# **Protected Species Monitoring Final Report**

Turnagain Marine Construction
Whittier Head of the Bay Cruise Ship Dock Project
Passage Canal, Whittier, Alaska

August 2024

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## **TABLE OF CONTENTS**

1	OVE	RVIEW	1
	1.1	PROJECT OVERVIEW AND LOCATION	2
2	MAF	RINE MAMMAL MONITORING METHODS	6
3	RESU	JLTS	8
	3.2	GENERAL MONITORING AND CONSTRUCTION ACTIVITIES	8
	3.2	WEATHER PARAMETERS AND WATER CONDITIONS	. 10
	3.3	MARINE MAMMAL MONITORING RESULTS	. 11
	3.3.2	l Overview	. 11
	3.3.2	2 Summary by Month	. 12
	3.3.3	Summary by Species	. 14
	3.3.4	Take Summary	. 18
4	REF	ERENCES	. 20
LI	ST OF	FIGURES	
Fi	gure 1.	Whittier Head of the Bay Project Location in Whittier, Alaska	3
Fig	gure 2.	Whittier Head of the Bay Project PSO Locations – Summer	7
Fi	gure 3.	Whittier Head of the Bay Project PSO Locations – Winter	7
Fi	gure 4.	Recorded Marine Mammal Sightings During the Whittier Head of the Bay Project IHA #1	. 19
LI	ST OF	TABLES	
Ta	ble 1. A	Authorized Incidental Take for the Whittier Head of the Bay Project IHA #1	1
		Pile Size, Quantity, and Installation Method Used in the IHA #1 Application, Installed Under IH 1, 2023 to March 31, 2024), and Expected Under IHA #2 (April 1, 2024 to March 31, 2025)	
Ta	ble 3. S	hutdown and Monitoring Zones Under IHA #1 (April 1, 2023 to March 31, 2024)	5
Ta	ble 4. L	evel A Zones on Days Exceeding the Estimated Daily Allotted Minutes During IHA #1	. 10
Ta	ble 5. E	nvironmental Conditions – Monthly Averages Recorded by PSOs During IHA #1	. 11
Ta	ıble 6. H	Humpback Whale Sightings and Takes per Month During IHA #1	. 14
Ta	ıble 7. k	Ciller Whale Sightings and Takes per Month During IHA #1	. 15
Ta	ble 8. F	Harbor Seal Sightings and Takes Per Month IHA #1	. 16
Ta	ble 9. S	iteller Sea Lion Sightings and Takes Per Month During IHA #1	. 17
Ta	ble 10.	Beluga Sightings Per Month During IHA #1	. 17
Ta	ble 11.	Total Takes During IHA #1	. 18

## **ATTACHMENTS**

Attachment A. Marine Mammal Monitoring and Mitigation Plan

Attachment B: Marine Mammal Sighting and Pile Driving Data, May 2023 through March 2024

Attachment C: Marine Mammal Observation Record Forms, May 2023 through March 2024 Attachment D: Letter Regarding Geotechnical Conditions at the Project Site from Shannon &

Wilson

## 1 OVERVIEW

The National Marine Fisheries service (NMFS) granted Turnagain Marine Construction (TMC) an Incidental Harassment Authorization (IHA) for the Whittier Head of the Bay Cruise Ship Dock Project in Passage Canal, Whittier, Alaska on March 29, 2023. The IHA was valid from April 1, 2023 to March 31, 2024. Work under this IHA began in May 2023 and continued until the IHA expiration date of March 31, 2024. The work is ongoing under a second IHA issued March 28, 2024 (valid April 1, 2024 to March 31, 2025), but this final report is being submitted to close out work completed under the first IHA. Once construction is complete, a final report will be submitted to close out work completed under the second IHA.

Under the IHA, NMFS granted Level A and Level B incidental harassment, or 'take', of a small number of five species occurring in Passage Canal. Level A take was granted for Dall's porpoises (*Phocoenoides dalli*) and harbor seals (*Phoca vitulina*), and Level B take was granted for humpback whales (*Megaptera novaeangliae*), killer whales (*Orcinus orca*), Dall's porpoises, Steller sea lions (*Eumetopias jubatus*), and harbor seals (Table 1).

The takes granted for this project were generated based upon stock assessments completed by NMFS and direct consultation with NMFS. Action areas were based off of construction methods and drafted in consultation with NMFS during the IHA application process. Mitigation included NMFS-approved protected species observers (PSOs) monitoring the Level A and Level B harassment zones, recording species, and shutting down pile driving if the abovementioned species or any other marine mammal species entered or appeared likely to enter a designated shutdown zone. Takes associated with the project were very low during the time period covered by the first IHA. There have been a total of 27 Level B takes for just 2 species from May 17, 2023 to March 31, 2024. See Section 3.3.

Table 1. Authorized Incidental Take for the Whittier Head of the Bay Project IHA #1

Species	Stock/Distinct Population Segment (DPS)	Level A Take	Level B Take
Lumphack	Hawaii DPS	0	22
Humpback Whale	Western North Pacific DPS	0	1
vviiaie	Mexico DPS	0	2
Dall's Porpoise	Alaska	9	36
	Alaska Resident	0	116
Killer Whale	Gulf of Alaska/Aleutian Islands/Bering Sea	0	29
	Transient		
Harbor Seal	Prince William Sound	40	170
Steller Sea Lion	Western US	0	218

(Source: NMFS 2023)

This document's purpose is to meet the final monitoring reporting required by NMFS in the IHA issued to TMC under the authority of Section 101 (a)(5)(D) of the Marine Mammal Protection Act.

## 1.1 PROJECT OVERVIEW AND LOCATION

The project was conducted in Passage Canal, approximately 1.2 kilometers (km) northwest of downtown Whittier, Alaska (Figure 1). Piles were installed using a vibratory hammer, an impact hammer, and a down-the-hole drill (DTH). Table 2 shows the presumed pile quantities and sizes that were used to model sound isopleths and monitoring zones for the IHA application, and shows the number and size of piles that will be installed over the course of the project (under both IHA #1 and IHA #2). Over the course of the first IHA, 42-inch piles were not installed; 36-inch piles were used in their place but 48-inch pile sound isopleth zones were monitored for marine mammals (see Section 2). Not all project piles were installed within the duration of this IHA. Between May 2023 and March 2024, forty-five (45) 36-inch piles and twelve (12) 48-inch piles were successfully installed. Installation of 3 other 36-inch piles was initiated but not completed during this time period. See **Error! Reference source not found.** and Table 3.

Each method of pile driving requires varying monitoring zones (Level B harassment) and shutdown zones (Level A harassment) depending on pile sizes. As an additional precaution, any piles that were driven at a depth of 60 feet or less were surrounded by a bubble curtain for sound attenuation. Pile driving activities occurring in depths of 60 feet or less were designated as "area 1" and pile driving activities occurring in depths of greater than 60 feet were designated as "area 2." These two areas had different monitoring and shutdown zones.



Figure 1. Whittier Head of the Bay Project Location in Whittier, Alaska

Table 2. Whittier Head of the Bay Project Pile Size, Quantity, and Installation Method Used in the IHA #1 Application, Installed Under IHA #1 (April 1, 2023 to March 31, 2024), and Expected Under IHA #2 (April 1, 2024 to March 31, 2025).

	Temp Pile Installation	Temp Pile Removal	36-Inch Perm Pile Installation	42-Inch Perm Pile Installation	48-Inch Perm Pile Installation
	Pile Sizes and Quantitie	s Used in the IH	A #1 Application		
# of Piles	72	72	36	16	20
Diameter of Steel Pile (inches)	36	36	36	42	48
Pile Sizes and	l Quantities Installed Ur	nder IHA #1 (Ap	ril 1, 2023 to March	31, 2024)	
# of Piles	57	57	45	0	12
Diameter of Steel Pile (inches)	36	36	36	42	48
Pile Sizes and Quantities Expected Under IHA #2 (April 1, 2024 to March 31, 2025)					
# of Piles	15	15	7	0	8
Diameter of Steel Pile (inches)	36	36	36	42	48

Table 3. Shutdown and Monitoring Zones for NMFS-Managed Species During the Whittier Head of the Bay Project Under IHA #1 (April 1, 2023 to March 31, 2024)

Tread of the Bay Froject	Minimum Shutdown Zones in Meters Harassme					Harassment
Activity	Low-Frequency	Mid-Frequency	High-Frequency	Phocid	Otariid	Zone in
Activity	(LF) Cetaceans	(MF) Cetaceans	(HF) Cetaceans	(PW)	(OW)	Meters
Barge movements, pile positioning, etc.	10	10	10	10	10	
	Area 1 (bubble o	curtain in use; de	oths of 60 feet or	less)		
36-in steel pile, vibratory installation (temporary)	10	10	10	10	10	5,415
36-in steel pile, vibratory removal (temporary)	10	10	10	10	10	5,415
36-in steel pile, DTH installation (temporary)	700	35	825	370	35	16,345
36-in steel pile, vibratory installation (permanent)	10	10	10	10	10	5,415
36-in steel pile, impact installation (permanent)	2,055	80¹	2,400	1,100	80	635
36-in steel pile, DTH installation (permanent)	800	35	1,000	430	35	16,345
	Area 2 (no bubb	le curtain; depths	s greater than 60	feet)		
36-in steel pile, vibratory installation (temporary)	35	35	35	15	15	11,660
36-in steel pile, vibratory removal (temporary)	35	35	35	15	15	11,660
36-in steel pile, impact installation <sup>1</sup>	6,575	260²	7,830	1,360 <sup>3</sup>	260	3,745
36-in steel pile, DTH installation <sup>1</sup>	1,770	70 <sup>2</sup>	2,055	925	70	16,345
48-in steel pile, vibratory installation	35	35	35	15	15	16,345
48-in steel pile, impact installation	5,015	200 <sup>2</sup>	5,975	1,360 <sup>3</sup>	200	3,745
36-in steel pile, DTH installation (temporary)	1,485	70	1,770	795	70	16,345
48-in steel pile, DTH installation	5,050	200	6,015	1,360	200	16,345

(Source: NMFS 2023)

<sup>&</sup>lt;sup>1</sup>Although project design called for 42-inch piles, they were downsized to 36-inch piles for project construction. In those instances where 42-inch were downsized (installation of the mooring trestle), the PSOs monitored to these distances shown for 42-inch piles even though 36-inch piles were installed.

<sup>&</sup>lt;sup>2</sup>TMC elected to conservatively apply thresholds for HF cetaceans to killer whales for impact pile driving. This species is an infrequent visitor to Passage Canal and is often highly visible, allowing for easier application of more conservative shutdown zones. This measure reduced potential impacts to the highly vulnerable AT-1 killer whale stock that is found in this region should they enter Passage Canal during the in-water work period.

<sup>&</sup>lt;sup>3</sup>For phocids (harbor seals) only, the Level A shutdown zone was reduced to 1,360 meters for impact pile driving of 42- and 48-inch piles to exclude the Whittier Public Boat Harbor.

## 2 MARINE MAMMAL MONITORING METHODS

The PSO monitoring guidelines followed the mitigation measures detailed in the NMFSauthorized IHA and biological opinion to minimize impacts to marine mammals in the project vicinity. Visual observations allowed for adherence to the shutdown areas and collection of data to meet reporting requirements. The original project design anticipated needing 42-inch piles to support the mooring trestle; however, these were downsized to 36-inch piles in final design. During installation of the downsized piles for the mooring trestle, the PSOs monitored according to the 42-inch zones (Table 3). During construction, NMFS-authorized PSOs scanned the area for marine mammals, recorded and reported sightings, and implemented mitigation measures from four monitoring locations in accordance with the IHA. The PSOs performed a 30minute watch prior to the start and at the conclusion of any in-water work and continually observed the areas while all in-water work occurred. The PSOs were positioned to collectively monitor each monitoring and shutdown zone to the greatest extent possible. From the start of construction in mid-May 2023 to mid-October 2023, the PSOs operated with three land-based PSO stations and one marine-based PSO station on a boat transect in Passage Canal (Figure 2). In September 2023, the construction crew expressed concern that the boat transect station would be difficult and unsafe in Passage Canal during the winter. NMFS approved the discontinuation of the boat station in October; it was moved to a land-based location farther along Shotgun Cove Road past PSO Station 3 (approximately 5,000 meters from the work site) on October 12, 2023. Additionally, as Shotgun Cove Road is not maintained in winter, both PSO Station 3 and Station 4 were moved on November 14, 2023, to accessible locations in Whittier where they remained through the end of this first IHA period (March 31, 2024). See Figure 3 below.

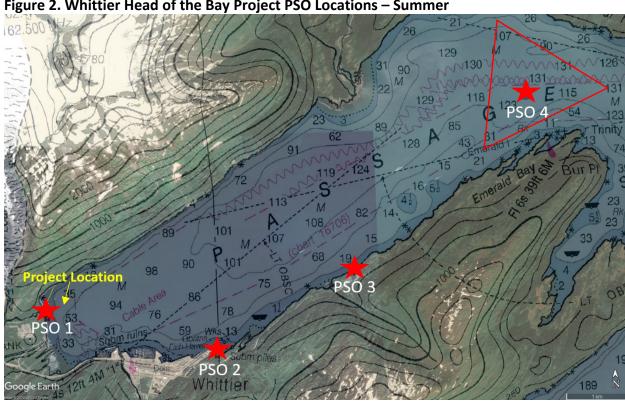
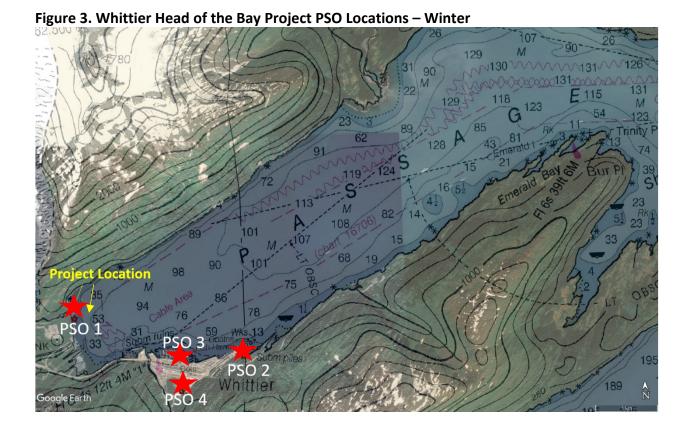


Figure 2. Whittier Head of the Bay Project PSO Locations - Summer



The PSOs were equipped with binoculars, a rangefinder, and 2-way radios. The lead observer was also equipped with a cell phone to communicate with the field engineer. When PSO Station 4 moved to the winter location, a spotting scope and tripod were added to the field equipment employed during monitoring. Guidelines for observers to mitigate for fatigue were closely followed. If a marine mammal was sighted, the observer would identify and record the species. If the marine mammal appeared to be likely to enter a shutdown area, the superintendent was notified and in-water work was halted and/or delayed until the marine mammal left the area, or until 15 minutes (pinnipeds) or 30 minutes (cetaceans) had passed after the last sighting within or near the action area.

The PSOs recorded the following information for each protected species observation:

- Species, date, and time for each sighting event
- Number of animals per sighting event
- Primary and, if observed, secondary behaviors of the marine mammal
- Distances of the observed animals from the monitoring location or the project site
- Time of the most recent pile driving activity or other project activity prior to sighting
- Weather and water conditions (i.e., sea state, visibility, lighting conditions, etc.)

When a protected species was observed, distance estimates were made using a rangefinder, the naked eye, and by relating the animal's proximity to an object at a known distance. Species, age, and sex were determined, when conditions and distance allowed, by observing anatomical features and behaviors. Identifications were confirmed and recorded.

Based on location, timeframe, behavior, and movement tracking, observers determined whether an individual or group was resighted. If a resighting occurred, a note was made on the sighting form. If the PSO could not determine if a resighting of an individual or group occurred, a new sighting (and a new take, if appropriate) was counted.

A detailed description of monitoring methods is documented in the Marine Mammal Monitoring and Mitigation Plan for the project (Attachment A).

## 3 RESULTS

#### 3.1 GENERAL MONITORING AND CONSTRUCTION ACTIVITIES

A total of 132 days of monitoring occurred for 127 days of in-water work between May 17, 2023 and March 31, 2024; 5 of the monitoring days did not end up having any pile driving or inwater activities. During that time, forty-five 36-inch permanent piles were installed to complete the approach trestle (33) and part of the mooring trestle (12). Twelve 48-inch permanent piles were installed to complete the two reaction dolphins. These were installed using a combination of a vibratory hammer, impact hammer, and DTH drill. Fifty-five 36-inch temporary piles were installed and subsequently removed using a vibratory hammer to support installation of the permanent piles.

Four PSOs were on duty during every day of pile driving activities. Attachment B contains tabular data for each daily observation period in three different formats: a log of construction activity and marine mammal sightings for each PSO shift; a log of pile driving details for each date; and a log of pile driving method and approximate time by method for each pile. As much as possible, the total time for vibratory installation and DTH drilling was recorded for each pile and an average number of impacts per pile are given in Attachment B. Attachment C is the compilation of all hand-written marine mammal observation records over the course of this IHA.

Conditions for pile driving at the project site proved to be very difficult and unexpected based on the preliminary survey performed at the site (see Attachment D). On average, pile driving times stayed within the expected range for vibratory installation and removal of the 36-inch temporary piles and for the vibratory installation of the 36-inch and 48-inch piles. However, due to difficult benthic conditions, increases in impact strikes per pile and DTH drilling time were required. Installation of the approach trestle (pile numbers A1-x and A2-x) required an average of 1,200 strikes per pile while installation of the transfer span (T1-x, T2-x, and T3-x) and float restraint dolphins (R1-x, R2-x, and R3-x) required between 2,000 and 4,500 strikes per pile. During the months of May 2023 through March 2024, there was an increase in average time spent DTH drilling both the 36-inch and 48-inch piles. The average time was 367 minutes for the 36-inch piles and 397 minutes for the 48-inch piles, which exceeded the expected 150 minutes per pile under IHA #1. In order to not surpass the 300-minute daily limit, DTH drilling work on some piles was split up over several days. On five days (June 4, 2023; September 2, 2023; September 4, 2023; September 15, 2023; and October 12, 2023), the construction crew surpassed the 300-minute daily limit for DTH and on one day (September 5, 2023), the daily limit for vibratory hammer operation (40 minutes) was exceeded. On those days, the Level A zone was increased to account for the extended drilling time as shown in Table 4.

- June 4: Drilling occurred for approximately 495 minutes. No marine mammals were seen over the entire day of monitoring.
- September 2: Drilling occurred for approximately 380 minutes. Four marine mammals were spotted. A harbor seal was seen at 800 meters away from the work zone prior to the start of pile driving activities for the day. A sea otter was seen at 900 meters away from the work zone during a break in drilling. Two Steller sea lions were spotted at 4,100 meters and 4,300 meters away from the work zone during drilling, and both sightings were recorded as Level B takes.
- September 4: Drilling occurred for approximately 360 minutes. One sea otter was spotted, but not taken, during this time; no other marine mammals were seen.
- September 5: The vibratory hammer was operated for a total of 73 minutes to install temporary 36-inch piles in area 1. A harbor seal was observed at 900 meters away from the worksite prior to work beginning for the day, and another was spotted later in the day at 4,000 meters away; neither was taken. A Steller sea lion was observed at 2,400 meters and was recorded as Level B take.
- September 15: Drilling occurred for approximately 465 minutes. One sea otter was spotted but not taken; no other marine mammals were seen.

• October 12: Drilling occurred for approximately 340 minutes. Two sea otters were spotted but not taken. One Steller sea lion was spotted inside the Level B zone at 1,100 meters which was recorded as a Level B take.

Table 4. Level A Zones on Days Exceeding the Estimated Daily Allotted Minutes During the Whittier Head of the Bay Project IHA #1

	Diameter		Level A Shutdown Zone (Meters)				ers)
Activity	of Pile Minutes	Cetaceans		Pinnipeds			
	(inches)		LF	MF	HF	PW	ow
Vibratory – estimated	36 (temp)	40	10	10	10	10	10
DTH – estimated	48	300	5,050	200	6,015	1,360	200
DTH – June 4	48	495	7,046	251	8,392	3,770	275
Distance at which mami	mals were see	n, if any	No sightings				
DTH – Sept 2	48	380	5,907	210	7,036	3,161	230
Distance at which mami	mals were see	n					4,100/4,300
DTH – Sept 4	48	360	5,698	203	6,787	3,049	222
Distance at which mami	mals were see	n, if any	Sea otter only				
Vibratory – Sept 5	36 (temp)	73	17	10	25	10	10
Distance at which mami	Distance at which mammals were seen, if any			Sea otter only			
DTH – Sept 15	48	465	6,758	240	8,050	3,617	263
Distance at which mammals were seen, if any				Sea otter	only		
DTH – Oct 12	48	340	5,485	195	6,533	2,935	214
Distance at which mammals were seen, if any							1,100

## 3.2 WEATHER PARAMETERS AND WATER CONDITIONS

Environmental conditions including weather parameters and water conditions were recorded at the start of each monitoring period and when conditions changed. The sea state, visibility, glare, and weather conditions occasionally varied on a daily basis and between monitoring locations. Weather never impeded the visibility of the Level A shutdown zones during the duration of in-water work. Table 5 provides a general overview of conditions during each month of in-water work. A complete record of daily conditions can be found in Attachments B and C.

Table 5. Environmental Conditions – Monthly Averages Recorded by PSOs During the Whittier Head of the Bay Project IHA #1

Month	Average Temperature <sup>1</sup>	Average Visibility	Beaufort Sea State (range)
2023	•		
May	46.3°F	12,505 meters	0-3
June	53.9°F	11,261 meters	0-4
July	58.1°F	11,698 meters	0-5
August	58.8°F	12,153 meters	0-4
September	48.2°F	11,595 meters	0-3
October	36.1°F	13,394 meters	0-3
November	28.1°F	8,643 meters	0-4
December	16.7°F	14,836 meters	0-2
2024	•		
January	13.0°F	13,497 meters	0-1
February	22.0°F	12,125 meters	1
March	28.8°F	14,527 meters	0-1

<sup>&</sup>lt;sup>1</sup>Average temperature historical data obtained from National Oceanic and Atmospheric Administration (NOAA) 2024.

## 3.3 MARINE MAMMAL MONITORING RESULTS

## 3.3.1 Overview

During the 132 days of monitoring under this IHA, there were 67 days where NMFS-managed species were sighted. Species sighted included humpback whales, killer whales, harbor seals, Steller sea lions, and beluga whales. A total of 49 Level A and 594 Level B takes were authorized. No Level A takes were used and only 27 Level B takes were used, leaving 567 Level B takes and all 49 Level A takes unused. Approximately 12 instances of delays in work were used to mitigate potential take of marine mammals over the time period covered by this IHA. Marine mammals were not observed in any Level A shutdown zones during in-water work activities; therefore, no shutdowns were needed or employed. In general, the PSOs did not report any behavioral reactions from mammals within the action area during pile driving activities. Seals were observed moving farther away from the work gradually during pile driving, and Steller sea lions move fairly quickly (chasing prey) regardless of in-water work occurring.

Out of the five species expected in the action area, only one (Dall's porpoise) was not seen during this time period. One species that was not expected in the action area was seen during monitoring. On November 4, 2023, a group of four beluga whales was seen traveling east approximately 2,200 meters from the work site. The whales were sighted during a break in work, and work was further delayed for 37 minutes after the last sighting of the whales.

## 3.3.2 Summary by Month

#### May 2023

In May 2023, there were two sighting events of harbor seals that occurred over nine days of monitoring. On May 30, a harbor seal milling around within 500 meters of the work site resulted in a 45-minute delay in construction. No Level A or Level B takes occurred.

#### June 2023

A total of 19 sighting events occurred over 17 days of monitoring in June 2023, resulting in one Level B take of a harbor seal. The seal was spotted traveling west along the breakwater of the Whittier Harbor while DTH drilling was occurring. No change in behavior was noted while it was observed. Four instances of delays in work were required in June. A harbor seal was spotted about 600 meters from the worksite prior to the start of pile driving for the day on June 6. The seal moved out of the zone after about 10 minutes and pile driving work started 40 minutes later. A sighting of a humpback whale on June 12 resulted in a 2-hour delay in work while the whale traveled through Passage Canal and out towards Prince William Sound. On June 14, a humpback whale was sighted and work would have been delayed, but since no work was imminent, technically a delay did not occur. Work was delayed for almost 4 hours on June 16 as a humpback whale stayed about 2,000 meters away from the work site, circling and breaching. On June 18, a harbor seal caused a delay in the start of work while it foraged approximately 1,100 meters away from the site. In all of these cases, because work was not started, no changes in behavior was observed. Eleven temporary 36-inch piles, 10 permanent 36-inch piles, and 4 permanent 48-inch piles were installed in June.

## July 2023

Twenty-one sighting events occurred in July over 17 days of monitoring. Two Level B takes were recorded for two harbor seals. One take occurred on July 23 when a harbor seal was spotted looking and milling at about 2,400 meters from the work site where DTH drilling was taking place. The second take was on July 25 about 1,900 meters from the work site, in the same general area. Neither seal exhibited any reactions or change in behavior as a result of the inwater work. Eight temporary 36-inch piles, 16 permanent 36-inch piles, and 3 permanent 48-inch piles were installed in July.

#### August 2023

Thirty sighting events occurred in August over 23 days of monitoring. Six Level B takes were used for harbor seals, and three instances of delays in work occurred this month. On August 8, PSOs recorded a Level B take for a harbor seal that was within the Level B monitoring zone during vibratory pile driving. The seal was looking and milling and was observed multiple times over about two hours. On August 10, the crew impacted two 36-inch piles on the approach trestle and during a break in work, a humpback whale was spotted outside of the monitoring zone. As a result, work was delayed as the whale moved closer to the work site. The whale traveled east out of the zone and work was able to resume after about 4 hours and 20 minutes. On August 18, work was delayed for one hour for a juvenile humpback whale milling around the salmon stream near the work site. A harbor seal was observed about 4,000 meters away from

the work site on August 19 during vibratory installation of a 48-inch pile and was recorded as Level B take. On August 20, a humpback whale was briefly seen traveling east away from the project area. Work was delayed for one hour as a result. After work resumed that same day, two harbor seals were milling approximately 2,700 meters from the site when DTH drilling was occurring and were recorded as Level B take. Two harbor seals were recorded as Level B take in two incidents on August 26. Both were sighted around 2,000 meters from active DTH drilling of a 48-inch pile. No behavior responses from the animals were recorded during any of the Level B takes. Four temporary 36-inch piles, 8 permanent 36-inch piles, and 5 permanent 48-inch piles were installed in August.

## September 2023

Fifty-seven sighting events occurred in September over 22 days of monitoring. Level B takes were recorded for four harbor seals and six Steller sea lions. Two Level B takes were recorded on September 2, but it may have been that the same large male sea lion remained in the area and was exposed two times over the course of a few hours, about 4,000 meters from the work site. A Level B take was recorded for a Steller sea lion and a harbor seal on September 5. On September 12, a Steller sea lion was reportedly foraging, circling, and diving about 700 meters away from where DTH of a 48-inch pile was occurring. The animal stayed in the area surfacing frequently for around 40 minutes. Another Steller sea lion was spotted about 1,200 meters from the work site on September 13 during active vibratory pile driving, and a Level B take was recorded. The sea lion was foraging in the area for about 30 minutes. On September 19, a Level B take was recorded for a harbor seal during impacting of a 36-inch pile; the animal was seen three times over the course of 30 minutes. A harbor seal was sighted 3,000 meters from the work site and was seen surfacing more than 10 times while impact pile driving was occurring on September 21. Another harbor seal was recorded as Level B take on September 25, and a Steller sea lion on September 28, as they were in the monitoring zone during active impacting. Four temporary 36-inch piles, 5 permanent 36-inch piles, and 3 permanent 48-inch piles were installed in September.

#### October 2023

Thirty-four sighting events occurred in October over 21 days of monitoring. Five Level B takes were used for five Steller sea lions. A Steller sea lion was within the Level B zone during DTH drilling of a 48-inch pile on October 12. A group of three Stellers was sighted a few times in the morning of October 24, and were in the Level B zone during drilling activities. They were sighted moving closer to the work area. A work delay of about one hour occurred on October 25 when a group of four killer whales were spotted. The group consisted of two adult and two juvenile whales, circling and breaching every few minutes in Passage Canal. Work resumed after the work delay, but a Steller sea lion was then observed and taken in the Level B zone during impacting. Thirteen temporary 36-inch piles, 9 permanent 36-inch piles, and 3 permanent 48-inch piles were installed in October.

## November 2023

Work occurred on 9 days in November and a total of 10 sightings were recorded. Four Level B takes were recorded (3 Steller sea lions and 1 harbor seal). A harbor seal was seen twice on the

other side of the work site from the PSOs (near the north shore of the bay) on November 1. Level B take was recorded as vibratory pile driving was occurring and the seal was estimated to be 400 meters from the site. Work was delayed on November 4 for about one hour (37 minutes after the last sighting) due to a sighting of a group of four beluga whales and, a short time later, a group of three killer whales. Both groups of whales were milling and traveling east. On that same day, a group of 3 Steller sea lions was observed frequently over the course of about 1 hour and 20 minutes. They were first sighted during the work delay for the beluga whales, and were still in the area when vibratory pile driving resumed, leading to 3 Level B takes. No startle reaction was recorded when work resumed. Five temporary 36-inch piles and 3 permanent 36-inch piles were installed in November.

## December 2023

One sighting of a harbor seal was recorded during five days of work in December. No Level B or Level A takes were recorded. Two permanent 36-inch piles were installed in December.

## January 2024

In January 2024, work took place over seven days of monitoring. No NMFS-managed species were sighted during this month and therefore, no Level B or Level A takes were recorded. One permanent 36-inch pile was installed.

## February/March 2024

No NMFS-managed species were sighted during two days of in-water work in February and two days of in-water work in March. Five temporary and four permanent 36-inch piles were installed in these two months.

## 3.3.3 <u>Summary by Species</u>

## **Humpback Whales**

There were 20 sightings of humpback whales during construction. Six of the 20 sightings of humpbacks required construction delays, equating to about 12 hours and 20 minutes of delayed work. None of the authorized 25 Level B takes were used. No Level A takes or shutdowns were required. Table 6 details sightings and takes per month.

Table 6. Humpback Whale Sightings and Takes per Month During the Whittier Head of the Bay Project IHA #1

Month	Individuals Sighted	Level B Takes
2023		
May	0	0
June	11	0
July	0	0
August	9	0
September	0	0

Month	Individuals Sighted	Level B Takes
October	0	0
November	0	0
December	0	0
2024		
January	0	0
February	0	0
March	0	0
Total	16	0

## Killer Whales

Four killer whales were observed on two of the 132 days of marine mammal monitoring during the project. The pod observed on October 25 was composed of two adults and two juveniles. Construction had not begun at the time of the observation, and was not initiated until one hour had elapsed following the final sighting. On November 4, another group of killer whales, or possibly the same group from the October sighting, was seen. Construction was already delayed for a sighing of a group of beluga whales (see Section 3.3.7). None of the 145 authorized Level B takes for killer whales were used. Table 7 details sightings and takes per month.

Table 7. Killer Whale Sightings and Takes per Month During the Whittier Head of the Bay Project IHA #1

Month	Individuals Sighted	Level B Takes
2023		
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	4	0
November	4	0
December	0	0
2024		
January	0	0
February	0	0

Month	Individuals Sighted	Level B Takes
March	0	0
Total	8	0

## **Harbor Seals**

Harbor seals were sighted frequently during every month of construction. There were 109 total sighting events. Two of the sighting events led to delays in construction, totaling around 90 minutes. A third sighting event would have led to a construction delay, but no construction was imminent at the time of sighting. Twenty-eight of the 618 authorized Level B takes for harbor seals were used. No Level A takes were required. Table 8 details sightings and takes per month.

Table 8. Harbor Seal Sightings and Takes Per Month During the Whittier Head of the Bay Project IHA #1

Month	Individuals Sighted	Level B Takes
2023		
May	3	0
June	6	1
July	11	2
August	17	5
September	18	4
October	5	0
November	4	1
December	1	0
2024		
January	0	0
February	0	0
March	0	0
Total	65	13

## Steller Sea Lions

A total of 56 Steller sea lions were sighted during monitoring efforts. Fourteen of the authorized 218 Level B takes for Steller sea lions were used. No Level A takes or mitigation measures were required.

Table 9 details sightings and takes per month. Solo individuals and pairs were most common; however, a group of three was observed during two days in late fall (October and November).

Table 9. Steller Sea Lion Sightings and Takes Per Month During the Whittier Head of the Bay Project IHA #1

Month	Individuals Sighted	Level B Takes
2023		
May	0	0
June	2	0
July	5	0
August	2	0
September	30	6
October	12	5
November	5	3
December	0	0
2024		
January	0	0
February	0	0
March	0	0
Total	56	14

## **Beluga Whales**

On November 4, 2023, a group of four beluga whales was sighted. Beluga whales were not expected to be seen in Passage Canal and therefore no take of beluga whales was authorized. The whales were sighted during a break in work and further work was delayed for 37 minutes after the last sighting of the whales. The sighting of the belugas was reported to NMFS on December 6, 2023.

Table 10 details sightings and takes per month.

Table 10. Beluga Sightings Per Month During the Whittier Head of the Bay Project IHA #1

Month	Individuals Sighted	Level B Takes
2023		
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0

October	0	0
November	4	0
December	0	0
2024		
January	0	0
February	0	0
March	0	0
Total	4	0

## 3.3.4 Summary

Table 11 summarizes the total take over the course of the construction and the take remaining after the end of this IHA period. Figure 4 shows the location of all recorded marine mammal sightings over the course of IHA #1.

Table 11. Total Takes During the Whittier Head of the Bay Project IHA #1

Species	Level B Authorized	Level B Exposures	Remaining Level B Takes
Humpback Whale	25	0	25
Dall's Porpoise	36	0	36
Killer Whale	145	0	145
Harbor Seal	170	13	157
Steller Sea Lion	218	14	204
Total	594	27	567

Note: no Level A takes occurred

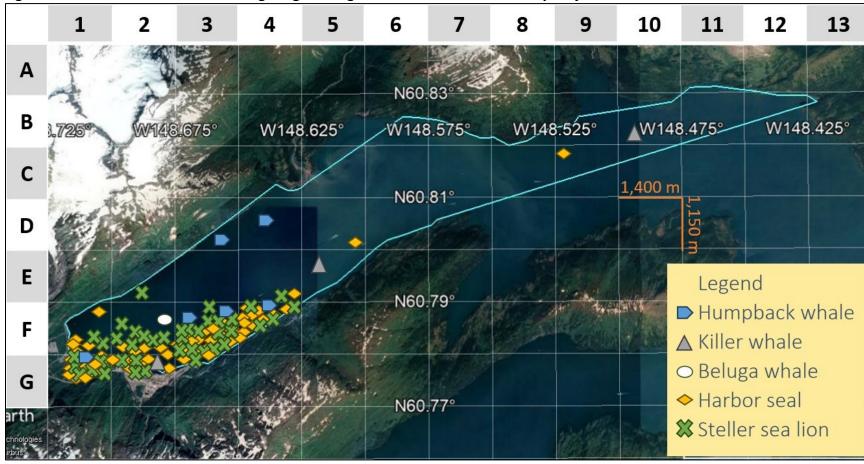


Figure 4. Recorded Marine Mammal Sightings During the Whittier Head of the Bay Project IHA #1

## 4 REFERENCES

National Marine Fisheries Service (NMFS). 2023. Turnagain Marine Construction Whittier Head of the Bay Cruise Ship Dock Project Incidental Harassment Authorization. Issued March 29, 2023.

National Oceanic and Atmospheric Administration (NOAA). 2024. National Weather Service: Climate: NOWData – Monthly Mean Avg Temperature for Anchorage Area, AK. Accessed from https://www.weather.gov/wrh/Climate?wfo=afc on April 11, 2024.

## **Attachment A. Marine Mammal Monitoring and Mitigation Plan**

# Marine Mammal Monitoring and Mitigation Plan Turnagain Marine Construction Whittier Head of the Bay Cruise Ship Dock

Passage Canal, Whittier, Alaska

February 2024

Prepared for: Turnagain Marine Construction 8241 Dimond Hook Drive Anchorage, Alaska 99507

Prepared by:



2607 Fairbanks Street Suite B Anchorage, Alaska 99503

Submitted to: U.S. Fish and Wildlife Service

## **CONTENTS**

NTRODUCTION	Т
PROJECT DESCRIPTION	2
SPECIES COVERED UNDER THE IHA	5
MONITORING AND SHUTDOWN ZONES	5
MITIGATION MEASURES	14
REPORTING	22
FIGURES	
Figure 1. Whittier Head of the Bay Cruise Ship Dock Project Location and Action Area	8
Table 1. Whittier Head of the Bay Cruise Ship Dock Project Pile Detail	5 7

## **APPENDICES**

Appendix A: List of Species with Ranges in the Project Action Area

Appendix B: Construction Activity and Communication Log

Appendix C: Marine Mammal Sighting Forms

Appendix D: Grid Maps

## **ACRONYMS AND ABBREVIATIONS**

4MP Marine Mammal Monitoring and Mitigation Plan

BA Biological Assessment

DPS distinct population segment ESA Endangered Species Act

IHA Incidental Harassment AuthorizationMMPA Marine Mammal Protection ActNMFS National Marine Fisheries Service

NMFS AKR National Marine Fisheries Service Alaska Region

OPR Office of Protected Resources (NMFS)

OSI Offshore Systems, Inc.
PSO protected species observer

rms root mean square SPL sound pressure level

USACE U.S. Army Corp of Engineers
USFWS U.S. Fish and Wildlife Service

WDPS western distinct population segment

## INTRODUCTION

Turnagain Marine Construction (TMC) has been applying the following Marine Mammal Monitoring and Mitigation Plan (4MP) during pile installation/removal during construction of the Whittier Head of the Bay Cruise Ship Dock Project in Whittier, Alaska (Figure 1). The project is in waters of the U.S., within the ranges of marine mammals listed in the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA), and has the potential to generate noise that could exceed Level A and B harassment thresholds established by the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). This 4MP supports the Biological Assessment, in accordance with the ESA, and the Incidental Harassment Authorization (IHA) applications, in accordance with the MMPA (Section 101(a)(5)(D) permitting). Monitoring and shutdown zones will be implemented to minimize Level A and Level B harassment of marine mammals.

The goal of this 4MP is to ensure compliance with the ESA and the MMPA when implemented by the protected species observers (PSOs) at the project site. The project will comply with the terms and conditions outlined in the following requested permits and authorizations:

- U.S. Army Corps of Engineers (USACE), Passage Canal for activities in Waters of the U.S. (POA-2022-00233; issued 3/31/23)
- NMFS Office of Protected Resources (OPR) IHA (issued 4/1/23)
- NMFS Alaska Region, ESA Section 7(a)(2) Biological Opinion (AKRO-2022-02953; issued 3/28/23)
- USFWS Marine Mammal Management IHA (requested)

## PROJECT DESCRIPTION

Under contract with Huna Totem Corporation, Turnagain Marine Construction (TMC) is constructing a cruise ship berth and associated facilities on the western shore of Passage Canal, approximately 1.2 kilometers (km) northwest of downtown Whittier, Alaska (Figure 1).

The completed cruise ship berth will consist of a 500-foot by 70-foot floating dock structure supported by 2 float restraints on either end and 2 mooring dolphins in marine waters that support several marine mammal species. Pile driving may result in auditory injury (Level A harassment) and behavioral harassment (Level B harassment) of select marine mammal species. Construction began in May 2023 and is anticipated to continue through August 2024. After July 2023, remaining pile installation activities are expected to occur for a total of approximately 70 hours over 30 days (not necessarily consecutive days). The project would occur within waters of the United States. No blasting is proposed as part of this project. Table 1 provides a more detailed overview of the project components.

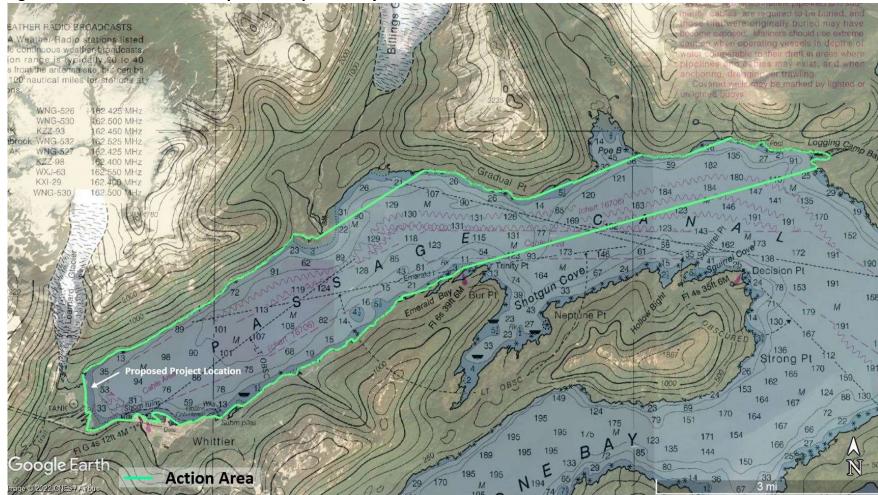


Table 1. Whittier Head of the Bay Cruise Ship Dock Project Pile Size, Quantity, and Installation Method

	Temp Pile Installation	Temp Pile Removal	36-Inch Perm Pile Installation	48-Inch Perm Pile Installation	Totals
# of Piles	15	15	7	8	
Diameter of Steel Pile (inches)	36	36	36	48	
	Vibrator	/ Pile Driving			
Total Quantity	15	15	7	8	
Max # Piles Vibrated per Day	4	4	4	2	
Vibratory Time per Pile (minutes)	10	10	15	15	
Vibratory Time per Day (minutes)	40	40	60	30	
# of Days	3.75	3.75	1.75	4	13.25
Vibratory Time Total (hours)	2.5	2.5	1.75	2	9
	Impact	Pile Driving			
Total Quantity	0	0	7	8	
Max # Piles Impacted Per Day	0	0	4	2	
# of Strikes per Pile	0	0	1,800	2,400	
Impact Time per Pile (minutes)	0	0	45	60	
Impact Time per Day (minutes)	0	0	180	120	
# of Days	0	0	1.75	4	5.8
Impact Time Total (hours)	0	0	5.25	8	13.25
	Down-the	e-Hole Drilling			
Total Quantity	10	0	7	8	
Max # Piles Installed Per Day	4	0	2	2	
Time per Pile (minutes)	60	0	150	150	
Time per Day (minutes)	240	0	300	300	
# of Days	2.5	0	3.5	4	10
DTH Drilling Time Total (hours)	10	0	17.5	20	47.5

## SPECIES COVERED UNDER THE IHA

There are 13 species under NMFS jurisdiction and 1 species under USFWS jurisdiction that have ranges that extend into the project area. Take has been requested for the species known to frequent the area, broken down by stock or distinct population segment (DPS; Table 2).

The shutdown of work following Level B thresholds will occur if any other marine mammal or avian species enters the project action area (Table 3). Other species that may occur are listed in Appendix A.

Table 2. Species Known to Occur in Whittier Head of the Bay Cruise Ship Dock Project Area and Requested Take Types and Numbers (may be updated following issuance of IHAs)

Species	Stock/DPS	Level A	Level B	
	Hawaii DPS	0	22	
Humpback Whale (Megaptera	Western North Pacific	0	1	
novaeangliae)	DPS	U	1	
	Mexico DPS	0	2	
Dall's Porpoise (Phocoenoides dalli)	Alaska	9	36	
	Alaska Resident	0	116	
Killer Whale (Orcinus orca)	Gulf of Alaska Transient	0	29	
	AT1 Transient	0	0	
Harbor Seal (Phoca vitulina)	Prince William Sound	40	170	
Steller Sea Lion (Eumetopias jubatus)	Western DPS (WDPS)	0	218	
Northern Sea Otter ( <i>Enhydra lutris kenyoni</i> )	Southcentral Alaska	17	134	

## MONITORING AND SHUTDOWN ZONES

The harassment zones will be monitored throughout the permitted in-water or over-water construction activity. The following mitigation measures will be taken based on species, inwater activity, and distance of the mammalian or avian species from the project location:

- If a permitted marine mammal enters a Level B monitoring zone, a Level B take will be recorded and animal behaviors documented. Permitted construction activities would continue without cessation unless the animal approaches or enters the shutdown zone.
- If a marine mammal approaches or appears in a Level A shutdown zone, all permitted construction activities will immediately halt until the marine mammal has left the shutdown zone or has not been sighted for 15 minutes (pinnipeds and small cetaceans) or 30 minutes (large cetaceans and sea otters).
- If a non-permitted marine mammal or an avian species approaches or appears in a Level B zone, all permitted construction activities will immediately halt until the animal has left the Level B zone or has not been sighted for 15 minutes (pinnipeds, small cetaceans, and otters) or 30 minutes (large cetaceans and sea otters).

Takes, in the form of Level A or Level B harassment, of marine mammals other than permitted species are not authorized and will be avoided by shutting down construction activities before these species enter the Level B monitoring zone.

Because species are impacted differently by noise, species-specific monitoring and shutdown zones have been calculated for this project. These monitoring and shutdown zones are shown in Table 3.

## **Monitoring Zones**

Level B monitoring zones have been determined based on in-water activity type. For NMFS species, Level B monitoring zones represent areas where the sound pressure levels (SPLs) generated from pile driving activities meet or exceed 120 dB root mean square (rms) during vibratory pile driving and 160 dB rms during impact pile driving. Level B monitoring zones for USFWS species apply to northern sea otters and were established using the USFWS *Observer Protocols for Pile Driving, Dredging, ad Placement of Fill* and the distance at which SPLs meet or exceed 160 dB rms.

These monitoring zones serve as an area within which instances of permitted marine mammal harassment (Level B take) will be documented, if in-water work is actively occurring. Alternatively, for non-permitted marine mammals and avian species, it acts as an area in which in-water work should cease if they approach or appear likely to enter. These Level B zones also allow PSOs to be aware of the presence of permitted marine mammals as they near the shutdown zone and prepare for shutdowns if required.

Level B monitoring/shutdown zones are presented in Table 3 and Figures 2 and 3 below.

Table 3. Whittier Head of the Bay Cruise Ship Dock Project Level B Monitoring and Shutdown Zones a

Source	Humpback Whales	Dall's Porpoises	Harbor Seals	Other NMFS- Jurisdiction Species	Northern Sea Otters	
In-Water Construction Activities						
Barge movements, pile positioning, etc. <sup>b</sup>	10	10	10	10	10	
	Vibrator	y Pile Driving/Rei	moval			
36-inch temporary pile installation	11,660	11,660	11,660	11,660	25	
36-inch temporary pile removal	11,660	11,660	11,660	11,660	25	
48-inch steel permanent installation	16,345	16,345	16,345	16,345	35	
In-air <sup>c</sup> (all pile sizes)	N/A	N/A	70	70	25	
	Im	pact Pile Driving				
48-inch steel permanent installation	5,015 <sup>d</sup>	5,975 <sup>d</sup>	3,745	3,745	3,745	
In-air <sup>c</sup> (all pile sizes)	N/A	N/A	55	55	25	
DTH Drilling						
36-inch temporary pile installation	16,345	16,345	16,345	16,345	70 <sup>d</sup>	
48-inch steel permanent installation	16,345	16,345	16,345	16,345	200 <sup>d</sup>	

<sup>&</sup>lt;sup>a</sup> Distances, in meters, apply to all marine mammal and avian species under NMFS and USFWS jurisdiction. The distances will act as a monitoring zone for species with authorized Level B take and as shutdown distances for species without authorized take, or in the case of humpback whales, during impact pile driving (see note d).

<sup>&</sup>lt;sup>b</sup> Although acoustic injury is not the primary concern with these activities, shutdowns will be implemented to avoid impacts to species.

<sup>&</sup>lt;sup>c</sup> In-air distances apply to marine mammals that spend significant amounts of time hauled out (Steller sea lions and harbor seals) or at the water surface (northern sea otters).

<sup>&</sup>lt;sup>d</sup> For certain species and certain pile driving activities, the Level A shutdown zones are larger than the Level B monitoring zones due to differences in calculation methods used by NMFS. Therefore, the Level B monitoring zones shown here represent the Level A shutdown zone for this activity.

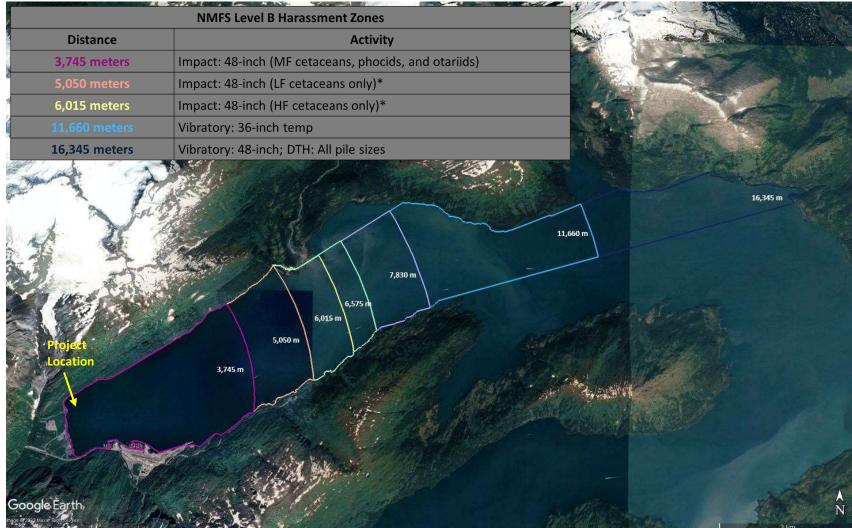


Figure 2. Whittier Head of the Bay Cruise Ship Dock Project Level B Monitoring Zones

<sup>\*</sup>Indicates Level A zone. Where Level A zone radii are larger than the corresponding Level B radii, the Level A zone is shown.

MF = mid-frequency; LF = low-frequency; HF = high-frequency

Figure 3. Whittier Head of the Bay Cruise Ship Dock Project Northern Sea Otters Monitoring Zones

100 N	162	USFWS Level B Harassment Zones		
		Distance	Activity	
		25 meters	Vibratory: 36-inch	
	80/	35 meters	Vibratory: 48-inch	
25m		70 meters	DTH: 36-inch*	
70m	2	200 meters	DTH: 48-inch*	
20011	1,	,360 meters	Impact: 36-inch	
200	3,	,745 meters	Impact: 48-inch	
Project Location		701 P 101 - 75 78	7,745m 108 82 4	
gle Earth 2 CNES / Airbus			2 km	

<sup>\*</sup>Indicates a Level A zone. Where Level A zone radii are larger than the corresponding Level B radii, the Level A zone is shown.

#### **Shutdown Zones**

Shutdown zones are defined as areas where SPLs meet or exceed the level that would cause auditory injury to marine mammals and avian species. Shutdown zones are intended to protect marine mammals and avian species from auditory injury. In-water activities would be halted upon the sighting of a marine mammal or avian species that is in (or anticipated to enter) the shutdown zone.

Further, there will be a nominal 10-meter shutdown zone for construction activity where acoustic injury is not the primary concern. This type of work could include (but is not limited to) the following activities: movement of the barge to the pile location; positioning of the pile on the substrate via a crane (i.e., stabbing the pile); and removal of the pile from the water column/substrate via a crane (i.e., deadpull). For these activities, monitoring would take place starting 15 minutes before initiation and ending when the action is complete. This can be monitored by the vessel operator when a PSO is not present. Radial distances to Level A shutdown zone boundaries are defined in Table 4 and shown in Figures 4 and 5.

Table 4. Whittier Head of the Bay Cruise Ship Dock Project Distances to Level A Shutdown Zones

	Distance (in meters, m) to Level A											
Activity	Low-Frequency (LF) Cetaceans	Mid-Frequency (MF) Cetaceans	High-Frequency (HF) Cetaceans	Phocid	Otariid	Northern Sea Otters						
	lr	n-Water Construction	Activities									
Barge movements, pile positioning, etc. <sup>a</sup> (throughout construction)	10	10	10	10	10	10						
Vibratory Pile Driving/Removal												
36-inch temporary pile installation	35	35	35	15	15	15						
36-inch temporary pile removal	35	35 35		15	15	15						
48-inch steel permanent installation	35	35	35 35		15	15						
		Impact Pile Drivi	ng									
36-inch steel permanent installation	2,055	2,400 <sup>b</sup>	2,400	1,100	80	170						
48-inch steel permanent installation	5,050	6,015 <sup>b</sup>	6,015	1,360°	200	200						
DTH Drilling												
36-inch temporary pile installation	1,485	70	1,770	795	70	70						
48-inch steel permanent installation	5,050	200	6,015	1,360 <sup>1</sup>	200	200						

Shutdown zone distances refer to the maximum radius of the zone and are rounded.

<sup>&</sup>lt;sup>a</sup> Although acoustic injury is not the primary concern with these activities, shutdowns will be implemented to avoid impacts to species. Due to the scale of the figures, this zone is not shown on every figure.

<sup>&</sup>lt;sup>b</sup> TMC has elected to conservatively apply thresholds for HF cetaceans to killer whales for impact pile driving. This species is an infrequent visitor to Passage Canal and is often highly visible, allowing for easier application of more conservative shutdown zones. This measure will reduce potential impacts to the highly vulnerable AT-1 killer whale stock that is found in this region should they enter the Passage Canal during the in-water work period.

<sup>&</sup>lt;sup>c</sup> For phocids (harbor seals) only, the Level A shutdown zone would be reduced to 1,360 m for impact pile driving of 42- and 48-inch piles and DTH drilling of 48-inch piles to exclude the Whittier Public Boat Harbor.

Figure 4. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones

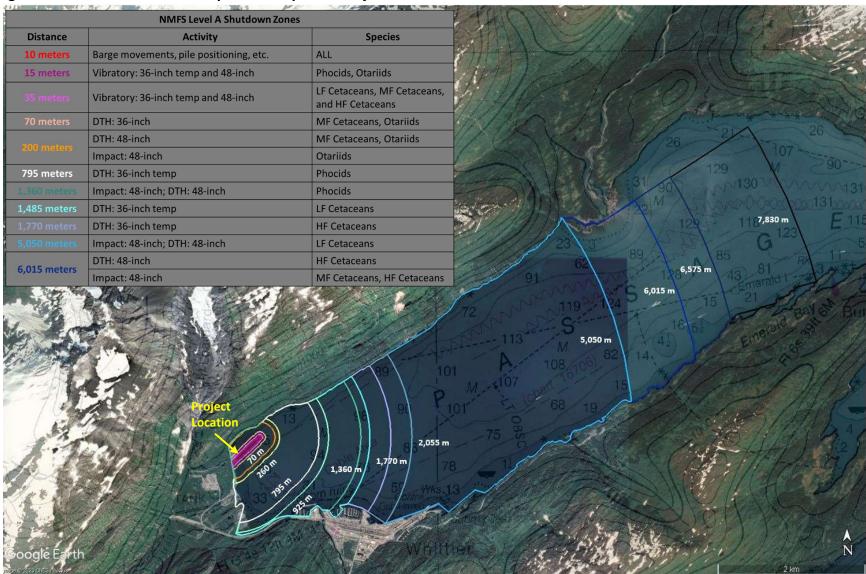
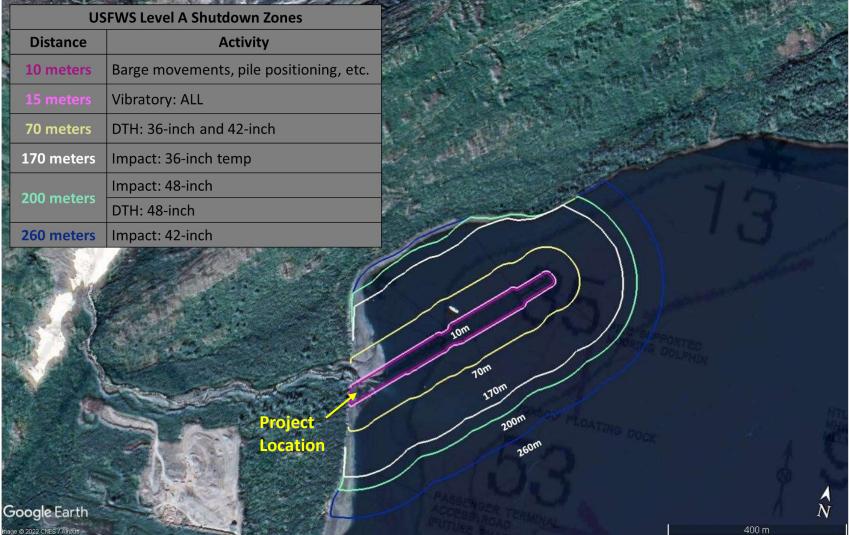


Figure 5. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones for Northern Sea Otter



#### MITIGATION MEASURES

The purpose of a marine mammal monitoring plan is to observe for marine mammals and avian species in the area where potential sound effects may occur. Work will be stopped or delayed if a non-permitted marine mammal or avian species is sighted in the Level B monitoring area or Level A shutdown area. Work will not begin or resume until the marine mammal or avian species has moved out of the monitoring area on its own accord.

The following mitigation measures will be implemented during in-water activities to limit impacts to marine mammals and avian species, including ESA-listed species.

#### **General Conditions and Requirements**

- Turnagain will employ a 60-foot-deep bubble curtain during installation (all pile driving methods) of piles occurring at the 60-foot isobath or shallower. This includes all temporary and permanent piles to support the approach trestle (Area 1). Through consultation and coordination with NMFS, a 5 dB reduction would be applied to the estimated sound source levels for driving these piles only with a subsequent reduction in Level B monitoring zones and Level A shutdown zones.
- Turnagain will attempt to minimize the use of an impact hammer to the extent possible by utilizing a vibratory hammer to advance the piling as deep as possible prior to switching to impact driving.
- Turnagain will also employ pile caps and the 60-foot-deep bubble curtain during impact
  pile driving to reduce noise impacts. Sound source levels used in the application to
  estimate sound isopleths and action areas were not reduced due to use of either the
  pile caps or bubble curtain when depths were greater than 60 feet.
- Pile caps (pile softening material) will be used to minimize noise during impact pile
  driving. Much of the noise generated during pile installation comes from contact
  between the pile and the steel template used to stabilize the pile. The contractor will
  use high-density polyethylene or ultra-high-molecular-weight polyethylene softening
  material on all templates to eliminate steel-on-steel noise.
- The contractor is required to conduct briefings for construction supervisors and crews and the monitoring team prior to the start of all pile driving activity, and upon hiring new personnel, to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures.
- The contractor is required to employ PSOs during all in-water construction activities.
- Marine mammal monitoring must take place starting 30 minutes prior to initiation of inwater work and ending 30 minutes after completion of in-water work. In-water work may commence when observers have declared the appropriate zones clear of marine mammals or avian species. In the event of a delay or shutdown of activity resulting from marine mammals or avian species in the shutdown zone (Table 4), their behavior must be monitored and documented until they leave of their own volition, at which point the activity may begin or resume.

- In-water work must be halted or delayed if a marine mammal or avian species is
  observed entering or within an established shutdown zone (Table 4). Pile driving may
  not commence or resume until either: the animal has voluntarily left and has been
  visually confirmed beyond the shutdown zone; 15 minutes have passed without
  subsequent observations of small cetaceans and pinnipeds; or 30 minutes have passed
  without subsequent observations of large cetaceans or sea otter.
- The contractor must use soft start techniques when impact pile driving.
- In-water work must be delayed or halted immediately if a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized takes are met, is observed approaching or within the monitoring zone (Table 3). Activities must not start or resume until the animal has been confirmed to have left the area or the observation time period, as indicated in the conditions above, has elapsed.
- In-water work would only occur during daylight hours.
- Should light or environmental conditions deteriorate such that marine mammals within
  the entire largest Level A shutdown zone would not be visible (e.g., fog, heavy rain), pile
  driving and removal must be delayed until the PSOs are confident marine mammals or
  avian species within the shutdown zone could be detected.
- PSOs will work in shifts lasting no longer than 4 hours with at least a 1-hour break between shifts, and will not perform PSO duties for more than 12 hours in a 24-hour period (to reduce PSO fatigue).

#### Observer Qualifications and Requirements

- Visual acuity in both eyes (correction is permissible) sufficient to discern moving targets
  at the water's surface and ability to estimate target size and distance. Use of binoculars
  and/or spotting scope may be necessary to correctly identify the target.
- Advanced education in biological science, wildlife management, mammalogy or related fields (Bachelor's degree or higher is preferred), or equivalent Alaska Native traditional knowledge. PSOs may substitute education or training for experience.
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
- Experience or training in field identification of marine mammals (cetaceans and pinnipeds).
- Training, knowledge of or experience with vessel operation and pile driving operations sufficient to provide personal safety during observations.
- Writing skills sufficient to prepare a report of observations. Reports should include: the number, type, and location of marine mammals observed; the behavior of marine mammals in the area of potential sound effects during construction; dates and times when observations and in-water construction activities were conducted; dates and

times when in-water construction activities were suspended because of marine mammals; etc.

- Ability to communicate orally as needed, by radio or in person, with project personnel to provide real time information about marine mammals observed in the area.
- PSOs must be independent (*i.e.*, not construction personnel) and have no other assigned tasks during monitoring periods.
- A lead observer or monitoring coordinator must be designated if a team of three or more PSOs are required. The lead observer must have prior experience working as a marine mammal observer during construction.
- The contractor must submit PSO CVs for approval by NMFS and USFWS prior to the onset of pile driving.

#### **Data Collection**

#### **Environmental Conditions and Construction Activities**

PSOs will use the environmental conditions and construction activities log to document the following (Appendix B):

- Environmental Conditions:
  - Environmental conditions will be recorded at the beginning and end of every monitoring period and as conditions change.
  - Recordings will include PSO names, location of the observation station, time and date of the observation, weather conditions, air temperature, sea state, cloud cover, visibility, glare, tide, and ice coverage (if applicable).
- Construction Activities:
  - PSOs will record the time that observations begin and end as well as the durations of shutdowns.
  - PSOs will document the reason for stopping work, time of shutdown, and type of pile installation or other in-water work taking place.
  - PSOs will document other, non-project-related activities that could disturb marine mammals in the area, such as the presence of large and small vessels.

PSOs will record all communications with the construction crew. The environmental conditions and construction activities log will be checked for quality assurance and quality control (QA/QC) by the lead PSO for submission at the end of every monitoring day. Upon request, the data will be submitted to NMFS and USFWS along with the final report.

#### Sightings

Observers will use an approved marine mammal sighting form and GPS grid maps (Appendices C and D) which will be completed by each observer for each survey day and location. Sighting forms will be used by observers to record the following:

Date and time that permitted construction activity begins or ends;

- Weather parameters (e.g., percent cloud cover, percent glare, visibility) and sea state (determined by the Beaufort Wind Force Scale);
- Species, numbers, and, if possible, sex and age class of observed marine mammals;
- Construction activities occurring during each sighting;
- Behavioral patterns observed, including bearing and direction of travel;
- Behavioral reactions just prior to, or during, soft-start and shutdown procedures;
- The marine mammal's location, distance from the observer, and distance from pile removal activities;
- Whether mitigation measures, including shutdown procedures, were required by an observation, including the duration of each shutdown;
- Observer rotations including the time of rotation and the initials of the incoming observer.

The observation record forms will be checked for quality assurance and quality control (QA/QC) by the lead PSO for submission at the end of every monitoring day. Upon request, the data will be submitted to NMFS and USFWS along with the final report.

#### Equipment

The following equipment will be required to conduct observations for this project:

- Appropriate personal protective equipment;
- Portable VHF radios for the observers to communicate with other observers and the pile driving supervisor;
- Cellular phone as backup for radio communication;
- Contact information for the other observers, the pile driving supervisor, and the NMFS and USFWS point of contact;
- Daily tide tables for the project area;
- Binoculars (quality 7 x 50 or better) and a rangefinder;
- Hand-held GPS unit, or grid map along with map and stand-alone compass or clinometer to record locations of marine mammals;
- Copies of the 4MP, IHA, and other relevant permit requirement specifications in a sealed, clear, plastic cover;
- Notebook with pre-standardized monitoring observation record forms and grid maps (Appendices C and D).

