
MARINE MAMMAL MONITORING REPORT

**Bangor Naval Base Explosives Handling Wharf (EHW-1) Pile Replacement
Project**

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INTRODUCTION

In 2021, Hamer Environmental was contracted by Contrack-Watts to conduct Marine Mammal Monitoring during vibratory and impact pile driving for the Explosives Handling Wharf-1 (EHW-1) Pile Replacement project at the Bangor Trident Naval Base located on the Hood Canal of Washington. Monitoring for Marine Mammals was required by the National Marine Fisheries Service (NMFS) during vibratory and impact pile driving activities for this project as part of an Incidental Harassment Authorization (IHA) authorized under the Marine Mammal Protection Act (MMPA). Further, the U.S. Navy (Navy) is authorized to take marine mammals incidental to construction activities at Naval Base Kitsap Bangor, Washington, subject to Regulations Governing the Taking of Marine Mammals incidental to US Navy Marine Structure Maintenance and Pile Replacement in Washington (50 CFR Part 218, Subpart C). Monitoring for Marine Mammals was conducted on 14 days between August 4 and October 11, 2021.

METHODS

Two Protected Species Observers (PSOs) were required to monitor for marine mammals during all vibratory pile installation activities. One PSO was positioned on the north end of the wharf adjacent to pile installation activities; the second PSO was positioned on the south end of the wharf adjacent to pile installation activities. For impact pile installation activities, a third PSO was stationed on a boat to search the monitoring zone more effectively; a total of three PSOs were required during impact driving activities. Each land-based PSO had an unobstructed view of the shutdown and monitoring zone. The boat-based PSO had an unobstructed view of the monitoring zone but could not view the shutdown zone through the covered structure partially enclosing the pile installation work area at EHW-1 and most of the shut-down zone. Monitoring began at least 15 minutes prior to the initiation of pile installation and continued until 30 minutes post-completion (Table 1 & 2, Figures 1 & 2).

If any marine mammals were present within or approaching the shutdown zone during this 15-minute monitoring period, pile installation was delayed until the marine mammal voluntarily left the shutdown zone for at least 15 minutes. If no marine mammals were seen during the 15-minute monitoring period or if more than 15 minutes had passed since a marine mammal was seen within or approaching the shutdown zone, pile installation was allowed to commence. If increased sea state conditions limited the observers' ability to see the shutdown and monitoring zones, pile installation was stopped until visibility improved. If foggy or other weather conditions limited the visibility of the PSO's, pile driving was allowed to commence as long as the PSO's could fully monitor the shutdown zone.

At the start of any impact work, American Construction employed a “soft start” technique, consisting of an initial set of three strikes at reduced energy and spaced 30 seconds apart, in order to allow marine mammals to vacate the area. Pile installation was stopped if a marine mammal approached or entered the shutdown zone. In the event of a shutdown of activity resulting from marine mammals in the shutdown zone, marine mammal behavior was monitored and documented until they left of their own

volution. Pile installation work would then be delayed until the marine mammal was visually confirmed to have voluntarily left the shutdown zone or if 15 minutes had passed without the animal being seen. All marine mammal detection information was recorded separately by each observer on a Marine Mammal Observation Record Form. Level A Take and Level B Harassment were recorded according to distance, species class, and activity type as described in the Letter of Authorization (LOA) dated June 2021, and in accordance with the MMPA.

Pile Driving Equipment and Methods Used

American Construction operated both vibratory and impact hammers for this project to install 16, 30-inch, steel piles. The vibratory hammer used was American Piledriving Equipment (APE) 200-6 hammer and the impact hammer used was a Delmag diesel D46-32 pile hammer. When utilizing the impact hammer, a bubble curtain was employed for sound attenuation purposes, detailed in the Sound Attenuation System Description as Appendix D. The bubble curtain was fit around each pile prior to initiating impact driving, ensuring:

- Air bubble distribution around the full pile perimeter for the full depth of the water column;
- Proper connection with the mudline for the full circumference of the bubble curtain ring; and
- Performance tests and inspections of the sound attenuation system met attenuation standards and Navy approval prior to initiating impact driving activities.

Piles were driven into a water depth of approximately 40 feet, variable due to the tidally influenced project site on Hood Canal. Piles were driven into substrate of approximately 40- to 50-foot depths, depending on the particular pile location and type (batter or plumb piles).

Table 1. Shutdown Zones for Marine Mammals during Project Activities (meters).

Activity	Low-Frequency Cetacean	Medium-Frequency Cetacean	High-Frequency Cetacean	Phocid Pinniped	Otariid Pinniped
30 in. Steel Pipe Impact Installation	740	630	630	160	10
30 in. Steel Pipe Pile Vibratory Installation	40	40	40	20	10

Table 2. Level B Harassment Monitoring Zones during Project Activities (meters).

Activity	Distance (m)
30 in. Steel Pipe Pile Impact Installation ¹	631
30 in. Steel Pipe Vibratory Installation ²	11,700

¹The Behavioral Disturbance Monitoring (Level B Harassment) Zone of 740 m was established to encompass the behavioral disturbance zone.

²The Behavioral Disturbance Monitoring (Level B Harassment) Zone was established to encompass as much of the behavioral disturbance zone that could be practicably monitored from PSO positions in Figure 2. All pile driving activity ceased when any cetacean was detected within the behavioral disturbance zone.

Figure 1. Monitoring Zone at EHW-1 for Impact Pile Installation of 30-inch Steel Piles with PSO Monitor Locations and Shutdown Zones (Navy, June 2021).

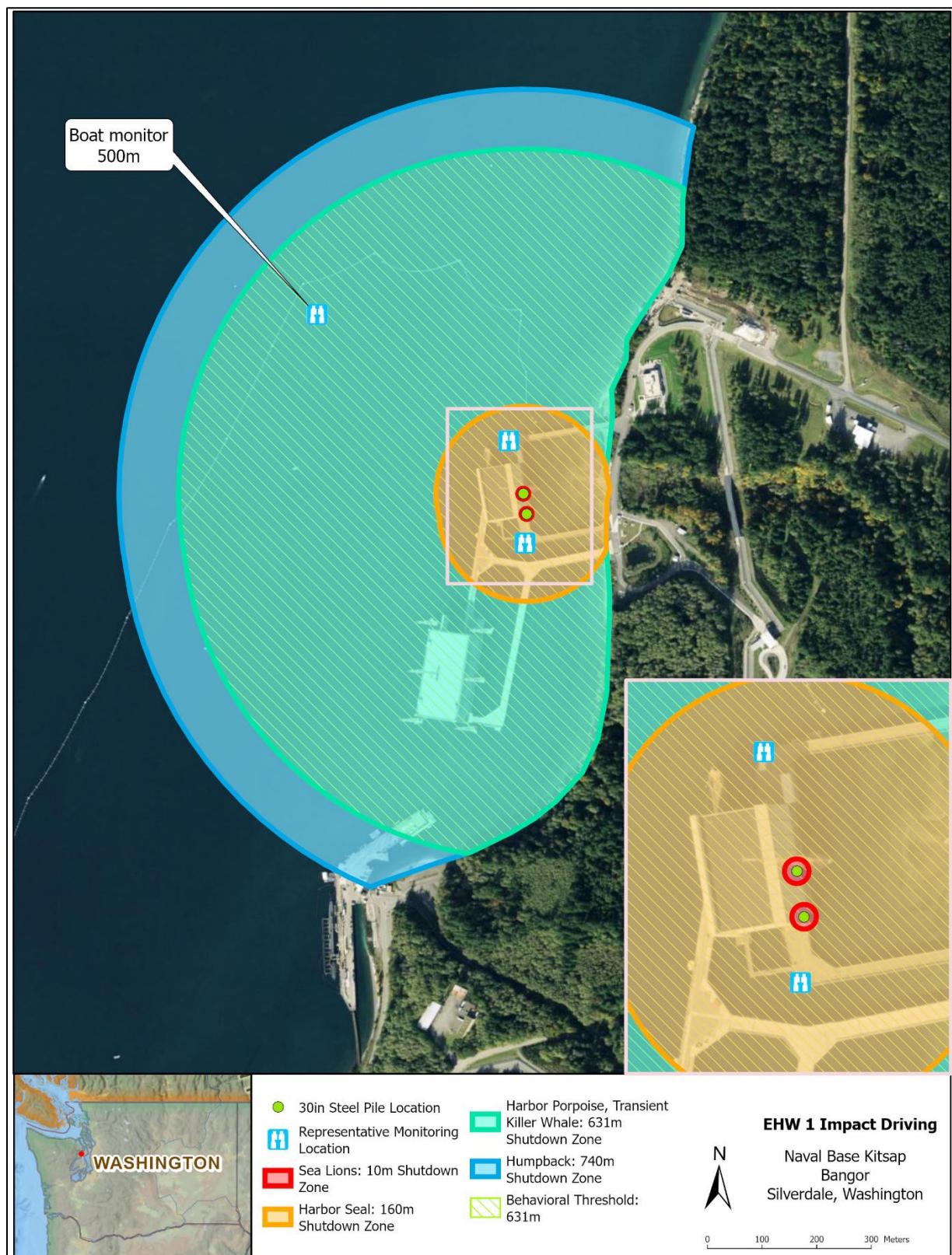
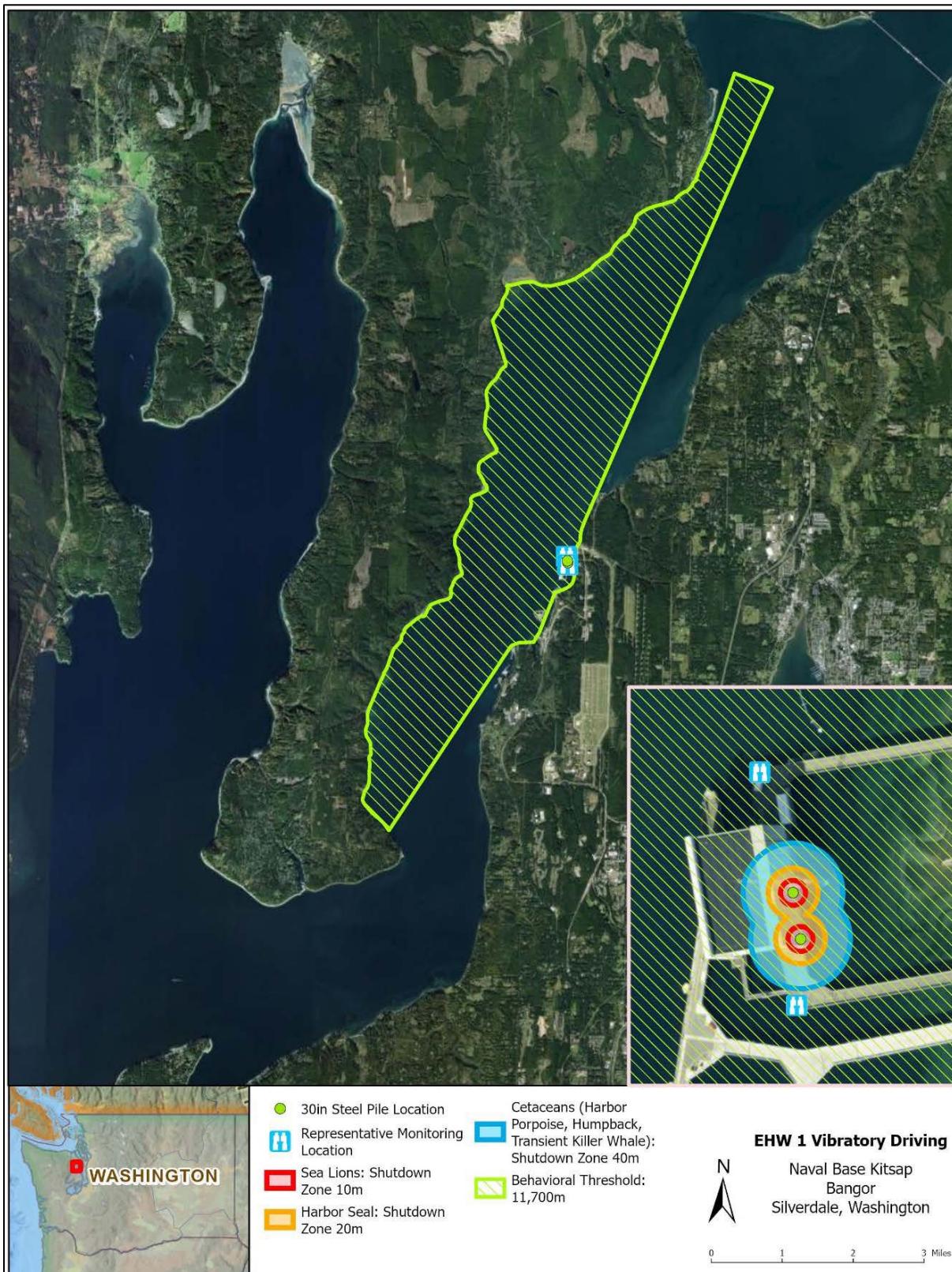


Figure 2. Monitoring Zone at EHW-1 for Vibratory Pile Installation of 30-inch Steel Piles with PSO Monitor Locations and Shutdown Zones (Navy, June 2021).



RESULTS

Marine mammal monitors were onsite for 14 days during the Project (Table 3). Vibratory work took place during 8 of those days, while impact pile installation took place on 6 days. Two additional days were precluded from impact work by delays throughout the full monitoring workday due to Harbor seals in the Shut-down Zone (160-m of pile driving location). A total of sixteen 30-inch steel piles were installed. No work was stopped due to poor visibility or other weather conditions that would preclude effective monitoring. Vibratory pile installation occurred for a total of 51 minutes over the 14 days of pile driving, while impact driving lasted for 39 minutes, for a total of 90 minutes of pile driving during the project (Appendix A).

Marine mammals recorded by observers included 497 detections and a total of 677 individuals. A detection constituted visually seeing one or more marine mammals of the same species interacting either on their own or in a group. Most detections were of single marine mammals, though pairs of adults, mom and calf, and small groups of Harbor seal calves were occasionally seen. Harbor seals were the most common species observed, accounting for 474 of all detections (95%) and a total of 633 individuals (94%), followed by California sea lions with 23 detections (5%) and 44 individuals (6%). Though not a marine mammal, River otter were occasionally observed, and 10 individuals were documented during the monitoring period. A detailed record of all marine mammals observed is found in Appendix B.

Work was regularly precluded from starting (or restarting) on impact driving workdays due to Harbor seals in the Shut-down Zone. Two monitoring days, September 2nd and September 17th, had no impact driving throughout the full workday due to mitigation delays from Harbor seals. Further, all six of the impact driving days had some portion of the workday delayed from impact driving due to Harbor seals in the Shut-down Zone for a total of 26 hours and 4 minutes of work delays over 8 monitoring workdays (Table 4). A total of 262 sightings of Harbor seals in the Shutdown Zone resulted in mitigation delaying onset of impact driving activities (Appendix B). Pile driving was delayed until either the animal was observed leaving the monitoring zone or at least 15 minutes had passed without the individual being seen. No work delays occurred during vibratory pile driving periods, due to the smaller, 20-m, Shut-down Zone for Harbor seals during vibratory activities. Harbor seals were regularly observed around the EHW-1 wharf area throughout the monitoring period but were especially prevalent August through mid-September, which coincides with the pupping season in Kitsap, King and Pierce Counties, Washington.

No instances of Level A Take were documented for any marine mammals during this project. Level B Take (harassment) was documented for 36 Harbor seals and 1 California sea lion and were well within authorized levels for Take (Tables 5 & 6).

Other human activities in the area during monitoring included: land-based demolition activities by Contrack Watts at EHW-1, regular personnel and occasional submarine use of adjacent EHW-2 pier,

and regular patrolling of the two wharfs and outer security fence by Navy Security boats with divers and trained sea lions and dolphins.

Table 3. Active Monitoring Times and Weather Conditions.

Date	Monitoring Times	Pile Driving	Visibility ¹	Weather Condition	Sea State & Wave Ht ²	Swell Direction ³	Beaufort Sea State ⁴
4-Aug	7:45-12:08, 13:10-14:55	Vibratory	Poor - Excellent	Fog - Sunny	Light	S - E	1 - 2
17-Aug	7:30-17:00	Vibratory	Moderate - Good	Overcast - Partly Cloudy	Light	NE - SE	1 - 2
18-Aug	9:55-13:15, 13:45-15:45	Vibratory	Good - Excellent	Sunny	Light	NE - S	1
1-Sep	7:30-12:45, 13:05-15:06	Vibratory	Good	Sunny	Light	NE - S	1 - 2
2-Sep	10:09-16:02	none (Impact)	Good	Sunny	Light	NE - N	1 - 2
13-Sep	7:33-11:34, 13:45-14:26	Vibratory	Good	Sunny	Light	N - W	1 - 2
14-Sep	8:42-16:06	Impact	Good	Partly Cloudy - Overcast	Light	NW	1 - 2
16-Sep	8:54-16:05	Impact	Good	Sunny	Light	W - NW	0 - 2
17-Sep	10:01-15:56	none (Impact)	Good	Overcast - Light Rain - Rain	Moderate	W - NW	1 - 2
23-Sep	7:54-8:54	Vibratory	Good	Overcast	Light	W - NW	0
27-Sep	9:14-14:04, 14:46-15:40	Impact	Good	Partly Cloudy	Light	W	1 - 2
28-Sep	8:20-10:28, 11:35-15:40	Vibratory, Impact	Good	Partly Cloudy - Overcast	Light	W	1
29-Sep	9:36-13:56	Impact	Good	Overcast	Light	SW	1 - 2
11-Oct	8:15-10:20, 10:46-11:57	Vibratory, Impact	Good	Partly Cloudy	Light	NW	0 - 1

¹Visibility: Bad (<0.5 km), Poor (0.5-1.5 km), Moderate (1.5-10 km), Good (10-15 km), Excellent (>15 km).

²Sea State and (Wave Height): Light (0-3 ft.), Moderate (4-6 ft), Heavy (> 6 ft).

³Swell Direction: Direction waves are coming from.

⁴Beaufort Sea State Scale: U.S. Navy Beaufort Sea State Codes (<https://www.wrh.noaa.gov/pqr/info/beaufort.php>).

Table 4. Work Delay Times due to Presence of Harbor Seal(s) in the 160-m Shut-down Zone.

Date	Time Period of Mitigation Delayed Start (Or Delayed Restart)	Daily Time Delayed (h:mm)
2-Sep	10:25-15:21	4:56
14-Sep	08:58 – 12:18, 13:36-14:15, 14:55-15:25	4:29
16-Sep	9:10-13:06, 13:11-13:26, 13:52-14:47	5:06
17-Sep	10:17 – 15:56	5:39
27-Sep	11:14-12:17, 9:54-10:27	1:36
28-Sep	12:00-12:23, 12:27-13:16	1:12
29-Sep	9:52– 11:36, 11:38-12:28, 12:56-13:12	2:50
11-Oct	10:56-11:12	0:16
Total Time Delayed		26:04

Table 5. Authorized and Total Take by Level A and Level B Harassment.

Species	Authorized Level A Take	Total Level A Take	Authorized Level B Take	Total Level B Take
Harbor Seal	119	0	4,680	36
California Sea Lion	0	0	5,831	1
Humpback whale	0	0	4	0
Minke whale	0	0	4	0
Gray whale	0	0	4	0
Killer whale (transient)	0	0	12	0
Killer whale (resident)	0	0	40	0

Species	Authorized Level A Take	Total Level A Take	Authorized Level B Take	Total Level B Take
Dall's porpoise	0	0	146	0
Harbor porpoise	0	0	2,142	0
Steller Sea Lion	0	0	357	0

Table 6. Level B Take – Harassment Detection Details by Sighting and Monitoring Day.

Level B Take CASL	HSEA	Mammal Species ¹	Date	Sighting #	Detection Details		Daily Total
					Observer ²	No. of Animals	
	1	HSEA	4-Aug	3	MP	1	
	1	HSEA	4-Aug	4	MP	1	
	1	HSEA	4-Aug	13	EC	1	
	2	HSEA	4-Aug	18	EC	2	5
	1	HSEA	17-Aug	2.2	EC	1	
	1	HSEA	17-Aug	1.1	EC	1	
	2	HSEA	17-Aug	3.5	EC	2	
	1	HSEA	17-Aug	13	EC	1	
	1	HSEA	17-Aug	14	EC	1	
	1	HSEA	17-Aug	3	EC	1	
	2	HSEA	17-Aug	4	MP	2	
	0	HSEA	17-Aug	4.1	MP	N/A	
	2	HSEA	17-Aug	5.2	MP	2	
	1	HSEA	17-Aug	10	MP	1	
	2	HSEA	17-Aug	13	MP	2	14
	1	HSEA	18-Aug	2.3	EC	1	
	1	HSEA	18-Aug	8	EC	1	
	2	HSEA	18-Aug	5	MP	2	4
	1	HSEA	1-Sep	1.3	CW	1	
	1	HSEA	1-Sep	2	CW	1	
	1	HSEA	1-Sep	3	CW	1	
	1	HSEA	1-Sep	5	CW	1	
	1	HSEA	1-Sep	6.1	CW	1	5
	1	HSEA	13-Sep	5	CW	1	
	1	HSEA	13-Sep	6	CW	1	
	1	HSEA	13-Sep	11	CW	1	3
	1	HSEA	14-Sep	8	SM	1	1

Level B Take		Mammal Species ¹	Date	Sighting #	Detection Details		No. of Animals	Daily Total
CASL	HSEA				Observer ²			
	1	HSEA	23-Sep	2	EC		1	
	1	HSEA	23-Sep	2	CW		1	2
	1	HSEA	28-Sep	5	MP		1	1
	1	HSEA	11-Oct	2	EC		1	
1		CASL	11-Oct	2	CW		1	2
1	36				All Level B Take, All Species:		37	

¹Mammal Species: HSEA (Harbor seal), CASL (California sea lion).

²Observer: CW (Case Wyatt), EC (Erin Colclazier), MP (Megan Pasternak), SM (Scott Markowitz).

REFERENCES

National Marine Fisheries Service. 2007. Marine Mammal Protection Act of 1972 as Amended.

US Navy. June 2021. Explosives Handling Wharf and Service Pier 2021-2022 Pile Replacement Projects; Final Marine Mammal Monitoring Plan – Marine Structure Maintenance and Pile Replacement Program. Navy Region Northwest. Silverdale, WA.

APPENDIX A: PILE INSTALLATION TIMES

Date	Pile Name	Time	Activity	Total Vibratory time	Total Impact Time
4-Aug	12S-plumb	08:21:13-08:22:19; 08:25:36-08:26:12	vibratory installation	22:30.0	
4-Aug	12N-plumb	08:42:44-08:46:11	vibratory installation		
4-Aug	14S-plumb	09:11:56-09:13:04; 09:15:25-09:17:37	vibratory installation		
4-Aug	14N-plumb	09:45:46-09:48:02	vibratory installation		
4-Aug	16S-plumb	11:11:10-11:14:50	vibratory installation		
4-Aug	16N-plumb	11:34:05-11:37:09	vibratory installation		
		14:04:21-14:04:38; 14:15:36-14:16:02;			
4-Aug	14N-batter	14:20:16-14:24:34	vibratory installation		
17-Aug	12S-plumb	08:25:22-08:27:14; 08:29:28-08:32:01; 08:35:22-08:48:02	vibratory installation	29:44.0	
17-Aug	12S-batter	09:14:48-09:14:52; 09:20:22-09:22:02	vibratory installation		
17-Aug	12N-plumb	09:23:21- 09:26:04	vibratory installation		
17-Aug	12N-batter	09:46:20-09:47:06; 09:49:12-09:54:10	vibratory installation		
17-Aug	14S-plumb	11:07:32-11:13:47; 11:14:46-11:19:16	vibratory installation		
17-Aug	14S-batter	11:29:03-11:32:14	vibratory installation		
17-Aug	14N-plumb	12:32:02-12:43:50	vibratory installation		
		14:50:01-14:51:16; 14:51:39-14:58:37; 15:01:16-15:04:01; 15:17:39-15:17:59; cut pile, 16:04:02-16:09:39; 16:10:06- 16:29:55			
17-Aug	16S-plumb		vibratory installation		
18-Aug	14N-batter	10:46:59-10:47:48; 10:48:41-10:52:06	vibratory installation	37:45.0	
		11:47:40-11:52:01; cut new attachment points on pile; 12:35:59-12:38:10; 12:41:15-12:43:16; break; 14:28:38- 14:49:26			
18-Aug	16S-plumb		vibratory installation		
18-Aug	16S-batter	15:01:39-15:02:48; 15:10:20-15:11:19; 15:11:54-15:13:56	vibratory installation		
1-Sep	16S-batter	8:27:24-8:37:08; 8:39:49-8:40:43; 8:46:20-8:47:36	vibratory installation	14:40.0	
1-Sep	16N-batter	9:19:51-9:22:28; 9:26:47-9:28:48; 9:37:26-9:42:26; 9:43:27-9:46:26	vibratory installation		
1-Sep	16S-plumb	9:49:40-9:54:27	vibratory installation		
1-Sep	14S-batter	11:13:42-11:17:53; 11:19:12-11:21:33; 11:22:26-11:29:19	vibratory installation		
1-Sep	14N-batter	12:05:20-12:14:52	vibratory installation		
1-Sep	12S-batter	13:25:31-13:38:18	vibratory installation		
1-Sep	10N-batter	14:05:16-14:10:02	vibratory installation		
1-Sep	10S-batter	14:24:45-14:26:36; 14:32:20-14:35:21	vibratory installation		
2-Sep	n/a	HSEA in shut-down zone, so no driving occurred 10:25-15:21	none (impact installation)		0

Date	Pile Name	Time	Activity	Total Vibratory time	Total Impact Time
13-Sep	12S-batter	08:22:31-8:23:41; 8:24:10-8:26:46; issue w/hammer power; 9:31:52-9:36:20; 9:37:56-9:44:28	vibratory installation	40:03.0	
13-Sep	10N-batter	10:18:52-10:25:04; 10:26:46-10:27:31	vibratory installation		
13-Sep	10S-batter	10:31:42-10:38:42	vibratory installation		
13-Sep	12N-batter	10:52:20-11:03:40	vibratory installation		
14-Sep	14N-plumb	(SS) 12:19:50-12:23:04; Impact: 12:27:16-12:27:41; 12:28:20 (1 hit); 12:30:21-12:42:46; issue with hammer; (SS, then impact) 14:17:10-14:28:55; issue with hammer; SS) 15:26:10 (1 light hit); issue with hammer; Harbor seals in the shut-down zone (160-meters) precluded impact driving from 08:58 – 12:18, 13:36-14:15, and 14:55-15:25. Then the impact hammer needed repair.	impact installation		33:35.0
16-Sep	14N-plumb	(SSI) 13:07:38, 13:08:46, 13:09:12 pause, then seal sighted so delayed; Impact: 13:26:53-13:29:18	impact installation		16:33.0
16-Sep	14S-batter	13:48:18-13:50:05	impact installation		
16-Sep	16S-plumb	(SS) 14:48:27-14:49:36, Impact: 14:49:56-15:02:38	impact installation		
16-Sep	16S-batter	15:24:57-15:25:15, 15:26:48-15:27:57, 15:33:21-15:34:36; Harbor seals in the shut-down zone (160-meters) precluded impact driving from 9:10-13:06, 13:11-13:26 and 13:52-14:47.	impact installation		
17-Sep	n/a	Harbor seals in the shut-down zone (160-meters) precluded impact driving from 10:17 – 15:56.	impact installation		0
23-Sep	10W-batter	08:17:25-8:18:48; 8:20:42-8:22:16	vibratory installation	02:57.0	
27-Sep	16N-plumb	(SS) 9:37:20, 9:38:06, 9:38:42. Impact: 9:39:16-9:39:42; 9:41:21-9:45:05	impact installation		15:57.0
27-Sep	16N-batter	(HSEA delay 9:54-10:27), (SS) 10:28:29, 10:30:31, 10:31:07. Impact: 10:32:15-10:34:31	impact installation		
27-Sep	12S-plumb	(HSEA delay 11:14-12:17) (SS) 12:17:22, 12:18:01, 12:18:43. Impact: 12:19:28-12:21:41	impact installation		
27-Sep	12S-batter	(SS) 12:57:38, 12:58:38, 12:59:10. Impact: 12:59:55-13:00:20	impact installation		
28-Sep	10SE-batter	9:49:33-9:52:21; 9:53:46-9:54:27; 9:55:32-9:57:05	vibratory installation	05:02.0	
28-Sep	10SE-batter	(SS): 11:55:43, 11:57:38 (HSEA delay 12:00-12:23) 12:24:21, 12:25:32, 12:26:10 (HSEA delay 12:27-13:16), 13:19:18,	impact installation		05:30.0

Date	Pile Name	Time	Activity	Total Vibratory time	Total Impact Time
		13:20:25, 13:21:25, Impact: 13:22:18-13:22:58			
28-Sep	10S-plumb	Impact: 13:35:55-13:36:47	impact installation		
28-Sep	12S-batter	(SS): 14:02:04 – no additional driving	impact installation		
29-Sep	12N-plumb	Harbor seals in the shut-down zone (160-meters) precluded impact driving from 09:52– 11:36, 11:38-12:27, and 12:56-13:12; (SS) 11:37:12, 11:37:52, Harbor seals sighted in shut-down, so delayed. (SS) 12:28:29, 12:29:31, 12:30:01. Impact: 12:30:39-12:31:20	impact installation		17:51.0
29-Sep	12N-batter	13:48:18-13:50:05	impact installation		
29-Sep	12S-batter	(SS) 14:48:27-14:49:36, Impact: 14:49:56-15:02:38	impact installation		
11-Oct	10SW-batter	8:32:20; 8:32:42-8:32:52, 8:33:09-8:33:16, 8:36:23; 8:36:55-8:42:48; 8:49:49, 8:51:22-8:53:05; 8:55:08-8:56:01 8:45:16-	vibratory installation	18:32.0	
11-Oct	10SE-batter	9:06:30-9:06:33, 9:07:01-9:07:05, 9:07:54-9:07:56, 9:08:22-9:08:24, 9:08:33-9:08:54, 9:11:05-9:11:08, 9:13:34-9:13:36, 9:15:32-9:16:50, 9:17:47-9:22:54, 9:32:15-9:32:51, 9:35:41-9:36:36, 9:39:06-9:39:47	vibratory installation		
11-Oct	10SE-batter	Harbor seal delay 10:56-11:12; (SS): 11:12:21, 11:17:03, 11:18:47, adjusted hammer, (SS continues) 11:21:07, 11:23:15, Impact: 11:25:11-11:26:14	impact installation		09:37.0
			Total Vibratory Time	51:13.0	
			Total Impact Time		39:03.0

APPENDIX B: MARINE MAMMAL OBSERVATIONS DURING BANGOR EHW-1 PILE REPLACEMENT PROJECT.

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
4-Aug	PRE	1	7:44	MP	HSEA	2	0	50	0	120	PRE	N	-	
4-Aug	EON	2	8:08	MP	HSEA	1	0	38	306	85	NONE	N	-	
4-Aug	EON	3	9:09-9:18	MP	HSEA	1	0	180	342	260	V	N	-	swimming to west
4-Aug	EON	4	9:17-9:22	MP	HSEA	1	0	100	354	100	V	N	-	stationary
4-Aug	EON	5	9:36-9:44	MP	HSEA	1	0	100	138	50	NONE	N	-	
4-Aug	EON	6	10:24-10:34	MP	HSEA	1	0	100	138	50	NONE	N	-	
4-Aug	EON	7	10:44-10:50	MP	HSEA	1	0	60	0	150	NONE	N	-	
4-Aug	EON	8	11:03-11:15	MP	HSEA	1	1	20	350	70	V	N	-	vibe on at 11:11 with calf under water - no reaction seen
4-Aug	EON	8.1	11:17-11:17	MP	HSEA	1	1	40	315	60	NONE	N	-	
4-Aug	PRE	11	7:46-7:47	EC	HSEA	1	0	15	175	48	PRE	N	-	
4-Aug	PRE	11.1	7:56-7:59	EC	HSEA	1	0	12	78	36	PRE	N	-	
4-Aug	PRE	11.2	8:10-8:18	EC	HSEA	1	0	16	50	47	PRE	N	-	
4-Aug	EON	12	8:51	EC	RIVO	1	0	80	26	50	NONE	N	-	
4-Aug	EON	13	9:16-9:16	EC	HSEA	1	0	56	70	40	V	N	-	far from vibe, no change in activity/behavior observed
4-Aug	EON	11.3	9:28-9:29	EC	HSEA	1	0	74	8	40	NONE	N	-	
4-Aug	EON	11.4	9:36-9:39	EC	HSEA	1	0	76	10	50	NONE	N	-	
4-Aug	EON	12.1	9:48-30-9:49	EC	HSEA	1	0	58	244	130	NONE	N	-	
4-Aug	EON	12.2	9:55	EC	HSEA	1	0	26	204	109	NONE	N	-	
4-Aug	EON	14	10:22	EC	HSEA	1	0	45	200	90	NONE	N	-	
4-Aug	EON	15	10:26	EC	HSEA	1	0	55	16	38	NONE	N	-	
4-Aug	EON	14.1	10:42	EC	HSEA	1	0	67	265	147	NONE	N	-	
4-Aug	EON	14.2	10:55-10:58	EC	HSEA	1	0	25	195	116	NONE	N	-	
4-Aug	EON	14.3	11:09	EC	HSEA	1	0	28	198	120	NONE	N	-	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
4-Aug	POST	16	11:58-12:03	EC	HSEA	1	0	39	6	73	POST	N	-	
4-Aug	EON	17	13:59	EC	HSEA	1	0	41	190	120	NONE	N	-	
4-Aug	EON	18	14:02-14:09	EC	HSEA	2	1	35	18	85	NONE	N	-	
4-Aug	EON	18.1	14:17-14:17	EC	HSEA	2	1	40	21	90	V	N	-	Mom guided calf away from pile driving and then both dove
4-Aug	EON	9	13:30-14:01	MP	HSEA	1	1	20	185	70	NONE	N	-	
4-Aug	EON	10	13:40-13:56	MP	HSEA	2	1	35	162	60	NONE	N	-	
17-Aug	PRE	1	7:31-7:52	EC	HSEA	1	0	20	128	87	PRE	N	-	
17-Aug	PRE	2	7:44-7:48	EC	HSEA	2	0	45	280	127	PRE	N	-	
17-Aug	PRE	3	7:56-8:02	EC	HSEA	2	1	80	13	48	PRE	N	-	
17-Aug	PRE	2.1	8:05-8:07	EC	HSEA	1	0	35	260	97	PRE	N	-	
17-Aug	EON	2.2	8:29	EC	HSEA	1	0	52	152	117	V	N	-	Swimming, traveling (S) away from pile driving
17-Aug	EON	4	9:07	EC	HSEA	1	0	37	308	100	NONE	N	-	
17-Aug	EON	1.1	9:24	EC	HSEA	1	0	45	162	108	NONE	N	-	
17-Aug	EON	5	9:39	EC	HSEA	1	0	29	252	91	NONE	N	-	
17-Aug	POST	6	10:08	EC	HSEA	1	0	23	18	42	POST	N	-	
17-Aug	POST	5.1	10:25	EC	HSEA	1	0	25	255	87	POST	N	-	
17-Aug	POST/PRE	3.1	10:29-10:32	EC	HSEA	2	1	34	2	96	POST	N	-	
17-Aug	PRE	7	10:39-10:41	EC	HSEA	1	0	22	350	60	PRE	N	-	
17-Aug	PRE	3.2	10:43-10:56	EC	HSEA	2	1	109	170	159	PRE	N	-	
17-Aug	PRE	8	10:46	EC	HSEA	1	0	53	72	109	PRE	N	-	
17-Aug	PRE	9	11:05	EC	HSEA	1	0	46	70	106	PRE	N	-	
17-Aug	EON	3.3	11:25-11:28	EC	HSEA	2	1	189	15	139	NONE	N	-	
17-Aug	EON	3.4	11:35	EC	HSEA	2	1	47	170	112	NONE	N	-	
17-Aug	EON	10	11:42	EC	HSEA	1	0	18	6	56	NONE	N	-	
17-Aug	EON	3.5	12:29-12:33	EC	HSEA	2	1	16	48	46	V	N	-	Milling then dove & swam away (S) when driving started

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17-Aug	POST	11	13:08	EC	HSEA	1	0	30	344	96	POST	N	-	
17-Aug	PRE	9.1	14:04	EC	HSEA	1	0	83	122	160	PRE	N	-	
17-Aug	PRE	12	14:41	EC	RIVO	1	0	45	133	149	PRE	N	-	
17-Aug	EON	13	14:48-14:50	EC	HSEA	1	0	36	153	96	V	N	-	Swimming, traveling (S)
17-Aug	EON	14	15:01	EC	HSEA	1	0	16	7	92	V	N	-	Swimming, dove, possibly calf without mom
17-Aug	EON	15	15:19	EC	HSEA	1	0	119	44	106	NONE	N	-	
17-Aug	PRE	1	7:37-7:39	MP	HSEA	1	0	100	32	220	PRE	N	-	
17-Aug	PRE	2	7:55-7:56	MP	HSEA	1	0	20	340	140	PRE	N	-	
17-Aug	EON	3	8:30-8:35	MP	HSEA	1	0	150	30	290	V	N	-	-
17-Aug	EON	4	8:43-8:46	MP	HSEA	2	1	15	10	140	V	N	-	Mom and calf
17-Aug	EON	4.1	8:47-8:48	MP	HSEA	2	1	30	38	150	V	N	-	Mom and calf
17-Aug	EON	4.2	8:50-8:52	MP	HSEA	2	1	35	60	160	NONE	N	-	
17-Aug	EON	4.3	8:55	MP	HSEA	2	1	60	180	50	NONE	N	-	
17-Aug	EON	5	8:59-9:03	MP	HSEA	1	0	40	270	60	NONE	N	-	
17-Aug	EON	5.1	9:10-9:12	MP	HSEA	2	1	20	275	95	NONE	N	-	
17-Aug	EON	6	9:18	MP	HSEA	1	0	60	40	190	NONE	N	-	
17-Aug	EON	5.2	9:22-9:26	MP	HSEA	2	1	30	280	130	V	N	-	no behavior changes during vibing
17-Aug	EON	7	9:35-9:38	MP	HSEA	1	0	40	170	35	NONE	N	-	
17-Aug	EON	8	9:45	MP	HSEA	1	0	80	160	60	NONE	N	-	
17-Aug	POST	9	10:10	MP	HSEA	1	0	30	155	70	POST	N	-	
17-Aug	PRE	4.4	11:05-11:07	MP	HSEA	2	1	100	182	80	PRE	N	-	
17-Aug	EON	10	11:31	MP	HSEA	1	0	30	305	120	V	N	-	-
17-Aug	EON	11	11:51	MP	HSEA	1	0	40	320	50	NONE	N	-	
17-Aug	EON	12	12:06	MP	HSEA	1	0	190	88	305	NONE	N	-	
17-Aug	EON	13	12:35	MP	HSEA	2	0	40	10	150	V	N	-	-
17-Aug	PRE	14	14:22-14:28	MP	RIVO	1	0	10	182	120	PRE	N	-	
18-Aug	PRE	1	10:26	EC	HSEA	1	1	22	343	56	PRE	N	-	

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18-Aug	PRE	1.1	10:36	EC	HSEA	1	1	19	9	53	PRE	N	-	
18-Aug	PRE	2	10:40	EC	HSEA	2	0	48	326	133	PRE	N	-	
18-Aug	EON	2.1	11:00-11:02	EC	HSEA	2	0	54	352	84	NONE	N	-	
18-Aug	EON	2.2	11:13	EC	HSEA	1	0	46	350	78	NONE	N	-	
18-Aug	EON	3	11:19	EC	HSEA	1	0	73	142	140	NONE	N	-	
18-Aug	EON	4	11:31	EC	HSEA	2	0	192	-	130	NONE	N	-	
18-Aug	EON	5	11:57-12:02	EC	HSEA	1	0	39	196	126	NONE	N	-	
18-Aug	EON	1.2	11:59	EC	HSEA	1	1	31	136	125	NONE	N	-	
18-Aug	EON	6	12:15-15:45	EC	CASL	3	0	630	274	690	NONE	N	-	
18-Aug	EON	2.3	12:36-12:39	EC	HSEA	1	0	58	354	98	V	N	-	
18-Aug	POST	1.3	12:51-12:54	EC	HSEA	2	1	200	28	170	NONE	N	-	
18-Aug	PRE	1.4	13:46	EC	HSEA	2	1	36	16	49	PRE	N	-	
18-Aug	PRE	7	14:04-14:05	EC	HSEA	1	0	41	329	129	PRE	N	-	
18-Aug	PRE	1.5	14:11	EC	HSEA	2	1	22	42	62	PRE	N	-	
18-Aug	EON	8	14:36	EC	HSEA	1	0	31	152	119	V	N	-	Swimming (S), looked, dove and swam (S) more quickly after vibing started
18-Aug	POST	8.1	15:25	EC	HSEA	1	0	21	180	86	POST	N	-	
18-Aug	PRE	1	10:15-10:16	MP	HSEA	1	1	15	5	140	PRE	N	-	
18-Aug	PRE	1.1	10:25	MP	HSEA	1	1	15	5	140	PRE	N	-	
18-Aug	PRE	2	10:31	MP	HSEA	1	?	37	320	140	PRE	N	-	Only saw head swimming beneath piles; unsure if adult or calf
18-Aug	PRE	1.2	10:41	MP	HSEA	1	1	50	350	160	PRE	N	-	
18-Aug	EON	1.3	10:45	MP	HSEA	2	1	45	270	90	NONE	N	-	
18-Aug	EON	3	11:11	MP	HSEA	1	?	50	240	60	NONE	N	-	Unknown if calf or adult
18-Aug	EON	4	11:26	MP	HSEA	1	0	35	300	85	NONE	N	-	
18-Aug	EON	5	11:37-11:48	MP	HSEA	2	1	60	280	70	NONE	N	-	
18-Aug	EON	6	12:20-12:22	MP	HSEA	1	0	40	220	80	NONE	N	-	
18-Aug	EON	7	12:25	MP	HSEA	1	1	30	350	95	NONE	N	-	

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18-Aug	POST	8	13:12	MP	HSEA	2	1	84	90	50	POST	N	-	
18-Aug	PRE	9	13:44-14:09	MP	HSEA	1	0	37	340	110	PRE	N	-	
18-Aug	PRE	10	14:19-14:21	MP	HSEA	1	0	40	85	110	PRE	N	-	
18-Aug	EON	11	14:50	MP	HSEA	1	0	35	5	120	NONE	N	-	
18-Aug	POST	12	15:33	MP	HSEA	1	0	35	10	135	POST	N	-	
18-Aug	POST	13	15:41	MP	HSEA	1	0	20	5	120	POST	N	-	
1-Sep	PRE	1	7:36	EC	HSEA	2	0	48	316	128	PRE	N	-	
1-Sep	PRE	2	7:44	EC	HSEA	2	1	50	318	130	PRE	N	-	
1-Sep	PRE	2.1	7:58-8:09	EC	HSEA	2	1	50	315	130	PRE	N	-	
1-Sep	EON	3	8:43	EC	HSEA	1	0	3	338	83	NONE	N	-	
1-Sep	EON	3.1	9:17	EC	HSEA	1	0	48	310	128	NONE	N	-	
1-Sep	EON	3.2	9:30	EC	HSEA	1	0	69	269	157	NONE	N	-	
1-Sep	EON	2.2	9:34-9:37	EC	HSEA	1	1	70	10	155	NONE	N	-	
1-Sep	EON	2.3	9:47	EC	HSEA	2	1	44	232	129	NONE	N	-	
1-Sep	POST	3.3	10:06	EC	HSEA	1	0	42	230	127	POST	N	-	
1-Sep	POST	2.4	10:17-10:27	EC	HSEA	2	1	50	221	135	POST	N	-	
1-Sep	PRE	2.5	10:51	EC	HSEA	1	1	47	228	120	PRE	N	-	
1-Sep	PRE	4	10:55	EC	CASL	2	0	360	226	440	PRE	N	-	
1-Sep	EON	2.6	11:52-11:57	EC	HSEA	1	1	22	216	86	NONE	N	-	
1-Sep	EON	3.4	12:15	EC	HSEA	1	0	46	12	120	NONE	N	-	
1-Sep	EON	5	14:11	EC	RIVO	1	0	38	2	86	NONE	N	-	
1-Sep	PRE	1	7:37-7:40	CW	HSEA	2	1	27	350	125	PRE	N	-	
1-Sep	PRE	1.1	8:10	CW	HSEA	2	1	15	320	90	PRE	N	-	
1-Sep	PRE	1.2	8:14-8:15	CW	HSEA	2	1	30	298	90	PRE	N	-	
1-Sep	EON	1.3	8:28	CW	HSEA	1	1	270	358	360	V	N	-	solo calf SW (NW) toward fence
1-Sep	EON	2	8:47	CW	HSEA	1	0	15	280	70	V	N	-	also seen by S pier monitor, dove
1-Sep	EON	3	9:24-9:29	CW	HSEA	1	1	25	120	85	NONE	N	-	

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1-Sep	EON	4	9:34-9:35	CW	HSEA	1	0	200	317	200	NONE	N	-	
1-Sep	EON	5	9:54-9:55	CW	HSEA	1	0	150	40	230	NONE	N	-	
1-Sep	POST	5.1	10:24	CW	HSEA	1	0	160	34	220	POST	N	-	
1-Sep	EON	6	11:57	CW	HSEA	1	1	30	298	90	NONE	N	-	
1-Sep	EON	6.1	12:04	CW	HSEA	1	1	20	50	85	V	N	-	surfaced, looked, dove
2-Sep	PRE	1	10:13-10:23	EC	HSEA	1	0	38	178	118	PRE	N	-	
2-Sep	PRE	2	10:25	EC	HSEA	1	0	76	214	152	PRE	N	-	
2-Sep	M-DE	3	10:30	EC	HSEA	1	0	35	198	113	NONE (I)	Y	DE	
3-Sep	M-DE	4	10:36	EC	HSEA	1	1	30	198	120	NONE (I)	Y	DE	
2-Sep	M-DE	1.1	10:40	EC	HSEA	1	0	56	344	90	NONE (I)	Y	DE	
2-Sep	M-DE	1.2	10:48	EC	HSEA	1	0	38	146	128	NONE (I)	Y	DE	
2-Sep	M-DE	2.1	10:49	EC	HSEA	2	0	50	318	120	NONE (I)	Y	DE	
2-Sep	M-DE	4.1	10:55	EC	HSEA	1	1	84	330	99	NONE (I)	Y	DE	
2-Sep	M-DE	2.2	10:58-11:02	EC	HSEA	2	0	34	236	112	NONE (I)	Y	DE	
2-Sep	M-DE	1.3	10:59	EC	HSEA	1	0	63	120	153	NONE (I)	Y	DE	
2-Sep	M-DE	5	11:20	EC	HSEA	1	0	63	40	123	NONE (I)	Y	DE	
2-Sep	M-DE	6	11:21	EC	HSEA	1	1	22	254	82	NONE (I)	Y	DE	
2-Sep	M-DE	4.2	11:31-11:55	EC	HSEA	1	1	52	174	137	NONE (I)	Y	DE	
2-Sep	M-DE	5.1	11:37-11:43	EC	HSEA	1	0	95	175	180	NONE (I)	Y	DE	
2-Sep	M-DE	6.1	11:46	EC	HSEA	1	0	30	254	115	NONE (I)	Y	DE	
2-Sep	M-DE	5.2	11:59	EC	HSEA	1	0	80	220	170	NONE (I)	Y	DE	
2-Sep	M-DE	7	12:05-12:07	EC	HSEA	1	0	87	323	127	NONE (I)	Y	DE	
2-Sep	M-DE	4.3	12:09	EC	HSEA	1	1	51	282	91	NONE (I)	Y	DE	
2-Sep	EON	8	12:19	EC	RIVO	1	0	90	14	60	NONE	N	-	
2-Sep	M-DE	7.1	12:37	EC	HSEA	1	0	85	14	60	NONE (I)	Y	DE	
2-Sep	M-DE	6.2	12:54	EC	HSEA	1	0	112	48	98	NONE (I)	Y	DE	
2-Sep	M-DE	7.2	13:05	EC	HSEA	1	0	90	15	60	NONE (I)	Y	DE	

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2-Sep	EON	9	13:25	EC	CASL	3	0	300	212	380	NONE	N	-	
2-Sep	M-DE	7.3	13:30	EC	HSEA	1	0	163	18	90	NONE (I)	Y	DE	
2-Sep	M-DE	10	14:17-14:19	EC	HSEA	3	?	60	44	40	NONE (I)	Y	DE	
2-Sep	M-DE	11	14:41-14:42	EC	HSEA	2	0	20	322	89	NONE (I)	Y	DE	
2-Sep	M-DE	12	14:58	EC	HSEA	1	0	22	333	90	NONE (I)	Y	DE	
2-Sep	PRE	1	1014-10:17	CW	HSEA	1	1	15	290	80	PRE	N	-	
2-Sep	M-DE	2	10:39-10:59	CW	HSEA	2	2	20	214	60	NONE (I)	Y	DE	
2-Sep	M-DE	3	10:56-11:04	CW	HSEA	2	0	39	314	90	NONE (I)	Y	DE	
2-Sep	M-DE	4	10:56	CW	HSEA	2	2	34	236	65	NONE (I)	Y	DE	
2-Sep	M-DE	5	11:15-11:17	CW	HSEA	1	0	35	239	43	NONE (I)	Y	DE	
2-Sep	M-DE	6	11:23	CW	HSEA	2	1	10	326	91	NONE (I)	Y	DE	
2-Sep	M-DE	7	11:32-11:48	CW	HSEA	4	2	30	315	90	NONE (I)	Y	DE	
2-Sep	M-DE	7.1	11:52-11:57	CW	HSEA	1	1	35	315	90	NONE (I)	Y	DE	
2-Sep	M-DE	8	11:54	CW	HSEA	1	0	50	358	14	NONE (I)	Y	DE	
2-Sep	M-DE	9	12:02-12:06	CW	HSEA	3	0	25	258	60	NONE (I)	Y	DE	
2-Sep	M-DE	9.1	12:12-12:14	CW	HSEA	1	0	47	274	70	NONE (I)	Y	DE	
2-Sep	M-DE	10	12:18-12:22	CW	HSEA	1	1	35	320	70	NONE (I)	Y	DE	
2-Sep	M-DE	11	12:26-12:32	CW	HSEA	3	0	47	256	65	NONE (I)	Y	DE	
2-Sep	M-DE	11.1	12:34-12:36	CW	HSEA	2	1	39	270	70	NONE (I)	Y	DE	
2-Sep	M-DE	11.2	12:40-12:46	CW	HSEA	2	0	44	220	70	NONE (I)	Y	DE	
2-Sep	M-DE	12	12:57-12:59	CW	HSEA	1	0	36	280	70	NONE (I)	Y	DE	
2-Sep	M-DE	12.1	13:01-13:06	CW	HSEA	2	0	27	270	60	NONE (I)	Y	DE	
2-Sep	M-DE	12.2	13:12	CW	HSEA	1	0	44	270	68	NONE (I)	Y	DE	
2-Sep	M-DE	13	13:19	CW	HSEA	1	0	45	240	57	NONE (I)	Y	DE	
2-Sep	M-DE	13.1	13:25-13:29	CW	HSEA	2	0	0	2	77	NONE (I)	Y	DE	
2-Sep	M-DE	14	13:39	CW	HSEA	1	0	44	256	70	NONE (I)	Y	DE	
2-Sep	M-DE	15	13:40-13:45	CW	HSEA	2	2	32	232	60	NONE (I)	Y	DE	

