FINAL

MCKAY, MILLER'S LANDING, AND COLUMBIA PARKS RIVER ACCESS STUDY
Data Collection

Prepared for:
Bend Park & Recreation District
799 SW Columbia Street
Bend, OR 97702

October 2022
Revised: March 2023

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Prepared by:
Environmental Science Associates | ESA
2863 NW Crossing Dr., Suite 200
Bend, OR 97701

and

Empowering Access LLC
16380 Skyline Drive
Bend, OR. 97703

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MCKAY, MILLER'S LANDING, AND COLUMBIA PARKS RIVER ACCESS STUDY

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Introduction

The Deschutes River is the defining natural feature of Bend, flowing through the center of the community. The river provides irrigation water that has enabled agriculture in the arid high desert, powered the mills that were the original industry of Bend, and provides unique scenic and recreational opportunities within city limits. The river also provides aquatic and riparian habitat to a diverse array of species such as redband trout, river otters, and the endangered Oregon spotted frog.

Recreational use of the Deschutes River in Bend has increased dramatically in recent years. The increased use has strained existing river access points that weren't designed to handle the amount of use and caused erosion and loss of riparian vegetation where people have been accessing the river in areas with no developed access points at all.

Bend Park and Recreation District (BPRD) owns or manages parks with eight miles of riverfront property, making up nearly all of the riverfront that is accessible to the public within Bend. To understand how to best manage the increased recreational river access at their parks and improve the experience for all users, including people with disabilities, BPRD embarked on a two-year planning process that culminated in a final report in October 2021, the Deschutes River Access & Habitat Restoration Plan (River Plan). The River Plan identified 28 projects for implementation. Three of the projects identified are located at the three parks covered in this study: McKay Park, Miller's Landing Park, and Columbia Park.

BPRD has contracted with ESA to perform the initial phase of work for improving and refining river access at the three parks. This includes site survey, data collection, and concept designs for each location. The purpose of this report is to document the data collection and findings to inform the concept designs moving forward. ESA's subcontractors for this work include Empowering Access for disability inclusion consulting and BECON (Bend Engineering Consultants) for site survey.

Existing Conditions

Site Survey

A survey crew with BECON surveyed all three parks on March 21 and 22, 2022. ESA project engineer Mason Lacy joined the survey crew on March 22 for the bathymetric portion of the survey, serving in the role of "rod man" in the water. Bathymetric data in the vicinity of each of the potential access points was collected in a large enough area to allow the investigation of a wide variety of potential improvements at each site. In addition, while performing the in-water survey, the ESA project engineer was able to approximate the riverbed material and relative current velocities in each area, important factors in determining how the public may interact with each access point after construction. Six full-width river cross-sections were surveyed for inclusion in the hydraulic model, two at each park. A PDF of the survey is included in Appendix A.

McKay Park

McKay Park is located on the river left (west) side of the Deschutes River, at the existing whitewater park. McKay Park is classified by BPRD as a community park, with permanent restroom facilities at the park. No off-street parking area is included; community members utilize the parking along SW Shevlin Hixon Dr when traveling to the park by car.

The scope of this current project is focused on river access at the downstream end of the whitewater park, from the last drop structure in the fish passage channel to the downstream edge of the existing beach area. The scope of this project does not include improvements along the whitewater park upstream of the last drop structure; however, during our site visit it was noted that there was moderate to severe erosion along the bank and dirt path adjacent to the fish passage channel. Ashley Schafer, of Empowering Access, noted accessibility issues for people with disabilities along the path, including large rocks protruding from the path surface, uneven terrain and a steep slope in some areas. Since a primary goal of the current project is improved river access for people with disabilities, this observation is raised for BPRD to consider addressing in a future project.

Figure 1. Accessibility issues for people with disabilities were observed along the path adjacent to the fish passage channel at the whitewater park.

The beach area at the downstream end of the whitewater park is heavily used in the warm summer months, primarily by people tubing through the fish passage channel and other beach goers. As part of the development of the River Plan, BPRD conducted an inventory of river use at their parks, documented in a final report dated February 2020 "Inventory of Recreational Use at Parks on the Deschutes River" (River Use Inventory). River access locations were monitored for an hour at a time, and all observed river uses during the hour were documented. For the beach area at McKay Park, the location was monitored during three mornings and one afternoon in July and August, 2019. A total of 714 users were observed during the four 1-hr observation periods. Observed tubes / rafts were minimal during the morning observation periods, but in the afternoon observation 53 tubes / rafts were recorded during the hour. Tubing is most popular on hot afternoons, and the beach location sees a huge amount of foot traffic from people tubing the fish passage channel.

There is a curving concrete ramp that extends to the water below the last fish passage drop structure, extending at an approximate 5% slope from two accessible parking spaces along SW Shevlin Hixon Dr. Through the River Plan process, BPRD heard from users that the pathway does not provide the means necessary for mobility challenged individuals to transfer from their wheelchair into a watercraft. A primary goal at this site is to improve accessible river access.

Since opening to the public in 2015, there has been erosion of the sand material making up the beach. This has caused undermining of the concrete path through the beach, as base material supporting the concrete was exposed and migrated downslope. In early 2022, BPRD performed a maintenance project constructing a 2ft tall concrete wall on the downslope edge of the path in an effort to protect the path from further undermining. After heavy rains in June 2022, stormwater flows caused significant erosion at the beach area, exposing and undermining the newly completed concrete wall.

Figure 2. Left: Accessible concrete ramp running through beach to the river, shortly after the new concrete wall was poured. Right: Erosion under and around the path after June 2022 rain event.

Downstream of the final drop structure of the fish passage channel there are two rock ribs extending from the beach area into the river. These create small eddies immediately adjacent to the water's edge. Beyond the end of the rock ribs, the current is fast and depth relatively shallow (just over 2ft deep on the date of the survey). The substrate material consists primarily of gravel and cobble. There is a channel maintained along the bank by the flow from fish passage, then the river becomes shallower between the fish passage channel and the whitewater channel. This shallow area is due to an alluvial fan formed by gravel material eroded from the whitewater channel pools and deposited downstream of Jason's wave, the final drop structure in the whitewater channel.

Figure 3. The beach is popular with kids and their earth moving equipment.

Figure 4. Launching kayaks from McKay Park.

Miller's Landing Park

Miller's Landing is located on the river right (east) side of the Deschutes River, immediately downstream of the whitewater park. The land upstream of Miller's Landing, adjacent to the whitewater park, inclusive of the habitat channel, is privately owned. Miller's Landing is classified by BPRD as a community park, with permanent bathrooms and a parking lot for park users. A conservation easement includes a 25-year requirement for the site to be used for park and recreation purposes.

Miller's Landing includes two existing river access locations, with vegetation and fencing elsewhere along the bank. The upstream access point, referred to here as Access #1, is a developed access point including a boardwalk. However, the boardwalk is located substantially above the water surface with several sharp protruding boulders, not offering easy access into the water. There is an accessible route from the accessible parking spaces to the boardwalk. The downstream access point, referred to here as Access #2, is a user created access located at a gap in the fence line. The riverbank at this access point is severely eroded and deteriorating rapidly. The dirt bank was left unimproved when the park was constructed in 2014 and was unable to withstand the amount of use.

Figure 5. A substantial drop from the boardwalk (Access #1) to the water surface and several sharp boulders make accessing the river from the boardwalk challenging at Miller's Landing.

BPRD collected recreational use data at the two river access locations as part of the River Use Inventory. Even though they are located at the same park, there is a substantial difference in river use between the two access locations. 87% of the river users to Access #1 were categorized as either "Viewing" or "Viewing Dogs", while at Access #2 the "viewing" categories consisted of only 39% of river users. "Swimming Dogs" was the largest category observed at Access #2, explaining some of the rapid deterioration of the bank from dogs running to and from the river. Even though Access #1 is the developed access point constructed of durable materials that could handle more use, Access #2 saw more use by waders and swimmers. Improved access to the water at the boardwalk would help encourage swimmers and waders to utilize the

developed access point rather than seek out other unsanctioned river access locations not designed for heavy use.

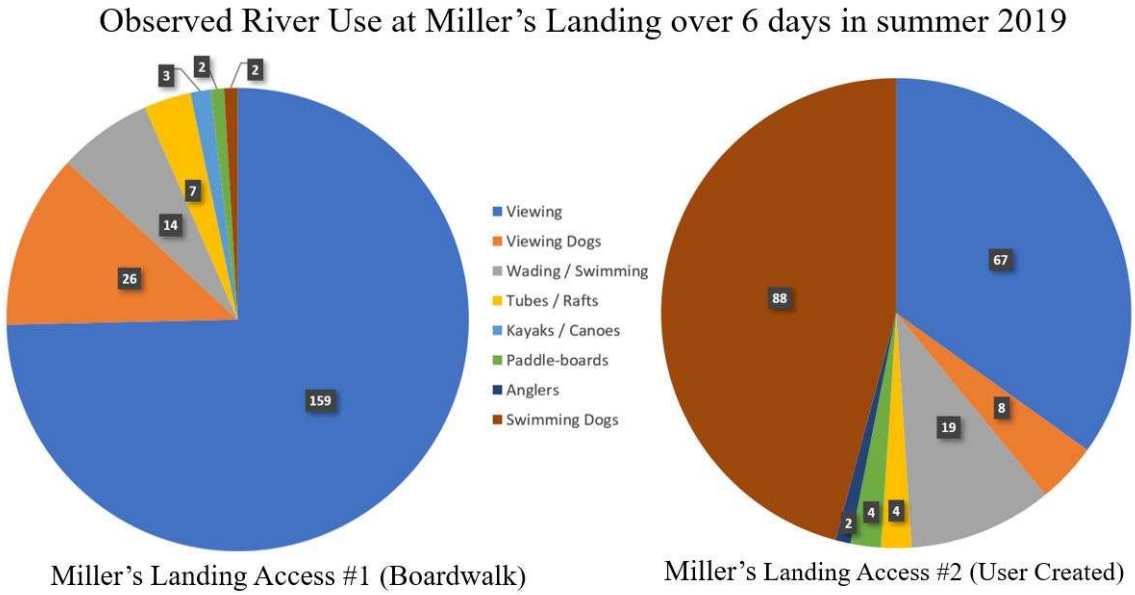

Figure 6. Summary of data collected over six 1hr periods as part of BPRD's River Use Inventory.

The data also points to the importance of designing river access locations with the use of "viewing" in mind. Of all the recreational activities categorized in the inventory, "viewing" was by far the most popular, with well over three thousand total observations across all access locations. People come to the river's edge for many reasons, whether for a place to sit and connect with friends, read a book and contemplate the river's passing, or just watch tubers go by. Based on the data, providing access to the river's edge to sit is just as important if not more important than access for watercraft.

Figure 7. The rapidly eroding bank at the downstream access at Miller's Landing Park, Access #2.

Columbia Park

Columbia Park is located on the river left (west) side of the Deschutes River, downstream of both McKay Park and Miller's Landing. Private residential properties abut Columbia Park both upstream and downstream, and the opposite bank of the river across from the park is privately owned, with the exception of the NW Gilchrist Ave right-of-way that extends to the river. A trail runs through the right-of-way and connects to a City of Bend owned pedestrian bridge over the Deschutes River, the Gilchrist Footbridge.

Columbia Park is classified as a neighborhood park by BPRD, and there are no permanent restroom facilities or dedicated off-street parking. A portable restroom is located at the park during the summer months. A Land and Water Conservation Fund (LWCF) grant received for Columbia Park requires the site be open to the public and maintained in perpetuity for public outdoor recreation.

An unpaved trail that begins from NW Columbia St at the north end of the park runs along the river at the park's eastern edge, and connects to the Gilchrist Footbridge. This trail provides public access to the river access locations that are used at the park.

There is one river access location that was ad-hoc constructed in 2011, and consists of large boulders placed along a relatively steep section of the bank. The boulders have shifted over time, and high use has resulted in severe erosion. The severe erosion and continued degradation caused BPRD to temporarily close the river access point in July 2020. The closure consists of fencing and signage, and the river access location continues to be closed.

In addition to the constructed access point, user-created access points have formed just downstream, which were accessed by crossing a single-rail fence to reach the river's edge. As part of the temporary river access closure, more substantial fence was erected along this area of single-rail fence as well.

Figure 8. The riverbank at Columbia Park as seen from the Gilchrist Footbridge.

Figure 9. Rocks in the foreground from the eroding access point, currently closed.

The Gilchrist Footbridge sees significant numbers of people jumping from the bridge into the river during the warm summer months, despite posted signs on the bridge warning that it is illegal. During the River Use Inventory, users were recorded during one-hour periods in the afternoon on five days in July and August 2019. Bridge jumping was observed during each one-hour period except for one. On one afternoon, 47 bridge jumps were recorded by 38 unique people over a one-hour period.

Cabling that acts as a bridge jumping deterrent has been installed on all BPRD bridges where bridge jumping has been an issue, and it has been observed to be highly effective. Bridge jumping from the pedestrian bridge at First Street Rapids Park was popular until there was a bridge jumping fatality in 2017. Following the fatality, BPRD installed the cable jumping deterrent which has dramatically decreased bridge jumping at the park. There have been no accidents and no jumps observed by BPRD staff since the cables were installed. The Farewell Bend Pedestrian Bridge also has the cable bridge jumping deterrent installed which has been observed to be highly effective.

The Gilchrist Footbridge is one of the few remaining pedestrian bridges in town with river conditions conducive to jumping that has not had a bridge jumping deterrent installed.

Figure 10. Signage on the Gilchrist Footbridge railing.

Reach Context

The reach of the Deschutes River where the three parks are located flows through the middle of Bend. The Deschutes River trail runs alongside allowing pedestrians and cyclists to move up or down along the river. Figure 12 shows river access points on the reach from Bill Healy bridge downstream to the Pacific Corps dam forming Mirror Pond.

There is currently a lack of river access locations in this reach that are conducive to passive recreational uses such as hanging out by the river, wading, and swimming. The exception is at the farthest upstream end near Bill Healy bridge, where the beach at Farewell Bend Park is located. On the other bank, three developed river access points are proposed as part of the Riverbend South Access and Restoration Project, scheduled to start construction October 2022. Moving downstream, there is the primary put-in for tubers, which is extremely busy in the summer, then the existing dog park which is on land not owned by BPRD and will be closed in the future.