#### Number and Location of PSOs

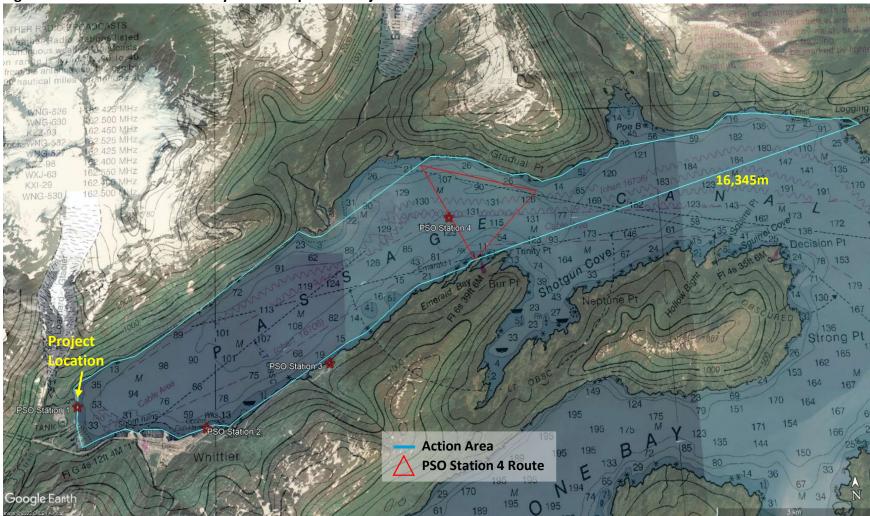
The number of locations of PSOs are determined to ensure that there is full coverage of the entire action area during all in-water activities. Locations are chosen based on site accessibility and field of vision.

One to four PSOs will be onsite during in-water activities associated with the Whittier Head of the Bay Cruise Ship Dock Project, stationed in the following locations (Figure 6):

- Station 1: stationed just to the south of the site on the shore.
- Station 2: stationed off Depot Road near the freight loading dock.
- Station 3: stationed along the shoreline northeast of the Emerald Cove Trailhead.
- Station 4: stationed on a boat triangulating an area between Emerald Island, the north shore of Passage Canal, southeast towards Gradual Point, and back southwest towards Trinity Point and Emerald Island.

The number and locations of monitors will be based on the following in-water work scenarios:

- Scenario #1: In-water construction not involving pile driving; barge movements, etc.
  - One location: Station 1
- Scenario #3: Impact hammer, vibratory hammer, and DTH drill installation of all pile sizes
  - Four Locations: Stations 1 4



#### Strike Avoidance

Vessels will adhere to the Alaska Humpback Whale Approach Regulations when transiting to and from the project site (see 50 CFR §§ 216.18, 223.214, and 224.103(b)). These regulations require that all vessels:

- Do not approach, or cause a vessel or object to approach, within 100 yards of a humpback whale;
- Do not obstruct the path of oncoming humpback whales causing them to surface within 100 yards of the vessel;
- Do not disrupt the normal behavior or prior activity of a whale; and
- Operate at a slow, safe speed when near a humpback whale (safe speed is defined in regulation 33 CFR § 83.06).

Vessels will follow the NMFS Marine Mammal Code of Conduct for other species of marine mammals, which recommend: maintaining a minimum distance of 100 yards; not encircling or trapping marine mammals between boats, or between boats and the shore; and putting engines in neutral if approached by a whale or other marine mammal to allow the animals to pass.

#### **Monitoring Techniques**

#### Pre-Activity Monitoring

The following monitoring methods will be implemented before permitted construction begins:

- The lead PSO and Contractor Superintendent will meet at the start of each day to discuss planned construction activities for the day and to conduct a radio/phone check.
- Prior to the start of permitted activities, observers will conduct a 30-minute pre-watch
  of the shutdown and monitoring zones. They will ensure that no marine mammals or
  avian species are present within the shutdown zone before permitted activities begin.
- The shutdown zone will be cleared when marine mammals have not been observed within the zone for the 30-minute pre-watch period. If a marine mammal is observed within the shutdown zone, a soft-start cannot proceed until the animal has left the zone or has not been observed for 15 minutes (for pinnipeds) or 30 minutes (for cetaceans and sea otters).
- When all applicable exclusion zones are clear, the observers will radio the pile driving supervisor. Permitted activities will not commence until the pile driving supervisor receives verbal confirmation that the zones are clear.
- If permitted species are present within the monitoring zone, work will not be delayed, but observers will monitor and document the behavior of individuals that remain in the monitoring zone.
- In case of fog or reduced visibility, observers must be able to see all of the shutdown zones before permitted activities can begin.

#### **Soft Start Procedures**

Soft start procedures will be used prior to periods of impact driving to allow marine mammals to leave the area prior to exposure to maximum noise levels. Soft start procedures for vibratory pile driving will not be implemented and are not required.

- The contractor will initiate approximately three strikes at a reduced energy level, followed by a 30-second waiting period. This procedure would be repeated twice more.
- If work ceases for more than 30 minutes, soft start procedures must be used prior to continuing work.

#### **During Activity Monitoring**

If permitted species are observed within the monitoring zone during permitted activities, a Level B takes will be recorded and behaviors will be documented. Work will not stop unless an animal enters or appears likely to enter the shutdown zone.

#### *Inclement Weather*

Passage Canal often experiences increased sea states and inclement weather. If inclement weather, limited visibility, or increased sea state restricts the observers' ability to make observations, in-water activities will not be initiated or continued until the largest Level A shutdown zone for the activity is visible.

If visibility is diminished, but the parameters for initiating or continuing work (referenced above) are met, the following should occur:

- All appropriate PSO locations for the planned in-water activities should be occupied for the entirety of the monitoring period regardless of visibility.
- All PSO locations should collectively determine what percentage of the Level B zone is visible for use in calculating extrapolations. The lead PSO should document this with time stamps as conditions change and this percentage should be adopted by all PSO locations.
- Extrapolate takes for each species with authorized take using the equation below.

Number of individuals sighted in the visible portion of the Level B zone  $\div$  percentage of visible Level B zone = extrapolated takes for species

#### Shutdowns

If a marine mammal enters or appears likely to enter its respective shutdown zone:

- The observers will immediately alert the pile driving supervisor.
- All permitted activities will immediately halt.
- In the event of a shutdown, permitted pile installation or removal activities may resume only when the animal(s) within or approaching the shutdown zone has been visually confirmed beyond or heading away from the shutdown zone, or 15 minutes (for pinnipeds) or 30 minutes (for cetaceans and sea otters) have passed without

observation of the animal. Observers will contact the pile driving supervisor and inform them that activities can re-commence.

#### Breaks in Work

Shutdown and monitoring zones will continue to be monitored during an in-water construction delay. No exposures will be recorded for permitted species in the monitoring zone if there are no concurrent permitted construction activities.

If permitted activities cease for more than 30 minutes and monitoring has not continued, preactivity monitoring and soft start procedures must recommence. This includes breaks due to scheduled or unforeseen construction practices or breaks due to permit-required shutdown. Work can begin following the 30-minute pre-watch monitoring protocols. Work cannot begin if an animal is within the shutdown zone or if visibility is not clear throughout the Level A shutdown zones.

#### Post Activity Monitoring

Monitoring of the shutdown and monitoring zones will continue for 30 minutes following completion of in-water activities. PSOs will continue to record observations during this postwatch period, with a focus on observing and reporting unusual or abnormal behaviors.

If construction were to resume during the post-watch period, PSOs will follow pre-watch protocols to ensure that that the shutdown and monitoring zones are clear prior to work resuming.

#### REPORTING

#### Notification of Intent to Commence Construction

The contractor will inform NMFS OPR, NMFS Alaska Region Protected Resources Division, and USFWS one week prior to commencing construction activities.

#### **Weekly Sighting Counts**

A summary of the following will be submitted to the construction project manager at the conclusion of each week of construction activity (Friday evening):

- Completed monitoring forms for the week
- Completed environmental conditions and construction activity logs for the week
- Preliminary counts of sightings and takes per species

#### Interim Monthly Reports

The contractor will submit brief, monthly reports to the NMFS Alaska Region Protected Resources Division and USFWS summarizing PSO observations and recorded takes during construction. Monthly reporting will allow NMFS and USFWS to track takes (including extrapolated takes) and reinitiate consultation in a timely manner, if necessary. Monthly reports will be submitted by email to <a href="mailto:akr.section7@noaa.gov">akr.section7@noaa.gov</a> and USFWS fw7 mmm reports@fws.gov.

The reporting period for each monthly PSO report will be the entire calendar month, and reports will be submitted by the end of business hours on the tenth day of the month following the end of the reporting period (e.g., the monthly report covering September 1–30, 2023, would be submitted to the NMFS and USFWS by close of business on October 10, 2023).

#### Final Report

The contractor will submit a draft final report by email to <a href="mailto:akr.section7@noaa.gov">akr.section7@noaa.gov</a> and <a href="mailto:fw7">fw7</a> mmm reports@fws.gov</a> no later than 90 days following the end of construction activities. The contractor will provide a final report within 30 days following resolution of NMFS and USFWS's comments on the draft report. If no comments are received from the agencies within 30 days, the draft final report will be considered the final report.

The final reports will contain, at minimum, the following information:

- A summary of construction activities, including start and end dates.
- A description of any deviation from the initially proposed pile numbers, pile types, average driving times, etc.
- A table summarizing all marine mammal sightings during the construction period, including:
  - dates, times, species, numbers, locations, and behaviors of any observed ESAlisted marine mammals, including all observed humpback whales and Steller sea lions;
  - daily average number of individuals of each species (differentiated by month as appropriate) detected within the Level A and Level B zones, and whether estimated as taken, if appropriate; and
  - o the number of shut-downs throughout all monitoring activities.
- A brief description of any impediments to obtaining reliable observations during construction period.
- A description of any impediments to complying with these mitigation measures.
- Appendices containing all PSO daily logs and marine mammal sighting forms.

#### Reporting Injured or Dead Marine Mammals

If it is clear that project activity has caused the take of a marine mammal in a manner prohibited by the (requested) IHA, such as unauthorized Level A harassment, serious injury, or mortality, the contractor shall immediately cease the specified activities and report the incident to NMFS OPR, the NMFS Alaska Region Protected Resources Division, and the NMFS statewide 24-hour Stranding Hotline (877) 925-7773. If a sea otter, report to the USFWS Marine Mammal Management Office at (800) 362–5148, or the Alaska SeaLife Center in Seward (888) 774–7325, or both.

The report must include the following:

- Time and date of the incident
- Description of the incident
- Environmental conditions (e.g., wind speed and direction, Beaufort Sea state, cloud cover and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;

- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and;
- Photographs or video footage of the animal(s) (if available).

Activities will not resume until NMFS or USFWS is able to review the circumstances of the unauthorized take. NMFS or USFWS would work with the contractor to determine what measures are necessary to minimize the likelihood of further unauthorized take and ensure ESA and MMPA compliance. The contractor may not resume their activities until notified by NMFS or USFWS.

In the event that the contractor discovers an injured or dead marine mammal within the action area, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (e.g., in less than a moderate state of decomposition), the contractor will immediately report the incident to the USFWS or NMFS OPR, and the NMFS Alaska Regional Stranding Coordinator or Hotline.

The report must include the same information identified in the paragraph above. Activities may continue while NMFS or USFWS reviews the circumstances of the incident. NMFS or USFWS will work with the contractor to determine whether additional mitigation measures or modifications to the activities are appropriate.

In the event that the contractor discovers an injured or dead marine mammal and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the contractor must report the incident to the NMFS OPR and the NMFS Alaska Regional Stranding Coordinator or Hotline within 24 hours of the discovery. If a sea otter, it must be reported to USFWS within 24 hours of the discovery to either the USFWS Marine Mammal Management Office at (800) 362–5148 (business hours), or the Alaska SeaLife Center in Seward (888) 774–7325 (24 hours a day), or both. The contractor will provide photographs, video footage (if available), or other documentation of the stranded animal sighting to NMFS or USFWS.

# Appendix A: List of Species with Ranges in the Project Action Area

#### Species and their Status Listed by the NMFS Mapper and USFWS IPaC Mapper that May Occur in the Project Vicinity

Species	Status Listing	Jurisdiction	Occurrence	Link to Species Profile
Gray Whale (Eschrichtius robustus)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/gray-whale
North Pacific Right Whale (Eubalaena japonica)	ESA Endangered	NMFS	Very rare	https://www.fisheries.noaa.gov/species/north- pacific-right-whale
Minke Whale (Balaenoptera acutorostrata)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/minke-whale
Fin Whale (Balaenoptera physalus)	ESA Endangered	NMFS	Very rare	https://www.fisheries.noaa.gov/search?oq=fin+whale
Humpback Whale (Megaptera novaeangliae)	Western North Pacific DPS: ESA Endangered; Mexico DPS: Threatened	NMFS	Infrequent	https://www.fisheries.noaa.gov/species/humpback- whale
Sperm Whale (Physeter macrocephalus)	ESA Endangered	NMFS	Very rare	https://www.fisheries.noaa.gov/species/sperm-whale
Dall's Porpoise (Phocoenoides dalli)	ММРА	NMFS	Infrequent	https://www.fisheries.noaa.gov/species/dalls- porpoise
Harbor Porpoise (Phocoena phocoena)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/harbor- porpoise
Pacific White-Sided Dolphin (Lagenorhynchus obliquidens)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/pacific- white-sided-dolphin
Killer Whale (Orcinus orca)	MMPA	NMFS	Infrequent	https://www.fisheries.noaa.gov/species/killer-whale
Harbor Seal (Phoca vitulina)	ММРА	NMFS	Common	https://www.fisheries.noaa.gov/species/harbor-seal
Northern Fur Seal (Callorhinus ursinus)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/northern- fur-seal
Steller Sea Lion (Eumetopias jubatus)	WDPS: ESA Endangered	NMFS	Common	https://www.fisheries.noaa.gov/species/steller-sea- lion

Species	Status Listing	Jurisdiction	Occurrence	Link to Species Profile	
Northern Sea Otter	ESA	LICENAC	Common	https://www.fws.gov/alaska/pages/endangered-	
(Enhydra lutris kenyoni)	ESA	USFWS	Common	species/northern-sea-otter	

# Appendix B: Construction Activity and Communication Log

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## **Construction Activity and Communication Log**

Project:	Location:	Observer(s):	Date:

Time	Pile Size	Pile Type	Construction Type	Obs.	Construction Personnel	Communication/Comments

Filling O	Filling Out Construction Activity and Communication Logs					
Data Columns	Definition and How to Record					
	General Information (top of form)					
Project	Time that monitoring by MMOs/PSOs began and ended, without interruption (military time)					
Project Name	Whittier Head of the Bay Cruise Ship Dock					
Monitoring Location	See 4MP					
Observer	Names of Observers at each location					
Date	MM/DD/YYYY					
	Construction and Communication Activities					
Time of event	Time that construction activities and all communications between MMOs/PSOs and construction crews take place					
Type of construction activity	Type of construction activity occurring, including ramp up, startup, shutdown, type of pile installation technique, pile size, and pile type (permanent or temporary)					
Communication	Information communicated between MMOs/PSOs and construction crew					

## **Appendix C: Marine Mammal Sighting Form**

# MARINE MAMMAL OBSERVATION RECORD

Project Nam	e:	
Monitoring 1		
Date:		
Time Effort	Initiated:	
Time Effort	Completed:	
D		

Time	Visibility (distance)	Glare	Weather Condition	Wave Height	BSS	Wind	Swell
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW

Event Code	Sight # (1 or 1.1 if re- sight)	Time/Dur (Start/End time if cont.)	WP/ Grid #/ DIR of travel	Distance from Pile	Obs.	Sighting Cue	Species	Group Size	Behavior Code (see code sheet)	Construction Type	Mitigation Type	Exposure (Y/N)	Behavior Change/ Response to Activity/Comments/Human Activity/Vessel Hull # or Name/ Visibility Notes
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		

#### Marine Mammal Observation Record - Sighting Codes

#### **Behavior Codes**

Code	Behavior	Definition
BR	Breaching	Leaps clear of water
CD	Change Direction	Suddenly changes direction of travel
CH	Chuff	Makes loud, forceful exhalation of air at surface
DI	Dive	Forward dives below surface
DE	Dead	Shows decomposition or is confirmed as dead by investigation
DS	Disorientation	An individual displaying multiple behaviors that have no clear direction or purpose
FI	Fight	Agonistic interactions between two or more individuals
FO	Foraging	Confirmed by food seen in mouth
MI	Milling	Moving slowly at surface, changing direction often, not moving in any particular direction
PL	Play	Behavior that does not seem to be directed towards a particular goal; may involve one, two or more individuals
PO	Porpoising	Moving rapidly with body breaking surface of water
SL	Slap	Vigorously slaps surface of water with body, flippers, tail etc.
SP	Spyhopping	Rises vertically in the water to "look" above the water
SW	Swimming	General progress in a direction. Note general direction of travel when last seen [Example: "SW (N)" for swimming north]
TR	Traveling	Traveling in an obvious direction. Note direction of travel when last seen [Example: "TR (N)" for traveling north]
UN	Unknown	Behavior of animal undetermined, does not fit into another behavior
AWA	Approach Work	·
LWA	Leave Work Area	
		Pinniped only
EW	Enter Water (from haul out )	Enters water from a haul-out for no obvious reason
FL	Flush (from haul out)	Enters water in response to disturbance
НО	Haul out (from water)	Hauls out on land
RE	Resting	Resting onshore or on surface of water
LO	Look	Is upright in water "looking" in several directions or at a single focus
SI	Sink	Sinks out of sight below surface without obvious effort (usually from an upright position)
VO	Vocalizing	Animal emits barks, squeals, etc.
		Cetacean only
LG	Logging	Resting on surface of water with no obvious signs of movement

Sea State and Wave Height: Use Beaufort Sea State Scale for Sea State. This refers to the surface layer and whether it is glassy in appearance or full of white caps. In the open ocean, it also considers the wave height or swell, but in inland waters the wave height (swells) may never reach the levels that correspond to the correct surface white cap number. Therefore, include wave height for clarity.

**Glare**: Percent glare should be the total glare of observers' area of responsibility. Determine if observer coverage is covering 90 degrees or 180 degrees and document daily. Then assess total glare for that area. This will provide needed information on what percentage of the field of view was poor due to glare.

**Swell Direction:** Swell direction should be where the swell is coming from (S for coming from the south). If possible, record direction relative to fixed location (pier). Choose this location at beginning of monitoring project.

Wind Direction: Wind direction should also be where the wind is coming from.

#### **Event**

Code	Activity Type
E ON	Effort On
E OFF	Effort Off
PRE	Pre-Construction Watch
POST	Post-Construction Watch
CON	Construction (see types)
S	Sighting
М	Mitigation
OR	Observer Rotation

#### **Sighting Cues**

Code	Distance Visible
BL	Blow
ВО	Body
BR	Breach
DF	Dorsal Fin
SA	Surface Activity
OTHR	Other

#### **Marine Mammal Species**

Code	Marine Mammal Species		
STSL	Steller Sea Lion		
HPBK	Humpback Whale		
HAPO	Harbor Porpoise		
DAPO	Dall's Porpoise		
PSWD	Pacific white-sided dolphin		
SO	Sea Otter		
HSEA	Harbor Seal		
MINKE	Minke Whale		
ORCA	Killer Whale		

#### **Construction Type**

Code	Activity Type
OWC	Over-Water Construction
NOWC	No Over-Water Construction
V	Vibratory Hammer
I	Impact Hammer
DR	Drilling
NONE	No Construction

#### **Mitigation Codes**

Code	Activity Type
DE	Delay onset of In-Water Work
SD	Shutdown In-Water Work

#### **Weather Conditions**

Code	Weather Condition
S	Sunny
PC	Partly Cloudy
L	Light Rain
R	Steady Rain
F	FOG
OC	Overcast
SN	Snow
HR	Heavy Rain

#### **Wave Height**

Code	Wave Height
Light	0-3 ft
Moderate	4-6 ft
Heavy	>6 ft

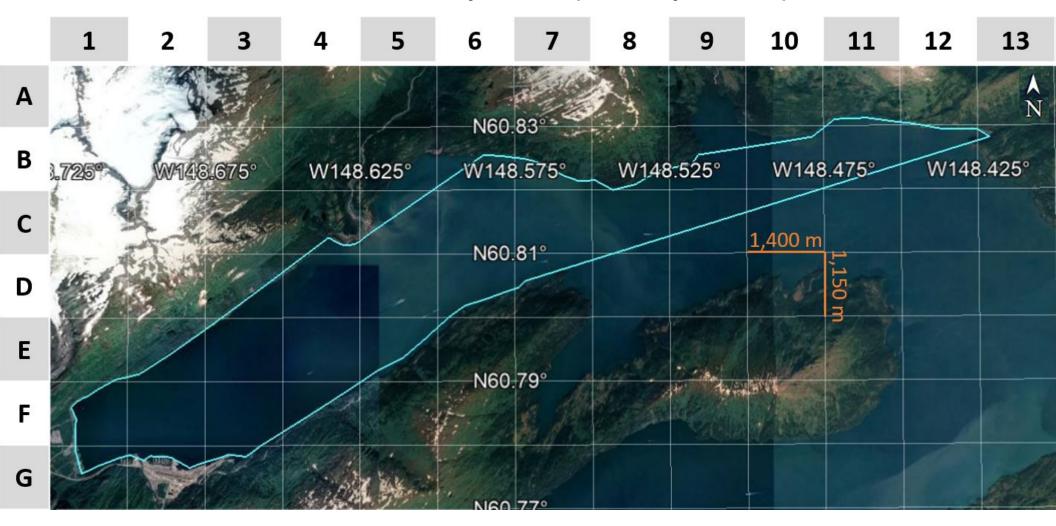
Data Columns  General Information (Top of Form)  Project Name  Whittier Head of the Bay Cruise Ship Dock  See 4MP  Date  MM/DD/YYYY  Time effort initiated and completed  Time effort initiated and completed  Environmental Conditions  Environmental Conditions  Record at the start of monitoring period, when changes, and at the end of monitoring period.  Visibility  Estimate of visibility distance (in meters or kilometers)  Amount of water obstructed by glare (0–100%) and direction of glare (from south, north, or another direction)  Weather conditions  Wave Height  Lt-light, Mod-moderate, Hvy-heavy  Wind and Swell direction  From the north (N), northeast (NE), east (E), southeast (SE), south (S), southwest (SW), west (W), northwest (NW)  Beaufort Sea State  Scale 1-12. See BSS sheet.  Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time /Duration  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but	Filling Out Sighting Forms				
Project Name  Monitoring Location  See 4MP  Date  MM/DD/YYYY  Time effort initiated and completed  Image: Many there is more than one monitoring period in a day, start a new form for each period.  Environmental Conditions  Environmental Conditions  Record at the start of monitoring period, when changes, and at the end of monitoring period.  Visibility  Estimate of visibility distance (in meters or kilometers)  Amount of water obstructed by glare (0–100%) and direction of glare (from south, north, or another direction)  Weather conditions  Dominant weather conditions: sunny (S), partly cloudy (PC), light rain (LR), steady rain (R), fog (F), overcast (OC), light snow (LS), snow (SN)  Wave Height  Lt-light, Mod-moderate, Hvy-heavy  Wind and Swell direction  From the north (N), northeast (NE), east (E), southeast (SE), south (S), southwest (SW), west (W), northwest (NW)  Beaufort Sea State  Scale 1-12. See BSS sheet.  Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight (Ex. 1.1- same marine mammal as sighting 1, but					
Project Name  Monitoring Location  See 4MP  Date  MM/DD/YYYY  Time effort initiated and completed  Image: Many there is more than one monitoring period in a day, start a new form for each period.  Environmental Conditions  Environmental Conditions  Record at the start of monitoring period, when changes, and at the end of monitoring period.  Visibility  Estimate of visibility distance (in meters or kilometers)  Amount of water obstructed by glare (0–100%) and direction of glare (from south, north, or another direction)  Weather conditions  Dominant weather conditions: sunny (S), partly cloudy (PC), light rain (LR), steady rain (R), fog (F), overcast (OC), light snow (LS), snow (SN)  Wave Height  Lt-light, Mod-moderate, Hvy-heavy  Wind and Swell direction  From the north (N), northeast (NE), east (E), southeast (SE), south (S), southwest (SW), west (W), northwest (NW)  Beaufort Sea State  Scale 1-12. See BSS sheet.  Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight (Ex. 1.1- same marine mammal as sighting 1, but					
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(OC), light snow (LS), snow (SN)  Wave Height  Lt-light, Mod-moderate, Hvy-heavy  From the north (N), northeast (NE), east (E), southeast (SE), south (S), southwest (SW), west (W), northwest (NW)  Beaufort Sea State  Scale 1-12. See BSS sheet.  Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time/Duration  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but	Weather conditions	Dominant weather conditions: sunny (S), partly cloudy			
Wave Height Wind and Swell direction From the north (N), northeast (NE), east (E), southeast (SE), south (S), southwest (SW), west (W), northwest (NW)  Beaufort Sea State Scale 1-12. See BSS sheet.  Sightings  Event Code Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time/Duration Time first sighted and time of last sighting (military time).  Sighting Number Chronological (1,2,3, etc.) If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight (Ex. 1.1- same marine mammal as sighting 1, but		(PC), light rain (LR), steady rain (R), fog (F), overcast			
Wind and Swell direction  From the north (N), northeast (NE), east (E), southeast (SE), south (S), southwest (SW), west (W), northwest (NW)  Beaufort Sea State  Scale 1-12. See BSS sheet.  Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time/Duration  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but		(OC), light snow (LS), snow (SN)			
(SE), south (S), southwest (SW), west (W), northwest (NW)  Beaufort Sea State  Scale 1-12. See BSS sheet.  Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time/Duration  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but	Wave Height	Lt-light, Mod-moderate, Hvy-heavy			
(NW)  Beaufort Sea State  Scale 1-12. See BSS sheet.  Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time/Duration  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but	Wind and Swell direction	From the north (N), northeast (NE), east (E), southeast			
Scale 1-12. See BSS sheet.  Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time/Duration  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but		(SE), south (S), southwest (SW), west (W), northwest			
Sightings  Event Code  Indicates what events are happening at the time of the sighting, what events may have occurred due to the sighting, and observer rotations.  Time/Duration  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but		(NW)			
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Time/Duration  Time first sighted and time of last sighting (military time).  Sighting Number  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but		,			
time).  Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but		sighting, and observer rotations.			
Chronological (1,2,3, etc.)  If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but	Time/Duration	Time first sighted and time of last sighting (military			
If the same marine mammal is resighted at a distance greater than 25 meters from the original sighting location record as a resight  (Ex. 1.1- same marine mammal as sighting 1, but		time).			
greater than 25 meters from the original sighting location record as a resight (Ex. 1.1- same marine mammal as sighting 1, but	Sighting Number	Chronological (1,2,3, etc.)			
location record as a resight (Ex. 1.1- same marine mammal as sighting 1, but		If the same marine mammal is resighted at a distance			
(Ex. 1.1- same marine mammal as sighting 1, but		greater than 25 meters from the original sighting			
		location record as a resight			
sighted for a second time in different location)		(Ex. 1.1- same marine mammal as sighting 1, but			
		sighted for a second time in different location)			
Waypoint (WP)/Grid #/DIR of Travel   Grid number that marine mammal was sighted in and	Waypoint (WP)/Grid #/DIR of Travel	Grid number that marine mammal was sighted in and			
direction of travel. Format should be <i>grid map letter</i> -		direction of travel. Format should be <i>grid map letter</i> -			
grid (Example: If a marine mammal is sighted in grid 2B		grid (Example: If a marine mammal is sighted in grid 2B			
on <b>Grid Map B</b> this should be denoted by <b>B-2B</b> ).		on <b>Grid Map B</b> this should be denoted by <b>B-2B</b> ).			
Distance from Pile Distance from pile driving site to the sighted marine	Distance from Pile	Distance from pile driving site to the sighted marine			
mammal.		mammal.			

Observer (Obs.)	Initials of the Observer who sighted the marine
	mammal or who is coming on shift during a rotation
Sighting Cue	How was the marine mammal sighted
Species	Appropriate species abbreviation from code sheet
Group Size	Record the minimum and maximum number of
	individuals that were sighted. Then determine and
	record the best number of individuals.
Behavior	Behaviors observed using appropriate abbreviations
	from code sheet
Construction Type	Circle construction type that is actively occurring at the
	time and for the duration of the sighting.
Mitigation Type	Circle mitigation type, if any. Based upon monitoring
	and shutdown zones does a delay of work (pre-watch
	and post-watch) or a shutdown (monitoring period)
	need to occur.
Exposure	If a marine mammal enters its Level A or Level B
	distance and work is actively occurring it will be an
	exposure indicate yes (Y). If no work is actively
	occurring indicate no (N)

Estimating Wind Speed and Sea State with Visual Clues				
Beaufort number	Wind Description	Wind Speed	Wave Height	Visual Clues
0	Calm	0 knots	0 feet	Sea is like a mirror. Smoke rises vertically.
1	Light Air	1-3 kts	< 1/2	Ripples with the appearance of scales are formed, but without foam crests. Smoke drifts from funnel.
2	Light breeze	4-6 kts	1/2 ft (max 1)	Small wavelets, still short but more pronounced, crests have glassy appearance and do not break. Wind felt on face. Smoke rises at about 80 degrees.
3	Gentle Breeze	7-10 kts	2 ft (max 3)	Large wavelets, crests begin to break. Foam of glassy appearance. Perhaps scattered white horses (white caps). Wind extends light flag and pennants. Smoke rises at about 70 deg.
4	Moderate Breeze	11-16 kts	3 ft (max 5)	Small waves, becoming longer. Fairly frequent white horses (white caps). Wind raises dust and loose paper on deck. Smoke rises at about 50 deg. No noticeable sound in the rigging. Slack halyards curve and sway. Heavy flag flaps limply.
				Moderate waves, taking more pronounced long form. Many white horses (white caps) are formed (chance of some spray).
5	Fresh Breeze	17-21kts	6 ft (max 8)	Wind felt strongly on face. Smoke rises at about 30 deg. Slack halyards whip while bending continuously to leeward. Taut halyards maintain slightly bent position. Low whistle in the rigging. Heavy flag doesn't extended but flaps over entire length.
				Large waves begin to form. White foam crests are more extensive everywhere (probably some spray).
6	Strong Breeze	22-27 kts	9 ft (max 12)	Wind stings face in temperatures below 35 deg F (2C). Slight effort in maintaining balance against wind. Smoke rises at about 15 deg. Both slack and taut halyards whip slightly in bent position. Low moaning, rather than whistle, in the rigging. Heavy flag extends and flaps more vigorous.
7	Near Gale	28-33 kts	13 ft (max 19)	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of wind. Necessary to lean slightly into the wind to maintain balance. Smoke rises at about 5 to 10 deg. Higher pitched moaning and whistling heard from rigging. Halyards still whip slightly. Heavy flag extends fully and flaps only at the end. Oilskins and loose clothing inflate and pull against the body.
8	Gale	34-40 kts	18 ft (max 25)	Moderately high waves of greater length. Edges of crests begin to break into the spindrift. The foam is blown in well-marked streaks along the direction of the wind. Head pushed back by the force of the wind if allowed to relax. Oilskins and loose clothing inflate and pull strongly. Halyards rigidly bent. Loud whistle from rigging. Heavy flag straight out and whipping.
9	Strong Gale	41-47 kts	23 ft (max 32)	High waves. Dense streaks of foam along direction of wind. Crests of waves begin to topple, tumble and roll over. Spray may affect visibility.
10	Storm	48-55 kts	29 ft (max 41)	Very high waves with long overhanging crests. The resulting foam, in great patches is blown in dense streaks along the direction of the wind. On the whole, the sea takes on a whitish appearance. Tumbling of the sea becomes heavy and shock-like. Visibility affected.
11	Violent Storm	56-63 kts	37 ft (max 52)	Exceptionally high waves (small and medium-sized ships might be for time lost to view behind the waves). The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere, the edges of the wave crests are blown into froth. Visibility greatly affected.
12	Hurricane	64+ kts	45+ ft	The air is filled with foam and spray. The sea is completely white with driving spray. Visibility is seriously affected.

## **Appendix D: Grid Maps**

### Whittier Head of the Bay Cruise Ship Dock Project Grid Map



# Marine Mammal Monitoring and Mitigation Plan Turnagain Marine Construction Whittier Head of the Bay Cruise Ship Dock

Passage Canal, Whittier, Alaska

September 2022 Revised April 2023 Revised October 2023

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#### **CONTENTS**

INTRODUCTION	1
PROJECT DESCRIPTION	2
SPECIES COVERED UNDER THE IHA	5
MONITORING AND SHUTDOWN ZONES	5
MITIGATION MEASURES	20
REPORTING	28
FIGURES	
Figure 1. Whittier Head of the Bay Cruise Ship Dock Project Location and Action Area	
Figure 2. Whittier Head of the Bay Cruise Ship Dock Project Level B Monitoring Zones for Area 1	
Figure 3. Whittier Head of the Bay Cruise Ship Dock Project Level B Monitoring Zones for Area 2	
Figure 4. Whittier Head of the Bay Cruise Ship Dock Project Northern Sea Otters Monitoring Zones $$	12
Figure 5. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones for Area 1	17
Figure 6. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones for Area 2	18
Figure 7. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones for Northern Sea	a
Otter	19
Figure 8. Whittier Head of the Bay Cruise Ship Dock Project PSO Locations – Winter Only	25
TABLES	
Table 1. Whittier Head of the Bay Cruise Ship Dock Project Pile Size, Quantity, and Installation Metho Table 2. Species Known to Occur in Whittier Head of the Bay Cruise Ship Dock Project Area and	od . 5
Requested Take Types and Numbers (may be updated following issuance of IHAs)	5
Table 3. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones and Level B	
Monitoring Zones for Area 1 (60-foot isobath or shallower) <sup>a</sup>	7
Table 4. Whittier Head of the Bay Cruise Ship Dock Project Level B Monitoring and Shutdown Zones f	
Area 2 (60-foot isobath or deeper) <sup>a</sup>	
Table 5. Whittier Head of the Bay Cruise Ship Dock Project Distances to Level A Shutdown Zones for	
1 (60-foot isobath or shallower)	
Table 6. Whittier Head of the Bay Cruise Ship Dock Project Distances to Level A Shutdown Zones for A	
2 (60-foot isohath or deener)	

#### **APPENDICES**

Appendix A: List of Species with Ranges in the Project Action Area

Appendix B: Construction Activity and Communication Log

Appendix C: Marine Mammal Sighting Forms

Appendix D: Grid Maps

#### **ACRONYMS AND ABBREVIATIONS**

4MP Marine Mammal Monitoring and Mitigation Plan

BA Biological Assessment

DPS distinct population segment ESA Endangered Species Act

IHA Incidental Harassment AuthorizationMMPA Marine Mammal Protection ActNMFS National Marine Fisheries Service

NMFS AKR National Marine Fisheries Service Alaska Region

OPR Office of Protected Resources (NMFS)

OSI Offshore Systems, Inc.
PSO protected species observer

rms root mean square SPL sound pressure level

USACE U.S. Army Corp of Engineers USFWS U.S. Fish and Wildlife Service

WDPS western distinct population segment

#### **INTRODUCTION**

Turnagain Marine Construction (TMC) proposes the following Marine Mammal Monitoring and Mitigation Plan (4MP) for use during pile installation/removal during construction of the Whittier Head of the Bay Cruise Ship Dock Project in Whittier, Alaska (Figure 1). The project is in waters of the U.S., within the ranges of marine mammals listed in the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA), and has the potential to generate noise that could exceed Level A and B harassment thresholds established by the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). This 4MP supports the Biological Assessment, in accordance with the ESA, and the Incidental Harassment Authorization (IHA) applications, in accordance with the MMPA (Section 101(a)(5)(D) permitting). Monitoring and shutdown zones will be implemented to minimize Level A and Level B harassment of marine mammals.

The goal of this 4MP is to ensure compliance with the ESA and the MMPA when implemented by the protected species observers (PSOs) at the project site. The project will comply with the terms and conditions outlined in the following requested permits and authorizations:

- U.S. Army Corps of Engineers (USACE), Passage Canal for activities in Waters of the U.S. (POA-2022-00233; issued 3/31/23)
- NMFS Office of Protected Resources (OPR) IHA (issued 4/1/23)
- NMFS Alaska Region, ESA Section 7(a)(2) Biological Opinion (AKRO-2022-02953; issued 3/28/23)
- USFWS Marine Mammal Management IHA (22-IHA-05; issued 7/19/23)

#### **PROJECT DESCRIPTION**

Under contract with Huna Totem Corporation, Turnagain Marine Construction (TMC) proposes to construct a cruise ship berth and associated facilities on the western shore of Passage Canal, approximately 1.2 kilometers (km) northwest of downtown Whittier, Alaska (Figure 1).

The cruise ship berth would consist of a 500-foot by 70-foot floating dock structure supported by 2 float restraints on either end and 2 mooring dolphins in marine waters that support several marine mammal species. Pile driving may result in auditory injury (Level A harassment) and behavioral harassment (Level B harassment) of select marine mammal species. Construction would begin in April 2023 and continue through April 2024. Pile installation activities are expected to occur for a total of approximately 202 hours over 85 days (not necessarily consecutive days). The project would occur within waters of the United States. No blasting is proposed as part of this project. Table 1 provides a more detailed overview of the project components.

e that were originally buried may have EATHER RADIO BROADCASTS A Weather Radio stations listed 162 425 MHz WNG-530 162.500 MHz KZZ-93 162.450 MHz 162 525 MHz 162.425 MHz 162:550 MHz KXI-29 162.400 MHz WNG-530 Strong Pt **Action Area** 

Table 1. Whittier Head of the Bay Cruise Ship Dock Project Pile Size, Quantity, and Installation Method

	Temp Pile	Temp Pile	36-Inch Perm Pile	42-Inch Perm Pile	48-Inch Perm Pile	Totals
	Installation	Removal	Installation	Installation	Installation	Totals
# of Piles	72	72	36	16	20	
Diameter of Steel Pile (inches)	36	36	36	42	48	
	Vil	bratory Pile Driving				
Total Quantity	72	72	36	16	20	
Max # Piles Vibrated per Day	4	4	4	4	2	
Vibratory Time per Pile (minutes)	10	10	15	15	15	
Vibratory Time per Day (minutes)	40	40	60	60	30	
Area 1: # of Days	9	9	9	0	0	27
Area 2: # of Days	9	9	0	4	10	32
Area 1: Vibratory Time Total (hours)	6	6	9	0	0	21
Area 2: Vibratory Time Total (hours)	6	6	0	4	5	21
	lı .	mpact Pile Driving				
Total Quantity	0	0	36	16	20	
Max # Piles Impacted Per Day	0	0	4	3	2	
# of Strikes per Pile	0	0	1,800	2,400	2,400	
Impact Time per Pile (minutes)	0	0	45	60	60	
Impact Time per Day (minutes)	0	0	180	180	120	
Area 1: # of Days	0	0	9	0	0	9
Area 2: # of Days	0	0	0	5.3	10	15.3
Area 1: Impact Time Total (hours)	0	0	27	0.0	0	27
Area 2: Impact Time Total (hours)	0	0	0	16	20	36
	Do	wn-the-Hole Drilling	<b>.</b>			
Total Quantity	36	0	36	16	20	
Max # Piles Installed Per Day	4	0	2	2	2	
Time per Pile (minutes)	60	0	150	150	150	
Time per Day (minutes)	240	0	300	300	300	
Area 1: # of Days	4.5	0	18	0	0	22.5
Area 2: # of Days	4.5	0	0	8	10	22.5
Area 1: DTH Drilling Time Total (hours)	18	0	90	0	0	108
Area 2: DTH Drilling Time Total (hours)	18	0	0	40	50	108

#### SPECIES COVERED UNDER THE IHA

There are 13 species under NMFS jurisdiction and 1 species under USFWS jurisdiction that have ranges that extend into the project area. Take has been requested for the species known to frequent the area, broken down by stock or distinct population segment (DPS; Table 2).

The shutdown of work following Level B thresholds will occur if any other marine mammal or avian species enters the project action area (Tables 3 and 4). Other species that may occur are listed in Appendix A.

Table 2. Species Known to Occur in Whittier Head of the Bay Cruise Ship Dock Project Area and Requested Take Types and Numbers (may be updated following issuance of IHAs)

Species	Stock/DPS	Level A	Level B
	Hawaii DPS	0	22
Humpback Whale (Megaptera	Western North Pacific	0	1
novaeangliae)	DPS	U	1
	Mexico DPS	0	2
Dall's Porpoise (Phocoenoides dalli)	Alaska	9	36
	Alaska Resident	0	116
Killer Whale (Orcinus orca)	Gulf of Alaska Transient	0	29
	AT1 Transient	0	0
Harbor Seal (Phoca vitulina)	Prince William Sound	40	170
Steller Sea Lion (Eumetopias jubatus)	Western DPS (WDPS)	0	218
Northern Sea Otter ( <i>Enhydra lutris kenyoni</i> )	Southcentral Alaska	35	466

#### MONITORING AND SHUTDOWN ZONES

The harassment zones will be monitored throughout the permitted in-water or over-water construction activity. The following mitigation measures will be taken based on species, inwater activity, and distance of the mammalian or avian species from the project location:

- The work area is divided up into two areas by depth; those piles installed within the 60-foot isobath or shallower (Area 1), and those installed in depths greater than the 60-foot isobath (Area 2). The 36-inch permanent piles (36) supporting the approach trestle and the 36-inch temporary piles used as template guides for them (estimated 36) would fall within Area 1. The 42-inch (16 piles) and 48-inch (20 piles) for the mooring trestle and dolphins (and the 36-inch temporary piles used as template guides for these, an estimated 36 piles) would fall within Area 2. A bubble curtain deployed to a depth of 60 feet would be used during all pile-driving activities within Area 1 and during impact pile driving only in Area 2 (see mitigation measures). There will be different Level A and Level B monitoring zones depending on if the work is occurring in Area 1 or Area 2.
- If a permitted marine mammal enters a Level B monitoring zone, a Level B take will be recorded and animal behaviors documented. Permitted construction activities would continue without cessation unless the animal approaches or enters the shutdown zone.
- If a marine mammal approaches or appears in a Level A shutdown zone, all permitted construction activities will immediately halt until the marine mammal has left the

- shutdown zone or has not been sighted for 15 minutes (pinnipeds and small cetaceans) or 30 minutes (large cetaceans and sea otters).
- If a non-permitted marine mammal or an avian species approaches or appears in a Level B zone, all permitted construction activities will immediately halt until the animal has left the Level B zone or has not been sighted for 15 minutes (pinnipeds, small cetaceans, and otters) or 30 minutes (large cetaceans and sea otters).

Takes, in the form of Level A or Level B harassment, of marine mammals other than permitted species are not authorized and will be avoided by shutting down construction activities before these species enter the Level B monitoring zone.

Because species are impacted differently by noise, species-specific monitoring and shutdown zones have been calculated for this project. These monitoring and shutdown zones are shown in Figure 2.

#### **Monitoring Zones**

Level B monitoring zones have been determined based on in-water activity type. For NMFS species, Level B monitoring zones represent areas where the sound pressure levels (SPLs) generated from pile driving activities meet or exceed 120 dB root mean square (rms) during vibratory pile driving and 160 dB rms during impact pile driving. Level B monitoring zones for USFWS species apply to northern sea otters and were established using the USFWS *Observer Protocols for Pile Driving, Dredging, ad Placement of Fill* and the distance at which SPLs meet or exceed 160 dB rms.

These monitoring zones serve as an area within which instances of permitted marine mammal harassment (Level B take) will be documented, if in-water work is actively occurring. Alternatively, for non-permitted marine mammals and avian species, it acts as an area in which in-water work should cease if they approach or appear likely to enter. These Level B zones also allow PSOs to be aware of the presence of permitted marine mammals as they near the shutdown zone and prepare for shutdowns if required.

Level B monitoring/shutdown zones are presented in Table 3 and 4 and Figures 2, 3, and 4 below.

Table 3. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones and Level B Monitoring Zones for Area 1 (60-foot isobath or shallower)<sup>a</sup>

Source	Humpback Whales	Dall's Porpoises	Harbor Seals	Other NMFS- Jurisdiction Species	Northern Sea Otters		
In-Water Construction Activities							
Barge movements, pile positioning, etc. <sup>b</sup>	10	10	10	10	10		
	Vibrato	y Pile Driving/Rer	noval	<b>'</b>	l		
36-inch temporary pile installation (36 piles; ~40 mins per day on 9 days)	5,415	5,415	5,415	5,415	25		
36-inch temporary pile removal (36 piles; ~40 mins per day on 9 days)	5,415	5,415	5,415	5,415	25		
36-inch steel permanent installation (36 piles; ~60 mins per day on 9 days)	5,415	5,415	5,415	5,415	25		
In-air <sup>c</sup> (all pile sizes)	N/A	N/A	70	70	25		
	In	pact Pile Driving					
36-inch steel permanent installation (36 piles; ~180 mins per day on 9 days)	2,055 <sup>d</sup>	2,400 <sup>d</sup>	1,100 <sup>d</sup>	635	1,360		
In-air <sup>c</sup> (all pile sizes)	N/A	N/A	55	55	25		
		DTH Drilling					
36-inch temporary pile installation (18 piles; ~240 mins per day on 4.5 days)	16,345	16,345	16,345	16,345	70 <sup>d</sup>		
36-inch steel permanent installation (36 piles; ~300 mins per day on 18 days)	16,345	16,345	16,345	16,345	70 <sup>d</sup>		

<sup>&</sup>lt;sup>a</sup> Distances, in meters, apply to all marine mammal and avian species under NMFS and USFWS jurisdiction. The distances will act as a monitoring zone for species with authorized Level B take and as shutdown distances for species without authorized take, or in the case of humpback whales, during impact pile driving (see note d).

<sup>&</sup>lt;sup>b</sup> Although acoustic injury is not the primary concern with these activities, shutdowns will be implemented to avoid impacts to species.

<sup>&</sup>lt;sup>c</sup> In-air distances apply to marine mammals that spend significant amounts of time hauled out (Steller sea lions and harbor seals) or at the water surface (northern sea otters).

<sup>&</sup>lt;sup>d</sup> For certain species and certain pile driving activities, the Level A shutdown zones are larger than the Level B monitoring zones due to differences in calculation methods used by NMFS. Therefore, the Level B monitoring zones shown here represent the Level A shutdown zone for this activity.

Table 4. Whittier Head of the Bay Cruise Ship Dock Project Level B Monitoring and Shutdown Zones for Area 2 (60-foot isobath or deeper)<sup>a</sup>

Source	Humpback Whales	Dall's Porpoises	Harbor Seals	Other NMFS- Jurisdiction Species	Northern Sea Otters		
	In-Water	Construction Act	ivities				
Barge movements, pile positioning, etc. <sup>b</sup>	10	10	10	10	10		
	Vibrator	ry Pile Driving/Rei	moval				
36-inch temporary pile installation (36 piles; ~40 mins per day on 9 days)	11,660	11,660	11,660	11,660	25		
36-inch temporary pile removal (36 piles; ~40 mins per day on 9 days)	11,660	11,660	11,660	11,660	25		
42-inch steel permanent installation (16 piles; ~60 mins per day on 4 days)	16,345	16,345	16,345	16,345	35		
48-inch steel permanent installation (20 piles; ~30 mins per day on 10 days)	16,345	16,345	16,345	16,345	35		
In-air <sup>c</sup> (all pile sizes)	N/A	N/A	70	70	25		
	In	npact Pile Driving					
42-inch steel permanent installation (16 piles; ~180 mins per day on 5.5 days)	6,575 <sup>d</sup>	7,830 <sup>d</sup>	3,745	3,745	3,745		
48-inch steel permanent installation (20 piles; ~120 mins per day on 10 days)	5,015 <sup>d</sup>	5,975 <sup>d</sup>	3,745	3,745	3,745		
In-air <sup>c</sup> (all pile sizes)	N/A	N/A	55	55	25		
DTH Drilling							
36-inch temporary pile installation (18 piles; ~240 mins per day on 4.5 days)	16,345	16,345	16,345	16,345	70 <sup>d</sup>		
42-inch steel permanent installation (16 piles; ~300 mins per day on 8 days)	16,345	16,345	16,345	16,345	70 <sup>d</sup>		
48-inch steel permanent installation (20 piles; ~300 mins per day on 10 days)	16,345	16,345	16,345	16,345	200 <sup>d</sup>		

<sup>&</sup>lt;sup>a</sup> Distances, in meters, apply to all marine mammal and avian species under NMFS and USFWS jurisdiction. The distances will act as a monitoring zone for species with authorized Level B take and as shutdown distances for species without authorized take, or in the case of humpback whales, during impact pile driving (see note d).

Source	Humpback Whales	Dall's Porpoises	Harbor Seals	Other NMFS- Jurisdiction Species	Northern Sea Otters
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<sup>&</sup>lt;sup>b</sup> Although acoustic injury is not the primary concern with these activities, shutdowns will be implemented to avoid impacts to species.

<sup>&</sup>lt;sup>c</sup> In-air distances apply to marine mammals that spend significant amounts of time hauled out (Steller sea lions and harbor seals) or at the water surface (northern sea otters).

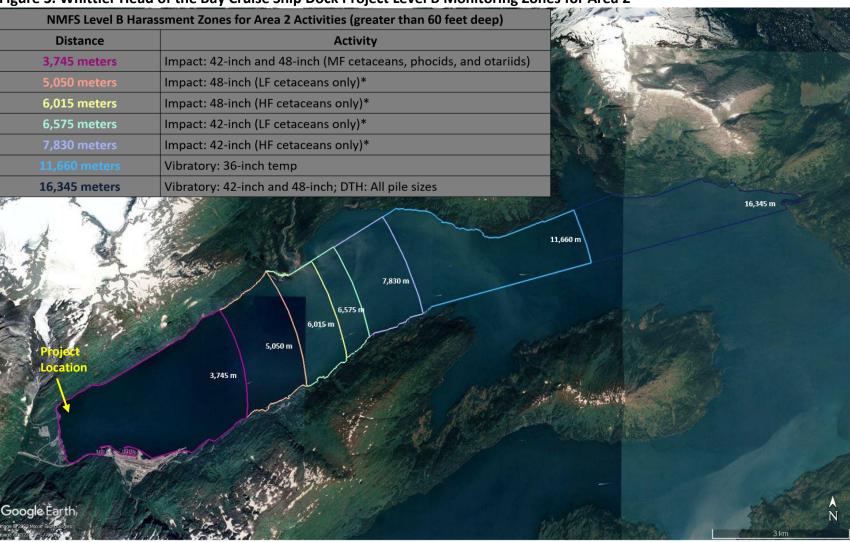
<sup>&</sup>lt;sup>d</sup> For certain species and certain pile driving activities, the Level A shutdown zones are larger than the Level B monitoring zones due to differences in calculation methods used by NMFS. Therefore, the Level B monitoring zones shown here represent the Level A shutdown zone for this activity.

MF = mid-frequency; LF = low-frequency; HF = high-frequency

Figure 2. Whittier Head of the Bay Cruise Ship Dock Project Level B Monitoring Zones for Area 1 NMFS Level B Harassment Zones for Area 1 Activities (less than 60 feet deep) **Activity** Distance 635 meters Impact: 36-inch (MF cetaceans and otariids) Impact: 36-inch (phocids only)\* **2,055** meters Impact: 36-inch (LF cetaceans only)\* Impact: 36-inch (HF cetaceans only)\* **2,400** meters Vibratory: 36-inch 16,345 meters DTH: 36-inch 5,415 m 2,400 m 2,055 m

\*Indicates Level A zone. Where Level A zone radii are larger than the corresponding Level B radii, the Level A zone is shown.

Figure 3. Whittier Head of the Bay Cruise Ship Dock Project Level B Monitoring Zones for Area 2



<sup>\*</sup>Indicates Level A zone. Where Level A zone radii are larger than the corresponding Level B radii, the Level A zone is shown.

MF = mid-frequency; LF = low-frequency; HF = high-frequency

Figure 4. Whittier Head of the Bay Cruise Ship Dock Project Northern Sea Otters Monitoring Zones

250 MHz	USFWS	Level B Harassment Zones
SOO VHZ	Distance	Activity
	25 meters	Vibratory: 36-inch
	35 meters	Vibratory: 42-inch and 48-inch
25m	70 meters	DTH: 36-inch and 42-inch*
70m	200 meters	DTH: 48-inch*
200m	1,360 meters	Impact: 36-inch
	3,745 meters	Impact: 42-inch and 48-inch
Project Location  Google Earth  Hege © 2022 CNES / Airbus	701 P101 P101 75 78	719 24 3,745m 108 82

<sup>\*</sup>Indicates a Level A zone. Where Level A zone radii are larger than the corresponding Level B radii, the Level A zone is shown.

#### **Shutdown Zones**

Shutdown zones are defined as areas where SPLs meet or exceed the level that would cause auditory injury to marine mammals and avian species. Shutdown zones are intended to protect marine mammals and avian species from auditory injury. In-water activities would be halted upon the sighting of a marine mammal or avian species that is in (or anticipated to enter) the shutdown zone.

Further, there will be a nominal 10-meter shutdown zone for construction activity where acoustic injury is not the primary concern. This type of work could include (but is not limited to) the following activities: movement of the barge to the pile location; positioning of the pile on the substrate via a crane (i.e., stabbing the pile); and removal of the pile from the water column/substrate via a crane (i.e., deadpull). For these activities, monitoring would take place starting 15 minutes before initiation and ending when the action is complete. This can be monitored by the vessel operator when a PSO is not present. Radial distances to Level A shutdown zone boundaries are defined in Table 5 and 6 and shown in Figures 5, 6, and 7.

Table 5. Whittier Head of the Bay Cruise Ship Dock Project Distances to Level A Shutdown Zones for Area 1 (60-foot isobath or shallower)

Activity	Low-Frequency (LF) Cetaceans	Mid-Frequency (MF) Cetaceans	High-Frequency (HF) Cetaceans	Though the state of the state o		Northern Sea Otters
	lı	n-Water Construction	Activities		<u>'</u>	
Barge movements, pile positioning, etc. <sup>a</sup> (throughout construction)	10	10	10	10	10	10
	,	/ibratory Pile Driving/	Removal			
36-inch temporary pile installation (36 piles; ~40 mins per day on 9 days)	10	10	10	10	10	15
36-inch temporary pile removal (36 piles; ~40 mins per day on 9 days)	10	10	10	10	10	15
36-inch steel permanent installation (36 piles; ~60 mins per day on 9 days)	10	10	10	10	10	15
		Impact Pile Drivi	ng			
36-inch steel permanent installation (36 piles; ~180 mins per day on 9 days)	2,055	2,400 <sup>b</sup>	2,400	1,100	80	170
		DTH Drilling				
36-inch temporary pile installation (18 piles; ~240 mins per day on 4.5 days)	700	35	825	370	35	70
36-inch steel permanent installation (36 piles; ~300 mins per day on 18 days)	800	35	1,000	430	35	70

Shutdown zone distances refer to the maximum radius of the zone and are rounded.

<sup>&</sup>lt;sup>a</sup> Although acoustic injury is not the primary concern with these activities, shutdowns will be implemented to avoid impacts to species. Due to the scale of the figures, this zone is not shown on every figure.

<sup>&</sup>lt;sup>b</sup> TMC has elected to conservatively apply thresholds for HF cetaceans to killer whales for impact pile driving. This species is an infrequent visitor to Passage Canal and is often highly visible, allowing for easier application of more conservative shutdown zones. This measure will reduce potential impacts to the highly vulnerable AT-1 killer whale stock that is found in this region should they enter the Passage Canal during the in-water work period.

Table 6. Whittier Head of the Bay Cruise Ship Dock Project Distances to Level A Shutdown Zones for Area 2 (60-foot isobath or deeper)

	Distance (in meters, m) to Level A					
Activity	Low-Frequency (LF) Cetaceans	Mid-Frequency (MF) Cetaceans	High-Frequency (HF) Cetaceans	Phocid	Otariid	Northern Sea Otters
	lı	n-Water Construction	Activities			
Barge movements, pile positioning, etc. <sup>a</sup> (throughout construction)	10	10	10	10	10	10
	,	/ibratory Pile Driving/	Removal			
36-inch temporary pile installation (36 piles; ~40 mins per day on 9 days)	35	35	35	15	15	15
36-inch temporary pile removal (36 piles; ~40 mins per day on 9 days)	35	35	35	15	15	15
42-inch steel permanent installation (16 piles; ~60 mins per day on 4 days)	35	35	35	15	15	15
48-inch steel permanent installation (20 piles; ~30 mins per day on 10 days)	35	35	35	15	15	15
		Impact Pile Drivi	ng			
42-inch steel permanent installation (16 piles; ~180 mins per day on 5.5 days)	6,575	7,830 <sup>b</sup>	7,830	1,360 <sup>c</sup>	260	260
48-inch steel permanent installation (20 piles; ~120 mins per day on 10 days)	5,050	6,015 <sup>b</sup>	6,015	1,360°	200	200
		DTH Drilling				
36-inch temporary pile installation (18 piles; ~240 mins per day on 4.5 days)	1,485	70	1,770	795	70	70
42-inch steel permanent installation (16 piles; ~300 mins per day on 8 days)	1,770	70	2,055	925	70	70
48-inch steel permanent installation (20 piles; ~300 mins per day on 10 days)	5,050	200	6,015	1,360 <sup>1</sup>	200	200

Activity	Low-Frequency (LF) Cetaceans	Mid-Frequency (MF) Cetaceans	High-Frequency (HF) Cetaceans	Phocid	Otariid	Northern Sea Otters

Shutdown zone distances refer to the maximum radius of the zone and are rounded.

<sup>&</sup>lt;sup>a</sup> Although acoustic injury is not the primary concern with these activities, shutdowns will be implemented to avoid impacts to species. Due to the scale of the figures, this zone is not shown on every figure.

<sup>&</sup>lt;sup>b</sup> TMC has elected to conservatively apply thresholds for HF cetaceans to killer whales for impact pile driving. This species is an infrequent visitor to Passage Canal and is often highly visible, allowing for easier application of more conservative shutdown zones. This measure will reduce potential impacts to the highly vulnerable AT-1 killer whale stock that is found in this region should they enter the Passage Canal during the in-water work period.

<sup>&</sup>lt;sup>c</sup> For phocids (harbor seals) only, the Level A shutdown zone would be reduced to 1,360 m for impact pile driving of 42- and 48-inch piles and DTH drilling of 48-inch piles to exclude the Whittier Public Boat Harbor.

Figure 5. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones for Area 1

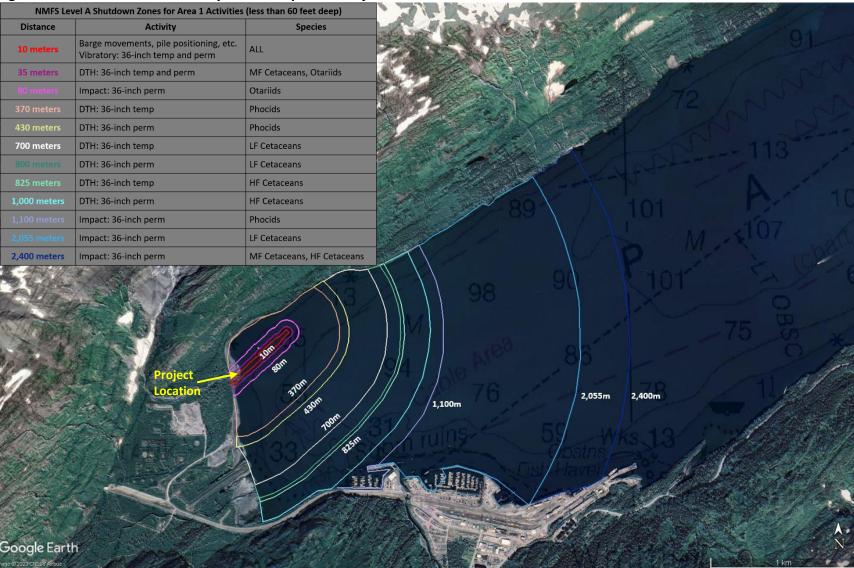


Figure 6. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones for Area 2

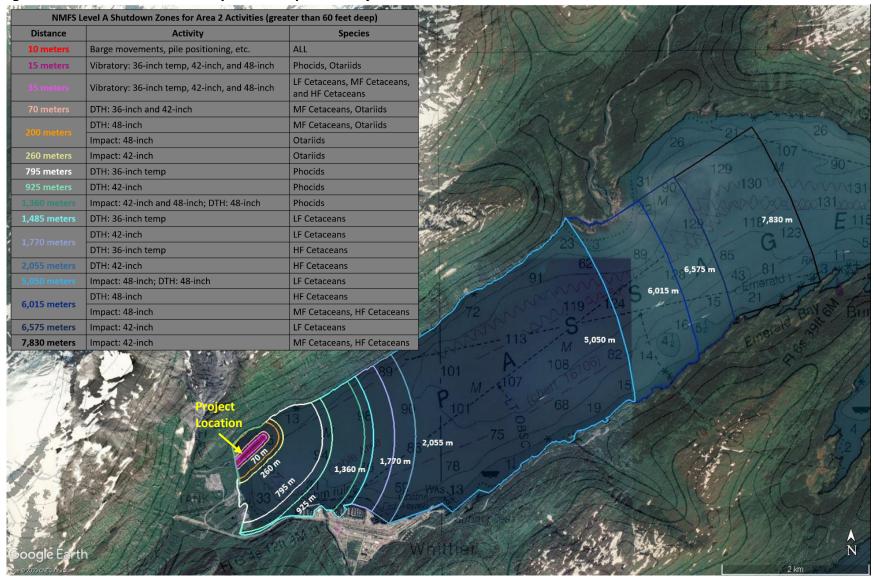
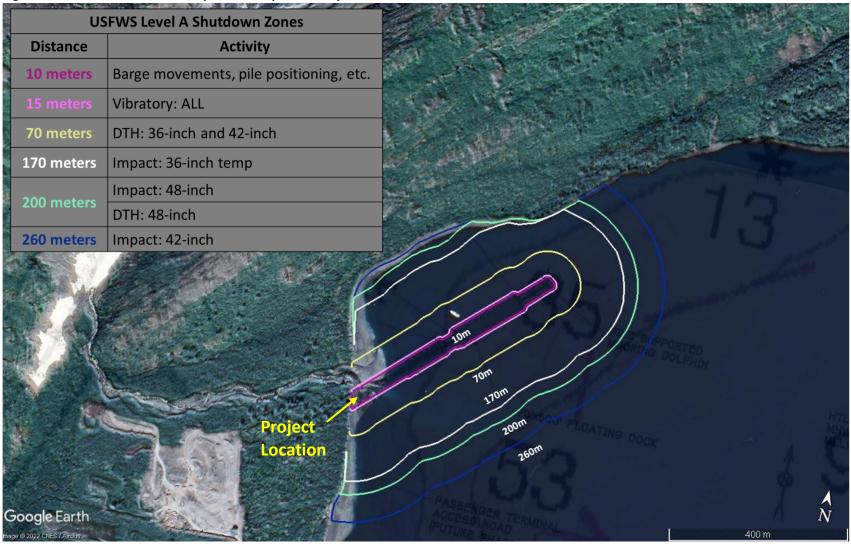


Figure 7. Whittier Head of the Bay Cruise Ship Dock Project Level A Shutdown Zones for Northern Sea Otter



#### **MITIGATION MEASURES**

The purpose of a marine mammal monitoring plan is to observe for marine mammals and avian species in the area where potential sound effects may occur. Work will be stopped or delayed if a non-permitted marine mammal or avian species is sighted in the Level B monitoring area or Level A shutdown area. Work will not begin or resume until the marine mammal or avian species has moved out of the monitoring area on its own accord.

The following mitigation measures will be implemented during in-water activities to limit impacts to marine mammals and avian species, including ESA-listed species.

#### General Conditions and Requirements

- Turnagain will employ a 60-foot-deep bubble curtain during installation (all pile driving methods) of piles occurring at the 60-foot isobath or shallower. This includes all temporary and permanent piles to support the approach trestle (Area 1). Through consultation and coordination with NMFS, a 5 dB reduction would be applied to the estimated sound source levels for driving these piles only with a subsequent reduction in Level B monitoring zones and Level A shutdown zones.
- Turnagain will attempt to minimize the use of an impact hammer to the extent possible by utilizing a vibratory hammer to advance the piling as deep as possible prior to switching to impact driving.
- Turnagain will also employ pile caps and the 60-foot-deep bubble curtain during impact pile driving to reduce noise impacts. Sound source levels used in the application to estimate sound isopleths and action areas were not reduced due to use of either the pile caps or bubble curtain when depths were greater than 60 feet.
- Pile caps (pile softening material) will be used to minimize noise during impact pile
  driving. Much of the noise generated during pile installation comes from contact
  between the pile and the steel template used to stabilize the pile. The contractor will
  use high-density polyethylene or ultra-high-molecular-weight polyethylene softening
  material on all templates to eliminate steel-on-steel noise.
- The contractor is required to conduct briefings for construction supervisors and crews and the monitoring team prior to the start of all pile driving activity, and upon hiring new personnel, to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures.
- The contractor is required to employ PSOs during all in-water construction activities.
- Marine mammal monitoring must take place starting 30 minutes prior to initiation of inwater work and ending 30 minutes after completion of in-water work. In-water work may commence when observers have declared the appropriate zones clear of marine mammals or avian species. In the event of a delay or shutdown of activity resulting from marine mammals or avian species in the shutdown zone (Table 5), their behavior must be monitored and documented until they leave of their own volition, at which point the activity may begin or resume.