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2-Sep	M-DE	16	13:47	CW	HSEA	1	0	31	292	62	NONE (I)	Y	DE	
2-Sep	M-DE	15.1	13:57-13:59	CW	HSEA	2	2	32	232	60	NONE (I)	Y	DE	
2-Sep	M-DE	16.1	14:07	CW	HSEA	1	0	10	0	77	NONE (I)	Y	DE	
2-Sep	M-DE	17	14:12	CW	HSEA	1	0	44	263	70	NONE (I)	Y	DE	
2-Sep	M-DE	18	14:22	CW	HSEA	1	1	32	236	58	NONE (I)	Y	DE	
2-Sep	M-DE	19	14:38	CW	HSEA	2	0	20	0	76	NONE (I)	Y	DE	
2-Sep	EON	20	15:15	CW	RIVO	1	0	60	80	150	NONE	N	-	
2-Sep	M-DE	21	15:20-15:21	CW	HSEA	1	1	40	255	59	NONE (I)	Y	DE	
2-Sep	PRE	1	10:15-10:18	SM	HSEA	1	0	300	150	90	NONE	N	-	
2-Sep	PRE	2	10:23-10:24	SM	HSEA	1	0	300	84	60	NONE	N	-	
2-Sep	M-DE	1.1	10:46-10:49	SM	HSEA	1	0	330	126	70	NONE (I)	Y	DE	
2-Sep	M-DE	1.2	11:00-11:07	SM	HSEA	1	0	200	124	80	NONE (I)	Y	DE	
2-Sep	M-DE	3	11:17-11:22	SM	RIVO	1	0	75	56	55	NONE (I)	Y	DE	
2-Sep	M-DE	1.3	11:38-11:40	SM	HSEA	1	0	200	88	75	NONE (I)	Y	DE	
2-Sep	EON	4	11:59-12:01	SM	HSEA	2	0	30	90	280	NONE	N	-	
2-Sep	M-DE	1.4	12:18-12:27	SM	HSEA	1	0	180	158	160	NONE (I)	Y	DE	
2-Sep	M-DE	5	13:06-13:09	SM	HSEA	1	0	70	154	90	NONE (I)	Y	DE	
2-Sep	EON	6	13:23-13:24	SM	HSEA	1	0	50	58	180	NONE	N	-	
13-Sep	PRE	1	7:42-7:46	EC	HSEA	1	0	52	192	108	PRE	N	-	
13-Sep	PRE	2	7:55-7:58	EC	HSEA	2	0	58	122	98	PRE	N	-	
13-Sep	PRE	3	8:05	EC	HSEA	1	1	50	335	90	PRE	N	-	
13-Sep	PRE	2.1	8:17	EC	HSEA	2	0	56	120	96	PRE	N	-	
13-Sep	EON	2.2	9:56	EC	HSEA	2	0	206	226	264	NONE	N	-	
13-Sep	EON	4	9:59	EC	HSEA	1	0	38	190	94	NONE	N	-	
13-Sep	POST	5	11:34-14:26	EC	CASL	5	0	360	215	400	POST	N	-	
13-Sep	PRE	1	7:35	CW	HSEA	4	2	30	335	70	PRE	N	-	
13-Sep	PRE	2	7:36	CW	HSEA	1	1	150	48	100	PRE	N	-	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
13-Sep	PRE	1.1	7:47	CW	HSEA	2	0	15	340	70	PRE	N	-	
13-Sep	PRE	2.1	7:52-7:56	CW	HSEA	1	0	220	18	300	PRE	N	-	
13-Sep	PRE	3	7:59-8:09	CW	HSEA	2	1	30	60	130	PRE	N	-	
13-Sep	PRE	2.2	8:09-8:10	CW	HSEA	1	1	90	350	150	PRE	N	-	
13-Sep	PRE	4	8:12-8:15	CW	HSEA	2	1	35	308	75	PRE	N	-	
13-Sep	EON	5	8:22-8:226	CW	HSEA	1	1	60	332	150	V	N	-	milling off pier to NW
13-Sep	EON	6	8:25-8:27	CW	HSEA	1	0	120	32	250	V	N	-	Milling to north
13-Sep	EON	6.1	8:35-8:37	CW	HSEA	1	0	200	38	320	NONE	N	-	
13-Sep	EON	7	8:47	CW	HSEA	1	0	130	22	260	NONE	N	-	
13-Sep	EON	8	8:52	CW	HSEA	1	0	65	318	100	NONE	N	-	
13-Sep	EON	9	9:20	CW	HSEA	1	0	60	308	95	NONE	N	-	
13-Sep	EON	10	9:58	CW	HSEA	1	0	190	152	100	NONE	N	-	
13-Sep	EON	11	10:34	CW	CASL	1	0	180	40	300	V	N	-	Traveling (SW) surfacing every ~100 m
14-Sep	PRE	1	8:45	EC	RIVO	1	0	55	300	95	PRE	N	-	
14-Sep	PRE	2	8:45	EC	HSEA	1	0	40	320	85	PRE	N	-	
14-Sep	PRE	3	8:46	EC	HSEA	1	0	38	22	108	PRE	N	-	
14-Sep	M-DE	2.1	9:02-9:09	EC	HSEA	1	0	48	310	118	NONE (I)	Y	DE	
14-Sep	EON	4	9:05	EC	CASL	3	0	360	215	440	NONE	N	-	
14-Sep	EON	1.1	9:14-9:37	EC	RIVO	1	0	65	310	75	NONE	N	-	
14-Sep	M-DE	5	9:18	EC	HSEA	2	1	65	310	75	NONE (I)	Y	DE	
14-Sep	M-DE	5.1	9:21-9:24	EC	HSEA	2	1	49	278	127	NONE (I)	Y	DE	
14-Sep	M-DE	5.2	9:32-9:50	EC	HSEA	2	1	45	276	125	NONE (I)	Y	DE	
14-Sep	M-DE	6	9:56-10:15	EC	HSEA	1	1	46	158	110	NONE (I)	Y	DE	
14-Sep	M-DE	5.3	10:03	EC	HSEA	1	0	50	332	100	NONE (I)	Y	DE	
14-Sep	M-DE	7	10:11	EC	HSEA	1	0	32	67	35	NONE (I)	Y	DE	
14-Sep	M-DE	8	10:11-10:22	EC	HSEA	1	0	48	181	110	NONE (I)	Y	DE	
14-Sep	M-DE	9	10:22	EC	HSEA	1	0	58	148	118	NONE (I)	Y	DE	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
14-Sep	M-DE	10	10:33-10:35	EC	HSEA	1	0	187	18	106	NONE (I)	Y	DE	
14-Sep	M-DE	6.1	10:35-10:42	EC	HSEA	1	1	45	155	110	NONE (I)	Y	DE	
14-Sep	M-DE	11	10:49-10:59	EC	HSEA	1	0	66	244	136	NONE (I)	Y	DE	
14-Sep	M-DE	12	10:51-10:52	EC	HSEA	1	0	75	352	70	NONE (I)	Y	DE	
14-Sep	M-DE	10.1	11:20	EC	HSEA	1	0	150	19	100	NONE (I)	Y	DE	
14-Sep	M-DE	11.1	11:39	EC	HSEA	1	0	64	242	134	NONE (I)	Y	DE	
14-Sep	M-DE	11.2	11:46-11:56	EC	HSEA	1	0	46	181	112	NONE (I)	Y	DE	
14-Sep	M-DE	13	12:03	EC	HSEA	1	0	50	356	68	NONE (I)	Y	DE	
14-Sep	M-DE	6.2	13:14	EC	HSEA	1	0	36	247	106	NONE (I)	Y	DE	
14-Sep	M-DE	14	14:55	EC	CASL	5	0	350	335	410	NONE (I)	Y	DE	
14-Sep	PRE	1	8:43	CW	HSEA	1	0	35	290	70	NONE	N	-	
14-Sep	PRE	2	8:48	CW	HSEA	1	0	95	306	130	NONE	N	-	
14-Sep	PRE	3	8:52-8:53	CW	HSEA	1	0	32	300	70	NONE	N	-	
14-Sep	PRE	3.1	8:55	CW	HSEA	1	0	35	252	50	NONE	N	-	
14-Sep	M-DE	4	9:02-9:06	CW	HSEA	2	0	50	18	140	NONE (I)	Y	DE	
14-Sep	M-DE	5	9:02	CW	HSEA	2	2	32	286	50	NONE (I)	Y	DE	
14-Sep	M-DE	6	9:08-9:15	CW	HSEA	4	2	35	300	80	NONE (I)	Y	DE	
14-Sep	M-DE	6.1	9:22-9:24	CW	HSEA	4	2	35	304	80	NONE (I)	Y	DE	
14-Sep	M-DE	6.2	9:28-9:33	CW	HSEA	4	2	32	277	75	NONE (I)	Y	DE	
14-Sep	M-DE	6.3	9:35-9:40	CW	HSEA	3	2	5	305	95	NONE (I)	Y	DE	
14-Sep	M-DE	6.4	9:42-9:48	CW	HSEA	4	2	15	283	80	NONE (I)	Y	DE	
14-Sep	M-DE	7	9:57-10:04	CW	HSEA	4	2	35	305	90	NONE (I)	Y	DE	
14-Sep	M-DE	8	10:07	CW	HSEA	2	1	35	300	90	NONE (I)	Y	DE	
14-Sep	M-DE	9	10:12	CW	HSEA	4	2	35	318	90	NONE (I)	Y	DE	
14-Sep	M-DE	10	10:14-10:20	CW	HSEA	2	1	50	25	140	NONE (I)	Y	DE	
14-Sep	M-DE	10.1	10:24-10:32	CW	HSEA	1	0	35	317	70	NONE (I)	Y	DE	
14-Sep	M-DE	11	10:42-10:47	CW	HSEA	2	0	5	300	95	NONE (I)	Y	DE	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
14-Sep	M-DE	12	10:52	CW	HSEA	1	1	44	270	55	NONE (I)	Y	DE	
14-Sep	M-DE	13	10:56	CW	HSEA	1	0	30	300	85	NONE (I)	Y	DE	
14-Sep	M-DE	14	11:06-11:12	CW	HSEA	1	0	50	280	70	NONE (I)	Y	DE	
14-Sep	M-DE	15	11:23-11:29	CW	HSEA	1	0	40	287	72	NONE (I)	Y	DE	
14-Sep	M-DE	16	11:45	CW	HSEA	1	0	65	248	65	NONE (I)	Y	DE	
14-Sep	M-DE	17	12:03	CW	HSEA	1	0	120	280	150	NONE (I)	Y	DE	
14-Sep	M-DE	18	13:36-13:42	CW	HSEA	1	1	37	312	95	NONE (I)	Y	DE	
14-Sep	M-DE	18.1	13:45	CW	HSEA	1	1	15	348	110	NONE (I)	Y	DE	
14-Sep	M-DE	19	13:59	CW	HSEA	1	0	40	265	70	NONE (I)	Y	DE	
14-Sep	M-DE	18.2	14:01	CW	HSEA	1	1	10	327	95	NONE (I)	Y	DE	
14-Sep	M-DE	20	14:58-15:00	CW	HSEA	1	0	34	240	65	NONE (I)	Y	DE	
14-Sep	M-DE	20.1	15:07	CW	HSEA	1	0	2	0	95	NONE (I)	Y	DE	
14-Sep	M-DE	20.2	15:11	CW	HSEA	1	0	60	260	60	NONE (I)	Y	DE	
14-Sep	M-DE	21	15:43	CW	HSEA	1	1	35	258	60	NONE (I)	Y	DE	
14-Sep	M-DE	22	15:54	CW	HSEA	1	0	6	358	100	NONE (I)	Y	DE	
14-Sep	PRE	1	8:57-8:58	SM	HSEA	1	0	160	124	100	NONE	N	-	
14-Sep	EON	2	9:11-9:12	SM	HSEA	1	0	80	79	300	NONE	N	-	
14-Sep	EON	3	9:14	SM	HSEA	1	0	160	53	450	NONE	N	-	
14-Sep	EON	4	9:18	SM	CASL	1	0	400	44	450	NONE	N	-	
14-Sep	EON	5	9:18	SM	HSEA	1	0	70	248	380	NONE	N	-	
14-Sep	EON	6	10:18	SM	HSEA	1	0	210	280	270	NONE	N	-	
14-Sep	EON	7	10:40	SM	HSEA	1	0	100	158	180	NONE	N	-	
14-Sep	EON	8	12:23	SM	HSEA	1	0	60	262	550	SSI	N	-	No reaction to soft start impact, looking NW
14-Sep	EON	9	13:59	SM	CASL	1	0	170	20	550	NONE	N	-	
14-Sep	EON	10	14:43	SM	HSEA	1	0	56	103	330	NONE	N	-	
16-Sep	PRE	1	9:01	EC	HSEA	1	0	38	92	108	PRE	N	-	
16-Sep	PRE	2	9:05	EC	RIVO	1	0	56	13	126	NONE	N	-	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
16-Sep	PRE/M-DE	3	9:05-9:07	EC	HSEA	1	1	35	326	110	NONE (I)	Y	DE	
16-Sep	M-DE	4	9:21-9:32	EC	HSEA	1	0	47	328	120	NONE (I)	Y	DE	
16-Sep	M-DE	5	9:30	EC	CASL	1	0	72	190	144	NONE (I)	Y	DE	
16-Sep	M-DE	3.1	9:34	EC	HSEA	1	1	40	148	110	NONE (I)	Y	DE	
16-Sep	M-DE	4.1	9:38-9:47	EC	HSEA	1	0	48	285	118	NONE (I)	Y	DE	
16-Sep	M-DE	4.2	9:56	EC	HSEA	1	0	67	292	147	NONE (I)	Y	DE	
16-Sep	M-DE	6	10:14-10:17	EC	HSEA	1	0	60	286	140	NONE (I)	Y	DE	
16-Sep	M-DE	7	10:28-10:36	EC	HSEA	2	0	39	91	109	NONE (I)	Y	DE	
16-Sep	M-DE	8	10:33	EC	HSEA	1	1	102	162	132	NONE (I)	Y	DE	
16-Sep	M-DE	7.1	10:42-10:44	EC	HSEA	1	0	43	286	113	NONE (I)	Y	DE	
16-Sep	M-DE	8.1	10:48-11:00	EC	HSEA	1	1	60	150	120	NONE (I)	Y	DE	
16-Sep	M-DE	7.2	10:53-10:56	EC	HSEA	2	0	40	288	110	NONE (I)	Y	DE	
16-Sep	M-DE	7.3	11:08-11:27	EC	HSEA	2	0	48	200	118	NONE (I)	Y	DE	
16-Sep	M-DE	8.2	11:30-11:32	EC	HSEA	1	1	60	152	120	NONE (I)	Y	DE	
16-Sep	M-DE	9	11:39-11:49	EC	HSEA	1	1	20	169	88	NONE (I)	Y	DE	
16-Sep	M-DE	10	11:42	EC	HSEA	1	0	50	320	58	NONE (I)	Y	DE	
16-Sep	M-DE	9.1	11:50-12:06	EC	HSEA	1	1	69	300	55	NONE (I)	Y	DE	
16-Sep	M-DE	11	11:53	EC	HSEA	1	0	50	267	120	NONE (I)	Y	DE	
16-Sep	M-DE	8.3	12:08-12:19	EC	HSEA	1	0	50	170	120	NONE (I)	Y	DE	
16-Sep	M-DE	9.2	12:21-12:43	EC	HSEA	1	0	40	280	110	NONE (I)	Y	DE	
16-Sep	M-DE	12	12:51	EC	HSEA	1	0	45	74	68	NONE (I)	Y	DE	
16-Sep	M-DE	13	13:52-14:02	EC	HSEA	1	0	36	312	116	NONE (I)	Y	DE	
16-Sep	M-DE	14	14:19	EC	HSEA	1	0	41	287	111	NONE (I)	Y	DE	
16-Sep	PRE	1	8:54-8:58	CW	HSEA	1	0	60	25	95	NONE	N	-	
16-Sep	PRE	2	9:05	CW	HSEA	1	0	50	260	65	NONE	N	-	
16-Sep	PRE	3	9:07	CW	HSEA	1	0	35	290	90	NONE	N	-	
16-Sep	PRE	4	9:12	CW	HSEA	2	1	20	270	85	NONE	N	-	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
16-Sep	M-DE	5	9:23-9:25	CW	HSEA	1	1	35	344	95	NONE (I)	Y	DE	
16-Sep	M-DE	6	9:33-9:35	CW	HSEA	2	2	15	290	95	NONE (I)	Y	DE	
16-Sep	M-DE	7	9:37	CW	HSEA	3	1	40	270	87	NONE (I)	Y	DE	
16-Sep	M-DE	8	9:42-9:43	CW	HSEA	2	1	35	283	90	NONE (I)	Y	DE	
16-Sep	M-DE	9	9:47-9:51	CW	HSEA	1	1	5	285	95	NONE (I)	Y	DE	
16-Sep	M-DE	10	10:02	CW	HSEA	1	0	30	280	85	NONE (I)	Y	DE	
16-Sep	M-DE	11	10:03-10:04	CW	HSEA	1	0	15	340	100	NONE (I)	Y	DE	
16-Sep	M-DE	12	10:09-10:12	CW	HSEA	2	0	55	255	60	NONE (I)	Y	DE	
16-Sep	M-DE	13	10:14	CW	HSEA	1	0	200	36	295	NONE (I)	Y	DE	
16-Sep	M-DE	14	10:15-10:17	CW	HSEA	1	1	32	262	85	NONE (I)	Y	DE	
16-Sep	M-DE	15	10:34-10:39	CW	HSEA	2	0	35	256	60	NONE (I)	Y	DE	
16-Sep	M-DE	16	10:46-10:48	CW	HSEA	1	1	35	280	80	NONE (I)	Y	DE	
16-Sep	M-DE	17	10:53	CW	HSEA	2	0	35	320	95	NONE (I)	Y	DE	
16-Sep	EON	18	10:56	CW	CASL	1	0	60	320	100	NONE	N	-	
16-Sep	M-DE	19	10:59	CW	HSEA	1	0	40	310	90	NONE (I)	Y	DE	
16-Sep	M-DE	20	11:04	CW	HSEA	1	1	30	258	65	NONE (I)	Y	DE	
16-Sep	M-DE	21	11:08	CW	HSEA	1	0	100	91	165	NONE (I)	Y	DE	
16-Sep	M-DE	20.1	11:11	CW	HSEA	1	1	35	258	65	NONE (I)	Y	DE	
16-Sep	M-DE	22	11:15	CW	HSEA	1	0	35	290	85	NONE (I)	Y	DE	
16-Sep	M-DE	23	11:28	CW	HSEA	1	0	35	285	80	NONE (I)	Y	DE	
16-Sep	M-DE	20.2	11:33-11:35	CW	HSEA	1	1	15	265	70	NONE (I)	Y	DE	
16-Sep	M-DE	20.3	11:44	CW	HSEA	1	1	35	258	65	NONE (I)	Y	DE	
16-Sep	M-DE	24	11:46	CW	HSEA	1	0	32	308	90	NONE (I)	Y	DE	
16-Sep	M-DE	24.1	11:55	CW	HSEA	1	0	33	307	90	NONE (I)	Y	DE	
16-Sep	M-DE	25	11:59	CW	HSEA	1	1	3	312	102	NONE (I)	Y	DE	
16-Sep	M-DE	26	12:03	CW	HSEA	1	0	35	307	85	NONE (I)	Y	DE	
16-Sep	M-DE	27	12:22	CW	HSEA	1	0	15	26	105	NONE (I)	Y	DE	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
16-Sep	M-DE	28	12:36	CW	HSEA	1	0	60	250	55	NONE (I)	Y	DE	
16-Sep	M-DE	29	12:48	CW	HSEA	1	0	15	250	75	NONE (I)	Y	DE	
16-Sep	M-DE	30	12:52	CW	HSEA	1	1	15	250	75	NONE (I)	Y	DE	
16-Sep	M-DE	31	13:11	CW	HSEA	1	0	190	140	125	NONE (I)	Y	DE	
16-Sep	PRE	1	9:16	SM	CASL	1	0	7	60	402	NONE	N	-	
16-Sep	EON	2	9:23	SM	HSEA	1	0	35	117	250	NONE	N	-	
16-Sep	EON	3	9:47	SM	HSEA	1	0	12	342	200	NONE	N	-	
16-Sep	EON	4	10:29	SM	HSEA	1	0	36	351	430	NONE	N	-	
16-Sep	EON	5	10:29	SM	HSEA	1	0	200	122	230	NONE	N	-	
16-Sep	EON	6	13:00	SM	HSEA	1	0	80	129	200	NONE	N	-	
16-Sep	EON	7	13:14	SM	HSEA	1	0	188	25	430	NONE	N	-	
17-Sep	M-DE	1	10:01-10:51	EC	HSEA	1	0	46	298	126	PRE/NONE (I)	Y	DE	
17-Sep	M-DE	2	10:04-10:27	EC	HSEA	1	1	58	140	148	PRE/NONE (I)	Y	DE	
17-Sep	M-DE	2.1	10:35-11:00	EC	HSEA	1	1	40	229	150	NONE (I)	Y	DE	
17-Sep	M-DE	3	10:44	EC	HSEA	1	0	95	22	60	NONE (I)	Y	DE	
17-Sep	M-DE	2.2	11:22-11:43	EC	HSEA	1	1	42	158	124	NONE (I)	Y	DE	
17-Sep	M-DE	2.3	12:01-12:26	EC	HSEA	1	1	31	236	111	NONE (I)	Y	DE	
17-Sep	M-DE	4	12:16	EC	HSEA	1	0	40	250	120	NONE (I)	Y	DE	
17-Sep	M-DE	5	12:21	EC	HSEA	1	0	132	0	70	NONE (I)	Y	DE	
17-Sep	M-DE	2.4	12:48	EC	HSEA	1	1	45	240	125	NONE (I)	Y	DE	
17-Sep	M-DE	2.5	13:05-13:17	EC	HSEA	1	1	19	168	95	NONE (I)	Y	DE	
17-Sep	M-DE	6	13:11	EC	HSEA	1	0	60	10	10	NONE (I)	Y	DE	
17-Sep	M-DE	2.6	13:29	EC	HSEA	1	1	43	170	131	NONE (I)	Y	DE	
17-Sep	M-DE	7	13:43	EC	HSEA	1	0	15	48	80	NONE (I)	Y	DE	
17-Sep	M-DE	8	13:48-13:49	EC	HSEA	2	1	42	328	122	NONE (I)	Y	DE	
17-Sep	M-DE	9	14:18	EC	HSEA	1	0	100	12	90	NONE (I)	Y	DE	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
17-Sep	M-DE	10	14:21-14:23	EC	HSEA	1	1	42	118	122	NONE (I)	Y	DE	
17-Sep	M-DE	11	14:40-15:31	EC	HSEA	2	2	36	227	129	NONE (I)	Y	DE	
17-Sep	M-DE	12	15:31	EC	HSEA	1	0	2	180	81	NONE (I)	Y	DE	
17-Sep	M-DE	13	15:36	EC	HSEA	1	0	128	15	130	NONE (I)	Y	DE	
17-Sep	M-DE	10.1	15:41	EC	HSEA	1	1	43	218	148	NONE (I)	Y	DE	
17-Sep	M-DE	14	15:49	EC	HSEA	1	0	5	142	87	NONE (I)	Y	DE	
17-Sep	PRE	1	10:11	CW	HSEA	1	0	36	250	65	NONE	N	-	
17-Sep	M-DE	2	10:25-10:27	CW	HSEA	1	0	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	3	10:33-10:35	CW	HSEA	1	0	15	255	80	NONE (I)	Y	DE	
17-Sep	M-DE	4	10:38-10:42	CW	HSEA	1	0	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	4.1	10:45	CW	HSEA	1	0	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	4.2	10:48	CW	HSEA	1	0	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	4.3	10:50-10:53	CW	HSEA	1	0	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	4.4	10:55	CW	HSEA	1	1	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	4.5	11:00	CW	HSEA	2	2	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	4.6	11:02-11:04	CW	HSEA	3	3	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	4.7	11:06	CW	HSEA	2	2	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	5	11:10-11:12	CW	HSEA	3	3	30	252	66	NONE (I)	Y	DE	
17-Sep	M-DE	6	11:13	CW	HSEA	1	0	55	255	60	NONE (I)	Y	DE	
17-Sep	M-DE	7	11:15-11:17	CW	HSEA	1	0	36	250	65	NONE (I)	Y	DE	
17-Sep	M-DE	7.1	11:20	CW	HSEA	3	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	7.2	11:22	CW	HSEA	3	1	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	8	11:23	CW	HSEA	1	0	55	252	55	NONE (I)	Y	DE	
17-Sep	M-DE	9	11:27	CW	HSEA	3	2	35	270	70	NONE (I)	Y	DE	
17-Sep	M-DE	10	11:29-11:32	CW	HSEA	2	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	11	11:29	CW	HSEA	2	0	39	342	105	NONE (I)	Y	DE	
17-Sep	M-DE	12	11:37	CW	HSEA	1	0	45	280	55	NONE (I)	Y	DE	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
17-Sep	M-DE	13	11:41-11:45	CW	HSEA	2	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	13.1	11:47	CW	HSEA	3	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	13.2	11:49-11:55	CW	HSEA	4	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	13.3	11:57-11:59	CW	HSEA	2	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	13.4	12:05-12:10	CW	HSEA	3	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	13.5	12:12-12:16	CW	HSEA	5	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	13.6	12:18	CW	HSEA	1	1	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	13.7	12:23-12:24	CW	HSEA	4	2	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	14	12:24	CW	HSEA	3	0	42	300	90	NONE (I)	Y	DE	
17-Sep	M-DE	15	12:29-12:32	CW	HSEA	3	0	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	15.1	12:33-12:39	CW	HSEA	2	0	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	16	12:41-12:42	CW	HSEA	3	0	55	260	60	NONE (I)	Y	DE	
17-Sep	M-DE	17	12:45	CW	HSEA	2	1	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	18	12:51	CW	HSEA	2	0	20	338	95	NONE (I)	Y	DE	
17-Sep	M-DE	19	12:57	CW	HSEA	1	0	50	322	100	NONE (I)	Y	DE	
17-Sep	M-DE	19.1	13:01-13:06	CW	HSEA	1	0	50	330	100	NONE (I)	Y	DE	
17-Sep	M-DE	20	13:16	CW	HSEA	1	0	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	21	13:26	CW	HSEA	1	0	50	270	50	NONE (I)	Y	DE	
17-Sep	M-DE	21.1	13:34-13:36	CW	HSEA	2	0	55	270	50	NONE (I)	Y	DE	
17-Sep	M-DE	22	13:53	CW	HSEA	1	0	36	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	23	14:05	CW	HSEA	1	0	36	318	95	NONE (I)	Y	DE	
17-Sep	M-DE	24	14:11	CW	HSEA	1	0	36	328	95	NONE (I)	Y	DE	
17-Sep	M-DE	25	14:24	CW	HSEA	1	0	36	318	95	NONE (I)	Y	DE	
17-Sep	M-DE	26	14:36	CW	HSEA	1	0	35	315	90	NONE (I)	Y	DE	
17-Sep	M-DE	27	14:43-14:49	CW	HSEA	1	0	33	250	57	NONE (I)	Y	DE	
17-Sep	M-DE	28	14:46-14:48	CW	HSEA	2	0	35	250	55	NONE (I)	Y	DE	
17-Sep	M-DE	29	14:50	CW	HSEA	1	0	30	47	120	NONE (I)	Y	DE	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
17-Sep	M-DE	30	15:06-15:08	CW	HSEA	1	0	20	4	110	NONE (I)	Y	DE	
17-Sep	M-DE	1	14:50	PT	HSEA	1	0	30	180	120	NONE (I)	Y	DE	
23-Sep	PRE	1	8:11	EC	HSEA	1	0	35	12	50	PRE	N	-	
23-Sep	EON	2	8:21	EC	HSEA	1	0	14	260	57	V	N	-	Looking, then Swam (S) away from EHW-1
23-Sep	PRE	1	8:00	CW	HSEA	1	0	35	279	100	PRE	N	-	
23-Sep	EON	2	8:17	CW	HSEA	1	0	70	344	120	V	N	-	Swimming (SW)
27-Sep	PRE	1	9:21	EC	HSEA	1	0	85	23	90	PRE	N	-	
27-Sep	M-DE	2	10:03	EC	HSEA	1	0	183	18	153	NONE (I)	Y	DE	
27-Sep	M-DE	3	10:11	EC	HSEA	1	0	32	200	126	NONE (I)	Y	DE	
27-Sep	EON	4	10:40	EC	HSEA	1	0	230	14	180	NONE	N	-	
27-Sep	M-DE	4.1	11:11-11:14	EC	HSEA	1	0	183	11	140	NONE (I)	Y	DE	
27-Sep	M-DE	5	11:20	EC	HSEA	1	0	18	94	65	NONE (I)	Y	DE	
27-Sep	M-DE	6	11:37	EC	HSEA	1	0	41	242	102	NONE (I)	Y	DE	
27-Sep	M-DE	7	12:01	EC	HSEA	1	0	38	240	101	NONE (I)	Y	DE	
27-Sep	M-DE	8	12:32	EC	HSEA	1	1	53	242	73	NONE (I)	Y	DE	
27-Sep	M-DE	9	13:40	EC	HSEA	1	0	50	30	70	NONE (I)	Y	DE	
27-Sep	M-DE	1	9:53	CW	HSEA	1	0	120	156	60	NONE (I)	Y	DE	
27-Sep	EON	2	10:07	CW	CASL	1	0	35	358	100	NONE	N	-	
27-Sep	M-DE	3	11:51	CW	HSEA	1	0	90	132	90	NONE (I)	Y	DE	
27-Sep	M-DE	4	12:35	CW	HSEA	1	0	100	134	120	NONE (I)	Y	DE	
27-Sep	EON	1	15:30	SM	CASL	1	0	220	60	105	NONE	N	-	
28-Sep	EON	1	9:02-9:07	EC	HSEA	1	0	45	36	40	NONE	N	-	
28-Sep	EON	2	9:09	EC	HSEA	1	1	25	118	61	NONE	N	-	
28-Sep	EON	3	9:21-9:31	EC	HSEA	2	2	38	226	99	NONE	N	-	
28-Sep	EON	4	9:24	EC	HSEA	1	0	138	18	90	NONE	N	-	
28-Sep	EON	3.1	9:37-9:42	EC	HSEA	2	2	42	292	88	NONE	N	-	
28-Sep	M-DE	5	12:27-12:31	EC	HSEA	1	0	25	158	36	NONE (I)	Y	DE	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
28-Sep	M-DE	6	12:37-12:52	EC	HSEA	1	1	62	209	115	NONE (I)	Y	DE	
28-Sep	PRE	1	8:23-8:26	MP	HSEA	2	0	90	0	190	NONE	N	-	
28-Sep	PRE	2	8:34-8:45	MP	HSEA	3	0	80	345	170	NONE	N	-	
28-Sep	EON	2.1	8:49-9:11	MP	HSEA	3	0	30	255	95	NONE	N	-	
28-Sep	EON	3	9:27-9:28	MP	HSEA	1	0	80	10	200	NONE	N	-	
28-Sep	EON	4	9:42	MP	HSEA	1	0	40	240	65	NONE	N	-	
28-Sep	EON	5	9:52	MP	HSEA	1	0	20	350	90	V	N	-	
28-Sep	POST	6	10:04	MP	HSEA	1	0	15	275	80	POST	N	-	
28-Sep	POST	7	10:26	MP	HSEA	1	1	10	270	80	POST	N	-	
28-Sep	M-DE	8	12:00	CW	HSEA	1	0	50	80	90	NONE (I)	Y	DE	
28-Sep	M-DE	9	12:06	CW	HSEA	1	0	35	172	50	NONE (I)	Y	DE	
28-Sep	M-DE	10	12:27	CW	HSEA	1	0	70	10	175	NONE (I)	Y	DE	
28-Sep	M-DE	11	12:48	CW	HSEA	1	0	10	190	100	NONE (I)	Y	DE	
28-Sep	M-DE	12	13:01	CW	HSEA	1	0	60	244	70	NONE (I)	Y	DE	
28-Sep	EON	13	15:39	CW	HSEA	1	1	10	270	95	NONE	N	-	
28-Sep	EON	1	15:02	GR	CASL	1	0	33	340	473	NONE	N	-	
29-Sep	EON	1	9:37	EC	HSEA	1	0	25	65	55	NONE	N	-	
29-Sep	M-DE	2	9:50	EC	HSEA	1	1	50	80	70	NONE (I)	Y	DE	
29-Sep	M-DE	3	10:25	EC	HSEA	1	0	30	226	65	NONE (I)	Y	DE	
29-Sep	M-DE	2.1	10:30	EC	HSEA	1	1	27	142	87	NONE (I)	Y	DE	
29-Sep	M-DE	4	10:35-10:40	EC	HSEA	1	1	110	58	101	NONE (I)	Y	DE	
29-Sep	M-DE	5	10:43	EC	HSEA	1	0	110	98	100	NONE (I)	Y	DE	
29-Sep	M-DE	6	10:58-11:08	EC	HSEA	1	1	35	250	67	NONE (I)	Y	DE	
29-Sep	EON	7	11:17	EC	CASL	1	0	32	60	102	NONE	N	-	
29-Sep	M-DE	8	11:51	EC	HSEA	1	0	225	46	200	NONE (I)	Y	DE	
29-Sep	M-DE	9	11:51	EC	HSEA	1	0	120	50	94	NONE (I)	Y	DE	
29-Sep	M-DE	10	12:07	EC	HSEA	1	0	15	159	79	NONE (I)	Y	DE	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
29-Sep	M-DE	11	12:09-12:11	EC	HSEA	1	0	40	53	55	NONE (I)	Y	DE	
29-Sep	M-DE	12	12:56	EC	HSEA	1	0	45	188	109	NONE (I)	Y	DE	
29-Sep	PRE	1	9:47	CW	HSEA	1	0	90	130	90	NONE	N	-	
29-Sep	M-DE	2	10:00	CW	HSEA	1	0	85	40	175	NONE (I)	Y	DE	
29-Sep	M-DE	3	10:01	CW	HSEA	1	0	40	320	95	NONE (I)	Y	DE	
29-Sep	M-DE	4	10:13	CW	HSEA	1	0	95	90	85	NONE (I)	Y	DE	
29-Sep	M-DE	5	10:40	CW	HSEA	1	0	95	90	85	NONE (I)	Y	DE	
29-Sep	M-DE	6	10:56	CW	HSEA	1	0	40	284	95	NONE (I)	Y	DE	
29-Sep	M-DE	6.1	11:05-11:11	CW	HSEA	1	0	40	290	95	NONE (I)	Y	DE	
29-Sep	EON	7	11:16	CW	CASL	1	0	40	342	120	NONE	N	-	
29-Sep	M-DE	8	11:38	CW	HSEA	1	1	10	350	90	NONE (I)	Y	DE	
29-Sep	EON	9	12:00	CW	CASL	1	0	33	329	100	NONE	N	-	
29-Sep	M-DE	10	12:09	CW	HSEA	1	0	25	98	80	NONE (I)	Y	DE	
29-Sep	EON	1	11:16	GR	CASL	1	0	75	350	328	NONE	N	-	
11-Oct	PRE	1	8:16	EC	HSEA	1	0	62	189	106	PRE	N	-	
11-Oct	EON	2	8:48	EC	HSEA	1	0	180	47	170	V	N	-	
11-Oct	EON	3	9:30-9:31	EC	HSEA	1	0	62	227	109	NONE	N	-	
11-Oct	EON	4	9:48	EC	HSEA	1	0	155	72	150	V	N	-	
11-Oct	EON	5	9:49	EC	HSEA	1	0	70	26	68	POST	N	-	
11-Oct	POST	6	10:11	EC	HSEA	1	0	189	44	165	POST	N	-	
11-Oct	PRE	1	8:15	SC	HSEA	2	1	50	290	180	PRE	N	-	
11-Oct	PRE	2	8:15	SC	CASL	7	0	475	280	550	PRE	N	-	
11-Oct	EON	3	8:36-8:50	SC	CASL	1	0	150	15	300	V	N	-	
11-Oct	POST	4	10:06	SC	CASL	1	0	75	345	225	POST	N	-	
11-Oct	POST	5	10:17	SC	HSEA	1	0	150	10	300	POST	N	-	
11-Oct	M-DE	7	10:52-10:56	EC	HSEA	1	0	45	258	104	PRE	Y	DE	Milling along W finger pier
11-Oct	EON	8	11:55-11:56	EC	HSEA	1	0	360	18	340	POST	N	-	

Date	Event Code ¹	Sighting #	Time	PSO ²	Species ³	No. of Individuals	No. of Calves	Dist. from PSO (m)	Direction from PSO (degree)	Dist. to Pile (m)	Construction Type During Sighting ⁴	Mitigation Used? (Y/N)	Mitigation Type ⁵	Behavior Changes/Response to Activity
11-Oct	EON	6	11:34	CW	HSEA	1	0	50	329	120	PRE	N	-	
11-Oct	EON	7	11:52	CW	CASL	1	0	250	4	340	POST	N	-	

¹**Event Code:** PRE (Pre-Watch), EON (Effort On), M-DE (Mitigation Delay), POST (Post Watch).

²**PSO (Protected Species Observer):** CW (Case Wyatt), EC (Erin Colclazier), GR (Graeme Riggins), MP (Megan Pasternak), PT (Phil Thornton), SC (Steve Crane), SM (Scott Markowitz).

³**Species:** CASL (California Sea Lion), HSEA (Harbor Seal), RIVO (River Otter).

⁴**Construction Type During Sighting:** PRE (Pre-Construction), POST (Post Construction), V (Vibratory Pile Driving), I (Impact Pile Driving, NONE (no construction activity), NONE (I) (No Construction – delayed from Impacting)).

⁵**Mitigation Type:** DE (Delayed Onset of Pile Driving), SD (Shutdown of Pile Driving).

APPENDIX C: MARINE MAMMAL OBSERVATION RECORD FORMS.

Placeholder for Marine Mammal Field Observation Forms

APPENDIX D. SOUND ATTENUATION SYSTEM DESCRIPTION

Placeholder for Sound Attenuation System Document

APPENDIX C: MARINE MAMMAL OBSERVATION RECORD FORMS.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

obs

Project Name: Bangor EHW-1

Date: 08-04-2021

Monitoring Location EHW-1, Pier North (MP)
EHW-1, Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Vessel Name: N/A

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Time Effort Initiated: 0740; 1310

Time Effort Completed: 1208; 1455

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (btwn animal & pile)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
	Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)																
PRE/S	1	07:44 : :	-	MP	SW	HSEA	50 @ or km 0°	@ or km 120	1 / 12 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	F	Light Mod Heavy	Nor E	swimming N away from pile
EON/S	2	08:08 : :	-	MP	MI	HSEA	38 @ or km 306°	@ or km 85	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	F	Light Mod Heavy	Nor E	Stationary
EON/S	3	09:09 : 09:18 :	-	MP	SW	HSEA	180 @ or km 342°	@ or km 260	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	Nor E	Swimming to west
EON/S	4	09:17 : 09:22:	-	MP	MI	HSEA	100 @ or km 354	@ or km 100	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	Nor E	Stationary
EON/S	5	09:36 : 09:44:	-	MP	SW	HSEA	100 @ or km 138°	@ or km 50	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	S	Light Mod Heavy	Nor E	swimming to south
EON/S	6	10:24 : 10:34:	-	MP	SW	HSEA	100 @ or km 138	@ or km 50	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	S	Light Mod Heavy	Nor E	swimming to south
EON/S	7	10:44 : 10:50:	-	MP	SW	HSEA	60 @ or km 0	@ or km 150	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	S	Light	Nor E	swimming north

Sighting # (chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Date: 08-04-2021

Monitoring Location
EHW-1 Pier North (MP)
EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land location, other)

Vessel Name: N/A

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Time Effort Initiated: 0740: 1310

Time Effort Completed: 1208: 1455

Sighting Data

Event Code	Sighting Number (1 or 11 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting eve	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Comet Type During Sighting	WSP pattern used during sighting?	WSP pattern Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Wind Dir	Behavior Change/ Response to Activity/Comments	
EON/S	8	11:03: 11:15:	-	MP	SW	HSEA	20 ♂ or km 350	♂ or km 70	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE <input checked="" type="radio"/>	S P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	NoR WorE	vibe off at 11:11 w/ calf under water - no reaction seen	
EON/S	8.1	11:17: 11:17:	-	MP	SW	HSEA	40 ♂ or km 315	♂ or km 60	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE <input checked="" type="radio"/>	S P M G O	0	S	<input checked="" type="radio"/> Light Mod Heavy	NoR WorE	vibe off at 11:15, calf 60-m from pile + swimming south	
PRE/S	11	07:46: 07:47:	-	EC	DI	HSEA	15 ♂ or km 175	♂ or km 48	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE <input checked="" type="radio"/>	S P M G E	0	F	<input checked="" type="radio"/> Light Mod Heavy	NoR WorE	no activity (pre)	11
PRE/S	11.1	07:56: 07:59:	-	EC	MI	HSEA	12 ♂ or km 78	♂ or km 36	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE <input checked="" type="radio"/>	S P M G E	0	F	<input checked="" type="radio"/> Light Mod Heavy	NoR WorE		11
PRE/S	11.2	08:10: 08:18:	-	EC	SW	HSEA	16 ♂ or km 50	♂ or km 47	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE <input checked="" type="radio"/>	S P M G E	0	F	<input checked="" type="radio"/> Light Mod Heavy	NoR WorE	Dove, seen again at 08:18, dove (pre- const)	
EON/S	12	08:51: ::	-	EC	DI	RIVO	80 ♂ or km 26	♂ or km 50	1 / 1 6 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE <input checked="" type="radio"/>	S P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	NoR WorE	* note, not marine mammal- River otter, swimming(s)	
EON/S	13	09:16: 09:16:	-	EC	SW	HSEA	56 ♂ or km 70	♂ or km 40	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE <input checked="" type="radio"/>	S P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	NoR WorE	Far from vibe, no change in activity/ behavior observed	

Sighting chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 08-04-2021

Monitoring Location EHW-1, Pier North (MP)
EHW-1, Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Vessel Name: N/A

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Time Effort Initiated: 0740; 1310

Time Effort Completed: 1208; 1455

Sighting Data

Event Code	Sighting Number (1 or 11 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting case	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best)	# of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MITI GATION used during sighting?	MITI gation Type?	Visibility	% Glare	Wether Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
EON/S	11.3	09:28: 09:29:	-	EC	MI	HSEA	74° or km	5° or km	1 / 11	0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>None</u>	Y <input checked="" type="radio"/>	DE <input type="radio"/>	B P M SD	○ E ○	0 S	Light Mod Heavy	North Work	dove, no const. activity	
EON/S	11.4	09:36: 09:39:	-	EC	SW	HSEA	76° or km	5° or km	1 / 11	0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>None</u>	Y <input checked="" type="radio"/>	DE <input type="radio"/>	B P M SD	○ E ○	0 S	Light Mod Heavy	North Work	swimming south; no const activity	
EON/S	12.1	09:48:30 09:49:	-	EC	LO	HSEA	58° or km	5° or km	1 / 11	0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>None</u>	Y <input checked="" type="radio"/>	DE <input type="radio"/>	B P M SD	○ E ○	0 S	Light Mod Heavy	North Work	looking @ observer, no Hump	
EON/S	12.2	09:55: ::	-	EC	DI	HSEA	26° or km	5° or km	1 / 11	0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>None</u>	Y <input checked="" type="radio"/>	DE <input type="radio"/>	B P M SD	○ E ○	0 S	Light Mod Heavy	North Work	dove	
EON/S	14	10:22: ::	-	EC	LO	HSEA	45° or km	90° or km	1 / 11	0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>None</u>	Y <input checked="" type="radio"/>	DE <input type="radio"/>	B P M SD	○ E ○	3 S	Light Mod Heavy	North Work	N/A	
EON/S	15	10:26: ::	-	EC	SW	HSEA	55° or km	38° or km	1 / 11	0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>None</u>	Y <input checked="" type="radio"/>	DE <input type="radio"/>	B P M SD	○ E ○	3 S	Light Mod Heavy	North Work	N/A	
EON/S	14.1	10:42: ::	-	EC	LO	HSEA	67° or km	8° or km	1 / 11	0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>None</u>	Y <input checked="" type="radio"/>	DE <input type="radio"/>	B P M SD	○ E ○	3 S	Light Mod Heavy	North Work	N/A	

Lighting chronological number of sightings, if resight of same animal, then 1, 1, 2, etc. WP (Watermark) GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM (OBC)

Project Name: Bangor EHW-1

Date: 08-04-2021

EHW-1, Pier North (MP)

Monitoring Location EHW-1, Pier South (EC)

Vessel Name: N/A

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Time Effort Initiated: 0740, 1810

Time Effort Completed: 1207, 1455

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Min gation used during sighting?	Min gation Type?	Visibility	% Glow	Wether Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON/S	14.2	10:55: 10:58:	-	EC	SW	HSEA	25° or km 195	0° or km 116	1 / 1 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V 1 PC DP ST <u>(NONE)</u>	Y (N)	DE SD	B P M G (E)	3	S	<u>Light</u> Mod Heavy	Nor S Wor E	-
EON/S	14.3	11:09: :	-	EC	DI	HSEA	28° or km 198	0° or km 120	1 / 1 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V 1 PC DP ST <u>(NONE)</u>	Y (N)	DE SD	B P M G (E)	3	S	<u>Light</u> Mod Heavy	Nor S Wor E	-
POST/S	16	11:58: 12:03:	-	EC	SW	HSEA	39° or km 6	0° or km 73	1 / 1 0 calves	opening closing parallel none SW, DI	PRE <u>POST</u> SSV SSI V 1 PC DP ST <u>(NONE)</u>	Y (N)	DE SD	B P M G (E)	3	S	<u>Light</u> Mod Heavy	Nor S Wor E	Swimming South, dove
<u>[BREAK]</u>																			
EON/S	17	13:59: :	-	EC	SW, LO	HSEA	41° or km 190	0° or km 120	1 / 1 0 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST <u>(NONE)</u>	Y (N)	DE SD	B P M G (E)	5	S	<u>Light</u> Mod Heavy	Nor S Wor E	Break 1209-1309
EON/S	18	14:02: 14:09:	-	EC	SW, DI	HSEA	35° or km 18	0° or km 85	1 / 12 + calves	opening closing parallel none DI	PRE POST SSV SSI V 1 PC DP ST <u>(NONE)</u>	Y (N)	DE SD	B P M G (E)	5	S	<u>Light</u> Mod Heavy	Nor S Wor E	MOM + calf swimming West, then dove
EON/S	18.1	14:17: 14:17:	-	EC	MI	HSEA	40° or km 21	0° or km 90	1 / 12 + calves	opening closing parallel none SW, DI	PRE POST SSV SSI V 1 PC DP ST <u>(NONE)</u>	Y (N)	DE SD	B P M G (E)	5	S	<u>Light</u> Mod Heavy	Nor S Wor E	MOM guided calf away from pile diving + then both dove
EON/S	9	13:30: 14:01:	-	MP	LO	HSEA	20° or km 185	0° or km 70	12 / 11 1 calves	opening closing parallel none FO	PRE POST SSV SSI V 1 PC DP ST <u>(NONE)</u>	Y (N)	DE SD	B P M G (E)	0	S	<u>Light</u>	Nor S Wor E	-

Sighting #=chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 08-04-2021

Monitoring Location EHW-1, Pier North (MP)
EHW-1, Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Vessel Name: N/A

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Time Effort Initiated: 0740, 1310

Time Effort Completed: 1207, 1455

Sighting Data

Event Code	Sighting Number (1 or 11 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP# (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MHU gation used during sighting?	MHU gation Type?		% Glare	Wearh Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
							m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input checked="" type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E	D <input type="checkbox"/>	S <input type="checkbox"/>	Light Mod Heavy	Nor S Wor E	MOM + Calf with mom foraging
EON S	10	13:40 : 13:56 :	-	NP	FO	HSEA	350 m km •	60 m or km •	1 / 12 — calves	FO	PRE POST SSV SSI V I PC DP ST NONE	Y <input checked="" type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E	D <input type="checkbox"/>	S <input type="checkbox"/>	Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y <input type="checkbox"/> N	DE <input type="checkbox"/> SD	B P M G E			Light Mod Heavy	Nor S Wor E	

Sighting #=chronological number of sightings, If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier (obs)
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 8/17/2021

Monitoring Location EHW-1 Pier N (MP)
(Pier Location, Vessel based, Land location, other)

Vessel Name: N/A

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Time Effort Initiated: 0730; 10:31; 13:45

Time Effort Completed: 10:30 - 13:45; 17:00

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	WMS gesture used during sighting?	WMS gesture Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	07:31 : 07:52:	-	EC	LO	HSEA	20 Ⓜ or km 128	Ⓜ or km 87	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	D <input checked="" type="radio"/>	OC	Light Mod Heavy Nor S Wrd	NE Nor S Wrd	Milling, pre - activity, seal repeated by every 1-2 min
PRE	2	07:44 : 07:48:	-	EC	MI	HSEA	45 Ⓜ or km 280	Ⓜ or km 127	1 / 2 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	O <input checked="" type="radio"/>	DC	Light Mod Heavy Nor S Wrd	NE Nor S Wrd	Milling, foraging pre - activity
PRE	3	07:56 : 08:02:	-	EC	DI	HSEA	80 Ⓜ or km 13	Ⓜ or km 48	1 / 2 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	O <input checked="" type="radio"/>	OC	Light Mod Heavy Nor S Wrd	NE Nor S Wrd	dove, pre - activity sinking, milling
PRE	2.1	08:05 : 08:07:	-	EC	LO	HSEA	35 Ⓜ or km 260	Ⓜ or km 97	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	O <input checked="" type="radio"/>	OC	Light Mod Heavy Nor S Wrd	NE Nor S Wrd	Swimming, milling btwn. wharfs EHW1+2
EON	2.2	08:29 : :	-	EC	MI, SW(S)	HSEA	52 Ⓜ or km 152	Ⓜ or km 117	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	O <input checked="" type="radio"/>	OC	Light Mod Heavy Nor S Wrd	NE Nor S Wrd	Swimming, traveling (S) away from diving
EON	4	09:07 : :	-	EC	SW(S)	HSEA	37 Ⓜ or km 308	Ⓜ or km 100	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	O <input checked="" type="radio"/>	OC	Light Mod Heavy Nor S Wrd	SE Nor S Wrd	swimming south
EON	1.1	9:24 : :		EC	SW(W)	HSEA	45 Ⓜ or km 162	Ⓜ or km 108	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	O <input checked="" type="radio"/>	OC	Light Nor S Wrd (E)	SW	swimming south, slowly,

