CITY OF CRAIG
REQUEST FOR PROPOSALS
DESIGN AND ENGINEERING SERVICES

Craig False Island Dock Cathodic Protection Project

The City of Craig is soliciting bids from qualified engineering firms to complete design and engineering services for the Craig False Island Dock Cathodic Protection project.

Scope of Work. The proposed work requires the engineer to perform, supply, and provide all of the labor, services, and materials as set forth below.

a. Preparation of draft engineered design documents for city staff review and comment of cathodic protection to piling at the JT Brown Industrial Park Dock.
b. Preparation of final engineered, construction-ready design drawings of cathodic protection to piling.
c. Preparation of plans and specification documents for bid solicitation.
d. Preparation of engineer's estimated construction costs for the project.
e. Management of bid solicitation process, including advertisement, document distribution, compilation of bidder's list, response to questions from bidders, issuance of bid amendments, and other services necessary to comply with City's bidding process.
f. All deliverables to City shall be made by electronic copy in both .dxf and .dwg format, and in .pdf format.

Time of Commencement and Completion of Work: (a). Commencement: Engineer will commence and continue work authorized by Agreement beginning no later than ten days from award of contract. (b). Completion: The work called for in this Agreement shall be performed and completed in a timely manner, with project completion date negotiated between the City of Craig and the engineer; provided, that the City of Craig expects all work for items a-f of the Scope of Work completed within 90 days of the date of commencement.

Scoring Criteria

Submitted proposals will be scored from 0 – 100 points based on the following criteria:

1. Experience and Staff
   a. Firm and staff experience with cathodic protection design projects (50 points)
2. Method/Timeline
   a. Description of methodology and ability to complete the project within the timeframe shown in the scope of work. (35 points)
3. Proximity to the project site of the office of the firm and staff person(s) assigned to the project.
   a. Firm and assigned staff located in Alaska (5 points).
   b. Firm and assigned staff located in Southeast Alaska (5 points).
4. Employment practices of the firm or person with regard to women and minorities.
   a. Description of women or minority employment practices (5 points)

Other Details

In order to be responsive to this Request for Proposals, the submitting firm must provide copies of the following with each bid. Each item listed shall be maintained by the Contractor for the entire duration of the project.

- Professional Architect/Engineer licensed in the State of Alaska;
- Rate sheet for services as a part of the proposal.

The City of Craig may choose to negotiate an agreement with the successful respondent for the subsequent construction administration phase of the project. The City of Craig also reserves the right to withdraw this request at any time. The City of Craig shall not compensate any firm for preparation of responses to this request.

All questions must be submitted in writing via e-mail to administrator@craigak.com (preferred method). The deadline for questions is 5:00 p.m. October 15, 2021.

Interested parties shall submit the requested information within the time stated. All interested parties are cautioned not to contact any member of the City of Craig staff other than specified herein regarding this request for proposals to avoid disqualification. Proposals must be received at Craig City Hall (500 Third Street – Craig, Alaska) by 2:00 p.m. Monday, October 25, 2021. Proposals may be submitted electronically in a single .pdf file to info@craigak.com. Timely and complete delivery of proposals is solely the responsibility of submitting firm. The City is not responsible for untimely or incomplete submittals. Late submittals will not be accepted.

The City of Craig reserves the right to reject any or all proposals, waive any informalities or irregularity in the bidding and/or not make an award.

To register for the project, and receive the full RFP solicitation, send an e-mail to info@craigak.com, or call 907-826-3275.

Attachments

See attached .pdf documents for additional information about the project.

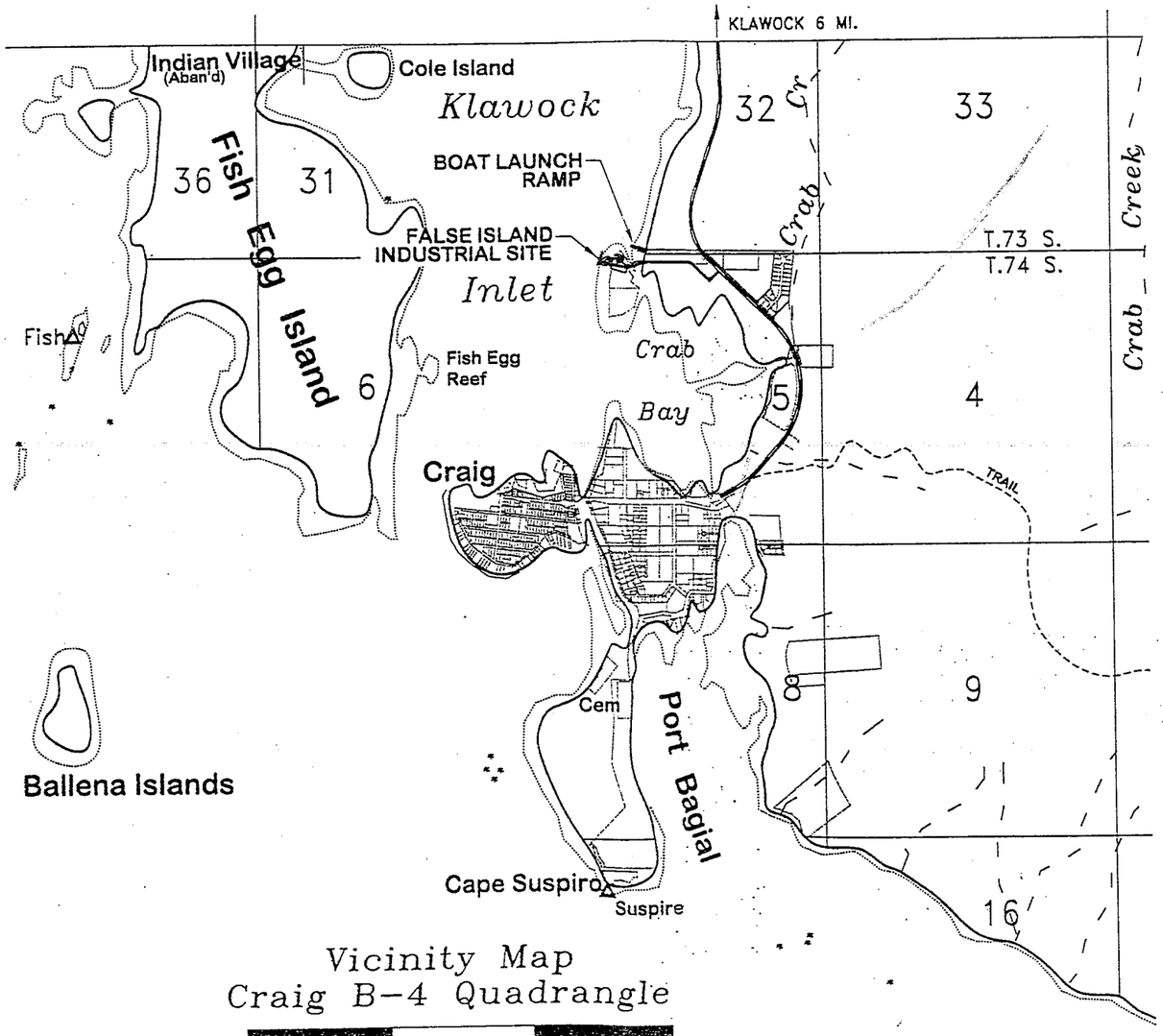
1. Industrial Park Original and Expansion Design – 17 pages.
2. Condition Assessment Section on FI Dock – 18 pages.

For more information, contact the Craig City Administrator at 907-826-3275.

CITY OF CRAIG, ALASKA

FALSE ISLAND
MARINE INDUSTRIAL PARK

FALSE ISLAND DOCK CONTRACT
ISSUED FOR CONSTRUCTION



Vicinity Map
Craig B-4 Quadrangle

0 1/2 1 1-1/2 Miles

MAYOR
Dennis Watson

CITY ADMINISTRATOR
Tom Briggs

PUBLIC WORKS DIRECTOR
Mike McKimens

HARBOR MASTER
Mike Kampnich

CITY COUNCIL

Fred Hamilton Sr.
Claire Crookes
Randy Otos
Millie Stevens
Wanda Rice
Richard Pollen

SHEET INDEX

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

PILING DESIGN DATA:

DIAMETER	WALL THICKNESS	STRENGTH
18"	0.500"	Fy=36,000 ksi

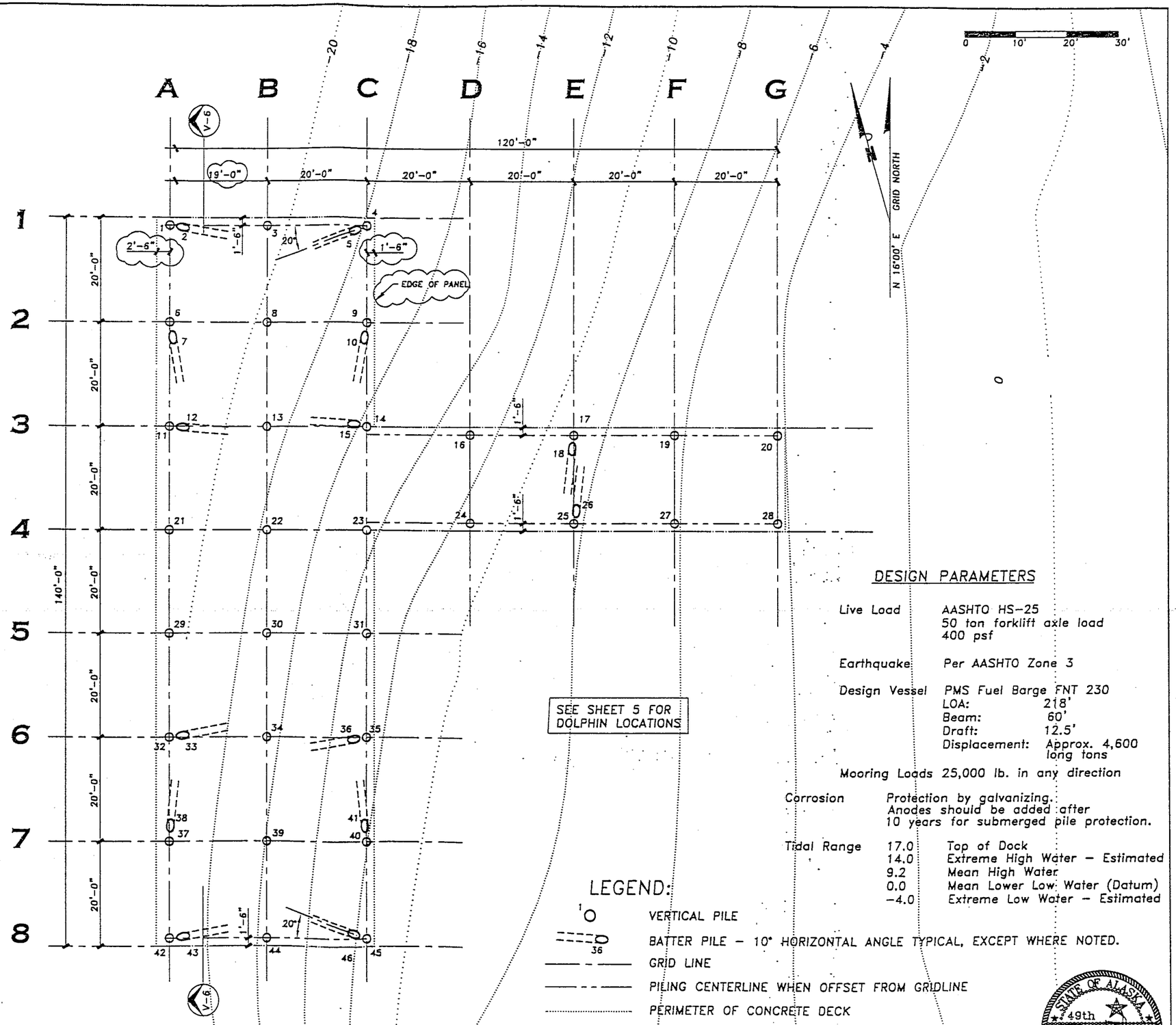
NOTE: MINIMUM PILE EMBEDMENT IS 15' UNLESS OTHERWISE NOTED
MINIMUM TIMBER FENDER PILE EMBEDMENT IS 8'.

PILE No.	GRID LINE	BATTER	DESIGN COMP. LOAD (KIPS)	DESIGN TENSION LOAD (KIPS)	MIN. PILE EMBED'T (FEET)	EST. PILE LENGTH (FEET)
1	1A		**180**	**110**	**50**	**90**
2	1A–1	2.5V:1H	**180**	**110**	50	100
3	1B		140	--	--	80
4	1C		**160**	**110**	**50**	**90**
5	1C–1	2.5V:1H	**160**	**110**	**50**	**100**
6	2A		**200**	**90**	**40**	**100**
7	2A–A	2.5V:1H	200	100	50	90
8	2B		280	--	--	120
9	2C		**210**	**90**	**40**	**100**
10	2C–C	2.5V:1H	200	100	50	90
11	3A		**160**	**70**	30	**90**
12	3A–3	2.5V:1H	**160**	80	40	90
13	3B		280	--	--	120
14	3C		**170**	**70**	**30**	80
15	3C–3	2.5V:1H	**170**	**80**	40	**90**
16	3D		110	--	--	80
17	3E		**140**	60	30	70
18	3E–E	2.5V:1H	**140**	**60**	30	**80**
19	3F		110	--	--	70
20	3G		90	--	--	50
21	4A		180	--	--	90
22	4B		280	--	--	120
23	4C		180	--	--	90
24	4D		110	--	--	70
25	4E		**160**	**60**	**30**	80
26	4E–E	2.5V:1H	**160**	**80**	**40**	**80**
27	4F		110	--	--	70
28	4G		90	--	--	50
29	5A		180	--	--	90
30	5B		280	--	--	120
31	5C		180	--	--	90
32	6A		**130**	**50**	**30**	80
33	6A–6	2.5V:1H	**140**	60	30	80
34	6B		280	--	--	120
35	6C		**130**	**50**	**30**	80
36	6C–6	2.5V:1H	**130**	**60**	30	80
37	7A		**200**	**80**	**40**	90
38	7A–A	2.5V:1H	**200**	**100**	50	**100**
39	7B		280	--	--	120
40	7C		**250**	**120**	50	**100**
41	7C–C	2.5V:1H	**250**	140	60	100
42	8A		**110**	**50**	**30**	70
43	8A–8	2.5V:1H	**110**	**60**	30	**80**
44	8B		140	--	--	80
45	8C		**180**	**110**	**50**	**90**
46	8C–8	2.5V:1H	**180**	**110**	**50**	**90**

LAYOUT COORDINATES

GRID LINE	NORTHING	EASTING
GRID 1A	27564.64	17450.13
GRID 1C	27553.89	17487.62
GRID 8A	27432.95	17412.37
GRID 8C	27422.20	17449.86
GRID 3G	27493.39	17553.49
GRID 4G	27477.05	17548.81

NOTE: THE DOCK WAS SHIFTED 10' TO THE WEST
LAYOUT COORDINATES REFLECT SHIFT IN LOCATION



SEE SHEET 5 FOR DOLPHIN LOCATIONS

DESIGN PARAMETERS

Live Load	AASHTO HS-25 50 ton forklift axle load 400 psf
Earthquake	Per AASHTO Zone 3
Design Vessel	PMS Fuel Barge FNT 230 LOA: 218' Beam: 60' Draft: 12.5' Displacement: Approx. 4,600 long tons
	Mooring Loads 25,000 lb. in any direction
Corrosion	Protection by galvanizing. Anodes should be added after 10 years for submerged pile protection.
Tidal Range	17.0 Top of Dock 14.0 Extreme High Water – Estimated 9.2 Mean High Water 0.0 Mean Lower Low Water (Datum) -4.0 Extreme Low Water – Estimated

LEGEND:

- VERTICAL PILE
- BATTER PILE – 10° HORIZONTAL ANGLE TYPICAL, EXCEPT WHERE NOTED.
- GRID LINE
- PILING CENTERLINE WHEN OFFSET FROM GRIDLINE
- PERIMETER OF CONCRETE DECK

