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Meeting Notes
Yakima River Basin Water Enhancement Project Workgroup

March 10, 2021
WebEx Virtual Meeting

Welcome, Introductions and Agenda Overview

Ben Floyd, White Bluffs Consulting, welcomed the Yakima River Basin Water Enhancement Project (YRBWEP) Workgroup members and other attendees. The following notes summarize the YRBWEP Workgroup presentations and public comments. For more information, please see the full presentations available on the Integrated Plan website: Yakima Basin Integrated Plan

Implementation Committee Update

Tom Tebb, Washington Department of Ecology, welcomed everyone on behalf of Ecology and the Bureau of Reclamation. Tom looks forward to the opportunity to meet in person again, potentially later this year.

The full Integrated Plan request of $42 million for the 2021 – 2023 State biennium budget is represented in the Governor's Budget. The legislative session is approximately half-way through, and we're waiting for the next state budget forecast, which is due next week. At that time, we'll have a clearer picture of what the legislature will propose for the budget. The Implementation Committee (IC) has been meeting with state legislators; the meetings have included discussions about Nelson Dam.

The IC is developing a stimulus project list for fiscal years 2022 and 2023, as well as a long-term funding request (approximately 5-years). The IC is also preparing the fiscal year 2022 congressional delegation request.

The IC is scheduling online meetings with Department of Interior and Reclamation representatives, as well as, congressional delegation and federal House/Senate committee staff members over the next few weeks.

Wapato Irrigation Project Modernization and Conservation Plans

Brady Kent, Yakama Nation, is the agriculture development coordinator for the Tribe. Brady works with the Wapato Irrigation Project (WIP) and Tribe staff on agriculture projects and initiatives. Brady acknowledged staff who implement project work on the WIP s, as well as Yakama Nation and Bureau of Indian Affairs (BIA) staff who support implementation of WIP conservation projects.

Brady provided history overview of the WIP. The Yakama Nation Reservation was reserved in 1855, and along with it, water rights and fishing rights on the Yakima River. In 1884, Congress appropriated $50,000 for Indian Irrigation Projects on the Yakama Reservation. The WIP was then authorized in 1904

and constructed in 1916. WIP is the largest irrigation project in the Yakima River basin, and the largest Indian irrigation project in the nation.

The system is over 100 years old and aging infrastructure is causing problems. The U.S. Government Accountability Office (GAO) has produced several reports describing issues on the WIP. Key issues include:

- Depressed lease and water rates due to reduced deliveries
- Lack of regular maintenance led to users doing their own repairs, which decreased system stability
- Understaffing and lack of planning and preventative maintenance due to reduced revenues

To address issues described in the GAO reports, BIA contracted with California Polytechnic State University to develop a Modernization Plan (March 2018) and Conservation Plan (July 2019) for WIP. These plans have lists of projects that will improve operations and conserve water. Potential funding sources for these projects are diverse and include Reclamation, Ecology, the U.S. Department of Agriculture Natural Resource Conservation Service, BIA, and the Water Infrastructure Improvements for the Nation Act.

Richard Dills (Yakama Nation Engineering) described the WIPs first steps in carrying out these plans. WIP has replaced approximately 30 miles of leaky concrete pipeline, which has conserved approximately 11,000 acre-feet of conserved water per year. At full Conservation and Modernization plan implementation, the estimates are up to 165,000 acre-feet per year of conserved water. The total project list cost estimate is $219 million. Conserved water has multiple potential uses. The WIP supports between $1.5 – $2 billion in value of agriculture products, and can also support fisheries with conserved water (used for instream flow), particularly for endangered species in Toppenish Creek.

Richard noted the Satus unit is the most modernized but has significant water delivery issues due to deterioration upstream in the system. Richard described several planned projects to keep the Satus canal online and healthy. One key project is to separate Yakima Project water flows, conveyed through Toppenish Creek to the Satus unit via the Marion Drain from native Toppenish Creek water. This project has synergies with the Toppenish Corridor Enhancement Plan.

Richard also noted the Wapato Diversion Dam Improvement Project. This is a priority for BIA, and potentially $40 million in federal funding may be invested to make necessary diversion improvements. BIA has contracted with Dowl Engineering to plan for this project. The project goal is to have an updated and operational facility in approximately 5 years.

Questions and comments for WIP Modernization and Conservation Plans:

Phil Rigdon, Yakama Nation: Phil thanked Brady and Richard for the presentation. There's a lot going on in the WIP and BIA just started engagement on scoping for the diversion improvements.

- Jeff Olsson is the project manager for the diversion improvement with Dowl Engineering. If anyone has questions, concerns, or wants status updates, please email Jeff directly (jolsson@dowl.com) or the project email (WIPdam@dowl.com).

Wendy Christensen, Bureau of Reclamation: Wendy appreciates working with Phil Rigdon, Yakama Nation, Brady, Richard, and WIP staff implementing system improvements on WIP. We've seen great progress and excited that the Tribe has such a good plan for WIP modernization. Wendy is also excited for the headgate/diversion improvement project.

Groundwater Recharge Studies and Project Updates

Michael Callahan, Washington Department of Ecology, co-chairs the Groundwater Subcommittee with Tom Ring, formerly of the Yakama Nation. Michael introduced the groundwater presentation.

The key premise of the groundwater element is using surface water during periods of high runoff to recharge aquifers for later withdrawal. This is called managed aquifer recharge (MAR), which has two sub-categories: shallow aquifer recharge (SAR), and aquifer storage and recovery (ASR). Michael described the principles of floodplain storage, and how reconnection of steams to adjacent floodplains improves opportunity for groundwater storage, noting the potential for storage is site specific.

Michael described several previously funded projects:

- Groundwater Storage Potential in the Yakima River Basin, Oregon State University – identified locations likely suitable for aquifer recharge
- Large Wood Restoration in Groundwater Storage in Indian Creek, OSU – studied floodplain restoration and aquifer geometry resulting from restoration
- Geochemical Assessment of Groundwater Storage Locations, Central Washington University (CWU) – Geochemistry study to characterize potential storage locations in the Yakima River basin. The study used isotope to identify different sources of water.
- Yakima River Groundwater Infiltration Study, Selah-Moxee Irrigation District - Identified potential passive recharge opportunities within the district. No favorable site for large scale SAR projects were identified.
- Yakima Basin MAR Assessment, Kittitas Reclamation District
- ASR Project, City of Yakima – Developed groundwater recharge wells (predates Groundwater Subcommittee).

The Groundwater Subcommittee is supporting several current projects, including: Large Wood and Alluvial Aquifer Storage (CWU); Taneum Creek Study (KRD); Toppenish Fan Shallow Aquifer Recharge (Yakama Nation); Hunt Creek Head Check Structures (Yakama Nation); and Groundwater Storage Potential in Badger Coulee (CWU).