Downstream of the dog park, both sides of the river are privately owned and developed as part of the Old Mill District. Public trails are located along both banks through the majority of this section, but there are no river access locations until the whitewater park. The whitewater park provides multiple river access areas along the left bank, including the beach at McKay Park which is included in this study. Miller's Landing and Columbia Parks are located just downstream, along a calm section of the Deschutes that is not filled with sediment.

Beginning at the downstream end of Columbia Park, the riverbed along both banks consists of fine sediment that has deposited over the years in the impoundment created by the Pacific Corps dam. A channel in the center of the river is maintained by the river flow, but outside of the channel the accumulated sediment is not conducive to wading or swimming.

At the upstream end of Drake Park is the primary tuber take-out, which will be improved as part of the Drake Park Project currently under construction. Along the left (west) bank of Mirror Pond, there are three dock-style river access points (one of which has a chain-link fence gate across it). The dock river access points work well for providing locations to launch watercraft, but the fine sediment on the riverbed and the dock-style access aren't conducive to wading or hanging out by the river.

The three parks included in this study are the only parks from the Old Mill District through downtown which have river frontage along a calm section that is not filled with fine sediment.

Figure 11. Dock-style river access at Pangeant Park

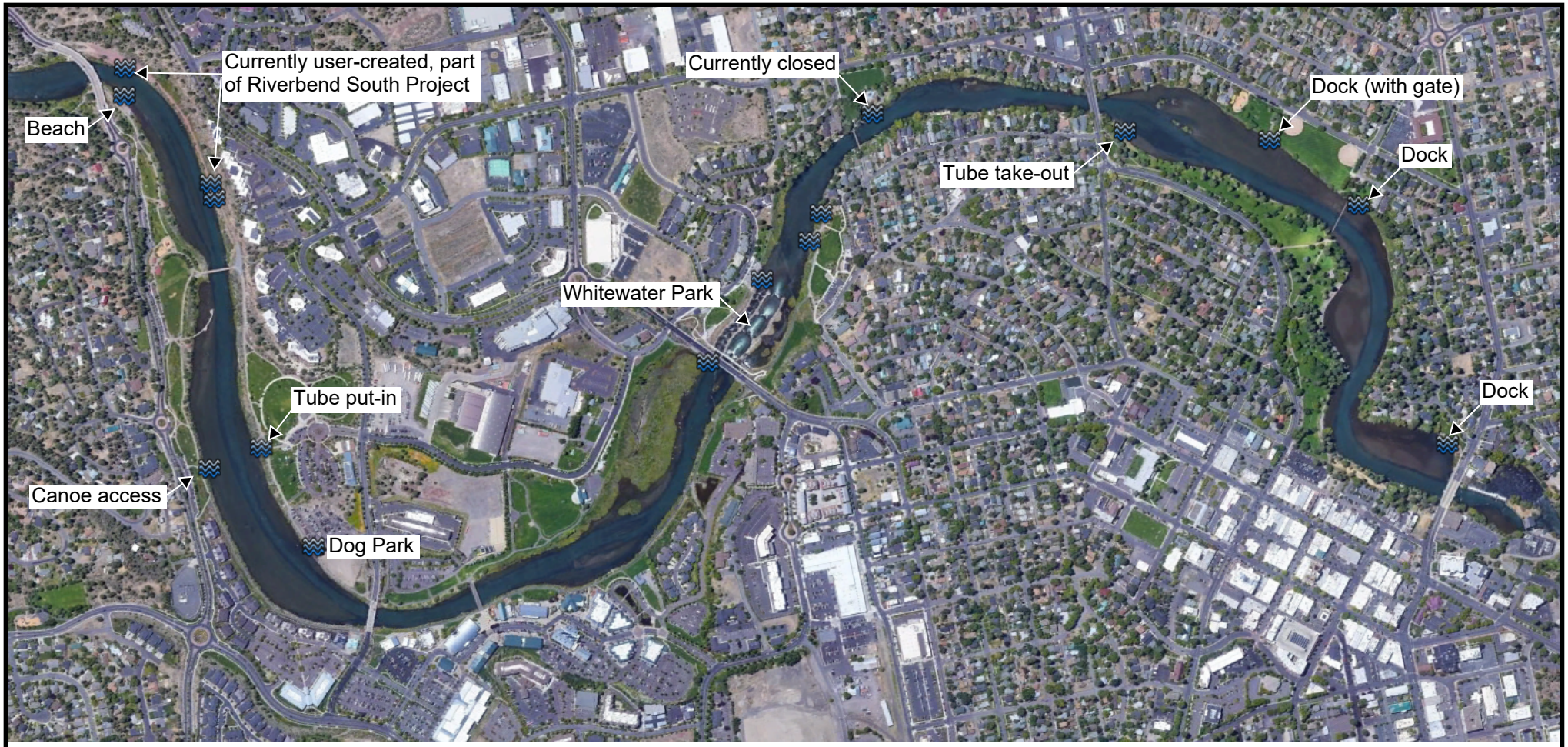

Image Source: Google Earth

LEGEND

Developed River Access Location

1/4 Mile

N

ESA

Figure 12
Deschutes River in Bend Overview Map

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Permitting Assessment

Proposed river access improvements will require permits from local, state, and federal agencies. The specific permits will vary slightly depending on what specific improvements are proposed.

City of Bend

Proposed improvements at any of the three sites will require a Waterway Overlay Zone (WOZ) review and approval. ESA reviewed City of Bend land use boundaries, and each site is within the mapped Waterway Overlay Zone, Floodplain, and Riparian Corridor. None of the sites are within an Area of Special Interest (ASI).

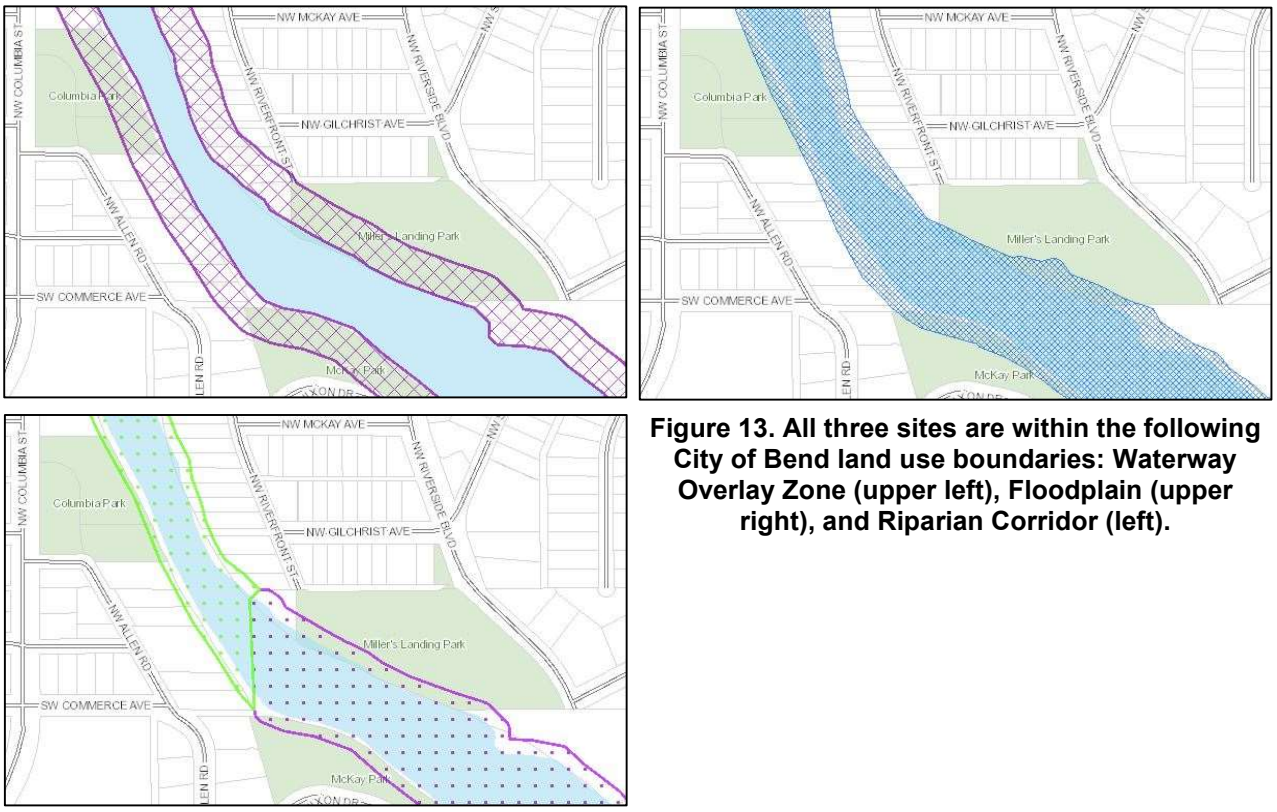

Figure 13. All three sites are within the following City of Bend land use boundaries: Waterway Overlay Zone (upper left), Floodplain (upper right), and Riparian Corridor (left).

This will require a WOZ permit application be prepared and submitted to the City of Bend. Since each site is located within the regulatory floodway, a no-rise analysis and certification prepared by a Professional Engineer (PE) licensed in Oregon will need to accompany the WOZ application.

There is a 120-day review period for WOZ review from when the application is accepted as complete, to when review must be complete and a decision reached. On a similar project (Riverbend South Access & Restoration), the WOZ application was submitted on February 15, 2022, accepted as complete on February 22, and the Notice of Decision was received on June 6, 2022 (day 104 of the 120-day review period). It should be anticipated that the WOZ review will require the full 120 days, and additional time should

be budgeted for the time from initial application submittal to the application accepted as complete.

Additional City of Bend permits that will be required depending on the improvements proposed include a grading permit and a right-of-way (ROW) permit. A ROW permit will be required if flagging or traffic control is required to access the site, and a traffic control plan would need to be developed and approved by the City.

State and Federal

Any river access improvement will include work below Ordinary High Water (OHW) of the Deschutes River, requiring permits from Oregon Department of State Lands (DSL), the U.S. Army Corps of Engineers (USACE), and Oregon Department of Environmental Quality (DEQ). There is a single Joint Permit Application (JPA) that can be completed and submitted for all three agencies.

Prior to submitting a JPA, prior communication and coordination with the agencies about the project is important, including a pre-application meeting. The pre-application meeting can be particularly helpful in determining which Nationwide Permit (NWP) authorization(s) to apply for from the USACE. The permitting process with the USACE is substantially streamlined when the project can fit within one or a combination of existing NWP authorizations. Based on prior experience permitting river access projects of this scale, it is anticipated that the proposed project could be covered under a combination of one or more of the following:

- NWP 13: Bank Stabilization
- NWP 27: Aquatic Habitat Restoration, Establishment, and Enhancement Activities
- NWP 36: Boat Ramps
- NWP 42: Recreational Facilities

If the project may affect Endangered Species Act (ESA) listed species or designated critical habitat, consultation with the U.S. Fish and Wildlife Service (USFWS) would be required. Oregon spotted frog, an ESA-listed species, has designated critical habitat nearby the project areas, but the designated critical habitat does not extend downstream of Colorado Avenue. Other agencies that may be consulted include Oregon Department of Fish and Wildlife (ODFW) to assess project effects on fish and wildlife, Oregon State Marine Board (OSMB) if a dock or other structure is proposed, and Oregon State Historic Preservation Office (SHPO) if the site may have cultural resources.

If the project proposes greater than one acre of ground disturbing activity, a 1200-C Construction Stormwater General Permit from the DEQ would be required. In addition, if the construction activity may cause a water quality issue, a 1200-C permit is required even if the area is less than one acre. DEQ has interpreted this to mean that any project directly adjacent to surface waters requires a 1200-C permit. Since all projects are

located along the Deschutes River, a 1200-C permit will be required even though construction areas will be less than one acre.

The Oregon Department of Fish and Wildlife (ODFW) in-water work window for this section of the Deschutes is July 1st to October 15th. If it is desired to construct the project outside of this period, a variance must be requested from ODFW. Low flows typically occur from mid-October to mid-April, which is beneficial for water control when constructing in-water improvements. Colder months also see much lower levels of river recreation and public use at these sites. It is anticipated that a variance from ODFW would be desired.

Depending on the improvements proposed, a dewatered work area will likely be required for construction. Fish must be salvaged from the isolation area, requiring a fish salvage permit from NOAA Fisheries and ODFW, Fish Research.

Permitting Summary

A summary of the anticipated required permits is included below. As part of the permitting process by the USACE and DSL, additional agencies not listed will be consulted. It is recommended that applications for the first four permits listed (WOZ application and JPA) be submitted at least six months prior to bidding the project. Project design should be at approximately the 60% design level prior to submitting permit applications.

TABLE 1. ANTICIPATED REQUIRED PERMITS

Permit	Agency	Anticipated Timeline	Notes
Type II WOZ	City of Bend	4 months	Requires no-rise certification
Removal/Fill Permit	DSL	4 months	
NWP Verification	USACE	4 months	Assumes project can be permitted under existing NWP(s). Requires compliance with the Endangered Species Act for the Oregon spotted frog
401 Water Quality Certification	DEQ	4 months	Part of USACE process, separate application not required
1200-C Permit	DEQ	4 months	
Grading Permit	City of Bend	2 months	
ROW Permit	City of Bend	2 months	Including Traffic Control Plan
In-water Work Window Variance	ODFW	2 months	Required for construction outside of 7/1 to 10/15
Fish Salvage Permit	NOAA Fisheries & ODFW	2 months	May be required for dewatered work area

Historic Resource Assessment

ESA reviewed the Oregon State Historic Preservation Office (SHPO) Historical Sites Database to identify any potential historic resources at the project sites. There were no sites listed in the database at McKay Park and Miller's Landing Park, and one eligible site at Columbia Park. The site appearing at Columbia Park is the Bend Company Mill, with the address listed as "located North of Columbia Park". According to the SHPO inventory form, the Bend Company Mill was constructed in 1910 and burned in 1915. No original structures remain. A copy of the SHPO inventory form is attached in Appendix B.

