

# **MARINE MAMMAL MONITORING REPORT**

## **Kitsap Transit Annapolis Dock Construction Project**

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## INTRODUCTION

In 2019, Hamer Environmental was contracted by Kitsap Transit to conduct Marine Mammal Monitoring during vibratory and impact pile driving for the Annapolis Dock Construction Project in Port Orchard, Washington. Monitoring for marine mammals was required by the National Marine Fisheries Service (NMFS) in accordance with the Endangered Species Act during pile driving for this project. Monitoring for Marine Mammals was completed in conjunction with the Marine Mammal Monitoring Plan developed for this project (GeoEngineers 2017).

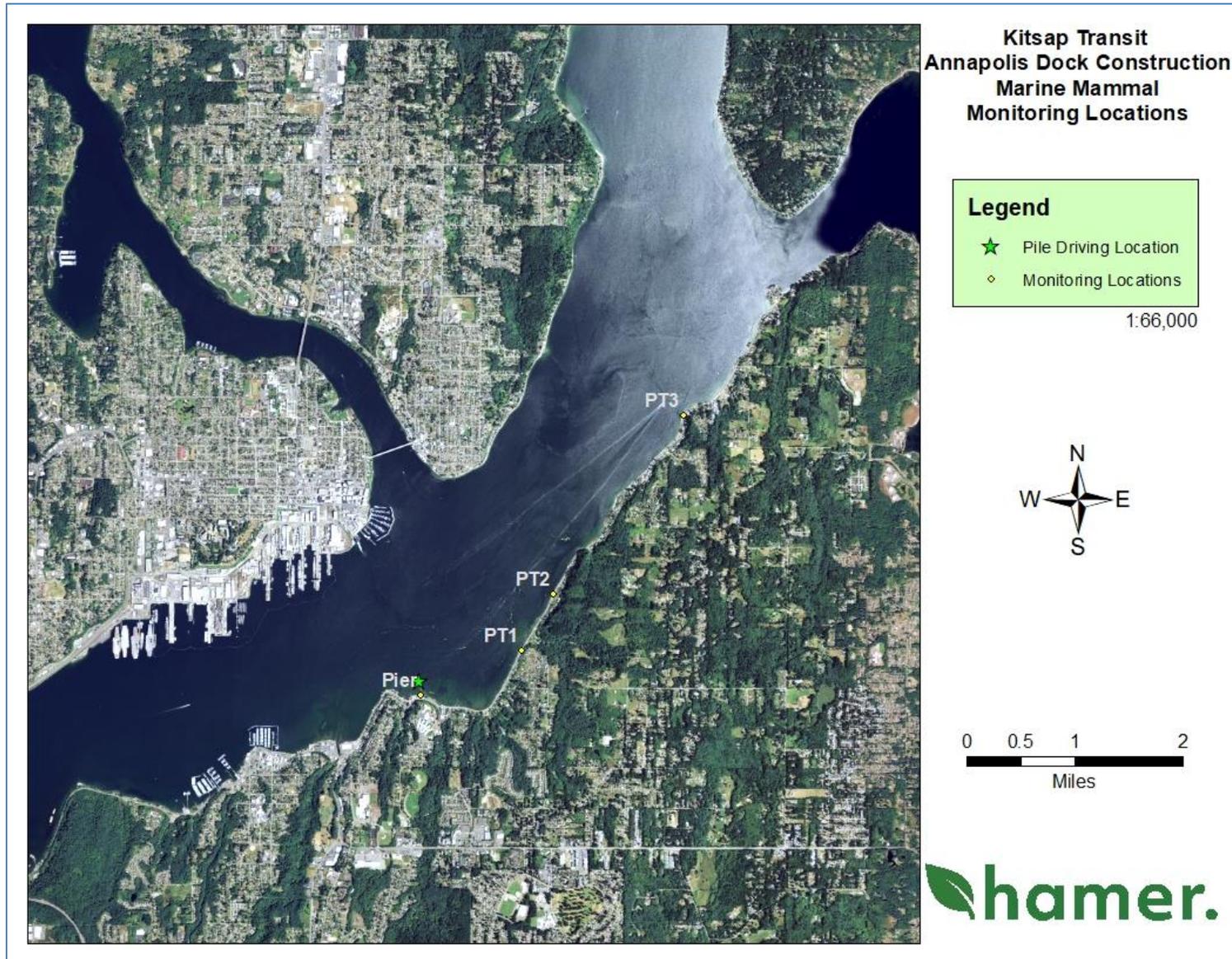
## METHODS

Two qualified marine mammal monitors were required by the Marine Mammal Monitoring plan to monitor for marine mammals during vibratory and impact pile driving for the Annapolis Dock Construction project. A list of qualified Marine Mammal Monitors used on this project is found in Table A. One qualified marine mammal monitor was stationed on the beach adjacent to pier, where the monitor had an unobstructed view of the injury zone. A 2<sup>nd</sup> qualified marine mammal monitor was stationed along the shoreline to the east and northeast of the pile driving to monitor the disturbance zone for any whales that may be approaching the action area. A map of the monitoring locations can be found in Figure 1. Prior to the start of each monitoring day, monitors consulted with the Orca Network to see if any whales