush with the end. Seal weld all around.

△ - Adjust length of bar to accommodate end cap dimensions and details.



SECTION B

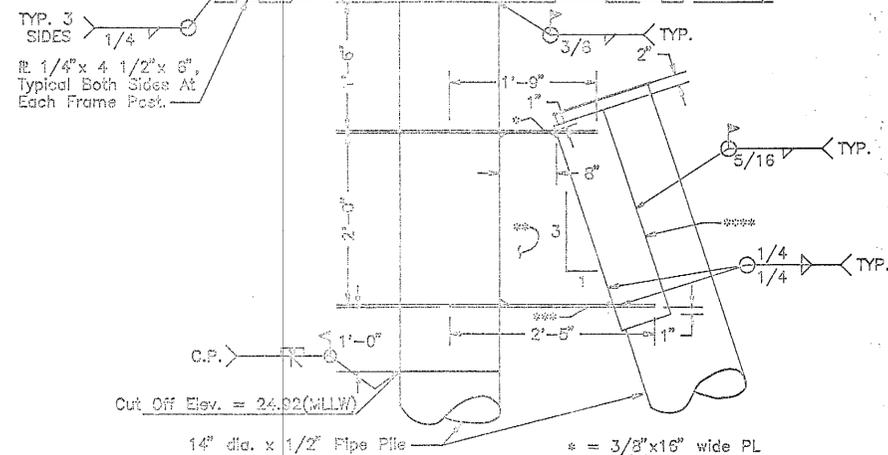
Frame Spacing 7'-11 1/2" Out To Out

Curved Clear Plastic Panel = 4'-3 5/8" x 7'-11 1/2"

Clear Plastic Side Panels = 5'-0" x 7'-11 1/2"

Cover Construction Similar To Sidewalk Cover. See Sh's. 10 & 11 for Details.

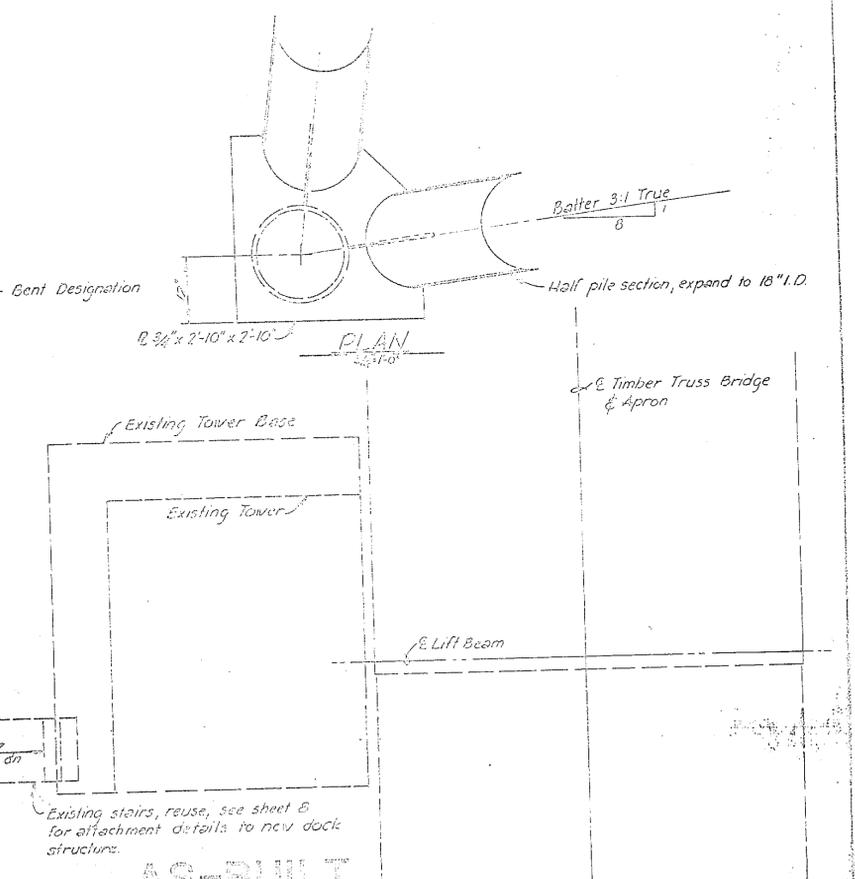
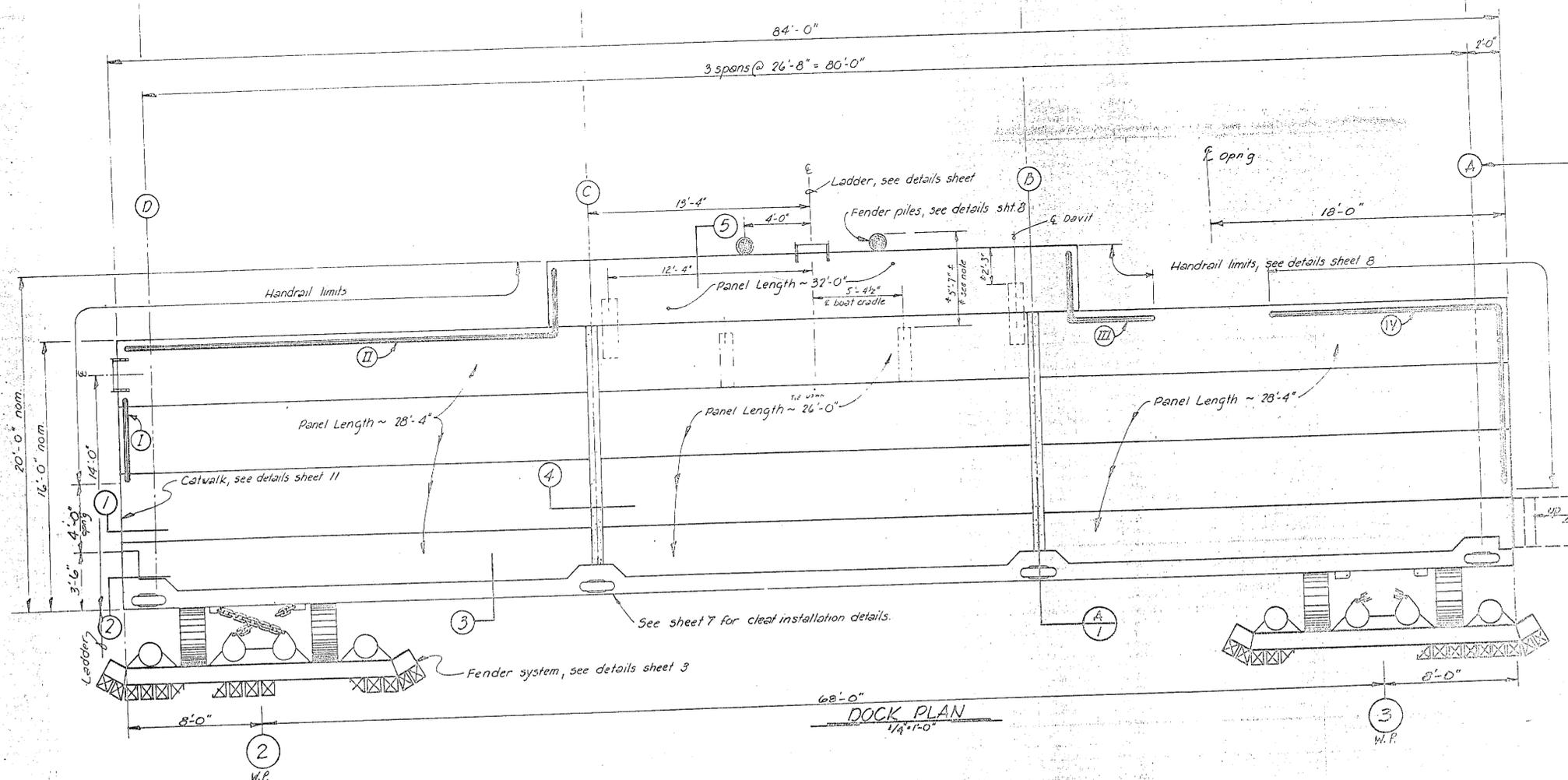
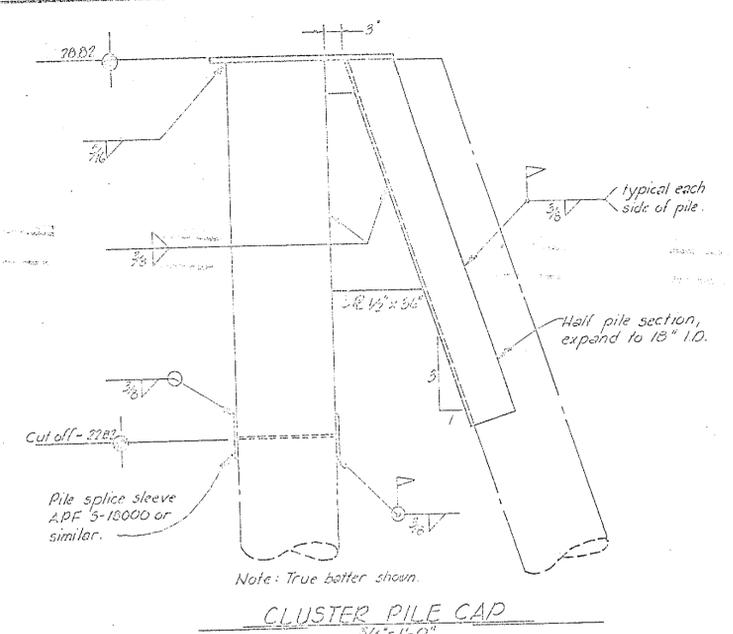
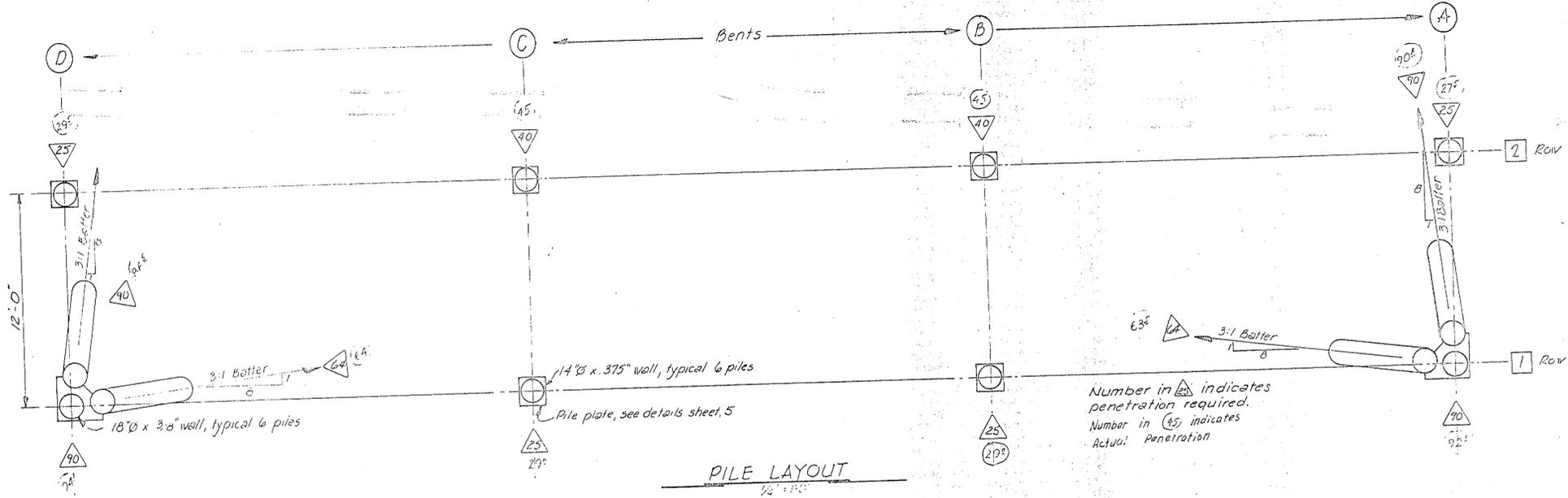
COVER TYPICAL FOR BOTH PLATFORMS "A" & "B"



SECTION A

- * = 3/8" x 16" wide PL
- ** = 3/8" PL
- *** = 3/8" x 16" wide PL
- **** = 3/8" rolled PL guide, dia. to fit pipe pile.

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES		Alaska	
Ketchikan		Platform "B" Modifications	
DESIGNED BY: JAL	CHECKED BY: BAS	DRAWN BY: JAL/ACAD	DATE: 6-7-92
PROJECT NUMBER: F-095-2(16)/75120		SHEET 19 OF 53	



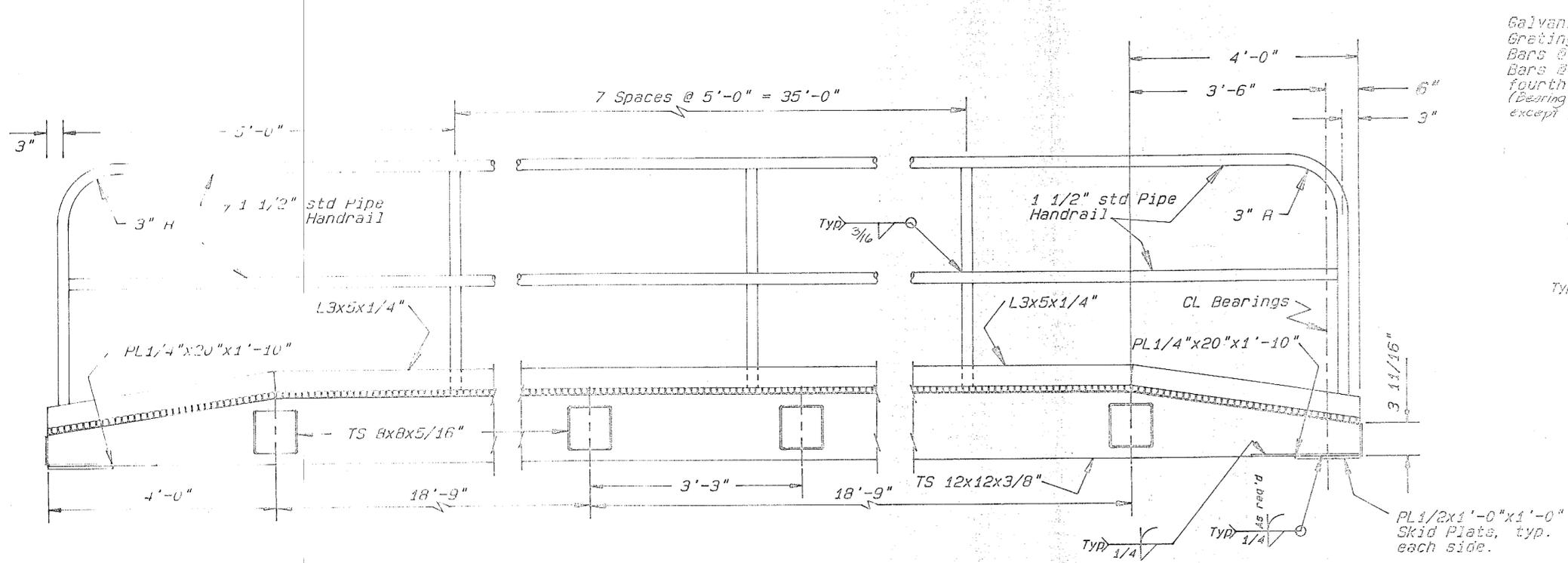
*Note:
Field adjustment of actual position and bolt spacing may be required.

DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
DIVISION OF HARBOR DESIGN AND CONSTRUCTION

DOCK PLAN, PILE LAYOUT & PILE CLUSTER DETAILS

DESIGNED: <i>WJD</i>	SURVEYED: <i>WJD</i>	APPROVED: <i>Don Statter</i>
CHECKED: <i>WJD</i>	DATE: <i>8/1/78</i>	DIRECTOR
PROJECT NUMBER: <i>095-2(16)</i>		SHEET <i>20</i> OF <i>53</i>



SECTION A

Galvanized Steel Serrated Grating, 1" x 1/8" Bearing Bars @ 1 3/16" oc, Cross Bars @ 4" oc. Weld every fourth bearing bar to angle. (Bearing bar length = 3'-0" except @ opening, L = 3'-5")

1 1/2" std. Pipe Handrail & Posts

L3x5x1/4" typ. each side

TS 12x12x3/8"

PL 1/4"x20"x1'-10"

TS 8x8x5/16"

CL Bearings

PL 1/2"x1'-0"x1'-0" Skid Plates, typ. each side.

3 11/16"

3"

6"

4'-0"

3'-6"

3'-5"

3'-2"

1'-9"

3'-6"

1'-11"

3'-10"

TS 8x8x5/16"

1 1/4" dia. threaded stud, washer and double nut.

5/16" Plate, seal weld, typ.

3"

1'-11"

3'-10"

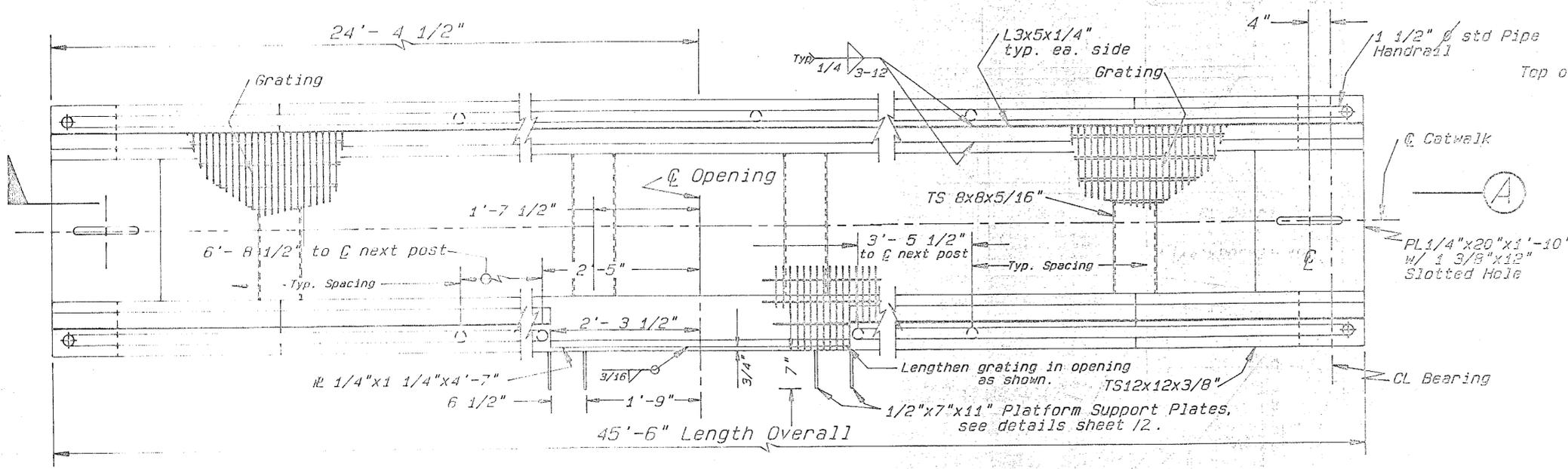
TS 8x8x5/16"

1'-11"

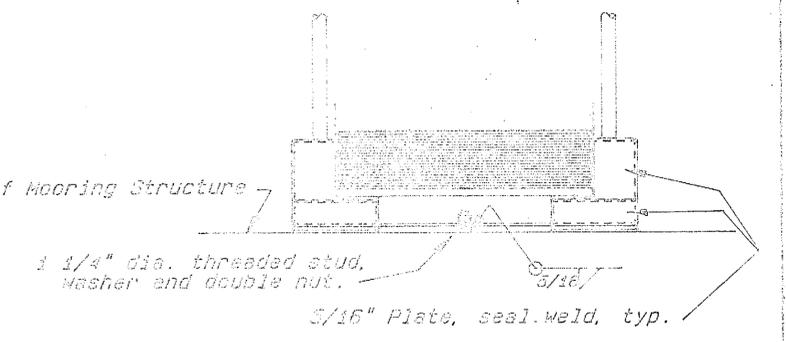
3'-10"

TS 8x8x5/16"

TYPICAL SECTION



PLAN

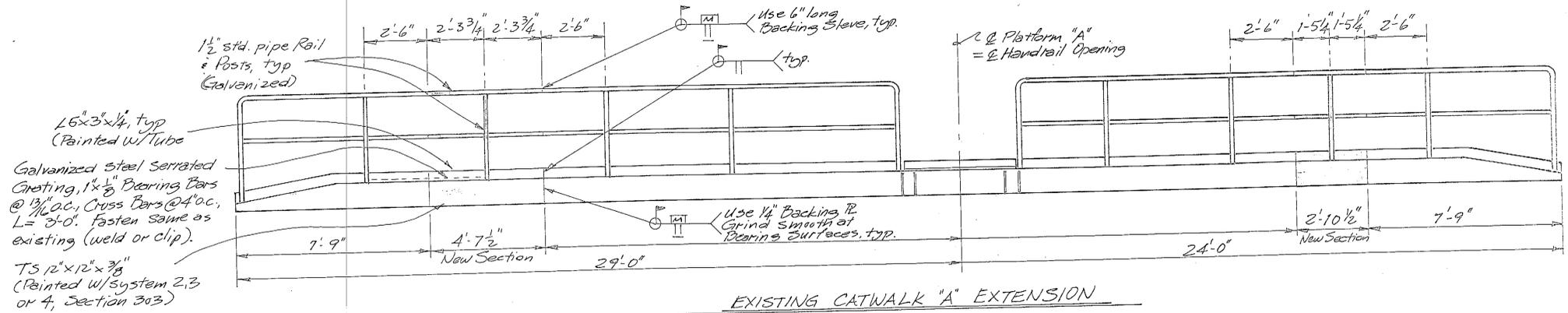


END VIEW

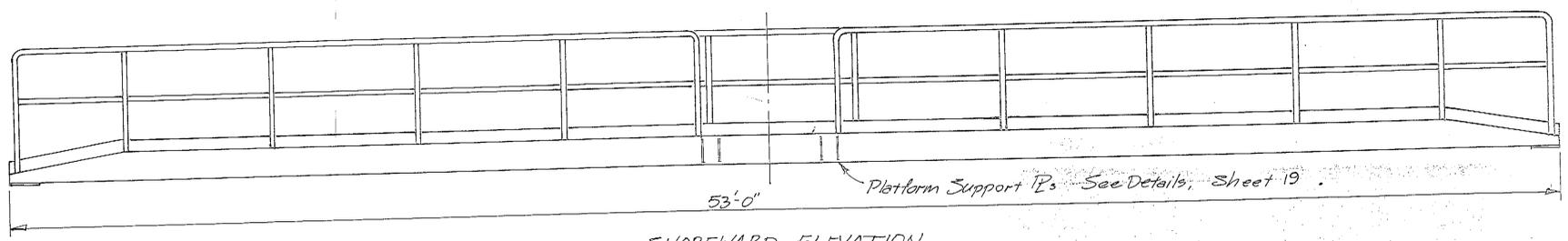
Approx. Weight = 7900 lbs.
Camber @ Midspan = 5/8"

As Built
GRF 3/30/21

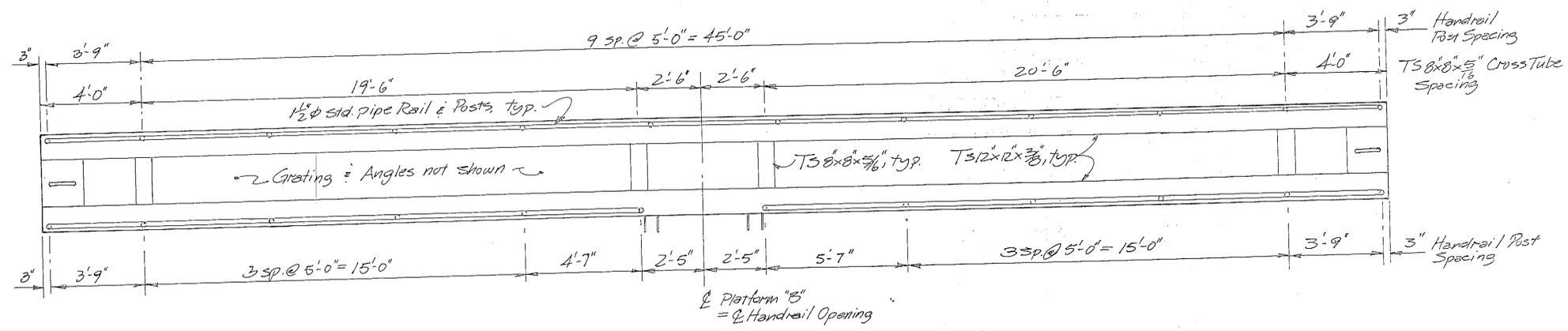
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	
KETCHIKAN CATWALK "A" ALASKA DETAILS	
DESIGNED BY: JAL	CHECKED BY: JS
DRAWN BY: JAL	DATE: 10-87
PROJECT: F-095-2(16)	SHEET: 21 OF 53



EXISTING CATWALK "A" EXTENSION



SHOREWARD ELEVATION



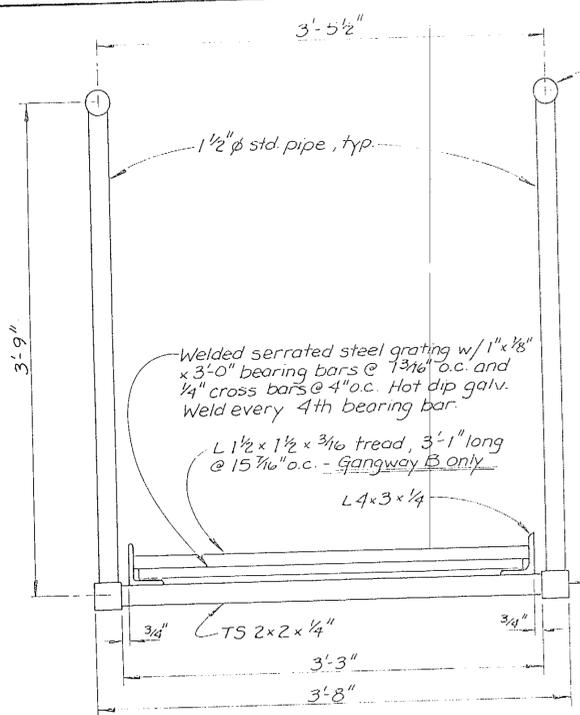
PLAN

CATWALK "B"

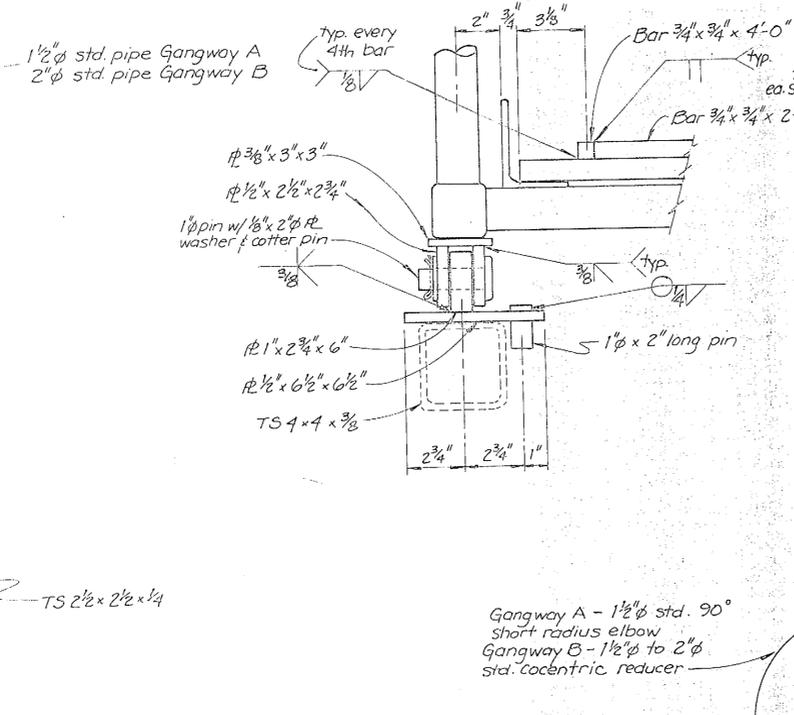
NOTE: Typical Section, Structural Members, Grating, Platform Attachment Details same as Catwalk "A" Details, Sheet

Approx. Wt. = 9000 lbs.
Camber @ Midspan = +1 9/16"

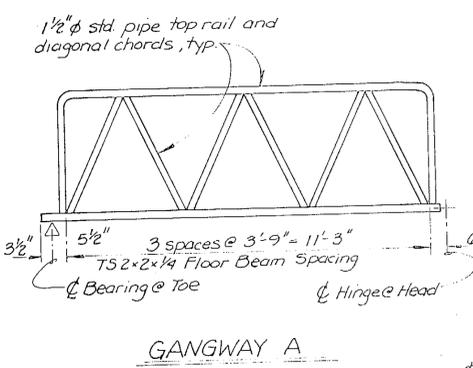
DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
STATE OF ALASKA			
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
Ketchikan		Alaska	
CATWALK "A" EXTENSION and CATWALK "B"			
DESIGNED	CHECKED	DRAWN	DATE
BAS		DB	7-92
PROJECT NUMBER	F-095-2(16)	SHEET	22 OF 53



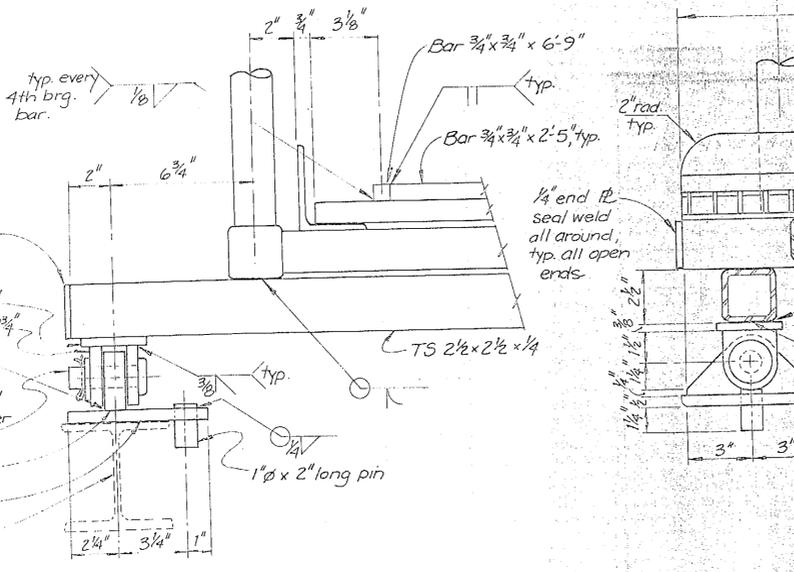
TYPICAL SECTION



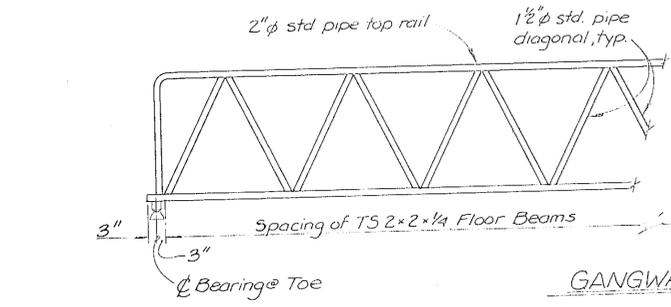
GANGWAY A DETAILS



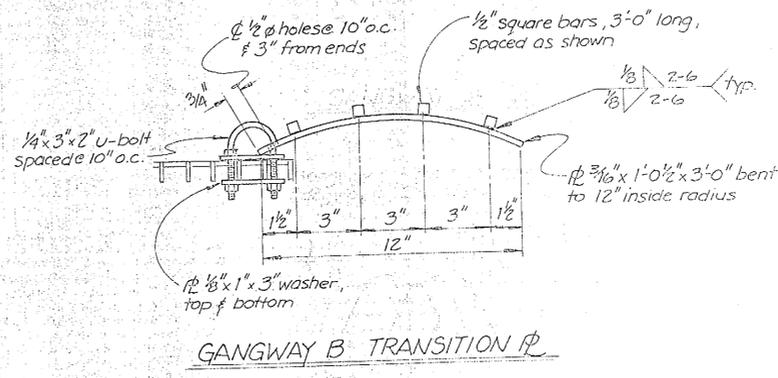
GANGWAY A



GANGWAY B DETAILS

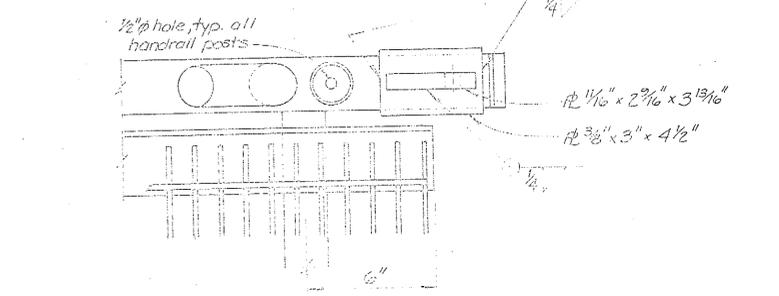
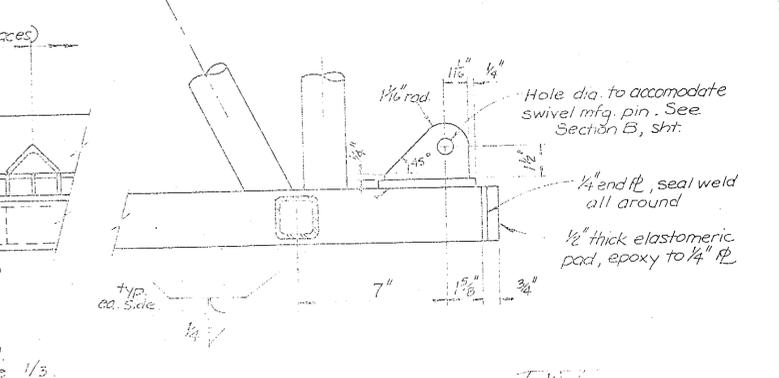
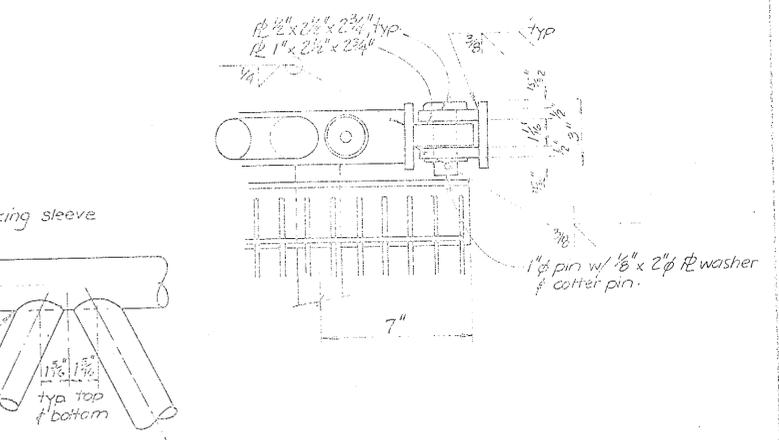
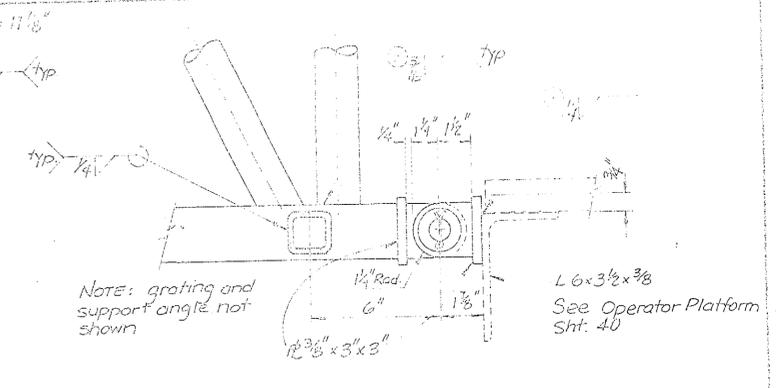


GANGWAY B



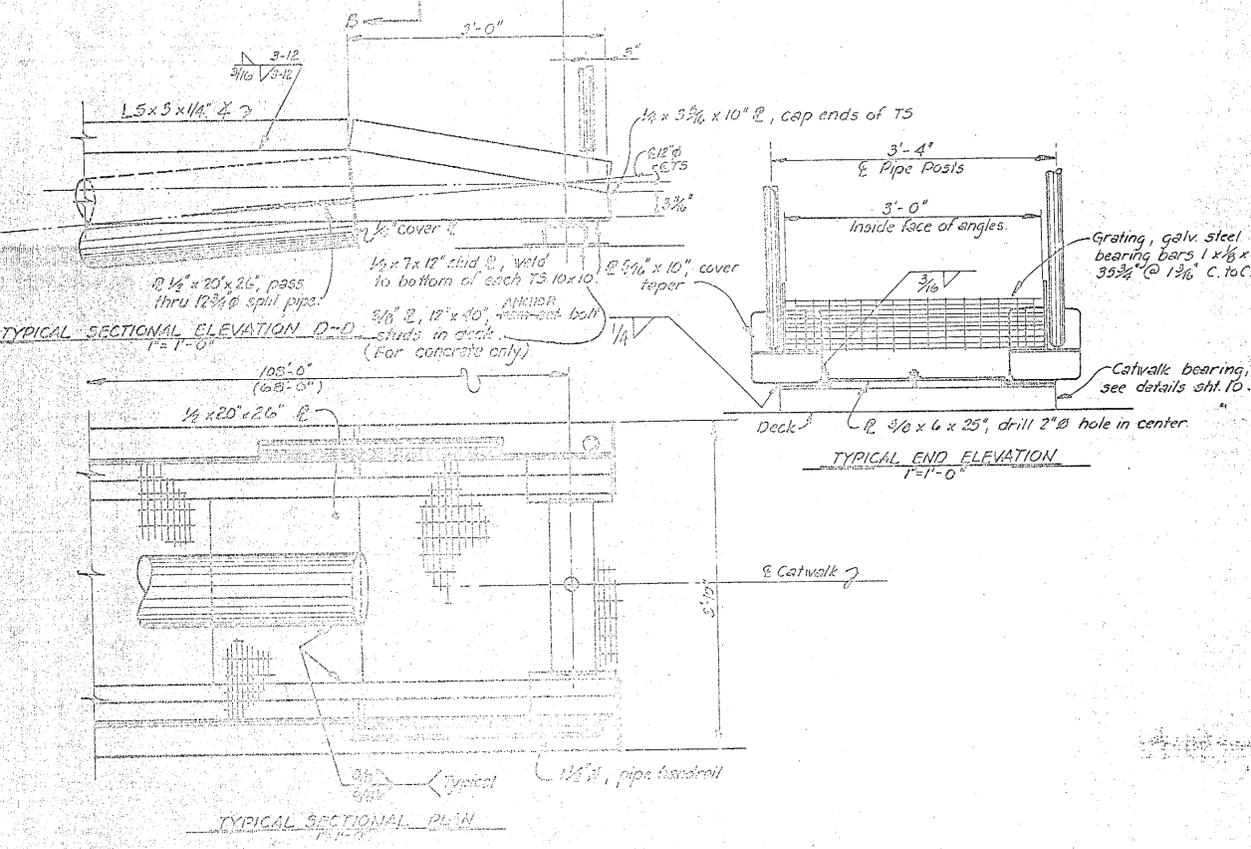
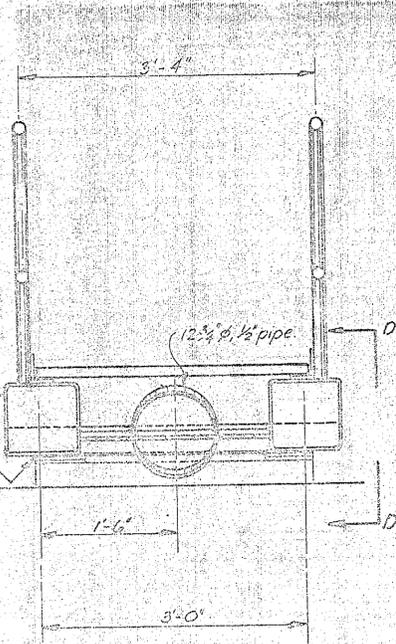
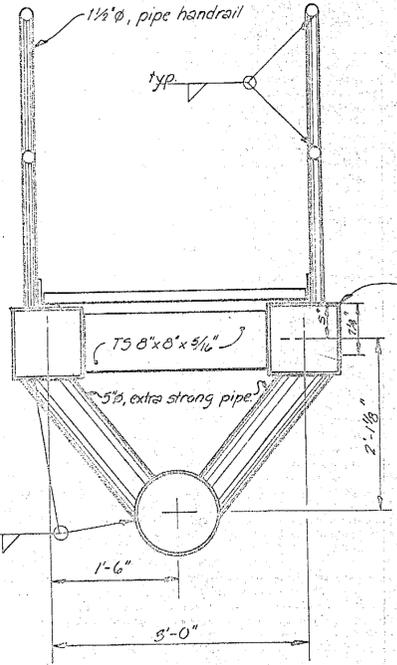
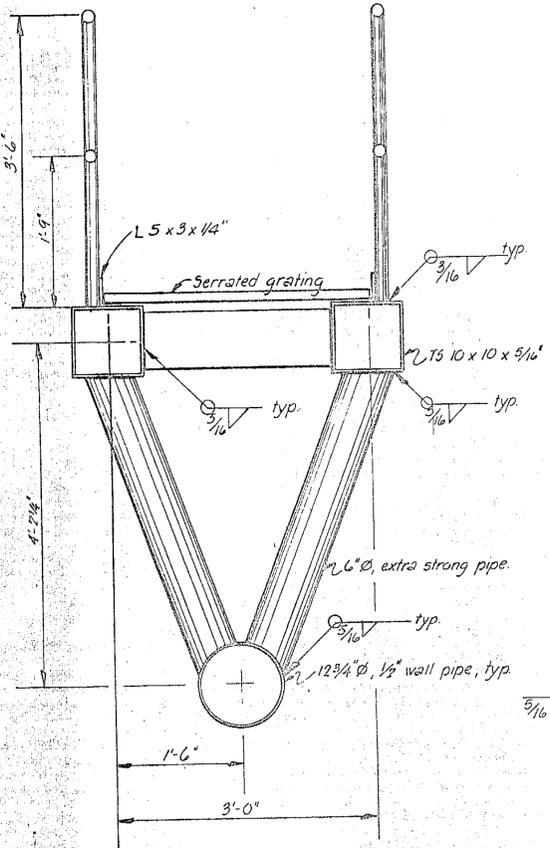
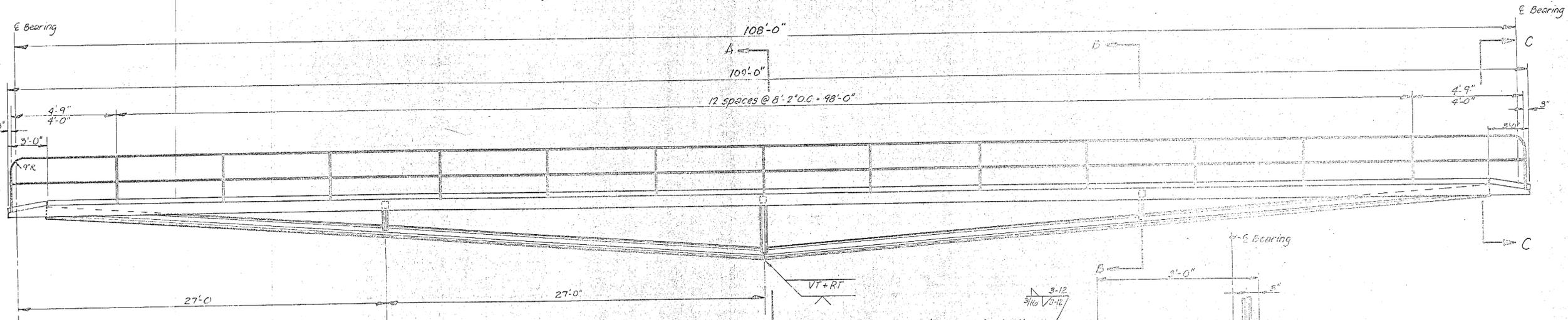
GANGWAY B TRANSITION

Approx. weight Gangway A = 850 lbs
 Approx. weight Gangway B = 4200 lbs
 Camber $\phi = +1/4"$



AS-BUILT

STATE OF ALASKA		DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	
Ketchikan, Alaska		GANGWAY DETAILS	
DESIGNED BS	CHECKED JS	DRAWN BS	DATE 10-27
PROJECT F-095-2(16)	SHEET 23	OF 53	



Note:
Grating shall be galv. steel serrated edge.
1 x 1/8" bearing bars, 1 3/8" O.C., 1" x 1/8"
crossbars, 4" O.C. Weld grating to T5 10 x 10 per
standard practice.

USE STANDARD
BENT TUBE
ATTACHMENT
CLIPS IN LIEU
OF WELDING

All splices in tension or compression
components of structure to be double bevel
full penetration.
The fully erected catwalk structure
shall only be lifted @ the quarter points.

AS-BUILT

DO NOT SCALE THIS DRAWING - USE DIMENSIONS

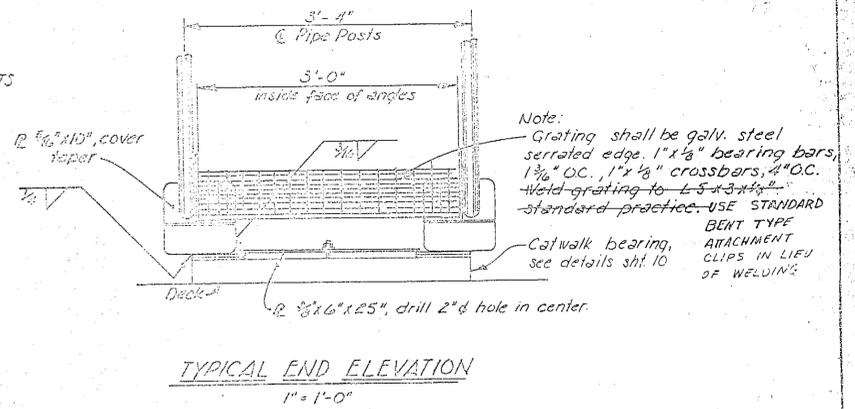
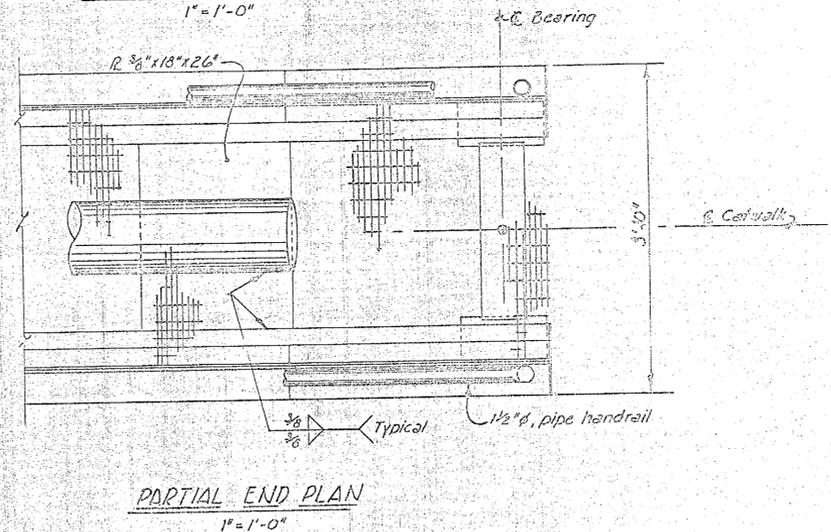
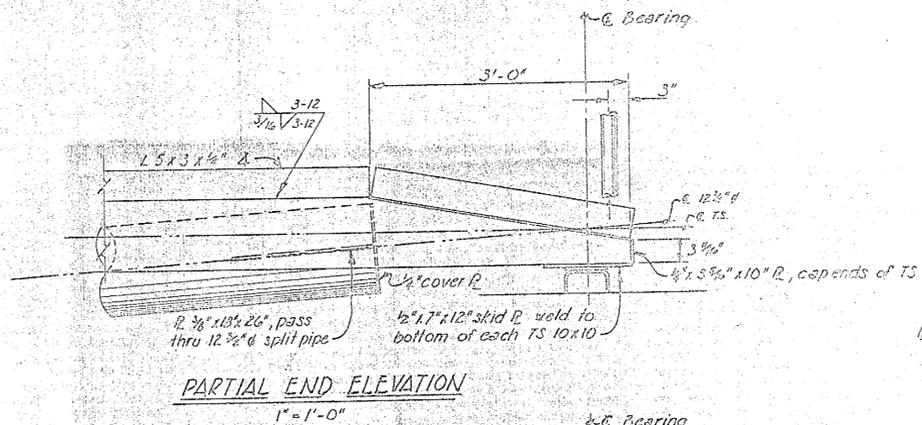
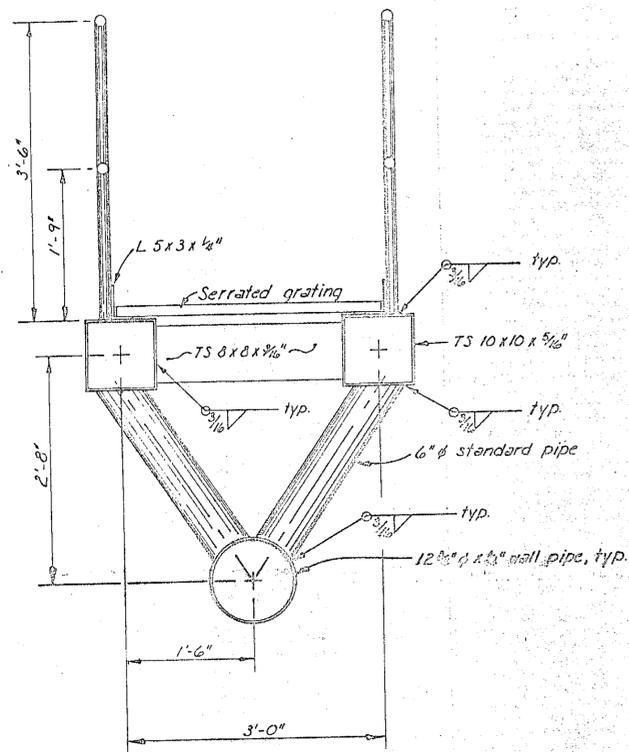
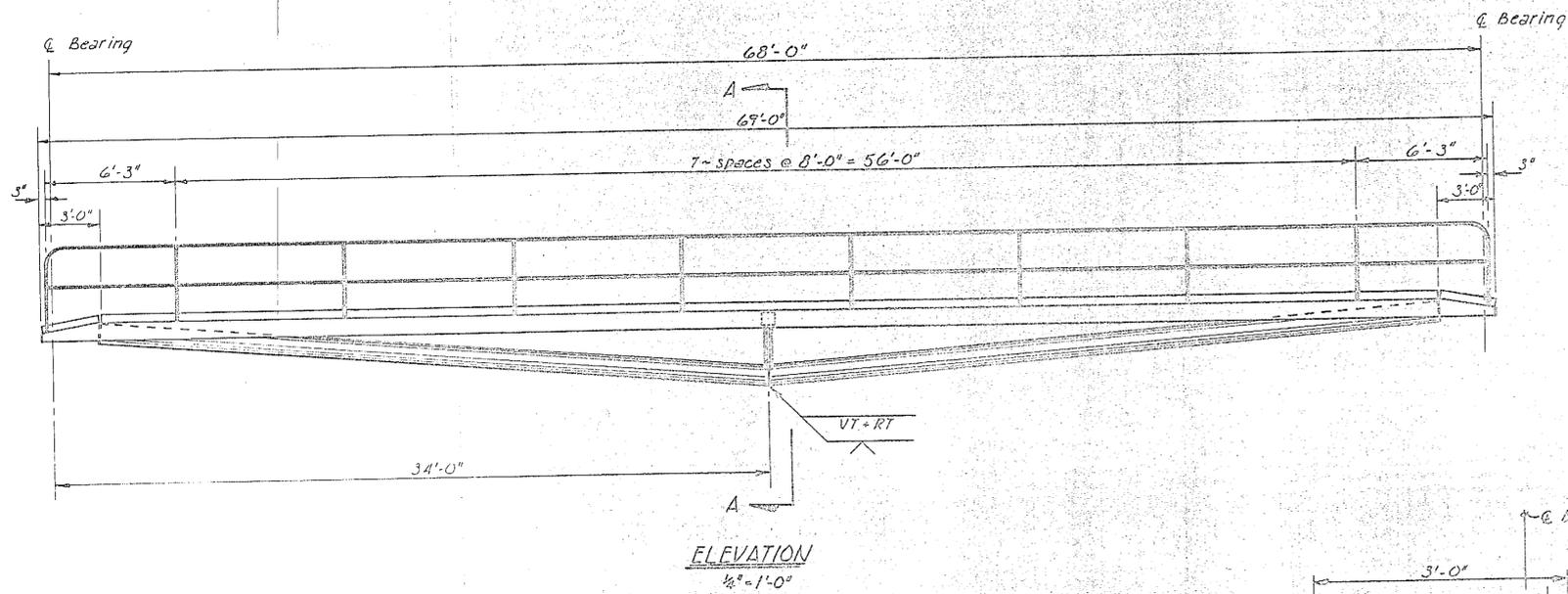
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
DIVISION OF HARBOR DESIGN AND CONSTRUCTION

108' CATWALK DETAILS

SCALE: As Shown SURVEYED: 10/1/78
DESIGNED: J. L. G. DRAWN: J. L. G.
CHECKED: J. L. G. DATE: 5/1/78

APPROVED: Don Stalter DIRECTOR

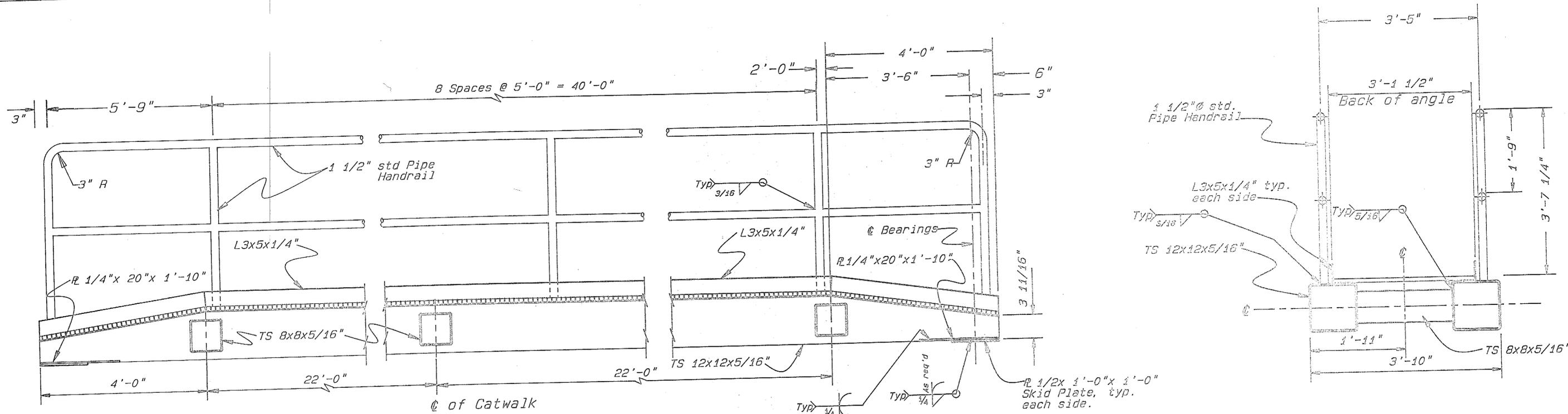
PROJECT NUMBER: 095-2(16) SHEET 24 of 53



Note:
All splices in tension or compression components of structure to be double bevel complete penetration.
The fully erected catwalk structure shall only be supported or lifted @ end bearing points.

