

File No.: 04-1000-20-2022-231

August 24, 2022

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 April 29, 2022 under the ***Freedom of Information and Protection of Privacy Act, (the Act)***, for:

Correspondence between the City of Vancouver and Sentry Marine, including its agents and representatives, regarding the barge stranded at Sunset Beach. Date range: April 14 to 28, 2022.

All responsive records are attached. Some information in the records has been severed, (blacked out), under s.15(1)(l), s.16(1), s.18, s.19, and s.22(1) of the Act. You can read or download these sections here:

http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96165_00

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 or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number (#04-1000-20-2022-231); 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,

[Signed by Cobi Falconer]

Cobi Falconer, MAS, MLIS, CIPP/C
Director, Access to Information & Privacy
cobi.falconer@vancouver.ca
453 W. 12th Avenue Vancouver BC V5Y 1V4

If you have any questions, please email us at 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. (Response Package)

:ag

From: "Allan Hart" <AHart@coastclaims.com>
To: "Chan, Elvis" <Elvis.Chan@vancouver.ca>
CC: "Khella, Harry" <Harry.Khella@vancouver.ca>
Date: 4/21/2022 2:15:24 PM
Subject: [EXT] RE: Barge at English Bay.

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.

Thanks Elvis, I just left you a long winded VM.

Cheers

ALLAN HART, BBA, CIP, CRM

President
D 250-940-2173
T 250-386-3111 F 250-386-1473
5-2727 Quadra Street Victoria, BC V8T4E5
ahart@coastclaims.com www.coastclaims.com [coastclaims.com]

COAST CLAIMS
INSURANCE SERVICES

The information contained in this message may be confidential and/or subject to legal privilege, and is for the use of the intended addressee only. Any unauthorized use, dissemination or copying of the information in this message is strictly prohibited. If you have received this message in error, please notify the sender immediately and delete this message. Thank you

From: Chan, Elvis <Elvis.Chan@vancouver.ca>
Sent: Thursday, April 21, 2022 1:01 PM
To: Allan Hart <AHart@coastclaims.com>
Cc: Khella, Harry <Harry.Khella@vancouver.ca>
Subject: Barge at English Bay.

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Allan,

Let me know if you want to connect.

City Legal is drafting up an agreement to permit work on park land.

Thanks.

Elvis Chan, FCIP, CRM
Manager, Risk Financing and Loss Control

City of Vancouver
T: 604-829-4204
C: 604-760-4004
E: elvis.chan@vancouver.ca

From: "Allan Hart" <AHart@coastclaims.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
"Jesse Percy" <Jesse.Percy@carlsoncg.com>
CC: "Michael D. Silva" <MSilva@wt.ca>
"Kim Wigmore" <KWigmore@wt.ca>
Date: 4/21/2022 12:52:18 PM
Subject: [EXT] RE: English Bay Barge Removal - License Agreement

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.

Good afternoon Harry, Underwriters have retained Michael Silva to assist with any contracts. I have copied him here and would suggest that from our end at least, he would be the one to participate in the meeting.

I'm happy to participate by phone as well if needed.

Kind regards
Allan

ALLAN HART, BBA, CIP, CRM

President
D 250-940-2173
T 250-386-3111 F 250-386-1473
5-2727 Quadra Street Victoria, BC V8T4E5
ahart@coastclaims.com www.coastclaims.com [coastclaims.com]

COAST CLAIMS
INSURANCE SERVICES

The information contained in this message may be confidential and/or subject to legal privilege, and is for the use of the intended addressee only. Any unauthorized use, dissemination or copying of the information in this message is strictly prohibited. If you have received this message in error, please notify the sender immediately and delete this message. Thank you

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: Thursday, April 21, 2022 12:41 PM
To: Jesse Percy <Jesse.Percy@carlsoncg.com>; Allan Hart <AHart@coastclaims.com>
Subject: RE: English Bay Barge Removal - License Agreement

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Jesse,

Further to this morning's meeting and as the license agreement is developed, please be advised that CoV is available to meet tomorrow at 2:30pm for a short meeting to ensure all parties are on the same page and to answer any questions.

Thanks,

Harry

From: Khella, Harry
Sent: Wednesday, April 13, 2022 4:23 PM
To: Jesse Percy <Jesse.Percy@carlsoncg.com>; 'ahart@coastclaims.com' <ahart@coastclaims.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Chan, Elvis <elvis.chan@vancouver.ca>
Subject: English Bay Barge Removal - License Agreement

Hi Jesse,

I hope this message finds you well.

Before any works related to the barge deconstruction and removal can commence, a license agreement will be need to agreed between CoV and yourselves as prime contractor. With that in mind and in order to expedite discussions, please section 4 of the draft agreement that outlines some of the insurance requirements that CoV will need to review. If you could kindly send across these items, that would be most helpful.

I aim to share the full draft agreement for your review during the week of April 25th.

Please let me know if you have any questions.

Thanks,

Harry

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

From: "Jesse Percy" <Jesse.Percy@carlsoncg.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
"Todd Braconnier" <tcbroc@shaw.ca>
"Allan Hart" <AHart@coastclaims.com>
"Ian Donald" <IDonald@coastclaims.com>
CC: "Jenn Wint" <jenn@wintcommunications.com>
"Ian Purvis" <Ian.Purvis@carlsoncg.com>
"Gandha, Amit" <Amit.Gandha@vancouver.ca>
Date: 4/20/2022 5:21:22 PM
Subject: [EXT] RE: SMT-5000 Weekly Status Report - April 15, 2022
Attachments: 322527_SMT5000_WeeklyStatus_20220415.pdf

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.

All,

Please see the attached weekly status report for last week.

Thanks,

Jesse Percy ASct., PMP

Director, Design Build CHC

Carlson Construction Group Inc.

20 Brooksbank Avenue, North Vancouver, BC V7J 2B8

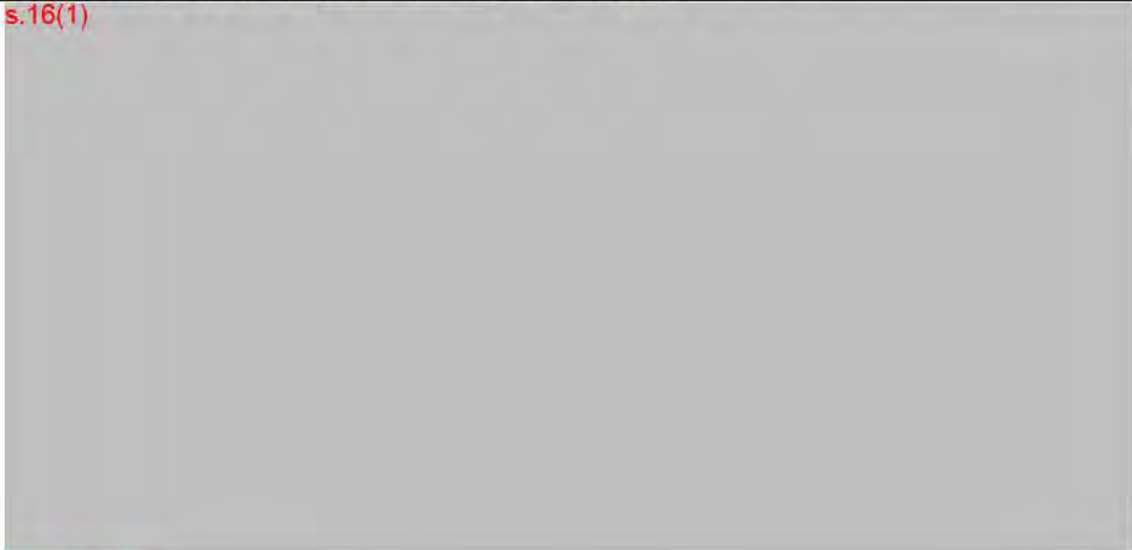

T. +1 604.998.1075 C. +1 604.999.7757

jesse.percy@CarlsonCG.com |

www.CarlsonConstructionGroup.com [can01.safelinks.protection.outlook.com]

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

Project Name	SMT-5000 Salvage	Project Number	3-22-527
Owner	Sentry Marine Towing Ltd.	Status Report Date	Friday, April 15, 2022
Project Manager	Ian Purvis	Project Director / Sponsor	Jesse Percy
Superintendent / GF	TBD	Project Engineer	N/A

Status Summary	<p>Safety Management:</p> <ul style="list-style-type: none"> Draft Safety Plans are complete, pending finalization of project specific Safe work Procedures. Meeting with WorkSafeBC to review work procedures and safety plan was held on March 22, 2022. A site visit will be planned once mobilized to site.
	<p>s.16(1)</p> 
	<p>s.16(1), s.18</p> 
	<p>Planning:</p> <ul style="list-style-type: none"> Lift calculations and different marine crane options to remove the barge in as large of pieces as possible are being finalized - Ongoing Cribbing design is nearing completion Seawall barrier option have been accepted by CoV. A site visit with the barrier supplier has identified two primary issues: <ul style="list-style-type: none"> 1 – there is a tree that overhangs the pathway with low clearance. The low hanging branches would need to be pruned back, or the truck would need to transfer to the lower pathway. A structural analysis of the pathway for the fully loaded truck will need to be investigated. (Photo 1) CoV to prune trees along pathway to allow for truck access. <u>Pruning has been completed.</u> 2 – The upper path (truck route) is showing signs of sub-grade failure. The 48 truck trips over the path are likely to cause further damage due to the substructure. (Photos 2 & 3) CoV to install pads to protect pathway during delivery and removal. CoV noted that pads are not required. Due to subgrade condition, Project not responsible for further degradation of the pathway. Note: Barrier install is scheduled for April 13/14 with fence installed April 18/19. TCP has been provided to CoV. CoV has given ok to proceed. 3 – On April 4, CoV raised the requirement for MetroVan to sign off on work due to force-main within Seawall. VanPile has contact MetroVan and submitted requested documentation. EXP is updated loading analysis to include MetroVan forcemain. This review has delayed the installation of the barriers. No impacts to the overall schedule are anticipated. CoV have suggested delaying barrier installation to May 2 to allow for MetroVan review and review/sign off of CoV Licencing Agreement. Licencing Agreement to be issued by April 25. Jack-up barge legs have arrived in VanPile yard and testing will be completed in the coming weeks.
	<p>Communication:</p> <ul style="list-style-type: none"> Ongoing – Weekly call to be coordinated by CoV – Next Meeting April 27

- Public Notification Fliers - VanPile to draft letter -> CoV to coordinate distribution. Draft letter issued to CoV for review. CoV provided comments, VanPile has returned final draft for review and approval.
- Project Signage – Final draft recirculated to CoV for review and approval.

PROJECT STATUS	CURRENT STATUS	COMMENTS
Overall	ON / AT RISK / OFF	Anticipated Start Date – May 2, 2022 – s.16(1)
Safety	ON / AT RISK / OFF	
Scope	ON / AT RISK / OFF	
Resources	ON / AT RISK / OFF	
Schedule	ON / AT RISK / OFF	Anticipated Start Date – May 2, 2022 – s.16(1)
Procurement / Subcontracts	ON / AT RISK / OFF	
Permits	ON / AT RISK / OFF	
Communications	ON / AT RISK / OFF	

RISKS, ISSUES AND OPPORTUNITIES			
Risks Identified	Impact	Owner	Action Steps
	L / M / H		
Issues	Priority	Owner	Action Steps
	L / M / H		
Opportunities	Priority	Owner	Action Steps
	L / M / H		

MILESTONE SUMMARY				
Task Name	Current Status	Planned Date	Revised Date	Actual Date
Pre-Condition Habitat Assessment	Complete	Jan 28, 2022		Jan 28, 2022
DFO Request for Review	Complete	Jan 28, 2022		Jan 28, 2022
WorkSafeBC Notice of Project	Complete	Feb 2, 2022		Feb 2, 2022
Seawall Loading Assessment	Complete	Feb 3, 2022		Feb 3, 2022
Hazardous Materials Assessment	Complete	Feb 11, 2022		Feb 11, 2022
s.16(1)	Complete	Feb 24, 2022		Feb 24, 2022
Work Plan Development	In Development	April 8, 2022	April 15, 2022	
Communications Plan	Draft Complete – Under Review	March 4, 2022		
Micro-Site	Complete – Live edits as needed	Feb 17, 2022		Feb 17, 2022
FAQ's	Draft Complete – Under Review	Feb 17, 2022		Feb 17, 2022
Mobilization & Scaffolding		May 9, 2022		
Pile Driving & Access		May 10, 2022		
Cribbing Installation – F Rake		May 11, 2022		
Bin Wall Removal		May 17, 2022		
Concrete Deck Removal		May 31, 2022		
Forward Rake Removal		May 31, 2022		
Stern Rake Removal		June 2, 2022		
Hull Demolition		June 9, 2022		
Debris Survey		July 5, 2022		
Pile Removal		July 5, 2022		
Demobilization		July 7, 2022		
Post-Condition Habitat Assessment		TBD – May 2023		

PHOTOS



Photo 1: Jack-up legs



Photo 2: Truck loaded with jacks



Photo 3: Jack, Side View



Photo 4: Jack, Bottom View

ATTACHMENTS

322527-SK-001_rip
322527-SK-002_rip
322527-SK-101_rip

From: "Ian Purvis" <Ian.Purvis@carlsoncg.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
"Todd Braconnier" <tcbroc@shaw.ca>
"Allan Hart" <AHart@coastclaims.com>
"Ian Donald" <IDonald@coastclaims.com>
CC: "Jenn Wint" <jenn@wintcommunications.com>
"Jesse Percy" <Jesse.Percy@carlsoncg.com>
"Gandha, Amit" <Amit.Gandha@vancouver.ca>
Date: 4/22/2022 3:40:29 PM
Subject: [EXT] SMT-5000 Weekly Status Report - April 22, 2022
Attachments: 322527_SMT5000_WeeklyStatus_20220422.pdf

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.

All,

Please see attached Weekly Status Report dated April 22, 2022.

Thanks,



Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.986.5911 M. +1 604.928.9450

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com]

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

Project Name	SMT-5000 Salvage	Project Number	3-22-527
Owner	Sentry Marine Towing Ltd.	Status Report Date	Friday, April 22, 2022
Project Manager	Ian Purvis	Project Director / Sponsor	Jesse Percy
Superintendent / GF	TBD	Project Engineer	N/A

Status Summary	<p>Safety Management:</p> <ul style="list-style-type: none"> Draft Safety Plans are complete, pending finalization of project specific Safe work Procedures. Meeting with WorkSafeBC to review work procedures and safety plan was held on March 22, 2022. A site visit will be planned once mobilized to site.
	<p>s.16(1)</p> 
	<p>s.16(1), s.18</p> 
	<p>Planning:</p> <ul style="list-style-type: none"> Lift calculations and different marine crane options to remove the barge in as large of pieces as possible are being finalized - Ongoing Cribbing design is nearing completion Seawall barrier option have been accepted by CoV. A site visit with the barrier supplier has identified two primary issues: <ul style="list-style-type: none"> 1 – there is a tree that overhangs the pathway with low clearance. <i>Pruning has been completed.</i> 2 – The upper path (truck route) is showing signs of sub-grade failure. The 48 truck trips over the path are likely to cause further damage due to the substructure. (Photos 2 & 3) CoV to install pads to protect pathway during delivery and removal. <i>CoV noted that pads are not required. Due to subgrade condition, Project not responsible for further degradation of the pathway.</i> Note: Barrier install is scheduled for April 13/14 with fence installed April 18/19. TCP has been provided to CoV. CoV has given ok to proceed. 3 – On April 4, CoV raised the requirement for MetroVan to sign off on work due to force-main within Seawall. VanPile has contact MetroVan and submitted requested documentation. EXP is updated loading analysis to include MetroVan forcemain. This review has delayed the installation of the barriers. <i>Metro Van has not completed review, nor provided an update</i> CoV have suggested delaying barrier installation to May 2 to allow for MetroVan review and review/sign off of CoV Licencing Agreement. Licencing Agreement to be issued by April 25. <i>Draft (partial) Licensing Agreement is planned to be issued April 26. This will require delaying the start to May 9.</i> <i>Canadian Goose Eggs were found on the barge deck. Hatfield has requested City of Vancouver add Hatfield to the addling permit. If the project is not able to use the permit or eggs hatch a 30m buffer is needed until the birds leave the nest. Hatfield has confirmed there are no other nests present and have installed flagging to discourage other birds from nesting.</i> <p><i>*Danger Signage installed around perimeter of the barge and all pumps removed from holds.</i></p>

	Communication: <ul style="list-style-type: none"> Ongoing – Weekly call to be coordinated by CoV – <i>Next Meeting April 27</i> Public Notification Fliers - VanPile to draft letter -> CoV to coordinate distribution. Draft letter issued to CoV for review. CoV provided comments, VanPile has returned final draft for review and approval. Project Signage – Final draft recirculated to CoV for review and approval.
--	---

PROJECT STATUS	CURRENT STATUS	COMMENTS
Overall	ON / AT RISK / OFF	Anticipated Start Date – May 9, 2022 – s.16(1)
Safety	ON / AT RISK / OFF	
Scope	ON / AT RISK / OFF	
Resources	ON / AT RISK / OFF	
Schedule	ON / AT RISK / OFF	Anticipated Start Date – May 9, 2022 – s.16(1)
Procurement / Subcontracts	ON / AT RISK / OFF	
Permits	ON / AT RISK / OFF	
Communications	ON / AT RISK / OFF	

RISKS, ISSUES AND OPPORTUNITIES			
Risks Identified	Impact	Owner	Action Steps
CoV Licensing Agreement	L / M / H	JP/IP	Await issuance for review early next week.
s.16(1)	L / M / H	JP/IP	s.16(1)
MetroVan Review	L / M / H	JP/IP	Await response from Geotechnical submission.
Issues	Priority	Owner	Action Steps
	L / M / H		
Opportunities	Priority	Owner	Action Steps
	L / M / H		

MILESTONE SUMMARY				
Task Name	Current Status	Planned Date	Revised Date	Actual Date
Pre-Condition Habitat Assessment	Complete	Jan 28, 2022		Jan 28, 2022
DFO Request for Review	Complete	Jan 28, 2022		Jan 28, 2022
WorkSafeBC Notice of Project	Complete	Feb 2, 2022		Feb 2, 2022
Seawall Loading Assessment	Complete	Feb 3, 2022		Feb 3, 2022
Hazardous Materials Assessment	Complete	Feb 11, 2022		Feb 11, 2022
s.16(1)	Complete	Feb 24, 2022		Feb 24, 2022
Work Plan Development	In Development	April 8, 2022	April 15, 2022	
Communications Plan	Draft Complete – Under Review	March 4, 2022		
Micro-Site	Complete – Live edits as needed	Feb 17, 2022		Feb 17, 2022
FAQ's	Draft Complete – Under Review	Feb 17, 2022		Feb 17, 2022
Site Fencing		May 9, 2022		
Mobilization & Scaffolding		May 16, 2022		
Pile Driving & Access		May 17, 2022		
Cribbing Installation – F Rake		May 18, 2022		
Bin Wall Removal		May 24, 2022		
Concrete Deck Removal		June 7, 2022		
Forward Rake Removal		June 7, 2022		
Stern Rake Removal		June 9, 2022		
Hull Demolition		June 16, 2022		
Debris Survey		July 12, 2022		
Pile Removal		July 12, 2022		
Demobilization		July 14, 2022		
Post-Condition Habitat Assessment		TBD – May 2023		

PHOTOS



Photo 1: Jack-up legs



Photo 2: Truck loaded with jacks

N/A

Photo 3:

N/A

Photo 4:

ATTACHMENTS

From: "Khella, Harry" <Harry.Khella@vancouver.ca>
To: "Jesse Percy" <Jesse.Percy@carlsoncg.com>
CC: "Gandha, Amit" <Amit.Gandha@vancouver.ca>
Date: 4/28/2022 1:08:31 PM
Subject: RE: Barge Removal - Hold Time

Hi Jesse,

Thanks for letting me know (or not) of the additional attendees on the call from Carlson. Can I have the contacts details of your attendees in case additional materials/info need to be provided.