were recently seen near the project location. Pile driving would be stopped if any marine mammal entered the injury zone for each specific class of marine mammals (Appendix A). The monitors began monitoring 30 minutes prior to the scheduled start of pile driving activities each day in order to clear the area of Marine Mammals within the injury zone. If no marine mammals were seen within the action area, pile driving was allowed to commence. Any marine mammals observed within or near the injury zone were recorded on a Marine Mammal Monitoring Form.

**Table A.** Names and initials of the qualified Marine Mammal Monitors conducting surveys at the Annapolis Dock Construction Project.

Observers	Initials
Matt Reed	MR
Steve Crane	SC

**Figure 1.** Marine Mammal Monitoring locations for the Annapolis Dock Construction Project in Port Orchard, WA.



## **RESULTS**

Eight days of monitoring surveys were completed in December, 2019 and January, 2020, during vibratory and impact pile driving activities for the Annapolis Dock Construction Project. All monitoring surveys were completed according to the Marine Mammal Monitoring Plan (GeoEngineers 2017). Pile driving activities took place between 12 December, 2020 and 22 January, 2020. No marine mammals were detected within the action area during pile driving activities (Table B). Multiple marine mammals were seen outside the action area, including multiple Harbor Seals and California Sea Lions. A single River Otter was also seen. Monitoring forms from the 8 completed surveys can be found in Appendix B.