Dave Nazy, EA Engineering, presented highlights from the KRD MAR Report and next steps. This is a desktop study to identify potential MAR recharge sites in the Yakima River basin. The study identified 89 potential MAR sites, which were scored and ranked for quality. High priority sites for a monitoring project in 2021 – 2022 were in the Taneum, Big, Little, and Naneum Creek watersheds. The project team developed a monitoring plan at the Taneum site. Four monitoring wells will be installed at the site on March 11, 2021. The study recognizes a need for more detailed investigations on higher-ranked sites

Walter Larrick, Yakima Basin Joint Board and KRD, emphasized the importance of these studies: we have a finite source of water in the basin. We see that total supply has been relatively stable over the past 100 years, but it comes in different forms at different times, which can be detrimental to the health of the Yakima River basin. Groundwater is another container to hold and retime water for beneficial use in location and time, thereby helping with one of the Integrated Plan goals of optimizing a finite water supply for multiple uses.

Danielle Squeochs, Yakama Nation, described the Tribe's MAR program. The Tribe is studying and establishing priority MAR sites with specific objectives. A report on these studies is expected to be complete by Spring 2021. The Tribe also has several currently funded and potential future groundwater

projects through the Toppenish Creek Corridor Enhancement Plan, the WIP Conservation Plan, and WIP Modernization Plan. The projects are not new but are now being brought together in a strategic plan. Strategic implementation will provide better results.

Michael Callahan: The Groundwater Subcommittee is undertaking a knowledge gap assessment to guide our focus moving forward. We're finding that we need to move forward on parallel tracks: basin-wide scale, as well as site-specific efforts. For example, we must better incorporate groundwater storage into basin-wide storage modeling efforts. At the same time, we need to move forward on feasibility and study of individual sites.

Questions and comments for Groundwater Recharge Studies and Project Updates:

Tom Tebb: Tom thanked the team for the presentation. This is an impressive body of work. Tom is glad to see this element moving and looks forward to its future.

Wendy Christensen: The groundwater element underscores the value of pursuing all seven elements of the Integrated Plan together. Groundwater is a key tool to ensure the success of other elements. Wendy thanked Danielle, Michael, Dave, and Walter for the presentation.

Pat Monk, Bureau of Reclamation: Is there a way to estimate potential volume of storage available by groundwater?

- *Danielle Squeochs: A 1975 report by the USGS evaluated seasonal change in groundwater elevation in the Toppenish basin due to irrigation. They found, in that basin, the value was approximately 120,000 acre-feet.*
- *Dave Nazy: We can use several metrics like aquifer permeability and physical extent to help identify storage potential. Our key interest is finding places where recharged water moves to where we want it to go at the right time. There may be many places to recharge and store water, but groundwater returns timing and location are the important metrics for defining a suitable location.*

Ann Lewis, Yakima Basin Coalition: Has the natural value of beaver ponds been considered for aquifer recharge? See the book Eager: The Surprising, Secret Life of Beavers and Why They Matter by Gen Goldfarb for historical and current value of beavers.

- *Jeff Tayer: Yes, there is an active beaver relocation effort in the Yakima River basin to reintroduce beavers in the best places.*

General Public Comments

Several comment responses are incorporated to these notes as addendum #1.

Ann Lewis, Yakima Basin Coalition:

1. Ann requests that Ecology provide the list of projects for which the Integrated Plan is requesting funding from state and federal sources. There has been a $1 billion number mentioned; what projects are under that category? Please include this information as part of the notes.

   Tom Tebb: The billion-dollar list is a long-term plan. This larger federal infrastructure stimulus list will be provided. For the upcoming FY22 budgets, the Governor is collecting similar FY22

lists of projects from all state agencies and will collect and submit them under his signature. In regard to the 2021-2023 State Capital Budget request, the Governor has proposed a budget which includes $42 million for YBIP, but the legislature has not yet provided their respective House and Senate Capital Budgets. What exactly will be provided by the state legislature for the next few years remains to be seen.

See attached for requested documents.

2. Roza Irrigation District stated in the Kachess Drought Relief Pumping Plants Environmental Impact Statement that they would pay for the pumping plant. Ecology gave $1 million to Roza for the NEPA process design work for a comprehensive feasibility report. Please explain this discrepancy. It's not ok for the public to pay for the pumping plant.

In regard to Ecology's help for Roza, we typically help where we can related to Integrated Plan elements, and this is the surface water storage element. We felt this was an appropriate expense. We're also helping with groundwater impact mitigation. Ecology is not a primary funder for this project, but as a primary sponsor of the Integrated Plan, Ecology works to help all elements move forward simultaneously.

Chris Maykut, Friends of Bumping Lake:

1. Regarding the 2020 Yakima Basin Integrated Plan Cost Estimate and Financing Plan Report, on page 24 there is a 2021-2023 state funding request of $0.5 million and $0.5 million of Federal/other sources of funding for a new Bumping Lake dam. What does the Department of Ecology intend to spend this $1 million on? See below for response.

2. Under RCW 90.38.120(1)(b), the state's support for the Yakima Plan must be formally reevaluated independently by the governor and the legislature if, after December 31, 2021, and periodically thereafter, the actual funding provided through nonstate sources is less than one-half of all costs and if funding from local project beneficiaries does not comprise a significant portion of the nonstate sources. Table 6, on page 24, shows anticipated state funding share from 2013-2023 of 30.9% and anticipated federal & other share of 69.1%. What is the percentage of actual funding provided during 2013-2023 from local project beneficiaries? See below for response.

David Ortman, Sierra Club: David attended the Office of Columba River Policy Advisory Group meeting and it was brought to his attention that he may have treated Tom Tebb rudely at the meeting, and wanted to apologize if he was disrespectful to Tom Tebb at the meeting.

John Reeves, Lake Kachess HOA: John wants to see the plan succeed for fish, irrigators, and the Tribe. He'd love to see a free-flowing Yakima River, which could include removal of Kachess dam. John is confused why we're working on fish passage at Clear Lake. Why not just remove that dam?

John doesn't want to see a new dam at Bumping Reservoir or a pumping plant at Kachess reservoir. With 30% of basin water under control, we could pull water out of the Parker area and send upstream to help in drought years. We have no integration of pump hydroelectric power; this is clean energy and is efficient, which could be combined with off-channel water storage.

It seems like we've had little progress in water marketing as far as inter-district transfer. The concern is we're only putting water in the river for fish.

John described the drought year carryover results from the 90's and 2000's, and given those results, is surprised we need new storage to solve drought problems.

Atul Deshmane, Whatcom County PUD: The County is keeping an eye on the Integrated Plan, and Atul will attend meetings to continue to gain information. Atul noted some information on the Integrated Plan website is out of date (YRBWEP Reports | Bureau of Reclamation (usbr.gov)), but that Tim Poppleton had helped him find the right information.

