ʻĪAO VALLEY STATE MONUMENT PARK IMPROVEMENTS

Public Informational Meeting

Wailuku Community Center

Thursday, March 14, 2019

5:00 pm to 7:00 pm

AGENDA

- WELCOME
- MEETING FORMAT
- PROJECT OVERVIEW
- PROPOSED IMPROVEMENTS
  - Site Plan
  - Operational Requirements
  - Potential Impacts
- SLOPE REPAIRS
  - Design Considerations
  - Long-Term Slope Stabilization
- BREAK OUT SESSION
- CLOSING REMARKS

PROJECT OVERVIEW

- The Department of Land and Natural Resources (DLNR) is planning to improve existing facilities at the ʻĪao Valley State Monument.
- $3 million of appropriated funds.
- Anticipated to go out for bid by end of 2019 with construction planned to commence in 2020.
- Prime Consultant:

WILSON OKAMOTO CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

PROPOSED IMPROVEMENTS

Provide additional parking

Install non-potable water lines to comfort station

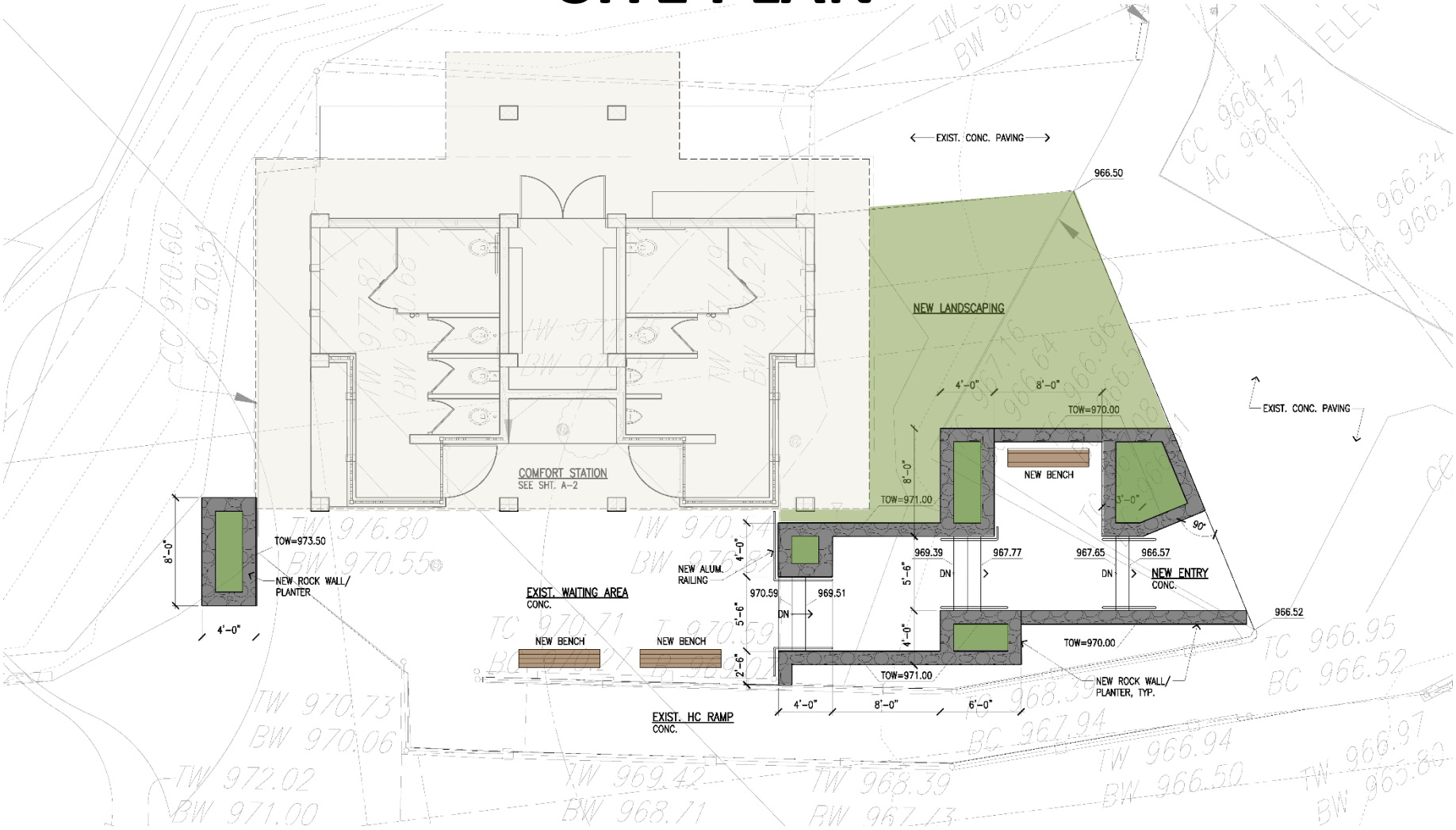
Renovate existing comfort station

Install sewer lines from comfort station to holding tanks

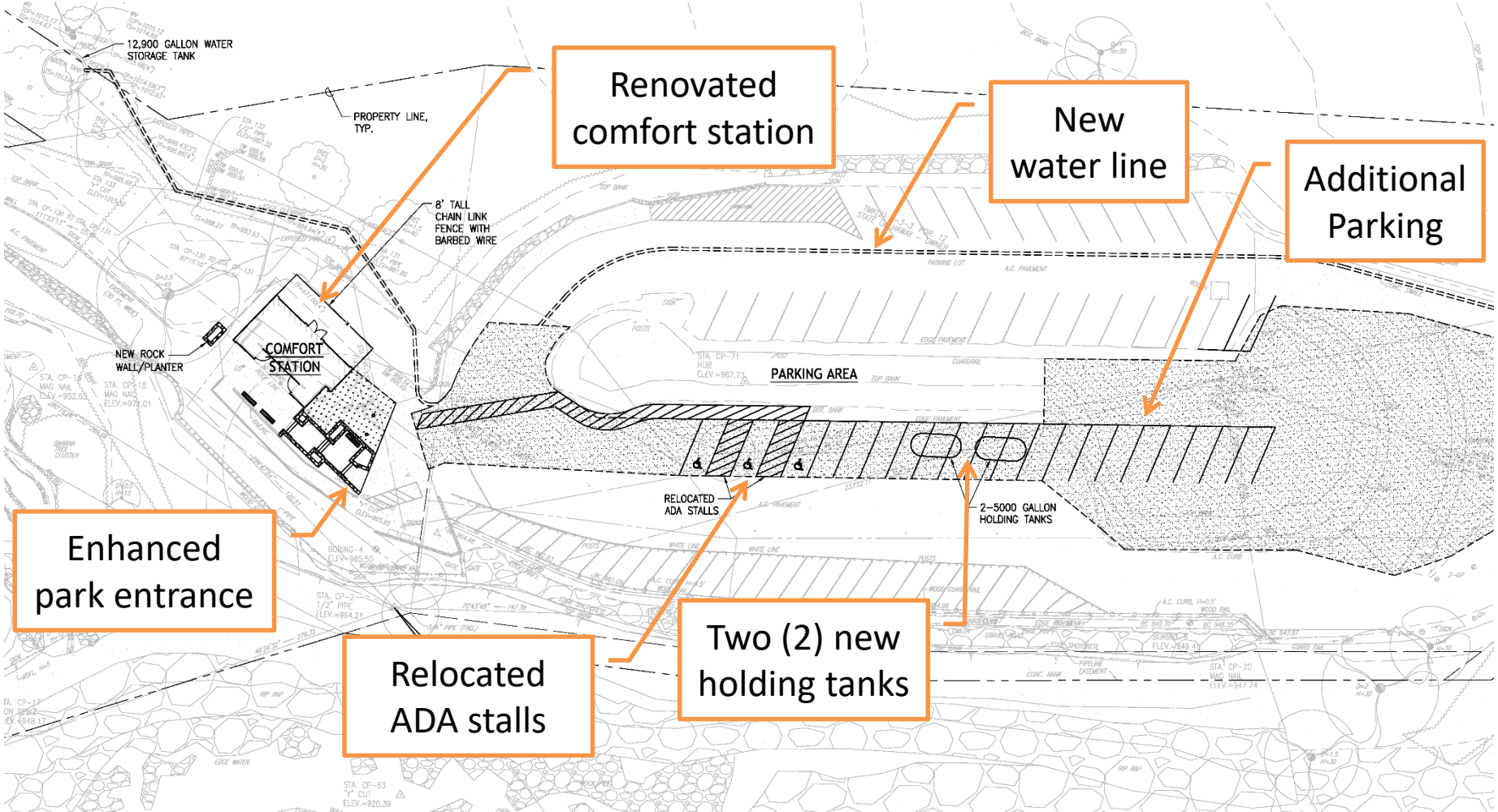
Relocate ADA stalls

Enhance park entrance

SITE PLAN


