

TRAILHEADS



Phase 3C - Visitors Contact Station - Parks

Chapter 3

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Hood River-to-Mosier – Phase 3C

Hood River-to-Mosier – Visitor Contact Station

Hood River-to-Mosier – Parks



*Sen. Mark O. Hatfield East Trailhead,
Mosier, Ore.*

During the early discussion stages of developing the Hood River-to-Mosier sections of the Historic Columbia River Highway State Trail, it was realized that when the State Trail opened, motorists who traveled to the site would need somewhere to park. It was decided that at both the Mosier end and the Hood River end of the trail, a trailhead would need to be constructed. It was thought that the majority of visitors would come from the Hood River end. Therefore, the trailhead at the Mosier end would simply be a parking lot and vault toilets. The trailhead at the Hood River end would need to be more elaborate to accommodate a larger number of people.

The construction of the trailheads started on the Mosier end. Built on land purchased from the Gove family in 1995, it was added to the Phase 1 contract as a change order. NB Hatch graded the site and constructed an asphalt parking area. Oregon Parks and Recreation Department later installed curbing and two vault toilets.



Aerial photo of the Koberg Quarry (on left) after the construction of the parking area and the Hanel Quarry (on right) before construction.

The construction of the trailhead on the Hood River end is a more complex story. The first challenge that had to be overcome was that Oregon did not own any additional property outside of the Historic Columbia River Highway right of way near Hood River. Two miles east of Hwy. 35 on the historic highway, some property was identified as a possible trailhead site. In 1986, as part of the creation of the Columbia River Gorge National Scenic Area, boundary lines were drawn to separate urban and rural areas. When the eastern urban boundary for Hood River was drawn, a piece of property being used as a rock quarry fell outside the urban area. Since the land could no longer be used as a quarry and it was on the Historic Highway just east of Hood River, it was identified as a possible site for the trailhead. After a long and grueling process, a deal was worked out between the U.S. Forest Service and the owner of the property, Jack Bryant. For a cost of \$1.4 million, approximately 60 acres were purchased using Federal Land and Water Conservation Funds that were directed to be spent on this purchase in a section of an appropriations bill sponsored

by Oregon Sen. Mark O. Hatfield. The land spread across three different quarries. From west to east were the George Quarry, Koberg Quarry, and Hanel Quarry. Since Jack Bryant still owns property to the east and northwest of this area, he has been granted easements through the property to access his land.



The Koberg Quarry, after the construction of the parking area, in relation to the Hood River Bridge.

Hood River-to-Mosier – Phase 3C

The development and construction of the quarries into a trailhead with a visitor station was particularly challenging. Due to the size and complexity of the project, it could not be designed and administered by the Oregon Parks and Recreation Department, whose engineering staff was downsized by budget cuts during the 1980s and '90s. Since the federal funds to construct the new park required administration by a government agency, ODOT seemed a logical choice. However, ODOT had its own budget and staffing issues. Since ODOT could not commit a full design team, nor did it have designers who specialized in trailhead and building construction, it was decided that a private-sector design team would be hired. It became the responsibility of Jeanette Kloos of ODOT to lead the development of the projects.

A design team led by Landscape Architect Bibi Gaston was hired. Her team included three other companies. Owned by Brian Bains, Quatrefoil provided the design for all of the native planting and other miscellaneous landscape items on the project. KPFF of Portland, Ore. was hired to provide the design for all of the site utilities and civil engineering. SRG of Portland, Ore. was hired as the architectural firm for the Visitor Station, and WDY of Portland, Ore. was hired to provide the structural engineering for the Visitor Station.

There were many lessons learned from the hiring of private consultants during the Hood River-to-Mosier projects. Because construction funding needed to be obligated within the same federal fiscal year that it was received, design time was very short. This design issue brought many challenges to the construction



In April of 1998, JAL Construction started work in the Koberg Quarry to build the West Trailhead.