Project Videos and Clear Creek Fish Passage Update

Dave Brown, City of Yakima introduced a new video highlighting Nelson Dam Removal Project and thanked Patricia Byers, Mayor of Yakima, Joel Freudenthal, Yakima County, Joe Blodgett and Chris Frederiksen with Yakama Nation for being in the video and supporting the project.
Wendy Christensen, Reclamation, introduced a vide on Cle Elum Dam Fish Passage Project by Garco (contractor for Intake, Gate and Helix) which shows progress on the intakes and overall site for the fish passage facilities. In addition, Wendy introduced video for Cle Elum Pool Raise Project and thanked partners, David Empel, Reclamation CEPR Project Manager for producing the video, Phil Rigdon, Yakama Nation, Perry Harvester, WDFW, Raechel Chandler, Ecology for being in the video and educating stakeholders and public about the important work that is ongoing at Cle Elum to implement the pool raise. The videos can be viewed at these links:

- Nelson Dam Replacement
- Cle Elum Fish Passage
- Cle Elum Pool Raise

Clear Creek Fish Passage

Clint Wertz, Bureau of Reclamation, is the project manager for the Clear Creek Fish Passage project. The dam was built in 1914 and was rebuilt in the 1990's. Current fish passage at the facility is on the spillway, however, it has been shown through a series of studies to ineffective for Bull Trout migration. Currently, Clear Lake serves as a recreation site with multiple campgrounds around it.

A new fish ladder near the dam is being designed to provide fish passage. This design addresses both failures of the spillway fish ladder and meeting state and federal passage criteria. The goal is to pass Bull Trout, salmon, steelhead, and resident fish species into the lake. Key project challenges are the small site footprint and high recreation volume.

The project kickoff meeting took place in May 2020. 30% design has been completed, as well as a Value Engineering (VE) Study in preparation for 60% design. 90% design is planned for completion in November 2021, with a construction window of 2023 – 2024. Clint displayed and described the 30% design drawing.

Clint described a recently completed VE study. The study has several key purposes:

- Identifies project options that haven't been considered, or review other alternatives that may be viable.
- All, none, or portions of proposals may be used.
- Ideas developed through study will be integrated between 30% and 60% design.

- Temperature of water coming into the ladder is critical. This consideration led to inclusion of a modification to temperature curtain concept currently in the design.

Clint thanked the partners who participated in the VE study. Next steps for the project are for Reclamation to review the Final VE report, adopt appropriate VE study proposals into the design, and adjust design as needed to incorporate into the 60%.

Questions and comments for Clear Creek Fish Passage Update:

Wendy Christensen: Wendy thanked all partners who participated in the VE study.

Question: Why is removal not an option for Clear Creek Dam?

- *Wendy Christensen: In the 1990s, the dam was breached. There are numerous recreation opportunities around the reservoir, including a camp for special needs children (Camp Prime Time). Yakima County requested Reclamation keep the recreation values at the reservoir. That is the key reason.*
- *Urban Eberhart: Shirley Doughty was a key player in restoring the reservoir after the dam breach in the 1990s. It was a coordinated community effort.*

Workgroup Roundtable

Wendy Christensen noted that Elayne Hovde-Knudson, Bureau of Reclamation, will be retiring end of May. Elayne has been a valuable team member in many Integrated Plan projects including Cle Elum Pool Raise, the KRD Upper Yakima System Storage study, and coordinating water conservation grants with basin irrigation districts and agreements with the Yakama Nation. The YRBWEP Workgroup acknowledges her valuable contributions and wishes her the best of luck moving forward.

Alex Conley, Yakima Basin Fish and Wildlife Recovery Board: Alex enjoys these meetings. He's pleased to see how WIP modernization has come along over the past few years. Even with the large price tag, Alex is pleasantly surprised by the favorable cost per acre foot. He's also pleased with progress on the groundwater element. Alex thanked folks for the hard work over several years to get these projects up to speed and the great presentations today.

Charlie de la Chappelle, Yakima Basin Storage Alliance: On behalf of YBSA, we're pleased to see interest in solving the problem of high temperatures in the lower Yakima River. This is crucial to our success. Aligning with that is investigation into SAR. Another interesting topic on YBSA's radar are efforts in Idaho to fund removal of the four lower Snake River dams for $34 billion. That's caught our attention and realize it begs a question: How have past efforts for salmon recovery in the Columbia fared relative to cost and number of fish recovered? The public may not know how much has been spent and how many fish have come back in. I think this is a ripe opportunity to showcase what can be done in the Yakima River basin.

Dave Brown, City of Yakima: Interesting meeting hearing about these projects, especially the in-depth WIP report. It's interesting to see how the district is put together and what we're doing to solve problems.

Erick Walker, U.S. Forest Service (USFS): Great presentations today. It's great to see different elements of the Integrated Plan worked on together as planned. Successes and efforts build on each other. The USFS will stay engaged and contribute to this on-going effort where appropriate. Let's keep

coordination and continued dialogue alive. We're making things better for people, wildlife, and the landscape.

Tom Tebb, Washington Department of Ecology: Tom thanked the presenters and appreciates all the ongoing work. The in-depth briefing on groundwater and WIP are well received. Tom also thanked the City of Yakima, Yakima County, and others working on the Nelson Dam project.

Wendy Christensen, Bureau of Reclamation: Talmadge Oxford, Bureau of Reclamation, sends his regards. Wendy thanked Clint Wertz and other Reclamation staff for their work on the projects presented today. We're using all the tools in our toolbox to achieve the goals of the Integrated Plan. It's great to see everyone working together.

Jaclyn Hancock, Washington Department of Agriculture: Jaclyn thanked presenters for the good content. It's good to hear about topics that we haven't heard updates on in a while. Also, Jaclyn echoed excitement about aquifer recharge. This is a valuable and important tool to help us handle timing changes in streamflow. Jaclyn hopes WDSA can be a part of this process building off the great things already completed. Great to see progress made and looking forward to what's coming next.

Seth Defoe, Kennewick Irrigation District: KID offers appreciation and thanks for the increased focus in the lower river. If we don't improve the lower river, our work in the upper basin won't achieve its stated goals. The Integrated Plan must benefit the entire basin, so Seth is thankful we're looking at improvements for fish passage and water supply.

Jason Romine, U.S. Fish and Wildlife Service: Today's presentations were great and informative. Jason thanked the Clear Creek Dam team and is appreciative to see this moving forward. He thanked Dave Brown for keeping the Nelson Dam program going. Getting anadromous salmonids upstream is important.

Jason McShane, Kennewick Irrigation District: Jason appreciates all the work and effort that goes into the projects throughout the basin. There's a lot of work behind the scenes by partner organizations and others to make these projects happen. We appreciate all they do. It's been interesting to see the projects we talk about happening rapidly compared to similar projects in the past. Kicking off Clear Creek fish passage in 2020, and seeing it ready for construction within a few years, all through COVID, is a testament to the strength of the plan.

Jeff Tayer, Washington Department of Fish and Wildlife: Today reinforced that we have a lot to be thankful for. It's hard to appreciate this without thinking that every one of these big projects was stuck in the mud about a decade ago. Each one is a big lift and to do all these big projects at the same time is truly extraordinary. Jeff is thankful for everything we're getting done.

