

# Taholah Education Center

## Project Profile

**Location:** Taholah, Washington  
**Owner:** Quinalt Indian Government  
**Use:** Educational  
**Roof Area:** 84,000 square feet  
**Project Completed:** 2004  
**Manufacturer:** Sarnafil  
**Membrane:** G410 Feltback 60 mil Reinforced  
**System:** Fully Adhered



## Project Background

Over 15 years ago, in an effort to stop leaks in the Taholah Education Center, an aluminum panel roof was installed over the sloped roof sections and a traditional built-up roof was installed on the flat and low sloped areas and interior gutters. In the first year after installing the new roof the building suffered over 30 leaks.

## Challenges

### Weather

The school, located next to the ocean and near a rainforest in the extreme northwest of the United States, receives 10 to 15 feet of rain annually, making it one of the wettest places in the country.

### Building Design

The building was originally designed to house an elementary school. Multiple additions to the school resulted in an assorted group of buildings with different roof systems, joined together as creatively as possible.

### Walls of the upper roof sections

Cedar shingles covered the walls of the upper roof sections, but with the different roof systems, skylights and slopes, the area was not watertight and leaked consistently.

## Quinalt and Navajo join forces in roofing, socializing and learning more about their ancestors

The Taholah Education Center re-roofing project joined two tribes of Native Americans together, who discovered more about their ancestors and their customs.

"I was excited to get to know other native people," said Ray Benallie, foreman of the Clark's Quality Roofing (CQR) Navajo crew based in Salt Lake City, Utah.

The Navajo crew was assigned to the Taholah Education Center and would work with several Quinalt Indians hired for the project.

"At first they (the Quinalts) were hesitant to befriend us," said Benallie.

However, after they got to know the CQR Navajo crew they started inviting them to activities. They took the crew to a museum where they learned more about the Quinalt Indians, Benallie said. They also played basketball, fished and attended a tribal wedding dinner.

"It was different, but it was good to get to know another tribes' customs," Benallie said. "It's sad to see many of the Navajo traditions lost, but a lot of the Quinalt traditions have not been lost. Maybe because they are isolated, they have kept their traditions longer. It felt like going back in time... I experienced feelings for my ancestors and thought about what it was like for them centuries ago."



Clark's Quality Roofing

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## Dealing with the extreme weather

### Problem

The proximity to the ocean subjected the roof to horizontal torrential rain and wind. The storms descended without visual warning and the frequency of the rain made it impractical to wait for dry weather to work.

### Solution

The crews worked under tarps during mild rain. Crew leaders monitored the approaching storms using the internet and a laptop computer. They tuned into the National Oceanographers system that uses sonar buoys to warn of approaching storms.



## Unifying the roofs

### Problem

Each roof section had a different type of roof system and architectural design, including flat, low and steep sloped roofs, interior gutters, valleys, interior and exterior edges, skylights and windows.



### Solution

CQR joined all the different rooftop designs and sections. They replaced the metal roof, the built-up roof, cedar shingles and gutters with a PVC membrane. The metal flashings were replaced with stainless steel laminated with PVC membrane. This created a monolithic, long term maintenance free roof that will handle the weather and the corrosive salt air.

## Protecting the walls of the upper roof sections

### Problem

Specifications called for the cedar shingles to be removed and replaced. However, cedar shingles weren't the best choice to keep the complex area watertight.



### Solution

CQR suggested installing cedar shingles only on the portions of the wall visible from the ground, then installing PVC membrane on the rest of the wall and interior gutters. This formed a seamless system in these areas to stop the perpetual leaking problems.



## Project Success

*"The roof, now complete, looks beautiful, the dark gray material against the perpetual light gray sky of Taholah, is quite a sight!"* —Alvin Josephy the project manager from KMB Design Group