

File No.: 04-1000-20-2020-616

May 4, 2021

s.22(1)

Dear s.22(1):

Re: **Request for Access to Records under the Freedom of Information and Protection of Privacy Act (the "Act")**

I am responding to your request of November 17, 2020 for:

**All records, documents, emails, correspondence, memos, notes, directives, reports, inspections and any other materials created, received or issued by the City of Vancouver, Vancouver Parks Board, and the Burrard Bridge Civic Marina, that are in any way related to the jib crane located on the jib crane dock at the Burrard Bridge Civic Marina. Date range: November 1, 2019 to November 17, 2020.**

All responsive records are attached\*. Some information in the records has been severed, (blacked out), under s.13(1) and s.22(1) of the Act. You can read or download this section here: [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/96165\\_00](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96165_00)

\*Please note, this is a phased release one of two as the City has located 15 additional pages which require the third party to review under s.23 of the Act. You will receive separate correspondence regarding those pages.

Under section 52 of the Act, and within 30 business days of receipt of this letter, you may ask the Information & Privacy Commissioner to review any matter related to the City's response to your FOI request by writing to: Office of the Information & Privacy Commissioner, [info@oipc.bc.ca](mailto:info@oipc.bc.ca) or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number (#04-1000-20-2020-616); 2) a copy of this letter; 3) a copy of your original request; and 4) detailed reasons why you are seeking the review.

Yours truly,

Cobi Falconer, FOI Case Manager, for

[Signature on file]

**Barbara J. Van Fraassen, BA**  
**Director, Access to Information & Privacy**

[Barbara.vanfraassen@vancouver.ca](mailto:Barbara.vanfraassen@vancouver.ca)  
453 W. 12th Avenue Vancouver BC V5Y 1V4

\*If you have any questions, please email us at [foi@vancouver.ca](mailto:foi@vancouver.ca) and we will respond to you as soon as possible. Or you can call the FOI Case Manager at 604.871.6584.

Encl.

:aa

**Sarraco Crane Service Ltd.****Jib Crane  
Inspection Report****Date:** November 14, 2019.**Client:** Vancouver Board Of Parks & Recreation, Burrard Marina.**Equipment #** Burrard Marina, Jib Crane, Serial # 13726, Type EF2-020L.**Capacity:** 2500 Lb. Free Standing Jib, 270 degree rot., 10' Span, Fixed Hoist, 15' Lift, 110/1/60.

JIB	Good	Repair	Replace	Comments
Swing	X			
Stops	X			
Festoon	N/A			
Pendant	X			
Capacity Markings	X			
Structure	X			

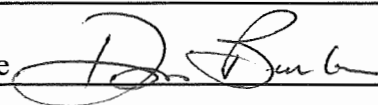
HOIST	Good	Repair	Replace	Comments
Hook	X			
Safety Latch	X			
Load Chain	X			Lubed
Brake Function	X			See below
Upper Limit	X			
Lower Limit	X			
Controls	X			
Hoisting Function	X			
Chain Container	X			

TROLLEY	Good	Repair	Replace	Comments
Travel Function	X			
Wheels	X			
Drop Stops	X			

**Notes**

Hoist brake is glazed and will eventually have to be removed, de-glazed and re-adjusted. Run hoist periodically as moisture will eventually set in and seize brake as it is outside.  
Engineer for recertification of structure has been forwarded to Mr. Tim Collins.

Technician Signature



1140 - 1368 Kingsway Avenue

Port Coquitlam, BC V3C 6P4

Tel: 604 942 8300

Toll Free: 1 877 473 9309

Fax: 604 942 8305

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Email: service@sarracocrane.com

**Sarraco Crane Service Ltd.****Jib Crane  
Inspection Report****Date:** November 26, 2018.**Client:** Vancouver Board Of Parks & Recreation, Burrard Marina.**Equipment #** Burrard Marina, Jib Crane, Serial # 13726, Type EF2-020L.**Capacity:** 2500 Lb. Free Standing Jib, 270 degree rot., 10' Span, Fixed Hoist, 15' Lift, 110/1/60.

JIB	Good	Repair	Replace	Comments
Swing	X			
Stops	X			
Festoon	N/A			
Pendant	X			
Capacity Markings	X			
Structure	X			

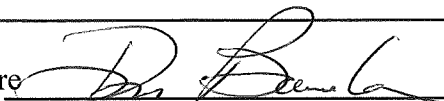
HOIST	Good	Repair	Replace	Comments
Hook	X			See Below
Safety Latch	X			
Load Chain	X			Lubed
Brake Function	X			See below
Upper Limit	X			
Lower Limit	X			
Controls	X			
Hoisting Function	X			
Chain Container	X			

TROLLEY	Good	Repair	Replace	Comments
Travel Function	X			
Wheels	X			
Drop Stops	X			

**Notes**

Hoist brake is glazed and will eventually have to be removed, de-glazed and re-adjusted. Run hoist periodically as moisture will eventually set in and seize brake as it is outside.

Technician Signature



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Email: service@sarracocrane.com



**Sarraco Crane Service Ltd.****Jib Crane  
Inspection Report****Date:** November 17, 2017.**Client:** Vancouver Board Of Parks & Recreation, Burrard Marina.**Equipment #** Burrard Marina, Jib Crane, Serial # 13726, Type EF2-020L.**Capacity:** 2500 Lb. Free Standing Jib, 270 degree rot., 10' Span, Fixed Hoist, 15' Lift, 110/1/60.

<b>JIB</b>	Good	Repair	Replace	Comments
Swing	X			
Stops	X			
Festoon	N/A			
Pendant	X			
Capacity Markings	X			
Structure	X			

<b>HOIST</b>	Good	Repair	Replace	Comments
Hook	X			See Below
Safety Latch	X			
Load Chain	X			Lubed
Brake Function	X			
Upper Limit	X			
Lower Limit	X			
Controls	X			
Hoisting Function	X			
Chain Container	X			

<b>TROLLEY</b>	Good	Repair	Replace	Comments
Travel Function	X			
Wheels	X			
Drop Stops	X			

**Notes**

Dis-assembled and cleaned bottom block, thrust bearing and lubed chain. This should be done frequently.
Recommend keeping a thrust bearing on hand. Contact Lou @ 604-226-8301.

Technician Signature \_\_\_\_\_



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Email: service@sarracocrane.com

**Sarraco Crane Service Ltd.****Jib Crane  
Inspection Report****Date:** November 28, 2016.**Client:** Vancouver Board Of Parks & Recreation, Burrard Marina.**Equipment #** Burrard Marina, Jib Crane.**Capacity:** 2500 Lb. Free Standing Jib, 270 degree rot., 10' Span, Fixed Hoist, 15' Lift, 110/1/60.

JIB	Good	Repair	Replace	Comments
Swing	X			
Stops	X			
Festoon	N/A			
Pendant	X			
Capacity Markings	X			
Structure	X			

HOIST	Good	Repair	Replace	Comments
Hook	X			
Safety Latch	X			
Load Chain	X			
Brake Function	X			
Upper Limit	X			
Lower Limit	X			
Controls	X			
Hoisting Function	X			
Chain Container	X			

TROLLEY	Good	Repair	Replace	Comments
Travel Function	X			
Wheels	X			
Drop Stops	X			

**Notes**

Pendant station enclosed with custom made cover, apperas glued could not inspect contact blocks but operational. Bottom block thrust bearing stiff/worn, replace at next inspection. Hoist brake should be removed, cleaned and de-glazed at next inspection.

Technician Signature



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From: "Lorenzo Sarra" <lorenzo@sarracocrane.com>  
To: "Collins, Tim" <Tim.Collins@vancouver.ca>  
CC: "Lou Sarra" <lou@sarracocrane.com>  
rano <rano@shaw.ca>  
Date: 2/7/2020 11:17:10 AM  
Subject: [EXTERNAL] Burrard Marina Report  
Attachments: 2113-00..pdf  
2113 - Burrard Marina 2500 Lb Jib Crane.pdf

**City of Vancouver Cybersecurity WARNING:** This is an external email. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning Tim,

I hope this email finds you well. Please find attached the completed report regarding PO# 4500597084 for the Burrard Civic Marina jib crane assessment.

The drawing is to be used in conjunction with the report since the report references it. Also, a note on the drawing mentions it should be read only in conjunction with the report

We will provide costing for an NDT inspection and replacement hoist for your records,

Best Regards,

**Lorenzo Sarra**

*President – Algood Caster World*

*Controller – Sarraco Crane Service & Hoist Ltd.*

*Unit 1140 - 1368 Kingsway Avenue Port Coquitlam, BC*

*Canada V3C 6P4 604 942 8300 Toll Free 1 877 473 9309*

*F. 604 942 8305 C. 604 512 9722*

*E. [lorenzo@casterworldbc.com](mailto:lorenzo@casterworldbc.com) E. [lorenzo@sarracocrane.com](mailto:lorenzo@sarracocrane.com)*

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BURRARD CIVIC MARINA  
1655 Whyte Ave, Vancouver, BC  
V6J 1A9

February 6, 2020

Attention: Tim Collins

## **RE: ASSESSMENT OF THE EXISTING 2,500 LB JIB CRANE**

Further to your contract to provide an engineering assessment of the existing 2,500 lb Jib Crane with its support base structure, located at 1655 Whyte Ave in Vancouver, BC, shown on Figure #1, we offer our review and conclusion as follows:

### **DESCRIPTION:**

- Jib Crane has 11'-1" boom length and approximately 18' from wharf platform to underside of the boom beam. Boom beam is W16x40.
- Approximate lift height (measurement for existing hoist) is about 16'.
- Column steel section is round HSS, 16" diameter with 1/2" wall thickness.
- Jib has a single lift point at the end of the boom. There is no trolley present which would run along the boom length.
- Existing hoist is 2,000 kg (4,400 lb) capacity "Kito" electric hoist (see Figure #2).
- Base plate is 1" thick and octagon shaped, with a total width of about 4'. Eight 1/2" stiffener plates were used at the connection between the base plate and the column.
- Below the Jib Crane, steel frame made of HSS 10x6x1/2 sections and C8x13.75 was used to reinforce the existing wharf wood structure for the loading from the Jib Crane (see drawing 2113-00 for details).

### **REVIEW:**

- This assessment deals with the capacity assessment of the Jib Crane and its steel support frame (below the base), as well as the rough analysis of the impact of Jib Crane loads to the existing wharf, specifically its timber piles.
- Jib Crane and support frame are measured, and the drawing is produced (drawing #2113-00 will be provided separate from this report).
- Assessment of the Jib Crane capacity was conducted as per CSA S16-14, standard for steel design. Load combinations used in the assessment are as per BCBC 2018.
- Visual inspection of the Jib Crane and its support structure was conducted on January 27<sup>th</sup> and February 1<sup>st</sup>, 2020.







## **FINDINGS:**

### **Visual Inspection:**

- Visual inspection of the Jib Crane revealed several locations on the Jib Crane steel structure that needs attention and repair. Figure #3 and 4 show the location on the column and the boom beam, that exhibit the paint peeling off and potential weld failure and reduction of the steel member cross section.
- Capacity sign on the Jib Crane column is showing 2,500 lb but the electric hoist has capacity of 4,000 lb (2 Ton). This is not allowed.

### **Structural Assessment as per CSA S16-14 steel design standard:**

- The Live Load (lifted load) used in the analysis of the Jib Crane is 2,500 lb.
- The Jib Crane and its support steel structure (below the base) were found to be well designed for the 2,500 lb lifted load. All steel sections (assuming they are in good condition) have adequate capacity to carry the above stated design load.

### **Jib Crane Loading on existing wharf Timber Piles:**

- Based on the 2,500 lb capacity of the Jib Crane, its boom length, position on the wharf etc., we have found that the maximum loading on the closest timber pile is approximately 7,500 lb (see Figure #5), including the lifted load and the dead load of the steel structure of Jib Crane and its base support frame.
- Knowing that the timber piles are 12" in diameter and that they are Douglas Fir, Class B, Creosote treated (refer to Wharf design drawing 033.001-A0, dated Oct.18, 1963), we can roughly estimate that the 7,500 lb loading from the Jib Crane is about 10-20% of pile's original rated capacity. However, this load rating assumes good condition of the pile and does not account for potential deterioration of the pile.

## **RECOMMENDATIONS:**

Based on everything stated earlier, if the Jib Crane is to remain in operation, following course of action is recommended:

- 1) All the locations where the paint has peeled off and steel structure exhibits significant rust (see Figures 3; 4 and 5) shall be cleaned/ground with a grinder equipped with a wire brush wheel and all the affected welds are to be checked using NDT testing by a specialized company (consult Sarraco Crane). At the same time, the potential reduction of the steel cross sections shall be checked. The results shall be provided to the undersigned engineer for review and comments.







- 2) Existing 2,000 kg (4,400 lb) electric hoist is to be removed since its capacity is higher than the capacity stated on the Jib Crane itself (2,500 lb). The capacity of the Jib Crane and the capacity of the hoist must match. Therefore, it is recommended that the new electric hoist with either 1 Ton (2,000 lb) or 1 Tonne (2,200 lb) capacity be installed, and that the existing capacity sign on the Jib Crane be changed to match the capacity stated on the new hoist.

*(Note that, structurally, the Jib Crane is OK for 2,500 lb capacity which is currently stated, but we believe it is not easy to source the electric hoist to match this capacity, and therefore 1T hoist recommendation above)*

- 3) Once the Items #1 and 2 (given above) have been resolved, Load Test shall be completed using test weights in amount of 125% of new rated load.

Test Weight:  $1.25 \times 2,200 = 2,750$  lb

The undersigned engineer is to be present during the load test and shall monitor the behavior of the Jib Crane and the wharf structure.

Only when the Load Test Sign-Off Sheet has been issued, Jib Crane may be used up to its rated capacity (either 2,000 lb or 2,200 lb, depending on new hoist capacity).

**IMPORTANT:** *This engineering assessment does not include the detailed assessment of the existing wharf wood structure. However, having in mind that the wharf structure is about 57 years old (original drawings are dated October 18, 1963), we must notice it is near the end of its design life, at least when timber piles are considered. Figures #7 and 8 (pages 9 and 10) show the condition of the most loaded timber pile and some citations from wharf design literature regarding estimation of timber piles design life in marine environment. Although the life of the treated timber piles in saltwater environment depends on various factors, the usual estimation is about 50 years. This doesn't necessarily mean that the existing wharf should not be used, but it does provide an insight for future planning of the wharf operations, including the use of the Jib Crane.*

*Based on everything stated above, we cannot guarantee the future usability of the Jib Crane, because it depends not only on the Jib Crane and its support frame steel structure (which we have assessed) but also on the condition of the timber piles. We can only temporarily approve the usage of the Jib Crane (if our recommendations, including the Load Test are completed), with note that the regular inspection of the Jib Crane should also include the wharf timber structure, especially the condition of the closest corner pile. In case if the condition of the critical pile (or other wood members below the Jib Crane) worsens, the Jib Crane shall be put out of service until the detailed evaluation of the wood structure is conducted.*

Please note that this assessment is for the Jib Crane and its support frame as inspected and measured only. Any modification to the structure, or any intentional or accidental overload of the Jib Crane, which is not authorized by us, will make this assessment void and new engineering evaluation will be required.

If you have any questions, please do not hesitate to contact the undersigned.

R. Trapara, P.Eng.

*R. Trapara*



2020-02-07

1140 - 1368 KINGSWAY AVENUE • PORT COQUITLAM, BC •

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[WWW.SARRACOCRANE.COM](http://WWW.SARRACOCRANE.COM)





Figure #1 – Jib Crane and the existing wharf



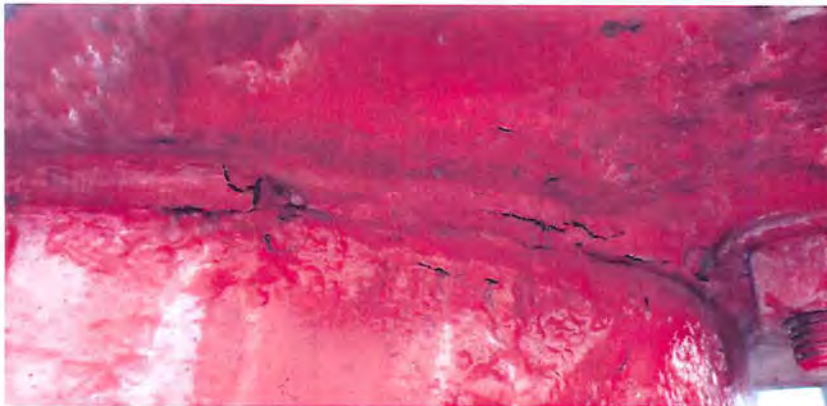




Figure #2 – Existing 4,400 lb (2,000 kg) hoist







**Figure #3** – Connection welds to be cleaned with wire brush wheel and inspected for damage using NDT testing.  
All around the connection between the column and the top plate

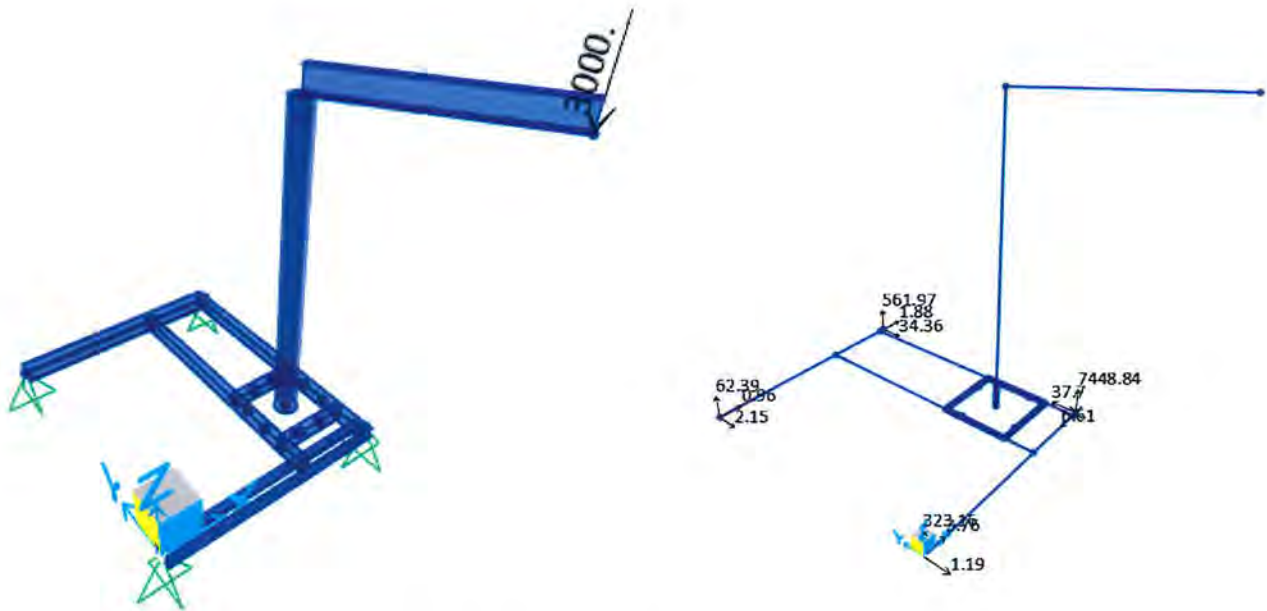




**Figure #4** – Peeled off paint to be removed and thickness of steel to be measured using ultrasound to confirm there is no reduction in cross section







**Figure #6 – Loading on the timber piles**

Left Figure - Column Live Loading (2,500 lb + 15% impact load + 100 lb hoist weight)

*Note: Dead Load of steel structure (weight) included in software based on the input size of the steel sections*

Right Figure – Loading in timber piles (lb) due to Live + Dead loads

Shown above is only the worst-case scenario when fully loaded Jib is rotated directly above the closest pile, which has the greatest reaction force.

Max load in a corner pile due to Dead + Live loads is approximately 7,500 lb which we can roughly estimate as the 10 – 20% of the pile design capacity, based on the pile diameter of 12” and knowing the pile wood grade from the original drawings (Douglass Fir Class B with Creosote treatment).

This estimate of the pile capacity is for the piles in good condition only and does not account for potential deterioration of the pile due to its age (55+ years)





**Figure #7** – The most loaded corner pile (closest to the Jib Crane base plate)







Durability of round timber piles is a function of site specific conditions. FHWA has concluded that :

- Foundation piles submerged in ground water will last indefinitely
- Fully embedded, treated foundation piles partially above the groundwater with a concrete cap will last 100 years or longer.
- Treated trestle piles over land will last about 75 years in northern areas and about 40 years in southern areas of the United States.
- Treated piles in fresh water will last about five to ten years less than land trestle piles in the same area
- For treated piles in brackish water, the longevity should be determined by the experience in the area
- Treated marine piles will last about 50 years in northern climates and 25 years in southern climates.

*FHWA – Federal Highway Association (US)*

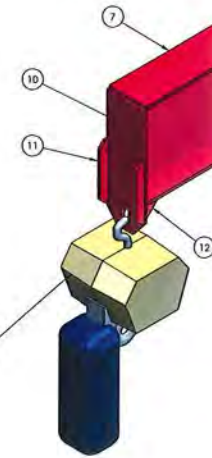
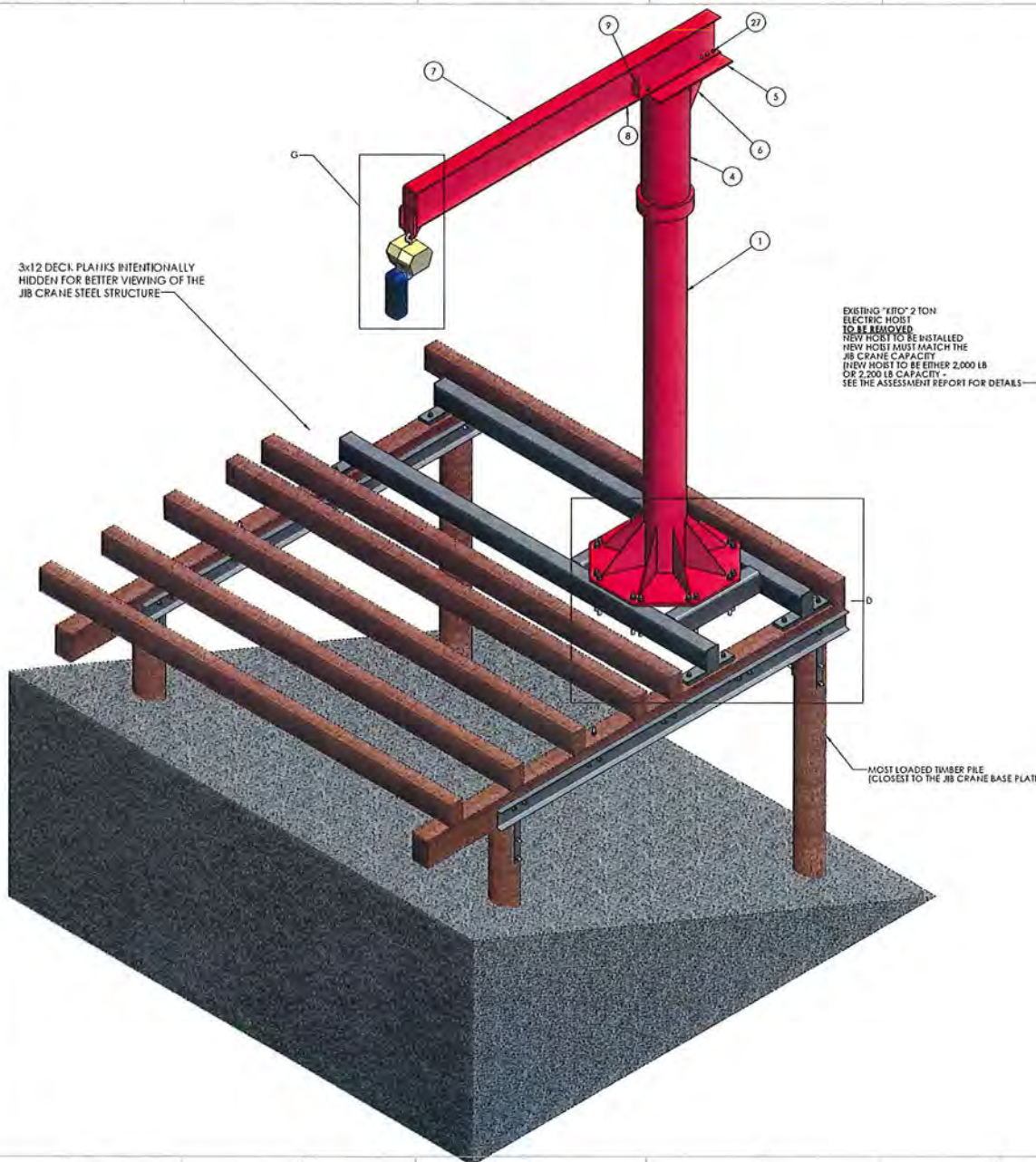
#### Relative Wharf Cost and Average Life Expectancy

Wharf Construction Type	Relative Cost *	Life Expectancy
Untreated timber pile	0.7	10 yrs
Untreated timber cribwork	1.0	15 yrs
Treated timber pile	1.5	30 yrs
Treated timber cribwork	2.0	40 yrs
Steel H-pile	2.0	35 yrs
Precast concrete pile	3.0	60 yrs
Steel sheet pile	3.5	50 yrs
Concrete caissons	4.0	75 yrs