Based on the review of the SHPO database, our existing knowledge of the sites, and the anticipated scale of the proposed projects, additional historic resource investigations aren't anticipated to be required.

Funding Opportunities

River access projects similar to those proposed can attract funding from a variety of sources. These projects are multi-objective in nature, with benefits for public recreation, water quality, habitat, and accessibility. Potential funding sources are listed below:

- Oregon State Marine Board (OSMB) Boating Facility Grant: BPRD has received grant funds from OSMB for this river access study, and it is expected that a grant application for construction funds would be competitive.

- Visit Bend – Bend Sustainability Fund: The Bend Sustainability Fund utilizes room tax revenue to fund projects that meet the following criteria:

    - Will protect, steward or create a tourism-related facility with an impactful life of >10 years
    - Said facility will have a substantial use by visitors
    - Has a clear timeline and measurable outcomes within the next 12 months
    - Has grassroots, community support

It is expected that an application for construction of sustainable river access projects in downtown Bend would be very competitive. BPRD submitted a successful application for construction funds for Riverbend South Access & Restoration, a similar project.

- Oregon Watershed Enhancement Board (OWEB) grants: OWEB funded a portion of design and construction for Riverbend South Access & Restoration. However, that project included a relatively major restoration component. Restoration at the same scale is not feasible at these sites, and it is expected that an OWEB grant application would not be very competitive.

- The Oregon Department of Human Services Office of Aging and People with Disabilities (APD): APD periodically offers funding opportunities that may apply to one or more of the river access projects with a focus on accessibility for people with

disabilities. APD recently created an Innovation Fund to support new community projects that improve services for older adults and people with disabilities, though the solicitation closed on May 10, 2022. The fact sheet for the APD Innovation Fund is attached in Appendix C.

- Private funding: Various private funding sources may be available from organizations with an interest in enhancing river access and/or accessibility. Private funds have been used to assist with construction costs for other BPRD river access projects, including funding from the Bend Paddle Trail Alliance (BPTA) for the whitewater park and the Sunderland Foundation for Riverbend South Access and Restoration.

Figure 14. Rendering of proposed stone access points as part of the Riverbend South Access and Restoration project. The multi-objective nature of the project resulted in funding from a diverse set of sources including OWEB, the Sutherland Foundation, and the Bend Sustainability Fund. Note: Rendering developed by LOCI Studio as a subcontractor to ESA.

Accessible River Access

Improved river access for people with disabilities is a primary goal of the proposed projects. Empowering Access is providing accessibility consulting services to identify opportunities and potential design options for accessible water access at the sites. Through an understanding of the various needs of the disabled community, known available adaptive gear and systems, and the collection of precedent sites and studies, the design team has begun to investigate ways to seamlessly integrate accessibility for a wide range of needs into the design with a natural aesthetic.

Common Ability Types and Needs

Common disabilities typically fall under four categories: Sensory (vision/hearing), Mobility, Neuro, and Cognitive. They all have varying, overlapping, and sometimes contradicting needs, and there are many more specific disabilities and ability types. People may experience one or multiple disabilities at the same time.

It is also important to acknowledge that Disability is intersectional. When planning and designing to accommodate people with disabilities, it is important to also include disabled people of color, LGBTQ+, trans, and other historically marginalized identities. It will be important to consider inclusive signage, multiple languages, and gender inclusion in the development of the proposed projects.

Below is a list of common abilities along with their basic needs to enable utilization of a water access site at a public park:

- **Blind, low vision** – independent or assisted with a cane, dog or human: Smooth transitions with clearly defined paths and access points that are wide enough for a person and service dog. Visible, clear and bright signage. Tactile and/or audible information.

- **Deaf, hard of hearing** – independent: Smooth transitions and paths wide enough for two people to walk side by side for communication. Good lighting and sight lines.

- **Autism/Neuro-divergent spectrum** – independent to assisted: Informative signage and directions on proper usage.

- **Cognitive/Developmental** – independent to assisted: Clear communication of use and rules with informative signage.

- **Stroke survivor and Traumatic Brain Injury** – balance, coordination: Clear, smooth paths and grab bars for watercraft launching.

- **Wheelchair user and mobility devices** – manual and power wheelchairs, walkers, crutches – independent to assisted: Smooth transitions and slopes, grab bars on launch sites, low or mostly transparent railing on viewpoints, safe space to leave equipment while on water, room for assisted transfers onto watercraft, equipment staging site, proximity to parking, benches and spaces to rest.

Basic needs for most ability levels include:

- Smooth surface and transitions
- Close proximity to transportation, parking, and restrooms
- Minimal or no slope on the majority of a path
- Informative, clear and visible signage
- Seating and shade
- Wide paths
- Barrier free access to water to use as desired

Key features that would help create an inclusive and equitable experience for users with disabilities begin with enabling users to access the site. Equitable transportation options and ADA parking need to be near the river access location, especially when loading / unloading / hauling watercraft and gear. Clear signage, kiosks, and directions are highly important. Restroom access and proximity can be a deal breaker for many when choosing recreation sites. From the parking lot to the water access location, minimal sloping is important when hauling gear. A staging site close to the launch helps greatly. Space for multiple people on the launch is important for assisted transfers. Surface and structure to grab and transfer to and from is crucial, and the design should consider the different potential gear types. Tiered transfer benches or structures allow more independence and safety for those with mobility needs. Locating the access point in an area with calm water and lower traffic is desirable for confidence of use and lessening stress. A space where assistive devices could be stored safely while the user is on the water is a desire for many people (ideally with a locking option and clear signage). River access not only to watercraft launching but for swimming, toe dipping, and relaxing is not commonly provided for mobility device users, but something that is often desired.

Figure 15. There are many types of adaptive equipment that can adapt watercraft for use by people with disabilities. Left: Several of the kayaks are outfitted with outrigger systems, and the kayak in the center has a mounted kayak paddle. Right: A stand-up paddleboard (SUP) outfitted with a simple removable seat. Webpage with kayak adaptation examples: https://oregonadaptivesports.org/kayak-adaptations/

River Access Examples

San Marcos, TX

The San Marcos River in San Marcos, TX exhibits many similarities in terms of recreational use as the Deschutes River through Bend. San Marcos is a small city located about a 40-min drive south of Austin, TX, and is home to Texas State University. The population of San Marcos at the 2020 census was 67,553. The climate is characterized by hot, humid summers (conducive to spending time on the river), and mild winters. The San Marcos River has a very consistent flow year round, with the exception of occasional large rain events associated with hurricane systems that have created several large flood events.

Similar to the Deschutes, the San Marcos River flows through the heart of the community, and sees heavy recreational use by tubers, swimmers, and people in canoes, kayaks, and stand-up paddleboards (SUPs). The reach through town is about a mile and a half long, from Spring Lake to the I-35 bridge. An overview map of the San Marcos River is shown in Figure 17. The river begins at Spring Lake, where outflow from a multitude of springs from the Edwards Aquifer feed the river. The San Marcos River is home to several species listed as endangered under the Endangered Species Act, including the fountain darter and Texas wild-rice.

A low head dam located at Rio Vista Park was modified into a whitewater park in 2006, referred to as "Rio Vista Falls". The river consists of flat moving water until Rio Vista Falls towards the downstream end of the typical tube float, similar to the location of the Bend Whitewater Park on the tube float on the Deschutes.

Figure 16. Rio Vista Falls on the San Marcos River. In 2006 a failing low head dam was replaced with three drop structures, providing improved safety, river access, and recreation. The park today is popular with swimmers, tubers, and kayakers.

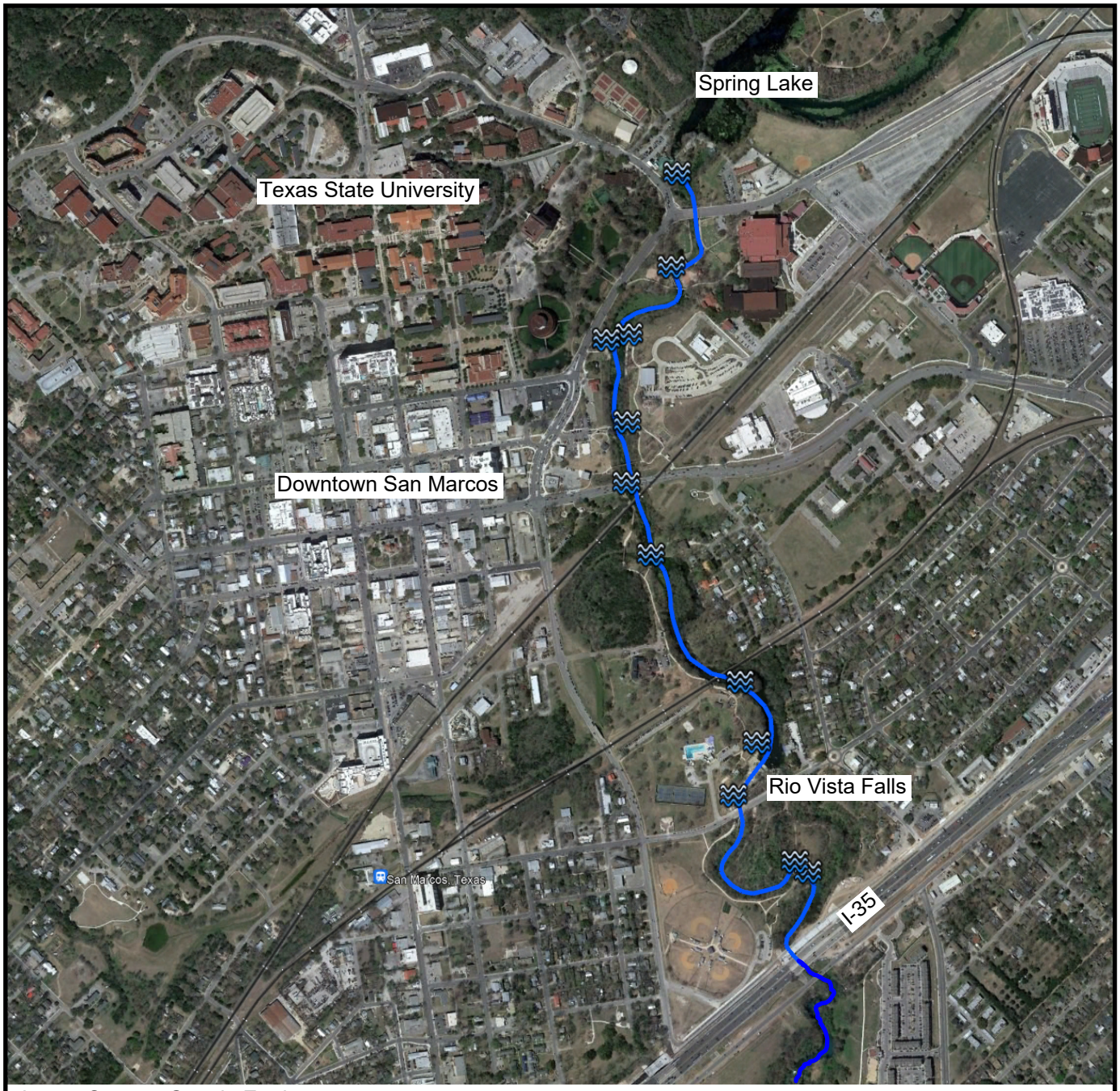

Image Source: Google Earth

LEGEND

Developed River Access Location

San Marcos River

1/4 Mile

N

ESA

Figure 17
San Marcos River Overview Map

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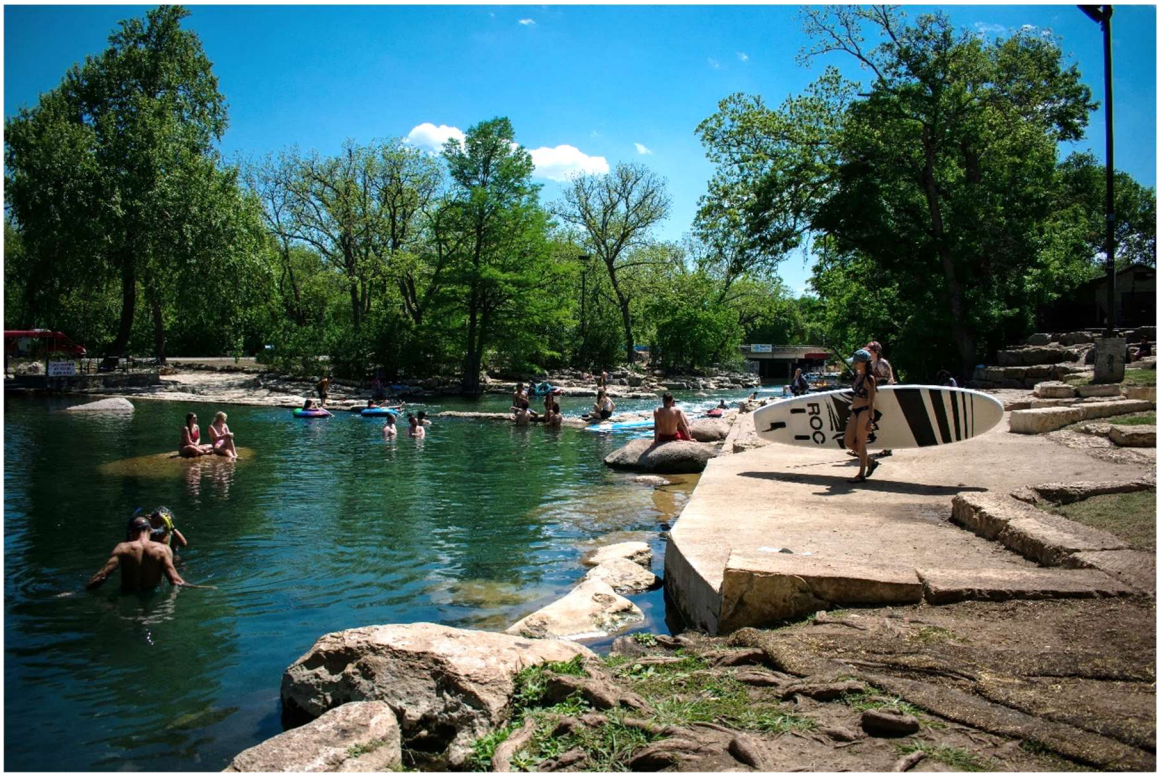

Figure 18. River access at the upstream end of Rio Vista Falls. An accessible concrete trail connects to the water's edge.