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 8/17/2021

Monitoring Location Pier North EHW-1 (MP)
Pier South EHW-1 (EG)
 (Pier Location, Vessel based, Land location, other)

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Time Effort Initiated: 0730; 1031; 1345

Time Effort Completed: 1030; 1314; 1700

Vessel Name: _____

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP# (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MHU gear used during sighting?	MHU action Type?	Visibility	% Glare	Wearh Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	5	09:39 : : :	-	EC	TR(SW)	HSEA	29 ^{m or km} 252	91 ^{m or km}	1 / 1 0 calves	opening closing parallel none TR(SW)	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	D D	OC	Light Mod Heavy	Nor ^(S) Wor ^(E)	TR(SW) same detection as other monitoring (previous)
POST	6	10:08 : : :	-	EC	TR(S)	HSEA	23 ^{m or km} 18	42 ^{m or km}	1 / 1 1 calves	opening closing parallel none TR(S)	PRE (POST) SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	D D	OC	Light Mod Heavy	SE Nor ^(S) Wor ^(E)	TR(S)
POST	5.1	10:25 : : :	-	EC	LO	HSEA	25 ^{m or km} 255	87 ^{m or km}	1 / 1 2 calves	opening closing parallel none LO DJ	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	D D	OC	Light Mod Heavy	Nor ^(S) Wor ^(E)	
Break	POST	10:29: PRE 10:32:	-	EC	Swt. MI	HSEA	34 ^{m or km} 2	96 ^{m or km}	1 / 2 1 calves	opening closing parallel none MI	PRE (POST) SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	D D	OC	Light Mod Heavy	Nor ^(S) Wor ^(E)	mom + calf, rolling, in play (S)
	PRE	7	10:39: 10:41:	EC	TR(S)	HSEA	22 ^{m or km} 350°	60 ^{m or km}	1 / 1 0 calves	opening closing parallel none TR(S)	PRE (POST) SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	D D	OC	Light Mod Heavy	Nor ^(S) Wor ^(E)	TR(S)
PRE	3.2	10:43: 10:56:	EC	MI	HSEA	109 ^{m or km} 170	159 ^{m or km}	1 / 2 1 calves	opening closing parallel none MI	PRE (POST) SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	D D	OC	Light Mod Heavy	Nor ^(S) Wor ^(E)	Milling about mom + calf	
PRE	8	10:46 : : :	EC	TR(S)	HSEA	53 ^{m or km} 72	109 ^{m or km}	1 / 1 0 calves	opening closing parallel none TR(S)	PRE (POST) SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	D D	OC	Light	Nor ^(S) Wor ^(E)	TR(S)	

Sighting #: chronological number of sightings, if resight of same animals, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Monitoring Location EHW-1 Pier S 150° 06'
 (Pier Location, Vessel based, Land Location, other)

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Date: 8/17/2021

Vessel Name: —

Time Effort Initiated: 07:30; 10:31, 13:45

Time Effort Completed: 10:30, 13:14, 17:00

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	9	11:05: :	—	EC	SW(S)	HSEA	46 ^{m or km} 70°	106 ^{m or km}	1 / 11 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE SD	B P M G E	0 OC	Light Mod Heavy	Nor S Wor E	SW(S)	
EON	3.3	11:25: 11:28:	—	EC	SW(N)	HSEA	187 ^{m or km} 15°	139 ^{m or km}	1 / 12 1 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE SD	B P M G E	0 OC	Light Mod Heavy	Nor S Wor E	SW(N), NDMT off	
EON	3.4	11:35: :	—	EC	MI	HSEA	47 ^{m or km} 170°	112 ^{m or km}	1 / 12 1 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE SD	B P M G E	0 OC	Light Mod Heavy	Nor S Wor E	Milling, looking	
EON	10	11:42: :	—	EC	SW(S)	HSEA	18 ^{m or km} 6°	56 ^{m or km}	1 / 11 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE SD	B P M G E	0 OC	Light Mod Heavy	Nor S Wor E	SW/TR(S)	
EON	3.5	12:29: 12:33:	—	EC	MI	HSEA	16 ^{m or km} 48°	46 ^{m or km}	1 / 12 1 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE SD	B P M G E	0 OC	Light Mod Heavy	Nor S Wor E	Milling, then dove + swam away(S) when driving started	
POST	11	13:08: :	—	EC	SW(N)	HSEA	30 ^{m or km} 344°	96 ^{m or km}	1 / 11 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE SD	B P M G E	0 OC	Light Mod Heavy	Nor S Wor E	Swimming north	
PRE	9.1	14:04: :	—	EC	MI	HSEA	83 ^{m or km} 122°	160 ^{m or km}	1 / 11 0 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE SD	B P M G E	0 OC	Light	Nor S Wor E	Milling, swimming (S)	

Sighting #: chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Break

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 8/17/2021

Monitoring Location EHW-1 ACR N
EHW-1 ACR S

(Pier Location, Vessel based, Land Location, other)

Vessel Name: _____

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Time Effort Initiated: 0730; 1031; 1345

Time Effort Completed: 1030; 1314; 1700

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During sighting	MTU gation used during sighting?	Mtd gation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
	EC	EOA	EOB	MP	EC	EOA	EOB	MP	EC	EOA	EOB	MP	EC	EOA	EOB	MP	EC	
PRE	12	14:41 : :	-	EC	TR(S)	RIVO	45 ♂ or km 133	149 ♂ or km 2 calves	opening closing parallel none TR(S)	PRE POST SSV SSI V I PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0 <input checked="" type="radio"/>	PC	Light Mod Heavy	Nor S Wor E	TR(S)
EOA	13	14:48 : 14:50 :	-	EC	SW(S)	HSEA	36 ♂ or km 153	96 ♂ or km 0 calves	opening closing parallel none TR(S)	PRE POST SSV SSI V I PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0 <input checked="" type="radio"/>	PC	Light Mod Heavy	Nor S Wor E	swimming/traveling (South)
EOA	14 (small)	15:01 : :	-	EC	DI	HSEA	16 ♂ or km 7	92 ♂ or km 0 calves	opening closing parallel none SW	PRE POST SSV SSI V I PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0 <input checked="" type="radio"/>	PC	Light Mod Heavy	Nor S Wor E	swimming, dove, possibly calf w/o mom
EOA	15	15:19 : :	-	EC	LO	HSEA	119 ♂ or km 44	106 ♂ or km 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V I PC DP ST <input checked="" type="radio"/>	Y <input checked="" type="radio"/>	DE SD	B P M G E	0 <input checked="" type="radio"/>	PC	Light Mod Heavy	Nor S Wor E	swimming (S), dove
PRE	1	07:37 : 07:39 :	-	MP	SW	HSEA	100 ♂ or km 32	220 ♂ or km 0 calves	opening closing parallel none SW	PRE POST SSV SSI V I PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0 <input checked="" type="radio"/>	OC	Light Mod Heavy	Nor S Wor E	travelling South
PRE	2	07:55 : 07:56 :	-	MP	LD	HSEA	20 ♂ or km 340	140 ♂ or km 0 calves	opening closing parallel none LD	PRE POST SSV SSI V I PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0 <input checked="" type="radio"/>	OC	Light Mod Heavy	Nor S Wor E	brown coloring on left side of face (HSEA)
EOA	3	08:30 : 08:35 :	-	MP	SW	HSEA	150 ♂ or km 30	290 ♂ or km 0 calves	opening closing parallel none SW	PRE POST SSV SSI V I PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0 <input checked="" type="radio"/>	OC	Light	Nor S Wor E	

Sighting #=chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

↑ EC observer
↓ MP obs.
↑ EC obs.
↓ MP obs.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

*EHW-1 Pier N (MP) #^{D65}

Monitoring Location EHW-1 Pier S (EC)
 (Pier Location, Vessel based, Land location, other)

Page 5 of 7

Date: 8/17/2021

Time Effort Initiated: 0730, 1031, 1345

Vessel Name: -

Time Effort Completed: 1030, 1314, 1700

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mhd gation used during sighting?	Mhd gation type?	Visibility	% Glares	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	4	08:43 : 08:46 :	-	MP	SW	HSEA	15° or km 10°	1 / 12 1 calves	opening closing parallel none	PPE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M <input checked="" type="radio"/> E	0	OC	Light Mod Heavy	NE <input checked="" type="radio"/> Wors Wor(E)	MOM + calf
EON	4.1	08:47 : 08:48 :	-	MP	DI	HSEA	30° or km 38°	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M <input checked="" type="radio"/> E	0	OC	Light Mod Heavy	NE <input checked="" type="radio"/> Wors Wor(E)	MOM + calf. pile driving stop @ 08:48
EON	4.2	08:50 : 08:52 :	-	MP	SW	HSEA	35° or km 60°	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M <input checked="" type="radio"/> E	0	OC	Light Mod Heavy	NE <input checked="" type="radio"/> Wors Wor(E)	MOM + calf
EON	4.3	08:55 : :	-	MP	SW	HSEA	60° or km 180°	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M <input checked="" type="radio"/> E	0	L	Light Mod Heavy	NE <input checked="" type="radio"/> Wors Wor(E)	Mom + calf
EON	5	08:59 : 09:03 :	-	MP	SW	HSEA	40° or km 270°	1 / 11 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M <input checked="" type="radio"/> E	0	OC	Light Mod Heavy	Nor(E) Wor(E)	floating on back
EON	5.1	09:10 : 09:12 :	-	MP	DI	HSEA	20° or km 275°	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M <input checked="" type="radio"/> E	0	OC	Light Mod Heavy	Nor(E) Wor(E)	adult + possible calf
EON	6	09:18 : :	-	MP	SW	HSEA	60° or km 40°	1 / 11 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE SD	B P M <input checked="" type="radio"/> E	0	OC	Light	Nor(E) Wor(E)	swimming quickly between piles/weaving + on back

Sighting #=chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Date: 08/17/2021

Monitoring Location EHW-1 Pier N (MP) *
EHW-1 Pier S (EC)
(Pier Location, Vessel based, Land location, other)

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Time Effort Initiated: 0730, 1031, 1345

Time Effort Completed: 1030, 1314, 1700

Vessel Name: _____

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion and Behavior Code (see code sheet)	Const Type During Sighting	Milt. gation used during sighting?	Milt. gation Type?	Visibility	% Glares	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	5.2	09:22 : 09:26 :	-	MP	SW	HSEA	30 ♂ or km 280 °	130 ♂ or km	1 / 12 1 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE <input type="radio"/>	S P M G E	0	OC	Light Mod Heavy	Nor ^⑤ W or E	NO behavior change during vibing.
EON	7	09:35 : 09:38 :	-	MP	SW	HSEA	40 ♂ or km 170 °	35 ♂ or km	1 / 11 0 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input type="radio"/>	DE <input type="radio"/>	S P M G E	0	OC	Light Mod Heavy	Nor ^⑤ W or E	traveling quickly south
EON	8	09:45 : :	-	MP	SW	HSEA	80 ♂ or km 160 °	60 ♂ or km	1 / 11 0 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input type="radio"/>	DE <input type="radio"/>	S P M G E	0	OC	Light Mod Heavy	Nor ^⑤ W or E	Mother + calf
POST	9	10:10 : :	-	MP	SW	HSEA	30 ♂ or km 155 °	70 ♂ or km	1 / 11 0 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input type="radio"/>	DE <input type="radio"/>	S P M G E	0	OC	Light Mod Heavy	Nor ^⑤ W or E	
PRE	4.4	11:05 : 11:07 :	-	MP	SW	HSEA	100 ♂ or km 182 °	80 ♂ or km	1 / 12 1 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input type="radio"/>	DE <input type="radio"/>	S P M G E	0	OC	Light Mod Heavy	No ^⑨ W or E	
EON	10	11:31 : :	-	MP	SW	HSEA	30 ♂ or km 305 °	120 ♂ or km	1 / 11 0 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input type="radio"/>	DE <input type="radio"/>	S P M G E	0	OC	Light Mod Heavy	Nor ^⑤ W or E	
EON	11	11:51 : :	-	MP	SW	HSEA	40 ♂ or km 320 °	50 ♂ or km	1 / 11 1 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input type="radio"/>	DE <input type="radio"/>	S P M G E	0	OC	Light	Nor ^⑨ W or E	calf

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Break

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 08/17/2021

Monitoring Location EHW-1 Pier N (MAP) 065
EHW-1 Pier S (EC)
(Pier Location, Vessel based, Land Location, other)

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Time Effort Initiated: 0730: 1031: 1345

Time Effort Completed: 1030: 1314: 1700

Vessel Name: -

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EDN	12	12:06: :	-	MP	SW	HSEA	190 ^{m or km} 88	305	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M	0	OC	Light Mod Heavy	Nor S W or E	
EDN	13	12:35: :	-	MP	SW	HSEA	40 ^{m or km} 10	150	1 / 12 2 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M	0	OC	Light Mod Heavy	Nor S W or E	
BREAK	14	14:22: 14:28:	-	MP	FO	RIVO	10 ^{m or km} 182	120	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M	0	PC	Light Mod Heavy	Nor S W or E	
	:	:					m or km	m or km	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	Nor S W or E	
	:	:					m or km	m or km	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	Nor S W or E	
	:	:					m or km	m or km	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	Nor S W or E	
	:	:					m or km	m or km	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	Nor S W or E	
	:	:					m or km	m or km	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	Nor S W or E	

Sighting Chronological number of sightings. If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 8/18/2021

EHW-1 North Pier
Monitoring Location EHW-1 South Pier
(Pier Location, Vessel based, Land Location, other)

ORS
(MP)
(EC)*

Page 1 of 5

Vessel Name: -

Time Effort Initiated: 0955:

Time Effort Completed: 1315,

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	10:26 : : :	-	EC	SW	HSEA	22° or km 343°	56° or km	1 / 1 1 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M G (E)	0	PC	Light Mod Heavy	NE NorS WorE	calf, solo (no adult)
PRE	1.1	10:36 : : :	-	EC	MI	HSEA	19° or km 9	53° or km	1 / 1 1 calves	opening closing parallel none SH(N)	PRE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M G (E)	0	S	Light Mod Heavy	NE NorS WorE	HSEA calf, solo
PRE	2	10:40 : : :	-	EC	MI	HSEA	48° or km 326	59° or km 133	1 / 12 0 calves	opening closing parallel none MI, SW	PRE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M G (E)	0	S	Light Mod Heavy	NE NorS WorE	2 adults, milling, swimming(w)
EON	2.1	11:00 : 11:02:	-	EC	SW(N)	HSEA	54° or km 352	84° or km	1 / 12 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PC DP ST (NONE)	Y (N)	DE SD	B P M G (E)	0	S	Light Mod Heavy	NE NorS WorE	2 adults,
EON	2.2	11:13 : : :	-	EC	SW(N)	HSEA	46° or km 350	78° or km	1 / 11 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PC DP ST (NONE)	Y (N)	DE SD	B P M G (E)	0	S	Light Mod Heavy	NE NorS WorE	SWIMMING (N), MILLING, 1 adult only
EON	3	11:19 : : :	-	EC	SW(N)	HSEA	73° or km 142	140° or km	1 / 11 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PC DP ST (NONE)	Y (N)	DE SD	B P M G (E)	0	S	Light Mod Heavy	NE NorS WorE	-
EON	4	11:31 : : :	-	EC	MI	HSEA	192° or km (est)	130° km	1 / 12 0 calves	opening closing parallel none MI, DI	PRE POST SSV SSI V I PC DP ST (NONE)	Y (N)	DE SD	B P M G (E)	0	S	Light	Nor (S) Wor E	2 adults, milling, love.

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Date: 8/18/2021

EHW-1 North Pier (MP)
Monitoring Location EHW-1 South Pier (EC)

(Pier Location, Vessel based, Land Location, other)

Page 2 of 5

Time Effort Initiated: 0955, 1345

Time Effort Completed: 1315, 1545

Sighting Data

Event Code	Sighting Number (1 or L1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best)# of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MIU gation used during sighting?	Mit igation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	5	11:57: 12:02:	-	EC	LO	HSEA	39 ^{m or} km 196 °	126 ^{m or} km	1 / 11 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	Light Mod Heavy	SE Nor ^E Wor ^E	Mother w/o calf?
EON	1.2	11:59: :	-	EC	LO	HSEA	31 ^{m or} km 136 °	125 ^{m or} km	1 / 11 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	Light Mod Heavy	SE Nor ^E Wor ^E	calf, possibly w/ mother (sighting #5)
EON	6	12:15: 15:45:	-	EC	RE	CASL	630 ^{m or} km 274 °	690 ^{m or} km	1 / 13 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	Light Mod Heavy	SE Nor ^E Wor ^E	3 CASL resting on gate platforms, in place at end of monitoring
EON	2.3	12:36: 12:39:	-	EC	SW(N)	HSEA	58 ^{m or} km 354 °	98 ^{m or} km	1 / 11 0 calves	opening closing parallel none	PRE POST SSV SSI <u>PC DP</u> ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	Light Mod Heavy	Nor ^S Wor ^E	1 adult slowly swimming north, dove when vibing started
POST	1.3	12:51: 12:54:	-	EC	MJ, SW	HSEA	200 ^{m or} km 28 °	170 ^{m or} km	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	Light Mod Heavy	Nor ^S Wor ^E	MOM + Calf, north of wharf
PRE	1.4	13:46: :	-	EC	LO	HSEA	36 ^{m or} km 16 °	49 ^{m or} km	1 / 12 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	Light Mod Heavy	Nor ^S Wor ^E	calf + their mom nearby
PRE	7	14:04: 14:05:	-	EC	SW, LO	HSEA	41 ^{m or} km 329 °	129 ^{m or} km	1 / 11 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	Light Mod Heavy	Nor ^S Wor ^E	adult looking + swimming (N)

Sighting #: chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 8/18/2021

Monitoring Location EHW-1 North Pier (MP)
(Pier Location, Vessel based, Land Location, other)

Vessel Name: -

Page 3 of 5

Time Effort Initiated: 0955, 1345

Time Effort Completed: 1215, 1545

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mis gation used during sighting?	Mis gation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1.5	14:11 : :	-	EC	LO	HSEA	22 Ⓜ km 42 Ⓜ km	62 Ⓜ km	1 / 12 1 calves	opening closing parallel none LO, DI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G D	0	S	Light Mod Heavy	Nor Ⓛ W or E	MOM + calf, looked + quickly dove, no const activity
EON	8	14:36 : :	-	EC	SW, LO	HSEA	31 Ⓜ km 152 Ⓜ km	119 Ⓜ km	1 / 11 1 calves	opening closing parallel none LO, DI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G D	0	S	Light Mod Heavy	SE Nor Ⓛ W or E	Swimming (S), looked + dove + swam (S) more quickly
POST	8.1	15:25 : :	-	EC	LO	HSEA	21 Ⓜ km 160 Ⓜ km	86 Ⓜ km	1 / 11 1 calves	opening closing parallel none LO, DI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G D	0	PC	Light Mod Heavy	Nor Ⓛ W or E	looked + swam (N) before diving, post-c.
PRE	1	10:15: 10:16:	-	MP	LO	HSEA	15 Ⓜ km 5 Ⓜ km	5 Ⓜ km	1 / 11 1 calves	opening closing parallel none DI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G D	0	S	Light Mod Heavy	NE Ⓛ W or E	-
PRE	1.1	10:25 : :	-	MP	LD	HSEA	15 Ⓜ km 5 Ⓜ km	5 Ⓜ km	1 / 11 1 calves	opening closing parallel none LO	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G D	0	S	Light Mod Heavy	NE Ⓛ W or E	-
PRE	2	10:31 : :	-	MP	SW	HSEA	37 Ⓜ km 320 Ⓜ km	5 Ⓜ km	1 / 11 1 calves	opening closing parallel none SW	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G D	0	S	Light Mod Heavy	NE Ⓛ W or E	*only saw head swimming beneath piles. Unsure if adult or calf.
PRE	1.2	10:41 : :	-	MP	DI	HSEA	50 Ⓜ km 350 Ⓜ km	5 Ⓜ km	1 / 11 1 calves	opening closing parallel none DI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G D	0	S	Light Mod Heavy	NE Ⓛ W or E	-

Sighting #=chronological number of sightings, If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

EHW-1 North Pier (MP) 265

Monitoring Location EHW-1 South Pier (EC)
(Pier Location, Vessel based, Land Location, other)

Page 4 of 5

Date: 8/18/2021

Vessel Name: _____

Time Effort Initiated: 0955; 1345

Time Effort Completed: 1315; 1545

Sighting Data

Event Code	Sighting Number (1 or L1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dt to Animal (from Observer)	Dist to Mile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mit Action Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EDN	1.3	10:45 : :	-	MP	SW	HSEA	45 ♂ or km 270	90	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	(Light Mod Heavy)	(Wors WorE)	-
EDN	3	11:11 : :	-	MP	SW	HSEA	50 ♂ or km 240	60	1 / 11 +? calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	(Light Mod Heavy)	(Wors WorE)	*UNKNOWN if calf OR adult
EDN	4	11:26 : :	-	MP	SW	HSEA	35 ♂ or km 300	85	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	(Light Mod Heavy)	(Wors WorE)	Floating on back
EDN	5	11:37 : 11:48 :	-	MP	SW	HSEA	60 ♂ or km 280	70	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	(Light Mod Heavy)	(Wors WorE)	-
EDN	6	12:20 : 12:22 :	-	MP	SW	HSEA	40 ♂ or km 220	80	1 / 11 2 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	(Light Mod Heavy)	(Wors WorE)	-
EDN	7	12:25 : :	-	MP	SW	HSEA	30 ♂ or km 350	95	1 / 11 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y <u>O</u>	DE SD	B P M G <u>E</u>	0	S	(Light Mod Heavy)	(Wors WorE)	-
POST	8	13:12 : :	-	MP	SW	HSEA	84 ♂ or km 90	50	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y <u>N</u>	DE SD	B P M G <u>E</u>	0	S	(Light)	(Nor S Wor E)	-

Break
Sighting #=chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

EHW-1 North Pier (HP)
EHW-1 South Pier (EC)

Monitoring Location (Pier Location, Vessel based, Land Location, other)
 Page 5 of 5

Date: 8/18/2021

Vessel Name: -

Time Effort Initiated: 0955:1345

Time Effort Completed: 1315:1545

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	9	13:44: 14:09:	-	MP	SW	HSEA	37 m or km 340	110 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y D	DE SD	B P M G E	0	S	Light Mod Heavy	Nor S Wor E	-
PRE	10	14:19: 14:21:	-	MP	SW	HSEA	40 m or km 85	110 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	Nor S Wor E	-
EON	11	14:50: :	-	MP	LO	HSEA	35 m or km 5	120 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	Nor S Wor E	sighted 1 min after vibing stopped
POST	12	15:33: :	-	MP	MI	HSEA	35 m or km 10	135 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	PC	Light Mod Heavy	Nor S Wor E	-
POST	13	15:41: :	-	MP	SW	CASL	20 m or km 5	120 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	PC	Light Mod Heavy	Nor S Wor E	-
	:	:					m or km :	m or km :	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km :	m or km :	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E				Nor S Wor E	

Sighting #: chronological number of sightings; If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Date: 09-01-2021

EHW-1 Pier N ^{OBS}
(CW)
EHW-1 Pier S (EC) *

Monitoring Location EHW-1 Pier S (EC) *

(Pier Location, Vessel based, Land Location, other)

Vessel Name: -

Page 1 of 4

Time Effort Initiated: 0730, 1031, 1305

Time Effort Completed: 1030 - 1245, 1506

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	07:36 : : :	-	EC	SW	HSEA	48 ^{m or km} 316	128	1 12 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST. NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	NE Nor S Wor E	SWIMMING, milling, NO CONST. activity
PRE	2	07:44 : : :	-	EC	SW(S)	HSEA	50 ^{m or km} 318	130	1 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST. NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	NE Nor S Wor E	Swimming (S) NO CONST. activity
PRE	2.1	07:58 : 08:09 :	-	EC	LO	HSEA	50 ^{m or km} 315	130	1 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST. NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	NE Nor S Wor E	Looking, Milling, MOM + calff.
EON	3	08:43 : : :	-	EC	SW(NE)	HSEA	3 ^{m or km} 338	83 ^{m or km}	1 11 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST. NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	NE Nor S Wor E	swimming (NE), love pause in const. activity, seen by other obs. after
EON	3.1	09:17 : : :	-	EC	MI	HSEA	48 ^{m or km} 310	128	1 11 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST. NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	SE Nor S Wor E	slow milling, no const. activity @ time
EON	3.2	09:30 : : :	-	EC	DI	HSEA	69 ^{m or km} 269	157	1 11 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST. NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0	S	<input checked="" type="radio"/> Light Mod Heavy	SE Nor S Wor E	
EON	2.2	09:34 : 09:37 :	-	EC	MI	HSEA	70 ^{m or km} 10	155	1 11 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST. NONE	Y <input checked="" type="radio"/>	DE SD	B P M G E	0	S	<input checked="" type="radio"/> Light	SE Nor S Wor E	milling, swimming (N) calf ~ 95% certain

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-01-2021

EHW-1 Pier North - (CW)
EHW-1 Pier South - (EC)
(Pier Location, Vessel based, Land Location, other)

Page 2 of 4

Vessel Name: _____

Time Effort Initiated: 0730; 10:31 13:05

Time Effort Completed: 10:30; 12:46 15:06

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	2.3	09:47 : :	-	EC	SW(S)	HSEA	440 m or km 232	1 / 12 1 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	SE Nor E Wor E	MOM + calf swimming up (S) toward EHW-2
POST	3.3	10:06 : :	-	EC	SW, LO	HSEA	42 m or km 230	1 / 11 2 calves	opening closing parallel none LO, SW(N)	PRE (POST) SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	SE Nor E Wor E	no activity, looking, SW(N) west of wharf.
POST	2.4	10:17 : 10:27:	-	EC	SW, FO	HSEA	50 m or km 221	1 / 12 1 calves	opening closing parallel none SW, FO	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	SE Nor E Wor E	post activity (const)
PRE	2.5	10:51 : :	-	EC	SW(N)	HSEA	47 m or km 228	1 / 11 1 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	SE Nor E Wor E	calf only seen, pre-const.
PRE	4	10:55 : :	-	EC	RE	CASL	360 m or km 226	1 / 12 0 calves	opening closing parallel none RE	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	SE Nor E Wor E	CASL resting on gate, well outside shut-down area
EON	2.6	11:52 : 11:57:	-	EC	FO	HSEA	22 m or km 216	1 / 11 1 calves	opening closing parallel none FO	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	SE Nor E Wor E	calf w/ food in mouth, foraging, SW(N)
EON	3.4	12:15 : :	-	EC	SW(N)	HSEA	46 m or km 12	1 / 11 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	S	Light	SE Nor E Wor E	brief sighting, SW(N), just after vibing.

Sighting #=chronological number of sightings, If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-01-2021

Monitoring Location EHW-1 Pier North Obs (CW)
EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 3 of 4

Time Effort Initiated: 07:30, 10:31, 13:05,

Time Effort Completed: 10:30, 12:45, 15:06

Vessel Name:

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
	Event	Dates	WPs																
EON	5	14:11 : :	-	CW	DI	RIVD	380° or km 2	86	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y	DE	B P M ④ E	0	S	Light Mod Heavy	S NorE WorE	Belief sighting, 80% certain RIVD + not juv. HSEA.
PRE	1	07:37 : 07:40 :	-	CW	LO	HSEA	27° or km 350	125	1 / 2 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y	DE	B P M ④ E	0	S	Light Mod Heavy	NE NorS WorE	Looked + then dove. 08:38 - security boat w/ dolphins 70m off pier
PRE	1.1	08:10 : :	-	CW	LO	HSEA	15° or km 320	90	1 / 2 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y	DE	B P M ④ E	0	S	Light Mod Heavy	NE NorS WorE	MOM + calf, swam up to surface, looked + immediately dove
PRE	1.2	08:14 : 08:15 :	-	CW	SW	HSEA	30° or km 298°	90	1 / 2 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y	DE	B P M ④ E	0	S	Light Mod Heavy	NE NorS WorE	SW (SSE) on surface, headed under pier. Solo calf
EON	1.3	08:28 : :	-	CW	SW	HSEA	270° or km 358°	360	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y	DE	B P M ④ E	0	S	Light Mod Heavy	NE NorS WorE	solo calf SW (NW) toward fence
EON	2	08:47 : :	-	CW	LO	HSEA	15° or km 280°	70	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y	DE	B P M ④ E	0	S	Light Mod Heavy	NE NorS WorE	Also seen by S Pier monitor; dove.
EON	3	09:24 : 09:29 :	-	CW	SW	HSEA	25° or km 120	85	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>NONE</u>	Y	DE	B P M ④ E	0	S	Light NE NorS WorE	NE NorS WorE	calf solo, SW (NW) under pier, milling

Sighting #: chronological number of sightings, If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-01-2021

* EHW1 Pier North (CW)
Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 4 of 4

Vessel Name: _____

Time Effort Initiated: 07:30, 10:31, 13:05

Time Effort Completed: 10:30, 12:45, 15:06

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wavs	Swell Dir	Behavior Change/ Response to Activity/Comments
	Event Code																		
EON	4	09:34: 09:35:	-	CW	SW(N)	HSEA	200 m or km 317	200 m or km 200	1 / 1 0 calves	opening closing parallel none SW	PRE POST SSV SSI V I PC DP ST (NONE)	Y ①	DE SD	B P M ② E	0	S	Light Mod Heavy	SE Nor D Wor E	SW(N) then dove.
EON	5	09:54: 09:55:	-	CW	SW(NE)	HSEA	150 m or km 40	230 m or km 230	1 / 1 0 calves	opening closing parallel none SW (NE)	PRE POST SSV SSI V I PC DP ST (NONE)	Y ①	DE SD	B P M ② E	0	S	Light Mod Heavy	SE Nor D Wor E	SW generally NE before diving
POST	5.1	10:24: :	-	CW	LO	HSEA	160 m or km 34	220 m or km 220	1 / 1 0 calves	opening closing parallel none LO	PRE POST SSV SSI V I PC DP ST (NONE)	Y ①	DE SD	B P M ② E	0	S	Light Mod Heavy	SE Nor D Wor E	looked + dove
EON	6	11:57: :	-	CW	LO	HSEA	30 m or km 298	90 m or km 90	1 / 1 1 calves	opening closing parallel none LO	PRE POST SSV SSI V I PC DP ST (NONE)	Y ①	DE SD	B P M ② E	0	S	Light Mod Heavy	SE Nor D Wor E	Surfaced, looked at observer + dove
EON	6.1	12:04: :	-	CW	LO	HSEA	20 m or km 50	85 m or km 85	1 / 1 1 calves	opening closing parallel none LO	PRE POST SSV SSI ① I PC DP ST (NONE)	Y ①	DE SD	B P M ② E	0	S	Light Mod Heavy	SE Nor D Wor E	Surfaced, looked + dove
	:	:					m or km •	m or km •	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E			Light Mod Heavy	Nor S Wor E	
	:	:					m or km •	m or km •	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E			Nor S Wor E		

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-02-2021

Monitoring Location EHW-1 South Pier (EC)
(Pier Location, Vessel based, Land Location, other)

Obs

Page 1 of 10

Time Effort Initiated: 10:09

Time Effort Completed: 16:02

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	10:13 : 10:23:	-	EC	DI	HSEA	380 or km. 178	100 or km. 118	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST NONE	Y	DE	B P M G E	0	S	Light Mod Heavy	NE NorS WorE	Briefly seen as it dove, again @ 10:20 & @ 10:23
PRE	2	10:25 : :	-	EC	SW(W)	HSEA	760 or km. 214	1520 or km. 152	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST NONE	Y	DE	B P M G E	0	S	Light Mod Heavy	NE NorS WorE	Swimming (SW) - Seen by boat obs @ 10:28
EON	3	10:30 : :	-	EC	DI(E)	HSEA	350 or km. 198	1130 or km. 113	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST NONE	Y	DE	B P M G E	0	S	Light Mod Heavy	NE NorS WorE	dove, briefly seen
EON	1.1	10:36 : :	-	EC	LO	HSEA	300 or km. 198	1200 or km. 120	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M G E	0	S	Light Mod Heavy	NE NorS WorE	LO, then SW(E)
EON	4	10:40 : :	-	EC	SW(N)	HSEA	560 or km. 344	900 or km. 90	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M G E	0	S	Light Mod Heavy	NE NorS WorE	- Same as calves seen by S. MMO obs.
EON	1.2	10:48 : :	-	EC	SW(E)	HSEA	380 or km. 146	1270 or km. 127	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M G E	0	S	Light Mod Heavy	NE NorS WorE	SW(E)
EON	2.1	10:49 : :	-	EC	SW(S)	HSEA	500 or km. 318	1200 or km. 120	1 / 12 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M G E	0	S	Light	NE NorS WorE	FO- fish in mouth

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Obs

Project Name: Bangor EHW-1

Date: 09-02-2021

Monitoring Location EHW-1 Pier South (EC)
(Pier location, Vessel based, Land location, other)

Page 2 of 10

Vessel Name: _____

Time Effort Initiated: 10:09

Time Effort Completed: 16:02

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cave	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mirr gation used during sighting?	Mirr gation Type?	Visibility	% Glare	Weath Cond	Sea State and Waves	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	4.1	10:55: :	-	EC	SW(S)	HSEA	84 ^{mpr} km 330	99 ^{mpr} km	1 / 1 1 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V 1 PCDP ST NONE	Y	DE	B P M	0	S	Light Mod Heavy	NE NorS WorE	SW(S), calf
EON	2.2	10:58: 11:02:	-	EC	MI	HSEA	34 ^{mpr} km 236	112 ^{mpr} km	1 / 12 1 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PCDP ST NONE	Y	DE	B P M	0	S	Light Mod Heavy	NE NorS WorE	MI, staying in
EON	1.3	10:59: :	-	EC	SW, LO	HSEA	63 ^{mpr} km 120	153 ^{mpr} km	1 / 1 0 calves	opening closing parallel none LO	PRE POST SSV SSI V 1 PCDP ST NONE	Y	DE	B P M	0	S	Light Mod Heavy	NE NorS WorE	LO, SW(E)
EON	5	11:20: :	-	EC	MI	HSEA	63 ^{mpr} km 40	123 ^{mpr} km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PCDP ST NONE	Y	DE	B P M	0	S	Light Mod Heavy	NE NorS WorE	location: outer w finger wharf
EON	6	11:21: :	-	EC	LO,	HSEA	22 ^{mpr} km 254	82 ^{mpr} km	1 / 1 1 calves	opening closing parallel none LO	PRE POST SSV SSI V 1 PCDP ST NONE	Y	DE	B P M	0	S	Light Mod Heavy	NE NorS WorE	LO, DI
EON	4.2	11:31: 11:55:	-	EC	LO, MI	HSEA	52 ^{mpr} km 174	137 ^{mpr} km	1 / 1 1 calves	opening closing parallel none LO, MI	PRE POST SSV SSI V 1 PCDP ST NONE	Y	DE	B P M	0	S	Light Mod Heavy	NE NorS WorE	LO, SW, MI, seen at: 11:30, 11:40, 11:43, 11:48, 11:55 playing
EON	5.1	11:37: 11:43:	-	EC	SW(S)	HSEA	95 ^{mpr} km 175	180 ^{mpr} km	1 / 1 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V 1 PCDP ST NONE	Y	DE	B P M	0	S	Light	NE NorS WorE	

Sighting chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-02-2021

Monitoring Location EHW 1 Pier North (EW)
EHW 1 Pier South (EC)
 (Pier location, Vessel based, Land location, other)

Page 3 of 10

Time Effort Initiated: 10:09

Time Effort Completed: 16:02

Vessel Name: _____

Sighting Data

Event Code	Sighting Number (1 or 1 if re-sight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Min gation used during sighting?	Min gation Type?	Visibility	% Gloss	Wearh Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EWN	6.1	11:46 : :	-	EC	SW(N)	HSEA	30° or km 254	more km	1 / 11 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	DE SD	B P M E	0	S	Light Mod Heavy	NE Nor's Wore	outside W. finger wharf same as boat obs. sightings SW pier
EWN	5.2	11:59 : :	-	EC	SW(N)	HSEA	80° or km 220	more km	1 / 11 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	DE SD	B P M E	0	S	Light Mod Heavy	NE Nor's Wore	Adult S of EHW-1 @ EHW-2 + edge of shutdown
EWN	7	12:05 : 12:07 :	-	EC	SW(S)	HSEA	87° or km 323	more km	1 / 11 0 calves	opening closing parallel none SW(S), DI	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	DE SD	B P M E	0	S	Light Mod Heavy	NE Nor's Wore	Same as N pier obs previously obs.
EWN	4.3	12:09 : :	-	EC	MJ	HSEA	51° or km 282	more km	1 / 11 1 calves	opening closing parallel none MJ	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	DE SD	B P M E	0	S	Light Mod Heavy	NE Nor's Wore	calf
EWN	8	12:19 : :	-	EC	DI	RIVO	90° or km 14°	more km	1 / 11 0 calves	opening closing parallel none DI	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	DE SD	B P M E	0	S	Light Mod Heavy	NE Nor's Wore	
EWN	7.1	12:37 : :	-	EC	SW(S)	HSEA	85° or km 14	more km	1 / 11 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	DE SD	B P M E	0	S	Light Mod Heavy	NE Nor's Wore	w of barge
EWN	6.2	12:54 : :	-	EC	SW(N)	HSEA	112° or km 48	more km	1 / 11 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	DE SD	B P M E	0	S	Light Nor Wore	SWIMMING (N), under W finger pier	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 North Pier ^(Obs)
EHW-1 South Pier ^(CW)
(Pier Location, Vessel based, Land location, other) ^(EC)

Date: 09-02-2021

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Vessel Name:

Time Effort Initiated: 1009

Time Effort Completed: 1602

Sighting Data

Event Code	Sighting Number (1 or 11 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting Cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitig ation used during sighting?	Mitig ation Type?	Visibility	% Glare	W eath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EDN	7.2	13:05 : : :	-	EC	DI	HSEA	90 ^{m or km} • 15	10 ^{m or km} • 60	1 / 1 <u>0 calves</u>	opening closing parallel none	PPE POST SSV SSI V 1 PCDP ST <u>NONE</u>	Y	DE	S P M	0	S	Light Mod Heavy	NE Nor's W or E	W side of barge likely part of group foreg- ing to NW
EDN	9	13:25 : : :	-	EC	RE	CASL	300 ^{m or km} • 212	10 ^{m or km} • 380	1 / 13 <u>0 calves</u>	opening closing parallel none	PPE POST SSV SSI V 1 PCDP ST <u>NONE</u>	Y	DE	S P M	0	S	Light Mod Heavy	NE Nor's W or E	Resting on outer security fence
EDN	7.3	13:30 : : :	-	EC	MI	HSEA	163 ^{m or km} • 18	10 ^{m or km} • 90	1 / 1 <u>0 calves</u>	opening closing parallel none	PPE POST SSV SSI V 1 PCDP ST <u>NONE</u>	Y	DE	S P M	0	S	Light Mod Heavy	NE Nor's W or E	wander wharf, not visible to N. obs., but previously documented
EDN	10	14:17 : 14:19 :	-	EC	MI	HSEA	60 ^{m or km} • 44	40 ^{m or km} • 89	1 / 13 <u>2 calves</u>	opening closing parallel none	PPE POST SSV SSI V 1 PCDP ST <u>NONE</u>	Y	DE	S P M	0	S	Light Mod Heavy	NE Nor's W or E	3 HSEA, can't confirm Juveniles,
EDN	11	14:41 : 14:42 :	-	EC	SW(SW)	HSEA	20 ^{m or km} • 322	10 ^{m or km} • 89	1 / 12 <u>0 calves</u>	opening closing parallel none	PPE POST SSV SSI V 1 PCDP ST <u>NONE</u>	Y	DE	S P M	0	S	Light Mod Heavy	NE Nor's W or E	SW(SW) + LO at obs, MOVING away from work area
EDN	12	14:58 : ::	-	EC	SW(N)	HSEA	22 ^{m or km} • 333	10 ^{m or km} • 90	1 / 1 <u>0 calves</u>	opening closing parallel none	PPE POST SSV SSI V 1 PCDP ST <u>NONE</u>	Y	DE	S P M	0	S	Light Mod Heavy	NE Nor's W or E	SW(N)
PRE	1	10:14 : 10:17 :	-	CW	MI	HSEA	15 ^{m or km} • 290	10 ^{m or km} • 80	1 / 1 <u>1 calves</u>	opening closing parallel none	PPE POST SSV SSI V 1 PCDP ST <u>NONE</u>	Y	DE	S P M	0	S	Light Mod Heavy	NE Nor's W or E	MOVING S toward barge.

Sighting # chronological number of sightings, #resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

DBS

Project Name: Bangor EHW-1

Date: 09-02-2021

Monitoring Location EHW-1 North Pier (CW)
(Pier Location, Vessel based, Land Location, other)

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Vessel Name: -

Time Effort Initiated: 10:09

Time Effort Completed: 16:02

Sighting Data

Event Code	Sighting Number (1 or 1 # resighted)	Time/Duration of sighting (start/end time if continuous)	WP # (every time a sighting is made)	Observer	Sighting con	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (from animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitt gation used during sighting?	Mitt gation Type?	Visibility	% Glare	Wreath Cond	Sea State and Wave Ht	Wind Dir	Behavior Change/ Response to Activity/Comments	
EON	2	10:59 : 10:59 :	-	CW	MI	HSEA	20° for km	60	1 12	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST none	Y	DE	B P M	0	S	 Heavy Waves	NE Wors Wor	MI under pier + by barge	
EON	3	10:56 : 11:04 :	-	CW	MI	HSEA	35° for km	90	1 12	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST none	Y	DE	B P M	0	S	 Heavy Waves	NE Wors Wor	MI under NW side of pier	
EON	4	10:56 : :	-	CW	MI	HSEA	34° for km	65	1 12	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST none	Y	DE	B P M	0	S	 Heavy Waves	NE Wors Wor	Surfacing near tug + behind barge	
EON	5	11:15 : 11:17 :	-	CW	MI	HSEA	35° for km	43	1 11	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST none	Y	DE	B P M	0	S	 Heavy Waves	NE Wors Wor	MI	
EON	6	11:23 : :	-	CW	MI	HSEA	10° for km	91	1 12	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST none	Y	DE	B P M	0	S	 Heavy	NE Wors Wor	SW(S) + Surfacing directly in front of monitor	
EON	7	11:32 : 11:48 :	-	CW	MI	HSEA	30° for km	90	1 14	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST none	Y	DE	B P M	0	S	 Heavy	NE Wors Wor	MT under NW pier 2 adults + 2 calves	
EON	7.1	11:52 : 11:57 :	-	CW	MI	HSEA	35° for km	90	1 11	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST none	Y	DE	B P M	0	S	 Heavy	NE Wor Wor	Milling under NW pier in same spot	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Date: 09-02-2021

Monitoring Location EHW-1 North Pier (CW)

(Pier Location, Vessel based, Land Location, other)

065

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Time Effort Initiated: 10:09

Time Effort Completed: 16:02

Vessel Name: _____

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cve	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MHI motion used during sighting?	MHI motion Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	8	11:54:	-	CW	SW(NW)	HSEA	50° or km 358	10° or km 60	1 / 1 0 calves	opening closing parallel none SW(NW)	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M ④ E	0	S	Light Mod Heavy	N or S W or E	Headed NW towards edge of shutdown zone
EON	9	12:02: 12:06:	-	CW	MI	HSEA	25° or km 258°	10° or km 70	1 / 13 0 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M ④ E	0	S	Light Mod Heavy	N or S W or E	ME alongside tugboat
EON	9.1	12:12: 12:14:	-	CW	MI	HSEA	47° or km 274°	10° or km 70	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M ④ E	0	S	Light Mod Heavy	N or S W or E	MOVING from W side of pier
EON	10	12:18: 12:22:	-	CW	MI	HSEA	35° or km 320	10° or km 70	1 / 1 1 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M ④ E	0	S	Light Mod Heavy	N or S W or E	under NW pier
EON	11	12:26: 12:32:	-	CW	MI	HSEA	47° or km 256	10° or km 65	1 / 13 0 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M ④ E	0	S	Light Mod Heavy	N or S W or E	Surfacing + diving frequently - Fd, but no food in mouth
EON	11.1	12:34: 12:36:	-	CW	MI	HSEA	39° or km 270°	10° or km 70	1 / 12 1 calves	opening closing parallel none MI	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M ④ E	0	S	Light Mod Heavy	N or S W or E	SW under NW pier
EON	11.2	12:40: 12:46:	-	CW	SW(S)	HSEA	44° or km 220	10° or km 70	1 / 12 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DB SD	B P M ④ E	0	S	Light	N or S W or E	Also seen by boat monitor (3 HSEA) by tugboat

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-02-2021

Monitoring Location EHW-1 North Pier (LN)
(Pier Location, Vessel based, Land location, other)

Obs.
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Vessel Name: _____

Time Effort Initiated: 10:09

Time Effort Completed: 16:02

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/end time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist to Pile (from animal & pile)	# of Animals Group Size (min/max/best # of calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Min gation used during sighting?	Min gation Type	Visibility	% Glare	Wearh Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	12.	12:57: 12:59:	-	CW	MI	HSEA	36 Ⓜ or km 280	70 Ⓜ or km 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	① N	DE SD	B P M E	0 %	S	Light Mod Heavy	N NorE	SWIMMING along pier + tugboat
EON	12.1	13:01: 13:06:	-	CW	MI	HSEA	27 Ⓜ or km 270	60 Ⓜ or km 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	① N	DE SD	B P M E	0 %	S	Light Mod Heavy	N NorE	—
EON	12.2	13:12: :	-	CW	MI	HSEA	44 Ⓜ or km 270	68 Ⓜ or km 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	① N	DE SD	B P M E	0 %	S	Light Mod Heavy	N NorE	—
EON	13	13:19: :	-	CW	MI	HSEA	45 Ⓜ or km 240	57 Ⓜ or km 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	① N	DE SD	B P M E	0 %	S	Light Mod Heavy	N NorE	off east side of barge, foraging
EON	13.1	13:25: 13:29:	-	CW	FO	HSEA	0 Ⓜ or km 2	77 Ⓜ or km 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	① N	DE SD	B P M E	0 %	S	Light Mod Heavy	N NorE	FO, went directly under pier before monitor
EON	14	13:39: :		CW	SW(S)	HSEA	44 Ⓜ or km 256	70 Ⓜ or km 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	① N	DE SD	B P M E	0 %	S	Light Mod Heavy	N NorE	SW(S) toward barge
EON	15	13:40: 13:45:	-	CW	MI	HSEA	32 Ⓜ or km 232	60 Ⓜ or km 2 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	① N	DE SD	B P M E	0 %	S	Light Mod Heavy	N Nor S Wor E	MI, seen multiple times

Sighting chronological number of sightings, if resight of same animal, than 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long/time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-02-2021

Monitoring Location EHW-1 North Pier
(Pier Location, Vessel based, Land Location, other)

Obs

(EW)

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Vessel Name: _____

Time Effort Initiated: 10:09

Time Effort Completed: 16:02

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MMSI gation used during sighting?	MMSI gation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	16	13:47: :	-	CW	SW(SE)	HSEA	31° or km 292	62 0 or km	1 / 1 0 calves	opening closing parallel none SW(SE)	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	B P M G E	0 S	Light Mod Heavy	NE Wors WorE	SW from W toward barge	
EON	15,1	13:57: 13:59:	-	CW	MI	HSEA	32° or km 232°	60 0 or km	1 / 2 2 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	0 N	DE SD	B P M G E	0 S	Light Mod Heavy	NE Wors WorE	Floating on backs next to tug before diving	
EON	16,1	14:07: :	-	CW	MI	HSEA	10° or km 0	77 0 or km	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	B P M G E	0 S	Light Mod Heavy	NE Wors WorE	ON its back below/beneath monitor	
EON	17	14:12: :	-	CW	MI	HSEA	44° or km 263°	70 0 or km	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	B P M G E	0 S	Light Mod Heavy	NE Wors WorE	SW between pilings DN NW side of pier	
EON	18	14:22: :	-	CW	MI	HSEA	32° or km 236°	58 0 or km	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	B P M G E	0 S	Light Mod Heavy	NE Wors WorE	-	
EON	19	14:38: :	-	CW	MI	HSEA	20° or km 0	76 0 or km	1 / 2 0 calves	opening closing parallel none MF	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	B P M G E	0 S	Light Mod Heavy	NE Wors WorE	SW (S)	
EON	20	15:15: :	-	CW	SW(NE)	RIVD	60° or km 80	150 0 or km	1 / 1 0 calves	opening closing parallel none SW(NE)	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	B P M G E	0 S	Light Mod Heavy	NE Wors WorE	SW + DI	

Sighting #=chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Vessel - Based Obs
Monitoring Location EHW-1 North Pier (EM)
(Pier Location, Vessel based, Land Location, other) (CW)

Date: 09-02-2021

Vessel Name: MONARCH

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Time Effort Initiated: 10109

Time Effort Completed: 16102

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	21	15:20 : 15:21 :	-	CW	MI	HSEA	40° 255° km	59 or km	1 / 1 1 calves	opening closing parallel none MI	PPE POST SSV SSI V I PC DP ST <u>NONE</u>	Y	DE	B P M G E	0	S	<u>Light</u> Mod Heavy	Nors WorE	SW + DI
PRE	1	10:15 : 10:18 :	-	SM	SW	HSEA	300° 150° km	90 or km	1 / 1 0 calves	opening closing parallel none SW	PPE POST SSV SSI V I PC DP ST <u>NONE</u>	Y	DE	B P M G E	0	S	<u>Light</u> Mod Heavy	Nors WorE	HSEA has been in area for ~20 min.
PRE	2	10:23 : 10:24 :	-	SM	SW	HSEA	300° 84° km	60 or km	1 / 1 0 calves	opening closing parallel none SW	PPE POST SSV SSI V I PC DP ST <u>NONE</u>	Y	DE	B P M G E	0	S	<u>Light</u> Mod Heavy	Nors WorE	Drifting S along Pier
EON	1.1	10:46 : 10:49:	-	SM	SW	HSEA	330° 126° km	70 or km	1 / 1 0 calves	opening closing parallel none SW	PPE POST SSV SSI V I PC DP ST <u>NONE</u>	Y	DE	B P M G E	0	S	<u>Light</u> Mod Heavy	Nors WorE	
EON	1.2	11:00 : 11:07:	-	SM	SW	HSEA	200° 124° km	80 or km	1 / 1 0 calves	opening closing parallel none SW	PPE POST SSV SSI V I PC DP ST <u>NONE</u>	Y	DE	B P M G E	0	S	<u>Light</u> Mod Heavy	Nors WorE	
EON	3	11:17 : 11:22:	-	SM	SW	RIVD	75° 56° km	55 or km	1 / 1 0 calves	opening closing parallel none SW	PPE POST SSV SSI V I PC DP ST <u>NONE</u>	Y	DE	B P M G E	0	S	<u>Light</u> Mod Heavy	Nors WorE	DI + SW on NW end of wharf!
EON	1.3	11:38 : 11:40:	-	SM	RE	HSEA	200° 88° km	75 or km	1 / 1 0 calves	opening closing parallel none RE	PPE POST SSV SSI V I PC DP ST <u>NONE</u>	Y	DE	B P M G E	0	S	<u>Light</u>	Nor S Wor E	RE