Ron Anderson, Yakima County: Ron congratulated everyone on the work done to this date. Thousands and thousands of hours over the years have been dedicated to these projects. What we're seeing now is the cumulation of this large amount of work. It's heartwarming to see the work and dedication that goes into all of this.

Mike Livingston, Washington Department of Fish and Wildlife: Mike appreciates the presentations on groundwater and the WIP. Even when we think we know everything going on under the Integrated Plan, there's always something new to learn about, and Mike appreciates the opportunity to learn. Nelson Dam and Cle Elum Fish Passage are critical to addressing changing climate and snowpack. We have major funding needs, but I'm convinced the people pulling the oars of the Integrated Plan are the best solution we have going forward. Each individual effort adds to the whole. Mike is thankful to take part and work towards the future with this group.

Phil Rigdon, Yakama Nation: Phil thanked Brady and Richard for their presentation on WIP conservation. In addition, he thanked everyone for continuing to contribute to the work we're doing. Let's keep up the great work.

Rick Dieker, Yakima-Tieton Irrigation District: The community effort that got Clear Creek Dam rebuilt in the 90s was a great project. Rick participated in that and considers it an early snapshot of getting projects done when we come together. As a reminder, the dam was originally built as a re-regulation reservoir for the Tieton River to help regulate the YTID original diversion of water. Storage is important, and we're looking into off-channel storage such as Wymer and North Fork Cowiche Creek. These will improve our ability to use and retime flows to benefit irrigation and instream flows in the tributaries and mainstem. We're not creating more water, just timing it better. Rick noted that many millions have been spent already regarding storage and conservation, including SVID's conservation projects in the 1980s. We're all in the same boat and working together as a group is how we're going to get stuff done.

Ron Cowin, Sunnyside Valley Irrigation District: Ron thanked everyone for the presentations. Good to see progress. Sunnyside Valley Irrigation District is making progress on its fish passage improvement project. The anchors are installed, and the district will install the fish boom next week. Currently waiting on delivery of the gate near the end of the month. Good progress and appreciate the support.

Scott Revell, Roza Irrigation District: The irrigation season is about to start. Roza installed approximately 8 miles of new pipe and several hundred thousand dollars of canal sealant this year. We're ready for a full supply water year and hoping the snow doesn't come off too soon.

Sean Gross, NOAA Fisheries: Sean is thinking about the need for an instream flow strategy. When we put the Integrated Plan together, we had a wish list of places to improve flows for fish but without a detailed strategy. We didn't have the information required at the time to make a plan. We've learned a lot over the past 10 years about fish and flow, water availability, and we're looking forward with enhanced conservation and groundwater storage. Things are advancing enough that within a few years, we should be able to put these blocks of knowledge together and build a strategy for remedying these flow problems in the lower river. Excited to see this knowledge develop into an actionable game plan.

Urban Eberhart, Kittitas Reclamation District: Urban reflected on the relationships, positive energy, collaboration, and friendships that make the Integrated Plan work. As an example, on the Taneum Creek groundwater project Dave Nazy discussed, we were scheduled with the driller to drill on March 11 at that location. There was a presidential moratorium on any ground disturbing activity on federal lands in the country. The Bureau took on this issue through their process and within 48 hours, we had a waiver for that moratorium, so we can continue to gather this critical information. These relationships are allowing us to study storing water in the ground, help the stream and help out water supply. We need to celebrate wins as they come, and it's all a result of relationships and that's what's making this all work.

Wendy McDermott, American Rivers: Wendy learned a lot about the groundwater element today. She appreciates Urban's comment about the value of collaboration and relationship. Wendy is growing increasingly concerned about salmon and steelhead returns throughout the Columbia Basin. There's so much opportunity to restore these fish in the Yakima River basin, and Wendy hopes we can all continue to move forward together on these goals.

Upcoming Meetings

The next Workgroup meeting is scheduled for Wednesday, June 2, 2021. Meeting format will be WebEx virtual format.

Attendance

Workgroup Members:

Ron Anderson, Yakima County
Dave Brown, City of Yakima
Charlie de la Chappelle, Yakima Basin Storage Alliance (alternate for Sid Morrison)
Wendy Christensen, Reclamation, Columbia-Cascades Area Office
Alex Conley, Yakima Basin Fish and Wildlife Recovery Board
Ron Cowin, Sunnyside Valley Irrigation District
Rick Dieker, Yakima-Tieton Irrigation District
Urban Eberhart, Kittitas Reclamation District
Sean Gross, NOAA Fisheries (alternate for Dale Bambrick)
Jaclyn Hancock, Washington Department of Agriculture
Larry Leach, Washington Department of Natural Resources
Mike Livingston, Washington Department of Fish and Wildlife
Wendy McDermott, American Rivers
Jason McShane, Kennewick Irrigation District
Talmadge Oxford, Reclamation, Columbia-Cascades Area Office
Lisa Pelly, Trout Unlimited
Scott Revell, Roza Irrigation District and Chair of Water Use Subcommittee
Phil Rigdon, Confederated Tribes and Bands of the Yakama Nation
Jason Romine, U.S. Fish and Wildlife Service
Jeff Tayer, WDFW and Chair of Habitat Subcommittee
Tom Tebb, Ecology
Erick Walker, U.S. Forest Service
Cory Wright, Kittitas County

Other Attendees:

Tom Appler, Bureau of Reclamation, Columbia-Cascades Area Office
Justin Bezold, Trout Unlimited
Lori Brady, Sunnyside Valley Irrigation District
Russ Byington, Yakama Nation Fisheries
Michael Callahan, Washington State Department of Ecology
Debbie Carlson, Bonneville Power Administration
Cynthia Carlstad, Northwest Hydraulic Consultants
Michelle Capp, U.S. Forest Service
Raechel Chandler, Washington Department of Ecology

Stuart Crane, Confederated Tribes and Bands of the Yakama Nation
Jane Creech, Washington State Department of Ecology
Mark Crowley
Seth Defoe, Kennewick Irrigation District
Jeanne Demorest, Reclamation, Columbia-Cascades Area Office
Atul Deshmane, Whatcom County PUD
Richard Dills, Yakama Nation Engineering
Melissa Downes, Washington State Department of Ecology
David Empel, Reclamation, Columbia-Cascades Area Office
Janine Empel, Washington State Department of Ecology
Rick Evans, Office of Senator Maria Cantwell
Ben Floyd, White Bluffs Consulting
Clancy Flynn, Columbia Irrigation District
Chuck Freeman, Kennewick Irrigation District
Joel Freudenthal, Yakima County
Kathryn Furr, U.S. Forest Service
Chuck Garner, Bureau of Reclamation
Raelene Gold, Seattle Audubon Society
Dan Graves, HDR Engineering, Inc.
Kelsey Green, American Rivers
Kevin Haydon, Washington Water Trust
Elayne Hovde-Knudson, Reclamation, Columbia-Cascades Area Office
Joel Hubble, Kittitas Reclamation District
Brady Kent, Yakama Nation
Chuck Klarich, Yakima Basin Storage Alliance
Walt Larrick, Yakima Basin Joint Board
Ann Lewis, Yakima Basin Coalition
Chris Lynch, Bureau of Reclamation, Yakima Field Office
Steve Malloch, Western Water Futures LLC (alternate for American Rivers)
Larry Martin, Velikanje Halvorson
John Marvin, Confederated Tribes and Bands of the Yakama Nation
Chris Maykut, Friends of Bumping Lake
David McKenzie, Kennewick Irrigation District
Jim Milton, Bureau of Reclamation
Merritt Mitchell-Wajeeh, Mid-Columbia Fisheries Enhancement Group
Bob Montgomery, Anchor QEA
Maddie Moore, Washington Department of Agriculture
Tom Myrum, Washington State Water Resources Association
Dave Nazy, EA Engineering
Todd Newsome, Yakama-Klickitat Fisheries Program
Jeff Olsson, Dowl Engineering