- In-water work must be halted or delayed if a marine mammal or avian species is
  observed entering or within an established shutdown zone (Table 5 and 6). Pile driving
  may not commence or resume until either: the animal has voluntarily left and has been
  visually confirmed beyond the shutdown zone; 15 minutes have passed without
  subsequent observations of small cetaceans and pinnipeds; or 30 minutes have passed
  without subsequent observations of large cetaceans or sea otter.
- The contractor must use soft start techniques when impact pile driving.
- In-water work must be delayed or halted immediately if a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized takes are met, is observed approaching or within the monitoring zone (Table 3 and 4). Activities must not start or resume until the animal has been confirmed to have left the area or the observation time period, as indicated in the conditions above, has elapsed.
- In-water work would only occur during daylight hours.
- Should light or environmental conditions deteriorate such that marine mammals within
  the entire largest Level A shutdown zone would not be visible (e.g., fog, heavy rain), pile
  driving and removal must be delayed until the PSOs are confident marine mammals or
  avian species within the shutdown zone could be detected.
- PSOs will work in shifts lasting no longer than 4 hours with at least a 1-hour break between shifts, and will not perform PSO duties for more than 12 hours in a 24-hour period (to reduce PSO fatigue).

#### **Observer Qualifications and Requirements**

- Visual acuity in both eyes (correction is permissible) sufficient to discern moving targets at the water's surface and ability to estimate target size and distance. Use of binoculars and/or spotting scope may be necessary to correctly identify the target.
- Advanced education in biological science, wildlife management, mammalogy or related fields (Bachelor's degree or higher is preferred), or equivalent Alaska Native traditional knowledge. PSOs may substitute education or training for experience.
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
- Experience or training in field identification of marine mammals (cetaceans and pinnipeds).
- Training, knowledge of or experience with vessel operation and pile driving operations sufficient to provide personal safety during observations.
- Writing skills sufficient to prepare a report of observations. Reports should include: the number, type, and location of marine mammals observed; the behavior of marine mammals in the area of potential sound effects during construction; dates and times when observations and in-water construction activities were conducted; dates and

times when in-water construction activities were suspended because of marine mammals; etc.

- Ability to communicate orally as needed, by radio or in person, with project personnel to provide real time information about marine mammals observed in the area.
- PSOs must be independent (*i.e.*, not construction personnel) and have no other assigned tasks during monitoring periods.
- A lead observer or monitoring coordinator must be designated if a team of three or more PSOs are required. The lead observer must have prior experience working as a marine mammal observer during construction.
- The contractor must submit PSO CVs for approval by NMFS and USFWS prior to the onset of pile driving.

#### **Data Collection**

#### **Environmental Conditions and Construction Activities**

PSOs will use the environmental conditions and construction activities log to document the following (Appendix B):

- Environmental Conditions:
  - Environmental conditions will be recorded at the beginning and end of every monitoring period and as conditions change.
  - Recordings will include PSO names, location of the observation station, time and date of the observation, weather conditions, air temperature, sea state, cloud cover, visibility, glare, tide, and ice coverage (if applicable).
- Construction Activities:
  - PSOs will record the time that observations begin and end as well as the durations of shutdowns.
  - PSOs will document the reason for stopping work, time of shutdown, and type of pile installation or other in-water work taking place.
  - PSOs will document other, non-project-related activities that could disturb marine mammals in the area, such as the presence of large and small vessels.

PSOs will record all communications with the construction crew. The environmental conditions and construction activities log will be checked for quality assurance and quality control (QA/QC) by the lead PSO for submission at the end of every monitoring day. Upon request, the data will be submitted to NMFS and USFWS along with the final report.

#### Sightings

Observers will use an approved marine mammal sighting form and GPS grid maps (Appendices C and D) which will be completed by each observer for each survey day and location. Sighting forms will be used by observers to record the following:

• Date and time that permitted construction activity begins or ends;

- Weather parameters (e.g., percent cloud cover, percent glare, visibility) and sea state (determined by the Beaufort Wind Force Scale);
- Species, numbers, and, if possible, sex and age class of observed marine mammals;
- Construction activities occurring during each sighting;
- Behavioral patterns observed, including bearing and direction of travel;
- Behavioral reactions just prior to, or during, soft-start and shutdown procedures;
- The marine mammal's location, distance from the observer, and distance from pile removal activities;
- Whether mitigation measures, including shutdown procedures, were required by an observation, including the duration of each shutdown;
- Observer rotations including the time of rotation and the initials of the incoming observer.

The observation record forms will be checked for quality assurance and quality control (QA/QC) by the lead PSO for submission at the end of every monitoring day. Upon request, the data will be submitted to NMFS and USFWS along with the final report.

#### Equipment

The following equipment will be required to conduct observations for this project:

- Appropriate personal protective equipment;
- Portable VHF radios for the observers to communicate with other observers and the pile driving supervisor;
- Cellular phone as backup for radio communication;
- Contact information for the other observers, the pile driving supervisor, and the NMFS and USFWS point of contact;
- Daily tide tables for the project area;
- Binoculars (quality 7 x 50 or better) and a rangefinder;
- Hand-held GPS unit, or grid map along with map and stand-alone compass or clinometer to record locations of marine mammals;
- Copies of the 4MP, IHA, and other relevant permit requirement specifications in a sealed, clear, plastic cover;
- Notebook with pre-standardized monitoring observation record forms and grid maps (Appendices C and D);
- Spotting scope 20-60x and tripod (for PSO station in Begich Towers: Gosky 20-60x 80mm BAK4 high-definition waterproof spotter scope).

#### Number and Location of PSOs

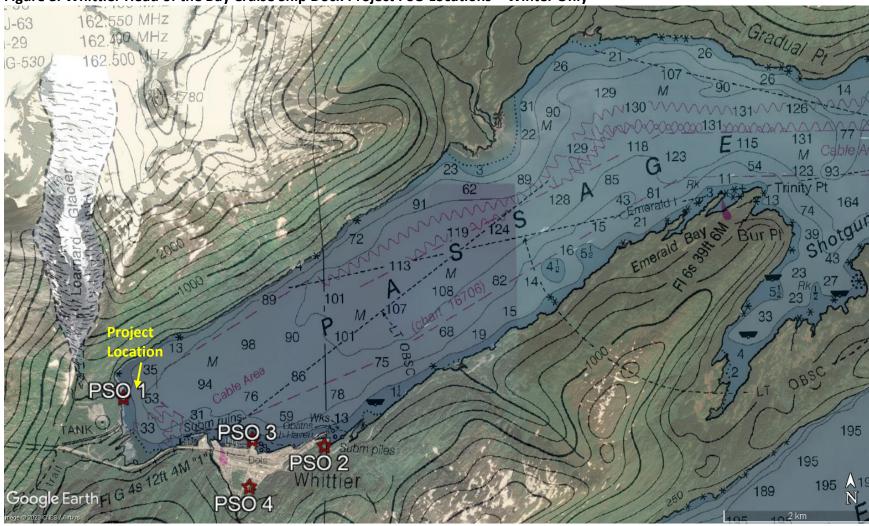
The number of locations of PSOs are determined to ensure that there is full coverage of the entire action area during all in-water activities. Locations are chosen based on site accessibility and field of vision.

One to four PSOs will be onsite during in-water activities associated with the Whittier Head of the Bay Cruise Ship Dock Project. For the winter season only, all four PSOs will be moved to locations on the Whittier road system as some sites would become inaccessible due to snow and poor weather conditions (Figure 8):

- Station 1: stationed just to the south of the site on the shore.
- Station 2: stationed off Depot Road near the freight loading dock.
- Station 3: stationed at the harbor breakwater.
- Station 4: stationed within a north-facing room (looking towards Passage Canal) at the 12<sup>th</sup> floor or above. The location would remain as consistent as possible but may move between the 12<sup>th</sup> and 15<sup>th</sup> floors during the season.

The number and locations of monitors will be based on the following in-water work scenarios:

- Scenario #1: In-water construction not involving pile driving; barge movements, etc.
  - One location: Station 1
- Scenario #3: Impact hammer, vibratory hammer, and DTH drill installation of all pile sizes
  - Four locations: Stations 1 4



#### Strike Avoidance

Vessels will adhere to the Alaska Humpback Whale Approach Regulations when transiting to and from the project site (see 50 CFR §§ 216.18, 223.214, and 224.103(b)). These regulations require that all vessels:

- Do not approach, or cause a vessel or object to approach, within 100 yards of a humpback whale;
- Do not obstruct the path of oncoming humpback whales causing them to surface within 100 yards of the vessel;
- Do not disrupt the normal behavior or prior activity of a whale; and
- Operate at a slow, safe speed when near a humpback whale (safe speed is defined in regulation 33 CFR § 83.06).

Vessels will follow the NMFS Marine Mammal Code of Conduct for other species of marine mammals, which recommend: maintaining a minimum distance of 100 yards; not encircling or trapping marine mammals between boats, or between boats and the shore; and putting engines in neutral if approached by a whale or other marine mammal to allow the animals to pass.

#### **Monitoring Techniques**

#### Pre-Activity Monitoring

The following monitoring methods will be implemented before permitted construction begins:

- The lead PSO and Contractor Superintendent will meet at the start of each day to discuss planned construction activities for the day and to conduct a radio/phone check.
- Prior to the start of permitted activities, observers will conduct a 30-minute pre-watch
  of the shutdown and monitoring zones. They will ensure that no marine mammals or
  avian species are present within the shutdown zone before permitted activities begin.
- The shutdown zone will be cleared when marine mammals have not been observed
  within the zone for the 30-minute pre-watch period. If a marine mammal is observed
  within the shutdown zone, a soft-start cannot proceed until the animal has left the zone
  or has not been observed for 15 minutes (for pinnipeds) or 30 minutes (for cetaceans
  and sea otters).
- When all applicable exclusion zones are clear, the observers will radio the pile driving supervisor. Permitted activities will not commence until the pile driving supervisor receives verbal confirmation that the zones are clear.
- If permitted species are present within the monitoring zone, work will not be delayed, but observers will monitor and document the behavior of individuals that remain in the monitoring zone.
- In case of fog or reduced visibility, observers must be able to see all of the shutdown zones before permitted activities can begin.

#### Soft Start Procedures

Soft start procedures will be used prior to periods of impact driving to allow marine mammals to leave the area prior to exposure to maximum noise levels. Soft start procedures for vibratory pile driving will not be implemented and are not required.

- The contractor will initiate approximately three strikes at a reduced energy level, followed by a 30-second waiting period. This procedure would be repeated twice more.
- If work ceases for more than 30 minutes, soft start procedures must be used prior to continuing work.

#### **During Activity Monitoring**

If permitted species are observed within the monitoring zone during permitted activities, a Level B takes will be recorded and behaviors will be documented. Work will not stop unless an animal enters or appears likely to enter the shutdown zone.

#### Inclement Weather

Passage Canal often experiences increased sea states and inclement weather. If inclement weather, limited visibility, or increased sea state restricts the observers' ability to make observations, in-water activities will not be initiated or continued until the largest Level A shutdown zone for the activity is visible.

If visibility is diminished, but the parameters for initiating or continuing work (referenced above) are met, the following should occur:

- All appropriate PSO locations for the planned in-water activities should be occupied for the entirety of the monitoring period regardless of visibility.
- All PSO locations should collectively determine what percentage of the Level B zone is visible for use in calculating extrapolations. The lead PSO should document this with time stamps as conditions change and this percentage should be adopted by all PSO locations.
- Extrapolate takes for each species with authorized take using the equation below.

Number of individuals sighted in the visible portion of the Level B zone  $\div$  percentage of visible Level B zone = extrapolated takes for species

#### **Shutdowns**

If a marine mammal enters or appears likely to enter its respective shutdown zone:

- The observers will immediately alert the pile driving supervisor.
- All permitted activities will immediately halt.
- In the event of a shutdown, permitted pile installation or removal activities may resume only when the animal(s) within or approaching the shutdown zone has been visually confirmed beyond or heading away from the shutdown zone, or 15 minutes (for pinnipeds) or 30 minutes (for cetaceans and sea otters) have passed without

observation of the animal. Observers will contact the pile driving supervisor and inform them that activities can re-commence.

#### Breaks in Work

Shutdown and monitoring zones will continue to be monitored during an in-water construction delay. No exposures will be recorded for permitted species in the monitoring zone if there are no concurrent permitted construction activities.

If permitted activities cease for more than 30 minutes and monitoring has not continued, preactivity monitoring and soft start procedures must recommence. This includes breaks due to scheduled or unforeseen construction practices or breaks due to permit-required shutdown. Work can begin following the 30-minute pre-watch monitoring protocols. Work cannot begin if an animal is within the shutdown zone or if visibility is not clear throughout the Level A shutdown zones.

#### Post Activity Monitoring

Monitoring of the shutdown and monitoring zones will continue for 30 minutes following completion of in-water activities. PSOs will continue to record observations during this postwatch period, with a focus on observing and reporting unusual or abnormal behaviors.

If construction were to resume during the post-watch period, PSOs will follow pre-watch protocols to ensure that that the shutdown and monitoring zones are clear prior to work resuming.

#### REPORTING

#### Notification of Intent to Commence Construction

The contractor will inform NMFS OPR, NMFS Alaska Region Protected Resources Division, and USFWS one week prior to commencing construction activities.

#### **Weekly Sighting Counts**

A summary of the following will be submitted to the construction project manager at the conclusion of each week of construction activity (Friday evening):

- Completed monitoring forms for the week
- Completed environmental conditions and construction activity logs for the week
- Preliminary counts of sightings and takes per species

#### **Interim Monthly Reports**

The contractor will submit brief, monthly reports to the NMFS Alaska Region Protected Resources Division and USFWS summarizing PSO observations and recorded takes during construction. Monthly reporting will allow NMFS and USFWS to track takes (including extrapolated takes) and reinitiate consultation in a timely manner, if necessary. Monthly reports will be submitted by email to <a href="mailto:akr.section7@noaa.gov">akr.section7@noaa.gov</a> and USFWS fw7 mmm reports@fws.gov.

The reporting period for each monthly PSO report will be the entire calendar month, and reports will be submitted by the end of business hours on the tenth day of the month following the end of the reporting period (e.g., the monthly report covering September 1–30, 2023, would be submitted to the NMFS and USFWS by close of business on October 10, 2023).

#### **Final Report**

The contractor will submit a draft final report by email to <a href="mailto:akr.section7@noaa.gov">akr.section7@noaa.gov</a> and <a href="mailto:fw7">fw7</a> mmm reports@fws.gov</a> no later than 90 days following the end of construction activities. The contractor will provide a final report within 30 days following resolution of NMFS and USFWS's comments on the draft report. If no comments are received from the agencies within 30 days, the draft final report will be considered the final report.

The final reports will contain, at minimum, the following information:

- A summary of construction activities, including start and end dates.
- A description of any deviation from the initially proposed pile numbers, pile types, average driving times, etc.
- A table summarizing all marine mammal sightings during the construction period, including:
  - dates, times, species, numbers, locations, and behaviors of any observed ESAlisted marine mammals, including all observed humpback whales and Steller sea lions;
  - daily average number of individuals of each species (differentiated by month as appropriate) detected within the Level A and Level B zones, and whether estimated as taken, if appropriate; and
  - o the number of shut-downs throughout all monitoring activities.
- A brief description of any impediments to obtaining reliable observations during construction period.
- A description of any impediments to complying with these mitigation measures.
- Appendices containing all PSO daily logs and marine mammal sighting forms.

#### Reporting Injured or Dead Marine Mammals

If it is clear that project activity has caused the take of a marine mammal in a manner prohibited by the (requested) IHA, such as unauthorized Level A harassment, serious injury, or mortality, the contractor shall immediately cease the specified activities and report the incident to NMFS OPR, the NMFS Alaska Region Protected Resources Division, and the NMFS statewide 24-hour Stranding Hotline (877) 925-7773. If a sea otter, report to the USFWS Marine Mammal Management Office at (800) 362–5148, or the Alaska SeaLife Center in Seward (888) 774–7325, or both.

The report must include the following:

- Time and date of the incident
- Description of the incident
- Environmental conditions (e.g., wind speed and direction, Beaufort Sea state, cloud cover and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;

- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and;
- Photographs or video footage of the animal(s) (if available).

Activities will not resume until NMFS or USFWS is able to review the circumstances of the unauthorized take. NMFS or USFWS would work with the contractor to determine what measures are necessary to minimize the likelihood of further unauthorized take and ensure ESA and MMPA compliance. The contractor may not resume their activities until notified by NMFS or USFWS.

In the event that the contractor discovers an injured or dead marine mammal within the action area, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (e.g., in less than a moderate state of decomposition), the contractor will immediately report the incident to the USFWS or NMFS OPR, and the NMFS Alaska Regional Stranding Coordinator or Hotline.

The report must include the same information identified in the paragraph above. Activities may continue while NMFS or USFWS reviews the circumstances of the incident. NMFS or USFWS will work with the contractor to determine whether additional mitigation measures or modifications to the activities are appropriate.

In the event that the contractor discovers an injured or dead marine mammal and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the contractor must report the incident to the NMFS OPR and the NMFS Alaska Regional Stranding Coordinator or Hotline within 24 hours of the discovery. If a sea otter, it must be reported to USFWS within 24 hours of the discovery to either the USFWS Marine Mammal Management Office at (800) 362–5148 (business hours), or the Alaska SeaLife Center in Seward (888) 774–7325 (24 hours a day), or both. The contractor will provide photographs, video footage (if available), or other documentation of the stranded animal sighting to NMFS or USFWS.

## Appendix A: List of Species with Ranges in the Project Action Area

#### Species and their Status Listed by the NMFS Mapper and USFWS IPaC Mapper that May Occur in the Project Vicinity

Cmaaiaa	Chatra Liatina	l	00000000000	Link to Cupping Duefile
Species	Status Listing	Jurisdiction	Occurrence	Link to Species Profile
Gray Whale (Eschrichtius robustus)	MMPA	NMFS	Very rare	https://www.fisheries.noaa.gov/species/gray-whale
North Pacific Right Whale (Eubalaena japonica)	ESA Endangered	NMFS	Very rare	https://www.fisheries.noaa.gov/species/north- pacific-right-whale
Minke Whale (Balaenoptera acutorostrata)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/minke-whale
Fin Whale (Balaenoptera physalus)	ESA Endangered	NMFS	Very rare	https://www.fisheries.noaa.gov/search?oq=fin+whale
Humpback Whale (Megaptera novaeangliae)	Western North Pacific DPS: ESA Endangered; Mexico DPS: Threatened	NMFS	Infrequent	https://www.fisheries.noaa.gov/species/humpback- whale
Sperm Whale (Physeter macrocephalus)	ESA Endangered	NMFS	Very rare	https://www.fisheries.noaa.gov/species/sperm-whale
Dall's Porpoise (Phocoenoides dalli)	ММРА	NMFS	Infrequent	https://www.fisheries.noaa.gov/species/dalls- porpoise
Harbor Porpoise (Phocoena phocoena)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/harbor- porpoise
Pacific White-Sided Dolphin (Lagenorhynchus obliquidens)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/pacific- white-sided-dolphin
Killer Whale (Orcinus orca)	MMPA	NMFS	Infrequent	https://www.fisheries.noaa.gov/species/killer-whale
Harbor Seal (Phoca vitulina)	ММРА	NMFS	Common	https://www.fisheries.noaa.gov/species/harbor-seal
Northern Fur Seal (Callorhinus ursinus)	ММРА	NMFS	Very rare	https://www.fisheries.noaa.gov/species/northern- fur-seal
Steller Sea Lion (Eumetopias jubatus)	WDPS: ESA Endangered	NMFS	Common	https://www.fisheries.noaa.gov/species/steller-sea- lion

Species	Status Listing	Jurisdiction	Occurrence	Link to Species Profile
Northern Sea Otter	ESA	LICEVAC	Common	https://www.fws.gov/alaska/pages/endangered-
(Enhydra lutris kenyoni)	ESA	USFWS		Common

# Appendix B: Construction Activity and Communication Log

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### **Construction Activity and Communication Log**

Project:	Location:	Observer(s):	Date:

Time	Pile Size	Pile Type	Construction Type	Obs.	Construction Personnel	Communication/Comments

Filling Out Construction Activity and Communication Logs								
Data Columns Definition and How to Record								
General Information (top of form)								
Project Time that monitoring by MMOs/PSOs began and ended, without interruption (military time)								
Project Name	Whittier Head of the Bay Cruise Ship Dock							
Monitoring Location	See 4MP							
Observer	Names of Observers at each location							
Date	MM/DD/YYYY							
	Construction and Communication Activities							
Time of event	Time that construction activities and all communications between MMOs/PSOs and construction crews take place							
Type of construction activity	Type of construction activity occurring, including ramp up, startup, shutdown, type of pile installation technique, pile size, and pile type (permanent or temporary)							
Communication	Information communicated between MMOs/PSOs and construction crew							

### **Appendix C: Marine Mammal Sighting Form**

## MARINE MAMMAL OBSERVATION RECORD

Project Nam	ie:	
Monitoring 1		
Date:		
Time Effort	Initiated:	
Time Effort	Completed:	
D		

Time	Visibility (distance)	Glare	Weather Condition	Wave Height	BSS	Wind	Swell
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW
:		%	S - PC - L - R - F - OC - SN - HR	Lt/Mod/Hvy		NSEW	NSEW

Event Code	Sight # (1 or 1.1 if re- sight)	Time/Dur (Start/End time if cont.)	WP/ Grid #/ DIR of travel	Distance from Pile	Obs.	Sighting Cue	Species	Group Size	Behavior Code (see code sheet)	Construction Type	Mitigation Type	Exposure (Y/N)	Behavior Change/ Response to Activity/Comments/Human Activity/Vessel Hull # or Name/ Visibility Notes
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		DR I V OWC NOWC NONE	DE SD None		

#### Marine Mammal Observation Record - Sighting Codes

#### **Behavior Codes**

Code	Behavior	Definition							
BR	Breaching	Leaps clear of water							
CD	Change Direction	Suddenly changes direction of travel							
CH	Chuff	Makes loud, forceful exhalation of air at surface							
DI	Dive	Forward dives below surface							
DE	Dead	Shows decomposition or is confirmed as dead by investigation							
DS	Disorientation	An individual displaying multiple behaviors that have no clear direction or purpose							
FI	Fight	Agonistic interactions between two or more individuals							
FO	Foraging	Confirmed by food seen in mouth							
MI	Milling	Moving slowly at surface, changing direction often, not moving in any particular direction							
PL	Play	Behavior that does not seem to be directed towards a particular goal; may involve one, two or more individuals							
PO	Porpoising	Moving rapidly with body breaking surface of water							
SL	Slap	Vigorously slaps surface of water with body, flippers, tail etc.							
SP	Spyhopping	Rises vertically in the water to "look" above the water							
SW	Swimming	General progress in a direction. Note general direction of travel when last seen [Example: "SW (N)" for swimming north]							
TR	Traveling	Traveling in an obvious direction. Note direction of travel when last seen [Example: "TR (N)" for traveling north]							
UN	Unknown	Behavior of animal undetermined, does not fit into another behavior							
AWA	Approach Work	·							
LWA	Leave Work Area								
		Pinniped only							
EW	Enter Water (from haul out )	Enters water from a haul-out for no obvious reason							
FL	Flush (from haul out)	Enters water in response to disturbance							
НО	Haul out (from water)	Hauls out on land							
RE	Resting	Resting onshore or on surface of water							
LO	Look	Is upright in water "looking" in several directions or at a single focus							
SI	Sink	Sinks out of sight below surface without obvious effort (usually from an upright position)							
VO	Vocalizing	Animal emits barks, squeals, etc.							
	Cetacean only								
LG	Logging	Resting on surface of water with no obvious signs of movement							

Sea State and Wave Height: Use Beaufort Sea State Scale for Sea State. This refers to the surface layer and whether it is glassy in appearance or full of white caps. In the open ocean, it also considers the wave height or swell, but in inland waters the wave height (swells) may never reach the levels that correspond to the correct surface white cap number. Therefore, include wave height for clarity.

**Glare**: Percent glare should be the total glare of observers' area of responsibility. Determine if observer coverage is covering 90 degrees or 180 degrees and document daily. Then assess total glare for that area. This will provide needed information on what percentage of the field of view was poor due to glare.

**Swell Direction:** Swell direction should be where the swell is coming from (S for coming from the south). If possible, record direction relative to fixed location (pier). Choose this location at beginning of monitoring project.

Wind Direction: Wind direction should also be where the wind is coming from.

#### **Event**

Code	Activity Type
E ON	Effort On
E OFF	Effort Off
PRE	Pre-Construction Watch
POST	Post-Construction Watch
CON	Construction (see types)
S	Sighting
М	Mitigation
OR	Observer Rotation

### **Sighting Cues**

Distance Visible
Blow
Body
Breach
Dorsal Fin
Surface Activity
Other

#### **Marine Mammal Species**

Code	Marine Mammal Species								
STSL	Steller Sea Lion								
HPBK	Humpback Whale								
HAPO	Harbor Porpoise								
DAPO	Dall's Porpoise								
PSWD	Pacific white-sided dolphin								
SO	Sea Otter								
HSEA	Harbor Seal								
MINKE	Minke Whale								
ORCA	Killer Whale								

### **Construction Type**

Code	Activity Type
OWC	Over-Water Construction
NOWC	No Over-Water Construction
V	Vibratory Hammer
ı	Impact Hammer
DR	Drilling
NONE	No Construction

### **Mitigation Codes**

Code	Activity Type
DE	Delay onset of In-Water Work
SD	Shutdown In-Water Work

### **Weather Conditions**

Code	Weather Condition
S	Sunny
PC	Partly Cloudy
L	Light Rain
R	Steady Rain
F	FOG
OC	Overcast
SN	Snow
HR	Heavy Rain

### **Wave Height**

Code	Wave Height
Light	0-3 ft
Moderate	4-6 ft
Heavy	>6 ft

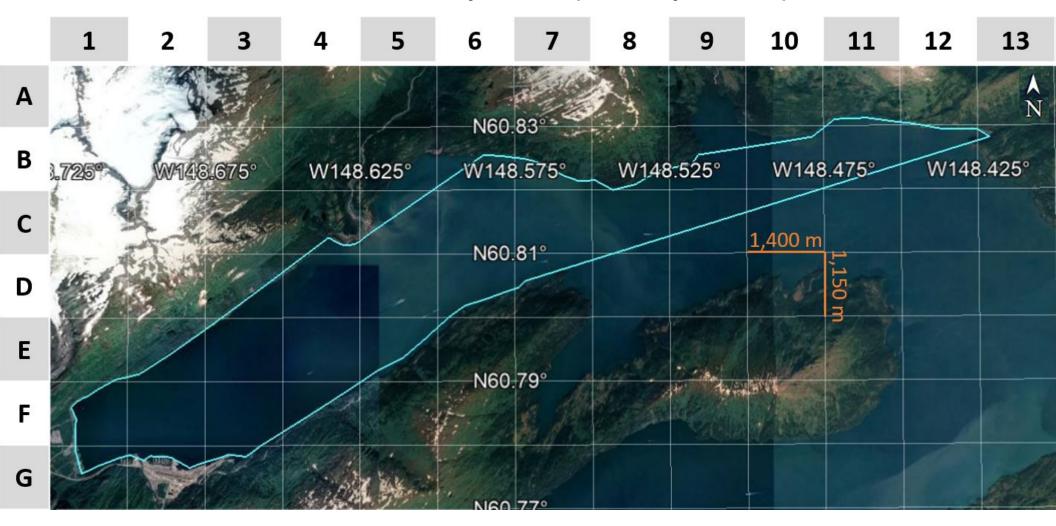
Filling Out Sighting Forms											
Data Columns Definition and How to Record Data											
Genera	General Information (Top of Form)										
Project Name	Whittier Head of the Bay Cruise Ship Dock										
Monitoring Location	See 4MP										
Date	MM/DD/YYYY										
Time effort initiated and completed	Time started pre-watch and time post-watch ended										
	(military time). If there is more than one monitoring										
	period in a day, start a new form for each period.										
Env	vironmental Conditions										
<b>Environmental Conditions</b>	Record at the start of monitoring period, when										
	changes, and at the end of monitoring period.										
Visibility	Estimate of visibility distance (in meters or kilometers)										
Glare	Amount of water obstructed by glare (0-100%) and										
	direction of glare (from south, north, or another										
	direction)										
Weather conditions	Dominant weather conditions: sunny (S), partly cloudy										
	(PC), light rain (LR), steady rain (R), fog (F), overcast										
	(OC), light snow (LS), snow (SN)										
Wave Height	Lt-light, Mod-moderate, Hvy-heavy										
Wind and Swell direction	From the north (N), northeast (NE), east (E), southeast										
	(SE), south (S), southwest (SW), west (W), northwest										
	(NW)										
Beaufort Sea State	Scale 1-12. See BSS sheet.										
	Sightings										
Event Code	Indicates what events are happening at the time of the										
	sighting, what events may have occurred due to the										
	sighting, and observer rotations.										
Time/Duration	Time first sighted and time of last sighting (military										
	time).										
Sighting Number	Chronological (1,2,3, etc.)										
	If the same marine mammal is resighted at a distance										
	greater than 25 meters from the original sighting										
	location record as a resight										
	(Ex. 1.1- same marine mammal as sighting 1, but										
	sighted for a second time in different location)										
Waypoint (WP)/Grid #/DIR of Travel	Grid number that marine mammal was sighted in and										
	direction of travel. Format should be <i>grid map letter</i> -										
	grid (Example: If a marine mammal is sighted in grid 2B										
	on <b>Grid Map B</b> this should be denoted by <b>B-2B</b> ).										
Distance from Pile	Distance from pile driving site to the sighted marine										
	mammal.										

Observer (Obs.)	Initials of the Observer who sighted the marine					
	mammal or who is coming on shift during a rotation					
Sighting Cue	How was the marine mammal sighted					
Species	Appropriate species abbreviation from code sheet					
Group Size	Record the minimum and maximum number of					
	individuals that were sighted. Then determine and					
	record the best number of individuals.					
Behavior	Behaviors observed using appropriate abbreviations					
	from code sheet					
Construction Type	Circle construction type that is actively occurring at the					
	time and for the duration of the sighting.					
Mitigation Type	Circle mitigation type, if any. Based upon monitoring					
	and shutdown zones does a delay of work (pre-watch					
	and post-watch) or a shutdown (monitoring period)					
	need to occur.					
Exposure	If a marine mammal enters its Level A or Level B					
	distance and work is actively occurring it will be an					
	exposure indicate yes (Y). If no work is actively					
	occurring indicate no (N)					

Estimating Wind Speed and Sea State with Visual Clues														
Beaufort number	Wind Description	Wind Speed	Wave Height	Visual Clues										
0	Calm	0 knots	0 feet	Sea is like a mirror. Smoke rises vertically.										
1	Light Air	1-3 kts	< 1/2	Ripples with the appearance of scales are formed, but without foam crests. Smoke drifts from funnel.										
2	Light breeze	4-6 kts	1/2 ft (max 1)	Small wavelets, still short but more pronounced, crests have glassy appearance and do not break. Wind felt on face. Smoke rises at about 80 degrees.										
3	Gentle Breeze	7-10 kts	2 ft (max 3)	Large wavelets, crests begin to break. Foam of glassy appearance. Perhaps scattered white horses (white caps). Wind extends light flag and pennants. Smoke rises at about 70 deg.										
4	Moderate Breeze	11-16 kts	3 ft (max 5)	Small waves, becoming longer. Fairly frequent white horses (white caps). Wind raises dust and loose paper on deck. Smoke rises at about 50 deg. No noticeable sound in the rigging. Slack halyards curve and sway. Heavy flag flaps limply.										
				Moderate waves, taking more pronounced long form. Many white horses (white caps) are formed (chance of some spray).										
5	Fresh Breeze	17-21kts	6 ft (max 8)	Wind felt strongly on face. Smoke rises at about 30 deg. Slack halyards whip while bending continuously to leeward. Taut halyards maintain slightly bent position. Low whistle in the rigging. Heavy flag doesn't extended but flaps over entire length.										
				Large waves begin to form. White foam crests are more extensive everywhere (probably some spray).										
6	Strong Breeze	22-27 kts	9 ft (max 12)	Wind stings face in temperatures below 35 deg F (2C). Slight effort in maintaining balance against wind. Smoke rises at about 15 deg. Both slack and taut halyards whip slightly in bent position. Low moaning, rather than whistle, in the rigging. Heavy flag extends and flaps more vigorous.										
7	Near Gale	28-33 kts	13 ft (max 19)	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of wind. Necessary to lean slightly into the wind to maintain balance. Smoke rises at about 5 to 10 deg. Higher pitched moaning and whistling heard from rigging. Halyards still whip slightly. Heavy flag extends fully and flaps only at the end. Oilskins and loose clothing inflate and pull against the body.										
8	Gale	34-40 kts	18 ft (max 25)	Moderately high waves of greater length. Edges of crests begin to break into the spindrift. The foam is blown in well-marked streaks along the direction of the wind. Head pushed back by the force of the wind if allowed to relax. Oilskins and loose clothing inflate and pull strongly. Halyards rigidly bent. Loud whistle from rigging. Heavy flag straight out and whipping.										
9	Strong Gale	41-47 kts	23 ft (max 32)	High waves. Dense streaks of foam along direction of wind. Crests of waves begin to topple, tumble and roll over. Spray may affect visibility.										
10	Storm	48-55 kts	29 ft (max 41)	Very high waves with long overhanging crests. The resulting foam, in great patches is blown in dense streaks along the direction of the wind. On the whole, the sea takes on a whitish appearance. Tumbling of the sea becomes heavy and shock-like. Visibility affected.										
11	Violent Storm	56-63 kts	37 ft (max 52)	Exceptionally high waves (small and medium-sized ships might be for time lost to view behind the waves). The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere, the edges of the wave crests are blown into froth. Visibility greatly affected.										
12	Hurricane	64+ kts	45+ ft	The air is filled with foam and spray. The sea is completely white with driving spray. Visibility is seriously affected.										

