

EXCELLENCE IN SUBSEA SERVICES

DIVECON



SANTA BARBARA CHANNEL COASTAL HAZARD REMOVAL PROJECT

California State Lands Commission



DIVECON



PRESENTATION OVERVIEW

- Project Description
- Project Locations
- Overview at two Specific Sites
- Abandonment Methodology Utilized
- Lessons Learned
- Moving Forward



Project Description

- CSLC identified derelict structures & recognized numerous hazards that were located along the SB/Ventura/Los Angeles Coast.
- The identified hazards posed a serious threat to public safety.
- CSLC awarded a contract to Divecon to perform remediation work & removal at approximately 23 locations of various onshore & offshore hazards & derelict wellheads.



Project Locations

- ***23 Identified Locations***
 - ***22 Onshore / Near shore***
 - ***1 Offshore Location***
- ***Project area ranges from Northern SB County to Northern LA County***



Hazards Include

- ***Sheet Pile, H-pile, Round pile***
- ***Concrete with exposed rebar***
- ***Wellheads with remaining well casings***
- ***Hazards are sometimes always exposed and others only exposed during low sand events***



Hazard Removal Projects Detailed in Presentation

- Las Tunas Beach- Los Angeles County
- Goleta Beach- Santa Barbara County

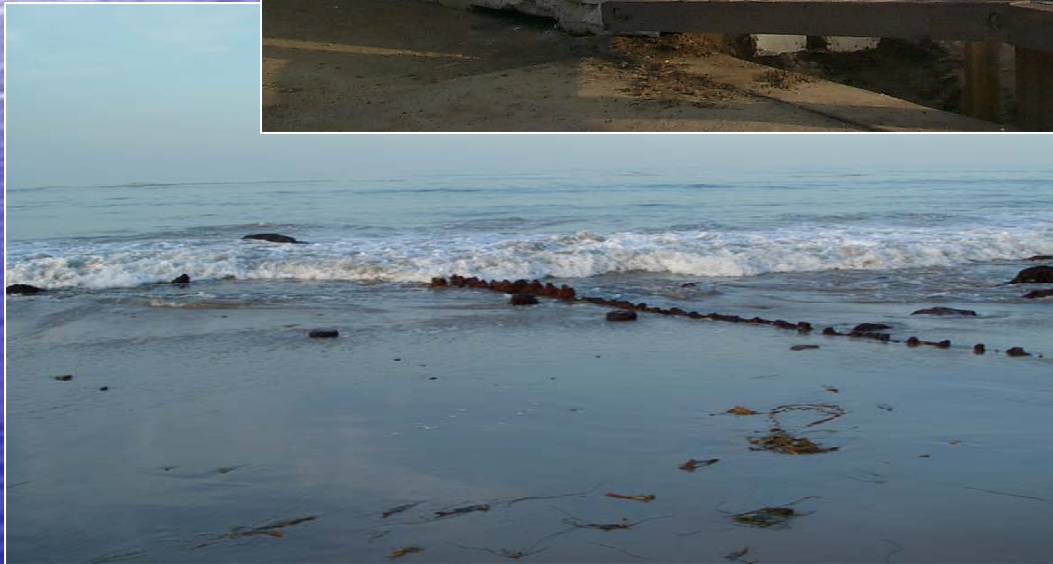


Las Tunas Beach (located north of Malibu) Hazard Description

- 5 derelict groins with exposed sheet piling constructed in 1934
- Sheet Pile, concrete cap & exposed rebar
- Exposed H-Pile
- 1 groin that required remediation work



Las Tunas Beach



Las Tunas Beach



Las Tunas Beach



Las Tunas Beach



Las Tunas Beach



Removal Methodology

- Onshore & Offshore Spread
- Onshore Spread
 - CAT 330 Excavators
 - U/W & Toppide Burning Equipment
- Offshore Spread
 - Divers working in surf line supported from beach
 - U/W Burning Equipment



Las Tunas Beach – Removal Operations



Las Tunas Beach – Removal Operations



Las Tunas Beach – Groin No. 2 Remediation



Las Tunas Beach – Post Project Results

- Over 900 feet of groin removed
- Recovered sheet pile average height of 5 feet
- Divers removed approximately 265 feet of sheet pile from the surf area

Las Tunas Beach – Post Project



Goleta Beach Hazard Description

- This site is located on Goleta Beach, SB County; east of the Goleta Slough
- The site consists of 4 former drilling sites known as James-136, Sands-137, Crandall-138, and Parker-139
- Each site contained a center well caisson and four surrounding caissons
- Additional hazards included approximately 250 10 “ H-pile



Goleta Beach Hazard Removal



Goleta Beach Hazard Removal



Removal Methodology

- Onshore Spread
 - 2 each CAT 330 Excavators complete with hydraulic breaker & thumb attachment
 - 6 wheel drive end loader dump truck
 - 100-Ton Crane
 - U/W & Toppide Burning Equipment



Removal Methodology



Goleta Beach Hazards Removal

- The goal was to remove all hazards in their entirety or ensure that they never reappear during low sand events.
- Removal criteria- 2 feet below cobble accomplished

Removal Methodology



Removal Methodology



Removal Methodology



Goleta Beach Recovered Hazards

- 16 foundation caissons removed below cobble line
- 250-10" H-Pile approx. 5 to 8 feet in length
- 295-tons of concrete removed and transferred to approved waste disposal & recycle facility
- 186-tons of steel removed and transferred to approved waste disposal & recycle facility



Unique Project Challenges Overcome

- Complete all work accident free and without incident
- Permit Criteria
 - Required Staging Areas
 - Biological Monitoring
- Access to Sites
 - Sand Ramp
 - Steel Ramp
- Tide Conditions
- Public Scrutiny during Project



Lessons Learned

- Permit the Project that you require, do not let the permit dictate your means & methods
- The use of large Excavators vs. rubber tired equipment



Moving Forward

- There are numerous project sites that still require hazard removal
- This should be made a priority as the hazards are a threat to public safety.



Acknowledgements

- Divecon crews- completed all projects without incidents
- Adobe Construction- Provision of Equipment & Operators
- Padre- Environmental Compliance
- URS- Project Management
- PMTI- Well head abandonment expertise



Questions or Comments ??





“EXCELLENCE”

**More than a goal,
It's our standard**