David Ortman, Sierra Club
Elaine Packard, Sierra Club
Sage Park, Washington State Department of Ecology
Mark Peterschmidt, Washington State Department of Ecology
Tim Poppleton, Washington State Department of Ecology
Joye Redfield-Wilder, Washington State Department of Ecology
John Reeves, Lake Kachess HOA
Jenna Scholz, HDR Engineering, Inc.
Danielle Squeochs, Confederated Tribes and Band of the Yakama Nation
Bruce Sully, Bureau of Reclamation, Columbia-Cascades Area Office
Arden Thomas, Kittitas County
Sara Vickers, Kittitas Reclamation District
Richard Visser, Bureau of Reclamation, Columbia-Cascades Area Office
Clint Wertz, Bureau of Reclamation, Columbia-Cascades Area Office
Laine Young, Washington Department of Ecology

Where to Find Workgroup Information

Meeting materials, notes, presentations, and materials submitted during public comment for each Workgroup meeting will be posted on Reclamation's project website: (http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/index.html). A list of information sources, many available online, is also posted on the website.

If you need help finding an information source, contact those listed at the top of page 1 of these notes or Ben Floyd at White Bluffs Consulting, (509) 539-3366 or ben@whitebluffsconsulting.com.

Addendum #1

Response to Public Comments

Responses to Chris Maykut:

Question 1 Response

As noted in the report, the $1.0 million (actually $978,000 after staffing costs) is identified for advancing the YBIP surface storage element (Bumping and/or Wymer storage) in the Governor's 2021-2023 capital budget. The first priority for these funds would be to use them toward any remaining property acquisition costs for Wymer/Eaton Ranch property acquisition. The total acquisition cost is still in flux. More specifically, Ecology is planning to use significant portion of this funding to complete the following; legal property surveys and descriptions necessary for real estate, title research, environmental phase 1 assessment, develop and implementation of an interim stock water pilot project at two locations on the property, a grazing plan, and contracting with local Conservation District for long term property management and other studies or analysis such as cultural, aquatic or terrestrial studies and evaluations that have yet to be identified. These studies are typically recommended by the Yakama Nation and Colville Tribe, respective federal agencies such as USFS, USFWS, NOAA, County governments, and U.S. Bureau of Reclamation to name a few. If enough funds remain after the Wymer property transaction, these funds could also be used for continued data gap analysis, Riverware (surface water) modeling, and/or for advancing the water supply framework matrix for both Bumping and Wymer. We are in a pre-appraisal phase (early planning phase), determining the size and scope of the storage needs, and doing a data gap assessment. It is too early to determine if this level of work will lead to an enlarged Bumping Reservoir.

Question 2 Response

You are correct that RCW 90.38.120 states that at least one-half of the total costs to finance the Integrated Plan must be funded through federal, private, local and other non-state sources. This is the exact reason for the legislative reporting purposes, where Ecology has broken out the state investment from all other investments. Table 6, as referenced, lays out total funding, state funding and federal/other funding. The federal/other funding is the combined bucket of non-state funding sources (federal, private, local, etc). We continue to refine those non-federal, non-state funding contributions into Integrated Plan projects, making the most headway to-date on these local/private investments in enhanced water conservation projects.

Response to Ann Lewis:

Lists of projects for which the Integrated Plan is requesting funding from state and federal sources are attached. These documents were provided by the Office of Columbia River to the Governor's office for possible inclusion in a federal funding stimulus request. Please note that these funding request items and amounts may or may not be included in the Governor's letter.

Attachment 1 ****DRAFT****

State of Washington
DEPARTMENT OF ECOLOGY
Federal Fiscal Year 2021 Infrastructure Spending and Jobs Package Ideas

Ecology Program: Office of Columbia River – Yakima Basin Integrated Plan

Summary Table of Projects by Construction Commencement

Fiscal Year Construction Begins	Number of Projects	Total Funding ($M)	Jobs[1] Direct	Jobs Total
FY21 or already in process	10	80.131	440.7	1314.1
FY22	**37**	**192.82**	**1060.60**	**3122.20**
FY23	**22**	**181.50**	**998.30**	**2976.60**
Total	59	374.32	2058.90	6098.80

Total submitted to Ecology HQ for consideration is the sum of FY 22 and FY 23**:**
Total amount of $374.33 million*.

***Total amount submitted may differ than amount reflected in Governor's Inslee correspondence to Congress due to other discretionary factors considered by the Governor's Office.

Ecology Program: Office of Columbia River – Yakima Basin Integrated Plan

Opportunity/Idea	Federal Program (e.g. EPA; Categorical Grants)	Amount
Yakima Basin Integrated Plan Table listed is for projects identified through FY26	Energy and Water Appropriations Bureau of Reclamation Yakima Project and Yakima River Basin Water Enhancement Program	$1.063B

DESCRIPTION:

The Yakima Basin Integrated Plan is a long-term plan co-sponsored by the Department of Ecology and the federal Bureau of Reclamation to resolve longstanding conflicts over water use and fisheries in the Yakima River Basin, while at the same preparing the economy and environment to

[1] Jobs estimated using construction job multipliers for the US Economy of: $1M = 5.5 direct jobs/16.4 total (direct+indirect+induced). Source: Economic Policy Institute, January 23, 2019 https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/

adapt to drought and climate change. It is being used as a model for addressing conflict over water and resources in Washington State and beyond – an example of integrated resources planning and management in action.

YBIP is largely implemented through five types of projects that require investment in construction and infrastructure:

- Updating water system operation and infrastructure.
- Building fish passage at six existing dams.
- Implementing enhanced water conservation projects
- Creating additional groundwater and surface storage capacity.
- Enhancing and protecting habitat and increasing in-stream flows.

There are 87 projects in these categories supporting implementation of YBIP ready for investment over the next several years. Some projects are already in progress, but need additional funding, others are ready to commence construction immediately, others are in various stages of design and permitting. The following table shows how quickly investment could be applied to construction, and the jobs that would result from that investment.