# **Appendix D: Grid Maps**

## Whittier Head of the Bay Cruise Ship Dock Project Grid Map



# **Attachment B: Marine Mammal Sighting and Pile Driving Data**

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from	Take?	Resighting?	Mitigation	Notes
5/17/2023	13:30	14:30	1:00	No to contract				16,345m	10%	-	0	None	Station 1	LK	NO SIGHTINGS		Signited	Leit	Size		Location	Work				
5/17/2023	14:30	15:30	1:00	No in-water work Vibratory hammer	36	Temporary	1	16,345m 16.345m	10%	S S	0	None	Station 1 Station 1	JH	NO SIGHTINGS NO SIGHTINGS											
5/17/2023	15:30	18:30	3:00	Vibratory hammer	36	Temporary	3	16,345m	10%	S	0	None	Station 1	LK	NO SIGHTINGS											
5/17/2023	13:30	15:45	2:15	No in-water work				17,000m	15%	S	0	SW	Station 2	KR	NO SIGHTINGS											
5/17/2023	15:45 16:20	16:20 18:30	0:35 2:10	Vibratory hammer Vibratory hammer	36 36	Temporary	2 2	17,000m 17,000m	15% 15%	S S	0	SW SW	Station 2 Station 2	JH KR	NO SIGHTINGS											
5/17/2023	13:30	16:30	3:00	Vibratory hammer	36	Temporary	2	16,345m	10%	S	0	None	Station 3	BW	NO SIGHTINGS											
5/17/2023	16:30	18:30	2:00	Vibratory hammer	36	Temporary	2	16,345m	10%	S	0	None	Station 3	JH	NO SIGHTINGS											
5/17/2023	13:30	15:00	1:30	No in-water work	26	_		17,000m	15%	S	0	N	Station 4	JA	NONE	SO	14:15	14:30	6	MI	D4	5,050m	N	N	NONE	Surface activity observed.
5/17/2023 5/19/2023	15:00 12:00	18:30	3:30 1:30	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	4	17,000m 6,000m	15%	S R	0	N W	Station 4 Station 1	GD LK	NO SIGHTINGS NO SIGHTINGS											
5/19/2023	13:30	14:30	1:00	No in-water work		remporary	-	6,000m	0%	R	0	w	Station 1	KY	NO SIGHTINGS											
5/19/2023	14:30	15:00	0:30	No in-water work				6,000m	0%	R	3	W	Station 1	LK	NO SIGHTINGS											
5/19/2023	12:00 14:35	14:35 15:00	2:35 0:25	Vibratory hammer	36	Temporary	1	6,000m 6.000m	0% 0%	R/OC R	1	NE	Station 2 Station 2	KR KY	NO SIGHTINGS											
5/19/2023 5/19/2023	12:00	14:00	2:00	No in-water work Vibatory hammer	36	Temporary	1	6,000m 6.000m	0%	R R	0	E W	Station 2 Station 3	KY BW	NO SIGHTINGS NO SIGHTINGS											
5/19/2023	14:00	15:00	1:00	No in-water work		remporary	-	6,000m	0%	R	1	w	Station 3	co	NO SIGHTINGS											
5/19/2023	12:00	15:00	3:00	Vibratory hammer	36	Temporary	1	8,000m	0%	R/OC	1	E	Station 4	GD	NO SIGHTINGS											
5/20/2023	13:00 13:00	16:45 16:45	3:45	Impact hammer	36 36	Permanent	1	16,345m	0%	oc	1	E	Station 1	LK	NO SIGHTINGS											
5/20/2023 5/20/2023	13:00	16:45	3:45 3:45	Impact hammer Impact hammer	36	Permanent Permanent	1	16,345m 16,345m	0% 0%	oc oc	1	NE None	Station 2 Station 3	KR JH	NO SIGHTINGS NO SIGHTINGS											
5/20/2023	13:00	16:45	3:45	Impact hammer	36	Permanent	1	16,345m	10%	OC	1	N	Station 4	BW	NO SIGHTINGS											
5/22/2023	13:30	17:30	4:00	Vibratory hammer	36	Permanent	3	16,345m	10%	oc	2	NE	Station 1	LK	NO SIGHTINGS											
5/22/2023	13:30	17:30	4:00	Vibratory hammer	36	Permanent	3	16,345m	0%	OC	2	NE	Station 2	KR	NO SIGHTINGS											
5/22/2023	13:30 13:30	17:30 17:30	4:00 4:00	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent	3	16,345m 16.345m	0% 10%	oc oc	2	NE F	Station 3 Station 4	JA IH	NO SIGHTINGS NO SIGHTINGS											
5/23/2023	14:30	18:00	3:30	Vibratory hammer	36	Permanent	3	16.345m	0%	I	2	NE NE	Station 1	LK	NO SIGHTINGS											
5/23/2023	14:30	18:00	3:30	Vibratory hammer	36	Permanent	3	16,345m	0%	R/OC	2	NE	Station 2	KR	NO SIGHTINGS											
5/23/2023	14:30	18:00	3:30	Vibratory hammer	36	Permanent	3	16,345m	0%	L/R	2	NE	Station 3	JA	NO SIGHTINGS											
5/23/2023	14:30 13:30	18:00 14:30	3:30	Vibratory hammer	36 48	Permanent	3	16,345m 16.345m	0%	L/R	2	NE	Station 4	JH	NO SIGHTINGS NO SIGHTINGS											
5/24/2023 5/24/2023	13:30	14:30 18:00	1:00 3:30	Vibratory hammer Vibratory hammer	48 36	Permanent Permanent	1	16,345m 16,345m	0% 0%	L/R OC	1	NE NE	Station 1 Station 1	LW LK	NO SIGHTINGS NO SIGHTINGS											
	14:30	18:00		Vibratory hammer	48	Permanent	3	16.345m	0%	oc	1		Station 1													
5/24/2023			3:30	(1)/Impact (2)			-	.,.				NE		LK	NO SIGHTINGS											
5/24/2023	18:00 19:00	19:00 20:00	1:00	Vibratory hammer	36 48	Permanent	1	8,500m	0%	L/R	1	NE	Station 1	LW	NO SIGHTINGS											
5/24/2023 5/24/2023	13:30	15:00	1:00 1:30	Impact hammer Vibratory hammer	48 48	Permanent Permanent	4	8,500m 16,345m	0% 0%	L/R R/OC	1	NE F	Station 1 Station 2	LK KR	NO SIGHTINGS NO SIGHTINGS											
5/24/2023	15:00	16:00	1:00	Vibratory hammer	36	Permanent	1	16,345m	0%	R/OC	1	E	Station 2	LW	NO SIGHTINGS											
5/24/2023	16:00	18:00	2:00	Impact hammer	48	Permanent	2	16,345m	0%	R/OC	1	E	Station 2	KR	NO SIGHTINGS											
5/24/2023	18:00	18:45	0:45	Vibratory hammer	36	Permanent	1	8,500m	0%	R/OC	1	E	Station 2	KR	NO SIGHTINGS											
5/24/2023 5/24/2023	18:45 13:30	20:00 16:15	1:15 2:45	Impact hammer Vibratory hammer	48 48	Permanent Permanent	4	8,500m 11.600m	0% 0%	R/OC L/R	1	E None	Station 2 Station 3	KR JH	NO SIGHTINGS NO SIGHTINGS											
5/24/2023	16:15	17:15	1:00	Vibratory hammer	36	Permanent	1	11,600m	0%	L/R	1	None	Station 3	LW	NO SIGHTINGS											
5/24/2023	16:15	17:15	1:00	Impact hammer	48	Permanent	1	11,600m	0%	L/R	1	None	Station 3	LW	NO SIGHTINGS											
5/24/2023	17:15	20:00	2:45	Vibratory hammer	36	Permanent	1	8,500m	0%	L/R	1	None	Station 3	JH	NO SIGHTINGS											
5/24/2023 5/24/2023	17:15 13:30	20:00 16:00	2:45 2:30	Impact hammer	48 48	Permanent	2	8,500m 16.345m	0% 10%	L/R R/OC	1	None E	Station 3 Station 4	JH GD	NO SIGHTINGS NO SIGHTINGS											
5/24/2023	13:30	16:00	2:30	Vibratory hammer Vibratory hammer	36	Permanent	1	16,345m 16.345m	10%	R/OC	1	E F	Station 4 Station 4	GD	NO SIGHTINGS NO SIGHTINGS											
5/24/2023	16:00	17:00	1:00	Impact hammer	48	Permanent	1	16,345m	10%	R/OC	1	Ē	Station 4	BW	NO SIGHTINGS											
5/24/2023	17:00	20:00	3:00	Vibratory hammer	36	Permanent	1	8,500m	0%	L/R/OC	1	E	Station 4	GD	NO SIGHTINGS											
5/24/2023	17:00 7:30	20:00 9:00	3:00	Impact hammer	48 36	Permanent	2	8,500m	0%	L/R/OC	1	E	Station 4	GD	NO SIGHTINGS											
5/25/2023 5/25/2023	7:30	9:00	1:30 1:30	Impact hammer Impact hammer	36	Permanent Permanent	1	8,500m 8,500m	0% 0%	R R	2	NE NE	Station 1 Station 2	LK KR	NO SIGHTINGS NO SIGHTINGS											
5/25/2023	7:30	9:00	1:30	Impact hammer	36	Permanent	1	8,500m	0%	Ľ	2	None	Station 3	JH	NO SIGHTINGS											
5/25/2023	7:30	9:00	1:30	Impact hammer	36	Permanent	1	8,500m	5%	R/OC	2	E	Station 4	GD	NO SIGHTINGS											
5/25/2023	15:30	16:30	1:00	Impact hammer	36	Permanent	3	8,000m	0%	R	2	NE	Station 1	AR	NO SIGHTINGS											
5/25/2023	16:30	20:00	3:30	Vibratory hammer (2)/Impact (1)	36	Permanent	3	8,000m	0%	R	2	E	Station 1	LK	NO SIGHTINGS											
5/25/2023	20:00	20:30	0:30	No in-water work				8.000m	0%	R	2	Е	Station 1	AR	NO SIGHTINGS											
5/25/2023	15:30	17:00	1:30	Impact hammer	36	Permanent	3	8,500m	0%	R/OC	1	E	Station 2	KR	NO SIGHTINGS											
5/25/2023	17:00	18:00	1:00	Impact hammer	36	Permanent	1	8,500m	0%	R/OC	1	E	Station 2	AR	NO SIGHTINGS											
5/25/2023 5/25/2023	18:00 15:30	20:30 18:30	2:30 3:00	Vibratory hammer Impact hammer	36 36	Permanent Permanent	2	8,000m 8,500m	0% 0%	R/OC L/OC	1	E None	Station 2 Station 3	KR JH	NO SIGHTINGS NO SIGHTINGS											
5/25/2023	18:30	19:30	1:00	Vibratory hammer	36	Permanent	1	8,000m	0%	R R	2	None NE	Station 3 Station 3	AR	NO SIGHTINGS NO SIGHTINGS											
5/25/2023	19:30	20:30	1:00	Vibratory hammer	36	Permanent	1	8,000m	0%	R	2	NE	Station 3	JH	NO SIGHTINGS											
5/25/2023	15:30	18:00	2:30	Impact hammer	36	Permanent	4	8.000m	5%	R/F/OC	2	Е	Station 4	JA	Impact hammer	HSEA	15:30	20:30	2	TR(E)	D5	8.500m	N	N	N	Two HSEA remained out of zone for 5 hours
., .,								.,												` '		.,				
5/25/2023	18:00	20:30	2:30	Vibratory hammer	36	Permanent	2	8,000m	5%	R/F/OC	2	E	Station 4	GD	Vibratory hammer	HSEA			2		D5	8,500m				Same HSEA sighting at 15:30; two different
																										construction types; out of zone for both
5/30/2023	8:30	9:30	1:00	No in-water work				16,345m	10%	oc	0	None	Station 1	AR/LK	NONE	HSEA	8:40	9:33	1	MI	F1	500m	N	N	DE	Delayed start of in-water work until HSEA moved out of zone @ 9:33
5/30/2023	9:30	11:00	1:30	Vibratory hammer	36	Permanent	4	16,345m	10%	oc	0	None	Station 1	LK	NO SIGHTINGS											In-water work delayed until 9:47
5/30/2023	8:30	10:00	1:30	Vibratory hammer	36	Permanent	2	16,345m	20%	OC	0	None	Station 2	KR	NO SIGHTINGS											•
5/30/2023	10:00	11:00	1:00	Vibratory hammer	36	Permanent	2	16,345m	20%	oc	0	None	Station 2	AR	NO SIGHTINGS											
5/30/2023 5/30/2023	8:30 8:30	11:00 11:00	2:30 2:30	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent	4	16,345m 16.345m	0% 5%	oc oc	0	None	Station 3 Station 4	KY GD	NO SIGHTINGS NO SIGHTINGS											
5/30/2023	7:30	8:30	1:00	No in-water work	30	remanent		16,345m 16,345m	0%	OC OC	0	None	Station 4 Station 1	CO	NO SIGHTINGS NO SIGHTINGS											
5/31/2023	8:30	12:00	3:30	Impact hammer	36	Permanent	1	16,345m	0%	OC	1	None	Station 1	LK	NO SIGHTINGS											
5/31/2023	12:00	13:00	1:00	Impact hammer	48	Permanent	1	16,345m	0%	oc	1	NE	Station 1	СО	NO SIGHTINGS											
5/31/2023	13:00 16:30	16:30 17:00	3:30	Impact hammer	48 48	Permanent	1	9,000m	0%	L/R	2	NE	Station 1	LK	NO SIGHTINGS											
5/31/2023 5/31/2023	16:30 7:30	9:00	0:30 1:30	Impact hammer No in-water work	48	Permanent	1	11,000m 16.345m	0% 10%	OC OC	2	NE None	Station 1 Station 2	CO KR	NO SIGHTINGS NO SIGHTINGS											
5/31/2023	9:00	10:00	1:00	Impact hammer	36	Permanent	1	16,345m	10%	oc	0	None	Station 2	CO	NO SIGHTINGS											
5/31/2023	10:00	13:30	3:30	Impact hammer	48	Permanent	1	16,345m	10%	oc	1	E	Station 2	KR	NO SIGHTINGS											
5/31/2023	13:30	14:30	1:00	Impact hammer	48	Permanent	1	16,345m	10%	oc	1	E	Station 2	со	NO SIGHTINGS											Impacting same pile as line above
5/31/2023 5/31/2023	14:30 7:30	17:00 10:30	2:30 3:00	Impact hammer Impact hammer	48 36	Permanent Permanent	2	9,000m 8.500m	0% 2%	R/OC OC	2	E NE	Station 2 Station 3	KR AR	NO SIGHTINGS NO SIGHTINGS											
3/31/2023	7.50	10.50	5.00	pact nammer	30	, cilliancill	-	0,500111	270	00	1	NL	Jacion 3	AIN	0 31011111403											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pil	es Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from	Take?	Resighting?	Mitigation	Notes
5/31/2023	10:30	11:30	1:00	No in-water work				8,500m	2%	ос	1	NE	Station 3	CO	NO SIGHTINGS		J.B.I.Cu	Len	Siec		Location	Work				
5/31/2023	11:30	15:00	3:30	Impact hammer	48	Permanent	1	8,500m	2%	ОС	1	NE	Station 3	AR	NO SIGHTINGS											
5/31/2023 5/31/2023	15:00 16:00	16:00 17:00	1:00	Impact hammer	48 48	Permanent Permanent	1	9,000m 9.000m	0% 0%	L	2	NE NF	Station 3 Station 3	CO AR	NO SIGHTINGS NO SIGHTINGS											
5/31/2023	7:30	11:30	4:00	Impact hammer	36	Permanent	1	16,345m	5%	ос	2	E	Station 4	GD	NO SIGHTINGS											
5/31/2023 5/31/2023	11:30 15:30	15:30 17:00	4:00 1:30	Impact hammer Impact hammer	48 48	Permanent Permanent	1 2	16,345m 9,000m	5% 5%	L/R/OC L/R/OC	2	E E	Station 4 Station 4	JA GD	NO SIGHTINGS NO SIGHTINGS											
6/2/2023	11:30	12:30	1:00	No in-water work		remanent	-	16,345m	0%	L	1	None	Station 1	KY	NO SIGHTINGS											
6/2/2023 6/2/2023	12:30 16:00	16:00 17:00	3:30 1:00	Impact hammer No in-water work	48	Permanent	1	16,345m 16,345m	0% 0%	L	1	None None	Station 1 Station 1	LK KY	NO SIGHTINGS NO SIGHTINGS											
6/2/2023	17:00	19:15	2:15	No in-water work				16,345m	0%	OC	1	NE	Station 1	LK	NO SIGHTINGS											
6/2/2023	11:30 13:00	13:00 14:00	1:30	Impact hammer	48	Permanent	1	16,345m 16.345m	0%	L	1	E	Station 2	KR	NO SIGHTINGS NO SIGHTINGS											
6/2/2023 6/2/2023	14:00	17:30	1:00 3:30	No in-water work No in-water work				16,345m 16,345m	0% 0%	L	1	E	Station 2 Station 2	KY KR	NO SIGHTINGS NO SIGHTINGS											
6/2/2023	17:30	18:30	1:00	No in-water work				16,345m	0%	oc	1	E	Station 2	KY	NO SIGHTINGS											
6/2/2023 6/2/2023	18:30 11:30	19:15 14:30	0:45	No in-water work Impact hammer	48	Permanent	1	16,345m 8.500m	0% 0%	OC R	1	E None	Station 2 Station 3	KR AR	NO SIGHTINGS NO SIGHTINGS											
6/2/2023	14:30	15:30	1:00	No in-water work				8,500m	0%	L	1	None	Station 3	KY	NO SIGHTINGS											
6/2/2023	15:30 19:00	19:00 19:15	3:30 0:15	No in-water work				8,500m 8,500m	0% 0%	L	1	None None	Station 3 Station 3	AR KY	NO SIGHTINGS NO SIGHTINGS											
6/2/2023	11:30	13:30	2:00	Impact hammer	48	Permanent	1	16,345m	5%	R/F/OC	1	E	Station 4	GD	NO SIGHTINGS											
6/2/2023	13:30 17:30	17:30 19:15	4:00	No in-water work				16,345m	5%	L/R/OC	1	E	Station 4	JA	NO SIGHTINGS											
6/2/2023 6/3/2023	11:30	19:15	1:45	No in-water work No in-water work				9,000m 16,345m	5% 0%	L/R/OC PC	1	NE NE	Station 4 Station 1	GD LW	NO SIGHTINGS NO SIGHTINGS											
6/3/2023	12:30	16:00	3:30	Vibratory hammer	36	Temporary	1	16,345m	0%	PC	1	NE	Station 1	LK	NO SIGHTINGS											
6/3/2023 6/3/2023	16:00 11:30	17:00 13:00	1:00	Vibratory hammer No in-water work	36	Temporary	1	16,345m 16.345m	0% 0%	PC OC	1	NE None	Station 1 Station 2	LW KR	NO SIGHTINGS NO SIGHTINGS											Same 36" temp as the line above
6/3/2023	13:00	14:00	1:00	No in-water work				16,345m	0%	ОС	1	NE	Station 2	LW	NO SIGHTINGS											
6/3/2023	14:00 11:30	17:00 14:30	3:00	Vibratory hammer	36	Temporary	1	16,345m	0%	PC	1	NE	Station 2	KR	NO SIGHTINGS											
6/3/2023 6/3/2023	11:30	14:30 15:30	3:00 1:00	No in-water work No in-water work				8,500m 8,500m	5% 0%	OC OC	1	N N	Station 3 Station 3	AR LW	NO SIGHTINGS NO SIGHTINGS											
6/3/2023	15:30	17:00	1:30	Vibratory hammer	36	Temporary	1	8,500m	0%	ОС	1	N	Station 3	AR	NO SIGHTINGS											
6/3/2023 6/3/2023	11:30 15:30	15:30 17:00	4:00 1:30	No in-water work Vibratory hammer	36	Temporary	1	16,345m 16,345m	5% 5%	oc oc	1	E	Station 4 Station 4	GD JH	NO SIGHTINGS NO SIGHTINGS											
6/4/2023	10:30	11:30	1:00	No in-water work		remporary	•	16,345m	10%	S	1	NE	Station 1	co	NO SIGHTINGS											
6/4/2023 6/4/2023	11:30 15:00	15:00 16:00	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S	1	NE NE	Station 1 Station 1	LK CO	NO SIGHTINGS NO SIGHTINGS											Same 48" pile drilled off/on all day
6/4/2023	16:00	19:30	3:30	Drilling	48	Permanent	1	16,345m 16,345m	0%	S S	1	NE NE	Station 1 Station 1	LK	NO SIGHTINGS											
6/4/2023	19:30	20:30	1:00	Drilling	48	Permanent	1	16,345m	0%	S	1	NE	Station 1	со	NO SIGHTINGS											
6/4/2023 6/4/2023	20:30 10:30	22:30 12:00	2:00 1:30	Drilling No in-water work	48	Permanent	1	16,345m 16.345m	0% 0%	S PC	1	NE NE	Station 1 Station 2	LK KR	NO SIGHTINGS NO SIGHTINGS											
6/4/2023	12:00	13:00	1:00	No in-water work				16,345m	0%	PC	1	NE	Station 2	co	NO SIGHTINGS											
6/4/2023 6/4/2023	13:00 16:30	16:30 17:30	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	PC PC	1	NE NE	Station 2 Station 2	KR CO	NO SIGHTINGS NO SIGHTINGS											
6/4/2023	17:30	21:00	3:30	Drilling	48	Permanent	1	16,345m	0%	PC	1	NE NE	Station 2	KR	NO SIGHTINGS											
6/4/2023	21:00	22:00	1:00	Drilling	48	Permanent	1	16,345m	0%	PC	1	NE	Station 2	co	NO SIGHTINGS											
6/4/2023 6/4/2023	22:00 10:30	22:30 13:30	0:30 3:00	No in-water work No in-water work				16,345m 8.500m	0% 0%	PC PC	1	NE N	Station 2 Station 3	KR AR	NO SIGHTINGS NO SIGHTINGS											
6/4/2023	13:30	14:30	1:00	Drilling	48	Permanent	1	8,500m	0%	PC	1	N	Station 3	ко	NO SIGHTINGS											
6/4/2023 6/4/2023	14:30 18:00	18:00 19:00	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	8,500m 8,500m	0% 0%	S S	1	N N	Station 3 Station 3	AR KO	NO SIGHTINGS NO SIGHTINGS											
6/4/2023	19:00	22:30	3:30	Drilling	48	Permanent	1	8,500m	5%	PC	1	N	Station 3	AR	NO SIGHTINGS											
6/4/2023 6/4/2023	10:30 14:30	14:30 18:30	4:00 4:00	No in-water work Drilling	48	Permanent	1	16,049m 16,049m	5% 5%	PC PC	1	None None	Station 4 Station 4	JH GD	NO SIGHTINGS NO SIGHTINGS											
6/4/2023	18:30	21:00	2:30	Drilling	48	Permanent	1	16,049m 16,049m	5%	PC PC	1	None	Station 4 Station 4	JH	NO SIGHTINGS											
6/4/2023	21:00	22:30	1:30	Drilling	48	Permanent	1	16,049m	5%	PC	1	None	Station 4	GD	NO SIGHTINGS											
6/5/2023 6/5/2023	7:00 8:00	8:00 11:30	1:00 3:30	No in-water work No in-water work				16,345m 16,345m	0% 0%	S S	1	NE NE	Station 1 Station 1	AR LK	NO SIGHTINGS NO SIGHTINGS											
6/5/2023	11:30	12:30	1:00	Drilling	48	Permanent	1	16,345m	0%	S	1	NE	Station 1	AR	NO SIGHTINGS											
6/5/2023 6/5/2023	12:30 15:00	14:00 16:00	1:30	Drilling Drilling	48 48	Permanent Permanent	1	16,345m	0% 0%	PC S	1 2	NE NF	Station 1	LK AR	NO SIGHTINGS NO SIGHTINGS											Same 48" pile as line above
6/5/2023	16:00	18:45	2:45	Drilling (1)/Vibratory	48/36	Permanent/Tem		16.345m	0%	S	2	NE NE	Station 1	LK	NO SIGHTINGS											Same 48" pile as line above
6/5/2023	7:00	8:30	1:30	hammer (2)	40/30	porary	,	16,345m 16.345m	0%	S PC	0	Ne None	Station 1 Station 2	LK KR	NO SIGHTINGS NO SIGHTINGS											Same 46 pile as line above
6/5/2023 6/5/2023	7:00 8:30	9:30	1:30	No in-water work No in-water work				16,345m 16,345m	0% 10%	PC PC	0	None E	Station 2 Station 2	KR AR	NO SIGHTINGS NO SIGHTINGS											
6/5/2023	9:30	13:00 14:00	3:30	Drilling	48	Permanent	1	16,345m	0%	PC	1	E	Station 2	KR	NO SIGHTINGS											
6/5/2023 6/5/2023	13:00 15:00	14:00 16:30	1:00	No in-water work Drilling	48	Permanent	1	16,345m 16.345m	0% 0%	PC PC	1	E NE	Station 2 Station 2	AR KR	NO SIGHTINGS NO SIGHTINGS											
6/5/2023	16:30	17:30	1:00	Drilling (1)/Vibratory	48/36	Permanent/Tem		16.345m	0%	PC	1	NE NE	Station 2	AR	NO SIGHTINGS											
6/5/2023	17:30	18:45	1:15	hammer (1) Vibratory hammer	36	porary	1	16,345m	0%	PC	1	NE NE	Station 2	KR	NO SIGHTINGS											
6/5/2023	7:00	10:00	3:00	No in-water work	30	Temporary	-	5,800m	0%	PC	1	E E	Station 2 Station 3	JH	NO SIGHTINGS NO SIGHTINGS											
6/5/2023	10:00	11:00	1:00	No in-water work		B		5,800m	5%	PC	1	E	Station 3	AR	NO SIGHTINGS											
6/5/2023	11:00	14:00	3:00	Drilling Drilling (1)/Vibratory	48	Permanent Permanent/Tem	1	5,800m	5%	PC	1	E	Station 3	JH	NO SIGHTINGS											
6/5/2023	15:00	18:00	3:00	hammer (2)	48/36	porary	3	5,800m	0%	PC	1	E	Station 3	JH	NO SIGHTINGS											One hour break prior to later session
6/5/2023 6/5/2023	18:00 7:30	18:45 11:30	0:45 4:00	Vibratory hammer No in-water work	36	Temporary	1	5,800m 16.345m	1% 10%	PC S	1	E	Station 3	AR GD	NO SIGHTINGS NO SIGHTINGS											
6/5/2023	11:30	14:00	2:30	Drilling	48	Permanent	1	16,345m 16,345m	10%	S	1	E	Station 4 Station 4	JA	NO SIGHTINGS NO SIGHTINGS											
6/5/2023	15:00	18:00	3:00	Drilling (1)/Vibratory	48/36	Permanent/Tem	3	16,345m	10%	PC	2	Е	Station 4	GD	NO SIGHTINGS											
6/5/2023	18:00	18:45	0:45	hammer (2) Vibratory hammer	36	porary Temporary	1	16.345m	10%	PC	2	E	Station 4	JA	NO SIGHTINGS											
6/6/2023	13:30	14:30	1:00	No in-water work				16,345m	0%	L	2	NE	Station 1	KY	NO SIGHTINGS											
6/6/2023	14:30	15:00	0:30	No in-water work				16,345m	0%	L	2	NE	Station 1	LK	NONE	HSEA	14:42	14:50	1	LO	С9	600m	N	N	DE	Construction delayed as a precaution; approx. 45 minutes
6/6/2023	15:00	17:00	2:00	Vibratory hammer	36/48	Temporary/Per	2	16.345m	0%	oc	3	NE	Station 1	LK	NO SIGHTINGS											approx. 45 minutes
., .,				(1)/Impact hammer (1)	30/48	manent	2	.,.			-															
6/6/2023	13:30	15:00	1:30	No in-water work				16,345m	0%	L/R	1	NE	Station 2	KR	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
6/6/2023	15:00	16:00	1:00	Vibratory hammer	36	Temporary	1	16,345m	0%	OC	2	NE	Station 2	KY	NO SIGHTINGS											
6/6/2023	16:00	17:00	1:00	Impact hammer Vibratory hammer	48	Permanent Temporary/Per	1	16,345m	0%	ОС	2	NE	Station 2	KR	NO SIGHTINGS											
6/6/2023	13:30	16:30	3:00	(1)/Impact hammer (1)	36/48	manent	2	7,500m	0%	R	1	E	Station 3	AR	NO SIGHTINGS											
6/6/2023 6/6/2023	16:30 13:30	17:00 14:30	0:30 1:00	No in-water work				8,500m 16.345m	0% 0%	R R/OC	1	E E	Station 3 Station 4	KY	NO SIGHTINGS NONE	STSI	44.20	14:30	1	LO	F2	11.600m	N	N	NONE	No in-water work
	14:30	17:00		Vibratory hammer	36/48	Temporary/Per	2		0%	OC R/OC	_			JH GD		SISL	14:30	14:30	1	LU	F2	11,600m	N	N	NUNE	No in-water work
6/6/2023			2:30	(1)/Impact hammer (1)	36/48	manent	2	16,345m			3	E	Station 4		NO SIGHTINGS											
6/8/2023	7:30	8:30	1:00	No in-water work Vibratory hammer				8,000m	0%	R	2	NE	Station 1	со	NO SIGHTINGS											
6/8/2023	8:30	12:00	3:30	(2)/Drilling (1)	36/48	Permanent	3	16,345m	0%	L/R	3	NE	Station 1	LK	NO SIGHTINGS											
6/8/2023	12:00	12:45	0:45	Drilling Impact hammer (2)/Drilling	48	Permanent	1	5,000m	0%	R	3	NE	Station 1	CO	NO SIGHTINGS											
6/8/2023	12:45	16:30	3:45	(1)	36/48	Permanent	3	5,000m	0%	R	3	NE	Station 1	LK	NO SIGHTINGS											
6/8/2023	16:30	17:30	1:00	No in-water work				8,000m	0%	R	3	NE	Station 1	СО	NO SIGHTINGS											
6/8/2023 6/8/2023	17:30 7:30	18:00 9:00	0:30 1:30	No in-water work No in-water work				8,000m 10,000m	0% 0%	R R	3	NE E	Station 1 Station 2	LK AR	NO SIGHTINGS NO SIGHTINGS											
6/8/2023	9:00	10:00	1:00	Vibratory hammer	36	Permanent	1	10,000m	0%	R	4	E	Station 2	co	NO SIGHTINGS											
6/8/2023	10:00	13:00	3:00	Vibratory hammer	36/48	Permanent	2	11,000m	0%	R	4	E	Station 2	AR	NO SIGHTINGS											
6/8/2023	13:00	14:30	1:30	(1)/Drilling (1)  Drilling	48	Permanent	1	11,000m	0%	R	4	E	Station 2	со	Drilling	HSEA	13:30	13:40	1	LO/TR(W)	F3	2,000m	Υ	N	NONE	Sighted traveling west along breakwater - recorded as level B take
6/8/2023	14:30	18:00	3:30	Impact hammer (2)/Drilling (1)	36/48	Permanent	3	5,500m	0%	R	4	E	Station 2	AR	NO SIGHTINGS											
6/8/2023	7:30	10:30	3:00	Vibratory hammer (1)/Drilling (1)	36/48	Permanent	2	5,800m	0%	R/OC	2	E	Station 3	JH	NO SIGHTINGS											
6/8/2023	10:30	11:30	1:00	Vibratory hammer (1)/Drilling (1)	36/48	Permanent	2	5,800m	0%	R/OC	2	E	Station 3	со	NO SIGHTINGS											
6/8/2023	11:30	15:00	3:30	Drilling (1)	48	Permanent	1	5,800m	0%	R/OC	2	E	Station 3	JH	NO SIGHTINGS											
6/8/2023	15:00	16:00	1:00	Impact hammer (2)	36	Permanent	2	5,800m	0%	R/OC	2	E	Station 3	CO	NO SIGHTINGS											
6/8/2023	16:00	18:00	2:00	No in-water work Vibratory hammer				5,800m	0%	ОС	1	E	Station 3	JH	NO SIGHTINGS											
6/8/2023	7:30 11:30	11:30 15:30	4:00	(2)/Drilling (1) Impact hammer (1)/Drilling	36/48	Permanent	3	8,500m 8.500m	0%	R/OC R/OC	3	E E	Station 4 Station 4	GD JA	NO SIGHTINGS NO SIGHTINGS											
6/8/2023	15:30	18:00	2:30	(1) Impact hammer	36	Permanent	1	8.500m	0%	R/OC	2	F	Station 4	GD	NO SIGHTINGS											
6/12/2023	7:30	8:30	1:00	No in-water work	30	remanent	1	16,345m	0%	OC	1	NE NE	Station 1	CO	NO SIGHTINGS											
6/12/2023	8:30	12:00	3:30	No in-water work				16,345m	0%	OC	1	NE	Station 1	LK	NONE	HSEA	8:39	8:39	1	LO	F2	500m	N	N	NONE	Sighted once; no in-water work
6/12/2023 6/12/2023	12:00 13:00	13:00 16:30	1:00 3:30	No in-water work No in-water work				16,345m 9.000m	0% 0%	OC L/R	1 2	NE NE	Station 1 Station 1	CO LK	NO SIGHTINGS NO SIGHTINGS											
6/12/2023	16:30	17:15	0:45	Impact hammer	48	Permanent	1	8,000m	0%	L/R	1	NE NE	Station 1	CO	NO SIGHTINGS											
6/12/2023	7:30 9:00	9:00 11:00	1:30	No in-water work				16,345m	0% 0%	oc	1	None	Station 2	JH	NONE	HPBK	8:10	8:10	1	MI	F3	1,710m	N	N	DE	On surface; dove and gone
6/12/2023 6/12/2023	11:00	13:30	2:00 2:30	No in-water work No in-water work				16,345m 16.345m	0%	oc oc	1	None None	Station 2 Station 2	CO	NO SIGHTINGS NO SIGHTINGS											
6/12/2023	13:30	14:30	1:00	No in-water work				16,345m	0%	oc	1	None	Station 2	со	NO SIGHTINGS											
6/12/2023	14:30 7:30	17:15 10:30	2:45	Impact hammer	48	Permanent	1	16,345m	0%	oc oc	1	None	Station 2 Station 3	JH KY	NO SIGHTINGS NONE	HPRK	8:45	10:14		МІ	D4	3.000m	N		NONE	Far side of the bay; 4 sightings of same HPBK
6/12/2023								16,345m			_								1			-,		Y		recorded over this time period
6/12/2023 6/12/2023	10:30 11:30	11:30 15:00	1:00 3:30	No in-water work No in-water work				16,345m 12,000m	0% 0%	OC R	1	None SE	Station 3 Station 3	CO KY	NONE NO SIGHTINGS	HSEA	11:17	11:25	1	MI	F4	4,200m	N	N	NONE	
6/12/2023	15:00	16:00	1:00	No in-water work				12,000m	0%	R	1	SE	Station 3	co	NONE	HSFA	15:40		1	MI/IO	F4	4.200m	N	N	NONE	Same HSEA as below; sighted by 2 different
-,,				No ill-water work				,			-	JL.	Stations		NONE	HIJEA	13.40		-	,		4,200111		.,		PSO
6/12/2023	16:00	17:15	1:15	Impact hammer	48	Permanent	1	8,000m	0%	R/F	2	None	Station 3	KY	Impact hammer	HSEA	16:00	16:53	1	LO/SI	F4	4,200m	N	Υ	NONE	Same HSEA as above; out of zone; no take
6/12/2023 6/12/2023	7:30 11:30	11:30 15:30	4:00 4:00	No in-water work				16,345m 16.345m	0% 0%	OC R/OC	3	E	Station 4	GD	NONE NO SIGHTINGS	HPBK	10:14	11:00	1	TR(NE)	C6	7,000m	N	Υ	NONE	
6/12/2023	15:30	17:15	1:45	No in-water work Impact hammer	48	Permanent	1	8,000m	0%	L/R	2	E E	Station 4 Station 4	JA GD	NO SIGHTINGS NO SIGHTINGS											
6/13/2023	11:30	12:30	1:00	No in-water work				16,345m	0%	PC	1	NE	Station 1	CO	NO SIGHTINGS											
6/13/2023 6/13/2023	12:30 16:00	16:00 17:00	3:30 1:00	Impact hammer No in-water work	48	Permanent	1	16,345m 16.345m	0% 0%	PC PC	1	NE NE	Station 1 Station 1	LK CO	NO SIGHTINGS NO SIGHTINGS											
6/13/2023	17:00	20:30	3:30	Drilling	48	Permanent	1	16,345m	0%	PC	1	NE	Station 1	LK	NO SIGHTINGS											
6/13/2023	11:30 13:00	13:00 14:00	1:30	No in-water work				16,345m	1%	PC	1	E	Station 2	JH	NO SIGHTINGS											
6/13/2023 6/13/2023	13:00	14:00 17:30	1:00 3:30	No in-water work Impact hammer	48	Permanent	1	16,345m 16,345m	1% 0%	PC OC	1	E	Station 2 Station 2	CO JH	NO SIGHTINGS NO SIGHTINGS											
6/13/2023	17:30	18:30	1:00	No in-water work				16,345m	0%	oc	1	E	Station 2	СО	NO SIGHTINGS											
6/13/2023 6/13/2023	18:30 11:30	20:30 14:30	2:00 3:00	Drilling No in-water work	48	Permanent	1	16,345m 16,345m	0%	oc oc	1	E NE	Station 2 Station 3	JH KY	NO SIGHTINGS NONE	HSEA	13:57		1	LO/SI	F4	4,200m	N	N	NONE	Same HSEA as below; sighted by 2 different
6/13/2023	14:30	15:30	1:00	No in-water work				16,345m	0%	s/oc	0	None	Station 3	со	NONE	HSEA	14:30	15:18	1	LO/SI	F4	4,200m	N	Υ	NONE	PSO
6/13/2023	15:30	19:00	3:30	Impact hammer	48	Permanent	1	16,345m	0%	OC	0	None	Station 3	KY	NONE	SO	18:23	18:57	1	SW	F4	4,000m	N	N	NONE	Swimming SW
6/13/2023 6/13/2023	18:30 19:00	19:00 20:30	0:30 1:30	No in-water work Drilling	48	Permanent	1	16,345m 16,345m	0% 5%	OC S/PC	0	None None	Station 3 Station 3	KY CO	NONE NO SIGHTINGS	HSEA	18:33	18:59	1	LO/SI	F4	4,200m	N	Υ	NONE	Resighting of HSEA @ 13:57
6/13/2023	11:30	15:30	4:00	No in-water work				16,345m	0%	OC	1	E	Station 4	JA	NO SIGHTINGS											
6/13/2023 6/13/2023	15:30 19:30	19:30 20:30	4:00 1:00	Impact hammer Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	oc oc	1	E F	Station 4 Station 4	GD IA	NO SIGHTINGS NO SIGHTINGS											
6/13/2023	16:00	17:00	1:00	No in-water work	40	Permanent	1	16,345m 16,345m	0%	OC	1	E	Station 4 Station 1	JA JA	NO SIGHTINGS NO SIGHTINGS											
6/14/2023	17:00	18:30	1:30	No in-water work				16,345m	0%	L/R	2	NE	Station 1	LK	NO SIGHTINGS											
6/14/2023	16:00 17:30	17:30 18:30	1:30	No in-water work				16,345m 16.345m	0% 0%	L/OC L/R/OC	1 2	NE NE	Station 2 Station 2	KY IA	NO SIGHTINGS NO SIGHTINGS											
6/14/2023	16:00	18:30	2:30	No in-water work				10,000m	0%	OC OC	1	NE NE	Station 3	CO	NO SIGHTINGS											
6/14/2023	16:00	18:30	2:30	No in-water work				16,345m	0%	L/R/OC	2	Е	Station 4	GD	NONE	НРВК	17:40	17:50	1	TR(W)	D3	3,000m	N	N	DE	No work imminent this day; otherwise a
6/15/2023	7:30	8:30	1:00	No in-water work				9,000m	0%	L/R	2	NE	Station 1	JA	NO SIGHTINGS											delay would have occurred
6/15/2023	8:30	11:00	2:30	Vibratory hammer	48	Permanent	1	12,000m	0%	L/R	2	NE	Station 1	LK	NO SIGHTINGS											
6/15/2023 6/15/2023	7:30 9:00	9:00 10:00	1:30 1:00	Vibratory hammer No in-water work	48	Permanent	1	16,345m 16,345m	0% 0%	R/OC R/OC	2	SE SE	Station 2 Station 2	KY JA	NO SIGHTINGS NO SIGHTINGS											
6/15/2023	10:00	11:00	1:00	Vibratory hammer	48	Permanent	1	12,000m	0%	R/OC	2	SE	Station 2	KY	NO SIGHTINGS											
6/15/2023	8:00	10:30	2:30	Vibratory hammer	48	Permanent	1	8,500m	0%	OC	2	NE	Station 3	CO	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile:	Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
6/15/2023	10:30	11:00	0:30	No in-water work				8,500m	0%	L/R	2	NE	Station 3	JA	NO SIGHTINGS							Work				
6/15/2023	7:30	11:00	3:30	Vibratory hammer	48	Permanent	1	16,345m	0%	L/R/OC	2	E	Station 4	GD	NO SIGHTINGS											
6/16/2023	8:30 9:30	9:30	1:00	No in-water work				13,000m	0%	L/R	0	NE	Station 1	KY	NO SIGHTINGS							2,000 -				Same HPBK seen by all positions until last
6/16/2023		13:00	3:30	No in-water work				16,345m	0%	PC	0	NE	Station 1	LK	NONE	HPBK	11:30	15:20	1	BR/MI/TR(E)	F3	4,000m	N	N	DE	sighting at 15:20
6/16/2023 6/16/2023	13:00 14:00	14:00 18:00	1:00 4:00	No in-water work Vibratory hammer	36	Temporary	2	16,345m 16.345m	0% 0%	PC PC	0	NE NE	Station 1 Station 1	JA LK	NONE NONE	HPBK HPBK	13:00 13:00	15:20 15:20	1		F3 F3		N N	Y Y	DE DE	Same sighting as line above Same sighting as line above
6/16/2023	18:00	18:30	0:30	No in-water work				16,345m	0%	PC	0	NE	Station 1	JA	NO SIGHTINGS				-					•		
6/16/2023 6/16/2023	8:30 11:30	11:30 14:00	3:00 2:30	No in-water work No in-water work				8,500m 8.500m	0% 0%	L/R OC	0	NE NE	Station 2 Station 2	JA KY	NO SIGHTINGS NONE	STSL	12:16	12-17	1	SW/MI/TR(E)	F3	2.000m	N	N	NONE	Also saw HPBK as described above
6/16/2023	14:00	15:45	1:45	No in-water work				8,500m	0%	oc	0	NE	Station 2	JA	NO SIGHTINGS	3132	12:10	13.17	-	344,1411,111(2)		2,000111	.,		110112	7430 344 FH Die da described above
6/16/2023 6/16/2023	15:45 8:30	18:30 10:00	2:45 1:30	Vibratory hammer	36	Temporary	2	8,500m 16,345m	0% 0%	OC PC	0	NE NE	Station 2 Station 3	KY CO	NO SIGHTINGS NO SIGHTINGS											
6/16/2023	10:00	11:00	1:00	No in-water work No in-water work				16,345m 16,345m	0%	PC	0	NE NE	Station 3 Station 3	KY	NO SIGHTINGS NO SIGHTINGS											
6/16/2023	11:00	14:30	3:30	No in-water work				16,345m	0%	PC	0	NE	Station 3	со	NONE	НРВК	11:30	15:20	1	BR/MI/TR(E)	F3	2,000 -	N	Υ	DE	Same sighting as above
6/16/2023	14:30	15:30	1:00	No in-water work				16,345m	0%	ос	0	NE	Station 3	KY	NONE	НРВК	14:30	15:20	1		F3	4,000m	N	Υ	DE	Same sighting as above
6/16/2023	15:30	18:30	3:00	Vibratory hammer	36	Temporary	2	16,345m	0%	ос	0	NE	Station 3	CO	NO SIGHTINGS											
6/16/2023	8:30	12:30	4:00	No in-water work				16,345m	0%	L/R/OC	1	E	Station 4	BW	NONE	HPBK	11:30	15:20	1	BR/MI/TR(E)	F3	2,000 - 4,000m	N	Υ	DE	Same sighting as above
6/16/2023	12:30	15:30	3:00	No in-water work				16,345m	0%	PC	1	E	Station 4	GD	NONE	HPBK	12:30	15:20	1		F3		N	Υ	DE	Same sighting as above
6/16/2023	15:30	18:30	3:00	Vibratory hammer	36	Temporary	2	16,345m	0%	PC	1	E	Station 4	GD	NO SIGHTINGS							1,100 -				
6/18/2023	9:00	10:00	1:00	No in-water work				16,345m	10%	S	2	SW	Station 1	со	NONE	HSEA	9:30	9:45	1	DV/FO/MI/TR	G2	1,400m	N	N	DE	
6/18/2023 6/18/2023	10:00 9:00	14:00 10:30	4:00 1:30	Impact hammer No in-water work	36	Permanent	2	16,345m 16.345m	10%	S S	2	SW	Station 1 Station 2	LK KY	NO SIGHTINGS NO SIGHTINGS											
6/18/2023	10:30	11:30	1:30	No in-water work No in-water work				16,345m 16,345m	10%	S	3	NW NW	Station 2 Station 2	CO	NO SIGHTINGS NO SIGHTINGS											
6/18/2023	11:30	14:00	2:30	Impact hammer	36	Permanent	2	16,345m	0%	S	2	NW	Station 2	KY	NO SIGHTINGS											
6/18/2023 6/18/2023	9:00 12:00	12:00 13:00	3:00 1:00	No in-water work	36	Permanent	1	8,500m 8,500m	10%	S S	2	W W	Station 3	LW	NO SIGHTINGS NO SIGHTINGS											
6/18/2023	13:00	14:00	1:00	Impact hammer	36	Permanent	1	8,500m	10%	S	2	w	Station 3	LW	NO SIGHTINGS											
6/18/2023	9:00	13:00	4:00	Impact hammer	36	Permanent	1	16,345m	20%	S	2	w	Station 4	BW	NO SIGHTINGS											
6/18/2023 6/21/2023	13:00 16:00	14:00 20:00	1:00 4:00	Impact hammer Vibratory hammer	36 36	Permanent Temporary	1	16,345m 6,000m	20%	S L/R	2	W NE	Station 4 Station 1	GD LK	NO SIGHTINGS NO SIGHTINGS											
6/21/2023	16:00	20:00	4:00	Vibratory hammer	36	Temporary	3	5,000m	0%	L	1	E	Station 2	LW	NO SIGHTINGS											
6/21/2023	16:00 16:00	20:00 20:00	4:00 4:00	Vibratory hammer	36 36	Temporary Temporary	3	5,000m 6.500m	0%	L/R/F L/R/F/OC	1	NE F	Station 3 Station 4	JH	NO SIGHTINGS NO SIGHTINGS											
6/21/2023	14:00	15:00	1:00	Vibratory nammer Vibratory hammer	36	Temporary	1	4,000m	0%	L/R/F	0	NE NE	Station 4 Station 1	LW	NO SIGHTINGS											
6/22/2023	15:00	18:30	3:30	No in-water work				3,000m	0%	L/R/F	0	NE	Station 1	LK	NO SIGHTINGS											
6/22/2023	18:30 19:30	19:30 21:00	1:00 1:30	No in-water work No in-water work				2,000m 2.000m	0% 0%	L/R/F L/R/F	0	NE NE	Station 1 Station 1	LW LK	NO SIGHTINGS NO SIGHTINGS											
6/22/2023	14:00	15:30	1:30	Vibratory hammer	36	Temporary	1	4,000m	0%	L/R/F	0	NE	Station 2	JA	NO SIGHTINGS											
6/22/2023	15:30 16:30	16:30 20:00	1:00	No in-water work				4,000m	0%	L/R/F	0	NE	Station 2	LW	NO SIGHTINGS											
6/22/2023 6/22/2023	20:00	21:00	3:30 1:00	No in-water work No in-water work				4,000m 3.500m	0% 0%	L/R/F L/R/F	0	NE NE	Station 2 Station 2	JA LW	NO SIGHTINGS NO SIGHTINGS											
6/22/2023	14:00	17:00	3:00	Vibratory hammer	36	Temporary	1	4,200m	0%	R/F/OC	0	None	Station 3	JH	NO SIGHTINGS											
6/22/2023	17:00 18:00	18:00 21:00	1:00	No in-water work				4,200m 3.000m	0%	R/F/OC R/F/OC	0	None NF	Station 3 Station 3	LW	NO SIGHTINGS NO SIGHTINGS											
6/22/2023	14:00	18:00	4:00	Vibratory hammer	36	Temporary	1	4,200m	0%	L/R/F/OC	1	E	Station 4	GD	NO SIGHTINGS											
6/22/2023	18:00	21:00	3:00	No in-water work				3,500m	0%	L/R/F/OC	1	E	Station 4	BW	NO SIGHTINGS											
6/23/2023 6/23/2023	8:30 12:30	12:30 16:00	4:00 3:30	No in-water work Vibratory Hammer	36	Permanent	4	2,300m 4.500m	0% 0%	L/R/F L/R/F	0	NE NE	Station 1 Station 1	LW LK	NO SIGHTINGS NO SIGHTINGS											No Drilling. Limited Visibility. Visibility Improving.
6/23/2023	16:00	19:00	3:00	Vibratory Hammer	36	Permanent	4	7,000m	0%	L/R/F	0	NE	Station 1	LK	NO SIGHTINGS											
6/23/2023 6/23/2023	19:00 8:20	19:00 16:45	0:00 8:25	No in-water work Vibratory Hammer	36	Permanent	4	2,000m 2.200m	0% 0%	L/R/F R/F	0	NE NE	Station 1 Station 2	LK JA	NO SIGHTINGS NO SIGHTINGS											
6/23/2023	16:45	18:00	1:15	Vibratory Hammer	36	Permanent	4	4,500m	0%	R/F	1	NE NE	Station 2	JA	NO SIGHTINGS											
6/23/2023	18:00	19:00	1:00	No in-water work				4,000m	0%	L/R/F	1	NE	Station 2	JA	NO SIGHTINGS											
6/23/2023	8:30 11:30	11:30 12:30	3:00 1:00	No in-water work				2,000m 4.000m	0%	L/R/F/OC	1	E F	Station 3 Station 3	BW	NO SIGHTINGS NO SIGHTINGS											
6/23/2023	12:30	16:00	3:30	Vibratory Hammer	36	Permanent	4	4,000m	0%	L/R/OC	1	E	Station 3	BW	NO SIGHTINGS											
6/23/2023 6/23/2023	16:00 8:00	19:00 12:00	3:00 4:00	Vibratory Hammer	36	Permanent	4	7,000m 2,000m	0% 0%	L/R/F L/R/F/OC	1	E E	Station 3	LW GD	NO SIGHTINGS NO SIGHTINGS											
6/23/2023	12:00	16:00	4:00	No in-water work Vibratory Hammer	36	Permanent	4	4,000m	0%	L/R/F/OC L/R/F/OC	1	E	Station 4 Station 4	JH	NO SIGHTINGS NO SIGHTINGS											
6/23/2023	16:00	16:38	0:38	Vibratory Hammer	36	Permanent	4	4,000m	0%	L/R/OC	1	E	Station 4	GD	NO SIGHTINGS											
6/23/2023 6/23/2023	16:38 19:00	19:00 19:00	2:22 0:00	Vibratory Hammer No in-water work	36	Permanent	4	7,000m 2.000m	0% 0%	L/R/F	1	E .	Station 4 Station 4	GD GD	NO SIGHTINGS NO SIGHTINGS											
6/24/2023	8:00	10:00	2:00	Vibratory Hammer	48	Permanent	1	2,400m	0%	L/R/F	0	None	Station 1	LW	NO SIGHTINGS											
6/24/2023 6/24/2023	10:00 13:00	13:00 17:00	3:00 4:00	Vibratory Hammer Drilling	36 48	Permanent	2 1	4,000m 5,000m	0% 0%	L/R/F L/R	0	None NE	Station 1 Station 1	LW LK	NO SIGHTINGS NO SIGHTINGS											
6/24/2023	17:00	17:00	4:00 0:30	Drilling	48 48	Permanent Permanent	1	6,000m	0%	L/R L/R	2	NE NE	Station 1 Station 1	JA	NO SIGHTINGS NO SIGHTINGS											
6/24/2023	17:30	18:00	0:30	No in-water work				8,000m	0%	L/R	2	NE	Station 1	JA	NO SIGHTINGS											
6/24/2023 6/24/2023	8:00 8:00	11:45 11:45	3:45 3:45	Vibratory Hammer Vibratory Hammer	48 36	Permanent Permanent	1 2	2,400m 2,400m	0% 0%	L/R/F L/R/F	1	E E	Station 2 Station 2	JA JA	NO SIGHTINGS NO SIGHTINGS											
6/24/2023	11:45	16:10	4:25	Drilling	48	Permanent	1	2,400m	0%	L/R/F	0	E	Station 2	KY	NO SIGHTINGS											
6/24/2023 6/24/2023	16:10 17:00	17:00 18:00	0:50 1:00	Drilling Drilling	48 48	Permanent Permanent	1	5,000m 6,000m	0% 0%	L/R/F L/R	1	E	Station 2 Station 2	KY LW	NO SIGHTINGS NO SIGHTINGS											
6/24/2023	8:00	16:00	1:00 8:00	Vibratory Hammer	48 48	Permanent Permanent	1	2,400m	0%	L/R L/R/F/OC	1	E	Station 2 Station 3	BW	NO SIGHTINGS NO SIGHTINGS											
6/24/2023	8:00	16:00	8:00	Vibratory Hammer	36	Permanent	2	2,400m	0%	L/R/F/OC	1	E	Station 3	BW	NO SIGHTINGS											
6/24/2023	8:00 16:00	16:00 17:00	8:00 1:00	Drilling Drilling	48 48	Permanent Permanent	1	2,400m 5.000m	0% 0%	L/R/F/OC L/R/OC	1	E	Station 3 Station 3	BW BW	NO SIGHTINGS NO SIGHTINGS											
6/24/2023	17:00	18:00	1:00	Drilling	48	Permanent	1	6,000m	0%	L/R/OC	2	E	Station 3	LW	NO SIGHTINGS											
6/24/2023	8:00 8:00	12:00 12:00	4:00	Vibratory Hammer	48 36	Permanent	1 2	2,000m	0%	L/R/F/OC	0	E	Station 4	GD	NO SIGHTINGS											
6/24/2023 6/24/2023	8:00 12:00	16:00	4:00 4:00	Vibratory Hammer Drilling	36 48	Permanent Permanent	1	2,000m 3.000m	0% 0%	L/R/F/OC L/R/F/OC	0	E	Station 4 Station 4	GD JH	NO SIGHTINGS NO SIGHTINGS											
6/24/2023	16:00	17:00	1:00	Drilling	48	Permanent	1	5,000m	0%	L/R/F/OC	1	E	Station 4	GD	NO SIGHTINGS											
6/24/2023 6/24/2023	17:00 18:00	18:00 18:00	1:00 0:00	Drilling No in-water work	48	Permanent	2	6,000m 7,000m	0% 0%	L/R/OC L/R/OC	2	E	Station 4 Station 4	GD GD	NO SIGHTINGS NO SIGHTINGS											
6/27/2023	8:00	12:30	4:30	Impact Hammer	36	Permanent	2	15,000m	0%	OC	1	NE	Station 1	JH	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
6/27/2023	12:30	15:00	2:30	No in-water work				8,000m	0%	L/R/OC	2	NE	Station 1	JH	NO SIGHTINGS							WOIK				
6/27/2023	15:00	15:00	0:00	No in-water work					0%	L/R/OC	1	NE	Station 1	LK	NO SIGHTINGS											
6/27/2023	8:00 11:20	11:20 13:30	3:20 2:10	Impact Hammer No in-water work	36	Permanent		-,	0%	L R	4	E	Station 2 Station 2	AR AR	NO SIGHTINGS NO SIGHTINGS											
6/27/2023	13:30	15:00	1:30	No in-water work				-,	0%	L	3	E	Station 2	AR	NO SIGHTINGS											
6/27/2023	15:00	15:00	0:00	No in-water work			_	8,500m	0%	R	3	E	Station 2	JH	NO SIGHTINGS											
6/27/2023	8:00	11:45	3:45	Impact Hammer	36	Permanent	2		0%	L/OC	1	E	Station 3	KY	NO SIGHTINGS											At 12:15 heavy fog to NW reducing visibility.
6/27/2023	11:45	15:00	3:15	No in-water work				8,500m	0%	L/F/OC	1	E	Station 3	JH	NO SIGHTINGS											12:55 fog cleared.
6/27/2023 6/27/2023	15:00 8:00	15:00 12:00	0:00 4:00	No in-water work Impact Hammer	36	Permanent	1	8,500m 8,000m	0%	L/R/OC L/R/F/OC	1	E	Station 3 Station 4	KY JA	NO SIGHTINGS NO SIGHTINGS											
6/27/2023	12:00	15:00	3:00	No in-water work	30	Permanent	1			L/R/F/OC	2	E	Station 4 Station 4	GD	NO SIGHTINGS NO SIGHTINGS											
6/27/2023	15:00	15:00	0:00	No in-water work				8,000m	0%	L/R/OC	2	E	Station 4	GD	NO SIGHTINGS											
7/7/2023 7/7/2023	8:00 9:00	9:00 12:30	1:00 3:30	Vibratory hammer No in-water work	48	Permanent	1	4,000m 4,000m	0% 0%	L/F/OC L/F/OC	0	None None	Station 1 Station 1	LW LK	NO SIGHTINGS NO SIGHTINGS											
7/7/2023	12:30	13:30	1:00	No in-water work					0%	OC	2	NE	Station 1	LW	NO SIGHTINGS											
7/7/2023	13:30	17:00 18:00	3:30	Impact hammer	36	Permanent		,	0%	oc	3	NE	Station 1	LK	NO SIGHTINGS											
7/7/2023 7/7/2023	17:00 18:00	18:00	1:00 1:30	Impact hammer Impact hammer	36 36	Permanent Permanent		16,345m 16,345m	0% 0%	oc oc	3	NE NE	Station 1 Station 1	LW	NO SIGHTINGS NO SIGHTINGS											
7/7/2023	8:00	9:30	1:30	Vibratory hammer	48	Permanent			0%	F	0	NE NE	Station 2	CO	NO SIGHTINGS											
7/7/2023	9:30	10:30	1:00	No in-water work				.,	0%	F	0	NE	Station 2	LW	NO SIGHTINGS											
7/7/2023 7/7/2023	10:30 14:00	14:00 15:00	3:30 1:00	No in-water work No in-water work				16,345m 16,345m	0%	OC OC	2	NE NE	Station 2	CO	NONE NO SIGHTINGS	HSEA	12:15	12:35	1	MI/FO	G3	2,730m	N	N	NONE	
7/7/2023	15:00	18:30	3:30	Impact hammer	36	Permanent			0%	OC OC	2	NE NE	Station 2 Station 2	CO	NO SIGHTINGS											
7/7/2023	18:30	19:30	1:00	No in-water work				,	0%	oc	1	NE	Station 2	LW	NO SIGHTINGS											
7/7/2023 7/7/2023	8:00 11:00	11:00 12:00	3:00 1:00	Vibratory hammer	48	Permanent	1	1,500m 3.500m	0%	L/F	1	None	Station 3	AR	NO SIGHTINGS NO SIGHTINGS											
7/7/2023	12:00	15:30	1:00 3:30	No in-water work No in-water work					0%	L/F F	1	None None	Station 3 Station 3	LW AR	NO SIGHTINGS NO SIGHTINGS											
7/7/2023	15:30	16:30	1:00	Impact hammer	36	Permanent	1		0%	F	1	None	Station 3	LW	NO SIGHTINGS											
7/7/2023	16:30 8:00	19:30 11:00	3:00	Impact hammer	36 48	Permanent	3	8,500m	0%	L	1	None	Station 3	AR	NO SIGHTINGS											
7/7/2023 7/7/2023	8:00 11:00	11:00	3:00 3:00	Vibratory hammer No in-water work	48	Permanent	1		0%	F/OC F/OC	2	E F	Station 4 Station 4	GD JA	NO SIGHTINGS NO SIGHTINGS											
7/7/2023	14:00	18:00	4:00	Impact hammer	36	Permanent	3		0%	oc	2	E	Station 4	GD	NO SIGHTINGS											
7/7/2023	18:00	19:30	1:30	Impact hammer	36	Permanent			0%	oc	2	E	Station 4	JA	NO SIGHTINGS											
7/8/2023 7/8/2023	7:30 9:00	9:00 12:30	1:30 3:30	Impact hammer No in-water work	36	Permanent		.,	0% 0%	PC PC	0	NE NE	Station 1 Station 1	CO LK	NO SIGHTINGS NO SIGHTINGS											
7/8/2023	12:30	13:30	1:00	No in-water work					0%	PC	1	NE NE	Station 1	CO	NO SIGHTINGS											
7/8/2023	13:30	17:15	3:45	Impact hammer	36	Permanent		16,345m	0%	PC	1	NE	Station 1	LK	NO SIGHTINGS											
7/8/2023 7/8/2023	7:30 9:30	9:30 10:30	2:00 1:00	Impact hammer No in-water work	36	Permanent		-,	0%	oc oc	1	NE NE	Station 2 Station 2	AR CO	NO SIGHTINGS NO SIGHTINGS											
7/8/2023	10:30	14:00	3:30	No in-water work					0%	PC	1	NE	Station 2	AR	NO SIGHTINGS											
7/8/2023	14:00	15:00	1:00	No in-water work				8,500m	0%	PC	1	NE	Station 2	co	NO SIGHTINGS											
7/8/2023 7/8/2023	15:00 7:30	17:15 11:00	2:15 3:30	Impact hammer Impact hammer	36 36	Permanent Permanent		-,	0% 0%	OC PC	2	NE SE	Station 2 Station 3	AR LW	NO SIGHTINGS NO SIGHTINGS											
7/8/2023	11:00	12:00	1:00	No in-water work	30	Permanent	1	-,	0%	PC PC	1	SE SE	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
7/8/2023	12:00	15:30	3:30	No in-water work					15%	S	1	NE	Station 3	LW	NO SIGHTINGS											
7/8/2023	15:30 16:30	16:30 17:15	1:00	Impact hammer	36 36	Permanent		-,	15%	S	1	NE	Station 3	co	NO SIGHTINGS											
7/8/2023 7/8/2023	7:30	10:30	0:45 3:00	Impact Hammer Impact Hammer	36 36	Permanent Permanent			10%	PC PC	1	NE NE	Station 3 Station 4	LW GD	NO SIGHTINGS NO SIGHTINGS											
7/8/2023	10:30	13:30	3:00	No in-water work				16,345m	0%	PC	1	NE	Station 4	JA	NO SIGHTINGS											
7/8/2023	13:30	14:30	1:00	No in-water work	36			.,	0%	PC	1	NE	Station 4	GD	NO SIGHTINGS											
7/8/2023 7/9/2023	14:30 13:00	17:15 14:00	2:45 1:00	Impact Hammer No in-water work	36	Permanent			0%	PC PC	0	NE NE	Station 4 Station 1	JA CO	NO SIGHTINGS NO SIGHTINGS											
7/9/2023	14:00	17:30	3:30	No in-water work					0%	PC	1	NE	Station 1	LK	NO SIGHTINGS											
7/9/2023	17:30 13:00	18:30 14:30	1:00	No in-water work					0%	PC	1	NE	Station 1	со	NO SIGHTINGS											
7/9/2023 7/9/2023	14:30	15:30	1:30	No in-water work No in-water work					0%	OC OC	1	E	Station 2 Station 2	AR CO	NO SIGHTINGS NO SIGHTINGS											
7/9/2023	15:30	18:30	3:00	No in-water work					0%	OC	3	E	Station 2	AR	NO SIGHTINGS											
7/9/2023	13:00 16:00	16:00 17:00	3:00	No in-water work					10%	PC	1	E	Station 3	LW	NO SIGHTINGS											
7/9/2023 7/9/2023	17:00	18:30	1:00	No in-water work					10%	PC S/PC	1	E F	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
7/9/2023	13:00	16:30	3:30	No in-water work				-,	0%	S/PC	1	None	Station 4	KY	NONE	HSEA	16:25	16:78	1	LO/SI/TR(E)	F4	3.600m	N	N	NONE	Observed traveling east at 16:28; moderate
7/9/2023	16:30	18:30	2:00					-,-	0%	S/PC	1			GD	NO SIGHTINGS		10.23	10.20		20/34/ IN(L)		3,000111	.,		HONE	pace
7/9/2023	10:00	11:00	1:00	No in-water work No in-water work					0%	L/OC	1	None NE	Station 4 Station 1	LW	NO SIGHTINGS NO SIGHTINGS											
7/10/2023	11:00	14:30	3:30	No in-water work					0%	L/OC	1	NE	Station 1	LK	NO SIGHTINGS											
7/10/2023 7/10/2023	14:30 15:30	15:30 16:20	1:00	No in-water work Vibratory Hammer	48	Permanent			0% 0%	L/R L/R	1	NE NE	Station 1 Station 1	LW LK	NO SIGHTINGS NO SIGHTINGS											
7/10/2023	10:00	11:30	1:30	No in-water work	40	Permanent			0%	L/K L/OC	1	SE SE	Station 1 Station 2	KY	NONE	STSI	10:07	12:32	1	MI/FO	F3	2.500m	N	N	NONE	
7/10/2023	11:30	12:30	1:00	No in-water work					0%	L/OC	1	SE	Station 2	LW	NONE	STSL	10:07	12:32	1	MI/FO	F3	2.500m	N	Υ	NONE	PSO shifts overlap with sighting of STSL above
, ,,					48	B		.,.		,										, .		,				
7/10/2023 7/10/2023	12:30 12:30	16:20 16:20	3:50 3:50	Vibratory Hammer Vibratory Hammer	48 48	Permanent Permanent			0% 0%	L/OC L/OC	1	SE SE	Station 2 Station 2	KY KY	NONE NONE	STSL HSEA	13:23 14:03	13:35 14:03	2	TR(W) LO/SI	F3 F3	2,600m 2.400m	N N	N N	NONE NONE	In-water work did not start until 15:45 In-water work did not start until 15:45
7/10/2023	12:30	16:20	3:50	Vibratory Hammer	48	Permanent		,	0%	L/OC	1	SE	Station 2	KY	NONE	STSL		14:25	2	TR(NW)/FO	F3	2,300m	N.	· ·	NONE	Resighting of pair from 13:23; in-water work
, , ,	10:00	13:00			-10	remidilent		.,.		,		JE E				JIJL	14.12	14.23	2	- N(INVV)/FU	13	2,300111	14	,	INDINE	did not start until 15:45
7/10/2023 7/10/2023	10:00	13:00	3:00 1:00	No in-water work					0%	L/OC L/OC	1	E F	Station 3 Station 3	AR I W	NO SIGHTINGS NO SIGHTINGS											
7/10/2023	14:00	16:20	2:20	Vibratory Hammer	48	Permanent		7,000m	0%	R	1	Ē	Station 3	AR	NO SIGHTINGS											
7/10/2023	10:00	14:00	4:00	No in-water work		_			1%	L/R/OC	1	E	Station 4	JA	NO SIGHTINGS											
7/10/2023	14:00 7:30	16:20 8:30	2:20	Vibratory Hammer No in-water work	48	Permanent	1	16,345m 3.000m	1%	L/R/OC L/F	1	E NF	Station 4 Station 1	GD	NO SIGHTINGS NO SIGHTINGS											
7/11/2023	8:30	11:30	3:00	Drilling	48	Permanent	1	-,	0%	L/F	1	NE NE	Station 1	LK	NO SIGHTINGS											
7/11/2023	7:30	9:00	1:30	Drilling	48	Permanent	1	4,000m	0%	R/F/OC	1	NE	Station 2	KY	NONE	HSEA	8:27	8:29	1	LO/SI	F3	2,400m	N	N	NONE	In-water work did not start until 08:50
7/11/2023 7/11/2023	9:00 10:00	10:00 11:30	1:00 1:30	Drilling Drilling	48 48	Permanent Permanent			0%	R/F/OC L/F/OC	1	NE NE	Station 2 Station 2	CO KY	NO SIGHTINGS NO SIGHTINGS											
7/11/2023	7:30	10:30	3:00	Drilling	48	Permanent			0%	L/F	1	E	Station 3	AR	NO SIGHTINGS											
7/11/2023	10:30	11:30	1:00	Drilling	48	Permanent			0%	L/F	1	E	Station 3	со	NO SIGHTINGS											
7/11/2023	7:30	11:30	4:00	Drilling	48	Permanent	1	8,000m	0%	L/R/F/OC	1	E	Station 4	JA	NO SIGHTINGS											

Date	Start Time	e End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	es Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from	Take?	Resighting?	Mitigation	Notes
7/13/2023	12:00	13:00	1:00	No in-water work				16,345m	0%	ос	0	None	Station 1	LW	NO SIGHTINGS							Work				
7/13/2023 7/13/2023	13:00 16:30	16:30 17:30	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16,345m	0% 0%	oc oc	0	NE NE	Station 1 Station 1	LK LW	NO SIGHTINGS NO SIGHTINGS											
7/13/2023	17:30 12:00	19:45 13:30	2:15	Drilling	48	Permanent	1	9,000m	0%	L/OC	1	NE	Station 1	LK	NO SIGHTINGS											
7/13/2023 7/13/2023	12:00	13:30 14:30	1:30 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	S/PC S/PC	1	None NE	Station 2 Station 2	JA LW	NO SIGHTINGS NONE	STSL	13:48	14:45	1	MI/FO	F3	2,700m	N	N	NONE	
7/13/2023	14:30	18:00	3:30	Drilling	48	Permanent	1	16,345m	0%	S/PC	1	NE	Station 2	JA	NONE	STSL	13:48	14:45	1	MI/FO	F3	2,700m	N	Υ	NONE	PSO shifts overlap with sighting of STSL above; in-water work did not start until 15:40
7/13/2023	18:00	19:00	1:00	Drilling	48	Permanent	1	16,345m	0%	S/PC	1	NE	Station 2	LW	NO SIGHTINGS											
7/13/2023 7/13/2023	19:00 12:00	19:45 15:00	0:45 3:00	Drilling No in-water work	48	Permanent	1	9,000m 8,500m	0% 50%	PC/L OC	0	NE None	Station 2 Station 3	JA CO	NO SIGHTINGS NO SIGHTINGS											
7/13/2023	15:00	16:00	1:00	Drilling	48	Permanent	1	8,500m	50%	ос	0	None	Station 3	LW	NO SIGHTINGS											
7/13/2023 7/13/2023	16:00 12:00	19:45 16:00	3:45 4:00	Drilling Drilling	48 48	Permanent Permanent	1	6,000m 16,345m	50% 0%	OC L	0	None E	Station 3 Station 4	CO GD	NO SIGHTINGS NO SIGHTINGS											
7/13/2023	16:00	19:45	3:45	Drilling	48	Permanent	1	9,000m	0%	L	1	E	Station 4	BW	NO SIGHTINGS											
7/14/2023 7/14/2023	12:00 13:35	13:35 14:35	1:35 1:00	Drilling Drilling	48 48	Permanent Permanent	1	3,000m 16,345m	0% 0%	L/OC OC	0	None NE	Station 1 Station 1	JA LW	NO SIGHTINGS NO SIGHTINGS											
7/14/2023	14:35	18:00	3:25	Drilling	48	Permanent	1	16,345m	0%	oc	0	NE	Station 1	LK	NO SIGHTINGS											
7/14/2023 7/14/2023	18:00 12:00	18:30 13:30	0:30	No in-water work Drilling	48	Permanent	1	16,345m 5.050m	0% 0%	OC L/OC	1	NE F	Station 1 Station 2	LW	NO SIGHTINGS NO SIGHTINGS											
7/14/2023	13:30	16:30	3:00	Drilling	48	Permanent	1	5,050m	0%	L/OC	1	E	Station 2	JA	NO SIGHTINGS											
7/14/2023 7/14/2023	16:30 12:00	18:30 15:00	2:00 3:00	No in-water work Drilling	48	Permanent	1	16,345m 5.000m	0% 0%	OC I	1	E NE	Station 2 Station 3	LW	NO SIGHTINGS NO SIGHTINGS											
7/14/2023	15:00	16:00	1:00	Drilling	48	Permanent	1	8,500m	0%	OC	1	NE NE	Station 3	LW	NO SIGHTINGS											
7/14/2023	16:00	18:30	2:30	No in-water work	40			8,500m	0%	PC	1	NE	Station 3	CO	NONE	STSL	17:05	17:08	1	SA	F4	4,800m	N	N	NONE	Swimming east out of bay
7/14/2023 7/14/2023	12:00 16:00	16:00 18:30	4:00 2:30	Drilling No in-water work	48	Permanent	1	4,800m 16,345m	0% 0%	F/OC OC	1	E E	Station 4 Station 4	BW GD	NO SIGHTINGS NO SIGHTINGS											
7/15/2023	9:00	10:00	1:00	Vibratory hammer	48	Permanent	1	4,000m	0%	L	1	NE	Station 1	со	NO SIGHTINGS											
7/15/2023 7/15/2023	10:00 13:30	13:30 14:30	3:30 1:00	No in-water work No in-water work				4,000m 6.000m	0% 0%	L R	1 2	NE NE	Station 1 Station 1	LK CO	NO SIGHTINGS NO SIGHTINGS											
7/15/2023	14:30	17:00	2:30	No in-water work				8,000m	0%	Ĺ	2	NE	Station 1	LK	NO SIGHTINGS											
7/15/2023 7/15/2023	9:00 10:30	10:30 11:30	1:30 1:00	Vibratory hammer No in-water work	48	Permanent	1	3,000m 3,000m	0% 0%	R/F R/F	1	E	Station 2 Station 2	JH	NO SIGHTINGS NO SIGHTINGS											
7/15/2023	11:30	15:00	3:30	No in-water work				6,000m	0%	R	1	E	Station 2	JH	NO SIGHTINGS											
7/15/2023	15:00 16:00	16:00 17:00	1:00 1:00	No in-water work No in-water work				6,000m 8,000m	0% 0%	R L/R	1 2	E E	Station 2 Station 2	CO	NO SIGHTINGS NO SIGHTINGS											
7/15/2023 7/15/2023	9:00	12:00	3:00	Vibratory hammer	48	Permanent	1	4,000m	0%	R/F/OC	1	SE	Station 3	КҮ	NONE	HSEA	9:53	10:03	1	LO/SI	E4	4,200m	N	N	NONE	Last sighted at 10:03 when jetskis drove approximatley 10m from HSEA; pile driving
7/15/2023	12:00	13:00	1:00	No in-water work				4.000m	0%	R/F/OC	1	SE	Station 3	со	NO SIGHTINGS											ended at 9:43
7/15/2023		16:30	3:30	No in-water work				6,500m	0%	R/OC	1	SE	Station 3	KY	NONE	HSEA	14:04	15:03	1	LO/SI/FO	F4	4,000m	N	N	NONE	Not indicated to be a resighting
7/15/2023 7/15/2023	13:00 16:30	16:30 17:00	3:30 0:30	No in-water work No in-water work				6,500m 8.000m	0% 0%	R/OC R/OC	1 2	SE SE	Station 3 Station 3	KY CO	NONE NO SIGHTINGS	HSEA	16:00	16:30	1	FO/LO/SI	F4	4,100m	N	N	NONE	Not indicated to be a resighting
7/15/2023	9:00	13:00	4:00	Vibratory hammer	48	Permanent	1	8,000m	0%	L/R/OC	1	E	Station 4	BW	NO SIGHTINGS											
7/15/2023 7/17/2023	13:00 8:30	17:00 9:30	4:00 1:00	No in-water work No in-water work				8,000m 5,000m	0%	L/R/OC	1	E NE	Station 4 Station 1	GD CO	NO SIGHTINGS NO SIGHTINGS											
7/17/2023	9:30	13:00	3:30	Vibratory hammer	48	Permanent	1	16,345m	0%	ос	1	NE	Station 1	LK	NO SIGHTINGS											
7/17/2023 7/17/2023	13:00 14:00	14:00 14:30	1:00 0:30	No in-water work No in-water work				16,345m 9,000m	0% 0%	OC I	1	NE NE	Station 1 Station 1	CO LK	NO SIGHTINGS NO SIGHTINGS											
7/17/2023	8:30	10:00	1:30	Vibratory hammer	48	Permanent	1	6,000m	0%	Ĺ	1	NE	Station 2	JA	NO SIGHTINGS											
7/17/2023 7/17/2023		11:00 14:30	1:00	No in-water work Vibratory Hammer	48	Permanent	1	16,345m 9.000m	0% 0%	L OC	1	NE NF	Station 2 Station 2	CO	NO SIGHTINGS NO SIGHTINGS											
7/17/2023	8:30	11:30	3:00	Vibratory Hammer	48	Permanent	1	8,500m	0%	R/OC	1	None	Station 3	JH	NO SIGHTINGS											
7/17/2023 7/17/2023	11:30 12:30	12:30 14:30	1:00 2:00	Vibratory Hammer Vibratory Hammer	48 48	Permanent Permanent	1	8,500m 16.345m	0% 0%	R/OC OC	1	None None	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
7/17/2023	8:30	12:30	4:00	Vibratory Hammer Vibratory Hammer	48	Permanent	1	8,000m	0%	L/R/F/OC	1	None E	Station 3 Station 4	BW	NO SIGHTINGS NO SIGHTINGS											
7/17/2023	12:30	14:30	2:00	Vibratory Hammer	48	Permanent	1	12,000m	0%	L/R/OC	1	E	Station 4	GD	NO SIGHTINGS											
7/18/2023 7/18/2023	8:30 9:30	9:30 13:00	1:00 3:30	No in-water work Vibratory hammer	36	Temporary	2	2,000m 16,345m	0% 0%	OC F	0	None None	Station 1 Station 1	CO LK	NO SIGHTINGS NO SIGHTINGS											
7/18/2023	13:00 14:00	14:00 17:30	1:00	Vibratory hammer	36 36	Temporary	2	16,345m	0%	oc	0	None	Station 1	co	NO SIGHTINGS											
7/18/2023 7/18/2023	14:00 17:30	17:30 18:30	3:30 1:00	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	1	16,345m 16,345m	0% 0%	OC PC	0	None None	Station 1 Station 1	LK CO	NO SIGHTINGS NO SIGHTINGS											
7/18/2023	18:30	19:00	0:30	No in-water work				16,345m	0%	S	0	None	Station 1	LK	NO SIGHTINGS											
7/18/2023 7/18/2023	8:30 10:00	10:00 11:00	1:30 1:00	No in-water work No in-water work				2,000m 16,345m	0% 0%	PC/F S/PC	0	None None	Station 2 Station 2	JA CO	NO SIGHTINGS NO SIGHTINGS											
7/18/2023	11:00	14:30	3:30	Vibratory Hammer	36	Temporary	4	16,345m	0%	S/PC	0	None	Station 2	JA	NO SIGHTINGS											
7/18/2023 7/18/2023	14:30 15:30	15:30 19:00	1:00 3:30	No in-water work Vibratory Hammer	36	Temporary	1	16,345m 16.345m	0% 0%	S/PC S	0	None None	Station 2 Station 2	CO JA	NO SIGHTINGS NO SIGHTINGS											
7/18/2023	8:30	11:30	3:00	No in-water work				500m	0%	F	0	None	Station 3	KY	NO SIGHTINGS											
7/18/2023	11:30	12:30	1:00	Vibratory Hammer	36	Temporary	1	16,345m	0%	PC	0	None	Station 3	CO	NO SIGHTINGS											Protected by land barrier: vibratory hammer
7/18/2023 7/18/2023	12:30 12:30	16:00 16:00	3:30 3:30	Vibratory Hammer Vibratory Hammer	36 36	Temporary Temporary	3	16,345m 16,345m	0%	oc oc	0	None None	Station 3 Station 3	KY KY	Vibratory hammer NONE	HSEA HSEA	13:31 15:51	14:13 15:52	1	LO/SI LO/SI	F4	3,900m 4,100m	N N	N N	NONE	operated 13:20-13:30 Not indicated to be a resighting
7/18/2023 7/18/2023	16:00 17:00	17:00 19:00	1:00	No in-water work	36	Tome	1	16,345m 16.345m	0%	OC S/PC	0	None	Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
7/18/2023 7/18/2023	8:30	12:30	2:00 4:00	Vibratory Hammer Vibratory Hammer	36	Temporary Temporary	1	16,345m 16,345m	0% 0%	PC/F/OC	1	None E	Station 3 Station 4	KY BW	NO SIGHTINGS NO SIGHTINGS											
7/18/2023	12:30 16:30	16:30 19:00	4:00	Vibratory Hammer	36 36	Temporary	3	16,345m	0%	OC PS/OS	1	E	Station 4	GD	NO SIGHTINGS											
7/18/2023 7/19/2023	16:30 9:00	19:00 10:00	2:30 1:00	Vibratory Hammer No in-water work	36	Temporary	1	16,345m 2.000m	0%	PC/OC L/F	0	E None	Station 4 Station 1	BW KY	NO SIGHTINGS NO SIGHTINGS											
7/19/2023	10:00	13:30	3:30	Vibratory Hammer	36	Temporary	2	4,000m	0%	Ĺ	0	None	Station 1	LK	NO SIGHTINGS											
7/19/2023 7/19/2023	13:30 14:30	14:30 18:00	1:00 3:30	Vibratory Hammer Vibratory Hammer	36 36	Temporary Temporary	1	6,000m 16.000m	0% 0%	R	0	None None	Station 1 Station 1	KY LK	NO SIGHTINGS NO SIGHTINGS											
7/19/2023	18:00	19:00	1:00	No in-water work	50	remporary	•	3,000m	0%	L/F	0	None	Station 1	KY	NO SIGHTINGS											
7/19/2023 7/19/2023		10:30 11:30	1:30	No in-water work				1,200m 1,200m	0% 0%	R/F R/F	1	None None	Station 2 Station 2	AR KY	NO SIGHTINGS											
7/19/2023	11:30	15:00	3:30	Vibratory Hammer	36	Temporary	2	6,000m	0%	R/F	1	None	Station 2 Station 2	AR	NO SIGHTINGS NO SIGHTINGS											
7/19/2023		16:00	1:00	No in-water work				6,000m	0%	R/F	1	None	Station 2	KY	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	es Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance	Take?	Resighting?	Mitigation	Notes
7/19/2023	16:00	19:00	3:00	Vibratory Hammer	36	Temporary	1	5,500m	0%	F	1	None	Station 2	AR	NO SIGHTINGS		-					Work				
7/19/2023	9:00	12:00	3:00	No in-water work				4,000m	0%	L/F	0	None	Station 3	co	NO SIGHTINGS											
7/19/2023	12:00 13:00	13:00 16:30	1:00	Vibratory Hammer	36 36	Temporary	1 2	3,000m 3,000m	0% 0%	L/F I/F	0	None None	Station 3 Station 3	KY CO	NO SIGHTINGS NO SIGHTINGS											
7/19/2023	16:30	17:30	1:00	No in-water work	30	remporary	-	3,000m	0%	L/F	0	None	Station 3	KY	NO SIGHTINGS											
7/19/2023	17:30 8:30	19:00 12:30	1:30	No in-water work	36	<b>-</b>	1	3,000m	0%	L/F	0	None	Station 3	CO	NO SIGHTINGS											
7/19/2023 7/19/2023	12:30	16:30	4:00 4:00	Vibratory Hammer Vibratory Hammer	36	Temporary Temporary	3	5,000m 8.000m	0% 0%	L/R/F/OC L/R/F/OC	1	E E	Station 4 Station 4	BW GD	NO SIGHTINGS NO SIGHTINGS											
7/19/2023	16:30	19:00	2:30	No in-water work				12,000m	0%	L/R/F/OC	1	E	Station 4	BW	NO SIGHTINGS											
7/20/2023 7/20/2023	9:00 10:00	10:00 13:30	1:00 3:30	No in-water work Drilling	48	Permanent	1	10,000m 16,345m	0% 0%	PC/F/OC S	0	NE NE	Station 1 Station 1	CO LK	NO SIGHTINGS NO SIGHTINGS											
7/20/2023	13:30	14:30	1:00	Drilling	48	Permanent	1	16,345m	0%	s	1	NE	Station 1	co	NO SIGHTINGS											
7/20/2023 7/20/2023	14:30 18:00	18:00 19:00	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16,345m	0% 0%	S S	1	NE NE	Station 1 Station 1	LK CO	NO SIGHTINGS NO SIGHTINGS											
7/20/2023	19:00	21:30	2:30	Drilling	48	Permanent	1	16,345m 16,345m	0%	S S	1	SW	Station 1 Station 1	LK	NO SIGHTINGS NO SIGHTINGS											
7/20/2023	9:00	10:30	1:30	No in-water work				8,000m	0%	PC	0	None	Station 2	JA	NO SIGHTINGS											
7/20/2023 7/20/2023	10:30 11:30	11:30 15:00	1:00 3:30	Drilling Drilling	48 48	Permanent Permanent	1	8,000m 12,000m	0% 0%	PC S	0	None NE	Station 2 Station 2	CO JA	NO SIGHTINGS NO SIGHTINGS											
7/20/2023	15:00	16:00	1:00	No in-water work		remanent	•	12,000m	0%	S	1	NE	Station 2	co	NO SIGHTINGS											
7/20/2023	16:00 19:30	19:30 21:30	3:30	Drilling	48 48	Permanent	1	16,345m	0%	S	1	NE	Station 2	JA	NO SIGHTINGS											
7/20/2023			2:00	Drilling		Permanent		16,345m	0%	S	1	SW	Station 2	СО	NO SIGHTINGS											Fog lifted @ 10am; full visibility. Drilling start
7/20/2023	9:00	12:00	3:00	Drilling	48	Permanent	1	500m	0%	S/PC/F	1	N	Station 3	KY	NO SIGHTINGS											@ 10:30
7/20/2023 7/20/2023	12:00 13:00	13:00 16:30	1:00 3:30	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	S/PC S	0	N N	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
7/20/2023	16:30	17:30	1:00	No in-water work	40	remanent	1	16,345m	0%	5	1	N N	Station 3	CO	NO SIGHTINGS											
7/20/2023	17:30	21:30	4:00	Drilling	48	Permanent	1	16,345m	10%	S	1	SW	Station 3	KY	NO SIGHTINGS											
7/20/2023 7/20/2023	8:30 12:30	12:30 16:30	4:00 4:00	Drilling Drilling	48 48	Permanent Permanent	1	10,000m 16.345m	5% 5%	S/PC/F S/PC	1	E F	Station 4 Station 4	BW GD	NO SIGHTINGS NO SIGHTINGS											
7/20/2023	16:30	20:30	4:00	Drilling	48	Permanent	1	16,345m	5%	S/PC	1	Ē	Station 4	BW	NO SIGHTINGS											
7/20/2023	20:30 21:00	21:00 21:30	0:30	Drilling	48	Permanent	1	16,345m	5%	S/PC	1	w	Station 4	GD	NO SIGHTINGS											
7/20/2023 7/21/2023	8:30	9:30	0:30 1:00	No in-water work Drilling	48	Permanent	1	16,345m 16.345m	5% 0%	S/PC PC	2	SW SW	Station 4 Station 1	BW LW	NO SIGHTINGS NO SIGHTINGS											
7/21/2023	9:30	13:00	3:30	Vibratory hammer	36	Permanent	2	16,345m	0%	PC	2	SW	Station 1	LK	NO SIGHTINGS											
7/21/2023 7/21/2023	13:00 14:00	14:00 17:30	1:00 3:30	No in-water work No in-water work				16,345m 16.345m	0% 0%	PC PC	1	NE NE	Station 1 Station 1	LW LK	NO SIGHTINGS NO SIGHTINGS											
7/21/2023	17:30	18:30	1:00	Vibratory hammer	36	Permanent	2	16,345m	0%	PC	0	NE NE	Station 1	LW	NO SIGHTINGS											
7/21/2023	8:30	10:00	1:30	Drilling	48	Permanent	1	16,345m	0%	S	2	SW	Station 2	JA	NO SIGHTINGS											
7/21/2023 7/21/2023	10:00 11:00	11:00 14:30	1:00 3:30	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S/PC	2	SW SW	Station 2 Station 2	LW JA	NO SIGHTINGS NO SIGHTINGS											
7/21/2023	14:30	15:30	1:00	No in-water work				16,345m	0%	S/PC	2	SW	Station 2	LW	NO SIGHTINGS											
7/21/2023	15:30	18:30	3:00	Vibratory hammer Drilling (1)/Vibratory	36	Permanent	2	16,345m	0%	S/PC	1	SW	Station 2	JA	NO SIGHTINGS											
7/21/2023	8:30	11:30	3:00	hammer (2)	48/36	Permanent	3	8,500m	0%	PC	1	SW	Station 3	СО	NO SIGHTINGS											
7/21/2023	11:30	12:30	1:00	No in-water work			3	8,500m	0%	PC	1	SW	Station 3	LW	NO SIGHTINGS											
7/21/2023 7/21/2023	12:30 16:00	16:00 17:00	3:30 1:00	No in-water work No in-water work			3	8,500m 8,500m	0% 0%	PC PC	1	S S	Station 3 Station 3	CO LW	NO SIGHTINGS NO SIGHTINGS											
7/21/2023	17:00	18:30	1:30	Vibratory hammer	36	Permanent	2	8,500m	0%	PC	0	None	Station 3	co	NO SIGHTINGS											
7/21/2023	8:30	12:30	4:00	Drilling (1)/Vibratory hammer (2)	48/36	Permanent	3	16,345m	0%	ос	1	W	Station 4	GD	NO SIGHTINGS											
7/21/2023	12:30	16:30	4:00	No in-water work				16,345m	0%	ОС	0	SW	Station 4	BW	NO SIGHTINGS											
7/21/2023	16:30	18:30	2:00	Vibratory hammer	36	Permanent	2	16,345m	0%	PC	1	W	Station 4	GD	NO SIGHTINGS											
7/22/2023 7/22/2023	9:00 10:00	10:00 13:30	1:00 3:30	No in-water work Vibratory hammer	48	Permanent	1	16,345m 16.345m	0% 0%	PC S	1	SW SW	Station 1 Station 1	LW LK	NO SIGHTINGS NO SIGHTINGS											
7/22/2023	13:30	14:30	1:00	Vibratory hammer	36	Permanent	1	16,345m	0%	S	1	SW	Station 1	LW	NO SIGHTINGS											
7/22/2023 7/22/2023	14:30 18:00	18:00 19:00	3:30 1:00	Vibratory hammer	36 36	Permanent Permanent	3	16,345m 16.345m	0% 0%	S S	2	SW	Station 1 Station 1	LK I W	NO SIGHTINGS NO SIGHTINGS											
7/22/2023	9:00	10:30	1:30	No in-water work	30	Permanent	3	16,345m 16,345m	0%	S/PC	1	SW	Station 1 Station 2	KY	NOSIGHTINGS	so	9:33	9:34	1	MI	F2	1,000m	N	N	NONE	
7/22/2023	10:30	11:30	1:00	Vibratory hammer	48	Permanent	1	16,345m	0%	S/PC	1	SW	Station 2	LW	NO SIGHTINGS											
7/22/2023 7/22/2023	11:30 15:00	15:00 16:00	3:30 1:00	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent	1 2	16,345m 16.345m	0% 0%	S/PC S/PC	2	SW	Station 2 Station 2	KY I W	NO SIGHTINGS NO SIGHTINGS											
7/22/2023	16:00	19:30	3:30	Vibratory (1)/Impact (3)	36	Permanent	4	16,345m	0%	S	2	SW	Station 2	KY	NO SIGHTINGS											
7/22/2023	9:00 12:00	12:00 13:00	3:00	Vibratory hammer	48	Permanent	1	8,500m	0%	PC	1	SW	Station 3	CO	NO SIGHTINGS											
7/22/2023 7/22/2023	12:00 13:00	13:00 16:30	1:00 3:30	No in-water work Vibratory hammer	36	Permanent	3	8,500m 8,500m	0% 0%	S S	1	SW SW	Station 3 Station 3	LW	NO SIGHTINGS NO SIGHTINGS											
7/22/2023	16:30	17:30	1:00	Vibratory hammer	36	Permanent	1	8,500m	0%	S	2	SW	Station 3	LW	NO SIGHTINGS											
7/22/2023 7/22/2023	17:30 9:00	19:30 13:00	2:00 4:00	Impact hammer Vibratory hammer	36 48	Permanent Permanent	3 1	8,500m 16.345m	0% 5%	S PC	2	SW W	Station 3 Station 4	CO GD	NO SIGHTINGS NO SIGHTINGS											
7/22/2023	13:00	17:00	4:00	Vibratory hammer Vibratory hammer	36	Permanent	3	16,345m 16,345m	5%	S	1	W	Station 4 Station 4	BW	NO SIGHTINGS NO SIGHTINGS											
7/22/2023	17:00 9:00	19:30 10:00	2:30	Vibratory (1)/Impact (3)	36 48	Permanent	4	16,345m	5%	S	2	W	Station 4	GD	NO SIGHTINGS											
7/23/2023 7/23/2023	10:00	13:30	1:00 3:30	Drilling Drilling (2)/Vibratory (1)	48 48/36	Permanent Permanent	3	16,345m 16.345m	0% 0%	S	0	None None	Station 1 Station 1	JH LK	NO SIGHTINGS NO SIGHTINGS											Continuation of drilling from above
7/23/2023	13:30	14:30	1:00	Drilling	48	Permanent	1	16,345m	0%	S	0	None	Station 1	JH	NO SIGHTINGS											Continuation of drilling from above
7/23/2023	14:30	17:00	2:30	No in-water work				16,345m	0%	S	0	None	Station 1	LK	NO SIGHTINGS											Level B; HSEA remained 100-200m from Pos
7/23/2023	9:00	10:30	1:30	Drilling	48	Permanent	1	16,345m	0%	PC	1	None	Station 2	AR	Drilling	HSEA	9:00	13:17	1	LO/MI	F3	2,400m	Υ	N	NONE	Level B; HSEA remained 100-200m from Pos 2 until 13:17
7/23/2023	10:30	11:30	1:00	Vibratory	36	Permanent	1	16,345m	0%	PC	1	None	Station 2	JH	Vibratory hammer	HSEA	9:00	13:17	1	LO/MI	F3	2,400m	N	Υ	NONE	Same as above; take recorded above
7/23/2023 7/23/2023	11:30 15:00	15:00 16:00	3:30 1:00	Drilling No in-water work	48	Permanent	1	16,345m 16.345m	0% 0%	PC PC	1	None None	Station 2 Station 2	AR JH	Drilling NO SIGHTINGS	HSEA	9:00	13:17	1	LO/MI	F3	2,400m	N	Υ	NONE	Same as above; take recorded above
7/23/2023	16:00	17:00	1:00	No in-water work				16,345m	0%	S	1	None	Station 2	AR	NO SIGHTINGS											
7/23/2023	9:00 12:00	12:00 13:00	3:00	Drilling (2)/Vibratory (1)	48/36 48	Permanent Permanent	3 1	8,500m 8,500m	5%	S/PC S/PC	1	E	Station 3	LW	NO SIGHTINGS											Continue of delling from a
7/23/2023 7/23/2023	12:00	16:30	1:00 3:30	Drilling Drilling	48 48	Permanent Permanent	1	8,500m 8,500m	5% 5%	S/PC S/PC	1	E E	Station 3 Station 3	JH LW	NO SIGHTINGS NO SIGHTINGS											Continuation of drilling from above Continuation of drilling from above
7/23/2023	16:30	17:00	0:30	No in-water work				8,500m	5%	S	1	E	Station 3	JH	NO SIGHTINGS											<u>.</u>
7/23/2023 7/23/2023	9:00 12:30	12:30 16:00	3:30 3:30	Drilling (2)/Vibratory (1)	48/36 48	Permanent Permanent	3 1	16,345m 16.345m	0% 0%	S S	0	None None	Station 4 Station 4	KY GD	NO SIGHTINGS NO SIGHTINGS											Continuation of drilling from above
7/23/2023	16:00	17:00	1:00	No in-water work	~~	. emanett		16,345m	5%	S	1	SE	Station 4	KY	NO SIGHTINGS											Containation of drining from above
7/24/2023	9:00	10:00	1:00	No in-water work				7,000m	0%	F/OC	0	None	Station 1	CO	NO SIGHTINGS											