BOLD TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM

STATE OF ALASKA 49th — ROY BLOOM 3073 – E — REGISTERED PROFESSIONAL ENGINEER

Date	No.	Description	By
2/23/99	1	ISSUED FOR CONSTRUCTION	RWB
		REVISION	

Designed: MCS | Approved: RWB
Drawn: TSS | Scale: AS NOTED | Date: 12/31/98
Checked: RWB | Project No. 982400.1

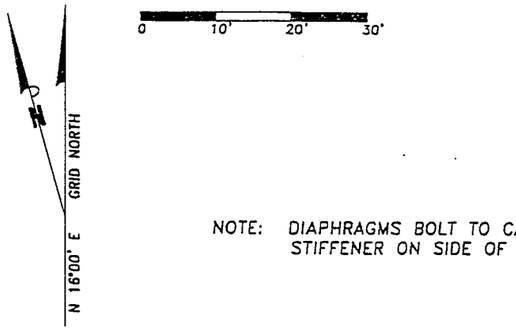
R&M ENGINEERING–KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

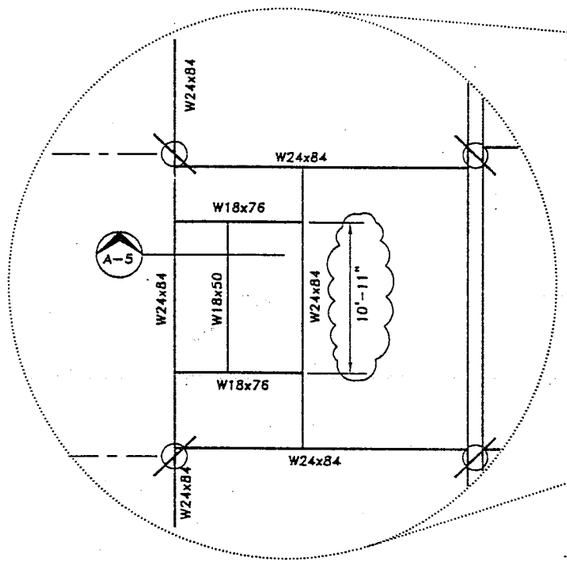
Project: FALSE ISLAND INDUSTRIAL SITE

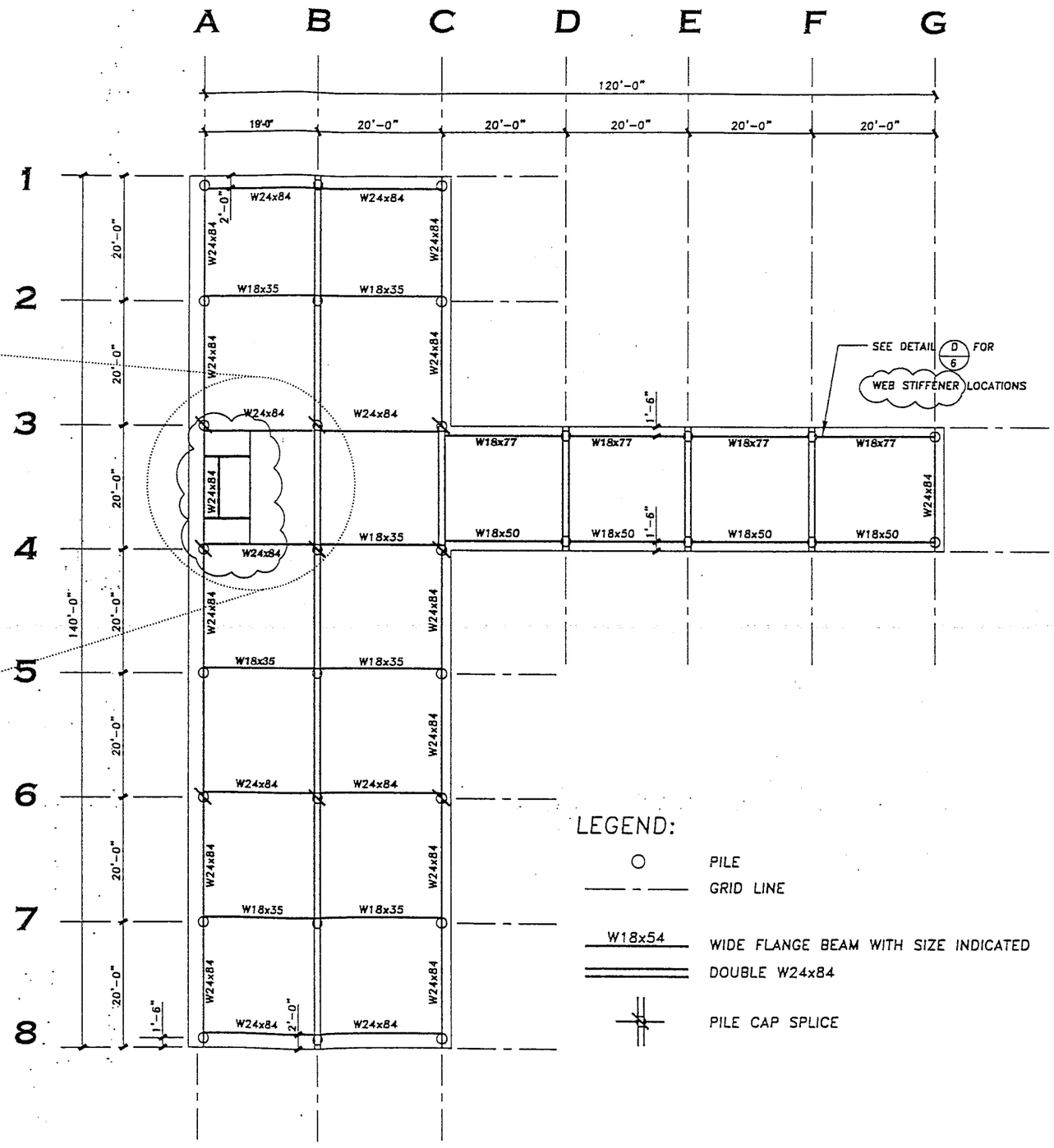
Sheet Description: PILE LAYOUT PLAN

Sheet No. 2



NOTE: DIAPHRAGMS BOLT TO CAP WEB STIFFENER ON SIDE OF PILE SHOWN





LEGEND:

- ○ PILE
- — - — GRID LINE
- W18x54 WIDE FLANGE BEAM WITH SIZE INDICATED
- ═══ DOUBLE W24x84
- PILE CAP SPLICE

BOLD TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM

Date	No.	Description	By
2/23/99	1	ISSUED FOR CONSTRUCTION	RWB

REVISION

Designed: RWB | Approved: RWB
Drawn: TSS | Scale: AS NOTED | Date: 12/31/98
Checked: RWB | Project No. 982400.1

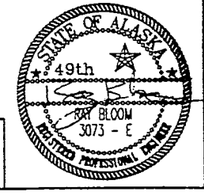
R&M ENGINEERING-KETCHIKAN, INC.
335 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

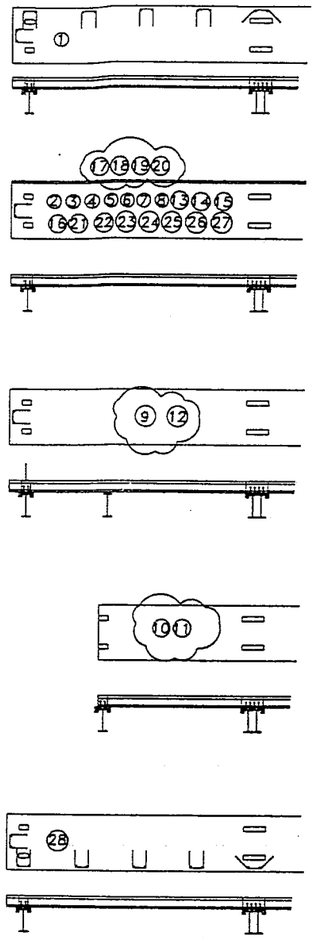
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

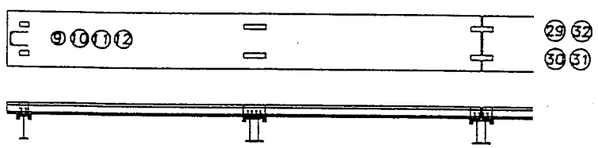
Project: FALSE ISLAND INDUSTRIAL SITE

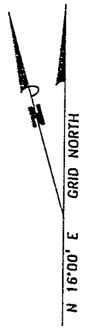
Sheet Description: DOCK FRAMING PLAN

Sheet No. 3





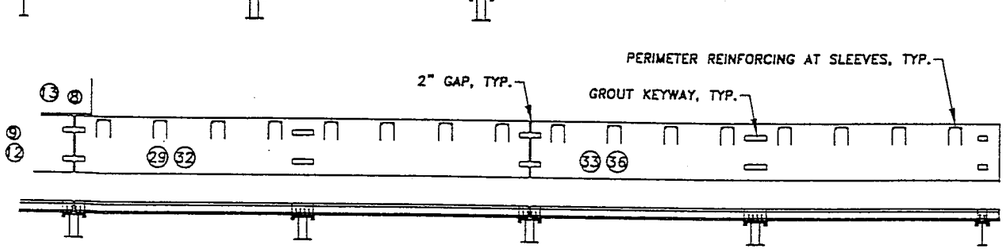


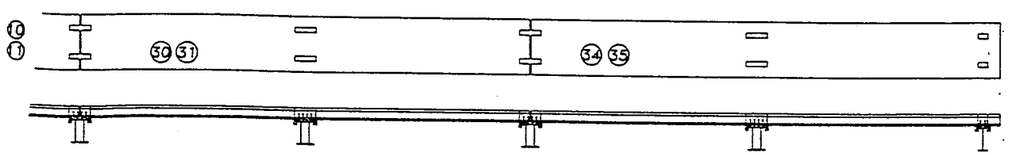


TYPICAL UNDERSLAB INSERT LAYOUT

PRE-CAST PANEL DATA

No.	SIZE
1	12"x 4'-11"x 43'
2	12"x 4'-10"x 43'
3	12"x 4'-10"x 43'
4	12"x 4'-10"x 43'
5	12"x 4'-10"x 43'
6	12"x 4'-10"x 43'
7	12"x 4'-10"x 43'
8	12"x 4'-10"x 43'
9	12"x 4'-10"x 41'-5"
10	12"x 4'-10"x 35'-5"
11	12"x 4'-10"x 35'-5"
12	12"x 4'-10"x 41'-5"
13	12"x 4'-10"x 43'
14	12"x 4'-10"x 43'
15	12"x 4'-10"x 43'
16	12"x 4'-10"x 43'
17	12"x 4'-10"x 43'
18	12"x 4'-10"x 43'
19	12"x 4'-10"x 43'
20	12"x 4'-10"x 43'
21	12"x 4'-10"x 43'
22	12"x 4'-10"x 43'
23	12"x 4'-10"x 43'
24	12"x 4'-10"x 43'
25	12"x 4'-10"x 43'
26	12"x 4'-10"x 43'
27	12"x 4'-10"x 43'
28	12"x 4'-11"x 43'
29	12"x 4'-11"x 39'-10"
30	12"x 4'-10"x 39'-10"
31	12"x 4'-10"x 39'-10"
32	12"x 4'-11"x 39'-10"
33	12"x 4'-11"x 41'-5"
34	12"x 4'-10"x 41'-5"
35	12"x 4'-10"x 41'-5"
36	12"x 4'-11"x 41'-5"





PERIMETER REINFORCING AT SLEEVES

NOTES:

1) DO NOT DRILL, NAIL, CUT, SCREW OR USE POWER DRIVEN FASTENERS TO PANELS

BOLT TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM

Date	No.	Description	By
2/23/99	1	ISSUED FOR CONSTRUCTION	RWB

REVISION

Designed: MCS | Approved: RWB
Drawn: TSS | Scale: AS NOTED | Date: 12/31/98
Checked: RWB | Project No. 982400.1

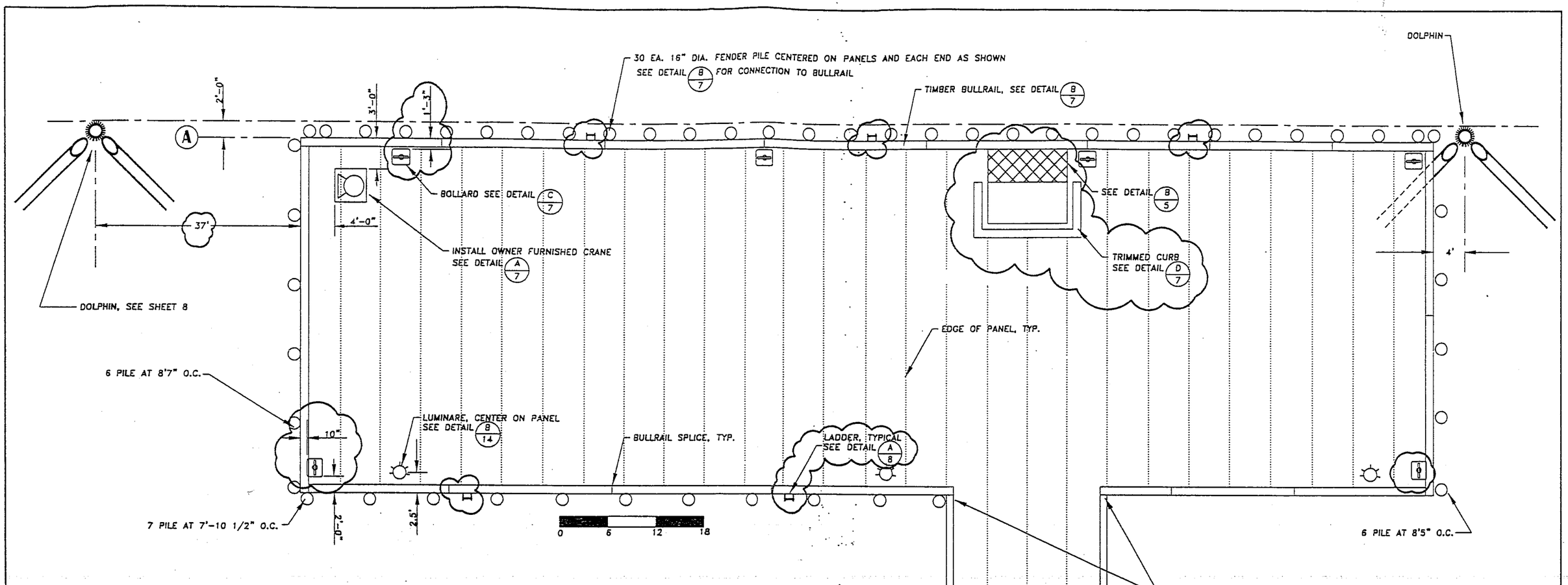
R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

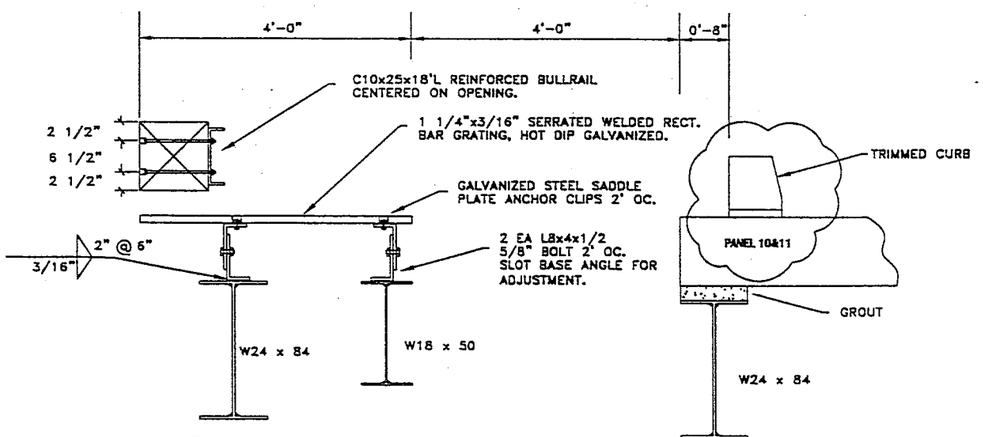
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND INDUSTRIAL SITE