AS-BUILT

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOUR DESIGN AND CONSTRUCTION			
68'-0" CATWALK DETAILS			
SCALE 1/8" = 1'-0"	SURVEYED	APPROVED	
DRAWN G.R.F.	DATE NOV 1978	Don Staller	DIRECTOR
PROJECT NUMBER F-095-2(16)	SHEET 25	OF 53	

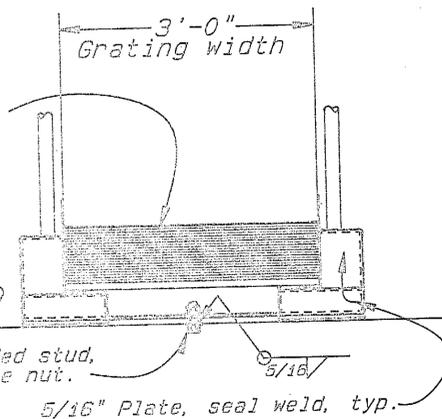


NOTE: Camber TS 12x12x5/16", 1 1/8" @ Midspan

SECTION A

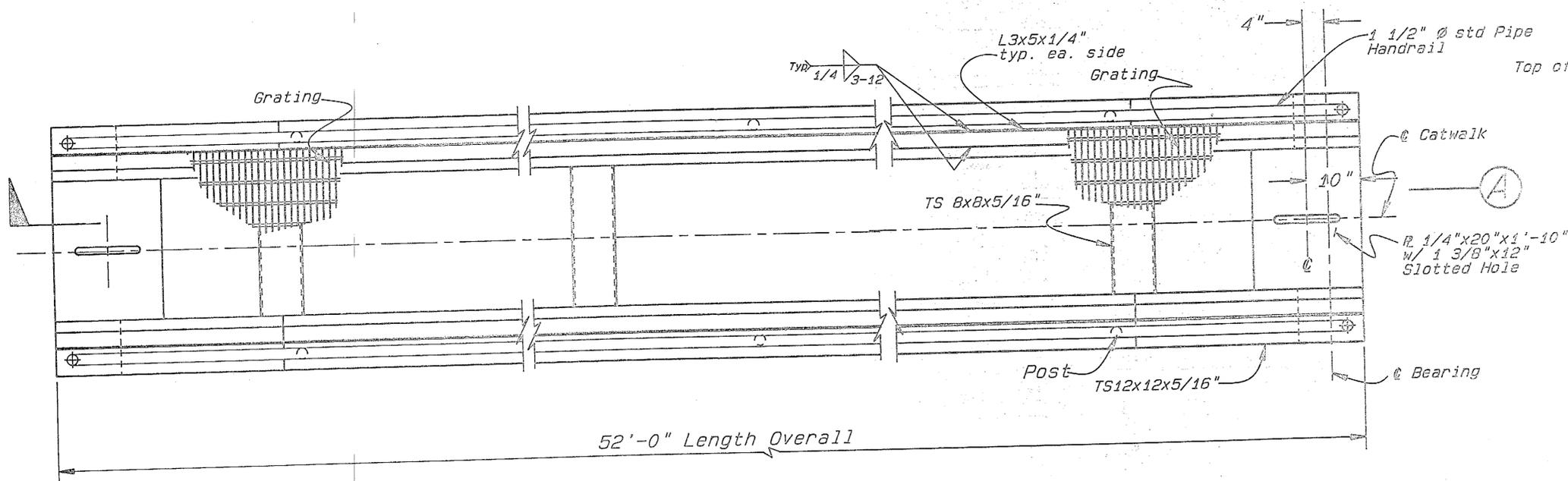
TYPICAL SECTION

Galvanized Steel Serrated Grating, 1" x 1/8" Bearing Bars @ 1 3/16" oc. Cross Bars @ 4" oc. Weld every fourth bearing bar to angle.



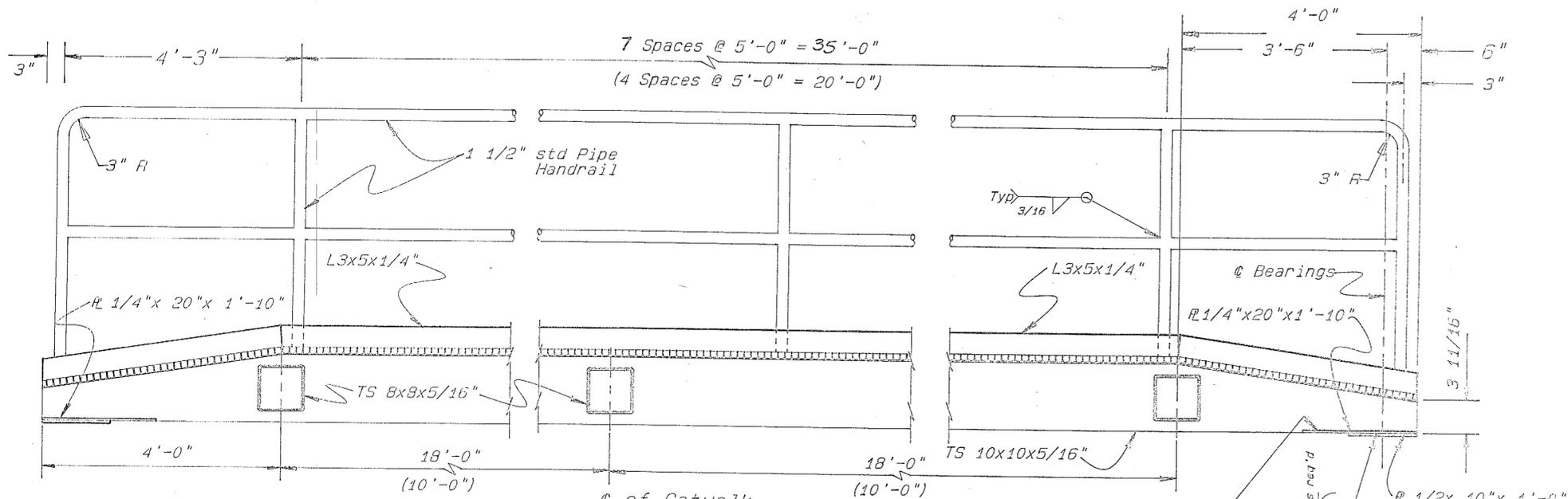
END VIEW

Approximate weight 52' Catwalk = 7700 lb.



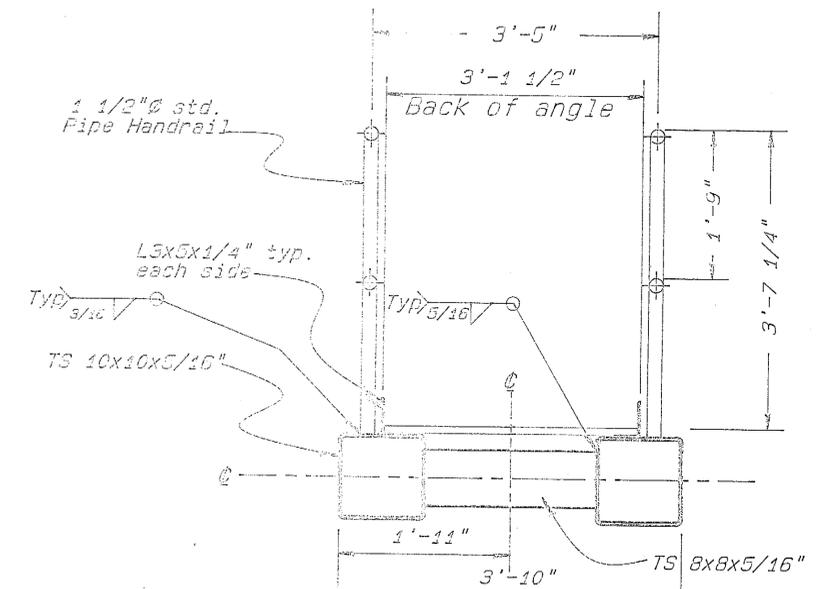
PLAN

		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		ALASKA	
<h3>52'-0" CATWALK DETAILS</h3>			
DESIGNED	JAL/BS	CHECKED	JS
DRAWN	Geoal/BN	DATE	
PROJECT NUMBER	75120/F-095-2 (16)	SHEET	26 OF 53

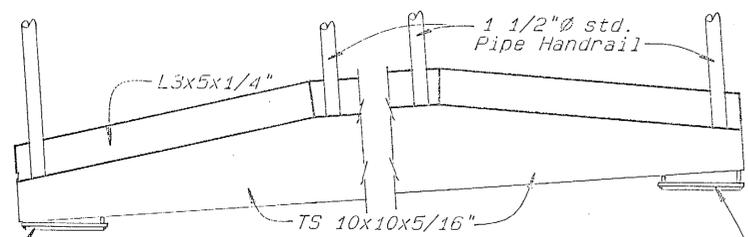


NOTE: 44'-0" Catwalk, Camber TS 10x10x5/16", 1" @ Midspan
 (28'-0" Catwalk, Camber TS 10x10x5/16", 1/8" @ Midspan)

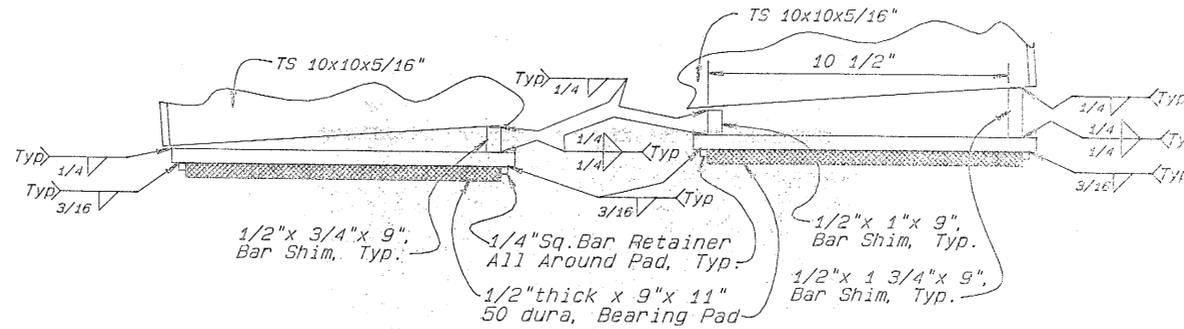
SECTION A



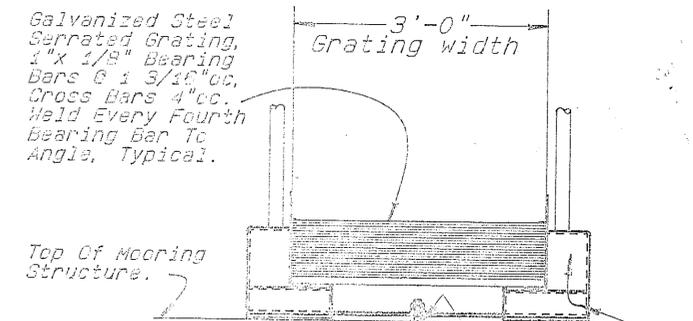
TYPICAL SECTION



NOTE: Bearing Pad Assemblies Replace Skid Plates
 On 28'-0" Catwalk Only, See Bearing Pad Details This Sht.
BEARING PADS, (28'-0" Catwalk Only)

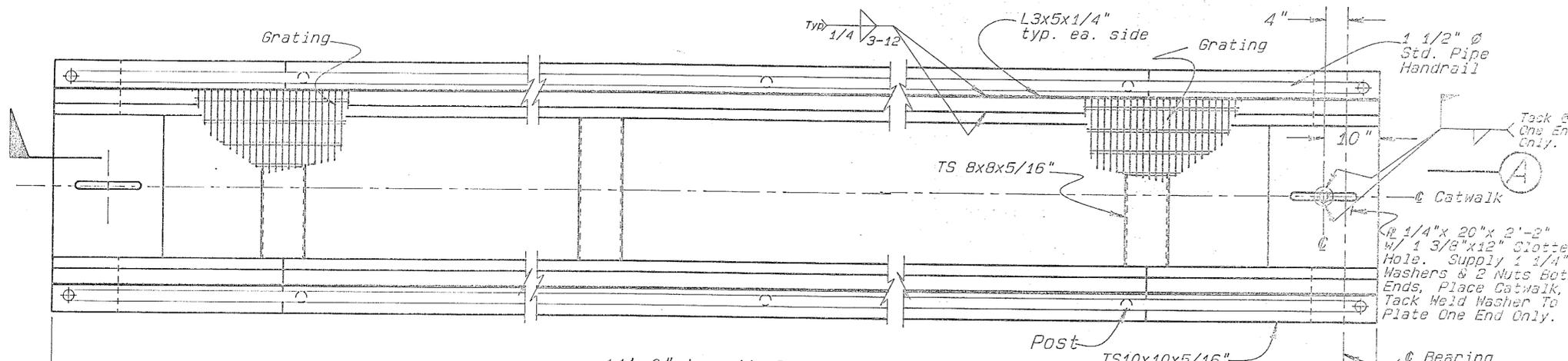


BEARING PAD DETAILS, (28'-0" Catwalk Only)



Galvanized Steel Serrated Grating, 1" x 1/8" Bearing Bars @ 1 3/16" oc, Cross Bars 4" oc, Weld Every Fourth Bearing Bar To Angle, Typical.
 Top Of Mooring Structure.
 1 1/4" dia. threaded stud, washer and double nut.
 NOTE: At Mooring Structure "A", Supply & Install a 1 1/4" A307 Threaded Stud, Secure w/ Chemical Adhesive Into Exist. Concrete Cap.

END VIEW

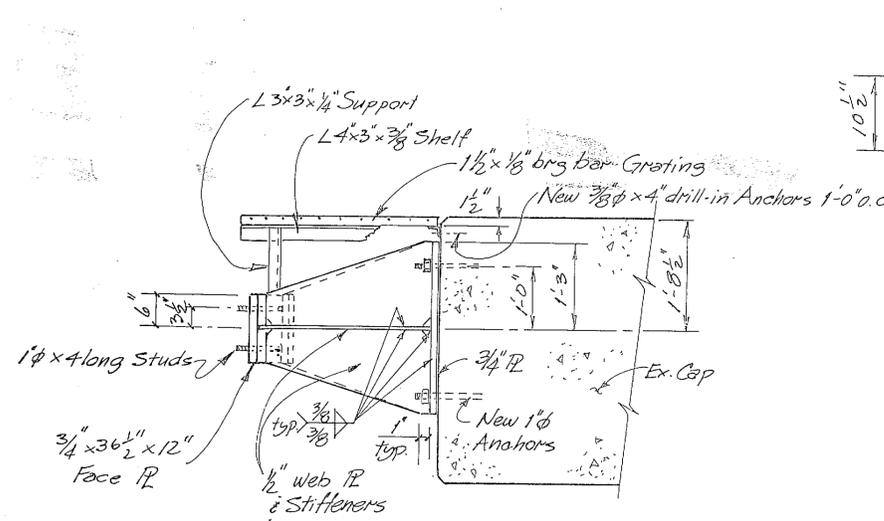


44'-0" Length Overall
 (28'-0" Length Overall)
PLAN

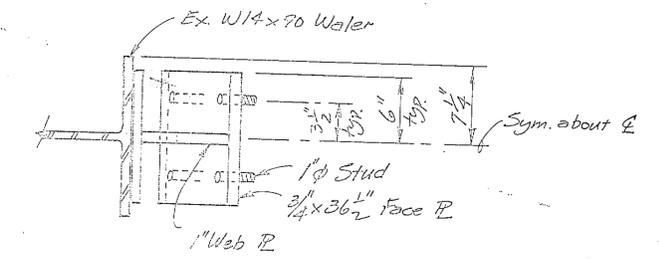
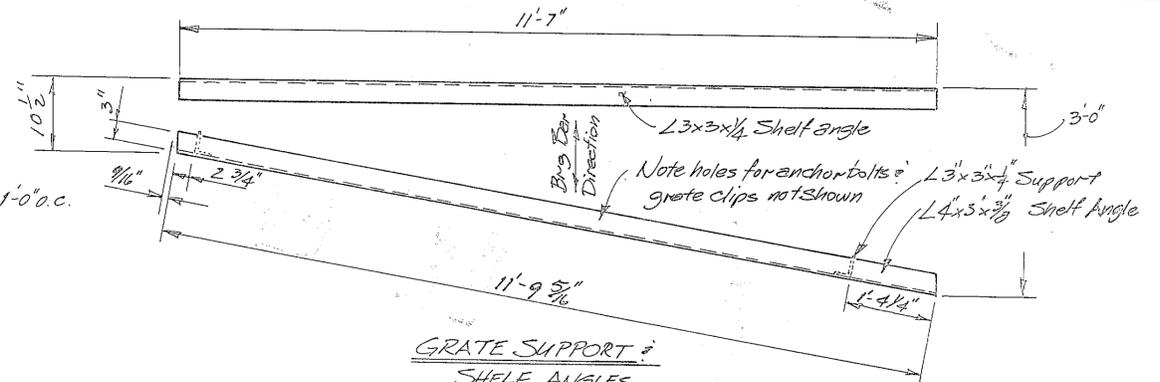
Contractor's Option: Existing Catwalks May Be Modified To Provide Similar 44'-0" & 28'-0" Catwalks. Plans For Modifying Existing Catwalks Shall Be Submitted For Approval. Fabrication Per Section 302, Galvanize Repair Per Section 302, Sandblast & New Paint Per Section 303, System 5 (remove & replace grating req'd).

Approximate weight 44' Catwalk = 6000 lb.
 Approximate weight 28' Catwalk = 3900 lb.

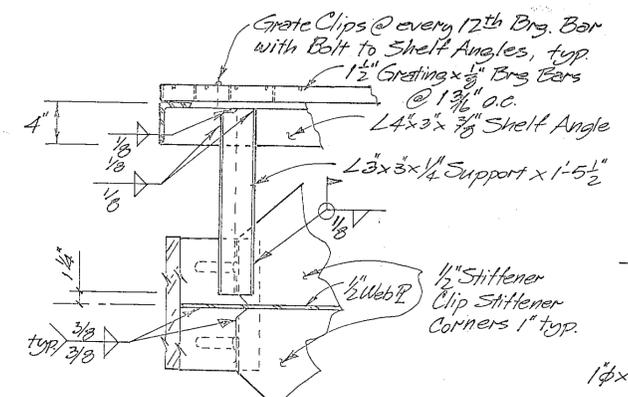
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		ALASKA	
44'-0" & 28'-0" CATWALK DETAILS			
DESIGNED	JAL/BS	CHECKED	JS
PROJECT NUMBER	75120/F-095-2(16)	DRAWN	Geoal/BN
		DATE	
		SHEET 27 OF 53	



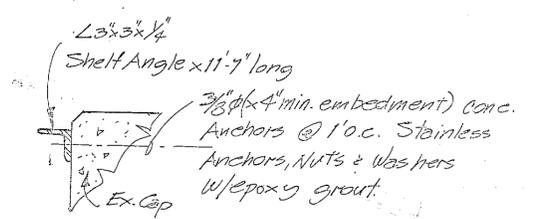
#2A & 2B
ELEV. VIEW



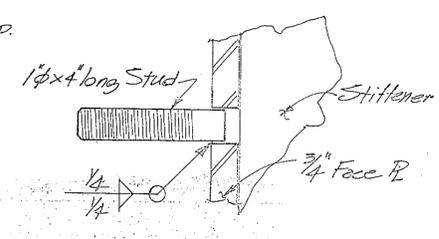
#1 ELEV. VIEW



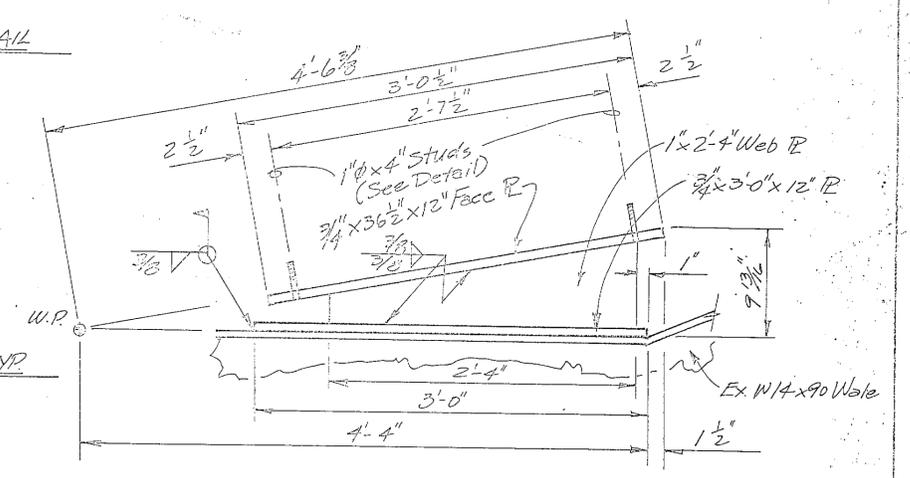
GRATE SHELF & SUPPORT ANGLE DETAIL



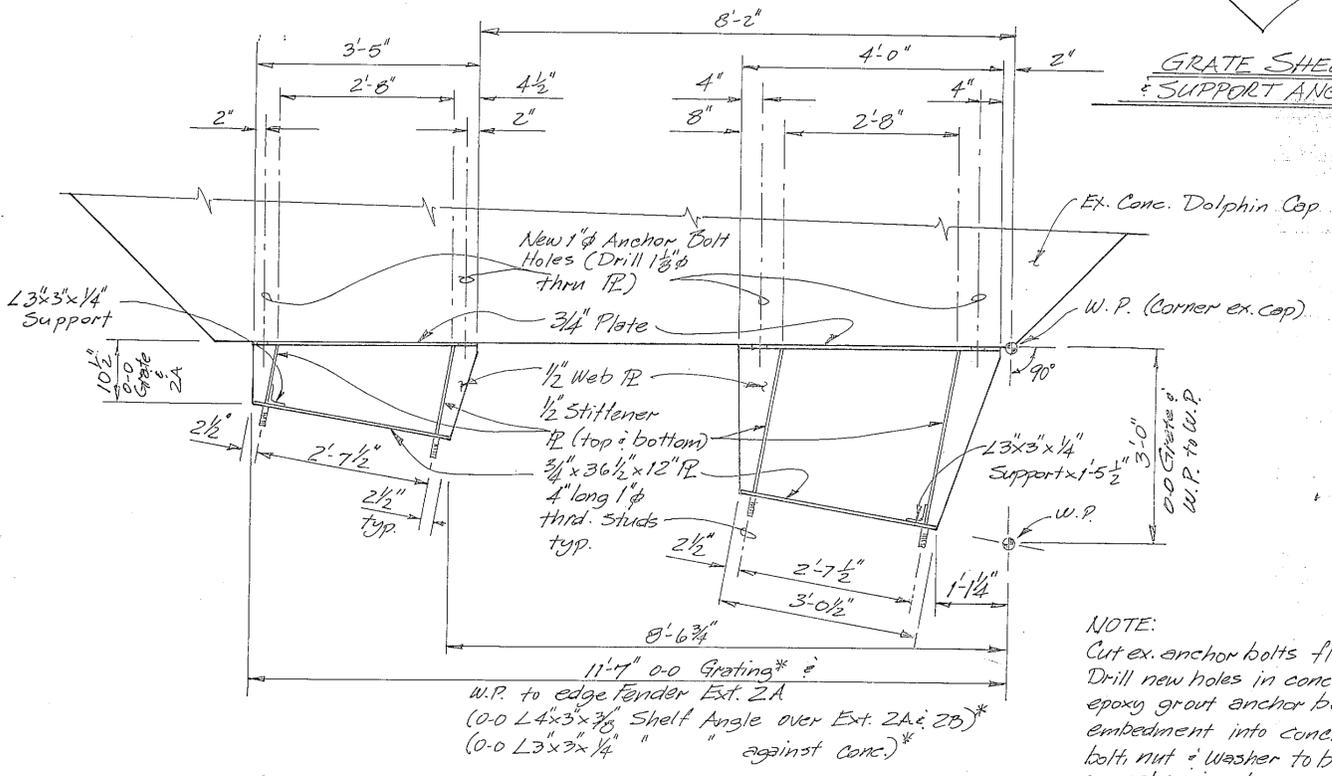
GRATE SHELF ANGLE TO CAP DETAIL



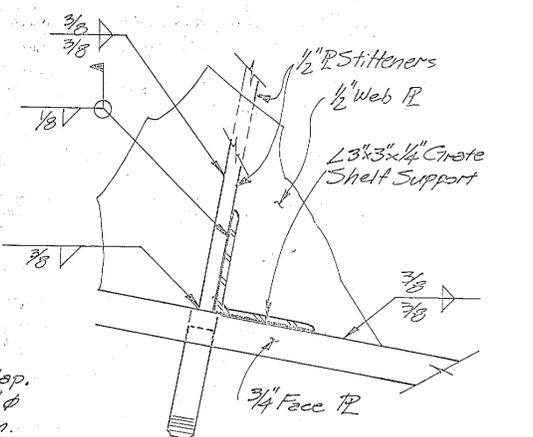
STUD TO FACE PL DETAIL, TYP.



#1 PLAN VIEW



#2A & 2B
PLAN VIEW

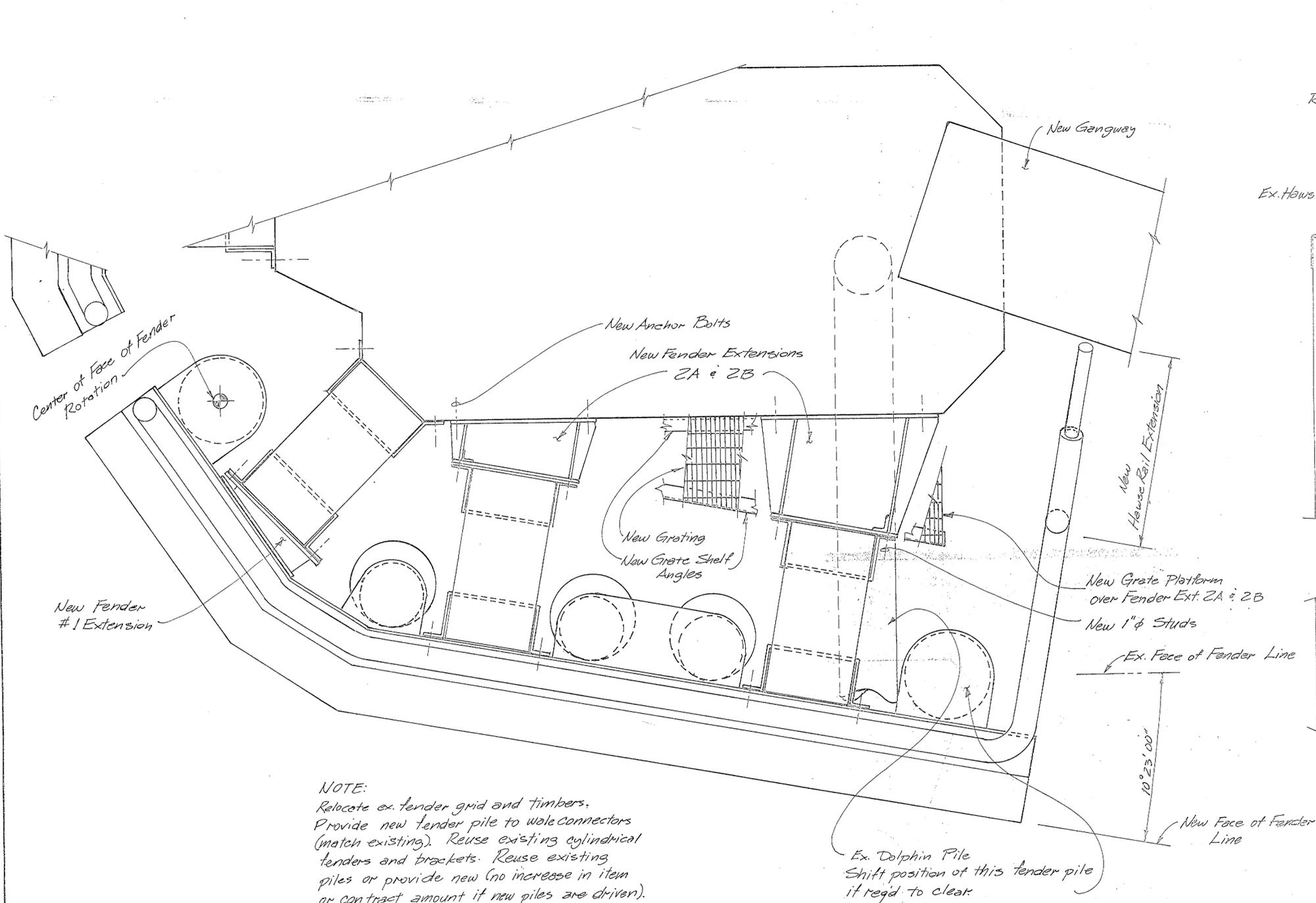


STIFFENER TO FACE PL DETAIL

NOTE:
Cut ex. anchor bolts flush with Cap.
Drill new holes in conc. for new 1 inch epoxy grout anchor bolts. 9" min. embedment into concrete. Anchor bolts nut & washer to be stainless or galvanized.

*Not Shown this View

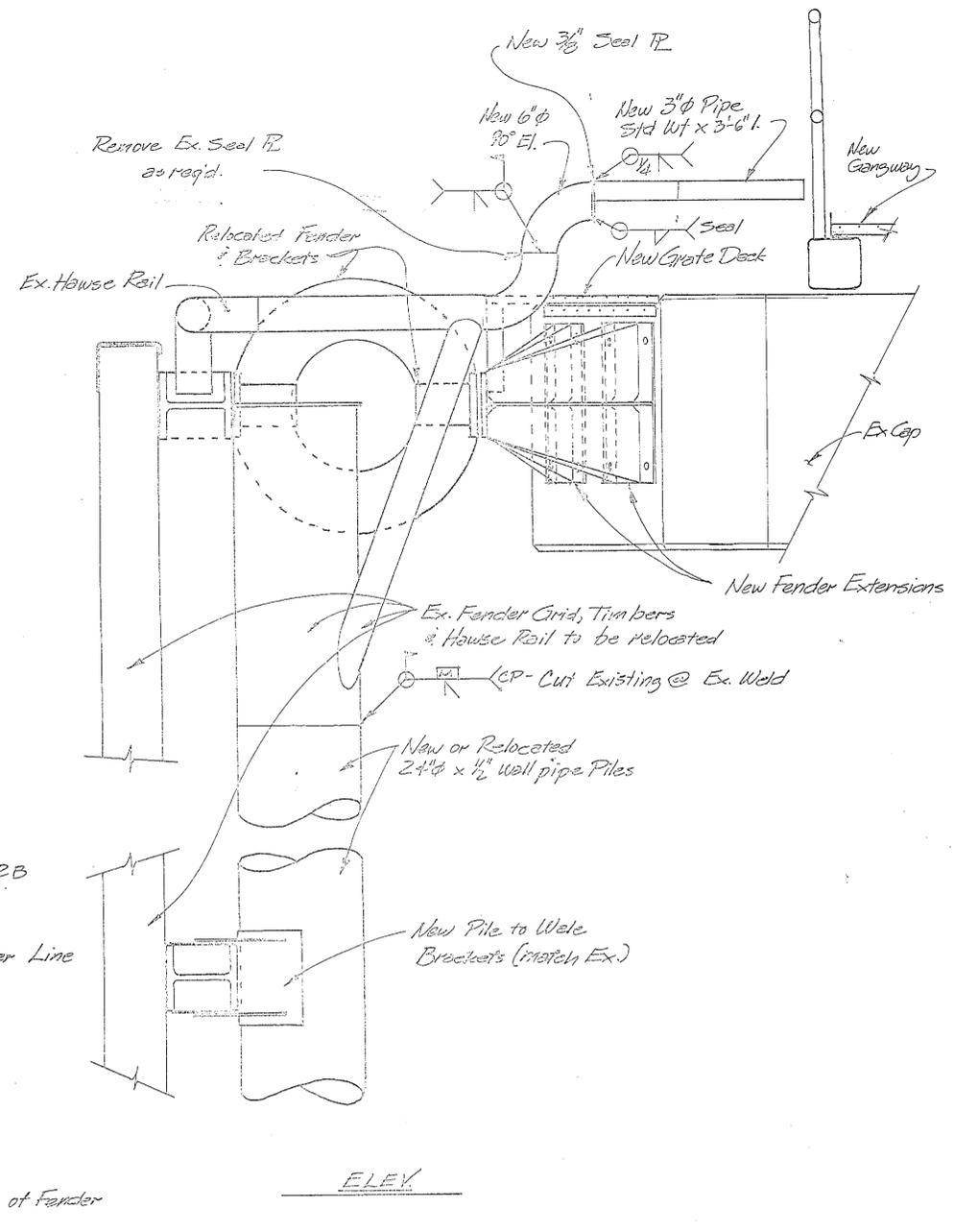
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA	
		DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	
Ketchikan		Alaska	
MOORING STR. "A" FENDER EXTENSIONS			
DESIGNED JS	CHECKED	DRAWN DB	DATE 6-92
PROJECT NUMBER F-095-2(16)	SHEET 31	OF 53	



PLAN VIEW

NOTE:
 Relocate ex. fender grid and timbers.
 Provide new fender pile to wale connectors
 (match existing). Reuse existing cylindrical
 tenders and brackets. Reuse existing
 piles or provide new (no increase in item
 or contract amount if new piles are driven).

Ex. Dolphin Pile
 Shift position of this fender pile
 if req'd to clear

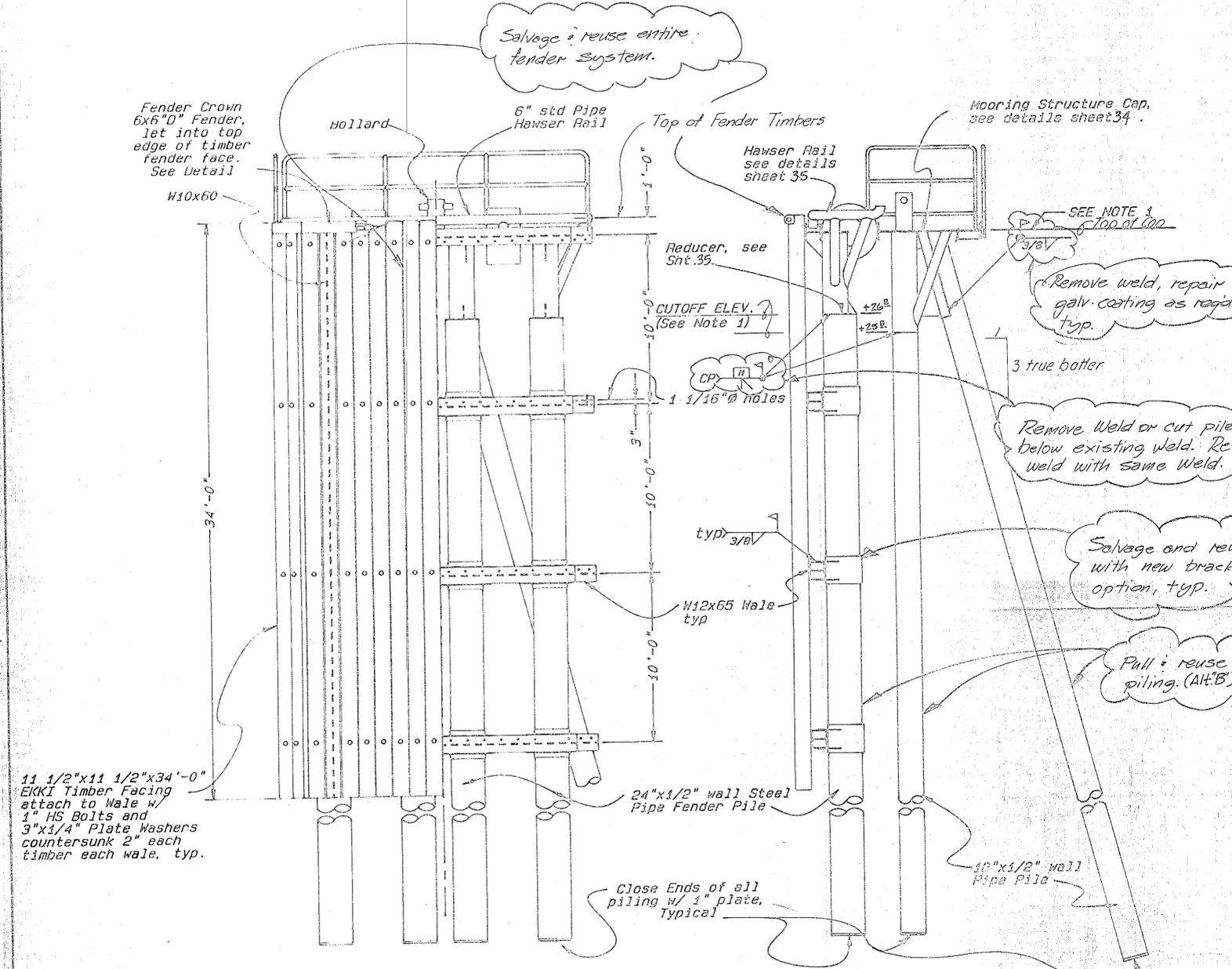


ELEV

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS		
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES				
Ketchikan		Alaska		
MOORING STR. "A" MODIFICATIONS				
DESIGNED JS	CHECKED	DRAWN DB	DATE 6-92	
PROJECT NUMBER F-095-2(16)	SHEET 32	OF 53		



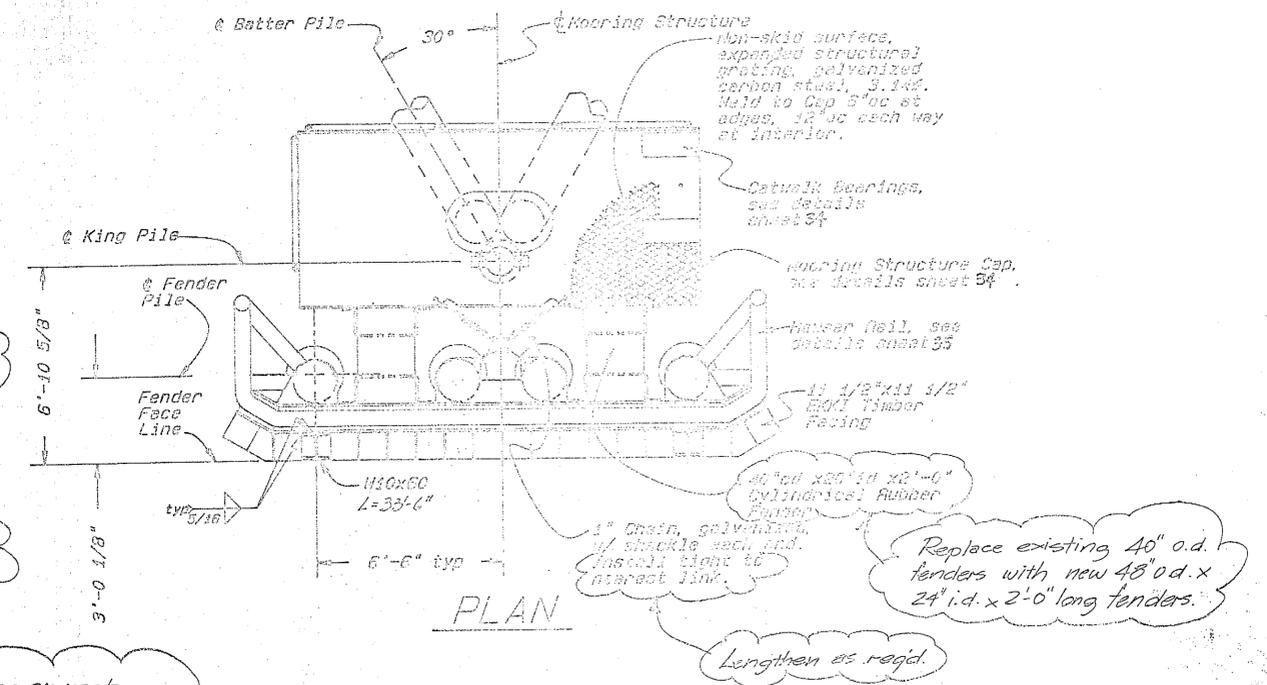
9-1-92



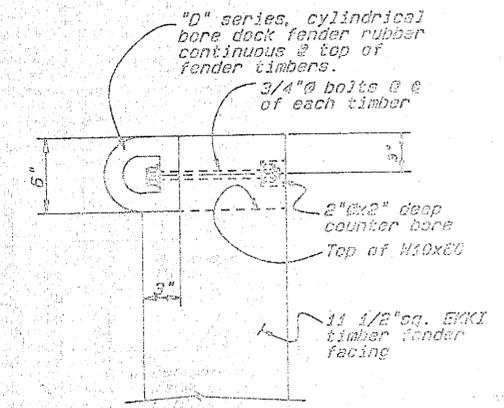
FRONT ELEVATION

SIDE ELEVATION

NOTE 1: Cutoff elevations for ^(relocated) vertical and batter piles shall be determined by the contractor. Finished elevation of the ~~existing~~ mooring structure shall ~~match that of existing mooring structure "2"~~ approximately ~~131.00~~ ^{Cap shall bet 29.00}



PLAN



DETAIL 1

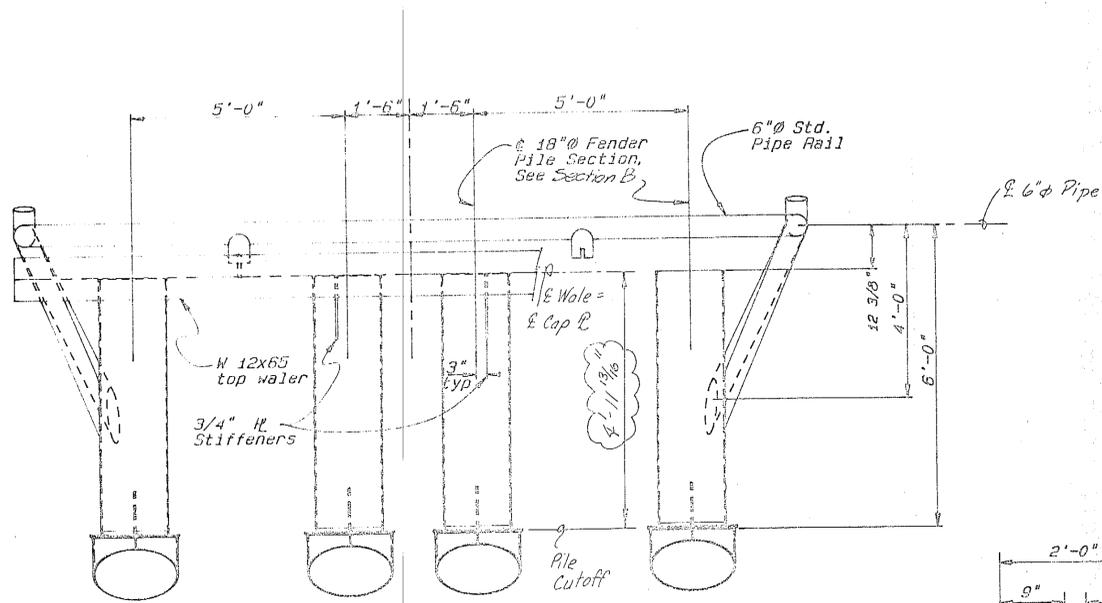
AS-BUILT

NOTE: Existing Mooring Structures "5", "6", and "7" are similar to Mooring Structure "2A" except fender piles are 18" x 1/2".

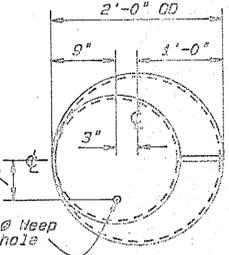
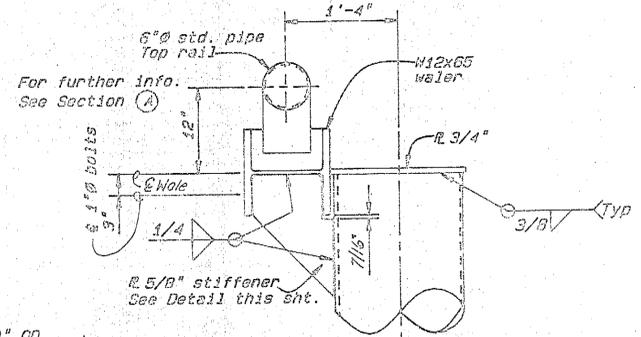
ITEM 902(3) Salvage/Relocate Structure "2A" to Structure "B"

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		ALASKA	
MOORING STRUCTURE "2A" PLAN AND ELEVATIONS			
DESIGNED <u>ML</u>	CHECKED <u>JS</u>	DRAWN <u>JAL</u>	DATE <u>10-87</u>
PROJECT NUMBER <u>F-075-2(16)</u>		SHEET <u>33</u> OF <u>53</u>	

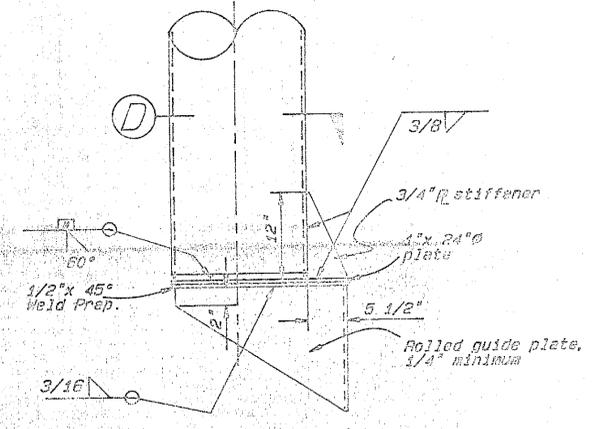
As Built
GRF 3/30/87



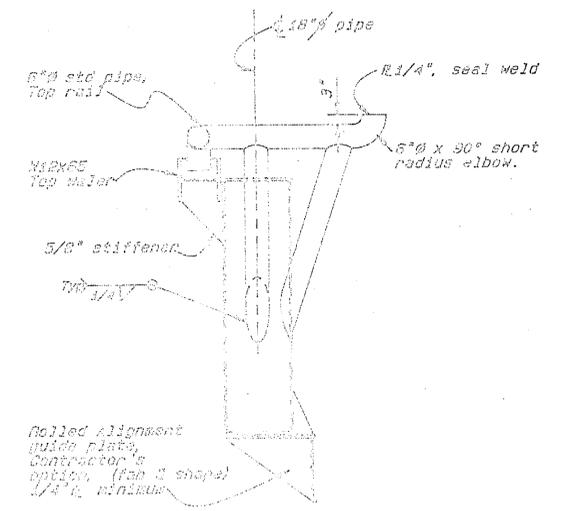
ELEVATION



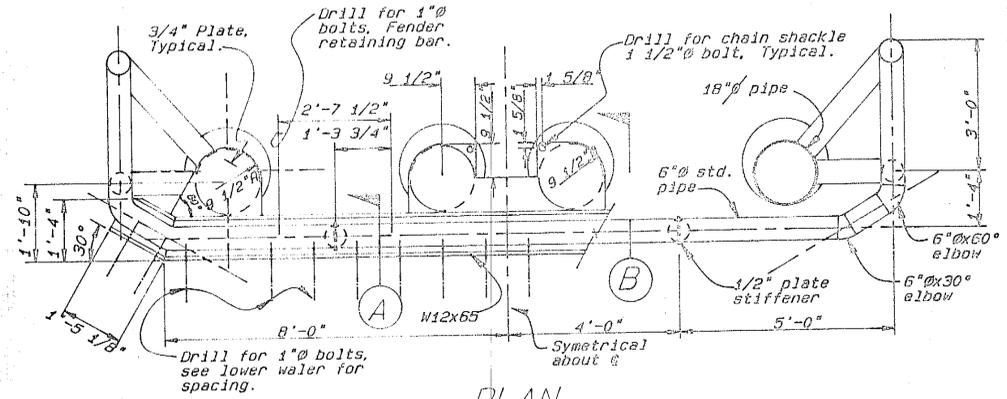
SECTION D



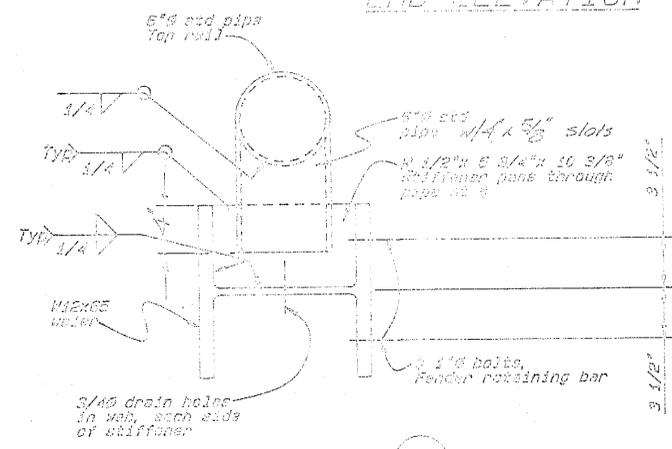
SECTION B



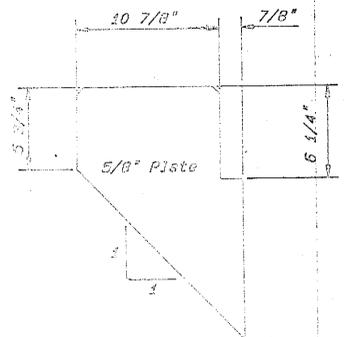
END ELEVATION



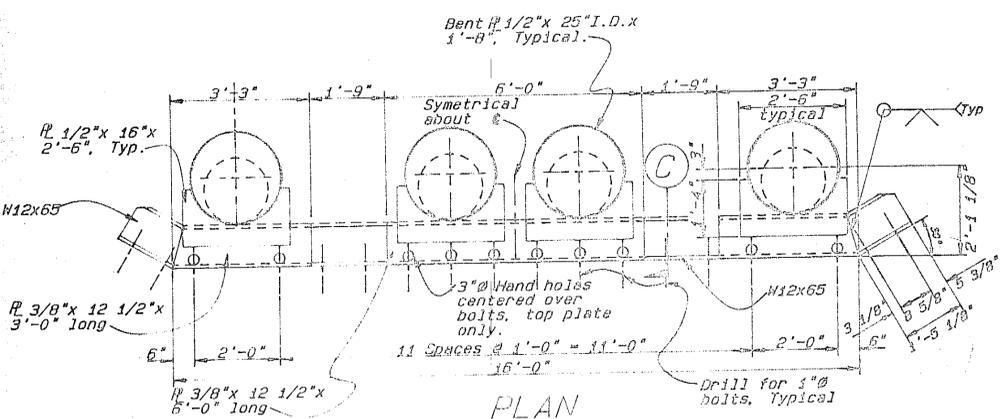
PLAN TOP RAIL & WATER



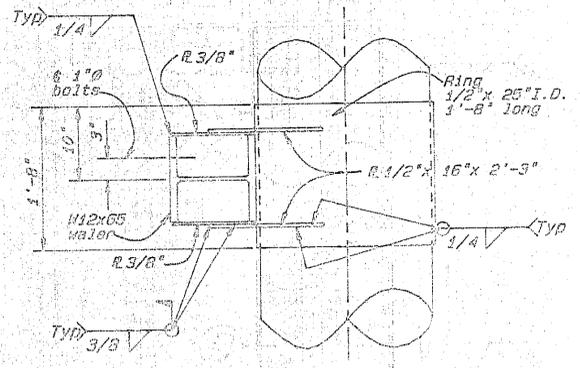
SECTION A



STIFFENER



PLAN LOWER WATER



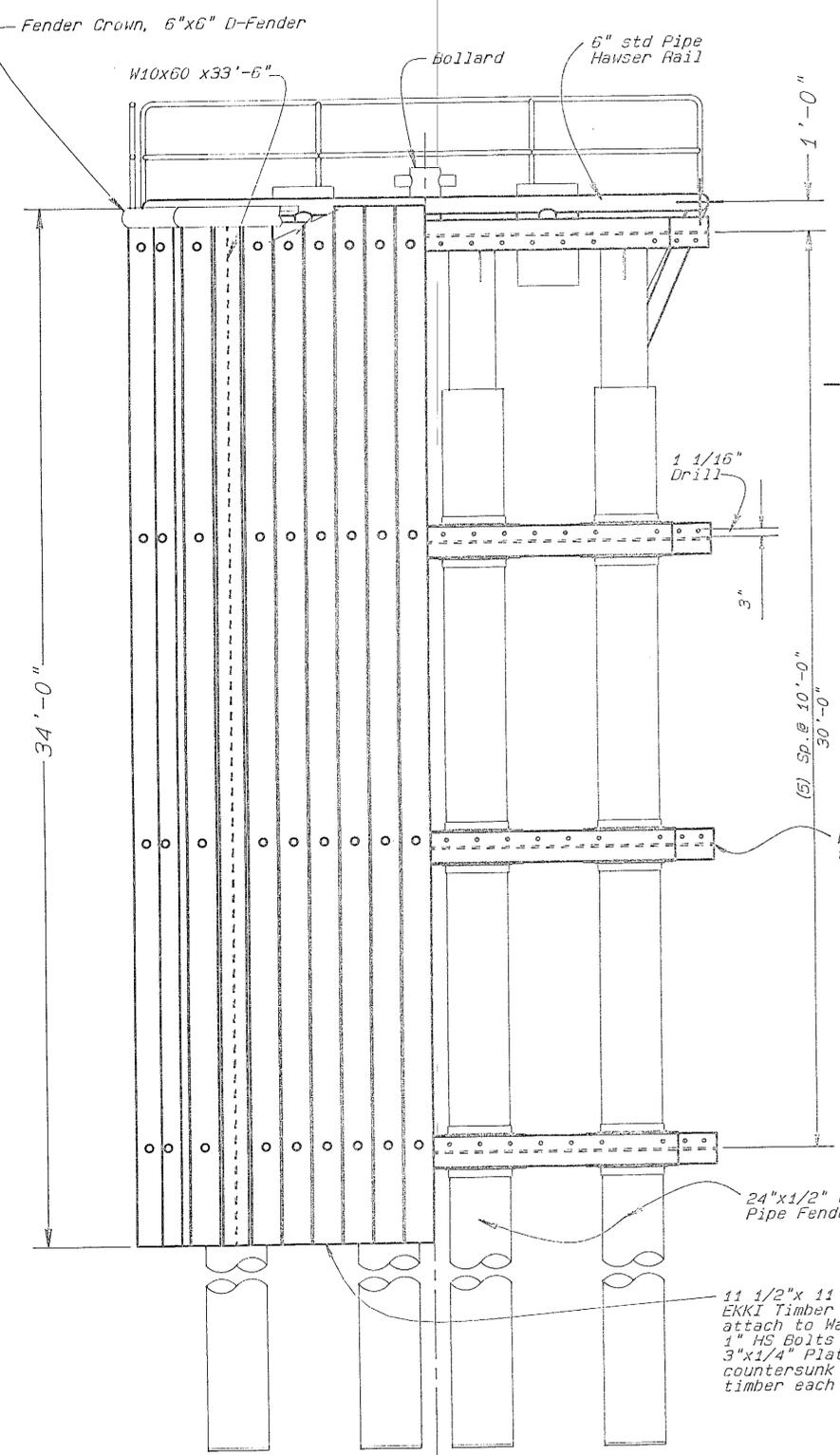
SECTION C

AS-BUILT
ITEM 302(3)