A majority of the land along the river is owned by the City and maintained as public parks, though there are a number of residential properties on the river, and university owned land at the upstream-most section of river through the campus. There is a paved concrete trail running along the river for almost the entirety of the length through town, allowing the public to move up and down the river corridor and access different areas of the riverbank.

The population of San Marcos has grown dramatically, and the popularity of river recreation has exploded. The high use was causing rapid erosion of the riverbanks and degradation of riparian vegetation. The City has taken a proactive approach and developed a series of river access locations constructed from locally available limestone blocks. The access points are located at sensible locations throughout the river corridor, and provide sustainable access to the river that can handle high use without degrading. In between access points, fencing and signage has been erected in areas where riparian vegetation is at risk.

The developed river access points vary from small access locations used primarily to launch hand carried watercraft, to long sections of stone bank terracing that allows significant area for people to sit at the water's edge, swim / wade, or get in or out of the river with watercraft. ESA counted at least twelve developed river access locations in the 1.5 mile corridor, as depicted in the San Marcos River Overview Map, though what is defined as a single access point or multiple can be subjective. For example, Rio Vista Falls was counted as a single access location, even though it provides river access on

both banks for about 300 ft. The access locations are spaced such that the distance to the next developed access location is not too far. The greatest distance measured between river access locations is 1,100 ft. This seems to help minimize user-created access: the combination of fencing and the proximity of a developed access point creates a situation where it is easier for people to get to the next designated river access point than trample through vegetation to the river.

Figure 19. Right: A small stone access point provides sustainable access into and out of the river for people with hand carried watercraft.

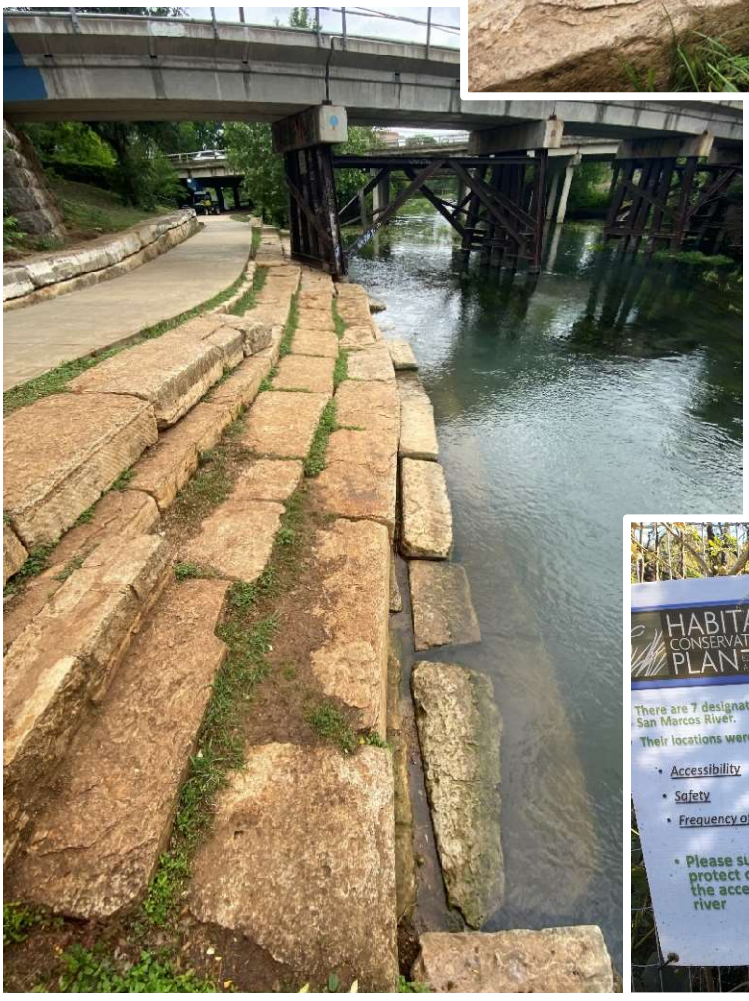

Figure 20. Left: Stone terracing between the concrete path and San Marcos river serves several purposes: retaining the bank and supporting the trail as it passes under the railroad and E Hopkins St, providing scour protection during high flow events, and serving as erosion resistant river access and seating for people to enjoy the river.

Below: Signage on fencing informs the public and encourages responsible river use.

Figure 21. An accessible concrete trail (top) leads to the river's edge at a river access location (bottom) in San Marcos, TX.

Boulder, CO

Boulder Creek runs through the center of Boulder, CO and sees heavy recreational use in the spring and summer months. Boulder is located on the front range of the Rocky Mountains in Colorado, about a 45-minute drive northwest of Denver. The city had a population of 108,250 at the 2020 census. The climate is similar to central Oregon, being relatively dry and sunny as it is also located in the rain shadow of mountains. Boulder Creek runs off of snow melt, with the highest flows in the spring as the mountains emerge from winter, and flows tapering off throughout the summer.

The reach of Boulder Creek running through Boulder is characterized by more whitewater than the San Marcos River or the Deschutes through Bend, generally consisting of Class III rapids throughout town. During spring runoff, the water is cold and relatively high, and the river is popular with whitewater kayakers and other more experienced users. During the summer months as the flow drops and the air temperatures rise, it becomes extremely popular with people tubing, swimming, and wading. Every year there is a popular "Tube to Work Day" event, typically occurring in July. The Boulder Creek Path is a concrete trail that runs the length of the creek, providing access to the creek throughout the river corridor.

Figure 22. Tube to Work Day is a popular event on Boulder Creek each July

At the mouth of Boulder Canyon, just after Boulder Creek first enters city limits, one of the first whitewater parks in the country was developed at an irrigation diversion dam. This area includes a low river trail along the river's edge, many drop structures, and stone terracing that provides river access along the length of the park.

Image Source: Google Earth

LEGEND

Developed River Access Location

Boulder Creek

1/4 Mile

N

ESA

Figure 23
Boulder Creek Overview Map

D202101336.00

Figure 24. A riverside trail and stone bank terracing provide river access along the length of the Boulder Creek whitewater course.

Downstream of the whitewater park is Eben G Fine Park, which is an extremely popular park in the summer for picnicking and accessing the river. There is about 600ft of riverbank in the park, and riparian vegetation was being trampled and banks eroding. The City of Boulder implemented a bank restoration project at the park, combining habitat restoration with sustainable creek access points. A schematic site plan of the project is shown in Figure 25. Several areas were fenced off and revegetated with native vegetation. River access was improved in between the habitat restoration areas, including six stone stairways into the creek. This project is a good example of improving both riparian habitat conditions as well as public access to the river; they do not have to be mutually exclusive.

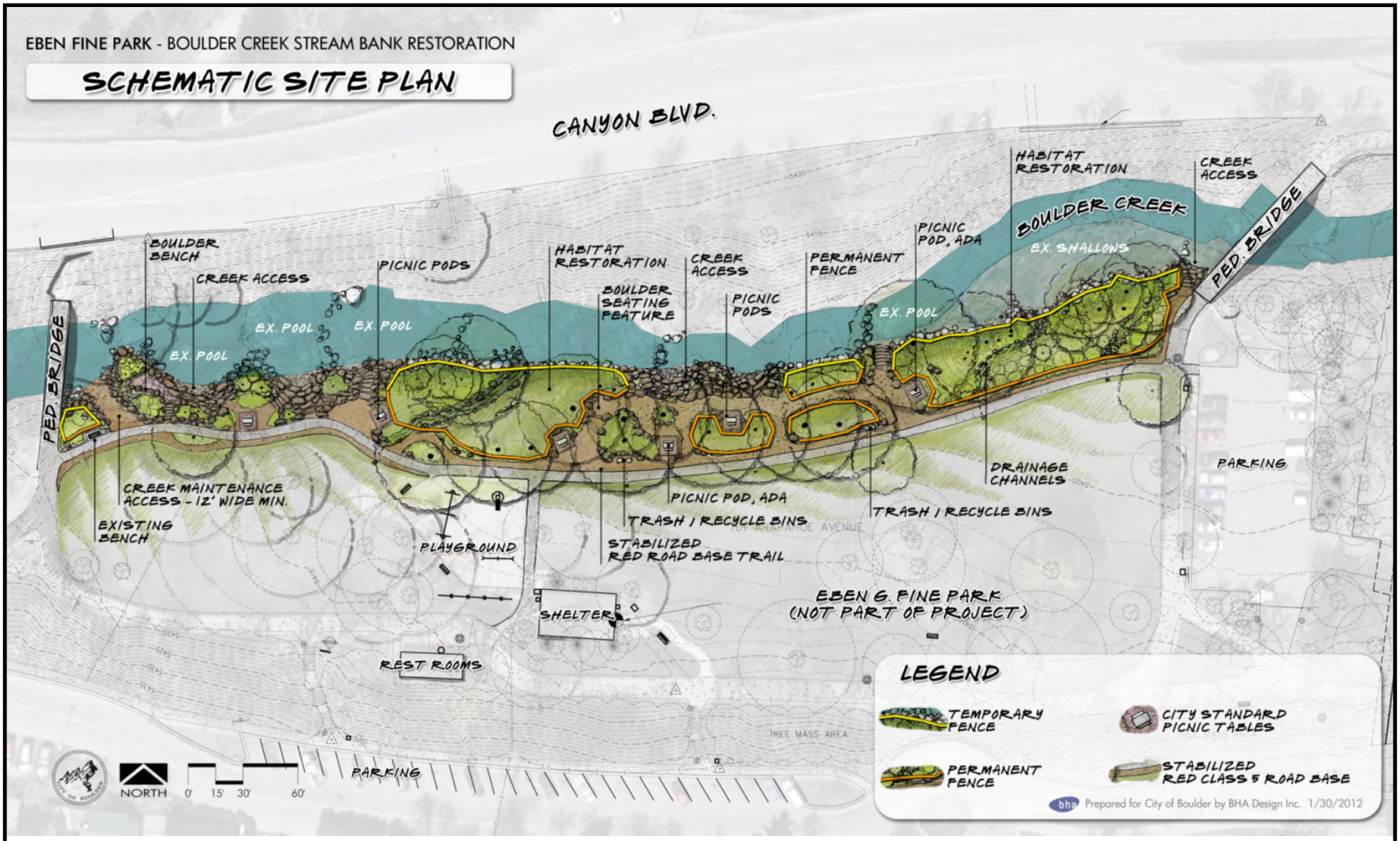

Image Source: BHA Design https://bhadesign.com/portfolio/eben-fine-park/

Note: This Schematic Site Plan was developed by BHA Design Inc. for the City of Boulder. ESA was not involved in this project or development of this schematic: it is shown for example only.

ESA

Figure 25
Eben G Fine Park Restoration Schematic Site Plan

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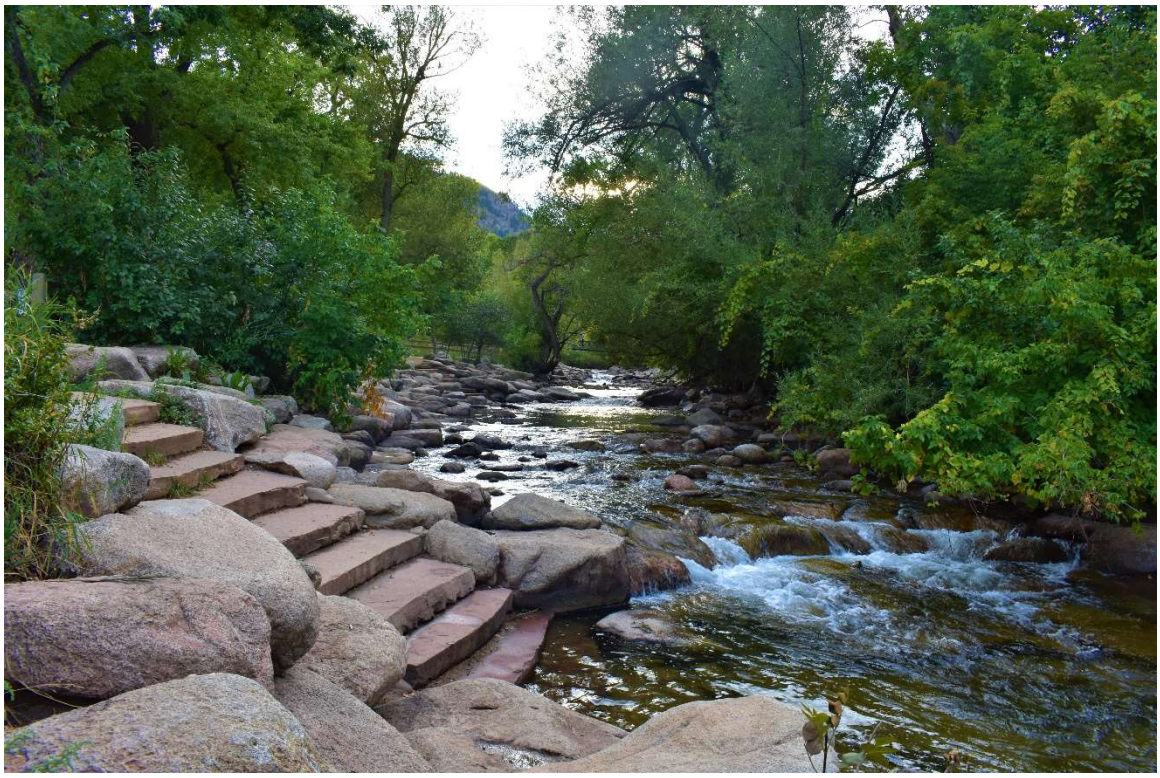


Figure 26. One of the stone stairways that was installed at Eben Fine Park in conjunction with habitat restoration and fencing. The stairway provides river access using durable materials and blends into the surrounding natural environment.