EXIST. CONC. PAVING
966.50
NEW LANDSCAPING
4'-0"
8'-0"
TOW=970.00
EXIST. CONC. PAVING
COMFORT STATION
SEE SHT. A-2
8'-0"
TOW=971.00
NEW BENCH
3'-0"
90°
TOW=973.50
8'-0"
NEW ROCK WALL/
PLANTER
4'-0"
4'-0"
NEW ALUM.
RAILING
969.39
967.77
967.65
966.57
DN
DN
NEW ENTRY
CONC.
EXIST. WAITING AREA
CONC.
970.59
969.51
5'-6"
DN
966.52
NEW BENCH
NEW BENCH
2'-6"
4'-0"
TOW=970.00
TOW=971.00
NEW ROCK WALL/
PLANTER, TYP.
4'-0"
8'-0"
6'-0"
EXIST. HC RAMP
CONC.

SITE PLAN


12,900 GALLON WATER STORAGE TANK
PROPERTY LINE, TYP.
8' TALL CHAIN LINK FENCE WITH BARBED WIRE
NEW ROCK WALL/PLANTER
COMFORT STATION
PARKING AREA
RELOCATED ADA STALLS
2-5000 GALLON HOLDING TANKS
Renovated comfort station
New water line
Additional Parking
Enhanced park entrance
Relocated ADA stalls
Two (2) new holding tanks

OPERATIONAL REQUIREMENTS

- Holding tanks would need to be pumped every three days during peak visitor times.
  - At $500/load and 3 loads/pump, annual pumping costs would be approximately $189,000.
- Other treatment and disposal options are being considered.
  - Technologies to treat sewage effluent to higher level of treatment, such as a Membrane Bioreactor (MBR) wastewater treatment system that produces high-quality effluent suitable enough for water reuse.
  - Alternative options may have different power and space requirements for appropriate treatment and disposal.
- No effluent would be discharged into the ground or stream with any of the alternatives.

POTENTIAL IMPACTS

- Construction duration will be **approximately 6 months**.
- **Traffic control measures** will be provided during water line improvements along ʻĪao Valley Road.
- Park will need to be **closed** to the public during construction for safety reasons.

POTENTIAL IMPACTS

- **Archaeological monitoring** will be proposed during the initial stages of construction. Monitoring would be extended beyond this period should anything be found in any of the work areas or if such discoveries appear to be more likely than originally anticipated.
- **Excavated soil and rock material** will remain in the valley.
- Temporary construction impacts (i.e. noise, dust, runoff, etc.) will be mitigated through implementation of **site-specific best management practices (BMPs)**.