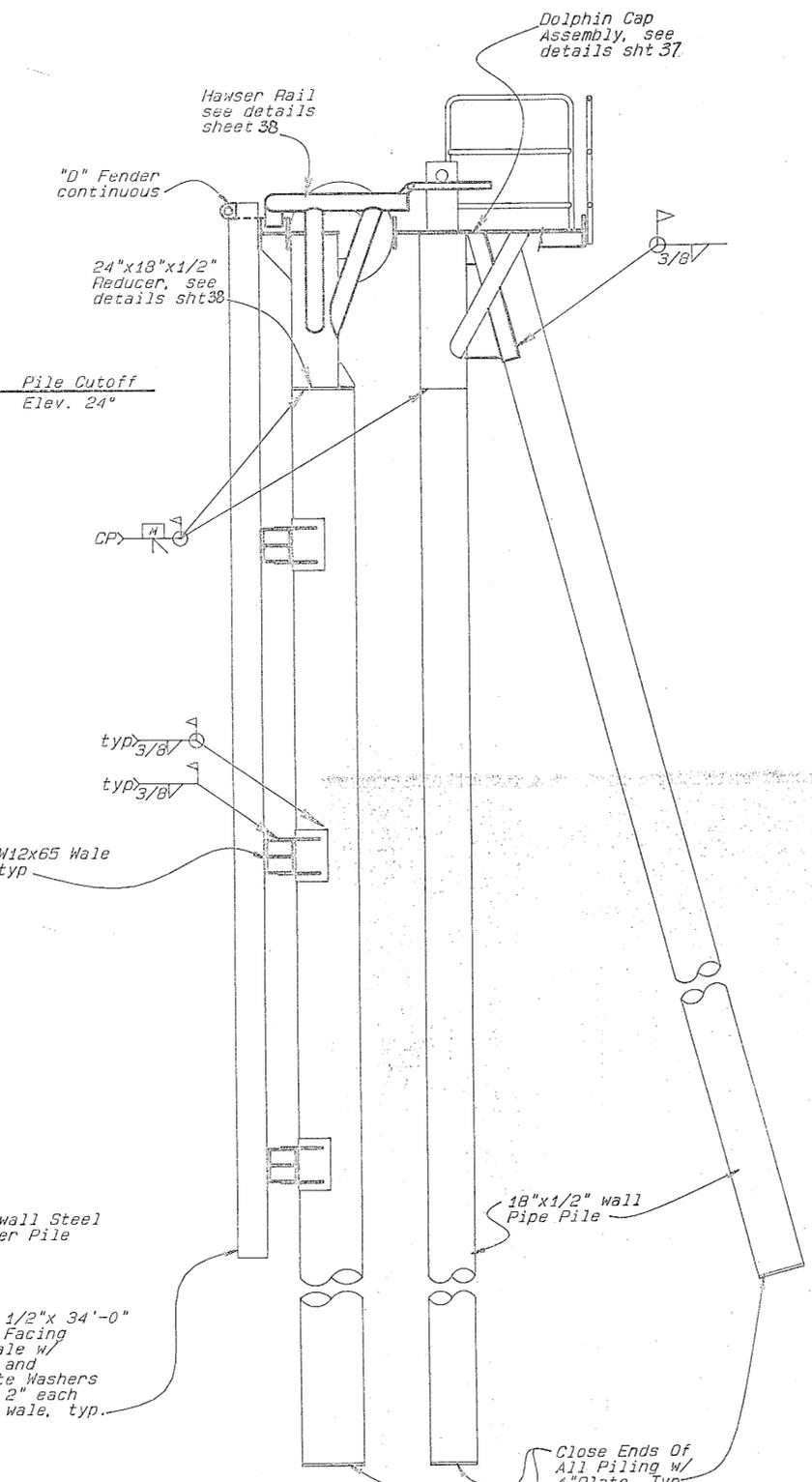
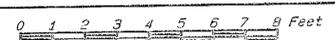
Salvage and reuse entire fender system

As Built
GRF 3/30/89

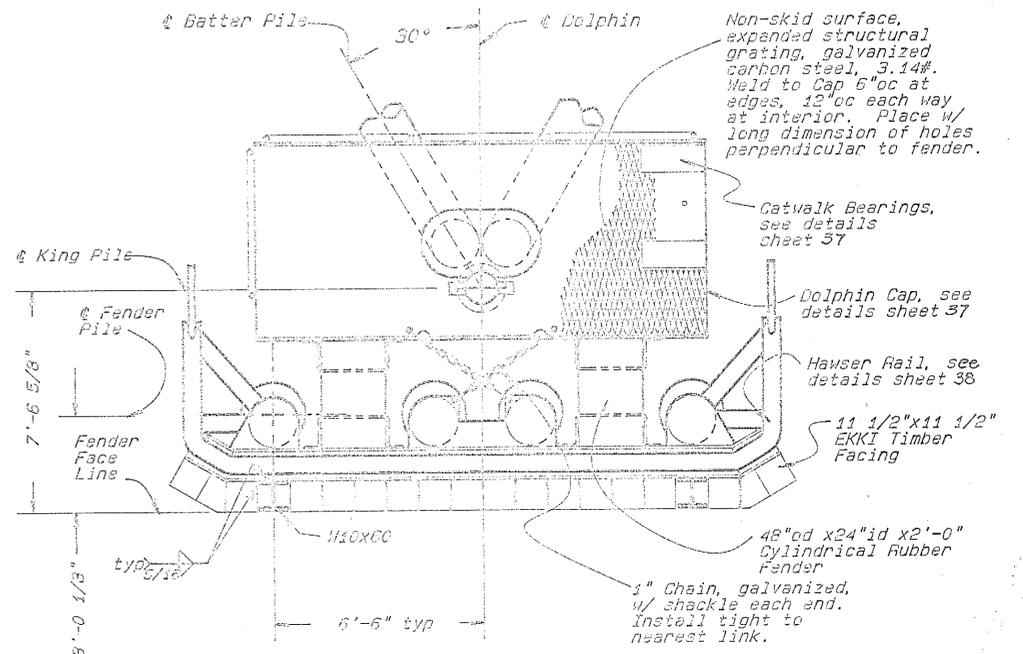
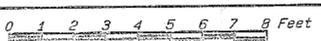
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	
KETCHIKAN MOORINGS STRUCTURE ALASKA	
Fender Details	
DESIGNED LAL	CHECKED AS
DRAWN LAL	DATE 10-87
PROJECT NUMBER F-095-2 (16)	SHEET 35 OF 53



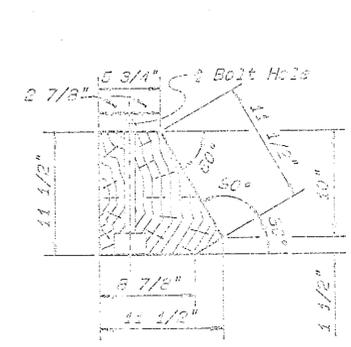
FRONT ELEVATION



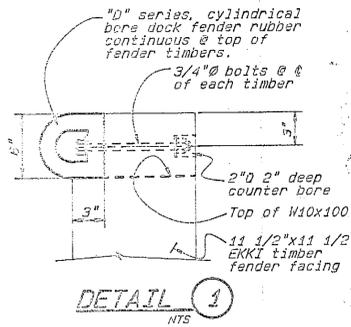
SIDE ELEVATION



DOLPHIN PLAN

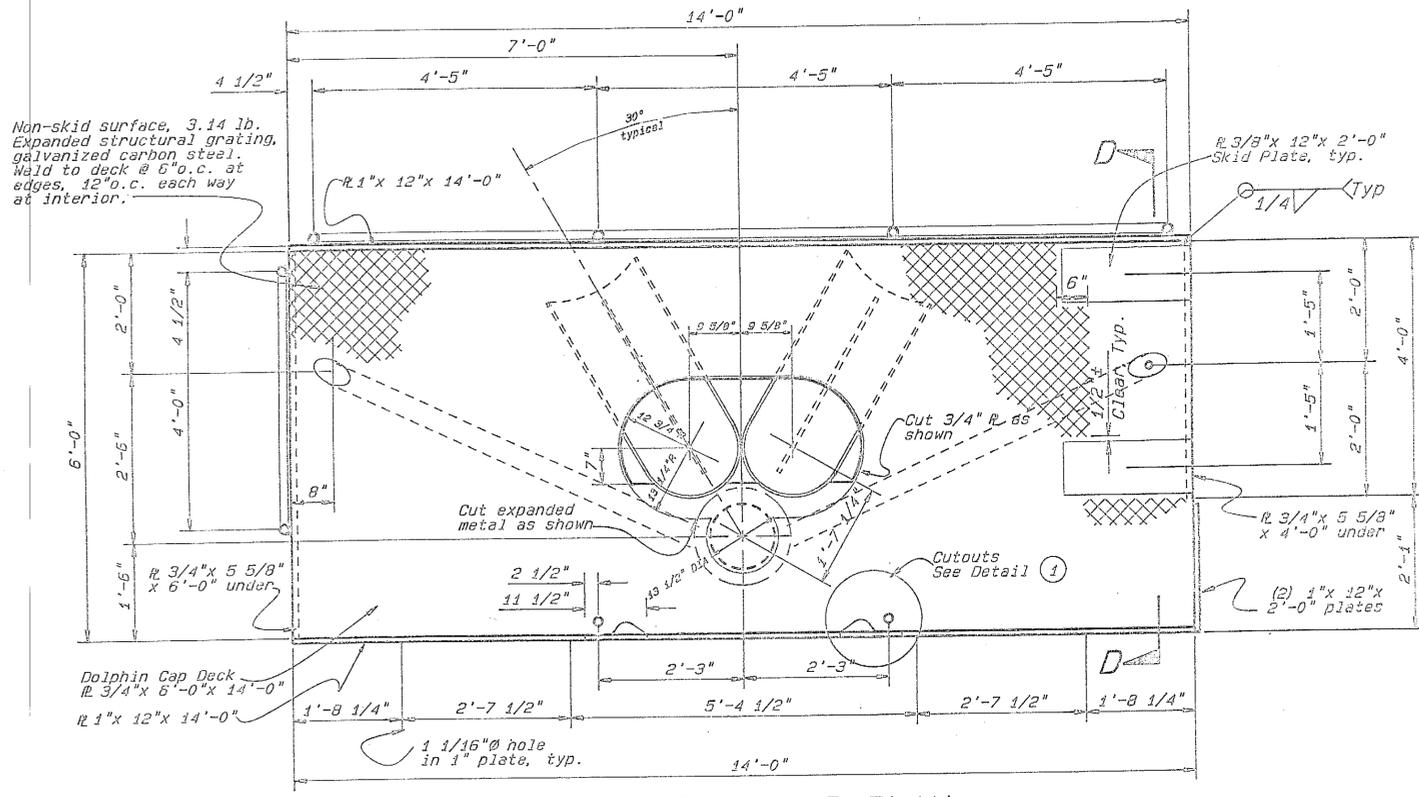


CORNER TIMBER DETAIL

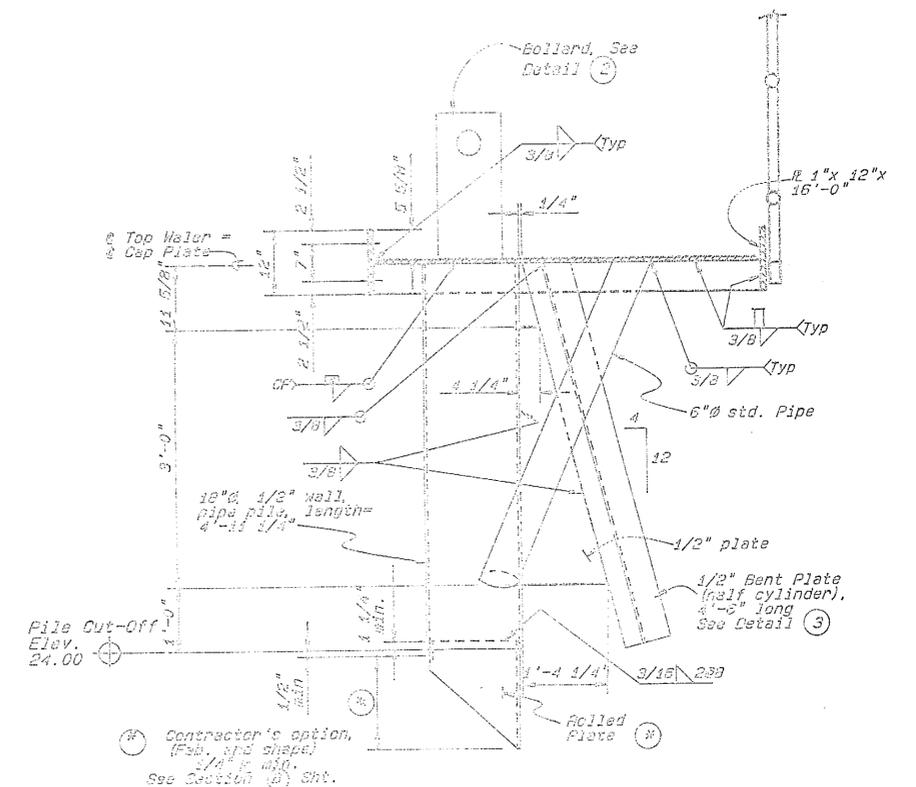


DETAIL 1

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		ALASKA	
STANDARD MOORING STRUCTURE PLAN AND ELEVATION			
DESIGNED <i>DS</i>	CHECKED <i>JD</i>	DRAWN <i>BN</i>	DATE <i>JUNE, 1992</i>
PROJECT NUMBER <i>75100 / F-035-2 (16)</i>	SHEET <i>36</i>		OF <i>53</i>

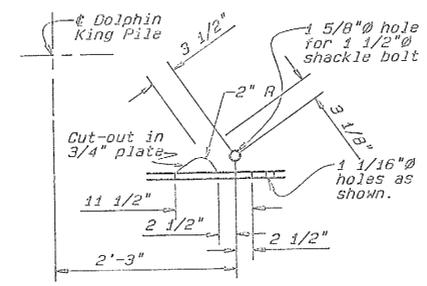


DOLPHIN CAP PLAN
3/4"=1'-0"

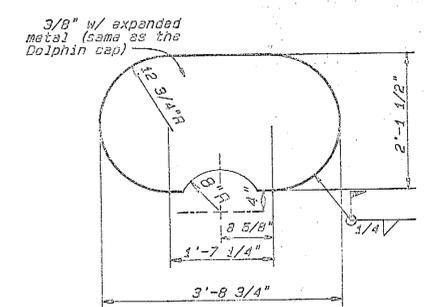


SECTION D-D
3/4"=1'-0"

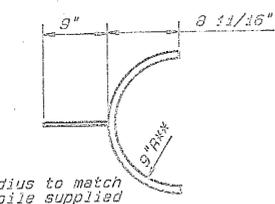
Structure D:
Remove two lower rails & ladder location. At center rail location install 1/2" chain w/ snap @ one end, weld chain & one link eye to rail posts. See Ladder Detail sheet 41.



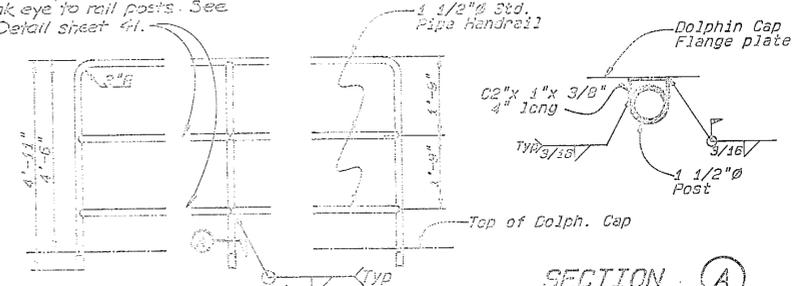
DETAIL 1
NTS



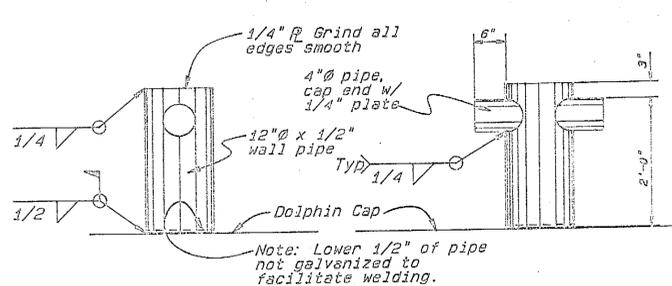
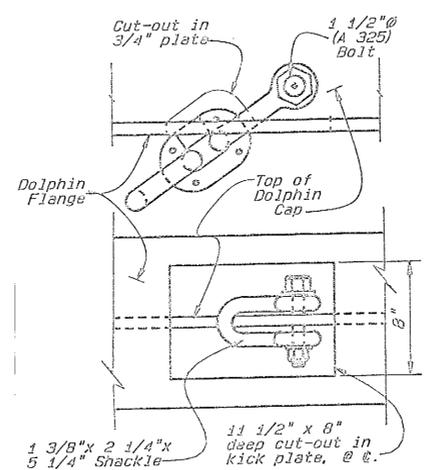
COVER PLATE DETAIL
3/4"=1'-0"



DETAIL 3
NTS



HANDRAIL ELEVATION
3/4"=1'-0"

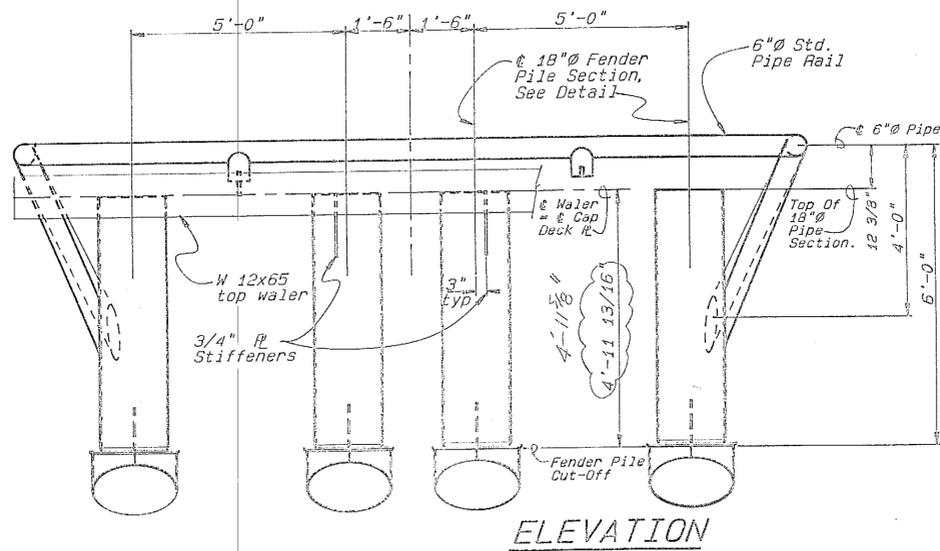


BOLLARD DETAIL 2
3/4"=1'-0"

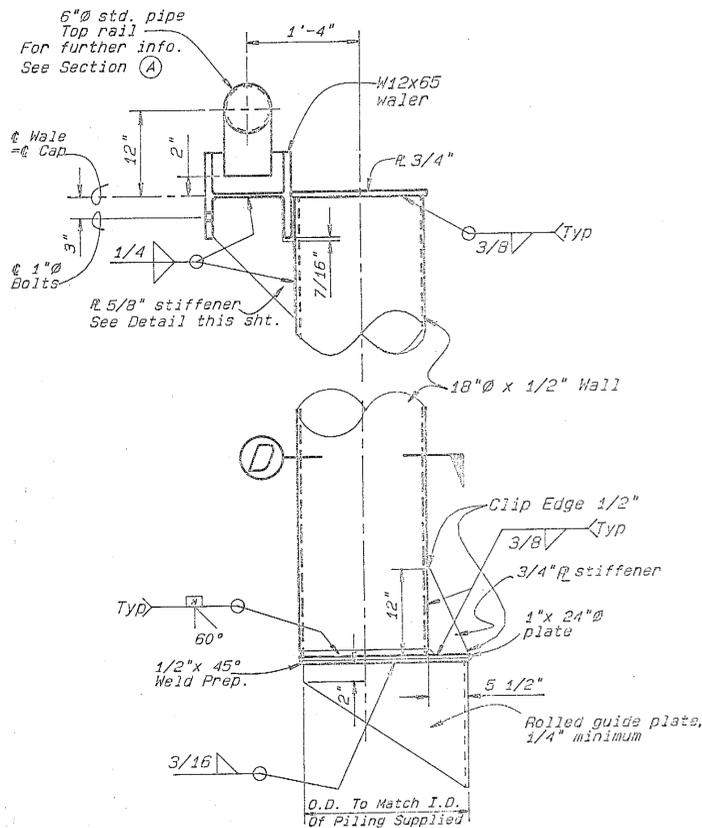
DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		ALASKA	
STANDARD MOORING STRUCTURE CAP DETAILS			
DESIGNED GS	CHECKED JS	DRAWN BN	DATE JUNE, 1992
PROJECT NUMBER F-095-2(16)	SHEET 37		OF 53



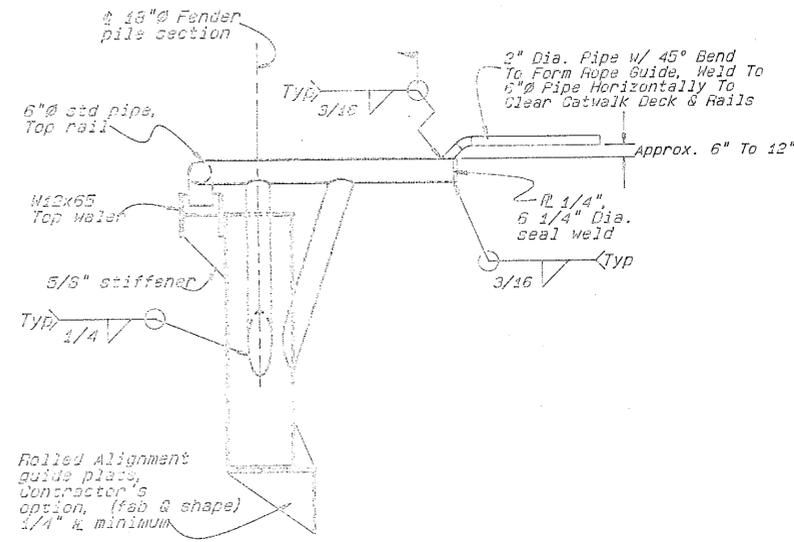
G: CAP 9-1-92



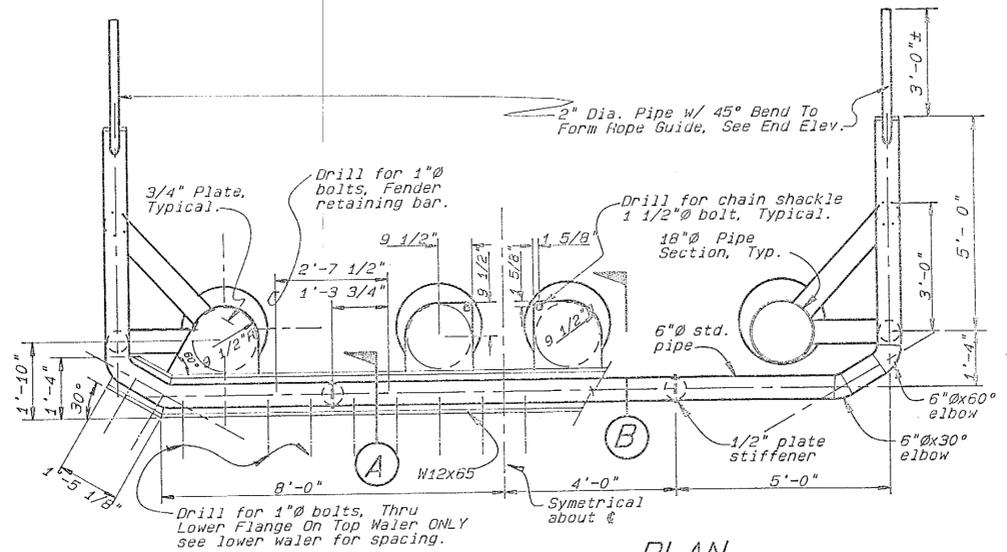
ELEVATION



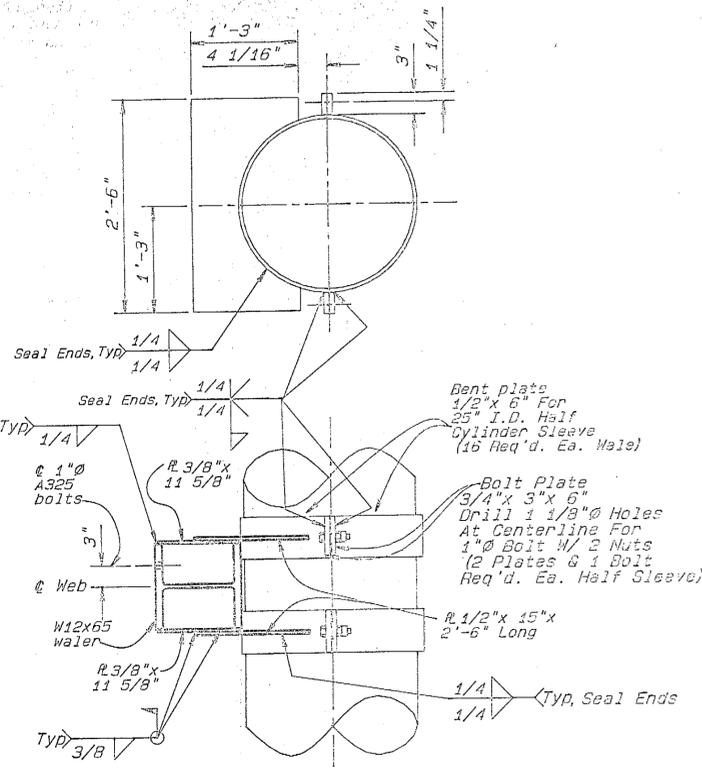
SECTION B



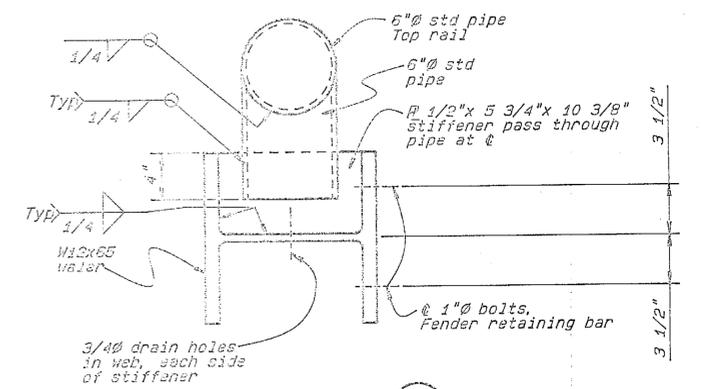
END ELEVATION



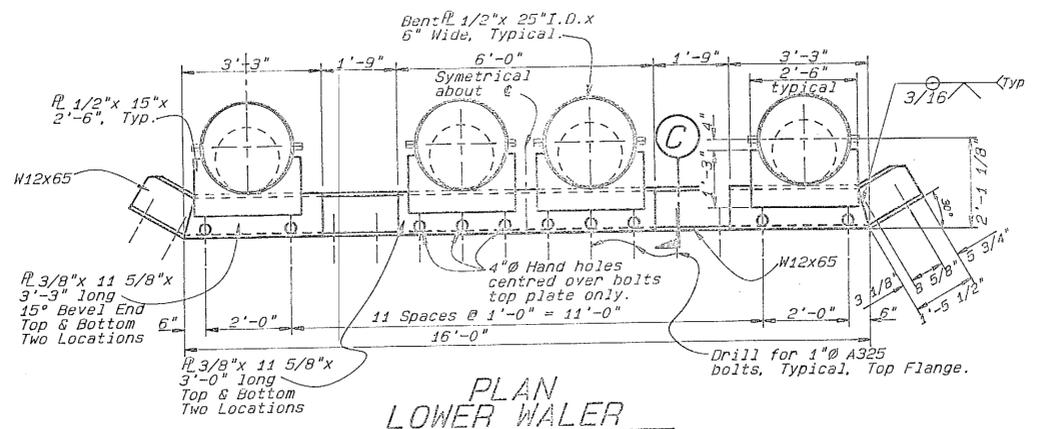
PLAN TOP RAIL & WALER



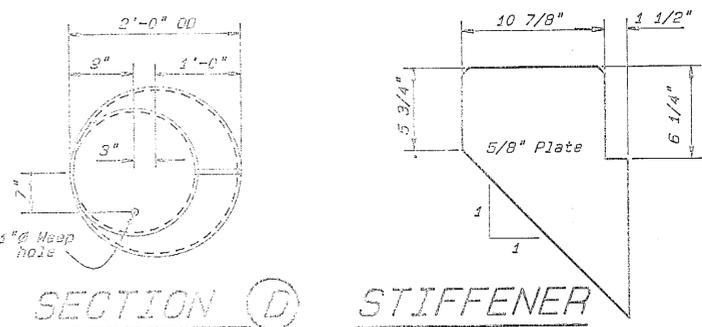
SECTION C



SECTION A

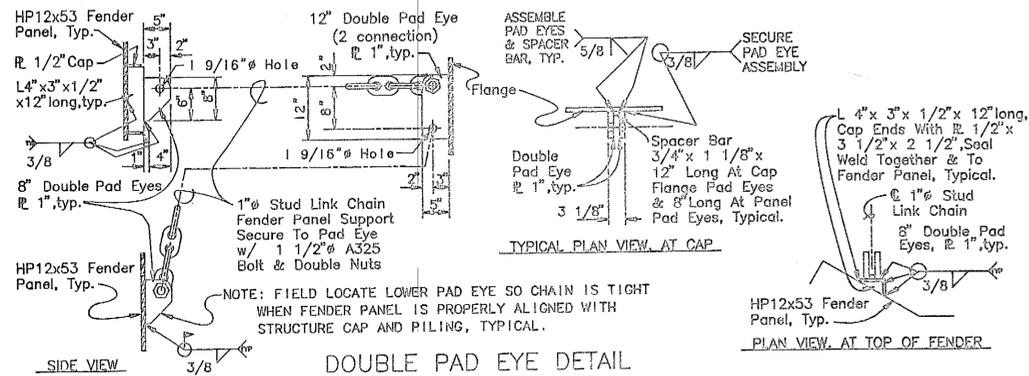


PLAN LOWER WALER

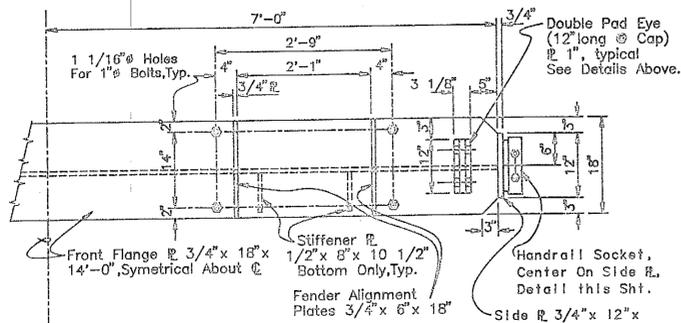


SECTION D STIFFENER

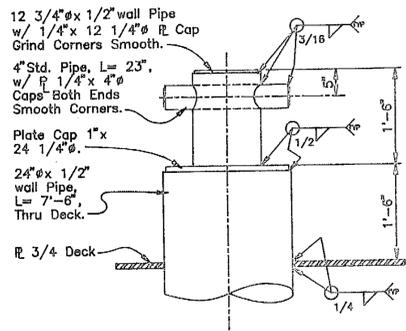
	STATE OF ALASKA			
	DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		STANDARD MOORING STRUCTURE		ALASKA
FENDER DETAILS				
DESIGNED BY	BS	CHECKED BY	JS	DATE JAN. 1991
PROJECT NO.	F-095-2(16)	SHEET	38	OF 53



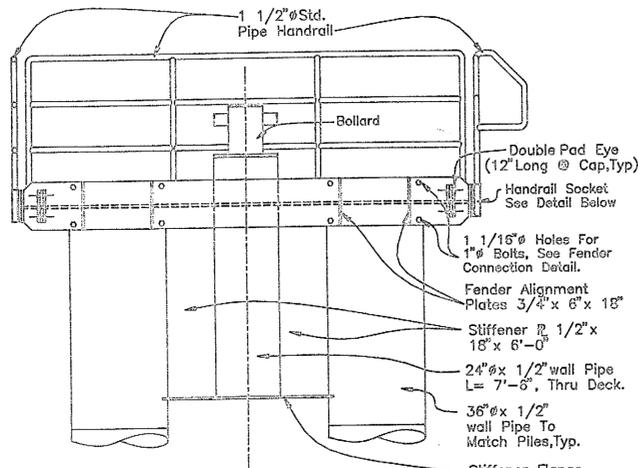
DOUBLE PAD EYE DETAIL



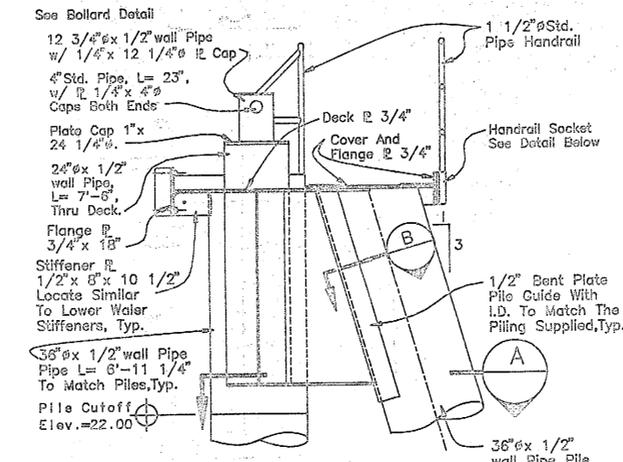
CAP FLANGE PLATE DETAIL



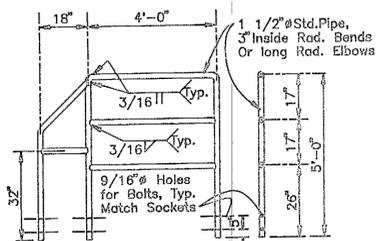
BOLLARD DETAIL



FRONT ELEVATION

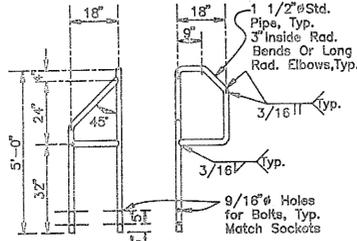


SIDE ELEVATION



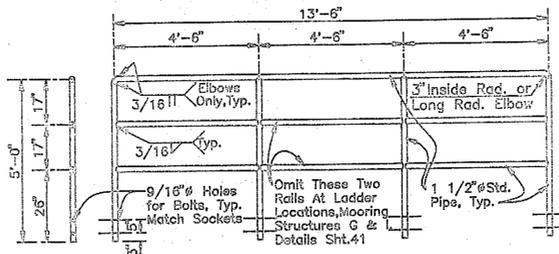
CLOSED SIDE HANDRAIL

2 Req'd. @ Structures E & F



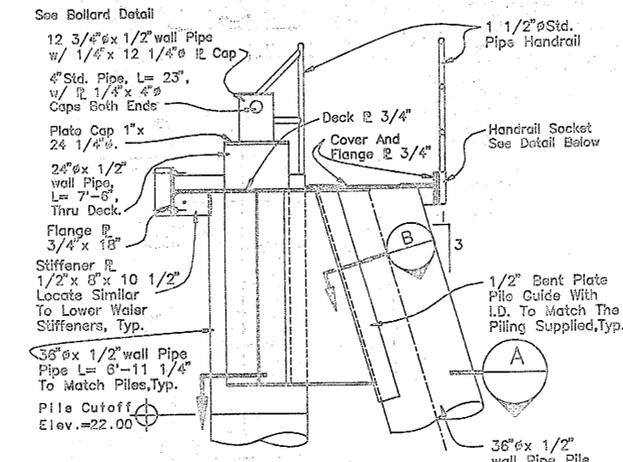
SIDE HANDRAIL AT CATWALK

7 Req'd. @ Structures F, G, H & I (3 as shown, 4 op.hand)

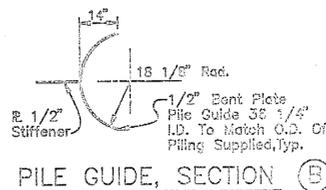


BACK HANDRAIL

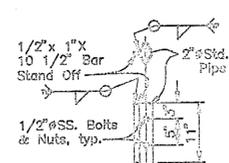
5 Req'd.



PILE GUIDE STIFFENER

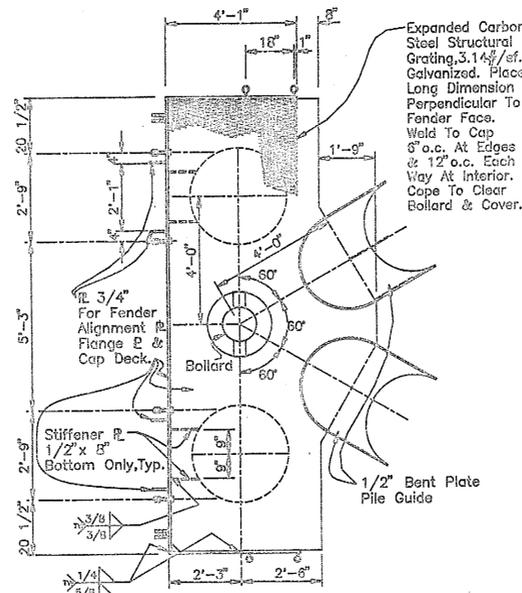


PILE GUIDE, SECTION B

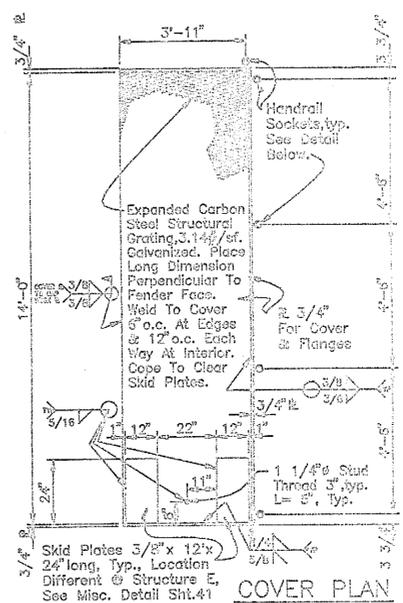


HANDRAIL SOCKET

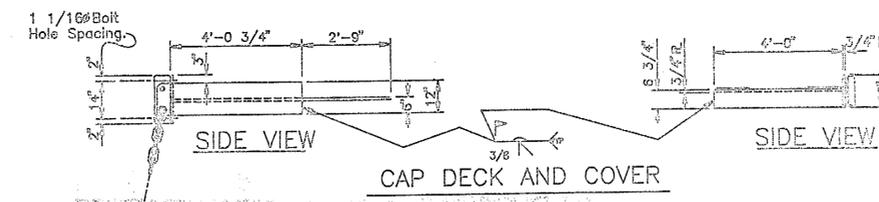
CAD\KTND01



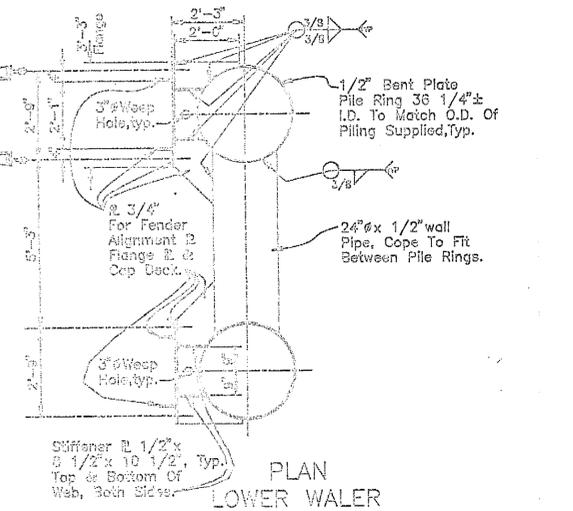
CAP DECK PLAN



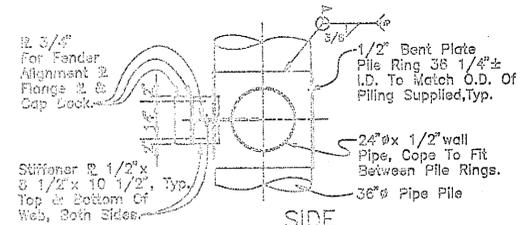
COVER PLAN



CAP DECK AND COVER



PLAN LOWER WALER

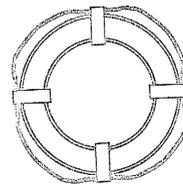


SIDE LOWER WALER

DO NOT SCALE THIS DRAWING - USE DIMENSIONS

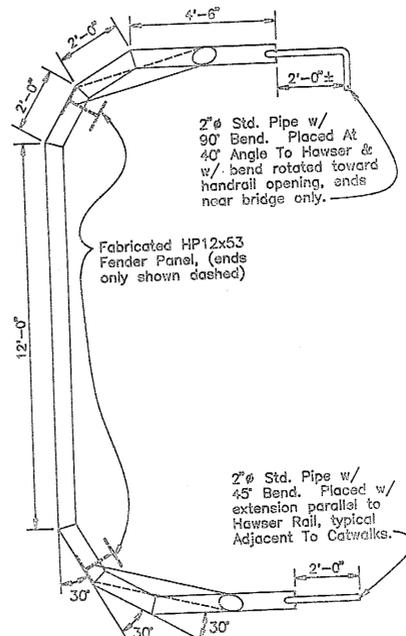
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES				
KETCHIKAN		ALASKA		
INTERMEDIATE MOORING STRUCTURE CAP AND WALER DETAILS				
DESIGNED BY	BS	CHECKED BY	JS	DATE
DRAWN BY	WN	FEB, 1992		
PROJECT NUMBER	F-035-2(18)	SHEET	40	OF 53

9-1-92

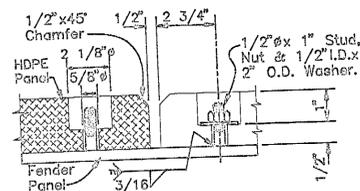


Provide Coast Guard Approved Life Ring, 30" Type 4 PFD. Orange Softex Covered Closed Cell Plastic Core w/ Rope Grab Ring and 100 feet of Polypropylene Hand Line (fusa ends) Mount To Mooring Structure Handrail With Galvanized Clamp & Bolts Per Manufacturer's Recommendation. Life Ring & Poly Hand Line Required At Mooring Structures B, D, G & I.

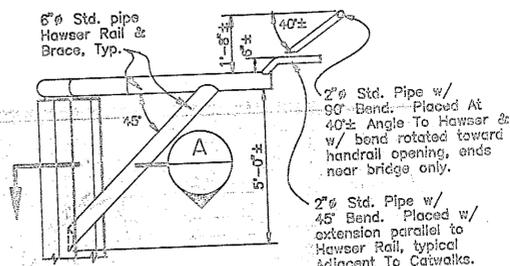
LIFE RING (4 Required)



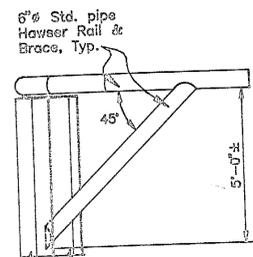
INTERMED. STRUCTURE HAWSER, PLAN



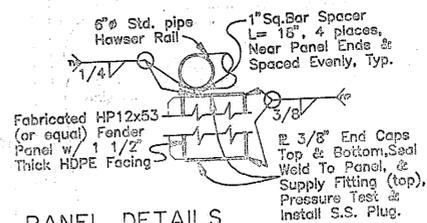
SECTION AT FENDER FACE



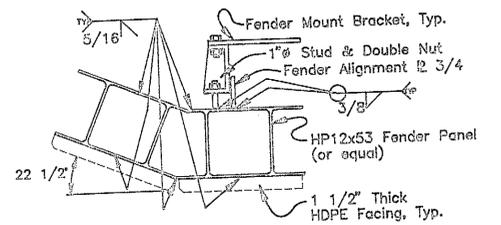
HAWSER, SIDE VIEW
INTERMEDIATE MOORING STRUCTURE



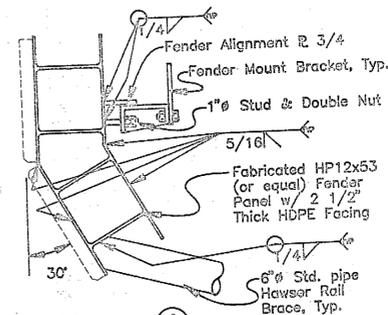
HAWSER, SIDE VIEW
LEAD-IN MOORING STRUCTURE



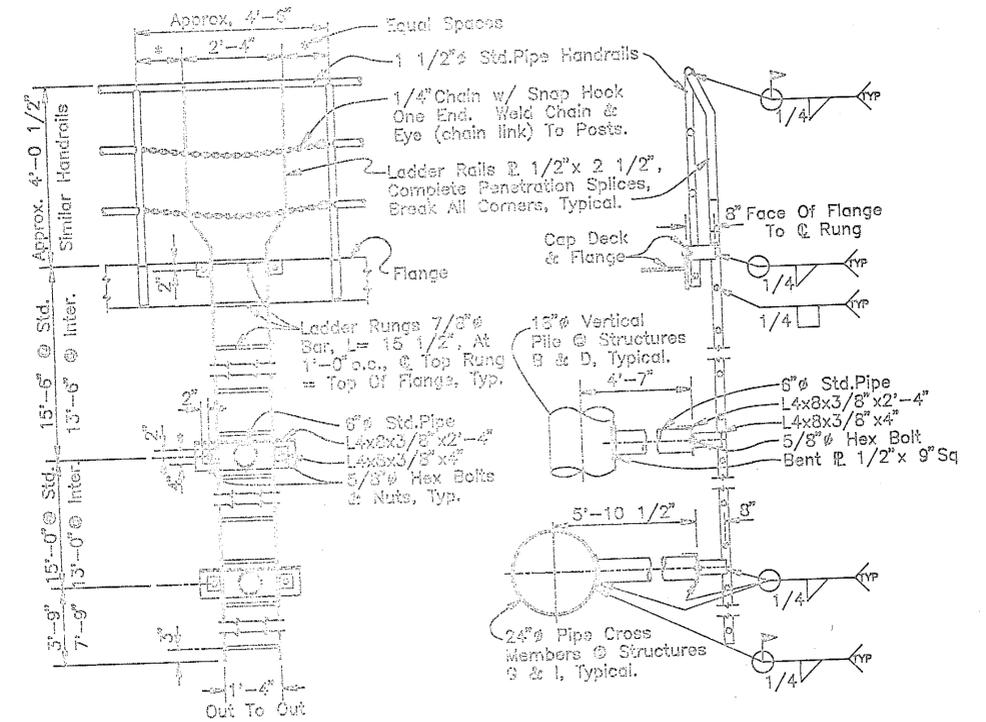
PANEL DETAILS
INTERMEDIATE MOORING STRUCTURE



LEAD-IN STRUCTURE, PANEL DETAIL

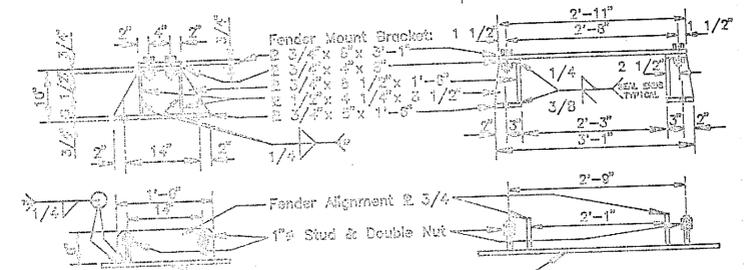
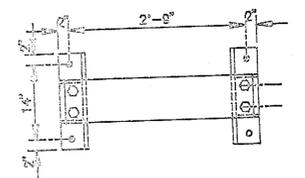


SECTION A
INTERMEDIATE MOORING STRUCTURE



SAFETY LADDER DETAILS

SAFETY LADDER REQUIRED ON STANDARD MOORING STRUCTURES B & D, & ON INTERMEDIATE MOORING STRUCTURES G & I, (4 Ladders Req'd).



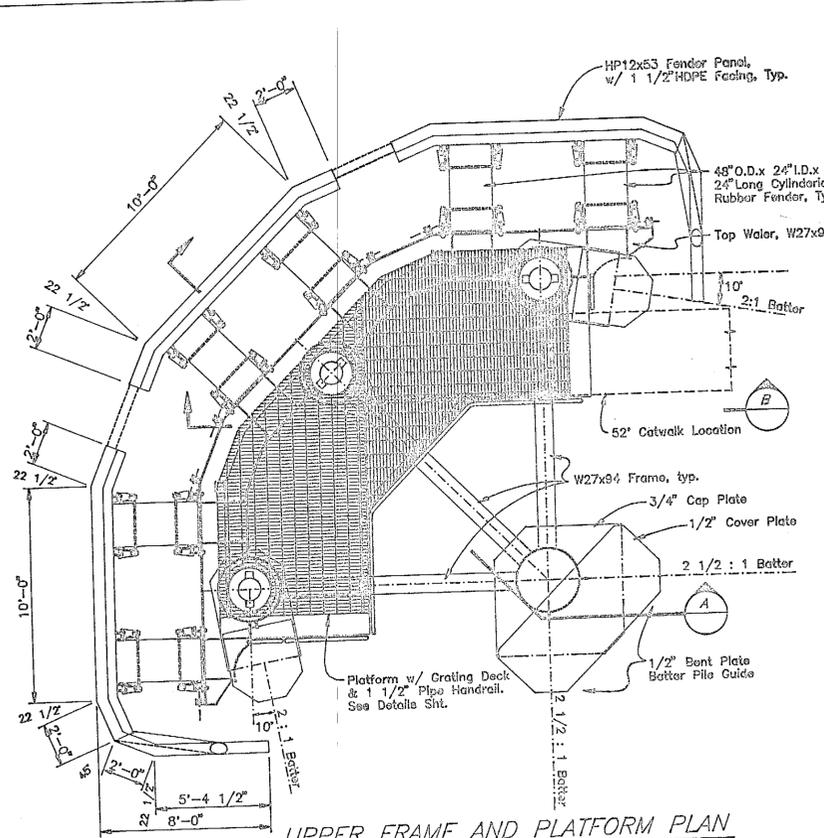
FENDER MOUNT BRACKET & MOUNTING DETAILS

DO NOT SCALE THIS DRAWING - USE DIMENSIONS				
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES				
KEYCHIEF:		ALASKA		
MISCELLANEOUS MOORING STRUCTURE DETAILS				
DESIGNER:	BS	CHECKED:	JS	DATE: FEB, 1992
PROJECT:	F-095-2(16)	DRAWN:	WN	SHEET 41 OF 53

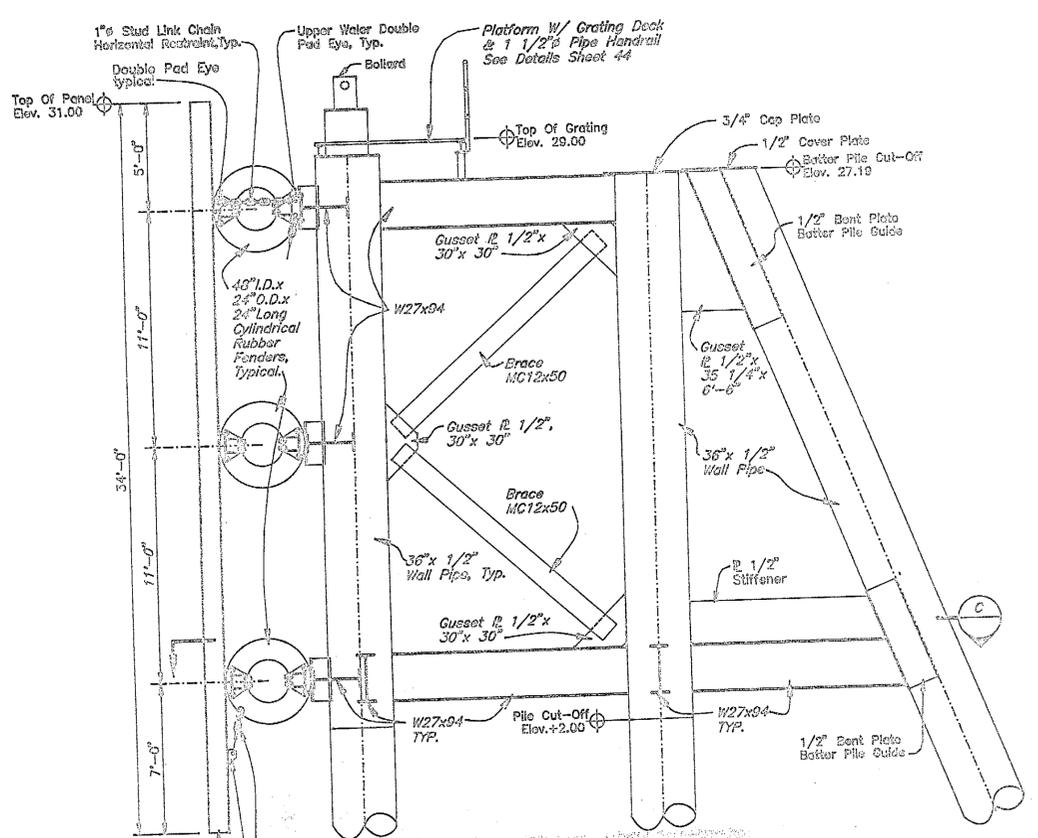
CAD\KTINCO2



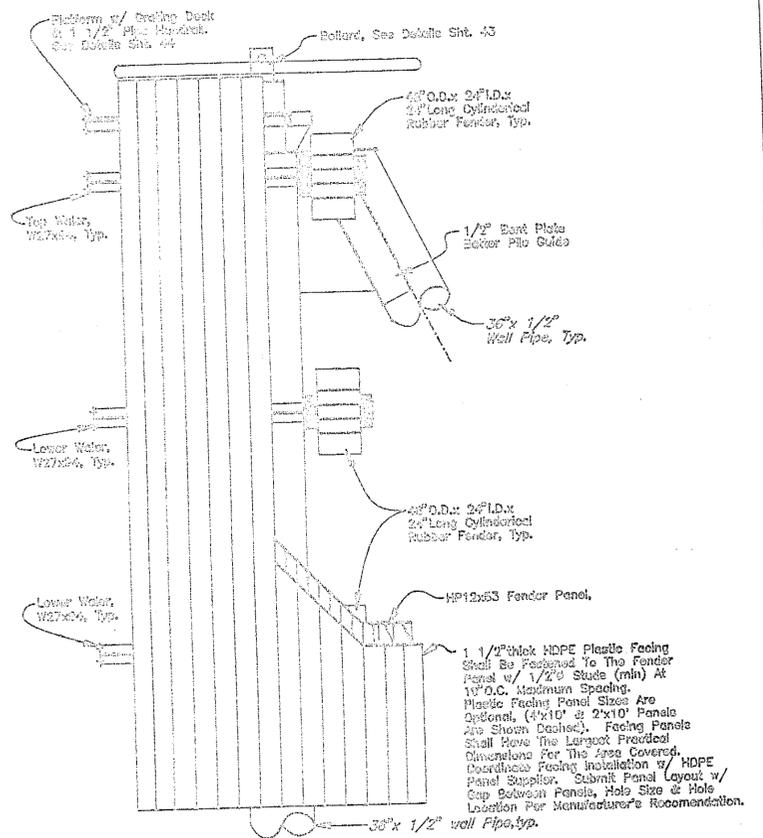
9-1-92



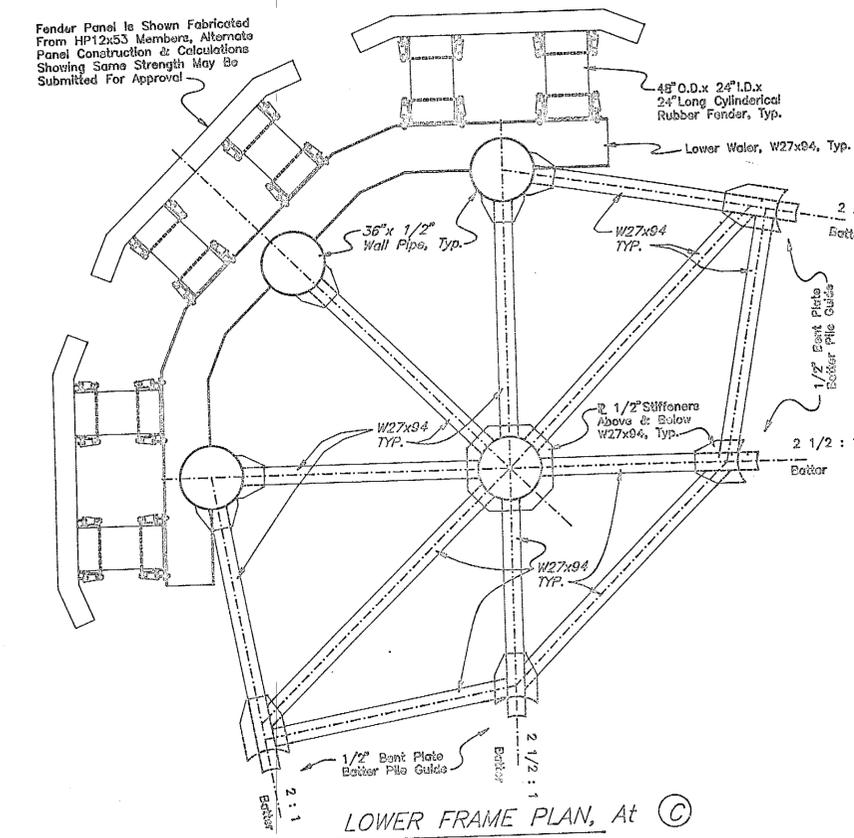
UPPER FRAME AND PLATFORM PLAN



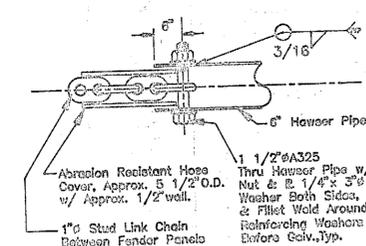
SECTIONAL ELEVATION (A)



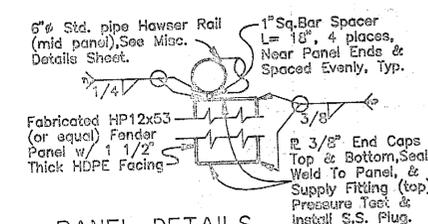
TYPICAL FENDER ELEVATION



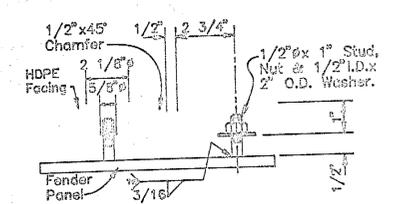
LOWER FRAME PLAN, At (C)



HAWSER PIPE DETAIL

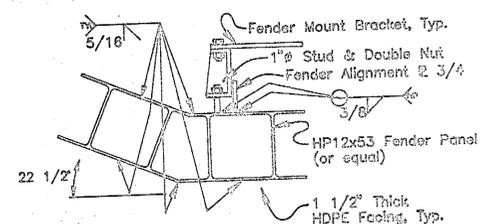


PANEL DETAILS

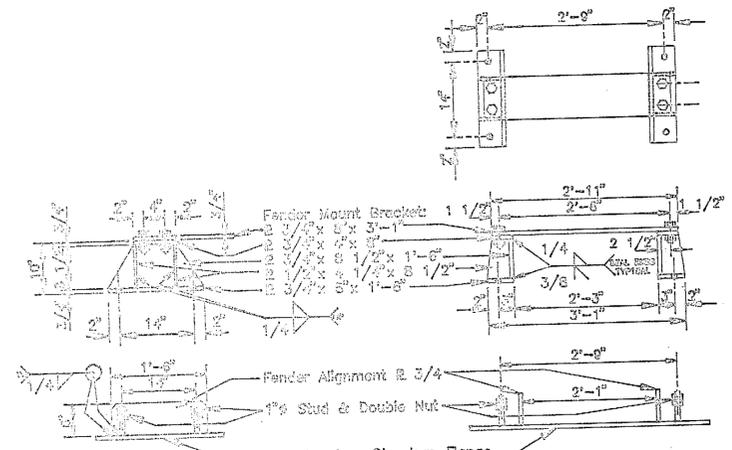


SECTION AT FENDER FACE

Contractor May Submit Alternate Fastener Details As Recommended By HDPE Manufacturer for Approval.