Downstream of Eben G Fine Park, City of Boulder property with the Boulder Creek Path runs along the river left (north bank), and the river right (south bank) consists entirely of private residential parcels. This section is roughly a half mile, with public access along the left bank from the path, but no significant developed access points. There is no fencing and a plethora of natural access locations are popular along this section, ranging from small cobble / sand beaches to rocky outcrops. There is some erosion, but generally the riparian vegetation is holding up. The banks are mostly rocky, and naturally resistant to erosion from enduring high flow events in the creek. The access locations are used primarily for people looking for a quieter place to hang out by the creek. There is no parking area and the access locations are rarely used for launching watercraft. This reach is somewhat similar to the reach of the Deschutes upstream of Bill Healy Bridge, where the river is steeper, more natural feeling, and the banks are rockier.

Accessible River Access Examples

Seine River Accessible Kayak Launch

Located on the Seine River in Winnipeg, Manitoba, Canada, this project was completed in December 2020 as part of the Seine River Greenspace Enhancement Project. The accessible launch is constructed with boat glides inset between two concrete walls, allowing canoes and kayaks to slide with relatively little resistance up or down the kayak chute. Oar stops and ADA compliant accessible handrails are included to help users get up or down the kayak chute. A simple transfer station is located at the top of the launch, with the surrounding area consisting of level concrete pavers, providing space for staging and multiple people while also clearly identifying change in surfaces for users with low sight.

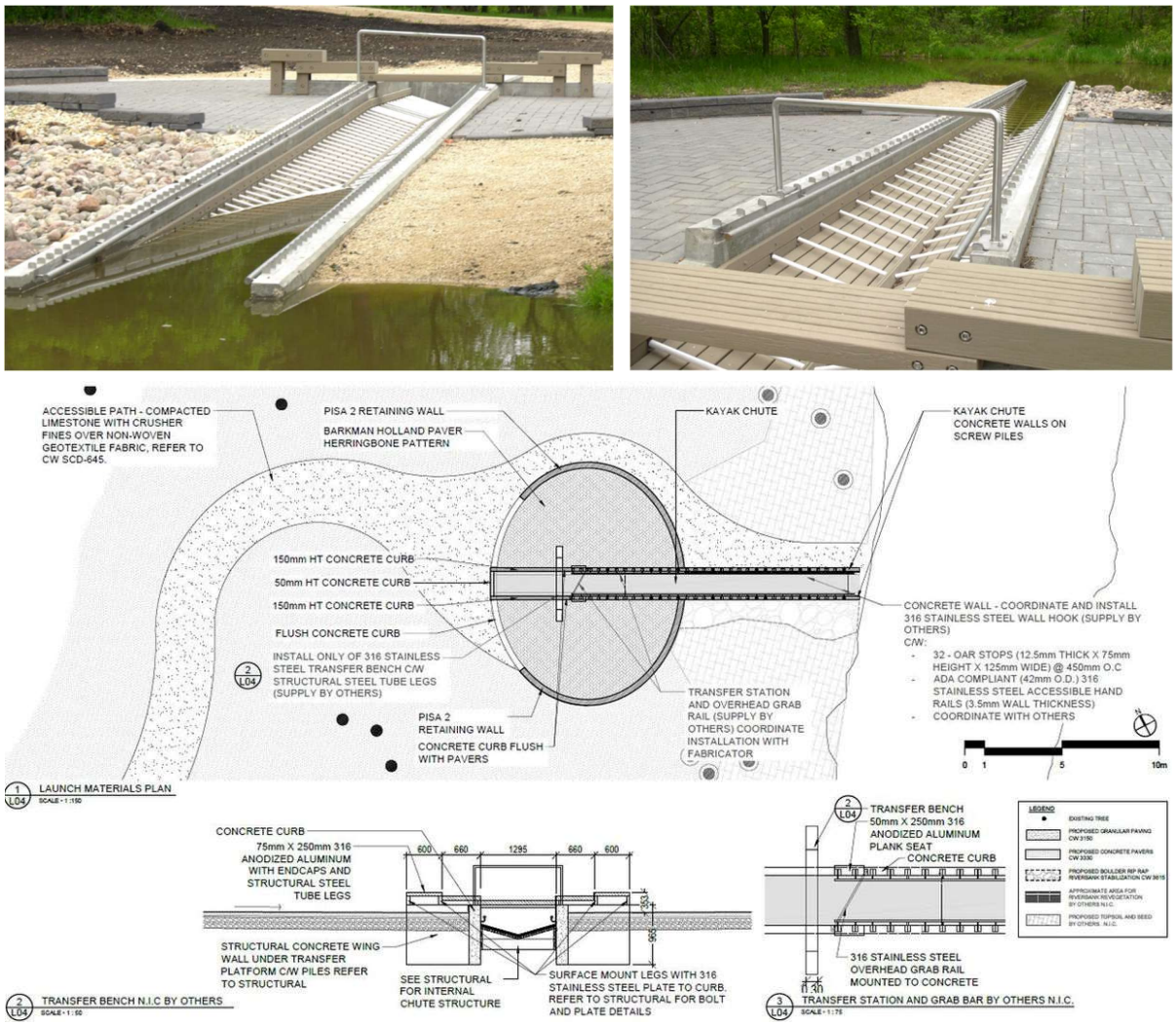


Figure 27. The accessible kayak and canoe launch constructed on the Seine River in Winnipeg. The upper two photos show the launch after construction, the bottom photo shows the final design plans. The design was developed by Scatliff+Miller+Murray. The project webpage is located here: https://www.saveourseine.com/accessible-dock

Image source for post-construction photos: CTV News / Glenn Pismenny

Hunts Point Landing

Hunts Point Landing is located in Bronx, New York, and includes a fishing pier and kayak and canoe launch. The project is located in an industrial area, and provides some of the first waterfront access to the South Bronx. The project was constructed in 2013.

The kayak and canoe launch consists of a ramp sloping consistently down into the water. No landings are included in the path, and there is minimal area for staging or for leaving a wheelchair or mobility device. The area to launch watercraft seems quite narrow, squeezed between riprap and a stone wall. There is no transfer structure, except perhaps the stone wall could be used with assistance. The design includes little to no waterfront space for hanging out at the water's edge for people with disabilities or able-bodied persons. The fishing pier appears to be accessible for people who use a wheelchair or mobility device. The pier railings include gaps allowing a view of the water for wheelchair users.

Figure 28. Upper left: Shoreline as seen from fishing pier. Upper right: Fishing pier at dusk. Bottom: Kayak and canoe launch. Images source: Mathews Nielson Landscape Architects. Website: https://www.mnlandscape.com/projects/hunts_point_landing

Buffalo Blueway Project – Ohio Street Access Site

The Buffalo Blueway project is a regional effort in Buffalo, NY to improve and enhance river access and opportunities for recreation. In 2021, a public access point called the Ohio Street Fishing Access Site was completed. The access point includes a boat launch for watercraft and a wheelchair accessible fishing pier. The boat launch is not designed to be accessible for people with disabilities. The project offers viewing and fishing opportunities for wheelchair users but does not provide any accessible space down near the surface of the water, or to launch watercraft.

Figure 29. Top: Concrete boat ramp in the foreground. This boat ramp is not designed to be accessible for wheelchair users. Bottom: Fishing pier at the site that is designed to be wheelchair accessible.

Other River Access Examples

Veltus Park

Veltus Park in Glenwood Springs, CO is located on the Roaring Fork River and provides river access for a variety of river users. The access point includes a current deflector which forms a calm eddy in the river which otherwise has a swift current. The deflector also allows people to get out into the river and view upstream and downstream without getting in the water. Stone terracing and a stone stairway provide easy access to the water and seating along the river's edge.

Figure 30. River access at Veltus Park along the Roaring Fork River in Glenwood Springs, CO

Stakeholder Organization Vision

Meetings were held with three local stakeholder organizations identified by BPRD to have technical expertise in areas relevant to the proposed projects. Meetings were held with representatives from each stakeholder organization at the BPRD District Office to discuss the proposed river access projects, and receive feedback and input related to each group's expertise. Meeting notes from each meeting are attached in Appendix D.

Upper Deschutes Watershed Council

The Upper Deschutes Watershed Council (UDWC) has local expertise on wildlife and habitat on the Deschutes River, and feedback was focused on topics related to restoration, existing habitat, and their work in the basin. Overall, UDWC noted that the projects are in an urban area with high public use, and a large restoration focused project wouldn't make sense at the parks since it would provide marginal habitat, and limit public enjoyment of the river. From a habitat perspective, the primary recommendation from UDWC was to design the projects to maintain and enhance existing riparian vegetation. The UDWC implemented a restoration project at Miller's Landing prior to its development as a park, including installation of large wood and vegetation. The habitat provided by that restoration project should be preserved. In the context of the high use in the area, UDWC is supportive of creating hardened access at existing access locations to provide sustainable river access to the public while minimizing erosion.

Bend Paddle Trail Alliance

The Bend Paddle Trail Alliance (BPTA) provided feedback on the proposed projects based on their local expertise related to recreational river use, access, and launching watercraft. BPTA is very supportive of enhancing river access at the existing sites. It was noted that there are two categories of use of river access points: Launching watercraft and hanging out by the river. There needs to be space provided for both types of use, and BPTA noted there is currently a shortage of areas for hanging out by the river along the Deschutes through Bend. The importance of shade was brought up for multiple sites. Overall, BPTA would like to see improved river access at all three sites, with an emphasis on providing more space for sitting by the water and minimizing closure of existing access locations (including Access #2 at Miller's Landing, and the currently closed access at Columbia Park). BPTA mentioned they may be interested in fundraising for the project.

Oregon Adaptive Sports

Oregon Adaptive Sports (OAS) is an adaptive sports foundation based in Bend that provides outdoor recreation experiences to individuals with disabilities. Their programming has included paddle sports on the Deschutes River in Bend, and they are knowledgeable about the barriers that exist for people with disabilities engaging in

outdoor recreation. During the meeting, OAS noted that they would likely not lead any programs from the three parks included in this project. The focus should be on providing the infrastructure to enable people with disabilities to access the river independently. During OAS programs, people are able to overcome deficient infrastructure because of the substantial support OAS provides, but this is not the case when they are alone or with a friend or family member. The existing infrastructure at Miller's Landing including the parking, restrooms, and flat route from parking to the river make it an appealing location to provide accessible river access.

Conclusions and Recommendations

Based on the data collected, below is a summary of recommendations to help guide the development of initial conceptual designs for each site. Overall, goals that should be prioritized for all three parks include:

- Halt ongoing erosion into the river.
- Protect existing riparian vegetation. Improvements should be kept within the footprint of existing access areas or degraded areas.
- Improve access to the river for people with disabilities (for launching watercraft, as well as swimming, wading, and hanging out by the river). Provide access that can be used as independently as possible.
- Improve access for all river users. This includes launching hand-carried watercraft, but there should be a focus on providing space for hanging out by the river, wading, and swimming.

The three parks included in this study are some of the few areas in downtown Bend where river access can be provided to calm sections of the Deschutes that are conducive to wading and swimming in the river. Downstream of Columbia Park, fine sediment covers the riverbed. Upstream of McKay Park, the land on both banks is privately owned until Riverbend and Farewell Bend Parks. BPRD's 2018 Comprehensive Plan identifies "areas to access the river" as a high community need, and improved access for wading, swimming, and hanging out by the river at these three parks would go a long way in addressing that need. Based on the experience of the other communities studied in this report, a greater number of developed river access points helps to spread out use and lessen the need for people to create their own unsanctioned access points.

For each site, initial conceptual designs will be developed as part of the next phase of work. Following are recommendations for concepts that could be developed at each access location, along with their pros and cons. The concepts described are currently very high-level; details for each will be further developed in the design phase.

McKay Park

Improvements at McKay Park should be focused primarily on improving accessible access into the river for people with disabilities.

Figure 31. The existing beach at McKay Park

Concept 1: Improvements to make the existing concrete ramp work better for people with disabilities. Include a small stone or concrete wall on uphill side of ramp to minimize sand that covers the ramp currently. Install a transfer station or similar at the end of the ramp to facilitate independent access into the river.

Pros:

- Less expensive than Concept 2.
- Improves an ADA river access over existing conditions.
- Addresses sand intrusion on walkway.

Cons:

- Still no flat areas or landings for wheelchairs to stop or turnaround.
- Ramp enters water at downstream end of fish passage channel, which is one of the most crowded areas on the river.
- Does not address beach erosion into river.

Concept 2: Convert the area of the beach that washed out in storm events into a patio / plaza area that includes accessible river access. Provide ADA access to the plaza from the existing concrete ramp.

Pros:

- Moves an ADA river access downstream, away from the constant flow of tubers.
- Built with durable material that won't wash out or erode from foot traffic.

- Provides flat area for wheelchairs and staging.
- Addresses sand intrusion on walkway.

Cons:

- More expensive than Concept 1.
- Decreases sand beach area, which is currently popular.

Miller's Landing Park

There are two existing access points at Miller's Landing: the upstream boardwalk (Access #1), and the downstream eroding user-created access (Access #2).

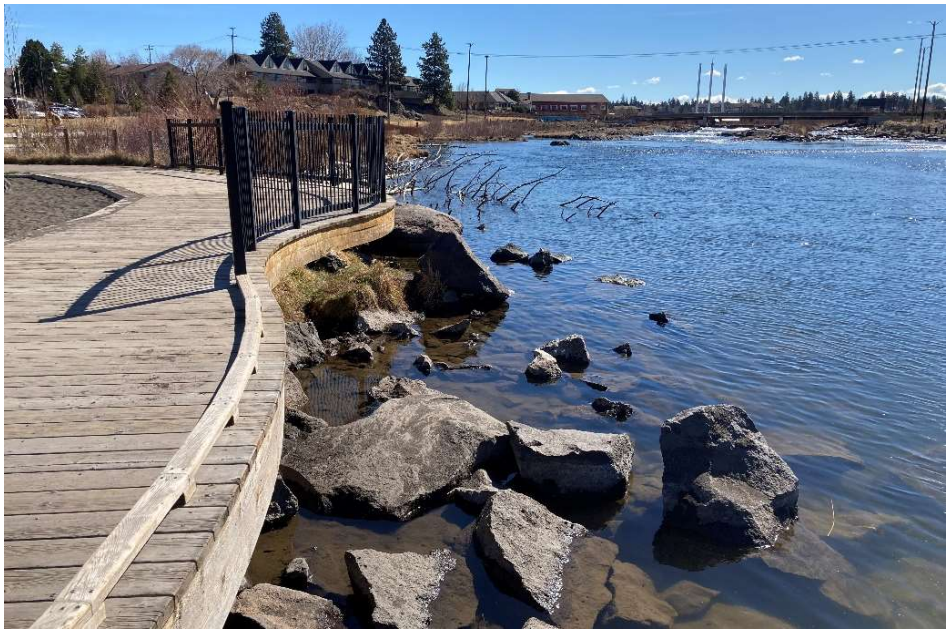


Figure 32. The existing boardwalk at Miller's Landing Park (Access #1)

Access #1, the boardwalk: River access improvements need to safely connect people from the boardwalk into the river. There is currently a substantial drop onto sharp rocks, and the access point isn't used as much as would be expected given the location. There is a flat accessible route from the parking lot to the boardwalk, making this the best site to provide infrastructure to better enable people with disabilities to enter the river independently.