Process	Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
Control   Cont						48	Permanent	1																			
Part						36	Permanent	2				0															
Process												1															
Control   Cont												-															
March   Marc						48/36	Permanent	2				1															
1.00   1.00												1															Continuation of impacting from abv
March   Marc						36	Permanent	1				0															
2-7-1	7/24/2023									0%	F/OC	0	None	Station 3		NO SIGHTINGS											
1.																											Continuation of imposting from the
1.00   1.00						30	remanent	-				-	-														Continuation of impacting from abv
Process								_				1															
								1				1	-														Continuation of impacting from abv
								1	,		_	2															· -
1985   1985								1				2															
Section   Process   Proc								4			-																continuation of drining from above
1.0   1.0	7/25/2023		10:00	1:30	Drilling		Permanent	1	16,345m	0%	S	2	SW	Station 2	JA	NO SIGHTINGS											
	7/25/2023	10:00	11:00	1:00	Drilling	48	Permanent	1	16,345m	0%	S	2	SW	Station 2	KY	Drilling	HSEA	10:03	11:02	1	LO/SI	F3	1,900m	Υ	N	NONE	Level B; continuation of drilling from above
This conting								1																			Continuation of drilling from above
1								3			S	2															Continuation of impacting from aby
		8:30	11:30					1			PC	5															continuation of impacting from abv
1-86   1-86								1				5															
						,	i cimunciic	2	0,500111			1	•••														
1.00   1.00								1	-,			1															Continuation of impacting from abv
								1					S														Continuation of drilling from above
14   15   15   15   15   15   15   15							Permanent	4			S	1	S														
March   190   19						36	Permanent	1			S	1															Continuation of impacting from abv
1.70									1,000m		F																
								_																			Conducted in the dry
1/1																											Continuation of drilling from above
Mary						20		-	,		S	1															
March   Marc						36	Permanent	2			S PC	1															
1.1   1.2   1.3	8/1/2023	9:00	10:00	1:00	Vibratory hammer			_	1,000m	0%	PC	0	NE	Station 2	CO	NO SIGHTINGS											
March   Marc									1,200m		-	-															
March   Marc									16 24Em																		=
						,		-	.,																		Continuation of drining from above
## Parameter   1   5,000   10   10   10   10   10   10   10								_	,		5 F	1															Conducted in the dry
												1															•
March   Marc											-	1															
## Station of the continuation of childing from the continuation of childi	8/1/2023						Permanent	-			s	1	None														
## Station of the control of the con											F	1															
R2/1/203   73   8.30   1.00   No in-water work   16,345m   ON   OC   O   None   Station   1   IK   Whatory hammer   SO   9.25   9.45   TR(S)/FO   F2   400m   N   NONE   Out of zone for vibratory hammer work in area   16   3.45m   ON   OC   O   None   Station   1   IK   Whatory hammer   SO   9.25   9.45   TR(S)/FO   F2   400m   N   NONE   Out of zone for vibratory hammer work in area   16   3.45m   ON   OC   O   None   Station   1   IK   Whatory hammer   SO   9.25   9.45   TR(S)/FO   F2   400m   N   NONE   Out of zone for vibratory hammer work in area   16   5.45m   ON   OC   O   None   Station   1   IK   Whatory hammer   SO   9.25   9.45   TR(S)/FO   F2   400m   N   NONE   Out of zone for vibratory hammer work in area   16   5.45m   ON   OC   O   None   Station   IK   NO SIGHTINGS   NO SI		13:30	17:30					2				-															Continuation of drilling from above
8/7/2023   13:00   1						36	Permanent	2			S	1	E														
## 1500   13-0						20	Dorman	,										0.35	0.45		TD(5) (50		400			NONE	Out of zone for vibratory hammer work in
R/17/2023   13:00   16:30   33:00   Vibratory hammer   36   Permanent   2   16;345m   O/K   O/C   1   NE   Station   2   NE						эb	remanent	2								·	30	9:25	9:45	1	TR(3)/FU	F2	40UM	14	N	NONE	area 1 for sea otters
8/7/2023   16:30   17:30   18:30   18:30   17:30   18:30   1						36	Permanent	2																			
8/7/2023   7-30   9.00   13:0   Noin-water work   10,500m   0%   OC   1   None   Station   2   AR   NO SIGHTINGS	8/2/2023	16:30	17:30	1:00	No in-water work				16,345m	0%	ОС		NE	Station 1	со	NO SIGHTINGS											
8/Z/2023   3.00   10.00   13.30   3.30   Vibratory hammer   36   Permanent   1   0,500m   0%   OC   1   None   Station   2   AR   NONE   HSEA   11:00   11:02   1   SA   F3   NO WORK   N   N   NONE   Brief surface activity observed   8/Z/2023   10.00   13.30   3.30   Vibratory hammer   36   Permanent   1   9,000m   0%   OC   1   None   Station   2   AR   NONE   HSEA   12:27   12:28   1   SA   F3   NO WORK   N   N   NONE   Brief surface activity observed   8/Z/2023   13.30   1.30   1.30   1.30   0.0   Vibratory Vibratory Vibratory Vibratory hammer   36   Permanent   4   12,000m   0%   OC   1   None   Station   2   AR   NONE   HSEA   12:27   12:28   1   SA   F3   NO WORK   N   N   NONE   Brief surface activity observed   8/Z/2023   13.30   1.30   1.30   0.0   Vibratory Vibratory Vibratory Vibratory hammer   36   Permanent   1   16,345m   0%   OC   1   None   Station   2   AR   NONE   HSEA   12:27   12:28   1   SA   F3   NO WORK   N   N   NONE   Brief surface activity observed   8/Z/2023   13.30   1.30   1.30   0.30   Vibratory Vibratory hammer   36   Permanent   1   16,345m   0%   OC   1   None   Station   3   KY   NO SIGHTINGS   8/Z/2023   11:30   15:00   15						36	Permanent	2				1															
8/2/2023 13:30 14:30 1:00 Noin-water work 9,000m 0% OC 1 None Station 2 AR NONE HSEA 12:27 12:28 1 SA F3 NO WORK N N NONE Brief surface activity observed 9,100 Noin-water work 9,000m 0% OC 1 None Station 2 AR NONE HSEA 12:27 12:28 1 SA F3 NO WORK N N NONE Brief surface activity observed 9,100 Noin-water work 9,000 No Noin-water work 16,345 No No C 1 None Station 2 AR NO SIGHTINGS NOISHTINGS NOI						36	Permanent	1				1															
8/7/2023   13:30   14:30   1:00   No in-water work   9,000m   0%   OC   1   None   Station 2   CO   NO SIGHTINGS   8/7/2023   14:30   18:30   4:00   Vibratory lammer   36   Permanent   1   16,345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS   8/7/2023   13:30   13:30   Vibratory hammer   36   Permanent   1   16,345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS   8/7/2023   15:00   15:	8/2/2023	10:00	13:30	3:30	Vibratory hammer	36	Permanent	1	9,000m	0%	ОС	1	None	Station 2	AR	NONE	HSEA	11:00	11:02	1	SA	F3	NO WORK	N	N	NONE	Brief surface activity observed
8/7/2023   13:30   14:30   1:00   No in-water work   9,000m   0%   OC   1   None   Station 2   CO   NO SIGHTINGS   8/7/2023   14:30   18:30   4:00   Vibratory lammer   36   Permanent   1   16,345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS   8/7/2023   13:30   13:30   Vibratory hammer   36   Permanent   1   16,345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS   8/7/2023   15:00   15:	0/2/2022	10.00	12,20	2.20	VCh-sth	26	B		0.000	00/	0.5		None	Charles 2		NONE		42.27	42.20				NO WORK			NONE	Bold out on the share of
8/2/2023   14:30   18:30   4:00   Wibratory (2)/mpact (2)   36   Permanent   1   16;345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS     8/2/2023   10:30   11:30   1:00   No in-water work   16;345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS     8/2/2023   11:30   15:00   3:00   Wibratory hammer   36   Permanent   1   16;345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS     8/2/2023   10:00   1:00   Wibratory hammer   36   Permanent   1   16;345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS     8/2/2023   15:00   16:00   1:00   Wibratory hammer   36   Permanent   1   16;345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS     8/2/2023   15:00   18:30   2:30   Wibratory hammer   36   Permanent   1   16;345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS     8/2/2023   11:30   12:30   Uibratory hammer   36   Permanent   1   16;345m   0%   OC   1   None   Station 3   KY   NO SIGHTINGS     8/2/2023   11:30   12:30   Uibratory hammer   36   Permanent   1   16;345m   0%   OC   1   None   Station 4   JH   NO SIGHTINGS     8/2/2023   11:30   12:30   Uibratory hammer   36   Permanent   1   16;345m   0%   OC   1   None   Station 4   JH   NO SIGHTINGS     8/2/2023   15:30   1	., ,					36	rermanent	1	-,			_					HSEA	12:27	12:28	1	SA	1-3	NO WORK	N	N	NONE	Brief surface activity observed
8/2/2023 7:30 10:30 3:00 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 3 KY NO SIGHTINGS 8/2/2023 10:30 11:30 1:00 No in-water work 16,345m 0% OC 1 None Station 3 KH NO SIGHTINGS 8/2/2023 15:00 15:00 3:30 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 3 KY NO SIGHTINGS 8/2/2023 15:00 16:00 1:00 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 3 KY NO SIGHTINGS 8/2/2023 15:00 18:30 2:30 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 3 KY NO SIGHTINGS 8/2/2023 7:30 11:30 4:00 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 3 KY NO SIGHTINGS 8/2/2023 11:30 10:00 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 3 KY NO SIGHTINGS 8/2/2023 11:30 10:00 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 4 KY NO SIGHTINGS 8/2/2023 11:30 10:00 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 4 KY NO SIGHTINGS 8/2/2023 11:30 10:00 Vibratory hammer 36 Permanent 1 16,345m 0% OC 1 None Station 4 KY NO SIGHTINGS 8/2/2023 15:30 3:00 No In-water work 16,345m 0% OC 1 None Station 4 GD NO SIGHTINGS 8/2/2023 15:30 16:30 1:00 Vibratory hammer 36 Permanent 2 16,345m 0% OC 1 None Station 4 GD NO SIGHTINGS 8/2/2023 15:30 16:30 1:00 Vibratory hammer 36 Permanent 2 16,345m 10% PC 1 None Station 4 GD NO SIGHTINGS 8/2/2023 14:45 16:30 1:45 Impact hammer 36 Permanent 1 16,345m 0% OC 0 None Station 4 JH NO SIGHTINGS 8/3/2023 14:45 16:30 1:45 Impact hammer 36 Permanent 1 16,345m 0% OC 0 None Station 4 JH NO SIGHTINGS 8/3/2023 14:45 16:45 2:00 Impact hammer 36 Permanent 1 16,345m 0% OC 0 None Station 1 JK NO SIGHTINGS 8/3/2023 14:45 16:45 2:00 Impact hammer 36 Permanent 1 16,345m 0% OC 0 None Station 1 JK NO SIGHTINGS						36	Permanent	4																			
8/1/2023   13:30   15:00   1	8/2/2023	7:30	10:30	3:00				1	16,345m	0%	oc		None	Station 3	KY	NO SIGHTINGS											
8/7/2023   15:00   1						36	Permanent	1																			
8/Z/2023   13:30   13:00   4:00   Vibratory hammer   36   Permanent   1   16,345m   0%   OC   1   None   Station 4   JH   NO SIGHTINGS     8/Z/2023   12:30   15:30   3:00   No in-water work   16,345m   0%   OC   1   None   Station 4   JH   NO SIGHTINGS     8/Z/2023   15:30   15:30   3:00   No in-water work   16,345m   0%   OC   1   None   Station 4   JH   NO SIGHTINGS     8/Z/2023   15:30   16:30   1:00   Vibratory hammer   36   Permanent   2   16,345m   10%   PC   1   None   Station 4   JH   NO SIGHTINGS     8/Z/2023   16:30   18:30   2:00   Impact hammer   36   Permanent   2   16,345m   10%   PC   1   None   Station 4   JH   NO SIGHTINGS     8/Z/2023   14:45   16:30   1:45   Impact hammer   36   Permanent   1   16,345m   0%   OC   0   None   Station 4   JH   NO SIGHTINGS     8/Z/2023   14:45   16:30   1:45   Impact hammer   36   Permanent   1   16,345m   0%   OC   0   None   Station 1   JB   NO SIGHTINGS     8/Z/2023   14:45   16:30   1:45   Impact hammer   36   Permanent   1   16,345m   0%   OC   0   None   Station 1   JB   NO SIGHTINGS     8/Z/2023   14:45   16:30   1:45   Impact hammer   36   Permanent   2   16,345m   0%   OC   0   None   Station 1   JB   NO SIGHTINGS     8/Z/2023   14:45   16:30   Impact hammer   36   Permanent   2   16,345m   0%   OC   0   None   Station 1   JB   NO SIGHTINGS     8/Z/2023   14:45   16:45   2:00   Impact hammer   36   Permanent   2   16,345m   0%   OC   0   None   Station 1   JB   NO SIGHTINGS		15:00	16:00	1:00		36		1	16,345m			-	None														
8/Z/2023         11:30         12:30         10.00         Vibratory hammer         36         Permanent         1         16:345m         0%         OC         1         None         Station 4         JH         NO SIGHTINGS           8/Z/2023         15:30         15:30         10:00         Vibratory hammer         36         Permanent         2         16;345m         0%         PC         1         None         Station 4         JH         NO SIGHTINGS           8/Z/2023         16:30         18:30         1:00         Wibratory hammer         36         Permanent         2         16;345m         10%         PC         1         None         Station 4         JH         NO SIGHTINGS           8/Z/2023         16:30         18:00         Impact hammer         36         Permanent         2         16;345m         10%         PC         1         None         Station 4         JH         NO SIGHTINGS           8/Z/2023         18:15         1:45         Impact hammer         36         Permanent         1         16;345m         0%         OC         0         None         Station 1         JB         NO SIGHTINGS           8/Z/2023         16:30         1:45         Impact hammer								_																			
8/2/2023 15:30 15:30 3:00 No in-water work 16;345m 0% OC 1 None Station 4 JH NO SIGHTINGS 8/2/2023 15:30 16:30 1:30 Vibratory hammer 36 Permanent 2 16;345m 10% PC 1 None Station 4 GD NO SIGHTINGS 8/2/2023 16:30 1:35 1:45 Impact hammer 36 Permanent 1 16;345m 10% PC 1 None Station 4 JH NO SIGHTINGS 8/3/2023 16:30 1:45 Impact hammer 36 Permanent 1 16;345m 0% OC 0 None Station 1 JH NO SIGHTINGS 8/3/2023 16:30 18:15 1:45 Impact hammer 36 Permanent 1 16;345m 0% OC 0 None Station 1 JH NO SIGHTINGS 8/3/2023 16:45 1:45 Impact hammer 36 Permanent 1 16;345m 0% OC 0 None Station 1 JK NO SIGHTINGS 8/3/2023 16:45 1:45 Impact hammer 36 Permanent 2 16;345m 0% OC 0 None Station 1 JK NO SIGHTINGS 8/3/2023 16:45 2:00 Impact hammer 36 Permanent 2 16;345m 0% PC 0 None Station 2 JA NO SIGHTINGS																											
8/2/2023 16:30 18:30 2:00 Impact hammer 36 Permanent 2 16;345m 10% PC 1 None Station 4 JH NO SIGHTINGS 8/3/2023 14:45 16:30 1:45 Impact hammer 36 Permanent 1 16;345m 0% OC 0 None Station 1 JB NO SIGHTINGS 8/3/2023 14:45 16:30 18:15 1:45 Impact hammer 36 Permanent 1 16;345m 0% OC 0 None Station 1 JB NO SIGHTINGS 8/3/2023 14:45 16:45 2:00 Impact hammer 36 Permanent 2 16;345m 0% PC 0 None Station 2 JA NO SIGHTINGS	8/2/2023	12:30	15:30	3:00	No in-water work				16,345m	0%	ос		None	Station 4	JH	NO SIGHTINGS											
8/3/2023 14:45 16:30 1:45 Impact hammer 36 Permanent 1 16;345m 0% OC 0 None Station 1 JB NOSIGHTINGS 8/3/2023 16:30 18:15 1:45 Impact hammer 36 Permanent 1 16;345m 0% OC 0 None Station 1 LK NOSIGHTINGS 8/3/2023 14:45 16:45 2:00 Impact hammer 36 Permanent 2 16;345m 0% PC 0 None Station 2 JA NOSIGHTINGS												1															
8/3/2023 14:45 16:45 2:00 Impact hammer 36 Permanent 2 16;345m 0% PC 0 None Station 2 JA NO SIGHTINGS	8/3/2023	14:45	16:30	1:45	Impact hammer	36	Permanent		16,345m	0%	oc	0	None	Station 1	JB	NO SIGHTINGS											
									,			-															

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
8/3/2023	17:45	18:15	0:30	No in-water work				16,345m	0%	ос	0	None	Station 2	JA	NO SIGHTINGS											
8/3/2023 8/3/2023	14:45 14:45	18:15 18:15	3:30 3:30	Impact hammer Impact hammer	36 36	Permanent Permanent	2	8,500m 16,345m	0% 0%	OC OC	1	None None	Station 3 Station 4	JH GD	NO SIGHTINGS NO SIGHTINGS											
8/4/2023	8:30	9:30	1:00	No in-water work				16,000m	0%	OC	1	SW	Station 1	JB	NO SIGHTINGS											
8/4/2023 8/4/2023	9:30 13:00	13:00 14:00	3:30 1:00	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	1	16,345m 16.345m	0%	PC PC	0	None None	Station 1 Station 1	LK JB	NO SIGHTINGS NO SIGHTINGS											
8/4/2023	14:00	17:30	3:30	Vibratory hammer	36	Temporary/Per	4	16,345m	0%	PC	0	None	Station 1	LK	NO SIGHTINGS											
8/4/2023 8/4/2023	17:30 8:30	18:30 10:00	1:00	No in-water work No in-water work				16,345m 16.000m	0% 0%	PC PC	0	None SE	Station 1 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
8/4/2023	10:00	11:00	1:30 1:00	No in-water work				16,000m 16,000m	0%	PC	1	SE	Station 2 Station 2	JB	NO SIGHTINGS NO SIGHTINGS											
8/4/2023 8/4/2023	11:00 14:30	14:30 15:30	3:30 1:00	Vibratory hammer	36 36	Temporary Temporary	3	16,345m 16.345m	0% 0%	PC PC	0	SE SE	Station 2	JA IB	NO SIGHTINGS NO SIGHTINGS											
8/4/2023	15:30	18:30	3:00	Vibratory hammer Vibratory hammer	36	Permanent	1 2	16,345m 16,345m	0%	PC S	0	None	Station 2 Station 2	JA JA	NO SIGHTINGS NO SIGHTINGS											
8/4/2023	8:30	11:30	3:00	No in-water work				8,000m	0%	F	1	S	Station 3	AR	NO SIGHTINGS											
8/4/2023 8/4/2023	11:30 12:30	12:30 16:00	1:00	No in-water work Vibratory hammer	36	Temporary/Per	- 5	8,000m 8.500m	0%	F OC	1	S None	Station 3 Station 3	JB AR	NO SIGHTINGS NO SIGHTINGS											
8/4/2023	16:00	17:00	1:00	No in-water work				8,500m	0%	ос	1	None	Station 3	JB	NO SIGHTINGS											
8/4/2023 8/4/2023	17:00 8:30	18:30 12:30	1:30 4:00	Vibratory hammer No in-water work	36	Permanent	1	8,500m 14,000m	0% 0%	OC OC	1	None None	Station 3 Station 4	AR IH	NO SIGHTINGS NO SIGHTINGS											
8/4/2023	12:30	13:30	1:00	Vibratory hammer	36	Temporary	2	16,345m	0%	oc	1	None	Station 4	GD	NO SIGHTINGS											
8/4/2023 8/4/2023	13:30 17:30	17:30 18:30	4:00 1:00	Vibratory hammer No in-water work	36	Temporary/Per	4	16,345m 16,345m	0% 0%	OC OC	1	None None	Station 4 Station 4	JH GD	NO SIGHTINGS NO SIGHTINGS											
8/5/2023	10:30	11:30	1:00	No in-water work				16,345m	0%	PC	0	None	Station 1	JB	NO SIGHTINGS											
8/5/2023	11:30	15:00	3:30	No in-water work				16,345m	0%	PC	0	None	Station 1	LK	NO SIGHTINGS											
8/5/2023 8/5/2023	15:00 16:00	16:00 19:30	1:00 3:30	No in-water work Vibratory hammer	36/48	Permanent	3	16,345m 16,345m	0% 0%	PC PC	0	None None	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
8/5/2023	19:30	20:00	0:30	Vibratory hammer	48	Permanent	2	16,345m	0%	oc	1	NE	Station 1	JB	NO SIGHTINGS											
8/5/2023 8/5/2023	20:00 10:30	20:30 12:00	0:30 1:30	No in-water work No in-water work				16,345m 16.345m	0% 0%	oc oc	1	NE F	Station 1 Station 2	LK KY	NO SIGHTINGS NONE	HSEA	11:23	13:33	1	LO/SI	F3	2,000m	N	N	NONE	
8/5/2023	12:00	13:00	1:00	No in-water work				16,345m	0%	oc	1	E	Station 2	JB	NONE				-		F3			•		PSO rotation overlaps with HSEA sighting
8/5/2023 8/5/2023	13:00 13:00	16:30 16:30	3:30 3:30	No in-water work No in-water work				16,345m 16.345m	0%	S/PC S/PC	1	E F	Station 2 Station 2	KY KY	NONE NONE	STSL HSEA	13:38 14:41	14:20 15:24	2	FO/MI/TR(W) MI/SI	F3 F3	1,900m 2.000m	N N	N N	NONE NONE	
8/5/2023	16:30	17:30	1:00	No in-water work				16,345m	0%	S/PC	2	E	Station 2	JB	NO SIGHTINGS	HIJEK	14.41	13.24	1	IVII/ SI	13	2,000111			NONE	
8/5/2023 8/5/2023	17:30 10:30	20:30 13:30	3:00 3:00	Vibratory hammer	36/48	Permanent	4	16,345m 8.500m	0% 0%	S/PC OC	2	E None	Station 2 Station 3	KY AR	NO SIGHTINGS NO SIGHTINGS											
8/5/2023	13:30	14:30	1:00	No in-water work No in-water work				8,500m 8,500m	0%	OC	1	None	Station 3 Station 3	JB	NO SIGHTINGS NO SIGHTINGS											
8/5/2023	14:30 18:00	18:00 19:00	3:30	Vibratory hammer	36	Permanent	1 2	8,500m	0%	PC	1	N	Station 3	AR	NO SIGHTINGS											
8/5/2023 8/5/2023	18:00 19:00	20:30	1:00 1:30	Vibratory hammer Vibratory hammer	36 48	Permanent Permanent	2	8,500m 8,500m	0%	PC OC	1	N N	Station 3 Station 3	JB AR	NO SIGHTINGS NO SIGHTINGS											
8/5/2023	10:30	14:30	4:00	No in-water work				16,345m	0%	oc	1	None	Station 4	JH	NO SIGHTINGS											
8/5/2023 8/5/2023	14:30 15:30	15:30 19:30	1:00 4:00	No in-water work Vibratory hammer	36/48	Permanent	3	16,345m 16,345m	2% 2%	PC PC	1	None None	Station 4 Station 4	GD JH	NO SIGHTINGS NO SIGHTINGS											
8/5/2023	19:30	20:30	1:00	Vibratory hammer	48	Permanent	2	16,345m	0%	PC	1	None	Station 4	GD	NO SIGHTINGS											
8/6/2023 8/6/2023	8:00 8:50	8:50 12:30	0:50 3:40	Impact hammer Impact hammer	36 36	Permanent Permanent	1	2,000m 4,000m	0% 0%	L/R/F L/R	0	None NE	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
8/6/2023	12:30	13:30	1:00	No in-water work		remanent	_	4,000m	0%	L/R	2	NE	Station 1	JB	NO SIGHTINGS											
8/6/2023	13:30 8:00	17:00 9:00	3:30	Impact hammer	48 36	Permanent	2	10,000m	0%	L/R	1	NE	Station 1	LK	NO SIGHTINGS											
8/6/2023 8/6/2023	9:00	10:30	1:00 1:30	Impact hammer Impact hammer	36	Permanent Permanent	1	2,000m 2,000m	0% 0%	L/R/F L/R/F	0	None None	Station 2 Station 2	RH JB	NO SIGHTINGS NO SIGHTINGS											
8/6/2023	10:30	14:00	3:30	No in-water work				4,000m	0%	L/R/F	0	NE	Station 2	RH	NONE	HSEA	11:28	11:54	1	LO/MI	F3	2,000m	N	N	NONE	
8/6/2023	10:30	14:00	3:30	No in-water work				4,000m	0%	L/R/F	0	NE	Station 2	RH	NONE	HSEA	13:21	13:21	1	LO/MI	F3	2,000m	N	N	NONE	HSEA seen only once at 13:21. Unable to confirm if same HSEA from 11:28
8/6/2023	14:00	15:00	1:00	No in-water work				8,500m	0%	L/R/F	0	None	Station 2	JB	NO SIGHTINGS											
8/6/2023 8/6/2023	15:00 8:00	17:00 11:00	2:00 3:00	Impact hammer Impact hammer	48 36	Permanent Permanent	2	4,000m 1,000m	0% 0%	L/R/F R	4	NE None	Station 2 Station 3	RH AR	NO SIGHTINGS NO SIGHTINGS											
8/6/2023	11:00	12:00	1:00	No in-water work			_	1,000m	0%	R	1	None	Station 3	JB	NO SIGHTINGS											
8/6/2023 8/6/2023	12:00 15:30	15:30 16:30	3:30 1:00	Impact hammer Impact hammer	48 48	Permanent Permanent	1	7,000m 1,000m	0% 0%	R/F R/F	3	None None	Station 3 Station 3	AR JB	NO SIGHTINGS NO SIGHTINGS											
8/6/2023	16:30	17:00	0:30	No in-water work		rennanent		1,000m	0%	R/F	2	None	Station 3	AR	NO SIGHTINGS											
8/6/2023 8/6/2023	8:00 12:00	12:00 13:00	4:00 1:00	Impact hammer No in-water work	36	Permanent	2	8,500m 1.000m	0% 0%	R/OC R/F/OC	1	None None	Station 4	JH GD	NO SIGHTINGS NO SIGHTINGS											
8/6/2023 8/6/2023	13:00	17:00	4:00	No in-water work Impact hammer	48	Permanent	2	1,000m 6,000m	0%	R/F/OC R/F/OC	2	None W	Station 4 Station 4	JH	NO SIGHTINGS NO SIGHTINGS											
8/7/2023	10:30 11:30	11:30 15:00	1:00	No in-water work				16,345m	0%	oc	0	None	Station 1	NS	NO SIGHTINGS		44.25	44.20		TD(NF)		4.000			NONE	Constitution and the constitution of the const
8/7/2023 8/7/2023	11:30 15:00	16:00	3:30 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	oc oc	0	None None	Station 1 Station 1	LK NS	NONE NO SIGHTINGS	HSEA	14:30	14:30	1	TR(NE)	F2	1,000m	N	N	NONE	Saw HSEA only once
8/7/2023	16:00	19:30	3:30	Impact hammer	36	Permanent	2	16,345m	0%	oc	0	None	Station 1	LK	NO SIGHTINGS											
8/7/2023 8/7/2023	19:30 10:30	20:00 12:00	0:30 1:30	No in-water work No in-water work				16,345m 16.345m	0%	OC PC	0	None None	Station 1 Station 2	NS RH	NO SIGHTINGS NO SIGHTINGS											
8/7/2023	12:00	13:00	1:00	No in-water work				16,345m	0%	PC	0	None	Station 2	NS	NO SIGHTINGS											
8/7/2023 8/7/2023	13:00 16:30	16:30 17:30	3:30 1:00	No in-water work Impact hammer	36	Permanent	1	16,345m 16,345m	0% 0%	PC PC	0	None None	Station 2 Station 2	RH NS	NONE NO SIGHTINGS	HSEA	13:39	14:36	1	LO/MI	F3	2,000m	N	N	NONE	
8/7/2023	17:30	20:00	2:30	Impact nammer Impact hammer	36	Permanent	2	16,345m 16,345m	0%	OC OC	0	None NE	Station 2 Station 2	RH	NO SIGHTINGS NO SIGHTINGS											Continuation of impacting from line above
8/7/2023	10:30	13:30	3:00	Impact nammer  No in-water work	30	remanent	2	16,345m 7.000m	0%	OC OC	0	Ne None	Station 2 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											Containation of impacting from line above
8/7/2023 8/7/2023	13:30	13:30 14:30	1:00	No in-water work No in-water work				7,000m 8,500m	0%	OC OC	0	None None	Station 3 Station 3	NS NS	NO SIGHTINGS NO SIGHTINGS											
8/7/2023	14:30	18:00	3:30	Impact hammer	36	Permanent	1	8,500m	0%	ос	0	None	Station 3	со	NO SIGHTINGS											
8/7/2023	18:00	19:00	1:00	Impact hammer	36	Permanent	2	8,500m	0%	oc	0	None	Station 3	NS	NO SIGHTINGS											Continuation of impacting from line above
8/7/2023	19:00 10:30	20:00 14:30	1:00	Impact hammer	36	Permanent	1	8,500m	0%	oc	0	None	Station 3	со	NO SIGHTINGS											Continuation of impacting from line above
8/7/2023 8/7/2023	10:30	14:30 18:30	4:00 4:00	No in-water work Impact hammer	36	Permanent	1	16,345m 16,345m	0% 0%	OC OC	0	None None	Station 4 Station 4	GD JA	NO SIGHTINGS NO SIGHTINGS											
8/7/2023	18:30	20:00	1:30	Impact hammer	36	Permanent	1	16,345m	0%	L/R/OC	0	None	Station 4	GD	NO SIGHTINGS											
8/8/2023 8/8/2023	7:30 8:30	8:30 12:00	1:00 3:30	No in-water work Impact hammer	48	Permanent	2	16,345m 16.345m	0% 0%	OC OC	1	SW SW	Station 1 Station 1	NS LK	NO SIGHTINGS NO SIGHTINGS											
8/8/2023	12:00	13:00	1:00	No in-water work				16,345m	0%	oc	1	SW	Station 1	NS	NO SIGHTINGS											
8/8/2023	13:00 16:30	16:30 17:30	3:30	Vibratory hammer	36 36	Permanent	2 1	16,345m	0%	OC OC	1	SW	Station 1	LK	NO SIGHTINGS											Continuation of vib from line above
8/8/2023	10:30	17.30	1:00	Vibratory hammer	36	Permanent	1	16,345m	0%	OC	1	SW	Station 1	NS	NO SIGHTINGS											Continuation of vib from line above

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
8/8/2023	17:30	19:30	2:00	No in-water work				16,345m	0%	ОС	1	SW	Station 1	LK	NO SIGHTINGS											
8/8/2023 8/8/2023	7:30 9:00	9:00 10:00	1:30 1:00	No in-water work Impact hammer	48	Permanent	1	16,345m 16,345m	0% 0%	PC PC	1	SW SW	Station 2 Station 2	JA NS	NO SIGHTINGS NO SIGHTINGS											
8/8/2023	10:00	13:30	3:30	Impact hammer	48	Permanent	1	16,345m	0%	PC	1	SW	Station 2	JA	NO SIGHTINGS											
8/8/2023 8/8/2023	13:30 14:30	14:30 18:00	1:00	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent	1 2	16,345m 16.345m	0% 0%	PC PC	1	SW NF	Station 2 Station 2	NS IA	NO SIGHTINGS NO SIGHTINGS											Continuation of vib from line above
8/8/2023	18:00	19:00	1:00	No in-water work				16,345m	0%	PC	1	NE	Station 2	NS	NO SIGHTINGS											
8/8/2023 8/8/2023	19:00 7:30	19:30 10:30	0:30 3:00	No in-water work Impact hammer	48	Permanent	1	16,345m 8.500m	0% 0%	oc oc	1 2	NE SW	Station 2 Station 3	JA RH	NO SIGHTINGS NO SIGHTINGS											
8/8/2023	10:30	11:30	1:00	Impact hammer	48	Permanent	1	8,500m	0%	ОС	2	SW	Station 3	NS	NO SIGHTINGS											
8/8/2023 8/8/2023	11:30 15:00	15:00	3:30 1:00	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent	1	8,500m 8,500m	0% 0%	oc oc	2	SW None	Station 3 Station 3	RH NS	Vibratory hammer NO SIGHTINGS	HSEA	13:09	14:54	1	LO/MI	F4	4,800m	Υ	N	NONE	Level B; vibing started at 14:25
8/8/2023	16:00	19:30	3:30	Vibratory hammer	36	Permanent	1	8,500m	0%	oc	0	NE	Station 3	RH	NO SIGHTINGS											Continuation of vib from line above
8/8/2023 8/8/2023	7:30 11:30	11:30 15:30	4:00 4:00	Impact hammer	48 36	Permanent	2	16,345m 16.345m	0%	oc	1	SW	Station 4	GD BW	NO SIGHTINGS NO SIGHTINGS											
8/8/2023	15:30	19:30	4:00	Vibratory hammer Vibratory hammer	36	Permanent Permanent	1	16,345m 16,345m	0% 0%	oc oc	1	None	Station 4 Station 4	GD	NO SIGHTINGS NO SIGHTINGS											
8/10/2023	7:30	8:30	1:00	No in-water work			_	3,000m	0%	L/R	0	None	Station 1	co	NO SIGHTINGS											
8/10/2023 8/10/2023	8:30 12:00	12:00 13:00	3:30 1:00	Impact hammer No in-water work	36	Permanent	2	3,000m 9.000m	0% 0%	L/R L/R	0	None None	Station 1 Station 1	LK CO	NO SIGHTINGS NO SIGHTINGS											
8/10/2023	13:00	16:30	3:30	No in-water work				9,000m	0%	L/R	0	None	Station 1	LK	NO SIGHTINGS											
8/10/2023 8/10/2023	16:30 17:30	17:30 19:30	1:00 2:00	Drilling Drilling	48 48	Permanent Permanent	1	9,000m 9,000m	0% 0%	L	0	None None	Station 1 Station 1	CO LK	NO SIGHTINGS NO SIGHTINGS											Continuation of drilling from line above
8/10/2023	7:30	9:00	1:30	Impact hammer	36	Permanent	1	3,000m	0%	L/F	0	None	Station 2	JA	NO SIGHTINGS											continuation of arming from the above
8/10/2023	9:00	10:00	1:00	Impact hammer	36	Permanent	1	3,000m	0%	L/F	0	None	Station 2	со	NO SIGHTINGS											Continuation of impacting from line above
8/10/2023	10:00	13:30	3:30	Impact hammer	36	Permanent	1	4,000m	0%	L/F	0	None	Station 2	JA	NONE	HPBK	13:00	16:07	1	TR(W)	F4	2,000m	N	Υ	DE	First observed by Station 3 (see below); Ione iuvenile humpback: delayed drilling
8/10/2023	13:30	14:30	1:00	No in-water work				10,000m	0%	PC	0	None	Station 2	CO	NONE	HPBK	13:00	16:07	1		F4		N	Υ	DE	Same HPBK as above; seen frequently
8/10/2023 8/10/2023	14:30 18:00	18:00 19:00	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	10,000m 10.000m	0% 0%	PC PC	0	None None	Station 2 Station 2	JA CO	NONE NO SIGHTINGS	HPBK	13:00	16:07	1		F4		N	Υ	DE	Same HPBK as above; seen frequently
8/10/2023	19:00	19:30	0:30	No in-water work	40	remanent	-	12,000m	0%	PC/OC	0	None	Station 2	JA	NO SIGHTINGS											
8/10/2023 8/10/2023	7:30 10:30	10:30 11:30	3:00 1:00	Impact hammer Impact hammer	36 36	Permanent Permanent	2 1	4,000m 4,000m	0% 0%	L/R/F L/R/F	0	None None	Station 3 Station 3	RH CO	NO SIGHTINGS NO SIGHTINGS											
	11:30			·	30	Permanent	1																			First observation of juvenile humpback;
8/10/2023		15:00	3:30	No in-water work				6,000m	0%	L/R/F	0	None	Station 3	RH	NONE	HPBK	11:38	16:07	1	CH; TR(W)	E5	4,200m	N	N	DE	delayed drilling; observed several times by Stations 2, 3, 4 until 16:07 by Station 4 Same HPBK as above; seen frequently; BR
8/10/2023	15:00	16:00	1:00	No in-water work				6,000m	0%	L/R/F	0	None	Station 3	CO	NONE	HPBK	11:38	16:07	1	BR	F4	2,000m	N	Υ	DE	observed @ 13:30
8/10/2023 8/10/2023	16:00 7:30	19:30 11:30	3:30 4:00	Drilling Impact hammer	48 36	Permanent Permanent	1 2	8,500m 2.500m	0% 0%	L/R/F L/R/F/OC	0	None None	Station 3 Station 4	RH BW	NO SIGHTINGS NO SIGHTINGS											
8/10/2023	11:30	15:30	4:00	No in-water work	30	remanent	-	8,000m		L/R/F/OC	0	E	Station 4	GD	NONE	нрвк	12:20	16:07	1	TR(W)	F5	4,200m	N	Υ	DE	Same HPBK as above; seen frequently
8/10/2023	15:30 10:00	19:30 11:00	4:00	Drilling	48	Permanent	1	8,000m 16.345m	0%	L/R/F/OC OC	0	E NE	Station 4	BW CO	NONE NO SIGHTINGS	HPBK	12:20	16:07	1	TR(E)	F5	4,000m	N	Υ	DE	Last sighting by Station 4 TR(E) @ 16:07
8/11/2023 8/11/2023	11:00	14:30	1:00 3:30	No in-water work No in-water work				16,345m 16,345m	0%	OC OC	0	NE NE	Station 1 Station 1	LK	NO SIGHTINGS											
8/11/2023	14:30 15:30	15:30 18:00	1:00	Vibratory hammer	36	Permanent	1	16,345m	0%	oc	0	NE	Station 1	со	NO SIGHTINGS											
8/11/2023 8/11/2023	15:30	18:00 11:30	2:30 1:30	Vibratory (1)/ Drilling (1) No in-water work	36/48	Permanent	2	16,345m 16.345m	0% 0%	oc oc	1	NE None	Station 1 Station 2	LK JA	NO SIGHTINGS NO SIGHTINGS											
8/11/2023	11:30	12:30	1:00	No in-water work				16,345m	0%	ОС	0	None	Station 2	со	NO SIGHTINGS											
8/11/2023 8/11/2023	12:30 16:00	16:00 17:00	3:30 1:00	Vibratory Drilling	36 48	Permanent Permanent	1	16,345m 16,345m	0% 0%	oc oc	0	None None	Station 2 Station 2	JA CO	NO SIGHTINGS NO SIGHTINGS											
8/11/2023	17:00	18:00	1:00	Drilling	48	Permanent	1	15,000m	0%	oc	0	None	Station 2	JA	NO SIGHTINGS											
8/11/2023 8/11/2023	10:00 13:00	13:00 14:00	3:00 1:00	No in-water work No in-water work				8,500m 8.500m	0% 0%	L/R/F L/R	0	None None	Station 3 Station 3	RH CO	NO SIGHTINGS NO SIGHTINGS											
8/11/2023	14:00	17:30	3:30	Vibratory (1)/Drilling (1)	36/48	Permanent	2	8,500m 8,500m	0%	OC C	0	None	Station 3 Station 3	RH	NO SIGHTINGS											
8/11/2023	10:00	14:00	4:00	No in-water work				8,000m		L/R/F/OC	1	E	Station 4	GD	NO SIGHTINGS											
8/11/2023 8/13/2023	14:00 12:30	18:00 13:00	4:00 0:30	Vibratory (1)/Drilling (1) No in-water work	36/48	Permanent	2	14,000m 5.000m	0%	OC L/OC	0	E NE	Station 4 Station 1	BW LK	NO SIGHTINGS NO SIGHTINGS											
8/13/2023	13:00	14:00	1:00	No in-water work				5,000m	0%	L/OC	0	NE	Station 1	JH	NO SIGHTINGS											
8/13/2023 8/13/2023	14:00 12:30	17:30 14:30	3:30 2:00	Impact hammer No in-water work	36	Permanent	1	6,000m 6.000m	0% 0%	F/OC PC/F	0	NE None	Station 1 Station 2	LK JB	NO SIGHTINGS NO SIGHTINGS											
8/13/2023	14:30	15:30	1:00	No in-water work				4,000m	0%	PC/L/OC	0	None	Station 2	JH	NO SIGHTINGS											
8/13/2023 8/13/2023	15:30 12:30	17:30 15:30	2:00 3:00	Impact hammer No in-water work	36	Permanent	1	6,000m 2,000m	0% 0%	PC/L/OC L/F	0	None None	Station 2 Station 3	JB BW	NO SIGHTINGS NO SIGHTINGS											
8/13/2023	15:30	16:30	1:00	Impact hammer	36	Permanent	1	5,000m	0%	L/F	0	None	Station 3	JH	NO SIGHTINGS											
8/13/2023 8/13/2023	16:30 12:30	17:30 16:40	1:00 4:10	Impact hammer	36 36	Permanent Permanent	1	6,000m 3.000m	0% 0%	L/F L/R/F/OC	0	None None	Station 3 Station 4	BW GD	NO SIGHTINGS NO SIGHTINGS											
8/13/2023 8/13/2023	16:40	17:30	4:10 0:50	Impact hammer Impact hammer	36	Permanent Permanent	1	5,000m		L/R/F/OC L/R/F/OC	0	None None	Station 4 Station 4	JH	NO SIGHTINGS NO SIGHTINGS											
8/15/2023 8/15/2023	7:30 8:30	8:30 12:00	1:00 3:30	No in-water work				16,345m 16,345m	0% 0%	PC OC	1	SW NE	Station 1	JB	NO SIGHTINGS NO SIGHTINGS											
8/15/2023 8/15/2023	12:00	13:00	1:00	No in-water work No in-water work				16,345m 16.345m	0%	OC OC	1	NE NE	Station 1 Station 1	LK JB	NO SIGHTINGS NO SIGHTINGS											
8/15/2023	13:00	14:30	1:30	No in-water work				16,000m	0%	L	1	NE	Station 1	LK	NONE	SO	13:06	13:30	1	FO	F1	800m	N	N	NONE	
8/15/2023 8/15/2023	7:30 9:00	9:00 10:00	1:30 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	oc oc	1	SW SW	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
8/15/2023	10:00	13:30	3:30	No in-water work				16,345m	0%	ОС	1	NE	Station 2	JA	NO SIGHTINGS											
8/15/2023 8/15/2023	13:30 7:30	14:30 10:30	1:00 3:00	No in-water work No in-water work				16,345m 8,500m	0% 0%	PC/OC PC	1	NE SW	Station 2 Station 3	JB BW	NO SIGHTINGS NO SIGHTINGS											
8/15/2023 8/15/2023	10:30	11:30	1:00	No in-water work No in-water work				8,500m	0%	OC OC	1	NE NE	Station 3 Station 3	JB	NO SIGHTINGS NO SIGHTINGS											
8/15/2023	11:30	14:30	3:00	No in-water work				8,500m	0%	OC	1	NE	Station 3	BW	NO SIGHTINGS											
8/15/2023 8/15/2023	7:30 11:30	11:30 12:30	4:00 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	PC PC	1	SW NE	Station 4 Station 4	JH GD	NO SIGHTINGS NO SIGHTINGS											
8/15/2023	12:30	14:30	2:00	No in-water work				16,345m	0%	PC	1	NE	Station 4	JH	NO SIGHTINGS											
8/16/2023 8/16/2023	9:30 10:30	10:30 14:00	1:00 3:30	No in-water work No in-water work				16,345m 16.345m	10% 0%	PC PC	1	SW SW	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
8/16/2023	14:00	15:00	1:00	No in-water work				16,345m	0%	PC	1	SW	Station 1	JB	NO SIGHTINGS											
8/16/2023 8/16/2023	15:00 9:30	19:00 11:00	4:00 1:30	Vibratory hammer No in-water work	36	Temporary	2	16,345m 16,345m	0% 0%	PC OC	1	SW SW	Station 1 Station 2	LK JH	NO SIGHTINGS NO SIGHTINGS											
8/16/2023	11:00	12:00	1:00	No in-water work				16,345m	0%	oc	1	SW	Station 2	JB	NO SIGHTINGS											
8/16/2023	12:00	15:30	3:30	No in-water work				16,345m	0%	ОС	1	SW	Station 2	JH	NONE	HSEA	14:30	14:35	1	MI	F3	2,000m	N	N	NONE	Behind breakwater

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
8/16/2023	15:30	16:30	1:00	No in-water work				16,345m	0%	PC	1	SW	Station 2	JB	NO SIGHTINGS							*****				
8/16/2023 8/16/2023	16:30 9:30	19:00 12:30	2:30 3:00	Vibratory hammer No in-water work	36	Temporary	2	16,345m 8,500m	0% 0%	PC OC	1	SW SW	Station 2 Station 3	JH	NO SIGHTINGS NO SIGHTINGS											
8/16/2023	12:30	13:30	1:00	No in-water work				8,500m 8,500m	0%	OC	1	SW	Station 3 Station 3	JB	NO SIGHTINGS NO SIGHTINGS											
8/16/2023	13:30	17:00	3:30	No in-water work				8,500m	0%	PC	1	SW	Station 3	CO	NO SIGHTINGS											
8/16/2023 8/16/2023	17:00 18:00	18:00 19:00	1:00 1:00	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	1	8,500m 8,500m	0% 0%	PC PC	1	SW SW	Station 3 Station 3	JB	NO SIGHTINGS NO SIGHTINGS											
8/16/2023	9:30	13:30	4:00	No in-water work	30	remporary	1	8,500m 16,345m	0%	L/R/OC	0	SW	Station 3 Station 4	GD	NO SIGHTINGS NO SIGHTINGS											
8/16/2023	13:30	17:30	4:00	Vibratory hammer	36	Temporary	1	16,345m	0%	S/PC	0	SW	Station 4	BW	NO SIGHTINGS											
8/16/2023 8/17/2023	17:30 8:30	19:00 9:30	1:30	Vibratory hammer No in-water work	36	Temporary	1	16,345m 16,345m	0% 10%	S/PC S	0	SW SW	Station 4 Station 1	GD JB	NO SIGHTINGS NO SIGHTINGS											
8/17/2023	9:30	13:00	3:30	Vibratory hammer	36	Permanent	2	16,345m	10%	S	2	SW	Station 1	LK	NO SIGHTINGS											
8/17/2023	13:00	13:45	0:45	No in-water work				16,345m	0%	S	2	SW	Station 1	JB	NO SIGHTINGS											
8/17/2023 8/17/2023	8:30 10:00	10:00 11:00	1:30 1:00	No in-water work Vibratory hammer	36	Permanent	1	16,345m 16,345m	0% 0%	S	1	SW SW	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
8/17/2023	11:00	13:45	2:45	Vibratory hammer	36	Permanent	1	16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
8/17/2023	8:30	11:30	3:00	Vibratory hammer	36	Permanent	1	8,500m	0%	S	1	SW	Station 3	CO	NO SIGHTINGS											
8/17/2023 8/17/2023	11:30 12:30	12:30 13:45	1:00 1:15	No in-water work Vibratory hammer	36	Permanent	1	8,500m 8,500m	0% 0%	S	1	SW SW	Station 3 Station 3	JB CO	NO SIGHTINGS NO SIGHTINGS											
8/17/2023	8:30	12:00	3:30	Vibratory hammer	36	Permanent	1	16.345m	0%	S	3	W	Station 4	GD	NO SIGHTINGS											
8/17/2023	12:00	13:45	1:45	Vibratory hammer	36	Permanent	1	16,345m	0%	S	3	W	Station 4	KY	NO SIGHTINGS											
8/18/2023	8:30	9:30	1:00	No in-water work				16,345m	10%	S	1	SW	Station 1	JB	NO SIGHTINGS											Milling near salmon stream; advised
8/18/2023	9:30	13:00	3:30	Drilling	48	Permanent	1	16,345m	10%	S	1	SW	Station 1	LK	NONE	HPBK	9:30	9:35	1	MI	G1	900m	N	N	DE	construction crew to delay drilling  Observed diving and foraging over time
8/18/2023 8/18/2023	9:30 13:00	13:00 14:00	3:30 1:00	Drilling Drilling	48	Permanent Permanent	1	16,345m 16,345m	10% 0%	s s	1	SW SW	Station 1 Station 1	LK JB	Drilling NO SIGHTINGS	SO	9:51	11:26	1	MI/SW/FO	G1	600m	N	N	NONE	period but never entered zones.
8/18/2023	14:00	17:30	3:30	Vibratory/Drilling	36/48	Permanent	2	16,345m 16,345m	0%	S	1	SW	Station 1 Station 1	LK	NO SIGHTINGS NO SIGHTINGS											
8/18/2023	17:30	18:30	1:00	Driling/Vibratory	48/36	Permanent	2	16,345m	0%	S	1	SW	Station 1	JB	NO SIGHTINGS											
8/18/2023 8/18/2023	18:30 8:30	19:30 10:00	1:00 1:30	Vibratory hammer No in-water work	36	Permanent	1	16,345m 16.345m	0% 0%	S/PC S	1	SW SW	Station 1 Station 2	LK JA	NO SIGHTINGS NO SIGHTINGS											
8/18/2023	10:00	11:00	1:00	Drilling	48	Permanent	1	16,345m 16,345m	0%	S	1	SW	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
8/18/2023	11:00	14:30	3:30	Drilling	48	Permanent	1	16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
8/18/2023 8/18/2023	14:30 15:30	15:30 19:30	1:00 4:00	Vibratory hammer Vibratory (2)/Drilling (1)	36 36/48	Permanent Permanent	1	16,345m 16,345m	0% 0%	S S/PC	1	SW SW	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
8/18/2023	8:30	11:30	3:00	Drilling (1)	48	Permanent	1	8,500m	0%	S/PC S	1	SW	Station 2 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
8/18/2023	11:30	12:30	1:00	Drilling	48	Permanent	1	8,500m	0%	S	1	SW	Station 3	JB	NO SIGHTINGS											
8/18/2023 8/18/2023	12:30 16:00	16:00 17:00	3:30 1:00	Driling/Vibratory Drilling	48/36 48	Permanent Permanent	2	8,500m 8.500m	0% 0%	S PC	1	SW SW	Station 3 Station 3	CO JB	NO SIGHTINGS NO SIGHTINGS											
8/18/2023	17:00	19:30	2:30	Drilling Drilling/Vibratory	48/36	Permanent	2	8,500m 8,500m	0%	OC OC	1	SW	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
8/18/2023	8:30	12:30	4:00	Drilling	48	Permanent	1	16,345m	0%	s	0	w	Station 4	GD	NO SIGHTINGS											
8/18/2023	12:30 16:30	16:30 19:30	4:00	Driling/Vibratory	48/36 48/36	Permanent Permanent	2	16,345m	0% 0%	S PC	0	E NE	Station 4	BW	NO SIGHTINGS NO SIGHTINGS											
8/18/2023 8/19/2023	8:00	9:00	3:00 1:00	Driling/Vibratory Vibratory hammer	36	Permanent	1	16,345m 16,345m	0%	OC OC	0	None	Station 4 Station 1	GD JB	NO SIGHTINGS NO SIGHTINGS											
8/19/2023	9:00	12:30	3:30	Vibratory/Drilling	36/48	Permanent	2	16,345m	0%	oc	0	None	Station 1	LK	NO SIGHTINGS											
8/19/2023	12:30 13:30	13:30 17:00	1:00	Vibratory hammer	36 48/36	Permanent	1 2	16,345m	0%	oc	0	None	Station 1	JB	NO SIGHTINGS											
8/19/2023 8/19/2023	17:00	18:00	3:30 1:00	Vibratory/Impact No in-water work	48/36	Permanent	2	16,345m 16,345m	0% 0%	OC OC	0	None NE	Station 1 Station 1	LK JB	NO SIGHTINGS NO SIGHTINGS											
8/19/2023	8:00	9:30	1:30	Vibratory hammer	36	Permanent	1	16,345m	0%	oc	0	None	Station 2	co	NO SIGHTINGS											
8/19/2023	9:30 10:30	10:30 14:00	1:00	Drilling	48	Permanent	1 2	16,345m	0%	oc	0	None	Station 2	JB	NO SIGHTINGS											
8/19/2023 8/19/2023	14:00	15:00	3:30 1:00	Drilling/Vibratory No in-water work	48/36	Permanent	2	16,345m 16,345m	0% 0%	OC OC	0	NE NE	Station 2 Station 2	CO	NO SIGHTINGS NO SIGHTINGS											
8/19/2023	15:00	18:00	3:00	Vibratory/Impact	48/36	Permanent	2	16,345m	0%	oc	0	NE	Station 2	co	NO SIGHTINGS											
8/19/2023	8:00	11:00	3:00	Vibratory/Drilling	36/48	Permanent	2	16,345m	0%	OC	1	E	Station 3	KY	NO SIGHTINGS											
8/19/2023 8/19/2023	11:00 12:00	12:00 15:30	1:00	Drilling  Drilling/Vibratory	48 48/36	Permanent Permanent	3	16,345m 16.345m	0%	OC L/OC	1	E E	Station 3 Station 3	JB KY	NO SIGHTINGS NONE	HSFA	14:12	14:41	1	LO/SI	F4	4.000m	N	N	NONE	Sighted resurfacing several times during this
8/19/2023	12:00	15:30	3:30	Drilling/Vibratory	48/36	Permanent	3	16.345m	0%	L/OC	1	F	Station 3	KY	Vibratory hammer	HSEA	15:09	15:09	1	LO/SI	F4	4.000m	· ·	··	NONE	time period Sighted once; level B take
8/19/2023	15:30	16:30	1:00	Impact hammer	36	Permanent	1	16,345m	0%	OC	1	None	Station 3	JB	NO SIGHTINGS	HIJEK	13.03	13.03	•	20/31	1.4	4,000111			NONE	Signted once, level b take
8/19/2023	16:30	18:00	1:30	No in-water work				16,345m	0%	oc	1	None	Station 3	KY	NO SIGHTINGS											
8/19/2023	8:00	12:00	4:00	Vibratory/Drilling Drilling (1)/Vibratory	36/48	Permanent	2	16,345m	0%	L/R/OC	0	E	Station 4	GD	NO SIGHTINGS											
8/19/2023		16:00	4:00	(2)/Impact (1)	48/36	Permanent	4	16,345m	0%	L/R/OC	0	E	Station 4	BW	NO SIGHTINGS											
8/19/2023	16:00	18:00	2:00	No in-water work				16,345m	0%	ос	0	E	Station 4	GD	NO SIGHTINGS											
8/20/2023 8/20/2023	7:30 8:30	8:30 12:00	1:00 3:30	Impact hammer Impact/Drilling	36 36/48	Permanent Permanent	1 2	16,345m 16.345m	0% 0%	oc oc	0	None None	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
8/20/2023	12:00	13:00	1:00	No in-water work	,	· cimanent	-	16,345m	0%	oc	0	None	Station 1	JB	NO SIGHTINGS											
8/20/2023	13:00	16:30	3:30	Drilling	48	Permanent	1	16,345m	0%	S	0	None	Station 1	LK	NO SIGHTINGS											
8/20/2023 8/20/2023	16:30 17:30	17:30 19:00	1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	S	0	None NF	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
8/20/2023	7:30	9:00	1:30	Impact hammer	36	Permanent	1	16,345m	0%	S/F	0	None	Station 2	RH	NO SIGHTINGS											
8/20/2023	9:00	10:00	1:00	Impact/Drilling	36/48	Permanent	2	16,345m	0%	S/F	0	None	Station 2	JB	NO SIGHTINGS											
8/20/2023 8/20/2023	10:00 13:30	13:30 14:30	3:30 1:00	Drilling No in-water work	48	Permanent	1	11,400m 16.345m	0% 0%	S/F S	0	None None	Station 2 Station 2	RH	NONE NO SIGHTINGS	HPBK	13:17	13:18	1	TR(E)	F3	2,700m	N	N	DE	Saw twice and then not seen again
8/20/2023	14:30	18:00	3:30	Drilling	48	Permanent	1	16,345m	0%	S	0	None	Station 2	RH	Drilling	HSEA	15:59	16:08	2	MI	F3	2,700m	Υ	N	NONE	Level B takes
8/20/2023	18:00	19:00	1:00	Drilling	48	Permanent	1	16,345m	0%	s	0	None	Station 2	JB	NO SIGHTINGS											
8/20/2023 8/20/2023	7:30 10:30	10:30 11:30	3:00 1:00	Impact/Drilling Drilling	36/48 48	Permanent Permanent	2	8,500m 8,500m	0% 0%	F	0	None None	Station 3 Station 3	CO IB	NO SIGHTINGS NO SIGHTINGS											
8/20/2023	11:30	15:00	3:30	Drilling	48	Permanent	2	8,500m 8,500m	0%	PC PC	0	None	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
8/20/2023	15:00	16:00	1:00	Drilling	48	Permanent	1	8,500m	0%	PC	0	None	Station 3	JB	NO SIGHTINGS											
8/20/2023 8/20/2023	16:00 7:30	19:00 11:30	3:00 4:00	Drilling Impact/Drilling	48 36/48	Permanent Permanent	1 2	8,500m 16.345m	0% 0%	S S/PC/F/O	0	None S	Station 3 Station 4	CO GD	NO SIGHTINGS NO SIGHTINGS											
8/20/2023	11:30	15:30	4:00	Impact/Drilling Drilling	48	Permanent	2	16,345m 16,345m	0%	PC PC	0	s S	Station 4 Station 4	BW	NO SIGHTINGS NO SIGHTINGS											
8/20/2023	15:30	19:00	3:30	Drilling	48	Permanent	1	16,345m	0%	PC	0	E	Station 4	GD	NO SIGHTINGS											
8/21/2023	8:00 9:00	9:00 12:30	1:00	Drilling	48 48/36	Permanent Permanent/Tem	1 5	16,345m 16.345m	10%	S	0	None None	Station 1	JB	NO SIGHTINGS											
8/21/2023		12:30	3:30 1:00	Drilling (2)/Vibratory (3) Drilling	48/36 48	Permanent/Tem Permanent	1	16,345m 16,345m	0% 0%	S S	0	None None	Station 1 Station 1	LK JB	NO SIGHTINGS NO SIGHTINGS											
8/21/2023	12:30																									