LEAD-IN STRUCTURE, PANEL DETAIL

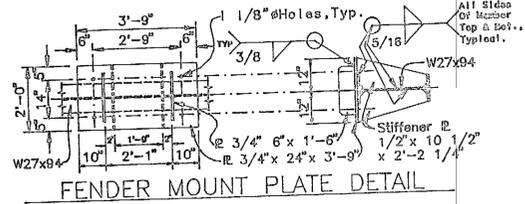


FENDER MOUNT BRACKET & MOUNTING DETAILS

DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		ALASKA	
LEAD-IN MOORING STRUCTURE PLAN & ELEV.			
DESIGNED: JS	CHECKED: JS	DRAWN: BN	DATE: MAY, 1992
PROJECT NUMBER: F-005-2(18)	SHEET: 42	OF 53	

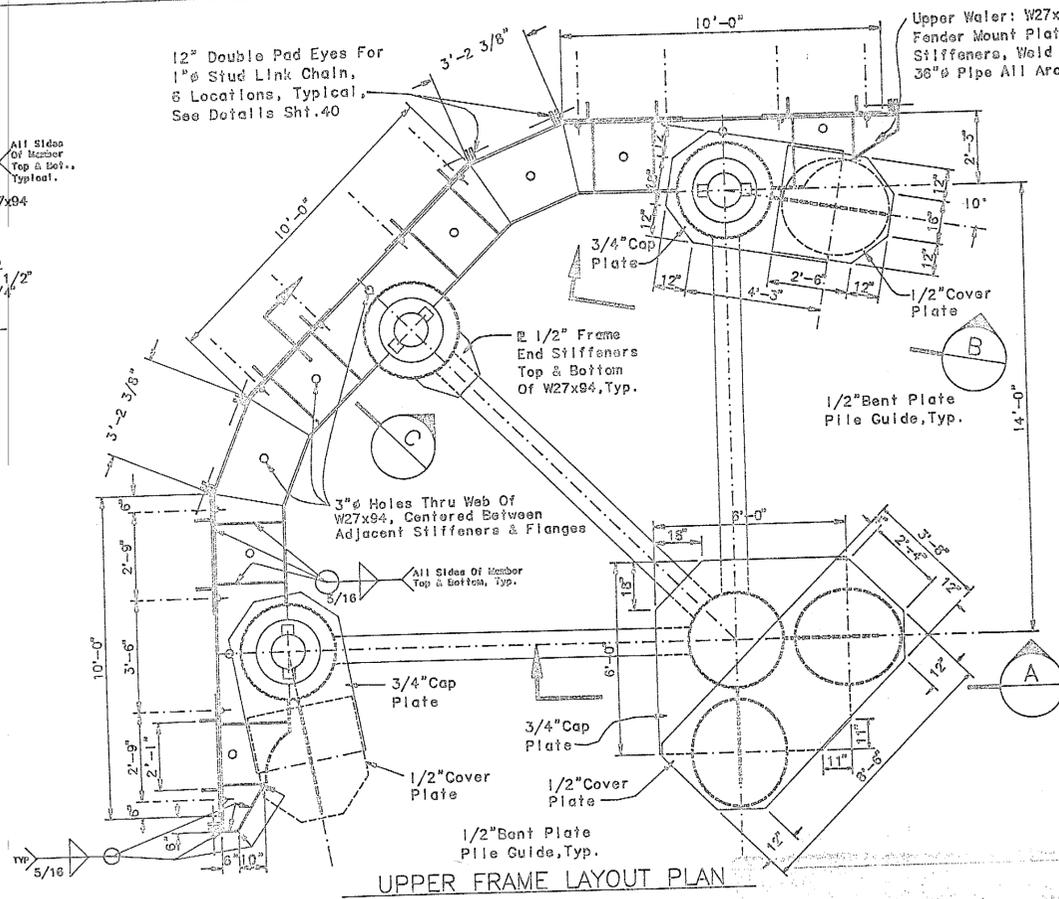


9-1-92

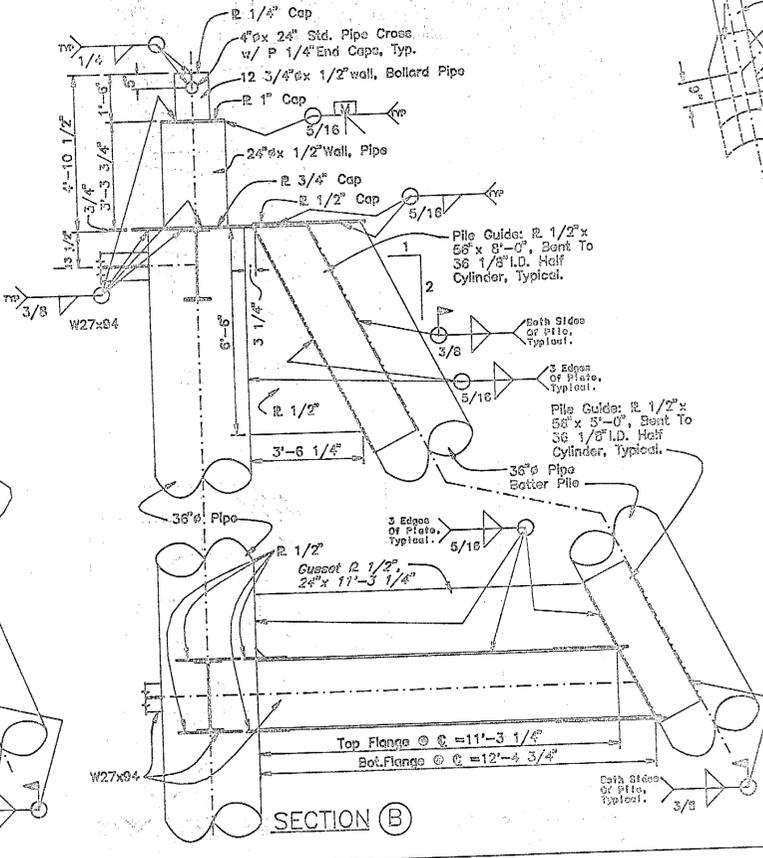
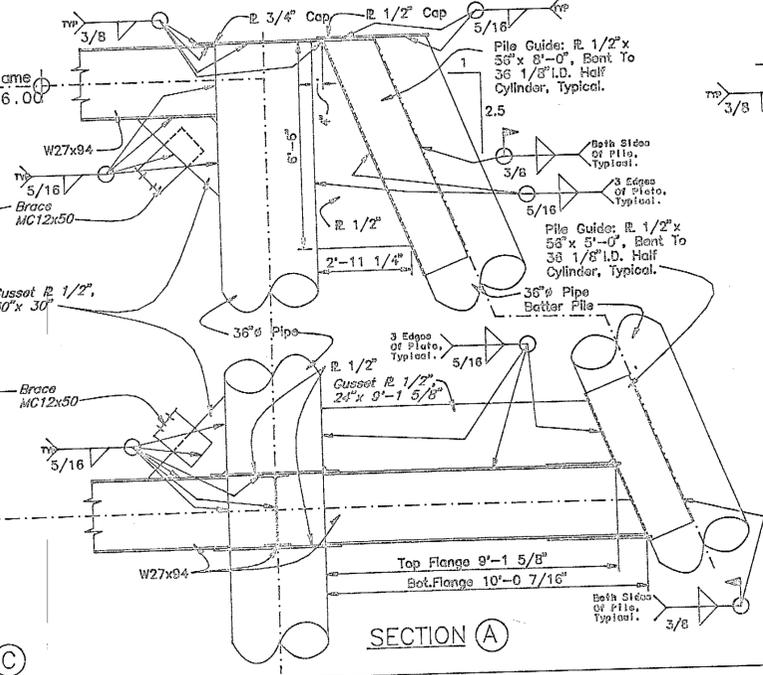
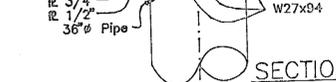
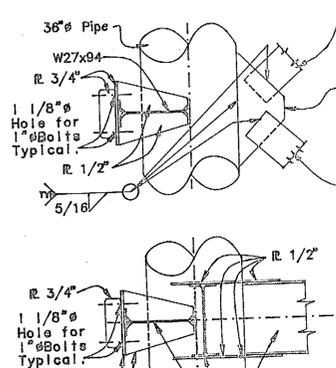
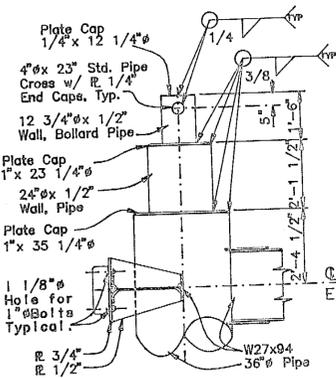
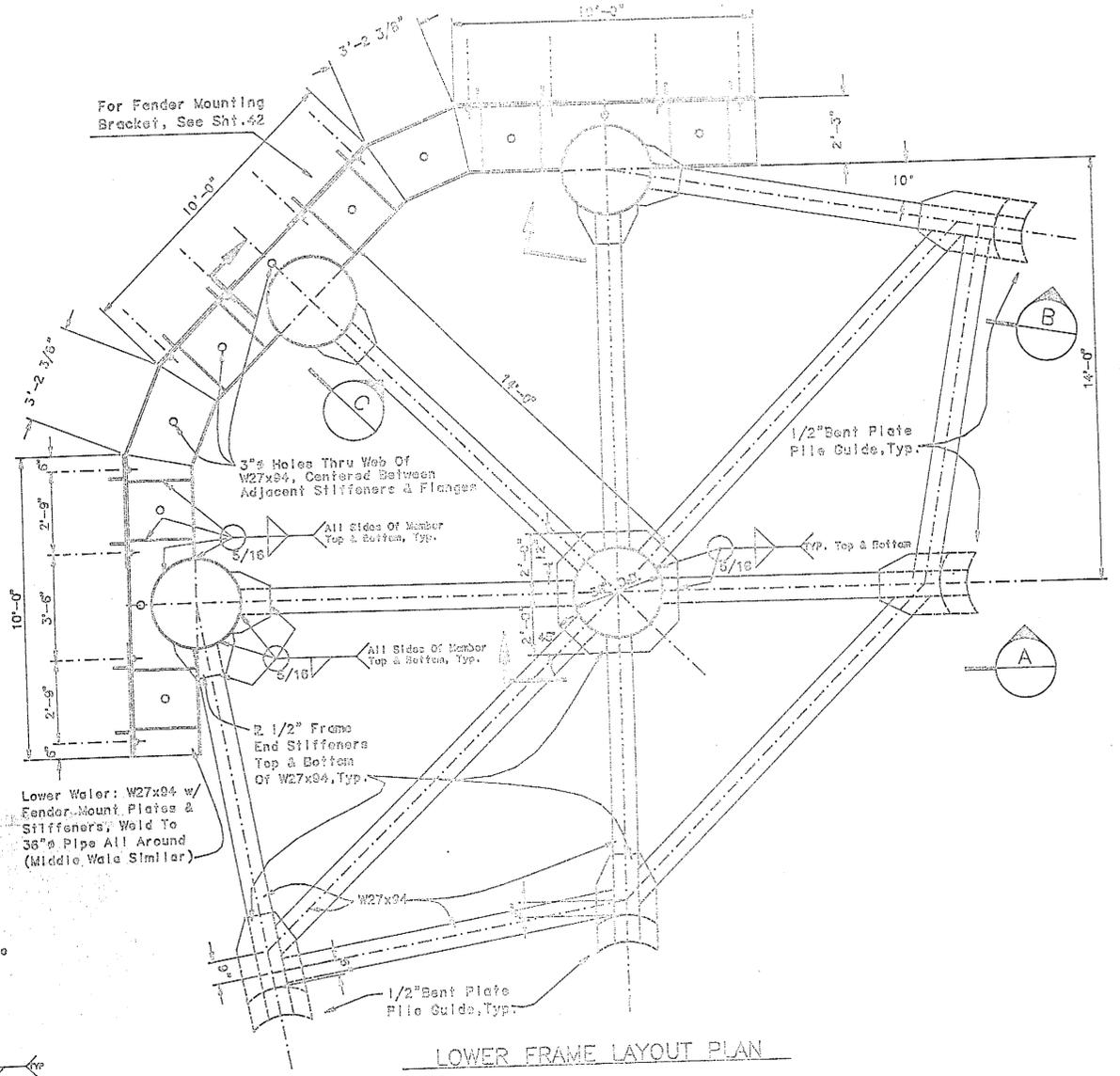


12" Double Pad Eyes For 1" Std Link Chain, 6 Locations, Typical. See Details Sht. 40

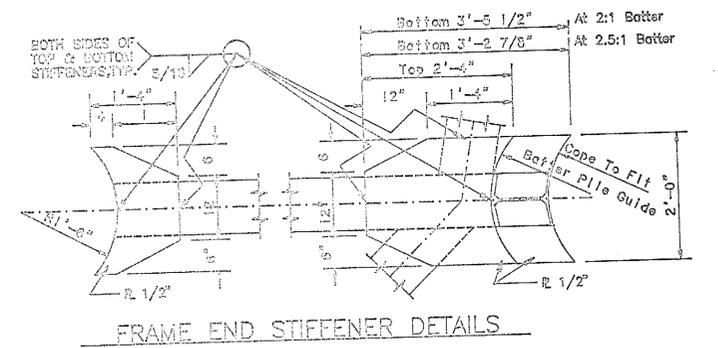
Upper Water: W27x94 w/ Fender Mount Plates & Stiffeners, Weld To 36" Pipe All Around.



For Fender Mounting Bracket, See Sht. 42



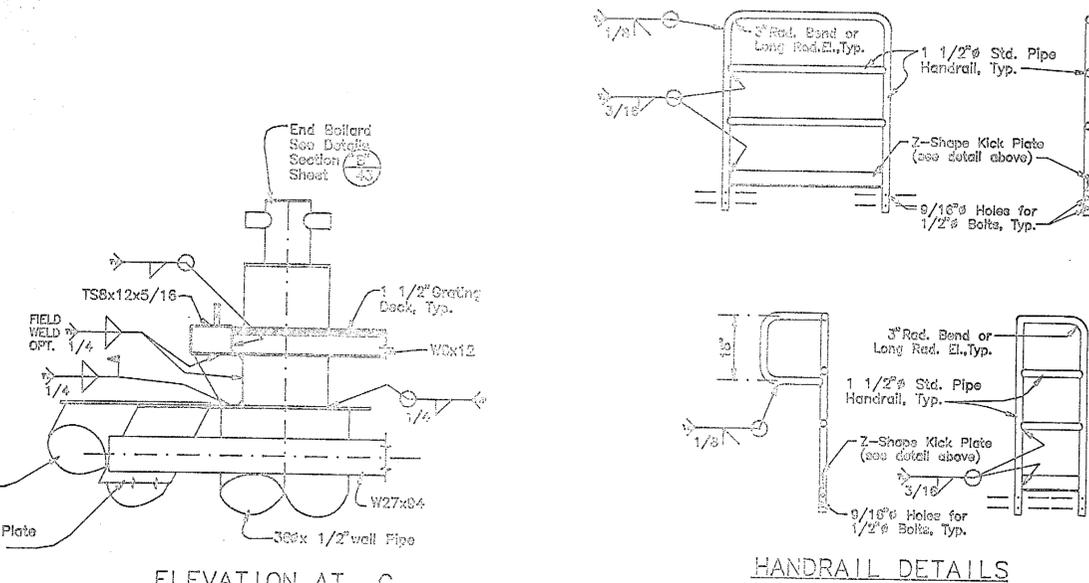
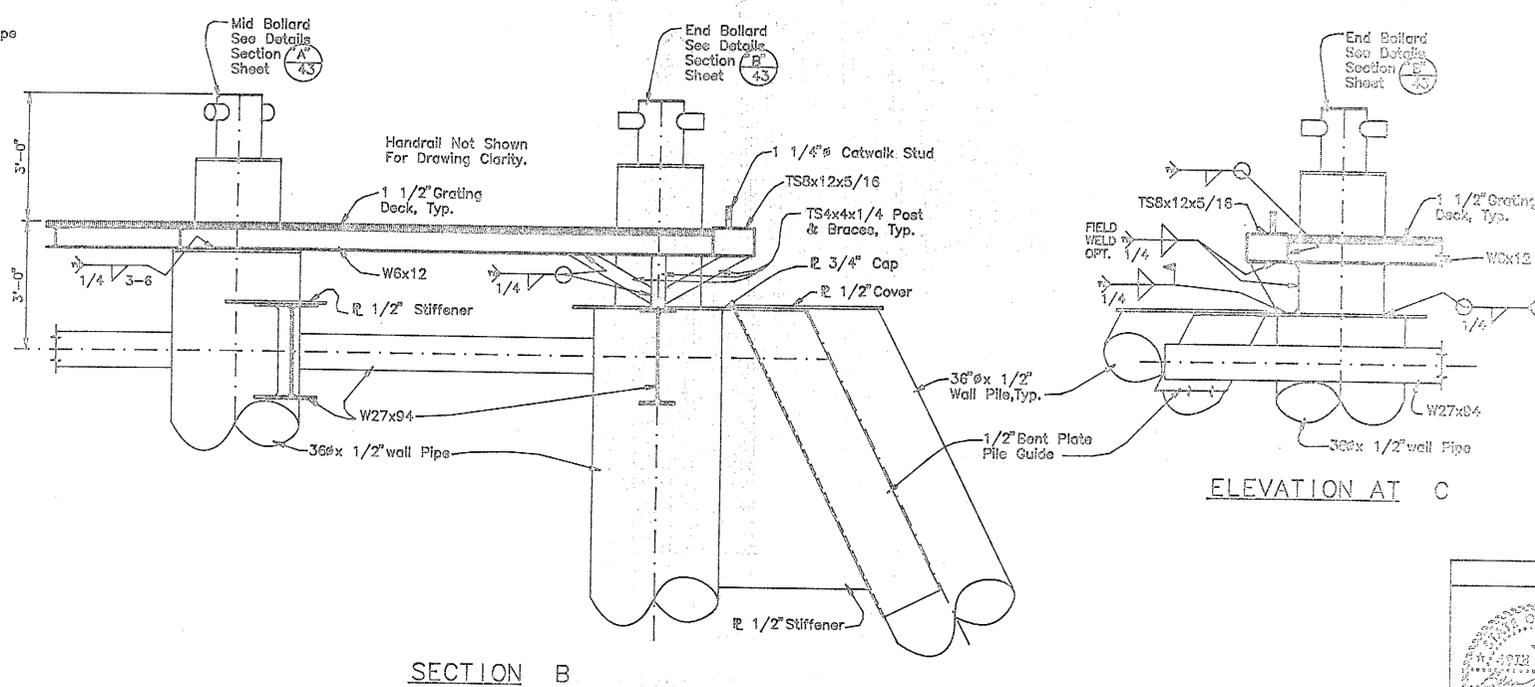
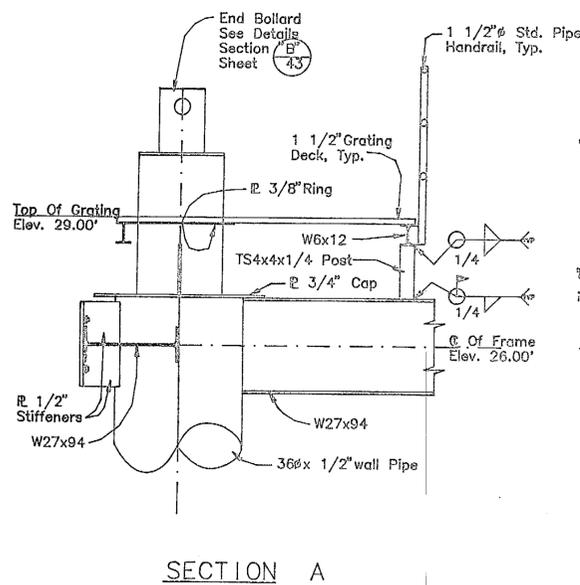
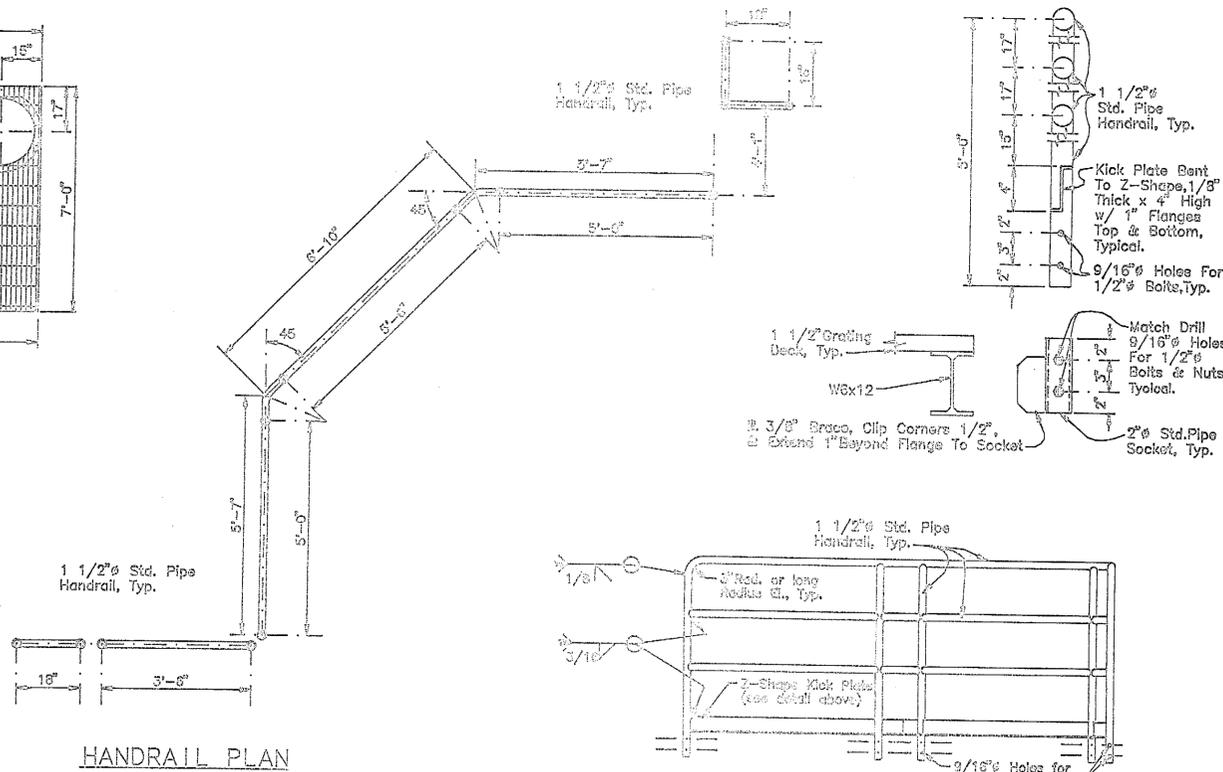
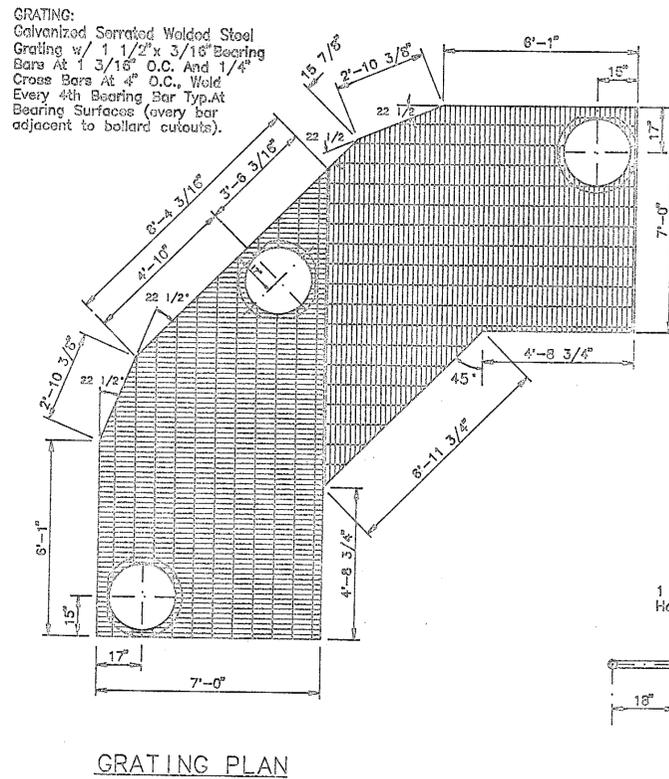
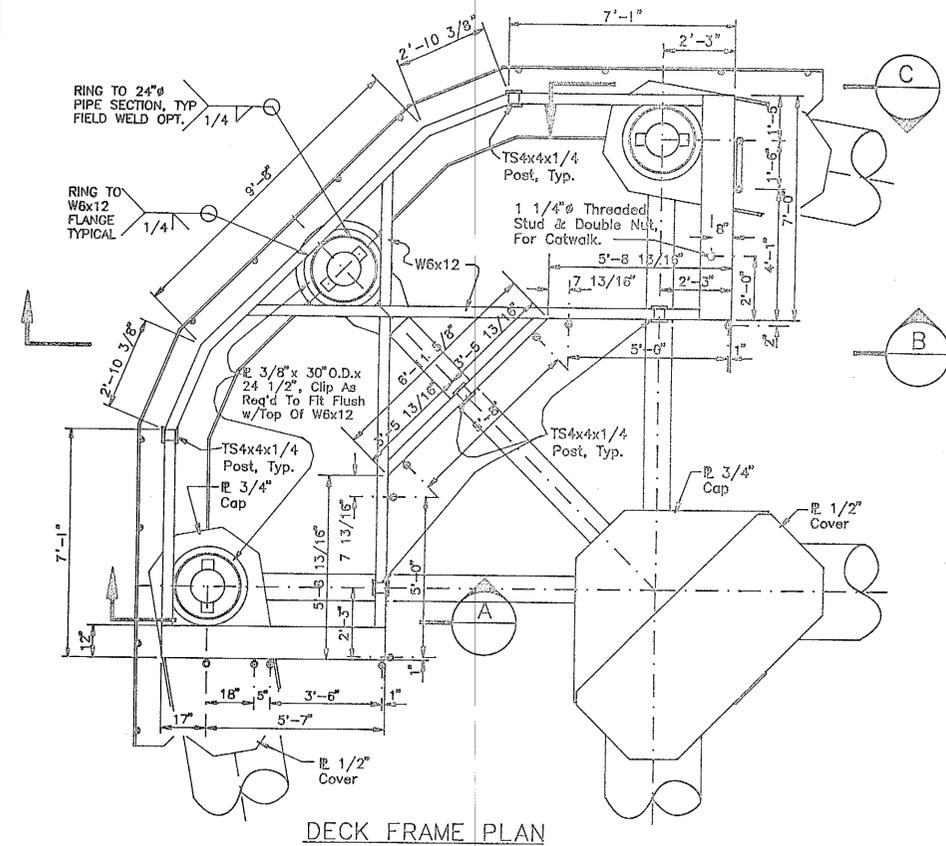
FRAME END STIFFENER DETAILS



DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA			
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
NORTHMAN		ALASKA	
LEAD-IN MOORING STRUCTURE			
FRAMING DETAILS			
DESIGNER	DATE	DRAWN	DATE
88	9-1-92	5N	MAY, 1992
PROJECT		SHEET	
F-095-2(16)		43 OF 53	

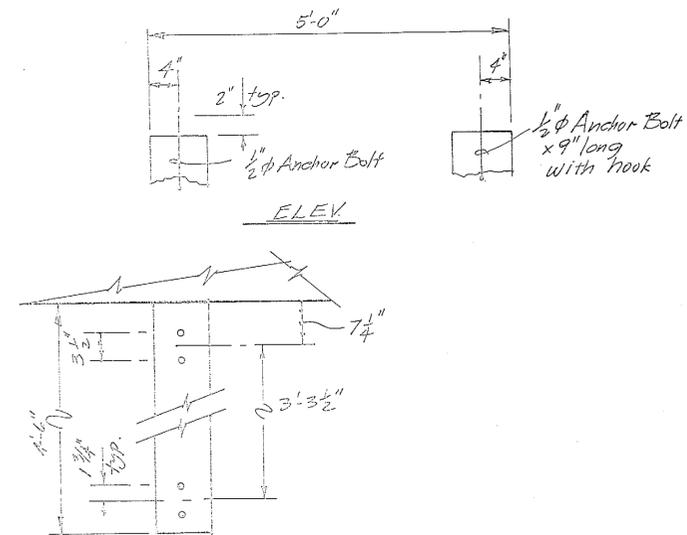
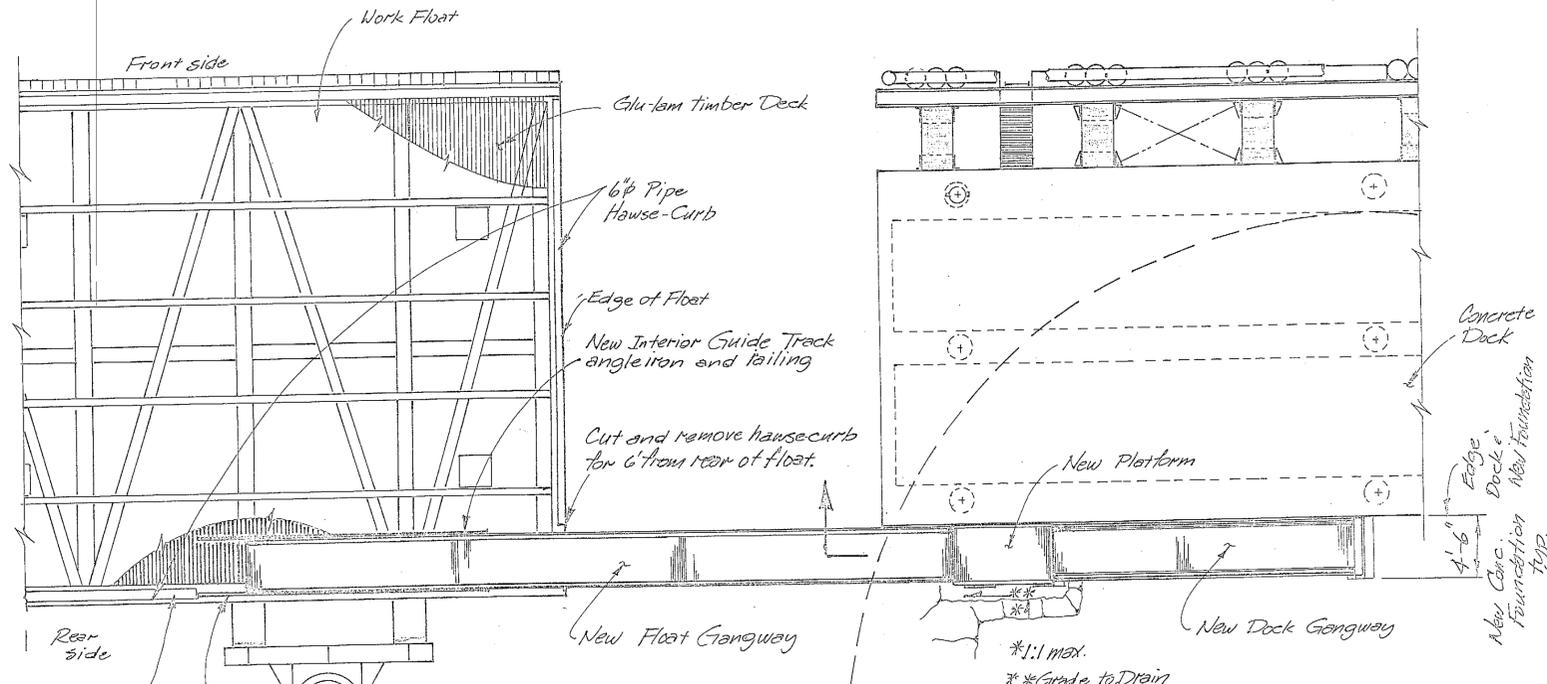
ocd/xin004



ELEVATION AT C

DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN		ALASKA	
LEAD-IN MOORING STRUCTURE DECK & HANDRAIL DETAILS			
DESIGNED BY BAM A. BAYLOR 9-1-92	CHECKED BY J. J.	DRAWN BY J. J.	DATE MAY, 1992
PROJECT NO. F-006-2(18)		SHEET 44 OF 53	

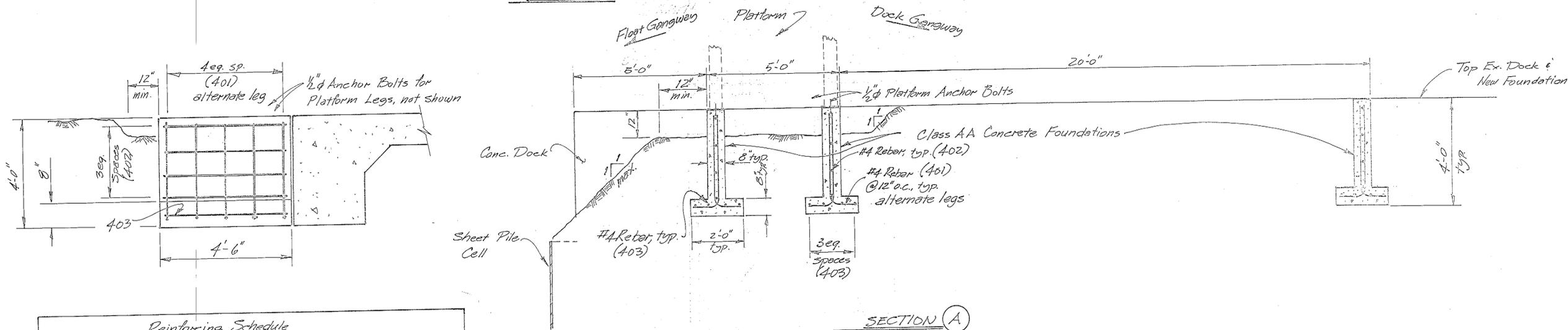
SOUTH BERTH



PLATFORM ANCHOR BOLT LAYOUT

Remove hauler-curb for 23' from edge of float.
New exterior Guide Track angle

LAYOUT



Reinforcing Schedule				
Mark	Length each	Bent	No. of Bars (all 3 foundations)	3'-8" 10" (401)
401	4'-6"	Yes	15	
402	4'-2"	No	12	
403	4'-2"	No	12	

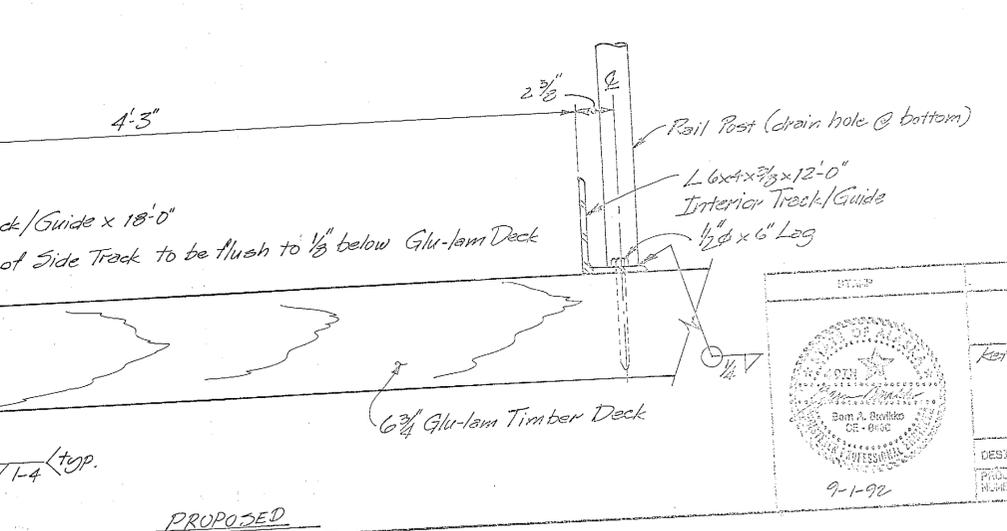
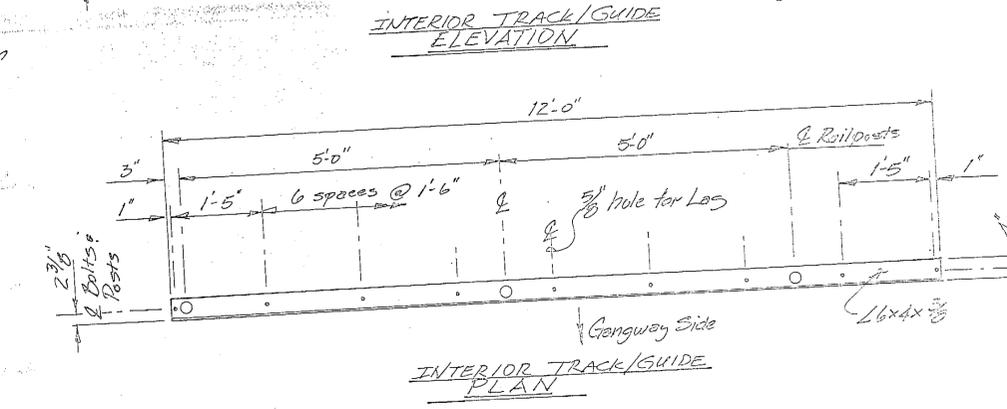
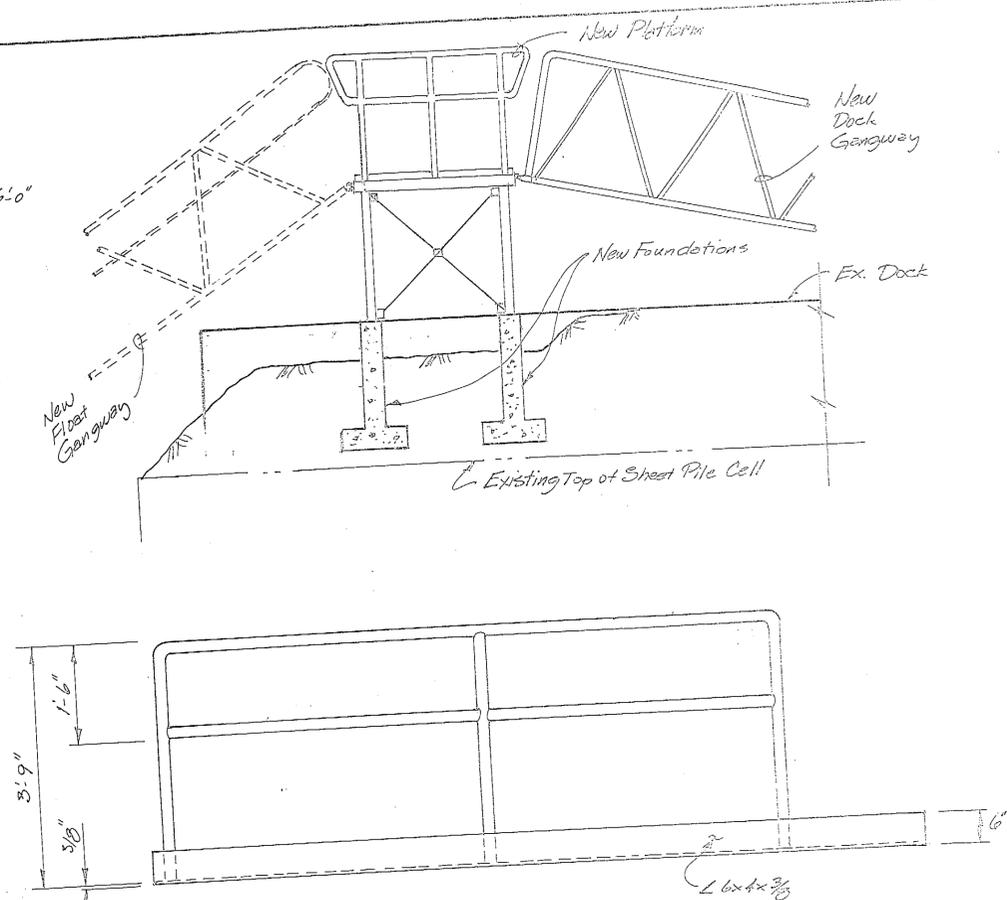
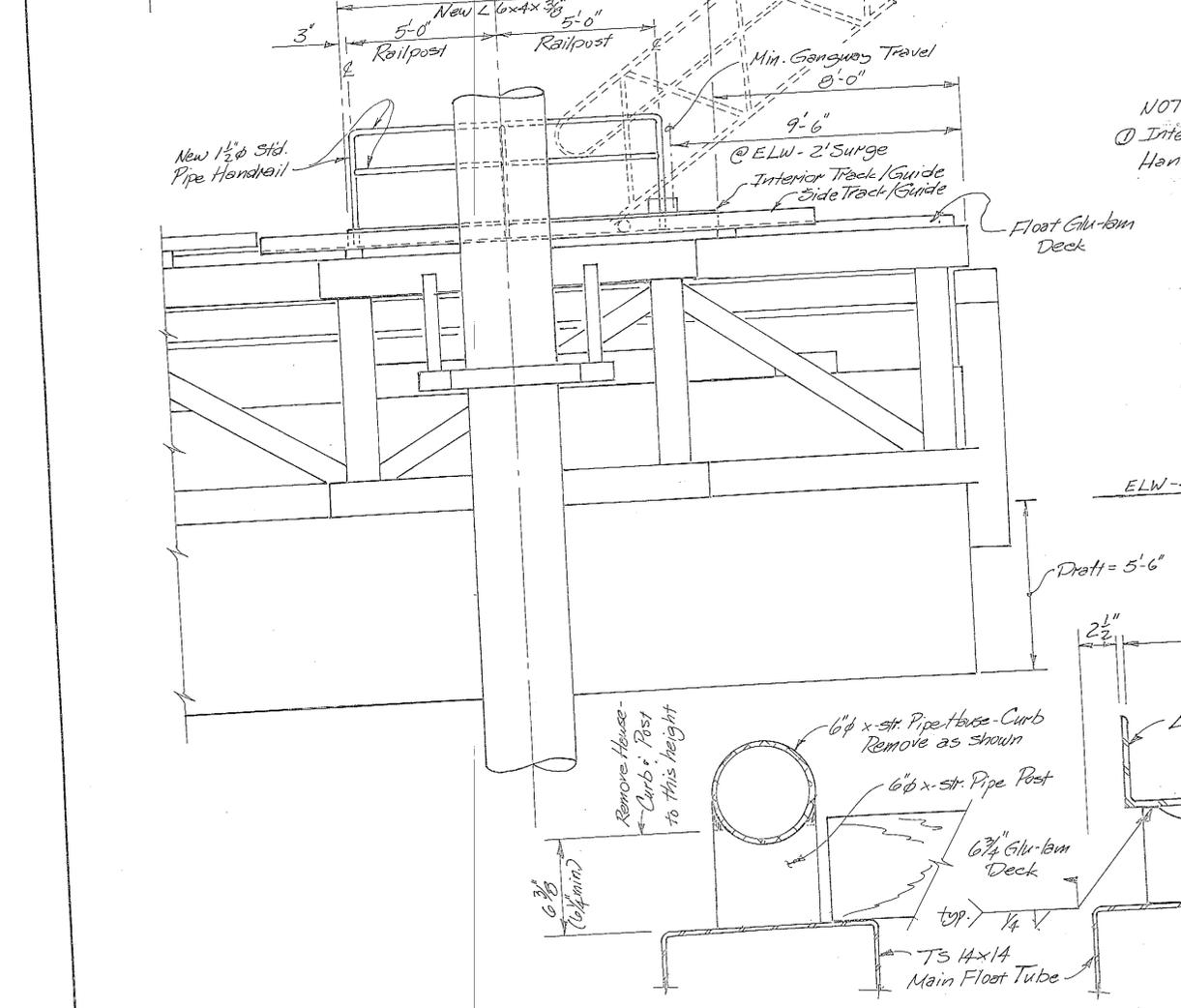
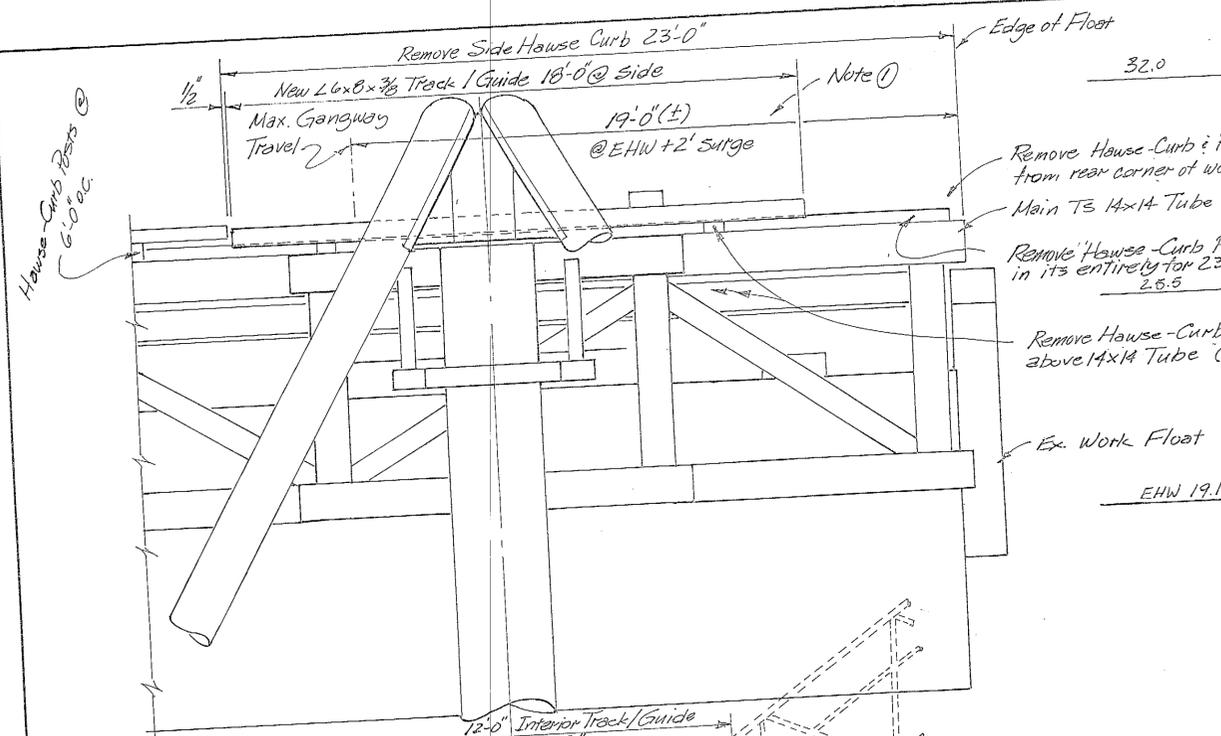
DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

Ketchikan Alaska
S.B. WORK FLOAT TO DOCK ACCESS

DESIGNED JS CHECKED DRAWN DB DATE 6-92
PROJECT NUMBER F-095-2(16) SHEET 45 OF 53

9-1-92



NOTES:
 ① Interior Track and Handrails not shown

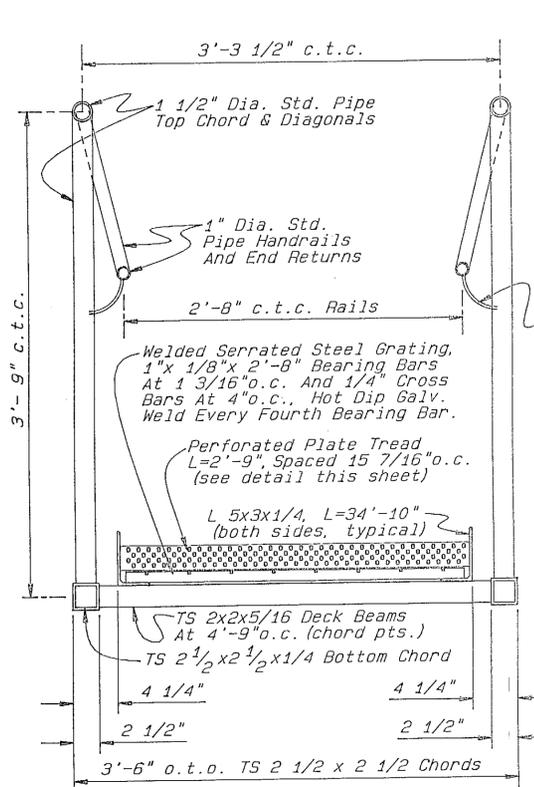
DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
 Kenchikan Alaska

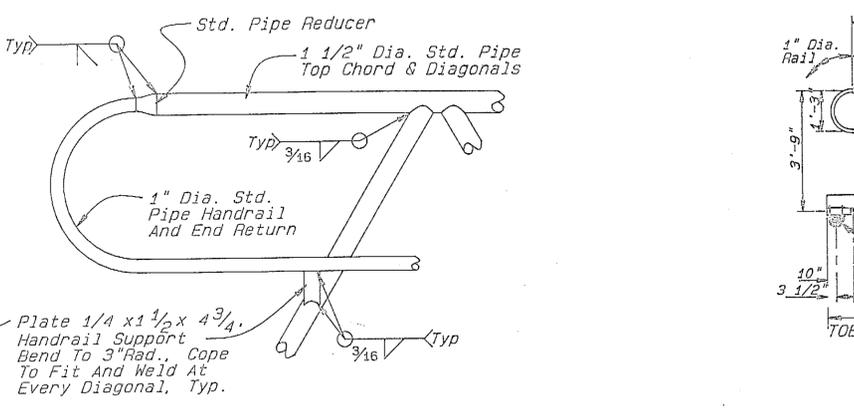
TRACK/GUIDE: HANDRAIL DETAILS

DESIGNED ✓ 5	CHECKED	DRAWN DB	DATE 6-92
PROJECT NUMBER F-095-2(16)		SHEET 46	OF 53

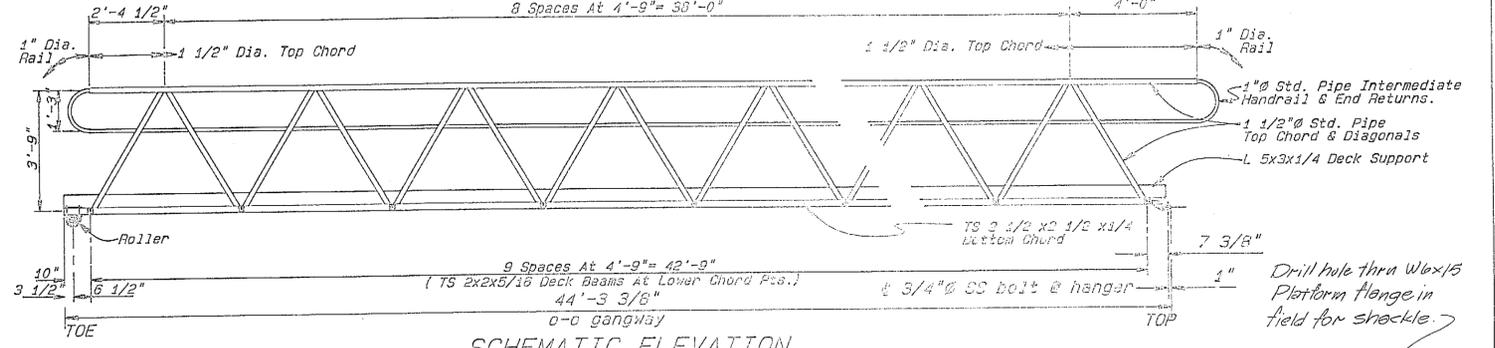
9-1-92



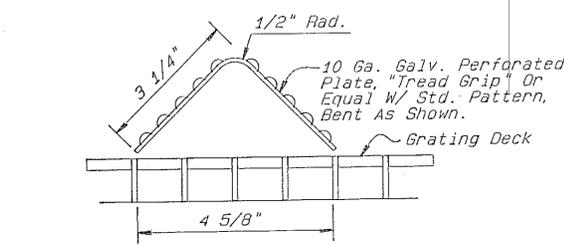
END ELEVATION



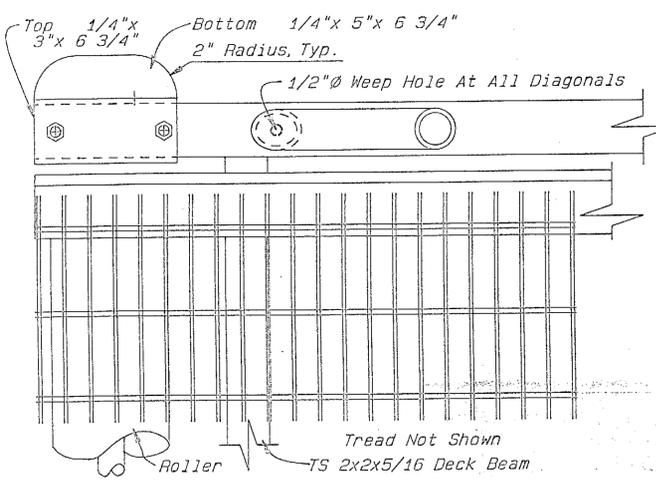
TOE DETAILS, PLAN



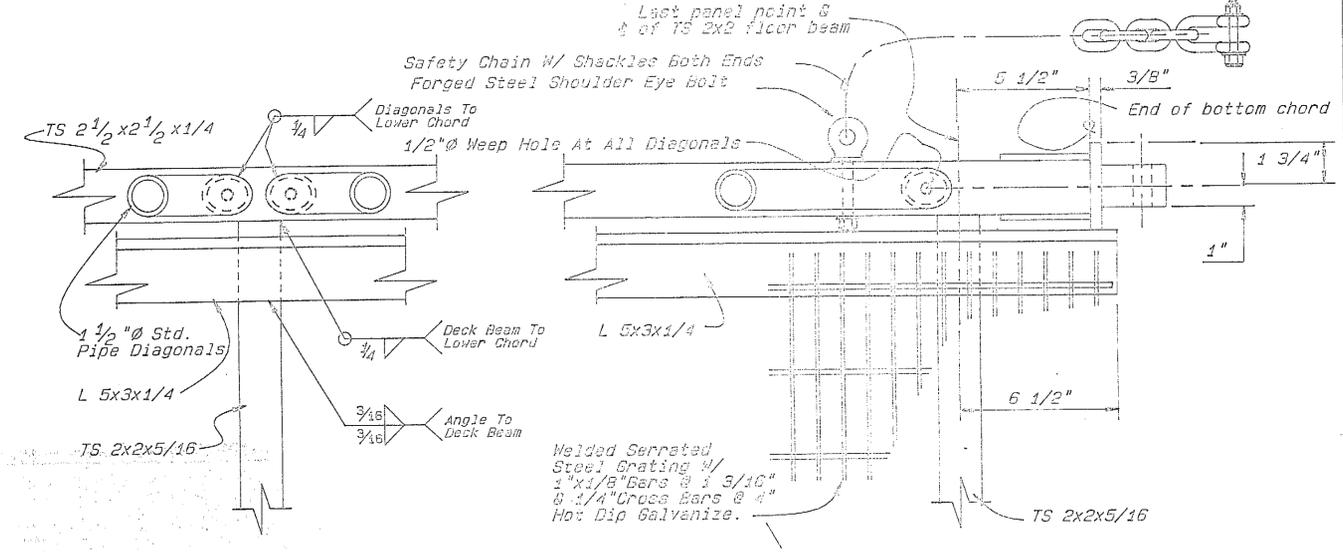
SCHEMATIC ELEVATION



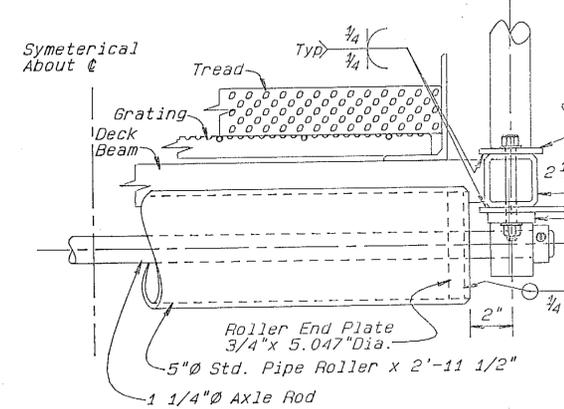
TREAD DETAIL (27 Req'd.)