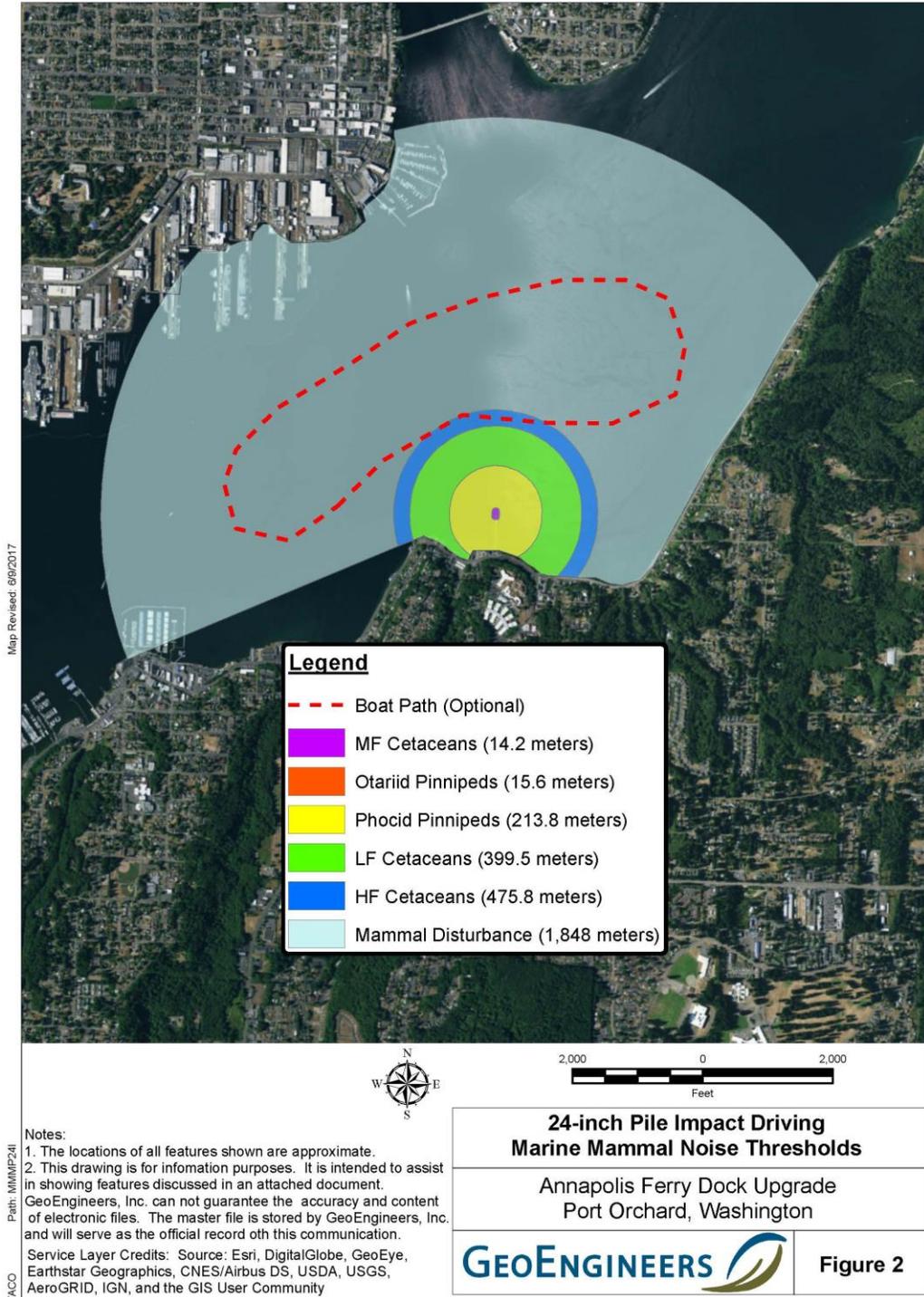
**Table B.** Survey Results from the Annapolis Dock Construction Project in Port Orchard, WA.