Thanks,

Harry

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

From: Khella, Harry
Sent: Tuesday, April 26, 2022 5:08 PM
To: 'Jesse Percy' <Jesse.Percy@carlsoncg.com>
Subject: Barge Removal - Hold Time

Hi Jesse,

I am hopeful you can hold time on Thursday, April 28th (1-2pm) to review/answer any initial questions pertaining to the license agreement, which will be sent shortly. This works for all staff on the CoV side. if not, CoV would be grateful if VPDL prioritized this meeting.

Please include any attendees on your side as needed and let me know who they are.

Thanks,

Harry

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

From: "Khella, Harry" <Harry.Khella@vancouver.ca>
To: "Ian Purvis" <Ian.Purvis@carlsoncg.com>
CC: "Jesse Percy" <Jesse.Percy@carlsoncg.com>
Date: 4/21/2022 2:05:54 PM
Subject: RE: [EXTERNAL] Barge Removal - Addling

Thanks Ian, we will get back to you shortly.
Cheers,
Harry

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Sent: Thursday, April 21, 2022 1:56 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Subject: FW: [EXTERNAL] Barge Removal - Addling

Harry,

Please see below correspondence from Hatfield related to the Addling permit. Can you please review and let us know if the CoV will be able to add us as a nominee? If not, we cannot obtain our own permit as we are not the landowner or lease holder.

Happy to get Hatfield on a call with the correct people on your side to discuss if required.

Thanks,
Ian

Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.986.5911 M. +1 604.928.9450

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com]

From: Marc VanderVeer <mvanderveer@hatfieldgroup.com>
Sent: April 21, 2022 1:33 PM
To: Ian Purvis <Ian.Purvis@carlsoncg.com>
Cc: Emilia Mackowiak <emackowiak@hatfieldgroup.com>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Subject: RE: [EXTERNAL] Barge Removal - Addling

Hi Ian,

Our wildlife biologist Mila made a visit to the Barge today to perform a pre-work bird survey and install bird deterrent flagging. Fortunately, Mila confirmed that the single Canada Goose nest previously identified by Vanpile is the only nest on the barge and no other signs of nesting were observed. It is hard to tell how far along the eggs are, however based on the time of discovery we

suspect it could be another few weeks before the eggs have hatched and goslings have fledged. Under the Migratory Birds Convention Act this nest cannot be disturbed until the goslings have left the nest, unless the removal is completed under a damage and danger permit issued to the landowner. Protection of the nest typically includes a no-activity buffer area (i.e., 30 metres around the nest) to prevent disturbance to the nesting goose which could lead to nest abandonment. Given the anticipated work schedule, the timeline for fledging of the goslings is likely to conflict.

I have been in discussion with the Canadian Wildlife Service (CWS; issuer of the damage and danger permit), and they confirmed the permit applicant must be the landowner, which in this case is the City of Vancouver. CWS clarified it is a simple process to add nominees to an existing permit, which can be completed via an email from the permit applicant to the permitting officer including details of the additional nominees. Can we request a call with the City of Vancouver to discuss whether adding "Employees of Hatfield Consultants" as nominees to the existing permit is an option? I understand in response to our previous request the City preferred we obtain our own permit. The initial request was in the context of parks employees doing the removal, however if Hatfield was added as a nominee the task could be completed by a Hatfield biologist.

Let me know if you would like to discuss.

Cheers,

Marc VanderVeer, BSc, PAg
Environmental Specialist

T: +1 604 926 3261 | **M:** +1 778 879 1191

Hatfield | Website [can01.safelinks.protection.outlook.com] | LinkedIn [can01.safelinks.protection.outlook.com]
Environmental and social scientists advancing sustainable development

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

From: "Ian Purvis" <Ian.Purvis@carlsoncg.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
"Jesse Percy" <Jesse.Percy@carlsoncg.com>
"Gursameer Singh" <gursameer.singh@carlsoncg.com>
CC: "Gandha, Amit" <Amit.Gandha@vancouver.ca>
Date: 4/26/2022 5:33:57 PM
Subject: Re: [EXTERNAL] RE: English Bay Barge - Barrier Truck Analysis

Harry,

EXP is a geotechnical engineering firm so they can only provide the loads that will be applied to the sea wall, pipe and barriers. The record drawings for the Seawall provided the design criteria so we were able to assess and put in measures (such as the mats) to reduce the loads to within the allowable limits.

We have assessed the loads on the MetroVancouver force main but we cannot determine if the loading on the pipe is acceptable without knowing MetroVancouver's criteria.

I've followed up multiple times with MetroVancouver and have not yet received a response to our inquiry. I'll try again tomorrow.

Thanks,
Ian

Ian Purvis, P.Eng
Operations Manager, Vancouver Pile Driving Ltd.
M: 604-928-9450

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: Tuesday, April 26, 2022 4:58 PM
To: Jesse Percy <Jesse.Percy@carlsoncg.com>; Ian Purvis <Ian.Purvis@carlsoncg.com>; Gursameer Singh <gursameer.singh@carlsoncg.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: RE: [EXTERNAL] RE: English Bay Barge - Barrier Truck Analysis

Ok.

s.22(1) - if EXP is not a structural engineer that cannot comment on the capacity of the pipe or loadings of the barriers and fencing on the seawall (and notwithstanding the signs off that VPD is seeking on the forecmain from MetroVan), is a structural engineer/EOR providing sign off for the loadings to be placed the seawall? Have I

missed this somewhere?

Thanks,

Harry

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

From: Jesse Percy <Jesse.Percy@carlsoncg.com>
Sent: Tuesday, April 26, 2022 4:08 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>
Cc: Ian Purvis <Ian.Purvis@carlsoncg.com>; Gursameer Singh <gursameer.singh@carlsoncg.com>; Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: Re: [EXTERNAL] RE: English Bay Barge - Barrier Truck Analysis

Hey Harry

EXP is not a structural engineer and cannot provide comment on capacity of pipe. This is something we need from metro van.

Jesse

Sent from my iPhone

On Apr 26, 2022, at 4:01 PM, Khella, Harry <Harry.Khella@vancouver.ca> wrote:

\u-257 ?
Hi Jesse,

Thanks for updating, much appreciated.

- 1) Our team looked at the updated report and whilst it provides the loading on the sewer forcemain pipe, it does not provide a confirmation of the ability of the pipe to support that load. I guess Metro Van's review will confirm this and this will be incorporated into the report.
- 2) The loading analysis is still not addressed in the report. EXP's structural team should comment on this item.

Thanks,

Harry

From: Jesse Percy <Jesse.Percy@carlsoncg.com>
Sent: Tuesday, April 26, 2022 10:46 AM
To: Khella, Harry <Harry.Khella@vancouver.ca>
Cc: Ian Purvis <Ian.Purvis@carlsoncg.com>; Gursameer Singh <gursameer.singh@carlsoncg.com>; Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: RE: [EXTERNAL] RE: English Bay Barge - Barrier Truck Analysis

Hi Harry,

Ian followed up with Metro Van again yesterday. Still no response. Please see attached updated memo from exp that has been provided to Metro Van.

Thanks,

Jesse Percy ASct., PMP
Director, Design Build CHC

Carlson Construction Group Inc.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.998.1075 C. +1 604.999.7757
jesse.percy@CarlsonCG.com | www.CarlsonConstructionGroup.com
[can01.safelinks.protection.outlook.com]
[can01.safelinks.protection.outlook.com] [can01.safelinks.protection.outlook.com]

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: April 25, 2022 7:04 PM
To: Jesse Percy <Jesse.Percy@carlsoncg.com>
Cc: Ian Purvis <Ian.Purvis@carlsoncg.com>; Gursameer Singh <gursameer.singh@carlsoncg.com>; Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: [EXTERNAL] RE: English Bay Barge - Barrier Truck Analysis

Hi Jesse,

- 1) Any update from Metro Van and/or any follow up?
- 2) Has EXP updated their loading analysis and updated their report ?if so, can you share with us please, highlighting where the edits are in the report.

Thanks,

Harry

From: Khella, Harry
Sent: Monday, April 04, 2022 11:45 AM
To: 'Jesse Percy' <Jesse.Percy@carlsoncg.com>

Cc: Ian Purvis <Ian.Purvis@carlsoncg.com>; Gursameer Singh <gursameer.singh@carlsoncg.com>; Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: RE: English Bay Barge - Barrier Truck Analysis

Thanks for the analysis Jesse. Upon review, here are some initial comments:

- 1) The load effect on the Metro Vancouver regional sewer forcemain is not addressed in this report. Has Metro Vancouver reviewed/commented on this?
- 2) The report discusses a global stability analysis of the seawall structure. However, there is no comment provided regarding the internal load effect and resistance of the reinforced concrete wall itself. CoV proposed you ask EXP to comment on this for all 3 analysis sections.

Thanks,

Harry

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

From: Jesse Percy <Jesse.Percy@carlsoncg.com>
Sent: Friday, April 01, 2022 3:34 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>
Cc: Ian Purvis <Ian.Purvis@carlsoncg.com>; Gursameer Singh <gursameer.singh@carlsoncg.com>
Subject: [EXT] English Bay Barge - Barrier Truck Analysis

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.

Hey Harry,

s.22(1) Please see attached updated analysis for the seawall based on the barrier truck analysis.

Can we set up a meeting on Monday between 9:30 and 2:00 PM to catch up?

Thanks,

Jesse Percy ASct., PMP
Director, Design Build CHC

Carlson Construction Group Inc.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.998.1075 C. +1 604.999.7757
jesse.percy@CarlsonCG.com | www.CarlsonConstructionGroup.com
[\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com) [\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com)
[\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com) [\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com)

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

From: "Jesse Percy" <Jesse.Percy@carlsoncg.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
"Ian Purvis" <Ian.Purvis@carlsoncg.com>
Date: 4/20/2022 2:10:05 PM
Subject: RE: [EXTERNAL] RE: SMT-5000 Weekly Status Report - April 8, 2022

Hey Harry,

I can make 10:00am work. I will see if our commercial group is available as well.

Thanks,

Jesse Percy ASct., PMP
Director, Design Build CHC

Carlson Construction Group Inc.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.998.1075 C. +1 604.999.7757
jesse.percy@CarlsonCG.com |
www.CarlsonConstructionGroup.com [can01.safelinks.protection.outlook.com]

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: April 20, 2022 2:00 PM
To: Jesse Percy <Jesse.Percy@carlsoncg.com>; Ian Purvis <Ian.Purvis@carlsoncg.com>
Subject: RE: [EXTERNAL] RE: SMT-5000 Weekly Status Report - April 8, 2022

Hi Jesse,

Fair comments. I was trying to expedite the process so that you could view the insurance requirements early.

The agreement is being drafted and prior to it being shared, we'll need a short call. So are you available tomorrow at 10:30 for 30 mins? It might be useful to include your commercial/insurance person in the discussion as we'll be including our lawyer who is drafting the agreement.

Thanks,

Harry

From: Jesse Percy <Jesse.Percy@carlsoncg.com>
Sent: Wednesday, April 20, 2022 1:43 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>; Ian Purvis <Ian.Purvis@carlsoncg.com>
Subject: RE: [EXTERNAL] RE: SMT-5000 Weekly Status Report - April 8, 2022

Hey Harry,

We will issue a status report shortly.

Re: Insurance. I have provided the document to our commercial group and they had the comment below:

With only a couple pages of this draft agreement attached, we are missing some vital information. For example, the "Licensor" is to be added as additional insured but "Licensor" is not defined. And is VanPile the "Licensee"?

Can you share the complete document so we have the full context of what is being requested?

Thanks,

Jesse Percy ASct., PMP
Director, Design Build CHC

Carlson Construction Group Inc.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.998.1075 C. +1 604.999.7757
jesse.percy@CarlsonCG.com | www.CarlsonConstructionGroup.com
[\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com) [\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com)

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: April 20, 2022 1:00 PM
To: Ian Purvis <Ian.Purvis@carlsoncg.com>
Cc: Jesse Percy <Jesse.Percy@carlsoncg.com>
Subject: [EXTERNAL] RE: SMT-5000 Weekly Status Report - April 8, 2022

Hi Ian,

- Is there a status summary for April 14th please?
- Is there any update from Metro?

Hi Jesse,

- I will be setting up a check in meeting shortly. Does tomorrow at 10:30 for 30 mins work? It works for us.
- Do you have any questions regarding the insurance requirements sent across last Thursday?

Thanks,

Harry

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Sent: Saturday, April 09, 2022 10:04 AM
To: Todd Braconnier <tcbroc@shaw.ca>; Allan Hart <AHart@coastclaims.com>; Khella, Harry <Harry.Khella@vancouver.ca>; Ian Donald <IDonald@coastclaims.com>
Cc: Jenn Wint <jenn@wintcommunications.com>; Jesse Percy <Jesse.Percy@carlsoncg.com>; Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: [EXT] SMT-5000 Weekly Status Report - April 8, 2022

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.

All,

Please see attached Weekly Status Report for April 8, 2022.

Regards,
Ian

Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.986.5911 M. +1 604.928.9450

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com] [can01.safelinks.protection.outlook.com]
[can01.safelinks.protection.outlook.com]

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

From: "Jesse Percy" <Jesse.Percy@carlsoncg.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
CC: "Gandha, Amit" <Amit.Gandha@vancouver.ca>
"Ian Purvis" <Ian.Purvis@carlsoncg.com>
Date: 4/20/2022 5:26:20 PM
Subject: RE: [EXTERNAL] RE: SMT-5000 Weekly Status Report - April 15, 2022

Hey Harry,

Barriers/fencing is planned from May 2 to 5.

Thanks,

Jesse Percy ASct., PMP

Director, Design Build CHC

Carlson Construction Group Inc.

20 Brooksbank Avenue, North Vancouver, BC V7J 2B8

T. +1 604.998.1075 C. +1 604.999.7757

jesse.percy@CarlsonCG.com |

www.CarlsonConstructionGroup.com [can01.safelinks.protection.outlook.com]

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: April 20, 2022 5:26 PM
To: Jesse Percy <Jesse.Percy@carlsoncg.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: [EXTERNAL] RE: SMT-5000 Weekly Status Report - April 15, 2022

Thanks Jesse.

Please let us know which days during w/c May 2nd barrier and fencing is planned given the deconstruction start date is slated for May 9th.

Thanks,

Harry

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

From: Jesse Percy <Jesse.Percy@carlsoncg.com>

Sent: Wednesday, April 20, 2022 5:21 PM

To: Khella, Harry <Harry.Khella@vancouver.ca>; Todd Braconnier <tcbroc@shaw.ca>; Allan Hart <AHart@coastclaims.com>; Ian Donald <IDonald@coastclaims.com>

Cc: Jenn Wint <jenn@wintcommunications.com>; Ian Purvis <ian.Purvis@carlsoncg.com>; Gandha, Amit <Amit.Gandha@vancouver.ca>

Subject: [EXT] RE: SMT-5000 Weekly Status Report - April 15, 2022

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.

All,

Please see the attached weekly status report for last week.

Thanks,

Jesse Percy ASct., PMP

Director, Design Build CHC

Carlson Construction Group Inc.

20 Brooksbank Avenue, North Vancouver, BC V7J 2B8

T. +1 604.998.1075 C. +1 604.999.7757

jesse.percy@CarlsonCG.com | www.CarlsonConstructionGroup.com

[\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com) [\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com)

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

From: "Jesse Percy" <Jesse.Percy@carlsoncg.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
"Gandha, Amit" <Amit.Gandha@vancouver.ca>
CC: "Jenn Wint" <jenn@wintcommunications.com>
"Ian Purvis" <Ian.Purvis@carlsoncg.com>
Date: 4/20/2022 2:18:10 PM
Subject: RE: [EXTERNAL] Security occurrence report April 8th, 2022

Hey Harry/Amit,

As an FYI, confirming Securiguard will have an additional security guard onsite for this afternoon.

Thanks,

Jesse Percy ASct., PMP

Director, Design Build CHC

Carlson Construction Group Inc.

20 Brooksbank Avenue, North Vancouver, BC V7J 2B8

T. +1 604.998.1075 C. +1 604.999.7757

jesse.percy@CarlsonCG.com |

www.CarlsonConstructionGroup.com [can01.safelinks.protection.outlook.com]

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: April 9, 2022 10:50 AM
To: Ian Purvis <Ian.Purvis@carlsoncg.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>; Jenn Wint <jenn@wintcommunications.com>
Subject: Re: [EXTERNAL] Security occurrence report April 8th, 2022

Perfect, thanks for keeping us updated. Much appreciated.

Cheers,

Harry

On Apr 9, 2022, at 8:17 AM, Ian Purvis <Ian.Purvis@carlsoncg.com> wrote:

\u-257 ?

Amit / Harry:

Banner was removed this morning by our crews. We will be back on-site Monday to install "Danger Active Salvage Keep Out" signage on the board along with the ladder access control measures.

Jenn will be in touch with the CoV comms to keep them up to speed.

Thanks,

Ian

Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.986.5911 M. +1 604.928.9450

ipurvis@VanPile.com | www.CarlsonConstructionGroup.com
[\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com) [\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com)

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Date: Friday, April 8, 2022 at 4:05 PM
To: Gandha, Amit <Amit.Gandha@vancouver.ca>, Jesse Percy <jesse.percy@carlsoncg.com>, Khella, Harry <Harry.Khella@vancouver.ca>, Jenn Wint <jenn@wintcommunications.com>
Subject: RE: [EXTERNAL] Security occurrence report April 8th, 2022

Amit,

Earliest we can safely access the barge will be the high tide tomorrow morning. I have crews that will access the barge at 0730 to remove the banner.