Looking southeast into Koberg Quarry on Feb. 23, 1998, the future site of the trailhead and Visitor Station.

phase of the project.

It was originally planned to perform the reclamation work of the three quarries and the construction of the Visitor Station in the same contract. However, after the design was completed, it was obvious that there was not enough money to build everything. The project was broken into three contracts. The first, (Phase 3C) was to reclaim the George Quarry, grade and landscape the Koberg Quarry, and install the utilities and parking



JAL's work included removal of the scale shack (pictured here), storage shed, and caretaker's trailer.

lot in the Koberg Quarry. The second contract was to build the visitor contact station in the Koberg Quarry. The third project was to reclaim the Hanel Quarry and build overflow parking and the caretaker pad. When all of the trailheads were completed, they became the responsibility of the Oregon Parks and Recreation Department to maintain and operate.

In the spring of 1998, JAL Construction of Bend, Ore. was hired to build the Hood River-to-Mosier Phase 3C project at a total cost of \$1.2 million. For this contract, the utilities were brought onto the site, grading smoothed the Koberg and George Quarry sites, an asphalt parking lot was built, a sanitary sewer system was partially installed, and native plants were installed around the site. ODOT's Troutdale Engineering Crew administered the contract.

Soon after construction started, there was a major lesson learned. The Historic Columbia River Highway right-of-way cut through a 40-acre parcel of property on the south side the highway across the street from the Koberg and George quarries, leaving a small .13 acre chunk of the property on the north side of the highway. During the development phase of the project, an acquisition of this parcel was being negotiated between Howard Houston, who



By mid-May of 1998, JAL had most of the utilities installed and had constructed the talus slopes and contoured mounds.

owned the property, and OPRD. The deal was being set up so the 40 acres could be donated to Oregon and, in exchange, the landowner would receive a tax credit for his donation. The designers were informed that this deal was going to happen, so when they designed the entrance to the West Trailhead, they located in the best spot, which was right across the .13 acre owned by Houston. The contract work started, and unknowingly, the contractor and ODOT administration staff proceeded with building the entrance to the site and installing water, phone, and electric utilities. During construction, the ODOT administration staff was notified that the proposed acquisition had fallen through. The owner withdrew his offer, and the entrance to the Trailhead had to be moved. At a cost of \$43,000 JAL had to dig up utilities that were already installed and move them to accommodate an entrance further to the east that pushed the future location of the Visitor Station eastward as well.

The second major problem happened during the construction of the sewer system. According to the specifications, the contractor was supposed to contact the County Sanitary Sewer Inspector when the system had been

installed, but before it was backfilled, for an inspection. When contacted, the County official said that there had not been a permit issued on that project and that the designer had never sent him a set of plans to review after an on-site meeting. As it turned out, KPFF had met with the County official, but did not follow through with the permit process. So, with the system partially installed, the process was started to apply for a permit. After



Drain field for sewer system ready for inspection without a permit.



Looking west over the Mark O. Hatfield West Trailhead prior to the construction of the Visitor Contact Station.

lengthy delays and meetings, a design and system was approved, but required many additions to what had already been built. In an effort of cooperation, DEQ and the County Sanitarian approved what work had been installed, but the system had to be completed as part of the next contract. The “lesson learned” here was that, even when it is a consultant designer’s responsibility to perform some work, they need to be aggressively monitored to verify the work is being performed.

Through the rest of the Phase 3C contract, JAL and ODOT struggled to complete work on a contract that did not have the design fully completed. Luckily, JAL and ODOT worked well together and negotiated \$25,000 in change orders to overcome construction issues.

An important element of the Phase 3C Project that was considered a success was the native

plant landscaping. Before the project started, ODOT entered into a contract with Hood River County to spray herbicides on the



Sterile wheat grass was applied to prevent erosion and add nutrients to the soil, without germination the following year.



Native plants, grown within 1000 foot elevation of the project site's elevation are set in place.

