



WHEELER NORTH REEF PHASE 3: Reef Expansion Project

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Module 17
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Phase 3: Reef Expansion Project Scope

- 200-acre low relief reef
- Same design as Wheeler North Reef 12-15 meters deep
- Known performance
- 9 years of biological information
- Requires the least amount of rock
- 150 thousand tons of rock
- 44 barge trips
- 3 separate quarries



Reef Expansion Project Permits

- CEQA Environmental Impact Report
- Water Resources Control Board
- Army Corps of Engineers
- Coastal Commission
- AQMD Air Quality Offset Credits
- Ca. State Lands Lease



Reef Expansion Project – The Construction Process



Two-season construction:
July – September 2019
June – July 2020



Energy for What's AheadSM



Marine Wildlife

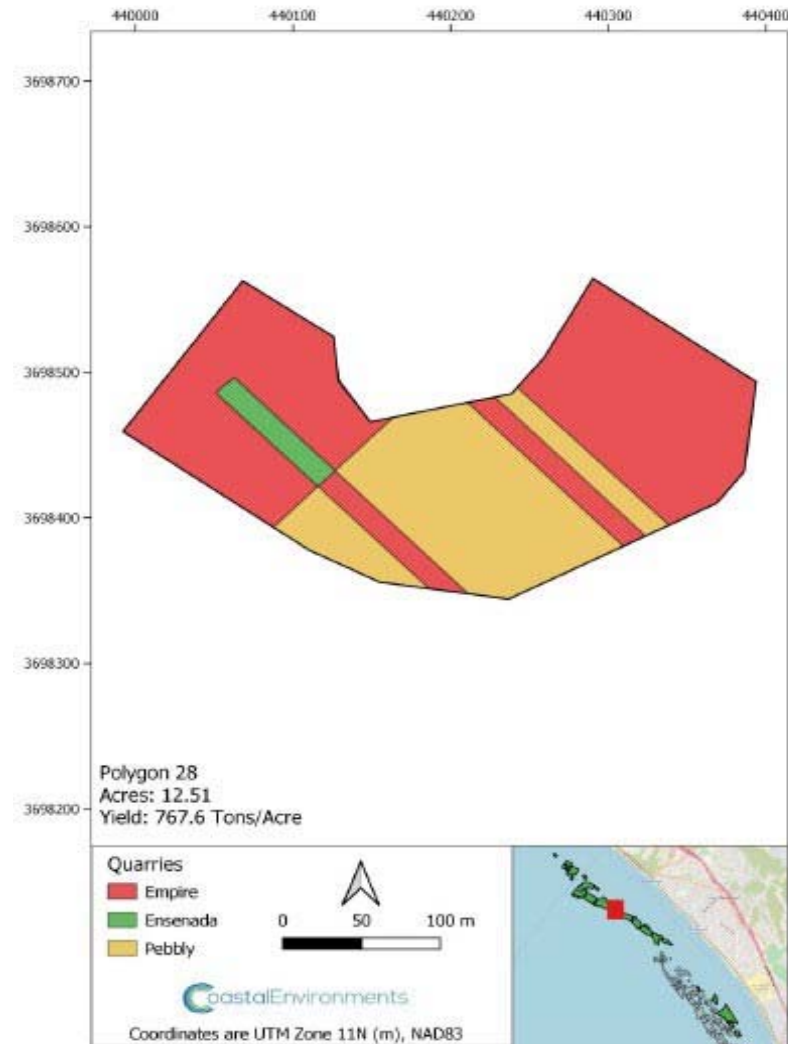
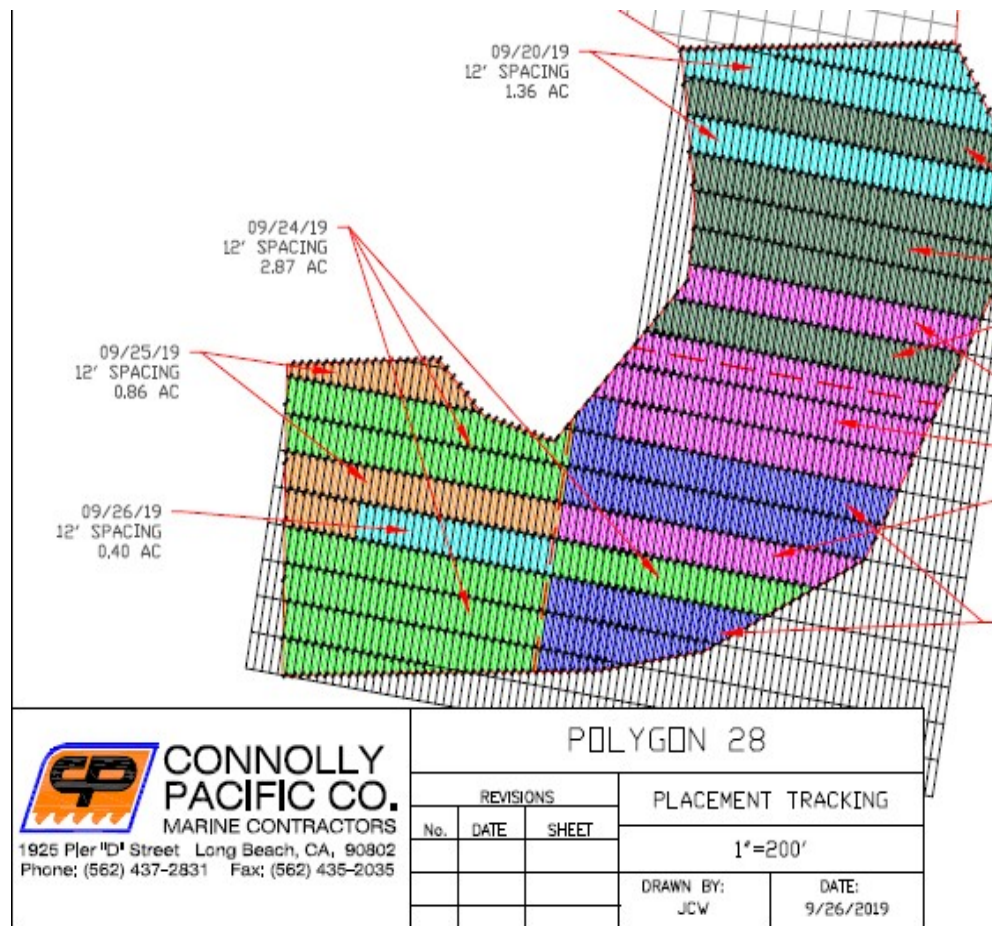
Three full time marine wildlife observers on deck during construction to protect wildlife