Sighting #=chronological number of sightings, If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Obs

Date: 09-02-2021

Monitoring Location Vessel based (SM)
 (Pier Location, Vessel based, Land Location, other)

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Vessel Name: Monarch

Time Effort Initiated: 10:09

Time Effort Completed: 16:02

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?		% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	4	11:59 : 12:01 :	-	SM	LO	HSEA	30 Ⓜ or km °	Ⓜ or km	1 / 2	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y	DE	B P M	0	S	Light Mod Heavy	NorS WorE	LO at monitor boat + SWIMMING
EON	1.4	12:18 : 12:27 :	-	SM	SW	HSEA	180 Ⓜ or km °	Ⓜ or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y	DE	B P M	0	S	Light Mod Heavy	NorS WorE	
EON	5	13:06 : 13:09 :	-	SM	SW	HSEA	70 Ⓜ or km °	Ⓜ or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y	DE	B P M	0	S	Light Mod Heavy	NorS WorE	
EON	6	13:23 : 13:24 :	-	SM	LO	HSEA	50 Ⓜ or km °	Ⓜ or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y	DE	B P M	0	S	Light Mod Heavy	NorS WorE	Possibly same individual as Sighting #1
	:	:					m or km °	m or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y	DE	B P M			Light Mod Heavy	NorS WorE	
	:	:					m or km °	m or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y	DE	B P M			Light Mod Heavy	NorS WorE	
	:	:					m or km °	m or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y	DE	B P M				Nor S Wor E	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 1 of 4

Date: 09/13/2021

Vessel Name: _____

Time Effort Initiated: 0733, 1345

Time Effort Completed: 1134, 1426

Sighting Data

Event Code	Sighting Number (1 or L1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting code	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mill gation used during sighting?	Mill gation Type?	Visibility	% Glare	Wearh Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
PRE 1	07:42: 07:46:	-	EC	DI	HSEA	52 192	52 107	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE	B P M	SD <input checked="" type="radio"/>	2	S	<input checked="" type="radio"/> Light Mod Heavy	Nor S <input checked="" type="radio"/>	W Nore Wore	DI, LO, MI under PIER btwn EHW-1 + 2
PRE 2	07:55: 07:58:	-	EC	SW	HSEA	58 122	58 98	1 / 12 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE	B P M	SD <input checked="" type="radio"/>	3	S	<input checked="" type="radio"/> Light Mod Heavy	Nor S <input checked="" type="radio"/>	W Nore Wore	SW(N), 2 adult HSEA at finger pier (W)
PRE 3	08:05: :	-	EC	LO	HSEA	50 335	50 90	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE	B P M	SD <input checked="" type="radio"/>	3	S	<input checked="" type="radio"/> Light Mod Heavy	Nor S <input checked="" type="radio"/>	W Nore Wore	HSEA calf LO, DI, under(W) finger pier
PRE 2.1	08:17: :	-	EC	MI	HSEA	56 120	56 96	1 / 12 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE	B P M	SD <input checked="" type="radio"/>	3	S	<input checked="" type="radio"/> Light Mod Heavy	Nor S <input checked="" type="radio"/>	W Nore Wore	HSEA (2) MI
EDN 2.2	09:56: :	-	EC	MI	HSEA	206 226	206 264	1 / 12 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST None	Y <input checked="" type="radio"/>	DE	B P M	SD <input checked="" type="radio"/>	0	S	<input checked="" type="radio"/> Light Mod Heavy	Nor S <input checked="" type="radio"/>	W Nore Wore	2 HSEA milling SW of EHW-1
EDN 4	09:59: :	-	EC	MI	HSEA	38 190	38 94	1 / 11 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST None	Y <input checked="" type="radio"/>	DE	B P M	SD <input checked="" type="radio"/>	0	S	<input checked="" type="radio"/> Light Mod Heavy	Nor S <input checked="" type="radio"/>	W Nore Wore	seen 1st by other monitor, S EHW-1 pier, btwn marsh/pier
POST 5	11:34: 14:26:	-	EC	RE	CASL	300 215	300 400	1 / 15 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y <input checked="" type="radio"/>	DE	B P M	SD <input checked="" type="radio"/>	0	S	<input checked="" type="radio"/> Light Mod Heavy	Nor S <input checked="" type="radio"/>	W Nore Wore	5 CASL resting on outer fence/gate; occ calling

Sighting chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier N
(Pier Location, Vessel based, Land location, other)

Page 2 of 4

Date: 09-13-2021

Vessel Name: _____

Time Effort Initiated: 0933, 1345

Vessel Name: _____

Time Effort Completed: 1334, 1426

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching: sighting (Start/End time if continuous)	WP # (every time a sighting is made)	WPT every time a sighting is made)	Observer	Sighting code	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Concl Type During Sighting	Mins gallion used during sighting?	Mins gallion Type?	Visibility	% Glare	Wind Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
	Sighting Data																			
PRE	1	07:35:	-	CW	MI	HSEA	30 ^{or} km	10 or km	1 / 14	opening closing parallel none	PRE POST SSV SS V / PC DP ST. NONE	Y	DE	S P M	0	S	 Mod Heavy	NW Bors	MI + Spying NEAR W side of pier.	
		:	-				335	70	2 calves	MI		SD	S	0	0					
PRE	2	07:36:	-	CW	SW(N)	HSEA	150 ^{or} km	10 or km	1 / 1	opening closing parallel none	PRE POST SSV SS V / PC DP ST. NONE	Y	DE	S P M	0	S	 Mod Heavy	NW Bors	Swimming (N), well outside of shutdown zone	
		:	-				48	100	1 calves	SW (N)		SD	S	0	0					
PRE	1.1	07:47:	-	CW	MI	HSEA	15 ^{or} km	10 or km	1 / 12	opening closing parallel none	PRE POST SSV SS V / PC DP ST. NONE	Y	DE	S P M	0	S	 Mod Heavy	NW Bors	HSEA surfacing off of N pier, likely foraging	
		:	-				340	70	0 calves	MI		SD	S	0	0					
PRE	2.1	07:52:54 07:56:	-	CW	SW(E)	HSEA	220 ^{or} km	10 or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V / PC DP ST. NONE	Y	DE	S P M	0	S	 Mod Heavy	NW Bors	seen at 7:52+ again at 7:56	
			-				18	300	0 calves	SW (E)		SD	S	0	0					
PRE	3	07:59: 08:09:	-	CW	MI	HSEA	30 ^{or} km	10 or km	1 / 12	opening closing parallel none	PRE POST SSV SSI V / PC DP ST. NONE	Y	DE	S P M	0	S	 Mod Heavy	NW Bors	MI off N pier 15-80m away.	
			-				60	130	1 calves	MI		SD	S	0	0					
PRE	2.2	08:09: 08:10:	-	CW	SW(SW)	HSEA	90 ^{or} km	10 or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V / PC DP ST. NONE	Y	DE	S P M	0	S	 Mod Heavy	NW Bors	Swimming (SW), moved closer	
			-				350	150	1 calves	SW (SW)		SD	S	0	0					
PRE	4	08:12: 08:15:	-	CW	MI	HSEA	35 ^{or} km	10 or km	1 / 12	opening closing parallel none	PRE POST SSV SSI V / PC DP ST. NONE	Y	DE	S P M	0	S	 Mod Heavy	NW Bors	Milling + floating out back	
			-				308	75	1 calves	MI		SD	S	0	0					

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (CW)
 (Pier Location, Vessel based, Land location, other)

Page 3 of 4

Date: 09-13-2021

Vessel Name: -

Time Effort Initiated: 0733, 1345

Time Effort Completed: 1134, 1426

Sighting Data

Event Code	Sighting Number (1 or 1. if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting CWS	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitig ation used during sighting?	Mitig ation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments		
EON	5	08:22: 08:26:	-	CW	MI	HSEA	60 Ⓛ or 332 Ⓛ	50 or 150 Ⓛ	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PCDP ST NONE	(N)	DE	B P M	O E	0	S	Light Mod Heavy	NW Bors Mod Heavy	MI off pier to NW
EON	6	08:25: 08:27:	-	CW	MI	HSEA	120 Ⓛ or 32 Ⓛ	50 or 250 Ⓛ	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PCDP ST NONE	(N)	DE	B P M	O E	0	S	Light Mod Heavy	NW Bors Mod Heavy	MI to North
EON	6.1	08:35: 08:37:	-	CW	SW (SW)	HSEA	200 Ⓛ or 38 Ⓛ	50 or 320 Ⓛ	1 / 1 0 calves	SW (SW)	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	(N)	DE	B P M	O E	0	S	Light Mod Heavy	NW Bors Mod Heavy	SWIMMING (SW), surfaced & continued SW (SW).
EON	7	08:47: :	-	CW	SW(W)	HSEA	150 Ⓛ or 22 Ⓛ	50 or 260 Ⓛ	1 / 1 0 calves	SW (W)	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	(N)	DE	B P M	O E	0	S	Light Mod Heavy	NorS Mod Heavy	Well NORTH of shut- down ZONE. Same as sighting 6, 6.1?
EON	8	08:52: :	-	CW	SW (SW)	HSEA	65 Ⓛ or 318 Ⓛ	50 or 100 Ⓛ	1 / 1 0 calves	SW (SW)	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	(N)	DE	B P M	O E	0	S	Light Mod Heavy	NorS Mod Heavy	SW (SW) also seen by Spice monitor.
EON	9	09:20: :	-	CW	MI	HSEA	60 Ⓛ or 308 Ⓛ	50 or 95 Ⓛ	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	(N)	DE	B P M	O E	0	S	Light Mod Heavy	NorS Mod Heavy	MI around W + NW of North pier
EON	10	09:58: :	-	CW	MI	HSEA	190 Ⓛ or 152 Ⓛ	50 or 100 Ⓛ	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	(N)	DE	B P M	O E	0	S	Light	NorS Mod Heavy	Under S pier road to access EHW-1 (South)

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (CW)
 (Pier Location, Vessel based, Land location, other)

Date: 09-13-2021

Vessel Name: -

OBS

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Time Effort Initiated: 0733:1345

Time Effort Completed: 1134:1426

Sighting Data

Event Code	Sighting Number (1 or 11 if resight)	Time/Duration watching sighting (start/end time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cues	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/ Behavior Code (see code sheet)	Const. Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	11	10:34: : :	-	CW	TR (SW)	CASL	180°br 40	km 300	/ / 0 calves	opening closing parallel none TR (SW)	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P G E	0 S	Light Mod Heavy	W NorE	TR (SW), surfacing every ~100m	
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P G E		Light Mod Heavy	NorS		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P G E		Light Mod Heavy	NorS		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P G E		Light Mod Heavy	NorS		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P G E		Light Mod Heavy	NorS		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P G E		Light Mod Heavy	NorS		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P G E		Light Mod Heavy	NorS		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P G E		Light Mod Heavy	NorS		

Sighting #chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 1 of 10

Date: 09-14-2021

Vessel Name:

Time Effort Initiated: 0842;

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting code	Species	Dist/Dir to Animal (From Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/test # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Conse/ Type During Sighting	Moving position used during sighting?	Move position type?	Visibility	% Glare	Wearh Cond	Sea State and Wave Ht.	Swell Dir	Behavior Change/ Response to Activity/Comment	
PRE	1	08:45: :	-	EC	MI	RIVD	55 or 300	95 or km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST NONE	Y (N)	DE SD	* * M O : :	0	PC	NW Brs Wrt Mod Heavy		
PRE	2	08:45: :	-	EC	MI	HSEA	40 or 320	88 or km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST NONE	Y (N)	DE SD	* * M O : :	0	PC	NW Brs Wrt Mod Heavy	Adult F, on back then MI	
PRE	3	08:46: :	-	EC	DI	HSEA	38 or 22	108 or km	1 / 1 0 calves	SW(S)	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST NONE	Y (N)	DE SD	* * M O : :	0	PC	NW Brs Wrt Mod Heavy	Adult SN(S)	
EON	2.1	09:02: 9:09:	-	EC	MI	HSEA	48 or 310	118 or km	1 / 1 0 calves	SN(N)	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST NONE	Y (N)	DE SD	* * M O : :	0	PC	NW Brs Wrt Mod Heavy	HSEA SW(N) - rbs by boat obs too.	
EON	4	09:05: :	-	EC	RE	CASL	360 or 215	440 or km	1 / 13 0 calves	RE	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST NONE	Y (N)	DE SD	* * M O : :	0	PC	NW Brs Wrt Mod Heavy	CASL on fence, calling as NAVY see boat going by	
EON	1.1	09:14: 09:37:	-	EC	MI	RIVD	65 or 310	75 or km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST NONE	Y (N)	DE SD	* * M O : :	0	PC	NW Brs Wrt Mod Heavy	Milling + Flapping by barge, 9:23 - 26 again same spot, 9:26, 9:30	
EON	5	09:18: :	-	EC	MI	HSEA	65 or 310	75 or km	1 / 12 1 calves	MI	opening closing parallel none	PRE POST SSV SSV V 1 PC DP ST NONE	Y (N)	DE SD	* * M O : :	0	PC	0 or S or E	seen by MI, obs too, flapping + milling by barge/boat	

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint) GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Obs

Project Name: Bangor EHW-1

Date: 09-14-2021

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Vessel Name: _____

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Time Effort Initiated: 0842,

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best #) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Miti gation used during sighting?	Miti gation Type?	Visibility	% Glare	Wreath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EDN	5.1	09:21 : 09:24 :	-	EC	SW(S)	HSEA	49 ^{mpr} km 278	127	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	(DE) SD	B P M ○ E	0	PC	Light Mod Heavy	NW Bors WorE	Adult + calf slowly SW(S) along W finger pier
EDN	5.2	09:32: 9:50:	-	EC	MI(M)	HSEA	45 ^{mpr} km 276	125	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	(DE) SD	B P M ○ E	0	PC	Light Mod Heavy	NW Bors WorE	Adult + calf DI, FD, MI along w finger pier,
EDN	6	09:56 : : : 10:05	-	EC	SW(E)	HSEA	46 ^{mpr} km 158	116	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	(DE) SD	B P M ○ E	0	PC	Light Mod Heavy	NW Bors WorE	v. small calf btwn EHW-1 & 2, swimming East, seeing repeatedly
EDN	5.3	10:03 : : : 10:15	-	EC	SW(N)	HSEA	50 ^{mpr} km 332	100 ^{mpr} km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	(DE) SD	B P M ○ E	0	PC	Light Mod Heavy	NW Bors WorE	Adult only seen, SW(N) under W finger pier
EDN	7	10:11 : : : 10:20	-	EC	SW(S)	HSEA	32 ^{mpr} km 67	35	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	(DE) SD	B P M ○ E	0	PC	Light Mod Heavy	NW Bors WorE	under E wharf
EDN	8	10:11 : 10:22:	-	EC	MI	HSEA	47 ^{mpr} km 181	110	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	(DE) SD	B P M ○ E	0	PC	Light Mod Heavy	NW Bors WorE	under pier btwn EHW-1 & 2, MI, seeing regularly
EDN	9	10:22 : : : 10:30	-	EC	SW (N)	HSEA	58 ^{mpr} km 148	118	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST (NONE)	Y N	(DE) SD	B P M ○ E	0	PC	Light Mod Heavy	NW Bors WorE	

Sighting #: chronological number of sightings; if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-14-2021

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Vessel Name: -

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Time Effort Initiated: 0842

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 2 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (Leave time a sighting is made)	Observer	Sighting code	Species	Dist to Animal (from Observer)	Dist to Pile (from animal & pile)	# of Animals Group Size (min/max/best) (# of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const. Type During Sighting	Mitt. gation used during sighting?	Mitt. gation Type?	Visibility	% Glow	Wearh Cond.	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	10	10:33: 10:35:	-	EC	LO	HSEA	189 ^{or} km	18 ^{or} km	1 / 1 0 calves	opening closing parallel none	PRE, POST, SSV, SSI V, I PCDP ST, (none)	Y	DE	8-9 M	0	PC	2 Med Heavy	NW NorE	N of N pier LO, DI
EON	10.1	10:35: 10:42:	-	EC	SW(N) LO	HSEA	45 ^{or} km	155 ^{or} km	1 / 1 1 calves	opening closing parallel none	PRE, POST, SSV, SSI V, I PCDP ST, (none)	Y	DE	8-9 M	0	PC	2 Med Heavy	NW NorE	same calf under frozen pier, SW, LO, DI
EON	11	10:49: 10:59:	-	EC	MI	HSEA	60 ^{or} km	244 ^{or} km	1 / 1 0 calves	opening closing parallel none	PRE, POST, SSV, SSI V, I PCDP ST, (none)	Y	DE	8-9 M	0	PC	2 Med Heavy	NW NorE	under S end of frozen wharf
EON	12	10:51: 10:52:	-	EC	MI	HSEA	75 ^{or} km	352 ^{or} km	1 / 1 0 calves	opening closing parallel none	PRE, POST, SSV, SSI V, I PCDP ST, (none)	Y	DE	8-9 M	0	PC	2 Med Heavy	NW NorE	MI, DI, hunting W of barge
EON	10.1	11:20: :	-	EC	LO, MI	HSEA	150 ^{or} km	19 ^{or} km	1 / 1 0 calves	opening closing parallel none	PRE, POST, SSV, SSI V, I PCDP ST, (none)	Y	DE	8-9 M	0	PC	2 Med Heavy	NW NorE	MI, LO, SW(N).
EON	11.1	11:39: :	-	EC	MI	HSEA	64 ^{or} km	242 ^{or} km	1 / 1 0 calves	opening closing parallel none	PRE, POST, SSV, SSI V, I PCDP ST, (none)	Y	DE	8-9 M	0	DC	2 Med Heavy	NW NorE	under S end of frozen wharf
EON	11.2	11:46: 11:56:	-	EC	SW(E)	HSEA	46 ^{or} km	181 ^{or} km	1 / 1 0 calves	opening closing parallel none	PRE, POST, SSV, SSI V, I PCDP ST, (none)	Y	DE	8-9 M	0	DC	18 Med Heavy	NW NorE	SW(E) under pier S of EHW-1.

Sighting = chronological number of sightings, if resight of same animal, than 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/data stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

OBS
EHW-1 North Pier (CW)

Monitoring Location EHW-1 South Pier (EC)
 (Pier Location, Vessel based, Land Location, other)

Page 4 of 10

Date: 09-14-2021

Time Effort Initiated: 0842

Vessel Name: -

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP# (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (between animal and observer)	# of Animals Group Size (min/max/best N) # of Calves	Relative Motion and Behavior Code (see code sheet)	Const Type During Sighting	Mitg ation used during sighting?	Mitg ation Type?	Visibility	% Glare	Wreath Cond	Sea State and Wave Ht	W Swell Dir	Behavior Change/ Response to Activity/Comments
EDN	13	12:03 : : :	-	EC	MI	HSEA	50 ♂ or km 256	68 ♂ or km	1 / 1 0 calves	MI	PRE POST SSV SSI V I PCDP ST NONE	(Y) N	(DE) SD	B P M	0	OC	Light Mod Heavy	N NorS NorE	under W pier
EDN	62	13:14 : : :	-	EC	SW(N)	HSEA	36 ♂ or km 247	106 ♂ or km	1 / 1 1 calves	SW(N)	PRE POST SSV SSI V I PCDP ST NONE	(Y) N	(DE) SD	B P M	0	OC	Light Mod Heavy	N NorS NorE	SW(N). LO then rapidly SW(A) toward in port area,
EDN	14	14:55 : : :	-	EC	RE, LO	CASL	350 ♂ or km 335	410 ♂ or km	1 / 15 2 calves	RE	PRE POST SSV SSI V I PCDP ST NONE	(Y) (N)	DE SD	B P M	0	OC	Light Mod Heavy	N NorS NorE	5 CASL resting on outer fence/gate
PRE	1	08:43 : : :	-	CW	MI	HSEA	35 ♂ or km 290	70 ♂ or km	1 / 1 0 calves	MI	POST SSV SSI V I PCDP ST NONE	(Y) (N)	DE SD	B P M	0	PC	Light Mod Heavy	NW NorS NorE	MI under NW pier.
PRE	2	08:48 : : :	-	CW	MI	HSEA	95 ♂ or km 306	130 ♂ or km	1 / 1 1 calves	MI	POST SSV SSI V I PCDP ST NONE	(Y) (N)	DE SD	B P M	0	PC	Light Mod Heavy	NW NorS NorE	MI to NW from NW Pier.
PRE	3	08:52 : 08:53 :	-	CW	MI	HSEA	32 ♂ or km 300	70 ♂ or km	1 / 12 + calves	MI	POST SSV SSI V I PCDP ST NONE	(Y) (N)	DE SD	B P M	0	PC	Light Mod Heavy	NW NorS NorE	MI under NW pier
PRE	3.1	08:55 : : :	-	CW	MI	HSEA	35 ♂ or km 252	50 ♂ or km	1 / 12 1 calves	MI	POST SSV SSI V I PCDP ST NONE	(Y) (N)	DE SD	B P M	0	PC	Light Mod Heavy	N NorS NorE	Surfaced near tug boat

Sighting # (chronological number of sightings, if resight of same animal), then 1.1, 1.2, etc. WP# (Waypoint) GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 North Pier (EW)
(Pier Location, Vessel based, Land Location, other)

Page 5 of 10

Date: 09-14-2021

Vessel Name: -

Time Effort Initiated: 0842

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals (min/max/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitig ation used during sighting?	Mitig ation Type?	Visibility	% Glare	Wearh Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
EDN	4	09:02: 09:06:	-	CW	MI	HSEA	50° or km 18	10° or km 140	1 / 12 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	(Y) N	(DE) SD	B P M D E	0	PC	Light Mod Heavy	NW Bors WorE	Not pier
EDN	5	09:02: :	-	CW	MI	HSEA	32° or km 286	10° or km 50	1 / 12 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	(Y) N	(DE) SD	B P M D E	0	PC	Light Mod Heavy	NW Bors WorE	MI near tugboat
EDN	6	09:08: 09:15:	-	CW	MI	HSEA	35° or km 300	10° or km 80	1 / 14 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	(Y) N	(DE) SD	B P M D E	0	PC	Light Mod Heavy	NW Bors WorE	All between tugboat + N pier
EDN	6.1	09:22: 09:24:	-	CW	MI	HSEA	35° or km 304	10° or km 80	1 / 14 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	(Y) N	(DE) SD	B P M D E	0	PC	Light Mod Heavy	NW Bors WorE	MI under NW pier
EDN	6.2	09:28: 09:33:	-	CW	MI	HSEA	32° or km 277°	10° or km 75	1 / 14 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	(Y) N	(DE) SD	B P M D E	0	PC	Light Mod Heavy	NW Bors WorE	
EDN	6.3	09:35: 09:40:	-	CW	MI	HSEA	50° or km 305°	10° or km 95	1 / 13 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	(Y) N	(DE) SD	B P M D E	0	PC	Light Mod Heavy	NW Bors WorE	Next to tugboat
EDN	6.4	09:42: 09:48:	-	CW	MI	HSEA	15° or km 283°	10° or km 80	1 / 14 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	(Y) N	(DE) SD	B P M D E	0	PC	Light Mod Heavy	NW Bors WorE	Swimming next to pier catching fish

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 North Pier
(Pier Location, Vessel based, Land Location, other)

OBS
(EW)

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Date: 09-14-2021

Vessel Name: -

Time Effort Initiated: 0842

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
	(1 or 1.1 if resight)	(Start/End time if continuous)	Observer		Sighting cue															
EON 7	09:57 : 10:04 :	-	CW	MI	HSEA	35° or km 305	90	1 or km 2 calves	1 / 14	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (none)	○ N	DE SD	B P ○ E	0 ○	PC	NW Bors Mod Heavy	Light Mod Heavy	Continuing to MI around N pier
EON 8	10:07 : :	-	CW	MI	HSEA	35° or km 300	90	1 or km 1 calves	1 / 12	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (none)	○ N	DE SD	B P ○ E	0 ○	PC	NW Bors Mod Heavy	Light Mod Heavy	MI under NW pier
EON 9	10:12 : :	-	CW	MI	HSEA	35° or km 318°	90	1 or km 2 calves	1 / 14	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (none)	○ N	DE SD	B P ○ E	0 ○	PC	NW Bors Mod Heavy	Light Mod Heavy	NW Bors Mod Heavy
EON 10	10:14 : 10:20 :	-	CW	MI	HSEA	50° or km 25	140	1 or km 1 calves	1 / 12	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (none)	○ N	DE SD	B P ○ E	0 ○	PC	NW Bors Mod Heavy	Light Mod Heavy	MI under NW pier + between piles.
EON 10.1	10:24 : 10:32 :	-	CW	MI	HSEA	35° or km 317	70	1 or km 0 calves	1 / 11	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (none)	○ N	DE SD	B P ○ E	0 ○	PC	NW Bors Mod Heavy	Light Mod Heavy	under NW pier
EON 11	10:42 : 10:47 :	-	CW	MI	HSEA	5° or km 300	95	1 or km 0 calves	1 / 12	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (none)	○ N	DE SD	B P ○ E	0 ○	PC	NW Bors Mod Heavy	Light Mod Heavy	wider monitor + next to pier
EON 12	10:52 : :	-	CW	FO	HSEA	44° or km 290	55	1 or km 1 calves	1 / 11	FO, MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (none)	○ N	DE SD	B P ○ E	0 ○	PC	NW Bors Mod Heavy	Light Mod Heavy	Feeding next to tugboat

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Obs

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Date: 09-14-2021

Monitoring Location EHW-1 Pier North (CW)
(Pier Location, Vessel based, Land Location, other)

Vessel Name: -

Time Effort Initiated: 0842

Sighting Data

Time Effort Completed: 1604

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (burn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	MIG action Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/Response to Activity/Comments
EON 13	10:56: :	-	CW	MI	HSEA	35 ♂ or km 300	♂ or km 85	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V. I PCDP ST NONE	Y	DE	B P M SD	0	PC	NW Mod Heavy W or E	NW Mod Heavy W or E	MI under NW pier	
EON 14	11:06: 11:12:	-	CW	MI	HSEA	50 ♂ or km 280	♂ or km 70	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V. I PCDP ST NONE	Y	DE	B P M SD	0	PC	NW Mod Heavy W or E	NW Mod Heavy W or E	"	
EON 15	11:23: 11:29:	-	CW	MI	HSEA	40 ♂ or km 287	♂ or km 72	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V. I PCDP ST NONE	Y	DE	B P M SD	0	PC	NW Mod Heavy W or E	NW Mod Heavy W or E	MI under NW pier	
EON 16	11:45: :	-	CW	MI	HSEA	65 ♂ or km 248	♂ or km 65	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V. I PCDP ST NONE	Y	DE	B P M SD	0	OC	NW Mod Heavy W or E	NW Mod Heavy W or E	SW from W pier towards barge	
EON 17	12:03: :	-	CW	MI	HSEA	120 ♂ or km 280	♂ or km 150	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V. I PCDP ST NONE	Y	DE	B P M SD	0	OC	NW Mod Heavy W or E	NW Mod Heavy W or E	Quickly surfaced + dove. Brief	
EON 18	13:36: 13:42:	-	CW	MI	HSEA	37 ♂ or km 312	♂ or km 95	1 / 1 1 calves	opening closing parallel none MI	PRE POST SSV SSI V. I PCDP ST NONE	Y	DE	B P M SD	0	OC	NW Mod Heavy W or E	NW Mod Heavy W or E	MI right off NW pier	
EON 18.1	13:45: :	-	CW	MI	HSEA	15 ♂ or km 348	♂ or km 110	1 / 1 1 calves	opening closing parallel none MI	PRE POST SSV SSI V. I PCDP ST NONE	Y	DE	B P M SD	0	OC	NW Mod Heavy W or E	NW Mod Heavy W or E	Right off pier below observer	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (CW)
(Pier Location, Vessel based, Land Location, other)

Date: 09-14-2021

Vessel Name: -

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Time Effort Initiated: 0842

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals (min/max/best # of calves)	Relative Motion and Behavior Code (see code sheet)	Cont. Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	19	13:49 : :	-	CW	MI	HSEA	40 Ⓛ km 265	70 Ⓛ km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M	D	OC	NW Mod Heavy	W NorE	Under NW pier/cont- crete piles
EON	18.2	14:01 : :	-	CW	MI	HSEA	10 Ⓛ km 327	95 Ⓛ km	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M	D	OC	NW Mod Heavy	W NorE	surfaced between piles
EON	20	14:58 : 15:00 :	-	CW	MI	HSEA	34 Ⓛ km 240	65 Ⓛ km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M	D	OC	NW Mod Heavy	W NorE	surfaced right near tugboat
EON	20.1	15:07 : :	-	CW	MI	HSEA	2 Ⓛ km 0	95 Ⓛ km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	O	DE	B P M	D	OC	NW Mod Heavy	W NorE	under observed pier, seen by adjacent team
EON	20.2	15:11 : :	-	CW	MI	HSEA	60 Ⓛ km 260	60 Ⓛ km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M	D	OC	NW Mod Heavy	W NorE	next to piles
EON	21	15:43 : :	-	CW	MI	HSEA	35 Ⓛ km 258	60 Ⓛ km	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M	D	OC	NW Mod Heavy	W NorE	surfaced near tugboat
EON	22	15:54 : :	-	CW	MI	HSEA	6 Ⓛ km 358	100 Ⓛ km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST (NONE)	Y	DE	B P M	D	OC	NW Mod Heavy	W NorE	surfaced just off pier, hunting fish

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Monitoring Location vessel based (SM)
(Pier Location, Vessel based, Land location, other)

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Date: 09-14-2021

Vessel Name: Monarch

Time Effort Initiated: 0842

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 1 if resight)	Time/Duration watching/sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mis gation used during sighting?	Mis gation Type?	Visibility	% Glares	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/Response to Activity/Comments
PRE	1	08:57: 08:58:	-	SM	LO	HSEA	160 @or km 124	100 @or km	1 / 1 0 calves	opening closing parallel none LD	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	8 P M O E	0	PC	NW Mod Heavy @or E		
EON	2	09:11 : 09:12 :	-	SM	SW	HSEA	80 @or km 79	300 @or km	1 / 1 0 calves	opening closing parallel none SW	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	8 P M O E	0	PC	NW Mod Heavy @or E	SWIMMING (W)	
EON	3	09:14 : :	-	SM	SW	HSEA	160 @or km 53	450 @or km	1 / 1 0 calves	opening closing parallel none SW	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	8 P M O E	0	PC	NW Mod Heavy @or E	SWIMMING (N)	
EON	4	09:18 : :	-	SM	SW	CASL	400 @or km 44°	450 @or km	1 / 1 0 calves	opening closing parallel none SW	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	8 P M O E	0	PC	NW Mod Heavy @or E	SW(S)	
EON	5	09:18 : :	-	SM	SW	HSEA	70 @or km 248	380 @or km	1 / 1 0 calves	opening closing parallel none SW	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	8 P M O E	0	PC	NW Mod Heavy @or E	SW(SE)	
EON	6	10:18 : :	-	SM	SW	HSEA	210 @or km 280	270 @or km	1 / 1 0 calves	opening closing parallel none SW	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	8 P M O E	0	PC	NW Mod Heavy @or E	SW(S)	
EON	7	10:40 : :	-	SM	SW	HSEA	100 @or km 158	180 @or km	1 / 1 0 calves	opening closing parallel none SW	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	8 P M O E	0	PC	SW S Mod Heavy @or E	SW(S)	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-14-2021

Monitoring Location vessel based Obs
(Pier Location, Vessel based, Land Location, other)

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Vessel Name: MONARCH

Time Effort Initiated: 0842

Time Effort Completed: 1604

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mit igation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	8	12:23 : : :	-	SM	LO	HSEA	60 km 262	550	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M	0	OC	Light Mod Heavy	NW NorS NorE	No reaction to soft start impact, looking (NW)
EON	9	13:59 : : :	-	SM	SW	CASL	170 km 20	550	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M	0	OC	Light Mod Heavy	NW NorS NorE	-
EON	10	14:43 : : :	-	SM	SW	HSEA	56 km 103	330	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M	0	OC	Light Mod Heavy	NW NorS NorE	-
	:	:					m or km	m or km	1 / — calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	NorS NorE	
	:	:					m or km	m or km	1 / — calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	NorS NorE	
	:	:					m or km	m or km	1 / — calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	NorS NorE	
	:	:					m or km	m or km	1 / — calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	NorS NorE	

Sighting # chronological number of sightings; If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Date: 09-16-2021

Vessel Name: -

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Time Effort Initiated: 0854

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Comst Type During Sighting	MHS gation used during sighting?	MHS gation Type?	Visibility	% Glare	Wash Cond	Sea State and Wav Ht	Wind Dir	Behavior Change/ Response to Activity/Comments
PRE	1	09:01 : :	-	EC	DI	HSEA	38 ♂ or km 92	♂ or km 108	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	W NorE	DAVE immediately, calif
PRE	2	09:15 : :	-	EC	SW(?) RIVD	RIVD	56 ♂ or km 13	♂ or km 126	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	W NorE	SW(A)
PRE/EON	3	09:05: 09:17:	-	EC	MI	HSEA	35 ♂ or km 326	♂ or km 110	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	W NorE	Milling under W Finger Wharf
EON	4	09:21 : 09:32 :	-	EC	MI	HSEA	47 ♂ or km 328	♂ or km 120	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	W NorE	MI, floating on back, seen every 2-3 min
EON	5	09:30 : :	-	EC	TR(S)	CASL	72 ♂ or km 144 km	♂ or km 144 km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	W NorE	? adult, TR(S)
EON	3.1	09:34 : :	-	EC	MI	HSEA	40 ♂ or km 148	♂ or km 110	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	W NorE	Milling between EHW1 + 2.
EON	4.1	09:38 : 09:47 :	-	EC	SW(S)	HSEA	48 ♂ or km 285	♂ or km 118	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M G E	5	S	Light Mod Heavy	W NorE	continuing to see every 2-3 min under W Finger pier

Sighting Chronological number of sightings; if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

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Date: 09-16-2021

Vessel Name: _____

Time Effort Initiated: 0854,

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or 11 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MHS gallon used during sighting?	MHS gallon Type?	Visibility	% Glare	W eath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	4.2	09:56 : :	-	EC	TR(N)	HSEA	67 ^{nor} km 292	147 ^{nor} km	1 / 11 0 calves	opening closing parallel none TR(N)	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	①	DE SD	B P M ② E	5 S	^{Light} Mod Heavy	W Nor S Nor E	TR(N) along w finger pier	
EON	6	10:14 : 10:17 :	-	EC	MI	HSEA	60 ^{nor} km 286	140 ^{nor} km	1 / 11 0 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	①	DE SD	B P M ② E	5 S	^{Light} Mod Heavy	W Nor S Nor E	milling under w finger pier	
EON	7	10:28 : 10:36 :	-	EC	MI	HSEA	39 ^{nor} km 91	109 ^{nor} km	1 / 12 0 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	②	DE SD	B P M ③ E	5 S	^{Light} Mod Heavy	W Nor S Nor E	2 adults under w finger pier south end, seeing every 3 m	
EON	8	10:33 : :	-	EC	SW(N)	HSEA	102 ^{nor} km 162	132 ^{nor} km	1 / 11 1 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	②	DE SD	B P M ④ E	5 S	^{Light} Mod Heavy	W Nor S Nor E	s of EHW-1 across from EHW-2	
EON	7.1	10:42 : 10:44 :	-	EC	MI	HSEA	43 ^{nor} km 286	113 ^{nor} km	1 / 11 0 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	②	DE SD	B P M ⑤ E	5 S	^{Light} Mod Heavy	W Nor S Nor E	w finger pier, 1 adult only	
EON	8.1	10:48 : 11:10 :	-	EC	MI	HSEA	60 ^{nor} km 150	120 ^{nor} km	1 / 11 1 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	①	DB SD	B P M ⑥ E	5 S	^{Light} Mod Heavy	W Nor S Nor E	seen under pier to EHW-2 w/in shut- down zone	
EON	7.2	10:53 : 10:56 :	-	EC	MI	HSEA	40 ^{nor} km 288	110 ^{nor} km	1 / 12 2 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	①	DE SD	B P M ⑦ E	5 S	^{Light}	W Nor S Nor E	under w finger pier, 2 adults	

Sighting #chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)/GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Monitoring Location EHW-1 Pier South (EC)
 (Pier Location, Vessel based, Land Location, other)

Obs

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Date: 09-16-2021

Vessel Name:

Time Effort Initiated: 0854

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitt gation used during sighting?	Mitt gation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	7.3	11:08: 11:27:	-	EC	SW(S)	HSEA	48 200	118 km	1 / 12 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V I PC DP ST (NONE)	(Y) N	(DE) SD	B P M (G) E	5	S	Light Mod Heavy	W Nor S (W) E	2 adults @ S end of W finger pier;
EON	8.2	11:30: 11:32:	-	EC	MI	HSEA	60 152	120 km	1 / 11 0 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST (NONE)	(Y) N	(DE) SD	B P M (G) E	5	S	Light Mod Heavy	W Nor S (W) E	calf in same area Milling, @ 11:32 seen leaving shut down zone
EON	9	11:39: 11:49:	-	EC	SW, DI	HSEA	20 169	88 km	1 / 11 0 calves	opening closing parallel none SW, DI	PRE POST SSV SSI V I PC DP ST (NONE)	(Y) N	(DE) SD	B P M (G) E	5	S	Light Mod Heavy	W Nor S (W) E	calf diving + SW(S)
EON	10	11:42: ::	-	EC	SW(N)	HSEA	50 320	58 km	1 / 11 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PC DP ST (NONE)	(Y) N	(DE) SD	B P M (G) E	5	S	Light Mod Heavy	W Nor S (W) E	between comm. tower + beach SW(N).
EON	9.1	11:50: 12:06:	-	EC	MI	HSEA	69 300	55 km	1 / 11 0 calves	opening closing parallel none MI, SW	PRE POST SSV SSI V I PC DP ST (NONE)	(Y) N	(DE) SD	B P M (G) E	5	S	Light Mod Heavy	W Nor S (W) E	calf seen between bridge + W hangar seen repeatedly
EON	11	11:53: ::	-	EC	DI	HSEA	50 267	120 km	1 / 11 0 calves	opening closing parallel none SW, DI	PRE POST SSV SSI V I PC DP ST (NONE)	(Y) N	(DE) SD	B P M (G) E	5	S	Light Mod Heavy	W Nor S (W) E	adult seen DI @ outside edge of W finger pier
EON	8.3	12:08: 12:19:	-	EC	DS	HSEA	50 170	120 km	1 / 11 0 calves	opening closing parallel none DI	PRE POST SSV SSI V I PC DP ST (NONE)	(Y) N	(DE) SD	B P M (G) E	5	S	Light Mod Heavy	W Nor S (W) E	under S pier frequently seen

Sighting #: chronological number of sightings, If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 North Pier (D65 TCW)
(Pier Location, Vessel based, Land Location, other)

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Date: 09-16-2021

Vessel Name: _____

Time Effort Initiated: 0854

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or L1 if resight)	Time/Duration watching sighting (Start/end time if continuous) (Start/end time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitt igation used during sighting?	Mid igation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Wind Dir	Behavior Change/ Response to Activity/Comments	
EON	9,2	12:21 : 12:43 :	-	EC	LO	HSEA	40 ^{mor} km 280	110 ^{mor} km	1 / 1 1 calves	opening closing parallel none LO, SW	PRE POST SSV SSI V. I PC DP ST (NONE)	Y N	DE SD	S P M E	5	S	Light Mod Heavy	NW Nor S	W Nor E	under W finger pier, seen numerous times
EON	12	12:51 : :	-	EC	SW(S)	HSEA	45 ^{mor} km 74	68 ^{mor} km	1 / 0 1 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V. I PC DP ST (NONE)	Y N	DE SD	S P M E	3	S	Light Mod Heavy	NW Nor S	W Nor E	between S. pier + comm. tower
EON	13	13:52: 14:02:	-	EC	TR(N)	HSEA	36 ^{mor} km 312	116 ^{mor} km	1 / 1 0 calves	opening closing parallel none TR(N)	PRE POST SSV SSI V. I PC DP ST (NONE)	Y N	DE SD	S P M E	3	S	Light Mod Heavy	NW Nor S	W Nor E	small TR(N) adult+, seen again SW(S) along w finger pier
EON	14	14:19 : :	-	EC	MI	HSEA	41 ^{mor} km 287	111 ^{mor} km	1 / 1 0 calves	opening closing parallel none SW, MJ	PRE POST SSV SSI V. I PC DP ST (NONE)	Y N	DE SD	S P M E	3	S	Light Mod Heavy	NW Nor S	W Nor E	Adult on back, then MJ under W finger pier
PRE	1	08:54 : 08:58:	-	CW	SW(W)	HSEA	60 ^{mor} km 25	95 ^{mor} km	1 / 1 0 calves	opening closing parallel none SW(W)	PRE POST SSV SSI V. I PC DP ST (NONE)	Y N	DE SD	S P M E	0	S	Light Mod Heavy	Nor S	W Nor E	SW (W) then Dove
PRE	2	09:05 : :	-	CW	SW(S)	HSEA	50 ^{mor} km 260	65 ^{mor} km	1 / 1 0 calves	opening closing parallel none SW (S)	PRE POST SSV SSI V. I PC DP ST (NONE)	Y N	DE SD	S P M E	0	S	Light Mod Heavy	Nor S	W Nor E	SW under wharf toward barge
PRE	3	09:07 : :	-	CW	SW(E)	HSEA	35 ^{mor} km 290	90 ^{mor} km	1 / 1 0 calves	opening closing parallel none SW (E)	PRE POST SSV SSI V. I PC DP ST (NONE)	Y N	DE SD	S P M E	0	S	Light	Nor S	W Nor E	SW from W under NW pier

Sighting chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-16-2021

Monitoring Location EHW-1 North Pier (cw)
 (Pier Location, Vessel based, Land Location, other)

Obs

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Vessel Name:

Time Effort Initiated: 0854

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or 11 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
	Sighting Data																		
PRE	4	09:12 : : :	-	CW	MI	HSEA	20 ♂ or km 270	♂ or km 85	1 12 1 calves	parallel none MI	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M SD	0 S	Mod Heavy	Nor S Nor E	calf floating toward barge. Adult SW under NW pier.	
EON	5	09:23 : 09:25 :	-	CW	MI	HSEA	35 ♂ or km 344	♂ or km 95	1 11 1 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M SD	0 S	Mod Heavy	Nor S Nor E	MI around + under NW pier	
EON	6	09:33 : 09:35 :	-	CW	MI	HSEA	15 ♂ or km 290	♂ or km 95	1 12 2 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M SD	0 S	Mod Heavy	Nor S Nor E	MI off pier, N side	
EON	7	09:37 : ::	-	CW	MI	HSEA	40 ♂ or km 270	♂ or km 87	1 13 1 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M SD	0 S	Mod Heavy	Nor S Nor E	MI under NW pier	
EON	8	09:42 : 09:43 :	-	CW	MI	HSEA	35 ♂ or km 283	♂ or km 90	1 12 1 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M SD	0 S	Mod Heavy	Nor S Nor E	MI under NW pier	
EON	9	09:47 : 09:51 :	-	CW	MI	HSEA	5 ♂ or km 285	♂ or km 95	1 11 1 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M SD	0 S	Mod Heavy	Nor S Nor E	MI under observer just off pier	
EON	10	10:02 : ::	-	CW	MI	HSEA	30 ♂ or km 280	♂ or km 85	1 11 0 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M SD	0 S	light	Nor S Nor E	MI N of tugboat	

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Obs

Date: 09-16-2021

Monitoring Location EHW-1 North Pier (CW)
(Pier Location, Vessel based, Land Location, other)

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Vessel Name: -

Time Effort Initiated: 0854

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time of continuous sighting is made)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitig ation used during sighting?	Mitig ation Type?		% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	11	10:03 : 10:07 :	-	CW	MI	HSEA	15° or km. 340°	100	1 / 11 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	S P M O E	O S	Mod Heavy	NorS Mod Heavy	MI off pier
EON	12	10:09 : 10:12 :	-	CW	MI	HSEA	55° or km. 255°	60	1 / 12 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	S P M O E	O S	Mod Heavy	NorS Mod Heavy	MI under pier on NW side
EON	13	10:14 : :	-	CW	SW(E)	HSEA	200° or km. 36°	295	1 / 11 0 calves	SW(E)	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	S P M O E	O S	Mod Heavy	NorS Mod Heavy	SW(E) between fence & pier
EON	14	10:15 : 10:17 :	-	CW	MI	HSEA	32° or km. 262	85	1 / 11 1 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	S P M O E	O S	Mod Heavy	NorS Mod Heavy	MI off tugboat stern
EON	15	10:34 : 10:39 :	-	CW	MI	HSEA	35° or km. 256	60	1 / 12 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	S P M O E	O S	Mod Heavy	NorS Mod Heavy	MI off stern of tugboat
EON	16	10:46 : 10:48 :	-	CW	MI	HSEA	35° or km. 280	80	1 / 11 1 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	S P M O E	O S	Mod Heavy	NorS Mod Heavy	Floating on back next to pier
EON	17	10:53 : :	-	CW	MI	HSEA	35° or km. 320	95	1 / 12 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST <u>NONE</u>	Y N	DE SD	S P M O E	O S	Mod Heavy	NorS Mod Heavy	MI under pier

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 NORTH PIER (CW)
 (Pier Location, Vessel based, Land location, other)

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Date: 09-16-2021

Vessel Name: _____

Time Effort Initiated: 0854

Sighting Data

Time Effort Completed: 1605

Event Code	Sighting Number (1 or L1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitig ation used during sighting?	Mitig ation Type?	Visibility	% Glare	Wheath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EDN	18	10:56: : :	-	CW	TR (SE)	CASL	60 Ⓜ or km 320	100 Ⓜ or km	1 / 1 2 calves	opening closing parallel none TR(SE)	PRE POST SSV SSI V / I PC DP ST <u>None</u>	Y N	DE SD	B P G E	0 S	<u>Light</u> Mod Heavy	Nor S Mod E	TR(SE) not 100% certain case, but surfacing + diving like CASL	
EDN	19	10:59: : :	-	CW	SW(S)	HSEA	40 Ⓜ or km 310	90 Ⓜ or km	1 / 1 1 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V / I PC DP ST <u>None</u>	Y N	DB SD	B P G E	0 S	<u>Light</u> Mod Heavy	Nor S Mod E	SW(S) under NW pier	
EDN	20	11:04: : :	-	CW	MI	HSEA	30 Ⓜ or km 258	65 Ⓜ or km	1 / 1 1 calves	opening closing parallel none MI	PRE POST SSV SSI V / I PC DP ST <u>None</u>	Y N	DE SD	B P G E	0 S	<u>Light</u> Mod Heavy	Nor S Mod E	MI off stern of tugboat	
EDN	21	11:08: : :	-	CW	MI	HSEA	100 Ⓜ or km 91	165 Ⓜ or km	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V / I PC DP ST <u>None</u>	Y N	DE SD	B P G E	0 S	<u>Light</u> Mod Heavy	Nor S Mod E	E/NNE at edge of shut down zone	
EDN	20.1	11:11: : :	-	CW	MI	HSEA	35 Ⓜ or km 258	65 Ⓜ or km	1 / 1 1 calves	opening closing parallel none MI	PRE POST SSV SSI V / I PC DP ST <u>None</u>	Y N	DE SD	B P G E	0 S	<u>Light</u> Mod Heavy	Nor S Mod E	MI off stern of tugboat	
EDN	22	11:15: : :	-	CW	MI	HSEA	35 Ⓜ or km 290	85 Ⓜ or km	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V / I PC DP ST <u>None</u>	Y N	DE SD	B P G E	0 S	<u>Light</u> Mod Heavy	Nor S Mod E	MI under NW pier	
EDN	23	11:28: : :	-	CW	MI	HSEA	35 Ⓜ or km 285	80 Ⓜ or km	1 / 1 0 calves	opening closing parallel none MI	PRE POST SSV SSI V / I PC DP ST <u>None</u>	Y N	DE SD	B P G E	0 S	<u>Light</u>	Nor S Mod E	MI under NW pier	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Obs

Date: 09-16-2021

Monitoring Location EHW-1 North Pier (CW)
 (Pier Location, Vessel based, Land Location, other)

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Vessel Name: -

Time Effort Initiated: 0854

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or L1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitig ation used during sighting?	Mitig ation Type?	Visibility	% Glare	Wreath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	20.2	11:33: 11:35:	-	CW	MI	HSEA	15 Ⓜ or km 265	70	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	(DE SD	B P G E	0	S	Light Mod Heavy	Nor S Nor E	Floating towards tugboat
EON	20.3	11:44: :	-	CW	MI	HSEA	35 Ⓜ or km 258	65	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	(DE SD	B P G E	0	S	Light Mod Heavy	Nor S Nor E	SW next to tug, foraging
EON	24	11:46: :	-	CW	MI	HSEA	32 Ⓜ or km 308	90	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	(DE SD	B P G E	0	S	Light Mod Heavy	NW Nor S Nor E	MI under NW pier
EON	24.1	11:55: :	-	CW	MI	HSEA	33 Ⓜ or km 307	90	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	(DE SD	B P G E	0	S	Light Mod Heavy	NW Nor S Nor E	MI under NW pier
EON	25	11:59: :	-	CW	MI	HSEA	3 Ⓜ or km 312	102	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	(DE SD	B P G E	0	S	Light Mod Heavy	NW Nor S Nor E	Just off pier
EON	26	12:03: :	-	CW	MI	HSEA	35 Ⓜ or km 307	85	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y UP	(DE SD	B P G E	0	S	Light Mod Heavy	NW Nor S Nor E	under NW pier
EON	27	12:22: :	-	CW	MI	HSEA	15 Ⓜ or km 26	105	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	(DE SD	B P G E	0	S	Light	NW Nor S Nor E	Surfaced right off pier

Sighting = chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-16-2021

Monitoring Location EHW-1 North Pier (CW)
 (Pier Location, Vessel based, Land Location, other)