“weeds” around the site. Sweet clover was one of the most aggressive weeds that were brought under control. This allowed the landscaping that was planted in the contract to not have to “compete” with more aggressive species. This contract with Hood River County is still in effect as of September of 2000 to try to keep the weeds under control. The specifications for the plants for the contract were very detailed. All of the plant material had to be grown and purchased from sources within 1000 foot elevation of the project site's elevation and within a 50-mile radius of the site. To some people, this was a goofy specification and for some contractors who didn't know that these custom-grown plants are more expensive, it caused a lot of grief. However, to those with experience in native plants in the Gorge, it is known to be a vital specification. The native plants around Hood River grow in a very unique environment. The area is a transition zone, from the moist environment of the Willamette Valley west of



Plantings await to be set within the ground.

the Cascades, to the arid zone of the Columbia Basin east of the Cascades. Plants that are started in a cool, moist microclimate for the first four years of their life, then transplanted into a gravel soil where the conditions are much drier and hotter, might live if watered well, but their growth will be permanently stunted. Most of the plants for the West Trailhead were grown at Milestone Nursery in Lyle, Washington. Mo Miles of Milestone Nursery has become a leader in native plant propagation in the Gorge, while her husband Larry Miles has become a leader in native seed



Landscape Architect Brian Bainson works with A+G Landscaping during the planting of the West Trailhead.



Irrigation is necessary for the plantings for two years after installation.

propagation in the Gorge.

During the installation of the plants on the project, a water-absorbing polymer was added into the planting hole. When it rains, this rock- salt sized crystal will absorb moisture, swelling in size so the roots of the plant can utilize the water at a later date. The “lesson learned” came after the planting a few weeks later, during the first rainstorm. The contractor’s crew who planted everything had not used the water absorbing crystal before. Instead of 1 teaspoon of crystals, they casually threw a handful into the bottom of each hole. During the rainstorm, the abundance of crystals swelled and shoved the plants out of

the holes. Many of the plants had to be replanted over the next couple months.

Another lesson learned, related to the landscaping at the West Trailhead, concerns the amount of irrigation needed after the plants are installed. Even though plants might be native to the area, they still need additional water the first two years of their life. The trick is to not over-water the planted site. While you might think you’re helping the new plant, you could also be triggering the growth of unwanted weeds.



The plants used in the landscaping were carefully chosen to exhibit a wide variety of sizes, colors and textures.



The trailhead project includes a combination of landscaping elements such as rocks, paving stones, plants and ground-surface covers which greatly enhance the visual experience of visitors to the site.



Close-up view of a planting in full-bloom.

Visitor Contact Station

In August of 1999, Michael Watt Construction of Portland, Ore. was hired by the Oregon Department of Transportation to construct the Visitor Contract Station. At a total cost of \$644,000, Watt built the 1,100 square foot building (providing restrooms, an interpretive display and a gift shop for visitors), completed the septic system, installed some additional drainage, and finished the landscaping around the building.



Construction of the Visitor Contact Station started in August of 1999.

For the Visitor Contact Station project, there were advantages and disadvantages to breaking it out separately as a result of funding. With just putting out a contract for a “building”, ODOT ended up with a “building contractor.” Michael Watt had professional carpenters who genuinely cared about their craftsmanship. Led by Scott Bennett and carpenters like Bill Barlow, the quality of the Visitor Station is of a very high caliber. The problem with having a “building contractor” was that Watt was not familiar with ODOT Standard Specifications. So when it came time to have the contractor’s quality control person perform material testing Watt did not include it in their bid and was not prepared to do the work. In the long run, the advantages outweighed the disadvantages and OPRD now owns a quality building. Shortly after construction started in August of 1999, there were “lessons learned”. It became apparent that building this project in separate phases was going to cause some unforeseen problems. During Phase 3C, items of work such as installing utilities to certain locations were surveyed by a private contractor and built to their survey stakes. When it came time during the construction of the Visitor Contact Station to match in to some of the previous items of work, it became obvious that mistakes had been made earlier. Items like

asphalt grades and utility lines were not where they were supposed to be. Additional payments had to be made to Watt to deal with these issues.