*"Wharf Designs and some Fundamental Considerations" – Fisheries and Oceans Canada, St. John's, Newfoundland (1988)*

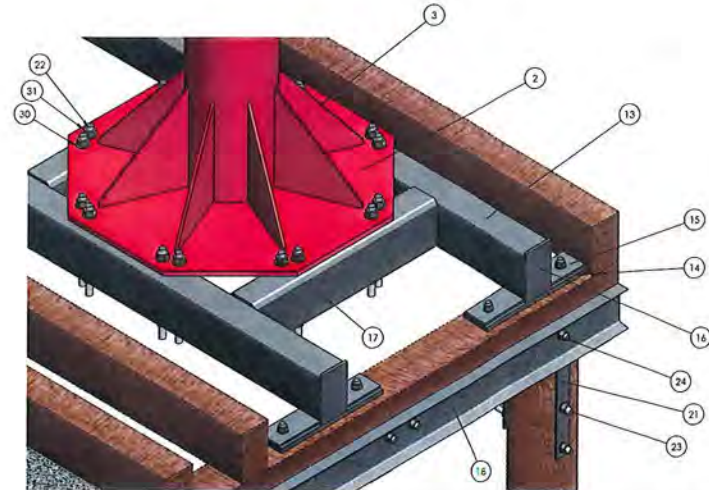
**Figure #8** – Citations from technical literature regarding the design life timber piles in marine environment

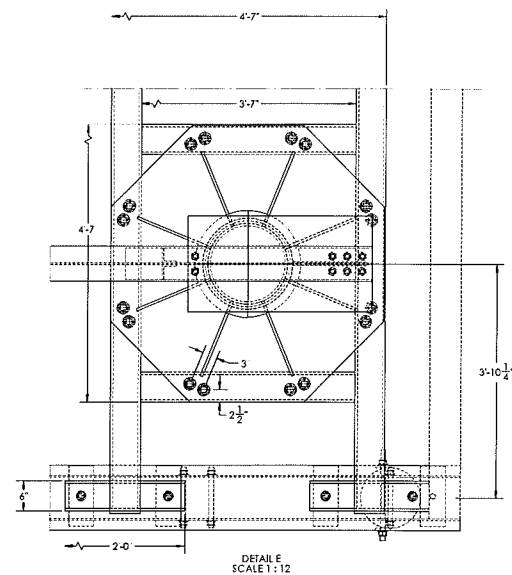
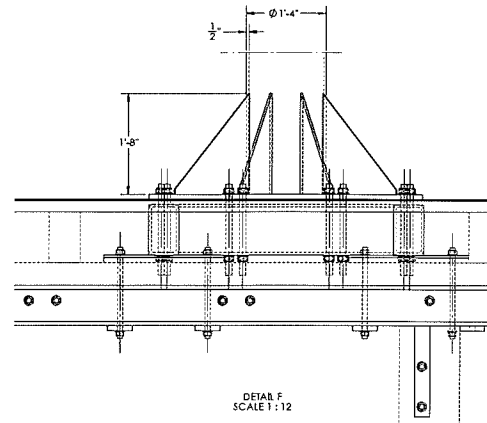
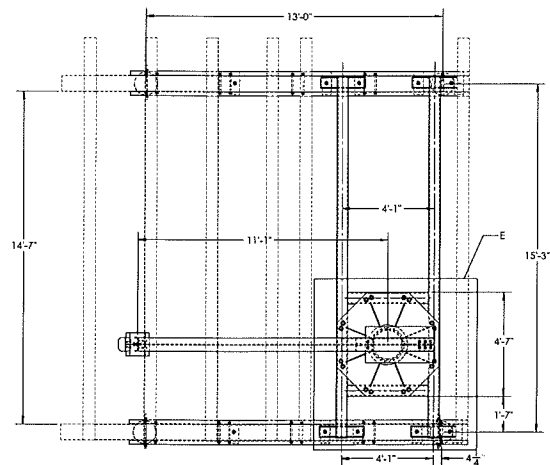
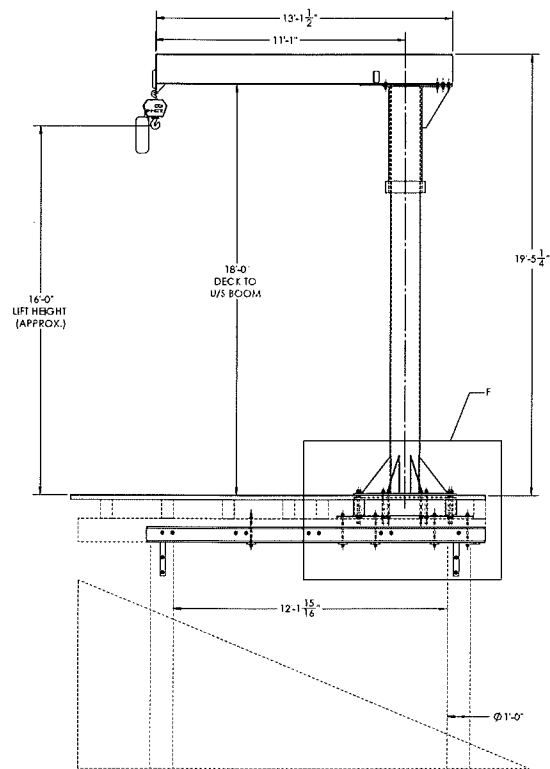




DETAIL G  
SCALE 1:8

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION	Weight
1	1	2113-01	PIPE CD=16", WALL=0.5"	1474.01
2	1	2113-02	FLATE 1" x 55" x 5"	702.56
3	8	2113-03	FLATE 0.5" x 16" x 20"	23.97
4	1	2113-04	PIPE CD=18", WALL=0.5"	357.62
5	1	2113-05	FLATE 0.75" x 19" x 37"	149.14
6	1	2113-06	FLATE 0.75" x 15" x 21.75"	39.57
7	1	2113-07-01	W 16x40	\$28.50
8	1	2113-07-02	FLATE 0.5" x 6.25" x 49.5"	43.25
9	2	2113-07-03	1.0375 x 3 x 3	3.58
10	1	2113-07-04	FLATE 0.5" x 7" x 21"	19.84
11	2	2113-07-05	FLATE 0.5" x 1.5" x 10"	2.60
12	2	2113-07-05	FLATE 0.5" x 4.5" x 4.5"	1.75
13	2	2113-08-01	HSS 10x6x0.5	775.54
14	4	2113-08-02	FLATE 1" x 6" x 24"	40.44
15	4	2113-08-03	FLATE 0.5" x 5" x 24"	16.81
16	4	2113-08-04	FLATE 0.5" x 6" x 10"	8.53
17	2	2113-08-05	HSS 10x6x0.5	175.52
18	2	2113-11-01	C 8x13.75	205.98
19	2	Minor211311-01	C 8x13.75	205.98
20	10	2113-11-02	FLATE 1" x 5" x 12"	16.81
21	16	2113-11-03	FLATE 0.5" x 3" x 18"	7.42
22	16	2113-09-01	THREADED ROD Ø1.25"	6.28
23	16	2113-10-01	THREADED ROD Ø1"	4.02
24	16	2113-10-02	THREADED ROD Ø1"	2.68
25	66	Preferred Narrow Flw 1	FLAT WASHER 1"	
26	66	HXUT 1.0000-D-N	HEX NUT 1"	
27	6	H8011.0750-9-3-2-N	HEX BOLT Ø7/8"	
28	8	Preferred Narrow Flw 0.875	FLAT WASHER 7/8"	
29	8	HXUT 0.8750-9-8-N	HEX NUT 7/8"	
30	32	Preferred Narrow Flw 1.25	FLAT WASHER 1.25"	
31	32	HXUT 1.2500-D-N	HEX NUT 1.25"	

[illegible]



- JIB CRANE ASSESSMENT WAS DONE AS PER CSA S16-14 AND LOAD COMBINATIONS AS PER CBC 2018.
- JIB CRANE MAX WORKING LOAD IS 2,500 LB
- THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE ENGINEERING ASSESSMENT REPORT, DATED February 6, 2020, DEALING WITH THE ASSESSMENT OF THE JIB CRANE AND ITS STEEL SUPPORT STRUCTURE
- ALL THE ITEMS RECOMMENDED IN THE REPORT TO BE COMPLETED (INCLUDING THE LOAD TEST) BEFORE THE JIB CRANE IS TO BE USED.
- THIS IS NOT THE ASSESSMENT OF THE EXISTING WHARF TIMBER STRUCTURE.

FOR RECORD AND COMMENT:  
THIS DRAWING IS FOR RECORD ONLY.  
IT IS NOT TO BE USED FOR CONSTRUCTION.  
IT IS NOT TO BE USED FOR ASSESSMENT.  
IT IS NOT TO BE USED FOR DESIGN.  
IT IS NOT TO BE USED FOR REVIEW.

PROJECT/CLIENT/REFERENCE:	DATE:	WCC Engineering Corp.
DESIGNED BY:	DATE:	2020-02-06
CHECKED BY:	DATE:	2020-02-06
APPROVED BY:	DATE:	2020-02-06
PROJECT/CLIENT/REFERENCE:	DATE:	2020-02-06
DESIGNED BY:	DATE:	2020-02-06
CHECKED BY:	DATE:	2020-02-06
APPROVED BY:	DATE:	2020-02-06
PROJECT/CLIENT/REFERENCE:	DATE:	2020-02-06
DESIGNED BY:	DATE:	2020-02-06
CHECKED BY:	DATE:	2020-02-06
APPROVED BY:	DATE:	2020-02-06
PROJECT/CLIENT/REFERENCE:	DATE:	2020-02-06
DESIGNED BY:	DATE:	2020-02-06
CHECKED BY:	DATE:	2020-02-06
APPROVED BY:	DATE:	2020-02-06

SEE DWG. NO. 2113-00  
SCALE: 1/4"=1'-0"  
SHEET 2 OF 2



## Safety Specialist - Inspection Form

Business Unit: PB	Worksite/Location: Burrard Civic Marina
Department: Burrard Marina	Date: October 30, 2019
Supervisor: Tim Collins	Safety Specialist: Nicole Horspool

### General Description of Site Visit:

Asked to come to site to help new OHS worker rep do a workplace inspection.

### Deficiencies:

Item #	
1	Crane inspection and rigging equipment concerns with untrained marina members using crane on their own and using COV rigging equipment that is not being maintained.
2	Gas fuel station shut off valves blocked and not labelled
3	Waste oil from FCFs being stored out in open on COV property.
4	First aid kit missing and 2019 first aid assessment not done
5	Accessing roof to water hanging baskets <10ft Risk assessment required
6	Light missing in storage shed
7	Fire extinguishers expired, ensure there is a 20 lb fire extinguisher in waste oil storage shed
8	3 locked confined spaces on site but not in database

### Outcomes:

Item #	Action Taken	Date addressed with supervisor	Date Item Completed
1	Consult with Risk Management as to what should be done...		
2	Referred to VFRS fire prevention group	October 31 <sup>st</sup>	
3	Referred to Environmental Protection group	Nov 1 <sup>st</sup>	
4	First aid kit ordered by staff, sent 2017 FA assessment for revision to safety rep	October 31 <sup>st</sup>	
5	Will help develop a risk assessment with staff and supervisor		
6	Put in work request		
7	Put work request in		
8	Referred to Laura for assessments	October 31 <sup>st</sup>	

### Additional Comments:





- TO ACTIVATE CRANE, A REQUEST MUST BE MADE TO MARINA STAFF
- ONLY MARINA MEMBERS MAY USE THE CRANE
- BEFORE OPERATION, SPECIFIC ATTENTION MUST BE TAKEN NOT TO EXCEED LOAD LIMIT
- WHEN IN OPERATION, NO ONE MAY RIDE ON WHAT IS BEING LIFTED
- A SAFE DISTANCE OF AT LEAST 10 FEET MUST BE KEPT FROM ANY OBJECT BEING LIFTED ABOVE DECK LEVEL
- WHEN USE OF THE CRANE IS FINISHED, HOOK AND CABLE ARE TO BE SECURED
- WHEN OPERATION IS FINISHED THE CRANE WILL BE TURNED OFF BY MARINA STAFF
- WORK MAY NOT BE DONE ON ANY OBJECT WHILE IT IS SUSPENDED FROM THE CRANE
- PRESSURE WASHING IS PROHIBITED ON THE CRANE DECK
- THE CRANE WILL NOT BE TURNED ON IN HIGH WINDS















POLYESTER		4 IN. WIDE		10 FT LG.	
TYPE: 3 EE		304D		1102634	
VERTICAL		S.N.		BASKET	
11500		CHOKER		23000	
LBS. CAP.		9000		LBS. CAP.	







# Tools, Machinery & Equipment Program

**Version: 1.00**

**February 28 2019**

REVISION DATE	CHANGE MADE	ACKNOWLEDGEMENTS / AUTHOR
Feb 2019	version 1.00 published	Alan Lund



# Tools, Machinery & Equipment Program

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## **REFERENCES**

The BC Occupational Health and Safety Regulation Part 4.3 – 4.12 and Part 12

4.3 Safe machinery and equipment  
4.4 Conformity to standards  
4.5 Manuals and information  
4.6 Reassembly  
4.7 Information on rated capacity  
4.8 Rated capacity  
4.9 Inspection and maintenance records  
4.10 Authorization  
4.11 Startup  
4.12 Circumvention of safeguards  
Part 12 Tools, Machinery and Equipment  
Part 14 Cranes and Hoist

## **PURPOSE**

The purpose of this program is to provide policies, procedures and information to help maintain a safe workplace and to help in the safe use and maintenance of tools, machinery and equipment used by COV workers.

## **SCOPE**

This program applies to all workplaces, employees, volunteers and contractors.

## **POLICY**

The City of Vancouver's Tools, Machinery & Equipment Program ensures that all tools machinery and equipment are in a condition that will ensure the safety of all staff, visitors, contractors and the public.

The City of Vancouver adheres to all applicable legislations, standards and manufacturer's specifications. All individuals who perform maintenance work and operate machinery and tools have the appropriate skills, accreditation and/or certification to do the work. Only maintenance personnel and contractors with the appropriate qualifications and certifications will be used for repairs and maintenance.

## DEFINITIONS

**Safeguard** the use of a guard, a safety device, a shield, an awareness barrier, warning signs, or other appropriate means, either singly or in combination, to provide effective protection to workers from hazards

## RESPONSIBILITIES

Everyone is responsible for workplace safety. Everyone. More specific responsibilities include:

### **Senior Management:**

- Provide the resources to maintain this Program.
- Provide training for workers.
- Ensure that there are Safe Work Procedures for maintenance repair tasks that require them.
- take overall responsibility and accountability for the prevention of work-related injury and ill health, as well as the provision of safe and healthy workplaces and activities;
- develops, leads and promotes a culture in the organization that supports positive health and safety outcomes;
- provides a safe and healthy work climate through establishing, promoting and maintaining the Safety Management System;
- ensure that the OH&S policy and related OH&S objectives are established and are integrated into the strategic direction of the organization;
- ensure the integration of the Safety Management System requirements into the organization's business processes;
- ensure that the resources needed to establish, implement, maintain and improve the OH&S management system are available;
- communicate the importance of effective OH&S management and of conforming to the Safety Management System requirements;
- ensure that the Safety Management System achieves its intended outcome(s);
- directs and supports persons to contribute to the effectiveness of the Safety Management System ;
- ensures and promotes continual improvement;
- supports other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility;
- protects workers from reprisals when reporting incidents, hazards, risks and opportunities;
- ensures the organization establishes and implements consultation and participation of workers;
- supports the establishment and functioning of health and safety committees.

**Managers:**

- provide a healthy and safe work environment;
- ensure that workplace hazards are identified and risks are assessed and controlled;
- provide the resources to eliminate or control workplace hazards; and
- ensure that health and safety related procedures, guidelines, standards, rules and programs are developed, implemented and maintained.

**Supervisors (exempt and unionized):**

- Ensure maintenance work done by workers is completed on schedule.
- Create a safe operating procedure for using the machine when necessary. If there are residual risks identified by the manufacturer in the information/instructions provided with the machine they will make sure they are included in the safe operating procedure.
- Ensure that workers are trained in the relevant Safe Operating Procedures for maintaining the assets.
- All individuals who provide maintenance services will have the appropriate licensing, skills, accreditation and/or certification. This applies to both City of Vancouver employees and contracted equipment services personnel.
- Ensure maintenance is done safely, that machines and moving parts are isolated or locked and that flammable/explosive/toxic materials are dealt with properly.
- Ensure equipment that requires safe guarding is identified
- are familiar with the hazards and risks of work tasks they oversee;
- are familiar with all Regulations related to the work they oversee;
- identify, eliminate or control risks, unsafe activities and unsafe conditions;
- communicate hazards and risks to employees;
- provide employees information, training, tools, safety equipment including Personal Protective Equipment (PPE) and procedures to do their work safely and to protect the public;
- ensure work procedures, guidelines, standards, rules and regulations are followed;
- lead incident investigations, including near-misses;
- lead formal workplace inspections and follow up on corrective actions;
- provide managers, including Senior Management, with timely information on risks, incidents and safety performance.

**Health and Safety Committees:**

- review safety statistics and challenges in the workplace;
- participate in, and review, workplace inspections and incident investigations;
- provide guidance and recommendations to management related to safety and health;
- review the Safety Management System

## **Employees:**

- Report all hazards, near misses, and broken equipment and hand tools to your supervisor. Lock out the equipment and hand tools immediately and take out of service. Never use faulty equipment.
- Choose the right machine for the job.
- Ensure work assigned to you is completed as per the work order.
- Do not do work for which you are not trained.
- Ensure that the appropriate checks, inspections, lock outs and maintenance are done on equipment you are using.
- refuse unsafe work;
- attend to their own safety, the safety of their fellow employees and the public;
- identify and report hazards, unsafe conditions and actions to their supervisor (includes work being conducted by contractors and subcontractors and in different departments);
- control hazards as appropriate to their skill and job role;
- understand and follow safety related work procedures, guidelines, standards and rules;
- assist and support other employees in returning to regular or modified work.

## **PROGRAM DETAILS**

The City of Vancouver strives to ensure that all tools, machinery and equipment in its workplaces are safe for use and that the use, installation, inspection, testing, repair and maintenance is carried out in accordance with the manufacturer's instructions and any standard the tool, machine or piece of equipment is required to meet, or as specified by a professional engineer.

An effective maintenance program makes facilities and equipment more reliable. There are fewer breakdowns which mean less dangerous contact with machinery occurs, as well as having the cost benefits of better productivity and efficiency.

Some items and equipment may have safety-critical features where deterioration would cause a risk. Maintenance allows any issues to be diagnosed early to manage any risks.

All maintenance needs to be correctly planned and carried out. Lack of maintenance can cause fatalities and serious injuries either during the maintenance or to those using the badly maintained or wrongly maintained/repared equipment, structures, etc. This program aims to reduce injuries by effectively maintaining all the City of Vancouver owned assets.

All tools, machines or pieces of equipment that are deemed to be unsafe for use are identified with a tag "out of service" and locked out or placed somewhere that workers cannot use it. The hazard is to be brought to the attention of the supervisor immediately. No worker should be able to use the locked out item until it has been fixed and is safe

for use again. “Out of service” signs should only be removed by an authorized person who is satisfied that the machine or process is now safe.

If a tool, machine or piece of equipment must be modified for work, it will be done in accordance with the manufacturer's instructions when available, safe work practices, and the requirements of Part 4 of the OHS Regulations.

All tools, machinery or piece of equipment used by City workers will conform to the code or standard referred to in the OHS Regulation or the edition of the code or standard published at the time the tool, machine or piece of equipment was manufactured, subject only to the modification or upgrading specified to be necessary in Part 4 of the OHS Regulation or in a directive issued by WorkSafeBC or practices and procedures prior approved by WorkSafeBC.

The City ensures that risks created by using the equipment are eliminated where possible or controlled as far as reasonably practicable by:

- taking appropriate ‘hardware’ measures, e.g. providing suitable guards, protection devices, markings and warning devices, system control devices (such as emergency stop buttons) and personal protective equipment as per the OHS Regulations; and
- taking appropriate ‘software’ measures such as following safe systems of work (e.g. ensuring maintenance is only performed when equipment is shut down etc.), and providing adequate information, instruction and training about the specific equipment as per OHS Regulations.

A combination of these measures may be necessary depending on the requirements of the work, the risks involved, and the practicability of the measures.

All manuals for the operation or maintenance of a tool, machine or piece of equipment will be obtained and kept either electronically or in hard copy. Any applicable standards to which the tool, machine or equipment is to be kept should be available.

If a machine, equipment or structure is dismantled in whole or in part, its re-assembly will be checked by a qualified person and determined to be safe before operation or use.

All machines or piece of equipment that have rated capacities which vary with the reach or configuration of the machine or equipment, or has other operating limitations, will have the appropriate instructions, load charts and warning notices affixed to the machine or equipment so as to be visible to the operator when the operator is at the controls. The information will be in written form if this is not possible and made available to the operator.

All rated capacities or rated loads of a machine or piece of equipment (e.g. Metal racks greater than 8 feet or are mechanically loaded) will be affixed to the machine or

equipment. A professional engineer will be used to determine the rated capacity or rated load if the manufacturer's specification or other acceptable warranty cannot be produced, or the equipment or machine has been modified or there is wear, corrosion, damage or signs of fatigue are found or the equipment or machine is used in a manner or for a purpose other than that for which it was originally designed.

All machinery or piece of equipment will be inspected and maintained according to its manufacturer's recommendations.

Inspections are to be carried out by a competent person (this could be an employee if they have the necessary skills, knowledge and experience to perform the task) and a record kept until the next inspection. Records of the inspections and maintenance will be kept either in an effective written format, excel file or a permanent recording system such as SAP.

The recording system used will identify the make, model and serial number of the equipment, and labelled as property of City of Vancouver and the COV address where it is to be kept.

These inspection and maintenance records will be immediately available to the equipment operator and to any other person involved with inspection and maintenance of the equipment. They will contain an entry on each shift, signed by the operator of the machine or equipment, reporting the result of each start of shift inspection and safety check, and any observed defect, operating difficulty or need for maintenance occurring on the shift, and contain an entry signed by the person responsible for any test, inspection, modification, repair or maintenance performed on the equipment, summarizing the work done, indicating the status of the equipment or machine for further use, and if appropriate, noting where a detailed record of the test, inspection, modification, repair or maintenance can be obtained.

Reports of inspection, maintenance, repairs and modifications must be kept for the duration of the service life of the machine or equipment and must be reasonably available to the workplace and made available, upon request, to the operator and to anyone else involved in the operation, inspection, testing or maintenance of the equipment.

Only workers that have been authorized, instructed, trained, and have demonstrated the ability to safely operate the machine or piece of equipment will be allowed to use it.

Before any equipment, machinery or work process is put into operation the persons responsible for doing so will ensure that safeguards and air contaminant controls required are in place and functioning, and that it will not expose workers to any other undue risk. Safeguards are not to be intentionally removed, impaired, or rendered ineffective.

Workers will not remove any safeguards, even if their presence seems to make the job more difficult; wear dangling chains, loose clothing, rings or have loose long hair that could get caught up in moving parts and never distract people who are using machines.

Select business units are responsible for the maintenance of the following:

## **Engineering**

Small equipment (i.e. angle grinders, generators, compressors, consaws, chain saws, etc.) is managed by their Fleet & Manufacturing Services (FMS).

Engineering tracks maintenance for physical infrastructure components, such as a manhole, water main, or pump station, large equipment, and structures in their asset management program called Hansen. The Hansen Asset Management module provides a number of tools that manage their infrastructure inventory - from an asset's initial creation through to the end of its life cycle. Hansen tracks everything from maintenance and inspection work history to operating costs and depreciated value.

All City of Vancouver fleet cars (VPD, Fire, Parks Board, Engineering, REFM) and gas stations are serviced by . Fleet Information Management System (FIMS). is the current asset tracking system for the “moving stock”, this system is used to manage all Engineering vehicles, components of those vehicles and high consequence equipment such as the garage doors.

## **Real Estate and Facilities Management (REFM)**

REFM manages maintenance and repair workflow within the Corporate SAP system. Work orders for COV owned buildings & parks are sent to the Work Control and Optimization centre. Examples of items REFM maintains are: plumbing systems, electrical systems, mechanical systems such as HVAC and pool filtrations systems, roof anchor inspections and anything requiring wood working such as City benches.

Fall protection anchors for civic buildings managed by REFM are listed in SAP. Work orders are generated annually with instructions to commission roof anchor inspections. Contractors are hired to inspect and provide the City with written reports signed and stamped by a professional engineer.

## **Park Board (PB)**

Small equipment such as hand tools, chainsaws, lawn mowers etc owned and operated by Park Board is maintained by the Park Board. If there are issues with PB small equipment, workers are to fill out a work request sheet and bring it to a PB shop or mobile crew or directly to the Supervisor of Small Equipment. A small equipment inventory is kept in an excel document. All new small equipment is labelled and numbered for tracking who it is issued to and where it is located. Every yard has a



colour decal for their equipment. When the item is reviewed, a new decal goes on. Lawnmowers are winterized by Park Board.

For large equipment, including the PB fleet operations (gators, tractors, boom trucks, >5000 KVA), Park Board has contracted the maintenance to FMS. FMS creates the Preventative Maintenance (PM) schedule from the manufacturer's specifications and they do annual inspections. The large equipment such as a "gator" is tracked for maintenance by either the odometer value or fuel used.