Concept 1: Provide a basic river access concept that still improves access to the river, including for people with disabilities. Details to be developed, but potentially a dock system.

Pros:

- Provides better access to river for all users.
- Less expensive than Concept 2.

Cons:

- Improvements would be more minimal than Concept 2.
- A dock system would raise long term maintenance and durability concerns.

Concept 2: Provide a ramp from the surface of the boardwalk down into the river, with landings. Construct a stone (possibly vegetated) current deflector just upstream of boardwalk to create a calm eddy for entering river. Provide transfer station or similar near the water surface for users with mobility disabilities to transfer into watercraft independently. Possibly include a second ramp up to the other side of the boardwalk, creating an accessible loop down to the river and back up.

Pros:

- Greatly improve river access at the site for all users.
- More natural in appearance than Concept 1.

Cons:

- More expensive than Concept 1.
- Relatively large quantity of material below OHWM. Would require coordination with regulatory agencies to determine what would be allowed.

Figure 33. User-created access at Miller's Landing Park (Access #2)

Access #2, user-created: This location provides access to an area of the Deschutes River that is unique in the downtown Bend area. The river here is calm, sand-bedded, and relatively shallow far out into the river, creating ideal conditions for wading. Elsewhere, including at Columbia Park and Access #1 at Miller's Landing, the riverbed drops off quickly, or the river bottom is covered in a thick layer of fine sediment, such as in the vicinity of Mirror Pond. There is also a mature ponderosa tree that provides substantial shade.

Concept 1: Permanently close river access at Access #2. Fence off riverbank and revegetate existing access point.

Pros:

- Less expensive than Concept 2.
- Restores riparian and upland vegetation.
- Improves river habitat.

Cons:

- Popular river access to a unique section of river would be closed.

Concept 2: Create a sustainable river access location geared towards people wading, swimming, and hanging out by the river. Provide accessible access to users with disabilities to participate in the same activities. Add fencing to protect existing riparian vegetation.

Pros:

- Maintains and enhances a popular river access location that provides a unique river experience, while halting erosion and protecting existing vegetation.
- Enable people with disabilities to enjoy the access site.
- Existing eroding bank provides the opportunity to grade the bank back substantially, versus at Access #1 where the existing boardwalk is a constraint.

Cons:

- More expensive than closing access.
- Increased use could affect upstream habitat if not designed appropriately.
- Possible noise issues to adjacent residential properties.

Columbia Park

Improvements at Columbia Park are complicated by the issue of illegal bridge jumping from the Gilchrist Footbridge. Due to the lack of parking and the relatively steep slope, the site doesn't make sense for a primary watercraft launch point or primary access location for people with disabilities. However, it has potential as a river access point for wading, swimming, and hanging out by the river. The riverbank along the neighborhood park is shaded much of the time, and provides a less crowded alternative to McKay and Miller's Landing Parks. In addition, before being closed it was used by neighbors within walking distance as a launch point.

Figure 34. Existing temporary fence closing off river access at Columbia Park

Concept 1: Permanently close all river access from Columbia Park. Fence off riverbank and revegetate existing access point.

Pros:

- Restores riparian and upland vegetation.
- Improves river habitat.
- Changes use to better align with park's classification.

Cons:

- There would be no sanctioned river access at Columbia Park.
- Design would need to address non-sanctioned access from bridge jumpers and park users.
- Based on some feedback during the development of the River Plan, strong public opposition to permanently closing all river access at Columbia Park would be expected.

Concept 2: Include a river access location, but moved downstream from the existing eroded access point. Two potential locations are at the existing storm outfall and at the downstream end of the park. Provide access for users in wheelchairs to the river's edge to allow for viewing. Fence off and revegetate existing access point.

Pros:

- Moves river access downstream, farther from the footbridge making it a longer swim for jumpers to get out of the river.
- Provides an egress point out of the river for public safety. The next public access downstream is at Drake Park.
- Built with durable material that won't erode from foot traffic.

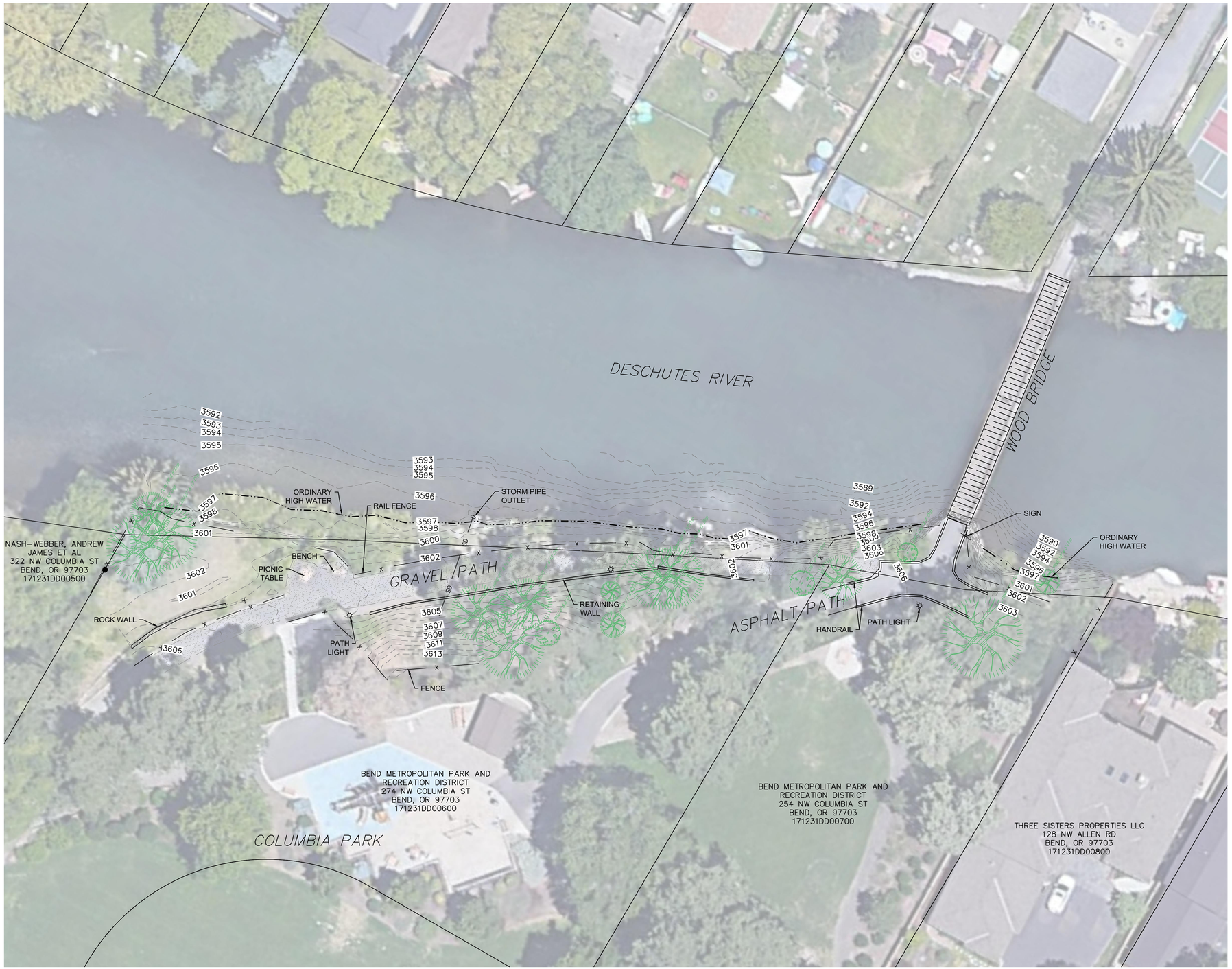
- Provides river access for neighbors and a quieter option for people who want to hang out by the river.
- Downstream the trail is farther from the river's edge, providing more area to construct a sustainable access point than at the existing location.

Cons:

- Could promote bridge jumping.
- Any access point, regardless of size, could have a negative effect on adjacent riparian vegetation due to increased use.
- Due to narrow river channel in this location, any improvements would need to be designed to accommodate and withstand extreme ice conditions (ie winter 2015).
- Possible noise issues to adjacent residential properties.

Appendix A:
Site Survey

ESA



LEGEND:

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- EXISTING SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING POWER POLE
- EXISTING TREE
- EXISTING POWER/COMM. PEDESTAL
- EXISTING WATER — W —
- EXISTING SEWER — SS —
- EXISTING FENCE — X —
- EXISTING SIGN
- EXISTING POWER METER
- EXISTING OVERHEAD CABLE — OH —
- MAJOR CONTOURS — 3062 —
- MINOR CONTOURS — 3061 —
- PROPERTY LINE
- EXISTING TAX LOTS

EXISTING CONDITIONS

SCALE: 1"= 20'

REGISTERED PROFESSIONAL ENGINEER
70814
OREGON
DEC. 31, 2007
ERIK J. HUFFMAN
RENEWS: JUNE 30, 2023

ENVIRONMENTAL SCIENCE ASSOCIATES
DESCHUTES RIVER ACCESS STUDY

EXISTING CONDITIONS MAP

CITY OF BEND, DESCHUTES COUNTY, OREGON

REVISIONS:
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BECON
CIVIL ENGINEERING & LAND SURVEYING
549 SW MILL VIEW WAY
SUITE 100
BEND, OREGON 97702
(541) 633-3140
www.beconeng.com

DESIGNED BY: EJH
DRAWN BY: EJH
SCALE: 1" = 20'
FILE: 22032
DATE: 7/29/2022

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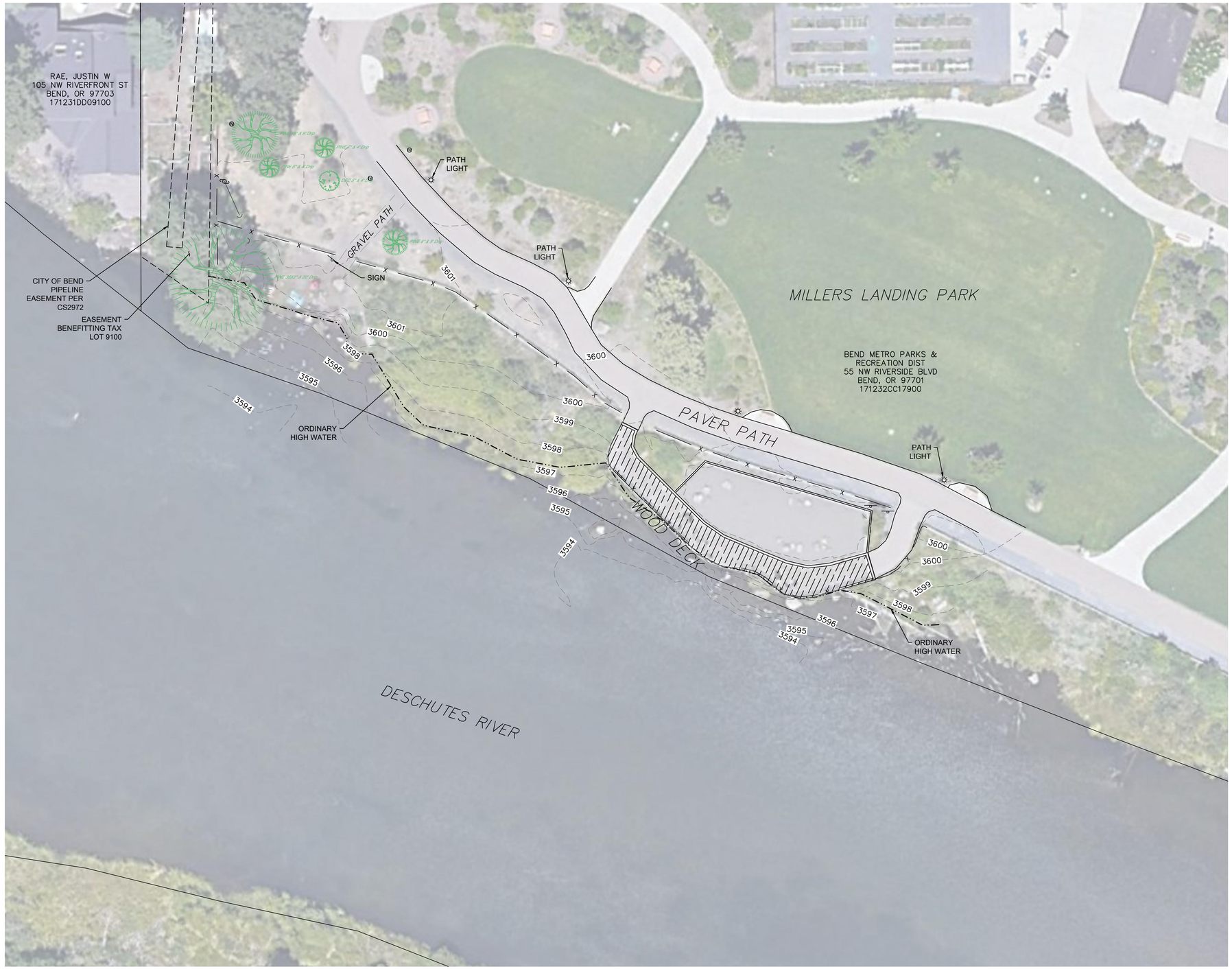