We are also accessing our options to restrict ladder access and hope to get this complete by Monday.

Regards,

Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.986.5911 M. +1 604.928.9450

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com]
[\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com)

From: Gandha, Amit <Amit.Gandha@vancouver.ca>
Sent: April 8, 2022 2:07 PM
To: Jesse Percy <Jesse.Percy@carlsoncg.com>; Khella, Harry <Harry.Khella@vancouver.ca>; Ian Purvis <Ian.Purvis@carlsoncg.com>; Jenn Wint <jenn@wintcommunications.com>
Subject: RE: [EXTERNAL] Security occurrence report April 8th, 2022

Hi Jesse,

The sooner the better for the banner to be removed. Can that be arranged?

From: Jesse Percy <Jesse.Percy@carlsoncg.com>

Sent: Friday, April 8, 2022 1:18 PM

To: Gandha, Amit <Amit.Gandha@vancouver.ca>; Khella, Harry <Harry.Khella@vancouver.ca>; Ian Purvis <Ian.Purvis@carlsoncg.com>; Jenn Wint <jenn@wintcommunications.com>

Subject: Fwd: [EXTERNAL] Security occurrence report April 8th, 2022

Hi Amit/Harry,

Please see below update from the security company. I know there was some discussion on the Comms side of things about removing the banner. Does the City have any thoughts on the timing?

Thanks

Jesse

Sent from my iPhone

Begin forwarded message:

From: Kalid Omar <Kalid@securiguard.com>

Date: April 8, 2022 at 12:51:30 PM PDT

To: Ian Purvis <ian.purvis@carlsoncg.com>, Jesse Percy <jesse.percy@carlsoncg.com>, VP SMT5000 <322527@vanpile.com>

Cc: Greg Jorssen <Greg@securiguard.com>, Alexander Vasilchenko <Alexander.V@securiguard.com>, Jenn Wint <jenn@wintcommunications.com>

Subject: Re: [EXTERNAL] Security occurrence report April 8th, 2022

\u-257 ?

Good afternoon,

When the police arrived onsite the second time, they spoke with the protesters and the protestors left the site. The banners are still remaining as they refused to take it off. The police asked us to speak you guys on how you plan to remove the banners.

Regards

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Sent: Friday, April 8, 2022 12:26:28 PM
To: Kalid Omar <Kalid@securiguard.com>; Jesse Percy <Jesse.Percy@carlsoncg.com>; VP SMT5000 <322527@vanpile.com>
Cc: Greg Jorssen <Greg@securiguard.com>; Alexander Vasilchenko <Alexander.V@securiguard.com>; Jenn Wint <jenn@wintcommunications.com>
Subject: RE: [EXTERNAL] Security occurrence report April 8th, 2022

CAUTION: This email originated from outside of Securiguard. Do not click links or open attachments unless you recognize the sender, and know the content is safe.

Thanks Kalid.

Could you please provide an update once your guard has followed up with the Police.

Regards,

Ian Purvis, P.Eng

T. +1 604.986.5911 M. +1 604.928.9450

From: Kalid Omar <Kalid@securiguard.com>
Sent: April 8, 2022 12:11 PM
To: Jesse Percy <Jesse.Percy@carlsoncg.com>; VP SMT5000 <322527@vanpile.com>; Ian Purvis <Ian.Purvis@carlsoncg.com>
Cc: Greg Jorssen <Greg@securiguard.com>; Alexander Vasilchenko <Alexander.V@securiguard.com>; Jenn Wint <jenn@wintcommunications.com>
Subject: RE: [EXTERNAL] Security occurrence report April 8th, 2022

Hi Jesse,

There is an additional person onsite, 7 people all together of them are on the barge. One male and one female with two banners one large banner that says "what if this was an oil spill" and one small one that says "stop the pipeline"

There is no police onsite right now, there was one bike patrol officer remaining and he left while I was talking to the guard.

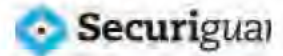
Our guard Harmandeep and our field manager Paul are onsite. Our guard is calling the police now for a follow up.

Please see field manager Paul's report attached.


Regards,

Kalid Omar BA,

Operations Manager



| T 604-685-6011 | F 604-685-0013 | D: 6044883540

400 - 1445 West Georgia St. Vancouver, BC V6G 2T3  [can01.safelinks.protection.outlook.com]

This email is intended only for the person to whom it is addressed and may contain confidential and/or privileged material. If you received this in error, please contact the sender and destroy all copies.

From: Jesse Percy <Jesse.Percy@carlsoncg.com>

Sent: Friday, April 8, 2022 11:35 AM

To: Kalid Omar <Kalid@securiguard.com>; VP SMT5000

<322527@vanpile.com>; Ian Purvis <Ian.Purvis@carlsoncg.com>

Cc: Greg Jorssen <Greg@securiguard.com>; Alexander Vasilchenko

<Alexander.V@securiguard.com>; Jenn Wint

<jenn@wintcommunications.com>

Subject: RE: [EXTERNAL] Security occurrence report April 8th, 2022

CAUTION: This email originated from outside of Securiguard. Do not click links or open attachments unless you recognize the sender, and know the content is safe.

Hi Kalid,

Please provide hourly updates on the status of the protest, including:

Any response from Vancouver Police

Number of people on barge

Number of securiguard staff onsite

Etc.

Thanks,

Jesse Percy ASct., PMP

Director, Design Build CHC

Carlson Construction Group Inc.

20 Brooksbank Avenue, North Vancouver, BC V7J 2B8

T. +1 604.998.1075 C. +1 604.999.7757

jesse.percy@CarlsonCG.com | www.CarlsonConstructionGroup.com

[can01.safelinks.protection.outlook.com]

[can01.safelinks.protection.outlook.com]

[can01.safelinks.protection.outlook.com]

From: Kalid Omar <Kalid@securiguard.com>
Sent: April 8, 2022 11:07 AM
To: VP SMT5000 <322527@vanpile.com>; Ian Purvis
<Ian.Purvis@carlsoncg.com>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Cc: Greg Jorssen <Greg@securiguard.com>; Alexander Vasilchenko
<Alexander.V@securiguard.com>
Subject: [EXTERNAL] Security occurrence report April 8th, 2022

Good morning,

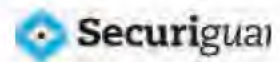
Please see the attached security occurrence report, we currently have field and the police onsite.

The police have arrived and are in their car but haven't approached anyone yet, the police file number is Ba2252528.

I'll keep you guys posted, there are currently 6 people onsite and 2 of them are on the barge.

Regards,

Kalid Omar BA, Operations Manager



| T 604-685-6011 | F 604-685-0013 | D: 6044883540

400 - 1445 West Georgia St. Vancouver, BC V6G 2T3 [can01.safelinks.protection.outlo

This email is intended only for the person to whom it is addressed and may contain confidential and/or privileged material. If you received this in error, please contact the sender and destroy all copies.

Please consider the environment before printing this email.

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

s.16(1)

From: "Khella, Harry" <Harry.Khella@vancouver.ca>
To: "Ian Purvis" <Ian.Purvis@carlsoncg.com>
CC: "Jesse Percy" <Jesse.Percy@carlsoncg.com>
Date: 4/20/2022 12:59:37 PM
Subject: RE: SMT-5000 Weekly Status Report - April 8, 2022

Hi Ian,

- ☐ Is there a status summary for April 14th please?
- ☐ Is there any update from Metro?

Hi Jesse,

- ☐ I will be setting up a check in meeting shortly. Does tomorrow at 10:30 for 30 mins work? It works for us.
- ☐ Do you have any questions regarding the insurance requirements sent across last Thursday?

Thanks,

Harry

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Sent: Saturday, April 09, 2022 10:04 AM
To: Todd Braconnier <tcbroc@shaw.ca>; Allan Hart <AHart@coastclaims.com>; Khella, Harry <Harry.Khella@vancouver.ca>; Ian Donald <IDonald@coastclaims.com>
Cc: Jenn Wint <jenn@wintcommunications.com>; Jesse Percy <Jesse.Percy@carlsoncg.com>; Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: [EXT] SMT-5000 Weekly Status Report - April 8, 2022

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.

All,

Please see attached Weekly Status Report for April 8, 2022.

Regards,
Ian

Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.986.5911 M. +1 604.928.9450

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com]

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use,

reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

From: [Khella, Harry](#)
To: [Pottinger, Guy](#); [Ian Purvis](#); [Jesse Percy](#)
Cc: [Gandha, Amit](#)
Subject: RE: [EXTERNAL] Barge Removal - Addling
Date: Tuesday, April 26, 2022 2:53:21 PM

Thanks Ian and Guy. Our staff will be informed of the pick up time by Guy. Ziggy's contact details are 604-968-5942.

Please let me know if you have any questions and please confirm once the work has been completed.

Thanks,

Harry

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

From: Pottinger, Guy <guy.pottinger@vancouver.ca>
Sent: Tuesday, April 26, 2022 2:50 PM
To: Ian Purvis <Ian.Purvis@carlsoncg.com>; Khella, Harry <Harry.Khella@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>
Subject: RE: [EXTERNAL] Barge Removal - Addling

We work in pairs so the pickup is for two, confirmed for 7:45 tomorrow. Ziggy and Steve.

Thanks Guy

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Sent: Tuesday, April 26, 2022 2:47 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Pottinger, Guy <guy.pottinger@vancouver.ca>
Subject: RE: [EXTERNAL] Barge Removal - Addling

Thanks Harry.

I've confirmed the water taxi. They will collect from the Aquatic Center dock at 7:45 as they are running around from the Harbour.

Andrew Lee will be on-site to supervise from our side. He can be reached at s.15(1)(l)

Regards,
Ian

Ian Purvis, P.Eng

T. +1 604.986.5911 M. +1 604.928.9450

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: April 26, 2022 2:34 PM
To: Ian Purvis <Ian.Purvis@carlsoncg.com>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Pottinger, Guy <guy.pottinger@vancouver.ca>
Subject: RE: [EXTERNAL] Barge Removal - Addling

Ok, thanks. Our staff person undertaking this is available tomorrow morning at 7:30am as the tide is low at 11:00. Any issues with this?

Thanks,

Harry

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Sent: Tuesday, April 26, 2022 2:03 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Pottinger, Guy <guy.pottinger@vancouver.ca>
Subject: RE: [EXTERNAL] Barge Removal - Addling

Harry,

Thank you for this. The nest is located at the forward doorway of the barge. The door is located at the approximate centerline of the bow wall.

We will ensure that a Vanpile representative is present to provide access and be present during the work. In addition, we may request Hatfield to attend.

As we have reduced the access from the shore to prevent unwanted climbers, we will need to access the vessel from the marine side. I will schedule a water taxi for pickup at any dock in Falsecreek or the Vancouver Harbour & standby while the work is underway. A high tide is required for access so it would be ideal to schedule the work in the morning (before 12) any day this week.

Please let me know what works best for the Park Board and I will make the arrangements for the water taxi.

Thanks,
Ian

Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8

T. +1 604.986.5911 M. +1 604.928.9450

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com] [can01.safelinks.protection.outlook.com]

From: Khella, Harry <Harry.Khella@vancouver.ca>
Sent: April 26, 2022 1:56 PM
To: Ian Purvis <ian.Purvis@carlsoncg.com>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Pottinger, Guy <guy.pottinger@vancouver.ca>
Subject: FW: [EXTERNAL] Barge Removal - Addling

Hi Ian,

Thanks. In order to expedite this, the Park Board will undertake this this week. Please advise where exactly on the barge the nest is located and will someone from VanPile provide access/be present?

Please provide some date and time options for this week, and we can schedule.

Thanks,

Harry

From: Ian Purvis <ian.Purvis@carlsoncg.com>
Sent: Thursday, April 21, 2022 1:56 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Subject: FW: [EXTERNAL] Barge Removal - Addling

Harry,

Please see below correspondence from Hatfield related to the Addling permit. Can you please review and let us know if the CoV will be able to add us as a nominee? If not, we cannot obtain our own permit as we are not the landowner or lease holder.

Happy to get Hatfield on a call with the correct people on your side to discuss if required.

Thanks,
Ian

Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.986.5911 M. +1 604.928.9450

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com] [can01.safelinks.protection.outlook.com]
[\[can01.safelinks.protection.outlook.com\]](mailto:can01.safelinks.protection.outlook.com)

From: Marc VanderVeer <mvanderveer@hatfieldgroup.com>
Sent: April 21, 2022 1:33 PM

To: Ian Purvis <Ian.Purvis@carlsoncg.com>
Cc: Emilia Mackowiak <emackowiak@hatfieldgroup.com>; Jesse Percy
<Jesse.Percy@carlsoncg.com>
Subject: RE: [EXTERNAL] Barge Removal - Addling

Hi Ian,

Our wildlife biologist Mila made a visit to the Barge today to perform a pre-work bird survey and install bird deterrent flagging. Fortunately, Mila confirmed that the single Canada Goose nest previously identified by Vanpile is the only nest on the barge and no other signs of nesting were observed. It is hard to tell how far along the eggs are, however based on the time of discovery we suspect it could be another few weeks before the eggs have hatched and goslings have fledged. Under the Migratory Birds Convention Act this nest cannot be disturbed until the goslings have left the nest, unless the removal is completed under a damage and danger permit issued to the landowner. Protection of the nest typically includes a no-activity buffer area (i.e., 30 metres around the nest) to prevent disturbance to the nesting goose which could lead to nest abandonment. Given the anticipated work schedule, the timeline for fledging of the goslings is likely to conflict.

I have been in discussion with the Canadian Wildlife Service (CWS; issuer of the damage and danger permit), and they confirmed the permit applicant must be the landowner, which in this case is the City of Vancouver. CWS clarified it is a simple process to add nominees to an existing permit, which can be completed via an email from the permit applicant to the permitting officer including details of the additional nominees. Can we request a call with the City of Vancouver to discuss whether adding "Employees of Hatfield Consultants" as nominees to the existing permit is an option? I understand in response to our previous request the City preferred we obtain our own permit. The initial request was in the context of parks employees doing the removal, however if Hatfield was added as a nominee the task could be completed by a Hatfield biologist.

Let me know if you would like to discuss.

Cheers,

Marc VanderVeer, BSc, PAg

Environmental Specialist

T: +1 604 926 3261 | **M:** +1 778 879 1191

Hatfield | Website [\[can01.safelinks.protection.outlook.com\]](https://can01.safelinks.protection.outlook.com/?url=https://www.hatfieldgroup.com/) [\[can01.safelinks.protection.outlook.com\]](https://can01.safelinks.protection.outlook.com/?url=https://www.hatfieldgroup.com/)
[\[can01.safelinks.protection.outlook.com\]](https://can01.safelinks.protection.outlook.com/?url=https://www.hatfieldgroup.com/) | LinkedIn [\[can01.safelinks.protection.outlook.com\]](https://can01.safelinks.protection.outlook.com/?url=https://www.linkedin.com/company/hatfield-group/)
[\[can01.safelinks.protection.outlook.com\]](https://can01.safelinks.protection.outlook.com/?url=https://www.linkedin.com/company/hatfield-group/) [\[can01.safelinks.protection.outlook.com\]](https://can01.safelinks.protection.outlook.com/?url=https://www.linkedin.com/company/hatfield-group/)

Environmental and social scientists advancing sustainable development

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged,

confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

From: [Khella, Harry](#)
To: [Ian Purvis](#)
Cc: [Gandha, Amit](#); [Jesse Percy](#)
Subject: RE: [EXTERNAL] Barge Removal - License Agreement
Date: Monday, April 25, 2022 4:58:24 PM

Thanks and appreciated Ian. This looks good. I will let you know if we need anything else.
Cheers.

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Sent: Monday, April 25, 2022 4:52 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Subject: RE: [EXTERNAL] Barge Removal - License Agreement

Harry,

How detailed of an equipment list are you looking for? In general, we will have the following items on-site at some stage to complete the work.

1. Linkbelt 350x4 w/ Shear
2. Manitowoc 10,000 Crawler Crane (100T)
3. 50' x 80' Flexifloat S70 Jack-up Barge
4. Carlson #14 Derrick Barge w/ Manitowoc 999 Crawler Crane (275T)
5. Misc. workboats
6. Mercury XI Water Taxi
7. APE 200 Vibratory Hammer
8. Marine Barges (TBD)

Note, our subcontractor for the fencing install will use a Hiab truck but I am not sure the exact make and model.

The latest schedule update is the milestone dates from the most weekly status report.

MILESTONE SUMMARY				
Task Name	Current Status	Planned Date	Revised Date	Actual Date
Pre-Condition Habitat Assessment	Complete	Jan 28, 2022		Jan 28, 2022
DFO Request for Review	Complete	Jan 28, 2022		Jan 28, 2022
WorkSafeBC Notice of Project	Complete	Feb 2, 2022		Feb 2, 2022
Seawall Loading Assessment	Complete	Feb 3, 2022		Feb 3, 2022
Hazardous Materials Assessment	Complete	Feb 11, 2022		Feb 11, 2022

s.16(1)	Complete	Feb 24, 2022		Feb 24, 2022
Work Plan Development	In Development	April 8, 2022	April 15, 2022	
Communications Plan	Draft Complete – Under Review	March 4, 2022		
Micro-Site	Complete – Live edits as needed	Feb 17, 2022		Feb 17, 2022
FAQ's	Draft Complete – Under Review	Feb 17, 2022		Feb 17, 2022
Site Fencing		May 9, 2022		
Mobilization & Scaffolding		May 16, 2022		
Pile Driving & Access		May 17, 2022		
Cribbing Installation – F Rake		May 18, 2022		
Bin Wall Removal		May 24, 2022		
Concrete Deck Removal		June 7, 2022		
Forward Rake Removal		June 7, 2022		
Stern Rake Removal		June 9, 2022		
Hull Demolition		June 16, 2022		
Debris Survey		July 12, 2022		
Pile Removal		July 12, 2022		
Demobilization		July 14, 2022		
Post-Condition Habitat Assessment		TBD – May 2023		

Regards,
Ian

Ian Purvis, P.Eng

T. +1 604.986.5911 M. +1 604.928.9450

From: Khella, Harry <Harry.Khella@vancouver.ca>

Sent: April 25, 2022 4:46 PM

To: Ian Purvis <Ian.Purvis@carlsoncg.com>

Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>

Subject: RE: [EXTERNAL] Barge Removal - License Agreement

Thanks. Could you also list all of the equipment to be used on site and include the latest schedule.