Cranes & Hoists in Park Board buildings are maintained and inspected by Park Board staff and have standing PM work orders for annual inspections in SAP.

### **Vancouver Fire and Rescue Services (VFRS)**

The Fire Department is responsible for the tracking and maintenance of most of their own tools, machinery and equipment. There are some exceptions and therefore one must review the operating level agreements between REFM and VFRS.

### **Rest of the City**

Smaller operations with their own specific equipment (for example sampling instrumentation from the Organizational Safety department, gas monitors for confined spaces within ENG and REFM and PB, noise meter from Property Use Inspections department or a welding machine from the welding shop) are responsible for the maintenance of their own items.

## **TRAINING REQUIREMENTS**

All individuals who perform maintenance work and operate machinery and tools have the appropriate skills, accreditation and/or certification to do the work.

Contact your supervisor or business unit safety designate for more information.

The BCMSA offers the following training courses:

- Aerial Work Platform Operator Training
- Backhoe Operator Training
- Bucket Truck Operator Training
- Chainsaw Operations and Safe Practices
- Counterbalanced/Vertical Mast Forklift
- Overhead Crane Safety Training
- Skid Steer Loader Operator Training
- Telehandler/Variable Reach Forklift Operator Training
- Truck Mounted Crane Safety Training
- Wheel Loader/Front-End Loader Operator Training

If mobile equipment is taken on the road, Driver Services must be contacted.

See the City of Vancouver P005 Transportation & Mobile Equipment Program for more information on the mobile equipment requirements.

## **PROGRAM MAINTENANCE**

Programs within the Safety Management System are reviewed periodically by the Joint Health and Safety Committees. SMS P 029 Inspection Audit Review Program contains further details.

The preventative maintenance program currently contains three types of recording systems (SAP, Hansen and Excel spreadsheet). There are equipment inventories and schedules within in each for the various items they track. In addition, the recording system documents what maintenance work was done, when, and by who, detailed reports of inspection, maintenance, repairs and modifications will be kept for the duration of the service life of the machine or equipment. It can be made available, upon request, to the operator and to anyone else involved in the operation, inspection, testing or maintenance of the equipment.

The maintenance schedules for all new equipment are entered into SAP/Hansen/Excel. These schedules are identified by their owner's manuals or various standards if owner's manuals are not provided. Within these tracking systems, the location of the asset is listed as well as its current condition. Any other notes such as lockout and isolation requirements, deteriorating structural components, confined spaces, can be added in, if applicable.

The PM scheduling will be re-assessed whenever there is a change in the equipment operating conditions.

## **DOCUMENTATION**

The documentation for this program includes:

- An inventory of all the assets that are required to be maintained.
- Inspection checklists for tools, machinery and equipment
- Inspections records and Maintenance records.
- All maintenance requests.
- Operating manuals for tools, equipment and machinery (when applicable).
- Any applicable Standards
- Completed maintenance records are kept within SAP, Hansen, Excel and paper copies.
- SAP Work Orders
- Training records
- Pre-trip inspection forms

OHS Regulation Part 14: Cranes and Hoists:

<https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-14-cranes-and-hoists>

OHS Regulation Part 15: Rigging:

<https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-15-rigging>

Annual certification & inspection:

<https://www.worksafebc.com/en/health-safety/tools-machinery-equipment/cranes-mobile-equipment/annual-certification-and-inspection>

See related sections of the OHS Regulation:

Section 13.23

Section 14.71

Section 31.34

From: "Collins, Tim" <Tim.Collins@vancouver.ca>  
To: "Araujo, Sev" <sev.araujo@vancouver.ca>  
Date: 9/10/2020 1:15:28 PM  
Subject: FW: Crane and Rigging equipment

---

**From:** Collins, Tim  
**Sent:** Monday, November 4, 2019 1:27 PM  
**To:** Horspool, Nicole  
**Cc:** Theriault, Coen  
**Subject:** RE: Crane and Rigging equipment

Thanks Nicole,

This item is a throwback to the past and not sure that it is really required by the marina or VPB operations and subsequently may be removed.

As this crane is quite old, I am not clear as to what its remaining functional lifespan is or what the cost would be to replace it.

I have reached out the company that services it for us to inquire about a structural assessment of the crane, but has yet to hear back from them.

All the best!  
Tim

---

**From:** Horspool, Nicole  
**Sent:** Monday, November 4, 2019 1:15 PM  
**To:** Collins, Tim  
**Cc:** Theriault, Coen  
**Subject:** Crane and Rigging equipment

Hi Tim and Coen,

I've forwarded my pictures of the crane and rigging equipment to my boss Manager of Org Safety s.13(1)  
s.13(1)

The crane operation and rigging by Marina users is a safety issue for staff and marina users.

I'm not sure what the best plan is...

- 1) Either we train up our staff and get new rigging gear that we lock up (indoors) and provide the rigging as a service ourselves.
- 2) Or we continue how it is, but provide new rigging equipment and keep it locked up (out of the elements).

Safe Regards,

**Nicole Horspool, MSc, CRSP** | Occupational Safety Specialist – Organizational Safety | Human Resources  
City of Vancouver | 955 Evans Ave | Vancouver BC V6A 4C8  
P: 604.718-5850 M: 778-385-0190 | email: [Nicole.horspool@vancouver.ca](mailto:Nicole.horspool@vancouver.ca)

Check out our SMS @ [https://sharepoint.vancouver.ca/sites/EvansYardSMS/\\_layouts/15/start.aspx#/](https://sharepoint.vancouver.ca/sites/EvansYardSMS/_layouts/15/start.aspx#/)



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From: "Horspool, Nicole" <Nicole.Horspool@vancouver.ca>

To: "Collins, Tim" <Tim.Collins@vancouver.ca>

CC: "Theriault, Coen" <Coen.Theriault@vancouver.ca>

Date: 11/4/2019 1:15:25 PM

Subject: Crane and Rigging equipment

Attachments: boat rigging.JPG

---

Hi Tim and Coen,

I've forwarded my pictures of the crane and rigging equipment to my boss Manager of Org Safety s.13(1)

The crane operation and rigging by Marina users is a safety issue for staff and marina users.

I'm not sure what the best plan is...

- 1) Either we train up our staff and get new rigging gear that we lock up (indoors) and provide the rigging as a service ourselves.
- 2) Or we continue how it is, but provide new rigging equipment and keep it locked up (out of the elements).

Safe Regards,

**Nicole Horspool, MSc, CRSP** | Occupational Safety Specialist – Organizational Safety | Human Resources

City of Vancouver | 955 Evans Ave | Vancouver BC V6A 4C8

P: 604.718-5850 M: 778-385-0190 | email: [Nicole.horspool@vancouver.ca](mailto:Nicole.horspool@vancouver.ca)

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f







From: "Horspool, Nicole" <Nicole.Horspool@vancouver.ca>  
To: "Collins, Tim" <Tim.Collins@vancouver.ca>  
"Savage, Gordon" <Gordon.Savage@vancouver.ca>  
Date: 11/7/2019 8:42:15 AM  
Subject: RE: Marina Safety Inspection

---

Hi Tim,

So sorry this was messaged the way it was. My intent on asking my boss and Risk Management for help was to help me with deciding what should be done about the crane and members doing their own rigging.

My compliance reports are for HR Org Safety as part of my PDP. I don't send those to anyone but my boss. I have to provide proof that I visit sites and fix safety issues. I would only escalate safety items to Shauna if I felt that you were not taking this seriously or there was an imminent risk to workers or the public and I would tell you I was doing that first.

I hope this experience does not deter you from letting me help and visit your marinas in the future! I still wanted to help with the workplace inspection at Heather marina.

Sincerely,  
Nicole

---

From: Collins, Tim  
Sent: Wednesday, November 06, 2019 9:37 PM  
To: Savage, Gordon  
Cc: Horspool, Nicole  
Subject: Marina Safety Inspection

Hello Gordon,

I would like to set up a time to discuss the items identified in the attached report as well as a couple other items at the Burrard Marina.

Also, I would like to point out that I called for this inspection to be undertaken at the marina and not a result of other circumstances; however, from your email below that point is not conveyed.

This inspection like with other recently areas of review at the marina, the spirit of the comprehensive inspections is to get clear on what needs to be addressed and how to best proceed and Nicole has been of great assistance in those regards. Thanks Nicole!

As was expected from the assessments there may be some marina operational changes required as well as changes to how the marina patrons use the marina.

These changes will need to be papered and perhaps incorporated into the marina moorage agreements, for your reference April 1 of every year a new moorage agreement is undertaken at the marinas, however, I need to have all changes to agreements in place by early January; from that this undertaking is very timely.

These assessments more particularly regarding the crane and the oil storage will be key when addressing any changes with those parties who will be effected but also justification of changes to the moorage agreements.

Sincerely,  
Tim

---

From: Araujo, Sev  
Sent: Wednesday, November 6, 2019 1:42 PM  
To: Collins, Tim  
Subject: FW: Marina Safety Inspection

Sev Araujo



Manager, Commercial Operations  
Vancouver Park Board, City of Vancouver  
o. 604 257 8436 / f. 604 257 8427  
Email: [Sev.Araujo@vancouver.ca](mailto:Sev.Araujo@vancouver.ca)

---

From: Wilton, Shauna  
Sent: Tuesday, November 05, 2019 3:05 PM  
To: Araujo, Sev  
Subject: FW: Marina Safety Inspection

---

From: Savage, Gordon  
Sent: Tuesday, November 05, 2019 11:17 AM  
To: Wilton, Shauna  
Subject: Marina Safety Inspection

Hi Shauna,

Drew Ross's team did an inspection at the Burrard Marina and found some issues. It made me concerned for the other sites having similar issues. Do you a few minutes to discuss the inspection and next steps?

I have attached the report just in case you have not seen it yet.

Regards,  
Gord  
tmmm

From: "Horspool, Nicole" <Nicole.Horspool@vancouver.ca>  
To: "Collins, Tim" <Tim.Collins@vancouver.ca>  
"Don Stewart" <DStewart@Webersupply.com>  
CC: "Burrard Marina" <burrard.marina@vancouver.ca>  
Date: 11/20/2019 3:17:39 PM  
Subject: FW: COV marina rigging equipment - Weber contacts  
Attachments: IMG\_0064.jpg  
IMG\_0065.jpg  
IMG\_0066.jpg

---

Hi Eric.

We'll be at the Marina tomorrow around 11:15am with a Rep from Weber supplies and we can figure out what is needed (and not needed) for hauling boats in and out with the crane.

Thanks for the better pictures!

Nicole

---

From: Burrard Marina  
Sent: Wednesday, November 20, 2019 2:11 PM  
To: Horspool, Nicole  
Subject: RE: COV marina rigging equipment - Weber contacts

Hi Nicole,

Here are some pictures of the rigging gear that needs to be replaced. Is there any way of getting the total count of the straps to be 4 as opposed to 3. We lost one along the way.

Regards,  
Eric

---

From: Horspool, Nicole  
Sent: Wednesday, November 20, 2019 12:01 PM  
To: Theriault, Coen; Burrard Marina  
Cc: Collins, Tim  
Subject: FW: COV marina rigging equipment - Weber contacts

Coen or Eric,

Can one of you take some better pictures of the shackles and wire ropes on this piece please?

I need to know the WLL (working load limit). It s probably 2 tons

Thanks,  
Nicole

---

From: Horspool, Nicole  
Sent: Wednesday, November 20, 2019 12:00 PM  
To: 'Shae Dooley'; Don Stewart  
Cc: Collins, Tim  
Subject: RE: COV marina rigging equipment - Weber contacts

I ll have to get someone on site to take a closer look at the shackles etc on this piece here:



There were 3 slings like this that should be replaced.





WEBMA

POLYESTER  
TYPE: VERTICAL  
11500  
LBS. CAP

4 IN. WIDE  
ROAD



10 FT. LGS.  
142630  
DASHET  
25000  
LBS. CAP

CLIFTON

# WARNING

FAILURE TO COMPLY WITH WARNING MAY  
RESULT IN PERSONAL INJURY OR DEATH  
INSPECT SLING BEFORE EACH USE  
ALWAYS PROTECT WEB SLINGS FROM  
BEING CUT OR DAMAGED BY EDGES  
DO NOT EXCEED RATED CAPACITIES  
DO NOT EXPOSE TO TEMPERATURES ABOVE 200°F





**From:** Shae Dooley [mailto:SDooley@webersupply.com]  
**Sent:** Wednesday, November 20, 2019 10:27 AM  
**To:** Horspool, Nicole; Don Stewart  
**Cc:** Collins, Tim  
**Subject:** RE: COV marina rigging equipment - Weber contacts

Hi Nicole,

We would be happy to look into this for you! Do you have part numbers or descriptions of what you are looking for?

Thank you!





**From:** Horspool, Nicole [Nicole.Horspool@vancouver.ca]  
**Sent:** November 20, 2019 10:24 AM  
**To:** Shae Dooley; Don Stewart  
**Cc:** Collins, Tim  
**Subject:** COV marina rigging equipment - Weber contacts

Hi Shae and Don,  
Would one of you be able to help me with replacing rigging hardware at Burrard Civic Marina?  
Thanks,

**Nicole Horspool, MSc, CRSP** | Occupational Safety Specialist – Organizational Safety | Human Resources  
City of Vancouver | 955 Evans Ave | Vancouver BC V6A 4C8  
P: 604.718-5850 M: 778-385-0190 | email: [Nicole.horspool@vancouver.ca](mailto:Nicole.horspool@vancouver.ca)  
Check out our new Safety Policy & Programs @ <http://citywire.city.vancouver.bc.ca/hr/hs/sp/sms.html>



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**From:** Smith, Dan  
**Sent:** Wednesday, November 20, 2019 10:15 AM  
**To:** Horspool, Nicole  
**Subject:** Weber contacts

Inside sales rep:

Shae Jones [SJones@Webersupply.com](mailto:SJones@Webersupply.com)

Shae Jones  
Customer Care Representative  
Weber Supply Company  
21500 Westminster Hwy  
Richmond, British Columbia V6V 2V1  
Phone: 604-232-0052  
Fax: 604-590-5491

Outside sales rep:

Don Stewart [DStewart@Webersupply.com](mailto:DStewart@Webersupply.com)

Don Stewart  
Safety Product Specialist  
Weber Supply Company Inc.  
21500 Westminster Hwy

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Thank you for your assistance.

<













**From:** "Ryan, Jeremy" <Jeremy.Ryan@vancouver.ca>  
**To:** "Louie, Dave" <dave.louie@vancouver.ca>  
**CC:** "Collins, Tim" <Tim.Collins@vancouver.ca>  
"Veer, Rob" <rob.veer@vancouver.ca>  
"Misci, Miro" <miro.misci@vancouver.ca>  
"Aramini, Joe" <joe.aramini@vancouver.ca>  
"Longridge, Sean" <sean.longridge@vancouver.ca>

**Date:** 4/8/2020 11:25:28 AM

**Subject:** Re: Civic Marina-Risk Assessment

**Attachments:** image001.png

---

Hi Dave,

Thanks for reaching out, I'd be happy to help . s.22(1) but could make it anytime next week Tuesday-Friday.

Thanks,

Jeremy

On Apr 8, 2020, at 10:36 AM, Louie, Dave <dave.louie@vancouver.ca> wrote:

\u-257 ?

Hi Jeremy and Tim

Please let me know when you are available to look at the work involved in installing the two 18' galvanized safety access ladders required for the Burrard Marina.

We could discuss all of the safety procedures and issues involved working over the water for when we are able to do the installation.

Sean: There may be a new vertical plank that needs to be also installed before the access ladders can be bolted to the dock.

Note : Thursday at 13:51 will be a low tide if you are available.

Thanks,

David Louie

Working Foreman Trades

Fabrication Shop

Fleet and Manufacturing

Shop-604-326-4782

Cell-604-788-2665

---

**From:** Aramini, Joe  
**Sent:** Tuesday, April 07, 2020 10:31 AM  
**To:** Louie, Dave; Misci, Miro  
**Cc:** Veer, Rob; Ryan, Jeremy  
**Subject:** Civic Marina-Risk Assessment

Hi Dave/Miro

Please note that when we decide to install the ladders at the Civic Marina we will need to involve Jeremy Ryan our Safety Supt to help develop a risk assessment before we send staff onsite. I would say this project is low priority in my mind until some other outside projects are completed first.

Kind Regards,

Joe Aramini  
City of Vancouver  
Superintendent III of Shops/Garage Operations  
Fleet and Manufacturing , Engineering Dept.  
Tel 604 326 4736  
Cel 604 790 2112  
Fax 604 326 4736

---

**From:** Ryan, Jeremy  
**Sent:** Monday, April 06, 2020 3:18 PM  
**To:** Aramini, Joe; Lepore, Ozzie  
**Subject:** Check-in

Hi guys,

Happy Monday. Hope you both had a nice weekend.

Just wanted to give you a quick heads up that I am no longer working full-time with the EOC. As with most of the safety team, I am helping out with the influx of COVID-19 questions/issues but I am available to support FMS. We have been asked to work from home, but I can make it into Manitoba yard if there is something that requires in person help.

Is there anything from the last few weeks that I can help with on the safety side?

Also, took a while but I do have a new COV phone #. My cell number is 604-788-7157.

Talk soon,

Jeremy Ryan, CRSP | OHS Superintendent  
Engineering Services | City of Vancouver

[jeremy.ryan@vancouver.ca](mailto:jeremy.ryan@vancouver.ca)  
604-788-7157

---

<image001.png>

From: "Louie, Dave" <dave.louie@vancouver.ca>  
To: "Collins, Tim" <Tim.Collins@vancouver.ca>  
CC: "Mischi, Miro" <miro.mischi@vancouver.ca>  
"Longridge, Sean" <sean.longridge@vancouver.ca>  
"Ryan, Jeremy" <Jeremy.Ryan@vancouver.ca>  
"Veer, Rob" <rob.veer@vancouver.ca>  
"Aramini, Joe" <joe.aramini@vancouver.ca>

Date: 5/6/2020 7:37:06 AM

Subject: FW: Dock on hold

Attachments: IMG\_3257.jpg

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Hi Tim

This Friday's installation of the two galvanized ladders has been put on hold due to the discovery of more damaged / rotten wood on the lower section of the dock vertical face.

We will have to re-evaluate the repairs and reschedule this installation.

Please also let Eric know about re-scheduling the repairs.

Thanks,

**David Louie**

Working Foreman Trades

Fabrication Shop

Fleet and Manufacturing

Shop-604-326-4782

Cell-604-788-2665

---

From: Mischi, Miro  
Sent: Tuesday, May 05, 2020 3:50 PM  
To: Louie, Dave; Longridge, Sean; Ryan, Jeremy; Veer, Rob  
Cc: Aramini, Joe  
Subject: Dock on hold

Hi All

As some of you already know we run into great issue and we will have to postpone this project. This picture was taken today at low tide.

Jeremy please share the original drawings with Rob and Sean. We need to determine what timber size is needed to replace the bottom rotten cross member.

At the same time it would make sense to replace the whole wall.

Dave please make the customer aware of this issue and proposal.

Sean needs to place special order for this timber and it takes a week to get it so he needs to know how to proceed.

Rob as a suggestion. Would there be better option like using steel I beam for the bottom instead using wood again?

Jeremy more likely we need to perform another risk assessment on Friday at low tide.

This will give us better idea what to expect.

I would like to share my opinion about this project with you tomorrow.

Thanks

**Miro Mischi, Acting Superintendent I**  
**City of Vancouver | Fleet and Manufacturing Services**



250 W 70<sup>th</sup> Ave | Vancouver, BC, V5X 2X1  
C: 604.788.7986 | O: 604.326.4887  
E: [miro.misci@vancouver.ca](mailto:miro.misci@vancouver.ca)



ylllllll



From: "Collins, Tim" <Tim.Collins@vancouver.ca>  
To: "Araujo, Sev" <sev.araujo@vancouver.ca>  
Date: 9/10/2020 1:16:08 PM  
Subject: FW: Marina Safety Inspection

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From: Collins, Tim  
Sent: Wednesday, November 13, 2019 11:33 AM  
To: Savage, Gordon; Horspool, Nicole  
Cc: Freedman, Kevin  
Subject: RE: Marina Safety Inspection

Thanks Gordon,  
The links that I provided show the WorkSafe approved courses, I don't believe that there are any other instances where we would allow non staff members use the crane for their purposes.

All the best

Tim Collins  
604-257-8437

---

From: Savage, Gordon  
Sent: Wednesday, November 13, 2019 10:52 AM  
To: Collins, Tim; Horspool, Nicole  
Cc: Freedman, Kevin  
Subject: RE: Marina Safety Inspection

Hi Tim,

Thanks for the email. I will do what I can to assist.

I am not aware of any courses we offer for crane operation. I did find an individual in Engineering who, as I understand it, has certificates for the operation of cranes but no longer works on them. He is now in the machine shop; I will follow up with engineering to see what they do and if they have any interest in the crane.

I will connect with Nicole when she gets back Friday to see what her thoughts are. My expertise is not on the specifics of each compliance area. I want to work with Safety to ensure we cover everything. There should be a checklist of items to inspect on a regular basis. I expect something like this already exists for that site or at other Park's Board sites and I don't want to reinvent the wheel.

Given the training requirements and risks related to operating the crane including rigging; it seems unlikely that we should be allowing the general public to use the crane. I will get some further research done in this area. I have cc'ed Kevin Freedman in the email. Kevin is part of my compliance team and is the Compliance Analyst for the City.

Regards,  
Gord

---

From: Collins, Tim  
Sent: Tuesday, November 12, 2019 3:59 PM  
To: Horspool, Nicole; Savage, Gordon  
Subject: FW: Marina Safety Inspection

It also appears that we would require a rigging course as well as part of the crane operation

Tim Collins  
604-257-8437



---

From: Collins, Tim  
Sent: Tuesday, November 12, 2019 3:57 PM  
To: Savage, Gordon  
Cc: Horspool, Nicole  
Subject: RE: Marina Safety Inspection

Hello Nicole and Gordon,

I spoke with the crane inspector today, they will be doing an inspection on Thursday which will identify any concerns at a cursory level, however, a certified crane engineer is required for the completion of a comprehensive report this would also include the wharf that it is attached to.

Also, are either of you aware of the City of Vancouver requirements for certification of crane operators?

It appears that WorkSafeBC requires a certification to operate a crane however, the actual requirements are unclear and I am not sure as to what restrictions the City of Vancouver has for non-staff operators of the equipment.

Also, would any of our works yard benefit from the crane, should it be deemed that the crane be removed from marina.

<http://www.fulford.ca/pmcrane/pmcrane.html>

[https://www.worksafebc.com/en/forms-resources#sort=%40computeditemdatefield343%20descending&f:topic-facet=\[Health%20%26%20Safety\]&f:language-facet=\[English\]&tags=Health%20and%20Safety%20general|2b5c7e454c984479b1caad93889a3e8b,Crane%20Operator|6ddf00d2953a414a9914adaaf9c38e0c](https://www.worksafebc.com/en/forms-resources#sort=%40computeditemdatefield343%20descending&f:topic-facet=[Health%20%26%20Safety]&f:language-facet=[English]&tags=Health%20and%20Safety%20general|2b5c7e454c984479b1caad93889a3e8b,Crane%20Operator|6ddf00d2953a414a9914adaaf9c38e0c)

Can you assist?

Thanks

Tim Collins  
604-257-8437

---

From: Savage, Gordon  
Sent: Thursday, November 07, 2019 9:17 AM  
To: Collins, Tim  
Cc: Horspool, Nicole  
Subject: RE: Marina Safety Inspection

Hi Tim,

My concern is more general in nature than the Marina's specific ones; the transfer of maintenance to REFM left some holes for maintenance of assets similar to the crane at the Marina and I just want to get them filled. I am available for a meeting any time. Do you have time tomorrow morning? Where are your offices?

Regards,  
Gord

---

From: Collins, Tim  
Sent: Wednesday, November 06, 2019 9:37 PM  
To: Savage, Gordon  
Cc: Horspool, Nicole  
Subject: Marina Safety Inspection

Hello Gordon,

I would like to set up a time to discuss the items identified in the attached report as well as a couple other items at the Burrard Marina.

Also, I would like to point out that I called for this inspection to be undertaken at the marina and not a result of other circumstances; however, from your email below that point is not conveyed.

This inspection like with other recently areas of review at the marina, the spirit of the comprehensive inspections is to get clear on what needs to be addressed and how to best proceed and Nicole has been of great assistance in those regards. Thanks Nicole!

As was expected from the assessments there may be some marina operational changes required as well as changes to how the marina patrons use the marina.

These changes will need to be papered and perhaps incorporated into the marina moorage agreements, for your reference April 1 of every year a new moorage agreement is undertaken at the marinas, however, I need to have all changes to agreements in place by early January; from that this undertaking is very timely.

These assessments more particularly regarding the crane and the oil storage will be key when addressing any changes with those parties who will be effected but also justification of changes to the moorage agreements.