SLOPE REPAIRS

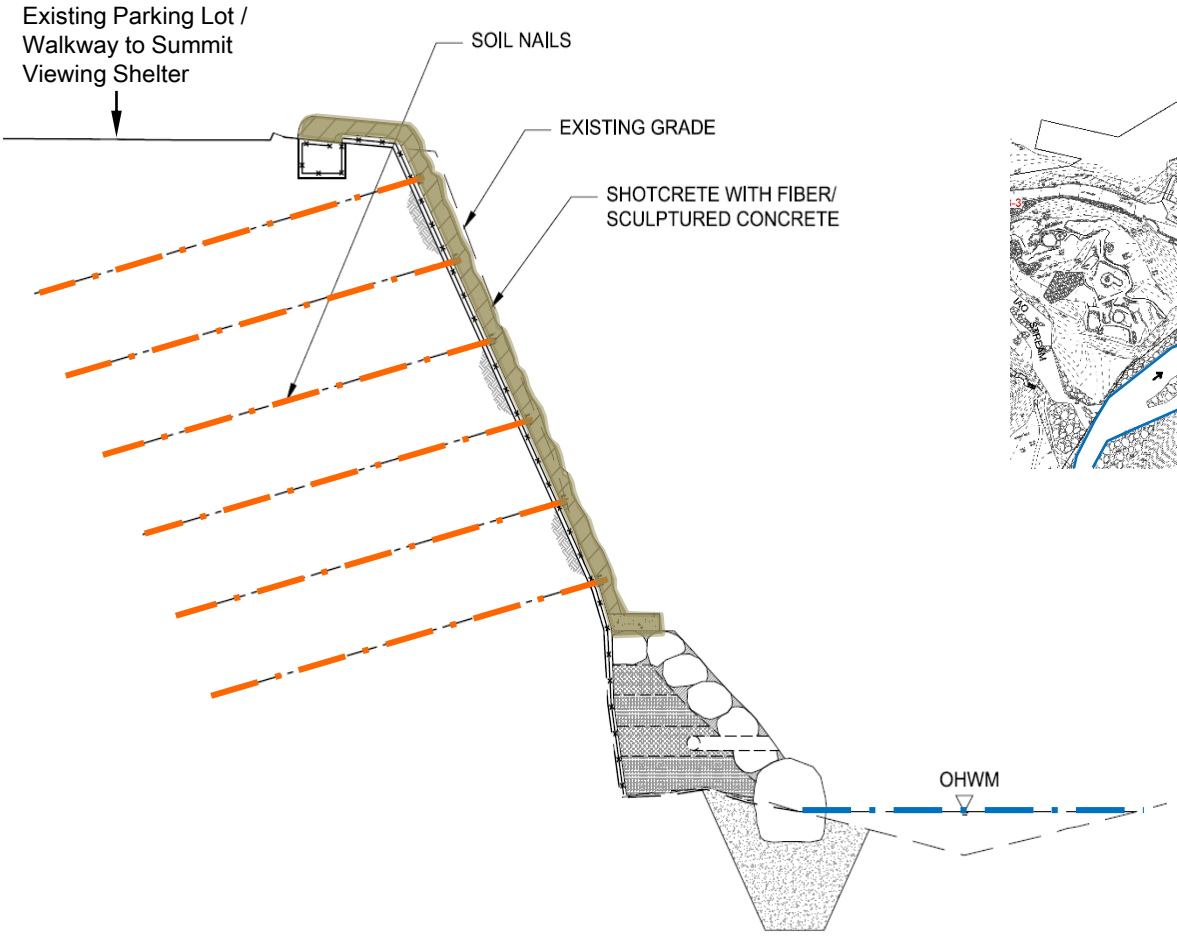
Apply shotcrete and soil nails to eroding slope

Protect slope toe with grouted boulder revetment

DESIGN CONSIDERATIONS

- Adding slope toe protection would narrow the stream channel and increase stream velocity. Alternatives to protect the slope while maintaining stream capacity are being considered.
- Costs associated with design alternatives may require additional funding.

LONG-TERM SLOPE STABILIZATION

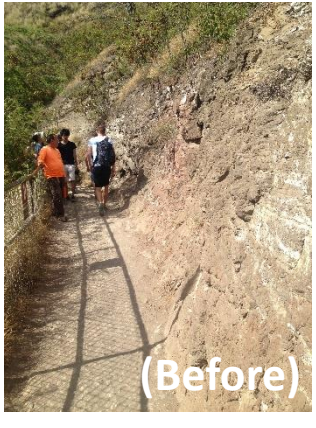


- **Series of 30-ft reinforcing bars (soil nails) with sculptured shotcrete**
- **Park can remain open during construction**
- **Approx. $3.5 million and approx. 14 months to construct, subject to funding**

LONG-TERM SLOPE STABILIZATION

Existing Shotcrete

Proposed Shotcrete Example (Diamond Head Monument Rockfall Mitigation)



BREAKOUT SESSION

Environmental Permitting	Earl Matsukawa (WOC)
Archaeological & Cultural Resources	Holly McEldowney (State Parks)
Infrastructure Improvements	John Datiles (DLNR - Engineering) Glenn Kuwaye (WOC)
Slope Repairs	Brian Chang (DLNR - Engineering)
Long-Range Planning for ʻĪao Valley	Chris Hart & Partners, Inc.
DLNR – Division of State Parks	Russell Kumabe (State Parks) Larry Pacheco (State Parks)

CLOSING REMARKS

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Please visit the DLNR website for other State Parks information at http://dlnr.hawaii.gov/