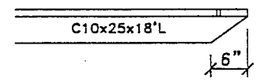
Sheet Description: CONCRETE PANEL LAYOUT

Sheet No. 4

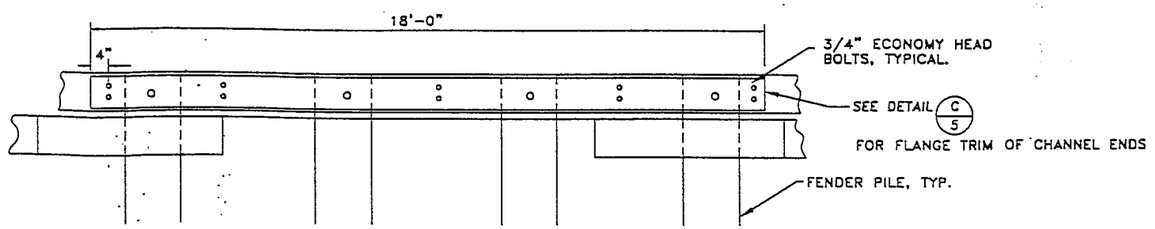




A/5 SECTION VIEW – METAL GRATING



C/5 TRIM CHANNEL



B/5 BULLRAIL CHANNEL REINFORCEMENT BOLT LAYOUT

Date	No.	Description	By
		REVISION	

Designed: | Approved: RWB
Drawn: TSS | Scale: AS NOTED | Date: 2/24/99
Checked: RWB | Project No. 982400.1

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

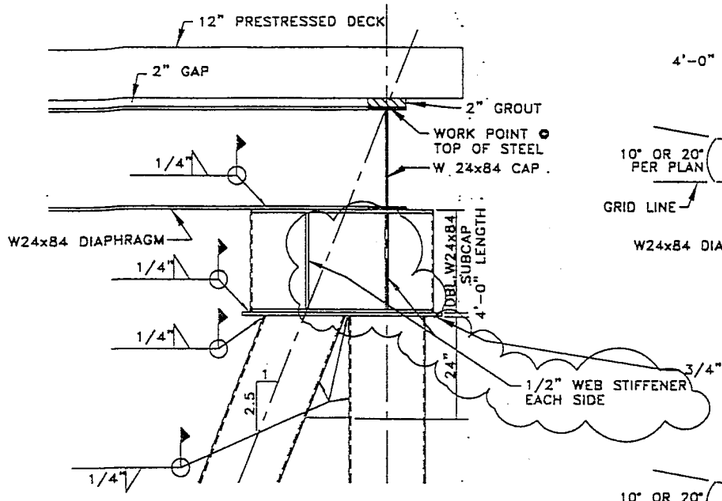
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND INDUSTRIAL SITE

Sheet Description: DOLPHIN & FENDER PILE LAYOUT

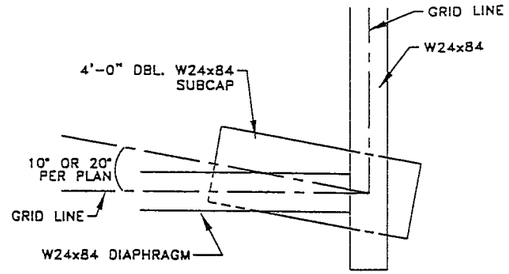
Sheet No. 5

STATE OF ALASKA 49th — MATTHEW BLOOM 3073 - E — REGISTERED PROFESSIONAL ENGINEER

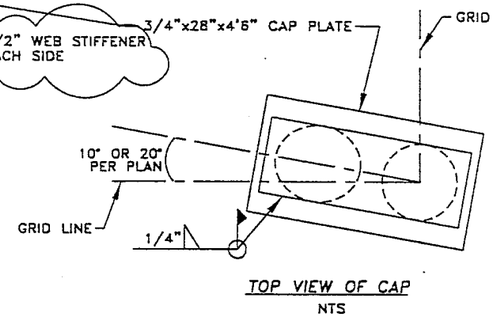


ELEVATION VIEW
NTS

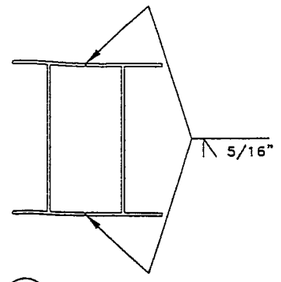
A/6 SUBCAP AT BATTER PILE
NOT TO SCALE



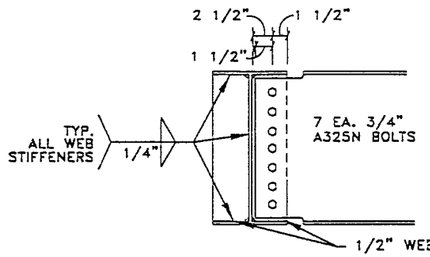
TOP VIEW OF BEAMS
NTS



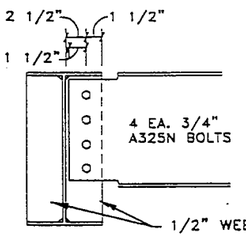
TOP VIEW OF CAP
NTS



B/6 DOUBLE W24x84 CAP
NOT TO SCALE

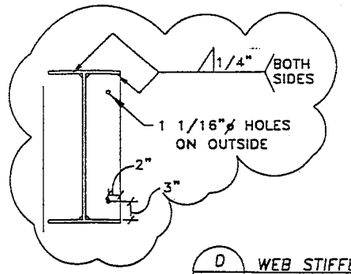


24" DIAPHRAGM CONNECTION



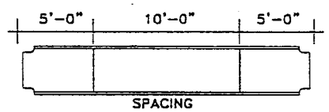
18" DIAPHRAGM CONNECTION

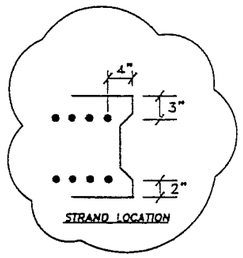
C/6 TYPICAL CAP TO DIAPHRAGM CONNECTION
NOT TO SCALE

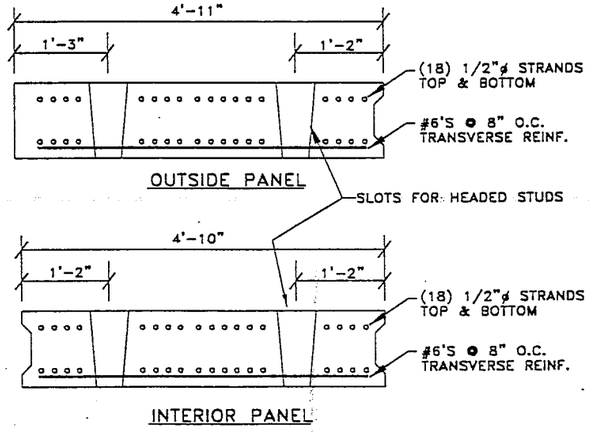


D/6 WEB STIFFENER
NOT TO SCALE

1. WEB STIFFENER TO BE 1/2" PLATE
2. PLACE ON (INSIDE) & OUTSIDE OF DIAPHRAGMS COL LINE 4 FROM C TO G LINE







I/6 TYPICAL PANEL SECTION
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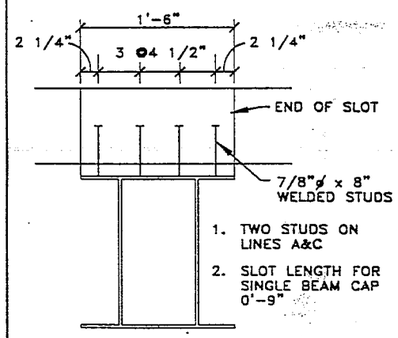

E/6 TYPICAL PANEL SECTION
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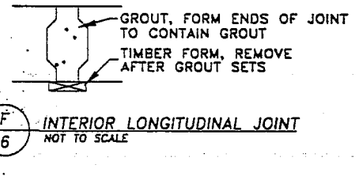
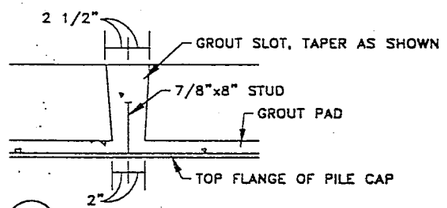
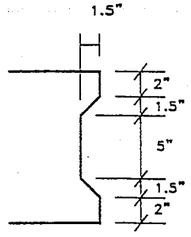


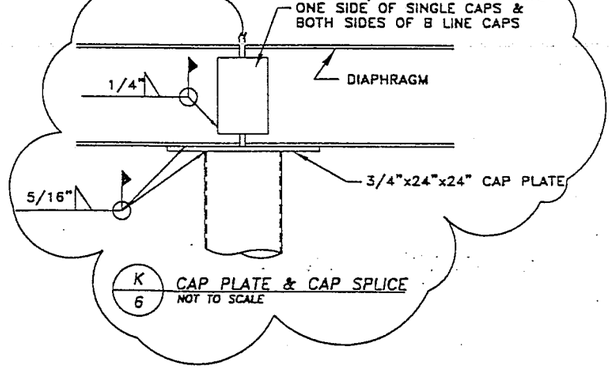
F/6 INTERIOR LONGITUDINAL JOINT
NOT TO SCALE



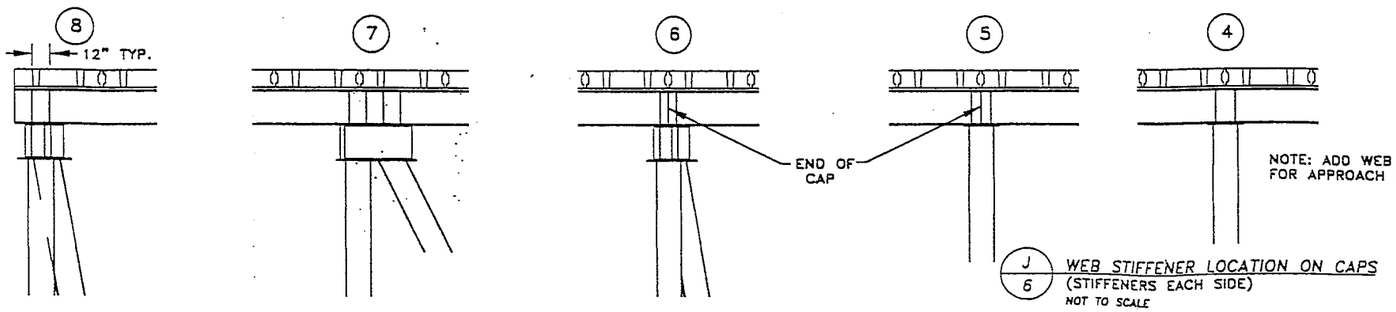
G/6 GROUT SLOT SECTION
NOT TO SCALE



H/6 PANEL INTERIOR SIDE
NOT TO SCALE



K/6 CAP PLATE & CAP SPLICE
NOT TO SCALE



J/6 WEB STIFFENER LOCATION ON CAPS (STIFFENERS EACH SIDE)
NOT TO SCALE

BOLD TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM

Date	No.	Description	By
2/23/99	1	ISSUED FOR CONSTRUCTION	TSS

REVISION

Designed: TSS | Approved: RWB
Drawn: TSS | Scale: AS NOTED | Date: 12/31/98
Checked: RWB | Project No. 982400.1

R&M ENGINEERING–KETCHIKAN, INC.
3535 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

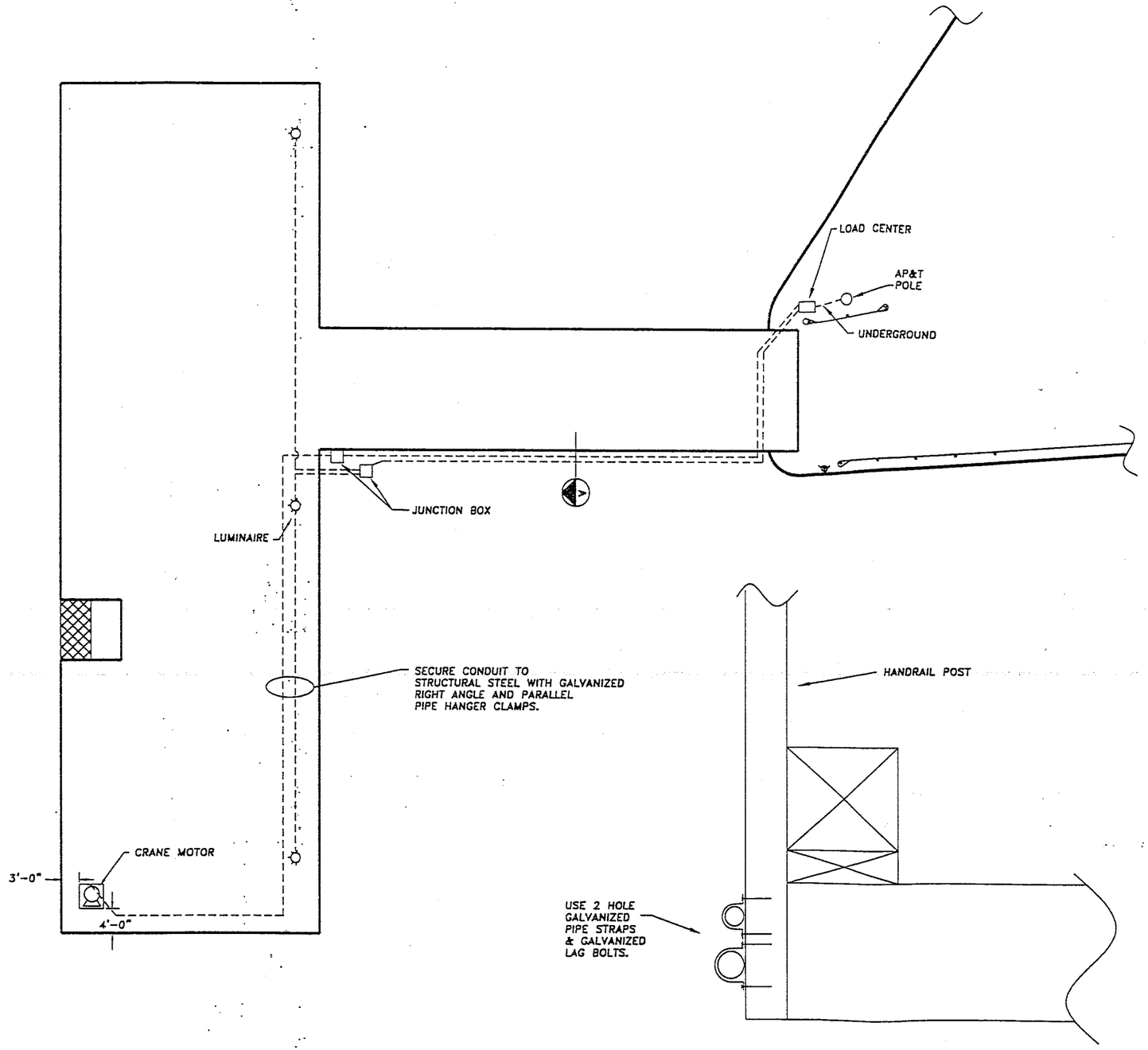
Client: CITY OF CRAIG
BOX 725
CRIAG, AK 99921

Project: FALSE ISLAND INDUSTRIAL SITE

Sheet Description: PILE & PANEL DETAILS

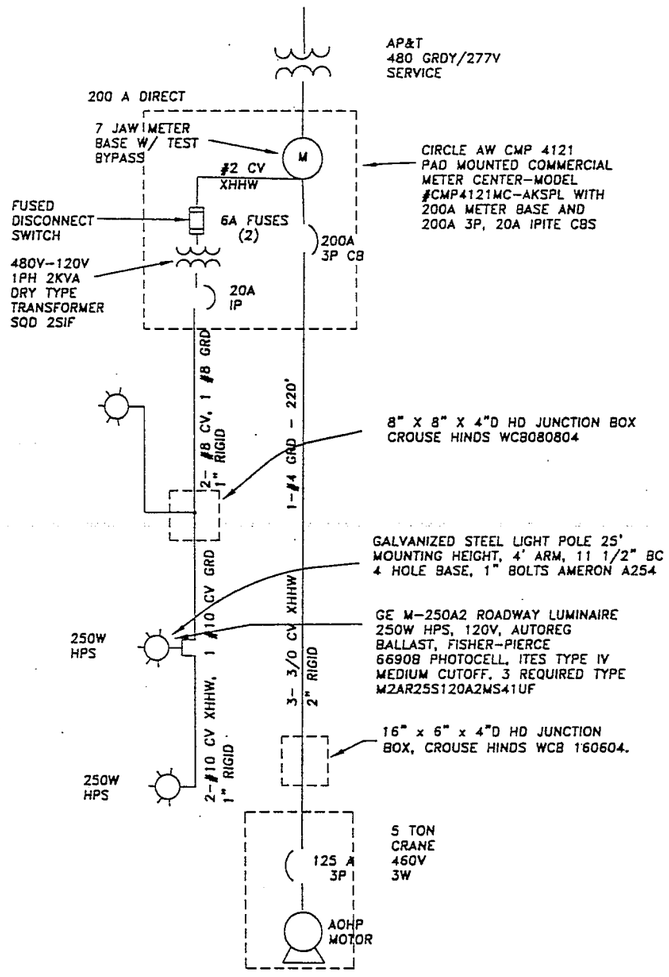
Sheet No. 6

STATE OF ALASKA 49th
RAY BLOOM 3073 - E
REGISTERED PROFESSIONAL ENGINEER



A/13 CONDUIT ON APPROACH DOCK

NOTE: ALL ELECTRICAL WORK TO BE IN COMPLIANCE WITH NATIONAL ELECTRIC CODE (NEC).



