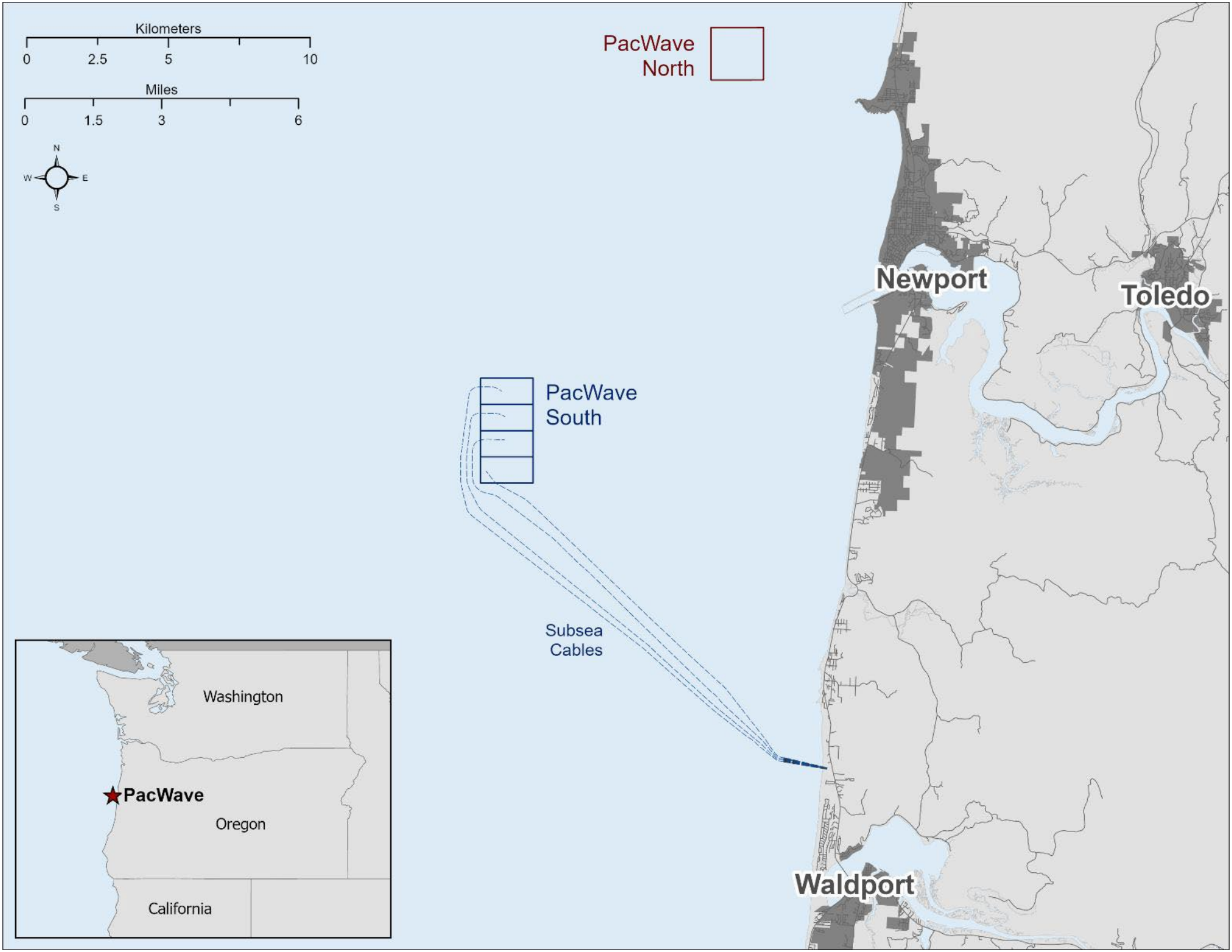
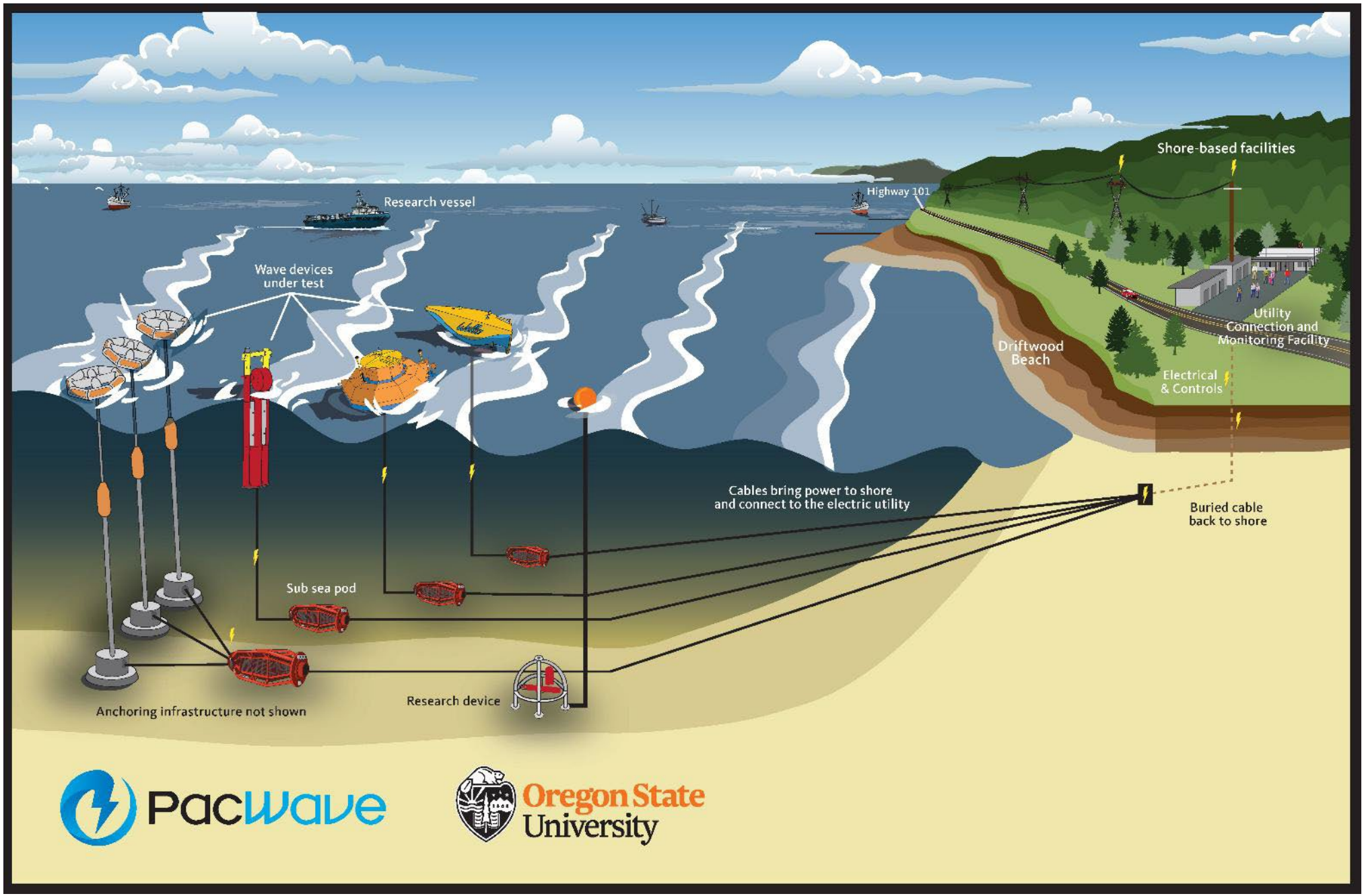