Yakima Basin Integrated Pan
Summary of Infrastructure Projects by Date of Construction Commencement

Fiscal Year Construction Begins	Total Funding ($M)	Jobs Direct (see note)	Jobs Total
FY21 or already in process	$80.131	440.7	1314.1
FY22	$192.828	1060.6	3122.2
FY23	$181.5	998.3	2976.6
FY24	$213.45	1174.0	3500.6
FY25	$15.15	83.3	248.5
FY26	$410	2255.0	6724.0
Total	$1063.059	6011.8	17926.2

Note: Jobs estimated using construction job multipliers for the US Economy of: $1M = 5.5 direct jobs/16.4 total (direct+indirect+induced). Source: Economic Policy Institute, January 23, 2019
https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/

WHY IT IS IMPORTANT/NEEDED:

The promise of progress represented by YBIP, especially resolving long-standing vigorous conflict among water users, the Yakama Nation, and a variety of other interests, is met through completion of projects that implement the plan. Since the State authorized YBIP and endorsed the approach, dozens of projects have been completed or started, with more in the works. With this new model of collaboration and integrated planning and management, more and more projects are being developed as engineering creativity and the recognition of opportunity grows. While some projects have a single class of beneficiary – agriculture, or flood risk reduction, or salmon recovery for instance – most of the projects ready for implementation benefit more than one set of constituents. To take

advantage of the opportunity that reaching the agreement that YBIP represents, funding for some of the projects most ripe for construction is imperative.

Through YBIP projects that are already in construction or ready to commence construction in the next several years, 6011 direct jobs and 17,926 total jobs could be created. These jobs would support the goals of YBIP – improving the reliability of water supplies and restoring fisheries in the Yakima Basin, and thereby improving the economy and environment for the State and region.

Yakima Basin Integrated Plan

Stimulus/Infrastructure
Near Term Federal Funding Request
Projects by Sponsor

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
Bureau of Reclamation							
Bureau of Reclamation	Cle Elum Fish Passage	Fish Passage	Construction in process	FY21	30	165.0	492.0
Bureau of Reclamation	Cle Elum Pool Raise Shoreline Stabilization	Storage	Construction in process	FY21	2	11.0	32.8
Bureau of Reclamation	Schaake Property Habitat Restoration	Restoration	Construction in process	FY21	1.2	6.6	19.7
Bureau of Reclamation	Roza Dam Fish Screens and Passage	Fish Passage	Construction in process	FY21	16.5	90.8	270.6
Bureau of Reclamation	Clear Creek Dam Fish Passage	Fish Passage	Design	FY23	7	38.5	114.8

[2] Stages used are: Pre-design, Design/Engineering, Permitting, Permitted, Construction (ready for construction), Construction in process.

[3] Federal fiscal year in which construction commences, or for projects now in construction, the current fiscal year.

[4] Jobs estimated using construction job multipliers for the US Economy of: $1M = 5.5 direct jobs/16.4 total (direct+indirect+induced). Source: Economic Policy Institute, January 23, 2019 https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
Bureau of Reclamation	Wildcat Creek Bridge Replacement	Road/ Bridges	Design/Build	FY23	5	27.5	82.0
Bureau of Reclamation	Hydromet System Improvement Replacement	System Improvement	Design/Build	FY23	5	27.5	82.0
Bureau of Reclamation	**Total**				**66.7**	**366.9**	**1093.9**
US Forest Service Okanagon – Wenatchee National Forest						0.0	0.0
USFS	Cle Elum Pool Raise Barrier Installation and Riparian Restoration	Storage	Design	FY22	1.3	7.2	21.3
USFS	Gold Creek Bridges	Road/Bridges	Construction	FY22	12	66.0	196.8
USFS	**Total**				**13.3**	**73.2**	**218.1**
Wapato Irrigation District – BIA, Yakama Nation							
WIP	East Branch Unit 2 Pump Canal Limited-Rate Demand Closed Pipeline	Water Conservation System Improvement	Design	FY22	2.5	13.8	41.0

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
WIP	SCADA Infrastructure Backbone - Office base station, repeater sites, etc.	System Improvement	Design	FY22	1	5.5	16.4
WIP	Turnout & Lateral flow measurement improvements	Water Conservation System Improvement	Design	FY22	10	55.0	164.0
WIP	Lateral 4 checks	Water Conservation System Improvement	Design Construction	FY22	2.45	13.5	40.2
WIP	Upper Ahtanum Diversion	System Improvement Fish Passage	Pre-design,	FY23	1.5	8.3	24.6
WIP	Lateral 1,2,3,4 Diversion Control I improvements & Supplemental Drain Diversions	Water Conservation System Improvement	Predesign	FY23	11	60.5	180.4
WIP	Safety upgrade to unit 2 pump station Add 15cfs VFD pump to system	System Improvement	Predesign	FY23	3	16.5	49.2
WIP	Automation and repairs of drop 1 mechanicals, electrical pumps and canal controls	System Improvement	Pre-design	FY23	10	55.0	164.0
WIP	Unit 2 canal checks	Water Conservation System Improvement	Predesign	FY23	2	11.0	32.8

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
WIP	Wapato Dam Replacement, Main Canal Diversion Control Structure & Flow Measurement	System Improvement Fish Passage	Pre-design,	FY24	40	220.0	656.0
WIP	Harrah & Marion Drain Connection to Toppenish Feeder System Improvement	Water Conservation System Improvement	Predesign	FY24	7.4	40.7	121.4
WIP	Unit 2 Reservoir and Pipeline System Improvement	Water Conservation System Improvement	Predesign	FY24	11	60.5	180.4
WIP	Satus Feeder Canal Reservoir System Improvement	Water Conservation System Improvement	Predesign	FY24	15	82.5	246.0
WIP	Satus East canal pump station and limited rate demand closed pipeline system	Water Conservation System Improvement	Predesign	FY24	15	82.5	246.0
WIP	Satus 3 Canal Reservoir & Pipeline System Improvement	Water Conservation System Improvement	Predesign	FY24	15	82.5	246.0
WIP					**146.85**	**807.7**	**2408.3**

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
Yakama Nation Restoration							
Yakama Nation Restoration	Taneum Creek Ragheart Planting	Restoration	Permitting	FY21	0.1	0.6	1.6
Yakama Nation Restoration	Reecer Creek Floodplain Restoration	Restoration	Permitting	FY22	0.25	1.4	4.1
Yakama Nation Restoration	Tieton River Floodplain Restoration	Restoration	Design	FY22	0.3	1.7	4.9
Yakama Nation Restoration	Autanum Village Floodplain Restoration	Restoration	Design	FY22	0.3	1.7	4.9
Yakama Nation	Cle Elum Floodplain Restoration	Restoration	Pre-design	FY23	1	5.5	16.4
Yakama Nation Restoration Projects	**Total**				**1.95**	**10.7**	**32.0**
Yakama Nation Toppenish Creek Corridor							