Thanks,

Harry

From: Ian Purvis <Ian.Purvis@carlsoncg.com>
Sent: Monday, April 25, 2022 4:14 PM
To: Khella, Harry <Harry.Khella@vancouver.ca>
Cc: Gandha, Amit <Amit.Gandha@vancouver.ca>; Jesse Percy <Jesse.Percy@carlsoncg.com>
Subject: RE: [EXTERNAL] Barge Removal - License Agreement

Harry,

Please see requested information below.

1. Project Description & Scope of Work

During the severe weather event of November 15, 2021 the SMT-5000 (the "Barge") was believed to be at anchorage in Burrard Inlet when it unexpectedly broke free, ending up grounded parallel to the Seawall at Sunset Beach, English Bay shortly thereafter.

The wreck site of the SMT-5000 is located at Sunset Beach, English Bay within the City of Vancouver adjacent to Beach Avenue, northwest of the Burrard Street Bridge. The site is located at the following coordinates, 49.281229, -123.141361. The seabed at this location is generally sandy, except at the three apparent rock formations and several scattered rock outcroppings.

In general, the scope of work for the deconstruction of the barge is as follows:

- Pre-construction habitat assessment;
- Obtain regulatory permits;
- **s.16(1)**
- Develop required work plans;
- Mobilization of crew, equipment and materials;
- Install temporary pilings, access and site facilities;
- Remove bin walls;
- Remove concrete decking;
- Deconstruct hull in-place;
- Demobilization of crew, equipment and materials;
- Steel recycling;
- Post-construction habitat assessment; and
- Post-impact archeological assessment.

Attached for reference, I've included a presentation on the barge recovery method from February 23, 2022 along with the Marine Habitat Assessment, DFO Letter of Advice, Hazmat Survey and CEMP.

2. Legal Names

	Vancouver Pile Driving Ltd.
--	-----------------------------------

Prime Contractor	20 Brooksbank Avenue North Vancouver, BC Canada V7J 2B8
Vessel Owner	Sentry Marine Towing Ltd. 2003 Brothers Road Nanaimo, BC Canada V9X 1R8
Claims Adjuster	Coast Claims Suite 6 – 2727 Quadra Street Victoria, BC Canada V8T 4E5

Please let me know if you require additional information.

Regards,
Ian

Ian Purvis, P.Eng
Operations Manager

Vancouver Pile Driving Ltd.
20 Brooksbank Avenue, North Vancouver, BC V7J 2B8
T. +1 604.986.5911 M. +1 604.928.9450

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com] [can01.safelinks.protection.outlook.com]

From: "Khella, Harry" <Harry.Khella@vancouver.ca>
Date: April 25, 2022 at 3:05:54 PM PDT
To: Jesse Percy <jesse.percy@carlsoncg.com>
Cc: "Gandha, Amit" <Amit.Gandha@vancouver.ca>
Subject: [EXTERNAL] Barge Removal - License Agreement

Hi Jesse,

We are finalizing the license agreement and as agreed hopeful that you can provide the following info:

- 1) Description of project. I think I mentioned it would be good to use some of the

slides from the salvage presentation deck from the coordination call of Jan 31st as a basis for this request. Please add/update to this deck and send across including what the project actually is, equipment to be used (list), pictures of cribbing, project schedule etc.

- 2) List of legal names of Van Pile, parent company, barge owner, insurer, insurance adjuster and any others from your side.

We will send the draft license agreement tomorrow.

Thanks,

Harry

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system

From: "Ian Purvis" <Ian.Purvis@carlsoncg.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
CC: "Gandha, Amit" <Amit.Gandha@vancouver.ca>
"Jesse Percy" <Jesse.Percy@carlsoncg.com>
Date: 4/25/2022 4:14:19 PM
Subject: RE: [EXTERNAL] Barge Removal - License Agreement
Attachments: 2022-01-31_DFO_Response.pdf
SMT-5000 Hazmat Survey Report.pdf
SMT 5000 - Barge Recovery Method - Feb 23.pdf
SMT-5000 Salvage_Marine Habitat Assessment_20220128_v1.0.pdf

Harry,

\~

Please see requested information below.

\~

1. Project Description & Scope of Work

During the severe weather event of November 15, 2021 the SMT-5000 (the "Barge") was believed to be at anchorage in Burrard Inlet when it unexpectedly broke free, ending up grounded parallel to the Seawall at Sunset Beach, English Bay shortly thereafter.

\~

The wreck site of the SMT-5000 is located at Sunset Beach, English Bay within the City of Vancouver adjacent to Beach Avenue, northwest of the Burrard Street Bridge. The site is located at the following coordinates, 49.281229, -123.141361. The seabed at this location is generally sandy, except at the three apparent rock formations and several scattered rock outcroppings.

\~

In general, the scope of work for the deconstruction of the barge is as follows:

- Pre-construction habitat assessment;
- Obtain regulatory permits;
- **s.16(1)**
- Develop required work plans;
- Mobilization of crew, equipment and materials;
- Install temporary pilings, access and site facilities;
- Remove bin walls;
- Remove concrete decking;
- Deconstruct hull in-place;
- Demobilization of crew, equipment and materials;
- Steel recycling;
- Post-construction habitat assessment; and
- Post-impact archeological assessment.

Attached for reference, I've included a presentation on the barge recovery method from February 23, 2022 along with the Marine Habitat Assessment, DFO Letter of Advice, Hazmat Survey and CEMP. \~

2. Legal Names

\~

Prime Contractor	Vancouver Pile Driving Ltd. 20 Brooksbank Avenue North Vancouver, BC Canada V7J 2B8
Vessel Owner	Sentry Marine Towing Ltd. 2003 Brothers Road Nanaimo, BC Canada V9X 1R8
Claims Adjuster	Coast Claims Suite 6 – 2727 Quadra Street Victoria, BC Canada V8T 4E5

\~

Please let me know if you require additional information.

\~

Regards,

Ian

\~

Ian Purvis, P.Eng

Operations Manager

\~

Vancouver Pile Driving Ltd.

20 Brooksbank Avenue, North Vancouver, BC V7J 2B8

T. +1 604.986.5911 \~ M. +1 604.928.9450

\~

ian.purvis@carlsoncg.com | www.vanpile.com [vanpile.com]

\~

From: "Khella, Harry" <Harry.Khella@vancouver.ca>

Date: April 25, 2022 at 3:05:54 PM PDT

To: Jesse Percy <jesse.percy@carlsoncg.com>

Cc: "Gandha, Amit" <Amit.Gandha@vancouver.ca>

Subject: [EXTERNAL] Barge Removal - License Agreement

Hi Jesse,

\~

We are finalizing the license agreement and as agreed hopeful that you can provide the following info:

\~

1. Description of project. I think I mentioned it would be good to use some of the slides from the salvage presentation deck from the coordination call of Jan 31st as a basis for this request. Please add/update to this deck and send across including what the

1. project actually is, equipment to be used (list), pictures of cribbing, project schedule etc.
 \~
2. List of legal names of Van Pile, parent company, barge owner, insurer, insurance adjuster and any others from your side.
 \~

We will send the drat \~license agreement tomorrow.

\~

Thanks,

\~

Harry

\~

Harry Khella
Manager, Strategic Business Advisory
Business Planning and Project Support
City of Vancouver
T: 604 829 2087
E: harry.khella@vancouver.ca

\~

WARNING: This e-mail transmission and any documents, files or previous e-mails attached to it, may contain confidential and/or proprietary information. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at 604.829.2087 and destroy the original transmission and its attachments without reading them.

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system



Fisheries and Oceans
Canada

Pacific Region
Ecosystem Management Branch
200 – 401 Burrard Street
Vancouver, BC
V6C 3S4

Pêches et Océans
Canada

Région du Pacifique
Direction de la gestion des écosystèmes
Pièce 200 – 401 rue Burrard
Vancouver (C.-B.)
V6C 3S4

January 31, 2022

Our file Notre référence
22-HPAC-00070

Vancouver Pile Driving Ltd.
ATTENTION: Ian Purvis
20 Brooksbank Ave
North Vancouver, BC V7J 2B8

Via email: Ian.Purvis@carlsoncg.com

Dear Ian Purvis:

Subject: Barge Removal, English Bay, Vancouver – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on January 24, 2022. We understand that you propose to removed the grounded barge in English Bay which will include:

- Installation and removal of 3 temporary steel pilings (36" diameter) on the offshore edge of the grounded barge; and
- Deconstruction of the grounded vessel in situ and removal of the barge components to an appropriate facility for steel recycling.

We understand the following aquatic species listed under the *Species at Risk Act* may use the area in the vicinity of where your proposal is to be located:

- Leatherback Sea Turtle, Southern Resident Killer Whale listed as Endangered
- Transient Killer Whale, Grey Whale, Humpback Whale listed s Threatened
- Steller Sea Lion, Harbour Porpoise listed as Special Concern.

Our review considered the following information:

- Request for Review Package received on January 24, 2022 and supporting information received on January 28, 2022.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*.

The aforementioned outcomes are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures listed below:

- The Program understands that the project completion date has yet to be determined, but it is anticipated in-water works will occur partially outside the DFO Least Risk Window for Burrard Inlet (August 16 - February 28). Please be aware that the likelihood of encountering fish during sensitive life stages is higher outside of the window of least risk. Therefore, if works are to occur outside the window, the Program recommends the following:
 - Take steps to complete the project in a timely manner that would minimize the amount of work required outside the recommended timing windows to minimize the risk of the works contravening the *Fisheries Act* prohibitions.
- Ensure a Qualified Environmental Professional (QEP) is on site for all works. The QEP is required to conduct environmental monitoring during all project activities that may result in potential negative effects to fish and fish habitat and monitor for compliance with regulations and to ensure contractors are using the appropriate implementation of environmental best management practices.
- Given the range of potential spawning times for the forage fish species expected to utilize the area, there is no definitive “reduced risk work window” within which works can proceed without risk. If forage fish spawn or spawning behaviour is observed, works should cease and only recommence under the direction of the QEP.
- Works in the intertidal are not to result in the trapping or stranding of fish. Any rutting caused by machine access should be graded smooth prior to leaving the site each day and if necessary, swamp mats (or similar) should be used to prevent rutting and compaction of the intertidal zone.
- Conduct works during daylight hours and weather conditions that permit visual observations of fish and marine mammals.
- Minimize the duration of in-water works.
- Ensure vessels are not operating in shallow water causing direct physical impacts to the seabed and fish habitat from prop scour.
- Water-based equipment is not to ground upon the seabed except for the use of anchors or spuds needed to keep the water-based equipment in place.
- Equipment is to be operated from the floating working barge, with the exception of a small excavator or bobcat to assist with the deconstruction.

- Minimize movements/ repositioning of barge(s) and subsequent spudding down and anchoring to minimize direct physical disturbance to the seabed.
- No spudding down or anchoring is to occur in sensitive fish habitats such as eelgrass beds and kelp beds.
- Establish a 500 m cetacean exclusion zone around the project site prior to vibratory pile installation.
- Monitor for cetaceans within the exclusion zone for at least 30 minutes prior to the start of vibratory pile driving. If a cetacean enters the exclusion zone, temporarily suspend vibratory pile driving until the individual has left the exclusion zone or has not been sighted for 30 minutes.
- If there is a risk to a marine mammal from direct contact, temporarily suspend works until the individual has left the area or has not been sighted for 30 minutes.
- Develop and implement a debris management plan (containment and removal) for barge removal activities to prevent materials and debris (e.g., treated wood fragments, sawdust, cuttings, lead/zinc-based paint, etc.) from entering the marine environment.
- An appropriate sediment control plan should be developed and implemented to minimize sedimentation of the aquatic environment during all phases of the work, undertaking or activity.
- Conduct water quality monitoring during pile installation to confirm that turbidity levels in the water column outside the immediate vicinity of the works are below approved water quality guidelines. If water quality guideline exceedances are detected, stop work and implement additional mitigation measures (e.g., slow work, install a sediment curtain, etc.) to minimize sedimentation.
- Develop and implement a spill prevention and response plan to avoid a spill of deleterious substances into the marine environment. Ensure appropriate gear (e.g., floating containment booms, absorbent pads, etc.) is onsite in the event that creosote or other deleterious substances are released into the water during vibratory pile removal or installation. Onsite personnel should also be trained in spill prevention, containment and cleanup procedures.
- Ensure equipment is in good working condition and free of leaks prior to conducting works in or near fish habitat.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal is not likely to result in the contravention of the above mentioned prohibitions and requirements.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, the *Species at Risk Act* and the *Aquatic Invasive Species Regulations*.

It is also your Duty to Notify DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to the DFO-Pacific Observe, Record and Report phone line at 1-800-465-4336 or by email at DFO.ORR-ONS.MPO@dfo-mpo.gc.ca.

Please notify the Program by email at sara.jossul@dfo-mpo.gc.ca at least 10 days before starting your project, ensuring your file number and appropriate on-site contact information is included. We recommend that a copy of this letter be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

Please note that the advice provided in this letter will remain valid for a period of 1 year from the date of issuance. If you plan to execute your proposal after the expiry of this letter, we recommend that you contact the Program to ensure that the advice remains up-to-date and accurate. Furthermore, the validity of the advice is also subject to there being no change in the relevant aquatic environment, including any legal protection orders or designations, during the 1 year period.

If you have any questions with the content of this letter, please contact Sara Jossul by email at sara.jossul@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Sincerely,

s.19



Vance Mercer
A/ Section Head
Fish and Fish Habitat Protection Program

c.c.: Marc VanderVeer, Hatfield Consultants, mvanderveer@hatfieldgroup.com



ORCA Health and Safety Consulting Inc.

#1 Irwin Street
Nanaimo, B.C. V9R 4W9
Office 250.751.4295
email: info@orcasafety.ca
website: www.orcasafety.ca

HAZARDOUS MATERIALS SURVEY REPORT

Barge STM5000 – English Bay Stranding

Prepared for:

Vancouver Pile-Driving Ltd.

February 2022

Project No. 1230.2

1.0 Introduction:

This report presents the results of the hazardous materials survey conducted on barge STM 5000 located off Vanier Park (English Bay) in North Vancouver, BC, by ORCA Health & Safety. The field work was conducted by Paul Johnston (EPA-AHERA Building Inspector #13-0406, Certified Lead Risk Assessor #CLR13-0005) and Michael Holownia, (EPA-AHERA Building Inspector #3508-17-C18-28856). The purpose of this investigation is to identify and quantify hazardous building materials as described in Sections 5.0 and 6.0 of this report, and to assess related occupational health and environmental hazards potentially presented during breaking. All work was conducted in accordance with the requirements of various guidelines and regulations as listed in Section 3.1.

1.1 Summary of Findings

The following Table 1.1 summarizes hazardous materials present on the ship:

Table 1.1 – Summary of Hazardous Materials

Material Type	Location(s)	Report Section
Asbestos	None Found	5.0 & 6.0
Lead	Throughout hull & bulwarks	5.0 & 6.0
Other Heavy Metals	Presumed underwater hull, copper, zinc	5.0 & 6.0
PCBs	None Found	5.0 & 6.0
Petroleum	Diesel oil, POL & Hydraulic fluid	5.0 & 6.0
Hazardous Products	None Found	5.0 & 6.0
Ozone-Depleting	None Found	5.0 & 6.0
Radioactive	None Found	5.0 & 6.0
Biohazard	None Found	5.0 & 6.0

All of these materials must be removed or contained prior to general demolition or commencement of construction work. General Risk Assessments and recommendations for handling and disposal are discussed in Sections 5.0 & 6.0 of this report.

2.0 Scope of Report

An assessment was conducted on one structure located on the site. The scope of research for this report was limited to:

- a review of available information respecting the history and uses of the building.
- a visual reconnaissance and inspection of the ship;
- collection of four samples for Asbestos analysis;
- screening of thirty-seven paint samples for Lead content via XRF;

3.0 Vessel Information and Disposition

Please see appended specification sheet (Annex 'A').

DWT	LOA	Hull	Beam	Draft	HP
3770 ST	251'	Steel	52'	11.2' (Laden)	Non-powered

3.1 Historical Ownership

Please see appended specification sheet (Annex 'A').

No other historical or current vessel registration information was made available

3.1 References

The following legislation, policies, guidelines, and regulations were used in support of the Environmental Assessment:

- Canadian Environmental Assessment Act (CEAA)
- Canadian Environmental Protection Act (CEPA)
- Fisheries Act (FA)
- Hazardous Products Act
- British Columbia Occupational Health and Safety Regulations
- CCME Guideline for the Management of Polychlorinated Biphenyls (PCB) wastes.

4.0 Vessel Survey

We attended the site on February 1st, 2022. The purpose of this visit was to:

- conduct a visual reconnaissance.
- obtain samples of suspect materials for laboratory analysis;
- complete an XRF survey of the hull, deck, and bulwarks;
- obtain photo documentation.

Exterior and accessible internal areas were visually inspected. At the time of our inspection the ship was stranded off Vanier Park (English Bay) in North Vancouver, and in poor condition, with the hull reported as breached in at least three areas. The underwater hull and internal voids were not accessible and not inspected. The above waterline hull, deck and bulwarks were inspected and sampled. As such, our inspection can be characterized as 'semi-intrusive' in nature.

5.0 Survey Results

5.1 Anti-fouling & Corrosion Inhibiting Coatings

Limited visual inspection the underwater hull supports a conclusion that a cuprous oxide anti-fouling was applied to the hull and that the coating remains active. Documentary evidence was not available confirming the presence or absence of any previous use of other types of anti-fouling coatings.

5.2 Above Waterline Exterior and Interior Paints

The vessels exterior paint system is in generally fair condition. Some loose and flaking paint is present in isolated areas. These areas will require remediation prior to disposal. Analysis of representative paint samples suggests that the primers and coatings originally used on exterior deck and bulkhead applications were lead-based.

Subsequent re-painting and/or painting of repaired areas of the upper hull and bulwarks appears to have employed low-Lead or Lead-free coatings, resulting in highly variable measured concentrations of Lead throughout.

Voids were not entered, but were observed from the deck hatches, and interior surfaces appear to be primer-coated only, or bare steel.

5.3 Asbestos

Four samples were taken from various suspect materials. The laboratory analysis results of the samples taken during the inspection are provided in Annex B. Results are described in the following table:

Material	Location	Asbestos Content
Concrete deck screed	Forward	None
Concrete deck screed	Midship	None
Concrete deck screed	Aft	None
Door Gasket	Forward machinery space door	None

5.4 Compressed Gases

CO₂ storage cylinders for fire suppression are absent. HP and LP air storage reservoirs are similarly absent.

5.5 Volatile Organic Compounds (Adhesives, Solvents, Etc.)

No volatile organic compounds (VOCs) were observed.