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile:	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from	Take?	Resighting?	Mitigation	Notes
8/21/2023	17:00	18:00	1:00	Drilling	48	Permanent	1	16,345m	0%	S	0	None	Station 1	JB	NO SIGHTINGS		Jiginted	- Cont	Siec		Location	Work				
8/21/2023	18:00	18:30	0:30	No in-water work				16,345m	0%	s	0	NE	Station 1	LK	NO SIGHTINGS											
8/21/2023 8/21/2023	8:00 9:30	9:30 10:30	1:30 1:00	Drilling No in-water work	48	Permanent	1	10,000m 13.000m	0% 0%	PC PC	0	None None	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
8/21/2023	10:30	14:00	3:30	Vibratory (3)/Drilling (1)	36/48	Temporary/Per	4	13,000m	0%	PC	0	None	Station 2	JA	NO SIGHTINGS											
8/21/2023 8/21/2023	14:00 15:00	15:00 18:30	1:00 3:30	Drilling Drilling	48 48	Permanent Permanent	1	13,000m 16,345m	0% 0%	PC S	0	None NE	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
8/21/2023	8:00	11:00	3:00	Drilling/Vibratory	48/36	Permanent/Tem	2	8,500m	0%	F	0	None	Station 3	co	NO SIGHTINGS											
8/21/2023 8/21/2023	11:00 12:00	12:00 15:30	1:00 3:30	Vibratory hammer Drilling	36 48	Temporary Permanent	2	8,500m 8,500m	0% 0%	F PC	0	None None	Station 3 Station 3	JB CO	NO SIGHTINGS NO SIGHTINGS											
8/21/2023		16:30	1:00	Drilling	48	Permanent	1	8,500m	0%	S	0	None	Station 3	JB	NO SIGHTINGS											
8/21/2023	16:30 8:00	18:30 11:00	2:00	Drilling	48 48/36	Permanent	1 2	8,500m 16.345m	0%	S	0	NE	Station 3	co	NO SIGHTINGS NO SIGHTINGS											
8/21/2023 8/21/2023		14:00	3:00 3:00	Drilling/Vibratory Vibratory (2)/Drilling (1)	36/48	Permanent/Tem Temporary/Per	3	15,000m	0% 0%	S F	0	None None	Station 4 Station 4	RH GD	NO SIGHTINGS NO SIGHTINGS											
8/21/2023	14:00 17:00	17:00 18:00	3:00	Drilling	48	Permanent	1	16,345m	0%	S	0	NE	Station 4	RH	NO SIGHTINGS											
8/21/2023 8/21/2023	17:00	18:00	1:00 0:30	Drilling No in-water work	48	Permanent	1	16,345m 16,345m	0% 0%	S S	0	NE NE	Station 4 Station 4	GD RH	NO SIGHTINGS NO SIGHTINGS											
8/22/2023	8:00	9:00	1:00	Drilling	48	Permanent	1	16,345m	10%	PC	1	SW	Station 1	JB	NO SIGHTINGS											
8/22/2023 8/22/2023	9:00 12:30	12:30 13:30	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	10%	PC S	1	SW	Station 1 Station 1	LK IB	NO SIGHTINGS NO SIGHTINGS											
8/22/2023	13:30	17:00	3:30	Drilling	48	Permanent	1	16,345m	0%	S	1	NE	Station 1	LK	NO SIGHTINGS											
8/22/2023 8/22/2023	17:00 8:00	18:00 9:30	1:00 1:30	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16,345m	0% 0%	S S	1	NE SW	Station 1 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
8/22/2023	9:30	10:30	1:00	Drilling	48	Permanent	1	16,345m	0%	S	1	SW	Station 2	JB	NO SIGHTINGS											
8/22/2023	10:30 14:00	14:00 15:00	3:30	Drilling	48 48	Permanent	1	16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
8/22/2023 8/22/2023	14:00 15:00	15:00	1:00 3:00	Drilling Drilling	48	Permanent Permanent	1	16,345m 16,345m	0% 0%	S S	1	SW NE	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
8/22/2023	8:00	11:00	3:00	Drilling	48	Permanent	1	8,500m	0%	PC	1	SW	Station 3	KY	NO SIGHTINGS											
8/22/2023 8/22/2023	11:00 12:00	12:00 15:30	1:00 3:30	Drilling Drilling	48 48	Permanent Permanent	1	8,500m 8,500m	0% 0%	PC S/PC	1	SW NE	Station 3 Station 3	JB KY	NO SIGHTINGS NO SIGHTINGS											
8/22/2023	15:30	16:30	1:00	Drilling	48	Permanent	1	8,500m	0%	S/PC	1	NE	Station 3	JB	NO SIGHTINGS											
8/22/2023 8/22/2023	16:30 8:00	18:00 12:00	1:30 4:00	Drilling Drilling	48 48	Permanent Permanent	1	8,500m 16.345m	0% 0%	S S/PC	1	NE SW	Station 3 Station 4	KY GD	NO SIGHTINGS NO SIGHTINGS											
8/22/2023	12:00	16:00	4:00	Drilling	48	Permanent	1	16,345m 16,345m	0%	S/PC S/PC	1	SW	Station 4 Station 4	NS NS	NO SIGHTINGS											
8/22/2023	16:00	18:00 14:30	2:00	Drilling	48 48	Permanent	1	16,345m	0%	S/PC	1	NE	Station 4	GD	NO SIGHTINGS											
8/23/2023 8/23/2023	13:30 14:30	14:30 18:00	1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	oc oc	1	NE NE	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
8/23/2023	18:00	19:30	1:30	Drilling	48	Permanent	1	16,345m	0%	OC	1	NE	Station 1	JB	NO SIGHTINGS											
8/23/2023 8/23/2023	19:30 13:00	20:00 15:00	0:30 2:00	No in-water work Drilling	48	Permanent	1	16,345m 16.345m	0% 0%	OC PC	1	NE NE	Station 1 Station 2	LK JA	NO SIGHTINGS NO SIGHTINGS											
8/23/2023	15:00	16:00	1:00	Drilling	48	Permanent	1	16,345m	0%	PC	1	NE	Station 2	JB	NO SIGHTINGS											
8/23/2023	16:00 19:30	19:30 20:00	3:30 0:30	Drilling	48	Permanent	1	16,345m 16.345m	0% 0%	PC	1	NE NE	Station 2	JA	NO SIGHTINGS											
8/23/2023 8/23/2023	13:30	16:30	3:00	No in-water work Drilling	48	Permanent	1	8,500m	0%	OC OC	1	NE NE	Station 2 Station 3	JB CO	NO SIGHTINGS NO SIGHTINGS											
8/23/2023	16:30	17:30	1:00	Drilling	48	Permanent	1	8,500m	0%	ОС	1	NE	Station 3	JB	NO SIGHTINGS											
8/23/2023 8/23/2023	17:30 13:30	20:00 16:00	2:30 2:30	Drilling Drilling	48 48	Permanent Permanent	1	8,500m 16,345m	0% 0%	OC OC	1 2	NE NE	Station 3 Station 4	CO GD	NO SIGHTINGS NO SIGHTINGS											
8/23/2023	16:00	18:30	2:30	Drilling	48	Permanent	1	16,345m	0%	oc	2	NE	Station 4	KY	NO SIGHTINGS											
8/23/2023 8/23/2023	18:30 19:30	19:30 20:00	1:00 0:30	Drilling No in-water work	48	Permanent	1	16,345m 16,345m	0% 0%	oc oc	2	NE NE	Station 4 Station 4	GD KY	NO SIGHTINGS NO SIGHTINGS											
8/24/2023	8:00	9:00	1:00	Drilling	48	Permanent	1	10,000m	0%	R	1	NE NE	Station 1	JB	NO SIGHTINGS											
8/24/2023 8/24/2023	9:00 12:30	12:30 13:30	3:30 1:00	Drilling No in-water work	48	Permanent	1	10,000m 10,000m	0% 0%	R R	2	NE NE	Station 1	LK IB	NO SIGHTINGS											
8/24/2023 8/24/2023	13:30	14:00	0:30	No in-water work No in-water work				10,000m 10,000m	0%	R R	2	NE NE	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
8/24/2023	8:00	10:00	2:00	Drilling	48	Permanent	1	7,000m	0%	PC/R	1	NE	Station 2	JA	NO SIGHTINGS											
8/24/2023 8/24/2023	10:00 11:00	11:00 14:00	1:00	Drilling Drilling	48 48	Permanent Permanent	1	6,500m 7,000m	0%	PC/R R	1 2	NE NE	Station 2 Station 2	JB IA	NO SIGHTINGS NO SIGHTINGS											
8/24/2023	8:00	11:00	3:00	Drilling	48	Permanent	1	8,000m	0%	R	1	NE	Station 3	co	NO SIGHTINGS											
8/24/2023 8/24/2023	11:00 12:00	12:00 14:00	1:00 2:00	Drilling No in water work	48	Permanent	1	8,000m 8,000m	0%	R R	1 2	NE	Station 3 Station 3	JB	NO SIGHTINGS NO SIGHTINGS											
8/24/2023	8:00	11:00	3:00	No in-water work Drilling	48	Permanent	1	5,000m	0% 0%	F/OC/HR	2	NE E	Station 3 Station 4	KY	NO SIGHTINGS											
8/24/2023		12:00	1:00	Drilling	48	Permanent	1	6,000m	0%	R/F/OC	2	E	Station 4	GD	NO SIGHTINGS											
8/24/2023 8/25/2023	12:00 14:30	14:00 15:30	2:00 1:00	No in-water work No in-water work				10,000m 4,000m	0%	R L	0	NE NE	Station 4 Station 1	CO	NO SIGHTINGS NO SIGHTINGS											
8/25/2023	15:30	18:45	3:15	Drilling	48	Permanent	1	5,000m	0%	L	0	NE	Station 1	LK	NONE	so	15:30	16:10	1	FO/TR(E)	G1	800m	N	N	NONE	Frequent dives for food/foraging/moving
8/25/2023	14:30	17:30	3:00	Drilling	48	Permanent	1	4,000m	0%	oc	0	NE NE	Station 2	JA	NO SIGHTINGS											away
8/25/2023	17:30	18:45	1:15	Drilling	48	Permanent	1	5,000m	0%	L/R	0	NE	Station 2	со	NO SIGHTINGS											
8/25/2023 8/25/2023	14:30 16:00	16:00 17:00	1:30 1:00	No in-water work Drilling	48	Permanent	1	6,000m 6,000m	0% 0%	L/R/F L/R/F	0	NE NE	Station 3 Station 3	RH CO	NO SIGHTINGS NO SIGHTINGS											
8/25/2023	17:00	18:45	1:45	Drilling	48	Permanent	1	6,000m	0%	L/R	0	NE	Station 3	RH	NO SIGHTINGS											
8/25/2023 8/25/2023	14:30 15:30	15:30 16:30	1:00	No in-water work				12,000m 12,000m	0% 0%	R/F/OC R/F/OC	0	E F	Station 4 Station 4	GD KY	NO SIGHTINGS NO SIGHTINGS											
8/25/2023	16:30	18:45	2:15	Drilling	48	Permanent	1	12,000m	0%	R/F/OC	0	E	Station 4	GD	NO SIGHTINGS											
8/26/2023	9:00	10:00	1:00	Drilling	48 48	Permanent	1	6,000m	0%	R	1	NE	Station 1	JB	NO SIGHTINGS		0.55	40		FO (N. 11 / T- 1 / T-		205				0.1.1.1
8/26/2023 8/26/2023	10:00 13:30	13:30 14:30	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	6,000m 6.000m	0% 0%	R R	1 2	NE NE	Station 1 Station 1	LK JB	Drilling NO SIGHTINGS	SO	9:55	10:39	1	FO/MI/TR(E)	G1	900m	N	N	NONE	Out of otter zone for drilling in area 2
8/26/2023	14:30	16:00	1:30	Drilling	48	Permanent	1	6,000m	0%	R	2	NE	Station 1	LK	NO SIGHTINGS											
8/26/2023 8/26/2023	9:00 10:30	10:30 11:30	1:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	4,000m 4.000m	0% 0%	R/F/OC R/F/OC	2	E E	Station 2 Station 2	KY JB	Drilling Drilling	HSEA	10:20	10:45	1	LO/SI	G2 G2	2,100m	Υ	N	NONE	Level B take PSO rotation overlaps with HSEA sighting
8/26/2023	11:30	15:00	3:30	Drilling	48	Permanent	1	4,000m	0%	R/F/OC	2	E	Station 2	KY	Drilling	HSEA	13:21	14:50	1	LO/SI	G2	2,000m	Υ	N	NONE	Level B take; several sightings during this
8/26/2023	15:00	16:00	1:00	Drilling	48	Permanent	1	4,000m 4.000m	0%	R/F/OC R/OC	2	E	Station 2 Station 2	JB	NO SIGHTINGS	nstA	15.21	14.30	1	LU/SI	G2	2,000m	f	IN	NUNE	time period
8/26/2023	8:00	12:00	1:00 4:00	Drilling	48	Permanent Permanent	1	4,000m 8,000m	0%	R/OC R	1	NE NE	Station 2 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
8/26/2023	12:00 13:00	13:00 16:00	1:00	Drilling	48 48	Permanent	1	8,000m	0%	R	1	NE	Station 3	JB	NO SIGHTINGS											
8/26/2023 8/26/2023	13:00 8:30	16:00 12:30	3:00 4:00	Drilling Drilling	48 48	Permanent Permanent	1	8,000m 8,345m	0% 0%	R R/OC	1	NE E	Station 3 Station 4	CO GD	NO SIGHTINGS NO SIGHTINGS											
8/26/2023	12:30	16:30	4:00	Drilling	48	Permanent	1	8,345m	0%	R/F/OC	1	E	Station 4	RH	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
9/2/2023	8:30	9:30	1:00	No in-water work				16,345m	10%	S	1	SW	Station 1	JB	NONE	HSEA	8:40	8:42	1	LO/SI	G1	800m	N	N	NONE	Saw once close to shore
9/2/2023	9:30	13:00	3:30	Drilling	48	Permanent	1	16,345m	10%	S	1	SW	Station 1	LK	NONE	SO	11:52	13:07	1	FO/MI	G1	900m	N	N	NONE	Stayed in same area foraging, mostly on surface
9/2/2023 9/2/2023	13:00 14:00	14:00 17:30	1:00 3:30	Drilling Drilling	48 48	Permanent	1	16,345m 16.345m	10%	S S	1	SW SW	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
9/2/2023	17:30	18:30	1:00	Drilling	48	Permanent	1	16,345m	0%	S	1	SW	Station 1	JB	NO SIGHTINGS											
9/2/2023	18:30 8:30	19:00 10:00	0:30	No in-water work	48	B	1	16,345m	0% 0%	S	1	SW	Station 1	LK RH	NO SIGHTINGS											
9/2/2023 9/2/2023	10:00	11:00	1:30 1:00	Drilling Drilling	48	Permanent Permanent	1	16,345m 16,345m	0%	S S	1	W W	Station 2 Station 2	JB	NO SIGHTINGS NO SIGHTINGS											
9/2/2023 9/2/2023	11:00 14:30	14:30 15:30	3:30 1:00	Drilling	48 48	Permanent	1	16,345m 16.345m	0% 0%	S	1	w	Station 2 Station 2	RH JB	NO SIGHTINGS NO SIGHTINGS											
9/2/2023	15:30	19:00	1:00 3:30	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16,345m	0%	S S	1	W	Station 2 Station 2	JB RH	NO SIGHTINGS NO SIGHTINGS											
9/2/2023	8:30 11:30	11:30 12:30	3:00	Drilling	48	Permanent	1	8,500m	0%	PC	1	SW	Station 3	со	Drilling	STSL	11:07	11:07	1	MI	E4	4,300m	Υ	N	NONE	Level B take; large male
9/2/2023 9/2/2023	12:30	16:00	1:00 3:30	No in-water work Drilling	48	Permanent	1	8,500m 8,500m	0% 0%	S S	1	SW SW	Station 3 Station 3	JB CO	NO SIGHTINGS NO SIGHTINGS											
9/2/2023	16:00	17:00	1:00	Drilling	48	Permanent	1	8.500m	0%	S	1	SW	Station 3	JB	Drilling	STSL	16:23	16:23	1	MI	E4	4,100m	Υ	N	NONE	Level B take; may have been same male from
9/2/2023	17:00	19:00	2:00	Drilling	48	Permanent	1	8.500m	0%	S	1	SW	Station 3	со	NO SIGHTINGS							,				earlier
9/2/2023	8:30	12:30	4:00	Drilling	48	Permanent	1	16,345m	0%	S/PC	1	SW	Station 4	NS	NO SIGHTINGS											
9/2/2023 9/2/2023	12:30 16:30	16:30 17:30	4:00 1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	S/PC S/PC	1	SW SW	Station 4 Station 4	GD NS	NO SIGHTINGS NO SIGHTINGS											
9/2/2023	17:30	19:00	1:30	Drilling	48	Permanent	1	16,345m	0%	S/PC	1	SW	Station 4	GD	NO SIGHTINGS											
9/4/2023	10:00	11:00	1:00	No in-water work	48	Permanent	1	16,345m	0%	PC	0	NE	Station 1	JB	None	SO	10:08	12:50	1	FO/MI/TR(W)	G1	900m	N	N	NONE	Stayed in same area foraging, mostly on surface; sighted frequently by both PSOs
9/4/2023	11:00	14:30	3:30	Drilling	48	Permanent	1	16,345m	0%	PC	0	NE	Station 1	LK	Drilling	so	10:08	12:50	1	FO/MI/TR(W)	G1	900m	N	Υ	NONE	Same SO as line above; outside of zone
9/4/2023 9/4/2023	14:30 15:30	15:30 18:00	1:00 2:30	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16,345m	0% 0%	PC S	0	NE SW	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
9/4/2023	10:00	11:30	1:30	Drilling	48	Permanent	1	16,345m	0%	PC	0	NE	Station 1 Station 2	JA	NO SIGHTINGS											
9/4/2023	11:30 12:30	12:30 16:00	1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	PC S	0	NE NE	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/4/2023	16:00	17:00	1:00	Drilling	48	Permanent	1	16,345m	0%	S	1	SW	Station 2	JB	NO SIGHTINGS											
9/4/2023 9/4/2023	17:00 10:00	18:00 13:00	1:00 3:00	Drilling Drilling	48 48	Permanent	1	16,345m 8,500m	0% 0%	S PC	1	SW	Station 2 Station 3	JA RH	NO SIGHTINGS NO SIGHTINGS											
9/4/2023	13:00	14:00	1:00	Drilling	48	Permanent Permanent	1	8,500m 8,500m	0%	PC	0	None NE	Station 3 Station 3	JB	NO SIGHTINGS											
9/4/2023	14:00 17:30	17:30 18:00	3:30	Drilling	48 48	Permanent	1	8,500m	0%	S	0	NE	Station 3	RH	NO SIGHTINGS											
9/4/2023 9/4/2023	10:00	14:00	0:30 4:00	No in-water work Drilling	48	Permanent Permanent	1	8,500m 16,345m	0% 0%	PC OC	0	SW W	Station 3 Station 4	JB NS	NO SIGHTINGS NO SIGHTINGS											
9/4/2023	14:00	18:00 9:30	4:00	Drilling	48	Permanent	1	16,345m	0%	S/PC	0	w	Station 4	GD	NO SIGHTINGS											
9/5/2023 9/5/2023	8:00 9:30	12:30	1:30 3:00	No in-water work Drilling	48	Permanent	1	500m 6,000m	0% 0%	F OC	0	None None	Station 1 Station 1	JB LK	None NO SIGHTINGS	HSEA	8:30	8:50	1	LO/SI/MI	G1	900m	N	N	NONE	Poor visibility; no work occurring
9/5/2023	12:30 13:30	13:30 17:00	1:00	No in-water work	36			16,345m	0%	oc	0	NE	Station 1	JB	NO SIGHTINGS											
9/5/2023 9/5/2023	13:30 17:00	17:00	3:30 1:00	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	2	16,345m 16.345m	0% 0%	OC OC	1	NE NE	Station 1 Station 1	LK JB	NO SIGHTINGS NO SIGHTINGS											
9/5/2023	8:00	9:30	1:30	No in-water work				1,000m	0%	ОС	0	None	Station 2	JA	NO SIGHTINGS											
9/5/2023 9/5/2023	9:30 10:30	10:30 14:00	1:00 3:30	No in-water work Drilling(1)/Vibratory(2)	48/36	Permanent/Tem	3	1,500m 1,500m	0% 0%	oc oc	0	None None	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/5/2023	14:00	15:00	1:00	Vibratory hammer	36	Temporary	2	15,000m	0%	PC/OC	1	NE	Station 2	JB	Vibratory hammer	STSL	14:03	14:05	1	MI	F3	2,400m	Υ	N	NONE	Level B take
9/5/2023 9/5/2023	15:00 8:00	18:00 11:00	3:00 3:00	Vibratory hammer No in-water work	36	Temporary	3	16,345m 500m	0% 0%	PC/OC L/OC	1	NE None	Station 2 Station 3	JA KY	NO SIGHTINGS NO SIGHTINGS											
9/5/2023	11:00	12:00	1:00	Drilling	48	Permanent	1	2,000m	0%	L/OC	1	E	Station 3	JB	NO SIGHTINGS											
9/5/2023 9/5/2023	12:00 15:30	15:30 16:30	3:30 1:00	Drilling(1)/Vibratory(3) Vibratory hammer	48/36 36	Permanent/Tem Temporary	1 4	8,000m 8.000m	0% 0%	L/OC L/OC	1	E F	Station 3 Station 3	KY JB	Drilling NO SIGHTINGS	HSEA	12:00	12:10	1	LO/SI	F4	4,000m	Υ	N	NONE	Level B take
9/5/2023	16:30	18:00	1:30	Vibratory hammer	36	Temporary	2	8,500m	0%	OC	1	NE	Station 3	KY	NO SIGHTINGS											
9/5/2023	8:00	12:00	4:00	Drilling	48	Permanent	1	500- 5.000m	0%	F/OC	0	Е	Station 4	GD	NO SIGHTINGS											
9/5/2023	12:00	16:00	4:00	Drilling(1)/Vibratory(3)		Permanent/Tem		5,000m	0%	F/OC	0	E	Station 4	NS	NO SIGHTINGS											
9/5/2023 9/6/2023	16:00 8:00	18:00 9:00	2:00 1:00	Vibratory hammer No in-water work	36	Temporary	3	16,345m 16,345m	0%	L/R/OC PC	0	E None	Station 4 Station 1	GD JB	NO SIGHTINGS NO SIGHTINGS											
9/6/2023	9:00	12:30	3:30	No in-water work				16,345m	0%	PC	0	None	Station 1	LK	None	HSEA	9:15	10:00	1	TR(E)/MI/LO	G1	800m	N	N	NONE	
9/6/2023 9/6/2023	9:00 12:30	12:30 13:30	3:30 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	PC PC	0	None None	Station 1 Station 1	LK JB	None NO SIGHTINGS	STSL	10:42	10:45	2	TR(E)	F3	1,800m	N	N	NONE	Traveled fast together into the harbor
9/6/2023	13:30	17:00	3:30	No in-water work				10,000m	0%	L/R	0	NE	Station 1	LK	NO SIGHTINGS											
9/6/2023 9/6/2023	17:00 8:00	17:30 9:30	0:30 1:30	No in-water work No in-water work				16,345m 8.000m	0% 0%	PC PC	0	NE None	Station 1 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/6/2023	9:30	10:30	1:00	No in-water work				8,000m	0%	PC	0	None	Station 2	JB	NO SIGHTINGS											
9/6/2023 9/6/2023	10:30 14:00	14:00 15:00	3:30 1:00	No in-water work				8,000m 8,000m	0% 0%	PC L/R	0	None	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
9/6/2023	15:00	17:30	2:30	No in-water work No in-water work				10,000m	0%	L/R L/R	0	None NE	Station 2 Station 2	JA	NO SIGHTINGS NO SIGHTINGS											
9/6/2023	8:00	11:00	3:00	No in-water work				8,500m	0%	ос	0	None	Station 3	со	None	ORCA	9:08	9:11	3	DI/TR(E)	E5	4,300m	N	N	NONE	Small orca family headed out of bay (2 adults, 1 iuvenile)
9/6/2023	11:00	12:00	1:00	No in-water work				8,500m	0%	ос	0	None	Station 3	JB	NO SIGHTINGS											i insquisi
9/6/2023 9/6/2023	12:00 15:30	15:30 16:30	3:30 1:00	No in-water work No in-water work				8,500m 8,500m	0% 0%	PC OC	0	None NE	Station 3 Station 3	CO JB	NO SIGHTINGS NO SIGHTINGS											
9/6/2023	16:30	17:30	1:00	No in-water work				8,500m	0%	PC	0	NE NE	Station 3	CO	NO SIGHTINGS											
9/6/2023	8:00 12:00	12:00 16:00	4:00	No in-water work				16,345m	0% 0%	L/R/F/OC	0	E	Station 4	GD BW	NO SIGHTINGS NO SIGHTINGS											
9/6/2023 9/6/2023	16:00	17:30	4:00 1:30	No in-water work No in-water work				16,345m 16,345m	0%	PC/L/R/O L/R/OC	1	E E	Station 4 Station 4	GD	NO SIGHTINGS											
9/7/2023	9:00	10:00 13:30	1:00	No in-water work	26	Ŧ	2	16,345m	0%	OC	0	None	Station 1	JB	NO SIGHTINGS											
9/7/2023 9/7/2023	10:00 13:30	13:30 14:30	3:30 1:00	Vibratory hammer No in-water work	36	Temporary	2	12,000m 16,345m	0% 0%	L/R PC	1	NE NE	Station 1 Station 1	LK JB	NO SIGHTINGS NO SIGHTINGS											
9/7/2023	14:30 9:00	16:30 10:30	2:00	No in-water work				16,345m	0%	PC	1	NE	Station 1	LK	None	HSEA	15:08	15:20	1	MI/LO	G1	1,000m	N	N	NONE	Looking around near stream
9/7/2023 9/7/2023	9:00 10:30	10:30 11:30	1:30 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	PC PC	0	NE NE	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
9/7/2023	11:30	15:00	3:30	Vibratory hammer	36	Temporary	2	16,345m	0%	PC	1	NE	Station 2	JA	NO SIGHTINGS											
9/7/2023 9/7/2023	15:00 16:00	16:00 16:30	1:00 0:30	No in-water work No in-water work				16,345m 16,345m	0% 0%	PC S	0	NE NE	Station 2 Station 2	JB JA	NONE NO SIGHTINGS	STSL	15:04	15:15	1	MI	F3	2,100m	N	N	NONE	Saw six times and then gone
9/7/2023	9:00	12:00	3:00	Vibratory hammer	36	Temporary	1	8,500m	0%	R	0	NE	Station 3	со	NO SIGHTINGS											
9/7/2023	12:00	13:00	1:00	No in-water work				8,500m	0%	oc	0	NE	Station 3	JB	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
9/7/2023	13:00	16:30	3:30	Vibratory hammer	36	Temporary	1	8,500m	0%	PC	1	NE	Station 3	CO	NO SIGHTINGS							WOIK				
9/7/2023 9/7/2023	9:00 13:00	13:00 16:30	4:00 3:30	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	1	16,345m 12.000m	0% 0%	L/R/F/OC L/R/F/OC	0	E F	Station 4 Station 4	GD BW	NO SIGHTINGS NO SIGHTINGS											
9/8/2023	10:00	11:00	1:00	No in-water work		remporary	-	16,345m	0%	L/R	1	SW	Station 1	JB	NO SIGHTINGS											
9/8/2023	11:00 14:30	14:30 15:30	3:30	Vibratory hammer	36	Permanent	2	16,345m	0%	L/R	1	SW	Station 1	LK	NONE NO SIGHTINGS	HSEA	12:05	12:45	1	MI/LO	G1	1,000m	N	N	NONE	Near creek mouth
9/8/2023 9/8/2023	15:30	18:00	1:00 2:30	No in-water work Vibratory hammer	36/48	Permanent	2	16,345m 16,345m	0% 0%	PC PC	1	SW SW	Station 1 Station 1	JB LK	NO SIGHTINGS											
9/8/2023	10:00	11:30	1:30	Vibratory hammer	36	Permanent	1	10,000m	0%	PC	0	SW	Station 2	JA	NO SIGHTINGS											
9/8/2023 9/8/2023	11:30 12:30	12:30 16:00	1:00 3:30	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent	1	10,000m 16,000m	0% 0%	PC PC/R	0	SW W	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/8/2023	16:00	17:00	1:00	Vibratory hammer	48	Permanent	1	16,000m	0%	PC/R	0	w	Station 2	JB	NO SIGHTINGS											
9/8/2023	17:00 10:00	18:00 13:00	1:00	No in-water work	36			15,000m	0%	PC/R R	1	W	Station 2	JA	NO SIGHTINGS											
9/8/2023 9/8/2023	13:00	14:00	3:00 1:00	Vibratory hammer Vibratory hammer	36	Permanent Permanent	1	8,500m 8,500m	0% 0%	PC PC	0	SW SW	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
9/8/2023	14:00	17:30	3:30	Vibratory hammer	36/48	Permanent	2	8,500m	0%	R	1	w	Station 3	co	NO SIGHTINGS											
9/8/2023 9/8/2023	17:30 10:00	18:00 14:00	0:30 4:00	No in-water work Vibratory hammer	36	Permanent	2	8,500m 16.345m	0% 0%	L/R L/R/OC	1	W SE	Station 3 Station 4	JB GD	NO SIGHTINGS NO SIGHTINGS											
9/8/2023	14:00	18:00	4:00	Vibratory hammer	36/48	Permanent	2	16,345m	0%	L/R/OC	1	W	Station 4	BW	NO SIGHTINGS											
9/9/2023	9:00	10:00	1:00	No in-water work				5,000m	0%	R	0	NE	Station 1	JB	NO SIGHTINGS											
9/9/2023	10:00	13:00	3:00	Vibratory hammer (2)/Impact (2)	36/48	Permanent	4	16,345m	0%	PC	1	NE	Station 1	LK	NO SIGHTINGS											
9/9/2023	13:00	14:00	1:00	Impact hammer	48	Permanent	1	16,345m	0%	PC	1	NE	Station 1	JB	NO SIGHTINGS											
9/9/2023 9/9/2023	14:00 9:00	15:00 10:00	1:00 1:00	Impact hammer No in-water work	36	Permanent	1	16,345m 5.000m	0% 0%	L/R R/F/OC	1	NE E	Station 1 Station 2	LK KY	NO SIGHTINGS NO SIGHTINGS											
9/9/2023	10:00	11:00	1:00	Vibratory hammer	36	Permanent	1	5,000m	0%	R/F/OC	1	E	Station 2	JB	NO SIGHTINGS											
9/9/2023	11:00	14:30	3:30	Vibratory hammer	36/48	Permanent	4	8,000m	0%	ос	2	Е	Station 2	KY	NO SIGHTINGS											
9/9/2023	14:30	15:00	0:30	(1)/Impact (3) No in-water work				10,000m	0%	ОС	3	Е	Station 2	JB	NO SIGHTINGS											
9/9/2023	9:00	12:00	3:00	Vibratory hammer	36/48	Permanent	3	7,000m	0%	R	0	NE NE	Station 3	co	NO SIGHTINGS											
9/9/2023	12:00	13:00	1:00	(2)/Impact (1) Impact hammer	36/48	Permanent	2	7.000m	0%	R.	0	NE NE	Station 3	JB	NO SIGHTINGS											
9/9/2023	13:00	15:00	2:00	Impact hammer	36/48	Permanent	2	8,500m	0%	OC	1	NE NE	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
9/9/2023	9:00	13:00	4:00	Vibratory hammer (2)/Impact (2)	36/48	Permanent	2	16,345m	0%	L/R/F/OC	1	E	Station 4	GD	NO SIGHTINGS											
9/9/2023	13:00	15:00	2:00	(2)/Impact (2) Impact hammer	36/48	Permanent	2	16.345m	0%	L/R/F/OC	1	Е	Station 4	BW	NO SIGHTINGS											
9/11/2023	10:00	11:00	1:00	No in-water work				16,345m	0%	OC	0	SW	Station 1	JB	NONE	HSEA	10:00	10:15	1	MI/LO	G1	900m	N	N	NONE	Near stream
9/11/2023 9/11/2023	11:00 14:30	14:30 15:30	3:30 1:00	No in-water work No in-water work				16,345m 16.345m	0% 0%	PC PC	1	SW	Station 1 Station 1	LK JB	NONE NO SIGHTINGS	STSL	12:35	13:06	1	MI/TR(NE)	F1	500m	N	N	NONE	
9/11/2023	15:30	18:00	2:30	Impacting	36	Permanent	1	16,345m	0%	PC	1	SW	Station 1	LK	NO SIGHTINGS											
9/11/2023	10:00 11:30	11:30 12:30	1:30	No in-water work				16,000m	0%	PC/R	0	SW	Station 2	JA	NO SIGHTINGS											
9/11/2023 9/11/2023	11:30	12:30	1:00 3:30	No in-water work Impacting	36	Permanent	1	16,345m 16,345m	0% 0%	S S	1	SW SW	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/11/2023	16:00	17:00	1:00	No in-water work				16,345m	0%	S	1	SW	Station 2	JB	NO SIGHTINGS											
9/11/2023 9/11/2023	17:00 10:00	18:00 13:00	1:00 3:00	No in-water work				16,345m 8.500m	0% 0%	S/PC R	1	SW SW	Station 2 Station 3	JA CO	NO SIGHTINGS NO SIGHTINGS											
9/11/2023	13:00	14:00	1:00	No in-water work				8,500m	0%	PC	1	SW	Station 3	JB	NONE	STSL	13:18	13:18	1	MI/TR(E)	F4	4,200m	N	N	NONE	
9/11/2023	13:00	14:00	1:00	No in-water work				8,500m	0%	PC	1	SW	Station 3	JB	NONE	STSL	13:43	13:43	2	MI/TR(E)	F4	4,800m	N	N	NONE	
9/11/2023 9/11/2023	14:00 17:30	17:30 18:00	3:30 0:30	Impacting No in-water work	36	Permanent	1	8,500m 8,500m	0% 0%	PC S	1	SW	Station 3 Station 3	CO IB	NO SIGHTINGS NO SIGHTINGS											
9/11/2023	10:00	14:00	4:00	No in-water work				16,345m	0%	PC	0	w	Station 4	GD	NO SIGHTINGS											
9/11/2023	14:00 8:30	18:00 9:30	4:00 1:00	Impacting Drilling	36 48	Permanent Permanent	1	16,345m 14.000m	0%	S/PC OC	0	W NE	Station 4 Station 1	BW NS	NO SIGHTINGS NO SIGHTINGS											
9/12/2023	9:30	13:00	3:30		48		1	5.000m		L/R		NE NE		LK						MI					NONE	Lots of diving, circling, possibly foraging,
., ,				Drilling	48	Permanent	1	-,	0%	,	0		Station 1		Drilling	STSL	11:30	12:10	1	MI	G1	700m	Y	N	NONE	frequent surfacing
9/12/2023 9/12/2023	13:00 14:00	14:00 17:30	1:00 3:30	No in-water work No in-water work				5,000m 16.345m	0% 0%	L/R OC	0	NE NE	Station 1 Station 1	NS LK	NO SIGHTINGS NONE	HSEA	14:25	14:40	1	MI	G1	800m	N	N	NONE	Near stream mouth
9/12/2023	8:30	10:00	1:30	Drilling	48	Permanent	1	14,000m	0%	PC/R	0	None	Station 2	JA	NO SIGHTINGS	HIJER	14.23	14.40	-			COOM		.,	HOILE	real stream mouth
9/12/2023 9/12/2023	10:00 11:00	11:00 14:30	1:00 3:30	Drilling Drilling	48 48	Permanent Permanent	1	14,000m 10,000m	0% 0%	PC/R S/PC/R	0	None	Station 2 Station 2	NS JA	NO SIGHTINGS NO SIGHTINGS											
9/12/2023	14:30	15:30	1:00	No in-water work	40	remanent	1	10,000m 10,000m	0%	S/PC/R S/PC/R	0	None None	Station 2 Station 2	SN	NO SIGHTINGS NO SIGHTINGS											
9/12/2023	15:30	17:30	2:00	No in-water work	40			12,000m	0%	PC/R	0	NE	Station 2	JA	NO SIGHTINGS											
9/12/2023 9/12/2023	8:30 11:30	11:30 12:30	3:00 1:00	Drilling Drilling	48 48	Permanent Permanent	1	8,500m 5,000m	0% 0%	OC F	0	None None	Station 3 Station 3	CO NS	NO SIGHTINGS NO SIGHTINGS											
9/12/2023	12:30	16:00	3:30	No in-water work				8,500m	0%	R	0	NE	Station 3	co	NO SIGHTINGS											
9/12/2023	16:00 17:00	17:00 17:30	1:00	No in-water work				8,500m 8.500m	0%	R	0	NE	Station 3 Station 3	NS CO	NO SIGHTINGS NO SIGHTINGS											
9/12/2023 9/12/2023	8:30	12:00	0:30 3:30	No in-water work Drilling	48	Permanent	1	8,500m 8,000m	0% 0%	OC R/OC	0	None SE	Station 3 Station 4	BW	NO SIGHTINGS NO SIGHTINGS											
9/12/2023	12:00	14:30	2:30	No in-water work				6,000m	0%	L/OC	2	SE	Station 4	KY	NO SIGHTINGS											
9/12/2023 9/12/2023	14:30 16:30	16:30 17:30	2:00 1:00	No in-water work No in-water work				8,000m 8,000m	0% 0%	R/OC R/OC	2	SE SE	Station 4 Station 4	BW KY	NO SIGHTINGS NO SIGHTINGS											
9/13/2023	8:30	9:30	1:00	No in-water work				16,000m	0%	OC	0	NE	Station 1	CO	NO SIGHTINGS											
9/13/2023	9:30 13:00	13:00 14:00	3:30 1:00	No in-water work				5,000m 5,000m	0% 0%	R R	0	NE NE	Station 1	LK CO	NONE NO SIGHTINGS	HSEA	12:20	12:32	1	MI/LO	F1	400m	N	N	NONE	Near stream mouth
9/13/2023	14:00	17:30	3:30	Vibratory hammer	36	Permanent	1	5,000m 8,000m	0%	K L	0	NE NE	Station 1 Station 1	LK	NO SIGHTINGS NO SIGHTINGS											
9/13/2023	17:30	18:00	0:30	No in-water work				8,000m	0%	L	0	NE	Station 1	со	NO SIGHTINGS											
9/13/2023 9/13/2023	8:30 10:00	10:00 11:00	1:30	No in-water work				8,500m 8,500m	0%	L/R/F	0	None	Station 2 Station 2	RH CO	NONE	STSL	8:54	16:45	2	TR(W)/MI	F3	2,700m	N	N	NONE	Sighted several times throughout this time period; also sighted by position 1 Sighted same STSL as above; only recorded
., .,								.,																		once; no work occurring
9/13/2023 9/13/2023	11:00 14:30	14:30 15:30	3:30 1:00	No in-water work				5,050m 5.050m	0%	R/F	0	None	Station 2 Station 2	RH CO	NONE						F3 F3					Sighted same STSL as above; only recorded once; no work occurring Sighted same STSL as above; only recorded
9/13/2023	15:30	18:00	2:30		36	Permanent	1	8,500m	0%	I/R/F	0			RH		STSL	17-02	17:30		FO	F2	1,200m	γ	N	NONE	once; no work occurring Level B take
9/13/2023	8:30	11:30	3:00	Vibratory hammer No in-water work	30	remanent	1	8,500m 8,000m	0%	R/OC	1	None E	Station 2 Station 3	KY	Vibratory hammer NO SIGHTINGS	312F	1/303	17:30	1	FU	r2	1,200M	ť	N	NUNE	Level B Take
9/13/2023	11:30	12:30	1:00	No in-water work				8,000m	0%	R/OC	1	E	Station 3	co	NO SIGHTINGS											
9/13/2023 9/13/2023	12:30 16:00	16:00 17:00	3:30 1:00	No in-water work No in-water work				6,000m 8.000m	0% 0%	R/OC L/OC	0	E E	Station 3 Station 3	KY CO	NO SIGHTINGS NO SIGHTINGS											
3, 23, 2023			1.00					0,000111	0,0	2,00	-	-	56660113		5.011111403											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from	Take?	Resighting?	Mitigation	Notes
9/13/2023	17:00	18:00	1:00	Vibratory hammer	36	Permanent	1	8,000m	0%	L	1	E	Station 3	KY	NO SIGHTINGS		-					Work				
9/13/2023	8:30	12:30	4:00	No in-water work				16,345m	0%	L/R/OC	0	E	Station 4	GD	NO SIGHTINGS											
9/13/2023 9/13/2023	12:30 16:30	16:30 18:00	4:00 1:30	No in-water work Vibratory hammer	36	Permanent	1	16,345m 8,000m	0%	L/R/F/OC R/OC	0	E F	Station 4 Station 4	BW GD	NO SIGHTINGS NO SIGHTINGS											
9/14/2023	8:30	9:30	1:00	Drilling	48	Permanent	1	9,000m	0%	L/OC	0	SW	Station 1	JB	NO SIGHTINGS											
9/14/2023	9:30 13:00	13:00 14:00	3:30 1:00	Drilling No in-water work	48	Permanent	1	16,345m 16.345m	0% 0%	PC PC	0	SW	Station 1 Station 1	LK IB	NO SIGHTINGS NONE	STSI	13:30	12.25	1	TR(F)/MI	G1	1.000m	N	N	NONE	Moving along shore towards harbor
9/14/2023	14:00	17:30	3:30	Impact hammer	48	Permanent	1	16,000m	0%	OC	0	NE NE	Station 1	LK	NO SIGHTINGS	3131	15.50	15.55	1	I K(E)/ IVII	91	1,000111	IN	IN	NONE	woving along shore towards harbor
9/14/2023	17:30	18:30	1:00	Impact hammer	36	Permanent	1	16,000m	0%	oc	0	NE	Station 1	JB	NO SIGHTINGS											
9/14/2023	18:30 8:30	19:30 10:00	1:00	Impact hammer Drilling	36 48	Permanent Permanent	1	16,345m 11.000m	0% 0%	OC OC	0	NE SW	Station 1 Station 2	LK IA	NO SIGHTINGS NO SIGHTINGS											
9/14/2023	10:00	11:00	1:00	Drilling	48	Permanent	1	11,000m	0%	OC	0	SW	Station 2	JB	NO SIGHTINGS											
9/14/2023	11:00 14:30	14:30 15:30	3:30 1:00	Drilling/Impact hammer No in-water work	48	Permanent	2	11,000m 11.000m	0% 0%	PC/R PC/R	0	SW SW	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
9/14/2023	15:30	19:00	3:30	Impact hammer	36	Permanent	1	11,000m 14.500m	0%	PC/R PC/R	0	SW	Station 2 Station 2	JA	NO SIGHTINGS NO SIGHTINGS											
9/14/2023	19:00	19:30	0:30	No in-water work				16,345m	0%	oc	0	NE	Station 2	JB	NO SIGHTINGS											
9/14/2023	8:30 11:30	11:30 12:30	3:00 1:00	Drilling Drilling	48 48	Permanent Permanent	1	8,000m 8.500m	0% 0%	R/OC OC	1	SE SE	Station 3 Station 3	KY JB	NO SIGHTINGS NO SIGHTINGS											
9/14/2023	12:30	16:00	3:30	Impact hammer	48	Permanent	1	8,500m	0%	R/OC	1	SE	Station 3	KY	NO SIGHTINGS											
9/14/2023	16:00	17:00	1:00	No in-water work				8,500m	0%	R/OC	1	SE	Station 3	JB	NO SIGHTINGS											
9/14/2023	17:00 8:30	19:30 12:30	2:30	Impact hammer Drilling	36 48	Permanent Permanent	1	8,500m 16.345m	0% 0%	L/OC L/R/F/OC	1	SE W	Station 3 Station 4	KY GD	NO SIGHTINGS NO SIGHTINGS											
9/14/2023	12:30	16:30	4:00	Impact hammer	48	Permanent	1	16,345m	0%	L/R/OC	0	W	Station 4	BW	NO SIGHTINGS											
9/14/2023	16:30	19:30	3:00	Impact hammer	36	Permanent	1	16,345m	0%	L/R/OC	1	W	Station 4	GD	NO SIGHTINGS											
9/15/2023 9/15/2023	8:30 9:30	9:30 13:00	1:00	Drilling Drilling	48 48	Permanent Permanent	1	10,000m 10.000m	0%	L/R L/R	1	NE NE	Station 1 Station 1	JB LK	NO SIGHTINGS Drilling	so	10:04	10:40	2	FO/RE/MI/DI	G1	600m	N	N	NONE	Both on surface diving regularly
9/15/2023	13:00	14:00	1:00	Drilling	48	Permanent	1	3,000m	0%	R	1	NE	Station 1	JB	NO SIGHTINGS	30	20.04	10.40	-	1 O/NE/WII/DI	01	000111		.,	NONE	both on surface diving regularly
9/15/2023	14:00 8:30	17:45 10:00	3:45	Drilling	48 48	Permanent	1	4,000m	0%	R nc/n	2	NE	Station 1	LK	NO SIGHTINGS											
9/15/2023 9/15/2023	10:00	11:00	1:30	Drilling Drilling	48 48	Permanent Permanent	1	5,000m 5,000m	0%	PC/R PC/R	1	NE NE	Station 2 Station 2	JA IB	NO SIGHTINGS NO SIGHTINGS											
9/15/2023	11:00	14:30	3:30	Drilling	48	Permanent	1	8,000m	0%	PC/R	1	NE	Station 2	JA	NO SIGHTINGS											
9/15/2023	14:30 15:30	15:30 17:45	1:00	Drilling Drilling	48 48	Permanent Permanent	1	8,000m 7.500m	0%	PC/R PC/R	2	NE NE	Station 2 Station 2	JB IA	NO SIGHTINGS NO SIGHTINGS											
9/15/2023	8:30	11:30	3:00	Drilling	48	Permanent	1	7,500m 8.000m	0%	PC/K R	0	NE NE	Station 2 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
9/15/2023	11:30	12:30	1:00	Drilling	48	Permanent	1	8,000m	0%	R	0	NE	Station 3	JB	NO SIGHTINGS											
9/15/2023	12:30 16:00	16:00 17:00	3:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	8,000m 8,000m	0%	R R	1	NE NE	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
9/15/2023	17:00	17:45	0:45	No in-water work	48	Permanent	1	8,000m	0%	R	2	NE	Station 3	co	NO SIGHTINGS											
9/15/2023	8:30	12:30	4:00	Drilling	48 48	Permanent	1	12,000m	0%	L/R/OC	0	E	Station 4	GD	NO SIGHTINGS											
9/15/2023	12:30 16:30	16:30 17:45	4:00 1:15	Drilling Drilling	48 48	Permanent Permanent	1	10,000m 9.000m	0%	L/R/F/OC L/R/F/OC	0	E	Station 4 Station 4	BW GD	NO SIGHTINGS NO SIGHTINGS											
9/16/2023	8:30	9:30	1:00	Drilling	48	Permanent	1	6,000m	0%	R	0	NE	Station 1	JB	NO SIGHTINGS											
9/16/2023	9:30	13:00	3:30	Drilling	48	Permanent	1	8,000m	0%	R	0	NE	Station 1	LK	NO SIGHTINGS											
9/16/2023	13:00	14:00	1:00	No in-water work				8,000m	0%	К	0	NE	Station 1	JB	NO SIGHTINGS											May have been resighting of STSL from
9/16/2023	14:00	15:30	1:30	No in-water work				4,000m	0%	R	1	NE	Station 1	LK	NONE	STSL	14:36	14:40	1	LO	F2	900m	N	N	NONE	Station 2 earlier
9/16/2023 9/16/2023	8:30 10:00	10:00 11:00	1:30	Drilling Drilling	48 48	Permanent Permanent	1	5,050m 5.050m	0% 0%	R/F R/F	0	NE NF	Station 2 Station 2	RH IB	NO SIGHTINGS											
9/10/2023			1.00	Drilling	40	remanent		5,050111	U76	Nyr	U	INC	Station 2	JB	NO SIGHTINGS											Comment Provided in the Province of the
9/16/2023	11:00	14:30	3:30	Drilling	48	Permanent	1	5,050m	0%	R/F	2	NE	Station 2	RH	NONE	STSL	12:22	14:20	1	MI	F3	3,000m	N	N	NONE	Seen several times during this time period; drilling ceased at 11:15 (prior to first sighting)
9/16/2023	14:30	15:30	1:00	No in-water work				4.200m	0%	F/HR	3	NF	Station 2	IB	NO SIGHTINGS											
9/16/2023	8:30	11:30	3:00	Drilling	48	Permanent	1	6,000m	0%	R/OC	1	SE	Station 3	KY	NO SIGHTINGS											
9/16/2023	11:30 12:30	12:30 15:30	1:00	No in-water work				6,000m	0%	R/OC	1	SE	Station 3	JB	NO SIGHTINGS											
9/16/2023 9/16/2023	8:30	12:30	3:00 4:00	No in-water work Drilling	48	Permanent	1	4,000m 12.345m	0% 0%	OC/HR L/R/F/OC	3	SE F	Station 3 Station 4	KY GD	NO SIGHTINGS NO SIGHTINGS											
9/16/2023	12:30	15:30	3:00	No in-water work				5,000m	0%	L/R/OC	2	Ē	Station 4	BW	NO SIGHTINGS											
9/18/2023	11:00	12:00	1:00	No in-water work				15,000m	0%	L/OC	1	SW	Station 1	JB	NO SIGHTINGS											Traveling towards harbor from creek. Pile
9/18/2023	12:00	14:30	2:30	Impact hammer	36	Permanent	1	15,000m	0%	L/OC	1	SW	Station 1	LK	NONE	STSL	12:00	12:04	1	TR(E)	G2	900m	N	N	NONE	driving began at 12:50
9/18/2023		12:30	1:30	No in-water work				14,000m	0%	PC	0	SW	Station 2	JA	NO SIGHTINGS											
9/18/2023	12:30 13:30	13:30 14:30	1:00	Impact hammer	36 36	Permanent Permanent	1	14,000m 15,000m	0%	PC PC/R	0	SW	Station 2 Station 2	JB IA	NO SIGHTINGS											
9/18/2023	11:00	14:00	3:00	Impact hammer	36	Permanent	1	8,500m	0%	OC	0	SW	Station 3	co	NO SIGHTINGS											
9/18/2023	14:00	14:30	0:30	No in-water work	36			8,500m	0%	oc	0	SW	Station 3	JB	NO SIGHTINGS											
9/18/2023	11:30	14:30	3:00	Impact hammer		Permanent	1	16,345m	0%	L/R/OC	0	W	Station 4	GD	NO SIGHTINGS											Chasing fish down north shore away from
9/19/2023	14:00	18:00	4:00	Impact hammer	36	Permanent	1	16,345m	0%	S	0	NE	Station 1	LK	NONE	STSL	14:20	14:26	2	TR(E)/PO/FO	E2	1,000m	N	N	NONE	work
9/19/2023	14:00	15:30	1:30	Impact hammer	36	Permanent	1	16,345m	0%	S	0	E	Station 2	RH	Impacting	HSEA	15:08	15:31	1	MI	F2	1,900m	Υ	N	NONE	Level B take; seen also by NS @ shift change
9/19/2023	15:30	16:30	1:00	Impact hammer	36	Permanent	1	16,345m	0%	PC	0	E	Station 2	NS	NO SIGHTINGS											
9/19/2023		18:00	4:00	Impact hammer	36	Permanent	1	8,500m	0%	S	0	E	Station 3	JB	NO SIGHTINGS											
9/19/2023 9/19/2023	14:00 17:00	17:00 18:00	3:00 1:00	Impact hammer No in-water work	36	Permanent	1	16,345m 16.345m	0% 0%	S OC	0	E F	Station 4 Station 4	GD NS	NO SIGHTINGS NO SIGHTINGS											
., .,		9:00			36	Darman		-,-			-	No					0,70	0.55	-	FO/TR/F)	C.	900	v		NOVE	Level B take (2); moving east while impacting;
9/21/2023	8:00		1:00	Impact hammer		Permanent	1	16,345m	0%	oc	0	None	Station 1	JB	Impacting	SO	8:30	8:55	2	FO/TR(E)	G1	800m	Υ	N	NONE	continued foraging
9/21/2023 9/21/2023	9:00 12:30	12:30 13:30	3:30 1:00	Impact hammer No in-water work	36	Permanent	1	16,345m 16.345m	0% 0%	OC OC	0	None None	Station 1 Station 1	LK JB	NO SIGHTINGS NO SIGHTINGS											
9/21/2023	13:30	17:00	3:30	No in-water work				16.345m	0%	L/OC	0	None	Station 1	LK	NONE	HSEA	13:50	15-10	2	MI/LO	F1	300m	N	N	NONE	Two HSEA together near creek; moved away
., ,					40	_		-,-		,	-					nstA	15:50	10:18	2	IVII/LU	r1	SOUM	14	N	NUNE	when workers on dock
9/21/2023 9/21/2023	17:00 18:00	18:00 19:00	1:00	Vibratory hammer Vibratory hammer	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S	0	None None	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
9/21/2023	8:00	9:30	1:30	Impact hammer	36	Permanent	1	16,345m	0%	PC/L/R	0	None	Station 2	JA	NO SIGHTINGS											
9/21/2023	9:30 10:30	10:30 14:00	1:00	Impact hammer	36	Permanent	1	16,345m	0%	PC/L/R	0	None	Station 2	JB	NO SIGHTINGS											
9/21/2023 9/21/2023	10:30	14:00 15:00	3:30 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	PC PC	0	None None	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
9/21/2023	15:00	18:30	3:30	Vibratory hammer	48	Permanent	1	16,345m	0%	S	0	None	Station 2	JA	NONE	STSL	16:30	17:00	1	MI	F3	2,600m	N	N	NONE	Surfaced often
9/21/2023	8:30	11:00	2:30	Impact hammer	36	Permanent	2	8,500m	0%	OC	0	None	Station 3	co	NO SIGHTINGS											

Date	Start Time	e End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	es Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
9/21/2023	11:00	12:00	1:00	No in-water work				8,500m	0%	ос	0	None	Station 3	JB	NO SIGHTINGS							WOIK				
9/21/2023 9/21/2023	12:00 15:30	15:30 16:30	3:30 1:00	No in-water work No in-water work				8,500m 8.500m	0% 0%	PC PC	0	None None	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
9/21/2023	16:30	19:00	2:30	Vibratory hammer	48	Permanent	1	8,500m	0%	S	0	None	Station 3	co	NO SIGHTINGS											
9/21/2023	8:00	11:30	3:30	Impact hammer	36	Permanent	2	16,345m	0%	ОС	1	SE	Station 4	GD	Impacting	HSEA	9:10	10:32	1	LO/SI	F3	3,000m	Υ	N	NONE	Level B take; many surface sightings during this time period; sighted by both GD and KY
9/21/2023 9/21/2023	11:30 13:00	13:00 14:30	1:30 1:30	No in-water work				16,345m 16,345m	0% 0%	L/OC OC	1	SE SE	Station 4	KY GD	NO SIGHTINGS NO SIGHTINGS											
9/21/2023	14:30	18:00	3:30	No in-water work Vibratory hammer	48	Permanent	1	16,345m 16,345m	0%	OC	1	SE SE	Station 4 Station 4	KY	NO SIGHTINGS NO SIGHTINGS											
9/21/2023	18:00	19:00	1:00	Vibratory hammer	48	Permanent	1	16,345m	0%	S/PC	1	SE	Station 4	GD	NO SIGHTINGS											
9/22/2023	9:00	10:00	1:00	No in-water work				16,345m	10%	S	1	SW	Station 1	JB	NO SIGHTINGS											
9/22/2023	10:00	13:30	3:30	Drilling	48	Permanent	1	16,345m	10%	S	1	SW	Station 1	LK	NONE	HSEA	10:35	10:45	1	LO/MI	G1	500m	N	N	NONE	Looking at machines and workers on dock
9/22/2023	13:30	14:30	1:00	Drilling Drilling (1)/Vibratory	48	Permanent	1	16,345m	0%	S	1	SW	Station 1	JB	NO SIGHTINGS											
9/22/2023		18:00	3:30	(1)/Impact (1)	48/36	Permanent	3	16,345m	0%	S	1	SW	Station 1	LK	NO SIGHTINGS											
9/22/2023	18:00 9:00	18:30 10:30	0:30 1:30	No in-water work No in-water work				16,345m 16.345m	0% 0%	S	1	SW SW	Station 1 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/22/2023	10:30	11:30	1:00	Drilling	48	Permanent	1	16,345m 16,345m	0%	S S	1	SW	Station 2 Station 2	JA JB	NO SIGHTINGS											
9/22/2023	11:30	15:00	3:30	Drilling	48	Permanent	1	16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
9/22/2023	15:00 16:00	16:00 18:30	1:00 2:30	Drilling/Vibratory Impact hammer	48/36 36	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S	0	SW SW	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/22/2023	9:00	12:00	3:00	Drilling	48	Permanent	1	8,500m	0%	Š	1	SW	Station 3	СО	NO SIGHTINGS											
9/22/2023	12:00	13:00	1:00	Drilling Drilling (1)/Vibratory	48	Permanent	1	8,500m	0%	S	1	SW	Station 3	JB	NO SIGHTINGS											
9/22/2023	13:00	16:30	3:30	(1)/Impact (1)	48/36	Permanent	3	8,500m	0%	S	1	SW	Station 3	co	NO SIGHTINGS											
9/22/2023	16:30 17:30	17:30 18:30	1:00	No in-water work				8,500m	0%	S	1	SW	Station 3	JB	NO SIGHTINGS											
9/22/2023 9/22/2023	9:00	18:30 12:00	1:00 3:00	No in-water work Drilling	48	Permanent	1	8,500m 16,345m	0% 0%	S S	1	SW SW	Station 3 Station 4	CO KY	NO SIGHTINGS NO SIGHTINGS											
9/22/2023	12:00	15:00	3:00	Drilling	48	Permanent	1	16,345m	0%	S	1	SW	Station 4	GD	NO SIGHTINGS											
9/22/2023	15:00	18:00	3:00	Drilling (1)/Vibratory (1)/Impact (1) Drilling (1)/Vibratory	48/36	Permanent	3	16,345m	0%	S	1	SW	Station 4	KY	NONE	STSL	17:00	17:01	1	TR(E)	F3	2,700m	N	N	NONE	Saw twice briefly
9/22/2023		18:00	3:00	(1)/Impact (1)	48/36	Permanent	3	16,345m	0%	S	1	SW	Station 4	KY	NONE	HSEA	17:05	17:13	1	MI/LO	F3	2,900m	N	N	NONE	
9/22/2023	18:00 9:00	18:30 10:00	0:30	No in-water work				16,345m	0%	S OC	1	SW	Station 4 Station 1	GD IB	NO SIGHTINGS NONE	so	9:00	10:00	1	FO/MI/TR(F)	G1	800m	N	N	NONE	Frequent dives: moved to harbor @ 1045
9/23/2023	10:00	13:30	3:30	Impact hammer	36	Permanent	1	16,345m	0%	oc	0	None	Station 1	LK	NONE	so	10:00	10:45	1	FO/MI/TR(E)	G1	800m	N	Y	NONE	Same SO as above; no work
9/23/2023 9/23/2023	10:00 13:30	13:30 14:30	3:30 1:00	Impact hammer No in-water work	36	Permanent	1	16,345m 16,345m	0% 0%	oc s	0	None None	Station 1 Station 1	LK JB	NONE NO SIGHTINGS	HSEA	11:05	11:25	1	LO/SI/MI	G1	1,000m	N	N	NONE	Milling by creek until fisherman arrived
9/23/2023	9:00	10:30	1:30	No in-water work				16,000m	0%	PC	0	None	Station 2	JA	NO SIGHTINGS											
9/23/2023 9/23/2023	10:30 11:30	11:30 14:30	1:00 3:00	No in-water work Impact hammer	36	Permanent	1	16,000m 16,345m	0% 0%	PC	0	None None	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/23/2023	9:00	12:00	3:00	No in-water work	30	remanent	-	16,345m	0%	OC	1	NE	Station 3	NS	NO SIGHTINGS											
9/23/2023	12:00	13:00	1:00	Impact hammer	36	Permanent	1	16,345m	0%	L/R	1	NE	Station 3	JB	NO SIGHTINGS											
9/23/2023 9/23/2023	13:00 9:30	14:30 12:00	1:30 2:30	Impact hammer No in-water work	36	Permanent	1	16,345m 16,345m	0% 0%	S OC	0	None E	Station 3 Station 4	KY KY	NO SIGHTINGS NO SIGHTINGS											
9/23/2023	12:00	14:30	2:30	Impact hammer	36	Permanent	1	16,345m	0%	L/OC	1	E	Station 4	GD	NO SIGHTINGS											
9/25/2023 9/25/2023	11:00 13:30	13:30 14:30	2:30 1:00	Vibratory hammer No in-water work	36	Permanent	2	16,345m 16.345m	10% 10%	S S	1	SW SW	Station 1 Station 1	LK JB	NONE NO SIGHTINGS	HSEA	13:14	13:25	1	LO/SI/RE	G1	700m	N	N	NONE	Mostly resting
9/25/2023	14:30	17:00	2:30	Impact hammer	36	Permanent	2	16,345m	0%	s	2	SW	Station 1	LK	NONE	STSL	14:40	14:42	1	TR(E)	G1	1,000m	N	N	NONE	Traveling fast along shore to harbor
9/25/2023 9/25/2023	11:00 15:00	15:00 16:00	4:00 1:00	Vibratory hammer Impact hammer	36 36	Permanent Permanent	2	16,345m 16,345m	0% 0%	S S	1	SW SW	Station 2 Station 2	JA JB	NONE Impacting	STSL HSEA	11:19 15:18	11:30 15:20	1	MI MI	F3 F3	2,500m 2,400m	N Y	N	NONE NONE	Level B
9/25/2023	16:00	17:00	1:00	Impact hammer	36	Permanent	1	16,345m	0%	S	2	SW	Station 2	JA	NO SIGHTINGS	HIJEA	15.10	15.20	1	IVII	13	2,400111		.,	NONE	Level B
9/25/2023	11:00 12:00	12:00 13:00	1:00	Vibratory hammer	36 36	Permanent	1	8,500m	0%	S	1	SW	Station 3	co	NO SIGHTINGS											
9/25/2023 9/25/2023	13:00	16:30	1:00 3:30	Vibratory hammer Impact hammer	36	Permanent Permanent	2	8,500m 8,500m	0% 0%	S	1	SW SW	Station 3 Station 3	JB CO	NO SIGHTINGS NO SIGHTINGS											
9/25/2023	16:30	17:00	0:30	No in-water work			_	8,500m	0%	S	1	SW	Station 3	JB	NO SIGHTINGS											
9/25/2023 9/25/2023	11:00 14:00	14:00 15:00	3:00 1:00	Vibratory hammer No in-water work	36	Permanent	2	16,345m 16,345m	0% 0%	S S	3	W W	Station 4 Station 4	GD RH	NO SIGHTINGS NO SIGHTINGS											
9/25/2023	15:00	17:00	2:00	Impact hammer	36	Permanent	2	16,345m	0%	s	2	W	Station 4	GD	NO SIGHTINGS											
9/28/2023	9:00 12:30	12:30 13:30	3:30 1:00	Impact hammer	36 36	Permanent Permanent	2	16,345m 16.345m	10%	PC PC	1	SW	Station 1 Station 1	LK IB	NO SIGHTINGS Impacting	so	12:30	12:45	1	MI/TR(E)	G1	800m	γ	N	NONE	Level B
9/28/2023	13:30	16:00	2:30	Impact hammer	36	Permanent	2	16,345m	0%	PC	1	SW	Station 1	LK	NO SIGHTINGS	30			-	, /////						
9/28/2023 9/28/2023	9:00 9:30	9:30 10:30	0:30 1:00	No in-water work Impact hammer	36	Permanent	1	16,345m 16,345m	0% 0%	S S	2	SW SW	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
9/28/2023	10:30	14:00	3:30	Impact hammer	36	Permanent	2	16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
9/28/2023 9/28/2023	14:00 15:00	15:00 16:00	1:00 1:00	Impact hammer Impact hammer	36 36	Permanent Permanent	2 1	16,345m 16,345m	0% 0%	S	1	SW SW	Station 2 Station 2	JB JA	Impacting NO SIGHTINGS	STSL	14:40	14:55	1	MI	F3	2,500m	Υ	N	NONE	Level B
9/28/2023	9:00	11:00	2:00	Impact hammer Impact hammer	36	Permanent Permanent	1	16,345m 8,500m	0%	PC PC	1	SW	Station 2 Station 3	JA LT	Impacting	STSL	9:35	9:49	1	PL	F2	2,100m	N	N	NONE	Behind breakwater; no take recorded
9/28/2023	11:00 12:00	12:00 15:30	1:00	No in-water work	36	Permanent	2	8,500m 8,500m	0% 0%	PC PC	1	SW	Station 3	JB IT	NO SIGHTINGS	STSI	13:40	13:52	1	мі	F2	2.000m	N		NONE	Behind breakwater: no take recorded
9/28/2023 9/28/2023	12:00	15:30 15:30	3:30 3:30	Impact hammer Impact hammer	36 36	Permanent Permanent	2	8,500m 8,500m	0% 0%	PC PC	1	SW	Station 3 Station 3	LT LT	Impacting Impacting	STSL	13:40 14:45	13:52 14:50	1	MI	F2 F2	2,000m 2,100m	N N	N Y	NONE NONE	Behind breakwater; no take recorded Behind breakwater; no take recorded
9/28/2023	15:30	16:00	0:30	No in-water work	36			8,500m	0%	PC	1	SW	Station 3	JB	NO SIGHTINGS							-				
9/28/2023 9/28/2023	9:00 12:00	12:00 13:00	3:00 1:00	Impact hammer Impact hammer	36 36	Permanent Permanent	1	16,345m 16,345m	0% 0%	PC PC	1	w	Station 4 Station 4	GD RH	NO SIGHTINGS NO SIGHTINGS											
9/28/2023	13:00 14:30	16:00 16:45	3:00	Impact hammer	36 48	Permanent	2	16,345m	0%	PC S	1	W	Station 4	GD I K	NO SIGHTINGS	so	14:40	15:20	1	MI/FO	G1	1.000m	N	N	NONE	Moved slightly towards far shore, then dove
9/29/2023	14:30	16:45	2:15	Impact hammer	48	Permanent	1	16,345m	0%	5	0	None	Station 2	JA	NO SIGHTINGS	30	14.40	13.20	•	,10		2,000111	.,	.,	HONE	and the state of t
9/29/2023	14:30	16:45	2:15	Impact hammer	48	Permanent	1	8,500m	0%	s	0	None	Station 3	RH	NONE	so	14:06	14:10	1	MI	F3	2,400m	N	N	NONE	Along shore
9/29/2023	14:30 14:30	16:45 16:45	2:15	Impact hammer Impact hammer	48 48	Permanent	1	8,500m 16.345m	0% 0%	S	0	None	Station 3	RH GD	NONE NO SIGHTINGS	STSL	14:40	14:45	2	TR(E)	F3	2,700m	N	N	NONE	
9/29/2023 9/30/2023	9:30	13:00	2:15 3:30	Impact hammer Drilling	48 48	Permanent Permanent	1	16,345m 16,345m	0%	S OC	1	None NE	Station 4 Station 1	LK	NO SIGHTINGS	STSL	11:30	11:35	1	TR(E)	G1	1,000m	N	N	NONE	Traveling from creek towards harbor
9/30/2023	13:00 14:00	14:00 16:30	1:00	No in-water work	48		1	16,345m	0%	oc	2	NE	Station 1	JB	NO SIGHTINGS		45.26	45.50		M / D F		250		N	NONE	Parameter and fortable to consider
9/30/2023 9/30/2023	9:30	16:30	2:30 0:30	Impact hammer No in-water work	48	Permanent	1	16,345m 16,345m	0% 0%	OC PC	2	NE NE	Station 1 Station 2	LK JA	NONE NO SIGHTINGS	SO	15:36	15:50	1	MI/RE	F1	250m	N	N	NONE	Bouncing comfortably in waves on back
9/30/2023	10:00	11:00	1:00	Drilling	48	Permanent	1	16,345m	0%	PC	1	NE	Station 2	JB	NO SIGHTINGS											