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
Yakama Nation Toppenish Creek	Toppenish and Simcoe Creeks Aquatic Habitat and Floodplain Restoration	Restoration	Design	FY22	5	27.5	82.0
Yakama Nation Toppenish Creek	Flood risk assessment and resource management plan for the Toppenish and Simcoe Fans	Flood	Permitting	FY22	3	16.5	49.2
Yakama Nation Toppenish Creek	Hunt Creek Flood Risk Reduction and Fan Recharge	Flood Storage Restoration	Design	FY23	1.5	8.3	24.6
Yakama Nation Toppenish Creek	Toppenish Creek at Wesley Road Bridge Replacement	Restoration	Pre-design	FY24	10	55.0	164.0
Yakama Nation Toppenish Creek	Toppenish Fan distributary channel flood conveyance	Restoration	Pre-design	FY24	3.5	19.3	57.4
Yakama Nation Toppenish creek	Toppenish Creek Floodplain Restoration below the Unit 2 Diversion	Restoration	Pre-design	FY24	4.5	24.8	73.8
Yakama Nation Toppenish Creek	**Total**				**27.5**	**151.3**	**451.0**

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
Yakama Nation Aquifer Recharge						0.0	0.0
Yakama Nation Aquifer	Wanity Slough Wetland Recharge and Restoration	Storage	Pre-design	FY22	0.5	2.8	8.2
Yakama Nation Aquifer	South Satus Drain Wetland Recharge and Restoration	Storage	Pre-design	FY23	1.2	6.6	19.7
Yakama Nation Aquifer	Marion Drain Check Structures	Storage Water Conservation System Improvement	Pre-design	FY23	1	5.5	16.4
Yakama Nation Aquifer	**Total**				**2.7**	**14.9**	**44.3**
Washington Department of Wildlife						0.0	0.0
WDFW	Ringer Boat Ramp/Access	Fish Passage Restoration Recreation	Design	FY23	1.3	7.2	21.3
WDFW	Yakima River Delta	Fish Passage	Design	FY24	10	55.0	164.0
WDFW	**Total**				**11.3**	**62.2**	**185.3**
Yakima County						0.0	0.0

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
Yakima County	Phase II Gap to Gap Ecosystem Restoration	Flood Restoration	Construction in process	FY21	6	33.0	98.4
Yakima County	Naches-Cowiche Confluence Park and Restoration	Flood Fish Passage Restoration Recreation	Construction	FY21	2.1	11.6	34.4
Yakima County	S. Fork Tieton Bridge Replacement and Fish Passage	Road/Bridge Fish Passage	Design	FY24	2.7	14.9	44.3
Yakima County	**Total**				**10.8**	**59.4**	**177.1**
City of Yakima						0.0	0.0
City of Yakima	Nelson Dam-Water Supply, River Processes and Fish Passage Improvements	Flood Fish Passage System Improvement	Permitted	FY21	8	44.0	131.2
Kittitas Reclamation District Projects							
KRD	South Branch Canal Lining Phase I	Water Conservation System Improvement	Permitted	FY21	2.26	12.4	37.1

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
KRD	South Branch Canal Lining Phase II	Water Conservation System Improvement	Permitted	FY21	11.971	65.8	196.3
KRD	North Branch Canal Lining NB 30.6-31.1	Water Conservation System Improvement	Design	FY22	5.408	29.7	88.7
KRD	South Branch 9.9 Lateral Piping	Water Conservation System Improvement	Design	FY22	1.716	9.4	28.1
KRD	South Branch Manastash Ridge Trail Piping	Water Conservation System Improvement	Design	FY22	0.621	3.4	10.2
KRD	Main Branch at Tucker Creek	Water Conservation System Improvement	Design	FY22	1.303	7.2	21.4
KRD	South Branch 3.9-7.0 Lining	Water Conservation System Improvement	Design	FY22	5.8	31.9	95.1
KRD	Pump Ditch Piping Phase I	Water Conservation System Improvement	Design	FY22	11.53	63.4	189.1

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
KRD	South Branch SB 0.9-1.7	Water Conservation System Improvement	Design	FY22	3.16	17.4	51.8
KRD	Pipe Lateral NB 33.5	Water Conservation System Improvement	Design	FY22	7.4	40.7	121.4
KRD	Pipe Lateral SB 14.3	Water Conservation System Improvement	Design	FY22	3.7	20.4	60.7
KRD	SB Extension Pipe	Water Conservation System Improvement	Design	FY22	3.8	20.9	62.3
KRD	Pump Ditch Piping Phase II	Water Conservation System Improvement	Design	FY22	14.62	80.4	239.8
KRD	Turbine Ditch Lining (Wipple to Ross Spill)	Water Conservation System Improvement	Design	FY22	6.9	38.0	113.2
KRD	Pipe Lateral NB 35.1	Water Conservation System Improvement	Design	FY22	0.9	5.0	14.8

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
KRD	Springwood Reservoir	Storage	Design	FY23	82	451.0	1344.8
KRD	**Total**				**163.089**	**897.0**	**2674.7**
Roza Irrigation District							
Roza	Pump Station Replacement Pumps 1-9,9A,10,12-17 and Severyn's Pump	Water Conservation System Improvement	Design	FY22	47.3	260.2	775.7
Roza	Wasteway 6 Expansion	Water Conservation System Improvement	Design	FY22	4	22.0	65.6
Roza	Wasteway 7 Expansion	Water Conservation System Improvement	Design	FY22	2	11.0	32.8
Roza	Channel Repairs in Wasteways 3 and 5	Water Conservation System Improvement	Design	FY22	1	5.5	16.4
Roza	Main Canal Concrete Floor Replacement (25,000 feet)	Water Conservation System Improvement	Design	FY23	6.5	35.8	106.6

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
Roza	Lateral Canal Enclosure for Pumps 1,2,3,14	Water Conservation System Improvement	Design	FY23	25.4	139.7	416.6
Roza	Main Canal Repairs at Mile Post 13.8 and 25.8	Water Conservation System Improvement	Design	FY23	4	22.0	65.6
Roza	Power Pole Replacement	Water Conservation System Improvement	Design	FY23	4	22.0	65.6
Roza	**Total**				**94.2**	**518.1**	**1544.9**
Sunnyside Valley Irrigation District Projects							
SVID	SCADA and Radio Communications Upgrade	System Improvement	Permitted	FY 22	7	38.5	114.8
SVID	Main Canal Shaping and Lining (20 miles)	Water Conservation System Improvement	Permitted, project can be modified to be completed sooner	FY 24	79.2	435.6	1298.9
SVID	Snipes Canal Shaping and Lining	Water Conservation System Improvement	Construction in progress	FY22	12.84	70.6	210.6
SVID	Mabton Lateral Shaping and Lining	Water Conservation System Improvement	Construction in progress	FY22	9.58	52.7	157.1