5.6 Petroleum, Oil and Lubricants (POL)

Residual hydrocarbons including POL in the engine oil pan, pump casings and piping systems will require remediation. Remediation can be accomplished through complete equipment/system removal.

5.7 Metals (Copper, Lead, Mercury, etc.)

Thirty-seven samples of exterior and interior paint systems were taken to ascertain the presence of entrained metals. Concentrations of Lead above 90 ppm were detected in some areas (refer to Annex C) which are attributable to the primers and top-coats used historically.

The presence of Lead in the vessel's paint systems is considered to pose a moderate to high risk to workers during breaking.

5.8 Polychlorinated Biphenyls (PCBs)

No suspect PCB-containing materials were observed. No documentary evidence indicating the presence or absence of PCBs was available at the time of the inspection. No other likely sources of PCBs were identified visually during the inspection.

5.8 Fungicides and Pesticides

None present by visual inspection.

5.9 Mould Accumulations

None present by visual inspection.

6.0 Compartment and Equipment-Specific Observations

Note: The Risk Assessment provided here is general in nature. Further risk assessment based on the specific material(s), area(s) and proposed method(s) of remediation must be obtained before proceeding with remediation.

6.1 Decks and Floor Coverings

Screed on the decks is concrete over steel.

6.2 Structural and Non-structural Tanks

Two tanks are present in the Bow Machinery space. These are described in the following Sections 6.3 and 6.7. The remediation measures described applicable to specific tanks are based on tank capacities and assumed or observed residual contents at the time of the inspection.

6.3 Fuel Tanks

The fuel tank will require complete emptying, and removal.

Tank Description	Contents	Quantity Remaining
Auxiliary Tank, 100± USG	Diesel Oil	Unknown

6.4 Potable Water Tanks & System

Potable water tanks are not present aboard.

6.5 Piping Systems

Piping systems used for the transfer of hydrocarbons will require removal where practicable. Short piping sections (i.e. through bulkhead spool pieces) may be remediated in situ so long as all traces of residual hydrocarbons can be removed. Manual and automatic control valves, gauges and instruments require removal prior to disposal.

6.6 HP and LP Air Systems.

None present by visual inspection.

6.7 Hydraulic Systems.

Removal/remediation requirements per Cranes, Winches, Windlasses and Deck Machinery.

Tank Description	Contents	Quantity Remaining
Hydraulic Fluid Tank, 100± USG	Unknown	Unknown

6.8 Fire Suppression Systems.

None present by visual inspection.

6.9 Seawater Systems

Except where non-ferrous, copper-based piping has been used, sea water system piping does not require removal or remediation. Manual and automatic control valves, gauges and instruments require removal prior to disposal.

6.10 Electrical Wiring

None present by visual inspection.

6.11 Cranes, Winches, Windlasses and Deck Machinery

The foredeck windlass including associated, integral motors, pumps, piping and wiring will require removal prior to disposal.

6.12 Engine Room

The Bow Winch Machinery space will require removal of equipment and subsequent remediation prior to disposal. The following equipment and systems will require complete removal prior to disposal:

Auxiliary Engine	Exhaust Pipes
Hydraulic power packs	Fuel oil service
Transmissions, bearings, and shafting	Wiring and piping systems

6.15 Bilge Throughout

None present by visual inspection.

6.16 Debris & Refuse Throughout

None present by visual inspection.

7.0 Risk Assessment and Hazard Management

7.1 Lead-Containing Materials: Although Lead content may be reported as <90 ppm, any level of Lead in these materials may present a significant exposure risk to workers, depending on the type and condition of the material(s) & upon the method(s) of removal and handling. If work disturbing Lead-containing materials is undertaken, a Risk Assessment, Exposure Control Plan and related Safe Work Procedures will be required to ensure exposure is kept to levels 'As Low as Reasonably Achievable'. (Occupational safety hazard – Moderate-High)

Dry stripping of coatings (ie. abrasive blasting or grinding), or destructive removal of ceramic tile or similar materials should be avoided where possible. (Occupational safety hazard–Moderate to High)

Respecting Lead, Arsenic, Mercury, and other heavy metals, please note that the local landfill authority may require additional Toxicity Characteristic Leaching Procedure (TCLP) data before accepting material as 'Non-Hazardous Waste' as defined by the BC Hazardous Waste Regulations.

7.2 Other Hazardous Materials: All other hazardous materials in Sections 5.0 and 6.0 will require removal followed by decontamination of the affected compartment(s) before breaking commences. (Occupational safety hazard – Low to Moderate)

7.3 Confined Spaces:

All voids are confined spaces, and as such if entered other than during submerged diving operations, must be governed by documentation including appropriate hazard assessment(s), safe entry procedures and rescue plans. (Occupational safety hazard – Moderate to High)

7.4 Additional Regulatory Requirements (as required):

7.4.1 Notice of Project: As required by Section 20.2 of the Occupational Health and Safety (OHS) Regulation (B.C. Reg. 296/97), a Notice of Project must be filed with WorkSafe BC at least 48 hours prior to commencement of work.

This can be completed online at: <https://online.worksafebc.com/anonymous/NOP/default.asp>

Supporting documentation for the NOP must include: (1) this Hazardous Materials Survey Report (2) site-specific Risk Assessments; (3) Safe Work Procedures (SWP's) for the proposed work as described in Part 6 of the Regulation; and (4) a site Lead Exposure Control Plan (LECP).

7.4.2 Confirmation Letter: As required by Section 20.112 (8) of the BC OHS Regulations, a Confirmation Letter completed by a 'Qualified Person' may be required to certify proper removal or containment and final disposition of hazardous waste.

8.0 Report Use and Limitations

In preparing this report ORCA Health & Safety reviewed historical records, conducted interviews with certain private and public officials, and conducted an on-site visual inspection of the property. We examined and relied upon documents referenced in the report and have relied on oral statements made by certain individuals but we have not conducted an independent examination of the facts contained in referenced materials and statements.

ORCA Health & Safety assumes the genuineness of the documents and that the information provided in documents or statements is true and accurate.

ORCA Health & Safety has prepared this report in a professional manner, using that level of skill and care normally exercised for similar projects under similar conditions by reputable and competent consultants and in accordance with our normal terms and conditions.

ORCA Environmental Health & Safety shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared.

We also note that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth here are applicable only to the facts and conditions as described at the time of this report.

The methods employed for collection and analysis of samples are those of the American Conference of Governmental Industrial Hygienists (ACGIH), the National Institute for Occupational Safety and Health (NIOSH), provincial WCB, and/or other accepted scientific practices.

Hazardous Materials Survey Report
Barge STM5000 – English Bay Stranding

Project: 1230.2



The data and commentary presented herein reflects these standards, however no other warranty is offered or implied respecting the acceptance of this report by any Regulatory authority.

Conclusions and recommendations were made within the operative constraints of the scope, budget, and schedule for this project. We believe the conclusions stated herein to be factual, but no guarantee is made or implied.

We accept no responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report, or for damages suffered by any third party resulting from use of the Report without our express written permission.

8.1 Professional Statement

ORCA Health & Safety Ltd. certifies that the persons signing this statement have demonstrable relevant experience, are 'qualified persons' as defined under BC OHSR Section 6.1 and are familiar with the work carried out on the site.

9.0 Closure

We thank you for the opportunity to be of service. Should you have any questions, or require further information, please contact the undersigned at (250) 756-0355.

Yours truly,

ORCA HEALTH & SAFETY LTD.

Inspected by:

A handwritten signature in blue ink, appearing to read "MH", with a long horizontal flourish extending to the right.

Michael Holownia,
EPA-AHERA Building Inspector #3508-17-C18-28856

Inspected & Reviewed by:



Paul Johnston, D. Tech., RIHT
EPA-AHERA Building Inspector #13-0406
Certified Lead Risk Assessor #CLR13-0005

ANNEX 'A'

OFFICIAL #: 513049

ABS #: 6807963

LR / IMO #:



VESSEL DESCRIPTION	
VESSEL TYPE	Chip Barge
SERVICE	Columbia/Snake River, Coastwise
CARGO TYPE	Chips
CALL SIGN	N/A
HAIL PORT	Portland, OR
OLD NAMES	Foss 275
DATE BUILT	Feb 1968
REBUILT	1987
BUILDER	Zidell Explorations, Inc., Portland, OR

CARGO CAPACITY	
CAPACITY #1	1,650 BDUs
CAPACITY #2	
CAPACITY #3	
CAPACITY #4	

OTHER CAPACITY	
USABLE DECK AREA	251' x 52' x 22'
MAX DECK LOAD	760 lbs. PSF
FUEL	
HYDRAULIC	
LUBE	
BALLAST	

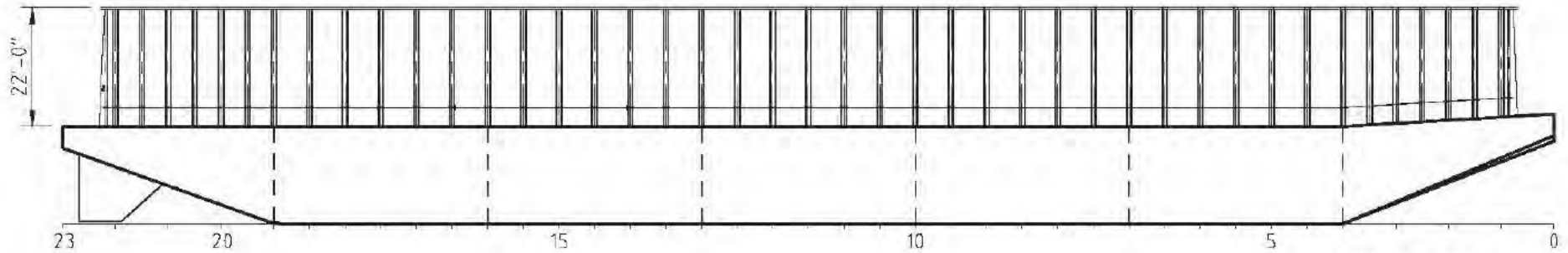
REMARKS	
Converted to bin barge in 1987. Paper tube is located stern Deck to port of the water tight door on the outside of the Bin wall. Max Draft w/ chips is 11.5'	

MACHINERY	
PUMP ENG #1	
PUMP #1	
PUMP ENG #2	
PUMP #2	
AUX	3-71 GMC Winch w/ hyd bridle and retrieval system in place
PUMP #3	
BLST PUMP ENG	
DK CRANE #2	
DK CRANE #1	
OTHER MACH	Hydraulic winch for bridle retrieval
HOSE CONNECTIONS	

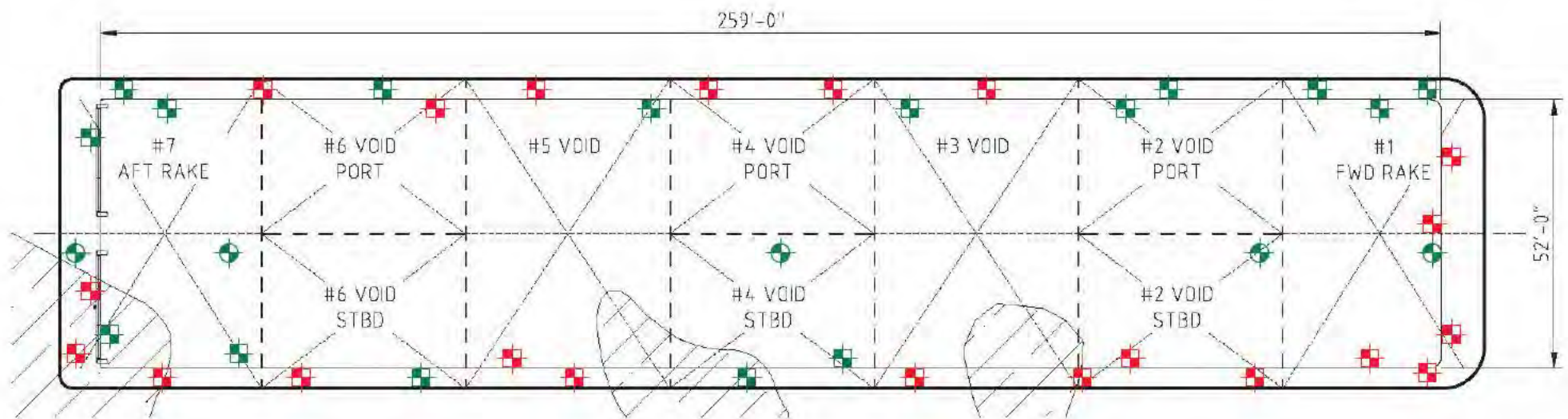
TANK BARGE / TANK CAPACITIES (BBLs @ 95% FULL)			
CARGO TANKS	PORT	CENTER	STARBOARD
FORE TANKS			
#1			
#2			
#3			
#4			
#5			
#6			
#7			
#8			
AFTER PEAK			

REGULATORY	
ABS LL	Y
ABS CL	N
USCG INSP	Y
REGISTRY	Y
COASTWISE	Y
TITLE XI	N
CCF	N

DIMENSIONS	
REG. GT.	2,406
REG. NT.	2,406
ITC GR TONS	
ITC NT TONS	
REGULAT. GT	
REGULAT. NT	
DRAFT MIN	3.7'
DRAFT MAX	11.5'
REG. LENGTH	276'
REG. BREADTH	60'
REG. DEPTH	17'
LOA	276'
MAX BREADTH	
MAX HEIGHT	
DISPLACEMENT	5,140 ST
DIEADWEIGHT	3,770 ST



PROFILE VIEW



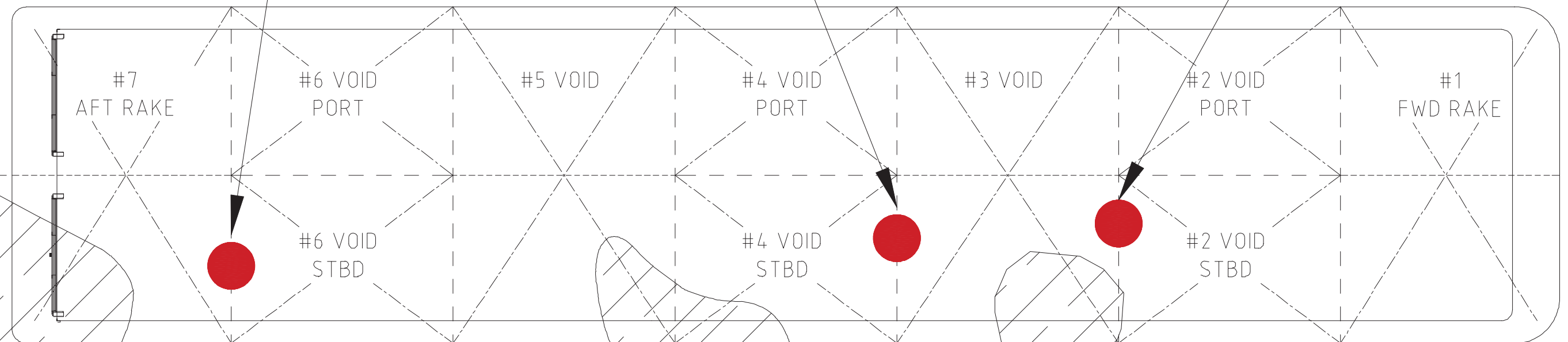
	ASBESTOS SAMPLE POSITIVE		LEAD SAMPLE POSITIVE
	ASBESTOS SAMPLE NEGATIVE		LEAD SAMPLE NEGATIVE

		Nanaimo, B. C. Canada	
TITLE BARGE STM5000 (ENGLISH BAY STRANDING)			
PROJECT NO. 1230.2	DWG NO 1230.2 -1	DATE 2022-02-11	REV 0
SCALE NTS	DRAWN WPJ	SHEET 1 OF 1	

STARBOARD AFT RAKE:
HOLED ON BOTTOM SHELL AT
BULHEAD FRAME #19
AT #5-6 BL OVER 2'

STARBOARD #4:
HOLED ON BULKHEAD
AND BOTTOM AT #8-10
BL.

STARBOARD #3:
HOLED ON BULKHEAD
AND BOTTOM AT #11-12
BL.AND BOTTOM PLATE



SMT-5000	
VOID #1 COMMON	WATER FROM STARBOARD #7 BL TO PORT SIDE SHELL 6'
VOID #2 PORT	6-8' AT MANHOLE, NOT ENTERED
VOID #2 STBD.	WATER FROM STARBOARD #7 BL TO PORT SIDE SHELL 6'
VOID #3 COMMON	SIGHTED FROM PORT SIDE 8-10' WATER
VOID #4 PORT	6-8' AT MANHOLE, NOT ENTERED
VOID #4 STBD	WATERTIGHT BULKHEAD WATER INGRESS AT #8 BL, 8' WATER AT CL BULKHEAD
VOID #5 COMMON	SIGHTED FROM PORT SIDE 8-10' WATER
VOID #6 PORT	6-8' AT MANHOLE, NOT ENTERED
VOID #6 STBD	WATER ENTERING AT AFT BULKHEAD AT #5-6 BL
VOID #7 COMMON	WATER ENTERING AT AFT BULKHEAD AT #5-6 BL

NOTES:
VOIDS TO BE CONFIRMED AREAS WHEN WATER REMOVED
SURVEY OF BOTTOM CONDUCTED OUTBOARD OF SMT-5000
VANPILE DERRICK ON-SITE WEDNESDAY, PORT OUTBOARD.