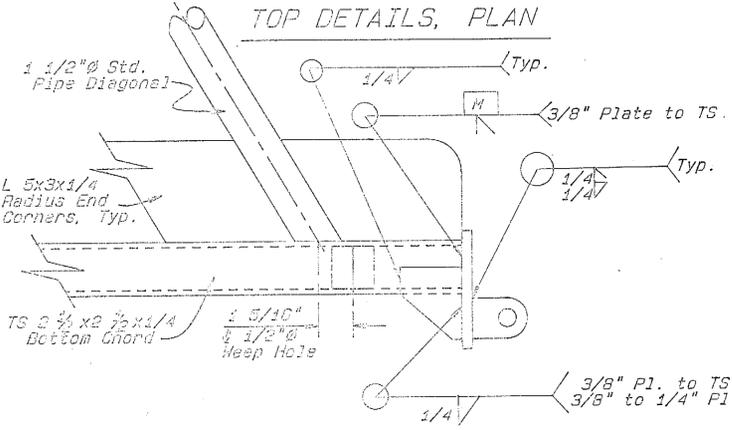
TOE DETAILS, ELEVATION



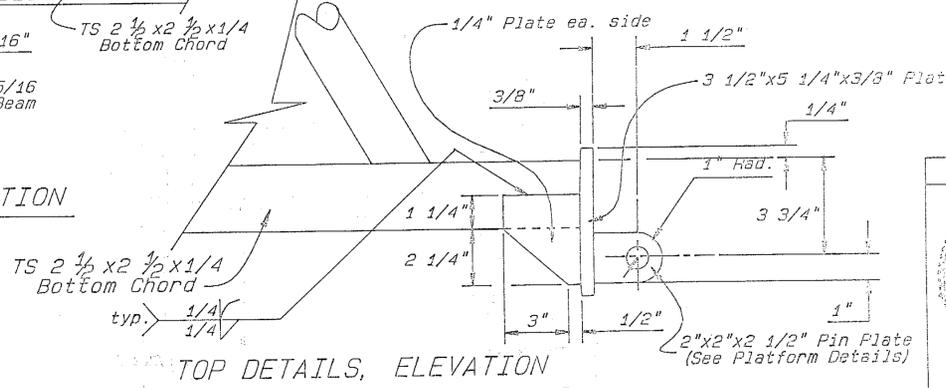
TYPICAL DETAILS



TOE DETAILS, END ELEVATION



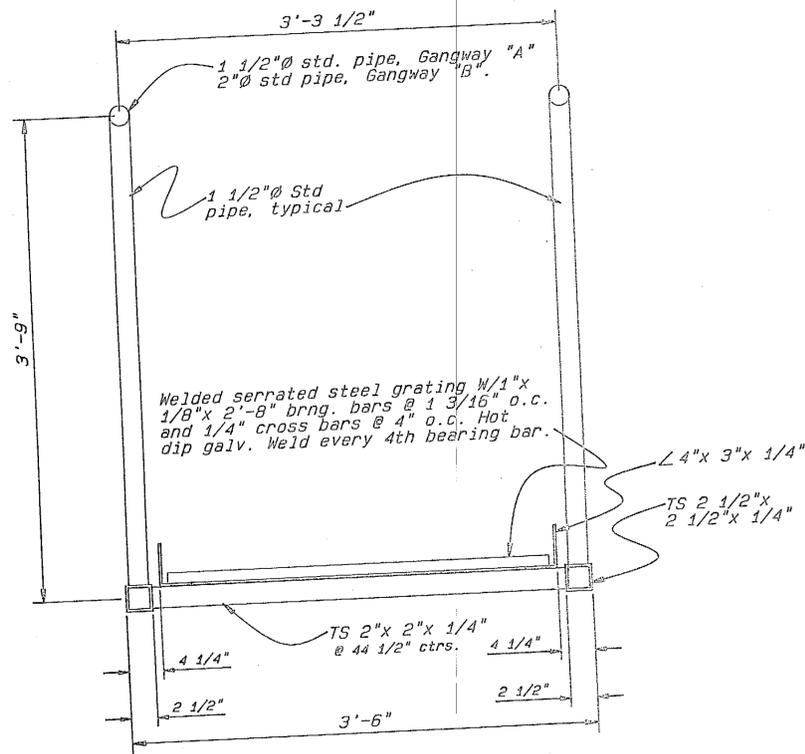
TOP DETAILS, PLAN



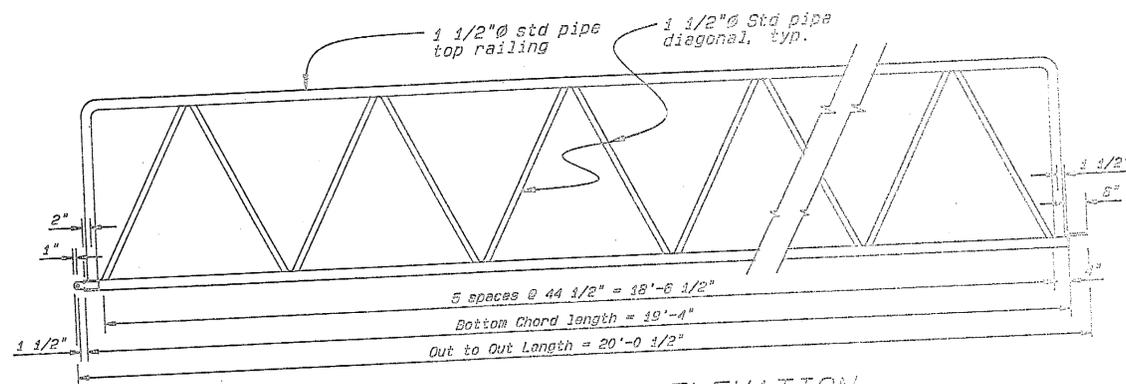
TOP DETAILS, ELEVATION

* Dimension dependent on bearing selected. Contractor shall adjust as necessary to accommodate bearing used.

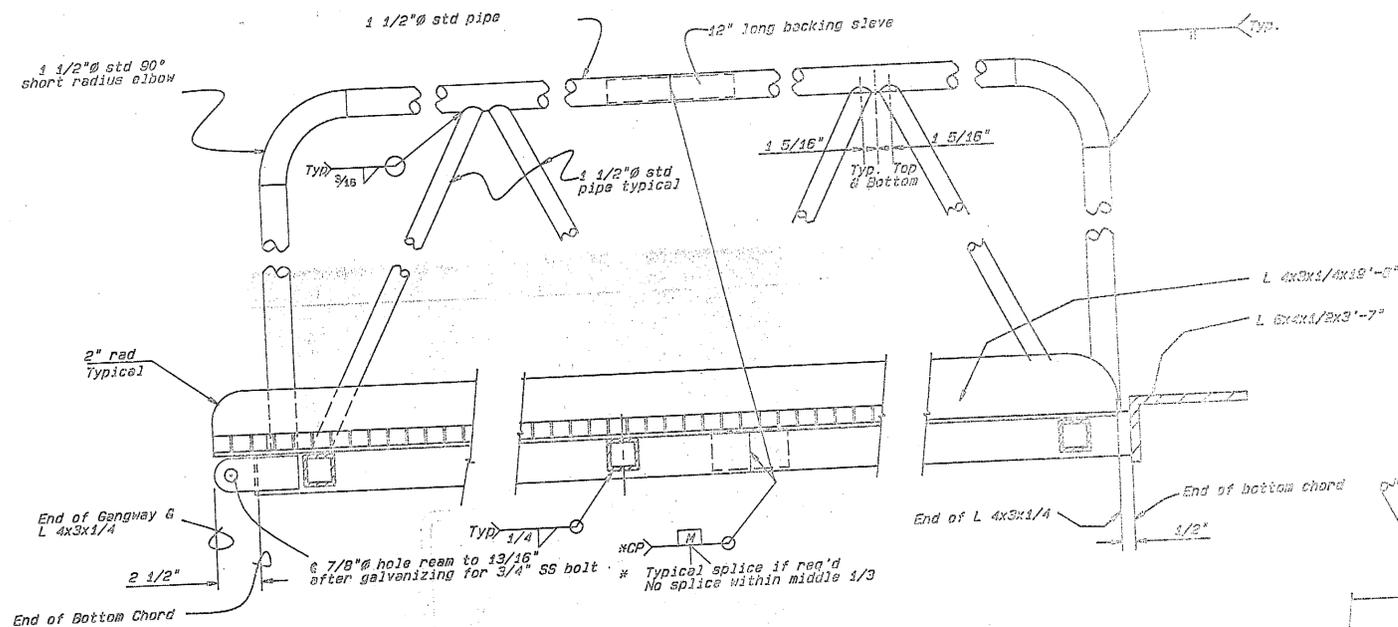
STAMP				DO NOT SCALE THIS DRAWING - USE DIMENSIONS			
				STATE OF ALASKA			
				DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN				ALASKA			
FLOAT GANGWAY							
DESIGNED JS	CHECKED JAL	DRAWN JS	DATE JUNE 92				
PROJECT NUMBER F-095-2(16)	SHEET 48		OF 53				



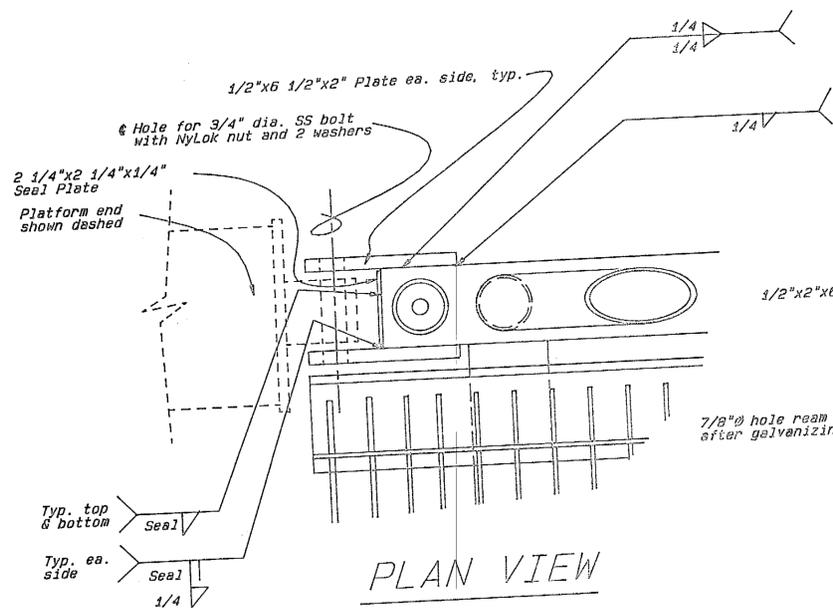
TYPICAL SECTION



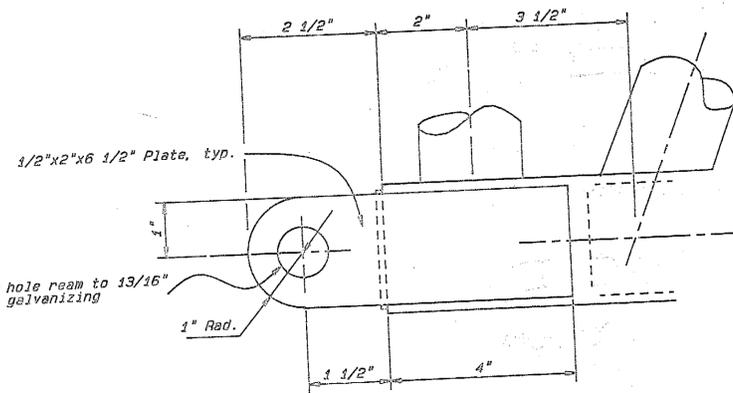
DOCK GANGWAY - ELEVATION



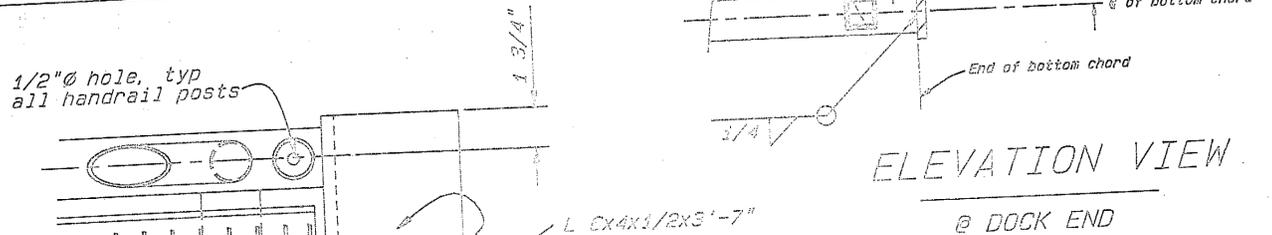
LONGITUDINAL SECTION



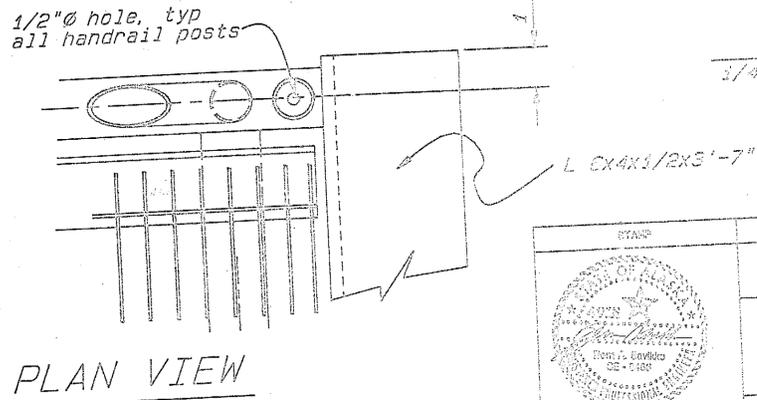
PLAN VIEW @ PLATFORM END



ELEVATION VIEW @ PLATFORM END

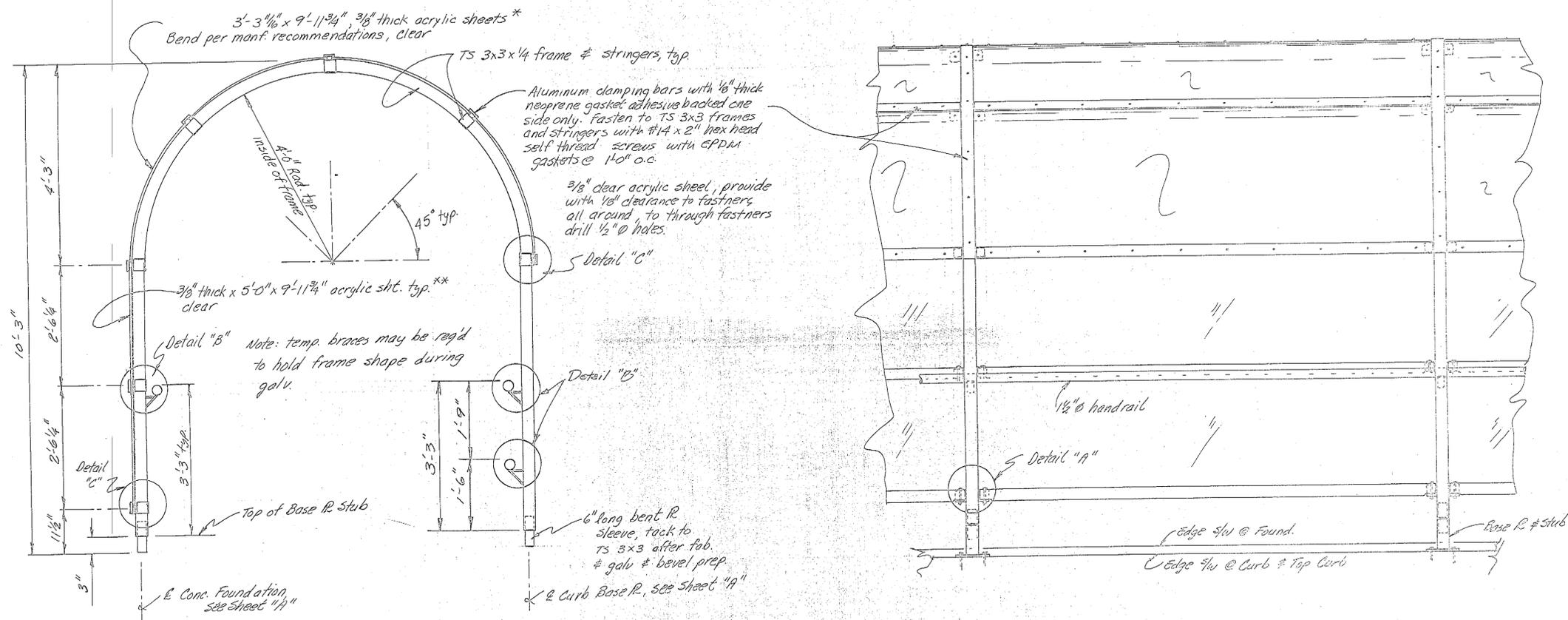


ELEVATION VIEW @ DOCK END



PLAN VIEW @ DOCK END

		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
KETCHIKAN DOCK GANGWAY DETAILS		ALASKA	
DESIGNED	JS	CHECKED	JAL
DRAWN	JS	DATE	JUNE 1992
F-095-2(16)		49 of 53	



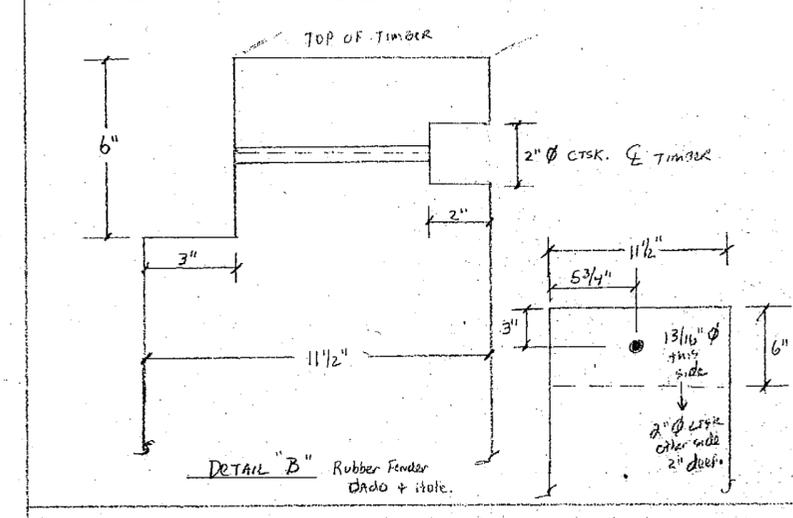
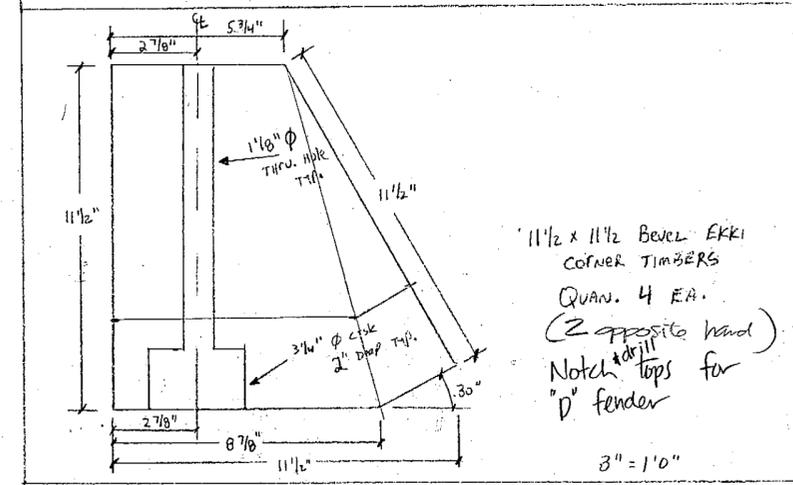
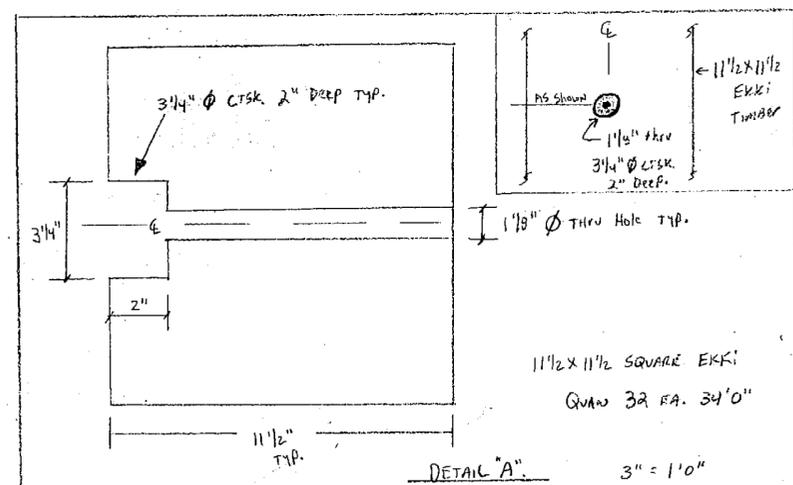
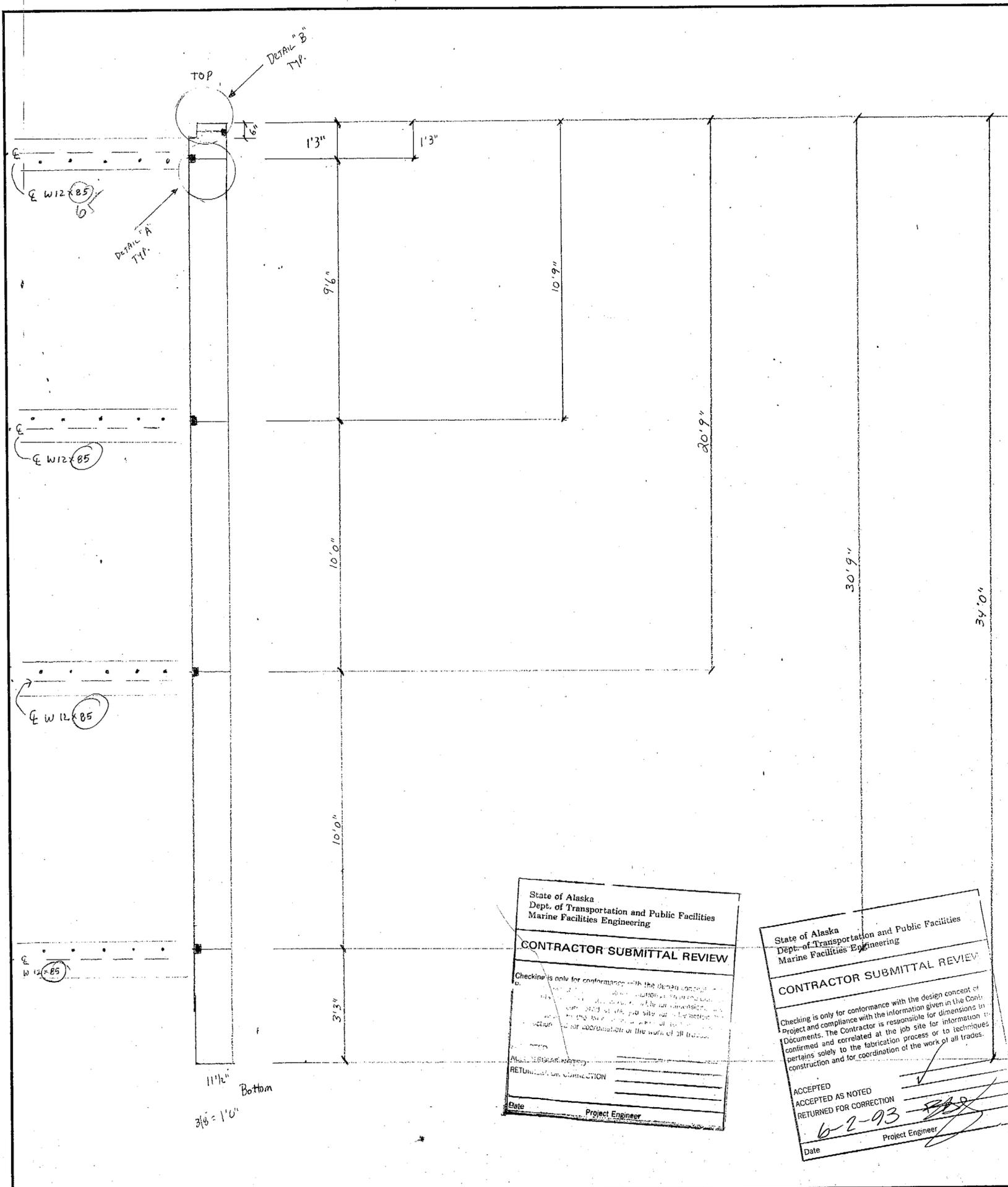
* Except @ Curved Sect and Curved Sect. end of Straight Sect. (See sheet "A")
 ** Except @ Curved Sect.

Details "A" - "C" see End Frame & Detail sheet 11.

TYPICAL SECTION (South BERTH)

ELEV. (South BERTH)

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA			
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES			
Ketchikan		Alaska	
SOUTH BERTH COVERED WALKWAY			
SHEET "B"			
DESIGNED <u>SB</u>	CHECKED _____	DRAWN <u>SB</u>	DATE <u>7-92</u>
PROJECT NUMBER <u>F-025-20(0)175120175285</u>		SHEET <u>51</u>	OF <u>53</u>



State of Alaska
 Dept. of Transportation and Public Facilities
 Marine Facilities Engineering
CONTRACTOR SUBMITTAL REVIEW
 Checking is only for conformance with the design concept...
 ALL INFORMATION RETURNED FOR CORRECTION
 Date _____ Project Engineer _____

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 Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions confirmed and correlated at the job site for information that pertains solely to the fabrication process or to techniques construction and for coordination of the work of all trades.
 ACCEPTED
 ACCEPTED AS NOTED
 RETURNED FOR CORRECTION
 6-2-93
 Date _____ Project Engineer _____

KETCHIKAN MODERN RE-ALIGNMENT 75120 / F-095-2 (16)		
SCALE: AS SHOWN	APPROVED BY:	DRAWN BY JR
DATE: 5-13-93		REVISED 5-21-93
EKKI FENDER TIMBER DETAILS		
MANSON CONST. CO. INC. SEATTLE CC: KEMER STEEL INC.		DRAWING NUMBER 1 of 1

DH-99 (R 8-67)		<h1>PILE DRIVING RECORD</h1>										STATE OF ALASKA DEPARTMENT OF HIGHWAYS		SHEET 1 OF 6		
INSTR: A SKETCH SHOWING THE LOCATION OF THE PILES BY NUMBER SHALL BE DRAWN ON THE BACK OF THIS FORM OR ON AN ATTACHED SHEET															FORMULA USED TO DETERMINE BEAR: $P = \frac{2HWQ}{S+0.1}$	
STRUCTURE NAME A, BARGE RESTRAINT				CONTRACTOR MANSON				HIGHWAY NAME KTN. FERRY TERM.				BRIDGE NO.				
PROJECT NO. 75120			DISTRICT AMHS			TYPE OF BRIDGE MOORING STRUCTURE, BARGE RESTRAINT										
TYPE OF HAMMER O-14			MANUFACTURER VULCAN				WT. OF RAM OR GRAVITY HAMMER 15,000			STROKE LENGTH, MAX. 3-0		NO. BLOWS PER MIN.		MFG'S. MAXIMUM ENERGY RATING 45,000		
DATE	ABUTMENT OR PIER NO.	PILE NO.	TYPE OF PILE (SPECIFY TIP & BUTT DIAMETER OF TIMBER & CONCRETE PILE IN INCHES)	LENGTH PLACED IN LEADS INCLUDING EXTENSIONS (FT)	CUTOFF LENGTH (FT)	NET LENGTH CUT OFF TO TIP (FT)	PENETRATION IN GROUND (FT)	PILE CUTOFF ELEVATION	OBSERVED GROUND ELEVATION	PILE TIP ELEVATION	DROP OF HAMMER (INCHES)	AVERAGE PENETRATION OF LAST 5 BLOWS	COMPUTED BEARING (TONS)	REMARKS SPECIFY BATTER, IF ANY. HOW DID PILE DR. SPECIFY SPLICES, CORE STOPPERS, EXTENSIONS USED.		
2-18-94 12-9	A	1	24"x12" WALL	75	24	51	22	7	-22	-44	815 ICE VIBRATORY			END PLATE REMOVED		
2-18		2	↓	75	24	51	22	7	-22	-44				" "		
2-17		3	↓	75	24	51	22	7	-22	-44				" "		
2-17		4	↓	75	24	51	22	7	-22	-44				" "		
		5	↓	75	24	51	22	7	-22	-44				" "		
12-9	BR	1	24"x12" WALL	176°	21°	154°	91°	20.00	-43	-134°	36		237	VERTICAL 25 ³ SALVA		
12-9		2	↓	176°	20°	156°	93°	20.00	-43	-136°	36		246	VERTICAL 26 ⁵ SALVA		
12-9		3	↓	176°	20°	156°	99°	20.00	-37	-136°	36		246	VERTICAL 26 ⁵ SALVA		
12-9		4	↓	176°	21°	154°	100°	20.00	-34	-134°	36		237	VERTICAL 25 ³ SALVA		
12-12		5	18"x12" WALL	113°	1 ⁵	111 ⁵	50	23 ⁵⁰	-38	-88	815 ICE VIBRATORY			4:1 BATTER		
1-18-94		6	↓	113°	2°	111°	42'	23 ⁵⁰	-46	-87 ⁵				↓		
1-18-94		7	↓	113°	2 ⁴	110 ⁵	31'	23 ⁵⁰	-56	-87 ¹				↓		
12-12		8	↓	113°	1 ⁵	111 ⁵	48	23 ⁵⁰	-40	-88				↓		
			24"	216.4	N=9											
			18"	444.0	N=4											
PREPARED BY NAME A. K. SHEPARD				DATE 2-22-94				CHECKED BY NAME <i>F. M. K. Schepfer</i>				DATE 2-22-94		TOTAL LENGTH FURNISHED		

PILE DRIVING RECORD

INSTR: A SKETCH SHOWING THE LOCATION OF THE PILES BY NUMBER SHALL BE DRAWN ON THE BACK OF THIS FORM OR ON AN ATTACHED SHEET

STRUCTURE NAME <u>C, D</u>	CONTRACTOR <u>MAXSON</u>	HIGHWAY NAME <u>KTN FERRY TERM</u>	BRIDGE NO.
-------------------------------	-----------------------------	---------------------------------------	------------

PROJECT NO. <u>75120</u>	DISTRICT <u>AMHS</u>	TYPE OF BRIDGE <u>MOORING STRUCTURE</u>
-----------------------------	-------------------------	--------------------------------------------

TYPE OF HAMMER <u>AIR</u>	MANUFACTURER <u>VULCAN O-14</u>	WT. OF RAM OR GRAVITY HAMMER <u>14,000</u>	STROKE LENGTH, MAX. <u>3</u>	NO. BLOWS PER MIN.	MFG'S. MAXIM. ENERGY RATIN.
------------------------------	------------------------------------	-----------------------------------------------	---------------------------------	--------------------	-----------------------------

DATE 1993	ABUTMENT OR PIER NO.	PILE NO.	TYPE OF PILE (SPECIFY TIP & BUTT DIAMETER OF TIMBER & CONCRETE PILE IN INCHES)	LENGTH PLACED IN LEADS INCLUDING EXTENSIONS (FT.)	CUTOFF LENGTH (FT.)	NET LENGTH CUT OFF TO TIP (FT.)	PENETRATION IN GROUND (FT.)	PILE CUTOFF ELEVATION	OBSERVED GROUND ELEVATION	PILE TIP ELEVATION	DROP OF HAMMER (INCHES)	AVERAGE PENETRATION OF LAST 5 BLOWS	COMPUTED BEARING (TONS)	REMARKS
														SPECIFY BATTER, IF ANY HOW DID PILE DR SPECIFY SPLICES, CORE STOPPERS, EXTENS LENGTHS USED
<u>11-28</u>	<u>C</u>	<u>1</u>	<u>18" x 12" WALL</u>	<u>156⁰</u>	<u>2⁵</u>	<u>153⁵</u>	<u>100⁵</u>	<u>24⁰</u>	<u>-29</u>	<u>-129⁵</u>			<u>55</u>	<u>BEARING REQ'DTS MODIFIED VERTICAL</u>
<u>11-27</u>		<u>2</u>	<u>"</u>	<u>117⁰</u>	<u>2⁵</u>	<u>114⁵</u>	<u>65⁵</u>	<u>29⁰</u>	<u>-20</u>	<u>-85⁵</u>		<u>8" S ICE VIBRATORY</u>		<u>3:1 BATTER</u>
<u>11-28</u>		<u>3</u>	<u>"</u>	<u>117⁰</u>	<u>2⁷</u>	<u>114³</u>	<u>65³</u>	<u>29⁰</u>	<u>-20</u>	<u>-85³</u>		<u>8" S ICE VIBRATORY</u>		<u>3:1 BATTER</u>
<u>12-1</u>		<u>4</u>	<u>24" x 12" WALL</u>	<u>70⁰</u>	<u>0⁸</u>	<u>69²</u>	<u>16²</u>	<u>24⁰</u>	<u>-29</u>	<u>-45²</u>		<u> </u>		<u>VERTICAL</u>
<u>11-30</u>		<u>5</u>	<u>"</u>	<u>70⁰</u>	<u>0⁸</u>	<u>69²</u>	<u>16²</u>	<u>24⁰</u>	<u>-29</u>	<u>-45²</u>		<u> </u>		<u> </u>
<u>11-29</u>		<u>6</u>	<u>"</u>	<u>70⁰</u>	<u>1⁰</u>	<u>69⁰</u>	<u>16</u>	<u>24⁰</u>	<u>-29</u>	<u>-45⁰</u>		<u> </u>		<u> </u>
<u>11-30</u>		<u>7</u>	<u>"</u>	<u>70⁰</u>	<u>1²</u>	<u>68²</u>	<u>15²</u>	<u>24⁰</u>	<u>-29</u>	<u>-44²</u>		<u> </u>		<u> </u>
<u>11-28</u>	<u>B</u>	<u>1</u>	<u>18" x 12" WALL</u>	<u>160⁰</u>	<u>3¹</u>	<u>156⁹</u>	<u>112⁸</u>	<u>23¹⁵</u>	<u>-21</u>	<u>-133⁸</u>		<u>8" S ICE VIBRATORY</u>	<u>65</u>	<u>VERTICAL</u>
<u>12-1</u>		<u>2</u>	<u>"</u>	<u>122⁰</u>	<u>2³</u>	<u>119⁷</u>	<u>70²</u>	<u>29⁰⁰</u>	<u>-20</u>	<u>-90²</u>		<u> </u>		<u>3:1 BATTER</u>
<u>12-1</u>		<u>3</u>	<u>"</u>	<u>122⁰</u>	<u>2⁰</u>	<u>120⁰</u>	<u>74⁰</u>	<u>29⁰⁰</u>	<u>-17</u>	<u>-91⁰</u>		<u> </u>		<u>3:1 BATTER</u>
<u>12-7</u>		<u>4</u>	<u>24" x 12" WALL</u>	<u>75</u>	<u>13⁵</u>	<u>61⁵</u>	<u>15⁵</u>	<u>23⁹⁷</u>	<u>-22</u>	<u>-37⁵</u>		<u> </u>	<u>18"</u>	<u>778.5' N=6'</u>
<u>12-7</u>		<u>5</u>	<u>"</u>	<u>75</u>	<u>5⁷</u>	<u>69³</u>	<u>20³</u>	<u>23⁹⁷</u>	<u>-25</u>	<u>-45³</u>		<u> </u>	<u>24"</u>	<u>546.5' N=8'</u>
<u>12-7</u>		<u>6</u>	<u>"</u>	<u>75</u>	<u>5⁰</u>	<u>69⁰</u>	<u>24⁰</u>	<u>23⁹⁷</u>	<u>-21</u>	<u>-45⁰</u>		<u> </u>		
<u>12-7</u>		<u>7</u>	<u>"</u>	<u>75</u>	<u>4⁰</u>	<u>71⁰</u>	<u>21⁰</u>	<u>23⁹⁷</u>	<u>-26</u>	<u>-47⁰</u>		<u> </u>		

PREPARED BY NAME <u>A.K. SHEPARD</u>	DATE <u>2-22-94</u>	CHECKED BY NAME <u>[Signature]</u>	DATE <u>2-22-94</u>	TOTAL LENGTH FURNISHED
--------------------------------------------	------------------------	------------------------------------------	------------------------	------------------------

2421

Speediset® Moore Business Forms, Inc.®

DH-99
(R 8-67)

PILE DRIVING RECORD

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS

SHEET 3 OF 6
FORMULA USED TO DETERMINE BEA:

$$P = \frac{2HWQ}{S+0.1}$$

INSTR: A SKETCH SHOWING THE LOCATION OF THE PILES BY NUMBER SHALL BE DRAWN ON THE BACK OF THIS FORM OR ON AN ATTACHED SHEET

STRUCTURE NAME <u>E, D</u>	CONTRACTOR <u>MAHSON</u>	HIGHWAY NAME <u>KTN FERRY TERM.</u>
-------------------------------	-----------------------------	----------------------------------------

PROJECT NO. <u>75120</u>	DISTRICT <u>AMHS</u>	TYPE OF BRIDGE <u>MOORING STRUCTURE</u>
-----------------------------	-------------------------	--------------------------------------------

TYPE OF HAMMER <u>D-6222 0-14</u>	MANUFACTURER <u>DELMAG VULCAN</u>	WT. OF RAM OR GRAVITY HAMMER <u>15,000</u>	STROKE LENGTH, MAX. <u>3-0</u>	NO. BLOWS PER MIN.	MFG'S. MAXIML ENERGY RATING <u>45,000</u>
--------------------------------------	--------------------------------------	-----------------------------------------------	-----------------------------------	--------------------	----------------------------------------------

DATE	ABUTMENT OR PIER NO.	PILE NO.	TYPE OF PILE (SPECIFY TIP & BUTT DIAMETER OF TIMBER & CONCRETE PILE IN INCHES)	LENGTH PLACED IN LEADS INCLUDING EXTENSIONS (FT)	CUTOFF LENGTH (FT)	NET LENGTH CUT OFF TO TIP (FT)	PENETRATION IN GROUND (11)	PILE CUTOFF ELEVATION	OBSERVED GROUND ELEVATION	PILE TIP ELEVATION	DROP OF HAMMLR (INCHES)	AVERAGE PENETRATION OF LAST 5 BLOWS	COMPUTED BEARING (TONS)	REMARKS
														SPECIFY BATTER, IF ANY. HOW DID PILE DRILLER SPECIFY SPLICES, CORE STOPPERS, EXTENS LENGTHS USED
11-13	E	1	36"x1/2" WALL	133°	4°	129°	69°	22°	-38	-107			65	BEARING REQ'MENTS MODIFIED VERTICAL
		2	↓	133°	3°	129°	71°	22°	-36	-107°			79	BEARING REQ'MENTS MODIFIED VERTICAL
		3	↓	145°	6°	139°	76	29°	-34	-110°			125	BEARING REQ'MENTS MODIFIED 3:1 BATTER
		4	↓	144°	4°	139°	76°	29°	-34	-110°			110	BEARING REQ'MENTS MODIFIED 3:1 BATTER
11-19	D	1	18"x1/2" WALL	158° 168°	2°	155° 165°	55° 105°	24°	-36	-131° -141°			52	BEARING REQ'MENTS MODIFIED VERTICAL
11-27		2	"	119°	2°	116°	55°	29°	-32	-87°	8 1/2 ICE VIBRATORY			3:1 BATTER
11-27		3	18"x1/2" WALL	119°	2°	116°	59°	+28°	-28°	-87°	8 1/2 ICE VIBRATORY			3:1 BATTER
12-6		4	24"x1/2" WALL	87°	6°	81°	21°	24°	-36	-57				VERTICAL
12-6		5	↓	82°	3°	79°	19°	24°	-36	-55				↓
11-30		6	↓	72°	0°	71°	11°	24	-36	-47°				↓
12-5		7	↓	87°	0°	86°	26°	24	-36	-62°				↓
			36"	557.4'			N = 4'							
			24"	318.0'			N = 4'							
			18"	322.1'			N = 3'							

PREPARED BY NAME <u>AK SHEPARD</u>	DATE <u>2-22-94</u>	CHECKED BY NAME <u>(Signature)</u>	DATE <u>2-22-94</u>	TOTAL LENGTH FURNISHED
------------------------------------------	------------------------	------------------------------------------	------------------------	------------------------

PILE DRIVING RECORD

INSTR: A SKETCH SHOWING THE LOCATION OF THE PILES BY NUMBER SHALL BE DRAWN ON THE BACK OF THIS FORM OR ON AN ATTACHED SHEET

STRUCTURE NAME F, G, H, I		CONTRACTOR MANSON		HIGHWAY NAME KTN FERRY TERM.		BRIDGE NO.			
PROJECT NO. 75120		DISTRICT AMHS		TYPE OF BRIDGE MOORING STRUCTURE					
TYPE OF HAMMER D-62-22		MANUFACTURER DELMAG		WT. OF RAM OR GRAVITY HAMMER 14,600		STROKE LENGTH, MAX.		NO. BLOWS PER MIN.	MFG'S. MAXIMUM ENERGY RATING

DATE	ABUTMENT OR PIER NO.	PILE NO.	TYPE OF PILE (SPECIFY TIP & BUTT DIAMETER OF TIMBER & CONCRETE PILE IN INCHES)	LENGTH PLACED IN LEADS INCLUDING EXTENSIONS (FT.)	CUTOFF LENGTH (FT.)	NET LENGTH CUT OFF TO TIP (FT.)	PENETRATION IN GROUND (FT.)	PILE CUTOFF ELEVATION	OBSERVED GROUND ELEVATION	PILE TIP ELEVATION	DROP OF HAMMER (INCHES)	AVERAGE PENETRATION OF LAST 5 BLOWS	COMPUTED BEARING (TONS)	REMARKS SPECIFY BATTER, IF ANY HOW DID PILE DRIV SPECIFY SPLICES, CORE STOPPERS, EXTENSIL LENGTHS USED
10-16	I	1	36"x12" WALL	142 ⁰	3 ⁰	139 ⁰	41	22 ⁰⁰	-76	-117		REFUSAL		VERTICAL
10-16		2		142 ⁰	4 ⁷	137 ³	45	22 ⁰⁰	-70	-115		REFUSAL		VERTICAL
11-3		3		169 ⁰	36 ⁰	133 ⁰	38	29 ⁰⁰	-66	-104		815 ICE VIBRATORY		3:1 BATTER
		4		145 ⁰	4 ⁵	140 ⁵	46	29 ⁰⁰	-65	-111 ⁵		815 ICE VIBRATORY		3:1 BATTER
10-15	H	1		181 ¹	31 ⁵ 49⁵	149 ⁶	56	22 ⁰⁰	-72	-128		815 ICE VIBRATORY	186	VERTICAL
10-15		2		181 ¹	32 ⁵	148 ⁶	53	22 ⁰⁰	-74	-128		815 ICE VIBRATORY		VERTICAL
1-26-94		3		169 ⁰	23 ⁴	145 ⁶	55	29 ⁰⁰	-62	-116 ⁶		815 ICE VIBRATORY		3:1 BATTER
1-26-94		4		169 ⁰	24 ⁸	144 ³	54	29 ⁰⁰	-61	-115 ³		815 ICE VIBRATORY		3:1 BATTER
10-15	G	1		173 ⁵	23 ⁴	150 ¹	60	22 ⁰⁰	-68	-128		D-62-22	186	VERTICAL
10-15		2		173 ⁵	30 ²	143 ³	54	22 ⁰⁰	-68	-122		D-62-22	121	VERTICAL
1-25-94		3		180	23 ⁸	156 ²	69	29 ⁰⁰	-58	-127 ³		815 ICE VIBRATORY		3:1 BATTER
1-25-94		4		180	5 ⁰	175 ⁰	91	29 ⁰⁰	-55	-146		815 ICE VIBRATORY		3:1 BATTER
10-15	F	1		175 ⁵	20 ⁴	155 ¹	78	22 ⁰⁰	-56	-134		815 ICE VIBRATORY		VERTICAL
10-15		2		175 ⁵	21	154 ⁵	75	22 ⁰⁰	-58	-133		815 ICE VIBRATORY		VERTICAL
11-7		3		180 ⁰	14 ⁰ 38⁰	166 ⁴ 142⁴	88 64	29 ⁰⁰	-49	-137 -113		D-62-22	167	3:1 BATTER
11-9		4		180 ⁰	38 ⁰	142 ⁰	64	29 ⁰⁰	-49	-113		815 ICE VIBRATORY		3:1 BATTER

PREPARED BY NAME AK SHEPARD	DATE 2-22-94	CHECKED BY NAME 	DATE 2-22-94	TOTAL LENGTH FURNISHED
------------------------------------------	------------------------	------------------------	------------------------	------------------------

36" = 2380 N = 16

DH-99
(R 8-67)

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS

SHEET 5 OF 6

PILE DRIVING RECORD

FORMULA USED TO DETERMINE L

$$P = \frac{2HWQ}{S+0.1}$$

INSTR: A SKETCH SHOWING THE LOCATION OF THE PILES BY NUMBER SHALL BE DRAWN ON THE BACK OF THIS FORM OR ON AN ATTACHED SHEET

STRUCTURE NAME, "J" PLATFORM SUPPORTS CONTRACTOR MANSON HIGHWAY NAME KTN FERRY TERM BRIDGE NO.

PROJECT NO. 75120 DISTRICT AMHS TYPE OF BRIDGE MOORING STRUCTURE

TYPE OF HAMMER D-62-22 MANUFACTURER DELMAG WT. OF RAM OR GRAVITY HAMMER 14,600 STROKE LENGTH, MAX. NO. BLOWS PER MIN. MFG'S. MAX. ENERGY RA

DATE	ABUTMENT OR PIER NO.	PILE NO.	TYPE OF PILE (SPECIFY TIP & BUTT DIAMETER OF TIMBER & CONCRETE PILE IN INCHES)	LENGTH PLACED IN LEADS INCLUDING EXTENSIONS (FT)	CUTOFF LENGTH (FT)	NET LENGTH CUT OFF TO TIP (FT)	PENETRATION IN GROUND (FT)	PILE CUTOFF ELEVATION	OBSERVED GROUND ELEVATION	PILE TIP ELEVATION	DROP OF HAMMER (INCHES)	AVERAGE PENETRATION OF LAST 5 BLOWS	COMPUTED BEARING (TONS)	REMARKS
10-14	J	1	36" x 1/2" WALL	164 ⁴ 164	59 ² 58	105 ² 105	30	+2	-72	-102				VERTICAL - REFUS. AT TIP ELEV.
10-14	J	2		164 ⁴	58 ⁶	105 ⁸	32	+2	-70	-102				
10-14	J	3		164 ⁴	57 ¹	107 ³	34	+2	-70	-104				
10-14	J	4		164 ⁴	55 ³	109 ¹	36	+2	-70	-106				
10-18	J	5		161 ⁰	29 ¹	131 ⁹	41	27 ¹⁹	-55	-96				2.5:1 BATTER
10-19	J	6		169 ⁰	22 ⁰	147 ⁰	39	27 ¹⁹	-71	-110				2.5:1 BATTER
10-18	J	7		161 ⁰	28 ⁵	132 ⁵	39	27 ¹⁹	-53	-92				2:1 BATTER
10-18	J	8	↓	169 ⁰	12 ⁵	156 ⁵	41	27 ¹⁹	-73	-114				2:1 BATTER
2-11-94	PLAT FORM A	1	14" x 1/2" WALL	95 ⁰	0 ⁰	94 ²	19	24 ⁹²	-50	-69		8 IS ICE VIBRATORY		VERTICAL
2-11		2		95 ⁰	0 ⁵	94 ⁵	12	28 ⁵⁰	-54	-66				4:1 BATTER
2-16	PLAT FORM B	1		86 ⁰	0 ⁵	85 ⁵	31	24 ⁹²	-30	-61				VERTICAL
2-16		2	↓	86 ⁰	0 ⁵	85 ⁵	28	28 ⁵⁰	-30	-58				4:1 BATTER

36" = 99² - 11 = 88
14" = 34⁰ - 11 = 23

PREPARED BY NAME A.K. SHUPARD DATE 2-22-94 CHECKED BY NAME [Signature] DATE 2-22-94 TOTAL LENGTH FURNISHED

DH-99
(R 8-67)

PILE DRIVING RECORD

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS

SHEET 6 OF 6

FORMULA USED TO DETERMINE BE

$$P = \frac{2HWG}{5+0.1}$$

INSTR: A SKETCH SHOWING THE LOCATION OF THE PILES BY NUMBER SHALL BE DRAWN ON THE BACK OF THIS FORM OR ON AN ATTACHED SHEET

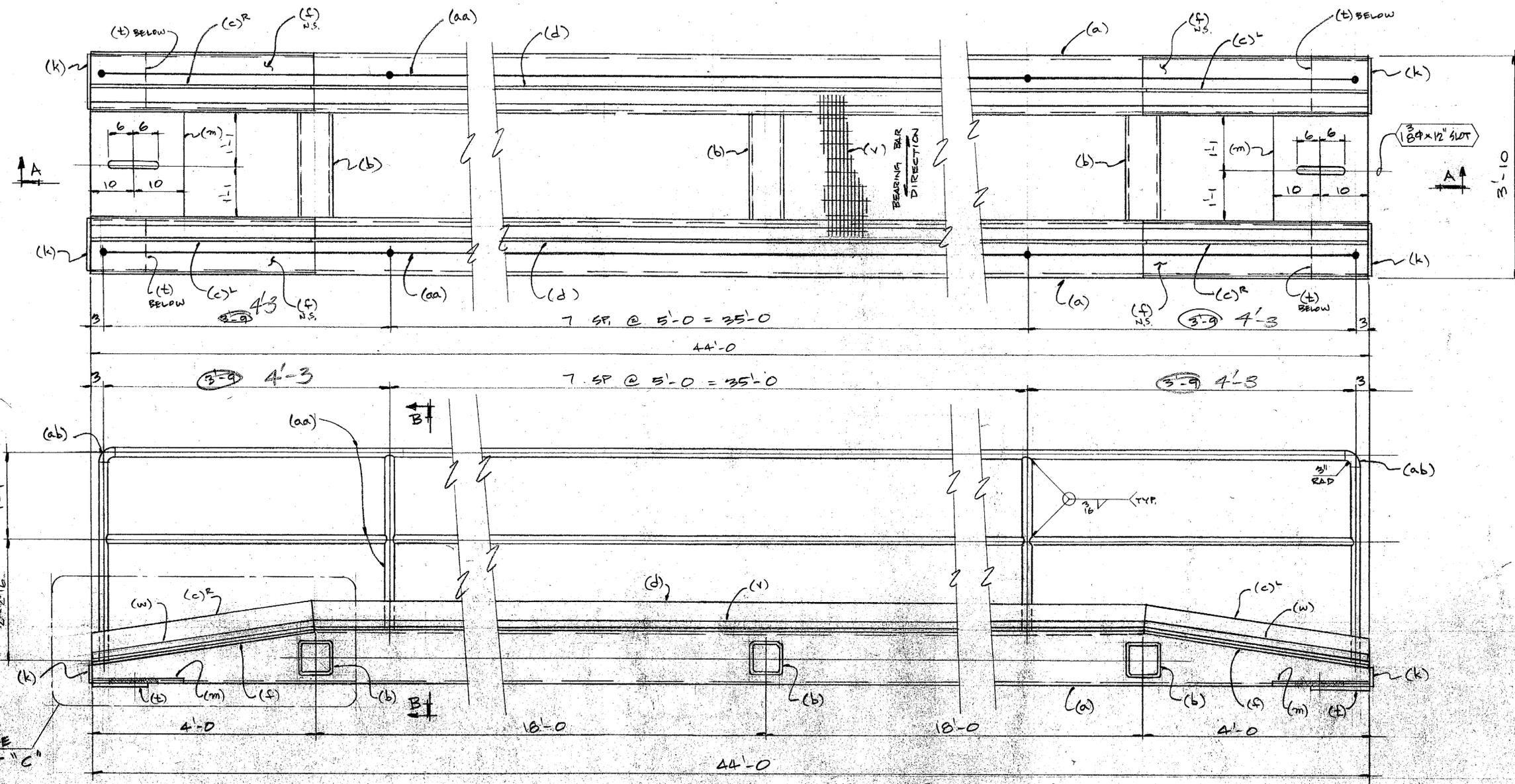
STRUCTURE NAME APPROACH		CONTRACTOR MANSON		HIGHWAY NAME KTN FERRY TERM		BRIDGE NO.	
PROJECT NO. 75120		DISTRICT AMHS		TYPE OF BRIDGE APPROACH STRUCTURE TO TRANSFER BRIDGE			
TYPE OF HAMMER VULCAN #1		MANUFACTURER VULCAN		WT. OF RAM OR GRAVITY HAMMER \$5000		STROKE LENGTH, MAX. 3 FT	
						NO. BLOWS PER MIN. 40 IS	

DATE	ABUTMENT OR PIER NO.	PILE NO.	TYPE OF PILE (SPECIFY TIP & BUTT DIAMETER OF TIMBER & CONCRETE PILE IN INCHES)	LENGTH PLACED IN LEADS INCLUDING EXTENSIONS (FT.)	CUTOFF LENGTH (FT.)	NET LENGTH CUT OFF TO TIP (FT.)	PENETRATION IN GROUND (FT.)	PILE CUTOFF ELEVATION	OBSERVED GROUND ELEVATION	PILE TIP ELEVATION	DROP OF HAMMER (INCHES)	AVERAGE PENETRATION OF LAST 5 BLOWS	COMPUTED BEARING (TONS)	REMARKS SPECIFY BATTER, IF ANY. HOW DID PILE (SPECIFY SPLICES, CORE STOPPERS, EXTER. LENGTHS USED
9-29-93	A	1	18" x 12"	150 ^S	40 ^L	110 ³	107 ⁷	18 ⁶	16	-91 ⁷	36	.048 -004	101 144T	CUTTING POST EXT. = 25, 25, 49
9-29-93	A	2	18" x 12"	156 ^S	29 ²	127 ³	124 ⁷	18 ⁶	16	-108 ⁷	36	.058 -005	98.6 143T	
9-28-93	A	3	18" x 12"	102 ⁰	1 ²	100 ⁸	98 ²	18 ⁶	16	-82 ²	36	.156 -013	59T	
10-2-93														
10-2-93	B	1	18" x 12"	150 ⁸	25 ⁷	125 ¹	+106 ⁶	18 ⁸	0	-106 ⁶	36	.126	66T	
10-2-93	B	2	18" x 12"	151 ³	16 ²	135 ¹	119 ⁶	18 ⁵	+3	-116 ⁶	36	.050	100T	
10-2-93	B	3	18" x 12"	151 ⁵	16 ³	135 ²	119 ⁷	18 ⁵	+3	-116 ⁷	36	.075	86T	
2-1-94	C	1	18" x 12" WALL	154 177	29 ⁸ 31 ⁸	124 ² 139 ⁸	104 ³ 119 ¹	18 ³⁴	-1 ⁵	-105 ² -121 ²	VULCAN #1		65T	VERTICAL
2-2-94		2		134 ⁵	3 ⁰	131 ⁵	111 ⁶	18 ³⁴	-1 ⁵	-113 ²			84T	VERTICAL
2-2-94		3		160 ²	23 ⁹	136 ⁴	-119 ⁵	15 ⁴⁰	-1 ⁵	-121			107T	VERTICAL
2-1-94		4		171	31 ⁵	139 ⁵	122 ⁶	15 ⁴⁰	-1 ⁵	-124 ¹			91T	VERTICAL
2-7-94		5		137	4 ¹	132 ⁹	113 ⁵	19 ⁴⁰	0	-113 ⁵			90T	4:1 BATTER
2-5-94		6		156	20 ⁸	135 ²	116 ⁸	19 ⁴⁰	+1	-115 ⁸			115T	4:1 BATTER
2-5-94		7		146	2 ³	143 ⁷	125 ³	19 ⁴⁰	+1	-124 ³			108T	4:1 BATTER
		8		156 ⁵	17 ¹	139 ⁴	123	19 ⁴⁰	+3	-120 ⁰			100T	4:1 BATTER