Date	Start Tin	ne End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
9/30/202			3:30	Impact hammer	48	Permanent	1	16,345m	0%	PC/OC	2	NE	Station 2	JA	NO SIGHTINGS		-					Work				
9/30/202 9/30/202			1:00 1:00	No in-water work No in-water work				14,000m 14,000m	0% 0%	L L	2	NE NE	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
9/30/202	9:30	11:30	2:00	Drilling	48	Permanent	1	8,500m	0%	L/OC	2	NE	Station 2 Station 3	LT	NONE	so	10:57	11:20	1	LO/FO	F2	1,900m	N	N	NONE	Surfaced to eat; rolled over to dump shells; mostly looking around
9/30/202			1:00 3:30	No in-water work Impact hammer	48	Permanent	1	8,500m 8.000m	0% 0%	R R	2	NE NE	Station 3 Station 3	JB LT	NO SIGHTINGS NONE	so	12:33	13:15	1	MI/LO	F2	2.000m	N	N	NONE	Surfaced occassionally
9/30/202	16:00	16:30	0:30	No in-water work				8,500m	0%	R/OC	3	NE	Station 3	JB	NO SIGHTINGS	30	12.55	13.13	•	WII/ EO		2,000111	.,	.,	NONE	Surfaced Secusionally
9/30/202 9/30/202		13:00 14:00	3:30 1:00	Drilling No in-water work	48	Permanent	1	16,345m 16,345m	0% 0%	oc oc	2	E	Station 4 Station 4	GD RH	NO SIGHTINGS NO SIGHTINGS											
9/30/202	14:00	16:00	2:00	Impact hammer	48	Permanent	1	11,000m	0%	L/OC	3	E	Station 4	GD	NO SIGHTINGS											
10/1/202			1:00 2:30	Drilling Drilling	48 48	Permanent Permanent	1	16,000m 8,000m	0% 0%	L L	0	NE NE	Station 1 Station 1	JB LK	NONE NO SIGHTINGS	STSL	16:10	16:10	2	TR(E)	F2	1,800m	N	N	NONE	Towards harbor along shore
10/1/202			0:30	No in-water work	40	remanent	-	14,000m	0%	PC	0	NE NE	Station 2	JA	NO SIGHTINGS											
10/1/202			1:00	Drilling	48 48	Permanent	1	14,000m	0%	PC	0	NE	Station 2	JB	NO SIGHTINGS											
10/1/202			2:00 2:00	Drilling Drilling	48 48	Permanent Permanent	1	12,000m 8,500m	0% 0%	PC/L L/R/OC	0	NE NE	Station 2 Station 3	JA LT	NO SIGHTINGS NO SIGHTINGS											
10/1/202	18:00		1:00	Drilling	48	Permanent	1	8,500m	0%	L/R/OC	0	NE	Station 3	JB	NO SIGHTINGS											
10/1/202			0:30 3:30	No in-water work Drilling	48	Permanent	1	8,000m 16.345m	0% 0%	L L/R/F/OC	0	NE E	Station 3 Station 4	LT GD	NO SIGHTINGS NO SIGHTINGS											
10/2/202	16:00	19:00	3:00	Drilling	48	Permanent	1	16,345m	0%	OC	1	SW	Station 1	LK	NO SIGHTINGS											
10/2/202			3:00 3:00	Drilling Drilling	48	Permanent Permanent	1	16,345m 8,500m	0% 0%	PC PC/OC	1	SW SW	Station 2 Station 3	JA LT	NO SIGHTINGS NO SIGHTINGS											
10/2/202	16:00	19:00	3:00	Drilling	48	Permanent	1	16,345m	0%	L/R/OC	ō	W	Station 4	GD	NO SIGHTINGS											
10/3/202		10:00	1:00	No in-water work				16,345m	10%	S	1	SW	Station 1	JB	NO SIGHTINGS											
10/3/202	10:00		3:30	Impact	36	Permanent	3	16,345m	0%	S	1	SW	Station 1	LK	NONE	STSL	10:40	10:42	1	TR(SW)	G1	900m	N	N	NONE	Swam quickly towards road then along shore
10/3/202			1:00	Drilling	48 48	Permanent	1	16,345m	0%	S	1	SW	Station 1	co	NO SIGHTINGS											
10/3/202			3:30 0:30	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16,345m	0% 0%	S S	1	SW SW	Station 1 Station 1	LK CO	NO SIGHTINGS NO SIGHTINGS											
10/3/202	18:30		0:30	No in-water work				16,345m	0%	S	1	SW	Station 1	LK	NO SIGHTINGS											
10/3/202		10:30 11:30	1:30 1:00	Impact hammer Impact hammer	36 36	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S	1	SW SW	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
10/3/202	11:30	15:00	3:30	Impact (2)/Drilling (1)	36/48	Permanent	3	16,345m	0%	s	1	SW	Station 2	JA	NO SIGHTINGS											
10/3/202			1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S	1	SW SW	Station 2 Station 2	CO	NO SIGHTINGS NO SIGHTINGS											
10/3/202		12:00	3:00	Impact hammer	36	Permanent	2	8,500m	0%	S	1	SW	Station 3	LT	NO SIGHTINGS											
10/3/202			1:00 3:30	Impact hammer Drilling	36 48	Permanent	1	8,500m 8,500m	0% 0%	S S	1	SW SW	Station 3	JB LT	NO SIGHTINGS NO SIGHTINGS											
10/3/202			1:00	Drilling	48	Permanent Permanent	1	8,500m 8,500m	0%	S S	1	SW	Station 3 Station 3	CO	NO SIGHTINGS NO SIGHTINGS											
10/3/202			1:30	Drilling	48	Permanent	1	8,500m	0%	S	1	SW	Station 3	LT	NO SIGHTINGS											
10/3/202		13:00 17:00	4:00 4:00	Impact hammer Drilling	36 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S	0	W W	Station 4 Station 4	GD BW	NO SIGHTINGS NO SIGHTINGS											
10/3/202	17:00	18:00	1:00	Drilling	48	Permanent	1	16,345m	0%	S	0	w	Station 4	GD	NO SIGHTINGS											
10/3/202		19:00 10:00	1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0% 10%	S S	0	W SW	Station 4 Station 1	BW NS	NO SIGHTINGS NO SIGHTINGS											
10/4/202	10:00	13:30	3:30	Drilling	48	Permanent	1	16,345m	0%	s	0	None	Station 1	LK	NO SIGHTINGS											
10/4/202		10:30 11:30	1:30 1:00	Drilling Drilling	48 48	Permanent	1	16,345m 16.345m	0% 0%	S S	0	None	Station 2 Station 2	JA NS	NO SIGHTINGS NO SIGHTINGS											
10/4/202			2:00	Drilling	48	Permanent Permanent	1	16,345m 16,345m	0%	S	0	None None	Station 2 Station 2	JA	NO SIGHTINGS NO SIGHTINGS											
10/4/202		12:00	3:00	Drilling	48	Permanent	1	8,500m	0%	S	0	None	Station 3	LT	NO SIGHTINGS											
10/4/202			1:00 0:30	No in-water work No in-water work				8,500m 8,500m	0% 0%	S S	0	None None	Station 3 Station 3	NS LT	NO SIGHTINGS NO SIGHTINGS											
10/4/202		13:00	4:00	Drilling	48	Permanent	1	16,345m	0%	S	0	SE	Station 4	GD	NO SIGHTINGS											
10/4/202		13:30 10:00	0:30	No in-water work No in-water work				16,345m 16,345m	0%	S OC	0	SE NE	Station 4 Station 1	BW JA	NO SIGHTINGS NO SIGHTINGS											
10/6/202	10:00	13:30	3:30	Impact hammer	36	Permanent	3	8,000m	0%	R	1	NE	Station 1	LK	NO SIGHTINGS											
10/6/202			1:00 4:00	No in-water work Impact hammer	48	Permanent	1	9,000m 8.000m	0% 0%	L L	1	NE NE	Station 1 Station 1	JA LK	NO SIGHTINGS NONE	HSEA	16:50	16:56		TR(E)/MI	G1	1.100m	N	N	NONE	Slowly moving along shore from creek
10/6/202		10:30	1:00	Impact nammer Impact hammer	36	Permanent	1	16,000m	0%	OC C	2	NE NE	Station 1 Station 2	LT	NONE	SO	10:15	10:20	1	MI MI	F2	2,100m	N N	N	NONE	Surfaced and dove back in prior to start of
10/6/202			1:00	Impact nammer Impact hammer	36	Permanent	2	16,000m	0%	OC OC	2	NE NE	Station 2 Station 2	JA	NO SIGHTINGS	30	10.15	10.20	1	IVII	F2	2,10011	IN	N	NONE	impacting
10/6/202	11:30	15:00	3:30	No in-water work	36	remianent	2	10,000m 10,000m	0%	R/OC	1	NE NE	Station 2 Station 2	JA LT	NO SIGHTINGS NO SIGHTINGS											
10/6/202	15:00		1:00	No in-water work	40			10,000m	0%	R/OC	1	NE	Station 2	JA	NO SIGHTINGS											
10/6/202		18:30 12:00	2:30 2:30	Impact hammer Impact hammer	48 36	Permanent Permanent	1	8,000m 8.000m	0% 0%	L L/OC	1 2	NE NE	Station 2 Station 3	LT KY	NO SIGHTINGS NO SIGHTINGS											
10/6/202			1:00	No in-water work				8,000m	0%	L/OC	2	NE	Station 3	JA	NO SIGHTINGS											
10/6/202			3:30 1:00	No in-water work No in-water work				8,000m 8.000m	0% 0%	R/OC R/OC	2	NE NE	Station 3 Station 3	KY JA	NO SIGHTINGS NO SIGHTINGS											
10/6/202	17:30		1:00	Impact hammer	48	Permanent	1	8,000m	0%	R	1	NE	Station 3	KY	NO SIGHTINGS											
10/6/202		13:30 17:30	4:00 4:00	Impact hammer No in-water work	36	Permanent	3	12,000m 12.000m		L/R/F/OC L/R/F/OC	0	E F	Station 4	GD BW	NO SIGHTINGS NO SIGHTINGS											
10/6/202			1:00	Impact hammer	48	Permanent	1			L/R/F/OC	0	E	Station 4	GD	NO SIGHTINGS											
10/10/202		15:30	3:00	Drilling	48	Permanent	1	16,000m	0%	L/R	1	SW	Station 1	LK	Drilling	so	14:20	15:10	1	MI/FO	F1	600m	N	N	NONE	Drifting near beach with food; frequent dives
10/10/202			1:00	Drilling	48	Permanent	1	7,000m	0%	L	1	SW	Station 1	JB	NO SIGHTINGS											
10/10/202	3 16:30		1:00	Drilling	48	Permanent	1	9,000m	0%	L/OC	1	SW	Station 1	LK	NO SIGHTINGS											
10/10/202 10/10/202			0:10 0:50	No in-water work Drilling	48	Permanent	1	10,000m 10,000m	0% 0%	R R	1	SW SW	Station 2 Station 2	LT KB	NO SIGHTINGS NO SIGHTINGS											
10/10/202	3 13:30		3:30	Drilling	48	Permanent	1	7,000m	0%	R	1	SW	Station 2	LT	NO SIGHTINGS											
10/10/202			0:30 1:30	No in-water work Drilling	48	Permanent	1	16,000m 8.250m	0% 0%	OC R	0	SW SW	Station 2 Station 3	JB	NO SIGHTINGS NO SIGHTINGS											
10/10/202	3 14:00	15:00	1:00	Drilling	48	Permanent	1	8,000m	0%	L/R/OC	1	SW	Station 3	JB	NO SIGHTINGS											
10/10/202			2:30 4:00	Drilling Drilling	48 48	Permanent	1	8,500m 16,345m	0% 0%	OC L/R/OC	0	SW W	Station 3 Station 4	CO GD	NO SIGHTINGS NO SIGHTINGS											
10/10/202			1:00	Drilling	48	Permanent Permanent	1	16,345m 16,345m	0%	L/R/OC	0	W	Station 4 Station 4	BW	NO SIGHTINGS NO SIGHTINGS											
10/12/202	3 11:00	12:00	1:00	Drilling	48	Permanent	1	10,000m	0%	L/OC	0	NE	Station 1	JB	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
10/12/2023	12:00	15:30	3:30	Drilling	48	Permanent	1	10,000m	0%	L/OC	0	NE	Station 1	LK	Drilling	so	12:40	12:48	1	SW/TR(E)	G1	1,100m	N	N	NONE	Swimming quickly along shore heading east
10/12/2023	15:30	16:30	1:00	Drilling	48	Permanent	1	10,000m	0%	L/R/OC	0	NE	Station 1	JB	NO SIGHTINGS											
10/12/2023	16:30 11:00	18:00 12:30	1:30 1:30	Drilling	48 48	Permanent	1	10,000m 9,000m	0% 0%	L/OC L/R	0	NE NE	Station 1 Station 2	LK JA	NO SIGHTINGS NO SIGHTINGS											
10/12/2023	12:30	13:30	1:00	Drilling Drilling	48	Permanent	1	9,000m 9,000m	0%	L/R L/R	0	NE NE	Station 2 Station 2	JA JB	Drilling	STSL	12:42	12:50	1	MI	G2	1,100m	Υ	N	NONE	Level B
10/12/2023	13:30 17:00	17:00 18:00	3:30	Drilling	48 48	Permanent	1	9,000m	0%	L/R	0	NE	Station 2	JA	NO SIGHTINGS											
10/12/2023 10/12/2023	11:00	14:00	1:00 3:00	Drilling Drilling	48 48	Permanent Permanent	1	10,000m 8.500m	0% 0%	L R/OC	0	NE NE	Station 2 Station 3	JB LT	NO SIGHTINGS NO SIGHTINGS											
10/12/2023	14:00	15:00	1:00	Drilling	48	Permanent	1	8.500m	0%	R/OC	1	NE	Station 3	JB	Drilling	SO	16:49	17:41	1	FO	G2	2.100m	N	N	NONE	Surfaced multiple times, rolling, eating
10/12/2023	15:00	18:00	3:00	Drilling	48	Permanent	1	8.500m	0%	1	0	NE	Station 3	LT	NO SIGHTINGS							,				behind breakwater
10/12/2023	11:00	15:00	4:00	Drilling	48	Permanent	1	16,345m	0%	L/R/OC	0	E	Station 4	GD	NO SIGHTINGS											
10/12/2023 10/13/2023	15:00 10:00	18:00 11:00	3:00 1:00	Drilling No in-water work	48	Permanent	1	16,345m 9,000m	0% 0%	L/R/OC R	0	E NE	Station 4 Station 1	BW JB	NO SIGHTINGS NONE	so	10:30	11:20	1	MI/FO	G1	800m	N	N	NONE	Frequent dives, eating
10/13/2023	11:00	16:30	5:30	No in-water work				16,345m	0%	PC/L	0	NE	Station 1	LK	NONE	so	13:13	13:30	1	TR(N,S)/MI	F1	200m	N	N	NONE	Swimming back and forth towards and away
10/13/2023		11:30	1:30	No in-water work				12.000m	0%	R R	1	NF.	Station 2	JA	NO SIGHTINGS	30	13.13	13.30	-	114(14,3)/1411		200111			NONE	from work
10/13/2023	11:30	12:30	1:00	No in-water work				12,000m	0%	R	1	NE NE	Station 2	JB	NO SIGHTINGS											
10/13/2023	12:30 10:00	16:30 13:00	4:00	No in-water work				14,500m	0%	R	1	NE	Station 2	JA	NO SIGHTINGS											
10/13/2023	13:00	14:00	3:00 1:00	No in-water work No in-water work				8,500m 8.500m	0% 0%	R/OC R/OC	1	NE NE	Station 3 Station 3	LT JB	NO SIGHTINGS NO SIGHTINGS											
10/13/2023	14:00	16:30	2:30	No in-water work				8,500m	0%	PC	0	NE	Station 3	LT	NONE	so	14:15	15:00	2	FO	G2	2,000m	N	N	NONE	Eating and floating by ferry dock
10/13/2023	9:30 13:30	13:30 16:30	4:00 3:00	No in-water work No in-water work				8,000m 16.345m	0% 0%	L/R/F/OC L/R/OC	0	E F	Station 4 Station 4	GD CO	NO SIGHTINGS NO SIGHTINGS											
10/15/2023		11:30	1:30	Vibratory hammer	36	Temporary	1	16,345m	0%	OC	0	None	Station 1	JB	NO SIGHTINGS											
10/15/2023	11:30	13:00	1:30	Vibratory hammer	36	Temporary	3	16,345m	0%	ос	0	None	Station 1	LK	Vibratory hammer	SO	10:55	12:20	1	FO/MI	G1	800m	N	N	NONE	FO close to shore on surface/ sighted by both PSO shifts
10/15/2023	10:00	11:00	1:00	No in-water work				15,000m	0%	L/R/OC	0	None	Station 2	GD	NONE	so	10:40	10:50	1	SW/TR(N)	F2	2,100m	N	N	NONE	Also seen by Station 3
10/15/2023	11:00	13:00	2:00	Vibratory hammer	36	Temporary	4	15,000m	0%	L/R/OC	0	None	Station 2	JA	NO SIGHTINGS											Conference and all the
10/15/2023	10:00	13:00	3:00	Vibratory hammer	36	Temporary	4	8,500m	0%	R/OC	0	None	Station 3	LT	NONE	so	10:42	10:47	1	FO/TR(N)	F2	2,100m	N	Υ	NONE	Surfaced to eat and dove back down; same SO as Station 2
10/15/2023		12:00	2:00	Vibratory hammer	36	Temporary	2	15,000m	0%	L/R/OC	0	E	Station 4	BW	NO SIGHTINGS											
10/15/2023 10/16/2023	12:00 11:00	13:00 14:30	1:00	Vibratory hammer	36 36	Temporary Temporary	3 2	16,345m 16.345m	0% 0%	OC OC	0	E None	Station 4 Station 1	GD LK	NO SIGHTINGS											
10/16/2023	14:30	15:30	1:00	No in-water work	50	remporary	-	16,345m	0%	oc	1	SW	Station 1	JB	NO SIGHTINGS											
10/16/2023	15:30 15:30	18:00 18:00	2:30	No in-water work				16,345m 16.345m	0% 0%	oc oc	1	SW	Station 1	LK LK	NONE	HSEA SO	15:30 15:45	15:40 16:10	1	LO/SI SW/TR(N)	F2 F1	400m 900m	N	N	NONE NONE	Looking towards work mostly on surface Moving slowly NF from beach
10/16/2023	15:30	18:00	2:30	No in-water work No in-water work				16,345m 16,345m	0%	OC OC	1	SW	Station 1 Station 1	LK LK	NONE	SO	15:45	16:10	2	FO FO	F1 F1	900m 500m	N N	N N	NONE	FO together in the same area
10/16/2023	11:00	11:30	0:30	No in-water work				16,000m	0%	PC	0	None	Station 2	JA	NO SIGHTINGS											
10/16/2023	11:30 12:30	12:30 16:00	1:00 3:30	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	1	16,000m 16,300m	0% 0%	PC PC	0	None None	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
10/16/2023	16:00	17:00	1:00	No in-water work		,		16,300m	0%	PC	0	None	Station 2	JB	NO SIGHTINGS											
10/16/2023 10/16/2023	17:00 11:00	18:00 13:00	1:00 2:00	No in-water work Vibratory hammer	36	Temporary	1	16,345m 8,500m	0% 0%	PC	1	SW	Station 2 Station 3	JA LT	NO SIGHTINGS NO SIGHTINGS											
10/16/2023	13:00	14:00	1:00	Vibratory hammer Vibratory hammer	36	Temporary	1	8,500m 8,500m	0%	PC	0	None None	Station 3 Station 3	JB	NO SIGHTINGS NO SIGHTINGS											
10/16/2023	14:00 17:30	17:30 18:00	3:30	No in-water work				8,500m	0%	PC/OC	1	SW	Station 3	LT	NO SIGHTINGS											
10/16/2023 10/16/2023	17:30	18:00	0:30 3:00	No in-water work Vibratory hammer	36	Temporary	2	8,500m 16,345m	0% 0%	OC R	0	SW None	Station 3 Station 4	JB CO	NO SIGHTINGS NO SIGHTINGS											
10/16/2023	14:00	15:00	1:00	No in-water work				16,345m	0%	oc	0	None	Station 4	GD	NO SIGHTINGS											
10/16/2023	15:00 17:00	17:00 18:00	2:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	OC OC	1	None None	Station 4 Station 4	CO GD	NO SIGHTINGS NO SIGHTINGS											
10/17/2023	9:00	10:00	1:00	Vibratory hammer	36	Temporary	1	5,000m	0%	L	0	None	Station 1	JB	NO SIGHTINGS											
10/17/2023		13:30 14:30	3:30 1:00	Vibratory hammer No in-water work	48	Permanent	1	8,500m 16.345m	0% 0%	OC PC	0	None NE	Station 1 Station 1	LK JB	NONE NO SIGHTINGS	so	10:05	10:26	1	FO/TR(NE)	F1	400m	N	N	NONE	Swam towards work then off to the NE
10/17/2023		18:00	3:30	Vibratory hammer	36	Permanent	1	16.345m	0%	PC	0	NE NE	Station 1	LK	NONE	HSEA	15:27	16.00	1	LO/RE/TR(E)	G1.G2	900m	N	N	NONE	Moving slowly and resting, moved out of
		10:30	1:30		36		1	9.000m	0%	L	0				NO SIGHTINGS	пэсн	13.27	10.00	1	LO/RE/TR(E)	01,02	900111	IN	IN	NONE	sight towards harbor
10/17/2023 10/17/2023	10:30	11:00	0:30	Vibratory hammer No in-water work	50	Temporary		9,000m 16,345m	0%	OC	0	None None	Station 2 Station 2	CO JB	NO SIGHTINGS NO SIGHTINGS											
10/17/2023	11:00	15:00	4:00	Vibratory hammer	48	Permanent	1	16,345m	0%	PC	0	NE	Station 2	со	NO SIGHTINGS											
10/17/2023 10/17/2023	15:00 16:00	16:00 18:00	1:00 2:00	No in-water work Vibratory hammer	36	Permanent	1	16,345m 16,345m	0% 0%	PC PC	0	NE NE	Station 2 Station 2	JB CO	NO SIGHTINGS NO SIGHTINGS											
10/17/2023	9:00	12:00	3:00	Vibratory hammer	36/48	Temporary/Per	2	5,000m	0%	F	0	NONE	Station 3	LT	NO SIGHTINGS											
10/17/2023	12:00 13:00	13:00 16:30	1:00 3:30	No in-water work No in-water work				8,500m 8,500m	0% 0%	PC/OC PC/OC	0	NONE NONE	Station 3 Station 3	JB LT	NO SIGHTINGS NONE	so	15:47	16:00	3	TR(NE)	G2	2,100m	N	N	NONE	Surface by ferry and headed NE together
10/17/2023	16:30	18:00	1:30	Vibratory hammer	36	Permanent	1	8,500m	0%	PC	0	NE	Station 3	JB	NO SIGHTINGS	50	10.47	10.00	J	(1.2)	- 02	2,200:11				23, ici y and incoded its together
10/17/2023	9:00 11:00	11:00 13:00	2:00 2:00	Vibratory hammer Vibratory hammer	36 48	Temporary Permanent	1	3,000m 3.000m	0% 0%	L/OC L/OC	0	NE NE	Station 4 Station 4	GD KY	NO SIGHTINGS NO SIGHTINGS											
10/17/2023	13:00	15:00	2:00	No in-water work	40	remanent		10,000m	0%	L/OC	1	NE NE	Station 4 Station 4	GD GD	NO SIGHTINGS NO SIGHTINGS											
10/17/2023	15:00	17:00	2:00	No in-water work	26			16,345m	0%	ОС	0	NE	Station 4	KY	NONE	STSL	16:10	16:12	1	TR(SE)	F4	3,500m	N	N	NONE	Traveling away from head of the bay
10/17/2023 10/18/2023	17:00 13:30	18:00 15:00	1:00	Vibratory hammer No in-water work	36	Permanent	1	16,345m 16,345m	0% 0%	PC S	0	NE SW	Station 4 Station 1	GD LK	NO SIGHTINGS NO SIGHTINGS											
10/18/2023	15:00	16:00	1:00	No in-water work				16,345m	0%	s	2	SW	Station 1	LB	NONE	STSL	15:10	15:15	1	TR(E)	F1	800m	N	N	NONE	Along shore towards harbor
10/18/2023 10/18/2023	16:00 13:30	16:30 14:30	0:30 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	S S	2	SW	Station 1 Station 2	LK JB	NO SIGHTINGS NO SIGHTINGS											
10/18/2023	14:30	16:30	2:00	No in-water work				16,345m	0%	s	3	SW	Station 2	LT	NO SIGHTINGS											
10/18/2023 10/18/2023	13:30 15:30	15:30 16:30	2:00 1:00	No in-water work No in-water work				16,345m 16,345m	0% 0%	S S	1	SW SW	Station 3 Station 3	JA NS	NO SIGHTINGS NO SIGHTINGS											
10/18/2023	13:30	15:30	2:00	No in-water work				16,345m 16,345m	0%	S	1	W	Station 3 Station 4	NP NP	NO SIGHTINGS NO SIGHTINGS											
10/18/2023	15:30	16:30	1:00	No in-water work				16,345m	0%	S	2	W	Station 4	GD	NO SIGHTINGS											
10/19/2023 10/19/2023	9:00 10:00	10:00 13:30	1:00 3:30	No in-water work Impact hammer	36/48	Permanent	4	16,345m 16,345m	0% 0%	S S	2	SW SW	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
10/19/2023	13:30	14:30	1:00	No in-water work				16,345m	0%	S	2	SW	Station 1	JB	NO SIGHTINGS											
10/19/2023 10/19/2023	14:30 9:00	17:00 10:30	2:30 1:30	Impact hammer Impact hammer	36 48	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S	2	SW SW	Station 1 Station 2	LK JA	NO SIGHTINGS NO SIGHTINGS											
10/19/2023	10:30	11:30	1:00	Impact hammer	36	Permanent	1	16,345m	0%	s	2	SW	Station 2	JB	NO SIGHTINGS											
10/19/2023 10/19/2023	11:30	15:00 16:00	3:30 1:00	Impact hammer	36/48 36	Permanent	2 1	16,345m 16.345m	0%	S S	2	SW	Station 2	JA	NO SIGHTINGS NO SIGHTINGS											
10/19/2023	15:00	10.00	1:00	Impact hammer	30	Permanent	1	16,345m	0%	5	2	SW	Station 2	JB	NU SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
10/19/2023	16:00	17:00	1:00	Impact hammer	36	Permanent	1	16,345m	0%	S	2	SW	Station 2	JA	NO SIGHTINGS											
10/19/2023 10/19/2023	9:00 12:00	12:00 13:00	3:00 1:00	Impact hammer Impact hammer	36/48 36	Permanent Permanent	4	16,345m 16,345m	0% 0%	S	1	SW SW	Station 3 Station 3	LT IB	NO SIGHTINGS NO SIGHTINGS											
10/19/2023	13:00	16:30	3:30	Impact hammer	36	Permanent	1	16,345m	0%	S	2	SW	Station 3	LT	NO SIGHTINGS											
10/19/2023	16:30	17:00	0:30	No in-water work				16,345m	0%	S	2	SW	Station 3	JB	NO SIGHTINGS											
10/19/2023 10/19/2023	9:00 13:00	13:00 17:00	4:00 4:00	Impact hammer Impact hammer	36/48 36	Permanent Permanent	4	16,345m 16,345m	0% 0%	S S	0	W W	Station 4 Station 4	GD NS	NO SIGHTINGS NO SIGHTINGS											
10/20/2023	12:00	15:00	3:00	Drilling	48	Permanent	1	16,345m	0%	S	2	SW	Station 1	LK	NO SIGHTINGS											
10/20/2023	15:00 12:00	16:00 12:30	1:00 0:30	No in-water work No in-water work				16,345m 16.345m	0% 0%	S S	2	SW SW	Station 1 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
10/20/2023	12:30	13:00	0:30	Drilling	48	Permanent	1	16,345m	0%	S	2	SW	Station 2	JB	NO SIGHTINGS											
10/20/2023	13:00	16:00	3:00	Drilling	48	Permanent	1	16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
10/20/2023	12:00 13:30	13:30 14:30	1:30 1:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 16.345m	0%	S S	2	SW SW	Station 3 Station 3	LT JB	NO SIGHTINGS NO SIGHTINGS											
10/20/2023	14:30	16:00	1:30	Drilling	48	Permanent	1	16,345m	0%	5	1	SW	Station 3	LT	NO SIGHTINGS											
10/20/2023 10/20/2023	12:00 14:00	14:00 16:00	2:00 2:00	Drilling Drilling	48	Permanent Permanent	1	16,345m 16,345m	0% 0%	S	1	w	Station 4 Station 4	GD NS	NO SIGHTINGS NO SIGHTINGS											
					40	Permanent	1			5	1															Saw twice: moved along shore towards
10/23/2023	9:30	10:30	1:00	No in-water work				16,345m	0%	PC	1	SW	Station 1	JB	NONE	STSL	10:15	10:20	1	TR(W,N)	G1	800m	N	N	NONE	harbor
10/23/2023 10/23/2023	10:30 14:00	14:00 15:00	3:30 1:00	Impact hammer Vibratory hammer	48 36	Permanent Permanent	1	16,345m 16,345m	0% 0%	S PC	1	SW SW	Station 1 Station 1	LK JB	NO SIGHTINGS NO SIGHTINGS											
10/23/2023	15:00	18:00	3:00	Drilling	48	Permanent	1	16,345m	0%	PC	1	SW	Station 1	LK	NO SIGHTINGS											
10/23/2023	9:30	11:00	1:30	No in-water work				16,345m	0%	S	1	NE	Station 2	JA	NO SIGHTINGS											
10/23/2023 10/23/2023	11:00 12:00	12:00 15:00	1:00 3:00	Impact hammer Vibratory hammer	48 36	Permanent Permanent	1	16,345m 16,345m	0% 0%	S	1	NE NE	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
10/23/2023	15:00	16:00	1:00	Drilling	48	Permanent	1	16,345m	0%	s	1	SW	Station 2	JB	NO SIGHTINGS											
10/23/2023	16:00	18:00	2:00	Drilling	48	Permanent	1	16,345m	0%	S/PC	1	SW	Station 2	JA	NO SIGHTINGS											
10/23/2023 10/23/2023	9:30 12:30	12:30 13:30	3:00 1:00	Impact hammer No in-water work	48	Permanent	1	8,500m 8,500m	0%	S S	1	NE NE	Station 3 Station 3	LT JB	NO SIGHTINGS NO SIGHTINGS											
10/23/2023	13:30	17:00	3:30	Vibratory/Drilling	36/48	Permanent	2	8,500m	0%	PC	1	NE	Station 3	LT	NO SIGHTINGS											
10/23/2023	17:00 9:30	18:00 12:30	1:00	Drilling Impact hammer	48 48	Permanent Permanent	1	8,500m 16.345m	0% 0%	PC PC	1	SW W	Station 3 Station 4	JB NS	NO SIGHTINGS NO SIGHTINGS											
10/23/2023	12:30	15:30	3:00	Vibratory hammer	36	Permanent	1	16,345m 16.345m	0%	S	0	W	Station 4 Station 4	GD	NO SIGHTINGS NO SIGHTINGS											
10/23/2023	15:30	18:00	2:30	Drilling	48	Permanent	1	16,345m	0%	PC	1	W	Station 4	NS	NO SIGHTINGS											
10/24/2023	9:30	10:30	1:00	Drilling	48	Permanent	1	16,345m	0%	S	1	SW	Station 1	JB	Drilling	STSL	10:13	10:20	3	MI	F2	1,000m	Υ	Υ	NONE	Level B take (3); resighting of STSL group from pos 2
10/24/2023	10:30	11:30	1:00	Drilling	48	Permanent	1	16,345m	0%	s	1	SW	Station 1	NS	NO SIGHTINGS											110111 pos 2
10/24/2023	11:30	14:00	2:30	Drilling	48	Permanent	1	16,345m	0%	PC	2	SW	Station 1	LK	NO SIGHTINGS											
10/24/2023	14:00 15:00	15:00 18:00	1:00 3:00	No in-water work Vibratory/Drilling	48 36/48	Permanent Permanent	2	16,345m 16.345m	0%	PC PC	2	SW SW	Station 1 Station 1	JB LK	NO SIGHTINGS NO SIGHTINGS											
10/24/2023	9:30	11:00	1:30	Drilling	48	Permanent	1	16.345m	0%	s	1	SW	Station 2	CO	NONE	STSL	10:00	10:01	3	MI/TR(W)	G1	2.100m	N	N	NONE	Drilling not yet started: resighted at pos 1
., ,	11:00	12:00		o o	48			.,.	0%		-			JB	NO SIGHTINGS	313L	10.00	10.01	3	IVII/ I K(VV)	61	2,100111	IN	IN	INOINE	Drilling not yet started, resignted at pos 1
10/24/2023	12:00	15:30	1:00 3:30	Drilling Drilling	48	Permanent Permanent	1	16,345m 16.345m	0%	S S	1	SW	Station 2 Station 2	CO	NO SIGHTINGS NO SIGHTINGS											
10/24/2023	15:30	16:30	1:00	Vibratory hammer	36	Permanent	1	16,345m	0%	S	1	SW	Station 2	JB	NO SIGHTINGS											
10/24/2023 10/24/2023	16:30 9:30	18:00 12:30	1:30 3:00	Drilling Drilling	48 48	Permanent Permanent	1	16,345m 8.500m	0% 0%	PC S	2	SW	Station 2 Station 3	CO LT	NO SIGHTINGS NO SIGHTINGS											
10/24/2023	12:30	13:30	1:00	Drilling	48	Permanent	1	8,500m	0%	5	1	SW	Station 3	JB	NO SIGHTINGS											
10/24/2023	13:30	16:30	3:00	Drilling/Vibratory	48/36	Permanent	2	8,500m	0%	S	1	SW	Station 3	LT	NO SIGHTINGS											
10/24/2023	16:30 9:30	18:00 11:30	1:30 2:00	Drilling Drilling	48 48	Permanent Permanent	1	8,500m 16.345m	0% 0%	PC S	2	SW W	Station 3 Station 4	JB KY	NO SIGHTINGS NO SIGHTINGS											
10/24/2023	11:30	12:30	1:00	Drilling	48	Permanent	1	16,345m	0%	s	2	w	Station 4	NS	NO SIGHTINGS											
10/24/2023	12:30 16:00	16:00 18:00	3:30 2:00	Drilling Vibratory/Drilling	48 36/48	Permanent Permanent	1 2	16,345m 16.345m	0%	S PC	3	w	Station 4 Station 4	KY GD	NO SIGHTINGS NO SIGHTINGS											
10/24/2023	11:30	12:00	0:30	No in-water work	30/46	Permanent	2	16,345m 16,345m	0%	S	0	SW	Station 4 Station 1	JB	NO SIGHTINGS NO SIGHTINGS											
10/25/2023	12:00	15:30	3:30	Impact hammer	36	Permanent	1	16,345m	0%	S	0	SW	Station 1	LK	NONE	so	12:30	12:45	2	MI/FO	G1	800m	N	N	NONE	Observed by both PSOs (LK & JB)
																										Two adults and two juveniles circling in bay and breeching several times. Observed by
10/25/2023	12:00	15:30	3:30	Impact hammer	36	Permanent	1	16,345m	0%	s	0	SW	Station 1	LK	NONE	ORCA	12:54	13:05	4	TR(W)/MI/BR	G1	3,500m	N	Υ	DE	position 1, 2, & 4; crew advised to delay
																										drilling until whales observed leaving zone
10/25/2023	15:30	16:30	1:00	Impact hammer	36	Permanent	1	16.345m	0%	s	0	SW	Station 1	IB	NO SIGHTINGS											(started @ 14:40)
10/25/2023	16:30	18:15	1:45	Impact hammer	36	Permanent	1	16.345m	0%	5	0	None	Station 1	LK	Impacting	so	16:35	17:00	1	FO	G1	600m	v	N	NONE	Level B take; continued foraging in same area
10/25/2023	11:30	12:30	1:00	No in-water work	30	· cimanent	•	16.345m	0%	5	0	SW	Station 2	IA.	NONE	STSL	12:15	12:25	1	MI	G2	2.100m	, N	N.	NONE	tone, continued for aging in same died
10/25/2023	12:30	13:30	1:00	No in-water work No in-water work				16,345m 16,345m	0%	S S	0	SW	Station 2 Station 2	JA JB	NONE	ORCA	12:15	12:25	4	TR(E)	G2 G2	2,100m 2,000m	N N	Y	DE	Seen every 2 min heading east
10/25/2023	13:30	17:00	3:30	Impact hammer	36	Permanent	1	16,345m	0%	S	0	None	Station 2	JA	Impacting	STSL	16:35	16:40	1	MI	F2	2,200m	Υ	N	NONE	Level B take
10/25/2023 10/25/2023	17:00 11:30	18:15 14:00	1:15 2:30	Impact hammer No in-water work	36	Permanent	1	16,345m 8,500m	0% 0%	S S	0	None None	Station 2 Station 3	JB LT	NO SIGHTINGS NO SIGHTINGS											
10/25/2023	14:00	15:00	1:00	Impact hammer	36	Permanent	1	8,500m	0%	S	0	None	Station 3	JB	NO SIGHTINGS											
10/25/2023	15:00	18:15	3:15	Impact hammer	36	Permanent	1	8,500m	0%	S	0	None	Station 3	LT	NO SIGHTINGS											
10/25/2023	11:30	14:30	3:00	No in-water work				16,345m	0%	s	0	None	Station 4	со	NONE	ORCA	12:05	13:40	4	TR(W)/MI/BR	E3	3,500m	N	N	DE	First sighting of orca group; last seen moving
																				. ,,		-,				east at 13:40. Construction delay until 14:40
10/25/2023 10/25/2023	14:30 15:30	15:30 17:00	1:00 1:30	Impact hammer Impact hammer	36 36	Permanent Permanent	1	16,345m 16.345m	0%	S S	0	None None	Station 4 Station 4	GD CO	NO SIGHTINGS NO SIGHTINGS											
10/25/2023	17:00	18:15	1:15	Impact nammer Impact hammer	36	Permanent	1	16,345m 16,345m	0%	S S	0	None	Station 4 Station 4	GD	NO SIGHTINGS NO SIGHTINGS											
10/26/2023	11:00	14:30	3:30	Vibratory hammer	36	Permanent	5		0%	s	0	None	Station 1	LK	NO SIGHTINGS											
10/20/2023			5.50	vibratory naminer		(1)/Temporary		10,545	0,0	,	Ü	Hone	Station 1	Liv	110 51011111105											Hanning out mostly on surface, maring book
10/26/2023	14:30	15:30	1:00	Vibratory hammer	36	Temporary	1	16,345m	0%	S	0	None	Station 1	JB	Vibratory hammer	SO	14:35	15:30	1	FO	G1	700m	N	N	NONE	Hanging out mostly on surface; moving back and forth & foraging
10/26/2023	11:00	11:30	0:30	No in-water work			_	16,345m	0%	S	0	None	Station 2	JA	NO SIGHTINGS											
10/26/2023	11:30 12:30	12:30 15:30	1:00 3:00	Vibratory hammer Vibratory hammer	36 36	Permanent/Tem Temporary	1 2 3	16,345m 16.345m	0%	S S	0	None None	Station 2 Station 2	JB IA	NO SIGHTINGS NO SIGHTINGS											
10/26/2023	11:30	13:00	1:30	Vibratory hammer	36	Permanent	3	8.500m	0%	S	0	None	Station 3	LT	NO SIGHTINGS											
., .,						(1)/Temporary		-,																		
10/26/2023 10/26/2023	13:00 14:00	14:00 15:30	1:00 1:30	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	1	8,500m 8,500m	0% 0%	S S	0	None None	Station 3 Station 3	JB LT	NO SIGHTINGS NO SIGHTINGS											
,,				,				.,		-	-		,													

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	s Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
10/26/2023	11:00	14:30	3:30	Vibratory hammer	36	Permanent (1)/Temporary	5	16,345m	0%	S	0	None	Station 4	со	NO SIGHTINGS											
10/26/2023	14:30	15:30	1:00	Vibratory hammer	36	Temporary	1	16,345m	0%	S	0	None	Station 4	GD	NO SIGHTINGS											
10/27/2023		17:00 17:00	2:30 2:30	Impact hammer Impact hammer	36 36	Permanent Permanent	1	16,345m 16.345m	0% 0%	S S	0	None None	Station 1 Station 2	LK JA	Impacting NO SIGHTINGS	SO	15:10	15:30	1	MI/FO	G1	1,000m	Y	N	NONE	Level B take; milling close to harbor
10/27/2023	14:30	17:00	2:30	Impact hammer	36	Permanent	1	8,500m	0%	S	0	None	Station 3	LT	NO SIGHTINGS											
10/27/2023		17:00 14:30	2:30 3:30	Impact hammer Impact hammer	36 36	Permanent Permanent	1 2	8,500m 11.000m	0%	S OC	0	None None	Station 4 Station 1	GD LK	NO SIGHTINGS NONE	HSEA	11:20	11:26	1	LO/SI	G1	900m	N	N	NONE	By mouth of stream near road
10/28/2023	11:00	11:30	0:30	No in-water work				6,000m	0%	L/R	0	None	Station 2	JA	NO SIGHTINGS	HIJEA	11.20	11.20	-	20/31	01	300111			NONE	by mouth of stream real road
10/28/2023 10/28/2023		12:30 14:30	1:00 2:00	Impact hammer No in-water work	36	Permanent	2	6,000m 15.000m	0% 0%	L/R PC/L/R	0	None None	Station 2 Station 2	CO JA	NO SIGHTINGS NO SIGHTINGS											
10/28/2023		13:00	2:00	Impact hammer	36	Permanent	2	8,500m	0%	OC	0	None	Station 3	LT	NO SIGHTINGS											
10/28/2023		14:30 14:30	1:30	No in-water work	36	Permanent	2	8,500m	0%	OC L/R	0	None	Station 3	CO	NO SIGHTINGS											
10/28/2023		14:00	3:30	No in-water work	30	Permanent	2	10,000m 10,000m	0%	L/R L/R	1	None	Station 4 Station 1	LK	NO SIGHTINGS											
10/29/2023		15:00	1:00	No in-water work	25	_	2	12,000m	0%	L/R	1	NE	Station 1	со	NONE	HSEA	14:20	14:35	1	LO/SI/MI	G1	700m	N	N	NONE	Nearshore drifting around
10/29/2023		17:15 11:00	2:15 0:30	Vibratory hammer No in-water work	36	Temporary	2	14,000m 14.000m	0% 0%	L/R/OC L/R	1	NE NE	Station 1 Station 2	LK JA	NO SIGHTINGS NO SIGHTINGS											
10/29/2023		12:00	1:00	No in-water work				14,000m	0%	L/R	1	NE	Station 2	со	NO SIGHTINGS											
10/29/2023		15:30 16:30	3:30 1:00	No in-water work Vibratory hammer	36	Temporary	2	14,500m 14,500m	0% 0%	L/R L/R	1	NE NE	Station 2 Station 2	JA CO	NO SIGHTINGS NO SIGHTINGS											
10/29/2023	16:30	17:00	0:30	Vibratory hammer	36	Temporary	1	14,000m	0%	L/R	1	NE	Station 2	JA	NO SIGHTINGS											same piling as above
10/29/2023		12:30 13:30	2:00 1:00	No in-water work No in-water work				8,500m 8.500m	0% 0%	L/R/OC L/R/OC	0	None NE	Station 3 Station 3	LT CO	NO SIGHTINGS NO SIGHTINGS											
10/29/2023		17:15	3:45	Vibratory hammer	36	Temporary	2	8,500m	0%	L/R/OC	1	NE	Station 3	LT	NO SIGHTINGS											
10/29/2023		13:30 14:30	3:00	No in-water work				10,000m	0%	L/R/OC	1	NE	Station 4	GD	NO SIGHTINGS											
10/29/2023		17:15	1:00 2:45	No in-water work Vibratory hammer	36	Temporary	2	11,000m 14,000m	0% 0%	L/R L/R	1	NE NE	Station 4 Station 4	NS GD	NO SIGHTINGS NO SIGHTINGS											
11/1/2023	12:00	13:00	1:00	No in-water work			_	2,000m	0%	F/OC	0	None	Station 1	BW	NO SIGHTINGS											work delayed for visibility
11/1/2023 11/1/2023	13:00 16:30	16:30 17:30	3:30 1:00	Vibratory (2)/Impact (1) Impact hammer	36 36	Permanent Permanent	3 1	7,000m 7,000m	0% 0%	oc oc	0	None None	Station 1 Station 1	LK BW	Vibratory hammer NO SIGHTINGS	HSEA	14:15	14:20	1	LO/SI	F2	400m	Y	N	NONE	Level B take
11/1/2023	17:30	18:30	1:00	Impact hammer	36	Permanent	1	9,000m	0%	PC/OC	0	None	Station 1	LK	NO SIGHTINGS											
11/1/2023	12:00 13:30	13:30 14:30	1:30	No in-water work Vibratory hammer	36	Permanent	2	2,000m 6.500m	0% 0%	PC/F PC/F	0	None None	Station 2 Station 2	JA BW	NO SIGHTINGS NO SIGHTINGS											
11/1/2023	14:30	18:00	3:30	Impact hammer	36	Permanent	2	10,000m	0%	PC/F/OC	0	None	Station 2	JA	NO SIGHTINGS											
11/1/2023 11/1/2023	18:00 12:00	18:30 15:00	0:30 3:00	No in-water work Vibratory hammer	36	Permanent	2	10,000m 8,500m	0% 0%	PC/F/OC OC	0	None None	Station 2 Station 3	BW LT	NO SIGHTINGS NO SIGHTINGS											
11/1/2023	15:00	16:00	1:00	Impact hammer	36	Permanent	1	8,500m	0%	oc	0	None	Station 3	BW	NO SIGHTINGS											
11/1/2023 11/1/2023	16:00 12:00	18:30 15:00	2:30 3:00	Impact hammer Vibratory hammer	36 36	Permanent	2	8,500m 6,000m	0% 0%	F/OC OC	0	None None	Station 3 Station 4	LT GD	NO SIGHTINGS NO SIGHTINGS											
11/1/2023	15:00	16:00	1:00	Impact hammer	36	Permanent	1	6,000m	0%	oc	0	None	Station 4	NS	NO SIGHTINGS											
11/1/2023	16:00 10:00	18:30 10:20	2:30 0:20	Impact hammer No in-water work	36	Permanent	2	9,000m 3,500m	0%	PC/OC F/OC	0	None None	Station 4 Station 1	GD	NO SIGHTINGS											
11/3/2023	10:00	13:30	3:10	Impact hammer	36	Permanent	2	7,000m	0%	OC OC	0	None	Station 1 Station 1	LK	NONE	SO	13:20	15:00	1	FO/MI	G1	800m	N	N	NONE	Back and forth foraging
11/3/2023	13:30	14:00	0:30	No in-water work				9,000m	0%	ОС	0	None	Station 1	со	NONE						G1					continuous sea otter sighting as recorded above; stayed within zone for ~2 hours continuous sea otter sighting as recorded
11/3/2023		15:00	1:00	No in-water work				9,000m	0%	oc	0	None	Station 1	LK	NONE						G1					above; stayed within zone for ~2 hours
11/3/2023 11/3/2023		10:30 11:30	0:30 1:00	No in-water work No in-water work				4,000m 4,000m	0% 0%	L/OC L/OC	0	None None	Station 2 Station 2	LT CO	NO SIGHTINGS NONE	HSEA	11:15	11:15	1	LO	G2	2,000m	N	N.	NONE	Saw once in front of breakwater
11/3/2023	11:30	15:00	3:30	Impact hammer	36	Permanent	2	7.000m	0%	L/OC	0	None	Station 2	LT	Impacting	SO	12:03	13:15	1	FO/MI	G2	2,000m		N.	NONE	No take; within breakwater protected area
11/3/2023		12:00	2:00	Impact nammer	36	Permanent	1	4.000m	0%	L/OC	0	None	Station 3	BW	NO SIGHTINGS	30	12.05	15.15	1	FO/IVII	G2	2,100111	IN	IN	NONE	(G2)
11/3/2023		13:00	1:00	Impact hammer	36	Permanent	1	6,500m	0%	L/OC	0	None	Station 3	CO	NO SIGHTINGS											
11/3/2023	13:00 10:00	15:00 12:00	2:00	No in-water work	36		1	8,500m	0%	ос	0	None	Station 3	BW	NO SIGHTINGS											
11/3/2023 11/3/2023	10:00	12:00	2:00 2:00	Impact hammer Impact hammer	36 36	Permanent Permanent	1	5,000m 8,000m	0% 0%	L/OC OC	0	None None	Station 4 Station 4	GD NS	NO SIGHTINGS NO SIGHTINGS											
11/3/2023	14:00	15:00	1:00	No in-water work				9,000m	0%	ОС	0	None	Station 4	GD	NO SIGHTINGS											
11/4/2023	9:30 10:30	10:30 14:30	1:00	No in-water work Vibratory hammer	36	Temporary	5	5,000m 9.000m	0%	L/OC S	0	None None	Station 1 Station 1	JB I K	NONE Vibratory hammer	SO SO	9:30 11:15	10:15	1	FO/MI FO/MI	G1 G1	800m 700m	N N	N N	NONE	
11/4/2023	10:30	14:30	4:00	Vibratory hammer	36	Temporary	5	9,000m	0%	S	0	None	Station 1	LK	NONE	HSEA	13:57	14:30	1	MI	F1	600m	N	N	NONE	in front of parking lot at beach
11/4/2023	9:30	11:00	1:30	No in-water work				2,000m	0%	PC/L	0	None	Station 2	JA	NO SIGHTINGS											Level B take (3); seen by two observers here
11/4/2023	11:00	12:00	1:00	Vibratory hammer	36	Temporary	1	8,000m	0%	PC/L	0	None	Station 2	JB	Vibratory hammer	STSL	11:20	12:39	3	MI	F3	2,100m	Υ	N	NONE	and by position 3 Seen also by position 3; heading east. In-
11/4/2023	11:00	12:00	1:00	Vibratory hammer	36	Temporary	1	8,000m	0%	PC/L	0	None	Station 2	JB	NONE	BEL	11:39	11:53	4	MI	F2	2,200m	N	N	DE	water work delayed for 37 minutes after last sighting Same sighting as above; did not record take
11/4/2023	12:00	14:30	2:30	Vibratory hammer	36	Temporary	4	9,000m	0%	S/PC	0	None	Station 2	JA	Vibratory hammer	STSL	11:20	12:39	3	MI	F3	2,100m	N	Υ	NONE	again
11/4/2023 11/4/2023	9:30 12:30	12:30 13:30	3:00 1:00	Vibratory hammer Vibratory hammer	36 36	Temporary Temporary	1	8,500m 8.500m	0% 0%	F/OC PC/OC	0	None None	Station 3 Station 3	LT JB	NONE NO SIGHTINGS	BEL	11:39	11:53	4	MI	F2	2,200m	N	Υ	DE	Same sighting as above
11/4/2023	13:30	14:30	1:00	Vibratory hammer	36	Temporary	1	8,500m	0%	PC/OC	0	None	Station 3	LT	NO SIGHTINGS											
11/4/2023	9:30	13:00	3:30	Vibratory hammer	36	Temporary	3	2,000m	0%	L/R/F/OC	0	None	Station 4	GD	NONE	ORCA	12:00	12:10	4	MI/TR(E)	B10	12,000m	N	N	DE	Heading east; work was already delayed for belugas
11/4/2023	13:00	14:30	1:30	Vibratory hammer	36	Temporary	2	16,000m	0%	PC	0	None	Station 4	BW	NO SIGHTINGS											
11/8/2023 11/8/2023	9:00 9:00	10:45 10:45	1:45 1:45	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent	1	9,000m 8.000m	0% 0%	L L/R	0	None None	Station 1 Station 2	LK IA	NO SIGHTINGS NO SIGHTINGS											
11/8/2023	9:00	10:45	1:45	Vibratory hammer	36	Permanent	1	8,500m	0%	L/R	0	None	Station 3	LT	NO SIGHTINGS											
11/8/2023	9:00	10:45	1:45	Vibratory hammer	36	Permanent	1	10,000m	0%	L/R	0	None	Station 4	GD	NO SIGHTINGS											Wind/waves too much for in-water work or
11/9/2023	9:00	10:00	1:00	No in-water work				8,000m	0%	R	0	None	Station 1	JB	NO SIGHTINGS											observing
11/9/2023	10:00 9:00	13:00 10:30	3:00 1:30	No in-water work No in-water work				7,000m 7,000m	0% 0%	R L/R	4	NE NE	Station 1 Station 2	LK	NO SIGHTINGS NO SIGHTINGS											
11/9/2023 11/9/2023	10:30	11:30	1:30	No in-water work No in-water work				7,000m 7,000m	0%	L/R R	3	NE NE	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
11/9/2023	11:30	13:00	1:30	No in-water work				7,000m	0%	R . (0.5)	4	NE	Station 2	JA	NO SIGHTINGS											
11/9/2023 11/9/2023	9:00 12:00	12:00 13:00	3:00 1:00	No in-water work No in-water work				8,500m 8,000m	0% 0%	L/R/F/OC L/R	0	NE NE	Station 3 Station 3	LT JB	NO SIGHTINGS NO SIGHTINGS											
11/9/2023	9:00	11:00	2:00	No in-water work				8,000m	0%		0	E	Station 4	GD	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Piles	Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
11/9/2023	11:00	13:00	2:00	No in-water work				8,000m		R/F/OC/S	3	E	Station 4	BW	NO SIGHTINGS											
11/10/2023 11/10/2023	9:00 10:00	10:00 12:00	1:00 2:00	No in-water work Impact hammer	36	Permanent		10,000m 12,000m	0% 0%	L/R OC	1	SW SW	Station 1 Station 1	JB LK	NO SIGHTINGS NONE	HSEA	10:10	10:10	1	LO/SI	F1	700m	N	N	NONE	Saw once
11/10/2023	9:00	10:30	1:30	No in-water work				10,000m	0%	PC/L/R	1	SW	Station 2	JA	NO SIGHTINGS				-	,				•		<del></del>
11/10/2023		11:30 12:00	1:00	Impact hammer No in-water work	36	Permanent		10,000m 10.000m	0% 0%	oc oc	1	SW SW	Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
11/10/2023		12:00	3:00	Impact hammer	36	Permanent		8,500m	0%	L/R/OC	1	SW	Station 2 Station 3	LT	NO SIGHTINGS											
11/10/2023	9:00	12:00	3:00	Impact hammer	36	Permanent		10,000m	0%	F/OC/SN	0	W	Station 4	GD	NO SIGHTINGS											
11/14/2023 11/14/2023		15:30 15:30	2:30	Vibratory/Impact Vibratory/Impact	36 36	Permanent Permanent		16,345m 16,000m	0%	S S	2	SW SW	Station 1 Station 2	LK IA	NO SIGHTINGS NO SIGHTINGS											
11/14/2023	13:00	15:30	2:30	Vibratory/Impact	36	Permanent	1	16,345m	0%	s	1	SW	Station 3	LT	NO SIGHTINGS											
11/14/2023	13:00 13:00	15:30 15:30	2:30	Vibratory/Impact Vibratory/Impact	36 36	Permanent Permanent		15,000m 15,000m	0% 0%	S	2	SW	Station 4 Station 4	JB IB	NONE	STSL	14:10 14:25	14:10 14:25	2	MI MI	G2 G2	1,900m 1,800m	N N	N	NONE NONE	Saw once
11/14/2023		16:30	3:30	Vibratory/Impact Drilling	36	Permanent		15,000m 9.000m	0%	PC/OC	1	SW	Station 4 Station 1	JB LK	NONE	SO		14:25	2	FO/MI	G2 G1	1,800m 600m	N N	N N	NONE	Nearshore together mostly on surface
11/17/2023		16:30	3:30	Drilling	36	Permanent		8,000m	0%	PC/OC	1	SW	Station 2	JA	NO SIGHTINGS											,
11/17/2023		16:00 16:30	3:00 0:30	Drilling No in-water work	36	Permanent			0% 0%	PC/OC PC/OC	1 2	SW SW	Station 3 Station 3	LT JB	NO SIGHTINGS NO SIGHTINGS											
11/17/2023		16:30	3:30	Drilling	36	Permanent		10,000m	0%	PC/OC	1	SW	Station 4	GD	NO SIGHTINGS											
11/28/2023	12:30	14:30	2:00	Drilling	36	Permanent	1	8,000m	0%	S/L/OC	0	None	Station 1	JB	Drilling	so	12:45	16:30	3	MI/FO	G1	700m	N	N	NONE	Stayed between 700 - 900m almost the entire PSO shift; still there when PSOs went
				-											_											off duty at 16:30
11/28/2023 11/28/2023		16:30 16:30	2:00 4:00	Drilling Drilling	36 36	Permanent Permanent		16,345m 10,000m	0% 0%	OC L/R/OC	0	None None	Station 1 Station 2	LK BW	NO SIGHTINGS NO SIGHTINGS											
11/28/2023		15:00	2:30	Drilling	36	Permanent	1	5,000m	0%	SN	0	None	Station 3	LT	NO SIGHTINGS											
11/28/2023		16:30	1:30	Drilling	36	Permanent		16,345m	0%	L/OC	0	None	Station 3	JB	NO SIGHTINGS											
11/28/2023 12/1/2023	12:30 13:30	16:30 16:30	4:00 3:00	Drilling Drilling	36 36	Permanent Permanent		8,000m 16,345m	0%	S/L/R/OC S	0	None SW	Station 4 Station 1	GD LK	NO SIGHTINGS Drilling	SO	14:10	14:15	1	MI/LO	F1	600m	N	N	NONE	Saw once for 5 minutes
12/1/2023	13:30	15:00	1:30	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 2	JB	NO SIGHTINGS	30	0			,	•					
12/1/2023 12/1/2023	15:00 16:00	16:00 16:30	1:00	Drilling No in-water work	36 36	Permanent Permanent		16,345m 16,345m	0% 0%	S	1	SW SW	Station 2 Station 2	BW JB	NO SIGHTINGS NO SIGHTINGS											
12/1/2023	13:30	16:30	3:00	No in-water work Drilling	36	Permanent Permanent	_	16,345m 16,345m	0%	5	1	SW	Station 2 Station 3	JB JA	NO SIGHTINGS NO SIGHTINGS											
12/1/2023	13:30	16:30	3:00	Drilling	36	Permanent	1	8,500m	0%	S	1	SW	Station 4	GD	NO SIGHTINGS											
12/2/2023 12/2/2023	9:30 10:30	10:30 15:30	1:00	No in-water work Impact hammer	36	Permanent		16,345m 16,345m	0% 0%	S S	0	None None	Station 1 Station 1	JB LK	NO SIGHTINGS NONE	so	12:10	13:15	2	MI/FO	F1	600m	N	N	NONE	Foraging frequently on surface
12/2/2023	9:30	12:30	3:00	Impact hammer	36	Permanent	1	16,345m	0%	s	0	None	Station 2	JA	NO SIGHTINGS	30	12.10	13.13	-	1411/10		000111			HOILE	Torogram requestry or surface
12/2/2023	12:30	13:30	1:00	No in-water work				16,345m	0%	S	0	None	Station 2	JB	NO SIGHTINGS											
12/2/2023 12/2/2023	13:30 9:30	15:30 11:00	2:00 1:30	No in-water work No in-water work				16,345m 16.345m	0% 0%	S S	0	None None	Station 2 Station 3	JA LT	NO SIGHTINGS NONE	so	10:10	10:35	2	MI	G2	2.000m	N	N	NONE	Surface a few times near each other
12/2/2023	11:00	12:00	1:00	Impact hammer	36	Permanent		16,345m	0%	S	0	None	Station 3	JB	NO SIGHTINGS											
12/2/2023	12:00 9:30	15:30 13:30	3:30 4:00	No in-water work	36	Permanent		16,345m 8.500m	0% 0%	S PC	0	None SW	Station 3 Station 4	LT BW	NO SIGHTINGS NO SIGHTINGS											
12/2/2023	13:30	15:30	2:00	No in-water work	30	remanent		8,500m	0%	PC	0	SW	Station 4	GD	NO SIGHTINGS											
12/3/2023	10:00	11:00	1:00	Drilling	36	Permanent		16,345m	0%	S	1	SW	Station 1	JB	NO SIGHTINGS											
12/3/2023	11:00 10:00	13:30 12:40	2:30	Drilling Drilling	36 36	Permanent Permanent		16,345m 16.345m	0% 0%	PC S	2	SW	Station 1 Station 2	LK IA	NO SIGHTINGS NO SIGHTINGS											
12/3/2023	12:40	13:30	0:50	No in-water work		remunent		16,345m	0%	S	1	SW	Station 2	JB	NO SIGHTINGS											
12/3/2023 12/3/2023	10:00 11:30	11:30 12:30	1:30	Drilling Drilling	36 36	Permanent		16,345m 16,345m	0% 0%	PC PC	2	SW SW	Station 3	LT	NONE NO SIGHTINGS	SO	10:23	10:30	1	MI	G2	2,000m	N	N	NONE	Floating around and diving
12/3/2023	12:30	13:30	1:00 1:00	No in-water work	30	Permanent		16,345m 16,345m	0%	S	1	SW	Station 3 Station 3	JB LT	NO SIGHTINGS											
12/3/2023	10:00	13:30	3:30	Drilling	36	Permanent		8,500m	0%	PC	0	SW	Station 4	GD	NO SIGHTINGS											
12/4/2023 12/4/2023	9:00 10:00	10:00 13:30	1:00 3:30	No in-water work Drilling	36	Permanent		16,345m 16,345m	0% 0%	OC L/R/OC	0	None SW	Station 1 Station 1	JB LK	NONE NONE	SO SO	9:15 10:00	10:00 11:00	2	MI/FO MI/FO	G1 G1	800m 800m	N N	N	NONE NONE	Near shore, mostly on surface Continuation of sighting above; two PSOs
12/4/2023	13:30	14:30	1:00	Drilling	36	Permanent		16,345m	0%	L/R/OC	0	SW	Station 1	JB	NO SIGHTINGS	30	10.00	11.00	2	WII/TO	01	800111		'	NONE	continuation of signting above, two roos
12/4/2023	14:30 9:00	16:00 10:30	1:30	Drilling	36	Permanent		16,345m	0%	oc	1	SW	Station 1	LK	NO SIGHTINGS											
12/4/2023 12/4/2023	10:30	11:30	1:30	No in-water work No in-water work				16,345m 16.345m	0% 0%	L I	0	SW SW	Station 2 Station 2	JA JB	NO SIGHTINGS NO SIGHTINGS											
12/4/2023	11:30	15:00	3:30	Drilling	36	Permanent	1	16,345m	0%	PC	1	SW	Station 2	JA	NO SIGHTINGS											
12/4/2023 12/4/2023	15:00 9:00	16:00 12:00	1:00 3:00	Drilling No in-water work	36	Permanent		16,345m 16,345m	0% 0%	OC OC/SN	1	SW None	Station 2 Station 3	JB LT	NO SIGHTINGS NONE	50	10:40	11.45	1	MI	G2	2,000m	N	N.	NONE	Seen multiple times in the same area
12/4/2023	12:00	13:00	1:00	Drilling	36	Permanent		16,345m 16,345m	0%	OC/SN	0	None	Station 3 Station 3	JB	NO SIGHTINGS	30	10.40	11.43	1	IVII	U2	2,000111	IN	IN	INUINE	seen multiple times in the same area
12/4/2023	13:00	16:00	3:00	Drilling	36	Permanent	1	16,345m	0%	oc	1	SW	Station 3	LT	NO SIGHTINGS											
12/4/2023 12/4/2023	9:00 12:30	12:30 13:30	3:30 1:00	No in-water work Drilling	36	Permanent	1	8,500m 8,500m	0% 0%	L/OC/SN OC	0	E E	Station 4 Station 4	GD BW	NO SIGHTINGS NO SIGHTINGS											
12/4/2023	13:30	16:00	2:30	Drilling	36	Permanent	1	8,500m	0%	oc	0	Ē	Station 4	GD	NO SIGHTINGS											
12/7/2023	10:00	11:00	1:00	Drilling	36	Permanent		16,345m	0%	S	1	SW	Station 1	JB	NO SIGHTINGS											
12/7/2023	11:00	14:30	3:30	Drilling	36	Permanent		,	0%	S	1	SW	Station 1	LK	Drilling	SO	11:10	14:30	2	MI	G1	800m	N	N	NONE	Two stayed in same area mostly on surface
12/7/2023	14:30 15:30	15:30 16:00	1:00	No in-water work No in-water work					0%	S	1	SW	Station 1	JB	NO SIGHTINGS NO SIGHTINGS											
12/7/2023 12/7/2023	10:00	16:00	0:30 3:00	No in-water work Drilling	36	Permanent		16,345m 16,345m	0% 0%	S S/PC	0	None SW	Station 1 Station 2	LK NS	NO SIGHTINGS NO SIGHTINGS											
12/7/2023	13:00	14:00	1:00	No in-water work				16,345m	0%	PC	0	None	Station 2	JB	NO SIGHTINGS											
12/7/2023	14:00 10:00	16:00 11:30	2:00 1:30	No in-water work Drilling	36	Permanent		16,345m 16.345m	0% 0%	OC PC	0	None None	Station 2 Station 3	NS LT	NO SIGHTINGS NO SIGHTINGS											
12/7/2023	11:00	12:30	1:30	Drilling	36	Permanent	1	16,345m	0%	PC	0	None	Station 3	JB	NO SIGHTINGS											
12/7/2023	12:30 15:35	15:35 16:00	3:05	Drilling	36	Permanent		16,345m	0%	OC PC/OC	0	SW	Station 3	LT	NONE	HSEA	13:40	13:55	1	MI	G2	2,000m	N	N	NONE	Surfaced a few times in same area
12/7/2023 12/7/2023	15:35	16:00	0:25 3:00	No in-water work Drilling	36	Permanent		16,345m 8,500m	0% 0%	PC/OC PC	0	None W	Station 3 Station 4	JB GD	NO SIGHTINGS NONE	SO	10:00	10:10	1	MI	G2	2.300m	N	N	NONE	
12/7/2023	13:00	14:00	1:00	No in-water work				8,500m	0%	ос	0	E	Station 4	JA	NO SIGHTINGS											
12/7/2023 1/4/2024	14:00 13:30	16:00 14:30	2:00 1:00	No in-water work No in-water work				8,500m 16,000m	0% 0%	L/OC/SN L/R/OC	0	E NE	Station 4 Station 1	GD JB	NO SIGHTINGS NO SIGHTINGS											
1/4/2024	14:30	16:00	1:30	Vibratory	36	Permanent		8,000m	0%	L/R	1	NE	Station 1	LK	NO SIGHTINGS											
1/4/2024	13:30	16:00	2:30	Vibratory	36	Permanent		15,000m	0%	L/OC	1	NE	Station 2	JA	NO SIGHTINGS											
1/4/2024 1/4/2024	13:30 13:30	16:00 16:00	2:30 2:30	Vibratory Vibratory	36 36	Permanent Permanent		16,345m 8,000m	0% 0%	PC/L/SN L/R/OC	0	NE E	Station 3 Station 4	LT GD	NO SIGHTINGS NO SIGHTINGS											
1/8/2024	9:30	11:00	1:30	Vibratory	36	Permanent	1	6,000m	0%	L/R/SN	0	None	Station 1	LK	NO SIGHTINGS											
1/8/2024 1/8/2024	9:30 9:30	11:00 11:00	1:30 1:30	Vibratory Vibratory	36 36	Permanent Permanent	1	6,000m 8,000m	0% 0%	L/R/SN L/SN	0	None None	Station 2 Station 3	JB LT	NO SIGHTINGS NO SIGHTINGS											
1/8/2024	9:30	11:00	1:30	Vibratory	36	Permanent		8,000m		L/OC/SN	0	SE	Station 4	GD	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	# of Pile	es Visibility	Glare	Weather	BSS	Wind/Swell Direction	Monitoring Location	PSO Initials	Construction at Time of Sighting	Species	Time Sighted	Time Left	Group Size	Behavior	Grid Map Location	Distance from Work	Take?	Resighting?	Mitigation	Notes
1/9/2024	15:00	16:15	1:15	Impact hammer	36	Permanent	1	16,345m	0%	S	1	SW	Station 1	LK	NO SIGHTINGS											
1/9/2024	15:00 15:00	16:15 16:15	1:15	Impact hammer	36 36	Permanent Permanent	1	16,345m 16.345m	0%	S S	1	SW	Station 2	JA	NO SIGHTINGS											
1/9/2024 1/9/2024	15:00	16:15	1:15 1:15	Impact hammer Impact hammer	36	Permanent	1	8,500m	0% 0%	5	1	SW SW	Station 3 Station 4	JB GD	NO SIGHTINGS NO SIGHTINGS											
1/11/2024	12:30	14:30	2:00	Impact hammer	36	Permanent	1	16,345m	0%	oc	1	NE	Station 1	LK	NO SIGHTINGS											
1/11/2024	12:30	14:30	2:00	Impact hammer	36	Permanent	1	16,345m	0%	ОС	1	NE	Station 2	JA	NO SIGHTINGS											
1/11/2024	12:30	14:30	2:00	Impact hammer	36	Permanent	1	16,345m	0%	oc	1	NE	Station 3	LT	NO SIGHTINGS											
1/11/2024	12:30 10:00	14:30 12:30	2:00	Impact hammer Vibratory/Impact	36 36	Permanent Permanent	1	8,500m 16.345m	0%	oc s	1	NE SW	Station 4 Station 1	GD IK	NO SIGHTINGS NO SIGHTINGS											
1/18/2024	10:00	12:30	2:30	Vibratory/Impact	36	Permanent	1	16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
1/18/2024	10:00	12:30	2:30	Vibratory/Impact	36	Permanent	1	16,345m	0%	S	0	SW	Station 3	LT	NO SIGHTINGS											
1/18/2024	10:00	12:30	2:30	Vibratory/Impact	36	Permanent	1	8,500m	0%	S	1	SW	Station 4	GD	NO SIGHTINGS											
1/19/2024 1/19/2024	9:30 10:30	10:30 13:30	1:00 3:00	Drilling Drilling/Vibratory	36 36	Permanent Permanent	1 2	16,345m 16.345m	0% 0%	S S	1	SW SW	Station 1 Station 1	JB LK	Drilling Drilling	SO SO	10:15 10:30	10:30 10:40	1	TR(W) TR(W)	G1 G1	700m 900m	N N	N	NONE NONE	Moving away from work site Continuation of sighting above; two PSOs
1/19/2024	13:30	14:30	1:00	No in-water work	30	remanent	-	16,345m	0%	S	1	SW	Station 1	JB	NO SIGHTINGS	30	10.50	10.40	1	IN(VV)	91	900111	IN	'	NONE	Continuation of signting above, two PSOS
1/19/2024	14:30	17:00	2:30	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 1	LK	NO SIGHTINGS											
1/19/2024	9:30	11:00	1:30	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
1/19/2024	11:00	12:00	1:00	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 2	JB	NO SIGHTINGS											
1/19/2024	12:00 14:00	14:00 17:00	2:00	Vibratory Drilling	36 36	Permanent Permanent	1	16,345m 16.345m	0%	S S	1	SW SW	Station 2 Station 2	JA NS	NO SIGHTINGS NO SIGHTINGS											
1/19/2024	9:30	12:00	2:30	Drilling	36	Permanent	1	16,345m	0%	S	0	None	Station 3	LT	Drilling	so	10:50	11:10	1	MI	G2	2,100m	N	Υ	None	Likely resighting of SO from Station 1
1/19/2024	12:00	13:00	1:00	Vibratory	36	Permanent	1	16,345m	0%	S	1	SW	Station 3	JB	NO SIGHTINGS							,				.,
1/19/2024	13:00	17:00	4:00	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 3	LT	NO SIGHTINGS											
1/19/2024	9:30 11:00	11:00 13:00	1:30	Drilling	36	Permanent	1	8,500m	0%	S	1	SW	Station 4	GD	NO SIGHTINGS											
1/19/2024 1/19/2024	13:00	16:00	2:00 3:00	Drilling/Vibratory Drilling	36 36	Permanent Permanent	1	8,500m 8,500m	0% 0%	S S	1	SW SW	Station 4 Station 4	NS GD	NO SIGHTINGS NO SIGHTINGS											
1/19/2024	16:00	17:00	1:00	Drilling	36	Permanent	1	8,500m	0%	5	1	SW	Station 4	IB.	NO SIGHTINGS											
1/20/2024	10:00	11:00	1:00	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 1	LT	NO SIGHTINGS											
1/20/2024	11:00	14:30	3:30	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 1	LK	Drilling	SO	11:16	12:10	1	TR(W)/FO	G1	700m	N	N	None	Foraging and moving west
1/20/2024	14:30	15:30	1:00	No in-water work				16,345m	0%	S	1	SW	Station 1	LT	NO SIGHTINGS											
1/20/2024 1/20/2024	10:00 11:30	11:30 12:30	1:30 1:00	Drilling Drilling	36 36	Permanent Permanent	1	16,345m 16,345m	0% 0%	S S	1	SW	Station 2 Station 2	JA LT	NO SIGHTINGS NO SIGHTINGS											
1/20/2024	12:30	15:30	3:00	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 2	JA	Drilling	so	12:45	12:45	2	MI	G2	2,200m	N	Υ	None	Resighting of SO seen by Pos 4 @ 12:20
1/20/2024	10:00	13:00	3:00	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 3	NS	NO SIGHTINGS							,				, , , ,
1/20/2024	13:00	14:00	1:00	Drilling	36	Permanent	1	16,345m	0%	S	1	SW	Station 3	LT	NO SIGHTINGS											
1/20/2024	14:00	15:30	1:30	No in-water work	26			16,345m	0%	S	1	SW	Station 3	NS	NO SIGHTINGS											
1/20/2024	10:00 11:00	11:00 12:00	1:00 1:00	Drilling Drilling	36 36	Permanent Permanent	1	8,500m 8,500m	0% 0%	S S	1	SW SW	Station 4 Station 4	GD JB	NO SIGHTINGS NO SIGHTINGS											
1/20/2024	12:00	15:30	3:30	Drilling	36	Permanent	1	8,500m	0%	S	1	SW	Station 4	GD	Drilling	so	12:20	12:45	2	MI	G2	1,800m	N	N	NONE	
2/19/2024	13:30	15:30	2:00	Impact hammer	36	Permanent	1	11,000m	0%	R	1	NE	Station 1	LK	NO SIGHTINGS											
2/19/2024	13:30	15:30	2:00	Impact hammer	36	Permanent	1	11,000m	0%	R	1	NE	Station 2	JA	NO SIGHTINGS											
2/19/2024 2/19/2024	13:30 13:30	15:30 15:30	2:00 2:00	Impact hammer	36 36	Permanent	1	11,000m 8.500m	0%	R	1	NE NE	Station 3	JB	NO SIGHTINGS											
2/19/2024	15:00	17:50	2:50	Impact hammer Vibratory	36	Permanent Temporary	5	15,000m	0%	R OC	1	NE NE	Station 4 Station 1	GD LK	NO SIGHTINGS Vibratory hammer	SO	15:45	16:10	1	TR(N)	F2	400m	N	N	NONE	Moving quickly north
2/21/2024	15:00	17:50	2:50	Vibratory	36	Temporary	5	16,000m	0%	oc	1	NE	Station 2	JA	NO SIGHTINGS	50	13.43	10.10	-	(,		400111		.,	110112	morning quickly morth
2/21/2024	15:00	17:50	2:50	Vibratory	36	Temporary	5	16,000m	0%	oc	1	NE	Station 3	JB	NO SIGHTINGS											
2/21/2024	15:00	17:50	2:50	Vibratory	36	Temporary	5	8,500m	0%	oc	1	NE	Station 4	GD	NO SIGHTINGS											
3/27/2024 3/27/2024	12:00 15:30	15:30 16:30	3:30 1:00	Vibratory No in-water work	36	Permanent	1	16,345m 16,345m	0% 0%	PC PC	1	SW SW	Station 1 Station 1	LK JB	None NO SIGHTINGS	SO	14:18	14:22	1	MI/FO	G2	1,800m	N	N	NONE	Moving slow along harbor
3/27/2024	16:30	19:00	2:30	Vibratory	36	Permanent	1	16,345m 16.345m	0%	PC PC	1	SW	Station 1 Station 1	LK	NO SIGHTINGS NO SIGHTINGS											
3/27/2024	12:00	12:30	0:30	No in-water work				15,000m	0%	oc	1	SW	Station 2	JA	NO SIGHTINGS											
3/27/2024	12:30	13:30	1:00	Vibratory	36	Permanent	1	16,345m	0%	S	1	SW	Station 2	JB	NO SIGHTINGS											
3/27/2024	13:30	17:00	3:30	No in-water work				16,345m	0%	S	1	SW	Station 2	JA	NO SIGHTINGS											
3/27/2024 3/27/2024	17:00 18:00	18:00 19:00	1:00 1:00	No in-water work Vibratory	36	Permanent	1	16,345m 16,345m	0% 0%	S S	1	SW SW	Station 2 Station 2	JB JA	NO SIGHTINGS NO SIGHTINGS											
3/27/2024	12:00	14:00	2:00	Vibratory	36	Permanent	1	16,345m 16,345m	0%	PC PC	1	SW	Station 2 Station 3	LT	NO SIGHTINGS NO SIGHTINGS											
3/27/2024	14:00	15:00	1:00	No in-water work	-	· crimanelle		16,345m	0%	PC	1	SW	Station 3	JB	NO SIGHTINGS											
3/27/2024	15:00	18:30	3:30	Vibratory	36	Permanent	1	16,345m	0%	PC	1	SW	Station 3	LT	NO SIGHTINGS											
3/27/2024	18:30	19:00	0:30	No in-water work	26			16,345m	0%	PC	1	SW	Station 3	JB	NO SIGHTINGS											
3/27/2024 3/27/2024	12:00 15:00	15:00 18:00	3:00 3:00	Vibratory No in-water work	36	Permanent	1	8,500m 8,500m	0%	PC S	0	W W	Station 4 Station 4	GD NS	NO SIGHTINGS NO SIGHTINGS											
3/27/2024	18:00	19:00	1:00	No in-water work Vibratory	36	Permanent	1	8,500m 8,500m	0%	S	0	w	Station 4 Station 4	GD GD	NO SIGHTINGS NO SIGHTINGS											
3/28/2024	18:00	20:00	2:00	Vibratory	36	Permanent	1	16,345m	0%	S	0	None	Station 1	LK	NO SIGHTINGS											
3/28/2024	18:00	20:00	2:00	Vibratory	36	Permanent	1	16,345m	0%	S	0	None	Station 2	JB	NO SIGHTINGS											
3/28/2024	18:00	20:00	2:00	Vibratory	36	Permanent	1	16,345m	0%	S	0	None	Station 3	LT	NO SIGHTINGS											
3/28/2024	18:00	20:00	2:00	Vibratory	36	Permanent	1	8,500m	0%	S	0	None	Station 4	GD	NO SIGHTINGS											