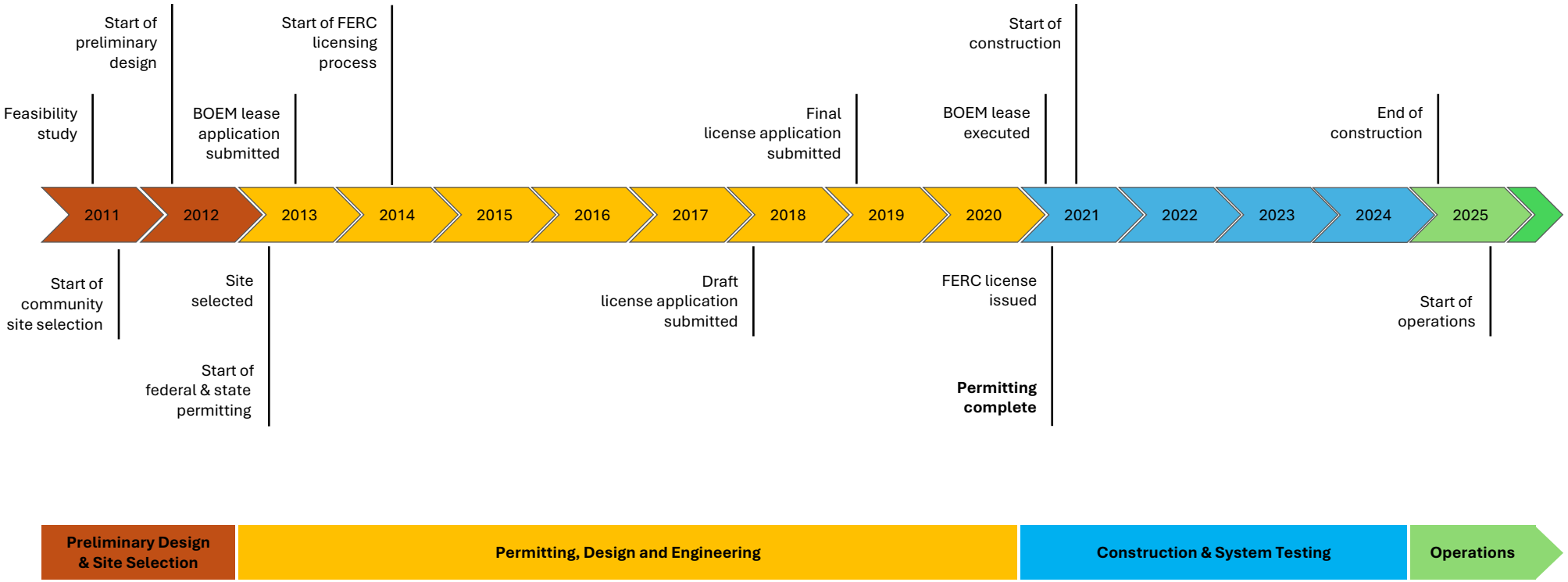
PacWave