Sincerely,  
Tim

---

From: Araujo, Sev  
Sent: Wednesday, November 6, 2019 1:42 PM  
To: Collins, Tim  
Subject: FW: Marina Safety Inspection

Sev Araujo  
Manager, Commercial Operations  
Vancouver Park Board, City of Vancouver  
o. 604 257 8436 / f. 604 257 8427  
Email: [Sev.Araujo@vancouver.ca](mailto:Sev.Araujo@vancouver.ca)

---

From: Wilton, Shauna  
Sent: Tuesday, November 05, 2019 3:05 PM  
To: Araujo, Sev  
Subject: FW: Marina Safety Inspection

---

From: Savage, Gordon  
Sent: Tuesday, November 05, 2019 11:17 AM  
To: Wilton, Shauna  
Subject: Marina Safety Inspection

Hi Shauna,

Drew Ross s team did an inspection at the Burrard Marina and found some issues. It made me concerned for the other sites having similar issues. Do you a few minutes to discuss the inspection and next steps?

I have attached the report just in case you have not seen it yet.

Regards,  
Gord  
tm

**From:** "Araujo, Sev" <Sev.Araujo@vancouver.ca>  
**To:** "Sangalang, Ellen" <Ellen.Sangalang@vancouver.ca>  
"Jackson, Steve" <Steve.Jackson@vancouver.ca>  
**CC:** "Collins, Tim" <Tim.Collins@vancouver.ca>  
**Date:** 9/16/2020 10:46:46 AM  
**Subject:** RE: [EXT] Burrard Civic Marina crane out of service

---

Good morning

We have discussed this and will be responding to last week's inquiry that went to the Board as well as to JC within the next day or so

Sev Araujo  
Manager, Commercial Operations  
Vancouver Park Board, City of Vancouver  
o. 604 257 8436 / f. 604 257 8427  
Email: [Sev.Araujo@vancouver.ca](mailto:Sev.Araujo@vancouver.ca)

---

**From:** Sangalang, Ellen  
**Sent:** Wednesday, September 16, 2020 8:53 AM  
**To:** Jackson, Steve  
**Cc:** Collins, Tim; Araujo, Sev  
**Subject:** FW: [EXT] Burrard Civic Marina crane out of service

Hi Steve,

Forwarding for your info.

@ Tim Will you be preparing the response?

Thanks.

Ellen

**From:** Joao Carlos d'Almeida [s.22\(1\)](#)  
**Sent:** Tuesday, September 15, 2020 9:43 PM  
**To:** Collins, Tim <Tim.Collins@vancouver.ca>; Araujo, Sev <Sev.Araujo@vancouver.ca>; Wilton, Shauna <Shauna.Wilton@vancouver.ca>  
**Subject:** [EXT] Burrard Civic Marina crane out of service

**City of Vancouver security warning:** Do not click on links or open attachments unless you were expecting the email and know the content is safe.

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Dear Tim,

We understand the boat crane on the dock is currently out of service and has been for some time. The crane is used by a number of marina patrons to launch their boats, in particular the owners of Cal 20s. The Cal 20s are unable to use the boat ramps because the depth of their keels would force the tow vehicle to submerge too deeply into the water. It is likely the entire tow vehicle would be underwater before the boat would float off of the trailer. In the past the Park Board staff have stated the crane be used to launch and retrieve their dinghies stored in the parking compound. The ramp is too steep and dangerous for marina patrons to launch their dinghies and the Vanier Park is too far away for them to cart their dinghy even if the marina would allow them to use the dinghy dolly. In light of this the crane is an important part of the marina infrastructure and a necessary part of the marina for many of the patrons if they are to safely use their boats and dinghies.



**Could you please advise as to;**

- (a) the specific nature of the problem with the crane,**
- (b) what steps you are taking to have the crane fixed,**
- (c) and when it is expected to be back in operat**

**A prompt response to our query would be greatly appreciated.**

**Regards,**

**JC d'Almeida**

**On behalf of the BCMCA**

**From:** "Augustine, Ray" <ray.augustine@vancouver.ca>  
**To:** "Collins, Tim" <Tim.Collins@vancouver.ca>  
**CC:** "Doherty, Ross" <Ross.Doherty@vancouver.ca>  
"Nayeri, Ali" <Ali.Nayeri@vancouver.ca>  
"Stewart, Ian" <ian.stewart2@vancouver.ca>  
"Araujo, Sev" <Sev.Araujo@vancouver.ca>  
"Downie, Alex" <alex.downie@vancouver.ca>  
"Gandha, Amit" <Amit.Gandha@vancouver.ca>  
"Foster, Ian" <Ian.Foster@vancouver.ca>  
**Date:** 9/23/2020 2:45:10 PM  
**Subject:** RE: Burrard Marina Crane Inspection Records - Potential FOI request

---

I stand corrected. Ross Doherty tells me that the Fab Shop under Svend Lojstrup ,my predecessor, fabricated and installed the bracing in 2008. It was designed and inspected by Westmar. I shall scan the drawings and send them to you tomorrow.

I must say I'm surprised they permitted such work to be done in-house. I can tell you I would not now permit my staff to do such work...

R

---

**From:** Augustine, Ray  
**Sent:** Wednesday, September 23, 2020 9:51 AM  
**To:** Collins, Tim  
**Cc:** Doherty, Ross; Nayeri, Ali; Stewart, Ian; Araujo, Sev; Downie, Alex; Gandha, Amit  
**Subject:** RE: Burrard Marina Crane Inspection Records - Potential FOI request  
**Importance:** High

I inspected the site with Ian Foster this morning and viewed the galv. steel channel reinforcing beam you're referring too (I believe it's what you were referring too)). I have no direct knowledge of that addition.

Ali Nayeri -the PB Structural Engineer- under Ian Stewart may have some knowledge of this as in 2016 under Tiina Mack he undertook a detailed Engineering Study (Associated Engineering) of all PB marine and bridge structures. I have a copy of that Consultants report completed in 2017. This report has been used to direct many maintenance issues. Neither Marina is mentioned in the report however. Saying that they could have been added later without my knowledge as they are after all clearly marine structures.

Ali is currently away so perhaps Ian Stewart can advise if there are records for this reinforcement contract. Your site staff (Eric) advised me that that work was done about a year ago.

Sorry, that's all I got.

R

---

**From:** Collins, Tim  
**Sent:** Tuesday, September 22, 2020 2:37 PM  
**To:** Augustine, Ray  
**Cc:** Doherty, Ross  
**Subject:** FW: Burrard Marina Crane Inspection Records - Potential FOI request

Hello Ray,

Can you assist with some background info on the Burrard Wharf, we are looking for records relating to works performed on it.

Ross can provide info specific to the crane, Andrew Norrie has provided some inspection reports and some repairs, however we cannot identify how the Galvanized steel frame under the crane came to be.

Any idea?

Thanks

Tim

---

From: Doherty, Ross  
Sent: Tuesday, September 22, 2020 1:02 PM  
To: Collins, Tim  
Subject: RE: Burrard Marina Crane Inspection Records

Tim I can certainly get you the reports going back to 2010. As far as the rebuild is concerned it was engineered by an outside engineering firm and we did the work to their specs it is not an aluminum framework below the dock it is Galvanized steel. As far as reports on that work I do not have them nor do I know who the engineering firm was Ray Augustine may have further information or city engineering

---

From: Collins, Tim  
Sent: Tuesday, September 22, 2020 12:09 PM  
To: Doherty, Ross  
Subject: Burrard Marina Crane Inspection Records

Hello Ross,

We are receiving requests for any records of inspection reports for the crane at Burrard Marina as well as the wharf. I am aware that you only administer the reports for the crane, there was some work that was completed to the wharf as a result of the presence of the crane (aluminum I beam directly below the crane) If you have any documentation of that can you please forward it my way.

At this time we have been asked for 10 years of inspection reports for the crane, at this time I don't require the reports but could you please prepare them digitally to be sent to me.

Please let me know if there are any questions.

Thanks!  
Sincerely,

Tim

---

From: Horspool, Nicole  
Sent: Tuesday, September 22, 2020 8:03 AM  
To: Collins, Tim  
Subject: FW: Burrard Marina Crane Inspection Records

Ross Doherty has the inspection records you are looking for.

---

From: Doherty, Ross  
Sent: Tuesday, September 22, 2020 7:24 AM  
To: Horspool, Nicole  
Subject: RE: Burrard Marina Crane Inspection Records

I have the crane log books with the inspection records

---

From: Horspool, Nicole  
Sent: Monday, September 21, 2020 3:50 PM  
To: Doherty, Ross; Augustine, Ray; Foster, Ian  
Subject: FW: Burrard Marina Crane Inspection Records

Tim,  
I think one of these three might have the crane inspection records?  
Nicole



From: Collins, Tim  
Sent: Monday, September 21, 2020 2:32 PM  
To: Horspool, Nicole  
Subject: Burrard Marina Crane Inspection Records

Hello Nicole,

Can you tell me who at Evans or Manitoba yard has the inspection records for the Burrard Marina crane.

We are getting inquiries and potentially an FOI request for these records.

Thanks  
Tim

**From:** "Collins, Tim" <Tim.Collins@vancouver.ca>  
**To:** "Falconer, Cobi" <cobi.falconer@vancouver.ca>  
**Date:** 9/23/2020 5:15:16 PM  
**Subject:** RE: Crane and Wharf Status at Burrard Marina

---

Thanks  
Tim

---

**From:** Falconer, Cobi  
**Sent:** Wednesday, September 23, 2020 4:02 PM  
**To:** Collins, Tim  
**Subject:** RE: Crane and Wharf Status at Burrard Marina

This has to go through FOI ☐tell them to submit through this link: <https://vancouver.ca/your-government/make-a-freedom-of-information-request.aspx>

---

**From:** Collins, Tim  
**Sent:** Wednesday, September 23, 2020 2:02 PM  
**Cc:** Falconer, Cobi  
**Subject:** RE: Crane and Wharf Status at Burrard Marina

Hello Cobi,

I am currently compiling the info of the various requests s.13(1)  
should I ask that this be an FOI request, as this is becoming quite intensive s.13(1)  
s.13(1)

Thanks  
Tim

---

**From:** Araujo, Sev  
**Sent:** Monday, September 21, 2020 10:22 AM  
**To:** Collins, Tim  
**Cc:** Falconer, Cobi  
**Subject:** RE: Crane and Wharf Status at Burrard Marina

Hi Tim,

I agree with all your points. As this request will potentially require multiple department in put (Park Board, REFM and Occupational Safety) it may require going through FOI as I don't think we can just release info on their behalf.

Please contact Cobi for some guidance.

In the interim please respond saying his request is being reviewed and we will get back to him ... cc'ing me only

Thank you

**Sev Araujo**  
**Manager, Commercial Operations**  
Vancouver Park Board, City of Vancouver  
o. 604 257 8436 / f. 604 257 8427  
Email: [Sev.Araujo@vancouver.ca](mailto:Sev.Araujo@vancouver.ca)

---

**From:** Collins, Tim  
**Sent:** Monday, September 21, 2020 9:59 AM  
**To:** Araujo, Sev  
**Subject:** FW: Crane and Wharf Status at Burrard Marina



Sev,

I believe that s.22(1) has some inaccurate statements in his email below

- ☐ s.13(1)
- ☐ I don't believe there are other fixed keel vessels other than the Cal 20's in the yard and if there were, they would be too big to use the crane, so this too is irrelevant
- ☐ With regards to the sale of the boat, as moorage / storage cannot be sold with the boat so the crane being down is irrelevant to the sale of the boat.  
(People try and sell the moorage with boat in order to pump up the sale price and circumvent the waitlist.)
- ☐ The agreement does not state that crane service is part of the moorage / storage fees

Tim

**From:** Kerry Brann s.22(1)  
**Sent:** Sunday, September 20, 2020 7:20 PM  
**To:** Collins, Tim  
**Cc:** Rosa, Donnie; Barker, Tricia; Coupar, John; Demers, Dave; Dumont, Camil; Irwin, John; Mackinnon, Stuart; info@burrardcivicmarinaca.org; Giesbrecht, Gwen; Araujo, Sev  
**Subject:** Re: Crane and Wharf Status at Burrard Marina

Dear Mr. Collins:

The Cal 20 owners are formally requesting the City of Vancouver to provide copies of all inspection reports of the crane and/or dock for the previous 10 years to present, as well as any correspondence, reports or other documents provided by or produced by or for the City's Management and Occupational Safety Department as well as a copy of the more comprehensive third party engineering assessment you reference in your email.

It would be most efficient for the City to volunteer this information in order to avoid the time and expense to all parties of being forced to provide this information through a formal FOI request.

We wish to impress on everyone that the only option available to us to use our boats, is to launch them with the crane. For this reason, it is not possible to use our boats at all.

In years past when the crane was out of service, the Marina hired a portable crane to launch our boats from the dock, which worked quite well. The Cal 20 Fleet has an upcoming race on Sunday September 27, 2020 which is a physically distant and COVID-19 compliant function organized by the Kitsilano Yacht Club. We would not require the assistance of Marina staff, only a hired crane and an operator.

We have informed the owners of the other fixed keel boats who have trailer moorage at the Marina, and they are equally distressed. One owner is currently in the process of selling his boat, which has been negatively impacted by this situation.

We look forward to hearing from you on this as soon as possible. Thank-you in advance.

Best Regards

Kerry Brann

-----

On Wed, Sep 16, 2020 at 4:45 PM Collins, Tim <Tim.Collins@vancouver.ca> wrote:

Dear Kerry and JC,



Further to your respective inquiries on behalf of your members regarding the status of the crane and wharf at Burrard Civic Marina, please note that the crane has been taken offline due to operational, mechanical, structural and safety concerns. As part of the City of Vancouver's operational health and safety requirements the crane is regularly inspected; this year based on guidance from the City's Risk Management and Occupational Safety departments a more comprehensive third party engineering inspection was conducted.

As a result of identified and unknown safety and structural concerns, non-compliant equipment and operations along with the age of the wharf being 56 years old and is approaching the end of its serviceable life; it has been recommended that the crane be closed until a comprehensive assessment of the site is undertaken.

In the interest of the health and safety of marina staff and all patrons and based on the recommended actions the decision to suspend the operation of the crane has been made until the City and Park Board have a clear understanding of all the issues and the capital funds required to correct them. Once understood we will be better positioned to make an informed decision on the future of the crane service provided at Burrard Marina.

We currently do not have a timeline when or if the crane will return to active use but are working with the City's Real Estate and Facilities Management department towards resolution.  
We will provide you updates as information becomes available.

Thank you for your patience and understanding,

Tim

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Virus-free. [www.avast.com](http://www.avast.com) [[avast.com](http://avast.com)]

[[avast.com](http://avast.com)]

ltttt

From: "Augustine, Ray" <ray.augustine@vancouver.ca>

To: "Collins, Tim" <Tim.Collins@vancouver.ca>

CC: "Nayeri, Ali" <Ali.Nayeri@vancouver.ca>  
"Araujo, Sev" <Sev.Araujo@vancouver.ca>

Date: 9/24/2020 6:20:01 AM

Subject: RE: Burrard Marina Crane Deck Reinforcement Drawings - Westmar

Attachments: 033.001.05.pdf  
033.003.02.06.pdf  
20200923145151536.pdf

---

I checked/opened what I sent you and you got it as it is. It is actually three pieces you have to cut out and overlay. This "original" is not, it is three separate photo copies of the original print which we here do not have.

I went through our PB drawings file and found only two that were relevant to the area...albeit old. Interestingly there's no drawing of the current crane, only (some) details of the original hoist assembly.

R

-----Original Message-----

From: Collins, Tim

Sent: Wednesday, September 23, 2020 3:01 PM

To: Augustine, Ray; Nayeri, Ali; Araujo, Sev

Cc: Foster, Ian

Subject: RE: Burrard Marina Crane Deck Reinforcement Drawings - Westmar

Thanks Ray,

My copy is only half scanned

Tim

-----Original Message-----

From: Augustine, Ray

Sent: Wednesday, September 23, 2020 2:55 PM

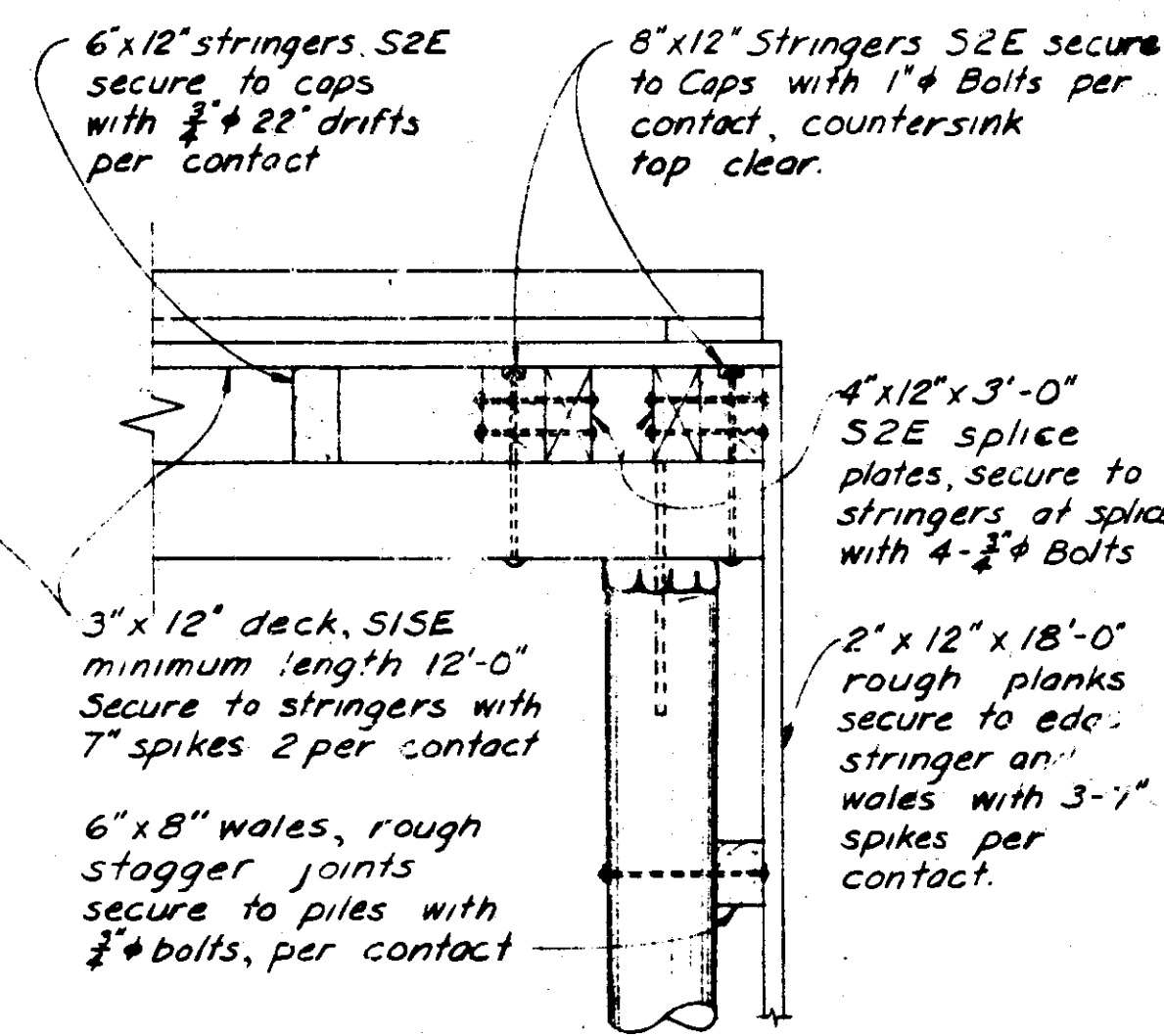
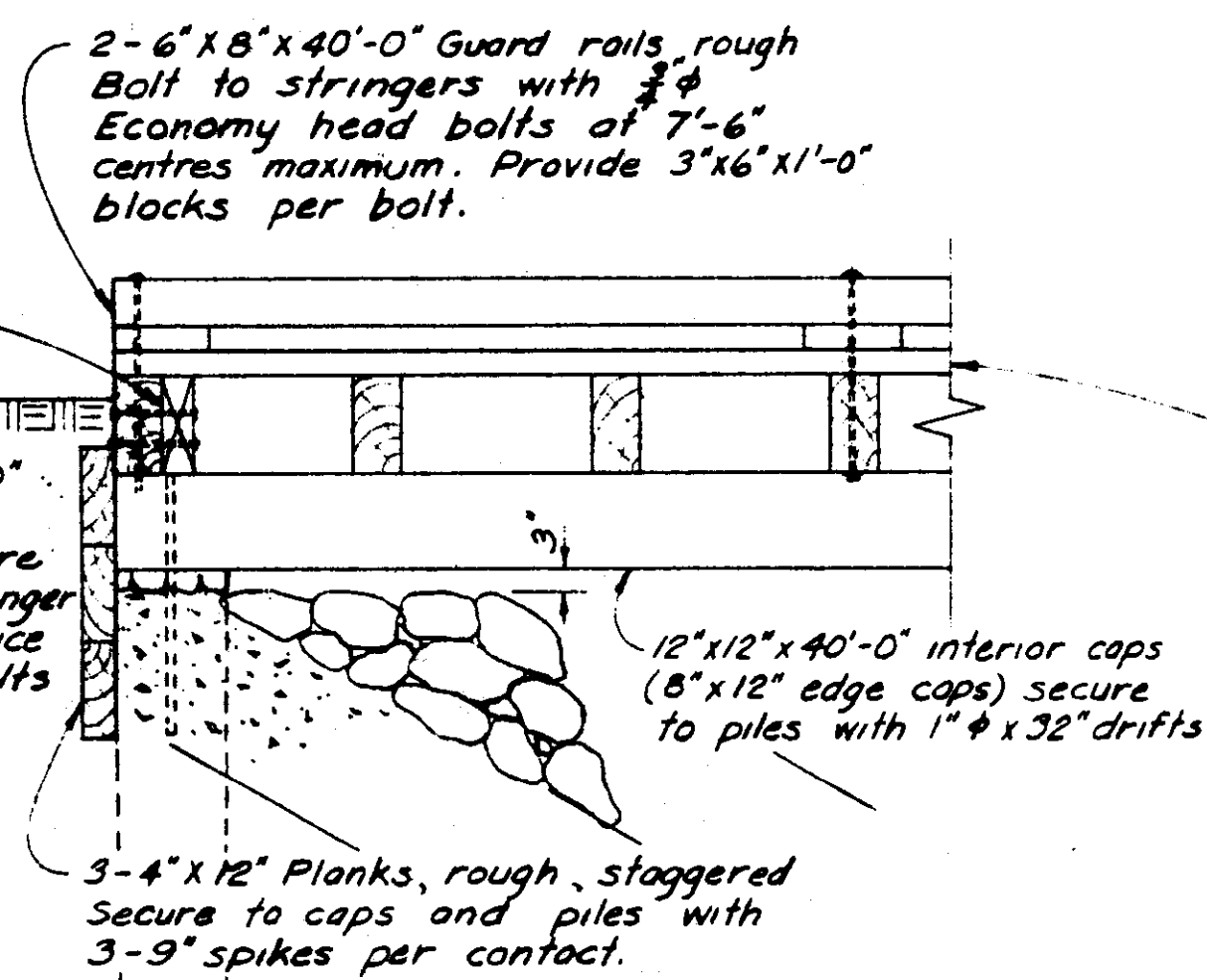
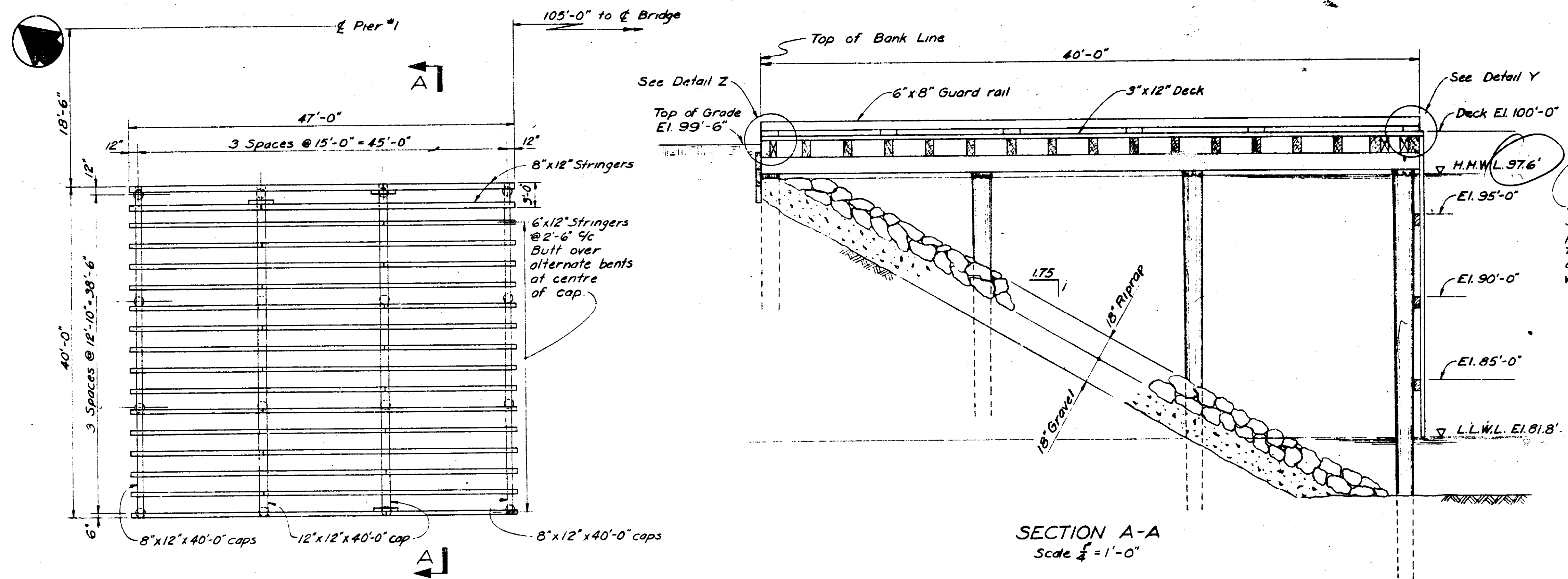
To: Collins, Tim; Nayeri, Ali; Araujo, Sev

