

# Willamette Falls Heritage Foundation

Winter Newsletter      December 2018

## Enthusiasm Flows at The Falls

It's always nice to end the year on a positive note – or, in this case, *notes!* Encouraging news continues to flow in at various levels as momentum and enthusiasm for the Willamette Falls area builds. Recent developments include:

- A favorable engineering study has been completed on the feasibility of reopening the locks.
- The Governor's Budget has included funding to reopen the locks.
- The City of West Linn and the Willamette Falls Heritage Area Coalition (WFHAC) agreed to sign a letter of intent to fund the renovation of the former West Linn City Hall and turn it into a Cultural and Tourism Center.
- The National Park Service has backed Willamette Falls in establishing it as a National Heritage Area.
- A study is underway to determine the feasibility of public tours of West Linn Paper Company and the falls.

### LOCKS ENGINEERING STUDY

The firm of KPFF Consulting Engineers completed a condition assessment of the Willamette Falls Locks and their recommendations for returning the locks to service. Their report estimates that it will require about \$8.5 million to reopen the locks and about \$11.8 million in new capital improvements over the next ten years. The costs for seismic and structural repairs are similar to previous studies done in 2011 and 2013 although their estimates for mechanical upgrades are less.

In their report KPFF stated that, "the lock facility was in remarkably good condition for a civil works project nearing 150 years old. While the design and construction details are outdated, the facility has been very well maintained and all critical systems appear to be operable. Previous engineering assessments identified seismic safety concerns with the lock chamber wall and gate monoliths, uncertainty as to the remaining strength of the miter gate gudgeon anchors and localized backfill behind the lock wall structure. Assuming that these specific safety issues are addressed, we have concluded that the lock facility can be placed back into regular service with little additional improvements."



### PROMISING FUTURE FOR THE LOCKS

By **Sandy Carter**, Commission co-Vice Chair

At our July and October meetings, the Willamette Falls Locks Commission successfully narrowed down our list of favored ownership/governance models. We needed to weigh which models could most effectively facilitate the transfer of our West Linn navigation canal and locks out of federal ownership and offer long-term stability. We chose to focus on a transfer to State ownership followed by long-term evolution to an ongoing ownership/operations model structured as either a multi-party Intergovernmental Agreement or as a public corporation.

On December 7<sup>th</sup>, Department of State Lands Director Vicki Walker and Deputy Director Bill Wyatt toured the locks with representatives of the Commission, METRO officials, and the Governor's Office.

The Commission offered testimony during early December's Legislative Days, addressing the Senate Interim Business and Transportation Committee on the 12<sup>th</sup> and the House Transportation Policy Committee on the 14<sup>th</sup>. Testifying on behalf of the Commission were outgoing Rep. Julie Parrish, Rep. Mark Meek, Mayor Russ Axelrod (Chair), Andy Cotugno (METRO) and Sandy Carter (co Vice-Chair).

The Commission is also charged by the Governor with recommending and potentially implementing practical solutions for getting the canal repaired, operational and open again. To this end the project team presented a Commission-funded engineering study by KPFF Consulting that paints a picture of a 145-year-old canal that could be operated as it sits but would benefit from deferred maintenance and some upgrades needed to address ease of operation, fire safety, erosion/leakage, seismic stability and lighting. The report estimates the cost of upgrades and repairs and outlines a plan to replace the aging and hard-to-inspect gudgeon arms and anchors on all seven gates.

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In December, it was announced that the Governor's Budget included a proposed \$7.5 million for work on the canal and locks. This is a huge win for the Commission and for the future of the locks. With detailed dollar estimates available from the KPFF study, the project team developed another Legislative Concept paper that, if successful, would secure Lottery dollars towards the described repair work and updates.

The next Locks Commission meeting is scheduled tentatively for January 30, 2019.



Elected officials and team members conclude a VIP tour of Willamette Falls and the locks.