There are many unique elements that are worth mentioning in the Visitor Contact Station. The concrete floor of the building contains heating cables. NEVER drill into the floor! The cables could be damaged and the heating system would no longer work. The concrete floor was also topped with a coloring agent. It was a shake-on color hardener made



Shown here before the concrete pour are the radiant heat cables that are incorporated into the concrete floor.



During the pouring of the concrete slab, the electrician for the project (Chris Jones of Coburn Electric in Hood River, Ore.) was on site to make sure none of the heat cables that were incorporated in the slab were damaged.

by Schofield that was applied during the finishing of the concrete. Long after the concrete cured, the surface was lightly sandblasted to roughen the surface for safety and appearance.



This recirculating gravel filter is part of the septic system.



To make the septic system blend into the surrounding area, the drain gravel on top of the filter was sifted from surrounding material. After completion, a wire cage, painted black, was built by OPRD to cover the control panel on the left.

The septic system, earlier started on the Phase 3C project, was completed in this project. The system is far too complicated to explain here in detail. Basically, two recirculating tanks and a gravel filter were added along with an extensive operating system. The system is so complex that OPRD has had to hire a consultant to monitor and run the system.

Another particularly challenging part of the project was to construct the building and surrounding items so they met Scenic Area permit requirements and visually blended into the surrounding environment. Extensive time and effort was put into items such as the color of the building and the landscape plan to make sure the building and surrounding items were “visually subordinate.”

Most of the construction of the Visitor Contact Station went very well. The architect for the building (Tim Richard – SRG Partnership), the structural engineer (Cole Prestus WDY), and Scott Bennett of Watt Construction communicated very well and resolved issues quickly. The biggest problem



Scott Bennett of Watt Construction supervises the construction of the Visitor Contact Station.



Cole Prestus (on right) examines the project plans with Scott Bennett.



Tim Richard of SRG Partnership on site to clarify project plans.



To help connect the grout and stone to the wall, OMIE used clips attached with a Hilti Gun.

that did cause a delay was an issue related to the size of the windows. When the walls were being built, it became apparent that the windows specified would not fit. After trying a few different things, custom windows had to be made for the job.

on the west wall inside and outside of the building. The stone used was a basalt from Camas, Washington and is commonly known as Camas Gray Stone. Don Olmstead's crew shot on clips to the wall that Watt built with a Hilti Gun and then bent the clips into location to help adhere the grout and stone to the wall.



Don Olmstead (in middle) and Randy Olmstead (on left) show ODOT inspector Kevin Bracy some of the masonry work on the front wall of the building. OMIE built a large tent over the wall so the work area could be heated during the winter.

The west wall of the building was completely built by Watt as a cast-in-place concrete wall. The overlook wall at the west side of the Trailhead is different. Watt poured the footing and had rebar extending up out of it. OMIE

Omie Masonry, owned and operated by Don Olmstead, of Hood River, Ore. constructed extensive masonry work on the project. They placed the pavers around the building, and set all of the stone on the overlook wall, around the pavers and floor inside the building, and



OMIE building the overlook wall.



Construction of the Visitor Contact Station in March of 1999 shows work in full force.

then built the wall using concrete blocks and incorporated the clips into the wall. After the block was completed, they grouted on the stone. The concrete wall was more expensive, but was necessary since it was part of the building. The concrete block construction was cheaper, but still provided a high quality wall.

During the construction of the building, an issue arose regarding the cedar siding. In the contract, Watt was required to paint the siding after it was installed. However, in the future, when the wood siding would shrink, the surface that would become exposed would not have any paint covering it. This would not



C+S Painting applying the final coat of stain to the siding on the Visitor Contact Station..