Cc: Foster, Ian

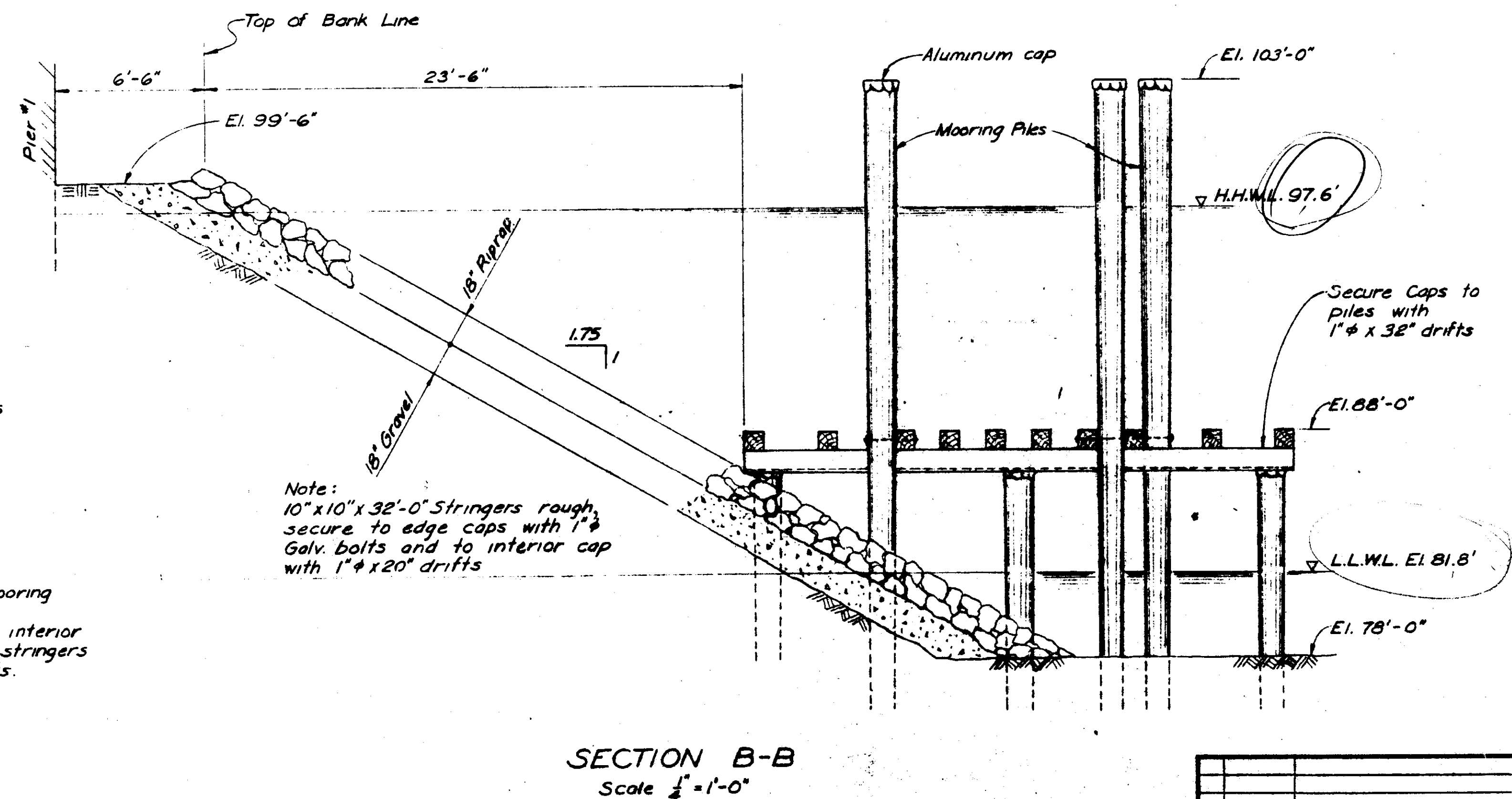
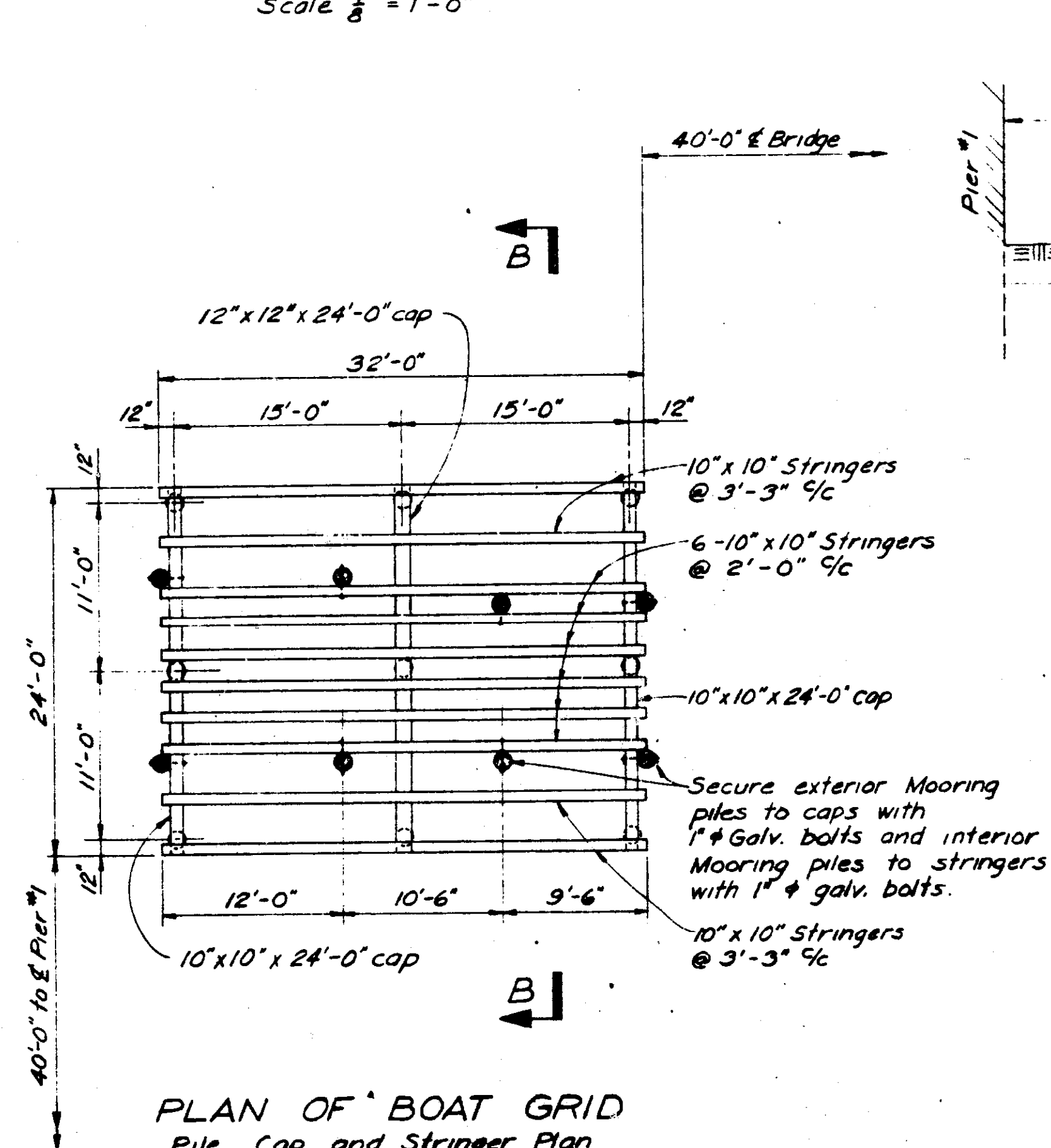
Subject: Burrard Marina Crane Deck Reinforcement Drawings - Westmar

The drawings as promised...

R



PLAN OF SERVICE WHARF  
Pile, Cap and Stringer Plan  
Scale  $\frac{1}{8}'' = 1'-0''$

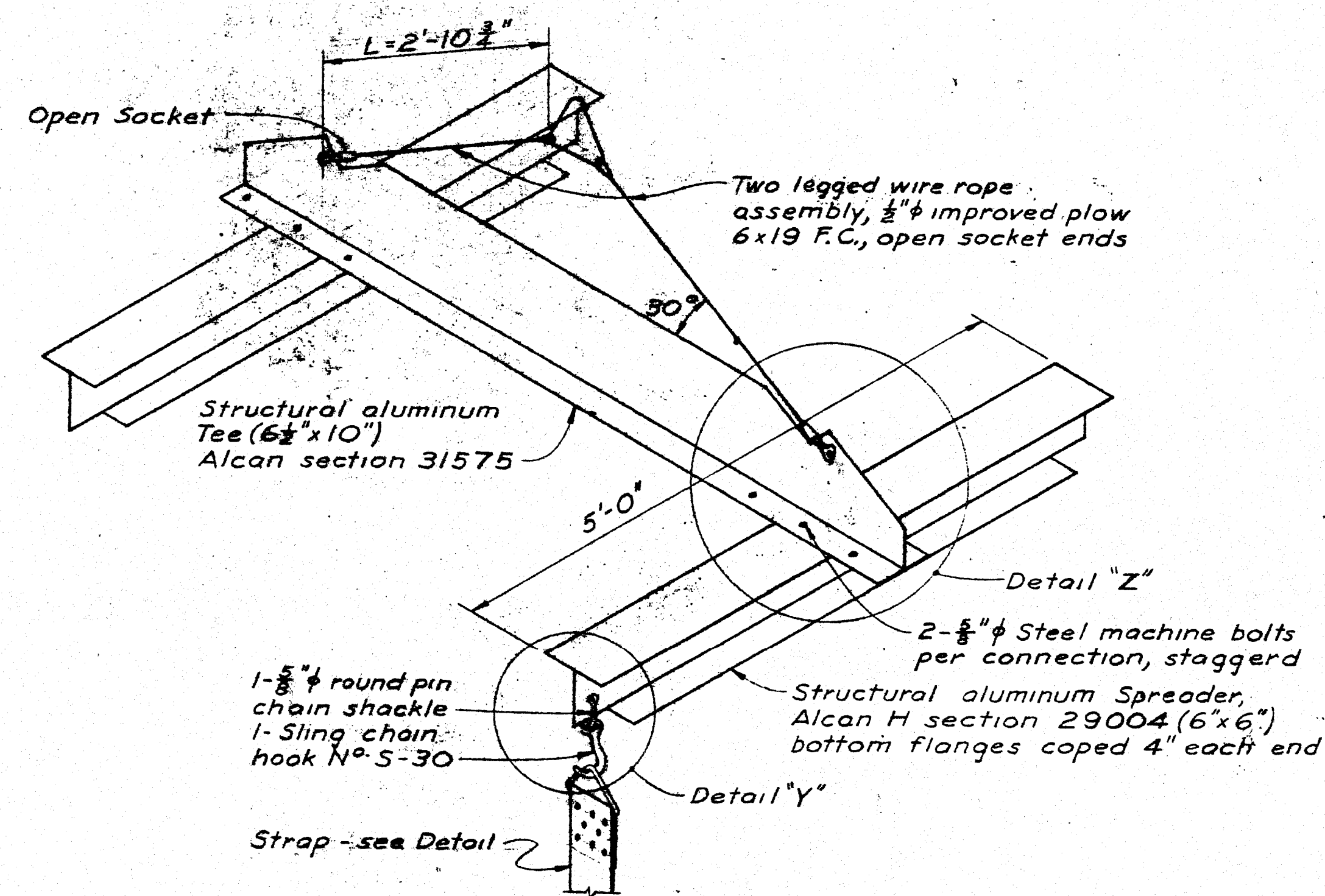


#### NOTES

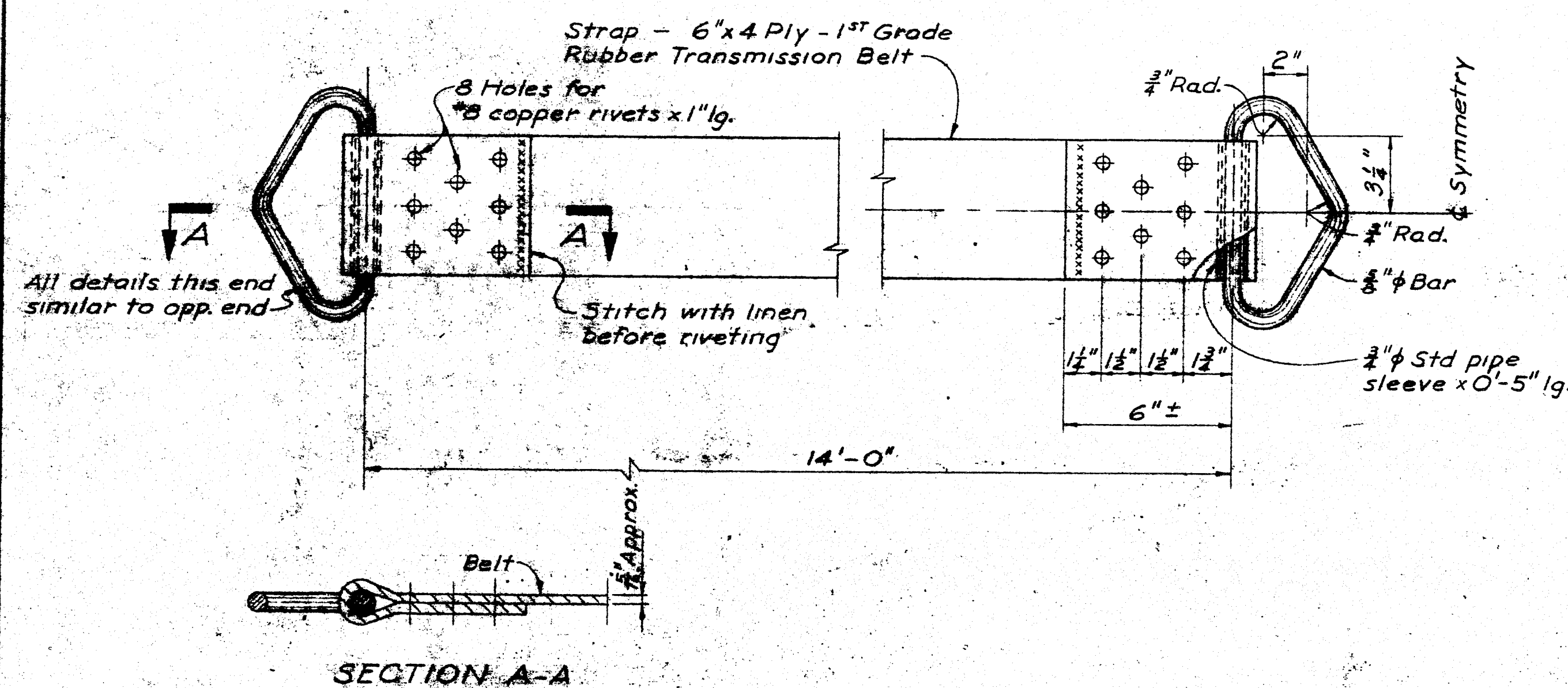
1. All piles shall be Douglas Fir Class B with 14% F.C. creosote treatment.
2. Wharf timbers shall be Douglas Fir construction grade and shall receive 8% creosote treatment except decking and guard rail which shall receive Wolman or Boliden Salt Treatment.
3. Boat Grid timbers shall be Douglas Fir construction grade and shall receive 12% creosote treatment.
4. All bolts and drifts, except where noted otherwise, shall be black iron.
5. All nails and spikes shall be galvanized.

APPROVED:		CITY OF VANCOUVER	
DATE:		BOARD OF PARKS AND PUBLIC RECREATION	
5 OF 5		BURNARD BRIDGE CIVIC MARINA	
		SERVICE WHARF AND BOAT GRID	
		SWAN WOOSTER ENGINEERING	
		CONSULTING ENGINEERS	
		VANCOUVER, B.C. PORTLAND, ORE. ST. BATHURST	
SCALE: AS SHOWN		FILE NO. U-966-1	
DRAWN: P.H.		DRAWING NO. 1	
DESIGNED: H.K.		CONTRACT 1	
DRG. CHKD. H.K.		5	
DIN. CHKD.			
APPROVED			

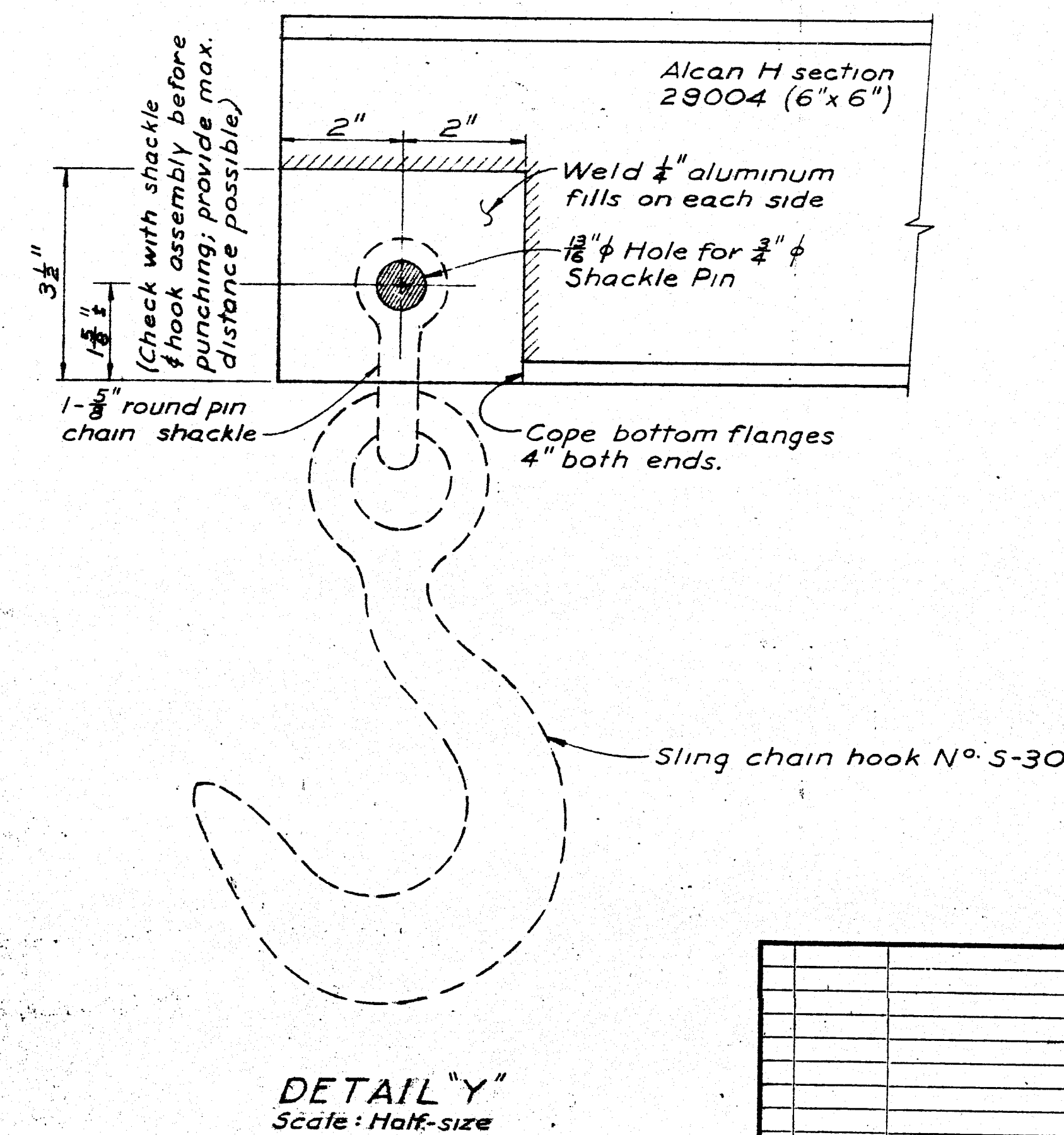
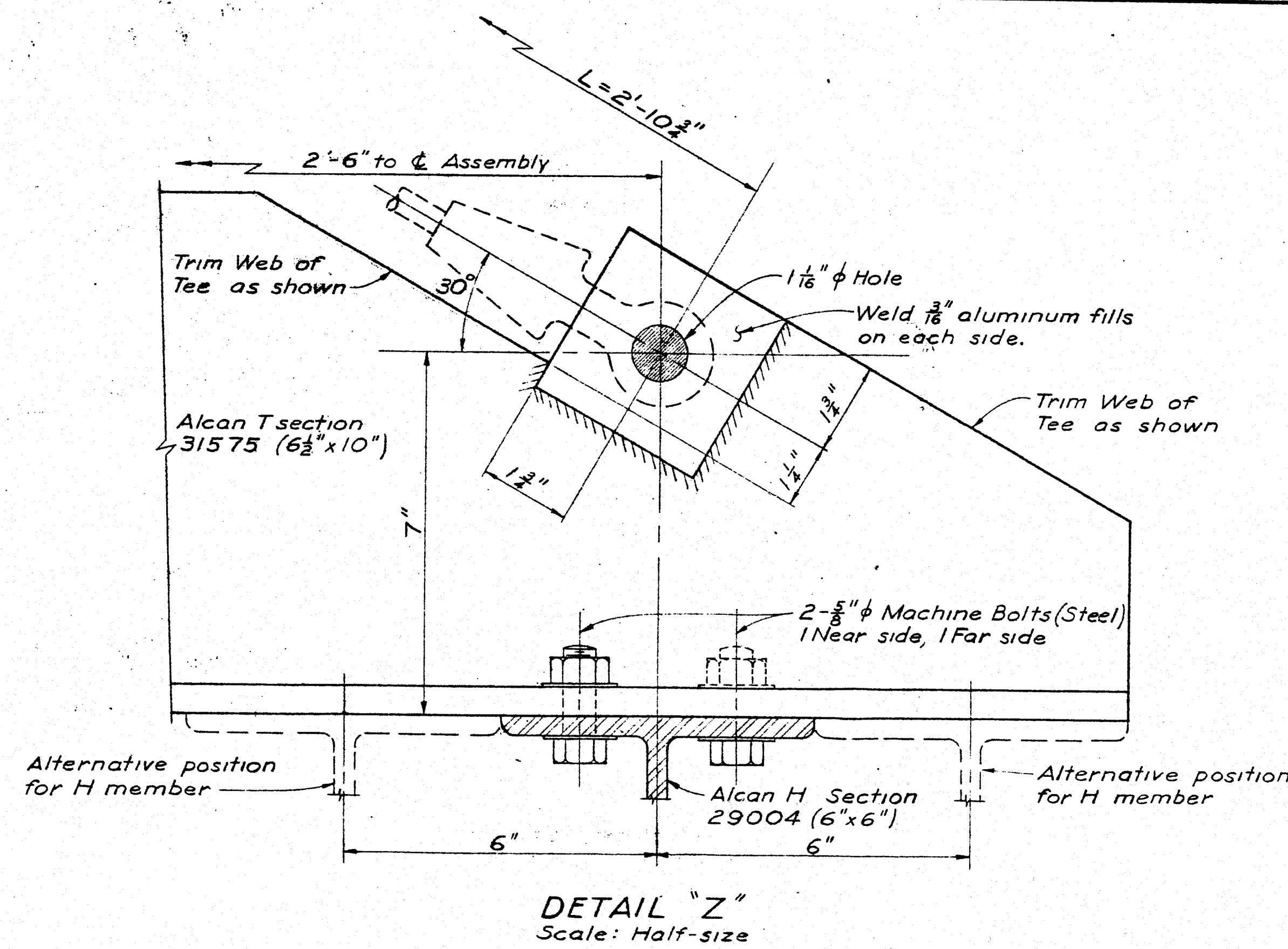




GENERAL ASSEMBLY  
Scale: 1"=1'-0"



DETAIL OF STRAP  
Scale: 3"=1'-0"  
(2 required)