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	Notes
5/17/2023	15:04	15:10	0:06	Vibratory hammer	36	Temporary	#1
5/17/2023	15:30	15:40	0:10	Vibratory hammer	36	Temporary	#2
5/17/2023	17:07	17:15	0:08	Vibratory hammer	36	Temporary	#2; same pile as above
5/17/2023	17:25	17:36	0:11	Vibratory hammer	36	Temporary	#3
5/17/2023	17:39	17:42	0:03	Vibratory hammer	36	Temporary	#4
5/19/2023	12:40	12:50	0:10	Vibratory hammer	36	Temporary	
5/20/2023	14:46	16:10	1:24	Impact	36	Permanent	off and on impacting
5/22/2023	14:00	14:20	0:20	Vibratory hammer	36	Permanent	
5/22/2023	14:30	14:54	0:24	Vibratory hammer	36	Permanent	
5/22/2023	15:44	16:50	1:06	Vibratory hammer	36	Permanent	
5/23/2023	15:00	15:32	0:32	Vibratory hammer	36	Permanent	first 10 min on dry beach
5/23/2023	15:48	16:20	0:32	Vibratory hammer	36	Permanent	
5/23/2023	16:50	17:25	0:35	Vibratory hammer	36	Permanent	aff and an othing
5/24/2023	14:50 19:00	16:42 19:30	1:52 0:30	Vibratory hammer Impact hammer	36 48	Permanent Permanent	off and on vibing
5/24/2023 5/24/2023	16:46	17:25	0:39	Impact hammer	48	Permanent	same pile as above
5/24/2023	17:30	17:53	0:23	Impact hammer	48	Permanent	
5/24/2023	14:00	14:10	0:10	Vibratory hammer	48	Permanent	
5/24/2023	14:17	14:25	0:08	Vibratory hammer	48	Permanent	
5/24/2023	14:28	14:34	0:06	Vibratory hammer	48	Permanent	
5/24/2023	14:40	14:45	0:05	Vibratory hammer	48	Permanent	
5/24/2023	18:00	18:45	0:45	Vibratory hammer	36	Permanent	
5/25/2023	8:00	8:25	0:25	Impact hammer	36	Permanent	
5/25/2023	16:00	16:20	0:20	Impact hammer	36	Permanent	
5/25/2023	16:24	16:47	0:23	Impact hammer	36	Permanent	
5/25/2023	16:52	17:20	0:28	Impact hammer	36	Permanent	
5/25/2023	17:26	17:45	0:19	Impact hammer	36	Permanent	
5/25/2023	18:40	19:10	0:30	Vibratory hammer	36	Permanent	
5/25/2023	19:15	20:00	0:45	Vibratory hammer	36	Permanent	
5/30/2023	9:47	9:55	0:08	Impact hammer	36	Permanent	#1
5/30/2023	10:00	10:12	0:12	Impact hammer	36	Permanent	#2
5/30/2023	10:15	10:22	0:07	Impact hammer	36	Permanent	#3
5/30/2023	10:25	10:30	0:05 0:25	Impact hammer	36	Permanent	#4 #1
5/31/2023 5/31/2023	12:20 13:52	12:45 14:16	0:25	Impact hammer Impact hammer	48 48	Permanent Permanent	
5/31/2023	15:40	15:43	0:24	Impact hammer	48	Permanent	#1; same pile as above #2
5/31/2023	16:00	16:05	0:05	Impact hammer	48	Permanent	#3
5/31/2023	16:15	16:23	0:08	Impact hammer	48	Permanent	#3; same pile as above
5/31/2023	9:20	9:22	0:02	Impact hammer	36	Permanent	, μ
6/2/2023	12:30	12:33	0:03	Impact hammer	48	Permanent	
6/3/2023	15:50	16:20	0:30	Vibratory hammer	36	Temporary	
6/4/2023	13:45	22:00	8:15	Drilling	48	Permanent	
6/5/2023	17:02	17:03	0:01	Vibratory hammer	36	Temporary	#1
6/5/2023	17:22	17:31	0:09	Vibratory hammer	36	Temporary	#1; same pile as above
6/5/2023	17:46	18:13	0:27	Vibratory hammer	36	Temporary	#2
6/5/2023	15:30	17:45	2:15	Drilling	48	Permanent	off and on drilling; not during vibing
6/5/2023	11:30	12:43	1:13	Drilling	48	Permanent	
6/6/2023	16:13	16:16	0:03	Impact hammer	48	Permanent	
6/6/2023	15:30	15:57	0:27	Vibratory hammer	36 36	Temporary	26" #4
6/8/2023 6/8/2023	9:20	9:50	0:30 0:17	Vibratory hammer Impact hammer	36	Permanent Permanent	36" #1 36" #2
6/8/2023	15:40 11:18	15:57 11:25	0:17	Vibratory hammer	36	Permanent	36" #2
6/8/2023	15:15	15:25	0:10	Impact hammer	36	Permanent	36"#1
6/8/2023	10:00	10:50	0:50	Drilling	48	Permanent	48" #1
6/8/2023	11:40	15:00	3:20	Drilling	48	Permanent	48"#1
6/12/2023	16:30	16:40	0:10	Impact hammer	48	Permanent	R2-25
6/13/2023	19:35	20:00	0:25	Drilling	48	Permanent	R2-25
6/13/2023	15:55	16:00	0:05	Impact hammer	48	Permanent	R2-25
6/15/2023	8:53	8:56	0:03	Vibratory hammer	48	Permanent	R2-25
6/16/2023	16:46	17:12	0:26	Vibratory hammer	36	Temporary	
6/16/2023	17:27	17:42	0:15	Vibratory hammer	36	Temporary	
6/18/2023	13:04	13:25	0:21	Impact hammer	36	Permanent	A1-10
6/18/2023	12:35	12:54	0:19	Impact hammer	36	Permanent	A2-10
6/21/2023	16:50	17:10	0:20	Vibratory hammer	36	Temporary	
6/21/2023	18:43	18:50	0:07	Vibratory hammer	36	Temporary	
6/21/2023	19:15	19:25	0:10	Vibratory hammer	36	Temporary	
6/23/2023	16:00	16:17	0:17	Vibratory hammer	36 36	Permanent	A1-11
6/23/2023	17:20	17:25	0:05	Vibratory hammer	36	Permanent	A1-12

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	Notes
6/23/2023	15:11	15:35	0:24	Vibratory hammer	36	Permanent	A2-11
6/23/2023	16:26	16:48	0:22	Vibratory hammer	36	Permanent	A2-12
6/24/2023	10:30	10:53	0:23	Vibratory hammer	36	Permanent	A1-13
6/24/2023	11:07	11:25	0:18	Vibratory hammer	36	Permanent	A2-13
6/24/2023	13:10	17:20	4:10	Drilling	48	Permanent	R2-25
6/24/2023	8:40	8:45	0:05	Vibratory hammer	48	Permanent	R2-25
6/27/2023 6/27/2023	9:35 8:50	10:00 9:18	0:25 0:28	Impact hammer Impact hammer	36 36	Permanent	A1-11 A2-11
7/7/2023	17:04	17:38	0:34	Impact hammer	36	Permanent Permanent	A2-11 A1-12
7/7/2023	16:20	16:55	0:35	Impact hammer	36	Permanent	A2-12
7/7/2023	17:46	18:20	0:34	Impact hammer	36	Permanent	A2-13
7/7/2023	8:35	8:41	0:06	Vibratory hammer	48	Permanent	R1-25
7/8/2023	16:05	16:45	0:40	Impact hammer	36	Permanent	A1-13
7/8/2023	8:25	8:30	0:05	Impact hammer	36	Permanent	A2-13
7/10/2023	15:45	15:50	0:05	Vibratory hammer	48	Permanent	R3-25
7/11/2023	8:50	10:15	1:25	Drilling	48	Permanent	R3-25
7/13/2023	15:40	19:15	3:35	Drilling	48	Permanent	R3-25
7/14/2023 7/15/2023	12:30 9:35	15:45 9:43	3:15 0:08	Drilling Vibratory hammer	48 48	Permanent Permanent	R3-25 R3-25
7/13/2023	9:45	9:50	0:05	Vibratory hammer	48	Permanent	R3-26
7/17/2023	11:36	11:40	0:04	Vibratory hammer	48	Permanent	R3-26
7/17/2023	12:35	12:54	0:19	Vibratory hammer	48	Permanent	R3-26
7/18/2023	12:09	12:32	0:23	Vibratory hammer	36	Temporary	
7/18/2023	12:46	13:15	0:29	Vibratory hammer	36	Temporary	
7/18/2023	17:00	19:15	2:15	Vibratory hammer	36	Temporary	
7/18/2023	11:30	13:00	1:30	Vibratory hammer	36	Temporary	
7/18/2023	13:00	14:00	1:00	Vibratory hammer	36	Temporary	
7/19/2023	12:10	12:35	0:25	Vibratory hammer	36	Temporary	
7/19/2023	17:30	18:30	1:00	Vibratory hammer	36 36	Temporary	
7/19/2023 7/20/2023	18:30 10:30	19:15 14:50	0:45 4:20	Vibratory hammer  Drilling	36 48	Temporary Permanent	R3-26
7/20/2023	18:45	20:55	2:10	Drilling	48	Permanent	R3-26
7/21/2023	10:39	10:55	0:16	Vibratory hammer	36	Permanent	A1-15
7/21/2023	17:30	17:52	0:22	Vibratory hammer	36	Permanent	A1-15
7/21/2023	10:57	11:16	0:19	Vibratory hammer	36	Permanent	A2-15
7/21/2023	17:55	18:00	0:05	Vibratory hammer	36	Permanent	A2-15
7/21/2023	9:00	9:20	0:20	Drilling	48	Permanent	R3-26
7/22/2023	18:00	18:35	0:35	Impact hammer	36	Permanent	A1-15
7/22/2023	14:16	14:30	0:14	Vibratory hammer	36	Permanent	A1-16
7/22/2023	18:54 15:00	19:00	0:06 0:16	Impact hammer Vibratory hammer	36 36	Permanent	A1-17
7/22/2023 7/22/2023	17:00	15:16 17:10	0:10	Vibratory hammer	36	Permanent Permanent	A1-17 A1-17
7/22/2023	18:45	18:50	0:05	Impact hammer	36	Permanent	A2-17
7/22/2023	15:43	15:55	0:12	Vibratory hammer	36	Permanent	A2-17
7/22/2023	11:17	11:27	0:10	Vibratory hammer	48	Permanent	R3-26
7/23/2023	10:54	11:14	0:20	Vibratory hammer	36	Permanent	A2-16
7/23/2023	9:35	10:30	0:55	Drilling	48	Permanent	R3-26
7/23/2023	11:30	14:30	3:00	Drilling	48	Permanent	R3-26
7/24/2023	16:20	17:30	1:10	Impact hammer	36	Permanent	A1-16
7/24/2023	14:47	15:20	0:33	Impact hammer	36	Permanent	A2-15
7/24/2023	13:00	13:03	0:03	Vibratory hammer Impact hammer	48	Permanent Permanent	R3-26
7/25/2023 7/25/2023	14:30 15:20	14:35 16:09	0:05 0:49	Impact hammer	36 36	Permanent	A1-16 A1-17
7/25/2023	14:40	15:13	0:43	Impact hammer	36	Permanent	A2-16
7/25/2023	16:20	17:00	0:40	Impact hammer	36	Permanent	A2-17
7/25/2023	9:00	13:20	4:20	Drilling	48	Permanent	R3-26
8/1/2023	18:00	18:07	0:07	Impact hammer	36	Permanent	A1-14
8/1/2023	9:45	10:15	0:30	Vibratory hammer	36	Permanent	A1-14
8/1/2023	17:53	17:56	0:03	Impact hammer	36	Permanent	A2-14
8/1/2023	10:36	11:09	0:33	Vibratory hammer	36	Permanent	A2-14
8/1/2023	15:30	15:50	0:20	Vibratory hammer	36	Permanent	A2-17
8/1/2023	12:30	15:00	2:30	Drilling	48	Permanent	R1-26
8/2/2023 8/2/2023	17:30 11:50	17:45 12:00	0:15 0:10	Impact hammer Vibratory hammer	36 36	Permanent Permanent	A1-17 A1-17
8/2/2023	16:10	16:24	0:10	Vibratory hammer	36	Permanent	A1-17 A1-17
8/2/2023	9:20	9:53	0:33	Vibratory hammer	36	Permanent	A1-17 remove
8/2/2023	17:50	17:54	0:04	Impact hammer	36	Permanent	A2-17
8/2/2023	15:46	16:00	0:14	Vibratory hammer	36	Permanent	A2-17

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	Notes
8/3/2023	16:30	17:40	1:10	Impact hammer	36	Permanent	A1-17
8/3/2023	15:15	16:25	1:10	Impact hammer	36	Permanent	A2-17
8/4/2023	17:00	17:15	0:15	Vibratory hammer	36	Permanent	A1-16
8/4/2023	15:40	16:05	0:25	Vibratory hammer	36	Permanent	A2-16
8/4/2023	12:29	12:40	0:11	Vibratory hammer	36	Temporary	
8/4/2023	13:15	13:24	0:09	Vibratory hammer	36	Temporary	
8/4/2023	13:45	14:10	0:25	Vibratory hammer	36	Temporary	
8/4/2023 8/5/2023	14:30 17:50	14:45 18:10	0:15 0:20	Vibratory hammer Vibratory hammer	36 36	Temporary Permanent	A1-16
8/5/2023	18:20	18:32	0:20	Vibratory hammer	36	Permanent	A2-16
8/5/2023	19:20	19:45	0:25	Vibratory hammer	48	Permanent	R2-27
8/5/2023	19:50	20:00	0:10	Vibratory hammer	48	Permanent	R2-28
8/6/2023	9:00	9:35	0:35	Impact hammer	36	Permanent	A1-16
8/6/2023	8:30	8:53	0:23	Impact hammer	36	Permanent	A2-16
8/6/2023	15:37	16:17	0:40	Impact hammer	48	Permanent	R2-27
8/6/2023	15:00	15:17	0:17	Impact hammer	48	Permanent	R3-27
8/7/2023 8/7/2023	18:45 17:25	19:27 18:30	0:42 1:05	Impact hammer Impact hammer	36 36	Permanent Permanent	A1-16 A2-16
8/8/2023	15:55	16:45	0:50	Vibratory hammer	36	Permanent	A1-15; remove
8/8/2023	14:25	14:55	0:30	Vibratory hammer	36	Permanent	A2-15; remove
8/8/2023	10:37	11:00	0:23	Impact hammer	48	Permanent	R3-27
8/8/2023	9:00	9:35	0:35	Impact hammer	48	Permanent	R3-28
8/10/2023	10:15	11:28	1:13	Impact hammer	36	Permanent	A1-15
8/10/2023	8:35	9:47	1:12	Impact hammer	36	Permanent	A2-15
8/10/2023	17:05	19:00	1:55	Drilling Vibratory hammer	48	Permanent	R2-28
8/11/2023 8/11/2023	15:15 16:00	15:44 17:15	0:29 1:15	Drilling	36 48	Permanent Permanent	A1.5-14 R2-27
8/13/2023	16:20	17:10	0:40	Impact hammer	36	Permanent	A1.5-14
8/16/2023	17:22	17:25	0:03	Vibratory hammer	36	Temporary	7(1.5 14
8/16/2023	18:16	18:22	0:06	Vibratory hammer	36	Temporary	
8/17/2023	10:43	10:54	0:11	Vibratory hammer	36	Permanent	A2-14
8/17/2023	12:30	12:36	0:06	Vibratory hammer	36	Permanent	A2-14
8/18/2023	14:42	15:50	1:08	Vibratory hammer	36	Permanent	A2-14
8/18/2023	18:45	19:00	0:15	Vibratory hammer	36	Permanent	A2-14
8/18/2023 8/18/2023	10:35 16:30	13:40 18:00	3:05 1:30	Drilling Drilling	48 48	Permanent Permanent	R2-27 R2-28
8/19/2023	15:45	15:55	0:10	Impact hammer	36	Permanent	A2-14
8/19/2023	8:40	9:20	0:40	Vibratory hammer	36	Permanent	A2-14
8/19/2023	12:30	13:15	0:45	Vibratory hammer	36	Permanent	A2-14
8/19/2023	15:09	15:14	0:05	Vibratory hammer	48	Permanent	R2-27
8/19/2023	10:08	12:10	2:02	Drilling	48	Permanent	R2-28
8/20/2023	8:20	9:15	0:55	Impact hammer	36	Permanent	A2-14
8/20/2023 8/20/2023	9:50 14:40	12:00 18:20	2:10 3:40	Drilling Drilling	48 48	Permanent Permanent	R2-28 R2-28
8/21/2023	12:20	17:30	5:10	Drilling	48	Permanent	R2-27
8/21/2023	8:30	9:20	0:50	Drilling	48	Permanent	R2-28
8/21/2023	10:50	10:55	0:05	Vibratory hammer	36	Temporary	Remove
8/21/2023	11:32	11:34	0:02	Vibratory hammer	36	Temporary	Remove
8/21/2023	11:45	11:50	0:05	Vibratory hammer	36	Temporary	Remove
8/22/2023	8:40	17:10	8:30	Drilling	48	Permanent	R2-27
8/23/2023	14:10	19:15	5:05	Drilling	48	Permanent	R2-27
8/24/2023 8/25/2023	8:35 16:47	11:50 18:12	3:15 1:25	Drilling Drilling	48 48	Permanent Permanent	R2-27 R2-27
8/26/2023	9:30	15:15	5:45	Drilling	48	Permanent	R2-28
9/2/2023	9:45	11:30	1:45	Drilling	48	Permanent	R2-27
9/2/2023	13:45	18:20	4:35	Drilling	48	Permanent	R2-27
9/4/2023	11:10	17:10	6:00	Drilling	48	Permanent	R2-27
9/5/2023	11:30	12:30	1:00	Drilling	48	Permanent	R2-27
9/5/2023	13:40	13:48	0:08	Vibratory hammer	36 36	Temporary	
9/5/2023	13:55	14:04 14:46	0:09 0:26	Vibratory hammer Vibratory hammer	36 36	Temporary	
9/5/2023 9/5/2023	14:20 16:20	14:46	0:26	Vibratory nammer Vibratory hammer	36 36	Temporary Temporary	
9/5/2023	16:56	17:10	0:02	Vibratory hammer	36	Temporary	
9/5/2023	17:16	17:30	0:14	Vibratory hammer	36	Temporary	
9/7/2023	11:50	11:54	0:04	Vibratory hammer	36	Temporary	
9/7/2023	13:04	13:06	0:02	Vibratory hammer	36	Temporary	
9/8/2023	16:05	16:10	0:05	Vibratory hammer	48	Permanent	R2-27
9/8/2023	11:28	11:40	0:12	Vibratory hammer	36	Permanent	T3-19

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	Notes
9/8/2023	13:30	13:50	0:20	Vibratory hammer	36	Permanent	T3-19
9/8/2023	15:48	15:56	0:08	Vibratory hammer	36	Permanent	T3-19
9/9/2023	12:50	13:15	0:25	Impact hammer	48	Permanent	R2-27
9/9/2023	11:15	11:20	0:05	Vibratory hammer	48	Permanent	R2-27
9/9/2023	10:25	10:32	0:07	Vibratory hammer	36	Permanent	T2-19
9/9/2023	11:24	12:15	0:51	Impact hammer	36	Permanent	T3-19
9/9/2023	14:10	14:22	0:12	Impact hammer	36	Permanent	T3-19
9/11/2023	15:55	15:56	0:01	Impact hammer	36	Permanent	T3-20
9/12/2023 9/13/2023	9:00 17:10	11:40 17:30	2:40	Drilling	48 36	Permanent	R2-27
9/13/2023	9:00	11:45	0:20 2:45	Vibratory hammer Drilling	48	Permanent Permanent	T3-21 R2-27
9/14/2023	14:10	14:13	0:03	Impact hammer	48	Permanent	R2-27
9/14/2023	18:12	18:56	0:44	Impact hammer	36	Permanent	T3-21
9/15/2023	9:00	16:45	7:45	Drilling	48	Permanent	R2-27
9/16/2023	9:10	11:15	2:05	Drilling	48	Permanent	R2-27
9/18/2023	12:50	13:35	0:45	Impact hammer	36	Permanent	T2-20
9/19/2023	15:05	16:09	1:04	Impact hammer	36	Permanent	T2-20
9/21/2023	17:45	18:03	0:18	Vibratory hammer	48	Permanent	R1-27
9/21/2023	9:46	9:48	0:02	Impact hammer	36	Permanent	T2-19
9/21/2023	8:30	8:55	0:25	Impact hammer	36	Permanent	T3-20
9/22/2023	11:10	15:05	3:55	Drilling	48	Permanent	R2-28
9/22/2023	16:00	16:20	0:20	Impact hammer	36	Permanent	T3-19
9/22/2023	15:30	15:45	0:15	Vibratory hammer	36	Permanent	T3-19
9/23/2023	12:27	13:25	0:58	Impact hammer	36	Permanent	T3-19
9/25/2023	15:10	15:40	0:30	Impact hammer	36	Permanent	T2-18
9/25/2023	11:40	11:46	0:06	Vibratory hammer	36	Permanent	T2-18
9/25/2023	16:00	16:20	0:20	Impact hammer	36	Permanent	T3-18
9/25/2023	12:45 12:18	12:56 14:05	0:11 1:47	Vibratory hammer	36 36	Permanent	T3-18 T2-18
9/28/2023 9/28/2023	14:40	15:25	0:45	Impact hammer Impact hammer	36	Permanent Permanent	T2-19
9/28/2023	9:37	10:45	1:08	Impact hammer	36	Permanent	T3-18
9/29/2023	15:51	16:10	0:19	Impact hammer	48	Permanent	R1-28
9/30/2023	10:15	10:38	0:23	Drilling	48	Permanent	R1-28
9/30/2023	14:25	14:27	0:02	Impact hammer	48	Permanent	R1-28
10/1/2023	16:45	18:50	2:05	Drilling	48	Permanent	R1-28
10/2/2023	16:35	18:20	1:45	Drilling	48	Permanent	R1-28
10/3/2023	14:10	18:15	4:05	Drilling	48	Permanent	R1-28
10/3/2023	10:18	10:19	0:01	Impact hammer	36	Permanent	T2-18
10/3/2023	11:03	11:35	0:32	Impact hammer	36	Permanent	T3-18
10/3/2023	12:36	12:46	0:10	Impact hammer	36	Permanent	T3-19
10/4/2023	9:50	12:00	2:10	Drilling	48	Permanent	R1-28
10/6/2023	17:30	17:48	0:18	Impact hammer	48	Permanent	R1-27
10/6/2023	10:24	10:25	0:01	Impact hammer	36 36	Permanent	T1-18
10/6/2023 10/6/2023	10:40 10:50	10:41 10:51	0:01 0:01	Impact hammer Impact hammer	36 36	Permanent	T1-19 T2-19
10/6/2023	13:15	16:50	3:35	Drilling	48	Permanent Permanent	R1-27
10/10/2023	11:50	17:30	5:40	Drilling	48	Permanent	R1-27
10/15/2023	11:28	11:30	0:02	Vibratory hammer	36	Temporary	112.27
10/15/2023	11:50	12:05	0:15	Vibratory hammer	36	Temporary	
10/15/2023	12:11	12:14	0:03	Vibratory hammer	36	Temporary	
10/15/2023	12:21	12:24	0:03	Vibratory hammer	36	Temporary	
10/16/2023	12:15	12:22	0:07	Vibratory hammer	36	Temporary	
10/16/2023	13:07	13:10	0:03	Vibratory hammer	36	Temporary	
10/17/2023	11:50	11:55	0:05	Vibratory hammer	48	Permanent	R1-25
10/17/2023	17:10	17:15	0:05	Vibratory hammer	36	Permanent	T1-21
10/17/2023	9:30	9:40	0:10	Vibratory hammer	36	Temporary	
10/19/2023	10:10	10:21	0:11	Impact hammer	48	Permanent	R1-25
10/19/2023	11:31	11:40	0:09	Impact hammer	48	Permanent	R1-25
10/19/2023	10:50	11:20	0:30	Impact hammer	36 36	Permanent	T1-21
10/19/2023	11:55	12:15	0:20	Impact hammer	36 36	Permanent	T1-21
10/19/2023	15:50 12:45	16:26 14:50	0:36 2:05	Impact hammer Drilling	36 48	Permanent	T2-21 R1-25
10/20/2023 10/23/2023	15:30	17:22	1:52	Drilling	48	Permanent Permanent	R1-25
10/23/2023	11:01	11:05	0:04	Impact hammer	48	Permanent	R1-25
10/23/2023	14:50	14:55	0:05	Vibratory hammer	36	Permanent	T1-21
10/24/2023	10:10	13:20	3:10	Drilling	48	Permanent	R1-25
10/24/2023	17:00	17:20	0:20	Drilling	48	Permanent	R1-25
10/24/2023	16:05	16:14	0:09	Vibratory hammer	36	Permanent	T2-22

Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	Notes
10/25/2023	14:40	17:38	2:58	Impact hammer	36	Permanent	T2-22
10/26/2023	11:55	11:58	0:03	Vibratory hammer	36	Permanent	T3-22
10/26/2023	12:10	12:11	0:01	Vibratory hammer	36	Temporary	
10/26/2023	12:55	13:03	0:00	Vibratory hammer	36	Temporary	
10/26/2023	13:25	13:48	0:23	Vibratory hammer	36	Temporary	
10/26/2023	14:20	14:40	0:20	Vibratory hammer	36	Temporary	
10/27/2023	15:07	16:20	1:13	Impact hammer	36	Permanent	T3-22
10/28/2023	12:15	12:16	0:01	Impact hammer	36	Permanent	T2-22
10/28/2023	11:40	12:06	0:26	Impact hammer	36	Permanent	T3-22
10/29/2023	16:04	16:12	0:08	Vibratory hammer	36	Temporary	
10/29/2023	16:20	16:27	0:07	Vibratory hammer	36	Temporary	
10/29/2023	16:40	16:44	0:04	Vibratory hammer	36	Temporary	
11/1/2023	15:00	16:20	1:20	Impact hammer	36	Permanent	T2-23
11/1/2023	13:40	13:54	0:14	Vibratory Hammer	36	Permanent	T2-23
11/1/2023	16:00	16:45	0:45	Impact hammer	36	Permanent	T3-23
11/1/2023	14:10	14:30	0:20	Vibratory Hammer	36	Permanent	T3-23
11/3/2023	11:40	11:55	0:15	Impact hammer	36	Permanent	T3-23
11/3/2023	12:22	12:55	0:33	Impact hammer	36	Permanent	T3-23
11/4/2023	11:00	11:06	0:06	Vibratory hammer	36	Temporary	10 20
11/4/2023	12:30	12:36	0:06	Vibratory hammer	36	Temporary	
11/4/2023	12:40	12:45	0:05	Vibratory hammer	36	Temporary	
11/4/2023	13:07	13:10	0:03	Vibratory hammer	36	Temporary	
11/4/2023	13:38	13:44	0:06	Vibratory hammer	36	Temporary	
11/8/2023	9:35	9:48	0:13	Vibratory Hammer	36	Permanent	T3-24
11/10/2023	10:39	10:50	0:11	Impact hammer	36	Permanent	T3-24
11/14/2023	14:50	14:56	0:06	Impact hammer	36	Permanent	T2-24
11/14/2023	13:35	13:45	0:10	Vibratory Hammer	36	Permanent	T2-24
11/17/2023	13:50	16:00	2:10	Drilling	36	Permanent	T2-24
11/28/2023	13:10	15:55	2:45	Drilling	36	Permanent	T2-24
12/1/2023	14:00	16:00	2:00	Drilling	36	Permanent	T3-24
12/2/2023	11:23	11:28	0:05	Impact hammer	36	Permanent	T3-24
12/3/2023	10:50	12:11	1:21	Drilling	36	Permanent	T3-24
12/4/2023	12:46	15:20	2:34	Drilling	36	Permanent	T3-24
12/7/2023	10:40	12:50	2:10	Drilling	36	Permanent	T2-24
1/4/2024	14:50	15:15	0:25	Vibratory hammer	36	Permanent	T2-23
1/8/2024	10:00	10:08	0:08	Vibratory hammer	36	Permanent	T2-23
1/9/2024	15:30	15:35	0:05	Impact hammer	36	Permanent	T2-23
1/11/2024	13:15	13:38	0:23	Impact hammer	36	Permanent	T2-23
1/18/2024	11:40	11:56	0:16	Impact hammer	36	Permanent	T2-23
1/18/2024	10:35	10:45	0:10	Vibratory Hammer	36	Permanent	T2-23
1/19/2024	10:10	11:35	1:25	Drilling	36	Permanent	T2-23
1/19/2024	15:25	16:30	1:05	Drilling	36	Permanent	T2-23
1/19/2024	12:19	12:35	0:16	Vibratory hammer	36	Permanent	T2-23
1/20/2024	10:30	13:20	2:50	Drilling	36	Permanent	T2-23
2/19/2024	14:40	14:46	0:06	Impact hammer	36	Permanent	T2-23
2/21/2024	15:35	15:40	0:05	Vibratory hammer	36	Temporary	12 25
2/21/2024	15:50	16:04	0:14	Vibratory hammer	36	Temporary	
2/21/2024	16:08	16:16	0:08	Vibratory hammer	36	Temporary	
2/21/2024	16:18	16:20	0:08	Vibratory hammer	36	Temporary	
2/21/2024	17:09	17:20	0:02	Vibratory hammer	36	Temporary	
3/27/2024	18:08	18:09	0:01	Vibratory hammer	36	Permanent	T1-23
3/27/2024	12:40	12:42	0:01	Vibratory hammer	36	Permanent	T1-24
3/28/2024	19:05	19:30	0:25	Vibratory hammer	36	Permanent	T3-18
3/ 20/ 2024	15.05	15.50	0.23	vibratory mammer	50	remanent	13-10

Pile ID	Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	Total Time by Pile (Vibratory and DTH)		Average strikes per pile (Impacting)
A1.5-14	8/11/2023	15:15	15:44	0:29	Vibratory hammer	36	Permanent	0:29	Vib	(impacting)
A1.5-14	8/13/2023	16:20	17:00	0:40	Impact hammer	36	Permanent		Imp	1,200
A1-10	6/18/2023	13:04	13:25	0:21	Impact hammer	36	Permanent			
A1-11 A1-11	6/23/2023	16:00 9:35	16:17 10:00	0:17 0:25	Vibratory hammer Impact hammer	36 36	Permanent	0:17	Vib Imp	1,200
A1-11 A1-12	6/27/2024 6/23/2023	17:20	17:25	0:25	Vibratory hammer	36	Permanent Permanent	0:05	Vib	1,200
A1-12	7/7/2023	17:04	17:38	0:34	Impact hammer	36	Permanent		Imp	1,200
A1-13	6/24/2023	10:30	10:53	0:23	Vibratory hammer	36	Permanent	0:23	Vib	
A1-13	7/8/2023	16:05	16:45	0:40	Impact hammer	36	Permanent		Imp	1,200
A1-14 A1-14	8/1/2023 8/1/2023	18:00 9:45	18:07 10:15	0:07 0:30	Impact hammer Vibratory hammer	36 36	Permanent Permanent	0:30	Imp Vib	1,200
A1-15	7/21/2023	10:39	10:55	0:16	Vibratory hammer	36	Permanent	1:13	Vib	
A1-15	7/21/2023	17:30	17:52	0:22	Vibratory hammer	36	Permanent		imp	1,200
A1-15	7/22/2023	18:00	18:35	0:35	Impact hammer	36	Permanent			
A1-15; remove A1-15	8/8/2023 8/10/2023	15:55 10:15	16:45 11:28	0:50 1:13	Vibratory hammer Impact hammer	36 36	Permanent Permanent			
A1-15	7/22/2023	14:16	14:30	0:14	Vibratory hammer	36	Permanent	1:29	vib	
A1-16	7/24/2023	16:20	17:30	1:10	Impact hammer	36	Permanent		imp	1,200
A1-16	7/25/2023	14:30	14:35	0:05	Impact hammer	36	Permanent			
A1-16	8/4/2023	17:00	17:15	0:15	Vibratory hammer	36	Permanent			
A1-16 A1-16	8/5/2023 8/6/2023	17:50 9:00	18:10 9:35	0:20 0:35	Vibratory hammer Impact hammer	36 36	Permanent Permanent			
A1-16	8/7/2023	18:45	19:27	0:42	Impact hammer	36	Permanent			
A1-17	7/22/2023	18:54	19:00	0:06	Impact hammer	36	Permanent		Imp	1,200
A1-17	7/22/2023	15:00	15:16	0:16	Vibratory hammer	36	Permanent	2:13	Vib	
A1-17 A1-17	7/22/2023 7/25/2023	17:00 15:20	17:10 16:09	0:10 0:49	Vibratory hammer Impact hammer	36 36	Permanent Permanent			
A1-17 A1-17	8/2/2023	9:20	9:53	0:49	Vibratory hammer	36	Permanent			
A1-17	8/2/2023	17:30	17:45	0:15	Impact hammer	36	Permanent			
A1-17	8/2/2023	11:50	12:00	0:10	Vibratory hammer	36	Permanent			
A1-17	8/2/2023	16:10	16:24	0:14	Vibratory hammer	36	Permanent			
A1-17 A2-10	8/3/2023 6/18/2023	16:30 12:35	17:40 12:54	1:10 0:19	Impact hammer Impact hammer	36 36	Permanent Permanent		Imp	1,200
A2-11	6/23/2023	15:11	15:35	0:24	Vibratory hammer	36	Permanent	0:24	vib	1,200
A2-11	6/27/2024	8:50	9:18	0:28	Impact hammer	36	Permanent		Imp	1,200
A2-12	6/23/2023	16:26	16:48	0:22	Vibratory hammer	36	Permanent	0:22	Vib	
A2-12 A2-13	7/7/2023 6/24/2023	16:20 11:07	16:55 11:25	0:35 0:18	Impact hammer Vibratory hammer	36 36	Permanent Permanent	0:18	Imp Vib	1,200
A2-13 A2-13	7/7/2023	17:46	18:20	0:34	Impact hammer	36	Permanent	0.18	Imp	1,200
A2-13	7/8/2023	8:25	8:30	0:05	Impact hammer	36	Permanent			,
A2-14	8/1/2023	17:53	17:56	0:03	Impact hammer	36	Permanent		Imp	1,200
A2-14	8/1/2023	10:36	11:09	0:33	Vibratory hammer	36	Permanent	3:03	vib	
A2-14 A2-14	8/17/2023 8/17/2023	10:43 12:30	10:54 12:36	0:11 0:06	Vibratory hammer Vibratory hammer	36 36	Permanent Permanent			
A2-14 A2-14	8/18/2023	14:42	15:50	1:08	Vibratory hammer	36	Permanent			
A2-14	8/18/2023	18:45	19:00	0:15	Vibratory hammer	36	Permanent			
A2-14	8/19/2023	15:45	15:55	0:10	Impact hammer	36	Permanent			
A2-14	8/19/2023	8:40 12:30	9:20 13:15	0:40	Vibratory hammer Vibratory hammer	36 36	Permanent			
A2-14 A2-14	8/19/2023 8/20/2023	8:20	9:15	0:45 0:55	Impact hammer	36	Permanent Permanent			
A2-15	7/21/2023	10:57	11:16	0:19	Vibratory hammer	36	Permanent	0:57	Vib	
A2-15	7/21/2023	17:55	18:00	0:05	Vibratory hammer	36	Permanent			
A2-15	7/24/2023	14:47	15:20	0:33	Impact hammer	36	Permanent		Imp	1,200
A2-15; remove A2-15	8/8/2023 8/10/2023	14:25 8:35	14:55 9:47	0:30 1:12	Vibratory hammer Impact hammer	36 36	Permanent Permanent			
A2-15 A2-16	7/23/2023	10:54	11:14	0:20	Vibratory hammer	36	Permanent	1:18	Vib	
A2-16	7/25/2023	14:40	15:13	0:33	Impact hammer	36	Permanent		Imp	1,200
A2-16	8/4/2023	15:40	16:05	0:25	Vibratory hammer	36	Permanent			
A2-16	8/5/2023	18:20	18:32	0:12	Vibratory hammer	36 36	Permanent			
A2-16 A2-16	8/6/2023 8/7/2023	8:30 17:25	8:53 18:30	0:23 1:05	Impact hammer Impact hammer	36 36	Permanent Permanent			
A2-10 A2-17	7/22/2023	18:45	18:50	0:05	Impact hammer	36	Permanent		imp	1,200
A2-17	7/22/2023	15:43	15:55	0:12	Vibratory hammer	36	Permanent	1:12	vib	
A2-17	7/25/2023	16:20	17:00	0:40	Impact hammer	36	Permanent			
A2-17 A2-17	8/1/2023 8/2/2023	15:30 17:50	15:50 17:54	0:20 0:04	Vibratory hammer Impact hammer	36 36	Permanent Permanent			
A2-17 A2-17	8/2/2023	15:46	16:00	0:04	Vibratory hammer	36	Permanent			
A2-17	8/3/2023	15:15	16:25	1:10	Impact hammer	36	Permanent			
R1-25	7/7/2023	8:35	8:41	0:06	Vibratory hammer	48	Permanent	0:11	Vib	
R1-25 R1-25	10/17/2023 10/19/2023	11:50 10:10	11:55 10:21	0:05 0:11	Vibratory hammer Impact hammer	48 48	Permanent Permanent		imn	2,000
R1-25	10/19/2023	10:10	10:21	0:11	Impact nammer Impact hammer	48 48	Permanent Permanent		imp	2,000
R1-25	10/20/2023	12:45	14:50	2:05	Drilling	48	Permanent	mostly flushing		
R1-25	10/23/2023	15:30	17:22	1:52	Drilling	48	Permanent	5:06	DTH	
R1-25	10/23/2023	11:01	11:05	0:04	Impact hammer	48	Permanent			
R1-25 R1-25	10/24/2023 10/24/2023	10:10 17:00	13:20 17:20	3:10 0:20	Drilling Drilling	48 48	Permanent Permanent			
R1-26	8/1/2023	12:30	15:00	2:30	Drilling	48	Permanent	2:30	DTH	
R1-27	9/21/2023	17:45	18:03	0:18	Vibratory hammer	48	Permanent	0:18	vib	
R1-27	10/6/2023	17:30	17:48	0:18	Impact hammer	48	Permanent		Imp	2,000
R1-27	10/10/2023	13:15 11:50	16:50 17:30	3:35	Drilling Drilling	48 48	Permanent	9:15	DTH	
R1-27 R1-28	10/12/2023 9/29/2023	15:51	16:10	5:40 0:19	Impact hammer	48	Permanent Permanent		Imp	2,000
R1-28	9/30/2023	10:15	10:38	0:23	Drilling	48	Permanent	8:20	DTH	_,
R1-28	9/30/2023	14:25	14:27	0:02	Impact hammer	48	Permanent			
R1-28	10/1/2023	16:45	18:50	2:05	Drilling	48	Permanent			
R1-28 R1-28	10/2/2023 10/3/2023	16:35 14:10	18:20 18:15	1:45 4:05	Drilling Drilling	48 48	Permanent Permanent			
R1-28	10/3/2023	9:50	12:00	2:10	Drilling	48	Permanent			

Pile ID	Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	Total Time by Pile		Average strikes per pile
R2-25	6/12/2023	16:30	16:40	0:10	Impact hammer	48	Permanent	(Vibratory and DTH)	Imp	(Impacting) 2,000
R2-25	6/13/2023	19:35	20:00	0:25	Drilling	48	Permanent	0:30	DTh	2,000
R2-25	6/13/2023	15:55	16:00	0:05	Impact hammer	48	Permanent	0.50	D111	
R2-25	6/15/2023	8:53	8:56	0:03	Vibratory hammer	48	Permanent	4:13	vib	
R2-25	6/24/2023	13:10	17:20	4:10	Drilling	48	Permanent			
R2-25	6/24/2023	8:40	8:45	0:05	Vibratory hammer	48	Permanent			
R2-27	8/5/2023	19:20	19:45	0:25	Vibratory hammer	48	Permanent	5:25	vib	
R2-27	8/6/2023	15:37	16:17	0:40	Impact hammer	48	Permanent		imp	2,000
R2-27	8/11/2023	16:00	17:15	1:15	Drilling	48	Permanent	41:45:00	DTH	
R2-27	8/18/2023	10:35	13:40	3:05	Drilling	48	Permanent			
R2-27	8/19/2023	15:09	15:14	0:05	Vibratory hammer	48	Permanent			
R2-27	8/21/2023	12:20	17:30	5:10	Drilling	48	Permanent			
R2-27	8/22/2023	8:40	17:10	8:30	Drilling	48	Permanent			
R2-27	8/23/2023	14:10	19:15	5:05	Drilling	48	Permanent			
R2-27 R2-27	8/24/2023 8/25/2023	8:35 16:47	11:50 18:12	3:15 1:25	Drilling	48 48	Permanent			
R2-27	9/2/2023	9:45	11:30	1:45	Drilling Drilling	48	Permanent Permanent			
R2-27	9/2/2023	13:45	18:20	4:35	Drilling	48	Permanent			
R2-27	9/4/2023	11:10	17:10	6:00	Drilling	48	Permanent			
R2-27	9/5/2023	11:30	12:30	1:00	Drilling	48	Permanent			
R2-27	9/8/2023	16:05	16:10	0:05	Vibratory hammer	48	Permanent			
R2-27	9/9/2023	12:50	13:15	0:25	Impact hammer	48	Permanent			
R2-27	9/9/2023	11:15	11:20	0:05	Vibratory hammer	48	Permanent			
R2-27	9/12/2023	9:00	11:40	2:40	Drilling	48	Permanent			
R2-27	9/14/2023	9:00	11:45	2:45	Drilling	48	Permanent			
R2-27	9/14/2023	14:10	14:13	0:03	Impact hammer	48	Permanent			
R2-27	9/15/2023	9:00	16:45	7:45	Drilling	48	Permanent			
R2-27	9/16/2023	9:10	11:15	2:05	Drilling	48	Permanent			
R2-28	8/5/2023	19:50	20:00	0:10	Vibratory hammer	48	Permanent	0:10	VIb	
R2-28	8/10/2023	17:05	19:00	1:55	Drilling	48	Permanent	21:47	DTH	
R2-28	8/18/2023	16:30	18:00	1:30	Drilling	48	Permanent			
R2-28	8/19/2023	10:08	12:10	2:02	Drilling	48	Permanent			
R2-28	8/20/2023	9:50	12:00	2:10	Drilling	48	Permanent			
R2-28	8/20/2023	14:40	18:20	3:40	Drilling	48	Permanent			
R2-28	8/21/2023	8:30	9:20	0:50	Drilling	48	Permanent			
R2-28	8/26/2023	9:30	15:15	5:45	Drilling	48	Permanent			
R2-28	9/22/2023	11:10 15:45	15:05	3:55	Drilling Vibratory hammer	48 48	Permanent	1:30	Vib	
R3-25 R3-25	7/10/2023 7/11/2023	8:50	15:50 10:15	0:05 1:25	Vibratory hammer Drilling	48	Permanent Permanent	8:15	DTH	
R3-25	7/11/2023	15:40	19:15	3:35	Drilling	48	Permanent	0.13	DIII	
R3-25	7/13/2023	12:30	15:45	3:15	Drilling	48	Permanent			
R3-25	7/15/2023	9:35	9:43	0:08	Vibratory hammer	48	Permanent			
R3-26	7/20/2023	10:30	14:50	4:20	Drilling	48	Permanent	10:55	DTH	
R3-26	7/20/2023	18:45	20:55	2:10	Drilling	48	Permanent			
R3-26	7/21/2023	9:00	9:20	0:20	Drilling	48	Permanent			
R3-26	7/22/2023	11:17	11:27	0:10	Vibratory hammer	48	Permanent			
R3-26	7/23/2023	9:35	10:30	0:55	Drilling	48	Permanent			
R3-26	7/23/2023	11:30	14:30	3:00	Drilling	48	Permanent			
R3-26	7/24/2023	13:00	13:03	0:03	Vibratory hammer	48	Permanent			
R3-26	7/25/2023	9:00	13:20	4:20	Drilling	48	Permanent			
R3-26	7/17/253	9:45	9:50	0:05	Vibratory hammer	48	Permanent	1:08	Vib	
R3-26	7/17/253	11:36	11:40	0:04	Vibratory hammer	48	Permanent			
R3-26	7/17/253	12:35	12:54	0:19	Vibratory hammer	48	Permanent			
R3-27	8/6/2023	15:00	15:17	0:17	Impact hammer	48	Permanent		imp	2,000
R3-27	8/8/2023	10:37 9:00	11:00 9:35	0:23	Impact hammer	48 48	Permanent			2,000
R3-28	8/8/2023	10:24	10:25	0:35	Impact hammer	36	Permanent	0:01	imp	4,500
T1-18 T1-19	10/6/2023 10/6/2023	10:24	10:25	0:01 0:01	Impact hammer Impact hammer	36	Permanent Permanent	0:01	imp imp	4,300
T1-19 T1-21	10/6/2023	17:10	17:15	0:01	Vibratory hammer	36	Permanent	0:35	Vib	
T1-21	10/17/2023	10:50	11:20	0:30	Impact hammer	36	Permanent	0.55	imp	4,500
T1-21	10/19/2023	11:55	12:15	0:20	Impact hammer	36	Permanent		p	,,500
T1-21	10/23/2023	14:50	14:55	0:05	Vibratory hammer	36	Permanent			
T1-23	3/27/2024	18:08	18:09	0:01	Vibratory hammer	36	Permanent	0:01	vib	
T1-24	3/27/2024	12:40	12:42	0:02	Vibratory hammer	36	Permanent	0:02	vib	
T2-18	9/25/2023	15:10	15:40	0:30	Impact hammer	36	Permanent		imp	4,500
T2-18	9/25/2023	11:40	11:46	0:06	Vibratory hammer	36	Permanent	0:06	vib	
T2-18	9/28/2023	12:18	14:05	1:47	Impact hammer	36	Permanent			
T2-18	10/3/2023	10:18	10:19	0:01	Impact hammer	36	Permanent			
T2-19	9/9/2023	10:25	10:32	0:07	Vibratory hammer	36	Permanent	0:07	vib	
T2-19	9/21/2023	9:46	9:48	0:02	Impact hammer	36	Permanent		imp	4,500
T2-19	9/28/2023	14:40	15:25	0:45	Impact hammer	36	Permanent			
T2-19	10/6/2023	10:50	10:51	0:01	Impact hammer	36	Permanent			4.500
T2-20	9/18/2023	12:50	13:35	0:45	Impact hammer	36	Permanent		imp	4,500
T2-20	9/19/2023 10/19/2023	15:05 15:50	16:09 16:26	1:04 0:36	Impact hammer Impact hammer	36 36	Permanent		imp	4,500
T2-21 T2-22	10/19/2023	16:05	16:26	0:36	Vibratory hammer	36	Permanent	0:09	vib	4,500
T2-22 T2-22	10/25/2023	14:40	17:38	2:58	Impact hammer	36	Permanent Permanent	0.03	imp	4,500
T2-22	10/28/2023	12:15	12:16	0:01	Impact hammer	36	Permanent		ip	7,300
T2-23	11/1/2023	15:00	16:20	1:20	Impact hammer	36	Permanent		imp	4,500
T2-23	11/1/2023	13:40	13:54	0:14	Vibratory Hammer	36	Permanent	1:15	Vib	,,500
T2-23	1/4/2024	14:50	15:15	0:25	Vibratory hammer	36	Permanent	-		
T2-23	1/8/2024	10:00	10:08	0:08	Vibratory hammer	36	Permanent			
T2-23	1/9/2024	15:30	15:35	0:05	Impact hammer	36	Permanent			
T2-23	1/11/2024	13:15	13:38	0:23	Impact hammer	36	Permanent			
T2-23	1/18/2024	11:40	11:56	0:16	Impact hammer	36	Permanent			
T2-23	1/18/2024	10:35	10:45	0:10	Vibratory Hammer	36	Permanent			
T2-23	1/19/2024	10:10	11:35	1:25	Drilling	36	Permanent	2:46	DTH	
T2-23	1/19/2024	15:25	16:30	1:05	Drilling	36	Permanent			
T2-23	1/19/2024	12:19	12:35	0:16	Vibratory hammer	36	Permanent			

Pile ID	Date	Start Time	End Time	Total Time	Construction Type	Pile Size	Pile Type	Total Time by Pile (Vibratory and DTH)		Average strikes per pile (Impacting)
T2-23	1/20/2024	10:30	13:20	2:50	Drilling	36	Permanent			
T2-23	2/19/2024	14:40	14:46	0:06	Impact hammer	36	Permanent			
T2-24	11/14/2023	14:50	14:56	0:06	Impact hammer	36	Permanent		imp	1,200
T2-24	11/14/2023	13:35	13:45	0:10	Vibratory Hammer	36	Permanent	0:10	vib	
T2-24	11/17/2023	13:50	16:00	2:10	Drilling	36	Permanent	7:05	DTH	
T2-24	11/28/2023	13:10	15:55	2:45	Drilling	36	Permanent			
T2-24	12/7/2023	10:40	12:50	2:10	Drilling	36	Permanent			
T3-18	9/25/2023	16:00	16:20	0:20	Impact hammer	36	Permanent		imp	4,500
T3-18	9/25/2023	12:45	12:56	0:11	Vibratory hammer	36	Permanent	1:19	vib	
T3-18	9/28/2023	9:37	10:45	1:08	Impact hammer	36	Permanent			
T3-18	10/3/2023	11:03	11:35	0:32	Impact hammer	36	Permanent			
T3-18	3/28/2024	19:05	19:30	0:25	Vibratory hammer	36	Permanent			
T3-19	9/8/2023	11:28	11:40	0:12	Vibratory hammer	36	Permanent	1:31	vib	
T3-19	9/8/2023	13:30	13:50	0:20	Vibratory hammer	36	Permanent			
T3-19	9/8/2023	15:48	15:56	0:08	Vibratory hammer	36	Permanent			
T3-19	9/9/2023	11:24	12:15	0:51	Impact hammer	36	Permanent		imp	4,500
T3-19	9/9/2023	14:10	14:22	0:12	Impact hammer	36	Permanent			
T3-19	9/22/2023	16:00	16:20	0:20	Impact hammer	36	Permanent			
T3-19	9/22/2023	15:30	15:45	0:15	Vibratory hammer	36	Permanent			
T3-19	9/23/2023	12:27	13:25	0:58	Impact hammer	36	Permanent			
T3-19	10/3/2023	12:36	12:46	0:10	Impact hammer	36	Permanent			
T3-20	9/11/2023	15:55	15:56	0:01	Impact hammer	36	Permanent		imp	4,500
T3-20	9/21/2023	8:30	8:55	0:25	Impact hammer	36	Permanent			
T3-21	9/13/2023	17:10	17:30	0:20	Vibratory hammer	36	Permanent	0:20	vib	
T3-21	9/14/2023	18:12	18:56	0:44	Impact hammer	36	Permanent		imp	4,500
T3-22	10/26/2023	11:55	11:58	0:03	Vibratory hammer	36	Permanent	0:03	vib	
T3-22	10/27/2023	15:07	16:20	1:13	Impact hammer	36	Permanent	1:39	imp	4,500
T3-22	10/28/2023	11:40	12:06	0:26	Impact hammer	36	Permanent			
T3-23	11/1/2023	16:00	16:45	0:45	Impact hammer	36	Permanent		imp	4,500
T3-23	11/1/2023	14:10	14:30	0:20	Vibratory Hammer	36	Permanent	0:20	vib	
T3-23	11/3/2023	11:40	11:55	0:15	Impact hammer	36	Permanent			
T3-23	11/3/2023	12:22	12:55	0:33	Impact hammer	36	Permanent			
T3-24	11/8/2023	9:35	9:48	0:13	Vibratory Hammer	36	Permanent	0:13	vib	
T3-24	11/10/2023	10:39	10:50	0:11	Impact hammer	36	Permanent		imp	4,500
T3-24	12/1/2023	14:00	16:00	2:00	Drilling	36	Permanent	3:26	dth	
T3-24	12/2/2023	11:23	11:28	0:05	Impact hammer	36	Permanent			
T3-24	12/3/2023	10:50	12:11	1:21	Drilling	36	Permanent			
T3-24	12/4/2023	12:46	15:20	2:34	Drilling	36	Permanent			