PREPARED BY NAME A.K. SHEPARD	DATE 2-22-94	CHECKED BY NAME <i>(Signature)</i>	DATE 2-22-94	TOTAL LENGTH FURNISHED
--------------------------------------------	------------------------	------------------------------------------	------------------------	------------------------

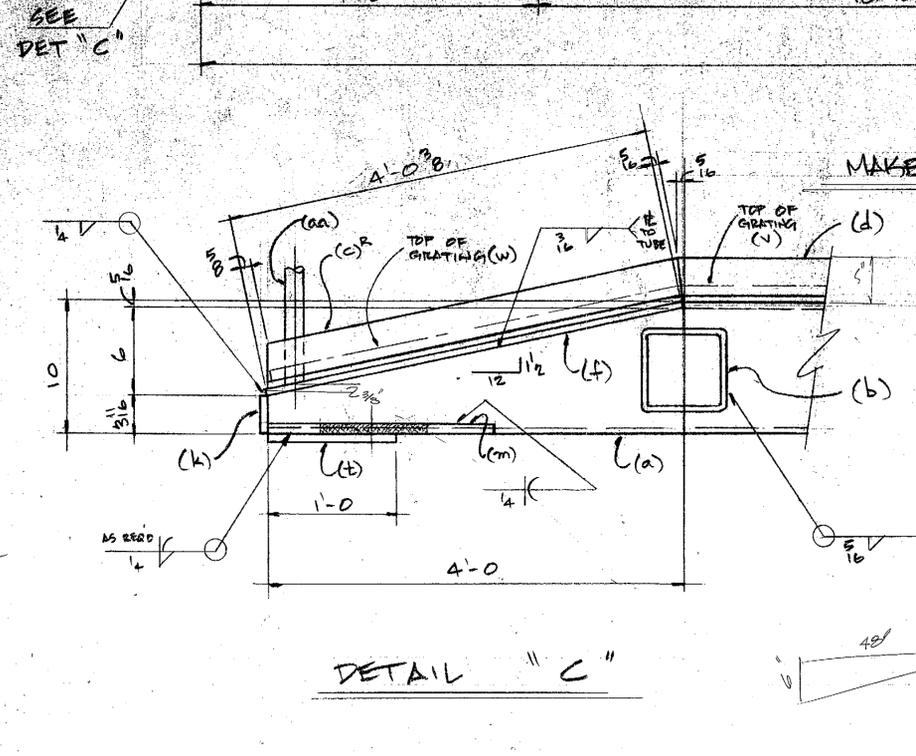
Speediset © Moore Business Forms, Inc.®

FEET 10'
18" = 816.6 N=14



NOTE: CAMBER $TS10 \times 10 \times \frac{5}{8}$ UP 1" AT MIDSPAN

MAKE 4 CATWALK - MK 43A



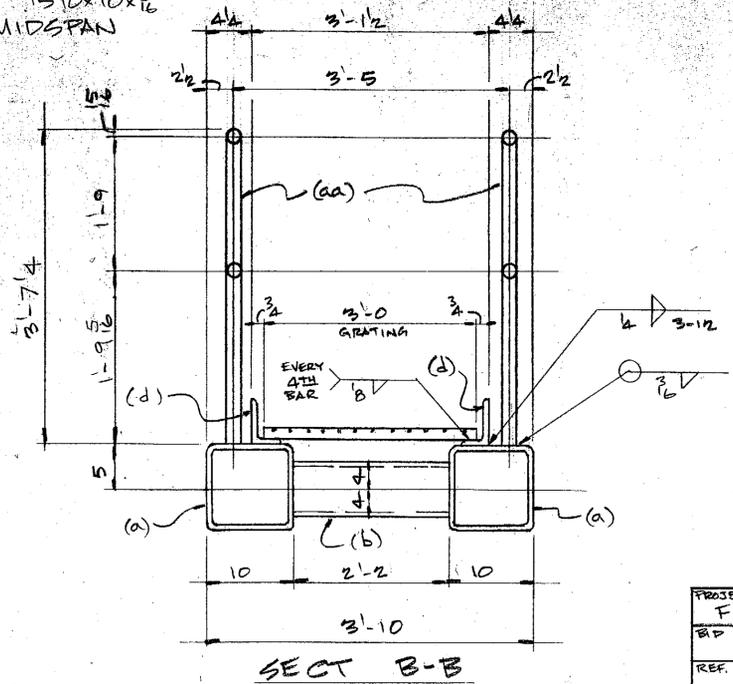
DETAIL "C"

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 coordinated 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 AS NOTED
RETURNED FOR CORRECTION
5-10-93
Date: _____
Project Engineer: _____



SECT B-B

BILL OF MATERIAL

NO TO SHIP	SHIP MARK	NO PCS	PC ME	SECTION	LENGTH		REMARKS
					FT	IN	
4	43A			CATWALK			
8	a			TS10x10x5/8	44	0	
12	b			TS8x8x3/8	2	2	
8	c			CE L5x3x1/4	4	0 1/2	
8	d			L5x3x1/4	36	0 1/2	
16	f			PE 70x9 3/8	4	0 1/2	
16	k			PE 96x3 1/2	0	9 1/2	
8	m			PE 4 x 20	2	2	
16	n			PE 2 x 10	1	0	
4	v			1" GRATING x 36	36	0	SEE NOTE BELOW
8	w			1" GRATING x 36	4	0 1/2	
4	aa			1/2" STD PIPE	254	0	± LIN. FT
16	ab			1/2" 90° ELL			3' INSIDE RAD

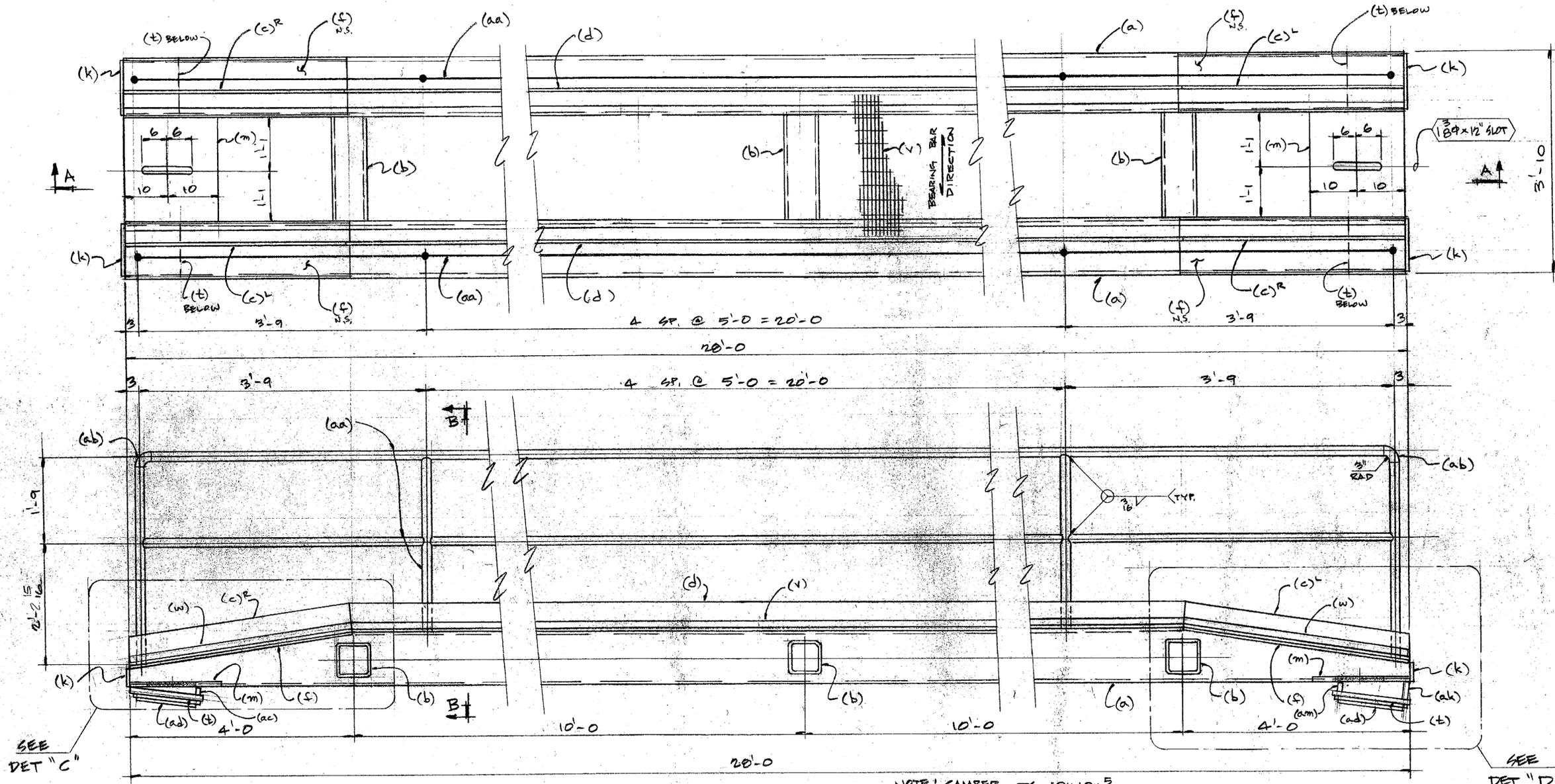
GRATING NOTE:
GRATING TO BE 1" X 3" BEARING BARS @ 1 1/2" C-C AND CROSS BARS AT 4" C-C (BEARING BARS RUN THE 4' OR 36" DIMENSION) GRATING TO BE GALVANIZED AND SERRATED

MATL SPEC A-36
OPEN HOLES NOTED EXCEPT AS NOTED
END & EDGE DIST NOTED EXCEPT AS NOTED
PAINT GALV
SHIP TO DOCK SEATTLE
ERECTION BY OTHERS



22620 85th PL., S., KENT, WA. 98031. (206) 852-1910

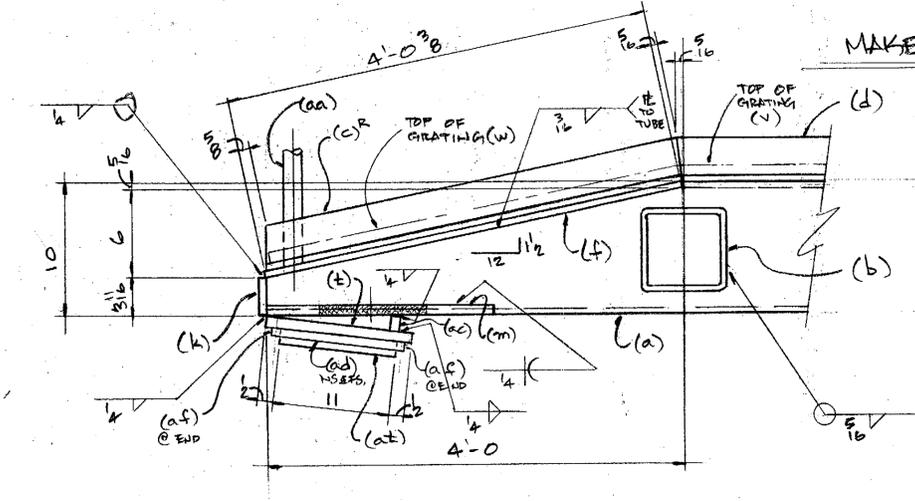
PROJECT NO. F-095-2 (16)	DATE: 1/25/93	APPROVED: _____	DRAWN BY: _____
SHIP ITEM 302 (5)			CHECKED BY: _____
REF. DWG. 27 of 53	CONTRACTOR: MANSON CONST.	JOB NO. 93-02	DRAWING NO. 43



NOTE: CAMBER TO 10x10^{1/2} UP 1/8" AT MIDSPAN

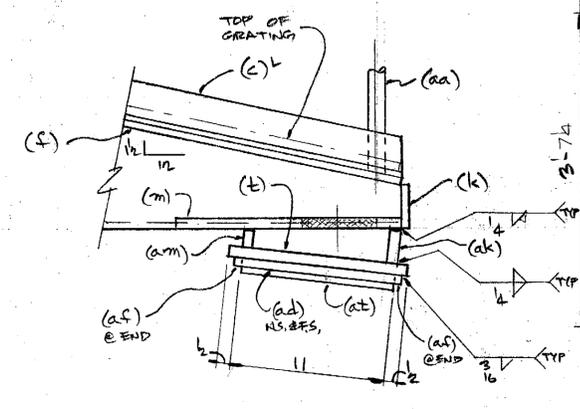
SECT. A-A

SEE DET "D"

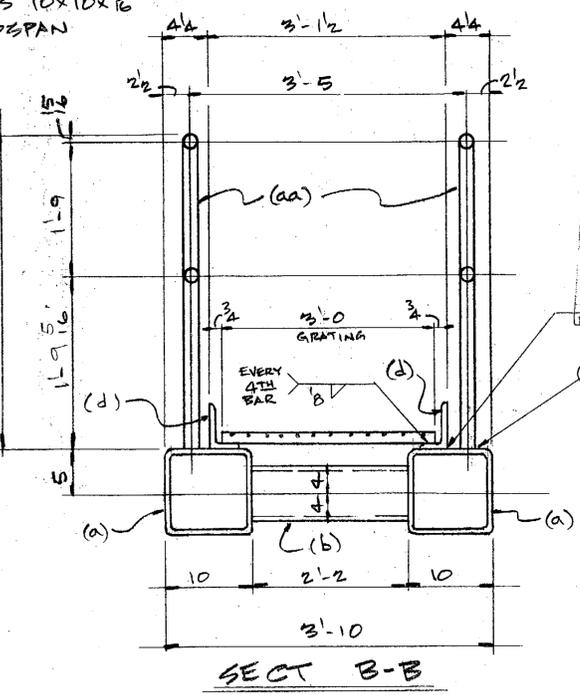


DETAIL "C"

MAKE ONE CATWALK - MK 44A



DETAIL "D"



SECT 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 concept of the project and compliance with the information given on the Contract Documents. The Contractor is responsible for dimensions, quantities, and materials used at the job site for information and for construction and for coordination of the work of all trades.

ACCEPTED AS NOTED
RETURNED FOR CORRECTION

S. J. [Signature]
Project Engineer

BILL OF MATERIAL							
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH		REMARKS
					FT	IN	
ONE 44A				CATWALK			
2	a			TS10x10x1/2	20	0	
3	b			TS 6x6x1/2	2	2	
2	c			LS 3x3x1/4	4	0	
2	d			LS 3x3x1/4	20	0	
4	e			PE 3/8x9/16	4	0	
4	k			PE 3/8x3/16	0	9	
2	m			PE 1/2x20	2	2	
4	t			PE 1/2x10	1	0	
ONE	v			GRATING x 36	20	0	SEE NOTE BEIN
2	w			GRATING x 36	4	0	
ONE	aa			1/2" STD PIPE	100	0	± LIN. FT
4	ab			1/2" 90° ELL			3" INSIDE RAD
2	ac			PE 1/2x3/4	0	9	
2	ad			PE 1/2x3/4	0	11	
2	af			PE 1/2x3/4	0	9	
2	ak			PE 1/2x1/2	0	9	
2	am			PE 1/2x1	0	9	
4	at			PE 1/2x1	0	11	SD PURD

GRATING NOTE:

GRATING TO BE 1x3 BEARING BARS @ 1/2" C-C AND CROSS BARS AT 4" C-C (BEARING BARS RUN THE 4' ON 36" DIMENSION)

GRATING TO BE GALVANIZED AND SERRATED

MATL SPEC: A-36

OPEN HOLES: NOTED EXCEPT AS NOTED

END & EDGE DIST: NOTED EXCEPT AS NOTED

PAINT: GALV

SHIP TO: DOCK SEATTLE

ERECTION BY: OTHERS

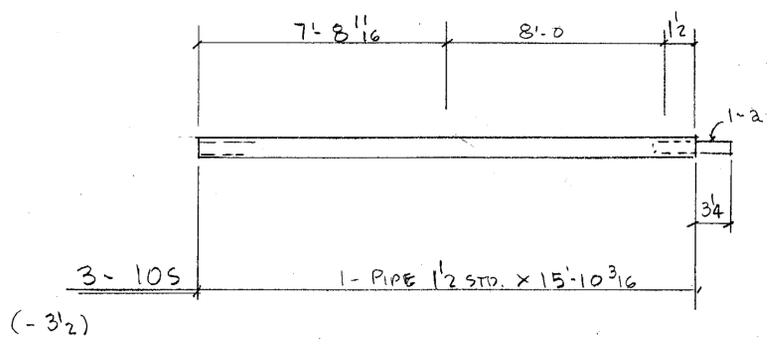
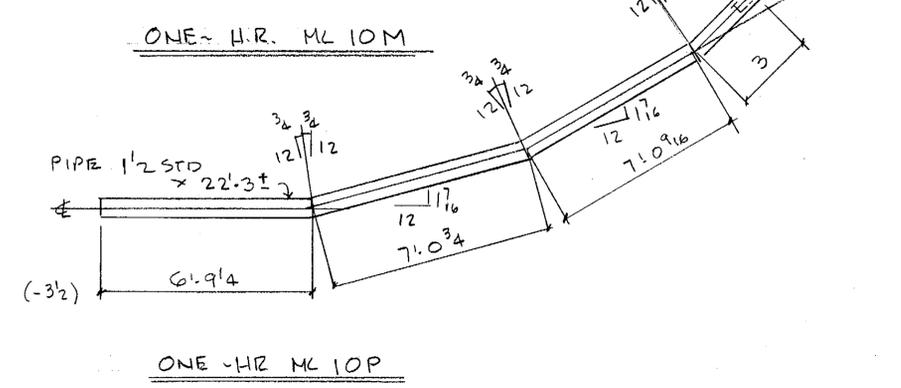
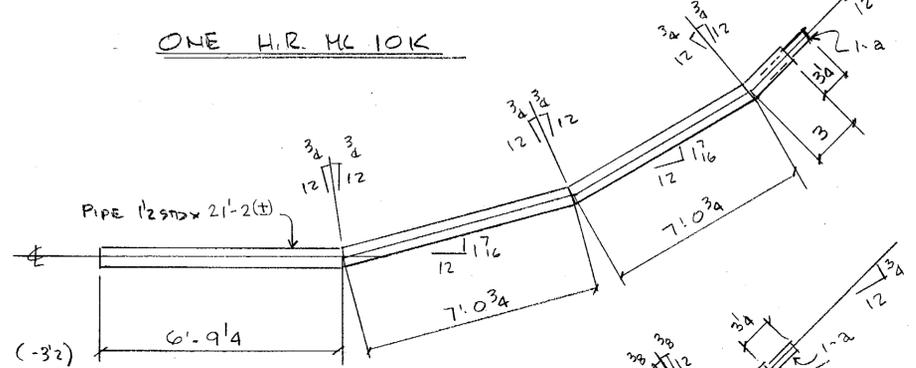
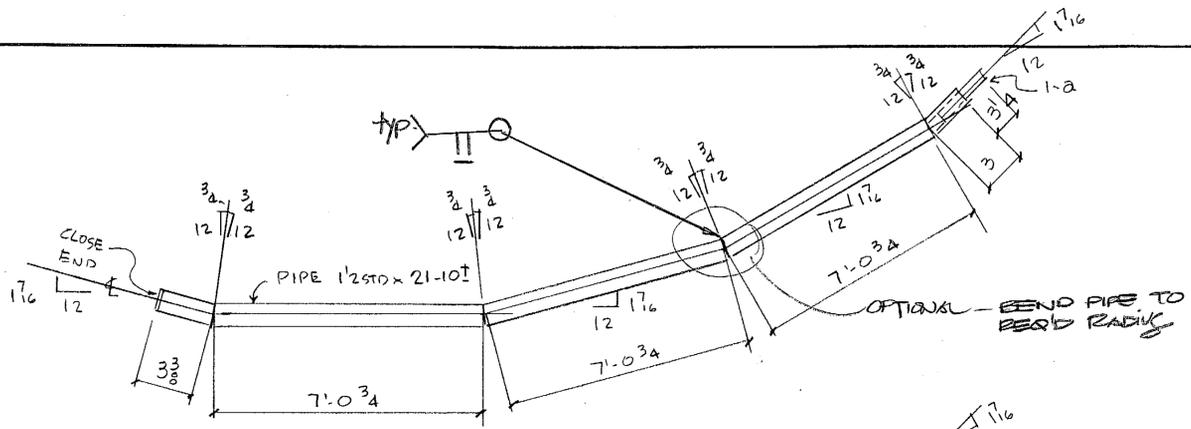
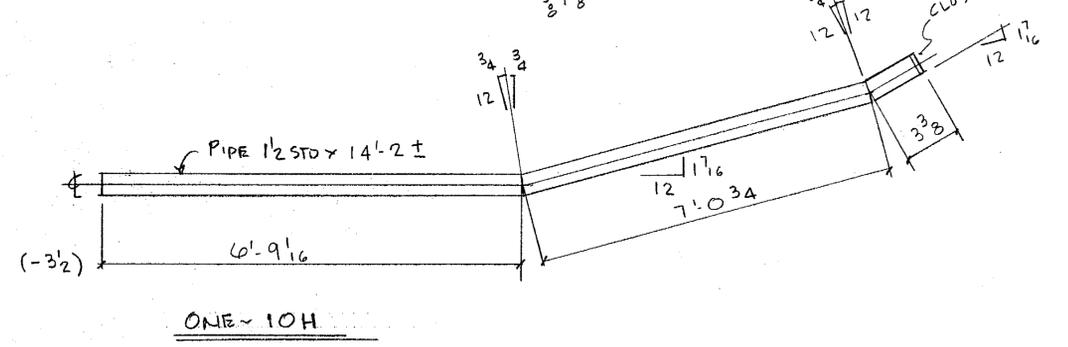
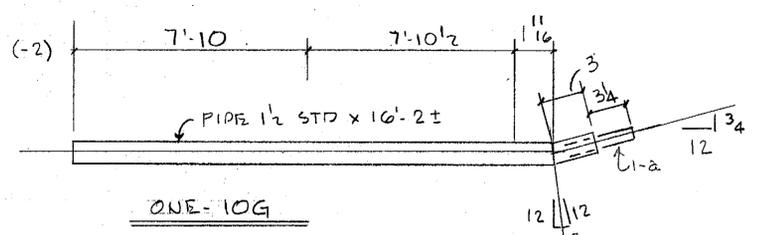
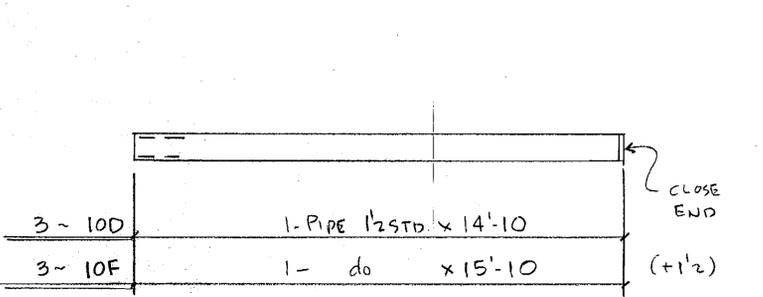
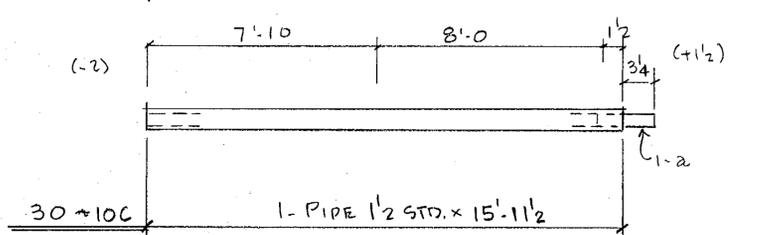
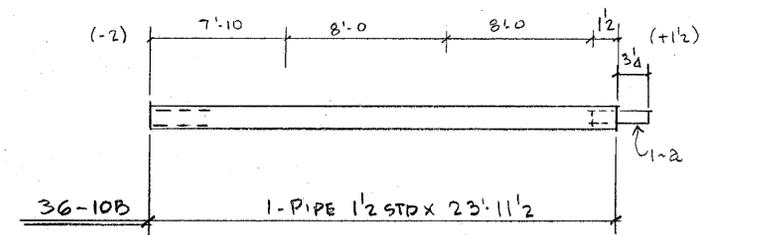
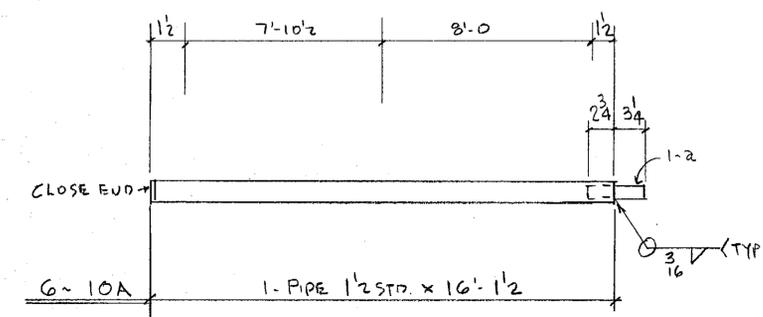


22620 85th PL., S. - KENT, WA. 98031 - (206) 852-1910

PROJECT NO. F-095-2 (16)

REF. DWG. 27 of 53

DATE: 1/25/93	APPROVED: [Signature]	DRAWN BY: PACIFIC DETAILING
28'-0" CATWALK		
KETCHIKAN FERRY TERMINAL		
MOORING REALIGNMENT		
CONTRACTOR: MANSON CONST.	JOB NO: 93-02	DRAWING NO: 44



BILL OF MATERIAL

NO TO SHIP	SHIP MARK	NO PCS	PC ME	SECTION	LENGTH		REMARKS
					FT	IN	
6	10A			PIPE 1/2 STD	16	1 1/2	
		6	a	1/2 O.D. TUBE	0	6	
36	10B			PIPE 1/2 STD	23	11 1/2	
		36	a				
30	10C				15	11 1/2	
		30	a				
3	10D				14	10	
3	10F				15	10	
ONE	10G				16	2 ±	
		1	a				
ONE	10H				14	2 ±	
ONE	10K				21	10 ±	
		1	a				
ONE	10M				21	2 ±	
		1	a				
ONE	10P				22	3 ±	
		1	a				
3	10S				15	10 3/16	
		3	a	a0			

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 obtains solely to the fabrication process or to techniques of construction and for reorganization of the work of all trades.

ACCEPTED _____
 ACCEPTED AS NOTED _____
 RETURNED FOR CORRECTION _____

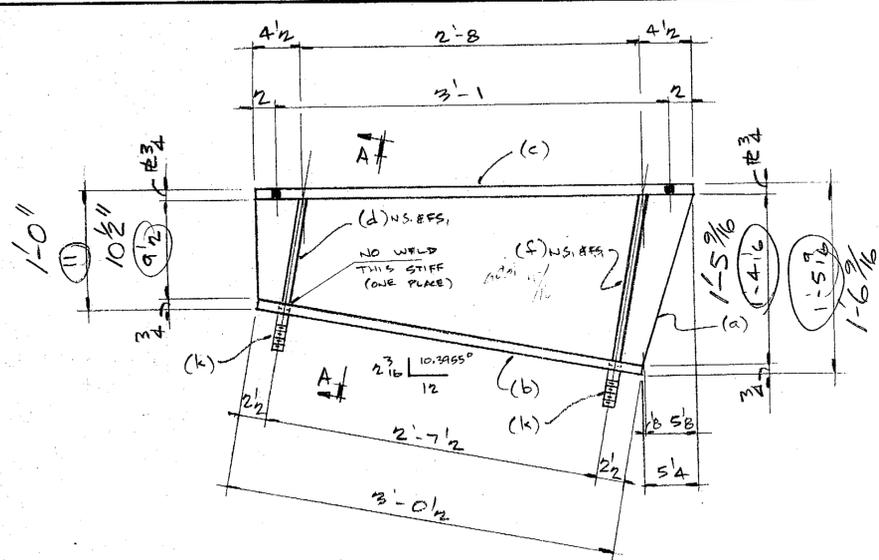
2-16-93
 Project Engineer



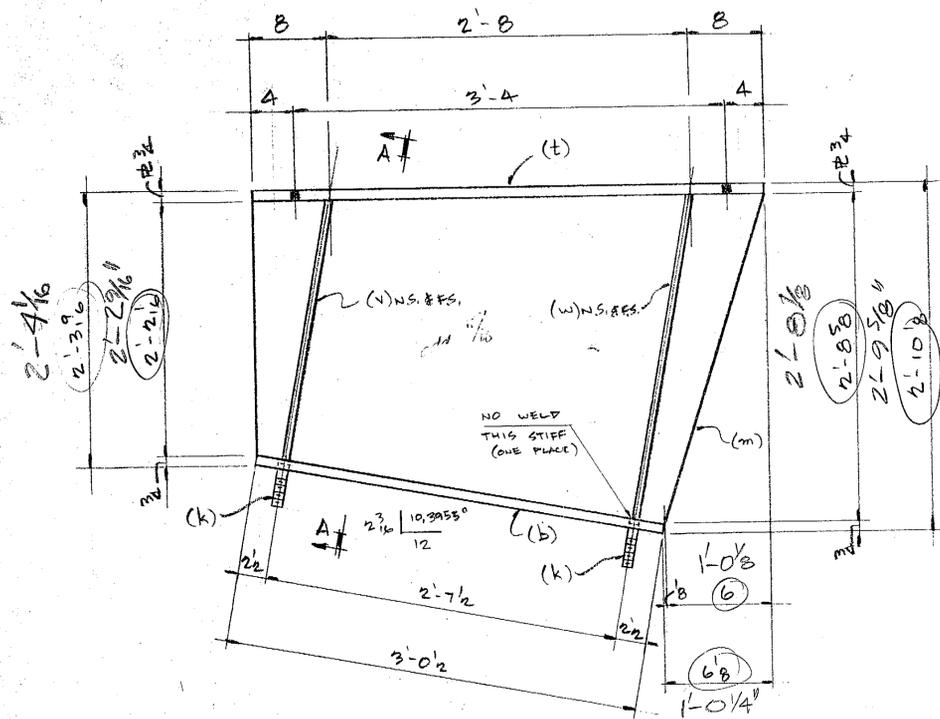
22620 85th PL., S. - KENT, WA. 98031. (206) 852-1910

DATE: 2-93
 KETCHIKAN MOORING REALIGNMENT
 SOUTH BERTH COVERED WALKWAY

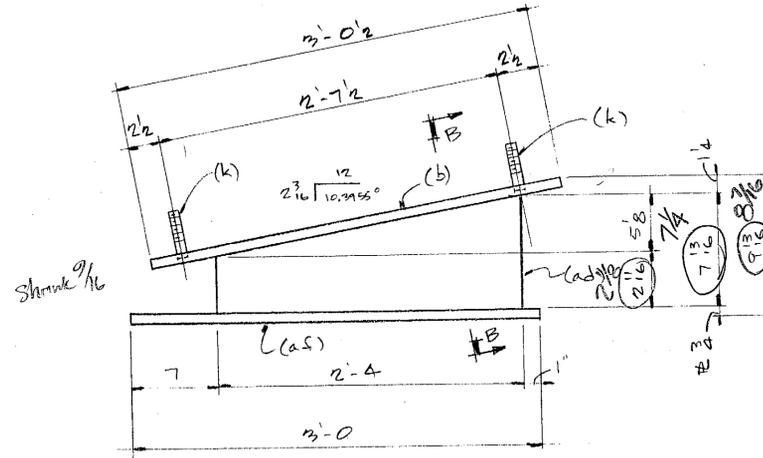
CONTRACTOR: MANSON CONST. JOB NO: 93-2 DRAWING NO: 10 REV: 10



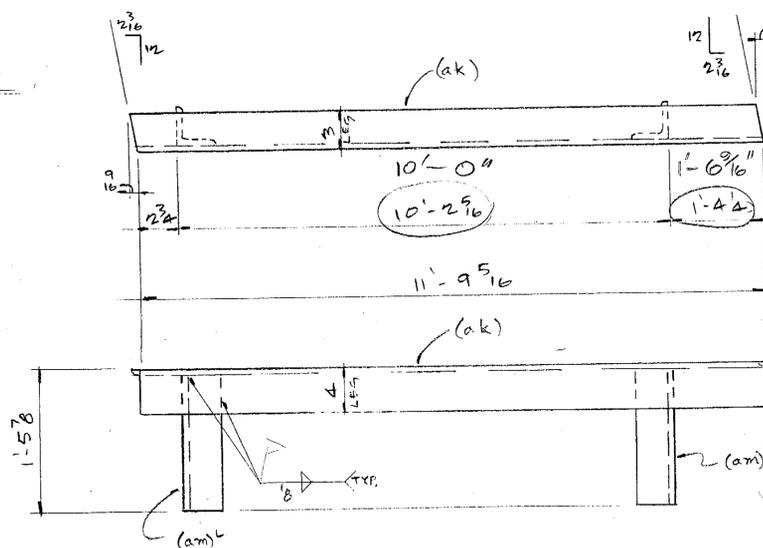
MAKE ~ ONE ~ FENDER EXTENSION ~ MK 1BA (STRUCTURE "A" ~ NO. 2A)



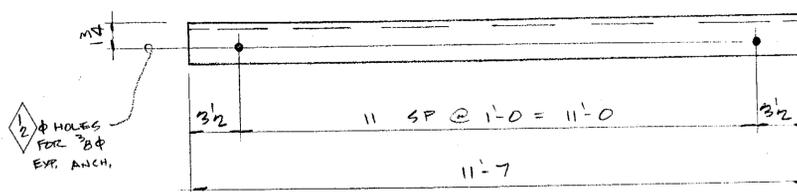
MAKE ~ ONE ~ FENDER EXTENSION ~ MK 1BB (STRUCTURE "A" ~ NO. 2B)



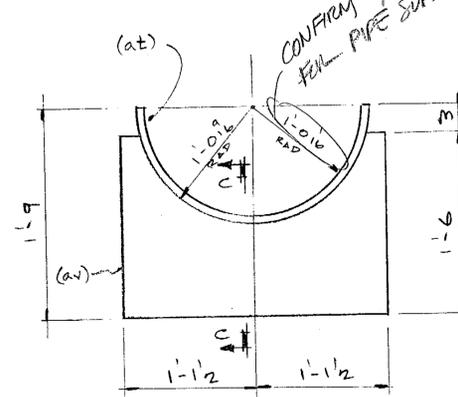
MAKE ~ ONE ~ FENDER EXTENSION ~ MK 1BD (STRUCTURE "A" ~ NO. 1)



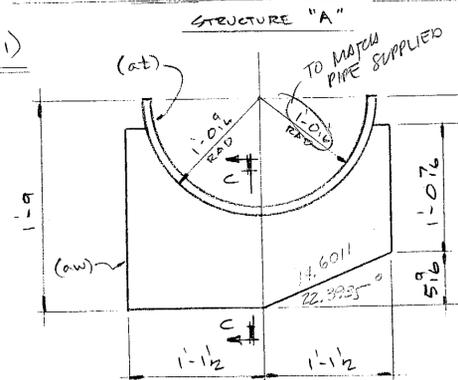
MAKE ~ ONE ~ GRATE SUP. ANGLE ~ MK 1BF (STRUCTURE "A")



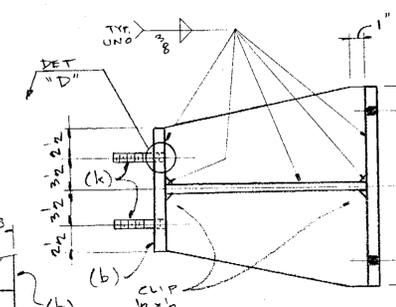
MAKE ~ ONE ~ GRATE SUP. ANGLE ~ MK 1BK (STRUCTURE "A")



MAKE ~ 16 ~ BRACKET ~ MK 1BT

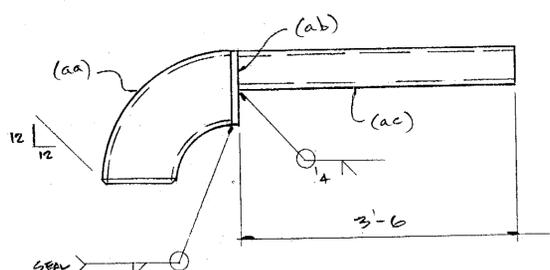


MAKE ~ 4 ~ BRACKET ~ MK 1BV

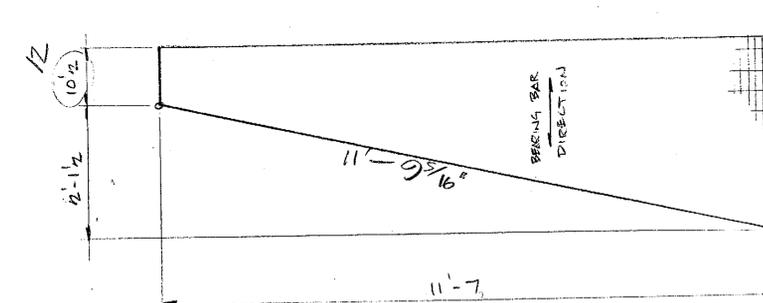


BILL OF MATERIAL

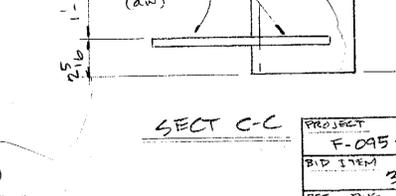
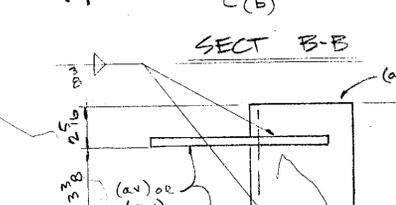
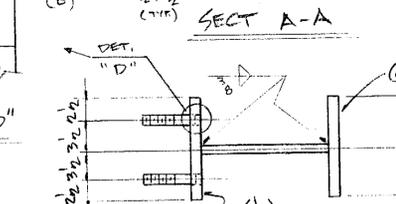
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH FT IN	REMARKS
ONE	1BA			FENDER EXT		
ONE	a	1		1/2" x 10 3/8" x 12"	3 5	TEMPLATE
ONE	b	1		1/2" x 10 3/8" x 12"	3 0 2	
ONE	c	1		1/2" x 3/4" x 1/2"	3 5	11/16"
2	d	2		1/2" x 10 3/8" x 12"	2 2	TEMPLATE
2	e	2		1/2" x 10 3/8" x 12"	1 3 1/2	TEMPLATE
4	k	4		1/2" x 3/4" x 1/2"	0 6 1/2	W/2NUT W/3" THRD
ONE	1BB			FENDER EXT		
ONE	m	1		1/2" x 3/4" x 1/2"	4 0	TEMPLATE
ONE	n	1		1/2" x 3/4" x 1/2"	3 0 2	
ONE	t	1		1/2" x 3/4" x 1/2"	4 0	3/16"
2	v	2		1/2" x 14 3/4" x 2"	2 3	TEMPLATE
2	w	2		1/2" x 14 3/4" x 2"	2 8 1/2	TEMPLATE
4	k	4		1/2" x 3/4" x 1/2"	0 6 1/2	W/2NUT W/3" THRD
ONE	1BC			HAUSER RAIL		
ONE	aa	1		6" x 90" FLL	-	
ONE	ab	1		1/2" x 3/4" x 1/2"	0 6 1/2	6" x 4" DIA
ONE	ac	1		3/8" STD PIPE	3 6	
ONE	1BD			FENDER EXT		
ONE	ad	1		1/2" x 7 1/2" x 12"	2 4	TEMPLATE
ONE	a	1		1/2" x 3/4" x 1/2"	3 0	
ONE	b	1		1/2" x 3/4" x 1/2"	3 0 1/2	
4	k	4		1/2" x 3/4" x 1/2"	0 6 1/2	W/2NUT W/3" THRD
ONE	1BF			GRATE SUP		
ONE	ak	1		L4 x 3 x 3/8"	11 9 1/2	
1	am	1		L3 x 3 x 1/2"	1 5 1/2	
ONE	1BK			L3 x 3 x 1/2"	11 7	
ONE	1BM			GRATING 1/2" x 3/8"	11 7	
				1/2" x 3/8" x 3/8" @ 1 1/2" C-C		
				4" C-B @ 4" C-C (GALV)		
16	1BT			BRACKET		
16	at	16		1/2" x 20" x 6"	6 4	± ROLL
32	av	32		1/2" x 18" x 2"	2 3	TEMPLATE
4	1BV			BRACKET		
4	at	4		1/2" x 20" x 6"	6 4	± ROLL
8	av	8		1/2" x 18" x 2"	2 3	TEMPLATE
FIELD BOLTS THIS SHIP (NET) GALV						
12				3/8" x 3" ROD	0 6	1/2" NEW (FOR 1BA)
8				1/2" x 3" ROD	1 0	1/2" NEW (FOR 1BA)



MAKE ~ ONE ~ HAUSER RAIL EXTENSION ~ MK 1BC (STRUCTURE "A")



MAKE ~ ONE ~ 1/2" GRATING ~ MK 1BM (STRUCTURE "A")



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

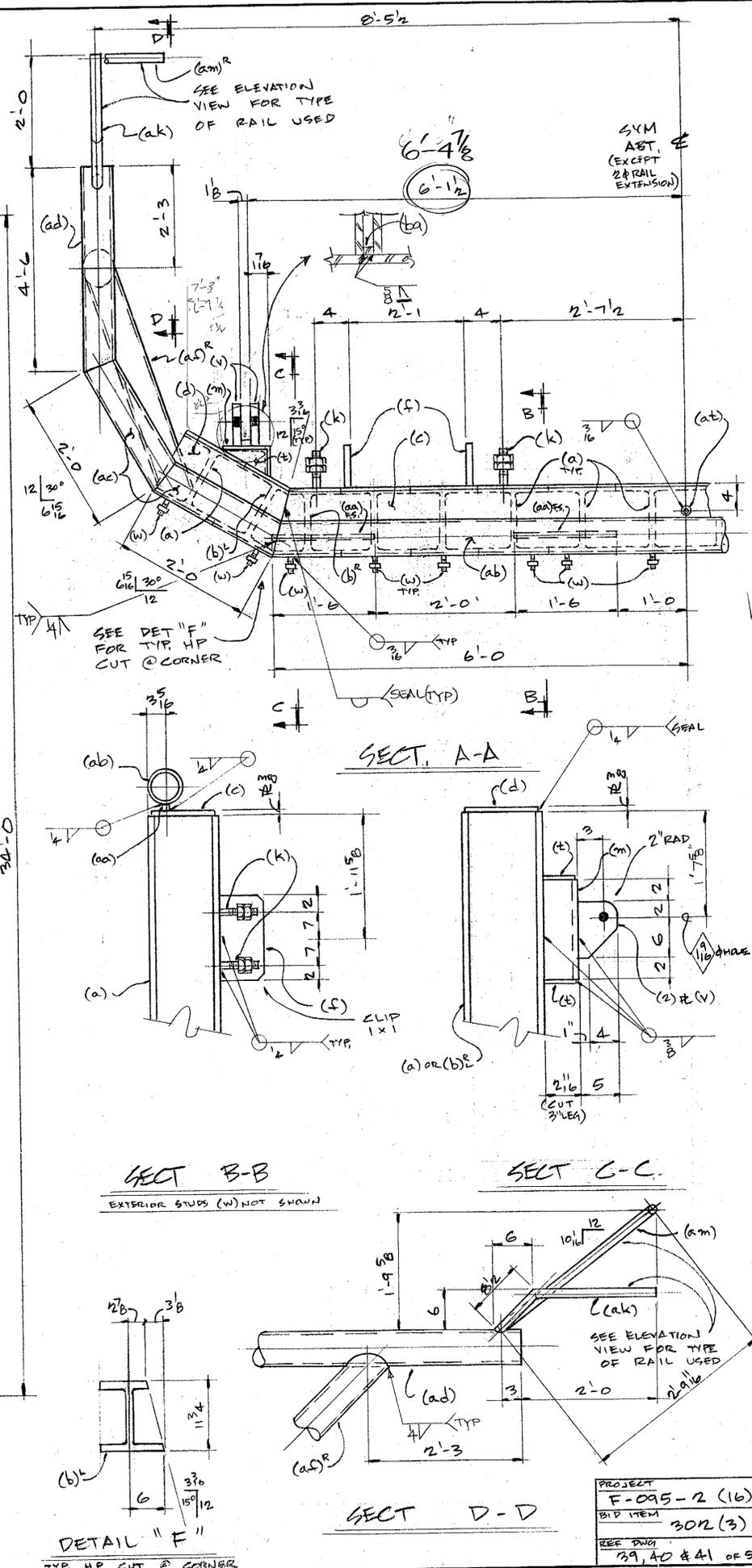
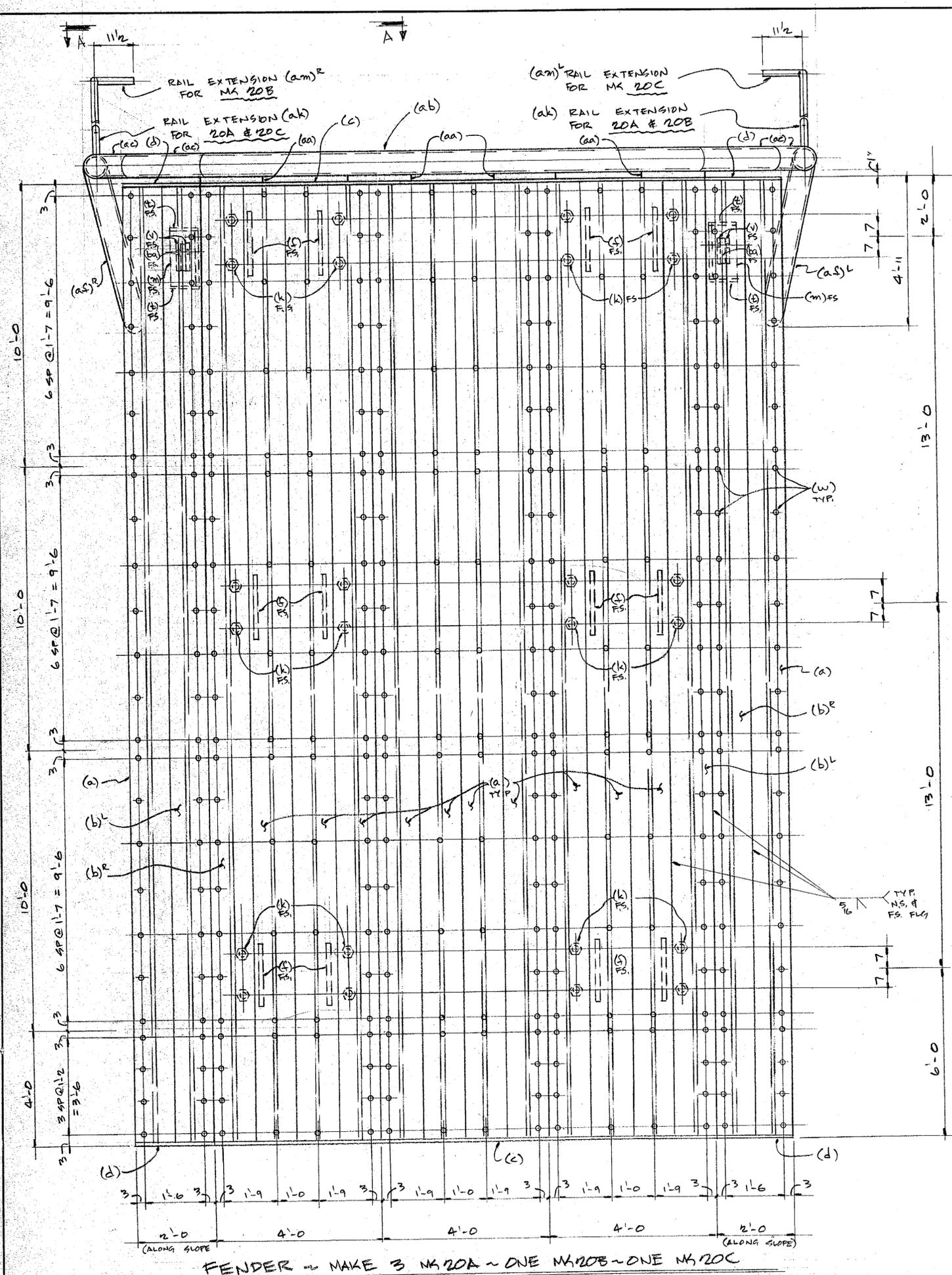
MATL SPEC: A-36 UNO
OPEN HOLES: NOTED
END & EDGE DIST: NOTED
PAINT: GALV
SHIP TO: ROCK SEATTLE
ERECTION BY: OTHERS

CONTRACTOR SUBMITTAL REVIEW
EXCEPT AS NOTED
CHECKING IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR THE ACCURACY OF THE DIMENSIONS AND FOR THE FABRICATION PROCESS OR TO TECHNIQUES OF CONSTRUCTION AND FOR COORDINATION OF THE WORK OF ALL TRADES.

ACCEPTED AS NOTED
DATE: 3-15-93
PROJECT ENGINEER: [Signature]

Keiser STEEL FABRICATORS, INC.
22620 85th PL., S. KENT, WA. 98031 . (206) 852-1910

DATE: 1/25/93
APPROVED: [Signature]
PROJECT: F-095-2-16
MISC. STEEL AT STRUCTURE "A"
KETCHIKAN FERRY TERMINAL
MOCKING REALIGNMENT
CONTRACTOR: MANSON CONST
JOB NO: 93-02
DRAWING NO: 18



BILL OF MATERIAL						
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH FT IN	REMARKS
3	120A			FENDER	0	
ONE	20B			FENDER		
ONE	20C			FENDER		
60	a			HP 12x53	33 11/2	PROV FLG EDGES FOR WELDING
10	b			HP 12x53	33 11/2	
10	c			R 3x11 1/2	11 11/8	
20	d			R 3x11 1/2	11 11/8	
60	f			R 2x6	1 6	TEMPLATE
120	k			1/4 THRD STUD	0 5	W/DBL NUT & 2" THRD (MIN)
10	m			L 4x2 1/2 x 2	1 0	END STUD EVT FROM EVT FROM
20	t			R 2x2 1/2	0 4	TEMPLATE END CUTS 2
20	v			R 1 x 5	0 8	TEMPLATE
670	w			1/4 THRD STUD	0 1/4	W/DBL NUT & 2" THRD (MIN)
20	aa			1" BAR	1 6	
5	ab			6" STD PIPE	12 0	
20	ac			6" STD PIPE	2 0	
10	ad			6" STD PIPE	4 6	
5	ae			6" STD PIPE	7 0	+ TRIM TO FIT
8	ak			2" STD PIPE	3 0	LN FT
1	am			2" STD PIPE	4 0	LN FT (FOR 20B & 20C)
5	at			1/4 THRD FITTING 1/2" STL FLWG		
10	ba			R 2 1/2 x 1 1/2	0 8	

NOTE:
STUD LOCATIONS TO
BE VERIFIED WITH
PANEL MANUFACTURER

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 does not constitute an endorsement of the design or construction. The Contractor is responsible for providing all necessary information and for ensuring that all work complies with the applicable codes and regulations. This review is limited to the information provided and does not extend to the construction process or to the safety of the work.