ANNEX 'B'

Bulk Asbestos Certificate of Analysis

Project #: E0400-144 Client: Orca Health and Safety Consulting Inc. Site Address: SMT 5000 (ACM) CME Nanaimo (WE Ricker) Sampled By: Client

Analyzed in accordance with NIOSH 9002 Asbestos (Bulk) by PLM

(Note: Estimated Limit of Detection (LOD) is <1% asbestos)

Legend:

ND Not Detected

Lab Sample #	Sample Description	Location	Phase Description	Phase %	Asbestos Type	Asbestos %	Other Material Type	Other Material	Analyst
E0400-144-1	Gasket	Engine Room Door	Rust Mix	1	NO	ND	Non-Fibrous	100	LC
			Dakr Gry Mix- Pliable	99	NO	ND	Non-Fibrous	100	LC
E0400-144-2	Screed	Main Deck Mid Ship	Cementitious - Lt Grey/Dk Aggregate	100	NO	ND	Non-Fibrous	100	LC
E0400-144-3	Screed	Main Deck Stern	Brown Mix	2	NO	ND	Non-Fibrous	100	LC
			Cementitious - Lt Grey/Dk Aggregate	98	NO	ND	Non-Fibrous	100	LC
E0400-144-4	Screed	Outside Stern	Cementitious - Grey/Grey Aggregate	100	NO	ND	Non-Fibrous	100	LC
E0400-144-5	Screed	Main Deck Bow	Cementitious - Lt Grey/Grey + Dk Aggregate	100	NO	ND	Non-Fibrous	100	LC

ANNEX 'C'



Field Portable XRF Certificate of Analysis

Analyzed in accordance with analytical methods adapted from EPA Method 6200 and ASTM F2853-10

Legend:

POSITIVE Lead-content (> LOD for XRF)

ND Lead Content < Limit of Detection

ORCA Health and Safety Consulting Inc.
1 Irwin Street, Nanaimo BC V9R 4W9 (250) 751-4295

Project #:	1230.2	Client: Vancouver Pile Driving	Site Address:	STM5000 Barge (English Bay)	In-situ	X
					Ex-situ	

Test #	Sample Description	Location	Date	Time	Element	Lead Content	Remarks	Analyst
31	Stbd Upper Hull Interior Black	See appended drawing	2022-02-01	10:31:00	Lead	ND	Non Detect	PJ
32	Stbd Upper Hull Interior Black	See appended drawing	2022-02-01	10:32:00	Lead	ND	Non Detect	PJ
33	Port Upper Hull Interior Black	See appended drawing	2022-02-01	10:33:00	Lead	ND	Non Detect	PJ
34	Port Upper Hull Interior Black	See appended drawing	2022-02-01	10:33:00	Lead	ND	Non Detect	PJ
35	Port Upper Hull Interior Black	See appended drawing	2022-02-01	10:34:00	Lead	ND	Non Detect	PJ
36	Port Upper Hull Interior Black	See appended drawing	2022-02-01	10:35:00	Lead	ND	Non Detect	PJ
37	Port Upper Hull Interior Black	See appended drawing	2022-02-01	10:35:00	Lead	POSITIVE	90 - 600 ppm	PJ
38	Port Upper Hull Interior Black	See appended drawing	2022-02-01	10:36:00	Lead	ND	Non Detect	PJ

Instrument Thermo Niton XL3T	Calibration Check	Date	2022-01-31	Time	15:49:00	PASS	PJ
------------------------------	-------------------	------	------------	------	----------	------	----



SMT – 5000 BARGE RECOVERY

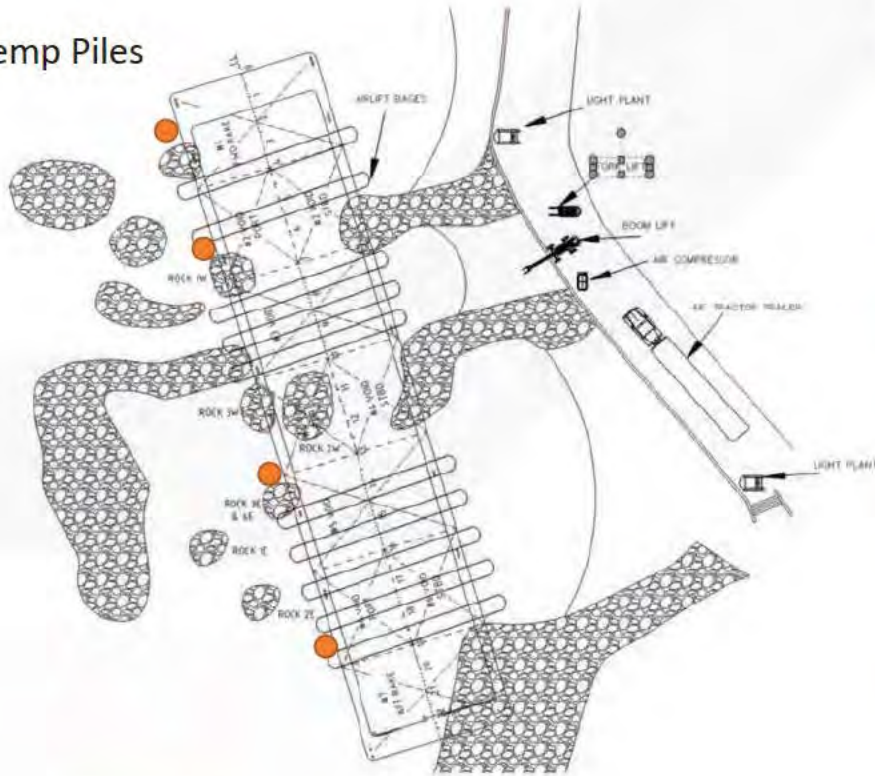
Deconstruction Process - February 23, 2022



DRIVEN BY SAFETY – TO BE THE BEST

BARGE LOCATION

Install Temp Piles



[illegible]

Photo 6 - Sand on Transect 3:

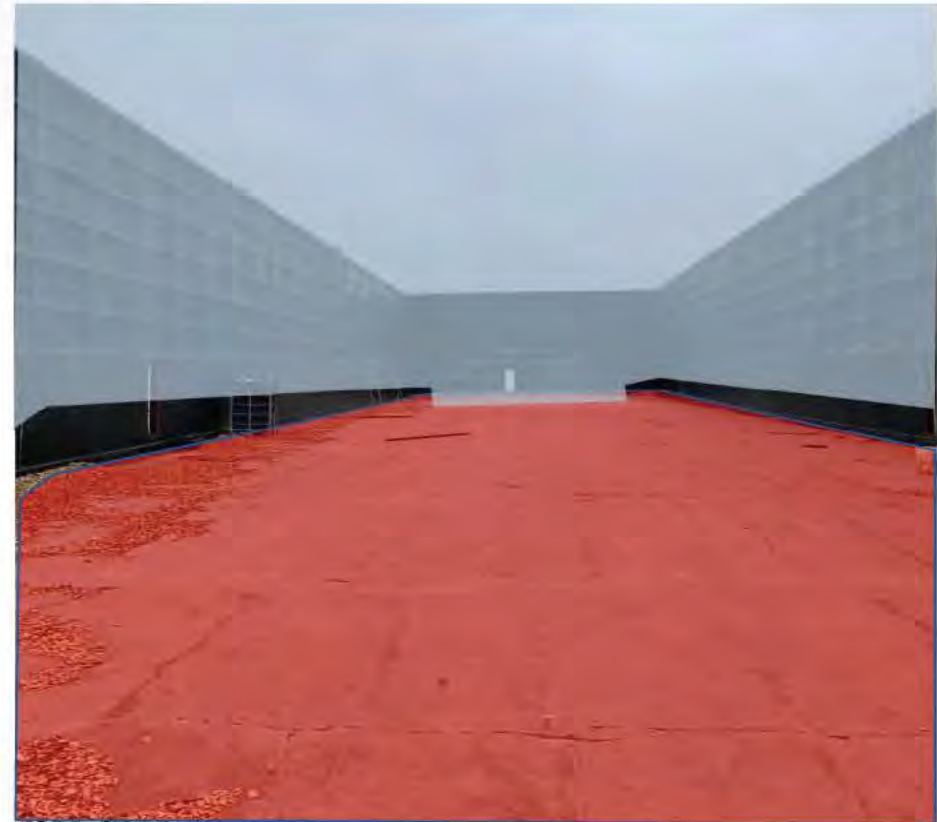
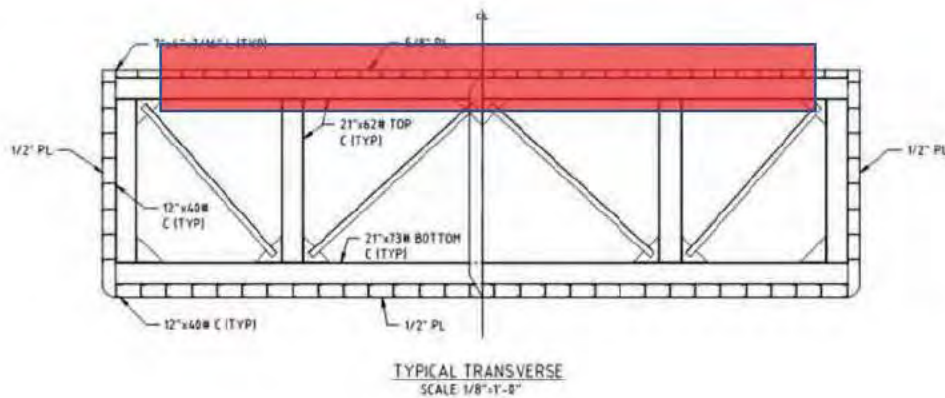
REMOVING BIN WALLS

- Install Temporary Piles
- Install cribbing under front rake
- Install airbags to level barge (TBD)
- Remove wood chips & debris from Deck
- Use Excavator with Shear to remove bin walls to 4' above deck to provide safety railing.
- Load bin walls onto support barge for transport



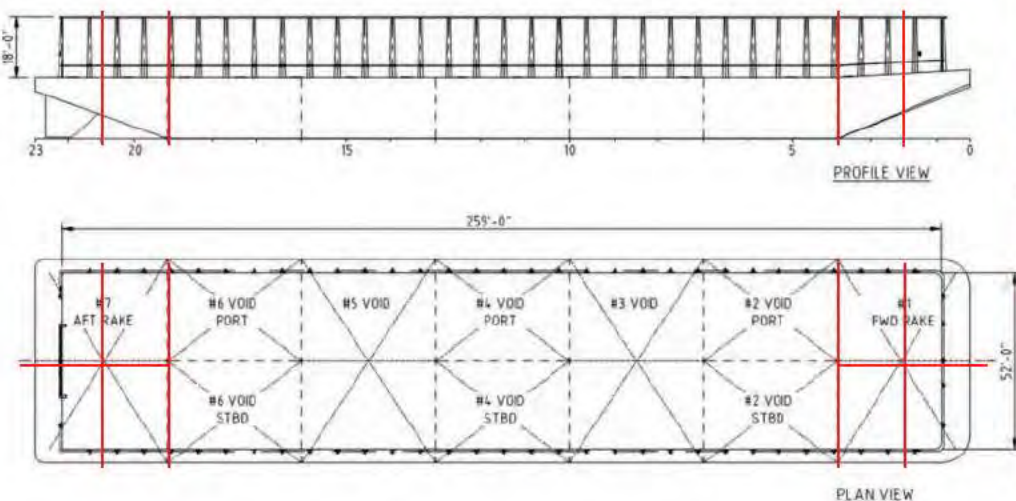
REMOVING CONCRETE DECKING

- Use Excavator to remove concrete deck and load into construction bins.
- Lift construction demolition bins onto barge to load out broken concrete



REMOVING FORWARD & AFT RAKES

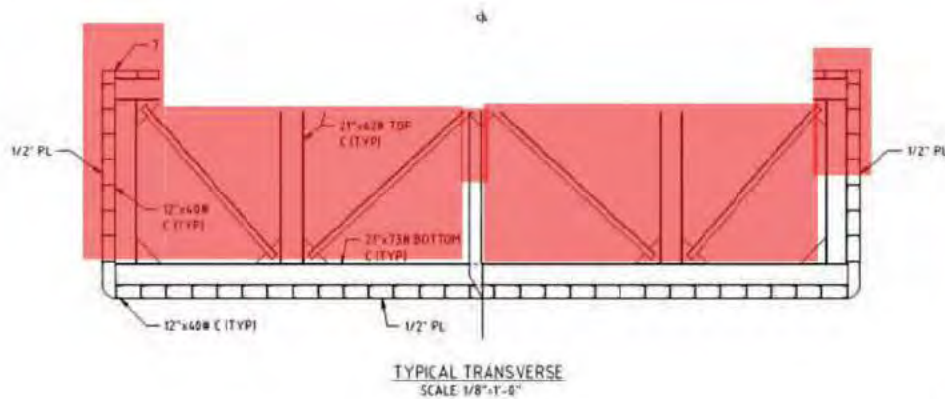
- Install cribbing under forward rake
- Remove Forward and Aft Rakes in 4 or 8 pieces (TBC by Lift Calculations)
- Load Large Sections onto barge for transport



REMOVING PILLARS & SHELL WALLS

Staging TBC through lift analysis

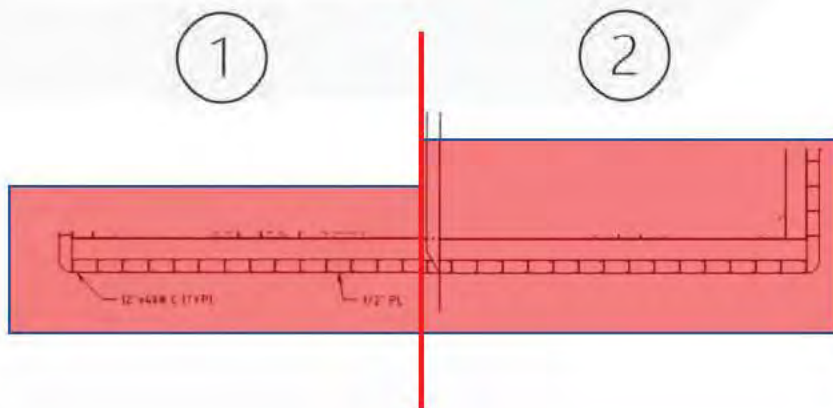
- Remove Starboard Shell Wall, Pillars & Bracing
- Remove Port Shell Wall & Bracing



REMOVING SHELL BOTTOM

Staging & Number of Sections TBC by lift analysis:

1. Remove Starboard Shell Bottom
2. Remove Port Shell Bottom
3. Site Clean Up & Restoration



THANK YOU FROM OUR TEAM



Passion
Respect
Integrity
Determination
Endurance

**DRIVEN
BY SAFETY
TO BE
THE BEST**

SMT-5000 BARGE SALVAGE MARINE HABITAT ASSESSMENT REPORT

January 2022



Prepared for:

Vancouver Pile Driving Ltd.
North Vancouver, British Columbia

Hatfield Consultants LLP

#200 - 850 Harbourside Drive
North Vancouver, British Columbia, Canada V7P 0A3
Tel: 1.604.926.3261 • Fax: 1.604.926.5389
www.hatfieldgroup.com





SMT-5000 BARGE SALVAGE MARINE HABITAT ASSESSMENT REPORT

Prepared for:

VANCOUVER PILE DRIVING LTD.
20 BROOKSBANK AVENUE
NORTH VANCOUVER, BC
CANADA V7J 2B8

Prepared by:

HATFIELD CONSULTANTS LLP
#200 - 850 HARBOURSIDE DRIVE
NORTH VANCOUVER, BC
CANADA V7P 0A3
TEL: 1.604.926.3261 • WWW.HATFIELDGROUP.COM

JANUARY 2022

VPD11352

VERSION 1.0

TABLE OF CONTENTS

LIST OF TABLES	ii
LIST OF FIGURES.....	ii
LIST OF ACRONYMS.....	iii
DISTRIBUTION LIST	iv
AMENDMENT RECORD	iv
1.0 INTRODUCTION.....	1
2.0 PROJECT OVERVIEW	2
2.1 PROJECT SCHEDULE	3
3.0 STUDY AREA	3
4.0 ASSESSMENT METHODOLOGY	5
4.1 DESKTOP REVIEW	5
4.2 SURVEY METHODS	6
5.0 ASSESSMENT RESULTS	7
5.1 HISTORY OF THE STUDY AREA.....	7
5.2 PHYSICAL CONDITIONS	8
5.3 RIPARIAN HABITAT	11
5.4 FISH	11
5.5 ALGAE AND INVERTEBRATES.....	11
5.6 MARINE MAMMALS	13
5.7 BIRDS	13
5.8 AQUATIC SPECIES AT RISK.....	14
6.0 POTENTIAL IMPACTS	15
7.0 AVOIDANCE AND MITIGATION MEASURES	16
8.0 POTENTIAL FOR DEATH OF FISH AND HADD	17
9.0 SUMMARY AND CONCLUSIONS.....	17
10.0 REFERENCES.....	18

LIST OF TABLES

Table 1	Listed aquatic species with the potential to occur within 1 km of the Project Area.	15
Table 2	Summary of activities, potential effects, and proposed mitigations.	16

LIST OF FIGURES

Figure 1	Diagram of the Barge wreck site.	3
Figure 2	Overview of Study Area.	4
Figure 3	Habitat survey methodology.	6
Figure 4	View of Sunset Beach on July 23, 2017 (ShoreZone 2017) and approximate location of Barge (blue).	7
Figure 5	View of the Barge.	8
Figure 6	Representative photos of substrate types within the Study Area.	9
Figure 7	Riparian habitat between the Barge and seawall.	11
Figure 8	Representative photos of invertebrates and algae in the Study Area observed during the intertidal survey.	12
Figure 9	Representative photos of invertebrates and algae in the Study Area observed during the subtidal video survey.	13
Figure 10	Representative photos of seabirds in or near the Study Area observed during the intertidal survey.	14

LIST OF ACRONYMS

BC	British Columbia
BMP	Best Management Practices
CD	Chart Datum
CDC	Conservation Data Centre
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DFO	Fisheries and Oceans Canada
EMP	Environmental Management Plan
EZ	Exclusion Zone
HADD	Harmful Alteration, Disruption and Destruction
SARA	<i>Species at Risk Act</i>

DISTRIBUTION LIST

The following individuals/firms have received this document:

Name	Firm	Hardcopies	Email	FTP
Jesse Percy	Vancouver Pile Driving Ltd.		✓	
Ian Purvis	Vancouver Pile Driving Ltd.		✓	
Fish and Fish Habitat Protection Program	Fisheries and Oceans Canada		✓	

AMENDMENT RECORD

This report has been issued and amended as follows:

Issue	Description	Date	Approved by	
1	First version of Marine Habitat Assessment Report	20220128		
			Stewart Wright Project Director	Megan Vaughan R.P.Bio, Marine Biologist

1.0 INTRODUCTION

Hatfield Consultants (Hatfield) has been retained by Vancouver Pile Driving Ltd. (Vanpile) for environmental management and regulatory support associated with the removal of the SMT-5000 (the Barge); a chip barge owned by Sentry Marine Towing, from Sunset Beach in English Bay, Vancouver, British Columbia (BC). On November 15, 2021, the Barge became grounded on Sunset Beach when it broke free from an anchorage in Burrard Inlet during a severe weather event. The removal of the Barge from the beach (the Project) is required to ensure there will be no risk to public safety, property, and the environment.

Hatfield has completed this marine Habitat Assessment to support a Fisheries and Oceans Canada (DFO) Request for Review under the *Fisheries Act* and the *Species at Risk Act* (SARA). The Habitat Assessment includes a desktop review of existing studies and marine environmental data for the defined Study Area; and the results of marine field surveys completed on January 19 and 24, 2022.

