FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MAUI	HAW.	ER-20(006)	2018	14	16

Notes:

1. All-thread rebar shall conform to ASTM A615, Grade 75.
2. Pipe casing shall conform to api-n80 pipe. the contractor may need to use a casing with a larger diameter and wall thickness equal to or greater than 0.5".
3. The entire length of the pipe casing shall be Hot Dip Galvanized per ASTM A123.
4. Grout for micropiles shall be a neat cement, type I or II and shall have a minimum 28-day compressive strength of 4,000 psi. no testing or any other type of loading shall be applied to the micropiles until the grout has reached a minimum compressive strength of 4,000 psi.
5. Before the installation of the production micropiles, one (1) sacrificial pre-production micropile shall be installed using the equipment and methods proposed by the contractor. the location of the pre-production micropile shall be approved by the geotechnical engineer. the contractor shall load test the pre-production pile in compression to at least 125 percent of the design load for extreme event limit states twice its allowable design load in accordance with ASTM D1143-81.

Proof Tests

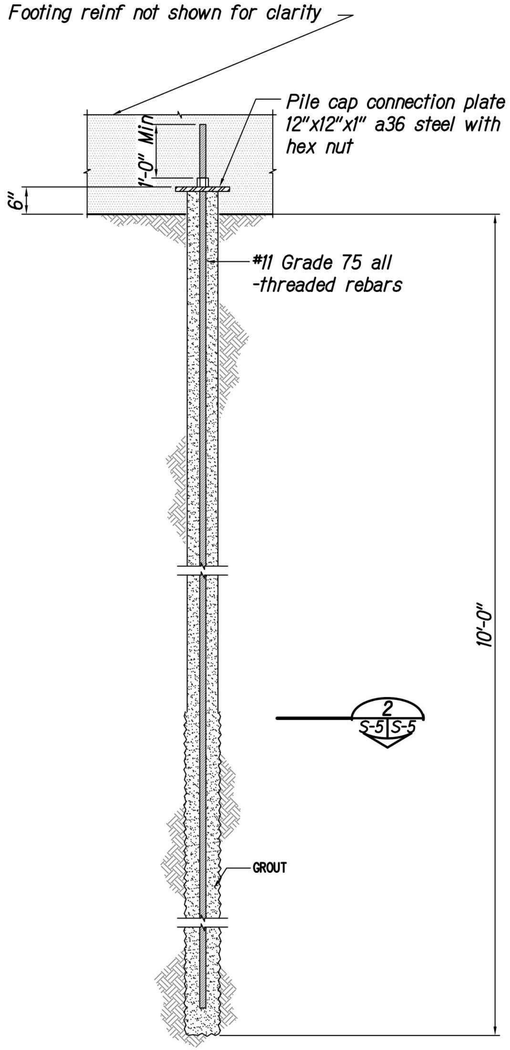
1. Proof test a minimum 10 percent of the total number of production micropiles (minimum 2 micropiles) in addition to the pre-production micropiles. production micropiles to be proof tested will be selected by the geotechnical engineer after the installation of all production micropiles.
2. The contractor shall furnish all materials, equipment and tools necessary to perform the proof tests. the geotechnical engineer retained by the contractor will be present only to observe the performance of the proof tests by the contractor.
3. Perform the proof tests by incrementally loading the micropile to be tested in accordance with the following loading schedule:

proof test schedule

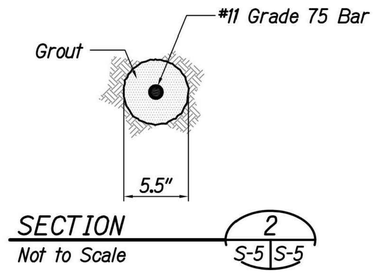
0.05p
0.25p
0.50p
0.75p
1.00p
1.25p
1.50p

where p = allowable micropile capacity of 25 kips in compression for strength limit states.

4. Hard boulders and hard basalt rock will be encountered near or at the mircopile locations. therefore appropriate tools for pre-drilling through the hard boulders and hard basalt rock shall be required.



TYPICAL MICROPILE DETAIL — 1 / S-5 S-5
Not to Scale



SECTION — 2 / S-5 S-5
Not to Scale

LEGEND FOR AS-BUILT POSTINGS

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~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Micropile Detail

EMERGENCY REPAIRS AT PIINAAU BRIDGE
HANA HIGHWAY, NEAR MILEPOST 17.0
PROJECT NO. ER-20(006), UNIT 1

Scale: As Noted Date: September 2018

SHEET No. S-5 OF 16 SHEETS

ORIGINAL PLAN | NOTE BOOK No. | SURVEY PLOTTED BY DATE | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY

"AS-BUILT"