### WEST LINN CITY HALL UPDATE

The Willamette Falls Heritage Area Coalition and the West Linn City Council agreed to sign a Letter of Intent (LOI) for funding improvements to the former City Hall building. The City will reserve \$400,000 from the 2018 General Obligation bond and the Coalition has committed to \$150,000 and has secured \$100,000 from Mt. Hood Territory.

After the West Linn Police Department moved out of the old City Hall in 2014, the building has been unused. The goal is to renovate the building and develop it as a Cultural and Tourism Center that will serve as a gateway to the waterfront and pending National Heritage Area designation. It will also be used by local groups such as the Coalition, Rediscover the Falls, the Clackamas County Arts Alliance, and Willamette Falls Heritage Foundation. Displays and interpretive exhibits on the first floor will inform visitors about the area's history while the second floor will be used for offices and as a community meeting place.

The LOI outlines a two-step process in which the Coalition and The City will first conduct due diligence for a complete building assessment, determine construction costs, and parking options. The second phase will involve actual renovations.

### PARKS SERVICE SUPPORTS NATIONAL HERITAGE AREA

After 10 years of hard work by the Willamette Falls Heritage Area Coalition, the National Parks Service has endorsed their plan to designate a 56-mile section of the Willamette River as a National Heritage Area. The WFHAC's feasibility study was found to meet all ten of the criteria necessary to receive the NHA designation.

NHA are defined as "places where historic, cultural, and natural resources combine to form cohesive, nationally important landscapes."

The NPS letter of affirmation indicates that they will be willing to testify on behalf of the WFHAC when this proposal moves forward for congressional review. WFHAC will now prepare legislation that will be presented to Congress in 2019 by a delegation headed by Congressman Kurt Schrader.

Willamette Falls became Oregon's first State Heritage Area area in 2015. Making this segment of the Willamette River a National Heritage Area would be the first such designated site on the West Coast.

## PUBLIC TOUR FEASIBILITY STUDY

By Nancy Kraushaar

Work is underway on a feasibility study for public tours of West Linn Paper Mill and Willamette Falls. The project was made possible by a \$40,000 grant that Willamette Fall Heritage Foundation secured from Mt. Hood Territory. The Foundation selected Destination Management Advisors of Portland to complete the study. They are supported by MKSK of South Carolina. They bring experience in tourism program development, urban planning, landscape architecture, and art history to the project.

Together with our project team, the consultants have assembled a stakeholder list to use as they investigate the possibilities for site tours. They spent three days in the field learning about the mill site complexities and meeting with Mt. Hood Territory and others to define the partners and understand how the tour experience can fit within existing destination strategies.

Next steps include exploring funding and financing requirements, developing criteria to evaluate the site's potential, and strategizing a phased approach to redevelopment. The consultants and project team plan to coordinate with PGE and the City of West Linn in an effort to ensure a shared vision for the long term planning at the mill and falls. As partners, they can pursue this tremendous opportunity to use the West Linn Paper's historic Mill A as a platform to tell the story of the Falls and its natural and cultural history.

The legacy of this site includes not only the industrial heritage of the mill itself, but also Willamette Falls, with its unique ecology and geology as well as its important role in Native American culture and the transformation of the West.



WFHF members, along with PGE and West Linn Paper Co. officials, conduct a site tour for our feasibility study consultants.

# Around The Falls...



This impressive display plaque was formally dedicated on July 21, 2018 with a celebration and ceremony at Willamette Park's Grindstones Sculpture. The plaque commemorates past mill workers and those family and friends who donated to the project.



The locks may not be open but that doesn't diminish the interest these kayakers have in exploring the lower chamber. It is our hope that both recreational and commercial water users will be able to 'lock through' some day soon!



(above) The indefatigable **Jody Carson** looks out of Mill A as she helps lead a tour for our consultants working on the feasibility study.



(left) This rarely seen perspective of Mill A and the fish ladders was taken from the lip of the falls during last summer's low water conditions.



**Troy Bowers,**  
President WFHF

## President's Message

2018 has been a busy and successful year of progress for the Foundation. We finished the last piece of the Grindstones Sculpture by designing and installing two plaques; one that honors workers at the West Linn Paper Mill whose family or friends contributed to funding the Sculpture; and one honoring other donors who contributed funds.