Shoreside Tour Maps and Graphics 2025

Oregon State University


Kilometers
0
2.5
5
10
Miles
0
1.5
3
6
N
W
E
S
PacWave
North
PacWave
South
Subsea
Cables
Newport
Toledo
Waldport
Washington
PacWave
Oregon
California

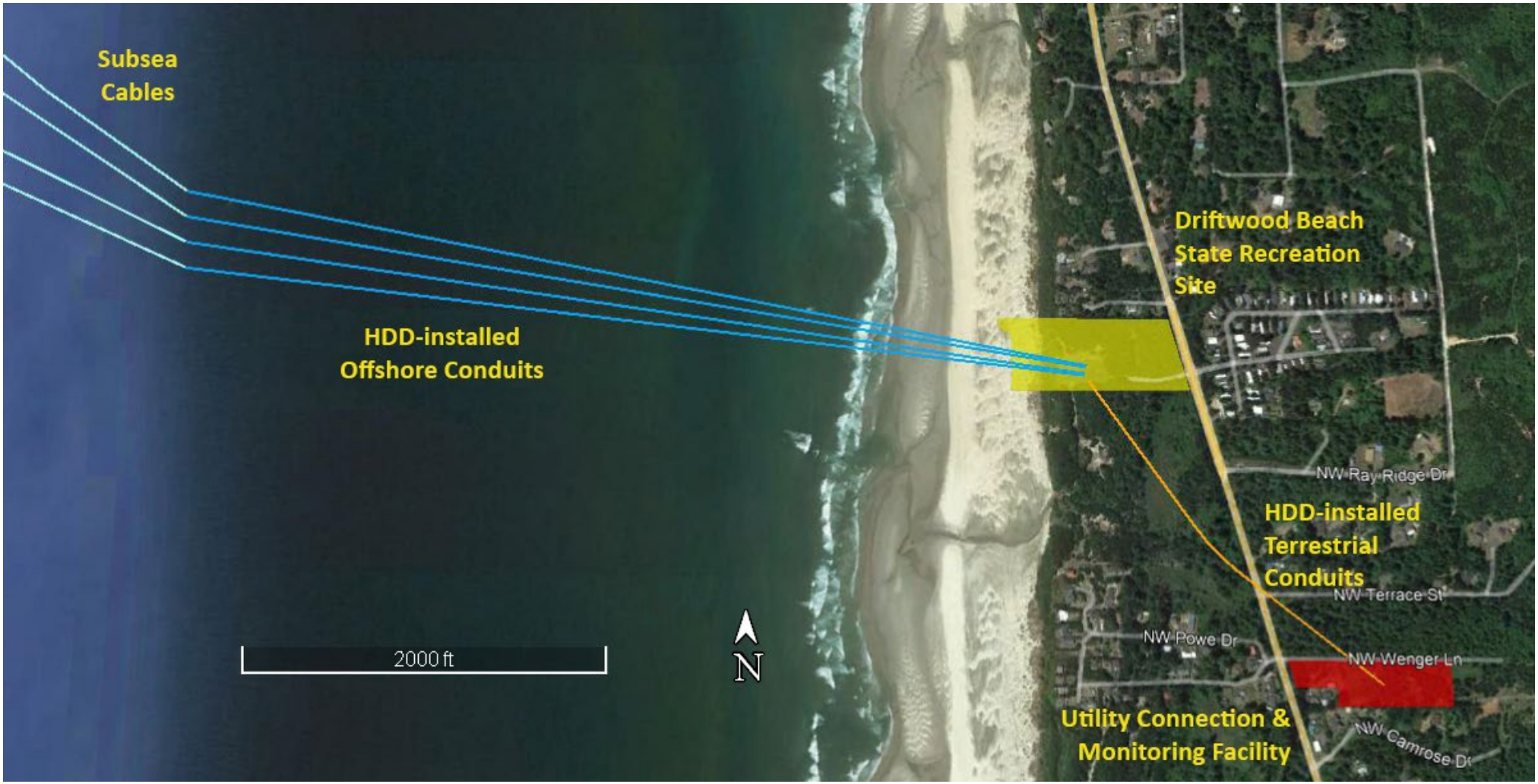

Shore-based facilities
Research vessel
Highway 101
Wave devices
under test
Utility
Connection and
Monitoring Facility
Driftwood
Beach
Electrical
& Controls
Cables bring power to shore
and connect to the electric utility
Buried cable
back to shore
Sub sea pod
Anchoring infrastructure not shown
Research device
PacWave
Oregon State
University


Start of preliminary design
Start of FERC licensing process
Start of construction
Feasibility study
BOEM lease application submitted
Final license application submitted
BOEM lease executed
End of construction
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Start of community site selection
Site selected
Draft license application submitted
FERC license issued
Start of operations
Start of federal & state permitting
Permitting complete
Preliminary Design & Site Selection
Permitting, Design and Engineering
Construction & System Testing
Operations

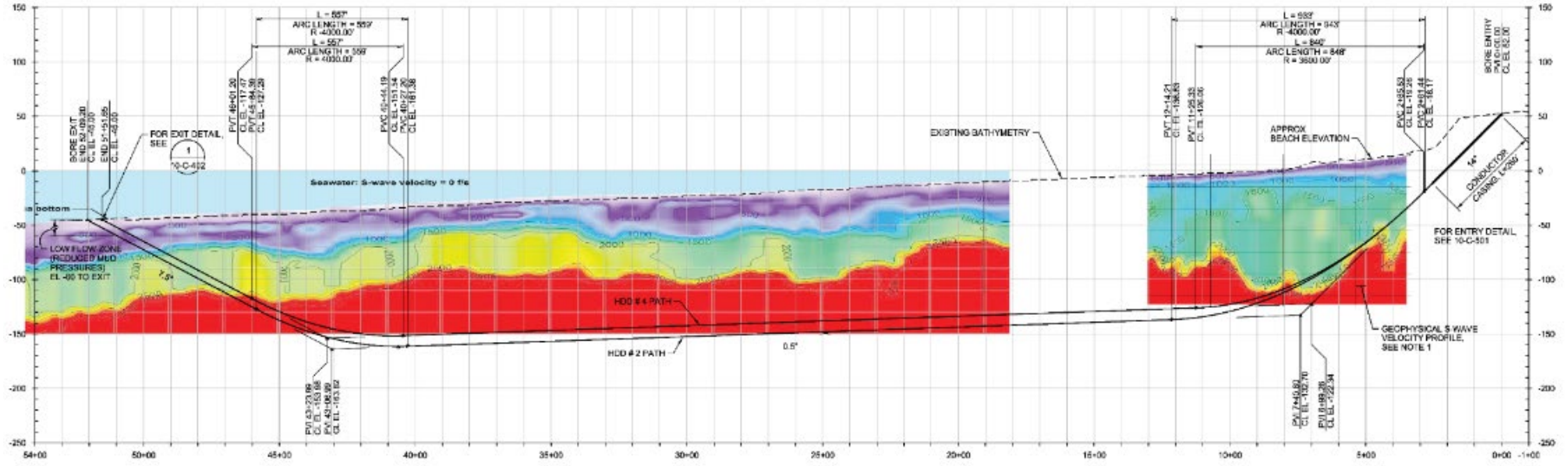
Cable Manufacture & Installation 2023-2025

Underground Construction 2021-2022

Terrestrial Construction 2021-2025


Subsea
Cables
HDD-installed
Offshore Conduits
Driftwood Beach
State Recreation
Site
NW Ray Ridge Dr
HDD-installed
Terrestrial
Conduits
NW Terrace St
NW Powe Dr
NW Wenger Ln
Utility Connection &
Monitoring Facility
NW Camrose Dr
2000 ft
N


THE HDD COMPANY
Jacobs
Photograph:
Newport News Times


EXISTING BATHYMETRY
APPROX BEACH ELEVATION
Seawater: S-wave velocity = 0 fps
HDD #1 PATH
HDD #2 PATH
FOR EXIT DETAIL, SEE 10-C-502
FOR ENTRY DETAIL SEE 10-C-501
GEOPHYSICAL S WAVE VELOCITY PROFILE, SEE NOTE 1
CONDUCTOR CASING L=260'
54+00
50+00
45+00
40+00
35+00
30+00
25+00
20+00
15+00
10+00
5+00
0+00
-1+00