B/13 ELECTRICAL SCHEMATIC

				Designed: FWC	Approved: RWB		
2/23/99	1	ISSUED FOR CONSTRUCTION	TSS	Drawn: CDK	Scale: AS NOTED	Date: 12/31/98	
Date	No.	Description	By	Checked: RWB	Project No. 982400.1		
REVISION							

R&M ENGINEERING–KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

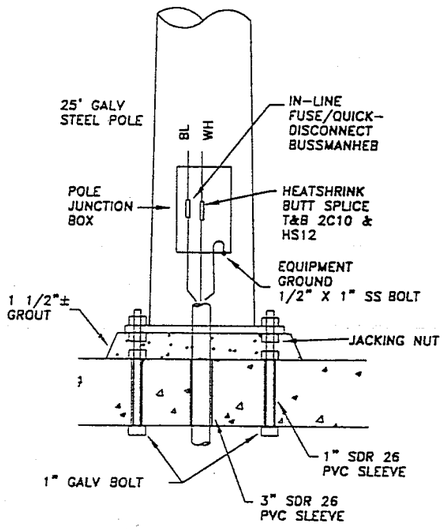
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND INDUSTRIAL SITE

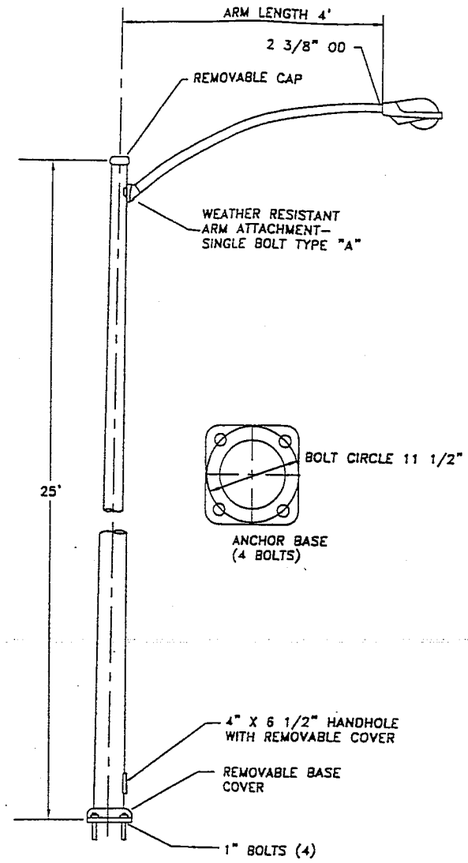
Sheet Description: ELECTRICAL

Sheet No. 13

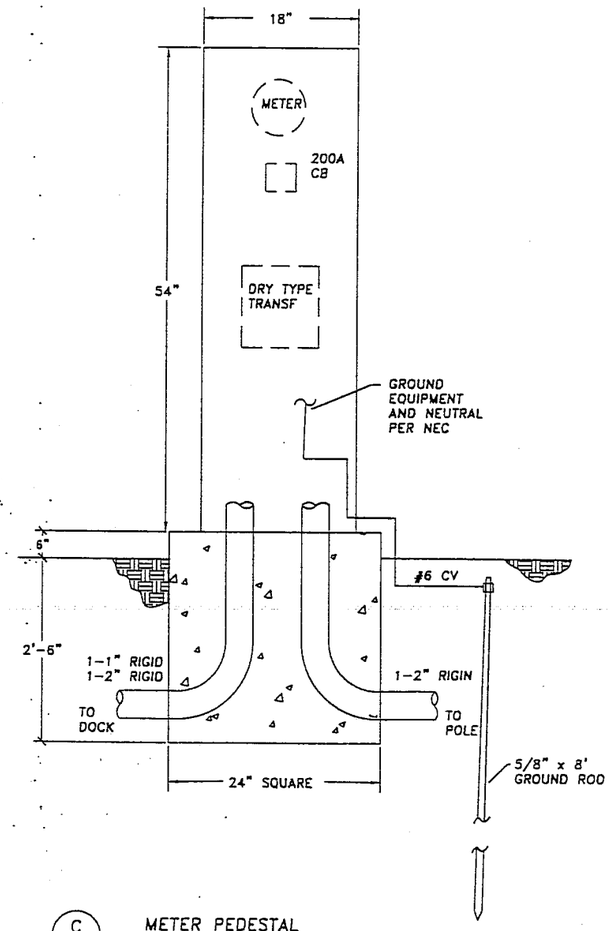
STATE OF ALASKA 49th RAY BLOOM 3073 – E REGISTERED PROFESSIONAL ENGINEER



A/14 LUMINAIRE BASE



B/14 LUMINAIRE



C/14 METER PEDESTAL

Date	No.	Description	By
2/23/99	1	ISSUED FOR CONSTRUCTION	TSS

REVISION

Designed: FMC | Approved: RWB
Drawn: CDK | Scale: AS NOTED | Date: 12/31/98
Checked: RWB | Project No. 982400.1

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND INDUSTRIAL SITE

Sheet Description: ELECTRICAL DETAILS

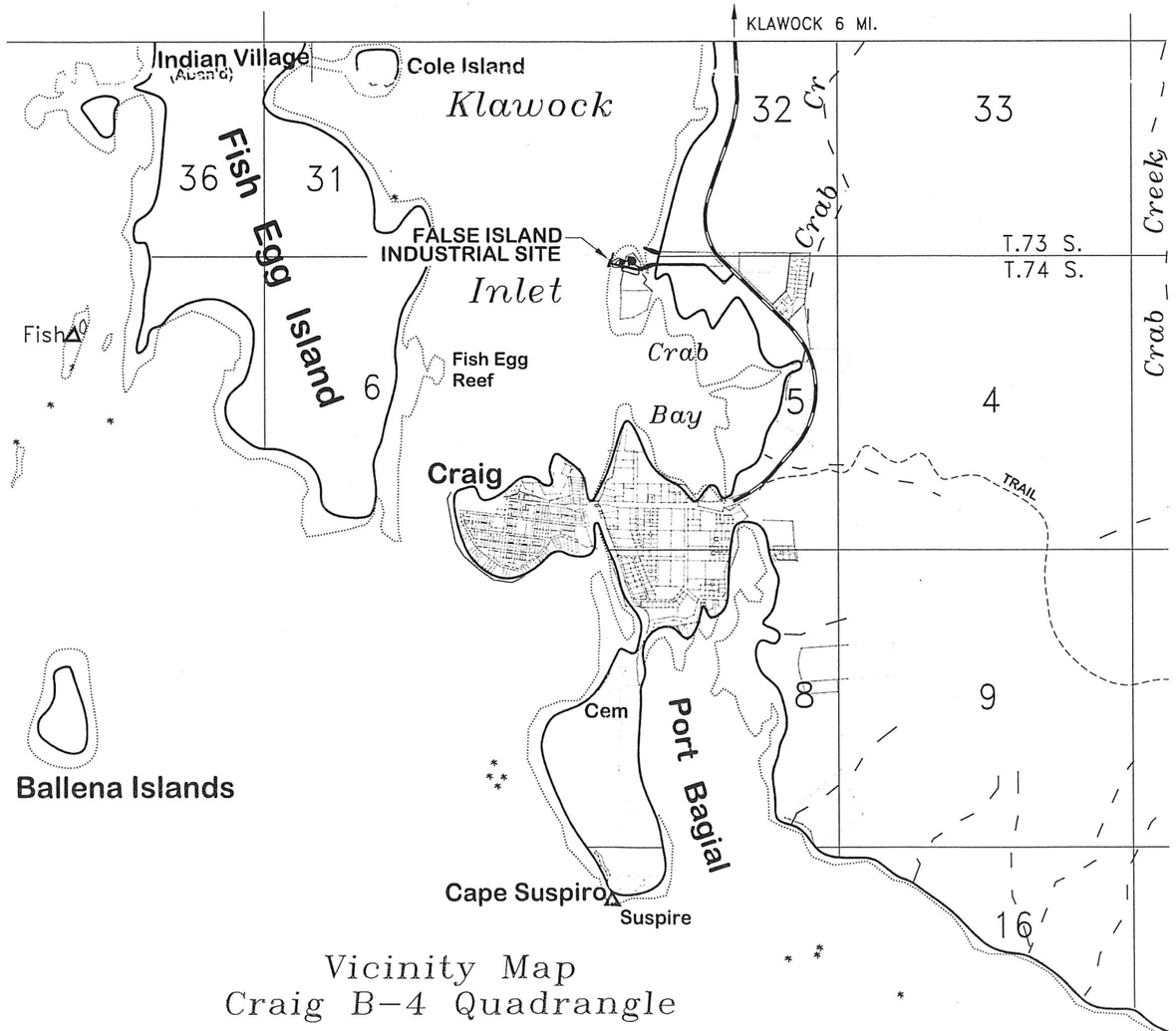
Sheet No. 14

STATE OF ALASKA 49th RAY BLOOM 3073 - E REGISTERED PROFESSIONAL ENGINEER

CITY OF CRAIG, ALASKA

FALSE ISLAND
ICE HOUSE DOCK EXPANSION

8/10/01



Vicinity Map
Craig B-4 Quadrangle

0 1/2 1 1-1/2 Miles

MAYOR
Dennis Watson

CITY ADMINISTRATOR
Tom Briggs

PUBLIC WORKS DIRECTOR
Mike McKimens

HARBOR MASTER
Mike Kampnich

CITY COUNCIL

Fred Hamilton Sr.
Greg Head
Mike Douville
Millie Stevens
Wanda Rice
Warren Jones

SHEET INDEX

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

PILING DESIGN DATA:

DIAMETER	WALL THICKNESS	STRENGTH
18"	0.500"	Fy=36,000 ksi

NOTE: MINIMUM PILE EMBEDMENT IS 15' UNLESS OTHERWISE NOTED
MINIMUM TIMBER FENDER PILE EMBEDMENT IS 8'.

PILE No.	GRID LINE	BATTER	DESIGN COMP. LOAD (KIPS)	DESIGN TENSION LOAD (KIPS)	MIN. PILE EMBED'T (FEET)	EST. PILE LENGTH (FEET)
1	4C		180	110	--	80
2	4D		180	110	--	60
3	4E		180	110	--	60
4	5C		180	110	--	80
5	5D		280	140	--	70
6	5E		180	110	--	60
7	6C		180	110	--	80
8	6D		280	140	--	70
9	6E		180	110	--	60
10	7C		180	110	--	90
11	7D		280	140	--	80
12	7E		180	110	--	70
13	8C		180	110	--	90
14	8D		180	110	--	80
15	8E		**180**	**110**	--	**70**
16	8E	2.5V:1H	**110**	**110**	--	**60**

*NOTE ESTIMATED PILE LENGTHS ARE APPROXIMATELY 20% PLUS THE LENGHTS OF THE MAIN DOCK PILES.

DESIGN PARAMETERS

Live Load — AASHTO HS-25
50 ton forklift axle load
400 psf

Earthquake — Per AASHTO Zone 3

Mooring Loads 25,000 lb. in any direction

Corrosion — Protection by galvanizing.
Anodes should be added after
10 years for submerged pile protection.

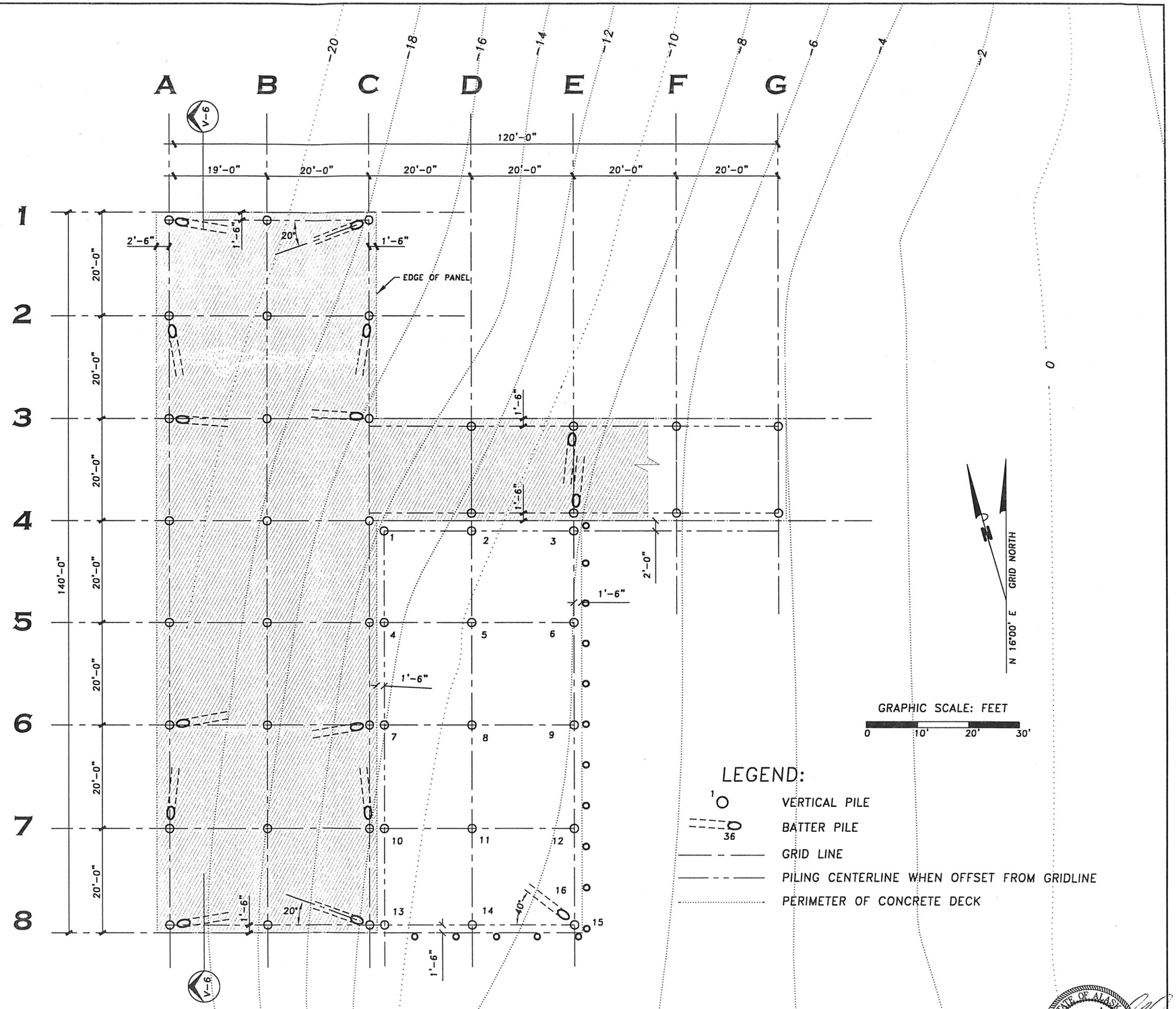
Tidal Range

17.0	Top of Dock
14.0	Extreme High Water – Estimated
9.2	Mean High Water
0.0	Mean Lower Low Water (Datum)
-4.0	Extreme Low Water – Estimated