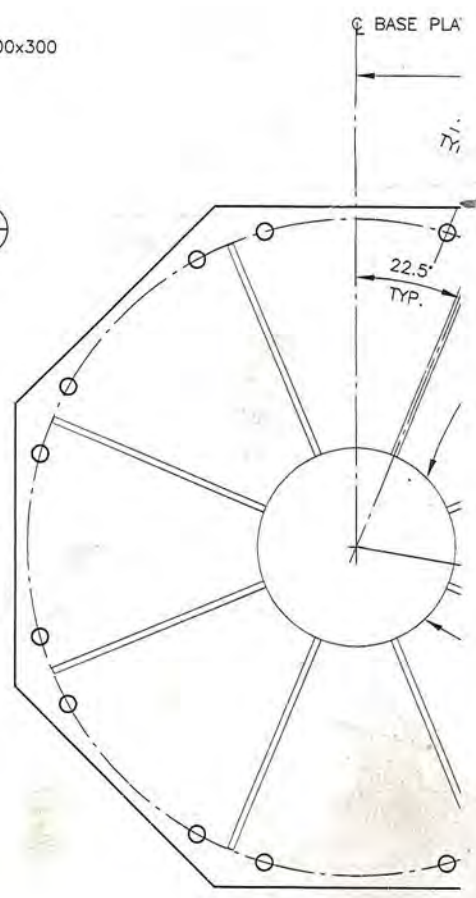
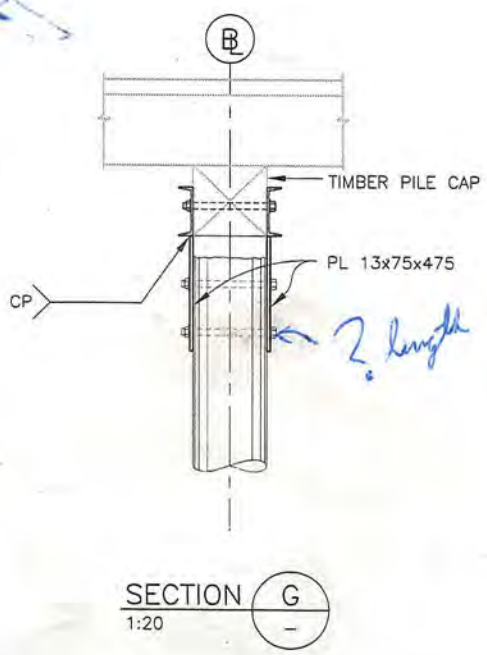
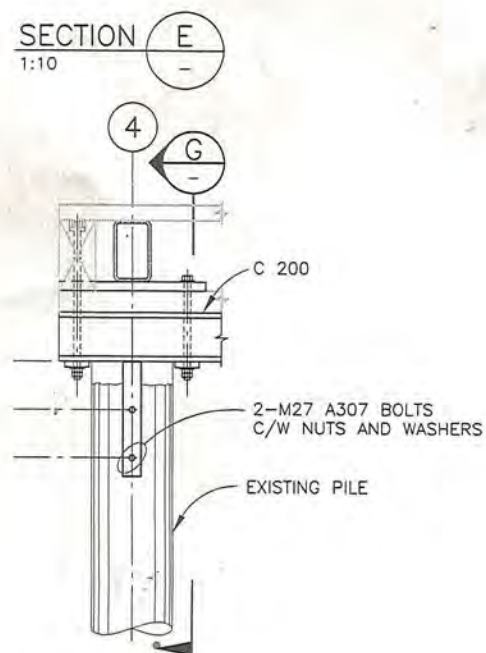
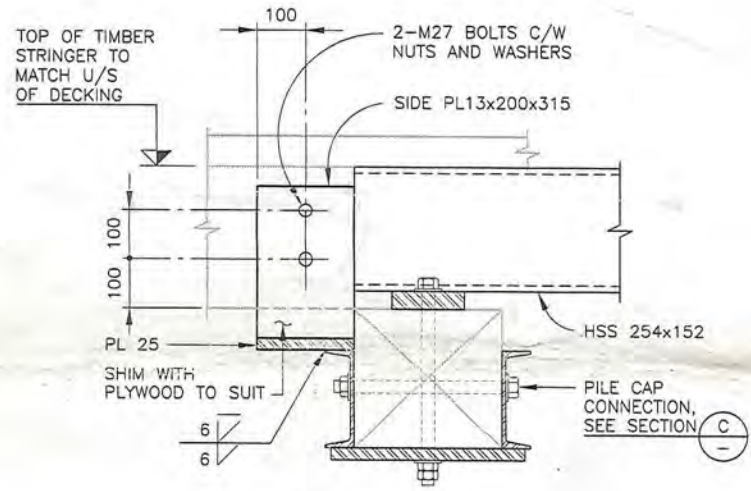
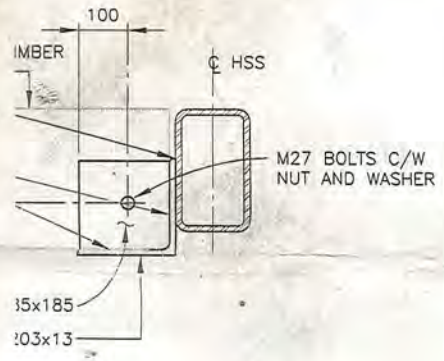
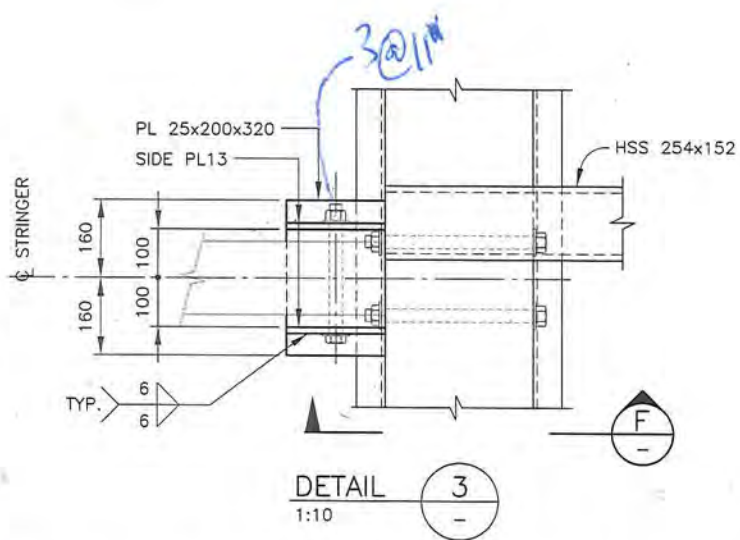
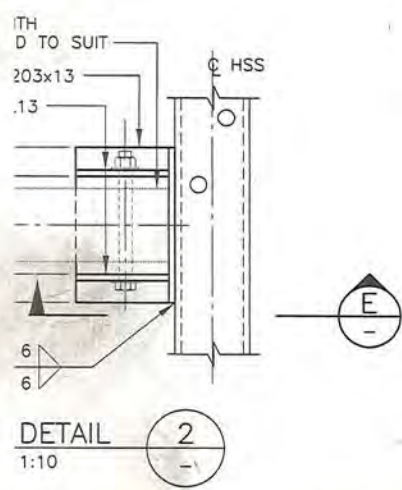
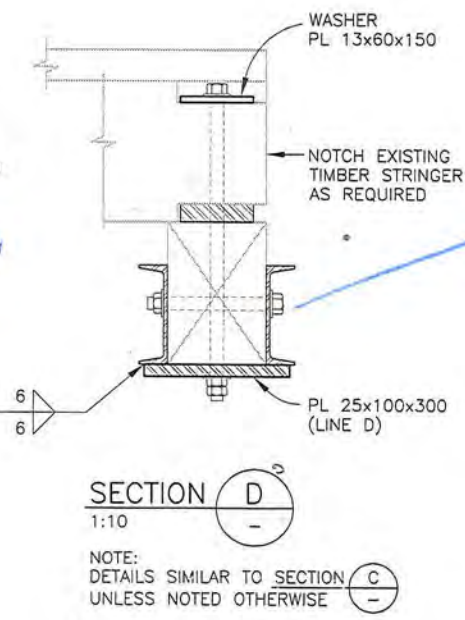
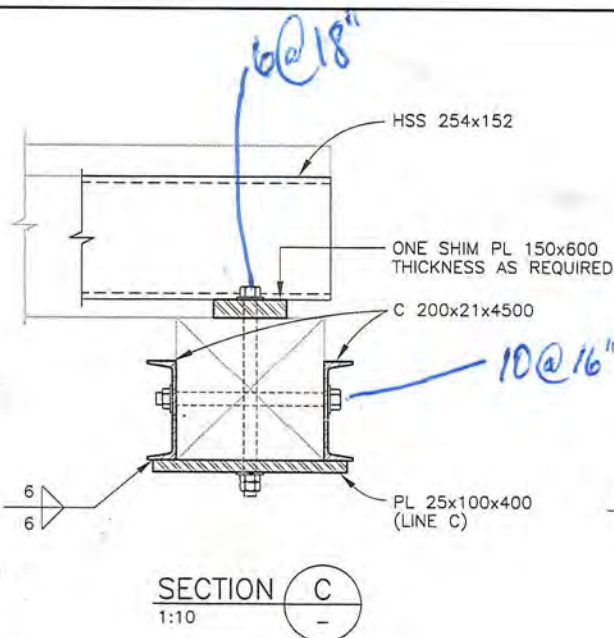
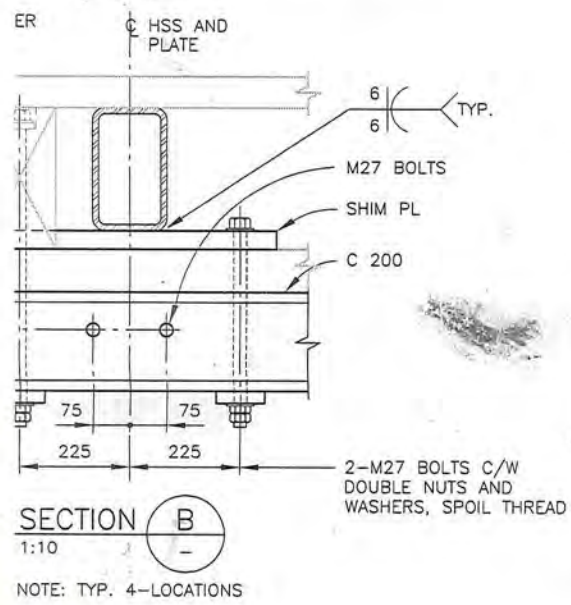
- NOTES
- Equipment designed for future hoist, safe working load 3000 lbs.
  - Fabricator to static load test assembly at twice rated safe working load.

15

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C&Q21



CRANE BASE PLATE  
1:10

GENERAL NOTES:

- 1.0 GENERAL
- 1.1 THE SUPPORT STRUCTURE SHOWN IS DESIGNED FOR A CRANE WITH A MAXIMUM RATED CAPACITY OF 1135kg (2500lbs) AND A MAXIMUM BOOM OF 3.65m (12'-0").
- 1.2 VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCING WORK.
- 1.3 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- 1.4 ALL WORK SHALL CONFORM TO THE BC BUILDING CODE AND INDUSTRIAL HEALTH AND SAFETY REGULATIONS OF THE WORKERS COMPENSATION BOARD OF BRITISH COLUMBIA.
- 1.5 WHERE CODES AND STANDARDS ARE REFERENCED, THE LATEST EDITION SHALL APPLY.
- 1.6 SUBMIT DETAILS OF PROPOSED SCHEDULE AND WORK METHODS TO THE CONSULTANT PRIOR TO PROCEEDING WITH THE WORK.
- 1.7 MATERIALS AND TESTING HAVE BEEN SPECIFIED TO CONFORM TO THE CURRENT EDITIONS OF RELEVANT STANDARDS PUBLISHED BY THE FOLLOWING ORGANIZATIONS:
  - CANADIAN STANDARDS ASSOCIATION (CSA)
  - AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- 1.8 UPON COMPLETION OF THE WORK REMOVE ALL DEBRIS AND SURPLUS MATERIALS FROM SITE. LEAVE THE WORK AREA IN CLEAN AND NEAT CONDITION TO THE SATISFACTION OF THE CONSULTANT.
- 1.9 THE CONTRACTOR SHALL COORDINATE ALL ACTIVITIES WITH THE FACILITY SUPERINTENDENT AND PERFORM ALL WORK IN THE AVAILABLE WINDOWS.

- 2.0 DEMOLITION
- 2.1 TAKE ALL NECESSARY PRECAUTIONS TO ANY PART OF THE PROPERTY THAT MAY BE LIABLE.
- 2.2 ANY DAMAGE INCURRED BY THE PROPERTY FOR DEMOLITION RECONSTRUCTED TO ORIGINAL CONDITION.
- 2.3 REMOVE AND DISPOSE OF ALL DEBRIS IN ACCORDANCE WITH REQUIREMENTS.
- 3.0 METAL FABRICATION
- 3.1 ROLLED STEEL SHAPES (51 KSI MINIMUM)
- 3.2 STEEL BARS AND REINFORCEMENT (44 KSI MINIMUM)
- 3.3 BOLTS, NUTS, AND WASHERS TO ASTM A307, 1
- 3.4 ALL STEEL METAL IN ACCORDANCE WITH REQUIREMENTS.
- 3.5 DAMAGE TO THE EXISTING STRUCTURE OF GALVAON OF
- 3.6 ALL RE-USED MATERIALS BY THE CONSULTANT.
- 3.7 ALL WELDED CONNECTIONS
- 3.8 WELDING ELECTRODES
- 4.0 TIMBER
- 4.1 TREAT BOLT HOLE COATS OF CREOSOTE INSTALLATION.
- 5.0 EXECUTION
- 5.1 CONTRACTOR SHALL LOCATIONS AT THE TIME OF DRILLING HOLE

CAP. TO NG PILE CONNECTION

LE CAP TO BE CONNECTED TO PILE AT PILES D3 AND D4. (PILE C4 AND D4 SHOWN)

NAME	CONSTRUCTION	DESIGN	DESIGN	DESIGN	DESIGN	DESIGN
RM	RDR	VR	MRR	JNR	AJE	
RM	RM	VR	MRR	JNR	AJE	
JG	RM	KBS	VR		AJE	
PTION	DRAWN	DWG	CHKD	DESIGN	DES	CHKD
QA	APPROVED					

ENGINEER OF RECORD  
DIV/DEP MGR: MGR

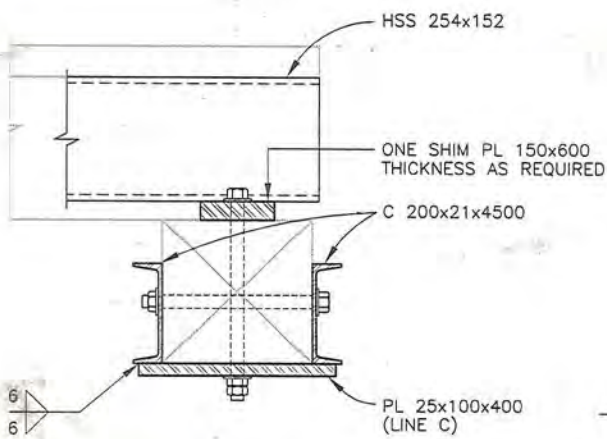
CLIENT  
**Vancouver Board of Parks and Recreation**

PROJECT  
**BURRARD CIVIC MARINA**

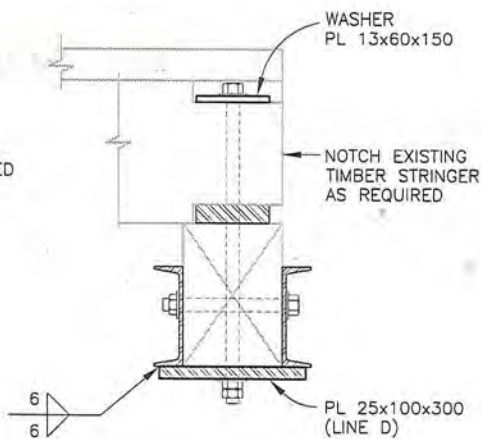
TITLE
CRANE BASE
DRAWING SCALE
SHOWN





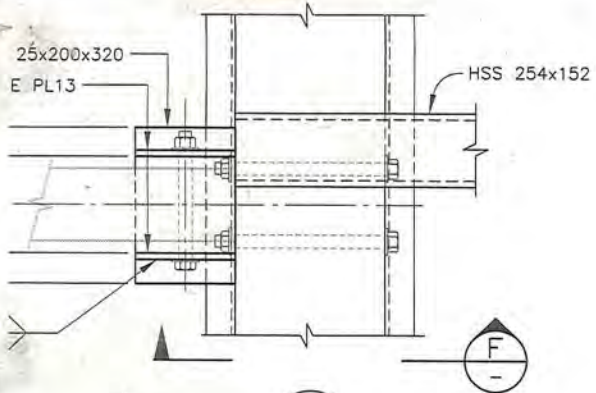


SECTION C  
1:10

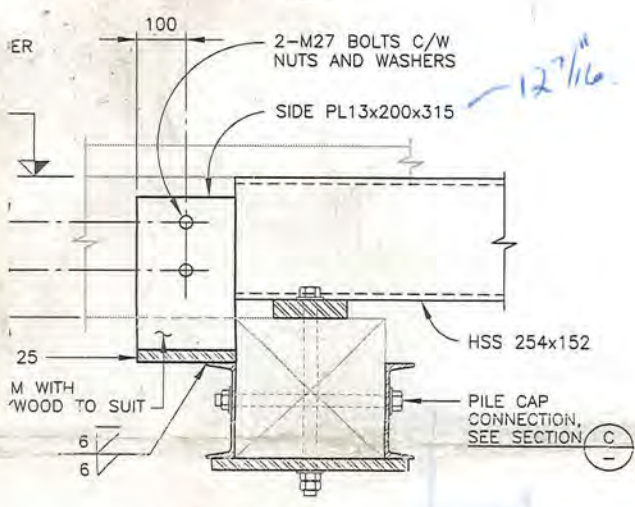


SECTION D  
1:10

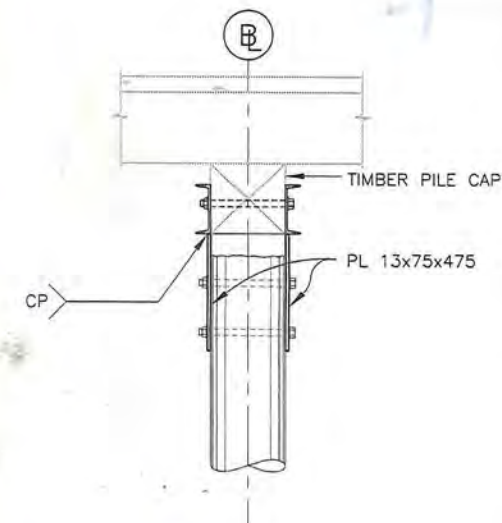
NOTE:  
DETAILS SIMILAR TO SECTION C  
UNLESS NOTED OTHERWISE



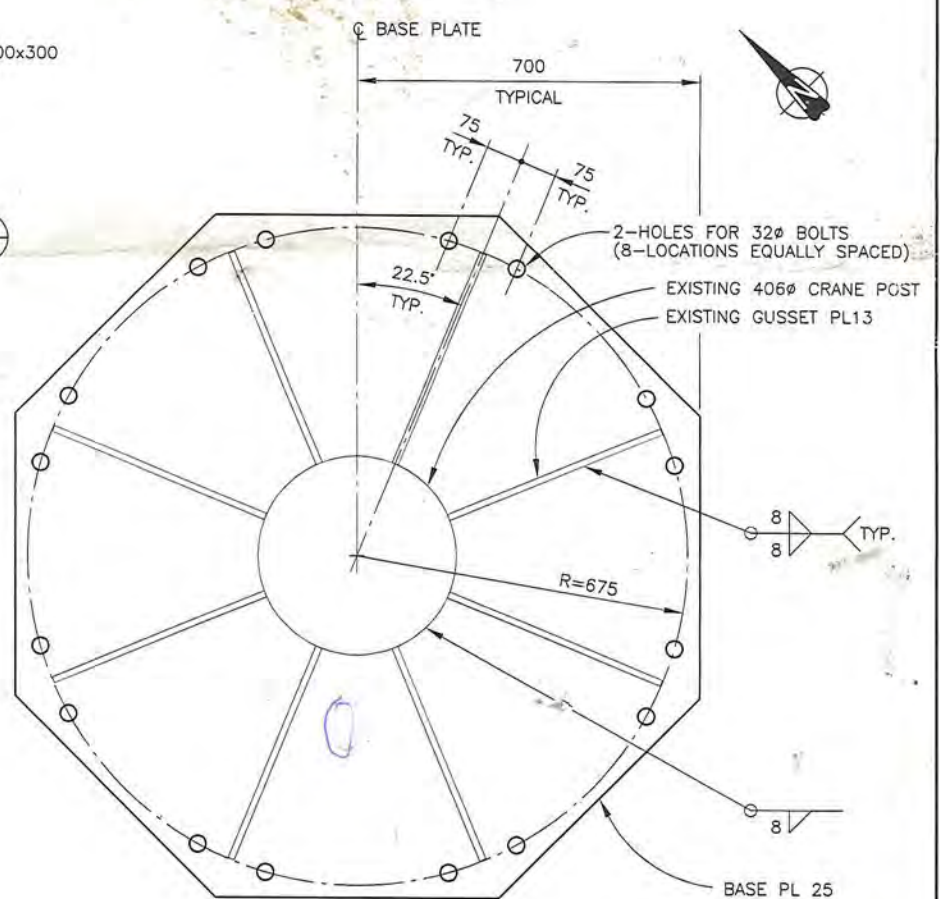
DETAIL 3  
1:10



SECTION F  
1:10



SECTION G  
1:20




CRANE BASE PLATE DETAIL  
1:10

GENERAL NOTES:

- 1.0 GENERAL
- 1.1 THE SUPPORT STRUCTURE SHOWN IS DESIGNED FOR A CRANE WITH A MAXIMUM RATED CAPACITY OF 1135kg (2500lbs) AND A MAXIMUM BOOM OF 3.65m (12'-0").
- 1.2 VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCING WORK.
- 1.3 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- 1.4 ALL WORK SHALL CONFORM TO THE BC BUILDING CODE AND INDUSTRIAL HEALTH AND SAFETY REGULATIONS OF THE WORKERS COMPENSATION BOARD OF BRITISH COLUMBIA.
- 1.5 WHERE CODES AND STANDARDS ARE REFERENCED, THE LATEST EDITION SHALL APPLY.
- 1.6 SUBMIT DETAILS OF PROPOSED SCHEDULE AND WORK METHODS TO THE CONSULTANT PRIOR TO PROCEEDING WITH THE WORK.
- 1.7 MATERIALS AND TESTING HAVE BEEN SPECIFIED TO CONFORM TO THE CURRENT EDITIONS OF RELEVANT STANDARDS PUBLISHED BY THE FOLLOWING ORGANIZATIONS:  
- CANADIAN STANDARDS ASSOCIATION (CSA)  
- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- 1.8 UPON COMPLETION OF THE WORK REMOVE ALL DEBRIS AND SURPLUS MATERIALS FROM SITE. LEAVE THE WORK AREA IN CLEAN AND NEAT CONDITION TO THE SATISFACTION OF THE CONSULTANT.
- 1.9 THE CONTRACTOR SHALL COORDINATE ALL ACTIVITIES WITH THE FACILITY SUPERINTENDENT AND PERFORM ALL WORK IN THE AVAILABLE WINDOWS.

- 2.0 DEMOLITION
- 2.1 TAKE ALL NECESSARY PRECAUTIONS TO CONTAIN THE DEMOLITION TO ANY PART WITHIN THE LIMITS DESIGNATED. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE TO EXISTING STRUCTURES.
- 2.2 ANY DAMAGE INCURRED IN THE EXECUTION OF THIS CONTRACT OF THE PROPERTY OR STRUCTURE NOT SPECIFICALLY DESIGNATED FOR DEMOLITION SHALL BE REPAIRED, REPLACED AND/OR RECONSTRUCTED BY THE CONTRACTOR AT HIS EXPENSE TO ITS ORIGINAL CONDITION.
- 2.3 REMOVE AND DISPOSE OF ALL DEMOLITION MATERIAL OFF SITE IN ACCORDANCE WITH ALL MUNICIPAL, PROVINCIAL AND FEDERAL REQUIREMENTS.
- 3.0 METAL FABRICATIONS
- 3.1 ROLLED STEEL SECTIONS: TO CAN/CSA G40.21, GRADE 350W, (51 KSI MINIMUM YIELD) UNLESS NOTED OTHERWISE.
- 3.2 STEEL BARS AND PLATES: TO CAN/CSA G40.21, GRADE 300W, (44 KSI MINIMUM YIELD) UNLESS NOTED OTHERWISE.
- 3.3 BOLTS, NUTS, AND WASHERS THROUGH TIMBER SHALL CONFORM TO ASTM A307, UNLESS NOTED OTHERWISE.
- 3.4 ALL STEEL METAL AND FASTENERS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH CSA STANDARD G164 UNLESS NOTED OTHERWISE.
- 3.5 DAMAGE TO THE GALVANIZING SHALL BE REPAIRED WITH 2 COATS OF GALVAON OR APPROVED EQUIVALENT.
- 3.6 ALL RE-USED HARDWARE SHALL BE INSPECTED AND APPROVED BY THE CONSULTANT.
- 3.7 ALL WELDED CONNECTIONS TO CONFORM TO CSA W59.
- 3.8 WELDING ELECTRODE TO BE E49XX.
- 4.0 TIMBER
- 4.1 TREAT BOLT HOLES AND SAWN SURFACES IN TIMBER WITH TWO COATS OF CREOSOTE AND DIP BOLTS IN CREOSOTE PRIOR TO INSTALLATION.
- 5.0 EXECUTION
- 5.1 CONTRACTOR SHALL VERIFY CRANE BASE PLATE BOLT HOLE LOCATIONS AT THE UNDERSIDE OF THE WHARF DECK PRIOR TO DRILLING HOLES THROUGH THE NEW STEEL FRAME.