Based on the data reviewed and collected, Hatfield has assessed the value of the habitat with the potential to be affected by Project works. Hatfield has assessed the potential for the death of fish and Harmful Alteration, Disruption and Destruction (HADD) and defined avoidance and mitigation measures for the Project. This includes inputs to the Barge removal methods, Best Management Practices (BMPs), environmental monitoring and mitigation measures to be implemented during the Barge removal.

2.0 PROJECT OVERVIEW

The Barge is positioned on top of several man-made boulder clusters in the intertidal zone, approximately 24 m from the offshore face of the seawall (Figure 1). The boulders have led to irreparable damage and the Barge has been deemed a total constructive loss and not seaworthy for transport. The proposed plan is to deconstruct the Barge *in situ* and transport the components to an appropriate facility for steel recycling. Project components will include temporary subtidal boulder relocation for marine equipment access, barge salvage and removal from site.

Prior to salvage activities, two to three temporary steel pilings (36" diameter) will be installed on the offshore edge of the Barge. These pilings will be installed into sandy substrate using vibratory pile driving methods, and will allow for securement of the barge to prevent movement as components are removed and the weight of the Barge is reduced.

Salvage works will involve the removal of concrete decking, steel bin walls, steel decking, and the steel hull. One small engine exists within an engine room located at the bow centreline of the Barge. This engine and all associated hydrocarbons will be removed by a mechanic prior to disassembly works. The concrete decking will be removed using concrete saws and a small excavator/skid-steer with a hoe-ram used to break-up the concrete. Sealed demolition bins will be filled with concrete and craned off of the Barge to a supporting materials scow. During concrete demolition, the lower bin walls will remain in place to facilitate containment and capture of stormwater containing concrete fines.

The bin walls will then be cut by using cutting torches or hydraulic shears, and lifted onto a support scow for transport. The steel decking and structural members will be removed using cutting torches or hydraulic shears and will be lifted to the supporting scow. Air bags will be used to elevate the final sections of the hull off of the substrate to allow for cutting.

Barge demolition works will include the following components:

- Installation of exclusion fencing on the seawall;
- Mobilization of required marine and salvage equipment to site;
- Installation of temporary moorage pilings (36" x 0.750" WT), temporary access float pilings, and access gangways;
- Removal of concrete decking;
- Removal of bin walls;
- Removal of steel decking and structural members, including forward and aft rakes, pillars, and starboard voids;
- Installation of airbags to lift remaining Barge hull above the waterline;
- Removal of port voids;
- Debris survey using crane magnet to sweep beach for debris at low tide;
- Removal of temporary mooring piles, demobilization of salvage equipment and exclusion fencing; and
- Transport materials barge for scrap recycling.

Project works will be followed by a post-construction habitat survey to assess the condition of the habitat at the wreck site and inform potential restoration activities, if required.

Figure 1 **Diagram of the Barge wreck site.**

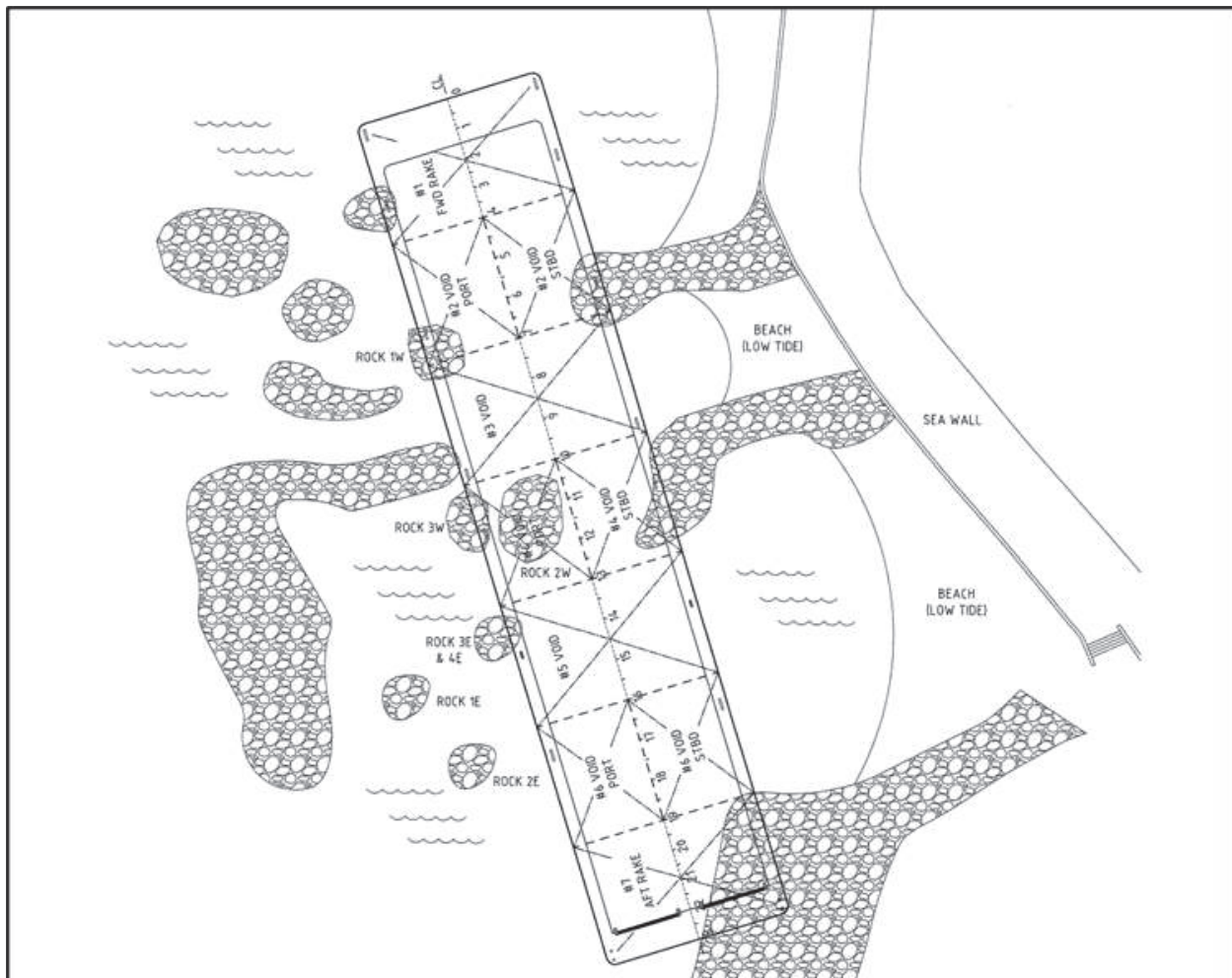


Image credit: Vancouver Pile Driving (2021)

2.1 PROJECT SCHEDULE

Project works are expected to begin in February 2022. The Project completion date has yet to be determined, but it is anticipated in-water works will occur partially outside the DFO Least Risk Window for Burrard Inlet (August 16 - February 28). On-site work will be undertaken from 07:00 to 20:00 Monday to Friday, excluding recognized statutory holidays.

3.0 STUDY AREA

The Barge is located at approximately 49°16'52.66"N, 123°8'29.85"W and is within lands managed by the City of Vancouver. The Study Area has been defined to encompass the Project works and potential environmental effects (Figure 2).

Figure 2 Overview of Study Area.

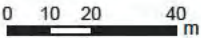


Legend

- Study Area
- English Bay Barge
- Contours - 1m*
- Contours - 0.2m*

* contours referenced to Chart Datum

Data Sources:
a) English Bay Barge and Study Area, Hatfield 2022.
b) Contours, Vancouver Pile Driving 2022.
c) Background, Aerial photo 7.5cm, 26 April 2018, Esri Online Service.



Scale: 1:1,800
Projection: NAD 1983 UTM Zone 10N



4.0 ASSESSMENT METHODOLOGY

4.1 DESKTOP REVIEW

A desktop review of existing publicly available information was conducted for the Study Area and the surrounding English Bay and Burrard Inlet Outer Harbour to inform and support the subsequent field assessment. The information was assembled to characterize known marine habitat features, potential species presence, and potential migratory, refuge, or spawning areas, including species-at-risk and wildlife of potential conservation concern.

Data sources reviewed and evaluated and/or information collected for relevance to this assessment included:

- BC Conservation Data Centre (CDC):
 - BC Species & Ecosystems Explorer: <http://a100.gov.bc.ca/pub/eswp/>
 - CDC iMap: <http://maps.gov.bc.ca/ess/hm/cdc/>
- BC Fish Inventories Data Queries (FIDQ): <http://a100.gov.bc.ca/pub/fidq/welcome.do>
- Electronic Atlas of the Flora of British Columbia: Algae identification: <http://ibis.geog.ubc.ca/biodiversity/eflora/algae.html>
- DFO New Salmon Escapement Database System: <https://open.canada.ca/data/en/dataset/c48669a3-045b-400d-b730-48aafe8c5ee6>
- DFO Pacific Herring Spawning Records – Strait of Georgia: http://www.pac.dfo-mpo.gc.ca/science/species-especes/pelagic-pelagique/herring-hareng/herspawn/sog_map-eng.html
- DFO Pacific Ocean, Aquatic Species at Risk Map: <https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html>
- DFO Pacific Ocean, Project Near Water: <http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>.
- DFO Rockfish Conservation Areas: <https://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acrs/index-eng.html>
- FREMP-BIEAP Habitat Atlas: <https://www.cmNBC.ca/atlasgallery/frempe-bieap-habitat-atlas/>;
- Important Bird Areas, including great blue heron colony areas: <https://www.ibacanada.com/mapviewer.jsp?lang=EN>
- Sensitive Habitat Information Mapping: https://cmNBC.ca/atlas_gallery/shim-sensitive-habitat-inventory-and-mapping
- FREMP-BIEAP Habitat Atlas: <https://www.cmNBC.ca/atlasgallery/frempe-bieap-habitat-atlas/>
- Species at Risk Registry: The public registry for Species at Risk in Canada: http://www.sararegistry.gc.ca/sar/index/default_e.cfm
- Wild Ocean Whale Society, Whales and Dolphins BC – Sighting map: https://whalesanddolphinsbc.com/latest_sightings/

4.2 SURVEY METHODS

Field-based habitat surveys were undertaken to build on the desktop review and assess and characterize the marine environment potentially affected by Barge salvage activities. The habitat surveys consisted of a boat-based subtidal video survey, conducted at high-tide on January 19, and a land-based intertidal survey, conducted at low-tide on January 24.

The subtidal survey was conducted from a vessel at high tide using a towed underwater camera system (Figure 3A). The survey was completed from a commercial water taxi vessel owned and operated by Mercury Transport Inc. The field team completed three video survey transects parallel to the shoreline along the seaward side of the Barge, recording the survey path with a GPS track. The survey video was analyzed to characterize the substrate, assess the quality of fish habitat, and determine the distribution and abundance of fish, algae and macroinvertebrates, if present.

The intertidal survey was undertaken on foot at low tide (Figure 3B). The field team conducted a visual assessment and collected geo-referenced photographs of the intertidal environment. The results of the survey were used to characterize the substrate, assess the quality of fish habitat, and determine the distribution and abundance of fish, algae, macroinvertebrates and riparian habitat. Incidental observations of marine mammals and birds were also recorded.

Figure 3 **Habitat survey methodology.**



A) Underwater towed video survey



B) Intertidal survey

5.0 ASSESSMENT RESULTS

5.1 HISTORY OF THE STUDY AREA

The Sunset Beach Park portion of the seawall was first constructed in 1959 to connect Stanley Park with False Creek. Structural failure of the timber construction in this area lead to reconstruction work in 2011 using concrete. A marine habitat assessment was conducted prior to the seawall reconstruction work, and in the assessment it was noted that there was an opportunity for enhancing or remediating habitat alterations that occurred from the original seawall construction. It was proposed that the complexity of the upper intertidal habitat could be increased through the addition of boulder clusters which would also help reduce beach scour at the toe of the seawall by dissipating some of the wave energy before reaching the seawall (WorleyParsons 2010). Boulder clusters and the approximate location of the barge are shown in Figure 4.

Figure 4 View of Sunset Beach on July 23, 2017 (ShoreZone 2017) and approximate location of Barge (blue).



5.2 PHYSICAL CONDITIONS

The Study Area is bounded to the north by the seawall in English Bay. The Barge is grounded on boulders in the intertidal zone approximately 24 m from the seawall (Figure 5A). On the shoreward side of the Barge, boulders and woody debris lie over sandy substrate, as seen in Figure 5B taken at a low tide of +1.8 m CD. The substrate in the subtidal zone consists mostly of sand, with clusters of cobble, gravel, and boulder in varying proportions, as well as shell hash, algal wrack, and wood debris (Figure 6). Within the Study Area, riparian, intertidal, and subtidal habitats were assessed, and the elevation ranged from approximately + 4.0 m Chart Datum (CD), to approximately - 1.5 m CD.

Figure 5 **View of the Barge.**

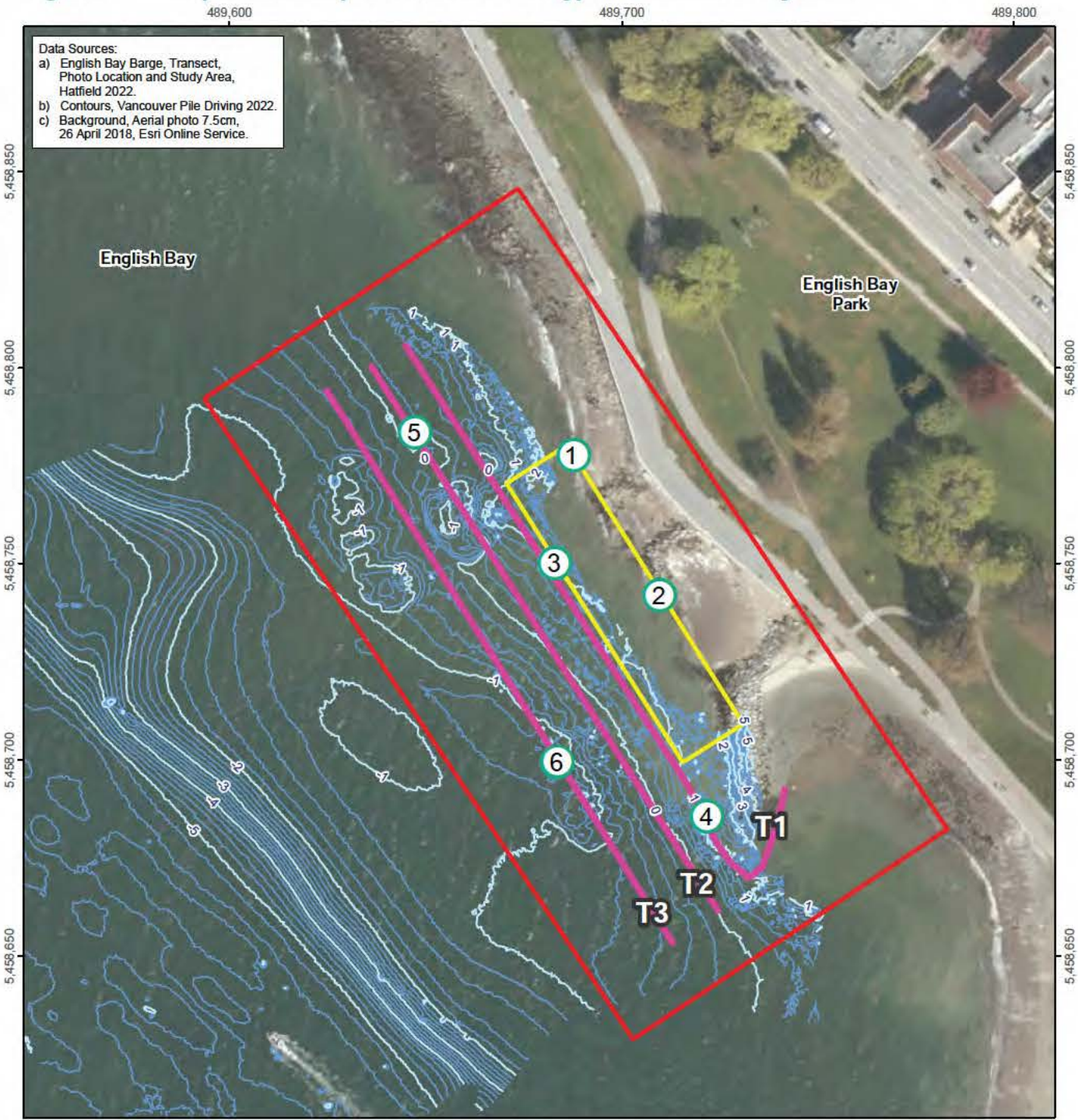


A) Seaward port side at high tide.



B) Shoreward starboard side at low tide.

Figure 6 Representative photos of substrate types within the Study Area.



Data Sources:
a) English Bay Barge, Transect, Photo Location and Study Area, Hatfield 2022.
b) Contours, Vancouver Pile Driving 2022.
c) Background, Aerial photo 7.5cm, 26 April 2018, Esri Online Service.

Legend

- Approximate Photo Locations
- Study Area
- English Bay Barge
- Transects
- Contours - 1m*
- Contours - 0.2m*

* contours referenced to Chart Datum



0 250 500 m
Scale: 1:25,000
Projection: NAD 1983 UTM Zone 10N



Photo 1 - Intertidal sand and boulder habitat.
Photo taken looking South.



Photo 2 - Intertidal sand and boulder habitat.
Photo taken looking North.



Photo 3 - Sand on Transect 1.



Photo 4 - Boulders on Transect 1.



Photo 5 - Cobbles on Transect 2.



Photo 6 - Sand on Transect 3.

5.3 RIPARIAN HABITAT

On the shoreward side of the Barge, there is a patch of riparian habitat of approximately 7 m² in an elevated area that contains dunegrass (*Leymus mollis*; Figure 7A) and young cottonwood trees (*Populus trichocarpa*; Figure 7B). Outside of this area no additional riparian habitat was observed.

Figure 7 Riparian habitat between the Barge and seawall.



A) Patches of Dunegrass located near the stern of the barge.



B) Cottonwood trees near the seawall, at the stern of the barge.

5.4 FISH

The BC Ecosystem Explorer, BC CDC, Fisheries Information Summary System Habitat Wizard, and Sensitive Habitat Information Mapping were reviewed to identify other potential fish species that could occur in the Study Area. Several marine and anadromous fish species have the potential to occur in English Bay, and therefore in the Study Area, including: kelp greenling (*Hexagrammos decagrammus*), lingcod (*Ophiodon elongates*), striped seaperch (*Embiotoca lateralis*), Pacific sand lance (*Ammodytes hexapterus*), pile perch (*Rhacochilus vacca*), rock sole (*Lepidopsetta* sp.), shiner perch (*Cymatogaster accipenserinus*), bay pipefish (*Syngnathus leptorhynchus*), and whitespotted greenling (*Hexagrammos stelleri*).