OBS

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Vessel Name: -

Time Effort Initiated: 0854

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting date	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (from animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mittigation used during sighting?	Mittigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	28	12:36 : : :	-	CW	MI	HSEA	60 for km 250	10 for km 55	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PCDP ST NONE	Y N	DB SD	B P M G E	0	S	Light Mod Heavy	NW Nor S W or E	W/of barge SW among piles
EON	29	12:48 : : :	-	CW	MI	HSEA	15 for km 250	10 for km 75	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PCDP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	NW Nor S W or E	Surfaced 15M NE of stern of tugboat
EON	30	12:52 : : :	-	CW	MI	HSEA	15 for km 250	10 for km 75	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V 1 PCDP ST NONE	Y N	DB SD	B P M G E	0	S	Light Mod Heavy	NW Nor S W or E	Same at above
EON	31	13:11 : : :	-	CW	MI	HSEA	190 for km 140	10 for km 125	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PCDP ST NONE	Y N	DE SD	B P M G E	0	S	Light Mod Heavy	NW Nor S W or E	MI east of communication tower
	:	:					m or km	m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PCDP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	Nor S W or E	
	:	:					m or km	m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PCDP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	Nor S W or E	
	:	:					m or km	m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PCDP ST NONE	Y N	DE SD	B P M G E			Nor S W or E		

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-16-2021

Monitoring Location vessel based (SM)
 (Pier Location, Vessel based, Land Location, other)

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Vessel Name: Monarch

Time Effort Initiated: 0854

Time Effort Completed: 1605

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/test # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MHS gation used during sighting?	Mig gation Type?	Visibility	% Glares	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
																			Obs	
PRE	1	09:16 : : :	-	SM	SW	CASL	7 Ⓛ or km	1 Ⓛ or km	1 / 1	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST <u>NONE</u>	Y	DE	B P M	0	5	S	Light Mod Heavy	NW NorE	Swimming along perimeter fence
EON	2	09:23 : : :	-	SM	LO	HSEA	35 Ⓛ or km 117	1 Ⓛ or km 250	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST <u>NONE</u>	Y	DE	B P M	0	5	S	Light Mod Heavy	NW NorE	
EON	3	09:47 : : :	-	SM	LO	HSEA	12 Ⓛ or km 342	1 Ⓛ or km 200	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST <u>NONE</u>	Y	DE	B P M	0	5	S	Light Mod Heavy	NorS NorE	
EON	4	10:29 : : :	-	SM	SW	HSEA	36 Ⓛ or km 351	1 Ⓛ or km 430	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST <u>NONE</u>	Y	DE	B P M	0	5	S	Light Mod Heavy	NorS NorE	
EON	5	10:29 : : :	-	SM	LO	HSEA	200 Ⓛ or km 122	1 Ⓛ or km 230	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST <u>NONE</u>	Y	DE	B P M	0	0	S	Light Mod Heavy	NorS NorE	
EON	6	13:00 : : :	-	SM	SW	HSEA	80 Ⓛ or km 129	1 Ⓛ or km 200	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST <u>NONE</u>	Y	DE	B P M	0	0	S	Light Mod Heavy	NorS NorE	SW N along pier toward shutdown zone
EON	7	13:14 : : :	-	SM	LO	HSEA	168 Ⓛ or km 25	1 Ⓛ or km 430	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST <u>NONE</u>	Y	DE	B P M	0	0	S	Light	NorS NorE	

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Obs

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 1 of 11

Date: 09-18-2021

Vessel Name: -

Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) (see code sheet)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Minis cation used during sighting?	Minis cation Type?	Visibility	% Glare	Wheath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	10:04 : 10:51 :	-	EC	SW(N)	HSEA	46 ^m or km 299	1/1 0 calves	opening closing parallel none SW(N)	PRE POST SSV SSI V I PCOP ST (NONE)	Y	DE	B P M	0	OC	Light Heavy	NorE	Adult nader W finger pier, seeing every
PRE	2	10:04 : 10:27:	-	EC	MI	HSEA	58 ^m or km 140	1/1 1 calves	opening closing parallel none MI	PRE POST SSV SSI V I PCOP ST (NONE)	Y	DE	B P M	0	OC	Light Heavy	NorE	under 3 pier between EH W-1 + 2
EDN	2.1	10:35 : 11:00 :	-	EC	MI	HSEA	40 ^m or km 229	1/1 1 calves	opening closing parallel none MI	PRE POST SSV SSI V I PCOP ST (NONE)	Y	DE	B P M	0	LR	Light Heavy	NorE	MI under S area of W finger pier seeing regularly
EDN	3	10:44 : :	-	EC	SW(S)	HSEA	95 ^m or km 22	1/1 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V I PCOP ST (NONE)	Y	DE	B P M	0	LR	Light Heavy	NorE	SW(S) toward beach + wharf
EDN	2.2	11:22 : 11:43 :	-	EC	LO	HSEA	42 ^m or km 158	1/1 1 calves	opening closing parallel none LO, DI	PRE POST SSV SSI V I PCOP ST (NONE)	Y	DE	B P M	0	LR	Light Heavy	NorE	calf milling, LO, DI, South pier
EDN	2.3	12:01 : 12:08 : 12:26	-	EC	MT	HSEA	31 ^m or km 236	1/1 1 calves	opening closing parallel none MT	PRE POST SSV SSI V I PCOP ST (NONE)	Y	DE	B P M	0	R	Light Heavy	NorE	calf milling at SE corner of finger pier
EDN	4	12:16 : :	-	EC	SW(S)	HSEA	40 ^m or km 250	1/1 0 calves	opening closing parallel none SW(S)	PRE POST SSV SSI V I PCOP ST (NONE)	Y	DE	B P M	0	R	Light	NorE	adult along W finger pier

Sighting # chronological number of sightings, if resight of same animal, then 1.1, 2.1 etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

OBS

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Date: 09-17-2021

Vessel Name: _____

Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (b/wn animal & pile)	# of Animals Group Size (min/max/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitu gation used during sighting?	Mid gation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EDN	5	12:21: :	-	EC	SN MI	HSEA	132 0 m or km	70 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E	0 R	Light Mod Heavy	No (S) Wor E	between N pier & comm. tower	
EDN	2.4	12:48: :	-	EC	MS	HSEA	45 240 m or km	125 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E	0 R	Light Mod Heavy	No (S) Wor E	same calf MI + RE (eyes closed).	
EDN	2.5	13:05: 13:17:	-	EC	DI, LD	HSEA	19 168 m or km	95 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E	0 R	Light Mod Heavy	No (S) Wor E	under S corridor of E end wharf	
EDN	6	13:11: :	-	EC	MI	HSEA	60 10 m or km	10 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E	0 R	Light Mod Heavy	No (S) Wor E	between beach + comm. tower	
EDN	2.6	13:29: :	-	EC	MI	HSEA	43 140 m or km	131 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E	0 R	Light Mod Heavy	No (S) Wor E	same calf between EHW-1 + 2	
EDN	7	13:43: :	-	EC	SWL (S)	HSEA	15 48 m or km	80 m or km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E	0 R	Light Mod Heavy	SW No (S) Wor E	adult SW(s)	
EDN	8	13:48: 13:49:	-	EC	MI	HSEA	47 328 m or km	122 m or km	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P M G E	0 R	Mod	No (S) Wor E	adult + calf MI under W finger pier	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW1

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Date: 09-17 2017

Monitoring Location _____
 (Pier Location, Vessel based, Land Location, other)

Time Effort Initiated: 10:01

Vessel Name: _____

Time Effort Completed: 1556

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dlr	Behavior Change/ Response to Activity/Comments	
EON 9	14:10: :	- : : -	EC SP	HSEA	100 or m or 12	90 or m or 12	1 or m or 12	1 or m or 12	1 / 1 0 calves	SP	OPENING CLOSING PARALLEL NONE	PRE POST SSVSSI V1PCDP ST NONE	Y N	DE SD	B P M G E	0	R	Light Mod Heavy	Nor S Wor E	Spying, near beach & COMM. TOWER
EON 10	14:21: 14:23:	-	EC MI	HSEA	42 or m or 112	50 or m or 122	1 or m or 12	1 or m or 12	1 / 1 1 calves	MI	OPENING CLOSING PARALLEL NONE	PRE POST SSVSSI V1PCDP ST NONE	Y N	DE SD	B P M G E	0	R	Light Mod Heavy	Nor S Wor E	Between EHW 1+2 LO, MI
EON 11	14:40: 15:31:	-	EC MI	HSEA	36 or m or 227	50 or m or 129	1 or m or 12	1 or m or 12	1 / 1 2 calves	MI	OPENING CLOSING PARALLEL NONE	PRE POST SSVSSI V1PCDP ST NONE	Y N	DE SD	B P M G E	0	R	Light Mod Heavy	Nor S Wor E	2 calfs milling 1 calf @ 152, 15:15, 15:25 15:31
EON 12	15:31: :	-	EC LO	HSEA	20 or m or 180	50 or m or 91	1 or m or 12	1 or m or 12	1 / 1 0 calves	LO, DI	OPENING CLOSING PARALLEL NONE	PRE POST SSVSSI V1PCDP ST NONE	Y N	DE SD	B P M G E	0	R	Light Mod Heavy	Nor S Wor E	1 adult vocalized SPRK LO, SI then DI
EON 13	15:36: :	-	EC LO	HSEA	120 or m or 15	50 or m or 130	1 or m or 12	1 or m or 12	1 / 1 0 calves	SW(W)	OPENING CLOSING PARALLEL NONE	PRE POST SSVSSI V1PCDP ST NONE	Y N	DE SD	B P M G E	0	R	Light Mod Heavy	Nor S Wor E	SW(W) toward impact hammer
EON 10.1	15:41: :	-	EC MI	HSEA	430 or m or 218	50 or m or 148	1 or m or 12	1 or m or 12	1 / 1 1 calves	MI	OPENING CLOSING PARALLEL NONE	PRE POST SSVSSI V1PCDP ST NONE	Y N	DE SD	B P M G E	0	R	Light Mod Heavy	Nor S Wor E	under W finger pier, milling
EON 14	15:49: :	-	EC LO	HSEA	5 or m or 142	50 or m or 87	1 or m or 12	1 or m or 12	1 / 1 2 calves	SW(W)	OPENING CLOSING PARALLEL NONE	PRE POST SSVSSI V1PCDP ST NONE	Y N	DE SD	B P M G E	0	R	Nor S Wor E	Adult LO, then SW(W) toward barge	

Sighting # (chronological number of sightings, if resight of same animal), then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (CW)
 (Pier Location, Vessel based, Land Location, other)

Date: 09-17-2021

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Vessel Name: -

Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to animal (from Observer)	Dist to Pile (burn animal & pile)	# of Animals Group Size (min/max/best N of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MMSI gation used during sighting?	Mid gation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
W	P																			
PRE	1	10:11 : :	-	CW	MI	HSEA	36 ♂ or km 250	65 ♂ or km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	B P M O E	0 0	OC	Light mod Heavy	Nor S Wor E	Surfacing off stern of barge
EON	2	10:25 : 10:27 :	-	CW	MI	HSEA	36 ♂ or km 250	65 ♂ or km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST. NOTED	Y N	DE SD	B P M O E	0 0	OC	Light mod Heavy	Nor S Wor E	same as above
EON	3	10:33 : 10:35 :	-	CW	MI	HSEA	15 ♂ or km 255	80 ♂ or km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	B P M O E	0 0	OC	Light mod Heavy	Nor S Wor E	Floating on back between pieces, off stern of barge
EON	4	10:38 : 10:42 :	-	CW	MI	HSEA	36 ♂ or km 250	65 ♂ or km	1 / 12 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	B P M O E	0 0	LR	Light mod Heavy	Nor S Wor E	in calm water behind barge
EON	4.1	10:45 : :	-	CW	MI	HSEA	36 ♂ or km 250	65 ♂ or km	1 / 14 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	B P M O E	0 0	LR	Light mod Heavy	Nor S Wor E	in calm water behind barge
EON	4.2	10:48 : :	-	CW	MI	HSEA	36 ♂ or km 250	65 ♂ or km	1 / 12 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	B P M O E	0 0	LR	Light mod Heavy	Nor S Wor E	same as above
EON	4.3	10:50 : 10:53 :	-	CW	MI	HSEA	36 ♂ or km 250	65 ♂ or km	1 / 13 3 calves	MI	opening closing parallel none	PRE POST SSV SSI V. I PC DP ST. NONE	Y N	DE SD	B P M O E	0 0	LR	mod	Nor S Wor E	2 on stern barge floating 1 SW by underwater

Sighting # chronological number of sightings. If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Obs

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Date: 09-17-2021

Monitoring Location EHW-1 Pier North (CW)
(Pier Location, Vessel based, Land Location, other)

Vessel Name: -

Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cues	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
EON	4.4	10:55: :	-	CW	MI	HSEA	36 ♂or 250° km	♂or 65 km	1 / 1 1 calves	MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>none</u>	○ N	DE SD	B P ○ E	0	LR	Light Mod Heavy	Nor E	Floating behind barge in calm water
EON	4.5	11:00: :	-	CW	MI	HSEA	36 ♂or 250° km	♂or 65 km	1 / 2 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>none</u>	○ N	DE SD	B P ○ E	0	LR	Light Mod Heavy	Nor S Wor E	lr lr
EON	4.6	11:02: 11:04:	-	CW	MI	HSEA	36 ♂or 250° km	♂or 65 km	1 / 3 3 calves	MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>none</u>	○ N	DE SD	B P ○ E	0	LR	Light Mod Heavy	Nor E	lr n
EON	4.7	11:06: :	-	CW	MI	HSEA	36 ♂or 250° km	♂or 65 km	1 / 2 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>none</u>	○ N	DE SD	B P ○ E	0	LR	Light Mod Heavy	Nor S Wor E	lr lr
EON	5	11:10: 11:12:	-	CW	PL	HSEA	30 ♂or 252° km	♂or 66 km	1 / 3 3 calves	PL	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>none</u>	○ N	DE SD	B P ○ E	0	LR	Light Mod Heavy	Nor S Wor E	Chasing each other behind barge
EON	6	11:13: :	-	CW	MI	HSEA	55 ♂or 255° km	♂or 60 km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>none</u>	○ N	DE SD	B P ○ E	0	LR	Light Mod Heavy	Nor S Wor E	Floating at back between barge/pier
EON	7	11:15: 11:17:	-	CW	MI	HSEA	36 ♂or 25° km	♂or 65 km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST <u>none</u>	○ N	DE SD	B P ○ E	0	LR	mod	Nor S Wor E	Floating behind barge

Sighting #chronological number of sightings, If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (CW)
 (Pier Location, Vessel based, Land Location, other)

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Date: 09-17-2021

Vessel Name: _____

Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MRI gation used during sighting?	Miss gation Type?	Visibility	% Glare	Wreath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
	Event Code	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)																	
EON	7.1	11:20: :	-	CW	MI	HSEA	36 ♂ or km	♂ or km	1 / 13	MI	opening closing parallel none	PRE POST SSVSSI V I PC DP ST NONE	①	DE	B P M	0	LR	Light W Heavy	Nor Ⓞ W or E	off barge stern + adult off starboard stern
EON	7.2	11:22: :	-	CW	MI	HSEA	36 ♂ or km	♂ or km	1 / 13	MI	opening closing parallel none	PRE POST SSVSSI V I PC DP ST NONE	①	DE	B P M	0	LR	Light W Heavy	Nor Ⓞ W or E	off barge stern
EON	8	11:23: :	-	CW	MI	HSEA	55 ♂ or km	♂ or km	1 / 11	MI	opening closing parallel none	PRE POST SSVSSI V I PC DP ST NONE	①	DE	B P M	0	LR	Light W Heavy	Nor Ⓞ W or E	w of barge near piles under wharf
EON	9	11:27: :	-	CW	MI	HSEA	35 ♂ or km	♂ or km	1 / 13	MI	opening closing parallel none	PRE POST SSVSSI V I PC DP ST NONE	①	DE	B P M	0	LR	Light W Heavy	Nor Ⓞ W or E	Floating near pier
EON	10	11:29: 11:32:	-	CW	MI	HSEA	36 ♂ or km	♂ or km	1 / 12	MI	opening closing parallel none	PRE POST SSVSSI V I PC DP ST NONE	①	DE	B P M	0	LR	Light W Heavy	Nor Ⓞ W or E	off stern of barge
EON	11	11:29: :	-	CW	MI	HSEA	39 ♂ or km	♂ or km	1 / 12	MI	opening closing parallel none	PRE POST SSVSSI V I PC DP ST NONE	①	DE	B P M	0	LR	Light W Heavy	Nor Ⓞ W or E	off N point of NW side of pier
EON	12	11:37: :	-	CW	MI	HSEA	45 ♂ or km	♂ or km	1 / 11	MI	opening closing parallel none	PRE POST SSVSSI V I PC DP ST NONE	①	DE	B P M	0	LR	Mod Ⓞ	Nor Ⓞ W or E	Floating near piles w of barge

Sighting chronological number of sightings. If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

065

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (CW)
(Pier Location, Vessel based, Land Location, other)

Date: 09-17-2021

Vessel Name: -

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Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best fit) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MIGRATION used during sighting?	MIGRATION Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/Response to Activity/Comments
EON	13	11:41 : 11:45 :		CW	MI	HSEA	36° or km 250	55	1 12 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST None	Y N	DE SD	B P M ② E	0 LR	Light Wind Heavy	Nor Wor E	off stern of barge
EON	13.1	11:47: :		CW	MI	HSEA	36° or km 250	55	1 13 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST None	Y N	DE SD	B P M ③ E	0 LR	Light Wind Heavy	Nor Wor E	" "
EON	13.2	11:49: 11:55:		CW	MI	HSEM	36° or km 250	55	1 14 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST None	Y N	DE SD	B P M ④ E	0 LR	Light Wind Heavy	Nor Wor E	3 off stern of barge 1 floated & from then
EON	13.3	11:57: 11:59:		CW	MI	HSEA	36° or km 250	55	1 12 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST None	Y N	DE SD	B P M ⑤ E	0 R	Light Wind Heavy	Nor Wor E	off stern of barge
EON	13.4	12:05: 12:10:		CW	MI	HSEA	36° or km 250	55	1 13 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST None	Y N	DE SD	B P M ⑥ E	0 R	Light Wind Heavy	Nor Wor E	" "
EON	13.5	12:12: 12:16:		CW	MI	HSEA	36° or km 250	55	1 15 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST None	Y N	DE SD	B P M ⑦ E	0 R	Light Wind Heavy	Nor Wor E	3 adults mostly below surface. 2 calves floating next to barge
EON	13.6	12:18: :		CW	MI	HSEA	36° or km 250	55	1 11 1 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST None	Y N	DE SD	B P M ⑧ E	0 R	Mod	Nor ⑨ Wor E	1 calf behind barge

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Obs

Project Name: Bangor EHW-1

Monitoring Location EHW-1 PIER NORTH (cw)
(Pier Location, Vessel based, Land Location, other)

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Date: 09-17-2021

Vessel Name: _____

Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Event Code	Sighting Number (1 or 1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cws	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/ and Behavior Code (see code sheet)	Comet Type During Sighting	Mins gallon used during sighting(?)	Mins action Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Wind Dir	Behavior Change/ Response to Activity/Comments
EON	13.7	15:23: 15:24:	-	CW	MI	HSEA	36° or km	55	1 / 14 2 calves	opening closing parallel none	PRE POST SSV SSV V. I PC DP ST (none)	0	DE	S P M	0 E	0 R	Light Heavy	NorE WorE	Just off barge
EON	14	15:24: :	-	CW	MI	HSEA	42° or km	90	1 / 13 0 calves	opening closing parallel none	PRE POST SSV SSV V. I PC DP ST (none)	0	DE	S P M	0 E	0 R	Light Heavy	NorE WorE	Under NW pier
Eon	15	15:29: 15:32:	-	CW	MI	HSEA	36° or km	55	1 / 13 0 calves	opening closing parallel none	PRE POST SSV SSV V. I PC DP ST (none)	0	DE	S P M	0 E	0 R	Light Heavy	NorE WorE	off barge
EON	15.1	12:33: 12:39:	-	CW	MI	HSEA	36° or km	55	1 / 12 0 calves	opening closing parallel none	PRE POST SSV SSV V. I PC DP ST (none)	0	DE	S P M	0 E	0 R	Light Heavy	NorE WorE	off barge
Eon	16	12:41: 12:42:	-	CW	MI	HSEA	55° or km	60	1 / 13 0 calves	opening closing parallel none	PRE POST SSV SSV V. I PC DP ST (none)	0	DE	S P M	0 E	0 R	Light Heavy	NorE WorE	between barge & W side of pier
Eon	17	12:45: :	-	CW	MI	HSEA	36° or km	55	1 / 12 1 calves	opening closing parallel none	PRE POST SSV SSV V. I PC DP ST (none)	0	DE	S P M	0 E	0 R	Light Heavy	NorE WorE	off barge
EON	18	12:51: :	-	CW	MI	HSEA	20° or km	95	1 / 12 0 calves	opening closing parallel none	PRE POST SSV SSV V. I PC DP ST (none)	0	DE	S P M	0 E	0 R	mod	NorE WorE	W end of pier

Sighting #chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (CW)
(Pier Location, Vessel based, Land location, other)

Date: 09-17-2021

Vessel Name: -

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Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Obs

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals (min/max/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	19	12:57: :		CW	MI	HSEA	50 @ km	@ km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PC DP ST none	Y	DE	B P M	0	R	Light Mod Heavy	Nor Wor E	under NW pier
EON	19.1	13:01: 13:06:		CW	MI	HSEA	50 @ km	@ km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PC DP ST none	Y	DE	B P M	0	R	Light Mod Heavy	Nor Wor E	MI under NW pier
EON	20	13:16: :		CW	MI	HSEA	36 @ km	@ km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PC DP ST none	Y	DE	B P M	0	R	Light Mod Heavy	Nor Wor E	Floating behind barge
EON	21	13:26: :		CW	MI	HSEA	50 @ km	@ km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PC DP ST none	Y	DE	B P M	0	R	Light Mod Heavy	Nor Wor E	Floating between barge + W pier
EON	21.1	13:34: 13:36:		CW	MI	HSEA	55 @ km	@ km	1 / 12	opening closing parallel none	PRE POST SSV SSI V I PC DP ST none	Y	DE	B P M	0	R	Light Mod Heavy	Nor Wor E	Floating between barge + W pier
EON	22	13:53: :		CW	MI	HSEA	36 @ km	@ km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PC DP ST none	Y	DE	B P M	0	R	Light Mod Heavy	Nor Wor E	SW(S) toward barge
EON	23	14:05: :		CW	MI	HSEA	36 @ km	@ km	1 / 1	opening closing parallel none	PRE POST SSV SSI V I PC DP ST none	Y	DE	B P M	0	R	Mod	Nor S Wor E	off N side of pier

Sighting = chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-17-2021

Monitoring Location EHW-1 Pier North (CW)

(Pier Location, Vessel based, Land Location, other)

Vessel Name: -

Obs

Page 10 of 11

Time Effort Initiated: 10:01

Time Effort Completed: 15:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist to Anim al (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group/size/ max size & # of Calves	Relative Motion and Behavior Code (see data sheet)	Const Type During Sighting	Mov e gation used during sighting?	Mov e tion Type?	Vis ibility	% Gla re	Weath Cond	Sea State and Wav ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	24	14:41: :	CW MI HSEA	36 m 328	95	1 / 1 0 calves	parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P G E	O R	Light Heavy	No S Wor E	off N point of NW pier				
EON	25	14:42: :	CW MI HSEA	36 m 318	95	1 / 1 0 calves	parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P G E	D R	Light Heavy	No S Wor E	N N				
EON	26	14:43: :	CW MI HSEA	35 m 315	90	1 / 1 0 calves	parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P G E	D R	Light Heavy	No S Wor E	N N				
EON	27	14:43: 14:49:	CW MI HSEA	33 m 250	57	1 / 1 0 calves	parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P G E	O R	Light Heavy	No S Wor E	off back of barge SW toward NW piles				
EON	28	14:46: 14:48:	CW MI HSEA	35 m 250	55	1 / 2 0 calves	parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P G E	O R	Light Heavy	No S Wor E	back of barge toward W pier				
EON	29	14:50: :	CW MI HSEA	30 m 47	120	1 / 1 0 calves	parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P G E	O R	Light Heavy	No S Wor E	N of pier				
EON	30	15:06: 15:08:	CW MI HSEA	20 m 4	110	1 / 1 0 calves	parallel none	PRE POST SSV SSI V I PC DP ST (NONE)	Y N	DE SD	B P G E	O R	mod	No S Wor E	N of pier				

Sighting #=chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Kangor EHW-1

Date: 09-17-2021

Monitoring Location vessel based (PT)
(Pier Location, Vessel based, Land Location, other)

Page 11 of 11

Vessel Name: Monarch

Time Effort Initiated: 10:01

Sighting Data

Time Effort Completed: 15:56

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/ Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dif	Behavior Change/ Response to Activity/Comments	
EDN	1	14:50: :	PT SW (S)	HSEA			m or km 30°	0 or km 120	/ / 0 calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E	0	R	Light Mod Heavy	No S W or E	SW toward impact area (S)	
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		
		:					m or km	m or km	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E			Light Mod Heavy	No S W or E		

Sighting #chronological number of sightings. If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM Obs.

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (CW)
EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 1 of 1

Date: 09-23-2021

Vessel Name: -

Time Effort Initiated: 0754

Time Effort Completed: 0854

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best #) if Calves	Relative Motion/And Behavior Code (see code sheet)	Const Type During Sighting	Mitig ation during sighting?	Mitig ation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	08:11 : : :	-	EC	SW(S)	HSEA	35 m or km +	50 m or km +	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	W NorS W or E	SW(S) between EHW-1 building + beach
EON	2	08:21 : : :	-	EC	LO	HSEA	14 m or km +	57 m or km +	1 / 1. 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	W NorS W or E	LO, then SW(S) away from EHW-1
PRE	1	08:20 : : :	-	CW	SW (S)	HSEA	35 m or km +	100 m or km +	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	W NorS W or E	SW under pier towards EHW-2 wharf
EON	2	08:17 : : :	-	CW	SW (SW)	HSEA	70 m or km +	120 m or km +	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	W NorS W or E	SW(SW)
	:	:					m or km +	m or km +	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E			Light Mod Heavy	NorS W or E	
	:	:					m or km +	m or km +	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E			Light Mod Heavy	NorS W or E	
	:	:					m or km +	m or km +	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y	DE	B P M G E			Nor S W or E		

Sighting Chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint) in GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

nbs

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 1 of 3

Date: 09-27-2021

Vessel Name: _____

Time Effort Initiated: 0914, 1446

Time Effort Completed: 1404, 1540

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Wreath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
																			SW(S) btwn beach + comm. tower	
PRE	1	09:21 : : :	-	EC	SW(S)	HSEA	85 ^{mbr} km 23	10 ^{mbr} km	1 / 1 0 calves	SW(S)	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P G E	2	PC	Light Mod Heavy	Nors Wore	SW(S) btwn beach + comm. tower
EON	2	10:03 : : :	-	EC	DI	HSEA	185 ^{mbr} km 18	185 ^{mbr} km	1 / 1 0 calves	DI, MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P G E	0	PC	Light Mod Heavy	Nors Wore	DI, MI under N pier btwn beach + comm tower
EON	3	10:11 : : :	-	EC	SW(S) MI	HSEA	32 ^{mbr} km 200	120 ^{mbr} km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P G E	0	PC	Light Mod Heavy	Nors Wore	SW(S), MI near W finger wharf
EON	4	10:40 : : :	-	EC	SW(S)	HSEA	230 ^{mbr} km 14	180 ^{mbr} km	1 / 1 0 calves	SW(S)	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P G E	0	OC	Light Mod Heavy	Nors Wore	N of N pier + beach area
EON	4.1	11:11 : 11:14 :	-	EC	MI, FO	HSEA	183 ^{mbr} km 11	140 ^{mbr} km	1 / 1 0 calves	FO	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P G E	0	OC	Light Mod Heavy	Nors Wore	under N pier Anagrig
EON	5	11:20 : : :	-	EC	SW (S)	HSEA	18 ^{mbr} km 94	65 ^{mbr} km	1 / 1 0 calves	SW(S)	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P G E	0	OC	Light Mod Heavy	Nors Wore	SW near S pier + SW(S) toward EHW-2
EON	6	11:31 : : :	-	EC	MI	HSEA	41 ^{mbr} km 242	102 ^{mbr} km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P G E	0	PC	Light Mod Heavy	Nors Wore	seen MI btwn EHW-1 + 2,

Sighting # (chronological number of sightings, if resight of same animal, than 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long/time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09 - 27 - 2021

Monitoring Location EHW-1 Are North (EN)(NW)
EHW-1 Pier South (ES)
(Pier Location, Vessel based, Land Location, other)

Page 2 of 3

Vessel Name: _____

Time Effort Initiated: 0914, 1496

Time Effort Completed: 1404, 1540

Sighting Data

Event Code	Sighting Number (1 or 1.1 if righted)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (Urban animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion and Behavior Code (see code sheet)	Conse- Type During sighting	Mis- gation used during sighting?	Mis- gation Type?	Visibility	% Glare	Wear- th	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Acvity/Comments
EN1	7	12:01: :	-	EC	SW(S)	HSEA	38 240	for km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y N	DE SD	B P M E	0	PC	Light Mod Heavy	Nor E	SW(SW) under w finger pier
EN1	8	12:32: :	-	EC	MI	HSEA	53 242	for km	1 / 1 1 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y N	DE SD	B P M E	0	DC	Light Mod Heavy	Nor E	calf under & pren between EHW-1+2
EN1	9	13:46: :	-	EC	SW(S)	HSEA	50 30	for km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y N	DE SD	B P M E	0	R	Light Mod Heavy	Nor E	seen SW(S) between beach + com tower
EN1	1	09:53: :	-	CW	SW (NW)	HSEA	120 156	for km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y N	DE SD	B P M E	0	PC	Light Mod Heavy	Nor E	SW(NW) towards communication tower
EN1	2	10:07: :	-	CW	TR (SW)	CASL	35 358	for km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y N	DE SD	B P M E	0	PC	Light Mod Heavy	Nor E	TR(SW) off NW point of pier
EN1	3	11:51: :	-	CW	MI	HSEA	90 132	for km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y N	DE SD	B P M E	0	PC	Light Mod Heavy	Nor E	MI between wharf & shore/beach
EN1	4	12:35: :	-	CW	MI	HSEA	100 134	for km	1 / 1 0 calves	opening closing parallel none	PRE POST SSV SSI V I PCDP ST <u>NONE</u>	Y N	DE SD	B P M E	0	PC	Light	Nor S Wor E	Moving towards beach

Sighting chronological number of sightings, if right of same animal, than 1.1, 1.2, etc. WP (Waypoint) GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location Vessel based (SM)
(Pier Location, Vessel based, Land Location, other)

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Date: 09-27-2021

Vessel Name: Monarch

Time Effort Initiated: 09/14, 1996

Vessel Name: Monarch Time Effort Initiated: 0914, 1446
Sighting Data Time Effort Completed: 1404, 1540

Time Effort Completed: 1901, 1570

Sighting Data

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

VIBRATORY: 08:20 - 10:29
 IMPACT: 11:35 - 15:40

Obs

Page 1 of 4

Date: 09-28-2021

Monitoring Location EHW-1 Pier South (EC)
 (Pier Location, Vessel based, Land Location, other)

Vessel Name: _____

Time Effort Initiated: 08:20 / 11:35

Time Effort Completed: 10:29 / 15:40

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Dist/ Dir to Animal (from Observer)	Observer	Sighting cue	Species	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitigation used during sighting?	Mitigation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	1	09:02 : 09:07:	-	EC LO	HSEA	45° or 36° km	40	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V. I PC DP ST. <u>NONE</u>	Y	DE SD	B P M ③ E	0	OC	W Mod Heavy	W Nors Wor E	HSEA, LO, MI, shed slowly SW(S) b/wn beach + comm tower	
EON	2	09:09 : :	-	EC SW	HSEA	25° or 118 km	61	1 / 1 1 calves	opening closing parallel none	PRE POST SSVSSI V. I PC DP ST. <u>NONE</u>	Y	DE SD	B P M ③ E	0	OC	W Mod Heavy	W Nors Wor E	HSEA, large calf SW(S) toward CHW-2 along W finger wharf	
EON	3	09:21 : 09:31 :	-	EC MI	HSEA	38° or 226 km	99	1 / 12 2 calves	opening closing parallel none	PRE POST SSVSSI V. I PC DP ST. <u>NONE</u>	Y	DE SD	B P M ③ E	0	OC	Light Mod Heavy	W Nors Wor E	2 HSEA calfs MI under W finger pier, then SW(N), MI	
EON	4	09:24 : :	-	EC LO	HSEA	138° or 18 km	90	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V. I PC DP ST. <u>NONE</u>	Y	DE SD	B P M ③ E	0	OC	W Mod Heavy	W Nors Wor E	HSEA b/wn comm tower + N pier, LO then DI	
EON	3.1	09:37 : 09:42 :	-	EC MI	HSEA	42° or 292 km	88	1 / 12 2 calves	opening closing parallel none	PRE POST SSVSSI V. I PC DP ST. <u>NONE</u>	Y	DE SD	B P M ③ E	0	OC	Light Mod Heavy	W Nors Wor E	2 calfs MI, playing @ W finger pier - seen repeatedly	
EON	5	12:27 : 12:31 :	-	EC LO, DI	HSEA	25° or 158 km	36° or 115 km	1 / 11 0 calves	opening closing parallel none	PRE POST SSVSSI V. I PC DP ST. <u>NONE</u>	Y	DE SD	B P M ③ E	0	OC	Light Mod Heavy	W Nors Wor E	LO, DI, b/wn EHW-1+ 2, then SW(NE) toward beach + comm tower	
EON	6	12:37 : 12:52 :	-	EC SW(W)	HSEA	62° or 209 km	115	1 / 11 1 calves	opening closing parallel none	PRE POST SSVSSI V. I PC DP ST. <u>NONE</u>	Y	DE SD	B P M ③ E	0	OC	Light Mod Heavy	W NOS Wor E	SW(W) under SEHW-1+ 2 piers, seen again @ 12:52 - same location	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Kingson EHW-1

Monitoring Location EHW-1 Pier North (MP-Vibration)
(Pier Location, Vessel based, Land Location, other) (CW-impact)

Date: 9-26-2012

Vessel Name:

Page 2 of 4

Time Effort Initiated: 08 29, 11:35

Time Effort Completed: 10:29, 15:40

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mild gation used during sighting?	Mild gation Type?		% Glare	Wreath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments	
PRE	1	08:23: 08:26:	-	MP	SW	HSEA	90 0	0 or km	1 / 12 0 calves	opening closing parallel none SW	PRE POST SSV SSI V / PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	Nor S Wor E		
PRE	2	08:34: 08:45:	-	MP	SW	HSEA	80 345	0 or km	1 / 13 0 calves	opening closing parallel none MI	PRE POST SSV SSI V / PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	Nor S Wor E		
EDN	2.1	08:49: 09:11:	-	MP	MI	HSEA	30 255	0 or km	1 / 13 0 calves	opening closing parallel none MI	PRE POST SSV SSI V / PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	Nor S Wor E		
EDN	3	09:27: 09:28:	-	MP	SW	HSEA	80 10	0 or km	1 / 11 0 calves	opening closing parallel none SW	PRE POST SSV SSI V / PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	Nor S Wor E		
EDN	4	09:42: :	-	MP	SW	HSEA	40 240	0 or km	1 / 11 0 calves	opening closing parallel none SW	PRE POST SSV SSI V / PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	Nor S Wor E		
EDN	5	09:52: :	-	MP	SW	HSEA	20 350	0 or km	1 / 11 0 calves	opening closing parallel none SW	PRE POST SSV SSI V / PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	Nor S Wor E		
PST	6	10:04: :	-	MP	SW	HSEA	15 275	0 or km	1 / 11 0 calves	opening closing parallel none SW	PRE POST SSV SSI V / PC DP ST NONE	Y	DE	B P M G E	0	OC	Light Mod Heavy	Nor S Wor E		

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North
(Pier Location, Vessel based, Land Location, other)

Obs
(MP) - Vibe
(CW) - Impact

Page 3 of 4

Date: 09-28-2021

Vessel Name: _____

Time Effort Initiated: 08:29, 11:35

Time Effort Completed: 10:29, 15:40

Sighting Data

Event Code	Sighting Number (1 or L1 if resight)	Time/Duration watching/sighting (start/end time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best) # of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MIS gation used during sighting?	MIS gation Type?	Visibility	% Glare	Wreath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/Response to Activity/Comments
POST	7	10:26 : : :	-	MP	LO	HSEA	10 ♂ or km 270	♂ or km 80	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V I PCDP ST NONE	Y N	DE SD	B P M ④ E	5	PC	Light Mod Heavy W or E	No S	post - vibe
EON	8	12:00 : : :	-	CW	MI	HSEA	50 ♂ or km 80	♂ or km 90	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V I PCDP ST NONE	Y N	DE SD	B P M ④ E	0	PC	Light Mod Heavy W or E	No S	- start impact monitoring -
EON	9	12:06 : : :	-	CW	MI	HSEA	35 ♂ or km 172	♂ or km 50	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V I PCDP ST NONE	Y N	DE SD	B P M ④ E	0	PC	Light Mod Heavy W or E	No S	MI around piles on E side of wharf.
EON	10	12:27 : : :	-	CW	MI	HSEA	70 ♂ or km 10	♂ or km 175	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V I PCDP ST NONE	Y N	DE SD	B P M ④ E	0	PC	Light Mod Heavy W or E	No S	Moving N outside shutdown zone
EON	11	12:48 : : :	-	CW	SW(S)	HSEA	10 ♂ or km 190	♂ or km 100	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V I PCDP ST NONE	Y N	DE SD	B P M ④ E	0	PC	Light Mod Heavy W or E	No S	SW(S) towards impact hammer
EON	12	13:01 : : :	-	CW	MI	HSEA	60 ♂ or km 244	♂ or km 70	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V I PCDP ST NONE	Y N	DE SD	B P M ④ E	0	PC	Light Mod Heavy W or E	No S	MI around piles W side of wharf toward W finger pier
EON	13	15:39 : : :	-	CW	MI	HSEA	10 ♂ or km 270	♂ or km 95	1 / 1 0 calves	opening closing parallel none	PRE POST SSVSSI V I PCDP ST NONE	Y N	DE SD	B P M ④ E	0	PC	Light W or E	No S	

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: BANGOR EHW-1

Date: 09-28-2021

Monitoring Location vessel based (GR)
 (Pier Location, Vessel based, Land Location, other)

Vessel Name: MONARCH

Page 4 of 4

Time Effort Initiated: 0829, 11:35

Time Effort Completed: 10:29, 15:40

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (bwm animal & pile)	# of Animals Group Size (min/mas/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Const. Type During Sighting	MRI gation used during sighting?	MRI gation Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
EON	1	15:02:	-	GR	SW(S)	CASL	33° m or km *	413 840	0 or km * 0 calves	/ / SW(S)	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M G E	0 PC	Light Mod Heavy	Nor S Wor E	Male adult CASL swimming along fence
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E		Light Mod Heavy	Nor S Wor E		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E		Light Mod Heavy	Nor S Wor E		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E		Light Mod Heavy	Nor S Wor E		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E		Light Mod Heavy	Nor S Wor E		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E		Light Mod Heavy	Nor S Wor E		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E		Light Mod Heavy	Nor S Wor E		
	:	:					m or km *	m or km *	/ / — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	B P M G E		Light Mod Heavy	Nor S Wor E		

Sighting #=chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP [Waypoint]=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

OBS

Project Name: Bangor EHW-1

Date: 09-28-2021
09-29-2021

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 1 of 4

Vessel Name: -

Time Effort Initiated: 09:36

Time Effort Completed: 13:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous) if made)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mit gation used during sighting?	Mit gation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	09:37: :	-	EC	MI	HSEA	25° 65	For km	1 / 1 2 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y SD	B P M E	0	OC	SW NorE Mod Heavy	W NorE	HSEA MI, moving slowly S.
EON	2	09:50: :	-	EC	MI	HSEA	50° 80	For km	1 / 1 1 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	0	OC	SW NorE Mod Heavy	W NorE	HSEA MI, slowly to S, btwn beach + comm tower
EON	3	10:26: :	-	EC	MI, DI	HSEA	20° 226	For km	1 / 1 0 calves	MI, DI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	0	OC	SW NorE Mod Heavy	W NorE	MI, DI, btwn EHW-1 + 2
EON	2.1	10:30: :	-	EC	LD	HSEA	27° 142	For km	1 / 1 1 calves	LD, SI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	0	OC	SW NorE Mod Heavy	W NorE	LD, SI, btwn EHW-1 + 2
EON	4	10:35: 10:40:	-	EC	MI LD	HSEA	110° 58	For km	1 / 1 1 calves	LO	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	0	OC	SW NorE Mod Heavy	W NorE	HSEA btwn beach + w wharf
EON	5	10:43: :	-	EC	MI	HSEA	110° 98	For km	1 / 1 0 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	0	OC	SW NorE Mod Heavy	W NorE	
EON	6	10:58: 11:08:	-	EC	RE	HSEA	35° 250	For km	1 / 1 1 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	0	OC	SW NorE Mod	W NorE	HSEA sleeping (RE) @ SW end of W finger pier, seeing continuously

Sighting # chronological number of sightings. If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Obs

Project Name: BANGOR EHW-1

Date: 09-29-2021

Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

Page 2 of 4

Vessel Name: _____

Time Effort Initiated: 09:36

Time Effort Completed: 13:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (between animal & pile)	# of Animals Group Size (min/max/best jet of Calves)	Relative Motion and Behavior Code (see code sheet)	Const Type During Sighting	Min action used during sighting?	Mid action Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
7	GON	11:17: :	-	EC	TR(S)	OASL	32° km SW	102	1 / 1 0 calves	opening closing parallel none TR(S)	PPE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G E	0 OC	LIGHT MOD HEAVY	SW NorS WorE	TR(S) along W finger pier.	
8	EOPD	11:51: :	-	EC	LO	HSEA	225° km SW	200	1 / 1 0 calves	opening closing parallel none LO	PPE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G E	0 OC	LIGHT MOD HEAVY	SW NorS WorE	LO, near NE pier	
9	EON	11:51: :	-	EC	SW(S) HSEA		120° km SW	94	1 / 1 0 calves	opening closing parallel none SW(S)	PPE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G E	0 OC	LIGHT MOD HEAVY	SW NorS WorE	SW(SW) btwn beach + comm tower	
10	EON	12:07: :	-	EC	LO	HSEA	15° km SW	79	1 / 1 0 calves	opening closing parallel none LO	PPE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G E	0 OC	LIGHT MOD HEAVY	SW NorS WorE	just S of pier btwn EHW-1 + 2	
11	EON	12:09: 12:11:	-	EC	LO	HSEA	40° km SW	55	1 / 1 0 calves	opening closing parallel none LO	PPE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G E	0 PC	LIGHT MOD HEAVY	SW NorS WorE	btwn E wharf + comm tower	
12	EON	12:56: :	-	EC	MJ	HSEA	45° km SW	109	1 / 1 0 calves	opening closing parallel none MJ	PPE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G E	0 OC	LIGHT MOD HEAVY	SW NorS WorE	HSEA calf between EHW-1 + 2	
	:	:					m or km SW	m or km SW	1 / 1 0 calves	opening closing parallel none	PPE POST SSV SSI V 1 PC DP ST NONE	Y N	DE SD	B P M G E			Nor S Wor E		

Sighting # chronological number of sightings. If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long/time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Obs

Project Name: BANGOR EHW-1

Date: 09-29-2021

Monitoring Location EHW-1 Pier North (cw)
 (Pier location, Vessel based, Land Location, other)

Page 3 of 4

Vessel Name: _____

Time Effort Initiated: 09:36

Time Effort Completed: 13:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pile (btwn animal & pile)	# of Animals Group Size (min/max/best #) of Calves	Relative Motion/and Behavior Code (see code sheet)	Const Type during Sighting	MIN gallon used during sighting?	MIS Edition Type?	Visibility	% Glare	Wheath Cond	Sea State and Wav Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	09:47: : :	-	CW	SW(S)	HSEA	90° m or km 130°	90° m or km	1 / 1 0 calves	opening closing parallel none SW(S)	PPE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M (O) E	0	OC		Nor S Wor E	Between comm tower & beach
EON	2	10:00: : :	-	CW	SW (NE)	HSEA	85° m or km 40°	175° m or km	1 / 1 0 calves	opening closing parallel none SW(NE)	PPE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M (O) E	0	OC		Nor S Wor E	N of pier SW(NE) away.
EON	3	10:01: : :	-	CW	MI	HSEA	40° m or km 320°	95° m or km	1 / 1 0 calves	opening closing parallel none MI	PPE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M (O) E	0	OC		Nor S Wor E	on w side of pier
EON	4	10:13: : :	-	CW	MI	HSEA	95° m or km 90°	85° m or km	1 / 1 0 calves	opening closing parallel none MI	PPE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M (O) E	0	OC		Nor S Wor E	Between comm. tower & beach.
EON	5	10:40: : :	-	CW	LO	HSEA	95° m or km 90°	85° m or km	1 / 1 0 calves	opening closing parallel none LO	PPE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M (O) E	0	OC		Nor S Wor E	Possibly same HSEA recorded by S. observer.
EON	6	10:56: : :	-	CW	MI	HSEA	40° m or km 284°	95° m or km	1 / 1 0 calves	opening closing parallel none MI	PPE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M (O) E	0	OC		Nor S Wor E	Under guardhouse at NW point of pier.
EON	6.1	11:05: 11:11	-	CW	MI	HSEA	40° m or km 290°	95° m or km	1 / 1 0 calves	opening closing parallel none MI	PPE POST SSV SSI V I PC DP ST NONE	Y (N)	DE SD	B P M (O) E	0	OC		Nor S Wor E	MI on w side of NW pier

Sighting #: chronological number of sightings, if resight of same animal), then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 09-29-2021

Vessel based
(GR)
Monitoring Location EHWTI PIER NORTH (CW)
(Pier Location, Vessel based, Land location, other)

Page 4 of 4

Vessel Name: MONARCH

Time Effort Initiated: 09:36

Time Effort Completed: 13:56

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pier (brown animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Contst Type During Sighting	MWD action used during sighting?	MWD action Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/Response to Activity/Comments	
EON	7	11:16 : :	-	CW	TR (SW)	CASL	40 km 342	for km 120	1 / 1 0 calves	opening closing parallel none TR(SW)	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P M D E	0	OC	Light Mod Heavy	Nor S Wor E	Also recorded by observer	
EON	8	11:38 : :	-	CW	MI	HSEA	10 km 350	for km 90	1 / 1 1 calves	opening closing parallel none MI	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P M D E	0	OC	Light Mod Heavy	Nor S Wor E	During SS Impact Just off pier on NW side	
EON	9	12:00 : :	-	CW	BR	CASL	33 km 329	for km 100	1 / 1 0 calves	opening closing parallel none BR	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P M D E	0	PC	Light Mod Heavy	Nor S Wor E	Completely breached water.	
EON	10	12:09 : : : :	-	CW	LO	HSEA	25 km 98	for km 80	1 / 1 0 calves	opening closing parallel none LO	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P M D E	0	PC	Light Mod Heavy	Nor S Wor E	Between EHW-1 wharf + beach	
	:	:					for km +	for km	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P M G E			Light Mod Heavy	Nor S Wor E		
EON	1	11:16 : : : :	-	GR	LO	CASL	75 km 350	for km 328	1 / 1 0 calves	opening closing parallel none LO	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P M D E	0	OC	Light Mod Heavy	Nor S Wor E	LO at vessel as vessel drifted nearby	
	:	:					for km +	for km	1 / 1 — calves	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y N	DE SD	S P M G E				Nor S Wor E		

Sighting # chronological number of sightings. If resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

obs. CR ← → obs. CW

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

vibration 08:15-10:20
Impact 1046 - 1157

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier South
(Pier Location, Vessel based, Land Location, other)

Page 1 of 3

Date: 10-11-2021

Vessel Name: _____

Time Effort Initiated: 08:15, 1046

Time Effort Completed: 10:20, 1157

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/end time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist to Animal (from Observer)	Dist to Pier (brown animal & pile)	# of Animals Group Size (min/max/best)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	MMS action used during sighting?	MMS gesture Type?	Visibility	% Glare	Weather Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	08:16 : :	-	EC	SH(S)	HSEA	62 ♂ or km 189 ♂ or km	♂ or km 106 ♂ calves	1 / 1	opening closing parallel none SW(S)	PRE POST SUV SDI V 1 PCDP ST NONE	Y N	DE SD	B P M G E	0	PC	NW Nor S Mod Heavy	NW Nor S Mod Heavy	HSEA SW(S) toward EHW-2
EON	2	08:48 : :	-	EC	MI	HSEA	180 ♂ or km 47 ♂ or km	♂ or km 170 ♂ calves	1 / 1	opening closing parallel none MI	PRE POST SUV SDI V 1 PCDP ST NONE	Y N	DE SD	B P M G E	0	PC	NW Nor S Mod Heavy	NW Nor S Mod Heavy	HSEA (MI), btrn Orm tower + beach
EON	3	09:30 : 09:31 :	-	EC	SH (SW)	HSEA	62 ♂ or km 227 ♂ or km	♂ or km 109 ♂ calves	1 / 1	opening closing parallel none SW(SW)	PRE POST SUV SDI V 1 PCDP ST NONE	Y N	DE SD	B P M G E	0	DC	NW Nor S Mod Heavy	NW Nor S Mod Heavy	HSEA (SW,SW) toward EHW-2
EON	4	09:47 : :	-	EC	SH(S)	HSEA	155 ♂ or km 72 ♂ or km	♂ or km 150 ♂ calves	1 / 1	opening closing parallel none SW(S)	PRE POST SUV SDI V 1 PCDP ST NONE	Y N	DE SD	B P M G E	0	DC	NW Nor S Mod Heavy	NW Nor S Mod Heavy	HSEA SW(SW) toward N pier (from N)
EON	5	09:49 : :	-	EC	MI	HSEA	70 ♂ or km 26 ♂ or km	♂ or km 68 ♂ calves	1 / 1	opening closing parallel none MI	PRE POST SUV SDI V 1 PCDP ST NONE	Y N	DE SD	B P M G E	0	PC	NW Nor S Mod Heavy	NW Nor S Mod Heavy	HSEA MI btrn beach + N Pier
PST	6	10:11 : :	-	EC	SH(S)	HSEA	189 ♂ or km 44 ♂ or km	♂ or km 165 ♂ calves	1 / 1	opening closing parallel none SW(S)	PRE POST SUV SDI V 1 PCDP ST NONE	Y N	DE SD	B P M G E	0	PC	NW Nor S Mod Heavy	NW Nor S Mod Heavy	HSEA SW(S) from N pier + beach to S pier
	:	:					m or km	m or km	1 / 1	opening closing parallel none	PRE POST SUV SDI V 1 PCDP ST NONE	Y N	DE SD	B P M G E			Nor S Wor E		

Sighting chronological number of sightings; If resight of same animal, then 1.1, 1.2, etc. WP#(Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Obs

vibratory impact 0815 - 1020
1046 - 1157

Project Name: Bangor EHW-1

Monitoring Location EHW-1 Pier North (SC)
(Pier Location, Vessel based, Land Location, other)

Page 2 of 3

Date: 10-11-2021

Vessel Name:

Time Effort Initiated: 0815, 1046

Time Effort Completed: 1020, 1157

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (Start/End time if continuous)	WP # (every time a sighting is made)	Observer	Sighting date	Species	Dist/ Dir to Animal (from Observer)	Dist to Pile (Brown animal & pile)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Min gation used during sighting?	Min Elation Type?	Visibility	% Glare	Wether Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/ Response to Activity/Comments
PRE	1	08:15 : : :	-	SC	MI	HSEA	60 100 km 290	180 m or km	1 / 12 1 calves	MI	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M	0	PC	NW Nor S Wor E Light Mod Heavy	HSEA mom + calf
PRE	2	08:35 : : :	-	SC	RE	CASL	475 km 280	550 m or km	1 / 17 0 calves	RE	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M	0	PC	NW Nor S Wor E Light Mod Heavy	CASL on security fence
EON	3	08:36 : 08:50:	-	SC	SW	CASL	150 km 15	300 m or km	1 / 11 0 calves	SW	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M	0	PC	NW Nor S Wor E Light Mod Heavy	
POST	4	10:06 : :	-	SC	SW	CASL	75 km 345	225 m or km	1 / 11 0 calves	SW	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M	0	PC	NW Nor S Wor E Light Mod Heavy	
POST	5	10:17 : :	-	SC	SW	HSEA	150 km 10	300 m or km	1 / 11 0 calves	SW	opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M	0	PC	NW Nor S Wor E Light Mod Heavy	
	:	:					m or km	m or km	1 / 1 — calves		opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M			Light Mod Heavy	Nor S Wor E
	:	:					m or km	m or km	1 / 1 — calves		opening closing parallel none	PRE POST SSV SSI V I PC DP ST NONE	Y	DE	B P M				Nor S Wor E

Sighting # chronological number of sightings; if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

Bangor EHW-1 & Service Pier
MARINE MAMMAL OBSERVATION RECORD FORM

Project Name: Bangor EHW-1

Date: 10-11-2021

Boat based (GR) Obs
EHW-1 Pier North (CN)
Monitoring Location EHW-1 Pier South (EC)
(Pier Location, Vessel based, Land Location, other)

vibratory 0815-1020
impact 1046-1157

Page 3 of 3

Vessel Name: - MONARCH -

Time Effort Initiated: 0815, 1046

Time Effort Completed: 1020, 1157

Sighting Data

Event Code	Sighting Number (1 or 1.1 if resight)	Time/Duration watching sighting (start/end time if continuous)	WP # (every time a sighting is made)	Observer	Sighting cue	Species	Dist/Dir to Animal (from Observer)	Dist to Pier (btwn animal & pier)	# of Animals Group Size (min/max/best # of Calves)	Relative Motion/and Behavior Code (see code sheet)	Const Type During Sighting	Mitt gation used during sighting?	Mitt gation Type?	Visibility	% Glare	Weath Cond	Sea State and Wave Ht	Swell Dir	Behavior Change/Response to Activity/Comments	
PRE	7	10:52 : 10:56 :	-	EC	MI	HSEA	45 ^{nor} km 258	104 0 calves	1 / 1	MI	opening closing parallel none	PRE POST SSV SSI V / PC DP ST NONE	Y SD	DE G E	B P M G E	0	PC	NW Mod Heavy	Light Mod Heavy	HSEA (MI) along W fringe peer seen again @ 1056 same spot
POST	8	11:55: 11:56:	-	EC	MI	HSEA	360 ^{nor} km 18	340 0 calves	1 / 1	MI	opening closing parallel none	PRE POST SSV SSI V / PC DP ST NONE	Y SD	DE G E	B P M G E	0	PC	NW Mod Heavy	Light Mod Heavy	HSEA (MI) far NORTH, N of N pier,
POST	6	11:54: :	-	CW	SW(SW)	HSEA	50 ^{nor} km 329	120 0 calves	1 / 1	SW (SW)	opening closing parallel none	PRE POST SSV SSI V / PC DP ST NONE	Y SD	DE G E	B P M G E	0	PC	NW Mod Heavy	Light Mod Heavy	NW Mod Heavy
POST	7	11:52: :	-	CW	DI	CASL	260 ^{nor} km 4	340 0 calves	1 / 1	DI	opening closing parallel none	PRE POST SSV SSI V / PC DP ST NONE	Y SD	DE G E	B P M G E	0	PC	NW Mod Heavy	Light Mod Heavy	NW Mod Heavy
-	-	:	-	GR	-	-	m or km -	m or km -	1 /	-	opening closing parallel none	PRE POST SSV SSI V / PC DP ST NONE	Y N	DE SD	B P M G E	-	-	Light Mod Heavy	No S Wor E	NO sightings made by boat observer
		:					m or km -	m or km -	1 /	-	opening closing parallel none	PRE POST SSV SSI V / PC DP ST NONE	Y N	DE SD	B P M G E	-	-	Light Mod Heavy	No S Wor E	
		:					m or km -	m or km -	1 /	-	opening closing parallel none	PRE POST SSV SSI V / PC DP ST NONE	Y N	DE SD	B P M G E	-	-	Light Mod Heavy	No S Wor E	

Sighting Chronological number of sightings, if resight of same animal, then 1.1, 1.2, etc. WP (Waypoint)=GPS recording of lat/long, time/date stamp. Critical for vessel observers.