We began to focus attention on the old grinder building at the Mill, which is suffering from neglect, especially the roof. We worked with the Paper Mill and PGE so as to provide tours to see the old building (but currently cannot enter as it is too dangerous) to engender interest in its preservation and to see the best platform for viewing the Falls on either side of the River, bar none. We secured a grant to explore ways to advance preservation of the dilapidated building.

In addition, we have worked with the Willamette Falls Heritage Coalition to seek a partnership with the City of West Linn for repurposing the City's old City Hall which sits at the foot of the Arch Bridge and has been vacant since 2014. The Coalition has taken the lead and secured a Letter of Intent to partner with City to eventually restore the building as a Cultural and Tourism Center.

We expanded the membership of the Board and gained new Board members as more people see the potential for how various initiatives around the Falls, including the River Walk project in Oregon City; the State Locks Commission effort to get the Locks reopened and ownership transferred to a state or local owner (our own Sandy Carter is co-vice chair of the Commission, and our Joe Bernert also sits as one of the 24 on the commission); and the effort to obtain National Heritage designation of 56 River miles of the Willamette, anchored by the Falls. Work continues on the cataloging of our unique collection so it can be preserved and shared.

As a totally volunteer organization, our work is sustained only by the time, talent, toil and treasure of our Board members and friends like you. We are grateful that you share our dedication to this work, and hope that you will see fit to make a tax-deductible year-end contribution—and another, matching gift to the Oregon Cultural Trust, which is a tax credit—to ensure that we meet our budget and heritage goals for the coming year. Thank you very much!

### Yes, please continue my Willamette Falls Heritage Foundation newsletter

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*Willamette Falls Heritage Foundation is a 501(C)(3) non-profit Oregon corporation established for educational purposes and heritage preservation, and is on the Oregon Cultural Trust's list of qualified Oregon nonprofits.*

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# The Short Story of Mill A's Long History

By Dan Butler, Editor

With the recent interest in Mill A as a site for public tours, some may wonder, "Just what *is* Mill A?" And, "Why would it be of interest to the public?" The following history and description of what functions occurred on this isolated island of industrial activity from another era may provide some answers.

Mill A is oldest portion of the former Crown Zellerbach mill complex and was the site of the first papermaking operations in West Linn. The original Mill A building was completed on October 1, 1889 by Willamette Pulp and Paper Co. It consisted of a sawmill above and Grinder Room #1 below. Unfortunately, this mill and other buildings were soon damaged by a serious flood in 1890 and then rebuilt.

Crown-Columbia Paper Co. constructed Grinder Room #2 in 1905, which survives today as the oldest structure on the island. In 1907, they added hydroelectric capabilities with a generator room consisting of two generators, set deep inside the protection of thick concrete walls with electrical switchgear located above. An annex with two additional units were added just west of the first room sometime after 1909 to increase power-generating capacity. Grinder Room #3 was opened to the east of this space in 1920. The Screen Rooms were added later above Room #3. In 1946, Crown Z built a new sawmill in Mill A and closed Grinder Room #1, removing its grinding equipment.

The primary purpose of Mill A was to convert raw logs into small blocks that could be made into pulp by one of two methods, depending on the type and grade of paper being made. Blocks sent to Mill A's grinders produced groundwood pulp; blocks sent to Mill B were chipped and then cooked in digesters using the sulfite process.

The operation began with log rafts assembled in the forebay above the falls. Individual logs were hauled into the sawmill by a conveyor to the headrig, which cut them into 12-inch thick slabs. A resaw cut the slabs into 12" by 12" 'cants'. These long cants were then reduced to 24" blocks by a series of slasher saws spaced 24" apart. Beginning in 1959, the blocks were then fed into the large 10-foot by 25-foot drum debarkers. The steam plant used all the bark and wood waste generated by the sawmill where it was burned as hog fuel in the boilers.