Although there is no estuarine habitat in English Bay, marine habitat in English Bay may be used for migration by seven salmonid species: Chinook (*Oncorhynchus tshawytscha*), chum (*Oncorhynchus keta*), coho (*Oncorhynchus kisutch*), pink (*Oncorhynchus gorbuscha*), sockeye (*Oncorhynchus nerka*), steelhead (*Oncorhynchus mykiss*), and cutthroat trout (*Oncorhynchus clarki*) (Levings et al. 2004). Juvenile salmon may use nearshore areas during the spring and summer months (Levy 1997) and originate from spawning streams in the Burrard Inlet and the Fraser River (Naito and Hwang 2000).

No fish were observed during the habitat assessment.

5.5 ALGAE AND INVERTEBRATES

In the marine and intertidal environments, algae and invertebrates are often attached to hard substrates such as cobbles or boulders. Algae provide habitat, food, shelter and nursery environments for fish, invertebrates, and some epiphytic algae. Their biomass also provides oxygen through primary productivity to nearshore food webs (Bates 2004). Marine invertebrates are an integral part of the ecosystem and fill a

wide range of ecological roles from providing prey for fish and other invertebrates to filtering organic matter and nutrients from the water column.

In the lower intertidal and shallow subtidal portions of the Study Area, several species of algae were observed attached to boulders, including sea lettuce (*Ulva* sp.; Figure 8A), rockweed (*Fucus distichus*; Figure 8B), red bladed algae (e.g., *Porphyra* sp.), red filamentous algae.

Marine invertebrates in the Study Area included blue mussels (*Mytilus* sp.), barnacles (*Balanus glandula*), periwinkle snails (*Littorina* spp.), non-native Pacific oysters (*Crassostrea gigas*), and varnish clams (*Nuttallia obscurata*). A single Dungeness crab (*Metacarcinus magister*; Figure 9) and a single shrimp were also observed in the subtidal environment.

Figure 8 **Representative photos of invertebrates and algae in the Study Area observed during the intertidal survey.**



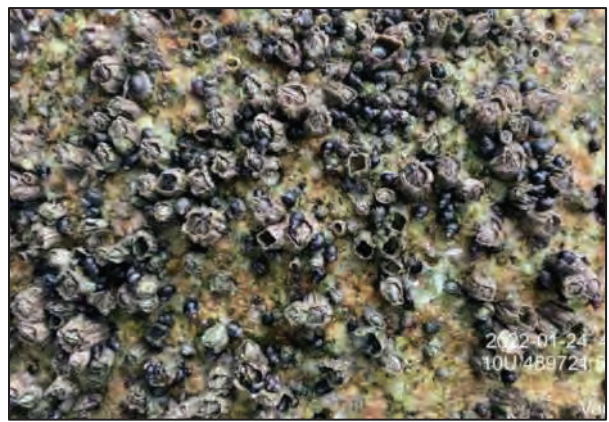
A) Sea lettuce and mussels



B) Rockweed and mussels



C) Pacific oyster

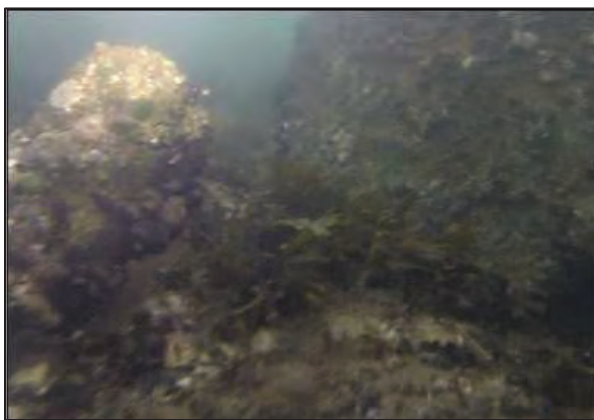


D) Barnacles and periwinkle snails

Figure 9 **Representative photos of invertebrates and algae in the Study Area observed during the subtidal video survey.**



A) Sea lettuce



B) Rockweed



C) Dungeness crab



D) Mussels

5.6 MARINE MAMMALS

A number of marine mammal species have been observed in English Bay, and therefore have the potential to occur in the Study Area, including Stellar sea lions (*Eumetopias jubatus*), California sea lions (*Zalophus californianus*), harbour porpoises (*Phocoena phocoena*), Pacific white-sided dolphins (*Lagenorhynchus obliquidens*), killer whales (*Orcinus orca*), grey whales (*Eschrichtius robustus*), and humpback whales (*Megaptera novaeangliae*) (Wild Ocean Whale Society 2021). Cetaceans are unlikely to occur in the Study Area due to the shallow depths. Pacific harbour seals (*Phoca vitulina richardsi*) are common in English Bay and have the potential to occur in the Study Area. Harbour seals are not considered at risk by COSEWIC and have no status under SARA (Government of Canada 2021).

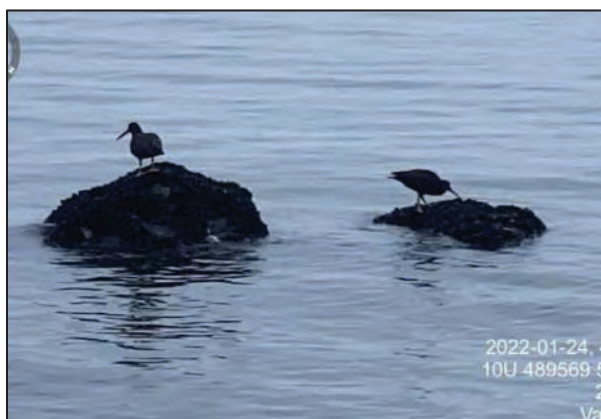
No marine mammals were observed in the Study Area during the field survey.

5.7 BIRDS

The Study Area is located within the Important Bird Area (IBA) of English Bay, Burrard Inlet & Howe Sound. This IBA was designated for three species at the global level: western grebe, Barrow's goldeneye and surf scoter; and one species at the national level: great blue heron (IBA Canada 2021).

Bird species observed during the field survey include bald eagles (*Haliaeetus leucocephalus*), black oystercatchers (*Haematopus bachmani*; Figure 10A), Barrow's goldeneye ducks (*Bucephala islandica*; Figure 10B), mallard ducks (*Anas platyrhynchos*), glaucous-winged gulls (*Larus glaucescens*), northwestern crows (*Corvus caurinus*), cormorants (*Phalacrocorax* sp.), and Canada geese (*Branta canadensis*).

Figure 10 Representative photos of seabirds in or near the Study Area observed during the intertidal survey.



A) Oystercatchers



B) Barrow's goldeneye

5.8 AQUATIC SPECIES AT RISK

Species at risk are identified by both provincial and federal governments following ranking systems. The provincial ranking system applies to species that have been assessed by the Conservation Data Centre (CDC). The federal ranking system applies to species that have been assessed by COSEWIC. The CDC and COSEWIC publish lists of species at risk. The DFO aquatic species at risk maps were reviewed to identify potential aquatic species at risk within the vicinity of the Study Area. Aquatic species at risk that could potentially be found within a 1 km radius of the Project area are summarized in Table 1.

Most of the species in Table 1 typically inhabit waters deeper than the Study Area. Based on depth, habitat characteristics present in the Study Area, and known ranges of various at-risk species, the only species with the potential to occur in the Study Area is the stellar sea lion (*E. jubatus*). However, stellar sea lions are infrequent visitors to Burrard Inlet (TWN 2017) and given the limited number of fish observed and the high volume of vessels it is unlikely that stellar sea lions would be present in the Study Area. Based on depth alone, the northern abalone (*H. kamtschatkana*) could potentially be found within the Study Area, however, they inhabit exposed or semi-exposed rocky shorelines (COSEWIC 2009) and are extremely rare due to overharvesting. Abalone require a stable substrate, such as bedrock or large boulders while loose sediment such as cobbles and silt are generally not suitable habitat.

Although the ranges for these species at risk overlap with the Project Area, there is no 'critical habitat' for any aquatic species at risk found within 1 km of the Study Area (DFO 2019a).

Table 1 **Listed aquatic species with the potential to occur within 1 km of the Project Area.**

Scientific Name	Common Name	BC List ¹	SARA Status ²	COSEWIC Status ³
<i>Cetorhinus maximus</i>	Basking Shark	-	Endangered	Endangered
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	Red	Endangered	Endangered
<i>Eschrichtius robustus</i>	Grey Whale	Blue	Special Concern	Special Concern / Endangered
<i>Eumetopias jubatus</i>	Steller Sea Lion	Blue	Special Concern	Special Concern
<i>Galeorhinus galeus</i>	Tope	-	Special Concern	Special Concern
<i>Haliotis kamtschatkana</i>	Northern Abalone	Red	Endangered	Endangered
<i>Hexanchus griseus</i>	Bluntnose Sixgill Shark	-	Special Concern	Special Concern
<i>Megaptera novaeangliae</i>	Humpback Whale	Blue	Special Concern	Special Concern
<i>Orcinus orca</i>	Killer Whale (Transient population)	Red	Threatened	Threatened
<i>Orcinus orca</i>	Killer Whale (Southern Resident population)	Red	Endangered	Endangered
<i>Phocoena vomerina</i>	Harbour Porpoise	Blue	Special Concern	Special Concern
<i>Sebastes ruberrimus</i>	Yelloweye Rockfish	-	Special Concern	Special Concern
<i>Sebastes</i> sp. type I	Rougheye Rockfish type I	-	Special Concern	Special Concern
<i>Sebastes</i> sp. type II	Rougheye Rockfish type II	-	Special Concern	Special Concern
<i>Sebastolobus altivelis</i>	Longspine Thornyhead	-	Special Concern	Special Concern

¹ BC List: Red = species that are extirpated, endangered, or threatened; Blue = species that are of special concern.

² Schedule 1 of SARA is the official list of species at risk in Canada. It includes species that are extirpated, endangered, threatened, and of special concern; however, the general prohibitions do not apply to species of special concern.

³ COSEWIC is an independent advisory panel to the Minister of Environment and Climate Change Canada that meets twice a year to assess the status of wildlife species at risk of extinction. It includes species that are extirpated, endangered, threatened, and of special concern.

6.0 POTENTIAL IMPACTS

This section provides a screening-level identification and review of potential adverse biophysical effects due to the activities. All the listed potential impacts are related to Barge salvage activities.

Potential salvage-related impacts include:

- Temporary and short-term impacts to water quality through disturbance of sediment;
- Impacts to water quality through accidental spills (e.g., fuel and oil for machinery) or increased debris (e.g., steel cuttings) during works;
- Temporary and short-term changes in habitat use by fish or marine mammals due to increased noise and light, relocation of boulders, and movement of the Barge; and
- Accidental mortality of fish or wildlife through direct contact.

7.0 AVOIDANCE AND MITIGATION MEASURES

This section outlines recommended avoidance and mitigation measures to be incorporated in the design and planning of the barge removal, including BMPs and other mitigations that will be implemented during Project works. A brief introductory summary of the activities, potential effects of those activities and the recommended mitigation measures is provided in Table 2. Full mitigation and monitoring requirements are outlined in the Environmental Management Plan (EMP).

Table 2 Summary of activities, potential effects, and proposed mitigations.

Activity	Potential Effect	Mitigation and Monitoring
Vibratory pile driving	Increased underwater noise for fish and marine mammals	<ul style="list-style-type: none"> Conduct Environmental Monitoring; Conduct hydroacoustic monitoring; Conduct Marine Mammal Observation; Implement soft start procedures; Follow suggested timing / least risk window; and Use bubble curtain (if required based on sound levels).
	Increased turbidity in the water column affecting fish and invertebrates	<ul style="list-style-type: none"> Conduct Environmental Monitoring; Conduct water quality monitoring; Follow suggested timing / least risk window; and Follow ESC BMP's.
Temporarily relocating boulders	Impacts to encrusting organisms on the boulders	<ul style="list-style-type: none"> Temporarily relocate boulders to a similar water depth.
	Direct contact of boulders with fish and marine mammals	<ul style="list-style-type: none"> Follow BMPs for boulder relocation including placing boulders on seabed (i.e. not dropping from any height).
	Increased turbidity in the water column affecting fish and invertebrates	<ul style="list-style-type: none"> Conduct Environmental Monitoring; Follow suggested timing / least risk window; and Conduct water quality monitoring.
Barge deconstruction	Increased debris (e.g., steel cuttings, concrete pieces) in the marine environment	<ul style="list-style-type: none"> Barge bin walls shall be maintained during concrete removal activities for containment; Suspended drop cloths and physical barriers shall be used to catch debris; Torch cutting should blow steel debris inwards, towards barge deck; and Following barge removal, magnets shall be used across the Project footprint to reclaim any residual steel cuttings.
Using land-based construction equipment	Damage to riparian habitat	<ul style="list-style-type: none"> Follow spill management plan; Avoid disturbing riparian habitat; and Follow vegetation management plan if riparian habitat cannot be avoided.
Operating heavy machinery in and near water	Leaks and spills impacting aquatic or terrestrial life and habitat	<ul style="list-style-type: none"> Follow spill management plan.
	Direct contact with aquatic life and aquatic habitat	<ul style="list-style-type: none"> Conduct Marine Mammal Observation; Implement soft start procedures; and Follow BMPs for spud placement and movement.

8.0 POTENTIAL FOR DEATH OF FISH AND HADD

The *Fisheries Act* requires that Project works, undertakings or activities avoid causing;

- The death of fish by means other than fishing; and
- Harmful Alteration, Disruption and Destruction (HADD) unless authorized by the Minister of DFO.

HADD is interpreted as “any temporary or permanent change to fish habitat that directly or indirectly impairs the habitat’s capacity to support one or more life processes of fish” (DFO 2019b).

Fish habitat is defined in subsection 2(1) of the *Fisheries Act* to include all waters frequented by fish and any other areas upon which fish depend directly or indirectly to carry out their life processes. The types of areas that can directly or indirectly support life processes include but are not limited to spawning grounds and nursery, rearing, food supply and migration areas. DFO interprets HADD as any temporary or permanent change to fish habitat that directly or indirectly impairs the habitat’s capacity to support one or more life processes of fish (DFO 2019b).

The barge, in its current position, is occupying marine habitat on the seabed and in the water column, so the priority is to remove it and, if necessary, restore the habitat beneath it. If the measures proposed in the EMP are implemented and followed, Hatfield is of the opinion that the Project is unlikely to directly or indirectly result in HADD or death of fish.

9.0 SUMMARY AND CONCLUSIONS

Vanpile intends to remove the Barge that became grounded on Sunset Beach in English Bay, BC. The removal of the Barge involves disassembling the Barge *in situ* and transporting the components to an appropriate facility for steel recycling. Hatfield has conducted a subtidal video survey and intertidal habitat assessment of the area with the potential to be impacted by the salvage activities. There are certain activities such as, but not limited to, pile driving, relocation of boulders, and cutting of the barge, that have the potential to affect fish and fish habitat. Hatfield has developed mitigations and monitoring recommendations in the Project EMP related to the proposed construction activities. If the mitigation and monitoring requirements outlined in the EMP are implemented and followed, Hatfield is of the opinion that the Project is unlikely to directly or indirectly result in HADD or death of fish. The habitat beneath the barge will be assessed after the Barge has been removed and recommendations about potential restoration of habitat will then be provided.

10.0 REFERENCES

- Bates C. 2004. An Introduction to Seaweeds in BC.
<https://www2.unb.ca/chopinlab/misc/content/Bates2004.pdf>.
- COSEWIC. 2009. Committee on the Status of Endangered Wildlife in Canada Assessment and Status Report on the Northern Abalone *Haliotis kamtschatkana* in Canada.
https://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_northern_abalone_0809_e.pdf.
- DFO. 2019a. Aquatic species at risk map. <https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html>.
- DFO. 2019b. Fisheries and Oceans Canada Fish and fish habitat protection policy statement.
<https://www.dfo-mpo.gc.ca/pnw-ppe/policy-politique-eng.pdf>.
- Government of Canada. 2021. Species at Risk public registry. <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>.
- IBA Canada. 2021. IBA Summary - English Bay, Burrard Inlet & Howe Sound Vancouver, British Columbia.
<https://www.ibacanada.com/site.jsp?siteID=BC020>.
- Levings C, Stein J, Samis S. 2004. Introduction to the PICES practical workshop: objectives, overview of the study area, and projects conducted by the participants. Marine environmental research. 57(1–2):3–18.
- Levy S. 1997. Pacific salmon bring it all back home. American Institute of Biological Sciences. 47(10): 657–660.
- Naito B, Hwang J. 2000. Timing and distribution of juvenile salmonids in Burrard Inlet, BC, February to August 1992. Minister of Supply and Services, Department of Fisheries and Oceans.
- ShoreZone. 2017. ShoreZone <http://www.coastalandoceans.com/>.
<https://www.flickr.com/photos/132870913@N05/35501914404/in/photostream/>.
- TWN. 2017. Burrard Inlet action plan. Kerr Wood Leidal.
- Wild Ocean Whale Society. 2021. Sightings map. <https://wildoceanwhale.org/sightings>.
- WorleyParsons. 2010. 2010 Stanley Park/English Bay Seawall Reconstruction Marine Environmental Assessment.

From: "Jesse Percy" <Jesse.Percy@carlsoncg.com>
To: "Khella, Harry" <Harry.Khella@vancouver.ca>
CC: "Domes, Krystyna" <Krystyna.Domes@vancouver.ca>
"Tait, Godfrey" <Godfrey.Tait@vancouver.ca>
"Guerette, Jeannine" <Jeannine.Guerette@vancouver.ca>
"Jenn Wint" <jenn@wintcommunications.com>
"Ian Purvis" <Ian.Purvis@carlsoncg.com>
"Gandha, Amit" <Amit.Gandha@vancouver.ca>
Date: 4/27/2022 11:19:31 AM
Subject: Re: [EXTERNAL] Canceled: Barge Removal - Project Team Regroup

Thanks Harry

Works for me.

Thanks

Jesse

Sent from my iPhone

> On Apr 27, 2022, at 11:11 AM, Khella, Harry <Harry.Khella@vancouver.ca> wrote:

>

> •Hi All,

>

> Unless there are specific agenda items that VDPL would like to go through, I propose our scheduled meeting for today is stood down. Final PB/CoV sign off on the updated notification and signage products will be provided shortly.

>

> Thanks,

>

> Harry

>

>

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any use of this communication by an unintended recipient is strictly prohibited. If you have received this email in error, any publication, use, reproduction, disclosure or dissemination of its contents is strictly prohibited. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system