KOMATSU
JCB
LOADALL

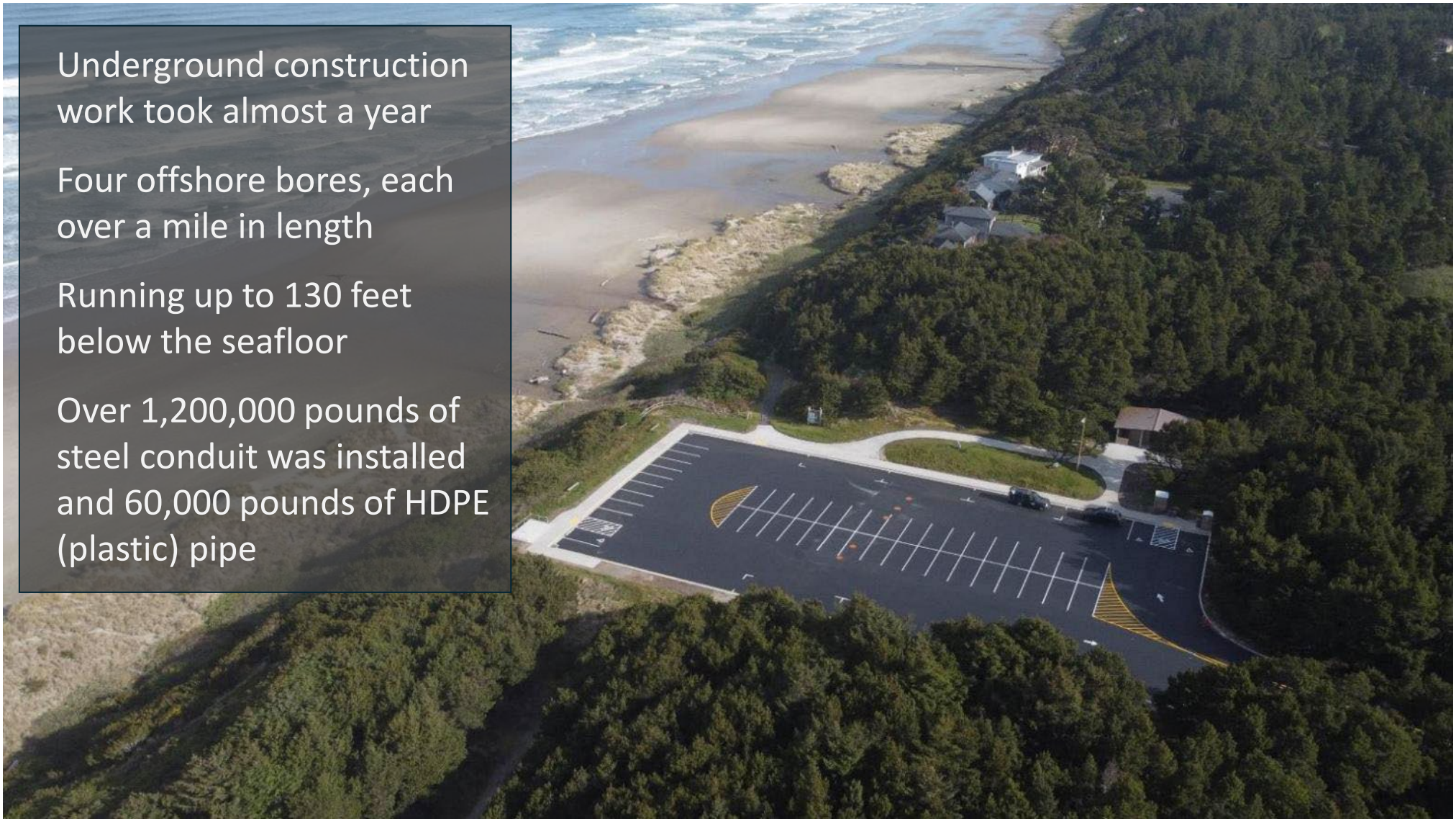

Vermeer

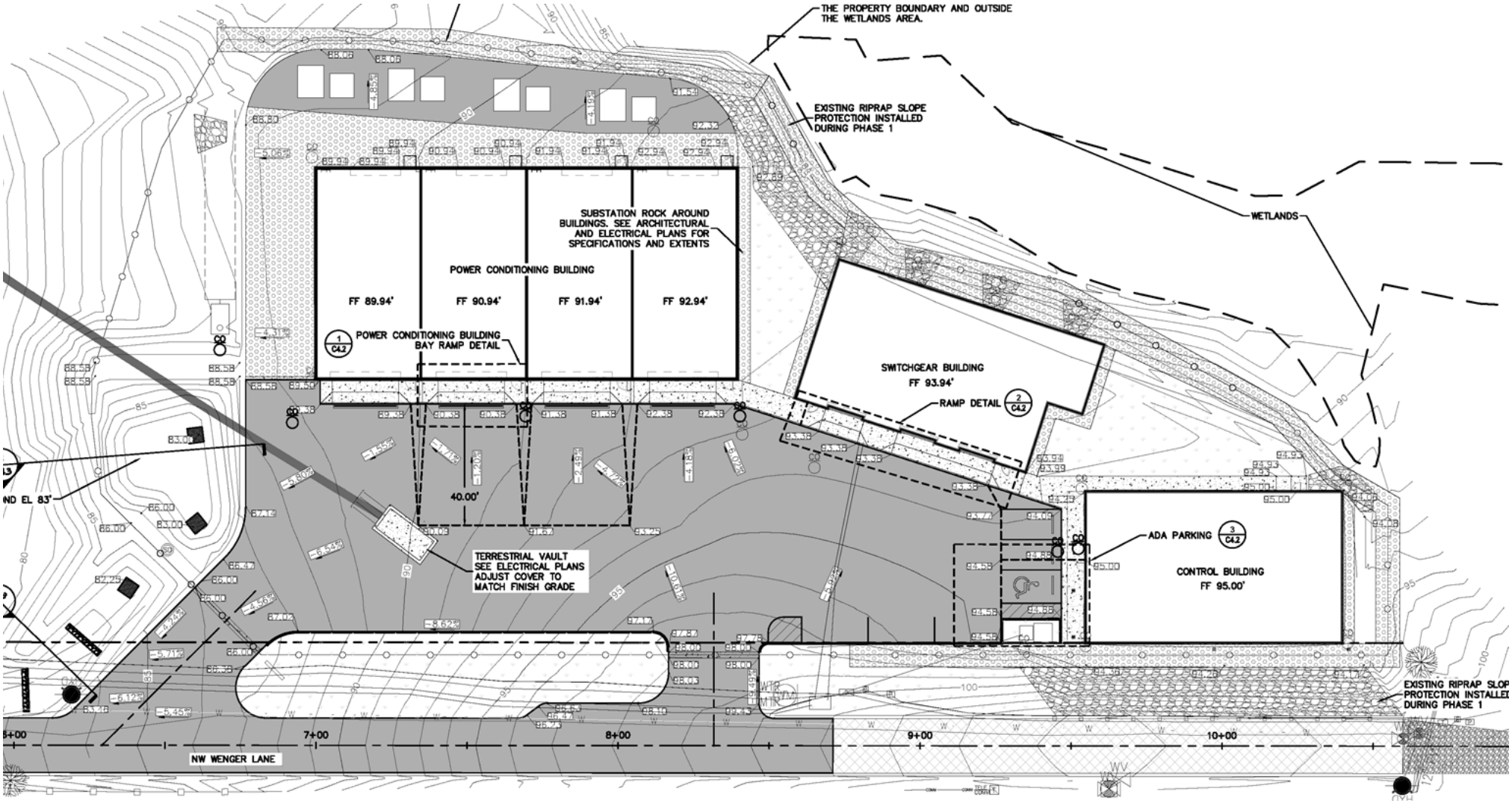

PacWave


UCMF
Driftwood


Vermeer
KOMATSU


JCB


Underground construction work took almost a year
Four offshore bores, each over a mile in length
Running up to 130 feet below the seafloor
Over 1,200,000 pounds of steel conduit was installed and 60,000 pounds of HDPE (plastic) pipe


THE PROPERTY BOUNDARY AND OUTSIDE THE WETLANDS AREA.
EXISTING RIPRAP SLOPE PROTECTION INSTALLED DURING PHASE 1
WETLANDS
SUBSTATION ROCK AROUND BUILDINGS. SEE ARCHITECTURAL AND ELECTRICAL PLANS FOR SPECIFICATIONS AND EXTENTS
POWER CONDITIONING BUILDING
FF 89.94'
FF 90.94'
FF 91.94'
FF 92.94'
1 C4.2 POWER CONDITIONING BUILDING BAY RAMP DETAIL
SWITCHGEAR BUILDING
FF 93.94'
RAMP DETAIL 2 C4.2
40.00'
TERRESTRIAL VAULT SEE ELECTRICAL PLANS ADJUST COVER TO MATCH FINISH GRADE
ADA PARKING 3 C4.2
CONTROL BUILDING
FF 95.00'
EXISTING RIPRAP SLOP PROTECTION INSTALLE DURING PHASE 1
NW WENGER LANE
7+00
8+00
9+00
10+00

HGE ARCHITECTS.

GERDING BUILDERS

1.5-acre site

Three buildings: the Power Conditioning, Switchgear and Control Buildings.

Approximately 18,200 square feet.

Includes metering and switchgear to support up to 20 megawatts of power generation, with power feeding onto the Central Lincoln People's Utility District system.


RTC
R.T. CASEY, L.L.C.
Nexans
ELECTRIFY THE FUTURE
MacArtney
UNDERWATER TECHNOLOGY
VISION
SUBSEA
SAUSE
Marine Services Inc.
HOS
HORNBECK OFFSHORE SERVICES, INC.
MAKAI
OCEAN ENGINEERING
AMERICAN
MARINE
INTERNATIONAL
ACSM
LouisDreyfus
TRAVOCEAN
TETRA TECH


KONECRANES
32.01


LEMG


A
Depart Rognan:
May 27
Arrive North Bend:
July 27
D
Loading INNOVATOR:
June 13 to July 3
B
C
Transit Canal:
July 12
Google Earth
N