			<div>CLIENT</div> <div><div>Vancouver Board of Parks and Recreation</div></div>	<div>Westmar</div> <div>Consulting Engineers</div>			
				TITLE			
				CRANE BASE DETAILS			
MRR	JNR	AJE	<div>PROJECT</div> <div>BURRARD CIVIC MARINA</div>				
MRR	JNR	AJE					
VR		AJE					
DES	CHKD	QA					
APPROVED			ENGINEER OF RECORD				
DIV/DEP MGR: MGR							
				<div>DRAWING SCALE</div> <div>SHOWN</div>			
				<div>PROJECT NUMBER</div> <div>07334</div>			
				<div>DRAWING NUMBER</div> <div>00-101</div>			
				<div>REV.</div> <div>B</div>			





**From:** "Ivanov, Strac" <Strac.Ivanov@vancouver.ca>  
**To:** "Collins, Tim" <Tim.Collins@vancouver.ca>  
**Date:** 9/28/2020 3:38:15 PM  
**Subject:** RE: Records for REpair Work Done to Wharf at Burrard Marina

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Tim,

All the Work Orders that I sent you pertain to the crane and the wharf. I filtered them before I sent you the list. These are all Work Orders recorded in SAP for these items.

Do you want me to indicate on the list which ones are for the crane and which ones are for the wharf?

If there are any written reports, those should be with either the superintendents or with Parks Planning. There is a chance that your team at the site may have copies.

The superintendents involved in this would be Tom Horne (Carpentry), Ian Foster (Structures), maybe Ross Doherty (Fabrication), and maybe Yazdan Salar-Arefi (the new Electrical shop's superintendent). Unfortunately, the City does not store or reference these reports in SAP so I would not have them. If Parks Planning has any of those, Ali Nayeri would probably be the best person to get them to you.

Does this help?

Let me know if you want me to split the list between the Work Orders for the crane vs. those for the docks / wharf.

Best regards,  
Strac

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From: Collins, Tim  
Sent: Monday, September 28, 2020 2:58 PM  
To: Ivanov, Strac  
Subject: RE: Records for REpair Work Done to Wharf at Burrard Marina

Thanks Strac,

The FOI request is looking for any written reports of the Crane and Wharf for 2010 to 2020.

Are there any field records for these items or reports?

I filtered the list of Works Orders that you provided to reflect the items that included crane and wharf, there are a number of items that have no dollar amount associated to them.

I have asked Ross for the crane reports for this same period

Tim

---

From: Ivanov, Strac  
Sent: Monday, September 28, 2020 10:42 AM  
To: Collins, Tim  
Subject: RE: Records for REpair Work Done to Wharf at Burrard Marina

Hi Tim,

You are right: There isn't much.

Attached is a list of the Work Orders that I was able to find. 225 Work Orders in 15 years (since 1 Jan 2005), but 70 of them don't have any cost recorded against them, so most of those were likely never done. I have highlighted the



Work Orders with no cost in red for you, so you can easily spot and exclude them but I left them in because there is a slight possibility that some may have been done but the cost may have been recorded elsewhere. There is also a slight possibility that I may have missed some work that may have been done but recorded incorrectly.

Our system of recording work was not very reliable historically. The changes that we introduced in the past couple of years made the data quality a lot better going forward, but most of the period you are looking at goes back to the time before these changes were implemented.

Here are a couple of other things that I was able to find, that are probably relevant to your investigation:

1. Park Board commissioned an inspection and report on Marine and Bridge Structures in 2016, done by Associated Engineering. However, unfortunately, the Burrard Civic Marina was not in the scope of this report.
2. Work Orders for quarterly maintenance and inspections of the wharf/float are being issued to the Carpentry shop but I have confirmed with Tom Horne (the superintendent of the Carpentry shop) that those are not currently being done (you will see most of them in the attached spreadsheet with zero cost). Tom explained to me that the reason why those are not being done is that they require a specialized training and the Carpentry shop does not currently have anyone with the proper training to complete them. I understand that there have been some discussions around this in the past, so it may be worthwhile checking with Tom directly if you need more information about this.

I hope that this helps. Let me know if I can help with any additional information.

Best regards,

**Strac Ivanov**

Manager, Work Control and Optimization

City of Vancouver | Real Estate and Facilities Management

Office: 604.654.0750

Cell: 604.356.6169



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**From:** Collins, Tim

**Sent:** Friday, September 25, 2020 8:06 PM

**To:** Ivanov, Strac

**Subject:** RE: Records for REpair Work Done to Wharf at Burrard Marina

Thanks Strac,

10-15 years, I am not expecting to find much on these items which is why the big date range

All the best

Tim

---

**From:** Ivanov, Strac

**Sent:** Friday, September 25, 2020 5:21 PM

**To:** Collins, Tim

**Subject:** RE: Records for REpair Work Done to Wharf at Burrard Marina

Tim,

I will look into this on Monday morning. How far back do you want to go with the maintenance and repair records?

I should be able to get the maintenance and repair records. I am not sure where to look for the safety certifications.



Best regards,  
Strac

---

**From:** Collins, Tim  
**Sent:** Friday, September 25, 2020 3:07 PM  
**To:** Ivanov, Strac  
**Subject:** FW: Records for REpair Work Done to Wharf at Burrard Marina

Hello Strac,

Are you able to assist with this FOI request for info:

**Burrard Civic Marina, specifically:**

- 1) Maintenance and repair records related to the wharf;
- 2) Maintenance and repair records related to the jib crane;
- 3) Any safety certifications which may be applicable to the operation of the jib crane;

Thanks  
Tim

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**From:** Horne, Tom  
**Sent:** Friday, September 25, 2020 11:53 AM  
**To:** Collins, Tim  
**Subject:** RE: Records for REpair Work Done to Wharf at Burrard Marina

Hi Tim,

Please contact Strac Ivanov, the Work Control Centre manager, so he can run a report history of work orders done by each trades shop at the marinas.

Thank you,  
Tom Horne  
City of Vancouver  
REFM Carpentry Superintendent  
Office: 604-257-8524  
Cellular: 604-842-0194  
tom.horne@vancouver.ca

---

**From:** Collins, Tim  
**Sent:** Friday, September 25, 2020 10:56 AM  
**To:** Horne, Tom  
**Subject:** Records for REpair Work Done to Wharf at Burrard Marina

Hey Tom,

We have a potential FOI request coming up s.13(1) for repair work done to the Wharf at Burrard Marina.

It appears that a little work here and there has been completed but nothing of substance in several years.

If possible can you check any of your files for this item, I have also asked John, Andrew, Ray Augustine and Ross Doherty for their records.

Thanks  
Tim  
ml

### **Conditions to Meet for Continued Use of the Crane at Burrard Marina**

- **Training**
  - Train employees on performing inspection of crane
  - Train employees on use of crane
  - Train employees on rigging
  - Document training - need to retrain / refresh as appropriate
- **Inspections**
  - Document monthly crane inspections - use a checklist and sign off by trained employee
  - Annual inspection certificate by third party
- **Equipment**
  - Provide proper (not worn) rigging to lift rated loads
- **Crane Operation**
  - Check loads to ensure they not greater than the load rating of the crane or the rigging
  - Only trained Staff to use the crane and rig
  - The crane to be locked for public use

### **Storage of Oil and Other Hazardous Materials by third Parties at Burrard Marina**

- Purpose of Allowing Storage of Oil and Other Hazardous materials is to help reduce the likelihood of the materials being dumped in the ocean or some other place
- Require Gas Station at Burrard Marina to meet the same storage requirements as COV.
  - Elevated with drip catch basins in case of leaks
  - Set limit to the amount of material in storage and provide defined area
  - Ensure locked - prefer inside storage shed like COV
  - Consider charges if breach of minimum standards

### **Shut off Valve access and Signage**

- The shut off valves for the gasoline station should be clearly marked and accessible at Burrard

### **Fire Hose Storage**

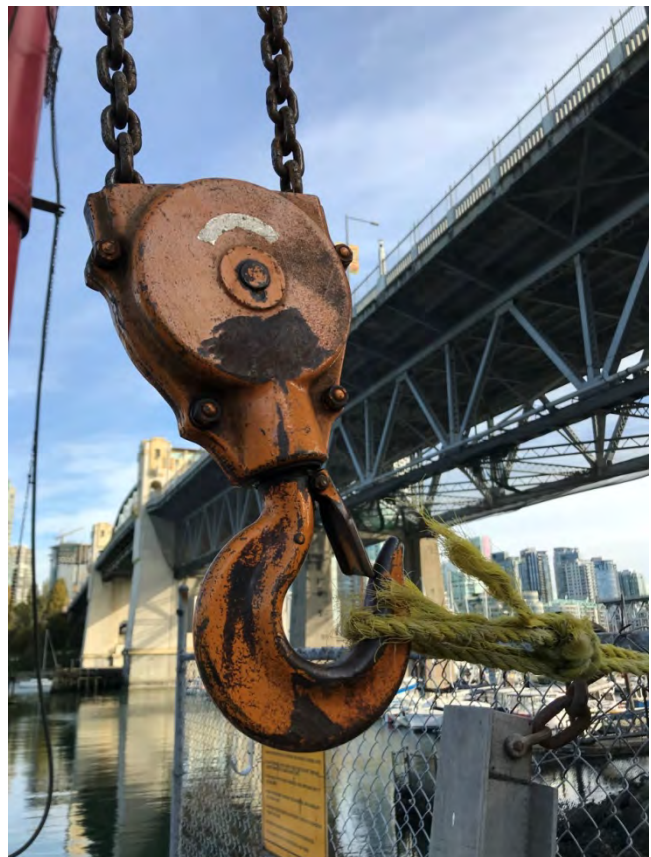
- Recommend having VFRS check the fire hose storage (Fire station is beside Burrard Marina so should be easy to arrange)
- Review and follow any practical fire recommendations from VFRS





**“MARINA CRANE / PIVOTING JIB / BOAT HANDLING” (SINGLE HOIST CRANE)**

“Crane inspection and rigging equipment concerns with untrained marina members using crane on their own and using COV rigging equipment that is not being maintained.”





City Marinas:

- Burrard Civic Marina
- Heather Civic Marina

[Example of jib crane instruction video](#)

Federal, ie: *Canada Shipping Act & Marine Liability Act*

Provincial – Occupier Liability Acts, consumer protection legislation, responsibilities of warehousemen and laws of general application to property and civil rights

Worksafe BC – Crane Initiative

- The Provincial Crane Inspection Team was formed in 2008 with a primary focus on safe erection, inspection, and operation of tower cranes in B.C. The team is committed to inspecting every one of the estimated 300 tower cranes erected and operating in the province.
- Inspection of the following equipment: Marine and foundation construction equipment
- [600 crane inspections in 2019](#)
- [Worksafe BC Regulations – Cranes and Hoists](#)
- 14.2(1) Except as otherwise required by this Regulation, a crane or hoist must be designed, constructed, erected, disassembled, inspected, maintained and operated as specified by the manufacturer or a professional engineer, and to meet the requirements of the applicable standard listed in subsections (2) to (15).
- 14.2(4)
- [Workers Compensation Act – Occupational Health and Safety Regulation](#)
- **14.2 (1)** Except as otherwise required by this Part, a crane or hoist must be designed, constructed, erected, disassembled, inspected, maintained and operated as specified by the manufacturer or a professional engineer, and to meet the requirements of the applicable standard listed in subsections (2) to (12) or other standard acceptable to the board.  
**(4)** A bridge, jib, monorail, gantry or overhead travelling crane **must meet the safety requirements of**  
**CSA Standard B167-96, Safety Standard for Maintenance and Inspection of Overhead Cranes, Gantry Cranes, Monorails, Hoists, and Trolleys,**  
ANSI Standard ANSI/ASME B30.2-2005, Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist),  
ANSI Standard ANSI/ASME B30.11-2004, Monorails and Underhung Cranes,  
ANSI Standard ANSI/ASME B30.16-2003, Overhead Hoists (Underhung), or  
ANSI Standard ANSI/ASME B30.17-2003, Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist).
- 14.12 (2)A **crane** or hoist must not be used unless the following is reasonably accessible to the equipment operator and other persons inspecting or maintaining the equipment at the workplace where the **crane** or hoist is to be used:
  - (a) the manufacturer's manual for the **crane** or hoist;

(b)if the manufacturer's manual is not available, an engineer's instructions for the crane or hoist.

### **Inspection, maintenance and repair**

#### **14.13 (1)**

- (2)A crane or hoist must not be used until any condition that could endanger workers is remedied.
- (3)Any repair to load bearing components of a crane or hoist must be certified by a professional engineer or the original equipment manufacturer as having returned the component to a condition capable of carrying out its original design function with an adequate margin of safety.
- (4)Maintenance or repair of a crane or hoist must be done by or under the direct supervision of a qualified person.

[am. B.C. Reg. 320/2007, App. E, s. 10.]

### **Inspection and maintenance records**

**14.14** Records of inspection and maintenance meeting the requirements of Part 4 (General Conditions) must be kept by the equipment operator and other persons inspecting and maintaining the equipment, for

- (a)a crane or hoist with a rated capacity of 900 kg (2 000 lbs.) or more,
- (b)a crane or hoist used to support a worker,
- (c)a tower crane,
- (d)a mobile crane, boom truck or sign truck,
- (e)a side boom tractor or pipe layer,
- (f)a construction material hoist,
- (g)a chimney hoist,
- (g.1)a logging truck trailer reload hoist, and
- (h)any other type of hoisting equipment specified by the Board.

[am. B.C. Reg. 320/2007, App. E, s. 11.]

- **Kayak – 20-80 lbs**
- **Deck boats weigh about 3,100 lbs**
- **Jibs can take 2,500 lbs**

**[CSA Standard B167-96](#), Safety Standard for Maintenance and Inspection of Overhead Cranes, Gantry Cranes, Monorails, Hoists, and Trolleys,**

## 1. Scope

1.1 General This Standard specifies the minimum requirements for inspection, testing, and maintenance of overhead cranes, monorails, hoists, trolleys, jib cranes, gantry and wall cranes, and other equipment having the same fundamental characteristics.

4.4.2.1 Inspections for Cranes in Regular Use Inspection procedure for cranes in regular service is divided into two general classifications based upon the intervals at which inspections should be performed. The intervals are dependent upon the nature of the components of the crane, as outlined in Clause 4.2, and the degree of their exposure to wear, deterioration, or malfunction. The two general classifications are designated as operational and periodic, with respective intervals between inspections as defined in more detail by the classification criteria in CSA Standard Z202.

### 4.4.3 Service Classes

4.4.3.1 Class A (Standby or Infrequent Service) This service class covers cranes that may be used in installations such as powerhouses, public utilities, turbine rooms, motor rooms, and transformer stations, where precise handling of equipment at slow speeds with long, idle periods between lifts are required. Capacity loads may be handled for initial installation of equipment and for infrequent maintenance.

4.4.3.2 Class B (Light Service) This service class covers cranes that may be used in repair shops, light assembly operations, service buildings, light warehousing, etc, where service requirements are light and the speed is slow. Loads may vary from no load to occasional full-rated loads, with 2–5 lifts per h, averaging 2.6 m (10 ft) per lift.

4.4.3.3 Class C (Moderate Service) This service class covers cranes that may be used in machine shops or papermill machine rooms, etc, where service requirements are moderate. In this type of service, the crane will handle loads that average 50% of the rated capacity, with 5–10 lifts per h, averaging 3 m (15 ft), not over 50% of the lift at rated capacity.

4.4.3.4 Class D (Heavy Service) This service class covers cranes that may be used in heavy machine shops, foundries, fabricating plants, steel warehouses, container yards, lumber mills, etc, and standard duty bucket and magnet operations where heavy-duty production is required. In this type of service, loads approaching 50% of the rated capacity will be handled constantly during the working period. High speeds are desirable for this type of service, with 10–20 lifts per h, averaging 3 m (15 ft), not over 65% of the lifts at rated capacity.

4.4.3.5 Class E (Severe Service) This service class requires a crane capable of handling loads approaching a rated capacity throughout its life. Applications may include magnet, bucket, and magnet/bucket combination cranes for scrap yards, cement mills, lumber mills, fertilizer plants, container handling, etc, with 20 or more lifts per h at or near the rated capacity.

4.4.3.6 Class F (Continuous Severe Service) This service class requires a crane capable of handling loads approaching rated capacity continuously under severe service conditions throughout its life. Applications may include custom-designed specialty cranes essential to performing the critical work tasks affecting the total production facility. These cranes must provide the highest reliability, with special attention to ease-of-maintenance features.

#### 4.4.4.1 General

Visual examinations shall be recorded in the log book by the operator or a designated person with findings of deficiencies at the following intervals:

- (a) light service — Classes A and B monthly;
- (b) heavy service — Classes C and D weekly to monthly;
- (c) severe service — Classes E and F daily to weekly; and
- (d) special service — as recommended by a qualified person.



4.4.4.2 Inspection Targets Items such as the following shall be examined for defects, malfunctions, and damage at intervals as defined in Clause 4.4.4.1. This includes observations during operation for any defects or damage that might appear between periodic inspections; the resolution of such defects found in this inspection shall be made by a qualified person:

- (a) all operational functions;
- (b) leakage in lines, tanks, valves, pumps, and other parts of air or hydraulic systems;
- (c) deformed, worn, or cracked hooks;
- (d) hook latches, if so equipped;
- (e) hoist ropes;
- (f) limit device(s) for function;
- (g) function labels for operator control; and
- (h) all brakes.

**BC Maritime Employers Association – Governing vessels at BC Ports**

- [Safety Regulations](#)
- Rule 101 All original safety equipment, windshield wipers, heaters and seating in crane cabs must be in working order.
- Rule 106(1) Examine the winches and/or cranes before hoisting cargo to be sure they are in good order; if they are not in good order, report it to the Foreman.

[History of Burrard Marina](#) - Burrard Marina Crane – 2,500 lbs

**Elevating Devices Safety Regulation (British Columbia – Safety Standards Act)**

- **Includes only:**
  - (a) a passenger ropeway;
  - (b) an amusement ride;
  - (c) a recreational railway;
  - (d) a rotating platform;
  - (e) a personnel hoist;
  - (f) a stage lift;
  - (g) a special elevating device;

## Savage, Gordon

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**From:** Freedman, Kevin  
**Sent:** Wednesday, November 06, 2019 2:51 PM  
**To:** Savage, Gordon  
**Subject:** Burrard Marina Crane  
**Attachments:** Marina Crane 2.jpg; Marina Crane 1.jpg

Hi Gordon,

The crane at Burrard Marina is known as a jib crane/pivoting jib. It is a single hoist crane. It operates by way of a rotating boom on a single axis and a mechanism that lowers and raises a hoist/hook and chain. This [instructional video](#) from an Australian yacht club demonstrates how to operate it safely.

According to this [History of the Burrard Marina](#), in 1995 a crane was removed, and the remaining one was de-rated from 5,000 lbs to 2,000 lbs. I have attached a screengrab of the Burrard Marina Crane which shows there is signage posted on it which likely identifies the maximum load and other operating information. This is not the same signage in yellow and red which is posted onto the fence adjacent to the crane which the safety inspector photographed.

Under *Workers Compensation Act* [Occupational Health and Safety Regulation – Cranes and Hoists](#) s 14.13(1) “Each crane and hoist must be inspected and maintained at a frequency and to the extent required to ensure that every component is capable of carrying out its original design function with an adequate margin of safety.”

The regulations in s 14.2(1) also require that inspection, maintenance and operation of a jib crane must meet the safety requirements of [CSA Standard B167-96](#), Safety Standard for Maintenance and Inspection of Overhead Cranes, Gantry Cranes, Monorails, Hoists, and Trolleys.

Standard B167-96 sets out a schedule of Service Classes depending on factors such as frequency and speed of use, height of lifts, etc. Frequency of crane inspection is dependent upon the classification.

Based on my understanding of the Burrard Marina Crane, I believe it falls under **Class B (Light Service)**, defined as follows in s 4.4.3.2 as:

This service class covers cranes that may be used in repair shops, light assembly operations, service buildings, light warehousing, etc, where service requirements are light and the speed is slow. Loads may vary from no load to occasional full-rated loads, with 2–5 lifts per h, averaging 2.6 m (10 ft) per lift.

Light Service cranes, including Class B, are to be **inspected monthly** under s 4.4.4.1.

It is worth reading the rest of the OH&S Regulation and CSA Standard because they outline what is required as a part of inspection, who is qualified to perform the inspection, and what documentation is required.

Thank-you,

**Kevin Freedman**  
Corporate Compliance | City of Vancouver  
t. 604-873-7737 | [kevin.freedman@vancouver.ca](mailto:kevin.freedman@vancouver.ca)

From: "Norrie, Andrew" <[Andrew.Norrie@vancouver.ca](mailto:Andrew.Norrie@vancouver.ca)>  
To: "Collins, Tim" <[Tim.Collins@vancouver.ca](mailto:Tim.Collins@vancouver.ca)>  
CC: "Ross, John" <[John.Ross@vancouver.ca](mailto:John.Ross@vancouver.ca)>  
Date: 9/22/2020 11:24:40 AM  
Subject: FW: Proposal No. 12436 - Condition Assessment and Crane Replacement of the Burrard Marina Dock  
Attachments: LTRmar.06\_VBPR.pdf

Hi Tim

See attached

I do not know specifically the about the aluminum beam but I do know the crane base or structural support was reinforced.

Andrew Norrie, Architect.AIBC  
Project Manager | FACILITIES DEVELOPMENT | REAL ESTATE AND FACILITIES MANAGEMENT  
CITY OF VANCOUVER 507 West Broadway, Suite 320 Vancouver BC V5Z 0B4  
t: 604.873.7937 | m: 604.836.8026 | e: [Andrew.norrie@vancouver.ca](mailto:Andrew.norrie@vancouver.ca)

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**From:** Waite, Teresa (Vancouver) [<mailto:Teresa.Waite@WorleyParsons.com>]  
**Sent:** Tuesday, March 6, 2007 2:22 PM  
**To:** Harvey, Ian  
**Cc:** Evans, Alden (Vancouver)  
**Subject:** Proposal No. 12436 - Condition Assessment and Crane Replacement of the Burrard Marina Dock

**Westmar Proposal:** 12436

**Attention:** Ian Harvey, Vancouver Board of Parks and Recreation

**cc:** Alden Evans, Westmar Consultants Inc.

Please find attached a copy of our letter of today's date, referencing the above project. This document has been saved in .PDF format. If you have any problems with this file, please contact us.

***A confirmation hard copy will be sent to you by mail.***

Regards,

Teresa Waite  
on behalf of **Alden J. Evans, P.Eng.**  
Manager  
Engineering Inspection Services Department  
Westmar Consultants Inc.  
#400 - 233 West 1<sup>st</sup> Street  
North Vancouver, BC  
V7M 1B3  
T : 604.985.6488 F : 604.985.2581  
e-mail: [aevans@westmar.com](mailto:aevans@westmar.com)  
Web: [www.westmar.com](http://www.westmar.com)

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**VIA E-MAIL**

March 6, 2007

Vancouver Board of Parks and Recreation  
955 Evans Avenue  
Vancouver, BC  
V6A 4C8

Proposal No.: 12436

Attention: Ian Harvey, P.Eng.  
Supervisor of Maintenance Management

Reference: Condition Assessment and Crane Replacement of the Burrard Marina Dock

Dear Sirs:

In response to your request for proposals dated February 12, 2007, Westmar is pleased to present the following proposal for engineering services related to the Burrard Marina facility.

## **1 Background and Scope of Assignment**

It is our understanding that the Vancouver Board of Parks and Recreation (Parks Board) is seeking the services of an engineering consultant to carry out a condition assessment of the 44 year old timber structure, and provide recommendations to maintain the constructed assets in a safe and operational condition. The existing jib crane has reached the end of its service life, so in addition to the dock survey, an engineering review is now required to ensure that the structure can adequately support the loads from the proposed replacement crane. An allowance shall be made for the design of a new crane-to-dock connection detail should the existing steel beam detail prove to be inadequate.

The scope of the assignment is summarized below:

- Determine the current condition of the fixed timber wharf structure and provide recommendations for short and long term repair and maintenance work, complete with associated costs. Specific emphasis will be placed on the area of the dock which will be in the immediate vicinity of the proposed replacement crane.
- Review the plan to replace the existing crane with a similar crane of the same rated load capacity, but with an increased height/reach of 25 ft.
- Carry out an engineering analysis of the structure (load rating) to ensure that the dock is capable of withstanding the loads from the new crane.
- Review the proposals for the replacement crane and include an allowance for the design of a new crane-to-dock connection detail if deemed necessary.

## **2 Scope of Work**

In accordance with the requirements of the RFP, our proposed scope of work will include, but shall not necessarily be limited to, the following:

- A review of any existing background information and data, previous reports and reference drawings.
- An above and underwater condition inspection of the entire dock structure.
- A structural assessment to establish the load rating of the structure, and more specifically to withstand the proposed crane loads.
- The preparation of a detailed, stand-alone report documenting the inspection findings in tabular format, AutoCAD drawings, and written descriptions and recommendations for a prioritized program of repair and maintenance work. In order to assist the Parks Board with the significance of the recommendations, an estimate of the cost to implement any repair/replacement work and the residual life of each major component will also be provided to assist with your long term maintenance and planning process.
- Attend a meeting with the Parks Board on completion of the assignment to present the inspection findings and discuss the significance of implementing the recommendations.

## **3 Approach and Methodology**

### **3.1 Pre-Site Work**

Immediately following project award, Westmar will meet with representatives of the Parks Board to discuss the following:

- Confirm the scope of work, review and finalize the proposed work program and implementation schedule.
- Agree on procedures and report formats.
- Compile all previous documentation associated with the assessment program.
- All available design, construction and inspection/assessment documentation will be reviewed prior to commencement of the inspection program. Westmar views these assignments as an ongoing process, and every effort is made to utilize existing information and resources.