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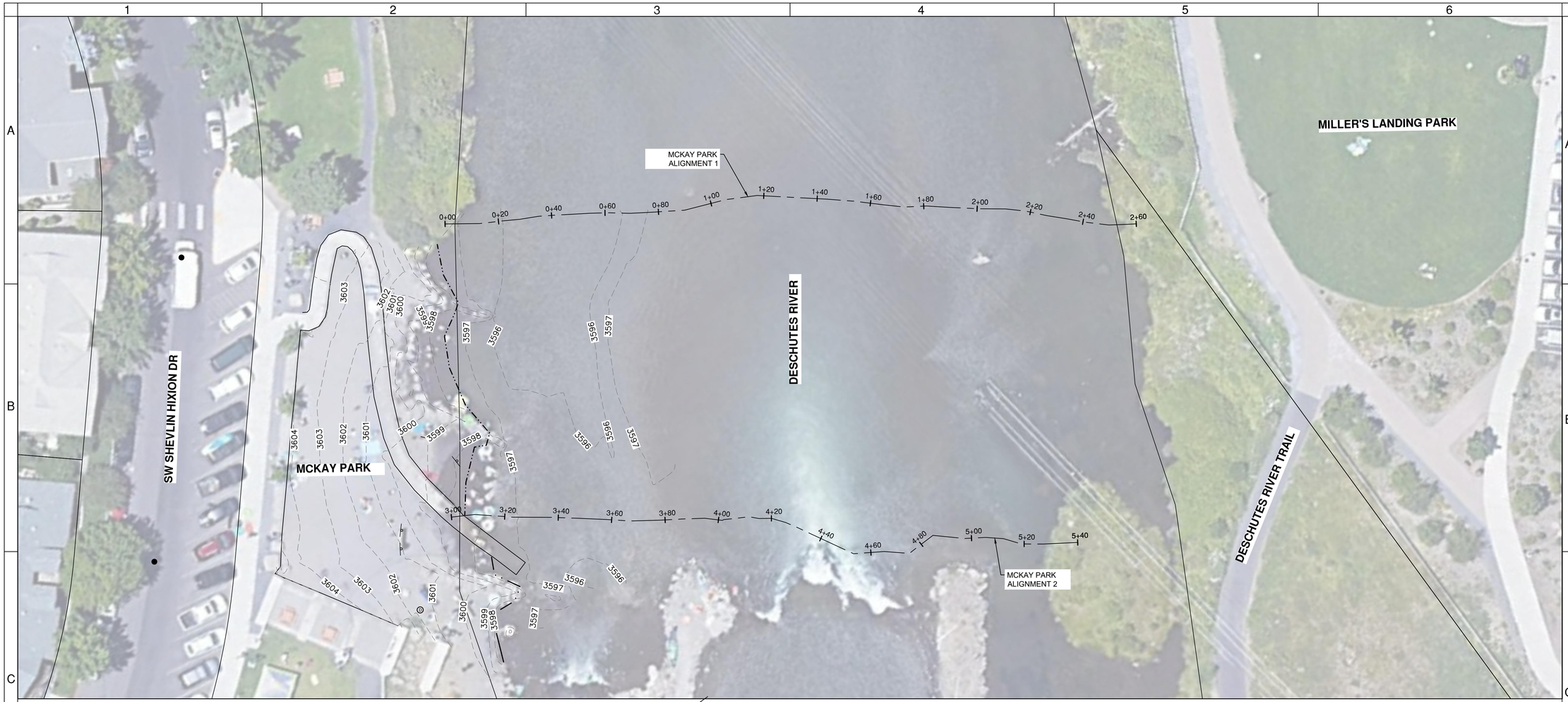

MCKAY PARK PLAN

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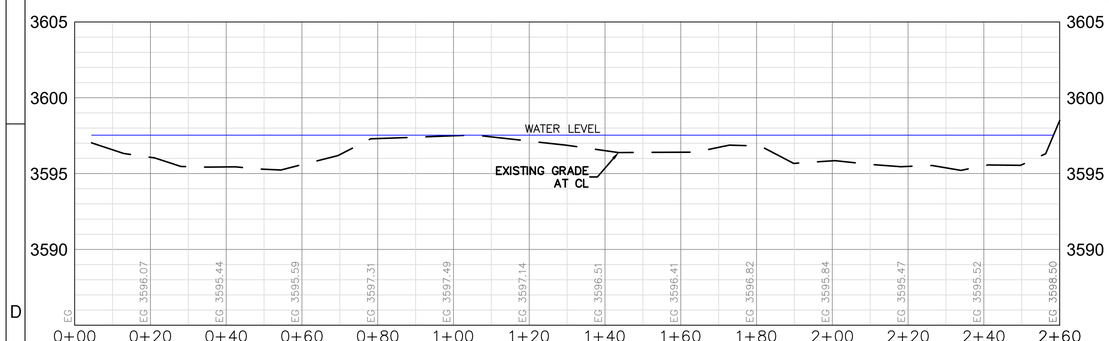

MCKAY PARK PROFILE 1

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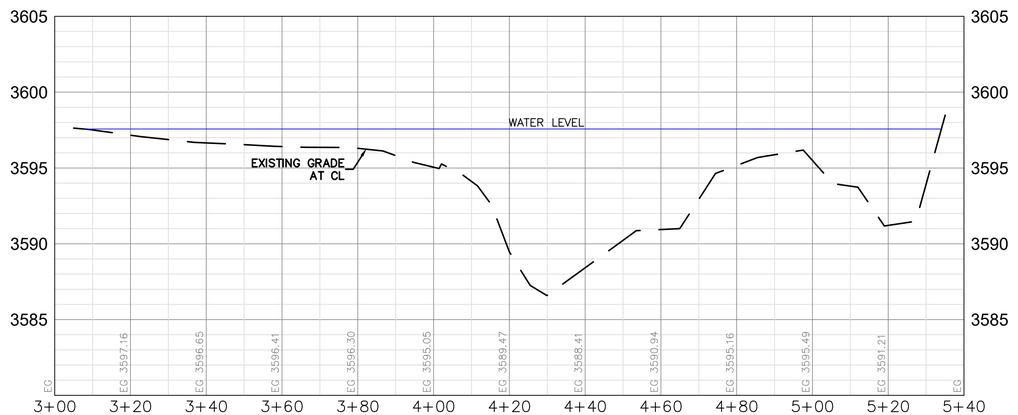


MCKAY PARK PROFILE 2

SCALE: H: 1"=20' V: 1" = 5'

REGISTERED PROFESSIONAL ENGINEER
70814
OREGON
DEC. 31, 2007
ERIK J. HUFFMAN
RENEWS: JUNE 30, 2023

ENVIRONMENTAL SCIENCE ASSOCIATES
DESCHUTES RIVER ACCESS STUDY

MCKAY PARK

CITY OF BEND, DESCHUTES COUNTY, OREGON

REVISIONS:
1.
2.
3.

BECON
CIVIL ENGINEERING & LAND SURVEYING
549 SW MILL VIEW WAY
SUITE 100
BEND, OREGON 97702
(541) 633-3140
www.beconeng.com

DESIGNED BY: EJH
DRAWN BY: EJH
SCALE: 1" = 20'
FILE: 22032
DATE: 7/29/2022

VERIFY SCALES
0 1"
BAR EQUALS ONE INCH ON ORIGINAL DRAWING

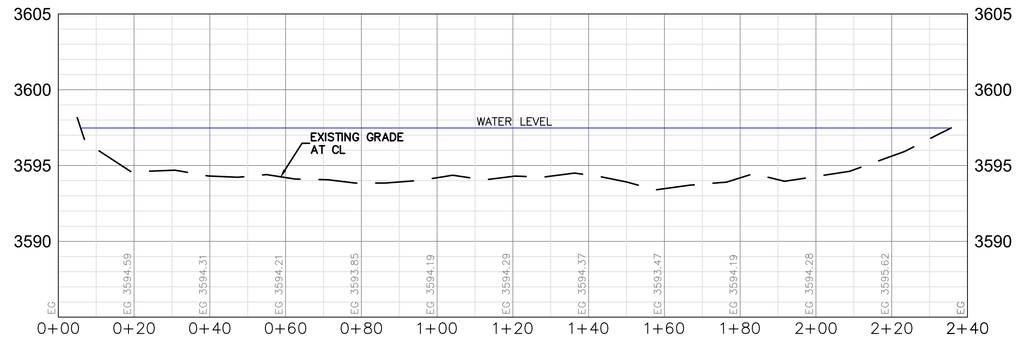
SHEET: C-1.0

1 OF 3

FILE#

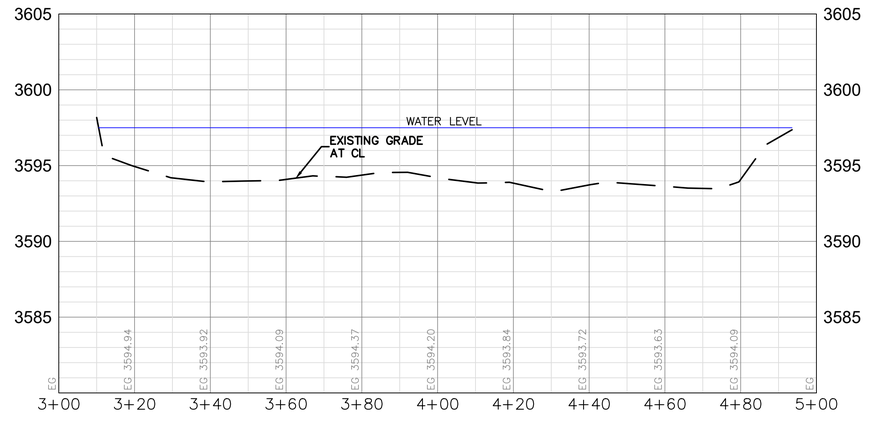
MILLER'S LANDING PARK PLAN

SCALE: 1"=20'



MILLER'S LANDING PARK PROFILE 1

SCALE: H: 1"=20' V: 1" = 5'



MILLER'S LANDING PARK PROFILE 2

SCALE: H: 1"=20' V: 1" = 5'

REGISTERED PROFESSIONAL ENGINEER
70814
OREGON
DEC. 31, 2007
ERIK J. HUFFMAN
RENEWS: JUNE 30, 2023

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MILLER'S LANDING PARK

CITY OF BEND, DESCHUTES COUNTY, OREGON

REVISIONS:
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SUITE 100
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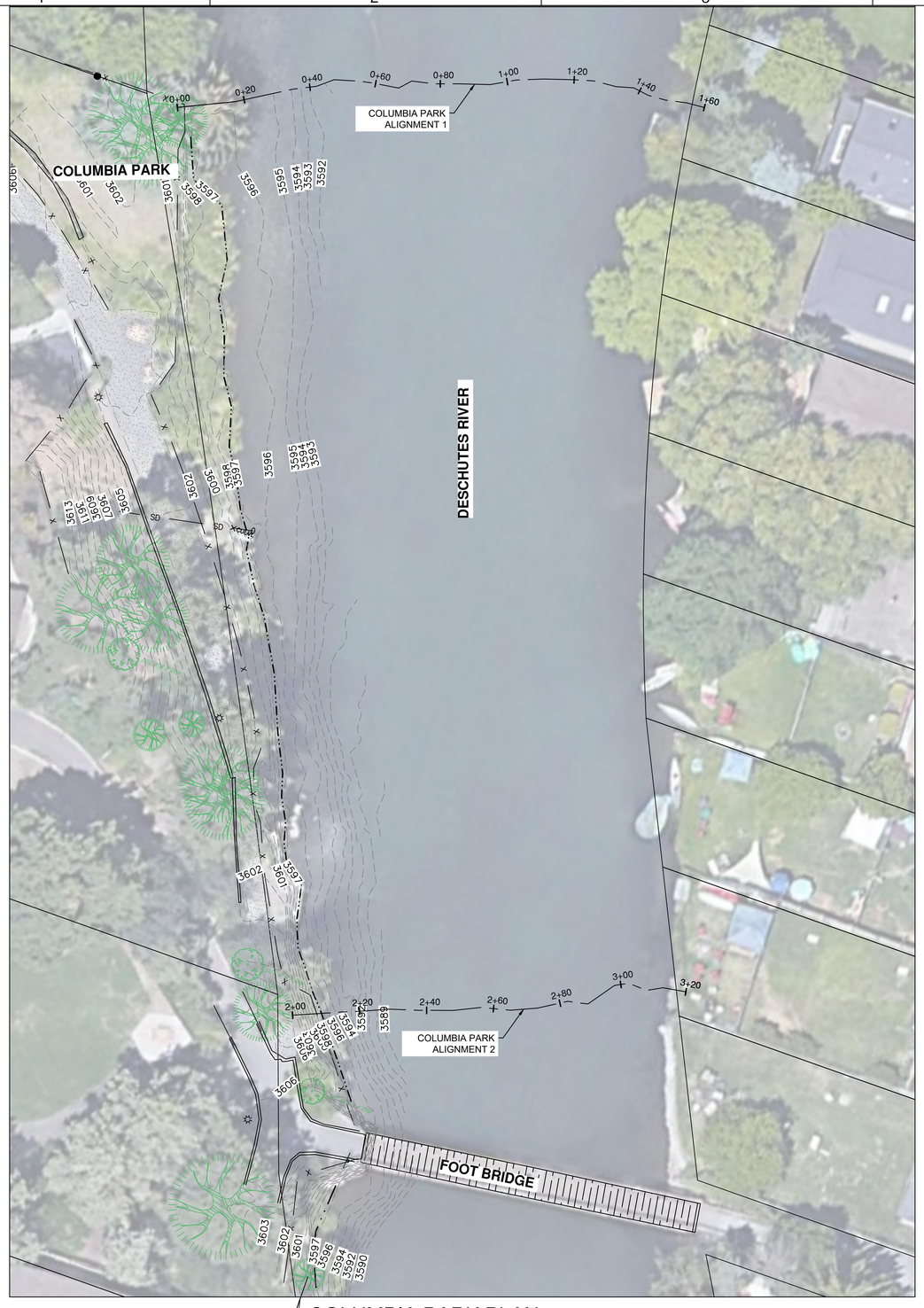
DESIGNED BY: EJH
DRAWN BY: EJH
SCALE: 1" = 20'
FILE: 22032
DATE: 7/29/2022