LAYOUT COORDINATES

GRID LINE	NORTHING	EASTING
GRID 1A	27564.64	17450.13
GRID 1C	27553.89	17487.62
GRID 8A	27432.95	17412.37
GRID 8C	27422.20	17449.86
GRID 3G	27493.39	17553.49
GRID 4G	27477.05	17548.81

NOTE: THE DOCK WAS SHIFTED 10' TO THE WEST
LAYOUT COORDINATES REFLECT SHIFT IN LOCATION



LEGEND:

- VERTICAL PILE
- BATTER PILE
- GRID LINE
- PILING CENTERLINE WHEN OFFSET FROM GRIDLINE
- PERIMETER OF CONCRETE DECK

Date	No.	Description	By
		REVISION	

Designed: JLC | Approved: TSS
Drawn: VHM | Scale: AS NOTED | Date: 02/05/02
Checked: JC | Project No. 002406.01

R&M ENGINEERING–KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND
DOCK AND ICEHOUSE ADDITION

Sheet Description: PILE LAYOUT PLAN

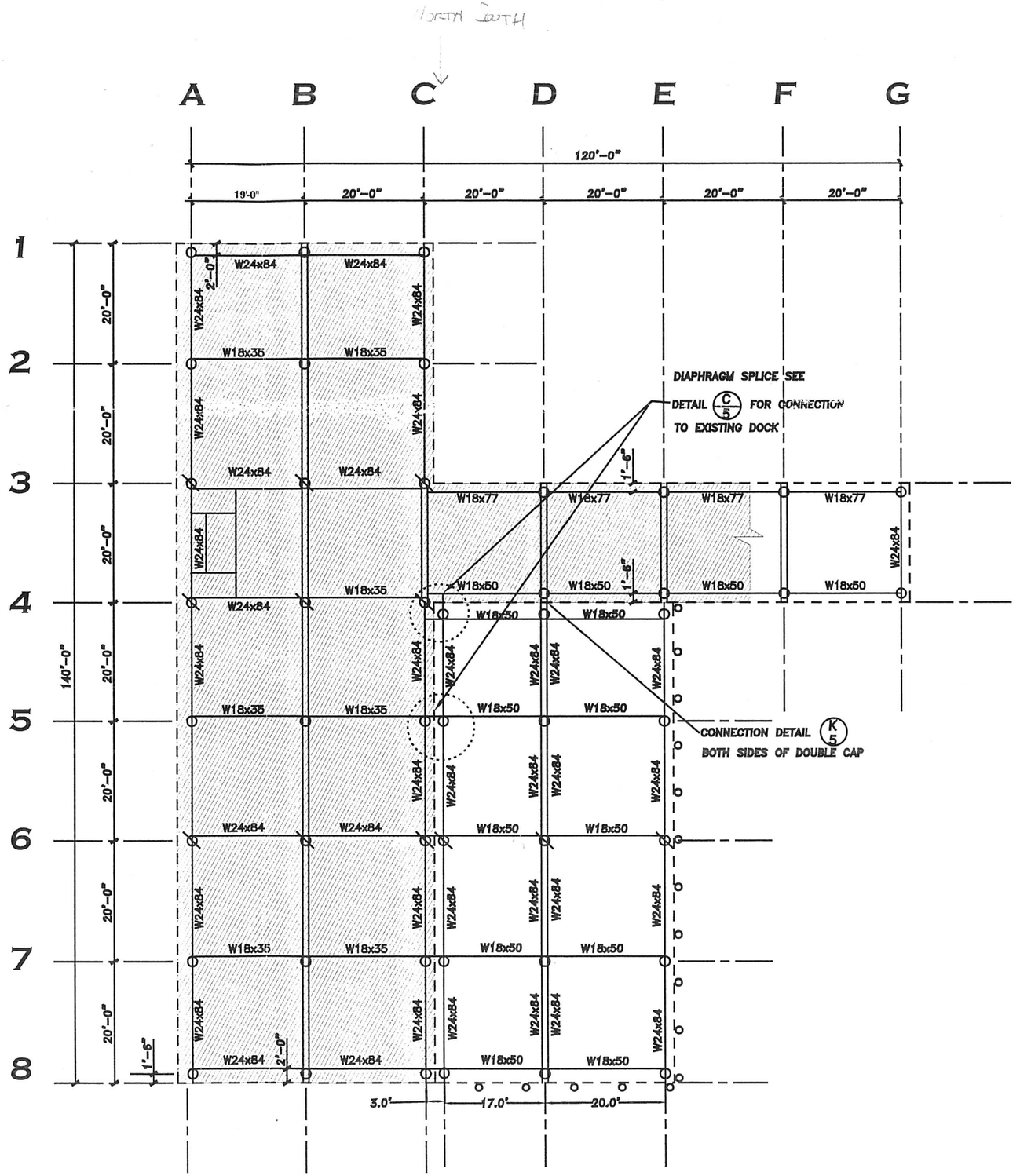
Sheet No. 1

STATE OF ALASKA
49th
JIM COSTALES
CE 10359
REGISTERED PROFESSIONAL ENGINEER

NOTE: DIAPHRAGMS BOLT TO CAP WEB STIFFENER ON SIDE OF PILE SHOWN

GRAPHIC SCALE: FEET

0 10' 20' 30'



LEGEND:

- ○ PILE
- GRID LINE
- W18x54 WIDE FLANGE BEAM WITH SIZE INDICATED
- DOUBLE W24x84
- PILE CAP SPLICE

Date	No.	Description	By
		REVISION	

Designed: JLC | Approved: TSS
Drawn: VHM | Scale: AS NOTED | Date: 02/05/02
Checked: JC | Project No. 002406.01

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

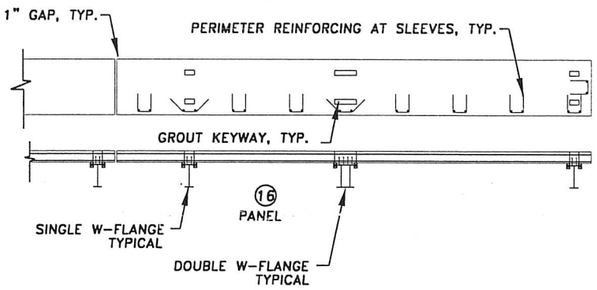
Project: FALSE ISLAND
DOCK AND ICEHOUSE ADDITION

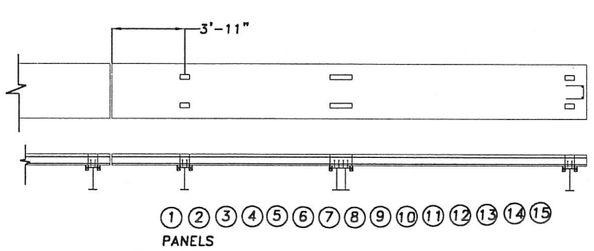
Sheet Description: DOCK FRAMING PLAN

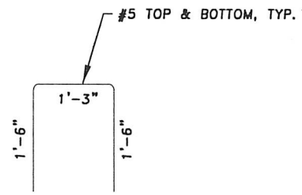
Sheet No. 2

STATE OF ALASKA
49th
JIM COSTALES
CE 10359
REGISTERED PROFESSIONAL ENGINEER

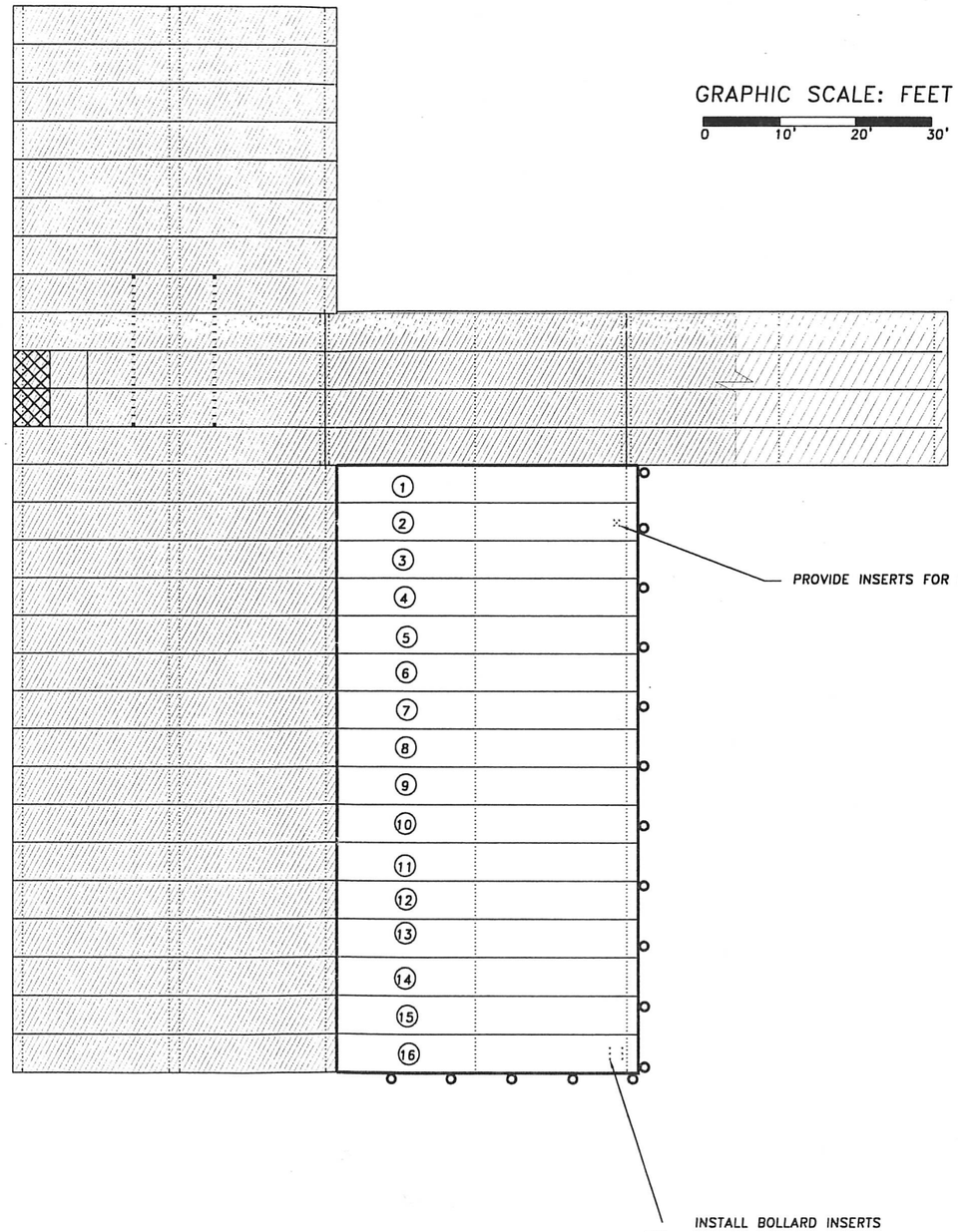
TYPICAL REINFORCEMENT LAYOUTS
NTS



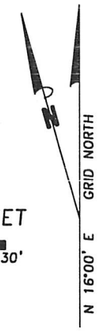




PERIMETER REINFORCING
AT SLEEVES



GRAPHIC SCALE: FEET
0 10' 20' 30'



PRE-CAST PANEL DATA

No.	SIZE
1	12" x 4'-10" x 39'-11"
2	12" x 4'-10" x 39'-11"
3	12" x 4'-10" x 39'-11"
4	12" x 4'-10" x 39'-11"
5	12" x 4'-10" x 39'-11"
6	12" x 4'-10" x 39'-11"
7	12" x 4'-10" x 39'-11"
8	12" x 4'-10" x 39'-11"
9	12" x 4'-10" x 39'-11"
10	12" x 4'-10" x 39'-11"
11	12" x 4'-10" x 39'-11"
12	12" x 4'-10" x 39'-11"
13	12" x 4'-10" x 39'-11"
14	12" x 4'-10" x 39'-11"
15	12" x 4'-10" x 39'-11"
16	12" x 4'-11" x 39'-11"

NOTES:

1) DO NOT DRILL, NAIL, CUT, SCREW OR USE POWER DRIVEN FASTENERS TO PANELS

Date	No.	Description	By
		REVISION	

Designed: JLC | Approved: TSS
Drawn: VHM | Scale: AS NOTED | Date: 02/05/02
Checked: JC | Project No. 002406.01

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

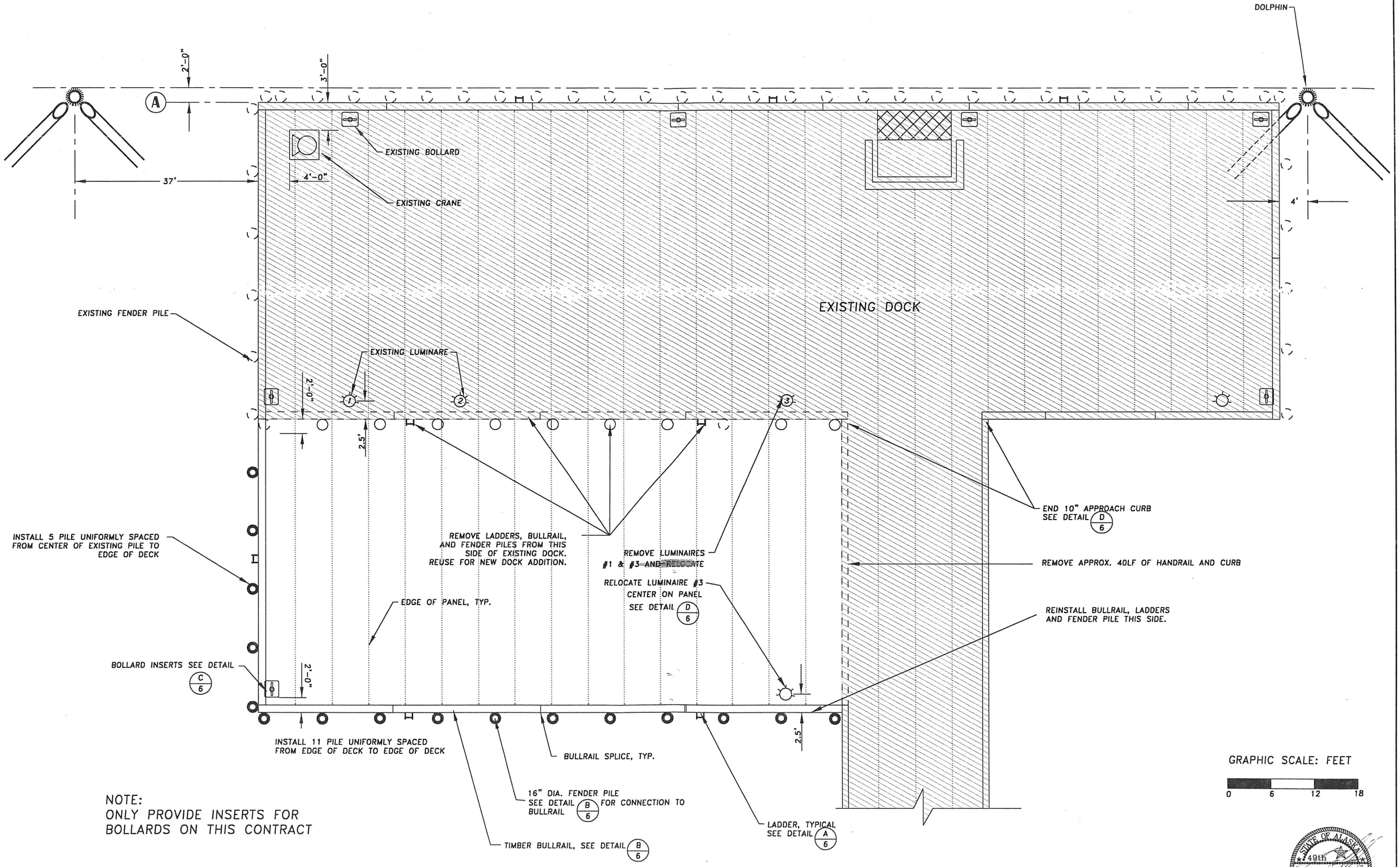
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND
DOCK AND ICEHOUSE ADDITION