Documentation should typically include:

- Initial design criteria requirements.
- Original construction drawings and specifications.
- Construction inspection reports and as-built information.
- Geotechnical reports.
- Status of vehicle loads, storage loads, size of vessels and design berthing loads.
- Previous inspection reports.
- A description of past, present and anticipated future use and performance.

### **3.2 On Site Work**

#### *3.2.1 Verification of Arrangement and Type of Structural Components*

This activity is performed to verify that layout, structural members and connection details are as described on the reference drawings. Measurements are made of all member types, and it is important that actual dimensions are taken rather than nominal dimensions.

If adequate reference drawings are available, verification will normally be by spot checking a representative number of members and connectors. Unless doubts are raised, the drawings will be accepted as accurate.

Soundings will be taken by leadline to verify water depth and pile lengths at key locations around the structure.

#### *3.2.2 Condition Inspection*

In accordance with the Terms of Reference, each structure will be inspected in detail above and below the waterline. Inspection procedures will be in general conformance with the following reference material:

- "Procedures for Inspection and Assessment of Fixed Dock Structures", 4th Edition (September 1994) by R.G. Sexsmith Ltd.
- "Standard Practice Manual for Underwater Investigations" by the American Society of Civil Engineers, Ports and Harbours Committee.

All inspection work, including the underwater portion of the project, will be carried out in-house by Westmar engineers and technologists. The inspection team will typically consist of a three man crew, the minimum requirement for an occupational diving team. The three man team allows us to optimize the time spent on site, with the above and underwater inspection components being planned in conjunction with each other, and using the same personnel. By taking advantage of daily tidal changes, continuity of work is maintained and a higher degree of flexibility is provided.



The typical inspection approach is summarized below:

- The visual inspection and representative drilling of the tops of piles and pile caps is carried out by two members of the team during periods of high tides. The high tide provides access by boat to the underside of the deck.
- The inspection of the topside components, which includes the decking, bollards, guardrails and other miscellaneous attachments, will be carried out by the third member of the team while the under-deck superstructure inspection and drilling program is in progress.
- The inspection of the components located within the intertidal zone, which includes a section of each timber pile, bracing and their associated bolted connections, and the lower section of safety ladders will be carried out either by boat during periods of low tides, or by using an inspection diver.
- As each member of the inspection team is also a WCB certified occupational diver, the submerged portion of the structure, i.e. below the intertidal zone, will be inspected independent of tides.
- Field notes are reduced at the end of each day, and the lead inspector/team leader will confirm that a complete inventory of the condition of each structure is available for the preparation of the inspection report.

This approach has proven to be the most efficient means of effectively inspecting a marine structure. Experience has shown that to use separate, independent teams to carry out the above and underwater portions respectively, is an inefficient use of resources and invariably results in a less cost effective, longer inspection program.

### *3.2.3 Inspection Report*

A detailed report will be prepared documenting all of the inspection findings, and results of the engineering assessment. The reports will be prepared as a stand-alone document which can be used by the Parks Board in evaluating the significance of the results and recommendations. The reports will provide a complete inventory of the condition of the structure, and will note any significant changes from previous inspections and/or as-built information. Preliminary recommendations will be made regarding proposed repair procedures, and any issues that require consideration by the Parks Board will be addressed.

The report will include, as a minimum, the following information:

- An executive summary.
- An introduction identifying the purpose of the inspection, the scope of work, reference material used, and referencing systems adapted for the purpose of the inspection.

- A detailed description of the structure.
- Inspection results identifying the member, size, location, condition and comments in tabular form and written descriptions.
- Load ratings/capacities.
- Residual life estimates.
- Drawings indicating the general arrangement, reference system and members identified as requiring repair or replacement.
- Colour photographs of sufficient size, number and clarity to indicate the general arrangement, details, problem areas and any other pertinent information of each component of the facility/structure.
- Discussion and recommendations to provide sufficient detail to develop a repair and/or maintenance program. Cost estimates will also be included.
- Draft reports will be submitted for review and comments prior to the final submission.

#### **4 Costs**

We propose carrying out the assignment on the basis of Westmar's Standard Terms of Engagement and Fee and Disbursement Schedules, copies of which are attached. Our estimate of fees and disbursements for the proposed work is presented in the table below.

Description	Engineering Fees	Disbursements
Condition assessment and load rating.	\$5,500	\$1,000
Prepare plans and specifications for new crane connection detail (allowance).	2,850	150
<b>Subtotal</b>	<b>\$8,350</b>	<b>\$1,150</b>
<b>Total Estimated Cost</b>	<b>\$9,500</b>	

In reviewing our estimated costs, please note the following:

- We have allowed one day of site time for a three man inspection team to complete the inspection. In the event that the condition of the structure warrants additional inspection, we will notify you immediately while our personnel are still on site.

- As with all of our assignments, under no circumstances will we exceed our approved budget without prior authorization from yourselves, and only those hours actually and necessarily expended on the project will be charged. The total estimated cost, including the allowance for designing the new crane connection detail, is therefore considered to be an upset limit.

## **5 Schedule**

Due to our current commitments and availability of personnel, our proposed schedule is as follows:

- Earliest Start Date: April 2, 2007
- Submit Draft Report: April 13, 2007
- Submit Final Report: April 20, 2007 (assuming a one week review period by the Parks Board)

We trust the above meets your approval. Please do not hesitate to contact us if we can be of any further assistance.

Yours truly,

**WESTMAR CONSULTANTS INC.**

***[Original signed by Alden Evans]***

Alden J. Evans, P.Eng.  
Manager  
Engineering Inspection Services Department

AJE/tmw  
Encl.



## Standard Terms of Engagement (CDN)

<p>Date: <b>March 6, 2007</b></p> <p>Client: <b>Vancouver Board of Parks and Recreation</b></p> <p>Address: <b>955 Evans Avenue Vancouver, BC V6A 4C8</b></p>	<p>Project: <b>Condition Assessment and Crane Replacement of the Burrard Marina Dock</b></p>
<b>GENERAL</b>	
<p>Westmar shall render its Services to the Client under this Agreement with that degree of care, skill and diligence normally provided in the performance of Services in respect of projects of a similar nature to that contemplated by this Agreement at the time and place that such Services are rendered.</p> <p>In rendering its Services on the Project, Westmar may, at its discretion and at any stage of the Services, engage subconsultants to perform services necessary to enable Westmar to carry out its duties and responsibilities as set forth in this Agreement.</p>	
<b>COMPENSATION</b>	
<p>Charges for the Services performed will be made in accordance with our standard terms, based on the hourly fee and disbursement schedule attached. All charges will be made in, and will be payable in, Canadian dollars.</p>	
<b>PAYMENT OF FEES &amp; DISBURSEMENTS</b>	
<p>Westmar shall invoice the Client for Services performed and the Client shall pay such charges within 30 days from the date of the invoice. Westmar reserves the right to charge interest at the rate of 1.5% per month on any amounts unpaid after this 30 day period. No deduction or set-off shall be made by the Client from the fee payable to Westmar.</p>	
<b>NOTICES</b>	
<p>Westmar will designate, in writing, a project manager who shall be responsible for the project. The Client shall designate, in writing, an authorized representative to act with respect to this Agreement and the Project.</p>	
<b>TERMINATION</b>	
<p>This Agreement may be terminated with cause by either party upon 30 days notice in writing. Client shall forthwith pay to Westmar all amounts, including all expenses and other charges payable, together with all obligations incurred by Westmar for the carrying out of the terms of this Agreement which may continue after the date of termination.</p> <p>If the Client is unwilling or unable to proceed with the project, the Client may terminate this Agreement by giving 45 days prior written notice to Westmar. Upon receipt of such notice Westmar shall perform no further services other than those reasonably necessary to close out its Services and satisfy the requirements of any legal liability. In such event Westmar shall be paid for all Services performed and for all disbursements incurred pursuant to this Agreement and remaining unpaid.</p>	
<b>PROFESSIONAL RESPONSIBILITY AND LIMITATION OF LIABILITY</b>	
<p>Westmar shall provide the standards of care, skill and diligence normally provided by a professional engineer in the performance of the Services contemplated by this Agreement.</p> <p>Westmar shall not be responsible for a Contractor's failure to perform work in accordance with the relevant contract documents; for design of, or defects in, proprietary equipment; for loss of earnings or other consequential damage, however caused.</p> <p>Notwithstanding anything to the contrary contained in this Agreement, the aggregate liability of Westmar, its Directors, Officers and Employees under this Agreement, including liability for professional errors, omissions or negligence and fundamental breach of contract, shall be limited to the compensation under this Agreement and any such liability shall expire one year from the completion of the Project or any relevant part of the Project.</p> <p>The Client agrees that Westmar's Directors, Officers and Employees shall have no personal liability to the Client, its Directors, Officers or Employees, in respect of a claim whether in contract, tort and/or any other cause of action in law.</p> <p>This Agreement shall be interpreted, construed and enforced in all respects in accordance with the laws of the Province of British Columbia, Canada.</p>	
<b>DOCUMENTS</b>	
<p>All of the Documents prepared by Westmar in connection with the project are instruments of service for the execution of the Work. Westmar retains the property and copyright in those Documents, whether the project is executed or not. Such Documents are prepared for the sole use by the Client for this Project and shall not be used by the Client on any other project without prior written agreement with Westmar. One record set of drawings will be provided to the Client for use in future inspections and maintenance.</p>	
<b>FIELD SERVICES</b>	
<p>Where applicable, the field services recommended for the project are the minimum necessary to ascertain that the Contractor's work is being carried out in general conformity with the Contract Documents. Any reduction from the level of services normally recommended may prevent Westmar from providing unqualified certifications for the work.</p>	

(CDN/2006-07-05)

**Westmar**

## Canadian Fee and Disbursement Schedule

### Hourly Rates

#### Engineers/Specialists:

##### Senior

E1.....	\$130.00
E2.....	\$125.00
E3.....	\$120.00
E4.....	\$115.00
E5.....	\$110.00

##### Intermediate

E6.....	\$105.00
E7.....	\$100.00
E8.....	\$95.00
E9.....	\$90.00
E10.....	\$85.00

##### Junior

E11.....	\$80.00
E12.....	\$75.00
E13.....	\$70.00
E14.....	\$65.00
E15.....	\$60.00

#### Senior Consultants/Project Managers:

C1.....	\$160.00
C2.....	\$150.00
C3.....	\$140.00
C4.....	\$135.00
C5.....	\$130.00

#### Technical Specialists:

T1.....	\$100.00
T2.....	\$95.00
T3.....	\$90.00
T4.....	\$85.00
T5.....	\$80.00
T6.....	\$75.00
T7.....	\$70.00

#### Draftspersons:

D1.....	\$75.00
D2.....	\$70.00
D3.....	\$65.00
D4.....	\$60.00
D5.....	\$55.00
D6.....	\$50.00

#### Computer Graphics, Simulation and Animation:

P1.....	\$65.00
---------	---------

#### Project Cost Accounting and Project Administration:

A1.....	\$65.00
---------	---------

#### Word Processing:

S1.....	\$45.00
---------	---------

### Hours of Work

The standard office work day is 7.5 hours.

### Disbursements

Mileage at \$0.50 per kilometre, travel disbursements (including airfare, meals, accommodations and reasonable expenses), subconsultants, testing agency costs and other project costs (such as printing, long distance telephone, equipment rental, etc.) are charged at cost plus ten percent. Facsimile transmissions are charged at \$2.00 for the first page and \$1.00 for each additional page, plus any long distance telephone charges.

Charges for meals will be by receipt or negotiated per diem.

Photocopies are charged at \$0.20 each.

Large format plots, checkplots and scanning to file are charged at \$0.60 per square foot. Large format colour plots are charged at \$2.75 per square foot.

AutoCAD computer charges are \$10.00 per hour of operation.

Engineering computer software: STAAD, Beltstat, AWESim and Prokon \$50.00/run, EasyPower \$100.00/run, ANSYS \$200.00/run and MIKE21 \$100.00/run.

\*\* Inspection Disbursement Schedule is under separate cover.

### Terms of Payment

Charges for fees and disbursements are invoiced monthly and are payable 30 days after the date of invoice. Westmar reserves the right to charge interest at the rate of 1.5% per month on any amounts unpaid after this 30 day period.

(CDN/2006-12-07)

**Westmar**

## Inspection Disbursement Schedule

Description	Daily Charge
Dive Gear – includes all surface supplied air, diver communications, and scuba equipment.	\$ 450
18 ft. aluminium boat complete with 60 hp outboard motor	\$ 150
14 ft. Zodiac complete with 10 hp outboard motor	\$ 150
12 ft. aluminium boat complete with 10 hp outboard motor	\$ 150
Underwater Photography Equipment – includes 35 mm and Hi-8 video	\$ 250
Ultrasonic Thickness Meter	\$ 150
Electric Potential Meter	\$ 100
Hydrographic Sounding Equipment, complete with Global Positioning System, Depth Sounder and Current Meter.	\$ 500
Generator and Timber Drilling/Coring Equipment	\$ 50
Survey Equipment – includes level, theodolite, and conveyor liner	\$ 100
Tachometer/Elcometer	\$ 50
Miscellaneous Inspection Equipment and Consumables – includes measuring tapes and calipers, protective clothing and equipment, and safety harnesses and rigging.	\$ 50

(CDN/2006-06-08)



From: "Norrie, Andrew" <Andrew.Norrie@vancouver.ca>  
To: "Collins, Tim" <Tim.Collins@vancouver.ca>  
CC: "Ross, John" <John.Ross@vancouver.ca>  
Date: 9/22/2020 8:33:54 AM  
Subject: FW: Burrard Civic Marina Repair Clarifications  
Attachments: Stringer Clarification.pdf

Tim see attached  
Stringers were replaced by Bluewater  
Andrew

---

**From:** Tyler Wilson [mailto:TWilson@Heroldengineering.com]  
**Sent:** Tuesday, November 25, 2014 12:07 PM  
**To:** Norrie, Andrew  
**Cc:** Peter Longwood; Thieves, Cassio  
**Subject:** RE: Burrard Civic Marina Repair Clarifications

Hi Andrew,

As per the attached stringer clarification, the stringers were to be counted from shore (yes, this should be the west). It is possible that somebody mis-counted though so please ensure the stringers which are deteriorated the most in this general vicinity are the ones that get replaced.

As for removal of existing stringers, it is standard practice to remove old obsolete members unless extremely difficult to do so. From a structural perspective it is not necessary but from a maintenance and future inspection/repair perspective it is much preferred. As I remember, the contract specified removal of existing (including pulling and replacing deck boards as needed) and I can't picture any significant obstacles to this. My recommendation is that the existing deteriorated stringers be removed.

Thanks,

**Tyler Wilson, P.Eng.**

#### Herold Engineering Limited

1051 Vancouver St.  
Victoria, BC V8V 4T6  
Canada  
Tel: 250-590-4875  
Fax: 250-590-4392  
Cell: 778-350-9101  
Email: [TWilson@Heroldengineering.com](mailto:TWilson@Heroldengineering.com)  
Web: <http://heroldengineering.com>

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**From:** Norrie, Andrew [mailto:Andrew.Norrie@vancouver.ca]  
**Sent:** November-25-14 11:57 AM  
**To:** Tyler Wilson  
**Cc:** Peter Longwood; Thieves, Cassio  
**Subject:** FW: Burrard Civic Marina Repair Clarifications



Hi Tyler

Re : Burrard Civic Marina , Wharf stringer replacement  
Last work to be completed by Bluewater Systems

1. I are the stringers to be replaced counted from the western edge - side
2. Can Blue Water Systems - sister the existing beams and leave the existing in place.
3. Should the rotted stringers be removed. Difficult due to deck boards are nailed down

Requesting a review and comment based on previous work

**Andrew Norrie, Architect.AIBC**  
**REFM Project Manager, City of Vancouver**  
Facilities Planning and Development  
**Real Estate and Facilities Management**

Office: 604 873 7937 Cell: 604 836 8026  
Suite 320, 507 West Broadway, Vancouver, V5Z 0B4  
Email: [Andrew.norrie@vancouver.ca](mailto:Andrew.norrie@vancouver.ca)

---

**From:** Tyler Wilson [mailto:[TWilson@Heroldengineering.com](mailto:TWilson@Heroldengineering.com)]  
**Sent:** Monday, January 20, 2014 4:36 PM  
**To:** Norrie, Andrew  
**Cc:** Jeff Duncan  
**Subject:** Burrard Civic Marina Repair Clarifications

Hi Andrew,

I've looked into some of the questions that came up during our pre-construction meeting at the Burrard Civic Marina and have provided some clarification below.

Placement of new floatation billets: We are preparing a connection detail that will use stainless steel banding and concrete screws. I will provide it to you as soon as possible

Stringer Replacements on Wharf: The attached "Stringer Clarification" provides further info as to which stringers are to be replaced and why.

10 Tie-Rods "West of F18" The report prepared by Worley Parsons stated "There are multiple failed tie-rods on south side of float F adjacent to the north side of the concrete bridge footing" If the tie-rods are all sound then this component can be removed from the project.

Tie-Rod at L15: This rod is to be removed and relocated if possible to avoid wearing on the timber mooring pile (see photo 35 attached).

Tie Rod at C25/26: This rod is to be replaced if it is still in the condition in the attached Photo 23, otherwise it can be removed from the project.

Mooring well timber at F27/29: It appears that this has already been repaired and can be removed from the project.

If there are further questions please let me know. As mentioned above I will be getting a new billet connection detail to you soon.

Thanks,

**Herold Engineering Limited**

1051 Vancouver St.

Victoria, BC V8V 4T6

Canada

Tel: 250-590-4875

Fax: 250-590-4392

Cell: 778-350-9101

Email: [TWilson@Heroldengineering.com](mailto:TWilson@Heroldengineering.com)

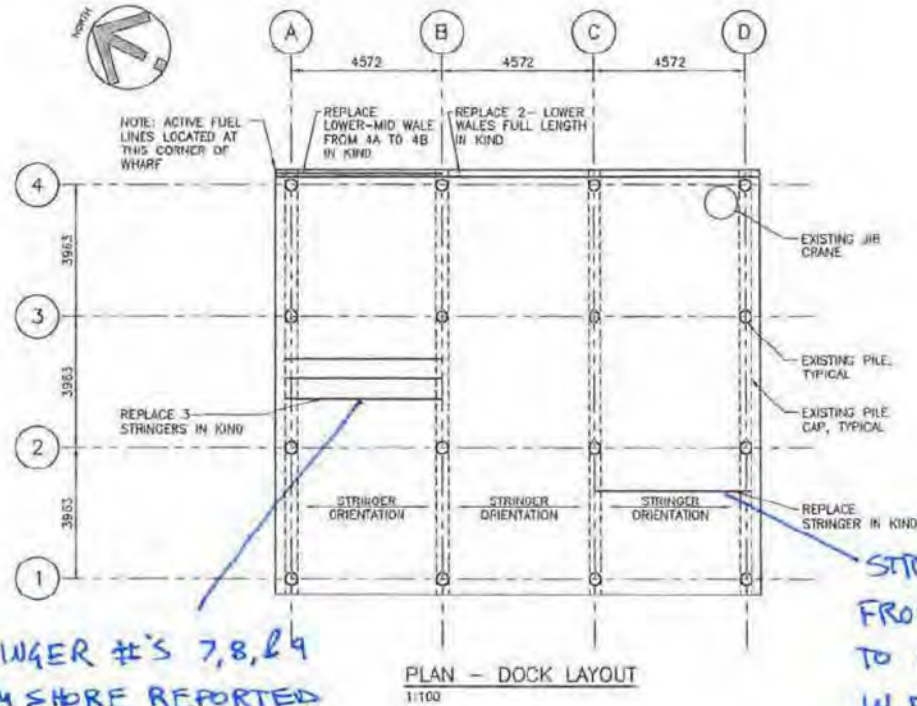
Web: <http://heroldengineering.com>

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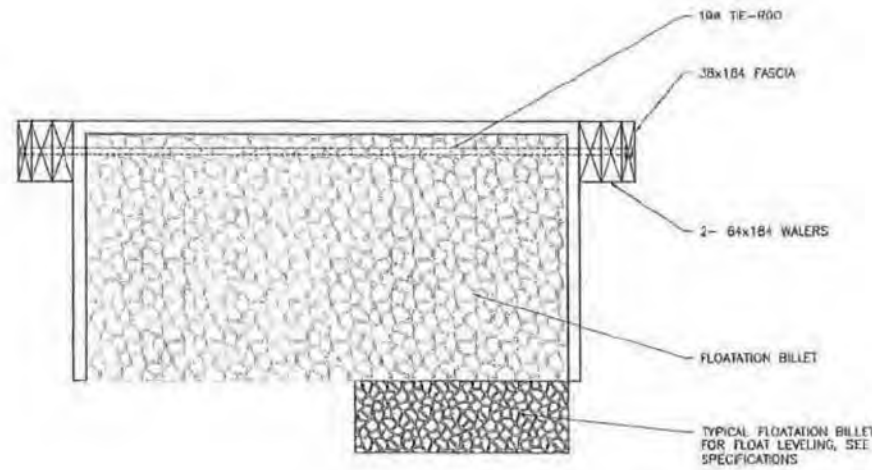
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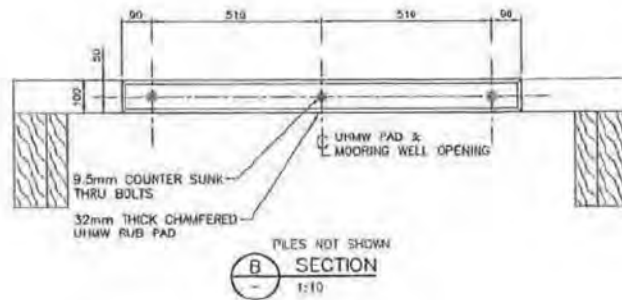
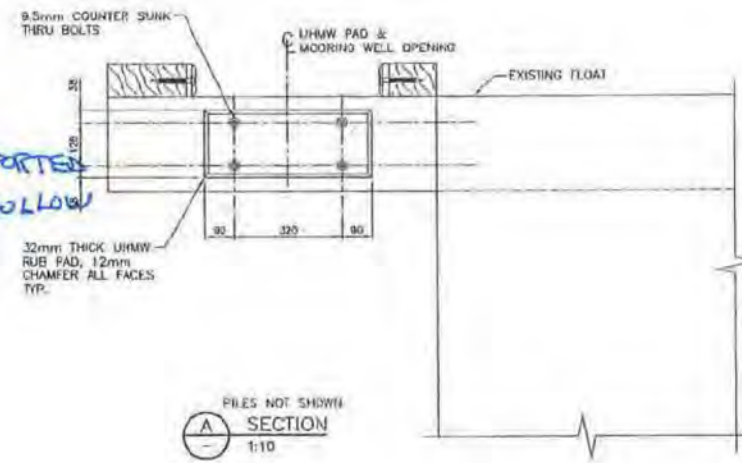
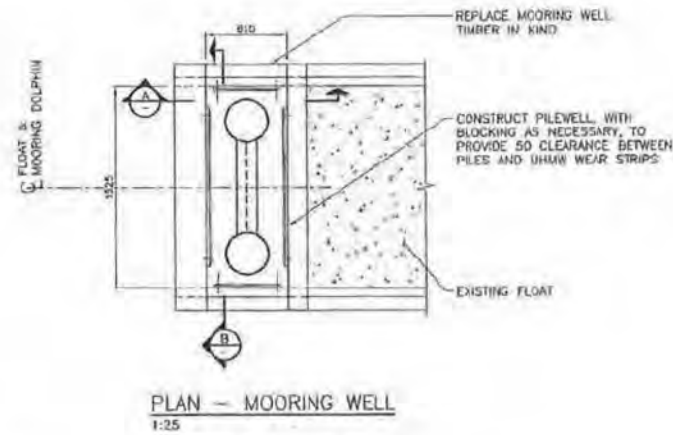


STRINGER #'S 7,8, & 9 FROM SHORE REPORTED TO BE 25% TO 75% HOLLOW

STRINGER #3 FROM SHORE REPORTED TO BE ~50% HOLLOW IN PLACES



TYPICAL FLOAT SECTION  
1:10



NOTES:  
1. FOR GENERAL NOTE SEE DRAWING S01

ISSUED FOR TENDER

NOT FOR CONSTRUCTION

ISSUES			
No.	DATE	ISSUED FOR	By
0	2013.08.09	ENDER	

SUB CONSULTANT			
No.	DATE	ISSUED FOR	By

DRAFTED  
BDW  
DRAWING REVIEW  
DESIGNED  
TMW  
DESIGN REVIEW  
JDD

**HEROLD ENGINEERING LIMITED**  
Consulting Engineers  
3701 Shenton Rd, Norwico, BC V3T 2H1  
Tel: 250-751-8558 Fax: 250-751-8559  
Email: mail@heroldengineering.com

ENGINEER'S SEAL  
REGISTERED PROFESSIONAL ENGINEER  
BC  
R018-1/2013

REPAIR DETAILS AND SECTIONS

BURRARD CIVIC MARINA  
FLOAT LEVELING AND REPAIRS  
VANCOUVER, BC  
City of Vancouver

REL PROJECT No. 2367-006	CLIENT Dwg. No. N/A
SCALE AS SHOWN	PLANT No. N/A
REL DRAWING No. S02	REVISION 0