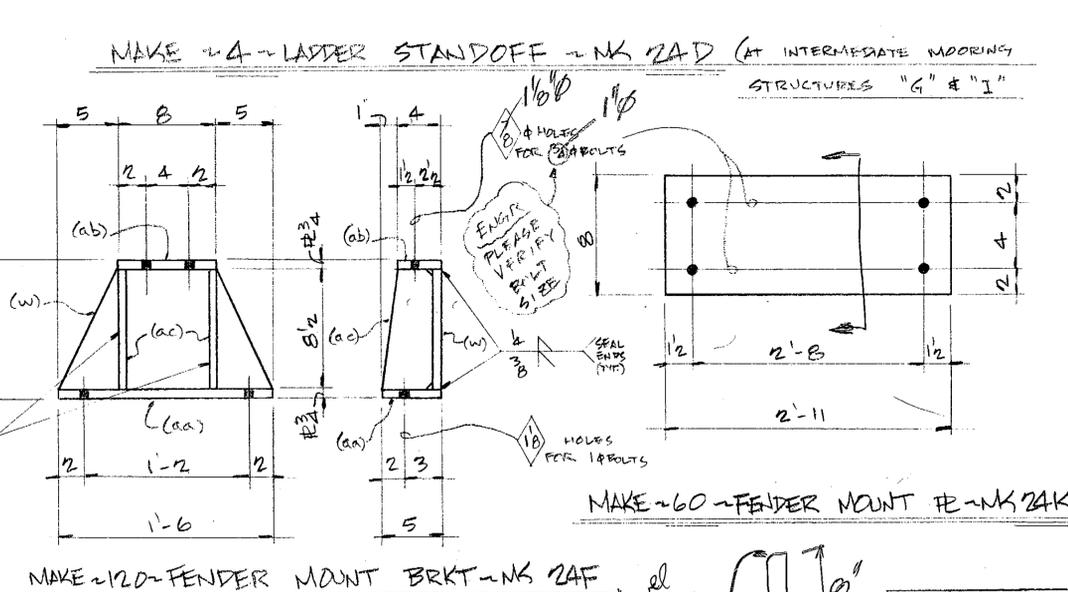
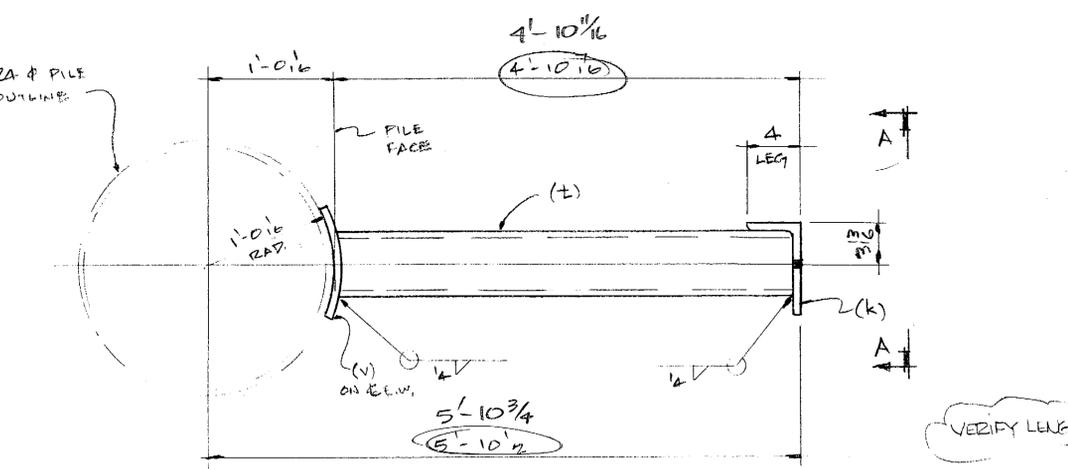
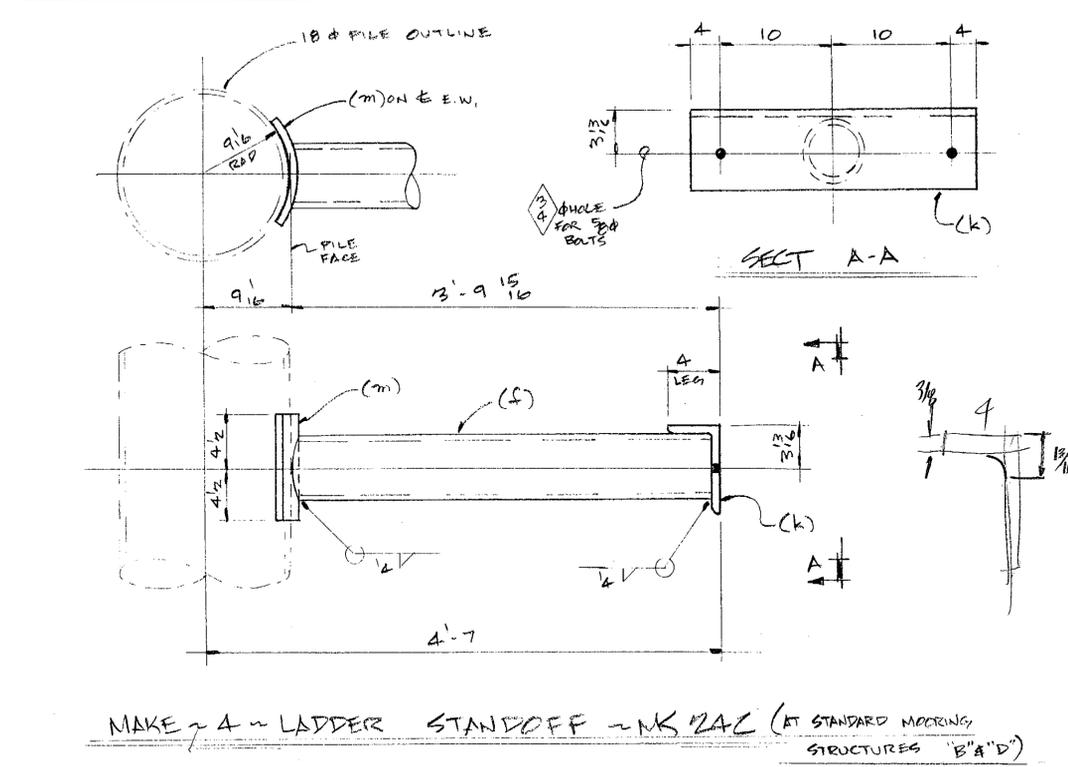
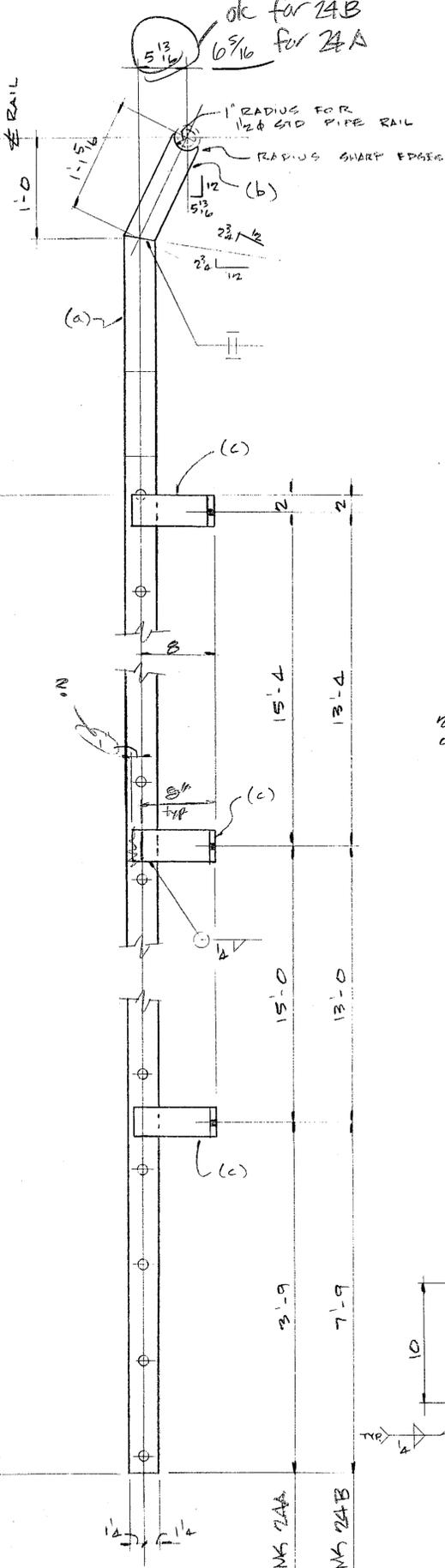
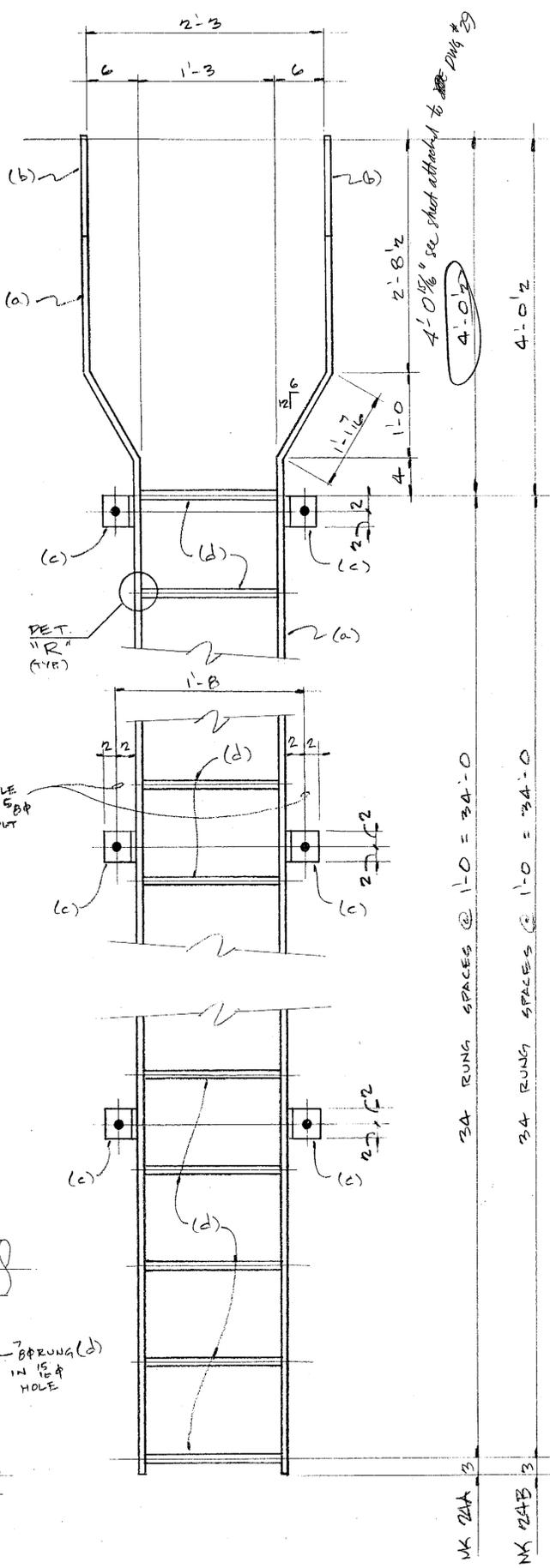
ACCEPTED AS NOTED FOR CORRECTION
DATE: 1-16-05
Project Engineer

MAT'L SPEC.	A-36	EXCEPT AS NOTED
OPEN HOLES	NOTED	EXCEPT AS NOTED
END & EDGE DIST.	NOTED	EXCEPT AS NOTED
PAINT	GALV.	
SHIP TO	DOCK SEATTLE	
ERECTION BY	OTHERS	

Kaiser STEEL FABRICATORS, INC.

22620 85th PL., S., KENT, WA. 98031. (206) 852-1910

DATE:	1/25/03	APPROVED:	PROJECT	INTERMEDIATE MOORING STRUCTURE FENDER
DRAWN BY:		CHECKED BY:	BID ITEM	KETCHIKAN FERRY TERMINAL
				MOORING REALIGNMENT
CONTRACTOR:	MANSON CONST	JOB NO:	93-02	DRAWING NO:
				REV



BILL OF MATERIAL

NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH		REMARKS
					FT	IN	
2	ZAA			LADDER			
2	ZAB			LADDER			
	B a			FE 1/2 x 2 1/2	37	5/8	BEND
	B b			FE 1/2 x 2 1/2	1	1 1/2	TEMPLATE
	24 c			FE 3/8 x 4	1	0	BEND
	140 d			B&B BAR	1	3/2	
4	ZAC			STANDOFF			
	A f			6\"/>			

4	ZAD			STANDOFF			
	A t			6\"/>			

FIELD BOLTS THIS SHIP (NET) GALV

8	BR307 BOLTS	0	2 1/2\"/>
---	-------------	---	-----------

MAKE ~ 2 ~ LADDER ~ MK ZAA (STANDARD MOORING STRUCTURE "B" & "D")
 MAKE ~ 2 ~ LADDER ~ MK ZAB (INTERMEDIATE MOORING STRUCTURE "G" & "I")

MAKE ~ 4 ~ LADDER STANDOFF ~ MK ZAC (AT STANDARD MOORING STRUCTURES "B" & "D")
 MAKE ~ 4 ~ LADDER STANDOFF ~ MK ZAD (AT INTERMEDIATE MOORING STRUCTURES "G" & "I")
 MAKE ~ 60 ~ FENDER MOUNT FE ~ MK ZAK
 MAKE ~ 120 ~ FENDER MOUNT BRKT ~ MK ZAF

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

CONTRACTOR SUBMITTAL REVIEW

ACCEPTED AS NOTED
 RETURNED FOR CORRECTION

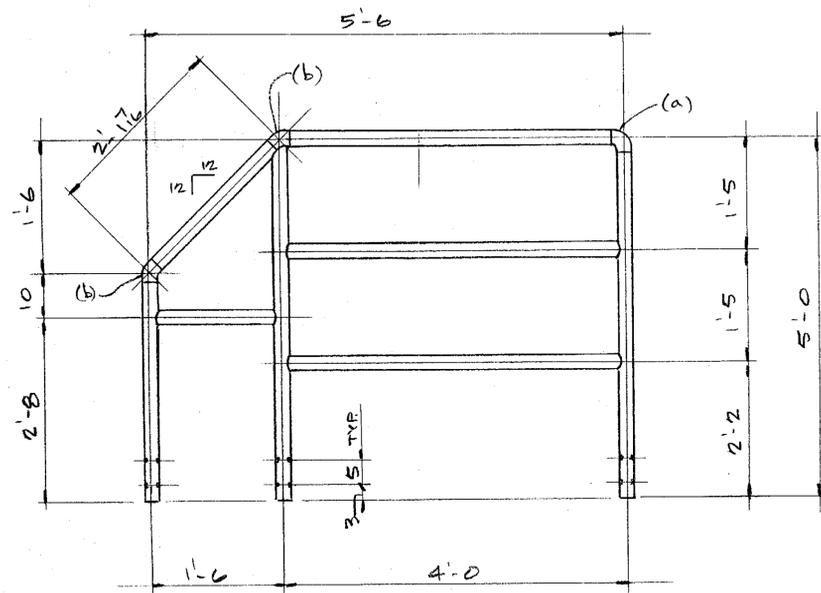
MAT'L SPEC: A-36
 OPEN HOLES: NOTED
 END & EDGE DIST: NOTED
 PAINT: GALV
 SHIP TO: DOCK SEATTLE
 ERECTION BY: OTHERS

APPROVED: [Signature]
 DATE: 1/25/83

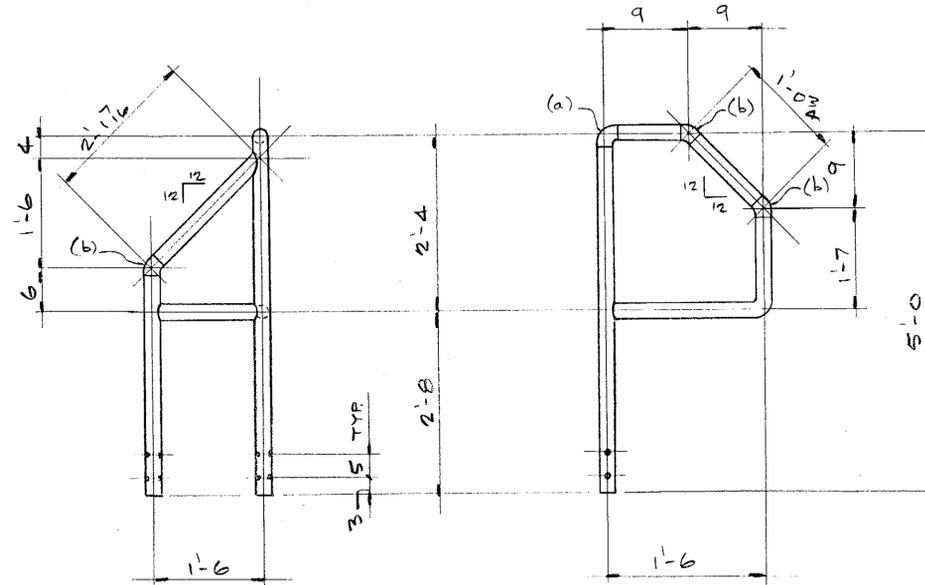
PROJECT: F-095-2 (16)
 BID ITEM: 302 (3)
 REF. DWG: 41 of 53

CONTRACTOR: MANSON CONST.
 JOB NO: 93-02
 DRAWING NO: 24

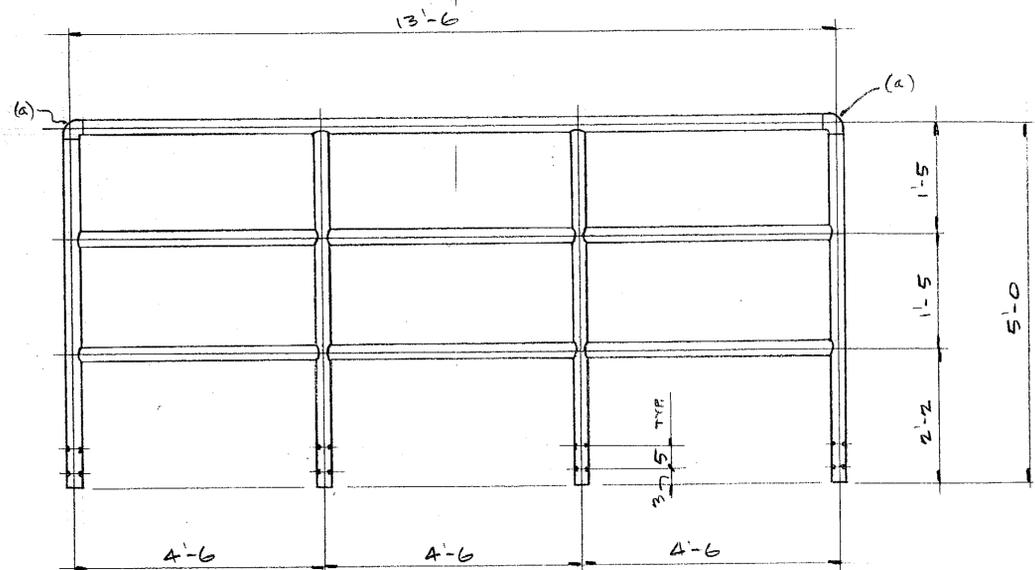
Keiser STEEL FABRICATORS, INC.
 22620 85th PL., S., KENT, WA. 98031. (206) 852-1910



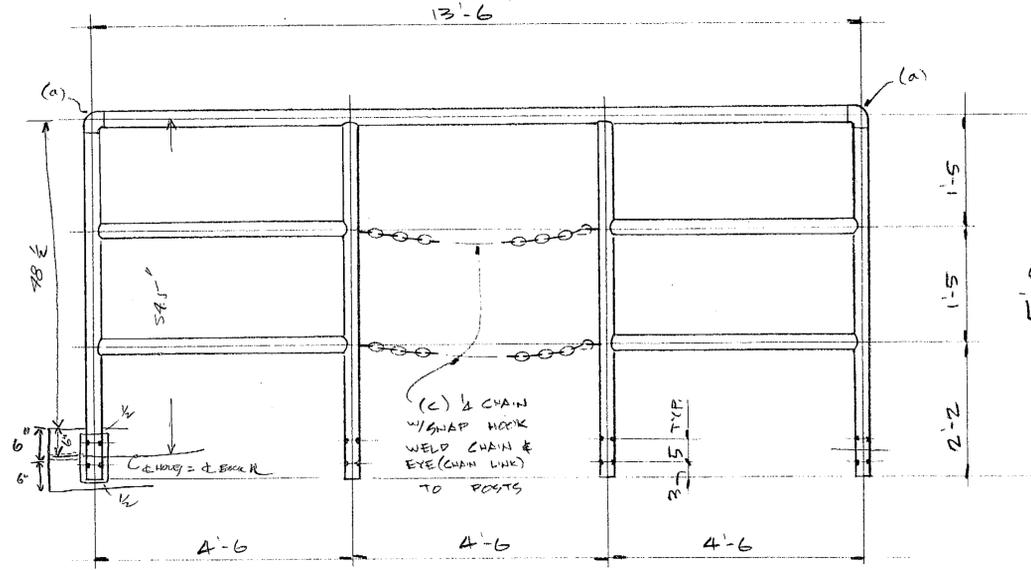
MAKE ~ 2 ~ RAIL ~ MK 25A (STRUCTURE "E" & "F")



MAKE ~ 3 ~ RAIL ~ MK 25B^R ~ AS SHOWN (STRUCTURE "G", "H" & "I")
 MAKE ~ 4 ~ RAIL ~ MK 25B^L ~ OPP HAND (STRUCTURE "F", "G", "H" & "I")



MAKE ~ 3 ~ RAIL ~ MK 25C (STRUCTURE "E", "F" & "H")



MAKE ~ 2 ~ RAIL ~ MK 25D (STRUCTURE "G" & "I")

BILL OF MATERIAL

NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH		REMARKS
					FT	IN	
12	25A	2		1/2 STD PIPE	29	0	LIN. FT.
		2	a	1/2 90° ELL			LONG RAD
		4	b	1/2 45° ELL			
3	25B ^R	3		1/2 STD PIPE	17	0	LIN. FT.
4	25B ^L	4		1/2 STD PIPE	17	0	LIN. FT.
		7	a	1/2 90° ELL			LONG RAD
		21	b	1/2 45° ELL			
13	25C	3		1/2 STD PIPE	52	0	LIN. FT.
		6	a	1/2 90° ELL			LONG RAD
12	25D	2		1/2 STD PIPE	61	0	LIN. FT.
		4	a	1/2 90° ELL			LONG RAD
		4	c	1/2 CHAIN	4	4	1/2 SHAP HOOK

FIELD BOLTS THIS SHIT (NET) GALV.

80 1/2 S. STL BOLT 1/2 3/4 (NEW) STAINLESS ST

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 performed and checked 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.

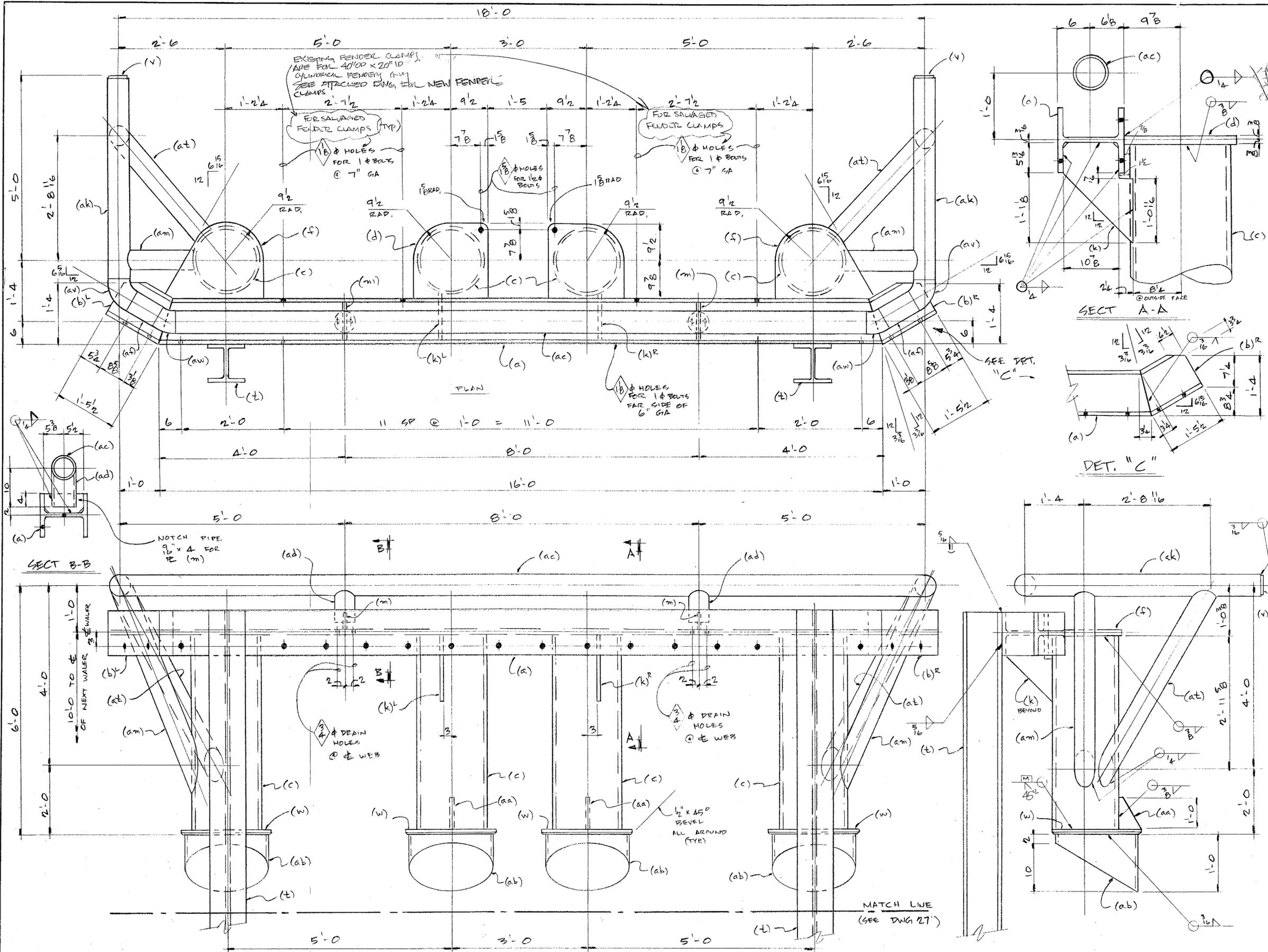
DATE: 9-17-93
 PROJECT ENGINEER: [Signature]

MAT'L SPEC: A-36
 OPEN HOLES: 5/8" FOR 1/2" BOLTS EXCEPT AS NOTED
 END & EDGE DIST: NOTED EXCEPT AS NOTED
 PAINT: GALV
 SHIP TO: ROCK SEATTLE
 ERECTION BY: OTHERS



22620 85th PL., S., KENT, WA 98031. (206) 852-1910

PROJECT	F-095-2 (16)	RAILS AT INTERMEDIATE STRUCTURE
BID ITEM	302 (3)	KETCHIKAN FERRY TERMINAL
REF DWG.	40 of 53	MOORINGS REALIGNMENT
CONTRACTOR	MANSON CONST	JOB NO 93-02
DRAWING NO	25	REV



BILL OF MATERIAL

NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH FT	IN	REMARKS
12	26A			STANDARD FENDER			
2	a			W 12 x 65	16	0	
2	b			W 12 x 65	1	5 1/2	
8	c			10" PIPE x 1/2 WALL	4	10 3/8	W/ CHILL RING
4	d			1/2 x 19	1	7 3/8	TEMPLATE
4	e			1/2 x 19 3/8	2	1 3/8	TEMPLATE
2	k			5/8 x 13 1/8	1	6 1/8	
4	m			1/2 x 5 1/2	0	10 1/2	TEMPLATE
4	t			W 10 x 60	93	6	
4	v			1/2 x 6 1/2	0	6 1/2	6 1/2 DIA
8	w			1 x 2 1/2	2	0	2 1/2 DIA
8	aa			3/4 x 5 1/2	1	0	TEMPLATE
2	ab			1/4 x 1/2	5	11 1/2	ROLL TO 22 1/2 AP
8	ac			6" STD PIPE	16	0	± TRIM TO FIT
4	ad			6" STD PIPE	0	10	±
4	af			6" STD PIPE	1	2	±
4	ak			6" STD PIPE	5	6	±
4	am			6" STD PIPE	4	6	±
4	at			6" STD PIPE	5	6	±
4	av			6" 60° ELL	-	-	
4	aw			6" 30° ELL	-	-	

SEE DWG 27 FOR BILL OF MATL (CONT)

NOTE:
 WORK THIS SHIT, WITH DRAWING 27
 - KEISER TO INSTALL EKLI WOOD & DOCK FENDER SUPPLIED BY CONTRACTOR -
 - WORK THESE DRAWINGS WITH WOOD SHOP DRAWINGS -

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

CONTRACTOR SUBMITTAL REVIEW

Reviewed for conformance with the design concept of the project and specifications with transmission of the Contract Documents. The Contractor is responsible for dimensions to be provided. The Contractor is responsible for information that pertains to the contract at the job site for information that is not provided in the fabrication process or to the fabricator. The Contractor is responsible for coordination of all trades.

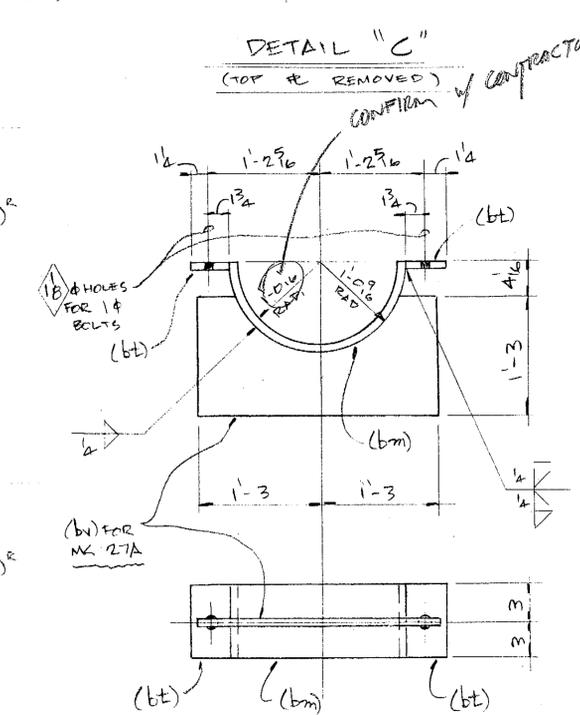
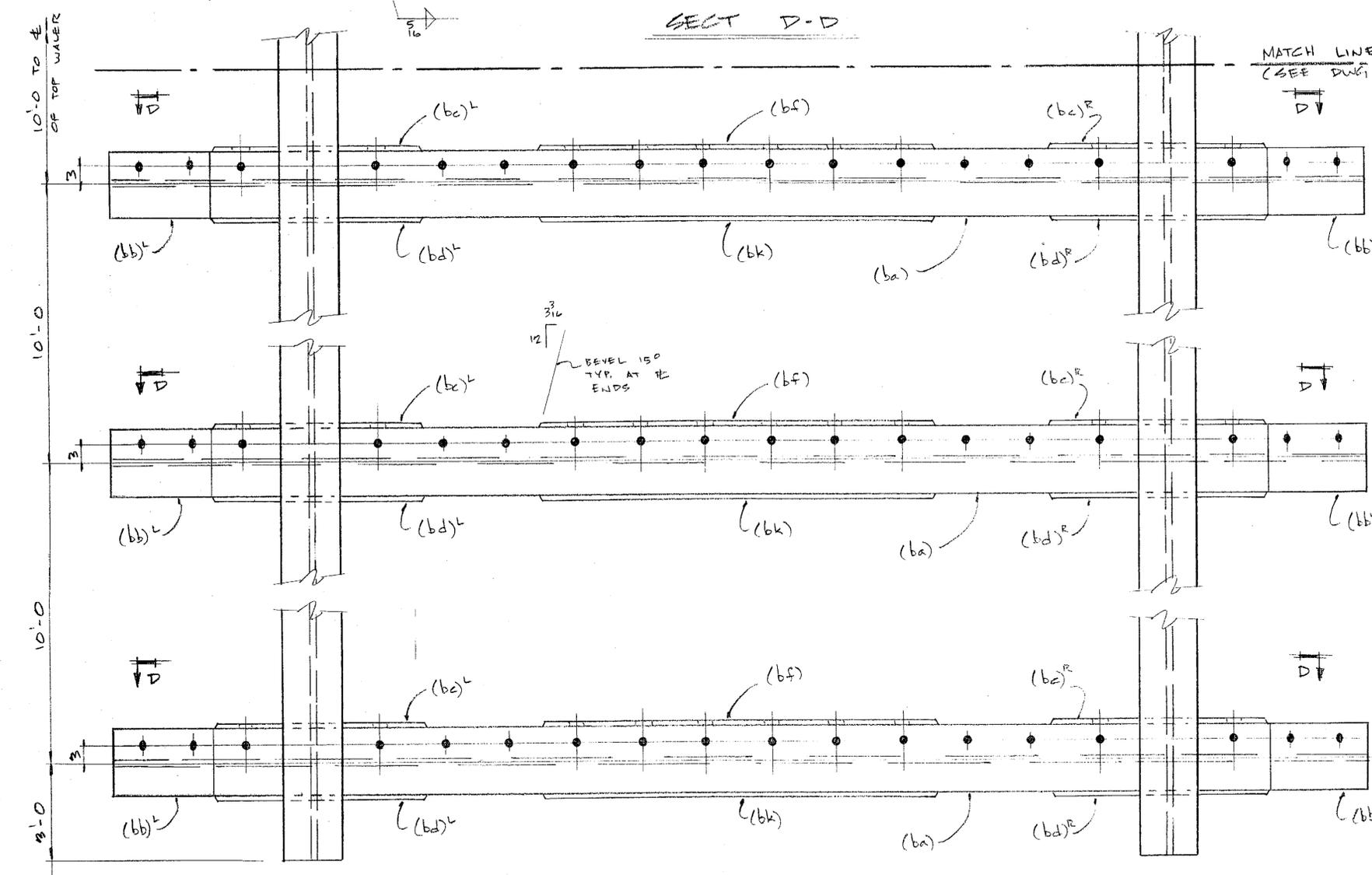
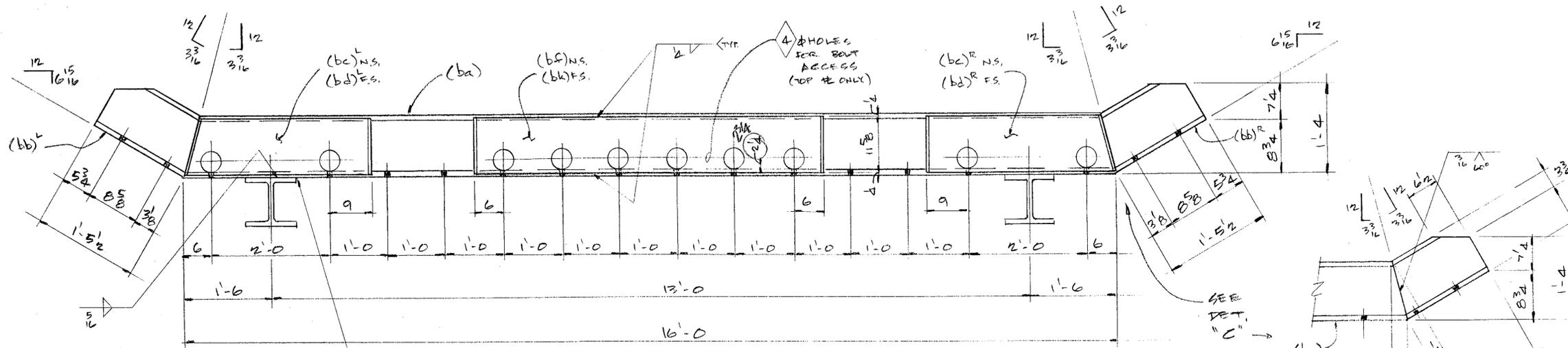
APPROVED: _____
 DATE: 3-12-98
 Project Engineer

MATL SPEC: A-36
 OPEN HOLES: NOTED EXCEPT AS NOTED
 END & EDGE DIST: NOTED EXCEPT AS NOTED
 PAINT: GALV
 SHIP TO: DOCK SEATTLE
 ERECTION BY: OTHERS

Keiser STEEL FABRICATORS, INC.
 22620 85th PL., S. - KENT, WA. 98031 - (206) 852-1910

DATE: 1/25/93	DRAWN BY: PACIFIC DESIGN
PROJECT: F-095-2 (16)	STANDARD MOORING STRUCTURE FENDER
BID ITEM: 302 (2)	KETCHIKAN FERRY TERMINAL
REF DWG: 36, 37, 38	MOORING RE-ALIGNMENT
CONTRACTOR: MANSON CONST.	JOB NO: 93-02
	DRAWING NO: 26

MAKE ~ 2 ~ STANDARD FENDER ~ MK 26A



MAKE - 48 - CLAMP - MK 27A
 MAKE - 48 - CLAMP - MK 27B
 REF. SECT C DWG 38

BILL OF MATERIAL

NO TO SHIP	SHIP MARK	NO PCS	PC INK	SECTION	LENGTH		REMARKS
					FT	IN	
BILL OF MATL CONT FROM DWG 26							
2	26A	(CONT)					
6	ba	W 12x65			16	0	
6	bb	W 12x65			1	5 1/2	
6	bc	PL 3/8x11 5/8			3	2 1/8	FIELD ENDS
6	bd	PL 3/8x11 5/8			3	2 1/8	
6	bf	PL 3/8x11 5/8			6	0	
6	bk	PL 3/8x11 5/8			6	0	
48	27A	CLAMP					
48	bm	PL 1/2x6			3	2 1/2 ±	ROLL
96	bt	PL 3/4x3			0	6	
48	bv	PL 2x15			2	6	TEMPLATE
48	27B	CLAMP					
48	bm	PL 1/2x6			3	2 1/2 ±	ROLL
96	bt	PL 3/4x3			0	6	

FIELD BOLTS THIS SHIP (NET) GALV
 96 1/4" BOLT 0.4" W/ NUT & WASH (FOR 27A & 27B)

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

CONTRACTOR SUBMITTAL REVIEW

Checked in only for conformance with the design concept of the Project and not for conformance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be shown on the drawings and for coordination of the work of all trades.

DATE: 1/25/13
 PROJECT ENGINEER: [Signature]

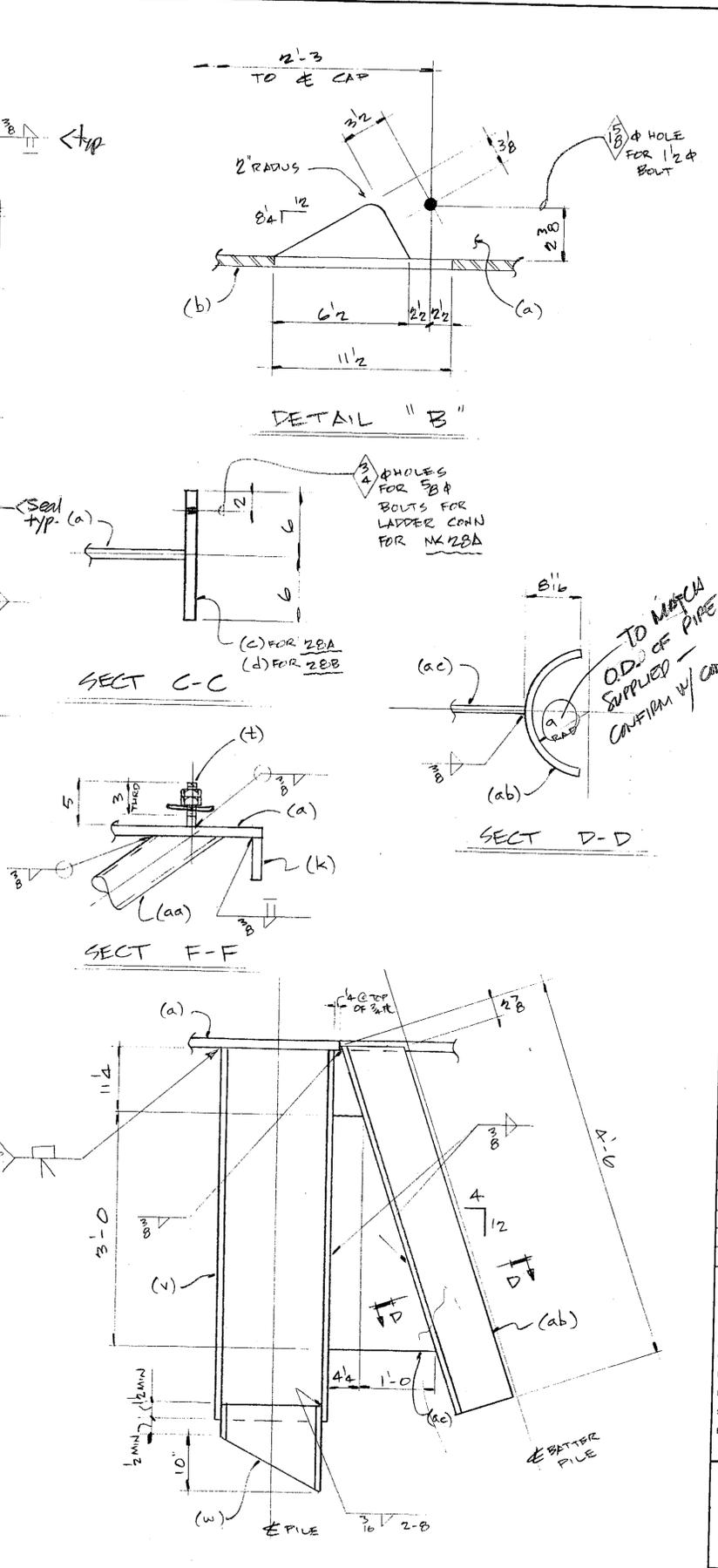
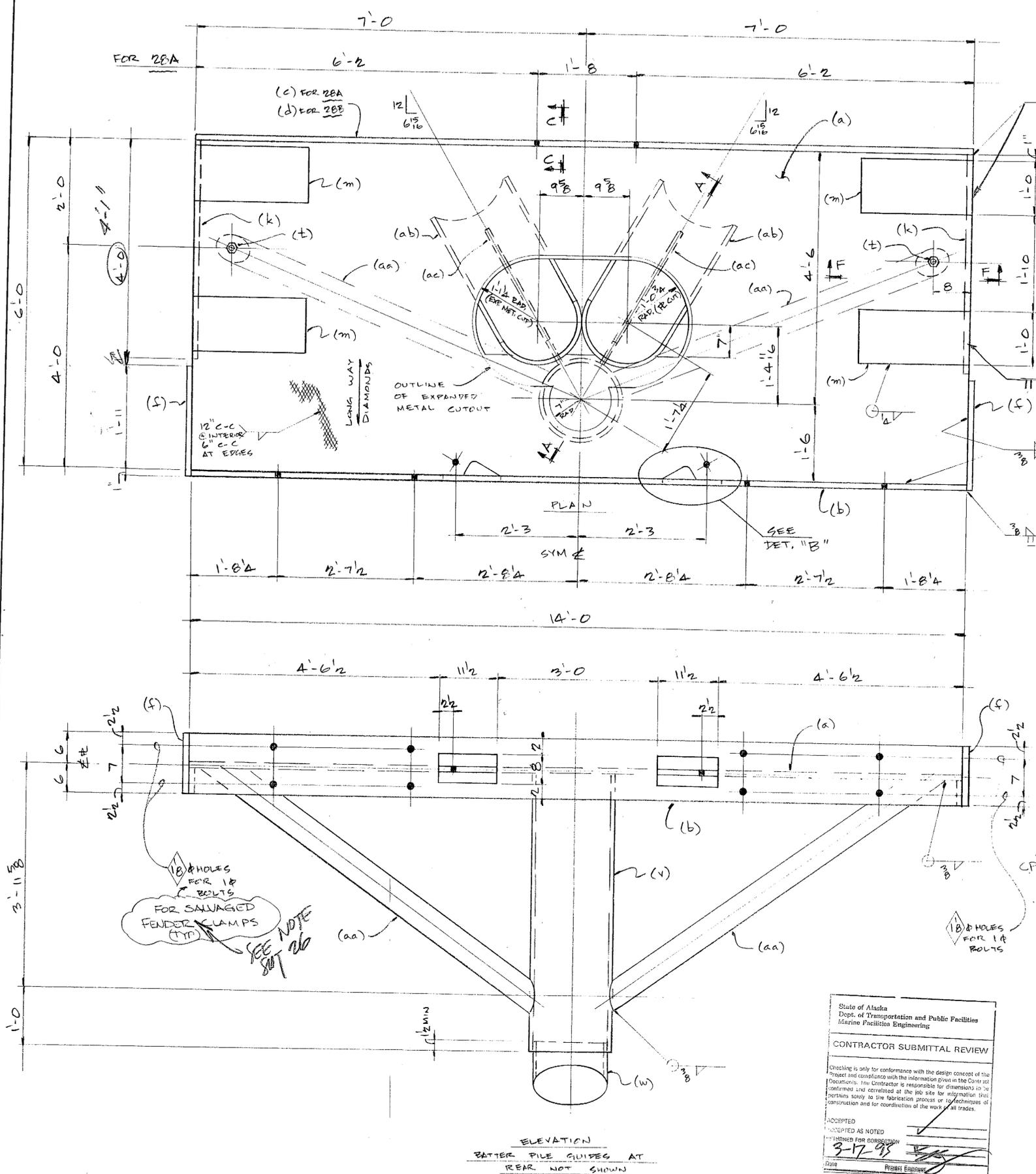
PROJECT: F-095-2 (16)
 BID ITEM: 302-(2)
 REF. DWG: 36, 37 & 38

Keiser STEEL FABRICATORS, INC.

22620 85th PL., S. KENT, WA. 98031. (206) 852-1910

DATE: 1/25/13
 PROJECT: STANDARD FENDER MK 26A (CONT.)
 KETCHIKAN FERRY TERMINAL
 MOORING RE-ALIGNMENT
 CONTRACTOR: MANSON CONST
 JOB NO: 93-02
 DRAWING NO: 27
 REV: []

STANDARD FENDER (MK 26A) LOWER PORTION



BILL OF MATERIAL						
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH FT IN	REMARKS
ONE 28A				DOLPHIN CAP		
ONE 28B				DOLPHIN CAP		
2	a			PL 3/4 x 72	14 0	
2	b			PL 1 x 12	14 0	
ONE	c			PL 1 x 12	14 0	FOR 28A
ONE	d			PL 1 x 12	14 0	FOR 28B
4	f			PL 1 x 12	4 0	
4	k			PL 3/4 x 5 1/2	4 0	4-11
8	m			PL 3/4 x 12	2 0	
4	t			1/4 THRD STD	0 5	W/3 THRD & 2PL W/2 W
2	v			18x12WAL PIPE	4 11/4	W/CHILL RING
2	w			PL 6 x 12	4 5	W/CHILL RING
4	aa			6 STD PIPE	8 0	W/CHILL RING
4	ab			PL 1/2 x 24	4 6	ROLL-TEMPER
4	ac			PL 1/2 x 16 1/4	3 0	TEMPERATURE
2	ad			3/4 EXP MET. x 72	14 0	72' LWD

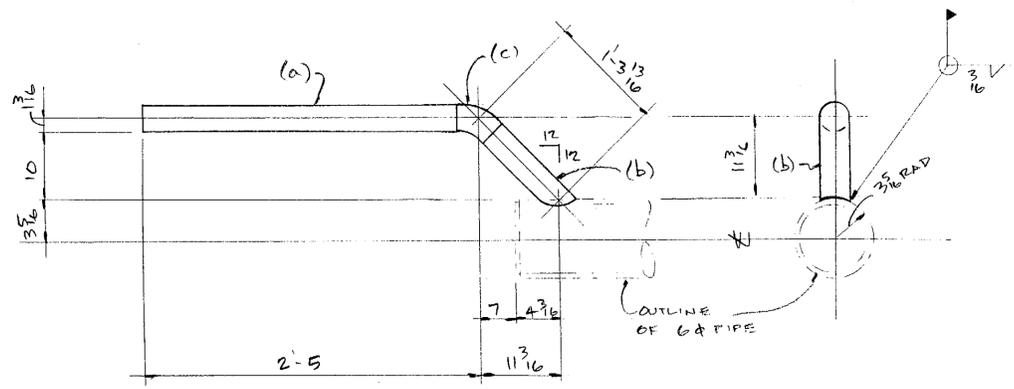
MAKE ~ ONE ~ STANDARD DOLPHIN CAP ~ MK 28A (STRUCTURE "D") W/ LADDER CONN.
 MAKE ~ ONE ~ STANDARD DOLPHIN CAP ~ MK 28B (STRUCTURE "C") W/ LADDER CONN.

MAT'L SPEC: A-36
 OPEN HOLES: NOTED EXCEPT AS NOTED
 END & EDGE DIST: NOTED EXCEPT AS NOTED
 PAINT: GALV
 SHIP TO: DOCK SEATTLE
 ERECTION BY: OTHERS

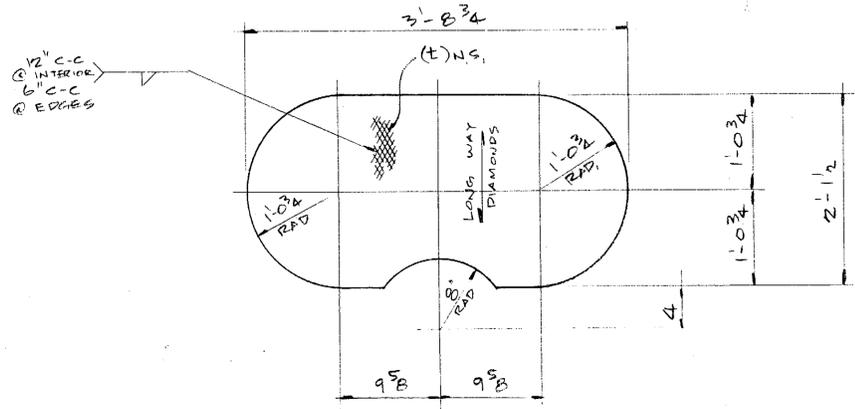


22620 85th PL., S. KENT, WA. 98031 . (206) 852-1910

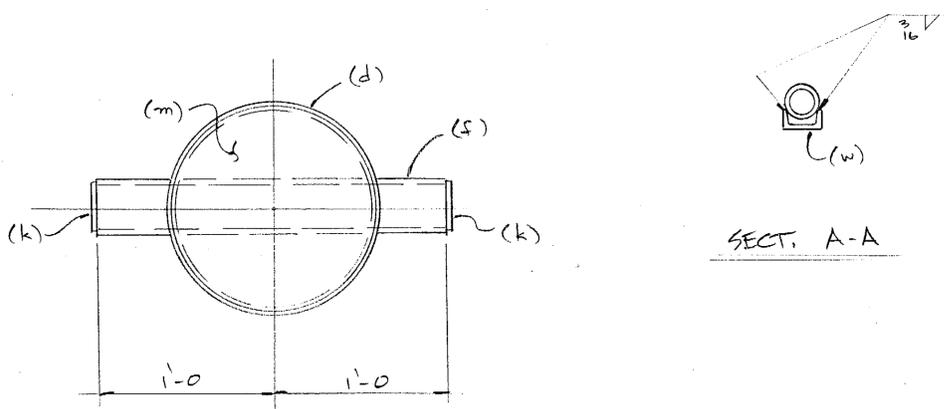
PROJECT	F-095-2 (16)	STANDARD DOLPHIN CAP
BID ITEM	302 (2)	KETCHIKAN FERRY TERMINAL
REF DWGS	36, 37, 38	MOORING RE-ALIGNMENT
CONTRACTOR	MANSON CONST	JOB NO. 93-02
DATE	1/25/93	DRAWN BY: DETAILING
APPROVED:		CHECKED BY:
REV	28	



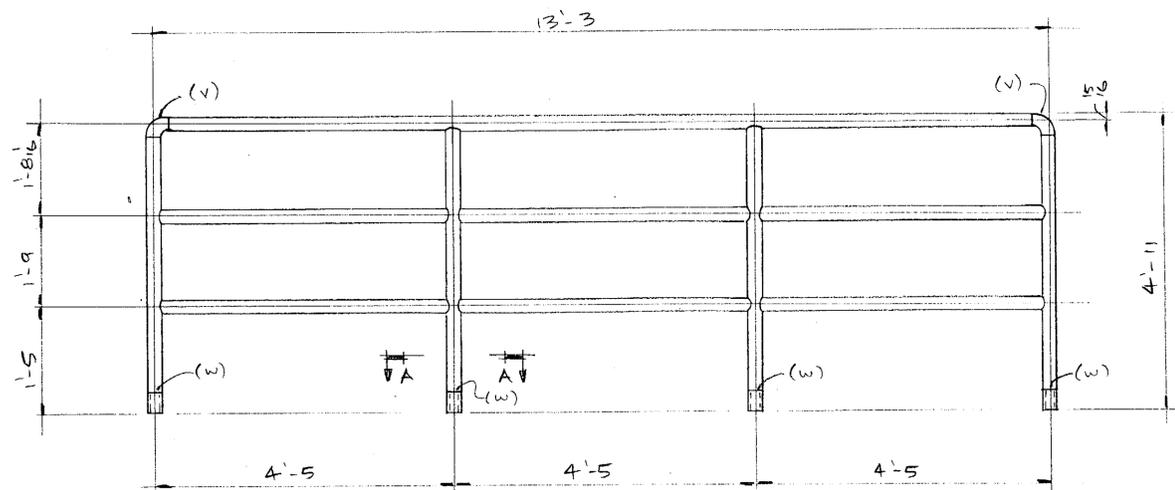
MAKE ~ 4 ~ ROPE GUIDE ~ MK 29A



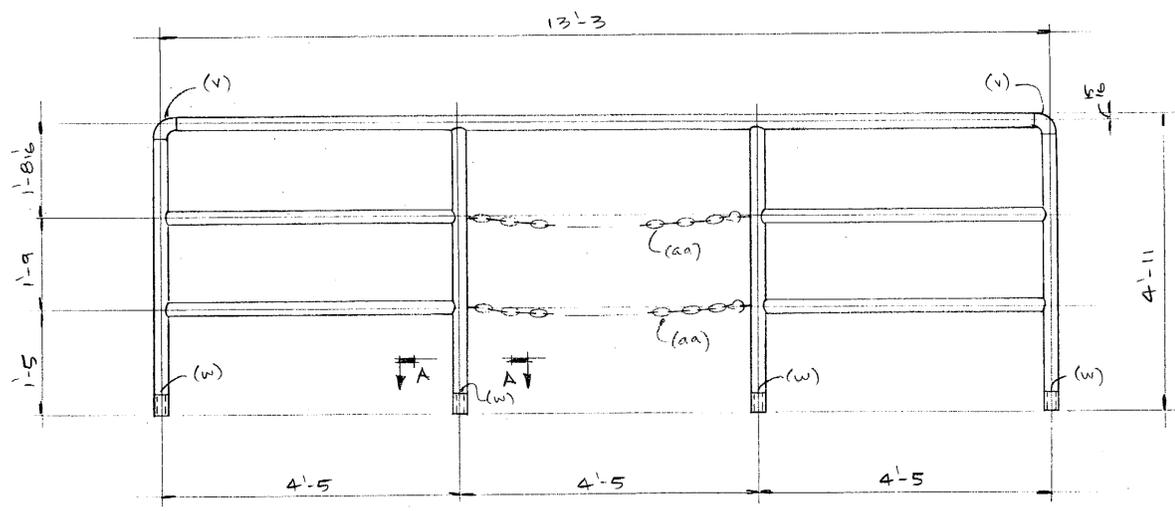
MAKE ~ 2 ~ COVER PLATE ~ MK 29C



MAKE ~ 2 ~ BOLLARD ~ MK 29B



MAKE ~ ONE ~ RAIL ~ MK 29D (STRUCTURE "C")



MAKE ~ ONE ~ RAIL ~ MK 29F (STRUCTURE "D")

BILL OF MATERIAL							
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH		REMARKS
					FT	IN	
4	29A			ROPE GUIDE			
		4	A	2# STD PIPE	12	4 ±	
		4	B	2# STD PIPE	1	3 3/4 ±	
		4	C	2# 45° ELL	-	-	
2	29B			BOLLARD			
		2	D	12# ANVIL PIPE	2	3	
		2	F	4# STD PIPE	2	0	
		4	K	PL 2 x 4 B	0	4 1/2	4" DIA
		2	M	PL 12 x 1/2	0	11 1/2	1 1/2 DIA
2	29C			PL 3/8 x 25 1/2	3	8 3/4	TEMPLATE
		2	T	3/4" EXP. NET X 25 1/2	3	8 3/4	25 1/2 L.W.D.
ONE	29D			1/2" STD PIPE	60	0	LIN FT
		2	V	1/2" 90° ELL			
		4	W	C2 x 1 x 3/8	0	4	
ONE	29F			1/2" STD PIPE	51	0	LIN FT
		2	V	1/2" 90° ELL			
		4	W	C2 x 1 x 3/8	0	4	
		2	AA	4 CHAIN	4	4	1/2" SWAP HOOK

State of Alaska
Dept. of Transportation and Public Facilities
Division of Planning Engineering

CONTRACTOR SUBMITTAL REVIEW

Checked in only for conformance with the design concept of the Contract. It is not a guarantee of the information given in the Contract. The contractor is responsible for the accuracy of the information provided at the job site for application that requires the use of a professional engineer or other qualified trades.