Sheet Description: CONCRETE PANEL LAYOUT

Sheet No. 3

STATE OF ALASKA
49th
JIM COSTALES
CE 10359
REGISTERED PROFESSIONAL ENGINEER



NOTE:
ONLY PROVIDE INSERTS FOR
BOLLARDS ON THIS CONTRACT

Date	No.	Description	By
		REVISION	

Designed: JLC | Approved: TSS
Drawn: VHM | Scale: AS NOTED | Date: 02/05/02
Checked: JC | Project No. 002406.01

R&M ENGINEERING–KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

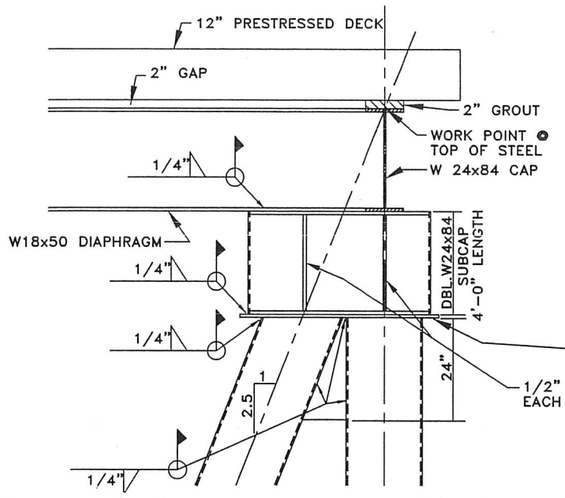
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND
DOCK AND ICEHOUSE ADDITION

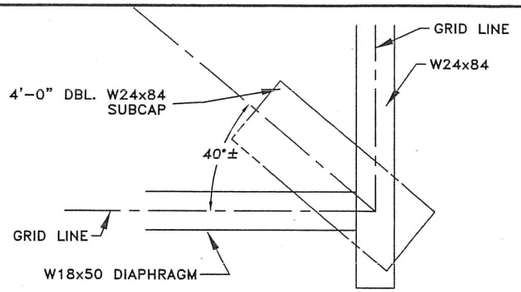
Sheet Description: FENDER PILE LAYOUT

Sheet No. 4

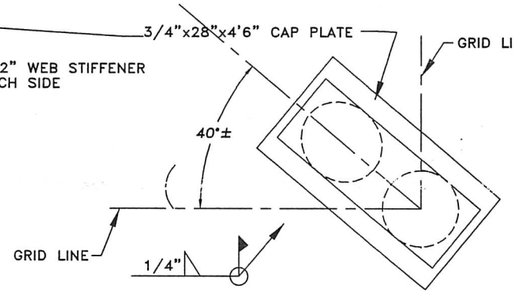
STATE OF ALASKA
49th
JIM COSTALES
CE 10359
REGISTERED PROFESSIONAL ENGINEER



ELEVATION VIEW
NTS

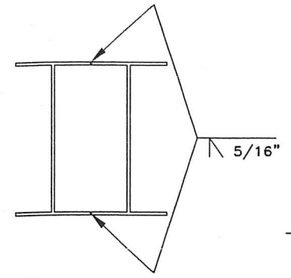


TOP VIEW OF BEAMS
NTS

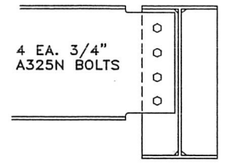


TOP VIEW OF CAP GRID E-8
NTS

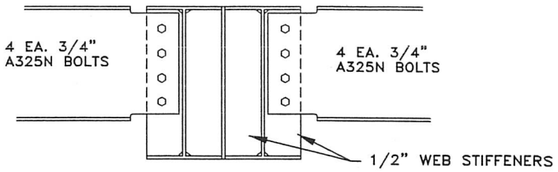
A/5 SUBCAP AT BATTER PILE
NOT TO SCALE



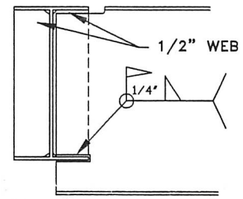
B/5 DOUBLE W24x84 CAP
NOT TO SCALE



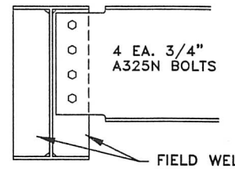
18" DIAPHRAGM TO 24" CAP CONNECTION
GRID LINE E



18" DIAPHRAGM TO 24"DOUBLE CAP CONNECTION
GRID LINE D

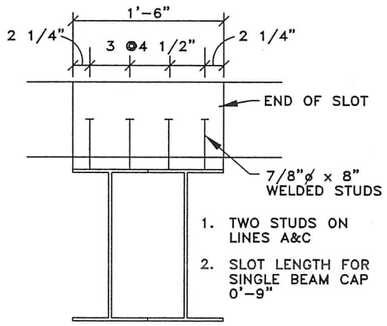


24" CAP TO 18" DIAPHRAGM CONNECTION GRID C.25-4

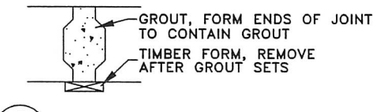


18" DIAPHRAGM TO EXISTING 21" CAP CONNECTION
GRID LINE C (FIVE LOCATIONS)

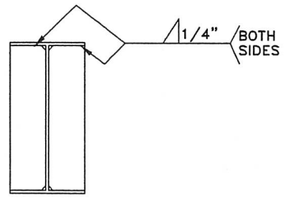
C/5 TYPICAL CAP TO DIAPHRAGM CONNECTION
NOT TO SCALE



E/5 TYPICAL PANEL SECTION
NOT TO SCALE

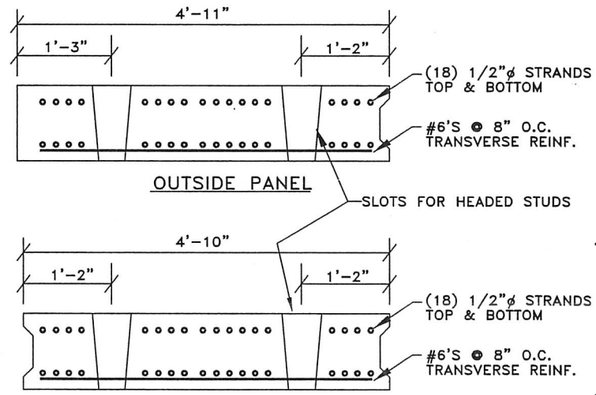


F/5 INTERIOR LONGITUDINAL JOINT
NOT TO SCALE

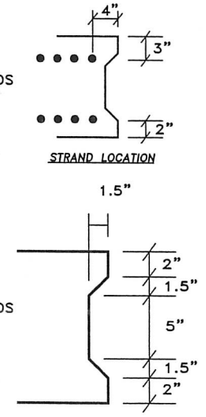


ALL WEB STIFFENERS TO BE 1/2" PLATE

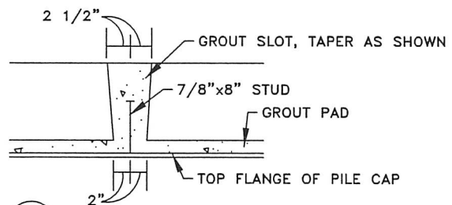
D/5 WEB STIFFENER
NOT TO SCALE



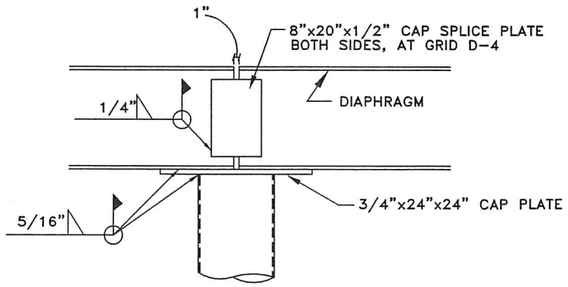
I/5 TYPICAL PANEL SECTION
NOT TO SCALE



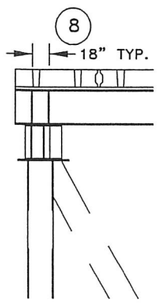
H/5 PANEL INTERIOR SIDE
NOT TO SCALE

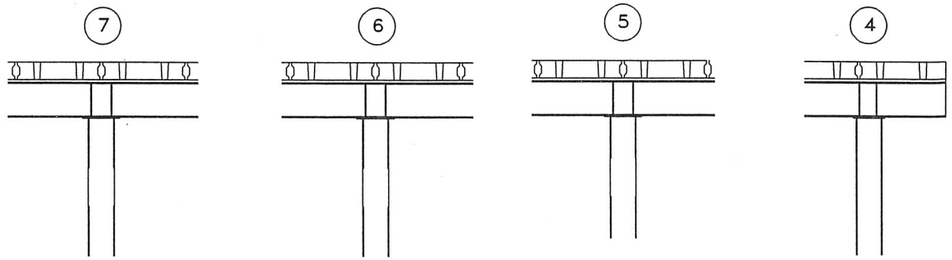


G/5 GROUT SLOT SECTION
NOT TO SCALE



K/5 CAP PLATE & CAP SPLICE
NOT TO SCALE





J/5 WEB STIFFENER LOCATION ON CAPS
(STIFFENERS EACH SIDE)

NOT TO SCALE

Date	No.	Description	By
		REVISION	

Designed: JC | Approved: TSS
Drawn: VHM | Scale: AS NOTED | Date: 08/17/01
Checked: JC | Project No. 002406.01

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

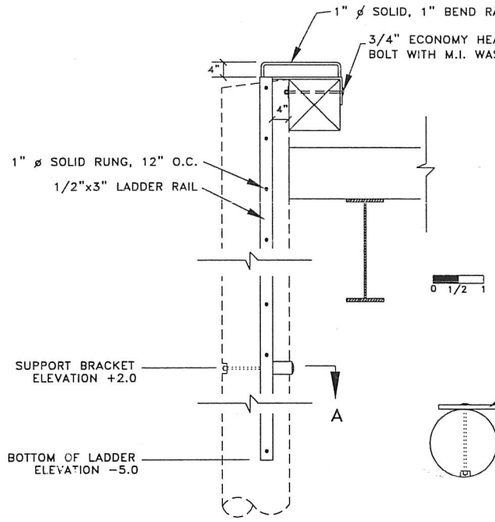
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND INDUSTRIAL SITE

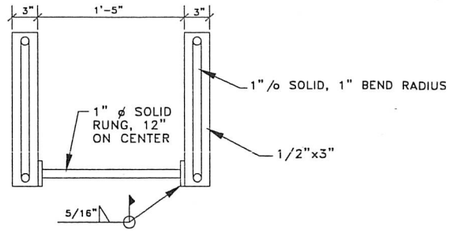
Sheet Description: PILE & PANEL DETAILS

Sheet No. 5

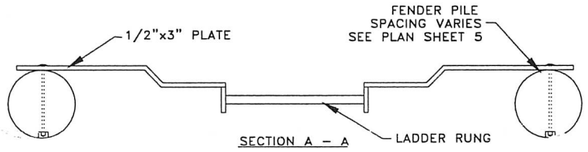
STATE OF ALASKA 49th
JIM COSTALES
CE 10359
REGISTERED PROFESSIONAL ENGINEER



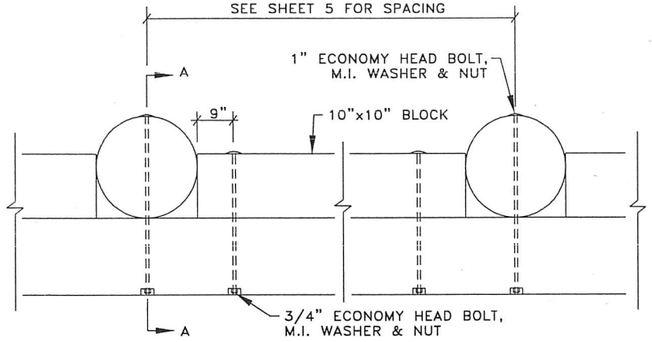
ELEVATION VIEW



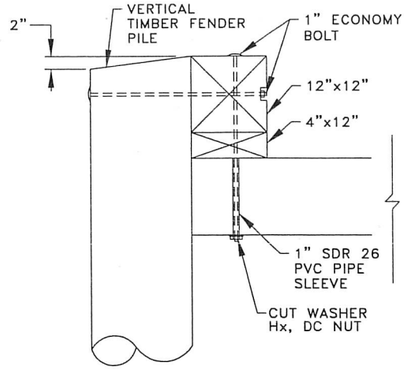
TOP VIEW



A/6 LADDER DETAIL
NOT TO SCALE



PLAN VIEW



SECTION A-A
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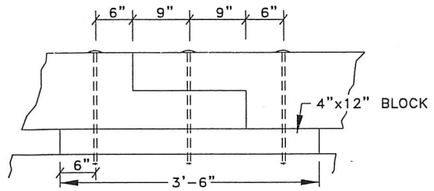
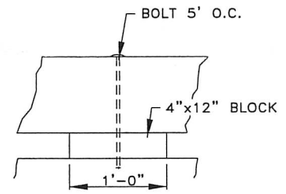
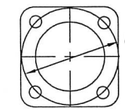


BULLRAIL SPLICE
NTS

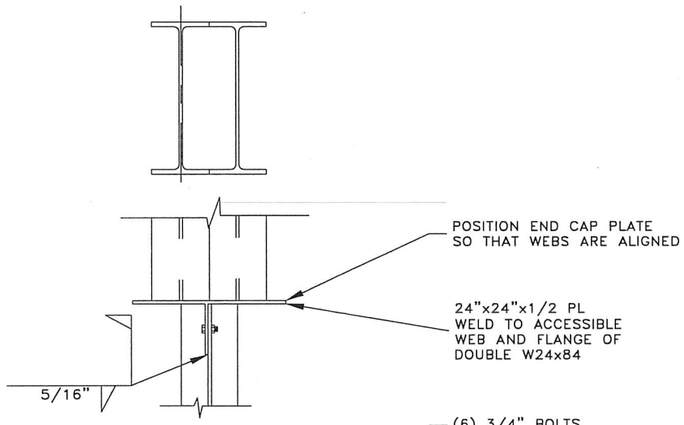


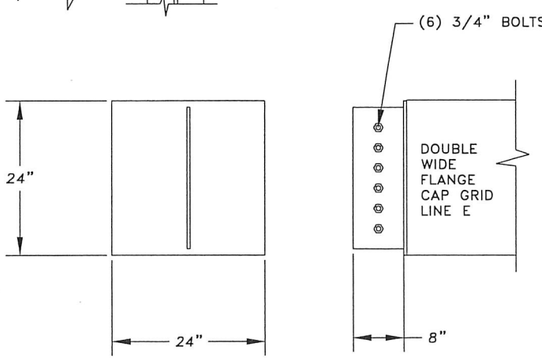
ELEVATION
NTS

B/6 TIMBER BULLRAIL & FENDER PILE
0 1/2 1

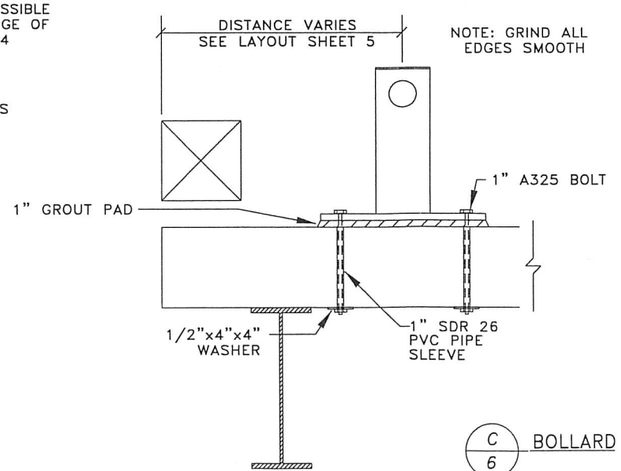


ANCHOR BASE (4 BOLTS)