HOS Innovator

Length: 240 feet POB: 40

Cable lay

Liberty

Length: 89 feet POB: 8

Dive operations

Nautilus

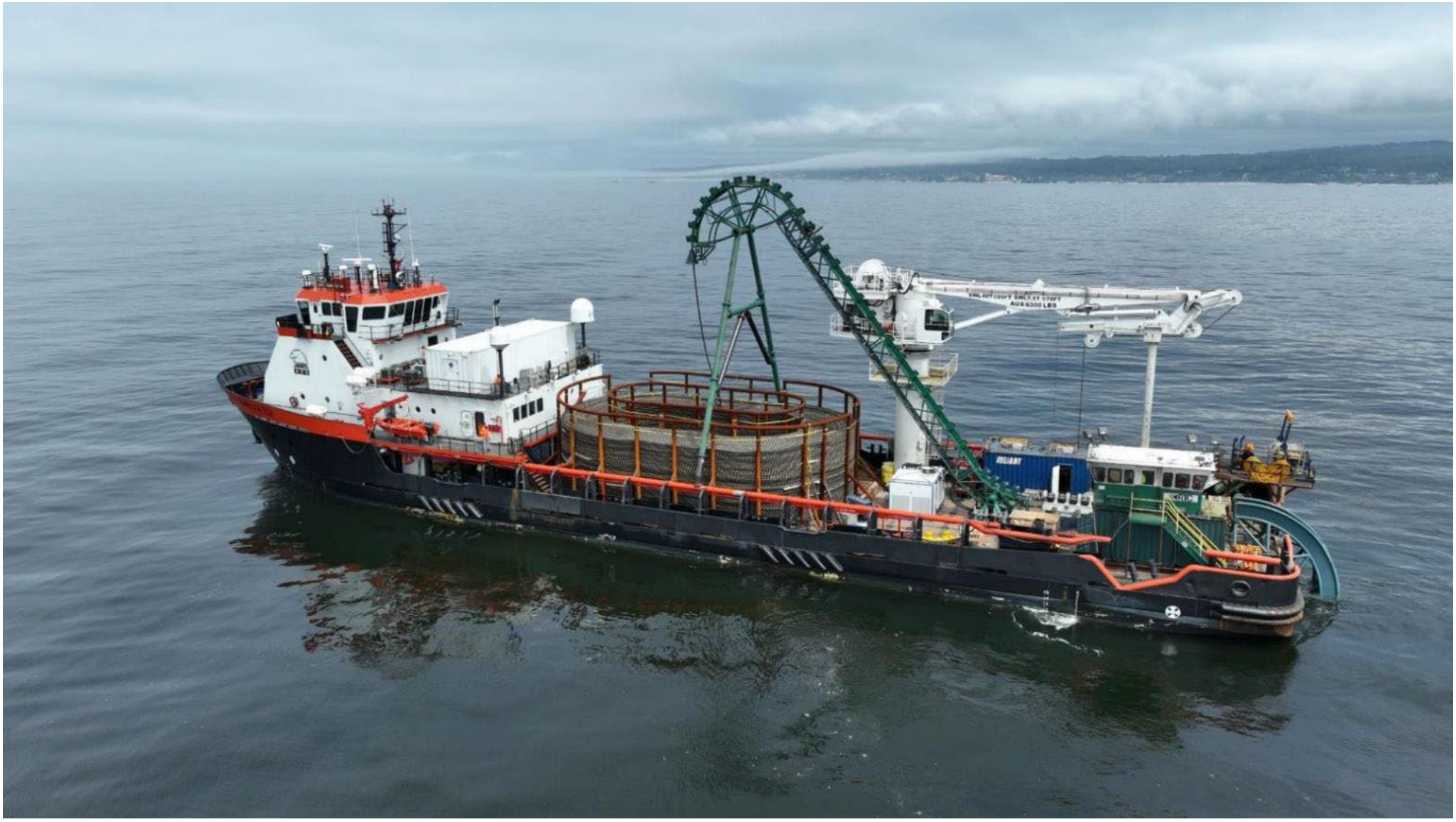
Length: 242 feet POB: 31

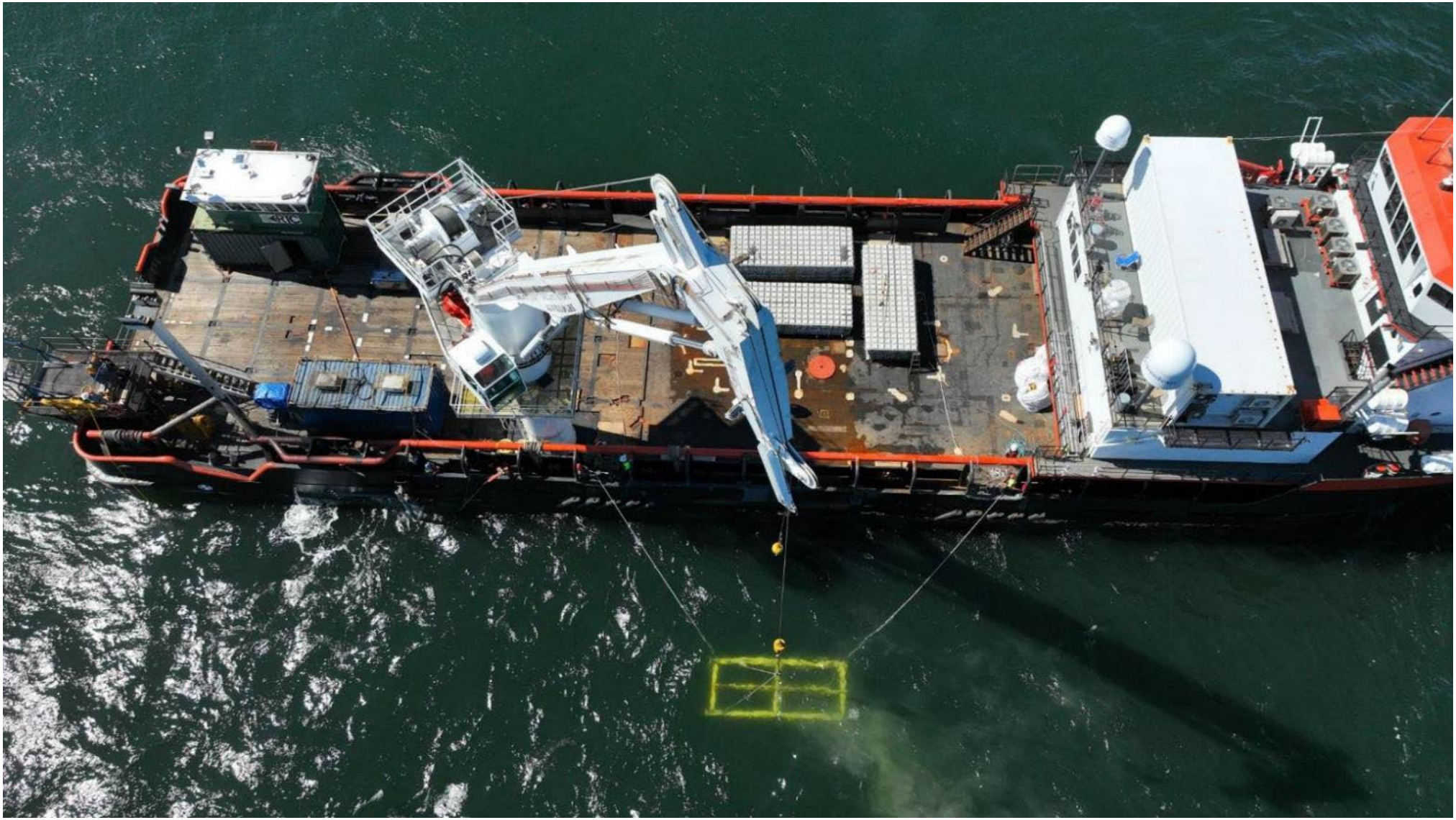
Cable burial

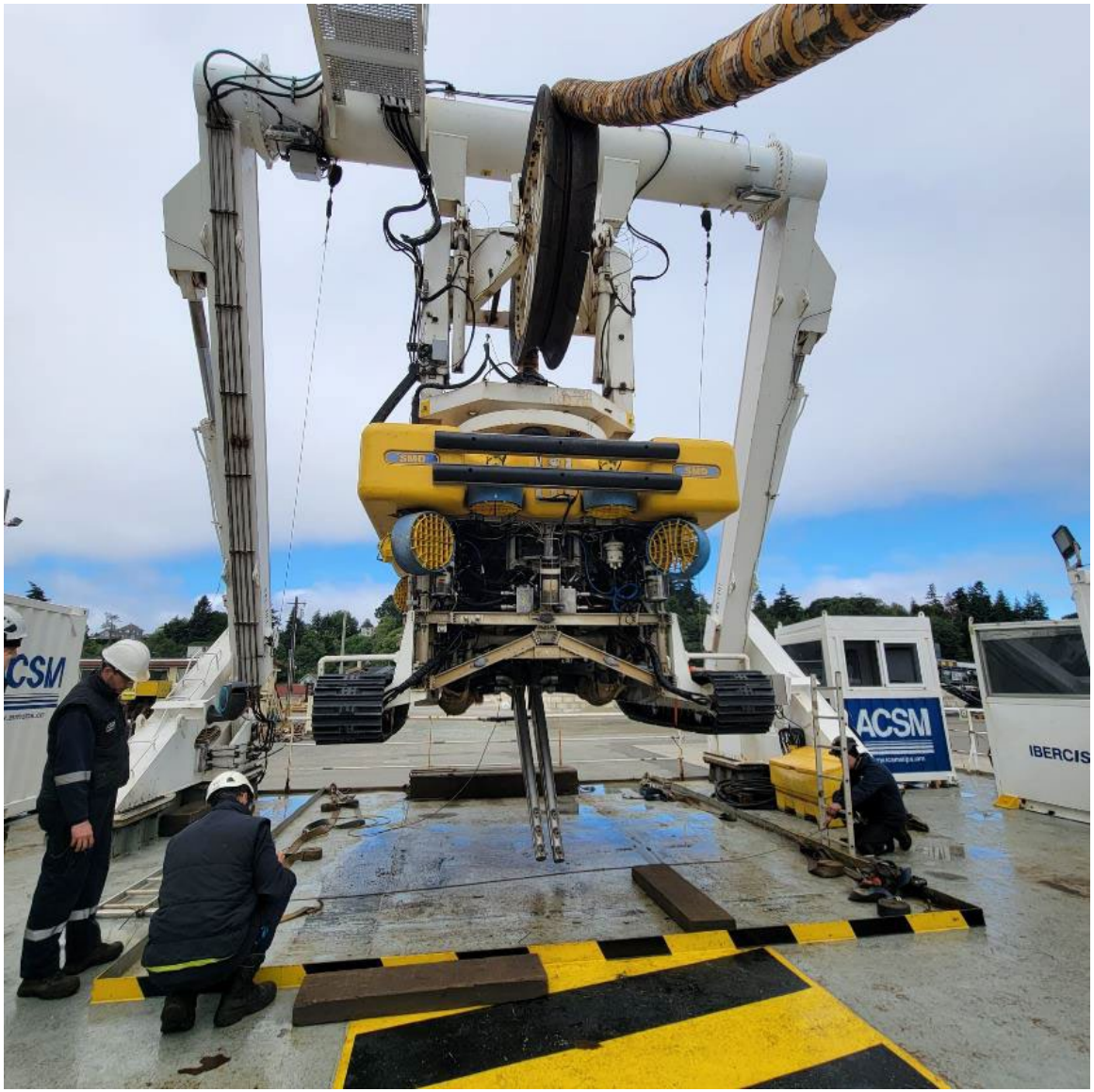
CMROV 3

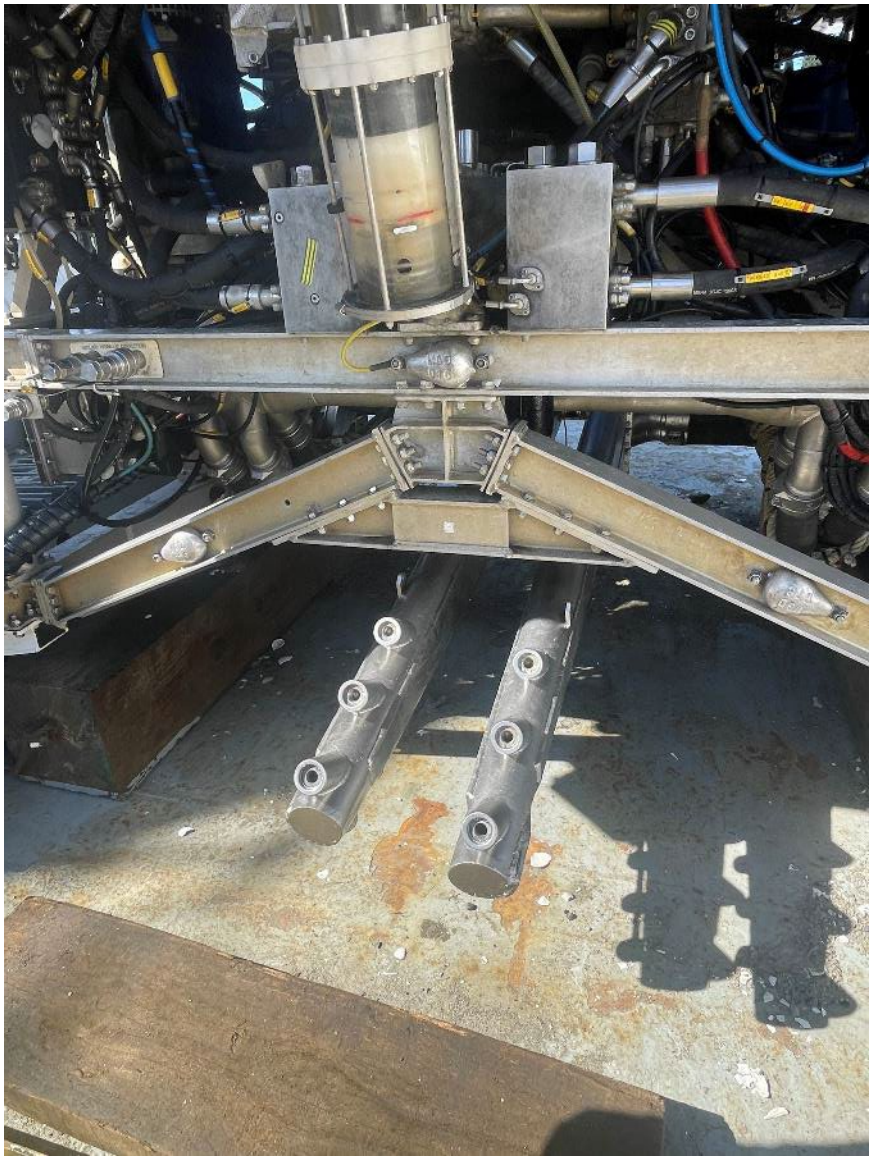
Length: 12x12x9 feet

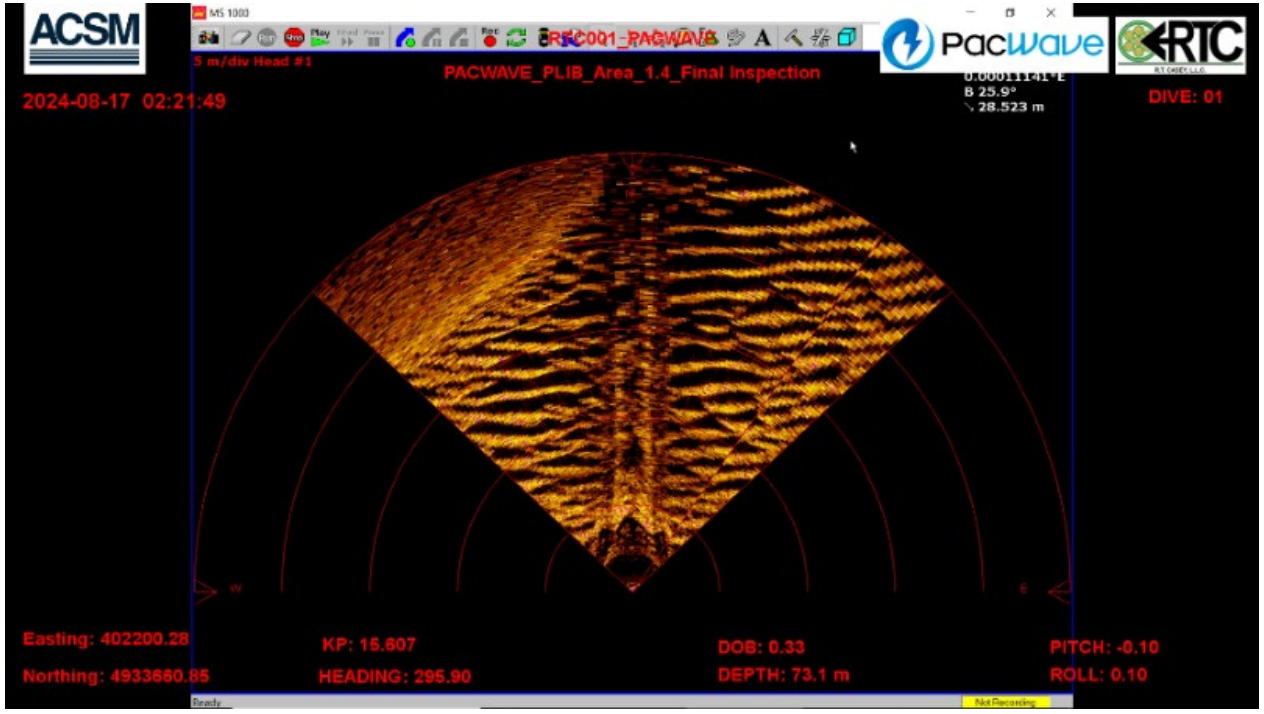
Cable burial






ACSM
IBERCIS



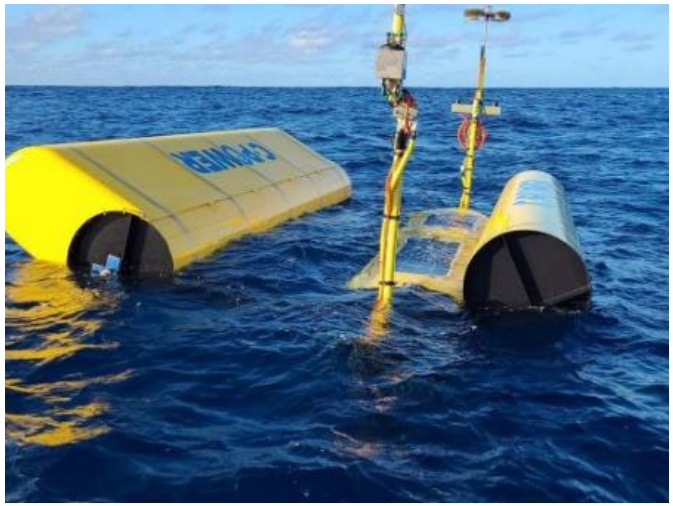

ACSM
MS 1000