Irrigation and planting work professionally performed by Shamrock Landscaping.

only look bad, but would expose untreated wood to the elements. It was agreed that all of the siding should be pre-painted before installation. This was added to the contract as a \$3,000 change order. Another part of the exterior painting was to match the building to the kiosk and ticket shelter outside.

The completion date of April 15, 1999 worked well for the landscape phase of the contract. Shamrock Landscaping of Hood River, Ore., owned and operated by Kevin McNevin, was hired by Watt to install the landscaping. Shamrock Landscaping purchased the plants from Milestone Nursery and the planting work was very professional and no issues occurred.



The Visitor Station contains a small office area for OPRD and the gift shop shown in picture. The building also has two restrooms, a utility room, and a visitor interpretive area.



Enlargement of the Trailhead sign.

The Twin Tunnels Visitor Station is situated at the Senator Mark O. Hatfield West Trailhead.



By the summer of 2000, the Visitor Station and the State Trail from Hood River to Mosier was in full operation.

Since the Visitor Contact Station was simply a name for project plans, the final name had to be chosen after the completion of the building. The Historic Columbia River Highway Advisory Committee chose “Twin Tunnels Visitor Station” at the Senator Mark O. Hatfield West Trailhead.

Hood River to Mosier “Parks”

The final phase of the West Trailhead project was the reclamation of the Hanel Quarry. Jack Bryant once used this site as the location for his asphalt plant. The site had been graded for his facility and the hill between the two quarries had been severely scarred with haul roads.



The existing site had three separate terraces that could be graded into a Trailhead parking lot without having to import or export material.



Looking east over the Hanel Quarry prior to construction in 2000.

Since this was the last of the three West Trailhead projects, funding had changed dramatically by the time it went to bid. There was no longer funding available to build everything originally designed. The project had to be scaled back to just grading, bringing utilities up to the site, and landscaping for a total cost of \$393,000. The contract was awarded to JP Construction of Portland, Ore.

The contract work started in February of 2000. The challenge during the construction of the embankment was to not over-run the bid item quantities. Soon after JP started working, their opinion was that there was not enough material on-site to build the job. KPFF had designed the job so that 18,000 cubic meters would just have to be moved on-site. No material would have to be brought in or hauled off. As the grading work continued, ODOT performed surveys and determined that JP's hunch was correct. During construction, the design of the site was changed and the upper parking "tier" was eliminated. The final



Hanel Quarry during the grading operations.



Jim Eason of Team Electric installs conduit for the electric service in the Hanel Quarry that will accommodate future development of the site.

quantity measured very close to the planned quantity. The “lesson learned” was make certain that the designers create a computerized terrain model and perform a site survey just prior to construction. You can then perform a “check” to verify quantities.

Bringing the utilities up into the Hanel Quarry was a challenging element for JP Construction and the ODOT administration staff. The plans had not accounted for removing the last few utility poles, did not clearly show the electric contractor how to bring power into the quarry, and did not account for the cost of Pacific Power to hook up the power. While the utilities were being installed, ODOT scrambled to get a design the contractor could build. This issue cost an additional \$30,000.

One of the most important elements of work



Part of the Trailhead project was to put all overhead utilities underground. Shown here is Pacific Power removing their overhead lines and poles.



Looking east over the Hanel section of the West Trailhead during the planting of the native landscape.



Most of the plants for the Parks project were supplied by Milestone Nursery in Lyle Washington and were planted by New Dimensions Landscape, Inc.



After planting was complete JP Construction placed bark mulch around many of the plants and brought straw to the site that was spread out to stabilize the slopes.

for the “Parks” project was landscaping the site. The landscape architect for the project (Brian Bainson) worked well with JP Construction and ODOT during the project to ensure proper grading was performed for the planting that would happen much later in the job.