C/6 GRID E-4 CAP CONNECTION



C/6 BOLLARD
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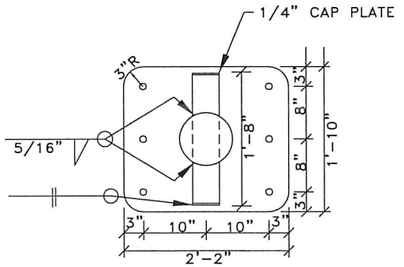
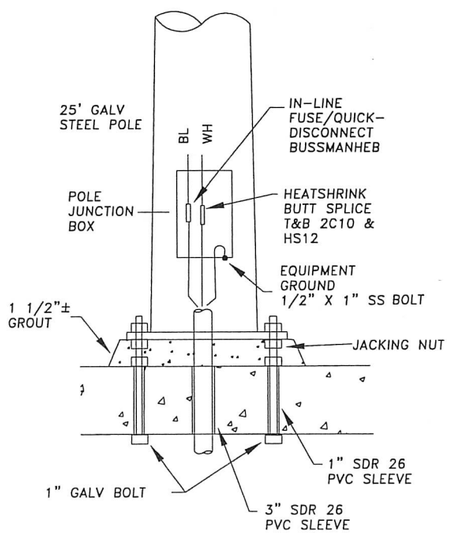




D/6 LUMINAIRE BASE

Date	No.	Description	By
		REVISION	

Designed: JC | Approved: TSS
Drawn: VHM | Scale: AS NOTED | Date: 08/17/01
Checked: JC | Project No. 002406.01

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND
INDUSTRIAL SITE

Sheet Description: LADDER & FENDER DETAILS

Sheet No. 6

STATE OF ALASKA 49th JIM COSTALES CE 10359 REGISTERED PROFESSIONAL ENGINEER

GRAPHIC SCALE: FEET

0 10' 20' 30'

N 16°00' E GRID NORTH

Building

Concrete pad

Pier

DOCK

EXISTING LIGHTED SIGN

EDGE OF PANEL

RELOCATE EXISTING JUNCTION BOXES(2)

6" LIGHT JB 12"x12"x6" NEMA 4X

TWO 2" AND ONE 1" SCH 80 PVC CONDUITS RELOCATE BELOW CONCRETE PANEL

LIGHT JB 12"x12"x6" NEMA 4X

RELOCATED LIGHT

USE EXISTING PENETRATIONS(2) THROUGH CONCRETE ABUTMENT FOR 2" CONDUITS. BORE 2 HOLES THROUGH ABUTMENT FOR TWO 1" RMC TO METER PEDESTAL.

HEAT TRACE CONTROL

REPLACE WITH LARGER 320A COMMERCIAL METER PEDESTAL. PEDESTAL ADD NEW 2" RMC FOR ICEHOUSE AND NEW 1" RMC FOR WATER LINE HEAT TRACE.

INTERCEPT EXISTING CONDUITS

EXISTING 3" PVC CONDUIT INSTALL 350 AL QUADPLEX

CHECK LOCATION

TELEPHONE PEDESTAL

NEW AP&T TRANSFORMER SEE AP&T CONCRETE PAD DETAIL

5'

EXISTING DOCK

RELOCATED LIGHT

ELECTRICAL CONNECTION TO ICEHOUSE

8' X 20' CONTAINER

POWER JB 18"x18"x10" NEMA 4X

15 AMPS 10 HP COMP.

CONTROL PANELS

RELOCATE EXISTING 2" CONDUIT

POWER JB 18"x18"x10" NEMA 4X

EXISTING CRANE

ICE MAKER

16' X 36' ICE HOUSE

Guardrail

140'-0"

20'-0"

19'-0" 20'-0" 20'-0" 20'-0" 20'-0" 20'-0"

1'-6" 5'-5" 1'-6"

PATH:			
BY	DATE	DESCRIPTION OF CHANGE	REV

RECORD OF REVISIONS

CITY OF CRAIG, ALASKA

FALSE ISLAND INDUSTRIAL SITE

DOCK AND ICEHOUSE ELECTRICAL PLAN

NORTHSTAR POWER ENGINEERING
P.O. BOX 1337, CRAIG, AK. 99921
(907) 826-2893

DESIGNED BY: F.M.C.

DRAWN BY: F.M.C.

CHECKED BY: F.M.C.

NO. E-1

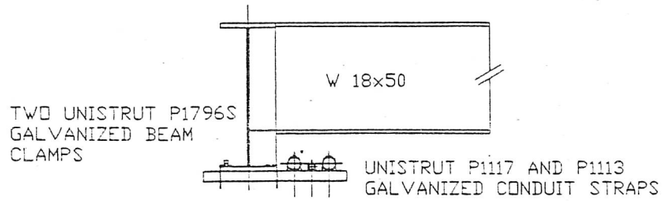
DATE: 12/10/2001

SHEET 1 OF 2

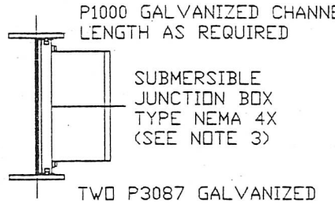
ENGINEER'S SEAL

STATE OF ALASKA 49TH

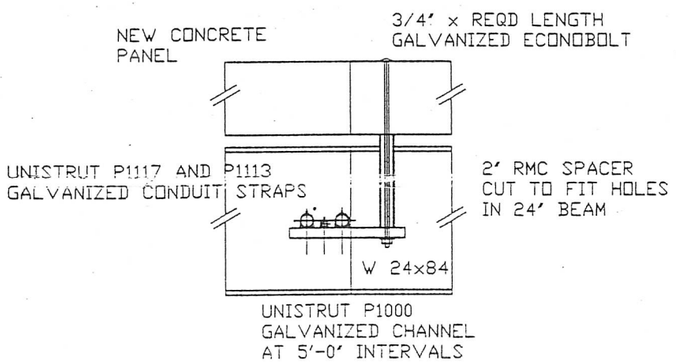
FRANK MICHAEL CARSON No. EE5604 REGISTERED PROFESSIONAL ENGINEER



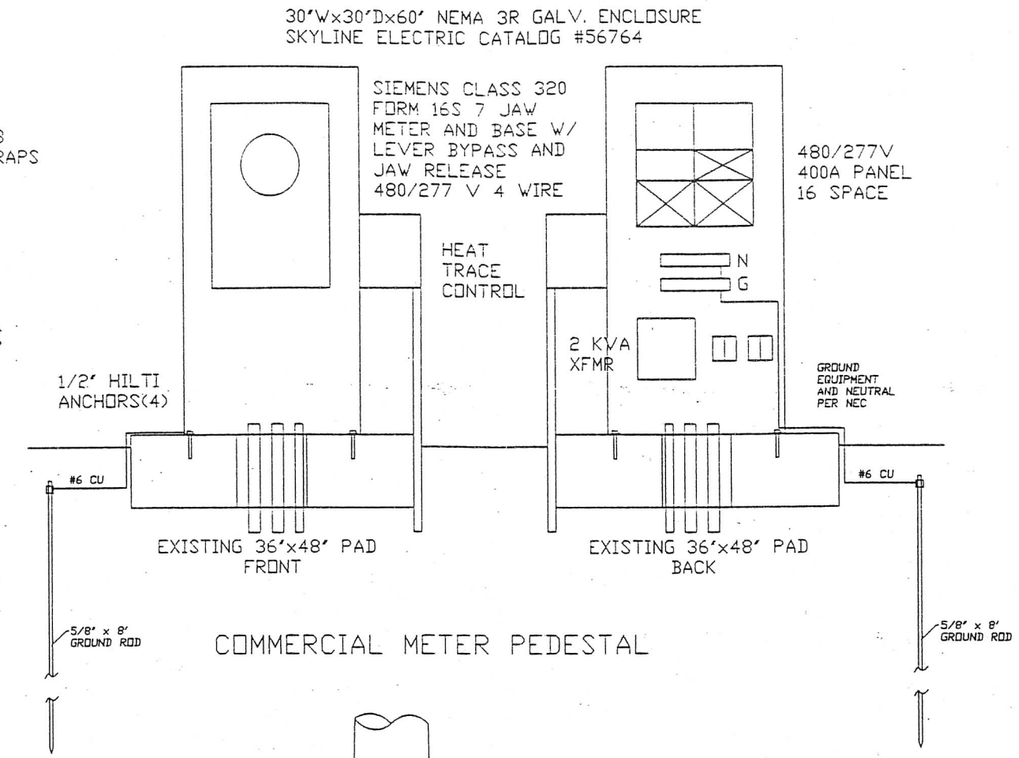
NORTH-SOUTH CONDUIT HANGERS



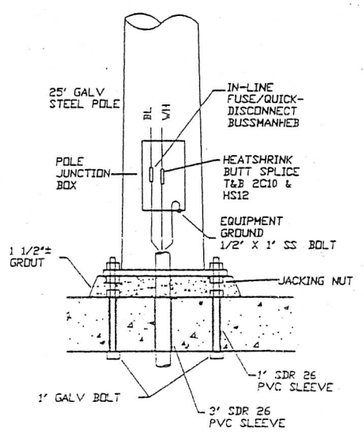
JUNCTION BOX HANGERS



EAST-WEST CONDUIT HANGERS

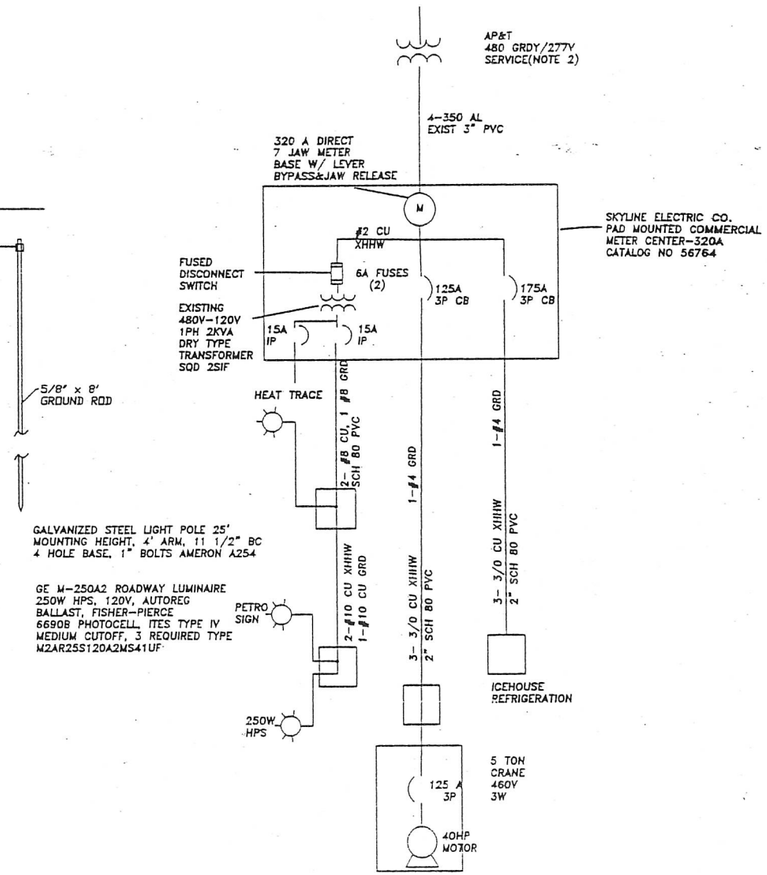


COMMERCIAL METER PEDESTAL



LIGHT BASE WIRING

NOTES:
1. ALL ELECTRICAL WORK TO BE IN COMPLIANCE WITH NATIONAL ELECTRIC CODE (NEC).
2. AP&T TO FURNISH PAD TRANSFORMER. CONTRACTOR SHALL INSTALL CONCRETE SLAB PER AP&T SPECIFICATIONS AND LV CONNECTIONS.
3. JUNCTION BOXES ARE IN A WET AREA. CONTRACTOR SHALL INSTALL WATERPROOF CAST EPOXY SPLICES ON ALL CONDUCTORS(3M OR EQUAL).



SYSTEM ONE LINE DIAGRAM

PATH:			
BY	DATE	DESCRIPTION OF CHANGE	REV

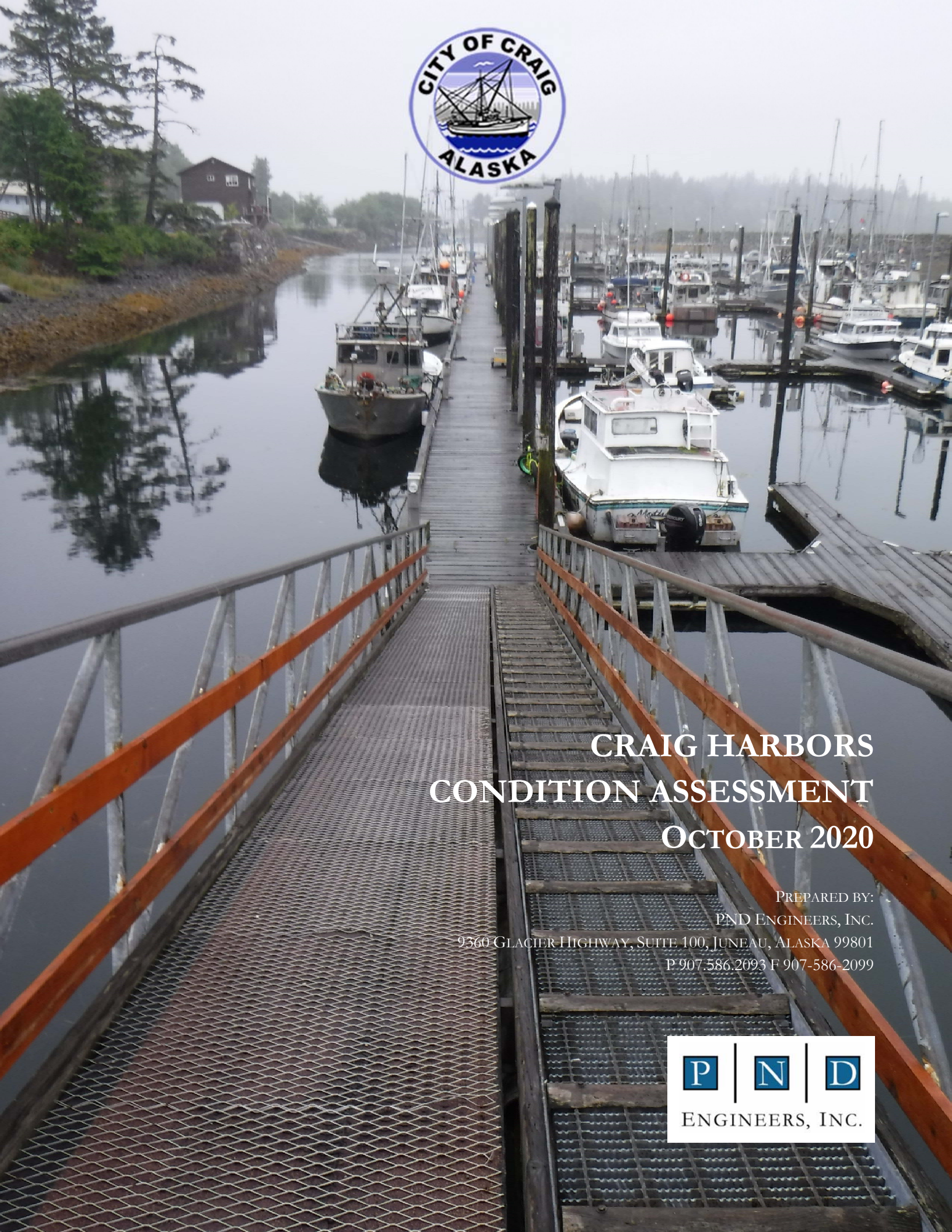
RECORD OF REVISIONS

CITY OF CRAIG, ALASKA
FALSE ISLAND INDUSTRIAL SITE
DOCK AND ICE HOUSE ELECTRICAL DETAILS

NORTHSTAR POWER ENGINEERING
P.O. BOX 1337, CRAIG, AK. 99921
(907) 826-2893

DESIGNED BY: F.M.C.	NO. E-2
DRAWN BY: F.M.C.	DATE: 12/10/2001
CHECKED BY: F.M.C.	SHEET 2 OF 2

ENGINEER'S SEAL



CRAIG HARBORS
CONDITION ASSESSMENT
OCTOBER 2020

PREPARED BY:
PND ENGINEERS, INC.
9360 GLACIER HIGHWAY, SUITE 100, JUNEAU, ALASKA 99801
P 907.586.2093 F 907-586-2099

PND ENGINEERS, INC.