5 m/div Head #1
PACWAVE_PLIB_Area_1.4_Final inspection
PacWave
RTC
2024-08-17 02:21:49
B 25.9°
28.523 m
DIVE: 01
Easting: 402200.28
Northing: 4933660.85
KP: 15.807
HEADING: 295.90
DOB: 0.33
DEPTH: 73.1 m
PITCH: -0.10
ROLL: 0.10

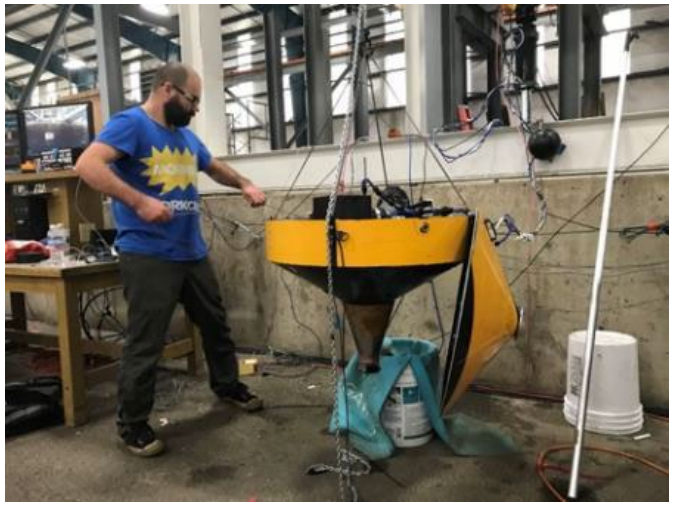
- Installation took about 27 months from initial contracting to completion of burial
- Cable manufacturing in Europe took 19 months
- Cable installation took 14 weeks from July to October, 2024
- Almost 300 vessel-days on charter
- Over 5,000 person-days for installation
- Almost 1,000 ROV-hours for cable burial
- Included the CMROV’s longest work dive (138 hours, or 5.75 days)

Initial PacWave Clients – expected in 2026/2027

CalWave Power Technologies	California
C.Power	Virginia/Oregon
Portland State University & Aquaharmonics	Oregon

Funded through 2022 Department of Energy funding opportunity: Advancing Wave Energy Technologies Through Open Water Testing at PacWave






PacWaveEnergy.org