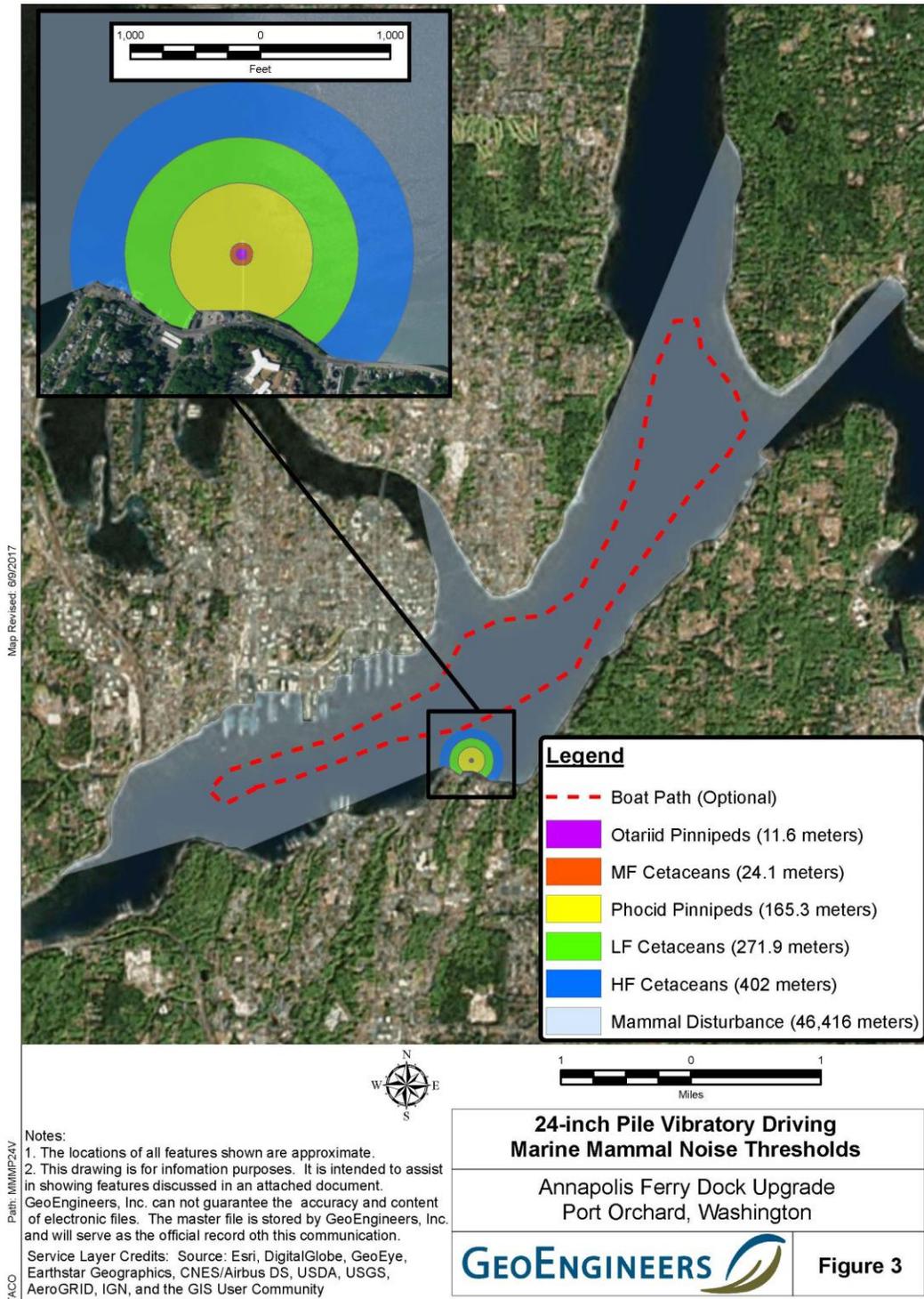
Date	Surveyors	Pile Driving Times (Vibe, Impact)	Number of Marine Mammals Seen Within Injury Zone/Action Area During Pile Driving	Species	Distance from Pile Driving Location	Weather	Wind Speed (Beaufort Marine Scale)	Notes
12/12/2019	MR, SC	0920 - 0929, 1025 - 1031, 1057 - 1105, 1126 - 1133, 1143 - 1146, 1407 - 1416, 1436 - 1439, 1453 - 1502, 1514 - 1519, 1523 - 1530, 1546 - 1549	0	NA	NA	Light Rain	1	Vibe in template piles
12/17/2019	MR, SC	0908 - 0910, 0920 - 0925, 1029 - 1035, 1049 - 1058, 1141, 1159 - 1216, 1220 - 1222, 1417 - 1432, 1527, 1536, 1545 - 1546, 1555 - 1558, 1604 - 1605	0	NA	NA	Cloudy	1	Vibe and impact 12" piles
12/31/2019	MR, SC	0819 - 0822, 0834 - 0836, 0848 - 0850, 0903 - 0904, 1053 - 1055, 1233 - 1235, 1117 - 1119, 1127, 1156, 1208 - 1221	0	NA	NA	Light Rain	0	Vibe out template piles and reinstall in new location
1/3/2020	MR, SC	0832 - 0836, 0838 - 0839, 0843 - 0854, 0916 - 0919, 0921 - 0928, 1027 - 1034, 1036 - 1046, 1108 - 1110, 1114 - 1128, 1436 - 1447	0	NA	NA	Partly Sunny	0	Vibe and impact 24" piles
1/13/2020	MR, SC	0757 - 0758, 0819 - 0820, 0840 - 0841, 0858 - 0859	0	NA	NA	Light Snow	2	Vibe out template piles
1/14/2020	MR, SC	0900 - 0903, 1041 - 1052, 1116 - 1124, 1146 - 1150	0	NA	NA	Overcast	1	Vibe in template piles
1/15/2020	MR, SC	0919 - 0921, 0924, 0927 - 1004, 1056, 1059 - 1100, 1104 - 1113, 1116 - 1121, 1140 - 1145, 1147 - 1158, 1311 - 1320, 1324 - 1344, 1407 - 1409, 1411, 1413 - 1419, 1553 - 1600, 1613, 1624, 1631	0	NA	NA	Light Snow	2	Vibe and impact 24" piles
1/22/2020	MR, SC	1338 - 1340, 1356 - 1359, 1408 - 1409, 1421 - 1422	0	NA	NA	Light Rain	1	Vibe out template piles