During the design of the project, the agencies and personnel involved decided not only should the Historic Highway be restored to its original condition but, some new aspect should be added. In keeping with Samuel Lancaster’s original ideas of constructing “observatories” into the Highway, it was decided to construct an observatory on the east side of the tunnels, taking advantage of the spectacular view. It was decided that this “Mosier Overlook Wall” would be shaped like an ellipse, have four axis lines along the ground depicted the four compass directions, a special center stone with the date etched into it, and a “threshold” stone at the entrance that contained a unique statement etched in the face. Even though this new element was meant to resemble the historic rock walls and observatories, it still has some unique features



JP Construction built the formwork for the concrete core of the wall and the cap at the same time.



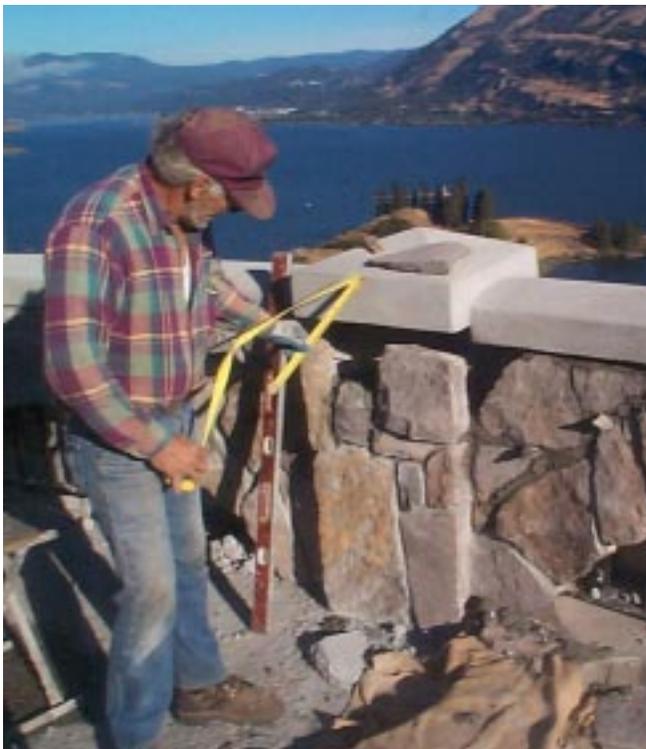
During the Parks project funding became available to construct the Mosier Overlook Wall. This feature was originally included in the Phase 3C and Visitor Contact Station projects, but was eliminated just prior to advertisement due to a shortage of funds.



Mosier Overlook Wall prior to the placement of the rock veneer.

that distinguish it as a new structure (iron bars in the arched openings, for example).

The wall had two distinct elements of construction. First, JP Construction built the concrete core wall and cap. Second, OMIE Masonry constructed the rock veneer and flooring of the ellipse.



The owner of Omie Masonry, Don Olmstead, utilized professional craftsmanship and worked with his crew to ensure a high quality product.



Looking east over the OMIE Masonry crew applying the stonework to the Mosier Overlook Wall.

In the first step, JP built the core of the wall, then used the core to support the formwork for the cap. This allowed them to fine-tune the forms to make the cap a perfect ellipse. Laying out the ellipse was a challenging process. Instead of constructing the forms on site, Jeff Dodson and Brad Meadows of JP Construction opted to lay out and construct the forms on a flat slab of concrete at the West Trailhead. After the forms were constructed, they were dismantled into moveable pieces and transported to the overlook site. All of the preparatory work that JP did paid off in the end with a very high quality product.



Metal straps were attached to the concrete wall with a Hilti gun and then bent into the mortar between the stones to ensure they do not come loose from the wall.

RESTORATION OF THE HISTORIC COLUMBIA RIVER HIGHWAY



After Omie Masonry grouted the stone onto the walls, they placed the stone along the north, east, south, and west axis lines along the floor. Once the lines were completed they finished the floor and lastly they installed the center and entrance stones.



Looking north at the completed Mosier Overlook Wall