



Infrastructure Innovators Since 1994

QuakeWrap, Inc.

6840 S. Tucson Blvd., Tucson, AZ 85756

(520) 791-7000, FAX (520) 791-0600

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www.quakewrap.com

PROJECT PROFILE

Tongue Point Sheet Pile Repair with SPiRe® FRP System

System: SPiRe® by QuakeWrap sheet pile repair FRP panel system

Client: U.S. Coast Guard

Owner: Tongue Point Facility

Location: Astoria, Oregon

Project Synopsis:

- Installed Surface Area – 420 SF
- Panel Height – 10 feet average manufactured height. Shop cut as directed by contractor for varying site conditions.
- Bulkhead Length – Approx. 42 feet
- Profile – Flat, ¼-inch thick fiber reinforced polymer (FRP) panels
- Fill – Underwater epoxy grout reinforced with glass FRP rebar
- Fabrication – Panels manufactured in Tucson, AZ facility and shipped to Astoria, OR
- Fabrication Time: Ask your QuakeWrap technical representative
- Installation Time: Ask your QuakeWrap technical representative



The SPiRe® FRP panel system by QuakeWrap was selected for this project as a long-term repair solution to prevent the corrosion of a commercial-level steel sheet pile bulkhead. This system was compared to traditional replacement systems and was selected based upon overall project price, ease of installation, QuakeWrap's engineering department support using a professional engineered sealed design, and QuakeWrap's ability for customization of panels to meet client requirements.

The SPiRe® system includes the following components:

- Engineered calculations, drawings and specifications
- Installation, operations and maintenance manuals
- Custom length SPiRe® panels coordinated with the contractor
- Stainless steel anchors, washers, and nuts with loose spacers for field installation
- QuakeBond epoxy for sealed panel overlaps
- QuakeBond epoxy grout for annular space.



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Project Photos:



U.S. Coast Guard facility at Tongue Point, Astoria, OR, before and during repair of steel sheet pile bulkhead. Photos courtesy QuakeWrap Inc.



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Repairs to steel sheet pile bulkhead using the SPiRe® by QuakeWrap system are at near completion, left, and completion, bottom.



A black epoxy is applied upon completion of repair as requested by customer.