APPENDIX D. SOUND ATTENUATION SYSTEM DESCRIPTION

Sound Attenuation System

PROJECT NAME:
EHW1 Pile Replacement

PREPARED BY:

American Construction Company, Inc.

BUBBLER RINGS: The aerated rings are made out of 2.5-inch, schedule 80 marine-grade aluminum pipe. The rings have multiple 1/16-inch diameter air holes that are spaced approximately 3/4-inch apart, and placed in four (4) adjacent rows along the top-side of the pipe for uniform air bubble flux when in operation. Each ring is comprised of two halves that are joined at the ends with paired hinge plates that are secured with removable 3/4-inch bolt/hardware. The hinged connection allows the rings to individually “open up” for easier placement (or removal) around a pile.

PILE GUIDES: Each bubbler ring is equipped with four (4) adjustable resilient pile guides to keep the rings centered around the piling, but away (no contact) from the piling surface. Resilient pile guides are made out of marine-grade aluminum plates/tubing. Telescoping arm guides with evenly spaced holes allow for in-and-out adjustment to fit piling up to 30-inch diameter. The ends of the pile guides have spinning plastic rollers to ease lowering (and raising) of bubbler rings down and up the surface of the pile.

AIR HOSES: Each bubbler ring has a pair of 1-inch nipples (male hose fittings) for coupling to 1-inch diameter “red” rubber hoses with Chicago Pneumatic (CP) twist-lock coupler connections. The air hoses are 200-PSI rated and come in standard 50’ long sections. Bubbler rings requiring longer hoses will be supplied with multiple 50’ long sections of air hose.

AIR MANIFOLD: Made of steel pipe and tubing, the manifold is a stand-alone unit that controls, measures and distributes air into the system. The manifold is comprised of an adjustable on/off valve for control of the air coming from the compressors (air source); it is also equipped with flow meters and pressure gages for volume (CFM) and pressure (PSI) measurements, and individual throttling valves and male hose fitting connections for each bubbler ring.

System Installation, Operation, and Management Procedures: A single bubble curtain ring will be deployed around the pile under the dock. Once the pile is positioned and stabbed on the seafloor the bubble curtain ring will be lowered to the bottom. The bubble curtain ring will be connected to the 1” air hose that will be ran back to the manifold on deck of the derrick barge. Prior to impact pile driving the bubble curtain will be turned on and the CFM and PSI measurements will be measured prior to impacting. 750 CFM of air will be supplied to the manifold.



7078

APPROVED AS NOTED

WASHINGTON STATE

DEPARTMENT OF TRANSPORTATION

BRIDGE AND STRUCTURES OFFICE

BY: CONSTRUCTION SUPPORT ENGINEER

FEB - 1 2011

REVISIONS
BY/DATE
wpeose
28JAN11

DATE

GENERAL NOTES

1. DRAWING DEPICTS UNCONFINED AND CONFINED BUBBLE CURTAIN DISTRIBUTION MANIFOLD.
2. MAWP = 100 PSI
3. MANIFOLD TO BE PRESSURE TESTED TO 1-1/2 TIMES THE MAWP (150 PSI).
4. EACH BUBBLE RING TO BE CONNECTED WITH TWO 1" HOSES TO ONE "TEE" ASSEMBLY.
5. 3" SUPPLY PIPES TO BE THREADED TO MATCH FITTINGS ON AIR COMPRESSOR HOSES.
6. 10 DIAMETERS OF STRAIGHT PIPE REQUIRED IN FRONT OF FLOW METERS, PER REFERENCE 10.
7. WELDS UNDER PRESSURE SHALL BE PER ASME SECTION 8 BOILER AND PRESSURE VESSEL CODE, LATEST ADDITION.

REFERENCES

1. COLUMBIA-SENTINEL ENGINEERS DRAWING 1109-100-1, UNCONFINED BUBBLE CURTAIN, HOOK UP SCHEMATIC.
2. COLUMBIA-SENTINEL ENGINEERS DRAWING 1109-100-3, CONFINED BUBBLE CURTAIN, HOOK UP SCHEMATIC.
3. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL, REF.SHT. NUMBER ND1, SHEET 5 OF 12.
4. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, BOTTOM BUBBLE RING DETAILS, REF.SHT. NUMBER ND2, SHEET 6 OF 12.
5. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, UPPER BUBBLE RING DETAILS, REF.SHT. NUMBER ND3, SHEET 7 OF 12.
6. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL 1, REF.SHT. NUMBER ND5, SHEET 9 OF 12.
7. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL 2, REF.SHT. NUMBER ND6, SHEET 10 OF 12.
8. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL, REF.SHT. NUMBER ND7, SHEET 11 OF 12.
9. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, CONFINED BUBBLE RING DETAILS, REF.SHT. NUMBER ND8, SHEET 12 OF 12.
10. INSTALLATION, OPERATION AND MAINTENANCE, THREADED AND WAFER STYLE FLOWMETERS, RCM INDUSTRIES, INC. (WWW.FLO-GAGE.COM)

COLUMBIA-SENTINEL ENGINEERS, INC.
NAVAL ARCHITECTS & MARINE ENGINEERS
SEATTLE, WASHINGTON

AMERICAN CONSTRUCTION

UNCONFINED BUBBLE CURTAIN
AIR SUPPLY MANIFOLD

DRAWN	APPROVED	APPROVED BY LEITER DATE	REV.
wpeose			
DATE 28 JAN 11			

EXPIRES: 11/5/2011

DWG NO. 1109-100-2 SHEET 1 OF 2 SCALE: NOTED REV A

4

3

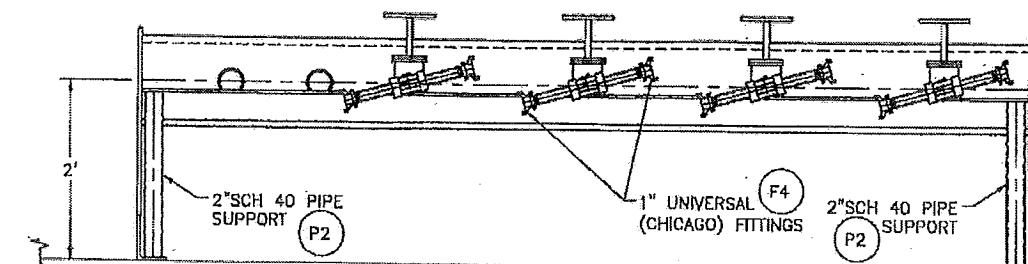
2

Paint steel components per
Std Spec.
per plan shft 8.

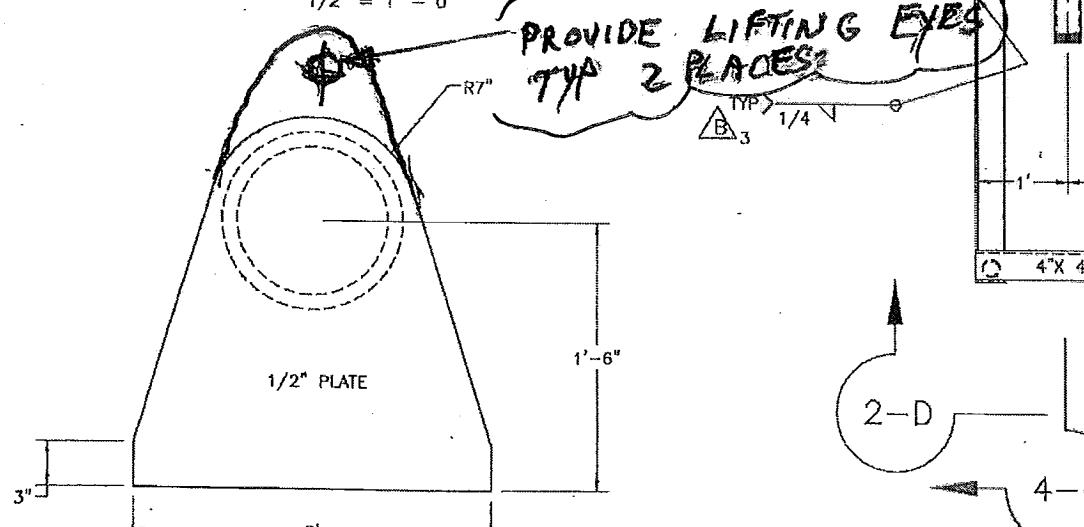
F8 DRILL AND TAP
FOR 1/2" NPT PLUG

SECTION "4-D"

1/2" = 1' - 0"

**SECTION "4-B"**

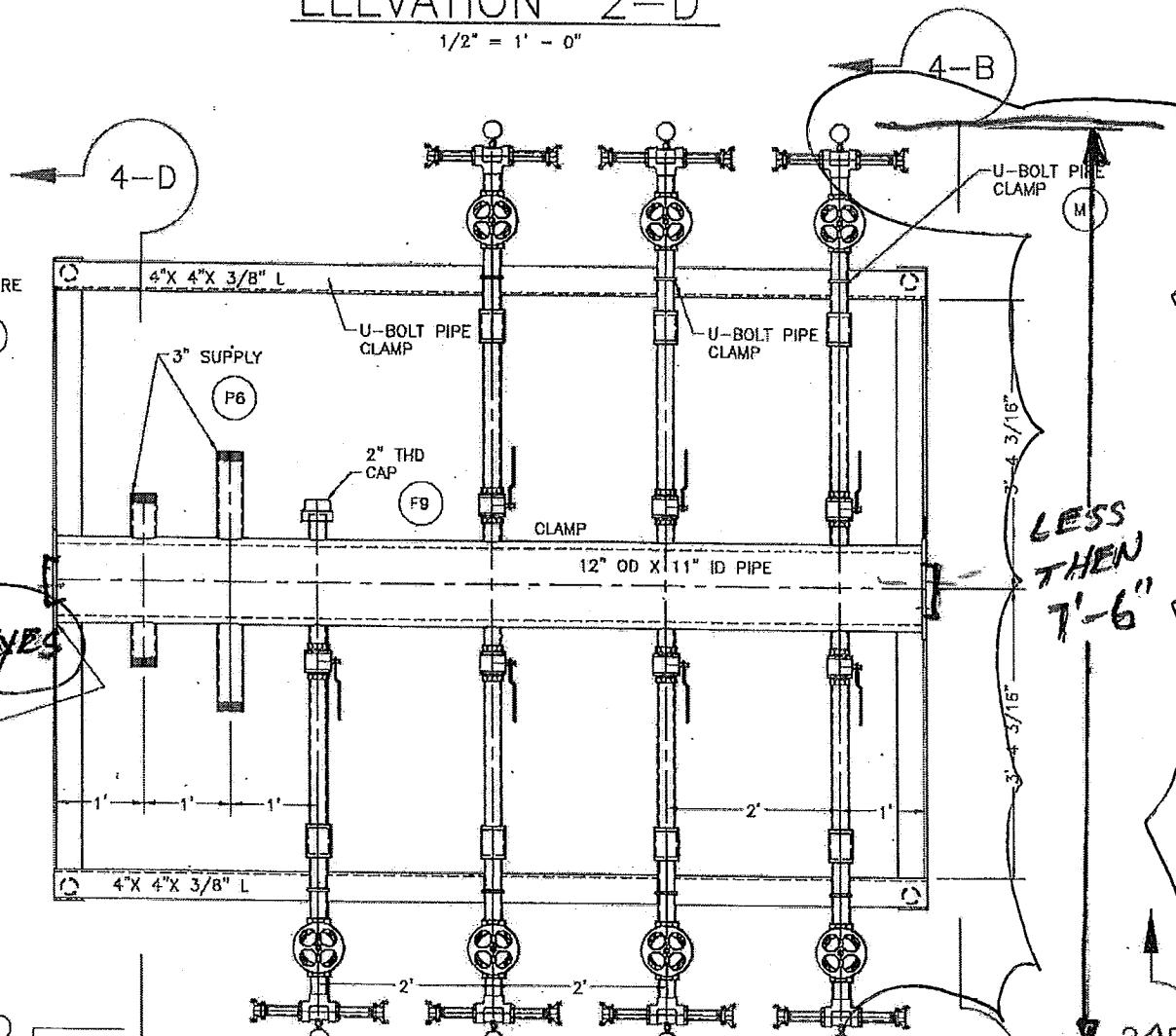
1/2" = 1' - 0"

**SECTION "4-A"**END PLATE
TWO REQUIRED
1" = 1' - 0"

* FLOW METER SUPPLIER OKD FEWER DIAMETERS

ELEVATION "2-D"

1/2" = 1' - 0"

**PLAN "2-A"**
BUBBLER SUPPLY

1/2" = 1' - 0"

APPROVED AS MARKED

James S. Hoffman
1-31-2011

EXPIRES: 11/5/2011

3

2

1

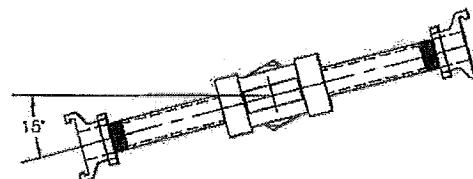
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7

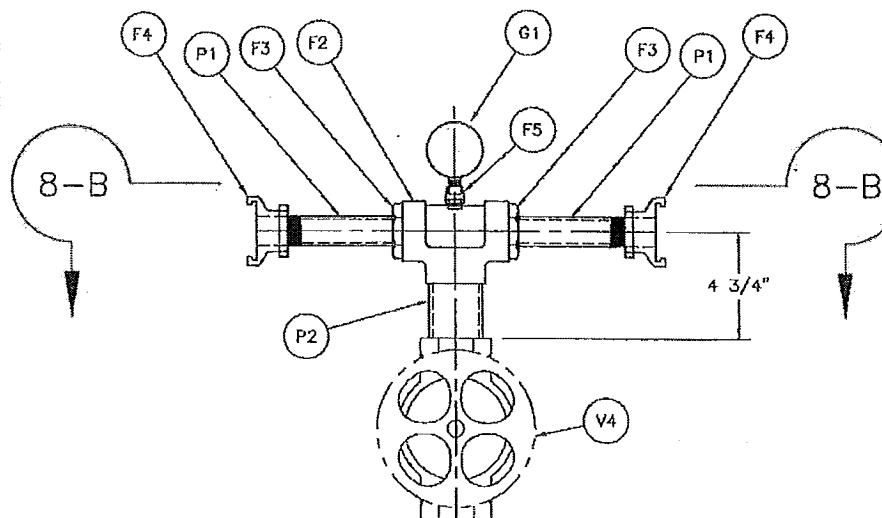
6

APPROVED AS NOTED⁵

Paint steel components
per Std. Spec.
per plan sht. 8

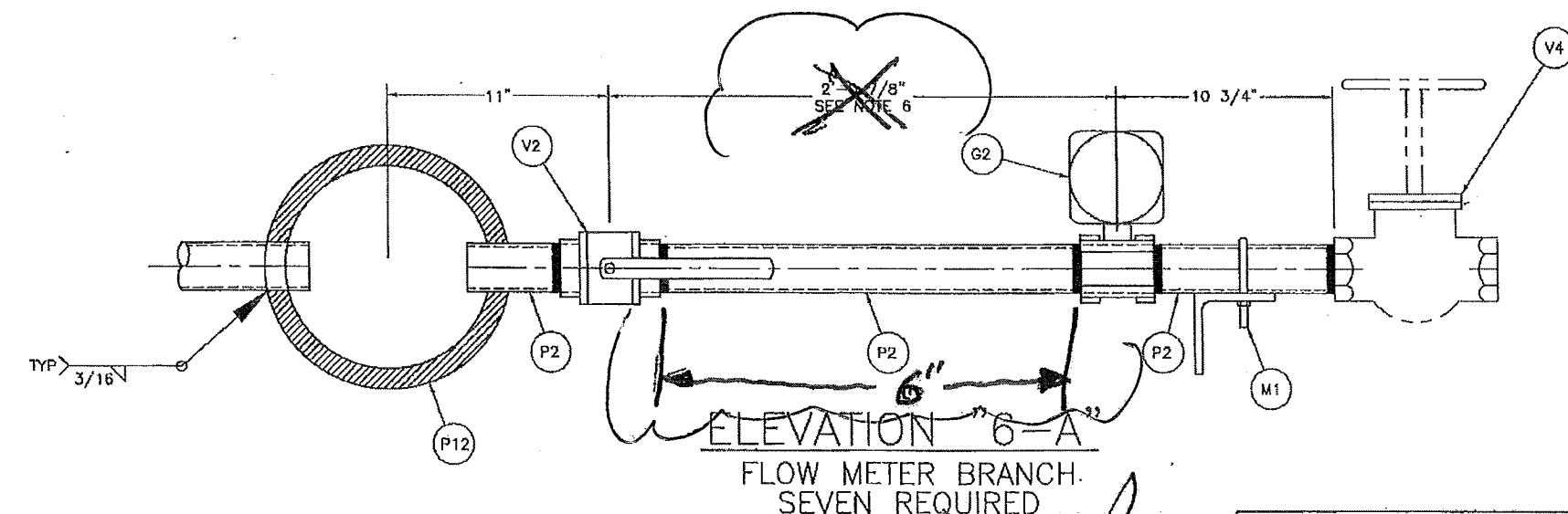


ELEV. "8-B"
FLANGE "CLOCKING"
 $1\frac{1}{2}'' = 1' - 0''$



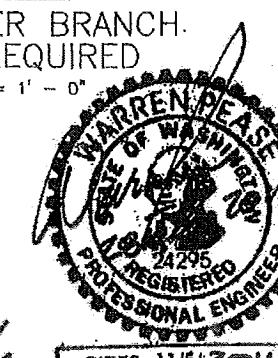
PLAN "8-A"
CHICAGO FITTING BRANCH
SEVEN REQUIRED
 $1\frac{1}{2}'' = 1' - 0''$

MATERIAL LIST						WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	
NO.	QTY.	SIZE	GRADE	ENDS	DESCRIPTION	MATERIAL	DEPARTMENT OF TRANSPORTATION
P12	1				12" OD x 11" ID x 10' long Pipe	A106 GR B	BRIDGE AND STRUCTURES OFFICE
P1		1"			SCH 40 PIPE	A106 GR B	BY CONSTRUCTION SUPPORT ENGINEER
P2		2"			SCH 40 PIPE	A106 GR B	
P3		3"			SCH 40 PIPE	A106 GR B	FEB - 1 2011
F2	7	2"	SCH 40	FNPT	TEE	A197	DATE
F3	14	2" X 1"	SCH 40	NPT	BUSHING	A197	
F4	14	1"		FNPT	UNIVERSAL (CHICAGO) COUPLINGS	SST	DIXON OR EQUAL
F5	7	1/2" X 2"	3000#	FNPT	THREADEOLET	STEEL	BONNEY FORGE OR EQUAL
F6	4	3"		FBPT	HOSE TO PIPE CONNECTION		TO MATCH COMPRESSOR AIR HOSES
F7	28	1"			BARB	UNIVERSAL (CHICAGO) COUPLINGS	DIXON OR EQUAL WITH HOSE CLAMPS
F8	1	1/2"	SCH 40	MNPT	PIPE PLUG	ASTM A105 OR A181	
F9	1	2"	SCH 40	FNPT	PIPE CAP	ASTM A105 OR A181	
F10	3	3"	SCH 40	FNPT	PIPE CAP	ASTM A105 OR A181	
V2	7	2"		FNPT	BALL VALVE	ASTM A351, BALL, PTFE SEAT & SEALS	TACHEN 2" TC-02X OR EQUAL
V4	7	2"	150#	FNPT	GLOBE VALVE	ANSI B16.5, ASTM A197 OR A395 w/ RENEWABLE BRZ TRIM	
G1	7				PRESSURE GAUGE		NOSCHOK 25.400-200PSI-1/2"NPT OR EQUAL
G2	7				FLOW METER		RCM FLO-GAGE 2-71-R-800-ADI OR EQUAL
H1	600'	1"	250 PSI		HOSE		PACIFIC RUBBER MARINE ENVIRONMENT INDUSTRIAL
M1	7	2"			"U" BOLT PIPE HANGERS	STEEL	ASTM 708-92, TABLE 4
A1	2				6" X 4" X 3/8" L X 7'-4" LONG	A36	
A2	2				4" X 4" X 3/8" L X 12'-0" LONG	A36	
PL1	2				1/2" PL; 24" X 25"	A36	



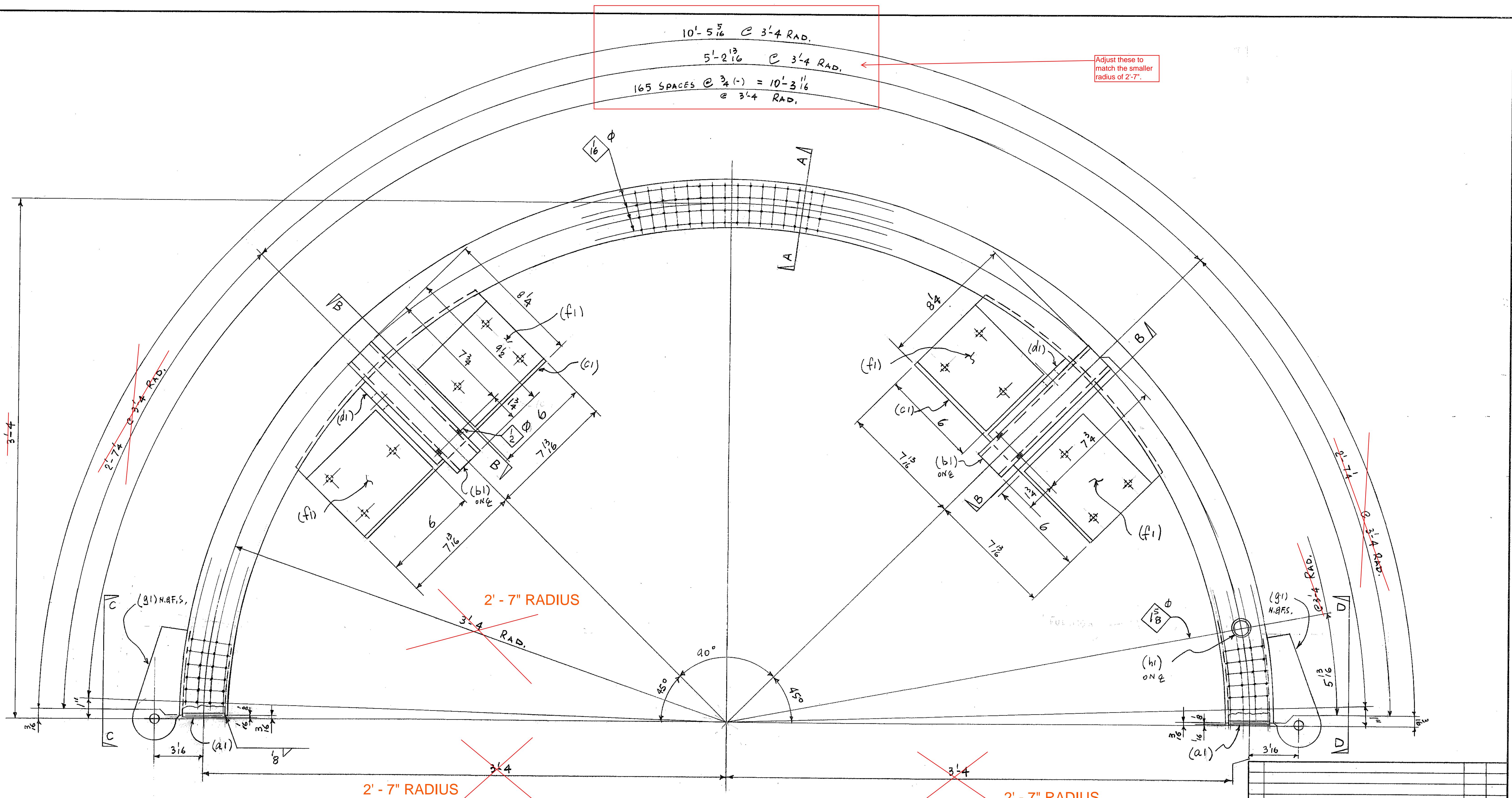
Approved AS MARKED

James Schaefer



PIRES: 11/5/2011

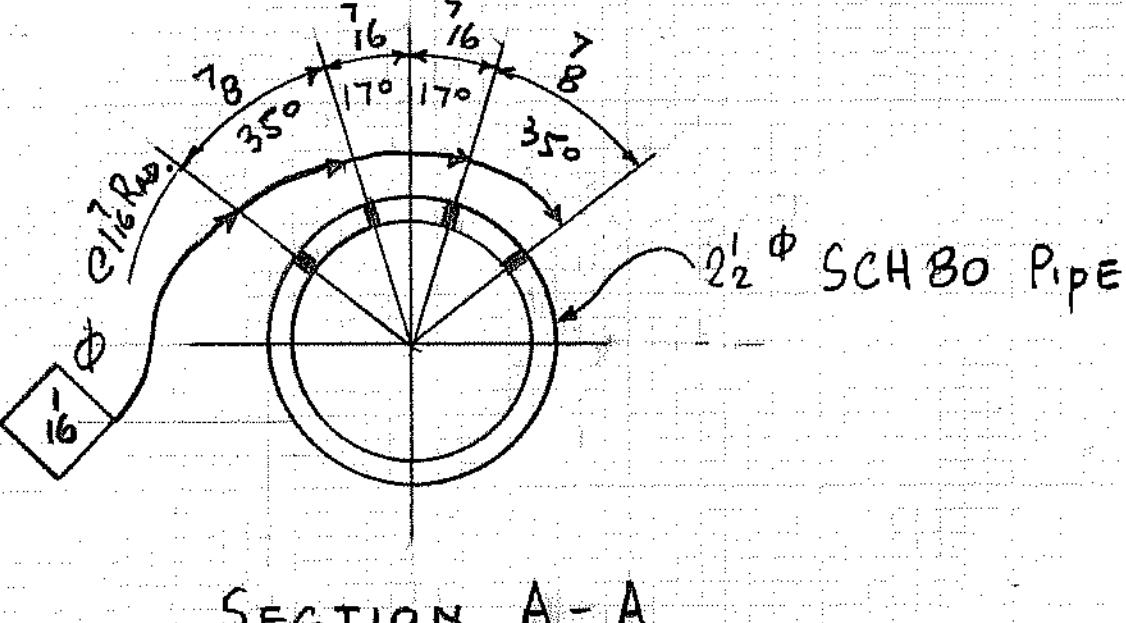
CLASS	APPROVED	APPROVED BY LETTER DATED
WITNESS	DATE 28 JAN 11	OWNER
DRAFT NO. 1109-100-2.		SHEET 2 OF 2
SCALE: NOTED		REV: A



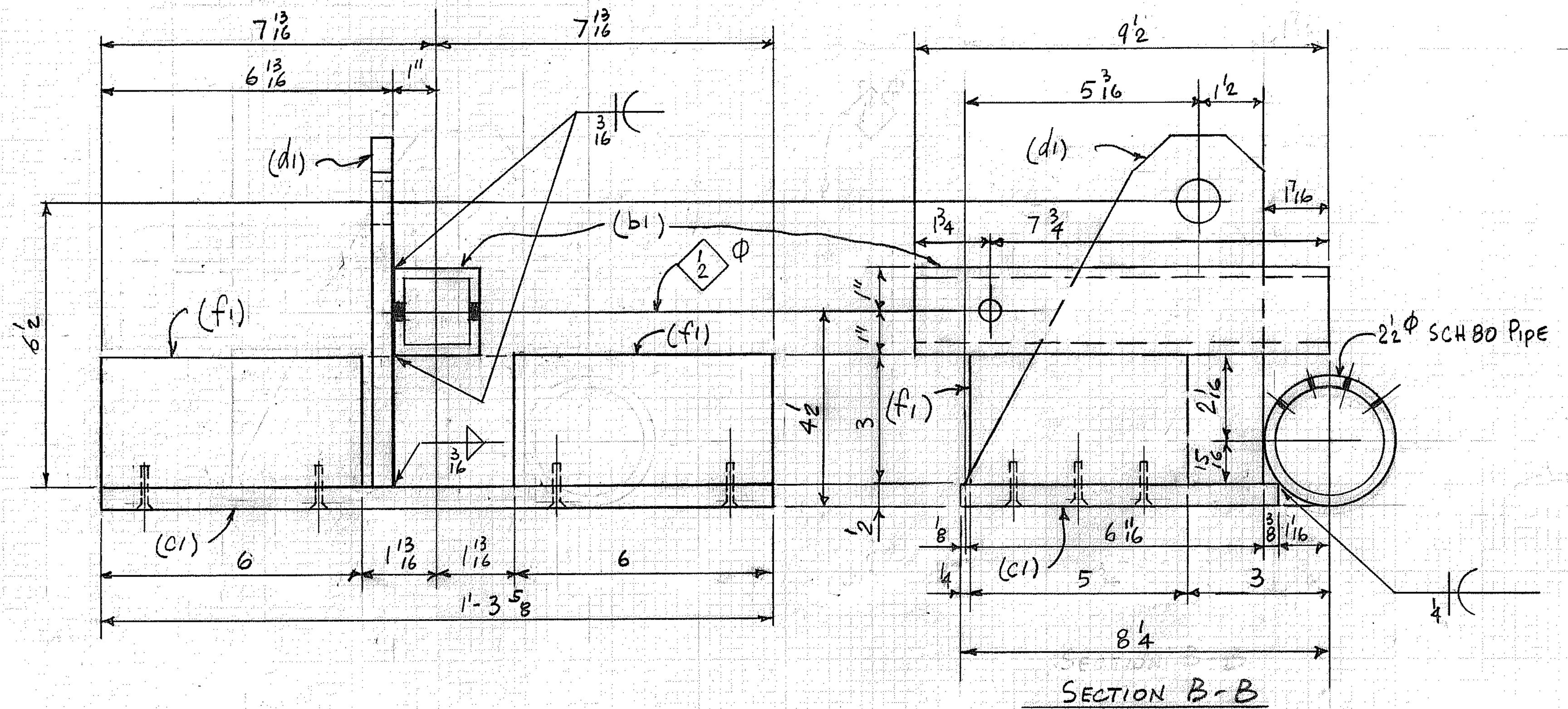
MAKE ONE ~ 2 1/2 ϕ SCH 80 PIPE X 10 5/16 ~ MK1A
ALUMINUM PIPE FOR BOTTOM RING, REF. ND2

WORK THIS DWG. WITH DWG. 2
FOR FIELD BOLT LIST SEE DWG. 9

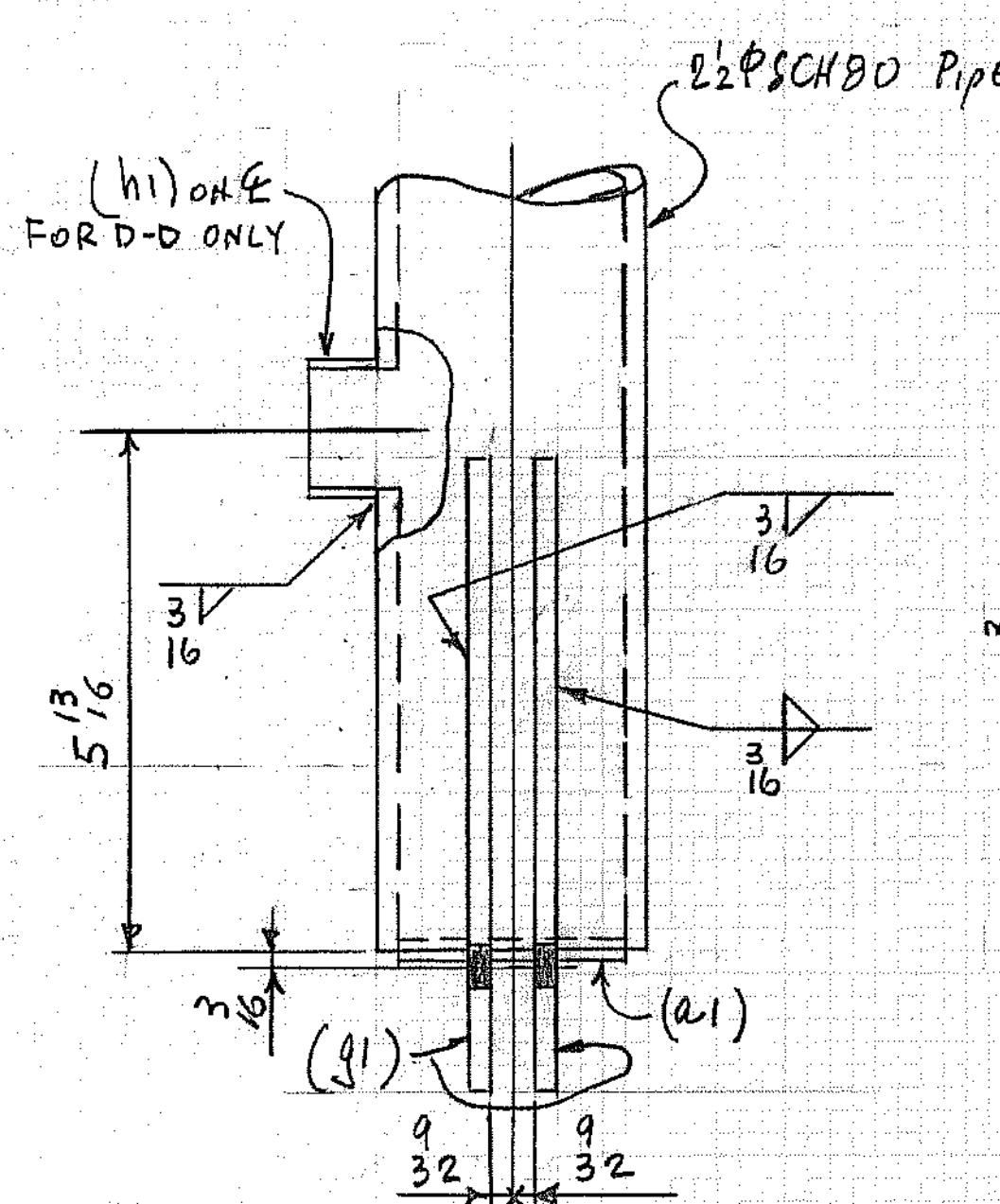
NO.	DESCRIPTION	DATE	BY
REVISION			
CERT WELDERS	W, A, B, O.	PRINTS	APPL'D
OPEN HOLES	(13) ϕ 1/16 U.N.	DATE	REV.
PAINT	No PAINT	END & EDGE DISTANCE	U.N.
RAINIER WELDING 19020 NE 84TH STREET - REDMOND, WA 98053 (425) 866-1300 FAX (425) 866-8872			
STEEL AND ALUMINUM FABRICATING			
ITEM	BOTTOM RING		
JOB	COLUMBIA RIVER BRIDGE		
LOCATION	TEMPORARY PILE TEST		
CONTR	I-5, WA.		
DRAWN BY	AMERICAN CONST.		
CHECKED BY	J.M.R.	DATE	01-20-11
JOB NO.	2860	DRWG. NO.	REV.



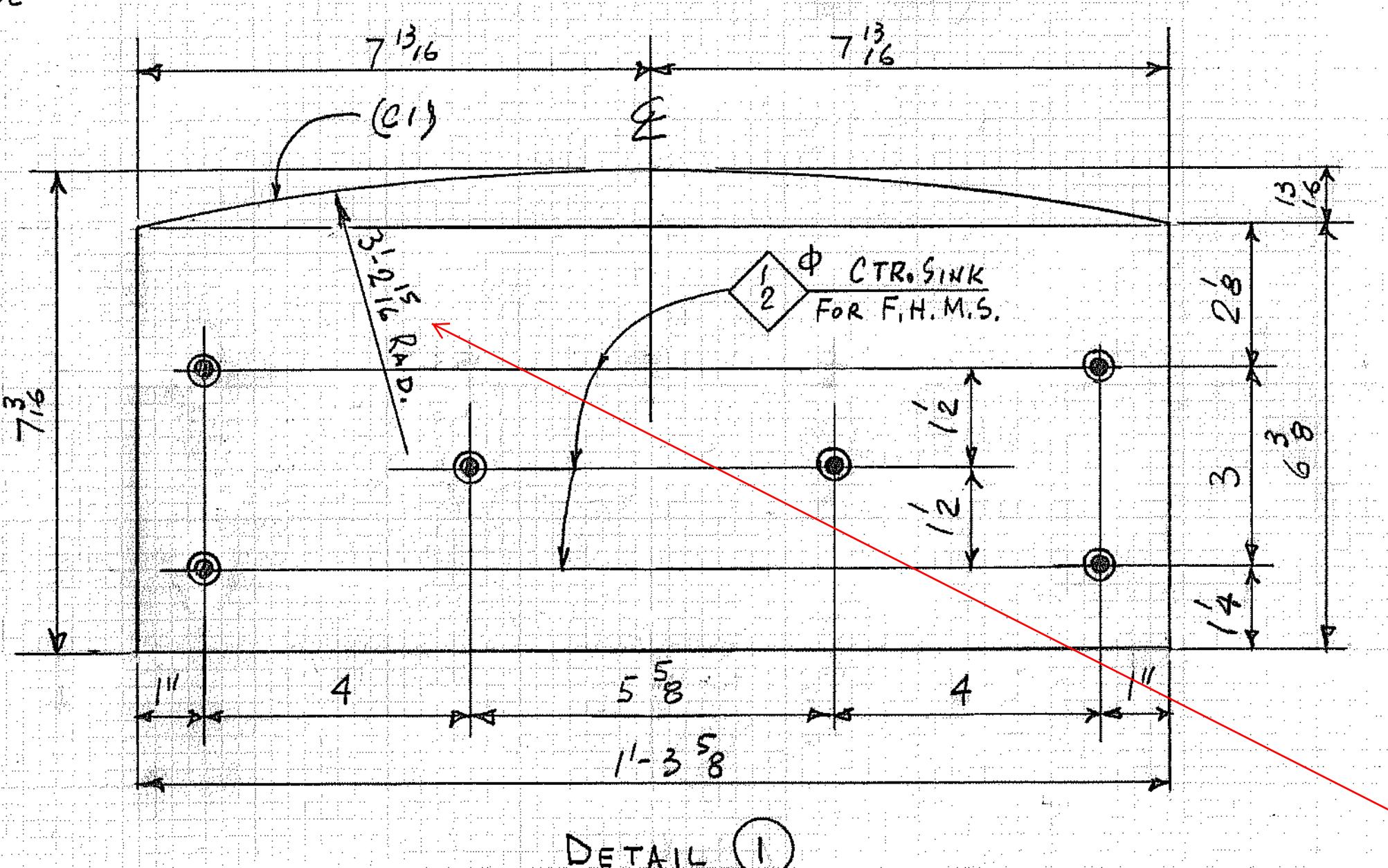
SECTION A-A



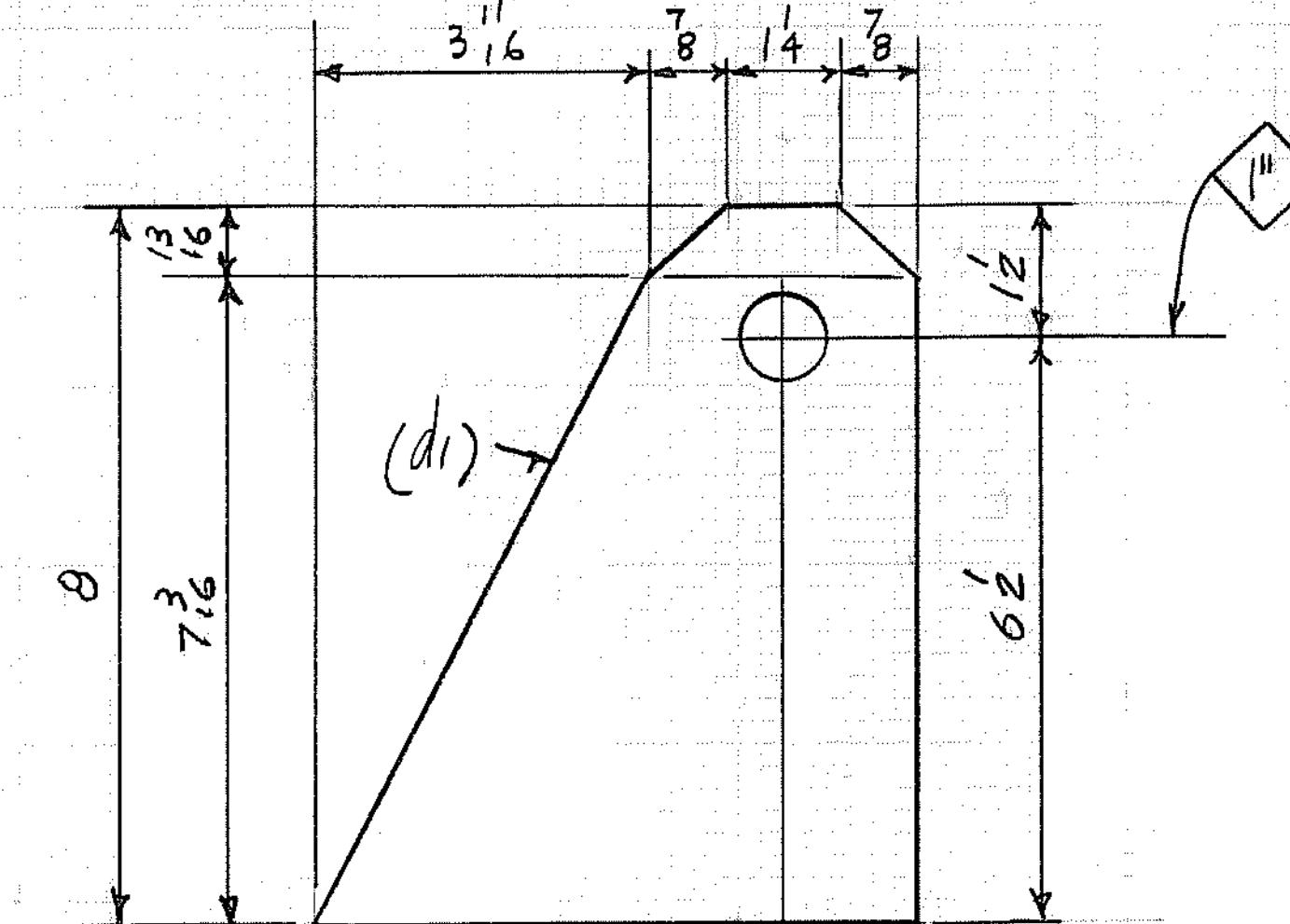
SECTION B-B



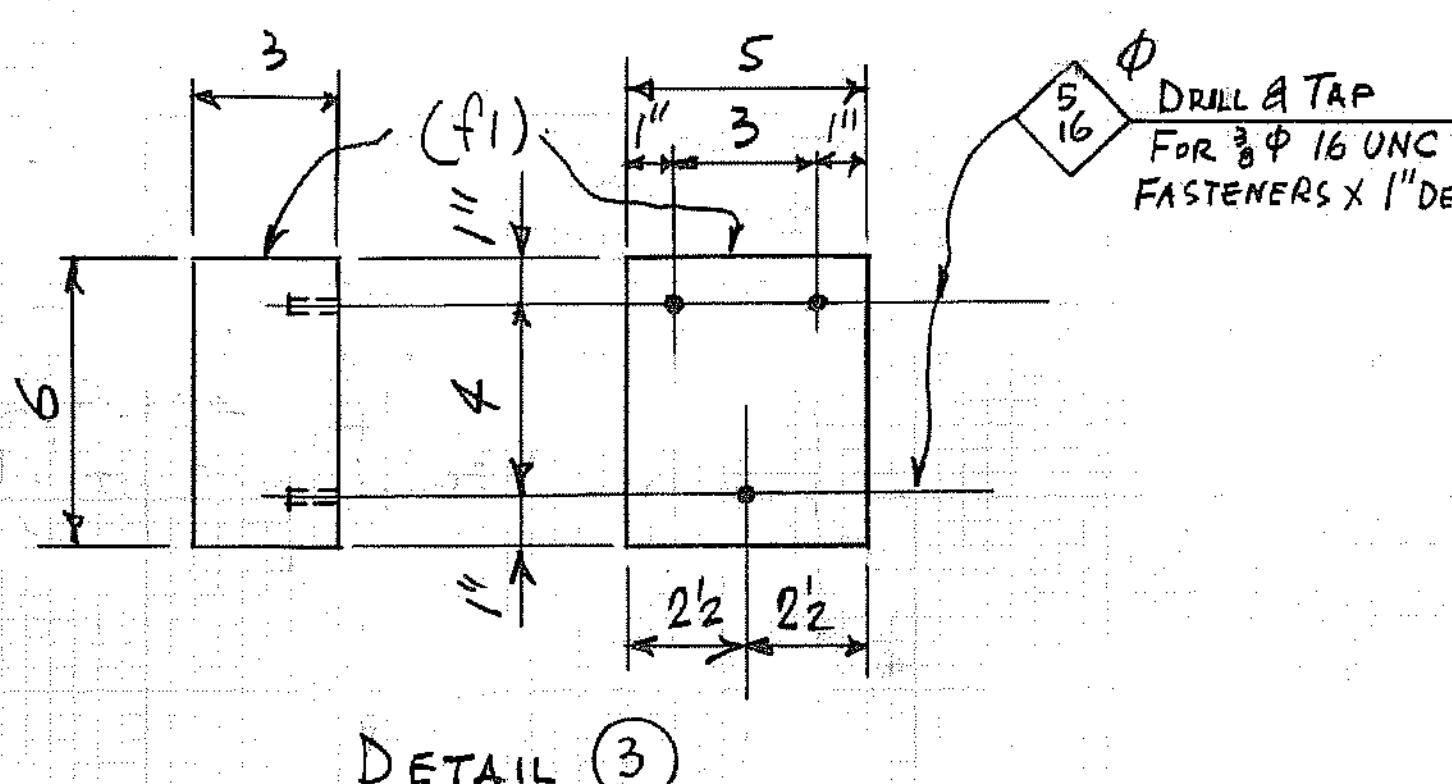
VIEW C-C



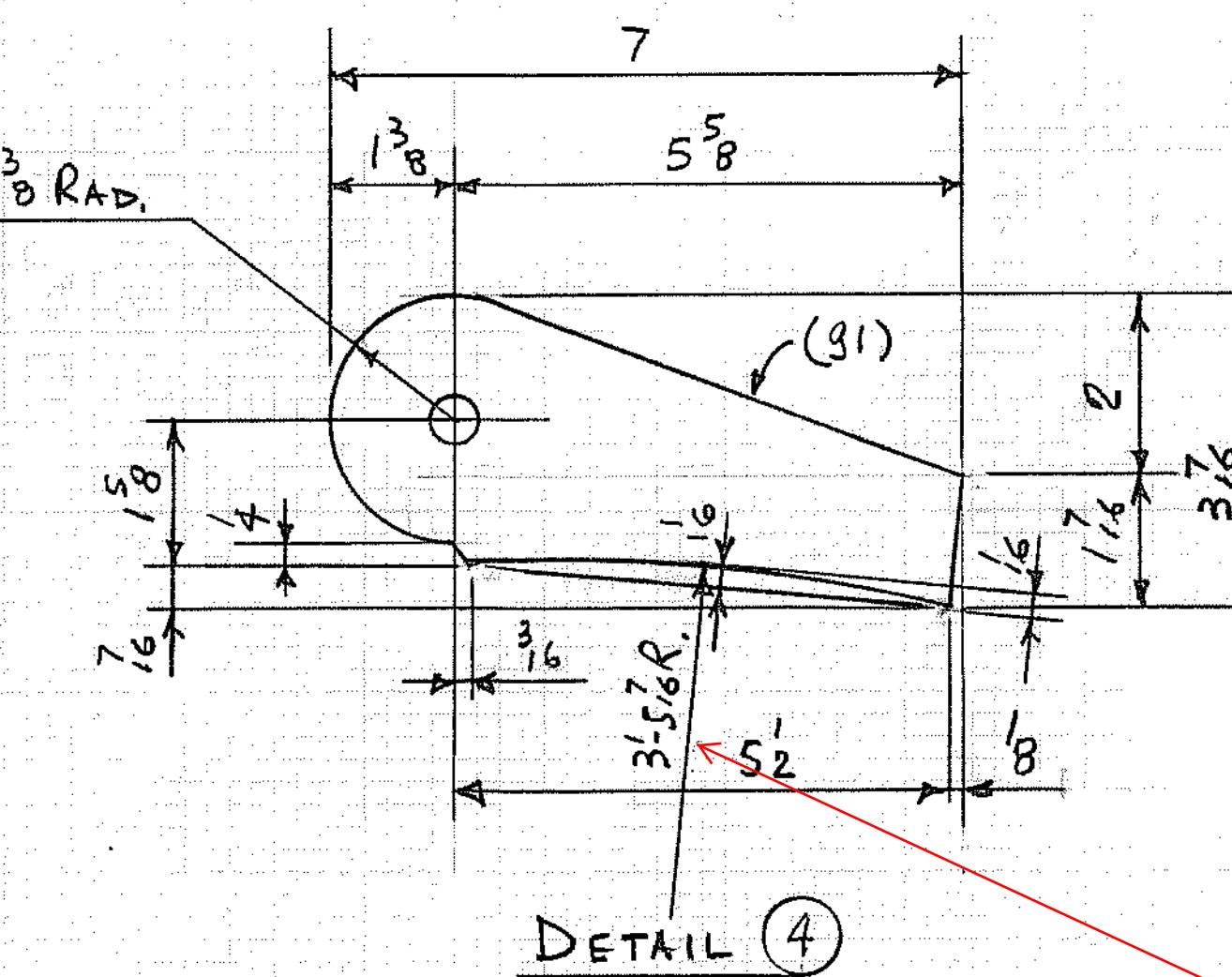
DETAIL 1



DETAIL



DETACH ③



DETAIL 4

MATERIAL: AL. 6061-T6, U.N.
MILL CERTS. REQ'D.

