

TWO (2) ROCK DOWELS, 8' MIN. EMBEDMENT AT LOCATIONS DETERMINED BY THE ENGINEER.

SITE 16 - SCALING, SHOTCRETE, ROCK DOWELS



LIMITS OF SHOTCRETE
APPROX. VOLUME = 83.0' x 16.0' (AVG) x 0.67'
FULL SLOPE SHOTCRETE
SEE DETAIL 2, SHEET C-7

LIMITS OF SCALING
APPROX. AREA = 375.0' (L) x 20.0' (H)
COORDINATE EXTENT WITH THE ENGINEER

SITE 17 - SCALING AND SHOTCRETE



LIMITS OF SCALING AND SHOTCRETE
APPROX. VOLUME = 24.0' x 8.0' x 1.0'
FULL SLOPE SHOTCRETE
SEE DETAIL 2, SHEET C-7

MITIGATION SCHEDULE

SITE #	MITIGATION METHOD	DESCRIPTION
16	SCALING	INCLUDED IN 375.0' x 20.0' AREA
	SHOTCRETE	APPROX. VOLUME = 83.0' x 16.0' x 0.67' FULL SLOPE SHOTCRETE. SEE DET 2/C-7
	ROCK DOWEL	2 DOWELS, 8' MIN. EMBEDMENT
17	SCALING	APPROX. AREA = 24.0' x 8.0'
	SHOTCRETE	APPROX. VOLUME = 24.0' x 8.0' x 1.0' FULL SLOPE SHOTCRETE. SEE DET 2/C-7
18	SHOTCRETE	APPROX. VOLUME = 13.0' x 2.0' x 3.0' 4 ANCHORS, 5' EMBEDMENT. SEE DET 3/C-7, SIM
	SHOTCRETE	APPROX. VOLUME = 6.0' x 2.0' x 1.0' 3 ANCHORS, 5' EMBEDMENT. SEE DET 3/C-7, SIM
19	SCALING	APPROX. AREA = 35.0' x 7.0' (AVG)
	SHOTCRETE	REMOVE BLOCK = 4.0' x 2.5' x 1.0' APPROX. VOLUME = 35.0' x 5.0' x 2.0' 18 ANCHORS, 5' EMBEDMENT. SEE DET 3/C-7, SIM
20	SHOTCRETE (2 SITES, EACH)	APPROX. VOLUME = 10.0' x 2.0' x 2.0' 5 ANCHORS, 5' EMBEDMENT. SEE DET 3/C-7, SIM

SEE DWG C-4
MATCHLINE

TO TRAIL BOTTOM

APPROX. TRAIL LIMITS

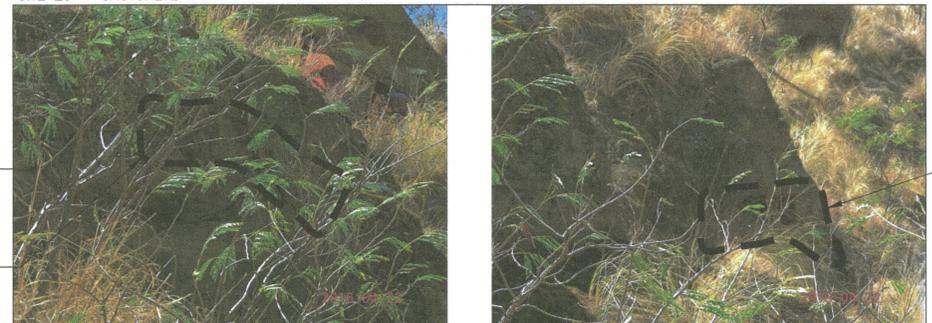
TO TRAIL TOP

LEGEND

- TRAIL CENTERLINE
- TRAIL LIMITS
- , ▨ MITIGATION POINT/AREA

LIMITS OF SHOTCRETE
APPROX. VOLUME = 10.0' x 2.0' x 2.0'
5 ANCHORS, 5' EMBEDMENT
SEE DETAIL 3, SHEET C-7

SITE 20 - SHOTCRETE



LIMITS OF SHOTCRETE
APPROX. VOLUME = 10.0' x 2.0' x 2.0'
5 ANCHORS, 5' EMBEDMENT
SEE DETAIL 3, SHEET C-7

SITE 19 - SCALING AND SHOTCRETE



LIMITS OF SCALING AND SHOTCRETE
APPROX. VOLUME = 35.0' x 5.0' x 2.0'
18 ANCHORS, 5' EMBEDMENT
SEE DETAIL 3, SHEET C-7

SCALE AND REMOVE BLOCK
APPROX. SIZE = 4.0' x 2.5' x 1.0'