From 1890 until 1953, blocks headed for the chippers were carried to Mill B by an elevated flume that went around the west side the of PGE's Sullivan power plant. A block conveyor on the east side of the power plant replaced the flume and can still be seen today. Mill B's sulfite pulping ceased in 1968 due to growing environmental concerns.



This overhead view of Mill A shows Grinder Room #3 at the very left. The generating room is hidden behind the end of the bridge with the wooden sawmill building to the right. The conveyor leading from the sawmill carried hog fuel to the steam plant.

To make groundwood pulp, the wood blocks were dumped into piles in a basement bunker. There, workers would load the blocks onto carts and haul them to the grinders. Grinder Room #2 had eight lines of turbine-powered grinders with three machines per turbine or 24 grinders. Each grinder had 3 'pockets' where blocks were manually fed into the machine. Grinder Room #3 had four lines of grinders with four machines per turbine, or 16 grinders.

Rotating at about 275 rpm, the grindstones pulverized the wood into pulp. Water washed through the grinders to lubricate the moving parts and to dissipate the friction-generated heat. The water also served to carry the hot, 130-degree pulp upstairs to the Screening Room where large slivers and other dirt or contamination were removed. The pulp was further processed in Deckers, which removed the water and thickened it before going to the mill's stock tanks on the main island.

During a major 1947 modernization of the sawmill, electric motors were added to four grinder lines in Room #2 and two in Room #3. These motors served a dual purpose by running the grinders during low water and generating electricity during high water.

Mill A was a physically demanding place to work and the long shifts were brutal. Cold river winds blew through the sawmill while the grinder rooms were thick with high humidity and heat. The moisture heavy blocks could weigh 90 lbs. each. It was certainly not a job for the faint of heart!

Groundwood pulp was produced continuously on this site from 1889 until 1990 when pulp began to be brought in from outside sources.

Although the roof over the wood-framed sawmill portion of Mill A is now failing, the rest of the concrete structures surrounding the grinder and generator rooms remain structurally solid. Hopefully, these fascinating artifacts of an earlier industrial era will be preserved and available for public viewing in the future.

Sources: "The Paper Mill at West Linn: 1889-1997" by Harry H. Stein, Phd.

Special thanks to Brian Konen, Chief Operating Officer, West Linn Paper Company for his insight and information on the mill.



Night view of Grinder Room #2 from the mezzanine.

— Photo Gallery —  
*Images from Mill A*



Upon entering the mill, logs were cut down to a manageable length by these massive circular saws.



Main floor of Grinder Room #2 showing a turbine to the left and three pocket grinders to the right.



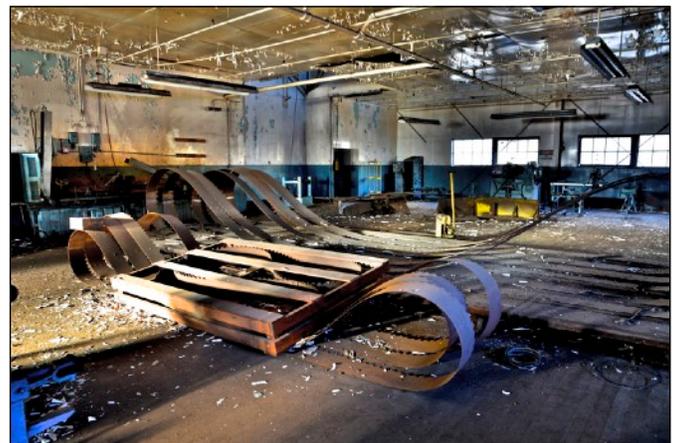
A 10' diameter riveted penstock delivered water to this turbine that originally powered a grinder but was later converted to run one of the dynamos in the Generator Room Annex.



A gang of slasher saws used for trimming cants down to 24" blocks that could be manually handled.



(above) The motor/generator end of one of the grinder lines in Grinder Room #3. These large motors powered the grinders during low water periods and produced power during high water.



The 2nd story saw shop where band saws off the head rig could be sharpened or repaired.



(right) One of the four, vintage dynamos in the subterranean Generator Room that produced electrical power for many decades.