WORK THIS DWG. WITH DWG. 1

NO.	DESCRIPTION	DATE	BY
	REVISION		
CERT. WELDERS	<i>W, A, B, O.</i>		
OPEN HOLES	 U.N.	END & EDGE DISTANCE	PRINTS
		— U.N.	DATE REV. APPVL SHOP FIELD
PAINT	<i>No PAINT</i>		

PAPER KATEL PRICE

RAINIER WELDING
320 NE 84TH STREET • REDMOND, WA 98053

NE 64TH STREET • REDMOND, WA 98053
(25) 868-1300 • FAX (425) 868-0872

STEEL AND ALUMINUM FABRICATING

RING - SECTIONS, DETAILS

MUMBIA RIVER BRIDGE

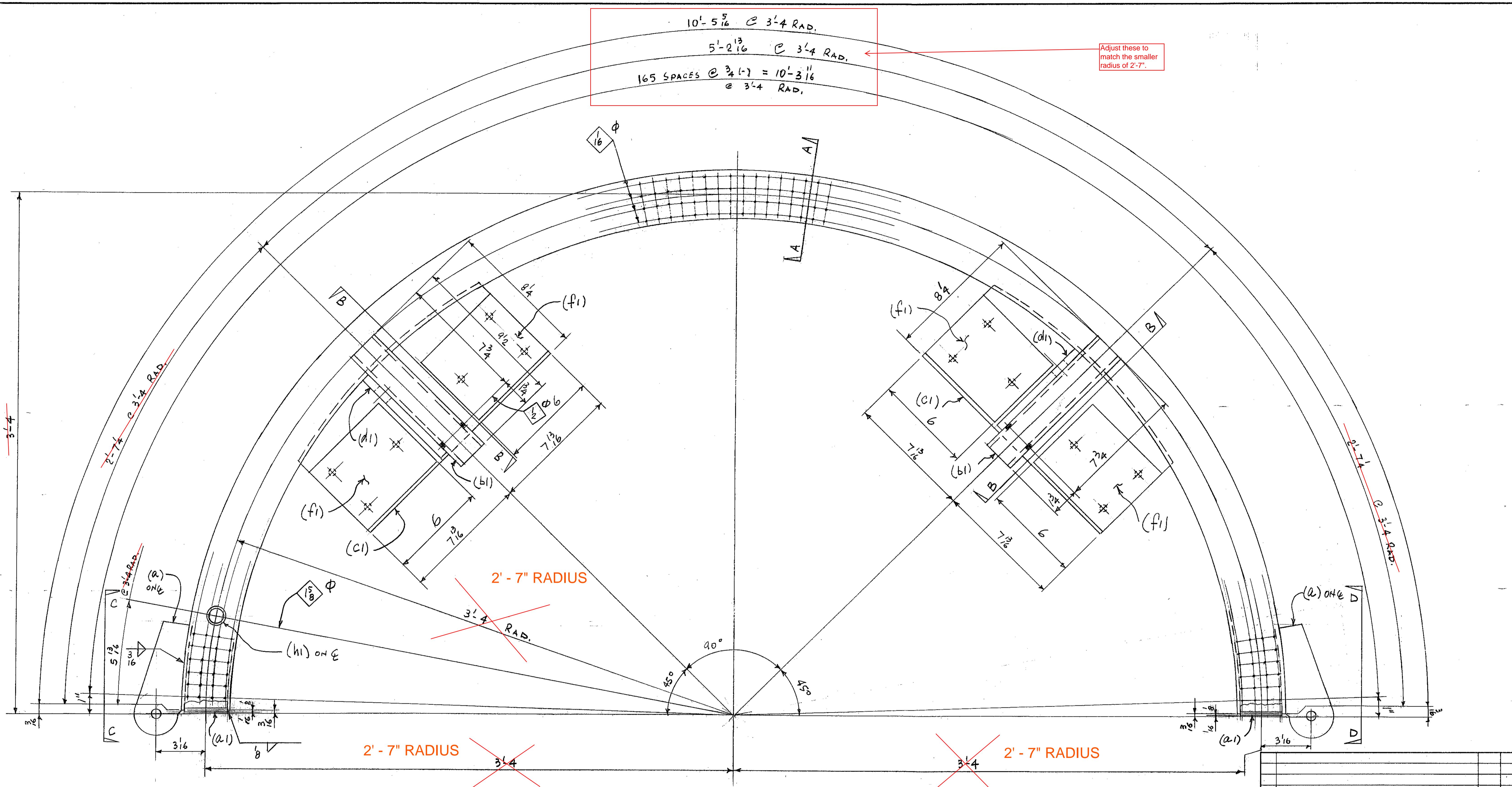
ARY FILE TEST

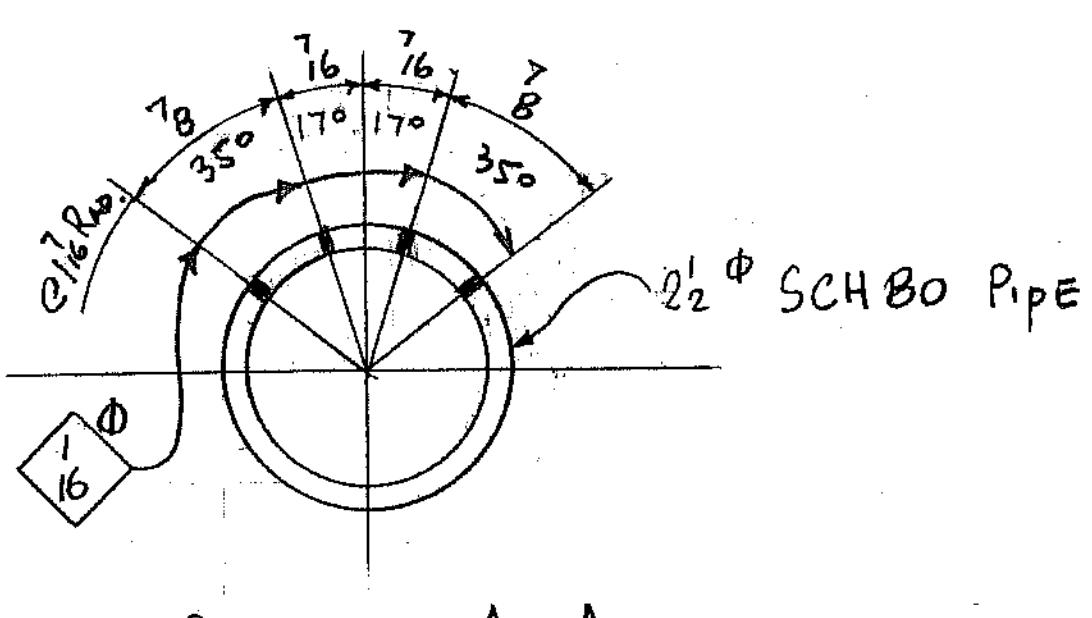
2 W.A. 1

ICAN CONST.

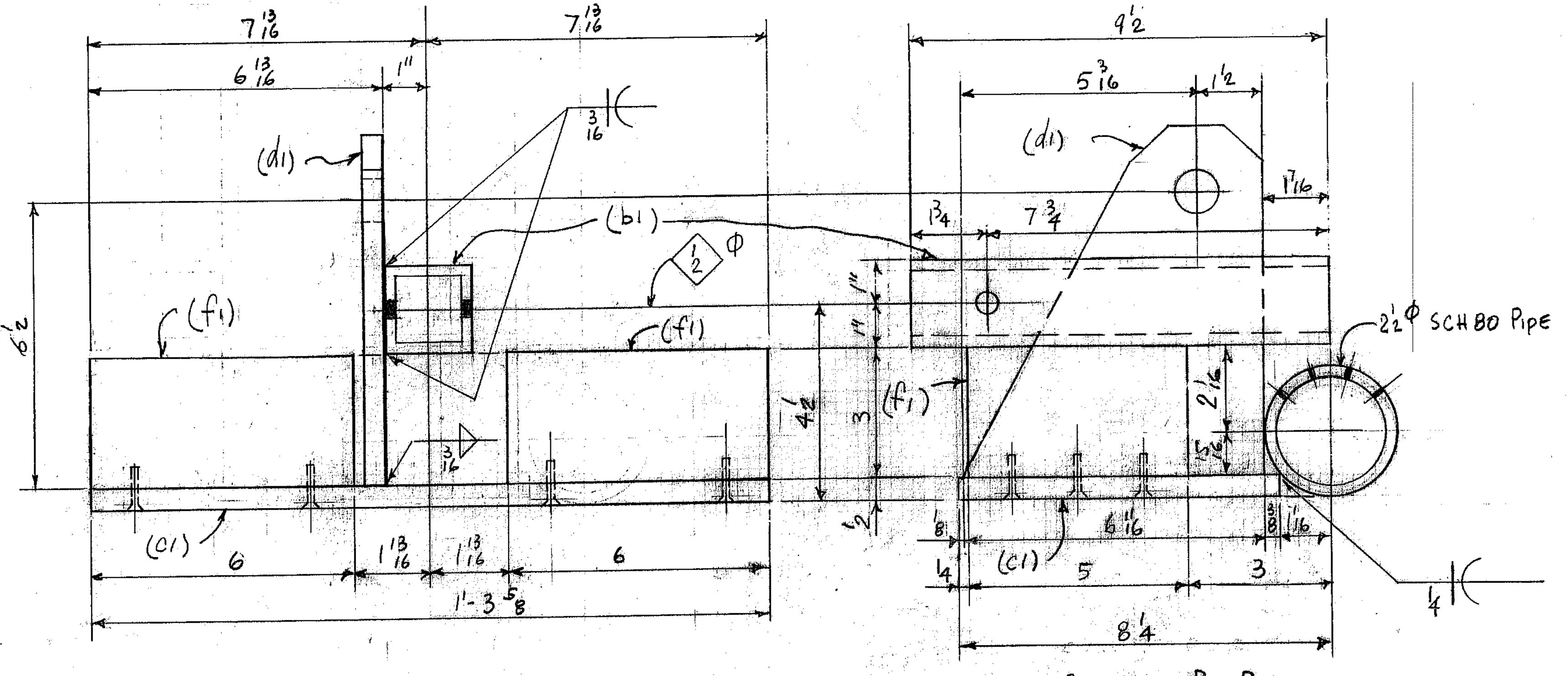
WORKED BY DATE JOB NO. DRWG. NO.
J.M.R. 01-21-11 2860 2

10. The following table shows the number of hours worked by each employee in a company.

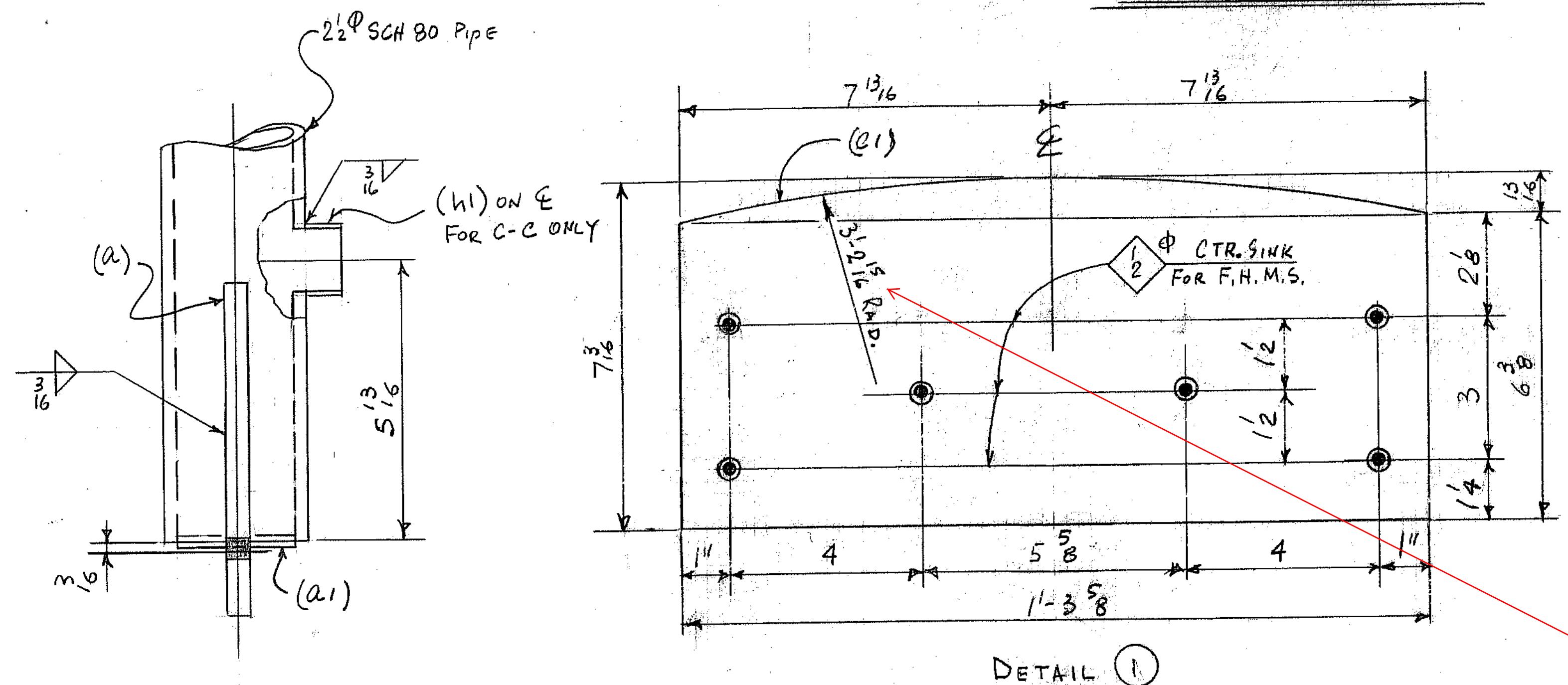




SECTION A-A

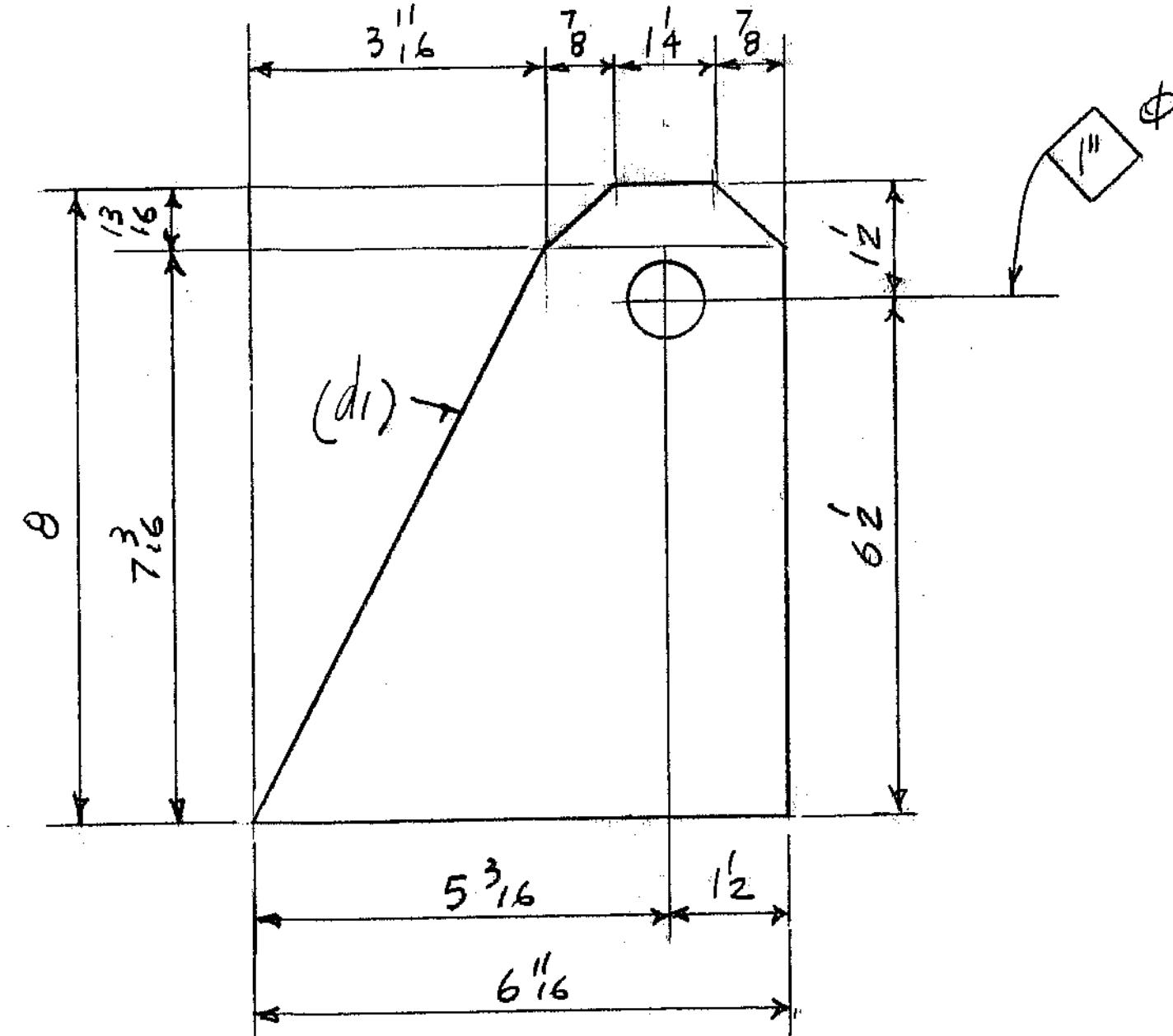


SECTION B-B

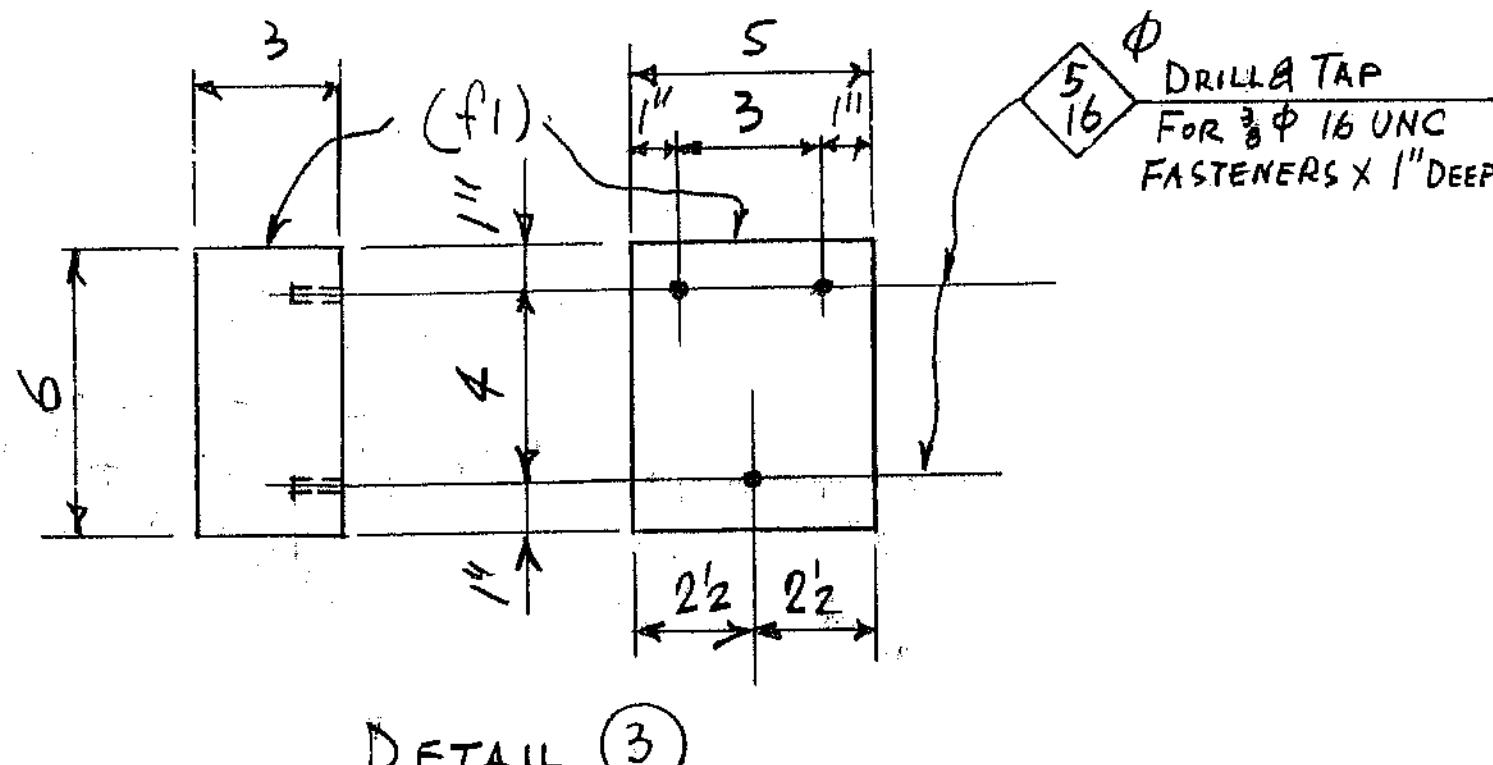


VIEW C-C

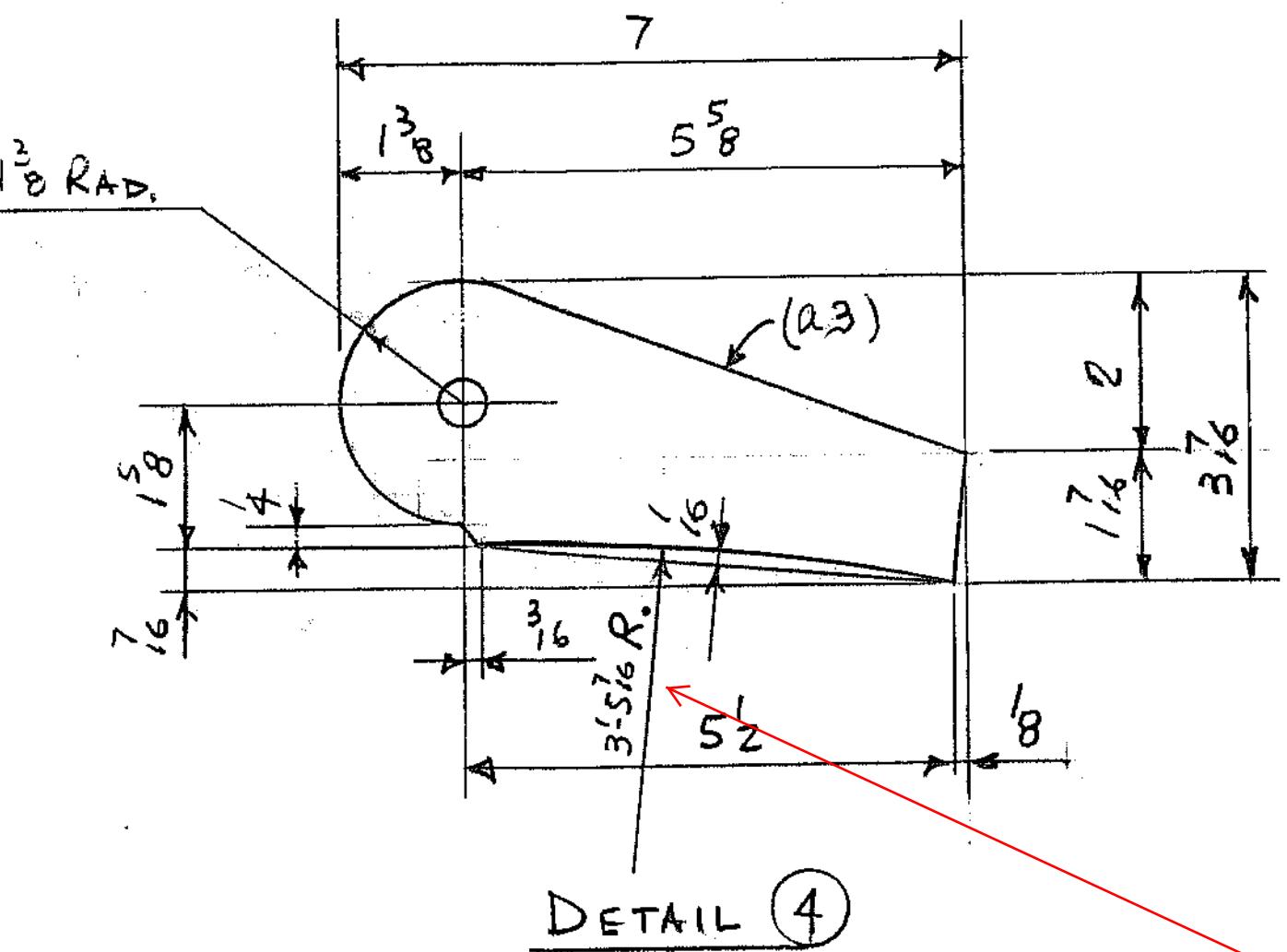
VIEW D-D



DETAIL 2



DETAIL 3

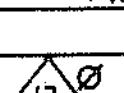


DETAIL 4

MATERIAL: AL 6061-T6, U.N.
MILL CERTS. REQ'D.

WORK THIS DWG. WITH DWG. 3

Make sure this
atches the 5'-2"
meter of rings.
s needs to be
8 7/16" radius

NO.	DESCRIPTION	DATE	BY		
				PRINTS	APPVL.
REVISED					
CERT. WELDERS	W.A.B.O.				
OPEN HOLES	 13 Ø 16 U.N.	END & EDGE DISTANCE			
PAINT	NO PAINT				

PAINIER WELDING

RAINIER WELDING
2020 NE 84TH STREET • REDMOND, WA 98053

(425) 868-1300 FAX (425) 868-8872

STEEL AND ALUMINUM FABRICATING

TOM RING ~ SECTIONS, DE

UMBIA RIVER BRIDGE

TEMPORARY PILE TEST

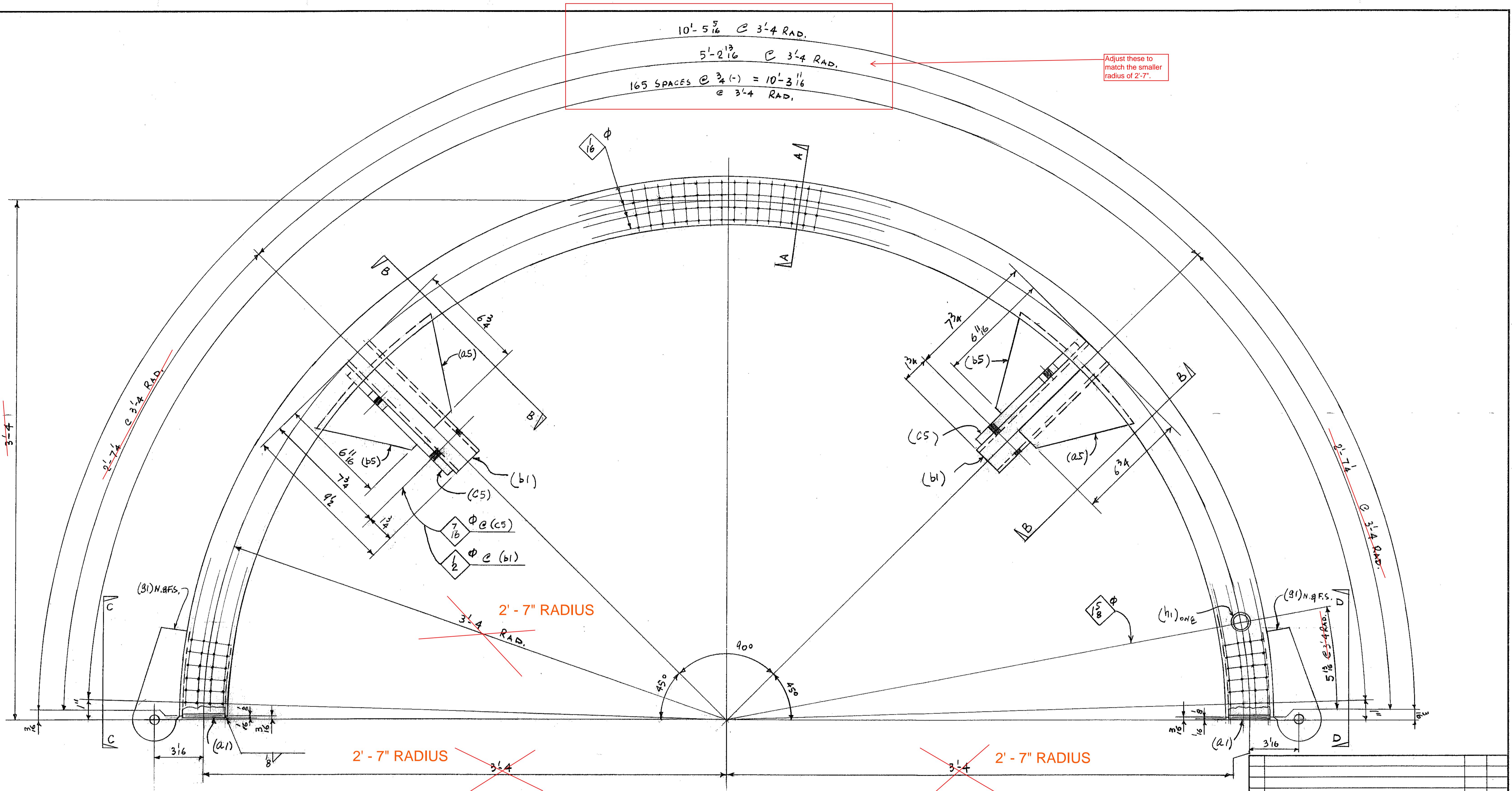
S, W.A.

AMERICAN CONST

AMERICAN CONST.,

HRD BY DATE ISSUED BY
J.M.R 01-21-11 2860

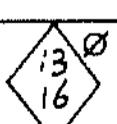
Digitized by srujanika@gmail.com

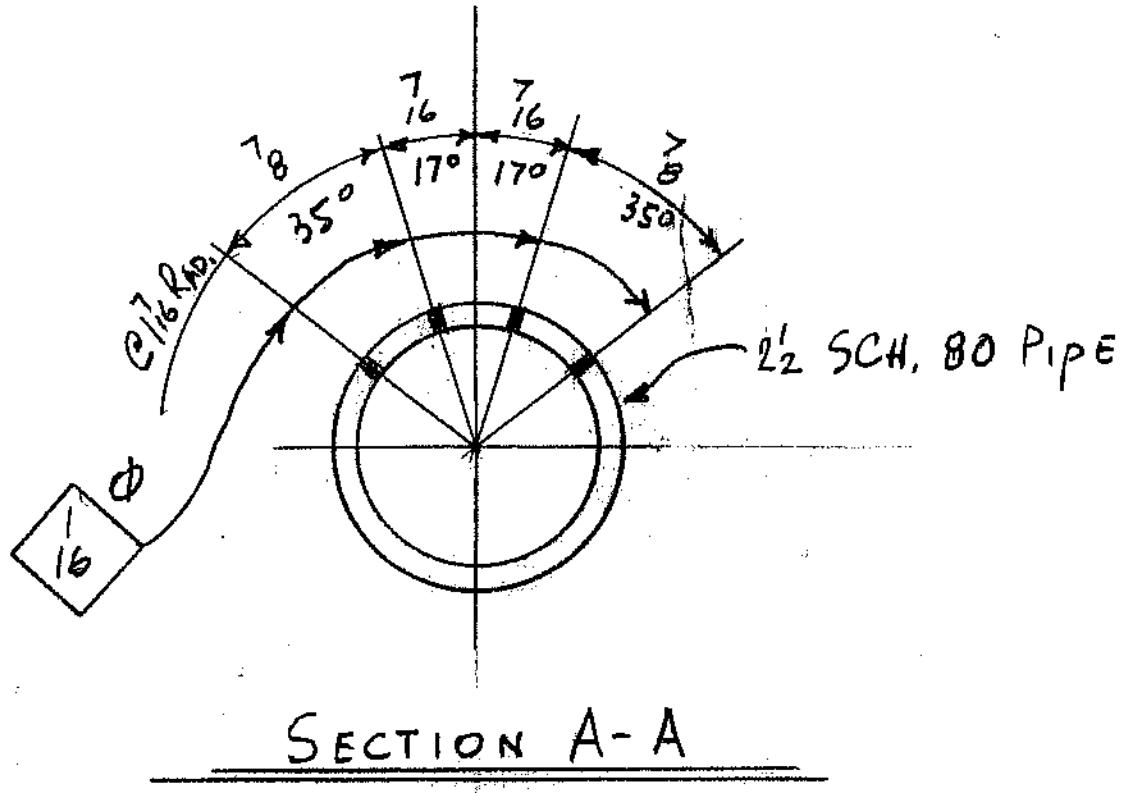


MAKE 5 ONLY

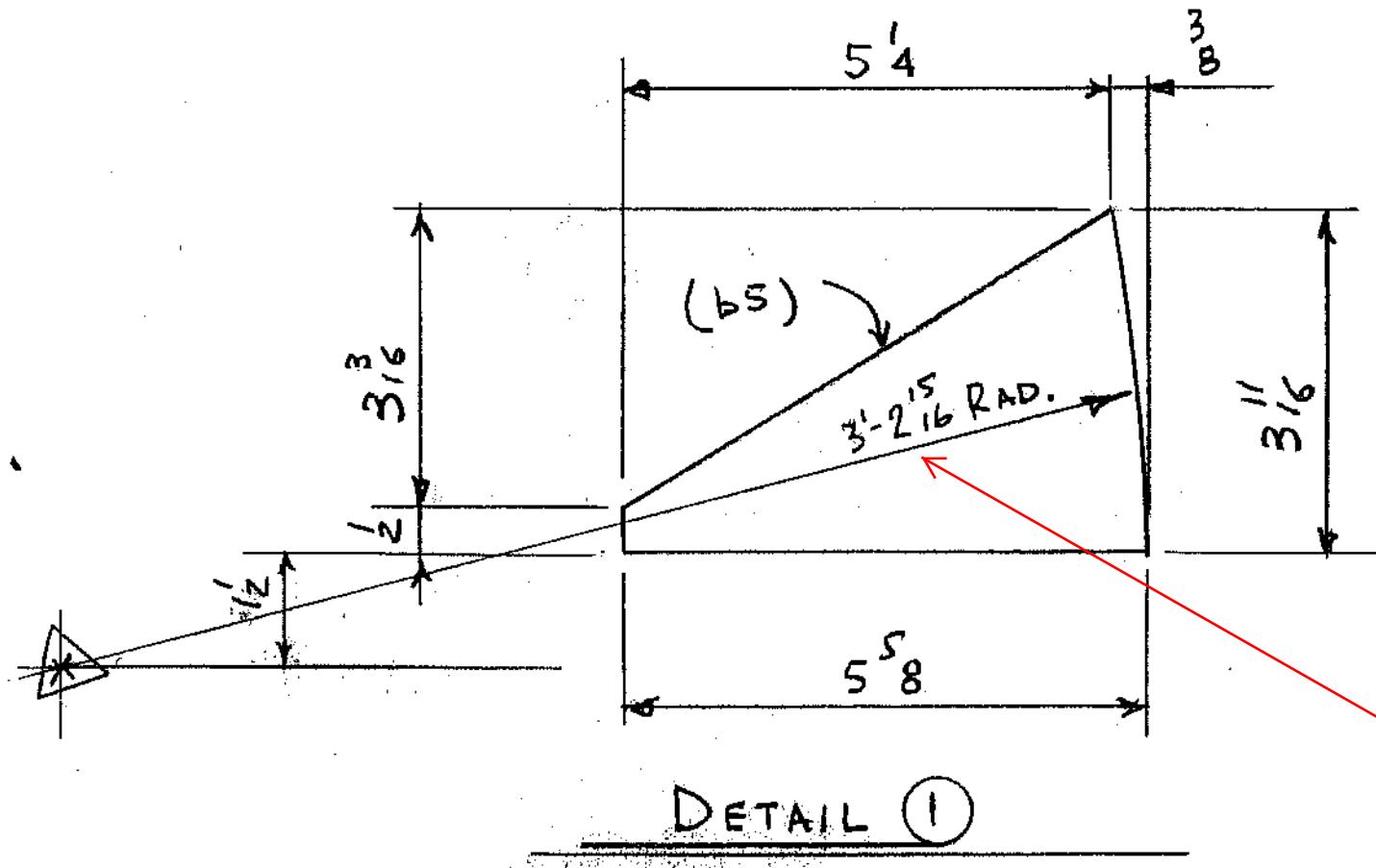
ALUMINUM PIPE FOR UPPER RINGS, REF. NO 3

WORK THIS DW6₁. WITH DW6₁. 6
FIELD BOLT LIST SEE DW6₁. 9

NO.	DESCRIPTION	DATE	BY	PRINTS		APPVL.	SHOP	FIELD
				DATE	REV.			
CERT. WELDERS <i>W.A.B.O.</i>								
OPEN HOLES		U.N.	END & EDGE DISTANCE					
PAINT	<i>No PAINT</i>							
<h1>RAINIER WELDING</h1> <p>19020 NE 84TH STREET • REDMOND, WA 98053 (425) 868-1300 FAX (425) 868-8872 STEEL AND ALUMINUM FABRICATING</p>								
ITEM	<i>UPPER RINGS</i>							
JOB	<i>Columbia RIVER BRIDGE TEMPORARY PILE TEST</i>							
LOCATION	<i>I-5, WA.</i>							
CONTR.	<i>AMERICAN CONST.</i>							
DRWN. BY	CHKD. BY	DATE	JOB NO.		DRWG. NO.	REV.		
<i>PF</i>	<i>J.M.R.</i>	<i>01-24-11</i>	<i>2860</i>		<i>5</i>			

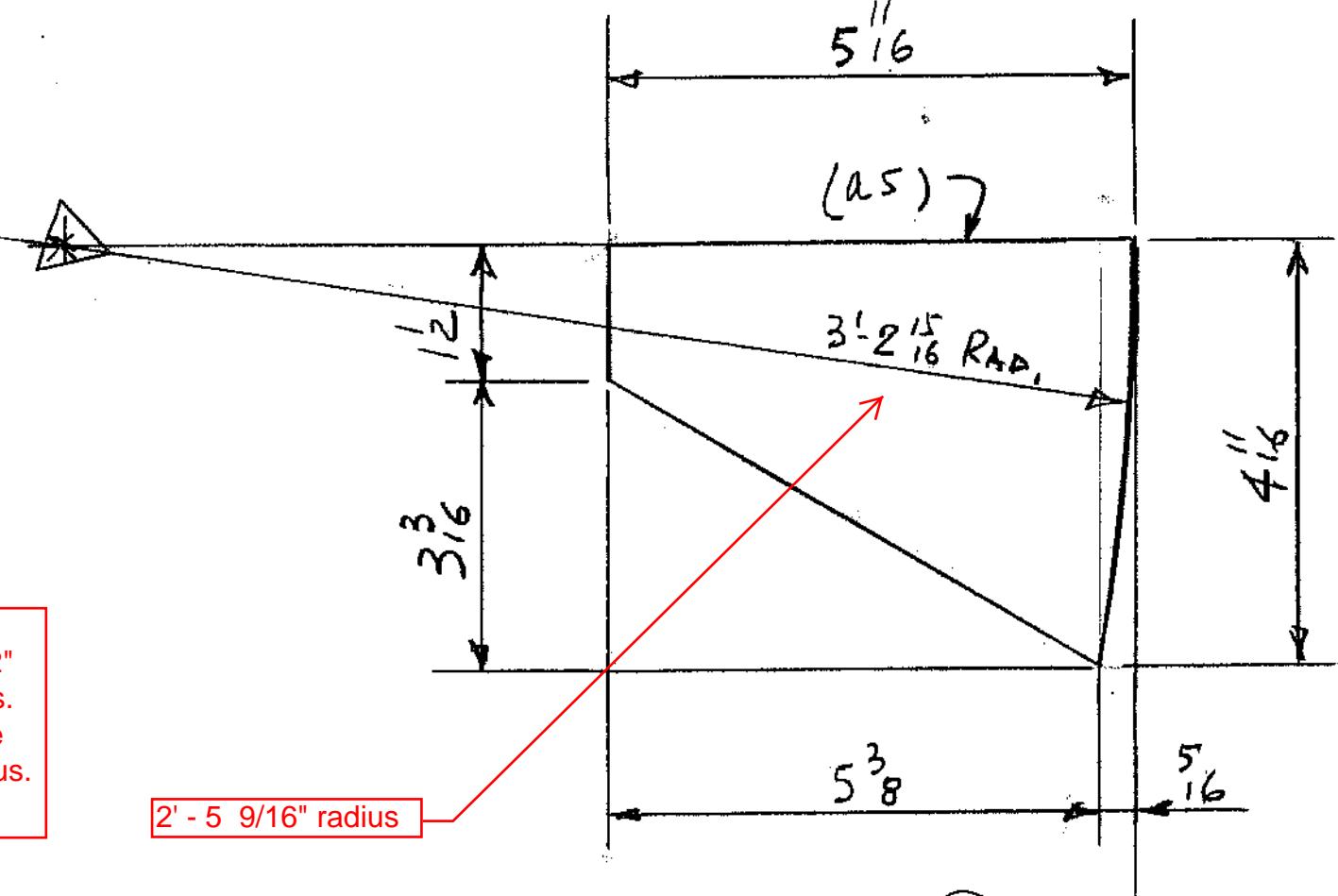


SECTION A-A

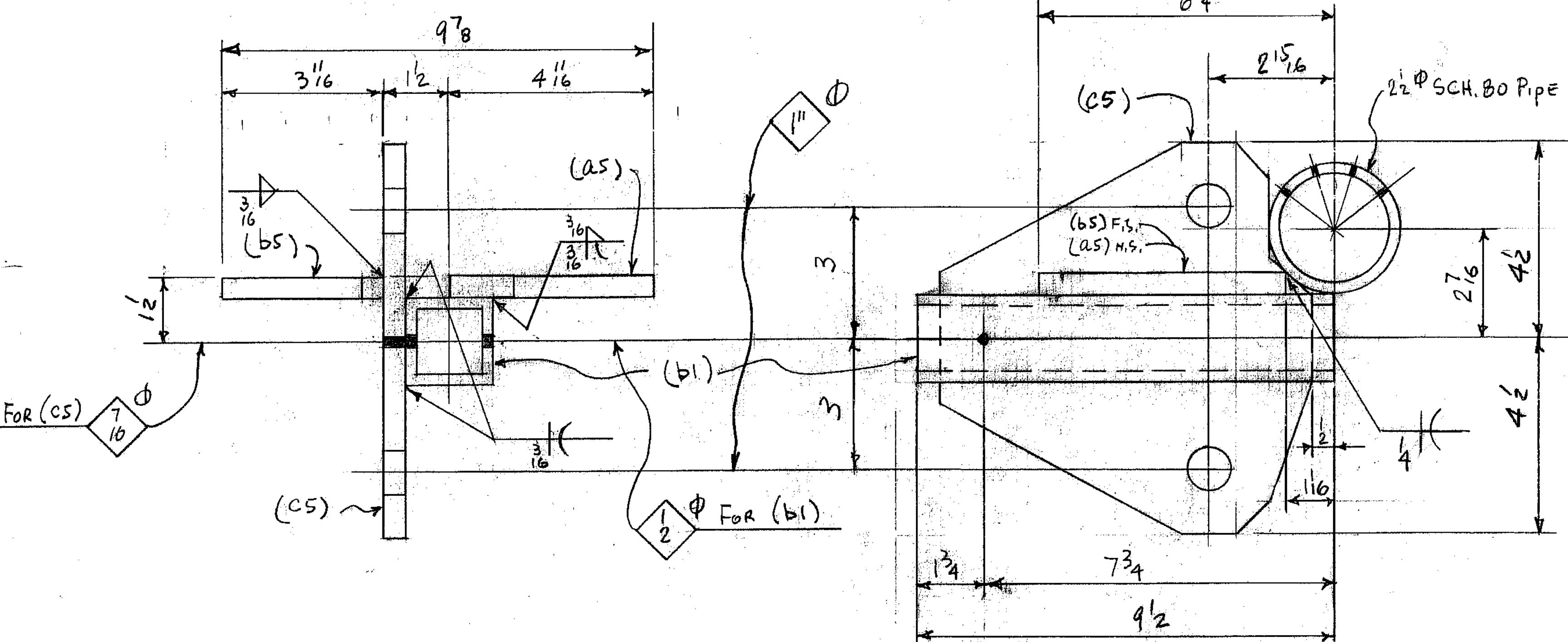


DETAIL 1

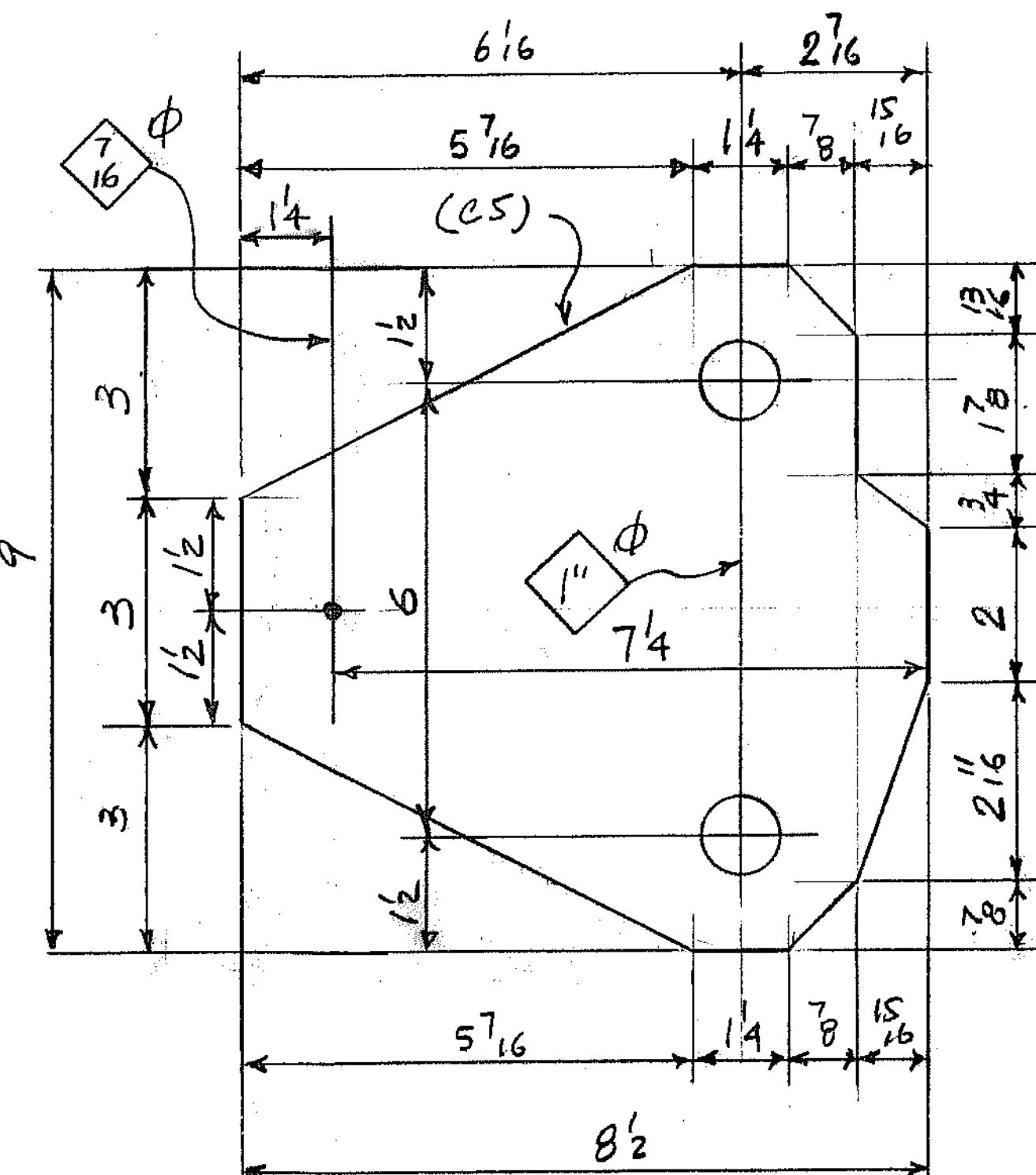
Make sure this
matches the 5'-2"
diameter of rings.
This needs to be
2' - 5 9/16" radius.