SHOTCRETE DAMAGED WALL
APPROX. VOLUME = 13.0' x 2.0' x 3.0'
4 ANCHORS, 5' EMBEDMENT
SEE DETAIL 3, SHT C-7

SITE 18 - SHOTCRETE

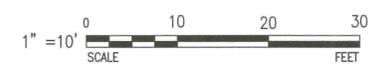


SHOTCRETE DAMAGED WALL
APPROX. VOLUME = 6.0' x 2.0' x 1.0'
3 ANCHORS, 5' EMBEDMENT
SEE DETAIL 3, SHT C-7

NOTE:

- FOR ROCK DOWEL, ANCHORS, AND SHOTCRETE DETAILS SEE SHEET C-7.
- SITE LOCATIONS AND DIMENSIONS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL SITE LOCATIONS AND DIMENSIONS WITH THE ENGINEER IN THE FIELD PRIOR TO STARTING WORK.
- PHOTOS ARE PROVIDED TO SHOW THE GENERAL AREA DESIGNATED FOR MITIGATION AND MAY NOT ACCURATELY REFLECT THE TOTAL AREA THAT REQUIRES MITIGATION. CONTRACTOR SHALL CONFIRM EACH LOCATION AND COORDINATE AND MARK THE LIMITS OF EACH MITIGATION METHOD WITH THE ENGINEER IN THE FIELD PRIOR TO STARTING WORK.
- SCALING AND/OR SHOTCRETE LIMITS PROVIDED ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE AND MARK THE LIMITS WITH THE ENGINEER IN THE FIELD PRIOR TO STARTING WORK.
- SCALING SHALL INCLUDE SAFE REMOVAL OF ALL ROCKS THAT ARE LOOSE, OVERHANGING, OR CREATING A SAFETY HAZARD TO THE PUBLIC, AS DETERMINED BY THE ENGINEER IN THE FIELD. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY MEASURES FOR SAFE SCALING AND REMOVAL OF THE ROCKS AT NO ADDITIONAL COST TO THE STATE.
- CONTRACTOR SHALL BE PREPARED TO PERFORM ADDITIONAL ROCK SLOPE SCALING ALONG THE ENTIRE TRAIL AT LOCATIONS NOT IDENTIFIED ON THE PLANS, BUT DEEMED HAZARDOUS BY THE ENGINEER IN THE FIELD. THIS WORK SHALL BE INCLUDED IN THE PAYMENT FOR ADDITIONAL ROCK SLOPE SCALING AS DESCRIBED IN THE PROPOSAL AND SPECIFICATIONS SECTION 02232 - ROCK SLOPE SCALING.
- CONTRACTOR'S EQUIPMENT AND WORK DEBRIS INCLUDING SCALED ROCKS SHALL BE REMOVED OFF THE TRAIL AT THE END OF EACH DAY.
- ANY DAMAGE TO EXIST FACILITIES SHALL BE REPAIRED TO ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.

SITE PLAN - TRAIL - 3
SCALE: 1" = 10'



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

**DIAMOND HEAD STATE MONUMENT
ROCKFALL MITIGATION, PHASE 2 (FY2015)**
HONOLULU, OAHU, HAWAII

SITE PLAN - TRAIL - 3

DESIGNED: ARN/YP	SUBMITTED: <i>[Signature]</i>
DRAWN: RTN	DATE: MAY 2016
CHECKED: ARN	SCALE: AS NOTED
APPROVED: <i>[Signature]</i>	DATE: MAY - 9 2016

DRAWING NO. **C-5**