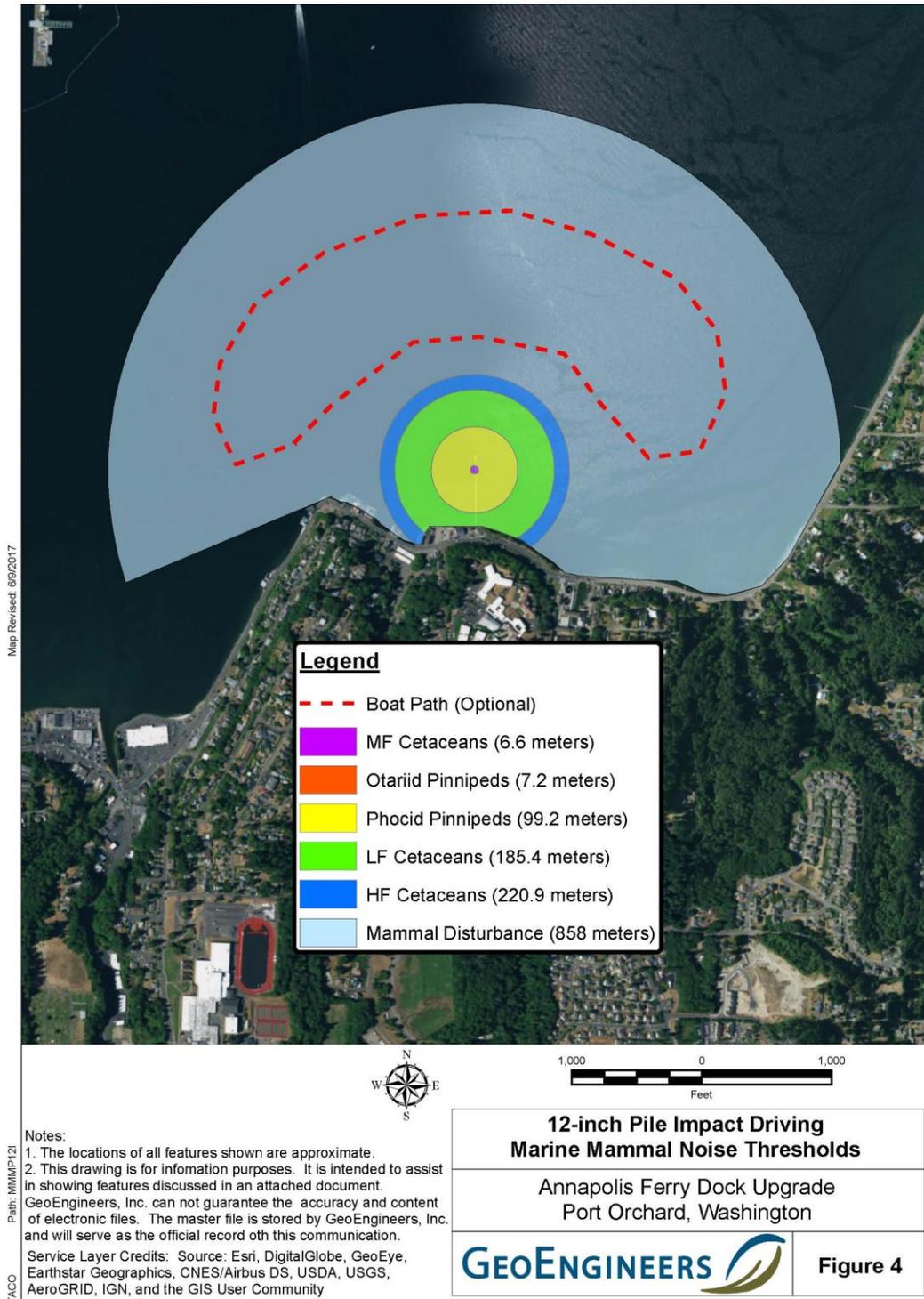
## **REFERENCES**

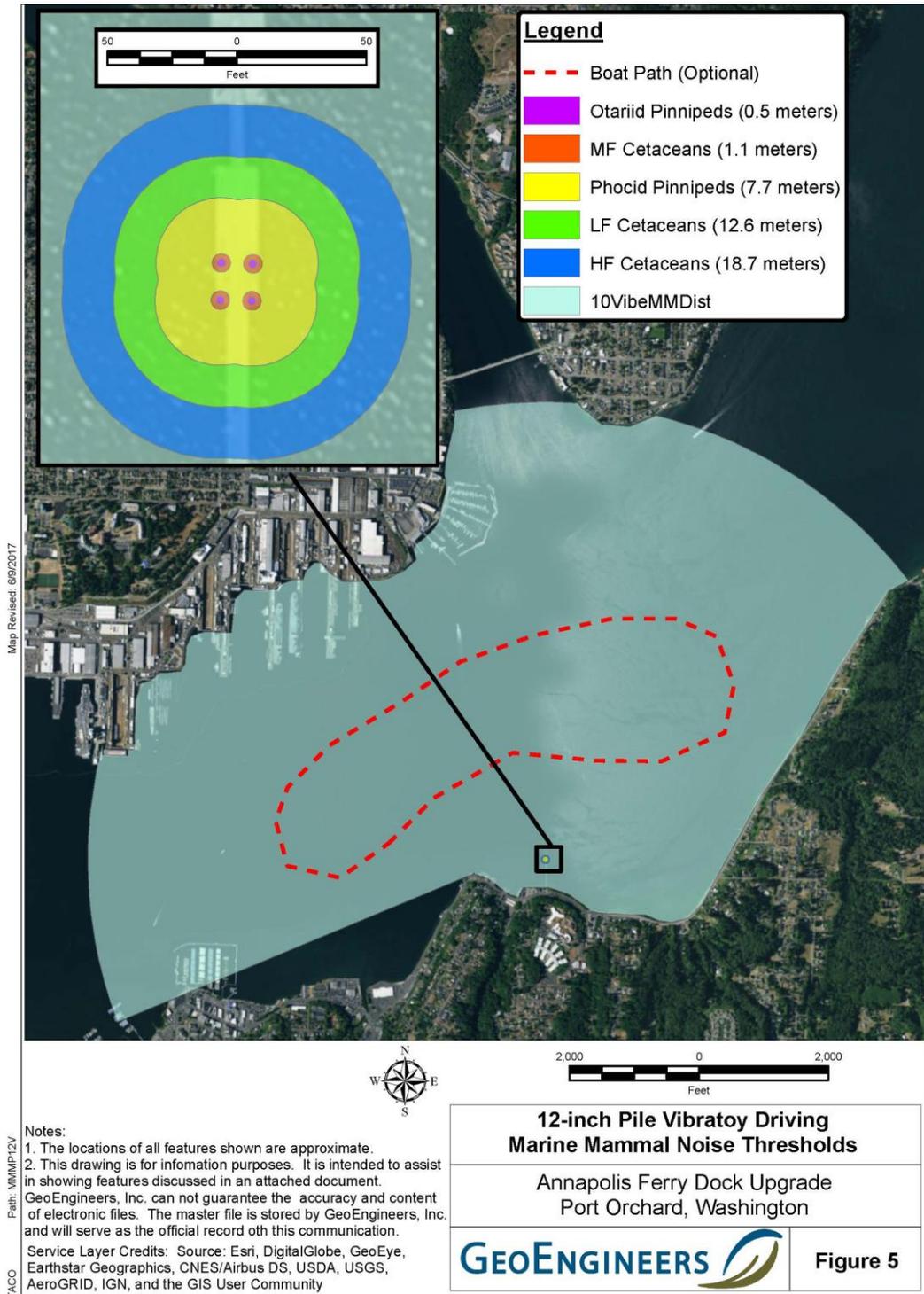
GeoEngineers. 2017. Marine Mammal Monitoring Plan for the Annapolis Ferry Dock Upgrade Project.. Prepared for Kitsap Transit.

**APPENDIX A: Marine Mammal Injury Zones**









**APPENDIX B:** Marine Mammal Monitoring Forms.































