Ketchikan's waterfront has undergone many changes due to the increase in numbers and sizes of visiting ships.

PND has worked with the City of Ketchikan since the 1980s in cruise ship expansion. The following projects explain recent developments:

- In 1995, PND aided the City in design for cruise ship berths I and II (top photo).
- In 2005, PND provided planning and design for a cruise ship berth III (middle photo).
- In 2006, PND provided planning and design for a private/public fourth berth that was completed in 2008.

Upland planning elements for Ketchikan’s downtown include a waterfront pedestrian promenade and additional sidewalks, improved traffic flow into the downtown area, tour bus parking, and a wayfinding signage program that displays local artwork. Enhancement of other non-cruise-related industries were also performed.

Masterplanning for these facilities included coordination with various stakeholders such as local governments, businesses, partners, and residents. Revenue bonds approved by city elections as well as grants provided funding for many of the projects.
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PND has worked with White Pass & Yukon Route (WP&YR) since 1986 on rail and port projects related to the cruise ship industry in Skagway. The railroad extending from the town into the Yukon Territories offers cruise passengers a unique shore excursion. Improvement projects include port expansion to today’s four major berths from the original timber docks and changing railroad freight to passenger operations.

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FLOATING DOCKS

Floating docks offer a consistent level for cruise ship passengers as they embark and disembark ships, providing added safety. The floating dock’s separation from the shoreline also provides increased marine security.

AJ DOCK

Juneau’s AJ Dock includes a vehicular and pedestrian transfer bridge, a floating dock consisting of two retrofitted barges moored with steel pile frames and dolphins and a series of steel pile mooring and breasting dolphins with fender systems.

KETCHIKAN BERTH III (large and top right photos)

Ketchikan’s new Berth III floating dock is a new fabricated steel barge that was constructed in water depths that exceed 140 feet. A fixed pier would have been more costly to construct.

WHITTIER DOCK (small photo)

This cruise ship dock in Whittier, Alaska included a concrete bridge pontoon and a retrofitted steel barge. The entire facility includes a terminal building, bus staging, and pedestrian covered floats.
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PND’s unique design for passenger boarding systems incorporates several key features. The system accommodates cruise ships in areas with large tidal fluctuations and provides access for vessel door heights from five to thirty-five feet above fixed-level docks. Major components of the system are prefabricated and fit-up prior to delivery to ensure minimal on-site assembly.

SEATTLE TERMINAL 30 CRUISE FACILITY

A passenger boarding system was installed at the terminal for the Port of Seattle that would allow the system to be relocated if it became necessary. The system is now planned to be relocated to Seattle’s Terminals 90/91.

LONG BEACH CRUISE TERMINAL AT THE QUEEN MARY

The Carnival Corporation’s cruise ship boarding system in Long Beach, California provides fully covered walkways for passenger loading/unloading. The ramp occupies a minimal footprint and automatically adjusts vertically for changing tide levels, offering full ADA compliance with five percent maximum grades.
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DEEP WATER APPLICATIONS

DOLPHINS & DOCKS IN DEEP WATER

Knowledge of available deep water construction methods allows PND to develop systems with input from contractors.

SKAGWAY

Large diameter SPIN FIN® Piles (pictured below) have been utilized in a variety of locations including Skagway Ore Dock. Whose southern dolphin is located in a water depth of 110 feet. These piles increase loading capacity and retain their strength in deep water locations.

KETCHIKAN

Construction methods include the drilling equipment (left picture) that was used to drill 24 inch holes in over 140 feet water depths for 18 inch diameter pin piles which anchor 48 inch steel dolphin piles in Ketchikan, Alaska.

UTILITIES & COLD IRONING

SOUTH FRANKLIN DOCK

Juneau’s South Franklin Dock included a structural steel gantry system with trolleys to festoon electrical cables and steam hoses that connect to the ship’s piping and conduit supports from shore to the gantry system, underground piping and conduit, and a boiler building. The gantry allows the ship to move vertically with tide changes (as large as 25 feet) while the electrical cables and steam hoses can remain connected with the ship and to the fixed dock structure.
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