



Hirata & Associates

Geotechnical
Engineering

Hirata & Associates, Inc.

99-1433 Koaha Pl
Aiea, HI 96701
tel 808.486.0787
fax 808.486.0870

September 13, 2023
W.O. 23-6924

Mr. Kyle Shinyama
Austin, Tsutsumi & Associates, Inc.
501 Sumner Street, Suite 521
Honolulu, Hawaii 96817

Dear Mr. Shinyama:

Our report, "Geotechnical Investigation, Honolua Stream Bridge, Design Change from FRP Deck to Concrete Deck, Honolua, Maui, Hawaii," dated September 13, 2023, our Work Order 23-6924 is enclosed. This investigation was conducted in general conformance with the scope of services presented in our revised proposal dated April 14, 2023.

Subsurface soil condition behind the existing bridge abutments is expected to consist of dense gravel and cobbles with sand, clay, and occasional boulders, overlain by abutment backfills consisting of medium stiff to stiff clayey silt. Conventional shallow foundations may be used to support the new concrete bridge deck. Since the footings will be located behind the existing CRM abutments, footing excavations should be overexcavated down to the bottom of the existing abutment footing elevation and replaced with CLSM (controlled low-strength material). The intent of this precautionary measure is to reduce the potential of imposing additional surcharge stresses on the existing CRM abutments which will remain in place.

We appreciate this opportunity to be of service. Should you have any questions concerning this report, please feel free to call on us.

Very truly yours,

HIRATA & ASSOCIATES, INC.



Jennifer H. Yamaguchi President

JHY:CCT