VERIFY SCALES
0 1"
BAR EQUALS ONE INCH
ON ORIGINAL DRAWING

SHEET:
C-2.0

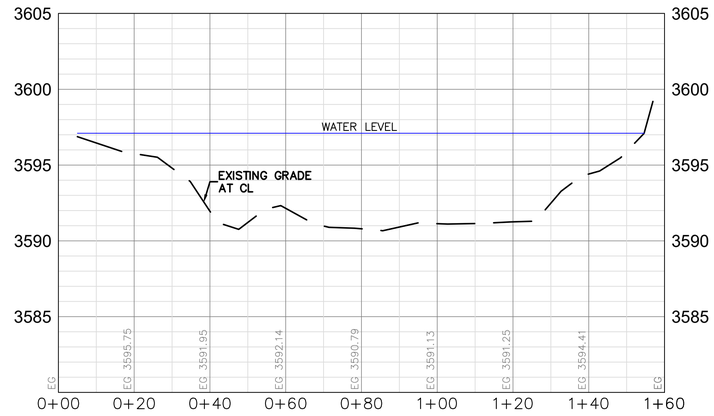
2 OF 3

FILE#



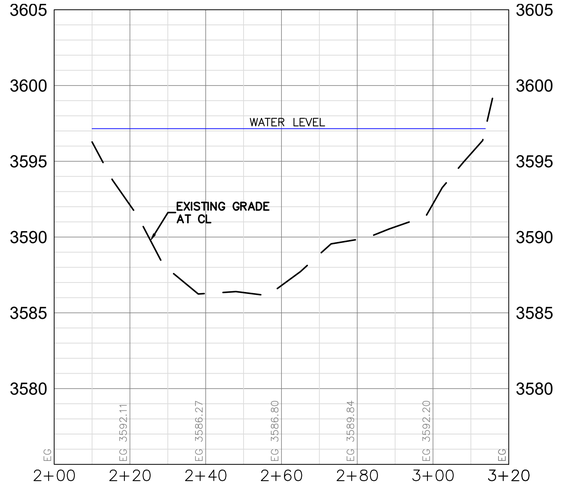
COLUMBIA PARK PLAN

SCALE: 1"=20'



COLUMBIA PARK PROFILE 1

SCALE: H: 1"=20' V: 1" = 5'



COLUMBIA PARK PROFILE 2

SCALE: H: 1"=20' V: 1" = 5'

REGISTERED PROFESSIONAL ENGINEER
70814
OREGON
DEC. 31, 2007
ERIK J. HUFFMAN
RENEWS: JUNE 30, 2023

ENVIRONMENTAL SCIENCE ASSOCIATES
DESCHUTES RIVER ACCESS STUDY

COLUMBIA PARK

CITY OF BEND, DESCHUTES COUNTY, OREGON

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FILE: 22032
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VERIFY SCALES
0 1"
BAR EQUALS ONE INCH ON ORIGINAL DRAWING

SHEET:
C-3.0

3 OF 3

FILE#

Appendix B:
Bend Company Mill
SHPO Inventory Form

ESA

STATE OF OREGON INVENTORY
OF HISTORIC PROPERTIES
State Historic Preservation Office
Oregon State Parks, Salem, OR 97310

County Deschutes

Theme

Name
(Common) Bend Company Mill

(Historic)

Address (located North of Columbia Park)

Present Owner various residential owners

Address N.A.

Original Use saw mill

Date of Construction 1910

Physical description of property and statement of historical significance:

No original structures remain.

The Bend Company mill was built to cut lumber for local use at a time when the town was growing rather rapidly. After the railroad reached Bend in 1911, the possibility of cutting material for shipment to distant markets materialized, and the Bend Company mill shipped the first carloads out of Central Oregon on January 3, 1912. The customer, significantly, was a sash and door plant in Hastings, Nebraska.

Later, the Bend Company mill cut some of the lumber for the Shevlin Hixon mill. It burned in 1915.

continue on back if necessary

Recorded by W. Tonsfeldt Date

Sources consulted (continue on back if necessary):

Joyce Gribskov, Pioneer Spirits of Bend (Bend, 1980) p. 155.
Phil Cogswell, "Deschutes Country Pine Logging" in High and Mighty: Selected Sketches about the Deschutes Country ed. Thomas Vaughan (Portland: OHS, 1981) p. 211

Please enclose map. Township 18S S 12E W Section 5

93 39

Appendix C:
APD Innovation Fund Fact Sheet

ESA

FACT SHEET

Innovation Fund

Overview: The Oregon Department of Human Services Office of Aging and People with Disabilities (APD) created an Innovation Fund to support new community projects that improve services for older adults and people with disabilities. Funding for these new projects will last through June 30, 2023. APD has a total of $3 million to support innovative projects, with at least $2 million for projects focused on equity. Equity focused projects may include those that are serving communities and groups that have experienced barriers in accessing services and supports for older adults and people with physical disabilities based on their identity or protected class. Successful projects will be funded after a competitive process that will include a call for proposals and evaluation of all proposals submitted.

Project proposals and potential applicant organizations: APD encourages organizations to submit proposals for projects that are innovative and have the potential to be long-lasting and, if applicable, expanded to other communities and groups across the state. For innovative projects focused on equity-related initiatives, APD encourages culturally specific organizations to submit proposals. Culturally specific organizations have the following qualities:

- Serve a particular cultural community and are primarily staffed and led by members of that community;
- Demonstrate personal knowledge of lived experience of the community including, but not limited to, the impact of structural and individual racism or discrimination on the community;
- Have knowledge of specific barriers faced in the community and how that influences the structure of their program or service; and
- Can describe the community's cultural practices, health and safety beliefs/practices, positive cultural identity/pride/resilience, immigration dynamics, religious beliefs, or other traditions, and how their services have been adapted to honor those traditions.

What's next: The request for proposals will begin sometime in February 2022.

Contact: Nakeshia Knight-Coyle at nakeshia.knight-coyle@dhsoha.state.or.us for questions about the fund. You can get this document in other languages, large print, braille or a format you prefer by contacting: mailto:APD.ServiceEquityCommunications@dhsoha.state.or.us.

Updated Dec. 29, 2021

Appendix D:
Stakeholder Organization Meeting Notes

ESA

2863 NW Crossing Drive
Suite 100
Bend, OR 97701
541.241.2818 phone
541.241.2869 fax

www.esassoc.com

meeting summary

date	July 13, 2022, 3:00pm-4:00pm
to	Ian Isaacson, BPRD Project Manager
from	Mason Lacy, ESA Project Manager
subject	Upper Deschutes Watershed Council Meeting Summary

In Attendance:

Ian Isaacson, BPRD
Kris Knight, UDWC
Mason Lacy, ESA
Ashley Schahfer, Empowering Access

Summary:

- Attendees met at the BPRD District Office to discuss the proposed river access projects, specifically topics related to restoration, existing habitat, and UDWC's work in the basin.
- Overall Notes:
    - UDWC noted that the projects are located in a very urban area, with a lot of people, and river use in the vicinity only seems to be trending higher. Large restoration focused projects at the parks wouldn't make sense.
    - The proposed projects should be designed to maintain existing riparian vegetation. In the context of the high use in the area, creating hardened access at existing access locations makes sense to minimize erosion.
- McKay Park
    - The vegetation downstream of the existing beach and access area is doing well, without much evidence of user paths or trampling of vegetation. This vegetation should be maintained, and the footprint of the project should stay within the existing access area.
    - Discussed recent storm events that washed substantial amounts of sand into the river. The project should be designed to minimize erosion at the site.
- Miller's Landing
    - UDWC implemented a restoration project at the site prior to the park development, circa 2005. This is evident in the areas of existing riparian vegetation and large wood. Significant resources and time were invested in the restoration project, and the vegetation is doing well. Proposed improvements should avoid disturbing or removing the restored areas.

    - Within the footprint of the bare eroded bank at Access #2, and the vicinity of the boardwalk at Access #1, hardened areas to provide sustainable river access would be appropriate to minimize erosion. Fencing, large wood, and other elements should be incorporated along the boundaries to discourage people from entering the vegetated restoration areas.

- Columbia Park
    - The existing riverbank is heavily impacted with a rock / concrete wall, existing eroding access, storm outfall, and bridge abutment, and the existing habitat is marginal. A new hardened access point could go anywhere along the park's bank without significant impacts to habitat.

Next Steps:

- ESA to incorporate feedback from stakeholder organization meetings into data collection report.
- Initial concept designs will be developed in August and September. The project team will reach out to UDWC for feedback on the concepts developed.

2863 NW Crossing Drive
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Bend, OR 97701
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541.241.2869 fax

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meeting summary

date	July 14, 2022, 9:00am-10:00am
to	Ian Isaacson, BPRD Project Manager
from	Mason Lacy, ESA Project Manager
subject	Bend Paddle Trail Alliance Meeting Summary

In Attendance:

Ian Isaacson, BPRD
Justin Rae, BPTA
Mason Lacy, ESA
Ashley Schahfer, Empowering Access

Summary:

- Attendees met at the BPRD District Office to discuss the proposed river access projects, specifically topics related to BPTA's experience with river use, access, and launching watercraft.
- Overall Notes:
    - Justin noted that there are really two categories of use of the access points: Launching watercraft vs hanging out by the river. There needs to be space provided for both types of use, and overall there is a shortage of areas for hanging out by the river along the Deschutes through Bend.
- McKay Park
    - The existing beach is currently good for launching kayaks. The main issue is on hot summer days it gets very crowded with tubers and other beach goers.
- Miller's Landing
    - Access #2 (eroded bank at downstream end of park) currently gets used primarily by people hanging out by the river, with some neighbors who live nearby launching watercraft. It is the only spot with shade at the park, making it appealing on hot days. As the property owner immediately downstream, Justin does not mind the public river access and would like to see it improved to be able to handle the use without continued erosion.
    - Access #1 (existing boardwalk) could be improved to be a much better location for people getting in and out of the river with watercraft. Currently it is difficult to get in or out of the river at the boardwalk, and some kayakers put-in upstream on fenced private land adjacent to the park. There is no shade at the existing boardwalk, and incorporating some sort of shade structure would make it more appealing. Space for people to hang out by the river should also be incorporated into the Access #1 design.

  - Wave 0 is an idea BPTA has to create a very small beginner wave downstream of the existing whitewater park. BPTA thought potentially a river access project at Miller's Landing would be an opportunity to permit a Wave 0 project at the same time. Mason noted that there doesn't seem to be enough hydraulic drop for even a very small feature.

- Columbia Park
  - The majority of use at the existing access prior to closure was swimming and hanging out by the river. With the shade and distance from parking, any access should be designed primarily for wading, swimming, and hanging out rather than launching watercraft.
  - The river is deep at Columbia Park and the current relatively swift, particularly in the vicinity of the Gilchrist footbridge. Justin knows of a few close calls of very young kids (~3 yrs old) at the existing access location due to the swift current and how quickly the riverbed drops. Further downstream from the bridge, the river widens slightly and the riverbed doesn't drop off as quickly.
  - Justin mentioned potentially adding an access point close to the bridge for jumpers. The thought is they will be jumping regardless, so design for that use rather than forcing another user created trail.
  - There are neighbors who are very interested in maintaining a public river access point at Columbia Park, and have mentioned a willingness to help with funding. BPTA may also be interested in fundraising for the project.

Next Steps:

- ESA to incorporate feedback from stakeholder organization meetings into data collection report.
- Initial concept designs will be developed in August and September. The project team will reach out to BPTA for feedback on the concepts developed.

ESA

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Suite 100
Bend, OR 97701
541.241.2818 phone
541.241.2869 fax

www.esassoc.com

meeting summary

date	July 14, 2022, 4:00pm-5:00pm
to	Ian Isaacson, BPRD Project Manager
from	Mason Lacy, ESA Project Manager
subject	Oregon Adaptive Sports Meeting Summary

In Attendance:

Ian Isaacson, BPRD
Pat Addabbo, OAS
Mason Lacy, ESA
Ashley Schahfer, Empowering Access

Summary:

- Attendees met at the BPRD District Office to discuss the proposed river access projects, specifically topics related to accessibility for people with disabilities and OAS programming.
- Overall Notes:
    - Pat noted that OAS has not been leading many paddling programs on this stretch of the Deschutes (below the whitewater park). When they do, OAS prefers to start and end on Mirror Pond, usually launching from Drake Park. This way paddlers end their trip floating downstream, rather than paddling back upstream.
    - If an accessible river access location is constructed, OAS would be able to help get the word out and educate the disabled community on how to use the access.
- McKay Park
    - The sand on the existing ramp is an issue for people with mobility disabilities. There are also no landings on the ramp.
    - McKay is incredibly busy in the summer, particularly with tubers. In general, this is one of the reasons people with disabilities don't often use McKay to access the river, though one advantage is that there are people around that may be able to assist.
    - OAS has never used McKay in their programs. Improvements should be focused on people to use independently. The access is primarily used as a takeout for people tubing, both able-bodied and disabled, and the access could be improved to enable people with disabilities to float the river.

- Miller's Landing
    - OAS likely won't use Miller's Landing for programming, since the paddle would be downstream first, then back upstream at the end. During OAS programming, there is substantial support, so they don't need to rely as much on good infrastructure to be able to access the river. But improvements at Miller's Landing would be important for enabling people to independently access the river.
    - The existing parking lot, restrooms, and flat route from parking to the boardwalk are elements at Miller's that would make it easier for people to access independently than Drake or other parks along this stretch of river.
    - The potential design options are exciting. At Access #2, consider pulling back the bank to create an eddy / flatten the bank.
- Columbia Park
    - The route to access the riverbank at Columbia has gravel portions, relatively steep slopes, and some potential barriers at gravel to asphalt transitions. The park has no dedicated parking. The site doesn't make much sense for launching watercraft, especially for people with disabilities. If an access is proposed focused on hanging out by the river and swimming / wading, it should be designed to enable people with disabilities to utilize it as well, at least informally.

Next Steps:

- ESA to incorporate feedback from stakeholder organization meetings into data collection report.
- Initial concept designs will be developed in August and September. The project team will reach out to OAS for feedback on the concepts developed.