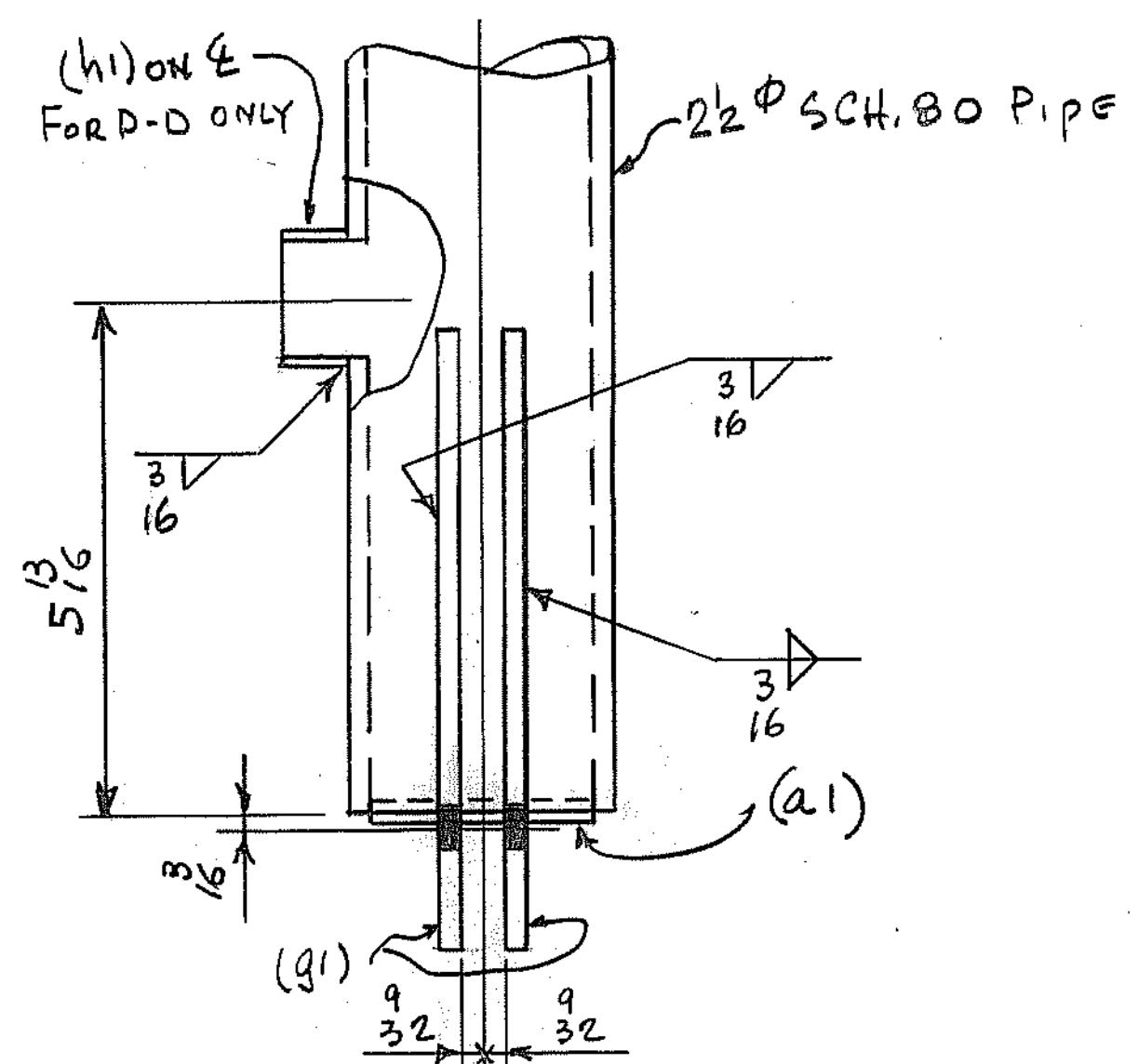
DETAIL ②



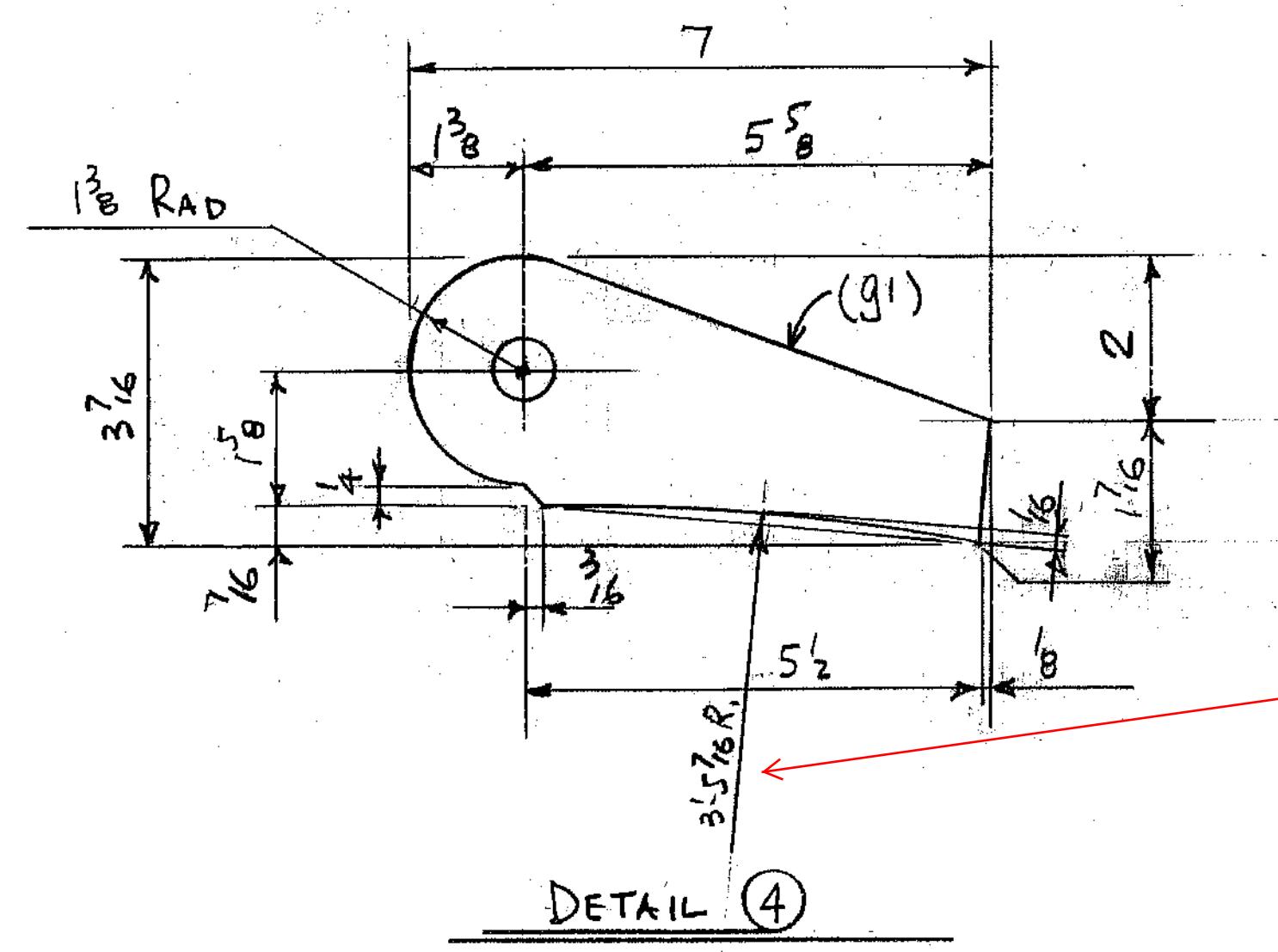
SECTION B - B



DETAIL 3



VIEW C-C



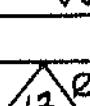
DETAIL 4

Make sure this
matches the 5'-2"
diameter of rings.
This needs to be
2' - 8 7/16" radius

MATERIAL : AL 6061-T6

MILL CERTS. REQ'D

WORK THIS DWG. WITH DWG. 5

NO.	DESCRIPTION	DATE	BY
	REVISION		
CERT. WELDERS	W. A. B. O.		
OPEN HOLES	 U.N.	END & EDGE DISTANCE U.N.	PRINTS APPVL. SHOP FIELD
PAINT	No PAINT		

PAINIER WELDING

RAINIER WELDING
020 NE 84TH STREET - REDMOND, WA 98053
(425) 868-1300 FAX (425) 868-8872

STEEL AND ALUMINUM

UPPER RINGS ~

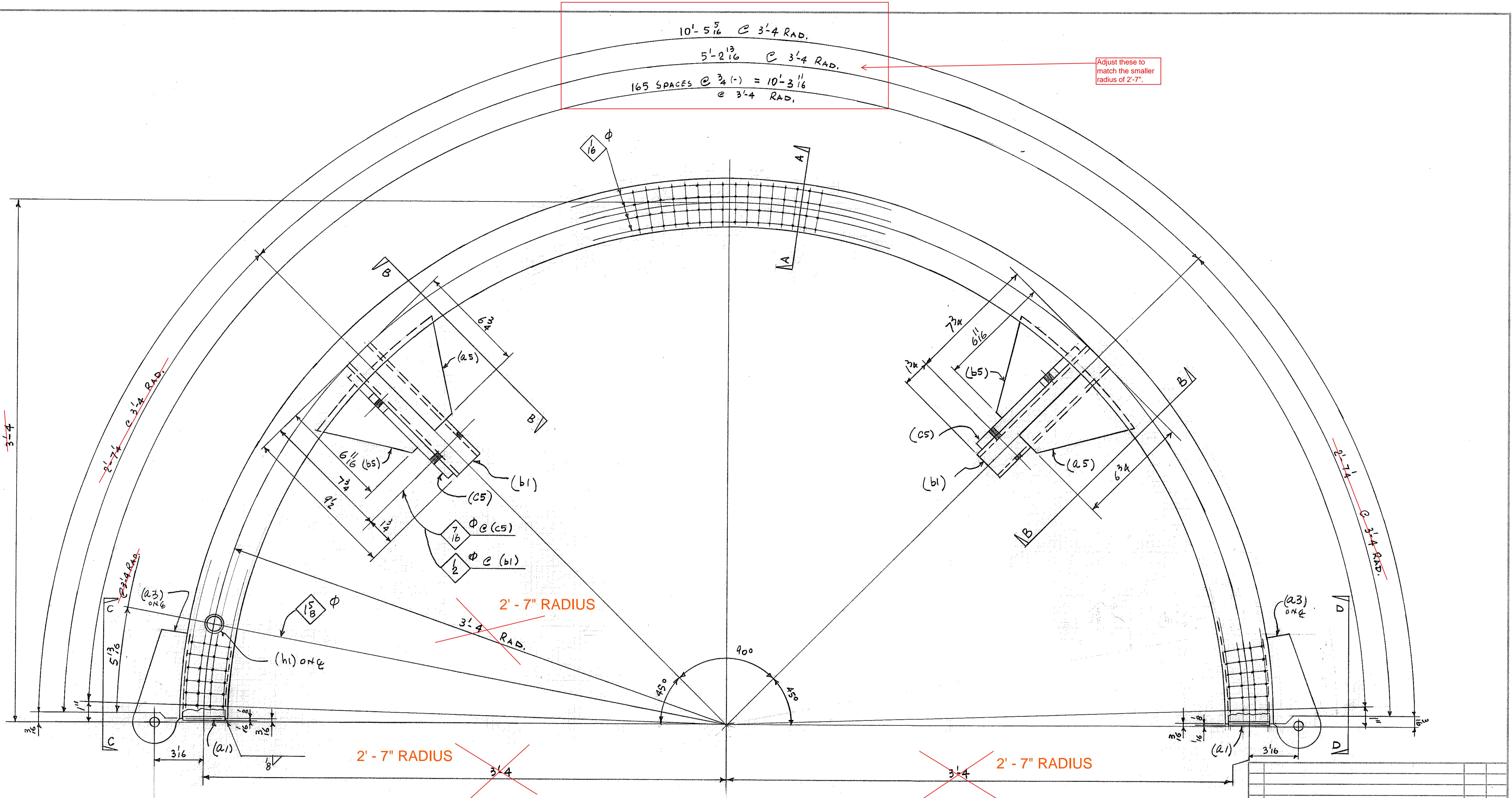
COLUMBIA RIVER DRY
TEMPORARY PILE TEST

1-5, WA.

AMERICAN CONST.

CHKD. BY	DATE	JOB NO.
J.M.R.	01-24-11	2861

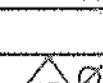
Journal of Health Politics, Policy and Law, Vol. 35, No. 4, December 2010
DOI 10.1215/03616878-35-4 © 2010 by The University of Chicago



MAKE 5 ONLY

MAKE 6 ~ 2½" SCH.80 PIPE X 10'-5 5/16" ~ Mk TA
ALUMINUM PIPE FOR UPPER RINGS, REF. ND 3

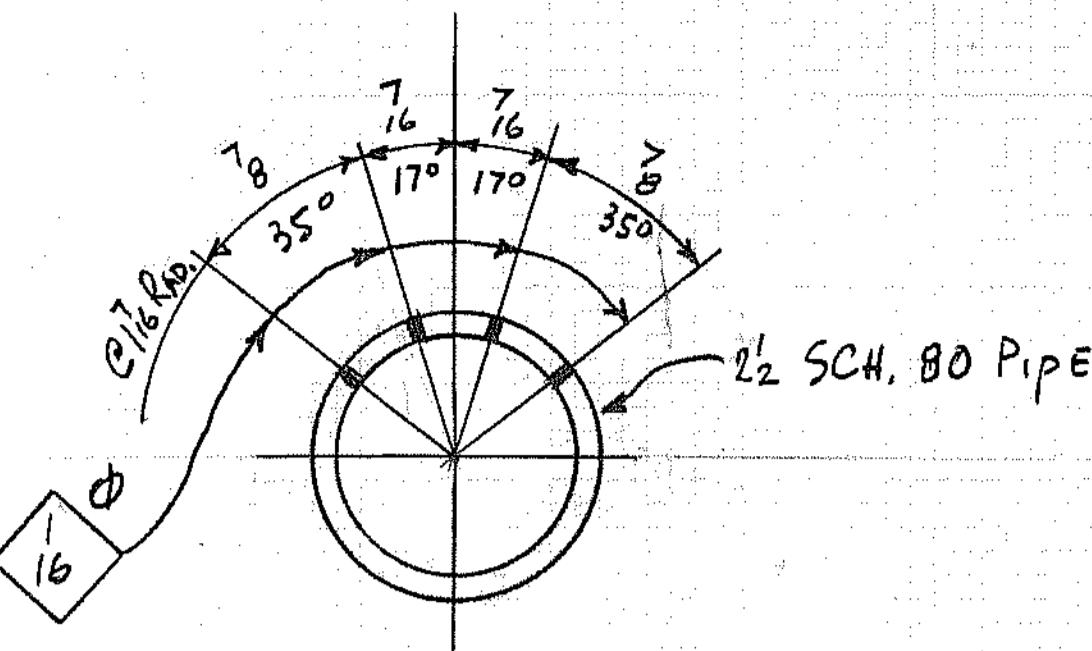
WORK THIS DW6₇. WITH DW6₇, 8
FIELD BOLT LIST SEE DW6₇, 9

NO.	DESCRIPTION	DATE	BY
REVISION			
CERT WELDERS			
W.A.B.O.		PRINTS	
OPEN HOLES	 Ø 13 16 U.N.	APPVL.	SHOP
END & EDGE DISTANCE U.N.		FIELD	
PAINT	No PAINT		

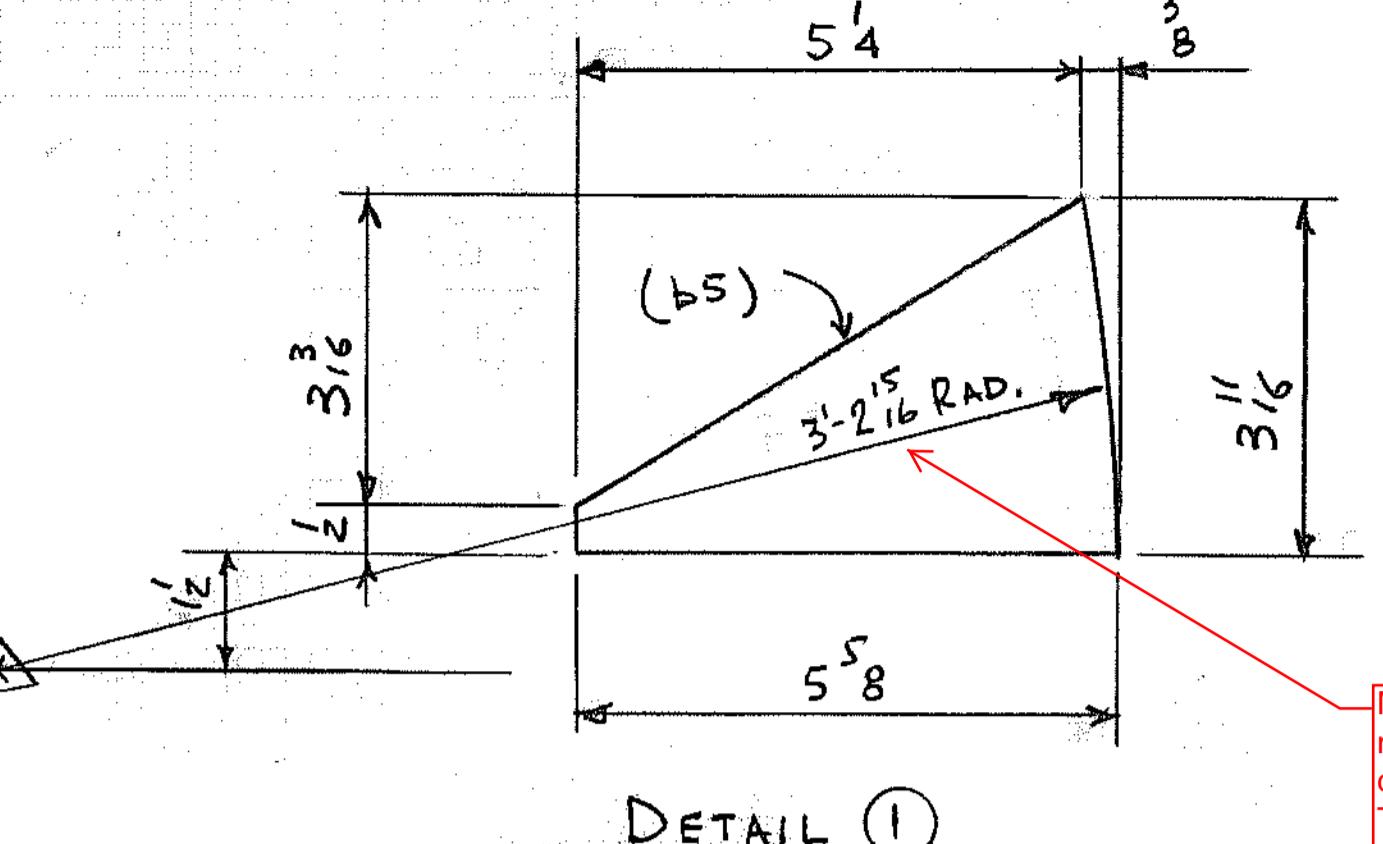
RAINIER WELDING
2020 NE 84TH STREET • REDMOND, WA 98053
(425) 866-1300 FAX (425) 866-8872
STEEL AND ALUMINUM FABRICATING

DER RINGS
UMBRIA RIVER BRIDGE
CBARRY BLDG TEST

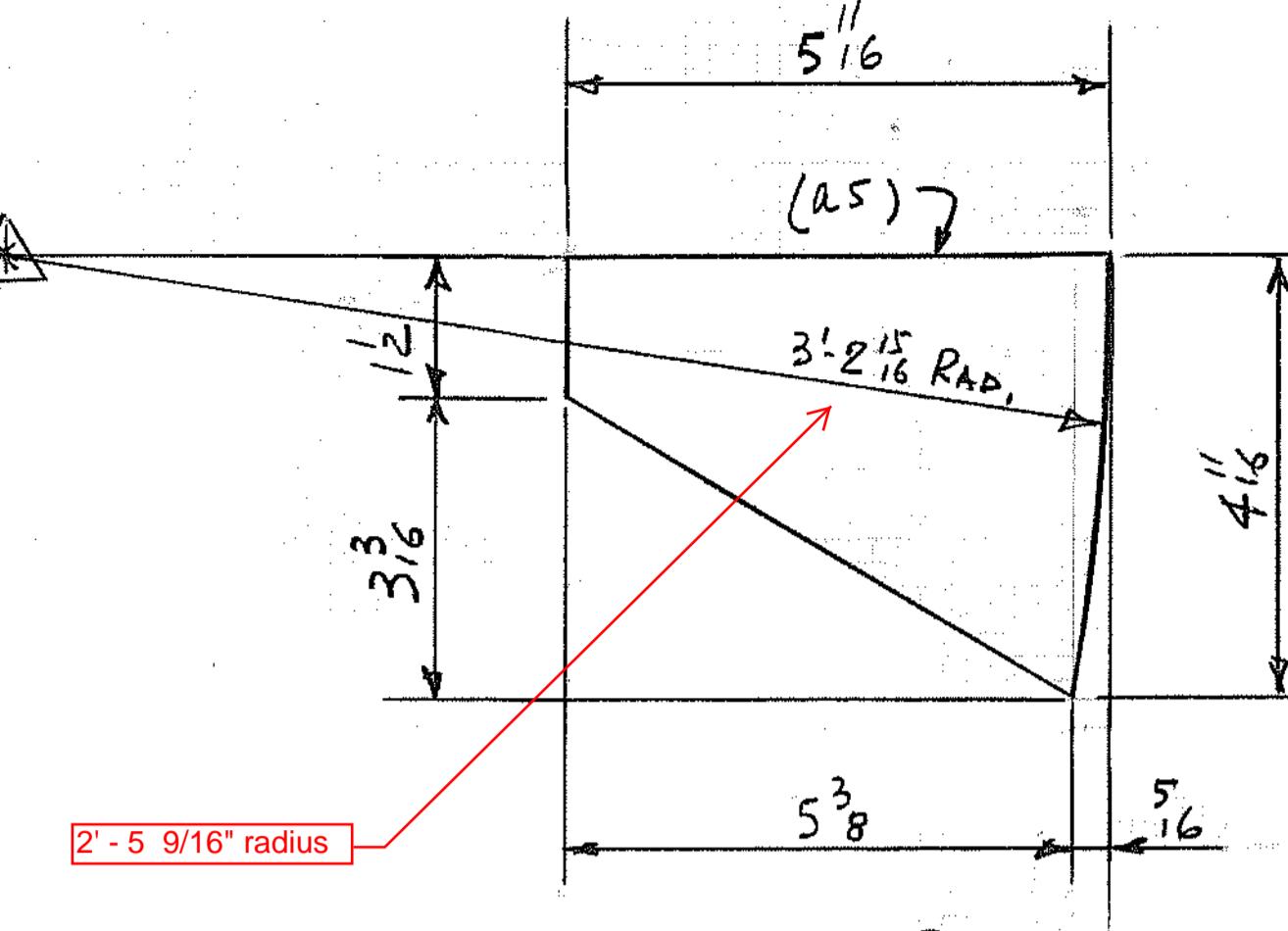
LIBRARY FILE 1631
5, WA.
AMERICAN CONST.
WD. BY DATE JOB NO. DRAW. NO. REV.
J.M.R. 01-24-11 2860 7



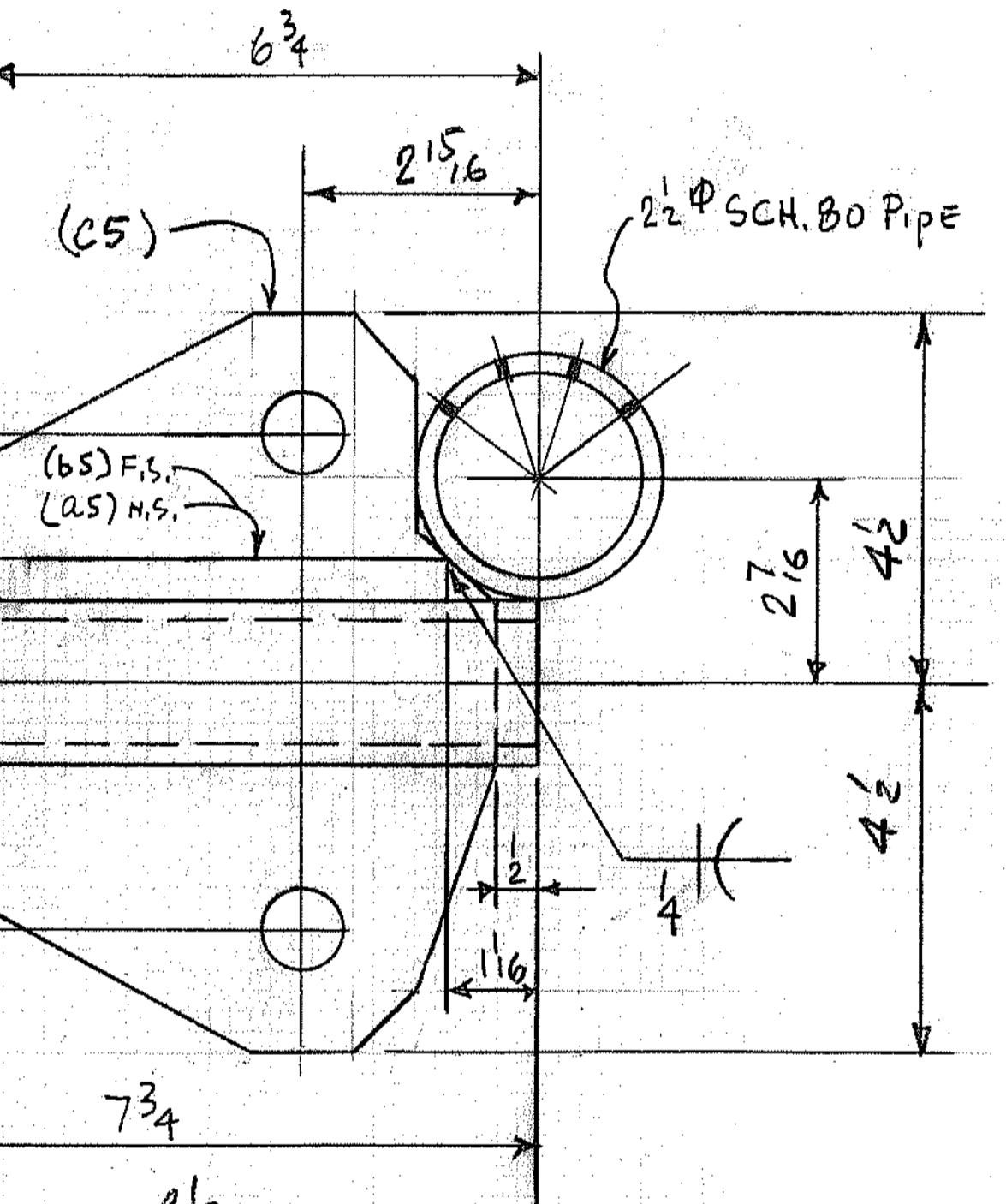
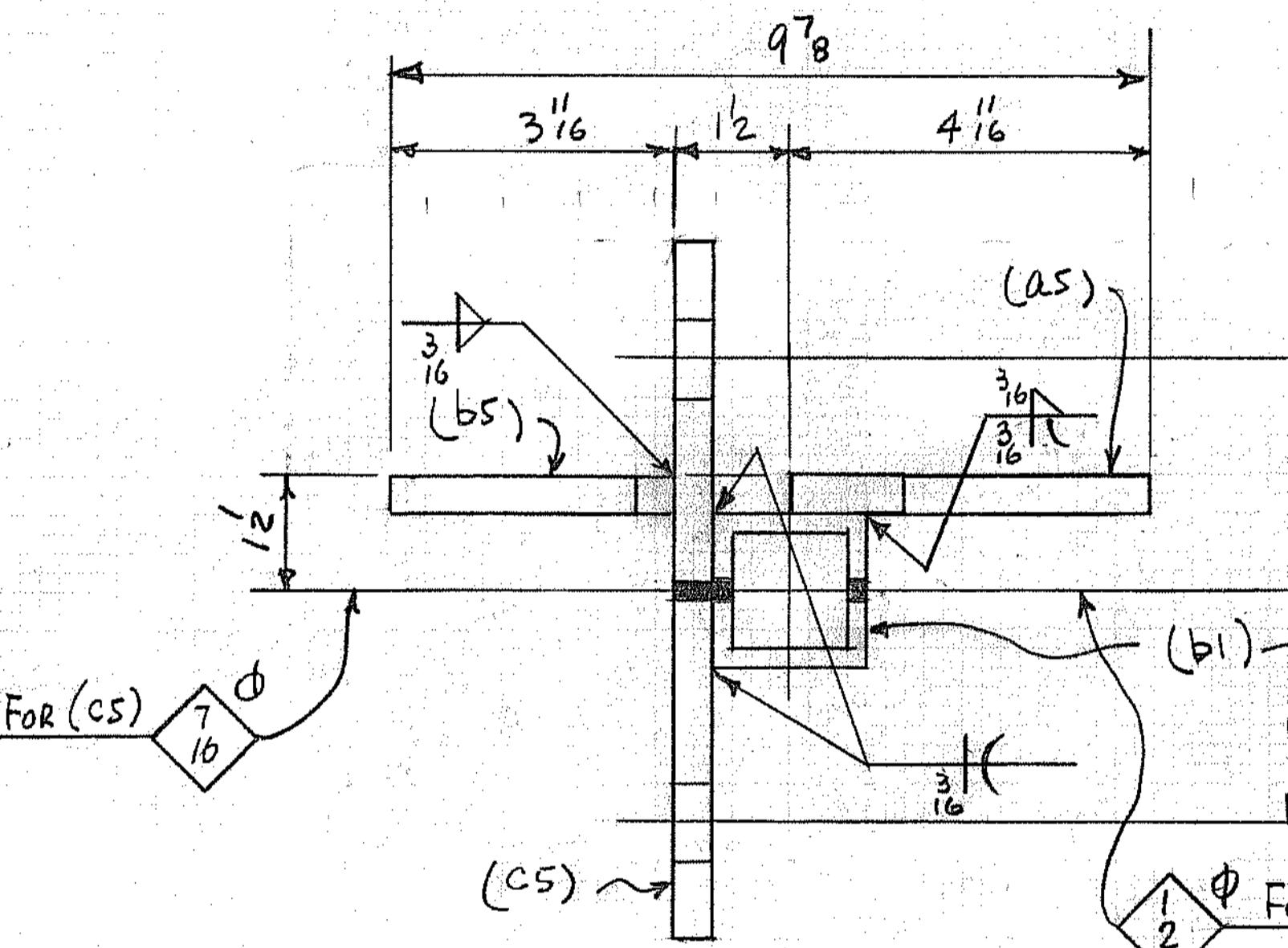
SECTION A-



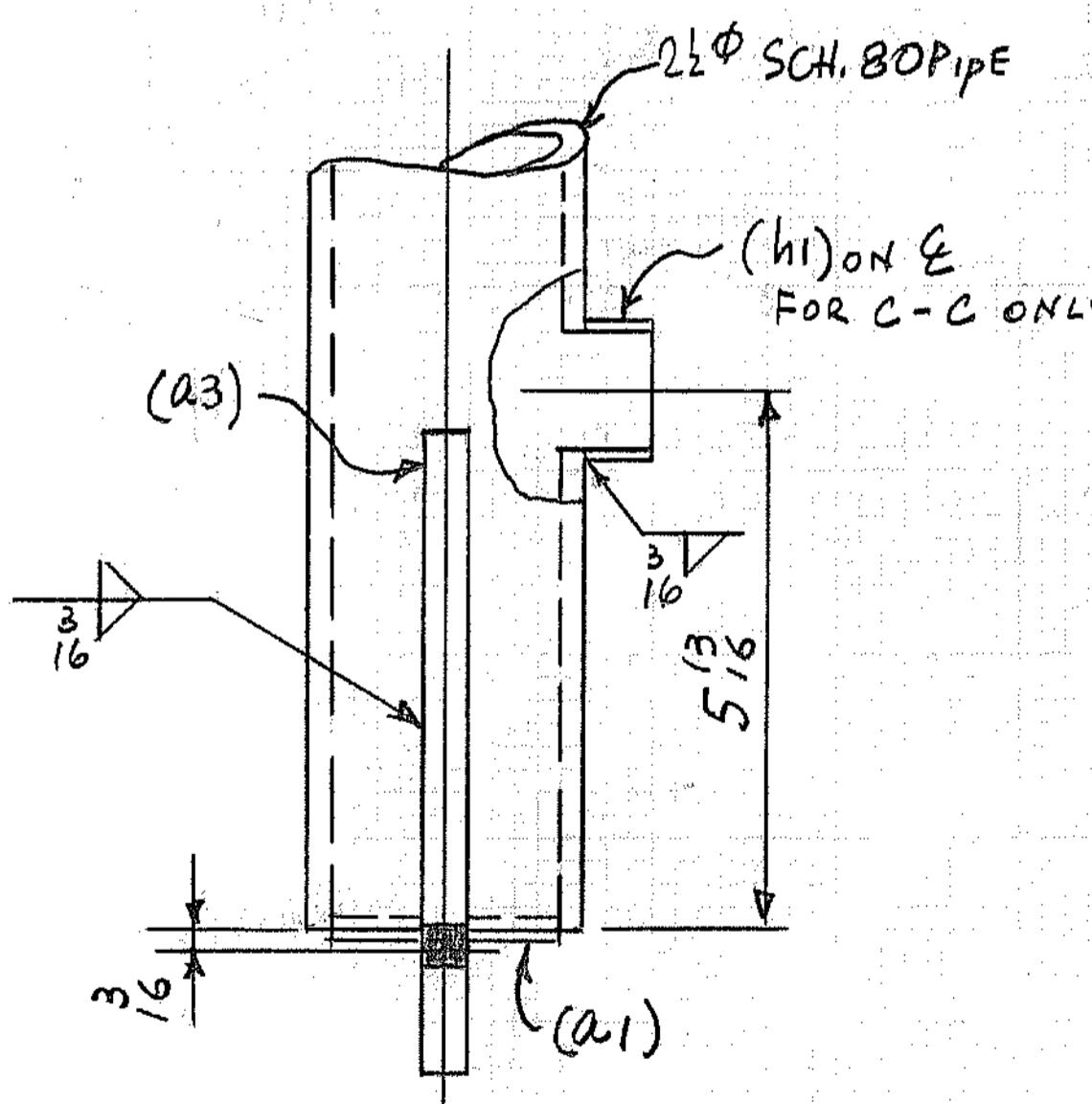
Make sure this
matches the 5'-2"
diameter of rings.
This needs to be
2' - 5 9/16" radius.



DETAIL 2

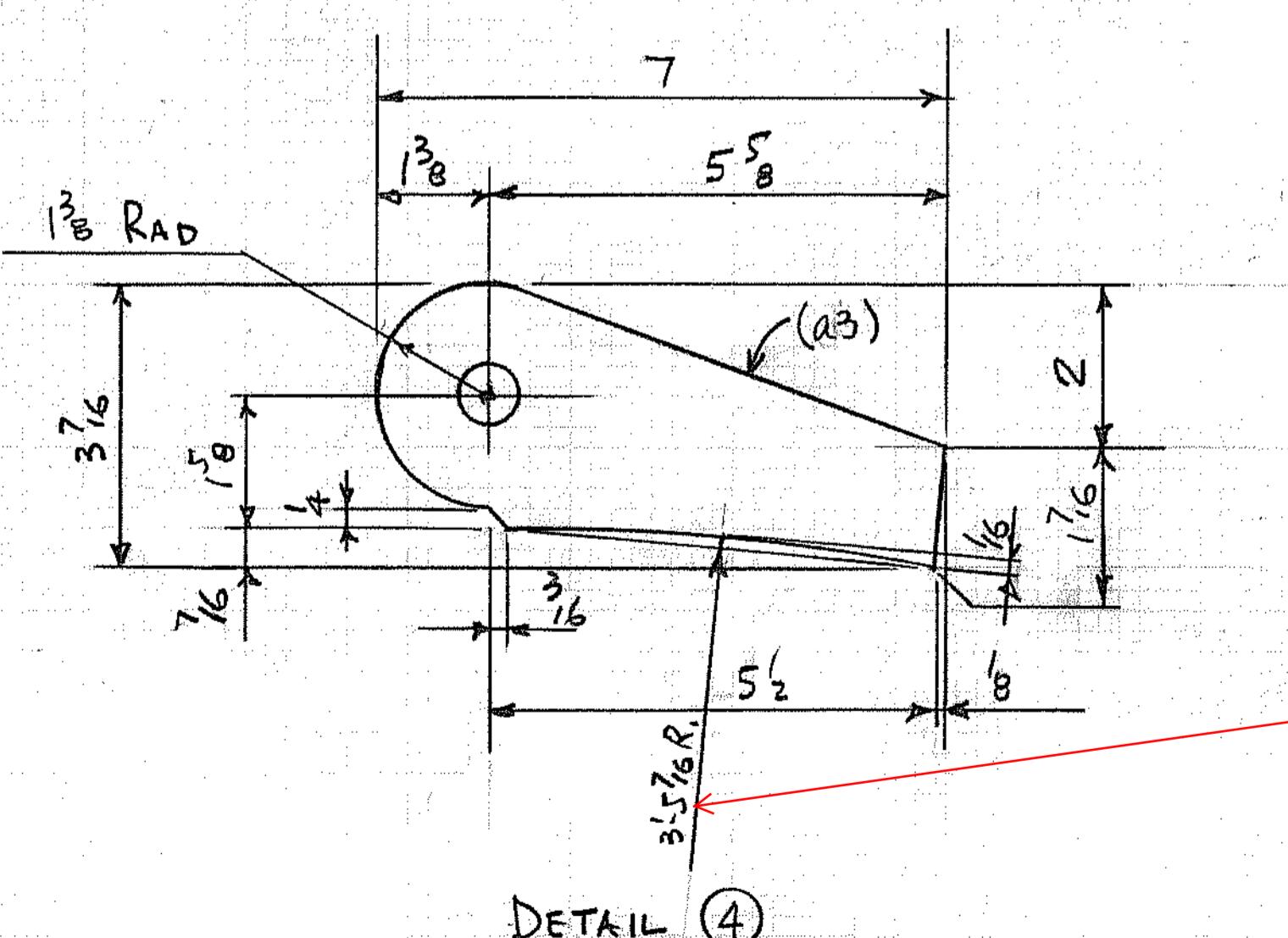


SECTION B - B



VIEW C-C

VIEW D - D

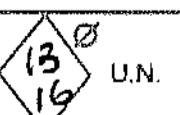


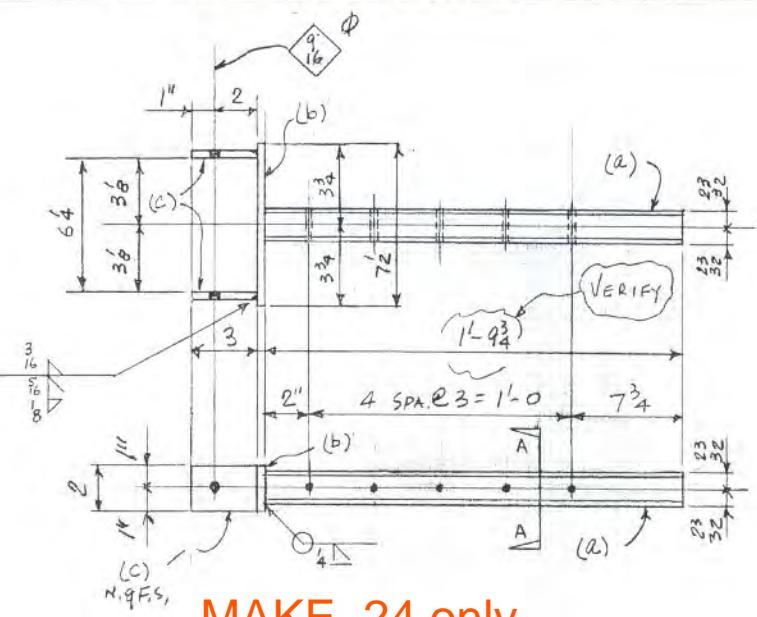
Make sure this
matches the 5'-2"
diameter of rings.
This needs to be
5'-2" (13cm)!!

MATERIAL : AL 6061-T6

MILL CERTS. RECD.

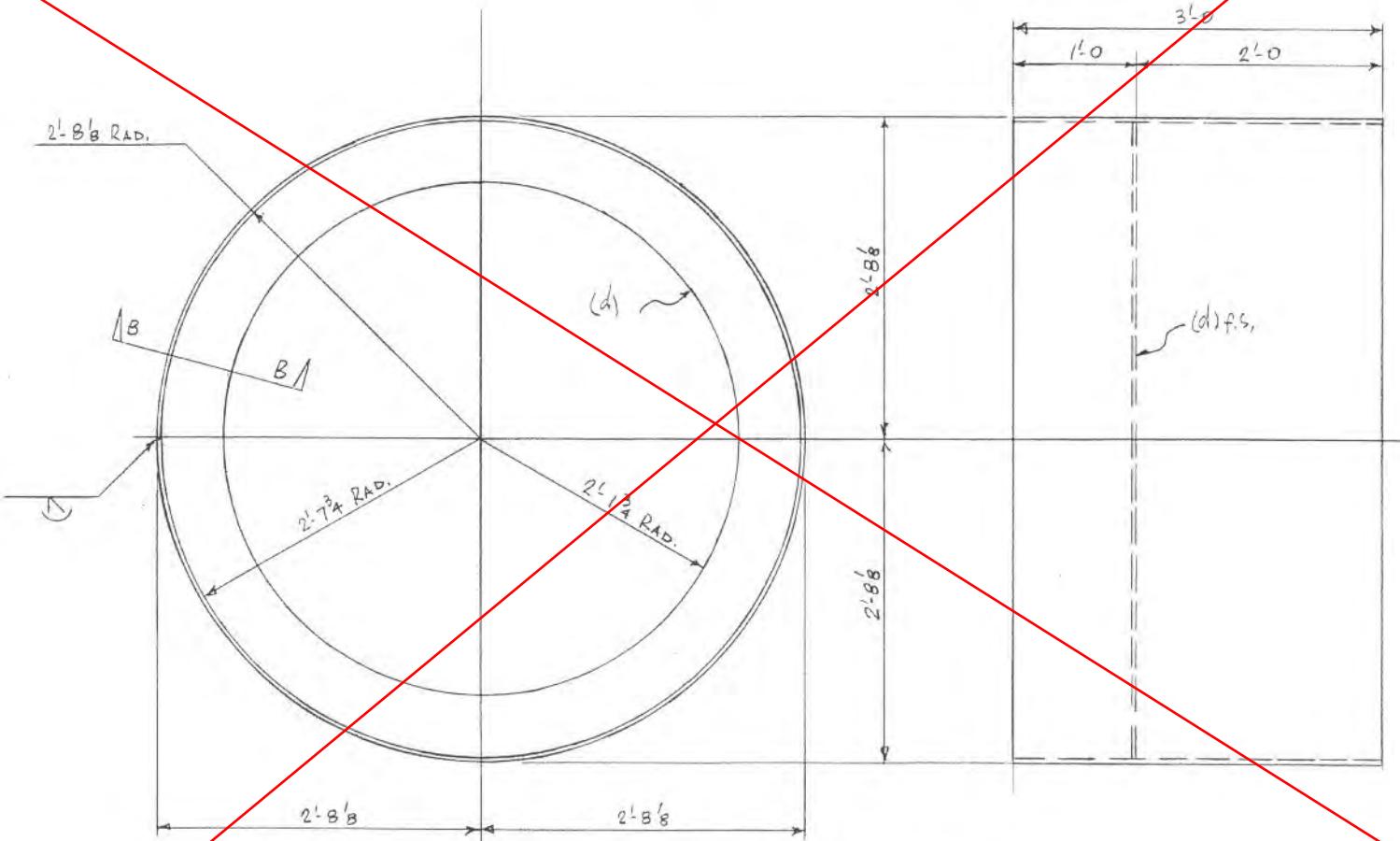
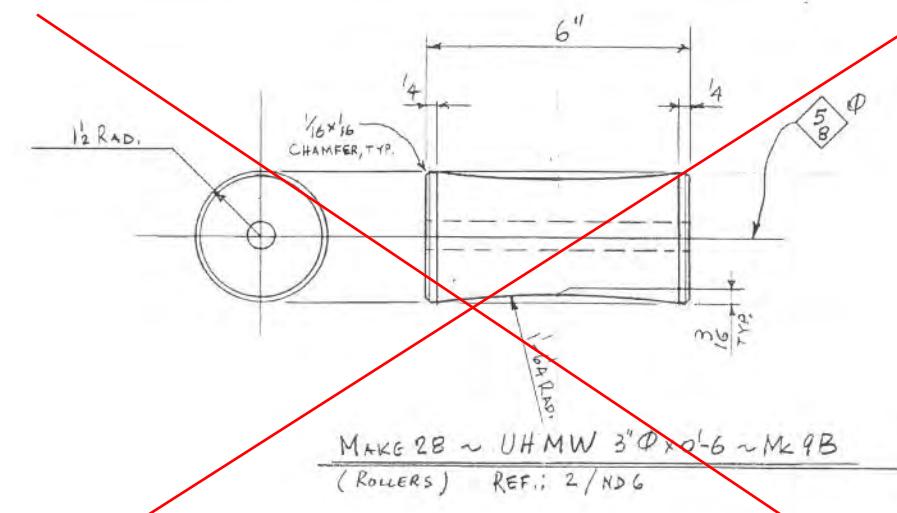
WORK THIS DWG. WITH DWG. 7

NO.	DESCRIPTION	DATE	BY
CERT WELDERS W. A. B. O.			
REVISION			
OPEN HOLES 	END & EDGE DISTANCE U.N.	PRINTS DATE REV.	APVPL. SHOP FIELD
PAINT No PAINT			
<p>RAINIER WELDING 19020 NE 84TH STREET - REDMOND, WA 98053 (425) 868-1300 FAX (425) 868-8872 STEEL AND ALUMINUM FABRICATING</p>			
EM	UPPER RINGS ~ SECTION, DETAILS		
OB	COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST		
LOCATION	I-5, WA.		
ONTR.	AMERICAN CONST.		
RWN. BY PF	CHND. BY J.M.R	DATE 01-24-11	JOB NO. 2860
			DRWG. NO. 8
			REV.

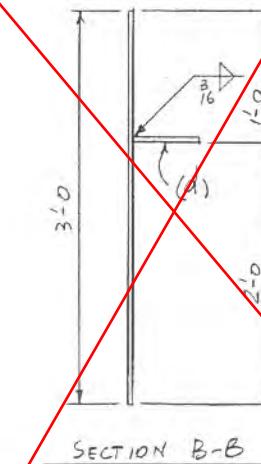


MAKE 24 only

MAKE 28 ~ TELESCOPING ARMS ~ Mk 9A
REF: 2 / NDB



MAKE 2 ~ P 3/8 x 36 x 16 1/8" ~ Mk 9C
REF: NDB



BILL OF MATERIAL									
NO. TO	SHIP MARK	ASSTY MARK	NO. RDS	SECTION	LENGTH FT.	IN.	REMARKS	UNIT WT.	WEIGHT P.C. NO.
28 9A									
a	28	P 1 1/8 x 1 1/8	1	93	FROM BAR	1 1/2 x 1/2			
b	28	BAR 2 x 3/8	0	72					
c	56	BAR 2 x 3/8	0	3					
28 9B									
		UHMW 3"Φ	0	6					
28 9C									
d	2	P 3/8 x 3 1/2	16	8 7/8	ROLL,	A36			
		BAR 3/8 x 6 3/4	5	3 1/2	A36				

FIELD BOLT LIST FOR DWB. NO. 1, 3, 5 & 7									
14	3/8" M.B.	0	2 1/2	ST. ST.	w/ Lock	NUT			
14	3/4" C.W.			ST. ST.					
28	3/8" M.B.	0	3 1/4	ST. ST.	w/ Lock	NUT			
28	3/8" C.W.			ST. ST.					
28	2 1/2" M.B.	0	8 1/2	ST. ST.	w/ Lock	NUT			
28	2 1/2" C.W.			ST. ST.					

MATERIAL: AL 6061-T6, U.N.
MILL CERTS. REQ'D.

NO.	DESCRIPTION	DATE	BY
	REVISION		
GEN. WELDERS W.A.B.O.			
OPEN HOLED	7/8" UN	EDGE DISTANCE	
PAINT	NO PAINT	UN	
PRINTS	APPROV	BUDG	FIELD
DATE REV			
RAINIER WELDING			
19020 NE 84TH STREET - REDMOND, WA 98053			
(425) 866-1300 FAX (425) 866-8872			
STEEL AND ALUMINUM FABRICATING			
ITEM: TELESCOPING ARMS, ROLLERS AND STEEL PIPE SEATING RINGS			
JOB: COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST			
LOCATION: 1-5, WA.			
DRAWN BY: AMERICAN CONST.			
DRAWN BY	CHKD BY	DATE	J.M.R. 01-25-11
REV.	DOC NO.		2860
			DRAWN NO. 9