APPROVED AS NOTED
DATE: 3-18-95
PROJECT ENGINEER: [Signature]

MATL. SPEC. A-36

OPEN HOLES - EXCEPT AS NOTED

END & EDGE DIST. - EXCEPT AS NOTED

PAINT - GALV

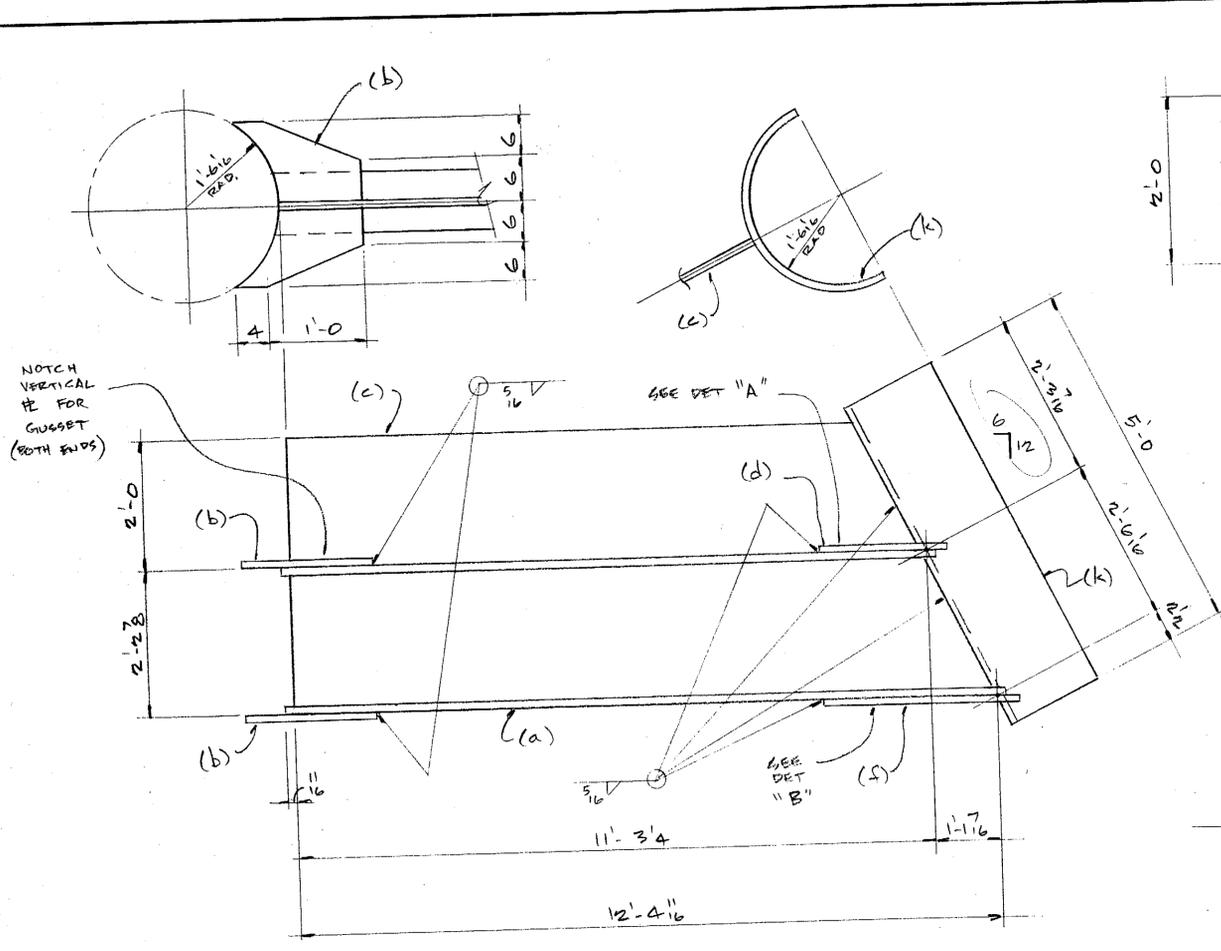
SHIP TO - DOCK SEATTLE

ERECTION BY - OTHERS

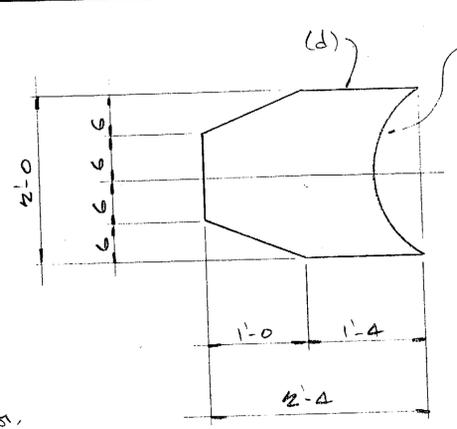


22620 85th PL., S. KENT, WA. 98031. (206) 852-1910

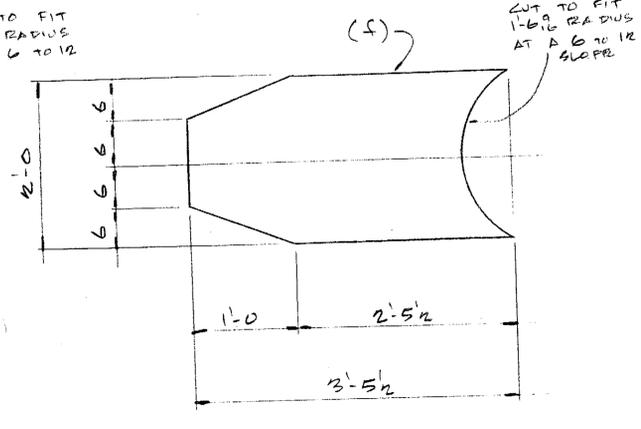
PROJECT	F-095-2 (16)	MISC STEEL @ STANDARD MOORING STRUCT.
BID ITEM	302 (2)	KETCHIKAN FERRY TERMINAL
REF DWG.	36, 37, 38	MOORING REALIGNMENT
CONTRACTOR	MANGON CONST	JOB NO 93-02
DRAWING NO	29	REV



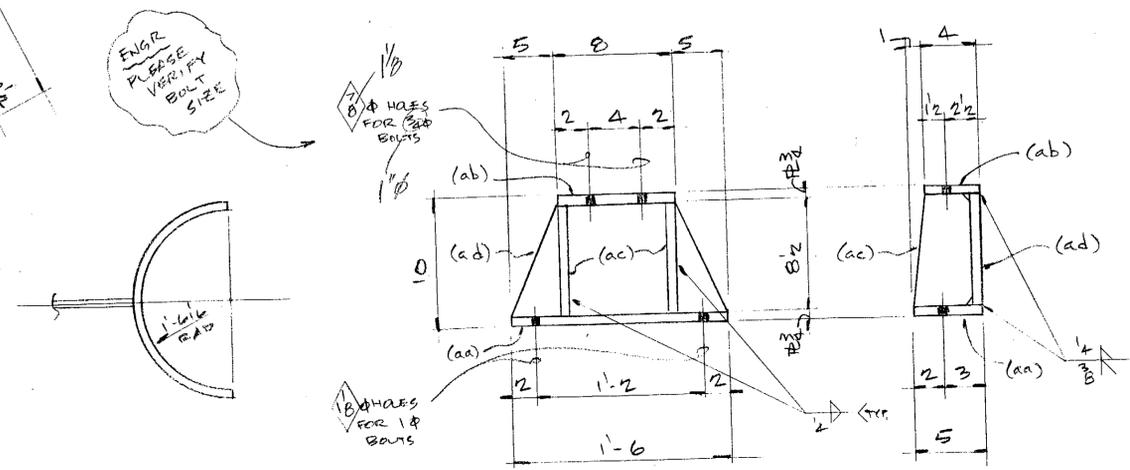
MAKE ~ 2 ~ W27x94 SUB-ASSY ~ MK 34A



DETAIL "A"

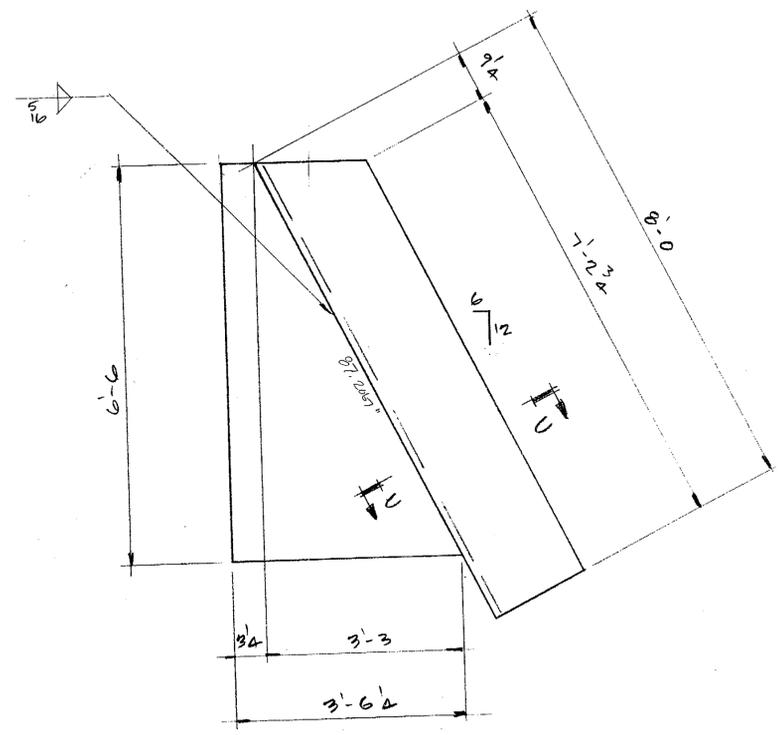


DETAIL "B"

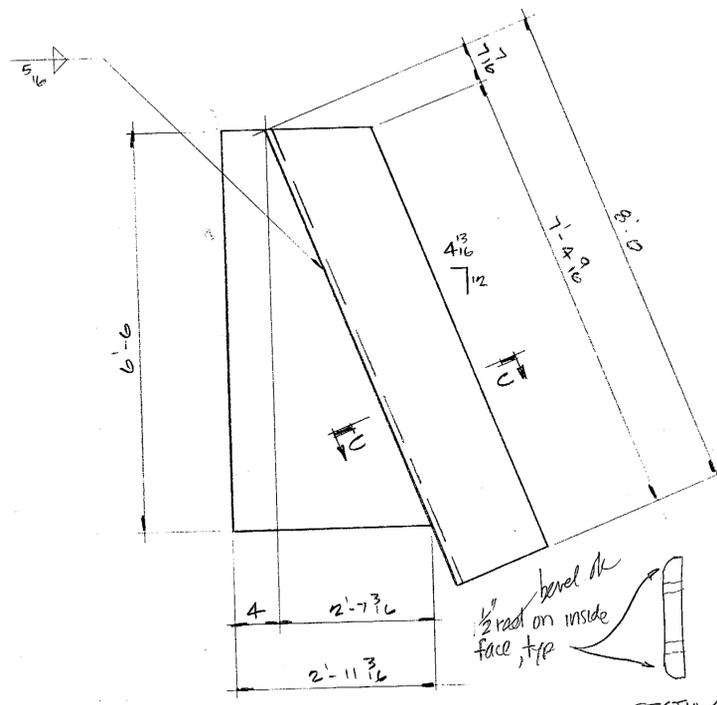


SECT C-C

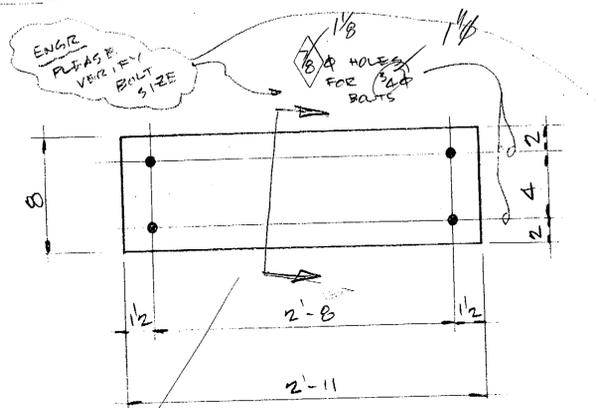
MAKE ~ 144 ~ FENDER MOUNT BRACKET ~ MK 34D



MAKE ~ 2 ~ PILE GUIDE SUB-ASSY ~ MK 34B



MAKE ~ 2 ~ PILE GUIDE SUB-ASSY ~ MK 34C



MAKE ~ 72 ~ FENDER MOUNT PLATE ~ MK 34F

BILL OF MATERIAL							
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH		REMARKS
					FT	IN	
2	34A			W27 SUB-ASSY			
2	a			W27x94	12	6 1/2	
4	b			PL 1/2 x 16	2	0	TEMPLATE
2	c			PL 1/2 x 24	11	3	
2	d			PL 1/2 x 24	2	4	
2	f			PL 1/2 x 24	3	5 1/2	
2	k			PL 1/2 x 57 1/2	5	0	ROLL-TEMPLATE

2	34B			PILE GUIDE SUB-ASSY			
2	m			PL 1/2 x 42	6	6	TEMPLATE
2	l			PL 1/2 x 57 1/2	8	0	ROLL-TEMPLATE
2	34C			PILE GUIDE SUB-ASSY			
2	v			PL 1/2 x 35 3/8	6	6	TEMPLATE
2	w			PL 1/2 x 57 1/2	8	0	ROLL-TEMPLATE

144	34D			FENDER MOUNT BRKT			
144	a			PL 3/4 x 5	1	6	
144	ab			PL 3/4 x 4	0	8	
288	ac			PL 1/2 x 4 1/2	0	8 1/2	TEMPLATE
144	ad			PL 3/4 x 8 1/2	1	6	TEMPLATE

72	34F			PL 3/4 x 8	2	11	
----	-----	--	--	------------	---	----	--

FIELD BOLTS THIS SHIT (NET)		
144	1/2\"/>	

2:1
26.5651°
2 1/2:1
21.8014°

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

CONTRACTOR SUBMITTAL REVIEW

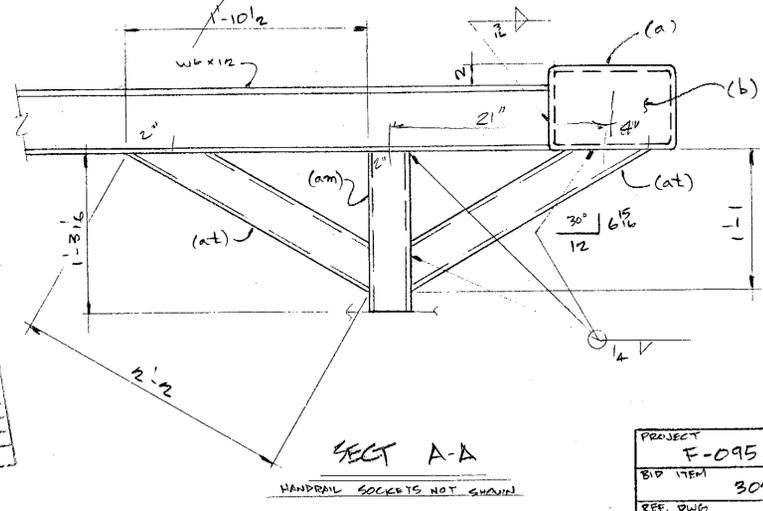
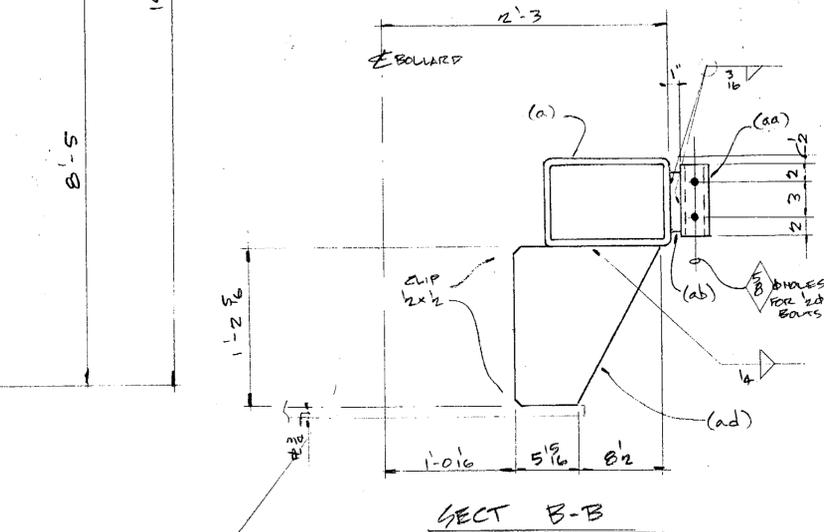
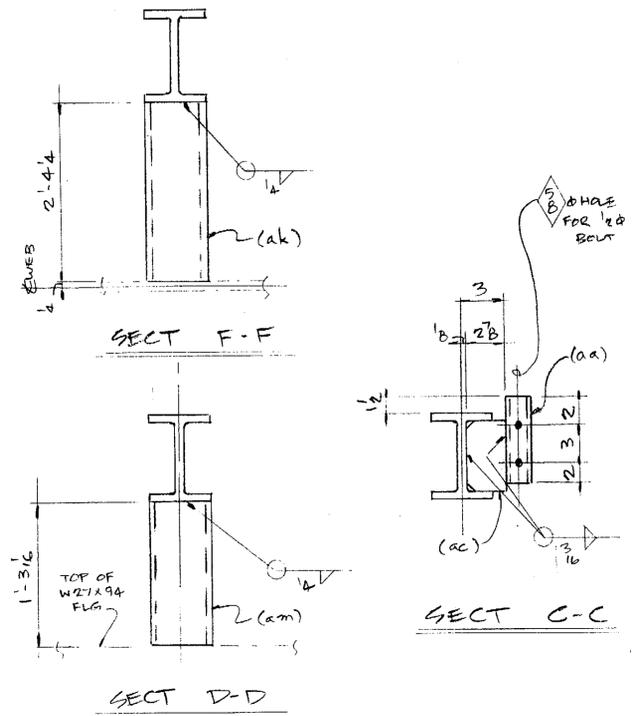
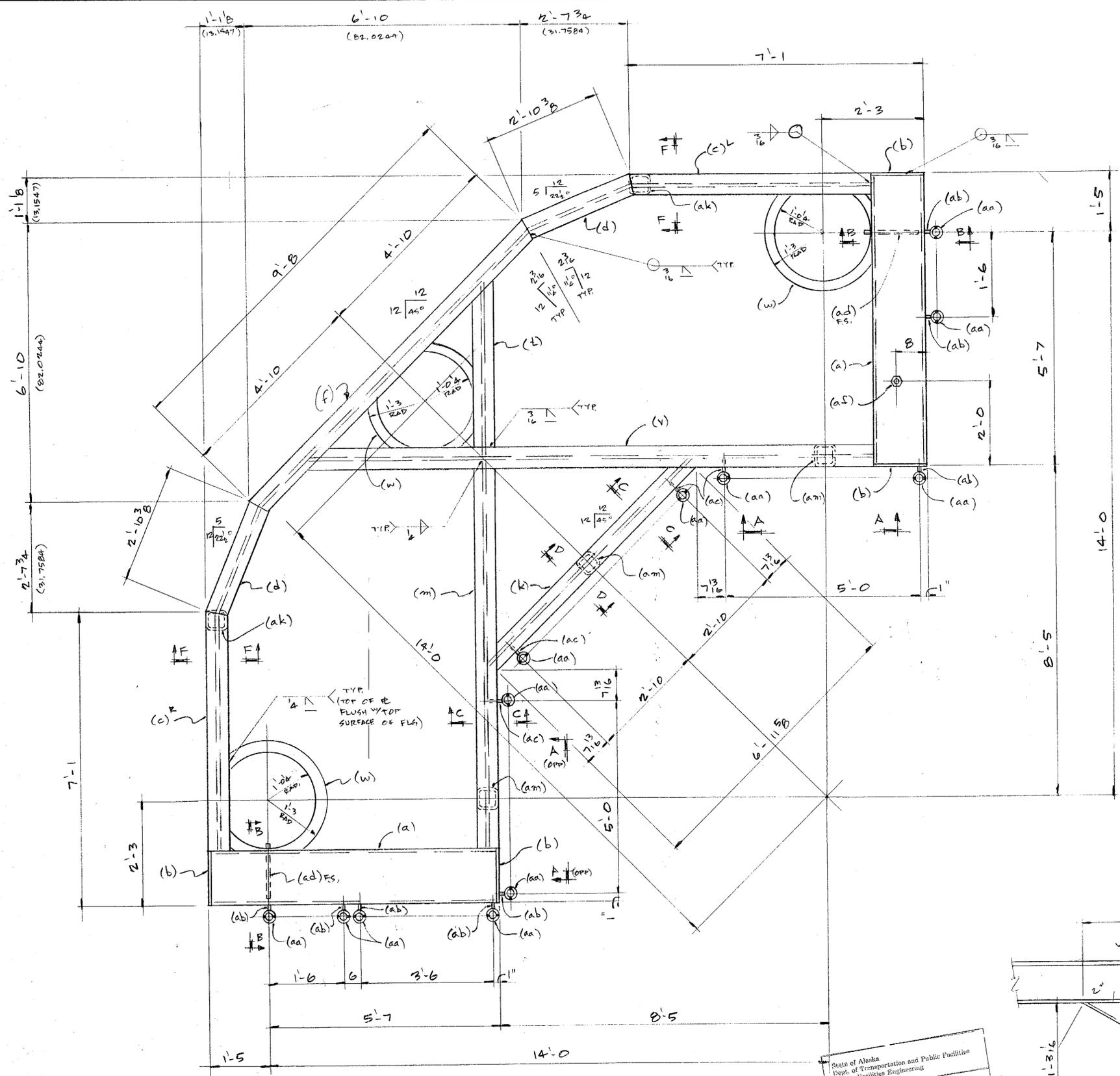
Checking is only for conformance with the design documents of the project and compliance with the information given in the submittal documents. The Contractor is responsible for demonstrating that the materials and workmanship are in accordance with the specifications and approved at the job site for information only. The Contractor shall be responsible for the quality of the construction and for coordination of the work with other trades.

ACCEPTED
FOR CORRECTION
3-31-93
Project Engineer



22620 85th PL., S. KENT, WA. 98031 . (206) 852-1910

PROJECT	F-095-2 (16)	MISC SUB-ASSYS
BID ITEM	302 (A)	KETCHIKAN FERRY TERMINAL
REF. DWG.	42, 43, 44	MOORING REALIGNMENT
CONTRACTOR	MANGSON CONST.	JOB NO. 93-02
DRAWING NO.	34	REV



MAKE ~ ONE ~ PLATFORM ASSY ~ MK 35A

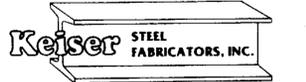
State of Alaska
Dept. of Transportation and Public Facilities
Marine Facilities Engineering
CONTRACTOR SUBMITTAL REVIEW
Checking is only for conformance with the design contract. It is not a warranty or a guarantee of any kind. The Contractor is responsible for the accuracy of the information provided in the contract documents and for the coordination of the work of all trades.
3-31-93
Project Engineer

BILL OF MATERIAL

NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH		REMARKS
					FT	IN	
ONE	35A			PLATFORM ASSY			
2	a			TS 12x8x5/16	6	11 1/2	
4	b			PL 4x8	1	0	
1	c			WG 6x12	6	1	
2	d			WG 6x12	2	10 3/8	
ONE	e			WG 6x12	9	8	
ONE	k			WG 6x12	7	1 1/8	
ONE	m			WG 6x12	9	7 1/8	
ONE	t			WG 6x12	3	4 1/8	
ONE	v			WG 6x12	14	2 1/8	
3	w			PL 3/8x30	2	6	30" x 30" (30" x 30" x 30") (AS REQD)
12	aa			2" STD PIPE	0	7	
8	ab			PL 3/4x1	0	6	
4	ac			PL 3/8x2 1/2	0	5 3/8	TEMPLATE
2	ad			PL 3/8x14 7/8	1	2 1/8	TEMPLATE
1	af			1/4" THICK STD	0	5	WEATHER RESISTANT NUT & W
2	ak			TS 4x4x1/4	2	4 1/4	
3	am			TS 4x4x1/4	1	3 1/8	
4	at			TS 4x4x1/4	2	2	

NOTE: INSTALL MK 35A PLATFORM AFTER DRIVING BATTER PILES

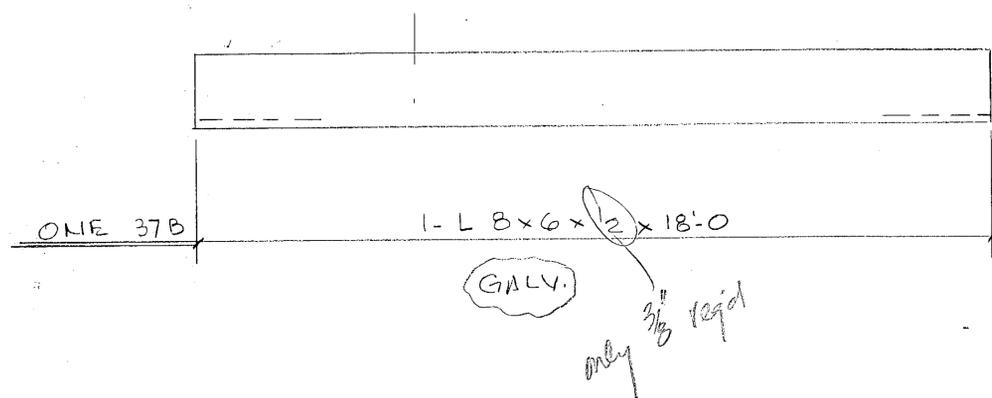
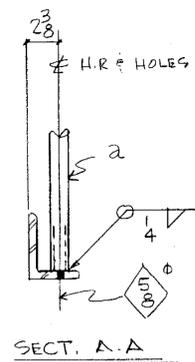
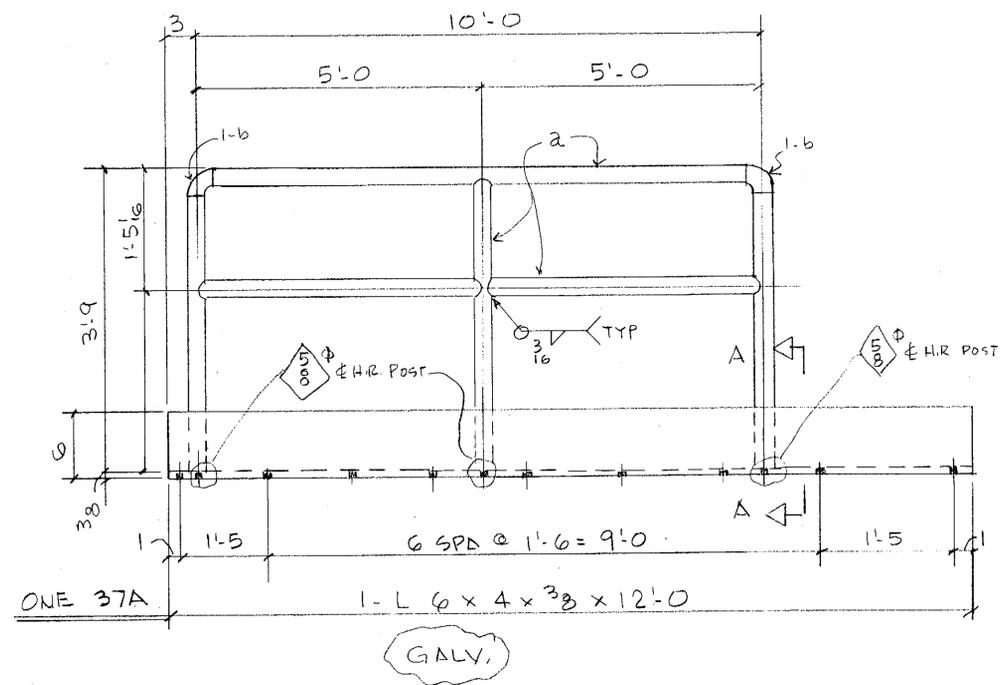
MATL. SPEC. A-36
OPEN HOLES NOTED EXCEPT AS NOTED
END & EDGE DIST NOTED EXCEPT AS NOTED
PAINT GALV
SHIP TO DDIC SEATTLE
ERECTION BY OTHERS



22620 85th PL., S. KENT, WA 98031 (206) 852-1910

DATE 1/25/93 APPROVED: [Signature] DRAWN BY: [Signature] CHECKED BY: [Signature]

PROJECT	F-095-2 (16)	PLATFORM ASSY
BID ITEM	302 (4)	KETCHIKAN FERRY TERMINAL
REF. DWG	42, 43, 44	MOORING REALIGNMENT
CONTRACTOR	MANSON CONST	JOB NO. 93-02
		DRAWING NO. 135



NOTE:
 1. GRIND ALL H.R. WELDS SMOOTH
 2. SEE SHIT 46 OF DESIGN DWGS FOR LOCATION OF ITEMS THIS DWG.

BILL OF MATERIAL							
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH		REMARKS
					FT	IN	
ONE 37A				L6x4x3/8	12	0	
		1	a	PIPE 1 1/2 STD	32	L.F.	
		2	b	1 1/2 STD - 90° EL		(SHOET RADJUS)	
ONE 37B				L8x6x1/2	18	0	(PLAIN MATERIAL)

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 constructed and verified 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.

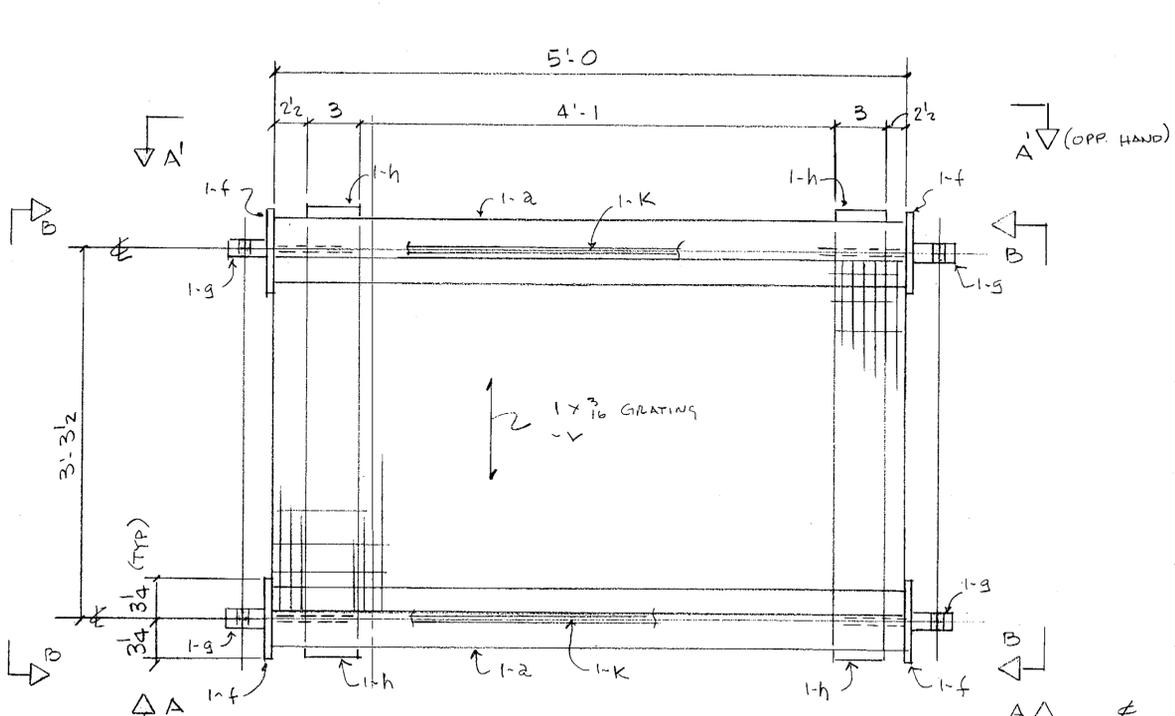
ACCEPTED _____
 ACCORDING TO NOTED _____
 RETURNED FOR CORRECTION _____
 Date: 4-5-93 Project Engineer

MAT'L SPEC: A36 -
 OPEN HOLES: 5/8" EXCEPT AS NOTED
 END & EDGE DIST: NOTED EXCEPT AS NOTED
 PAINT: GALVANIZED AFTER FAB
 SHIP TO: _____
 ERECTION BY: _____

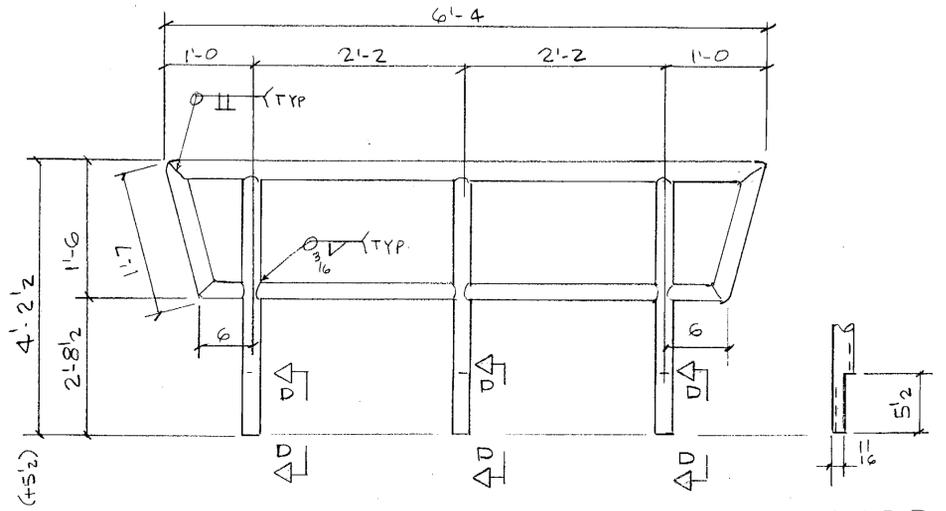
22620 85th PL., S. KENT, WA. 98031 . (206) 852-1910

DATE: 3-93 DRAWN BY: C&DE
 TRACK/GUIDE & HANDRAIL
 KETCHIKAN FERRY TERMINAL
 MOORING REALIGNMENT

CONTRACTOR: MANSON CONST. JOB NO: 93-02 DRAWING NO: 37 REV: _____



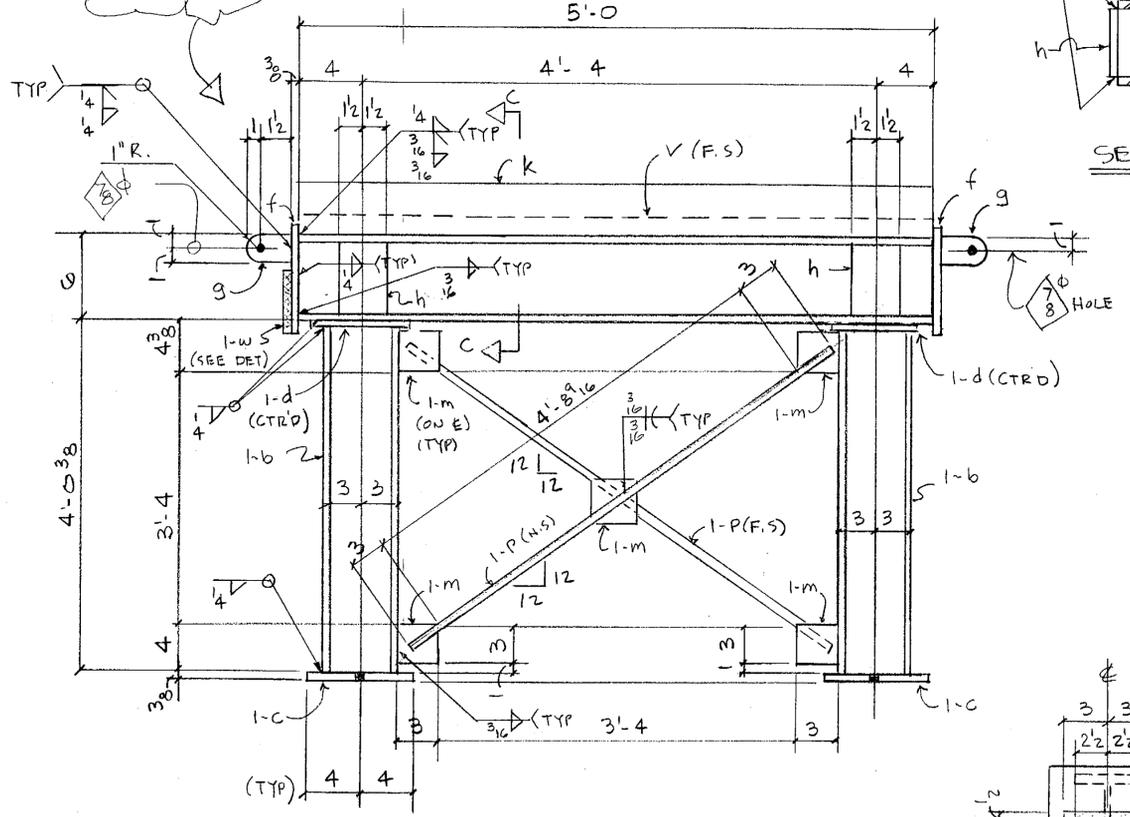
ONE FRAME ML 38A
(GALV.)



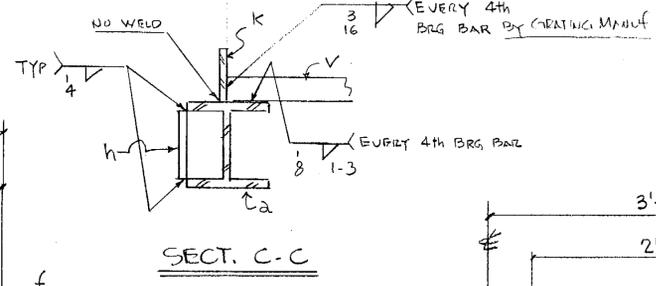
2 - HANDRAILS ML 38B
(GALV.)

VIEW D-D

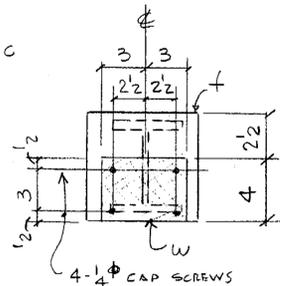
NEW FLOAT GANGWAY END



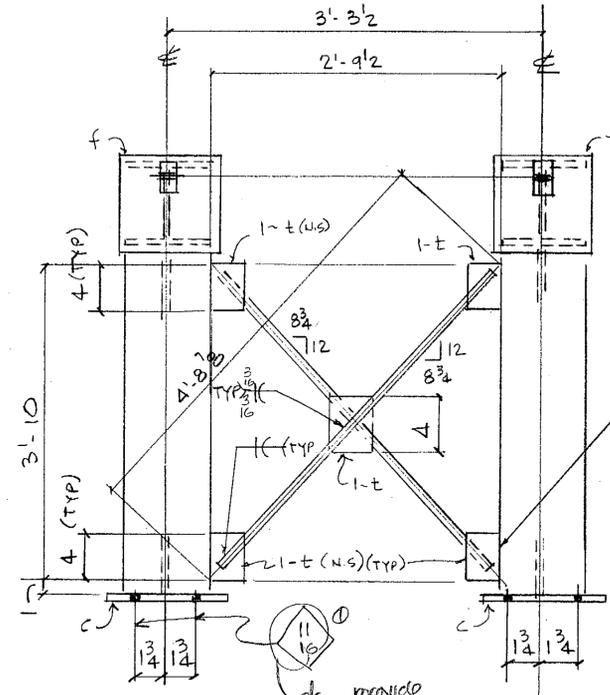
VIEW A-A (AS SHN)
VIEW A'-A' (OPP. HAND)



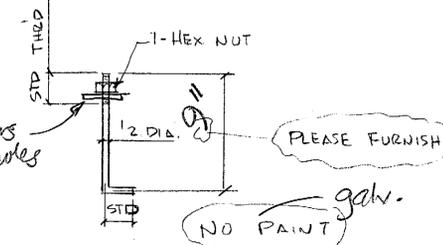
SECT. C-C



DETAIL @ PAD-W (2 PLACES)



VIEW B-B



8 - ANCHOR BOLTS ML 38C

NOTE:
FOR LOCATION OF ALL ITEMS THIS DWG. SEE SHTS 46 & 47 OF DESIGN DWGS

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

CONTRACTOR SUBMITTAL REVIEW

APPROVED AS SHOWN
4-5-93
Project Engineer

BILL OF MATERIAL						
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH FT IN	REMARKS
ONE	38A			FRAME		(GALV.)
2	a			W6x15	5 0	
4	b			W6x15	4 0	
4	c			PL 3x8	0 8	
4	d			PL 3x7 1/2	0 7 1/2	
4	f			PL 3x6 1/2	0 6 1/2	
4	g			PL 2x2	0 2 1/2	
4	h			PL 4x3	0 5 1/2	
2	k			BAR 3x4	5 0	BY GRATING MANUF.
10	m			PL 4x3	0 3	
4	p			BAR 58P	5 2 1/2	
4	s			BAR 58P	4 7 1/2	
10	t			PL 4x3	0 4	
1	v			GRATE 1x3 1/6		SERRATED
2	w			2x4	0 6	
				FABRICA PAD		
				1/4" CAP SCREWS		
2	38B			PIPE 1 1/2 STD 28 L.F.		(GALV.)
8	38C			1/2" A. BOLT		SEE DET (NO PAINT)
4	38D			PL 2x1 3/4	0 4 3/4	(GALV.)
				FIELD BOLTS		
4				3/4" BOLT 1- NYLOC NUT ED.	0 2 1/4	(STAINLESS STEEL) 4" MIN.
				4 - HANGER PL ML 38D		(GALV.)



22620 85th PL., S. KENT, WA 98031 . (206) 852-1910

DATE: 3-9-93

APPROVED: [Signature]

CHK'D BY: CADE

CONTRACTOR: MANSON CONST.

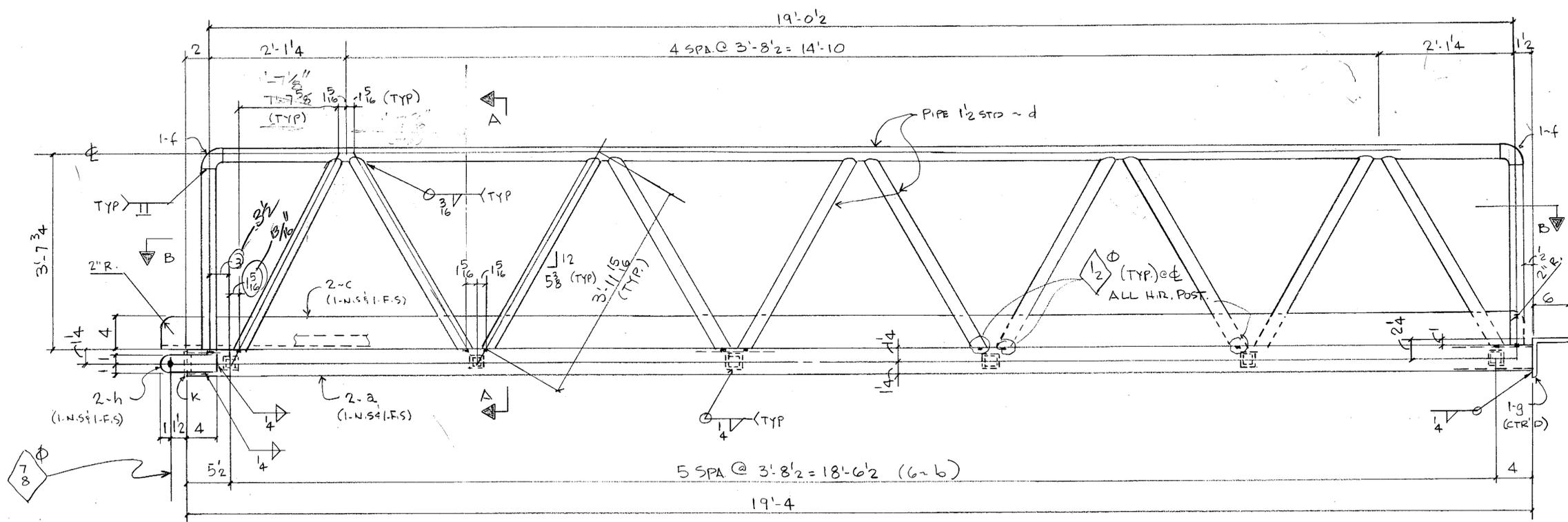
JOB NO: 93-02

DRAWING NO: 38

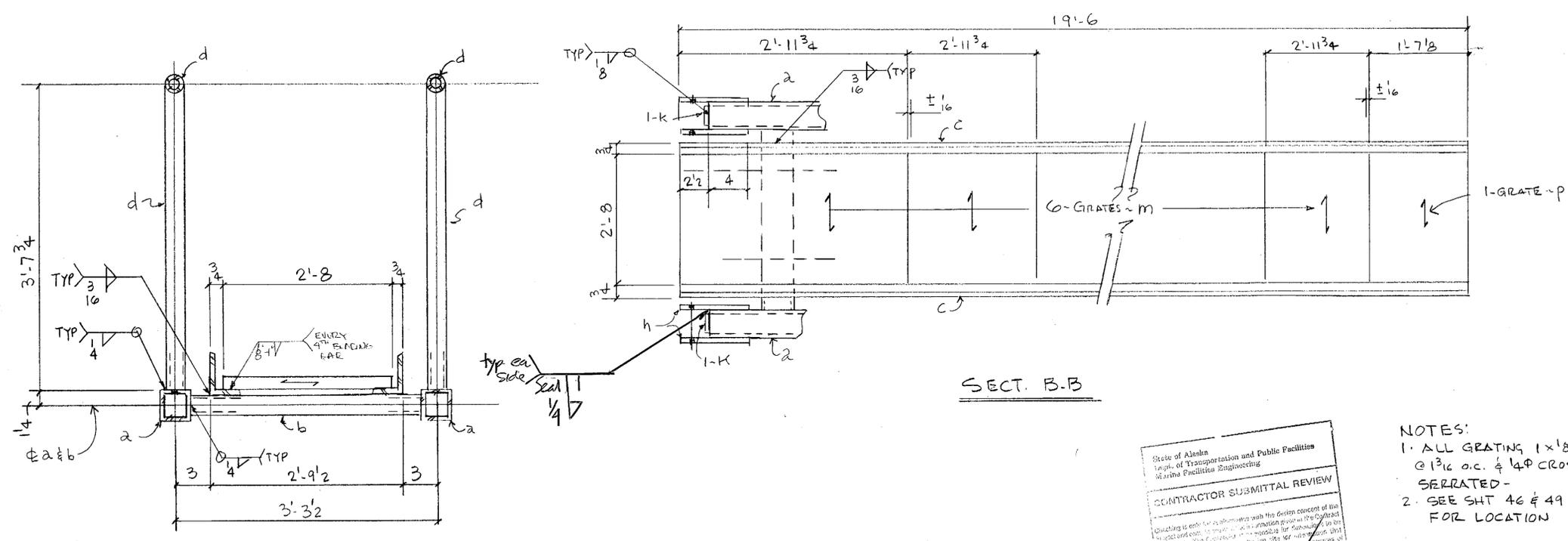
REV: [Blank]

BILL OF MATERIAL

NO TO SHIP	SHIP MARK	NO PCS	PC MC	SECTION	LENGTH		REMARKS
					FT	IN	
ONE 40A				DOCK GANGWAY			
2	a			TS 2x2x2x4	19	4	
6	b			TS 2x2x2x6	3	1	
2	c			L 4x3x1/4	19	6	
2	d			PIPE 1 1/2 STD	67	L.F.	
4	f			1 1/2 STD 90° ELL.		(SHORT RADIUS)	
1	g			L 6x4x1/2	3	7	
4	h			PL 2x2	0	6/2	
2	k			PL 4x2 1/4	0	2 1/4	
6	m			GRATE 1x3 1/4	2	3	SEE NOTE 1
1	p			GRATE 1x1 1/2	2	3	du d2



ONE DOCK GANGWAY ML 40A
GALV.



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

CONTRACTOR SUBMITTAL REVIEW

ACCEPTED AS NOTED
RETURNED FOR REVISIONS

4-5-93

Project Engineer

- NOTES:
- ALL GRATING 1x3 BEARING BARS @ 13/16 o.c. & 1/4 CROSS BARS @ 4" o.c. SERRATED-
 - SEE SHT 46 & 49 OF DESIGN DWGS FOR LOCATION

MAT'L SPEC _____

OPEN HOLES NTD. EXCEPT AS NOTED

END & EDGE DIST NTD. EXCEPT AS NOTED

PAINT GALVANIZE AFTER FABRICATION

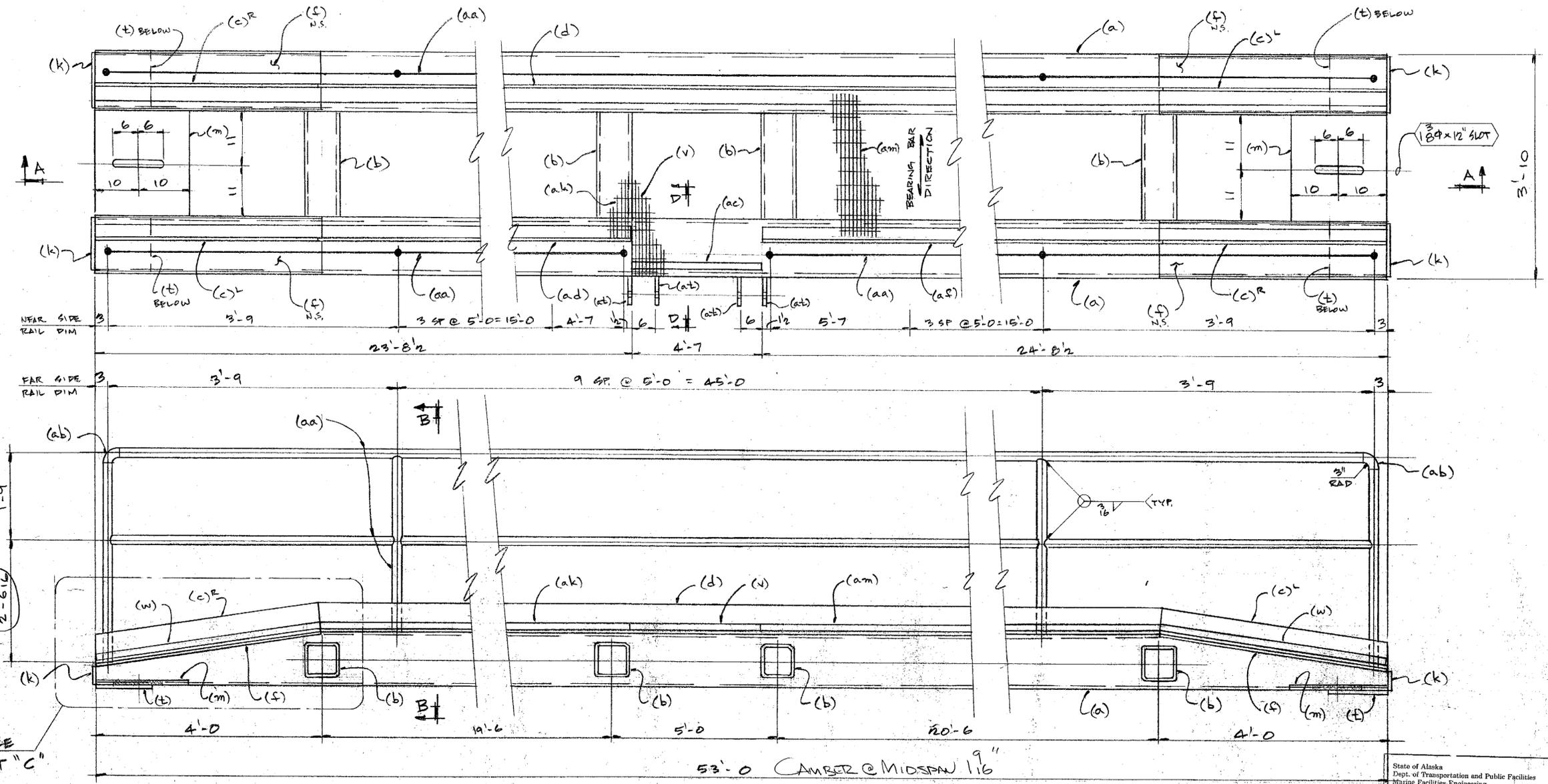
SHIP TO _____

ERECTION BY _____



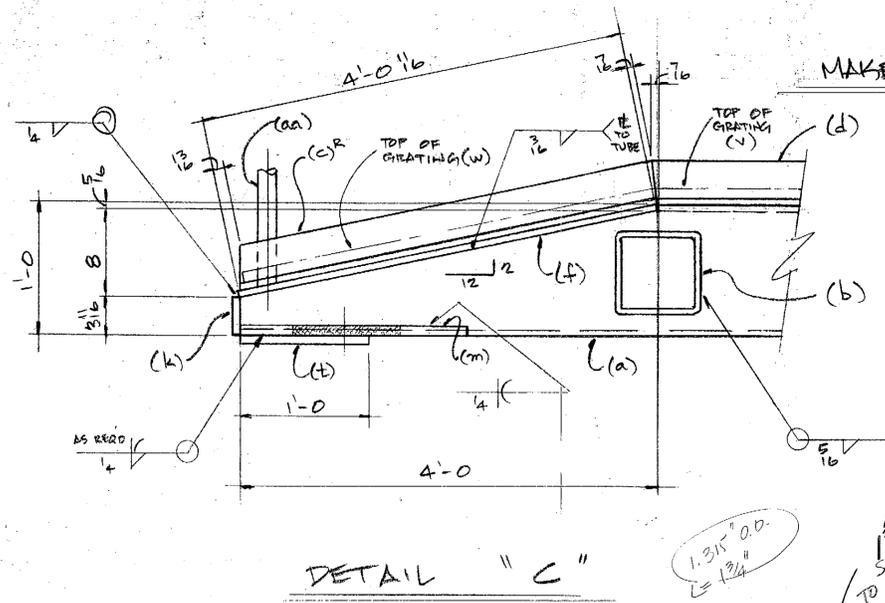
22620 85th PL., S. KENT, WA. 98031 . (206) 852-1910

DATE	3-93	APPROVED	CHK'D BY	CADE
DOCK GANGWAY				
KETCHIKAN FERRY TERMINAL				
MOORING REALIGNMENT				
CONTRACTOR	MANSON CONST.	JOB NO	93-02	DRAWING NO
			40	REV

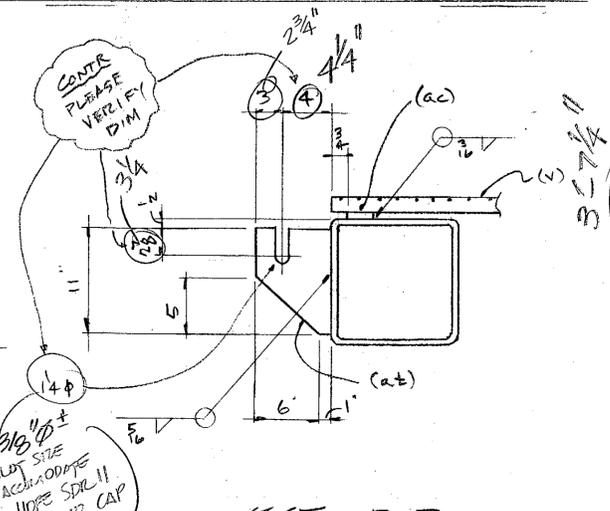


SECT. A-A

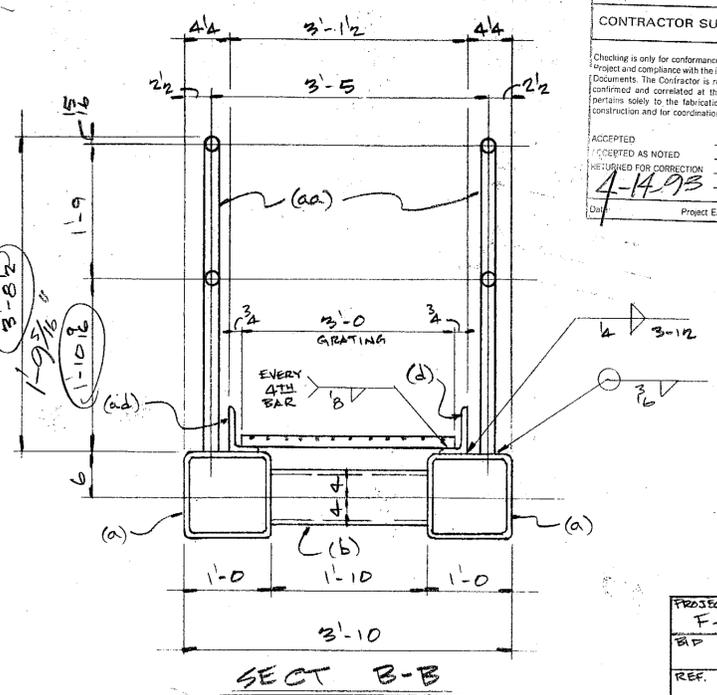
MAKE ONE CATWALK - MK 42A



DETAIL "C"



SECT D-D



SECT 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 concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and corrected 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
FOR NOTED
REQUIRED FOR CORRECTION
4-14-93
Project Engineer

BILL OF MATERIAL							
NO TO SHIP	SHIP MARK	NO PCS	PC MK	SECTION	LENGTH		REMARKS
					FT	IN	
ONE	42A			CATWALK			
2	a			TS 12x12x3/8	53	0	
4	b			TS 8x8x3/8	1	10	
2	c			LS 3x3x1/2	4	18	
ONE	d			LS 3x3x1/2	45	0	B
4	e			TS 1/2x11/8	4	0	B
4	f			TS 3/8x3/8	0	11/8	
2	m			TS 1/2x20	1	10	
4	n			TS 1/2x12	1	0	
ONE	v			GRATING 41	4	7	SEE NOTE BELOW
2	w			GRATING 36	4	0 1/2	
ONE	aa			2" STD PIPE	0	± LIN.	FT
6	ab			12" 90° ELL	3		INSIDE RAD
ONE	ac			TS 1/2x14	4	7	
ONE	ad			LS 3x3x1/2	19	8 1/2	
ONE	af			LS 3x3x1/2	20	8 1/2	
ONE	ak			GRATING 36	19	0 1/2	SEE NOTE BELOW
ONE	am			GRATING 36	20	8 1/2	
4	at			TS 1/2x7	0	11	TEMPLATE

GRATING NOTE:

GRATING TO BE 1" x 8" BEARING BARS @ 1 1/2" C-C AND CROSS BARS AT 4" C-C (BEARING BARS RUN THE 4' OR 3 1/2" DIMENSION)

GRATING TO BE GALVANIZED AND SERRATED

MAT'L SPEC: A-36

OPEN HOLES: NOTED EXCEPT AS NOTED

END & EDGE DIST: NOTED EXCEPT AS NOTED

PAINT: GALV

SHIP TO: DOCK SEATTLE

ERECTION BY: OTHERS



22620 85th PL, S. KENT, WA. 98031 (206) 852-1910

DATE: 1/25/93	APPROVED:	DRAWN BY: PACIFIC DESIGNING
PROJECT NO: F-095-2 (16)	52'-0" CATWALK "B"	
BID ITEM: 302 (5)	KETCHIKAN FERRY TERMINAL	
REF. DWG: 22-53	MOORING REALIGNMENT	
CONTRACTOR: MANSON CONST.	JOB NO: 93-02	DRAWING NO: 42

REVISIONS