TABLE OF CONTENTS

SECTION 7

FALSE ISLAND INDUSTRIAL DOCK

P | N | D
ENGINEERS, INC.

False Island Industrial Dock

The original design drawings for the False Island Industrial Dock are dated 1998. The dock is comprised of a 20-ft wide by 43-ft long approach and a 140-ft wide (9,831 square foot) main dock. A section of dock that is not shown in the original design (approximately 3,200 square feet) exists at the southeast corner of the dock where the icehouse is located. The dock supports water, electrical and fuel utilities (to the Petro Marine Fuel Float), a large boom/crane (7,200 lbs) and the 16-ft x 36-ft ice house. A steel pile mooring dolphin is located at the northwest corner of the dock.

The dock is supported by 18-in diameter x 0.5-in thick hot-dip galvanized steel pipe piles. Structural framing of the dock consists of steel W24x84 pile caps with either W24x84 or W18x35 steel diaphragms depending on location. The deck consists of 12-in thick precast concrete deck panels with longitudinal grout joints between the panels.

Timber fender piles line the dock face, the south end and a portion of the backside (behind icehouse). Around the perimeter of the dock is a 12x12 bullrail/curb. The perimeter of the approach dock has a 10x10 timber bullrail which supports timber railing. The railing terminates at its intersection with the main dock.

The steel pile mooring dolphin consists of a 24-in diameter x 0.5-in thick vertical 'king' pile and (2) 18-in diameter x 0.5-in thick batter piles. Large tractor tires cover the vertical king pile.

The dock supports a gangway that leads to the adjacent Petro Marine Fuel Float (these facilities were not inspected).

The following conditions were observed:

Observations:

- **Steel Support Piles –** In the splash zone and below, nearly all of the original protective coatings on the steel pipe piles is gone and pile base metal is actively being lost due to the absence of any corrosion protection system. However, at this point in time only minimal loss of pile base metal was measured and similar conditions were observed during the dive inspection at the lower tidal elevations and at mudline. The top 5-ft of pile, near the pile to pile cap connection, is corroded with heavy rust scale appearing on all sides of the pile. Galvanized coatings in this zone are in poor condition, but base metal remains intact.

- **Steel Pile Caps and Diaphragms –** The steel pile caps and diaphragms are generally in fair to good condition. Galvanized coatings at the pile to pile cap connection (area where field welding was performed) are gone and base metal is coated with heavy surface rust. In many locations the lower pile cap flange is rusted full-length of the beam.

- **Fender Piles –** The timber fender piles are in overall good condition with a few exceptions. One of the main (west) dock face fender piles has been damaged/broken, and rot was identified near the location of an access ladder connection bolt. Minor mechanical wear was observed due to vessels berthing against the fender piles but they are in overall good, sound condition. The fender pile tops have remnants of a mastic tar paper installed that is intended to prevent water intrusion into the pile end grain. These original protective coverings are nearly all missing. Chocking between dock fender piles is in good condition.

- **Concrete Deck Panels –** The concrete deck panels are in good condition with no damage observed nor any evidence of structural deterioration.

- **Timber Bullrail/Curb and Railing –** The timber bullrail is in good condition with only minor mechanical wear observed. The timber approach dock railing is also in good condition.

- **Safety/Access Ladders –** The ladders are in poor condition. The lower portions of the ladders are significantly deteriorated with some loss of steel due to corrosion and several with missing rungs making them unsafe and unusable at lower tidal elevations. In addition, many of the ladders are bent due to vessel impact and the connection which secures the ladders to the fender piles has become detached and hence the ladders are loose and unstable.

- **Crane –** The crane base and connection to the dock is in good condition. Operation of the crane was not within the scope of work and thus was not inspected.

- **Life Ring Cabinets –** One life ring cabinet exists at the northeast corner of the dock. The cabinet is currently being held closed with nylon rope due to the door hinges being damaged.

- **Utilities** - The utility connections under the dock are in fair to poor condition. The steel uni-strut supports are heavily corroded due to their close proximity to the water.

- **Mooring Dolphin –** Similar to the dock support piles, the dolphin piles have lost significant portions of their galvanized coating, but base metal is still intact and the piles are structurally sound. The dolphin appears to be in good alignment relative to the main dock face (i.e. no impact damage).

Recommendations:

- **Steel Piles and Superstructure –** The facility is over 20 years old and is in need of attention to maintain and/or extend the intended design service life. In particular, the protective coatings for virtually all steel components have exceeded their useful life and are no longer serving their intended purpose. Of chief concern is steel section loss due to corrosion which translates to reduced structural capacity which would in effect render the dock unsafe and not useable. As a minimum and the short-term goal should be to install adequately sized anodes on all steel piles.

  In the long-term, more comprehensive repairs should be done to protect the piles and dock superstructure. The environment, and consequently the condition of the protective coatings, varies with elevation along the piles. Therefore, it is recommended that providing corrosion protection for the dock and dolphin piles should consist of a three-part system. In the intertidal and submerged zones, it is recommended that sacrificial anodes be installed to effectively reduce the rate of corrosion. Secondly, in the splash zone, it is recommended that petroleum pile wraps with protective outer jacketing be utilized. This system has a proven history of effectively sealing off oxygen which significantly reduces the rate of corrosion. Finally, for the areas where the piles transition to the pile caps and the pile caps themselves, it is recommended the steel be blasted, spray metalized and top-coated with a clear protective layer.

- **Fender Piles –** A competent fender system is critical to the longevity of a dock. It is the single-line of defense which serves to protect the dock from berthing vessels and/or floating debris. Absorption of water into the end grain of the piles and the subsequent development of rot in the wood is a common problem with dock fender piles. This condition has generally been avoided thus far due to the original installation of the pile top coverings. However, it is recommended that the coverings be replaced. Due to the proximity of adjacent piles, the broken fender pile along the south end of the dock face is not an immediate concern, but it is recommended that it be replaced when possible.

- **Safety/Access Ladders –** Although the ladders are in good condition at higher elevations, the ladders are not safe to use at their lower elevations. It is recommended that all ladders be replaced along with all associated connection hardware.

Service Life:

Regular maintenance and diligent monitoring of conditions are all key factors in dictating what the remaining service life will be. The original design drawings call for pile anodes to be installed within 10 years of installation, but this has not occurred and the dock support system has deteriorated significantly. Hence, it is estimated that the remaining service life of the dock is 10-15 years. If cathodic protection is installed and the recommended repairs are made, the remaining useful service life would be extended to approximately 20-25 years.

Overview of dock face.

Ponding of water on approach dock deck.

Typical ponding of water on main dock deck.

Timber bullrail/curb and fender piles at dock face.

Overview of backside of main dock.

Overview of timber fender piles along dock face.

Overview of steel support piles under the dock.

Typical corrosion of steel dock piles in splash zone (above water).

Typical dock support pile surface condition in tidal zone.

Steel dock pile thickness measurement.

Typical corrosion of steel dock pile in splash zone.

Typical corrosion of vertical/batter pile sub-cap weldment.

Typical steel dock framing under dock.

Typical corroded/damaged access ladder.

Typical concrete deck panels under dock.

Crane base on concrete deck.

Fuel line routing under dock at approach/main dock junction.

Fuel line routing alongside approach dock (north side).

Typical deterioration of fender pile end covering.

Life ring cabinet w/ broken door hinge assembly.

SECTION 8

ELECTRICAL CONDITION ASSESSMENT

Photo 1: Service Equipment - Three Ice House Main Circuit Breakers on the Left and Dock Circuit Breaker & Distribution Panel on the Right

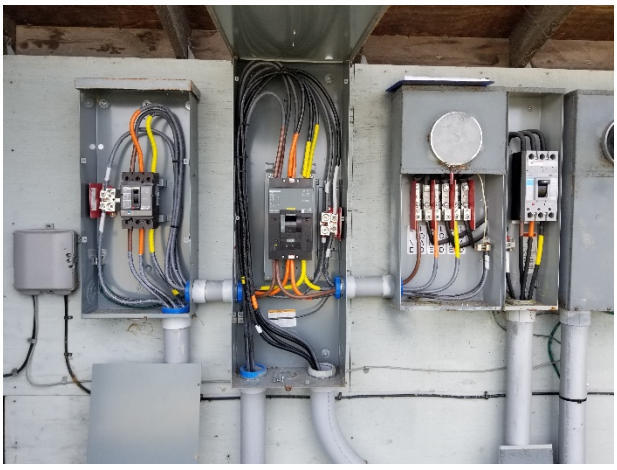


Photo 2: Ice House Service Circuit Breakers

Photo 3: 480 Volt Distribution Panel

Photo 4: Service Equipment and Panelboard for Refrigerated Containers

Photo 5: Dock Crane

Photo 6: Boat Launch Lighting

Assessment

Power System:

1. Service Equipment: The equipment is relatively new and in good condition. No improvements are required.
2. Utility Meters: The main distribution panel inside the shelter is powered from a 200 ampere meter. The main distribution panel also feeds a 208Y/120 volt subpanel through a stepdown transformer and a second meter. The second meter is in series with the first causing the load on the second meter to be recorded to both meters.
3. Distribution Equipment: The distribution panel is in good condition and has capacity for additional loads.
4. Stepdown Transformer and Panelboard: The stepdown transformer is in good condition. The panelboard on the exterior is in fair condition with some corrosion started on the enclosure. The meter for the panelboard is redundant to the meter ahead of the distribution panel. It should be confirmed that the loads to the panelboard are not being double billed.
5. Ground Fault Protection: Ground fault protective relays should be installed for the feeders supporting dock loads per the NEC.

6. Grounding: Additional grounding should be installed with a seawater electrode.
7. The PVC conduits are routed beneath the dock where they are reportedly damaged periodically by debris and possibly due to expansion and contraction failures. These conduit should be replaced with rigid steel conduits routed in routes that are least susceptible to exposure to debris.
8. Electrical Datum Plane: A sign indicating the elevation of the datum plane on the shore and the docks need to be provided at the service main disconnect per the NEC. The sign should identify the highest tide level and the required minimum elevations for electrical connections.
9. Hazard Warning Sign: A sign indicating the potential for electrical shock needs to be mounted near the access to the approach dock per the NEC.

Lighting System:

1. The aerial cable feeding the luminaires mounted piling along the Boat Launch does not have adequate clearance from the ground. An additional pole should be provided near the shore end of the floating dock to reduce the length of the span and to raise it to an appropriate height per the NEC.

Recommendations

Power System:

1. Meters: Review the billing for the two meters for the dock distribution and refrigeration panels. Confirm the readings of the second meter are deducted from the upstream meter.
2. Ground Fault Protection: Provide ground fault relay protection per the NEC. Cost = $7,500.
3. Grounding: Add a seawater electrode. Cost = $1,500.
4. PVC Conduits: Replace PVC conduits routed beneath the dock with rigid steel conduits. Cost = $25,000.
5. Signs: Provide the Electrical Datum Plane and Hazard Warning signs as required by the NEC. Cost = $1,000.

Lighting System:

1. Boat Launch Circuit: Provide a pole to support the first span of aerial cable from the utility shed to the first luminaire. Cost = $5,000.

SECTION 9

DIVE CONDITION ASSESSMENT

CRAIG HARBORS CONDITION SURVEY

Craig, AK

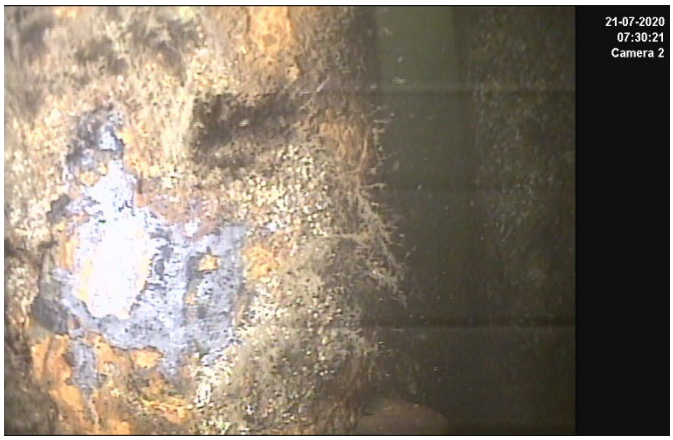
July 21-22, 2020

Prepared for: ***P | N | D Engineers Inc.***
9360 Glacier Highway, Suite 100
Juneau, AK 99801

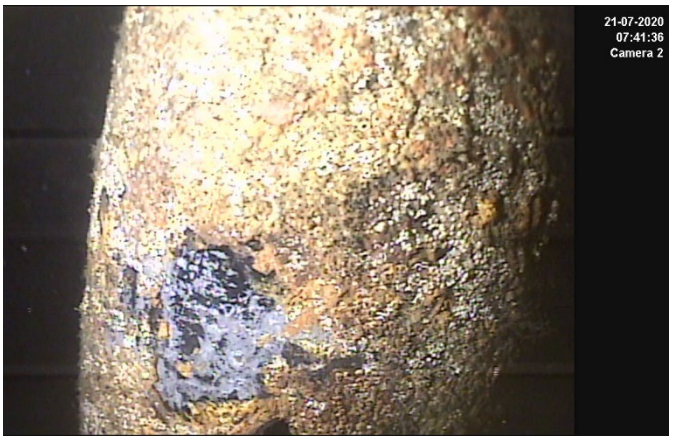
Prepared by: *Alaska Commercial Divers, Inc.*
PO Box 9351
Ketchikan, AK 99901
(907) 247-0771

INDUSTRIAL DOCK:

Level I swim by inspection:	Conducted on all piles under the building and along the fixed pier to shore.
Level II visual inspection:	Conducted on approximately 20% of these piles.
Findings:	All of the piles inspected under the industrial dock building and along pier were steel. All steel piles were in 'GOOD' condition with minor pitting and surface rust.
Recommendations:	Steel piles being retro-fitted with weld on sub-surface anodes just above mudline to extend life of piling.

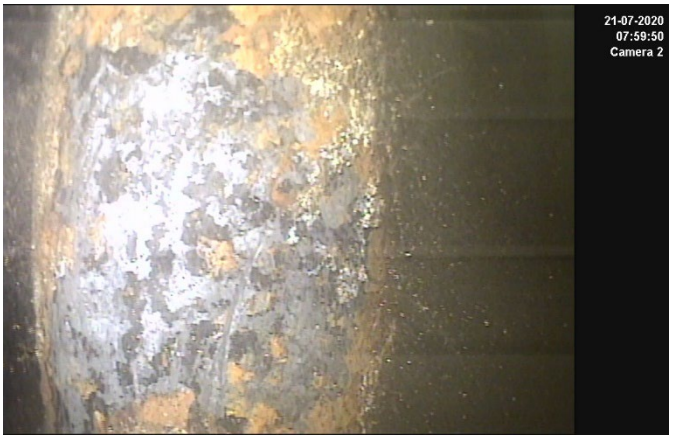


INDUSTRIAL DOCK: Steel pile



INDUSTRIAL DOCK: Steel pile

INDUSTRIAL DOCK: Steel pile



INDUSTRIAL DOCK: Steel pile