Monitor Roles:

- Species identification
- Monitor compliance with applicable laws
- Stop Work Authority to avoid marine animal collisions or harm



Construction Verification



Wheeler North Reef Expansion As-Built

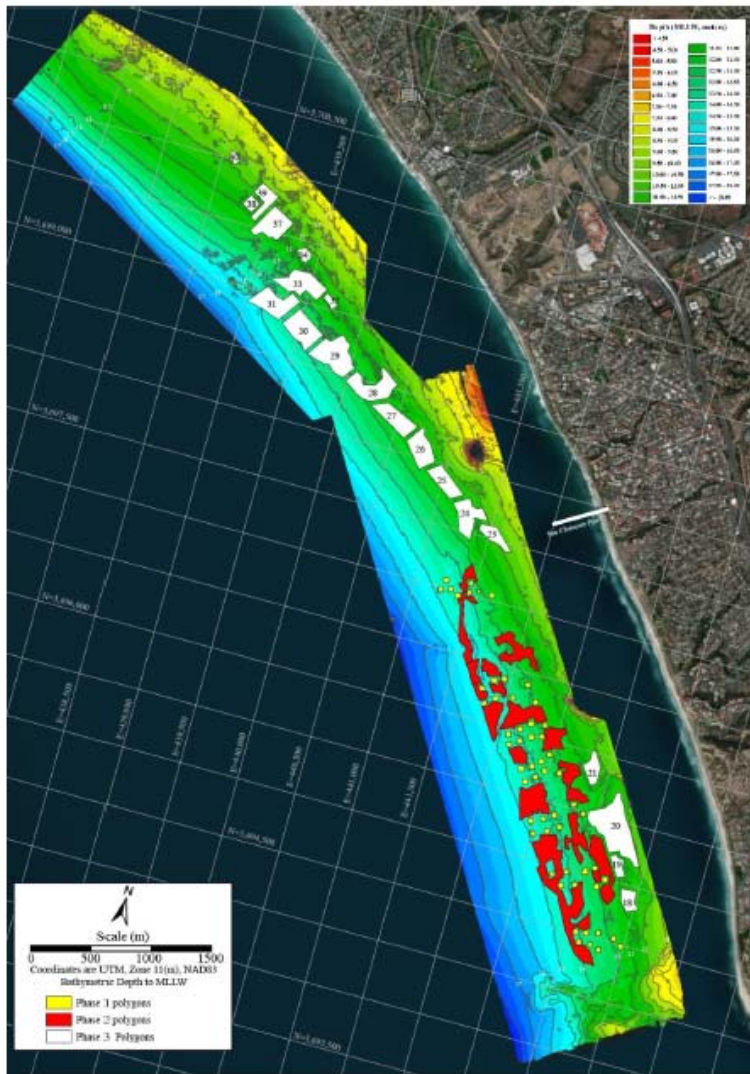


Figure 1-2. As-built WNR Phase 3 Expansion (201.7 acres), white polygons.



Wheeler North Expansion Post-Construction July 2020

On Budget and Ahead of Schedule

20 new polygons of quarry rock
41,868 manhours worked without incident
150,973 tons of rock
49 total barge trips
3 separate quarries
197.4 acres
3% above hard substrate cover requirement

Wheeler Reef Total 374-acre artificial reef, 5 miles long, 270,000 tons

Integrity * Continuous Improvement * Excellence * Teamwork * Safety

Wheeler Construction Team Practicing COVID-19 Safety