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
SVID	Turbine 30.20 Large Rebuild	Water Conservation System Improvement	Permitted	FY22	0.15	0.8	2.5
SVID	Turbine 30.20 Small Rebuild	Water Conservation System Improvement	Permitted	FY22	0.1	0.6	1.6
SVID	Turbine SN 9.04 E & W Rebuild	Water Conservation System Improvement	Permitted	FY23	0.3	1.7	4.9
SVID	Harrison Hill Pumping Stations	Water Conservation System Improvement	Design	FY23	1.5	8.3	24.6
SVID	Turbine 55.19 Rebuild	Water Conservation System Improvement	Permitted	FY24	0.15	0.8	2.5
SVID	Turbine 50.35 Rebuild	Water Conservation System Improvement	Permitted	FY25	0.15	0.8	2.5
SVID	Reregulating Reservoir on Main Canal (Grandview)	Water Conservation System Improvement	Design	FY25	15	82.5	246.0
SVID	Mabton Siphon Replacement	Water Conservation System Improvement	Design	FY26	10	55.0	164.0
SVID	**Total**				**135.97**	**747.8**	**2229.9**
Kennewick Irrigation District							

Sponsor	Project	Project Type	Current Stage[2]	Construction (FY)[3]	Request ($M)	Direct Jobs[4]	Total jobs
KID	Main Canal Lining MP 2.2 to 3.7	Water Conservation System Improvement	Permitting	FY22	1.5	8.3	24.6
KID	Main Canal Lining MP 23.3 to 24.1	Water Conservation System Improvement	Permitting	FY22	0.8	4.4	13.1
KID	Badger East Canal MP 15.7 to 16.8	Water Conservation System Improvement	Permitting	FY22	1.1	6.1	18.0
KID	Main Canal Lining MP 3.8 to 8.4	Water Conservation System Improvement	Permitting	FY23	4.7	25.9	77.1
KID	**Total**				**8.1**	**44.6**	**132.8**
Yakima-Tieton Irrigation District						0.0	0.0
YTID	French Canyon Dam Storage Increase	Storage System Improvement	Design	FY23	2.6	14.3	42.6
YTID	Wapatox Pump Station and Pipeline	Water Conservation System Improvement	Design	FY26	150	825.0	2460.0
YTID	North Fork Cowiche Creek Reservoir	Storage, System Improvement	Design	FY26	250	1375.0	4100.0
YTID	**Total**				**402.6**	**2214.3**	**6602.6**
All Sponsors	**All Projects**				**1063.06**	**6011.8**	**17926.2**

Attachment 2 *****DRAFT***

State of Washington
DEPARTMENT OF ECOLOGY
Federal Fiscal Year 2021 Infrastructure Spending and Jobs Package Ideas

Ecology Program: Columbia Basin Project Infrastructure Projects – Odessa Groundwater Replacement Project

Located in Eastern Central Washington the Columbia Basin Project (CBP), authorized for 1.029,000 acres and generating over $5 billion in annual economic activity, is owned by the U.S. Bureau of Reclamation and managed by three irrigation districts. Existing infrastructure serving about 680,000 acres is aging. In some instances, it is over 70 years old. Additionally, while some farmers waited for continued CBP development, they obtained permission to dig deep groundwater wells for irrigation. However, we now know they are drawing from an aquifer that is depleting, creating an environmental and economic crisis. The Odessa Groundwater Replacement Project is working aggressively to address the declining aquifer but more financial help is needed.

The following CBP infrastructure projects could be started and/or completed in the next two years (FY22, FY23) with adequate funding. They represent $**273,150,000.00** in needed funding.

Opportunity/Idea	Federal Program (e.g. EPA; Categorical Grants)	Amount
Overall CBP: SCADA Upgrade	BOR	$7,000,000
DESCRIPTION: Unfunded mandate to upgrade the CBP supervisory control and data acquisition system used to adjust flow rates in canals, respond to hydropower plant and pump plant outages, monitor canal levels, and manage three CBP reservoirs.		
WHY IT IS IMPORTANT/NEEDED: To meet Federal Information Security Management Act requirements for Department of Interior regulatory compliance.		

Opportunity/Idea	Federal Program (e.g. EPA; Categorical Grants)	Amount
Overall CBP: Trail Lake Project	BOR	$3,815,759
DESCRIPTION: Addresses failing concrete infrastructure and provide alternate route to convey water.		
WHY IT IS IMPORTANT/NEEDED:		

The project would reduce the likelihood of damage or failure to the canal system, improve reliability of the canal system and reduce the operation and maintenance costs associated with this section of the Main Canal.

Opportunity/Idea	Federal Program (e.g. EPA; Categorical Grants)	Amount
Overall CBP: Keys Pump-Generating Plant Modernization		$26,816,000
DESCRIPTION: Fund part of a major upgrade to aging infrastructure that lifts water from Lake Roosevelt to Banks Lake for irrigation water supply: PGP Governor, Exciters, Protective Relays and Unit Controls; PGP Phase Reversal Switches High Side (in Yard); PGP Coaster/Reverse Flow Gate Refurbs, Bypass Valves and Piping; PGP Plant Discharge Tube and Draft Tube Rehab; Crane Upgrades; PGP Fire Alarm Upgrade; PGP Station Service Batteries; PGP Station Service (DP2A, DP6A, DP10A); CO2 System Replacement		
WHY IT IS IMPORTANT/NEEDED: After 70 years the infrastructure needs attention, but upgrades must be done in a manner that maintains affordability. The cost represents a portion of the irrigation district/landowner share over the next 5 years.		

Opportunity/Idea	Federal Program (e.g. EPA; Categorical Grants)	Amount
ECBID: Conservation Pipelines 2021-2022		$1,150,384
DESCRIPTION: Replace open laterals with 12,135 linear feet of PVC pipe.		
WHY IT IS IMPORTANT/NEEDED: It would conserve 1,209 af of water per year and 619,192 kw hours annually. Water conservation creates irrigation and wildlife water supplies with no diversions from the Columbia River.		

Opportunity/Idea	Federal Program (e.g. EPA; Categorical Grants)	Amount
ECBID: EL18 Crab Creek Siphon Repair		$1,482,481
DESCRIPTION: Repair/replace 1,000 linear feet of a leaking concrete siphon.		

WHY IT IS IMPORTANT/NEEDED:
Conserves 794 af of water annually, as well as upgrades failing infrastructure.

Opportunity/Idea	Federal Program (e.g. EPA; Categorical Grants)	Amount
ECBID: Water Conservation Projects		$15,000,000
DESCRIPTION: Implement additional water conservation projects including pipelines, geomembrane linings, polyurea sealings and new water control structures to minimize operation; and conveyance losses.		
WHY IT IS IMPORTANT/NEEDED: Water conservation creates irrigation and wildlife water supplies with no new diversions from the Columbia River.		

Opportunity/Idea	Amount
ECBID: Odessa Ground Water Replacement Program-EL 11.8 Delivery System	$12,973,750
DESCRIPTION: Construct pumped delivery system.	
WHY IT IS IMPORTANT/NEEDED: Replace 3,600 ac of groundwater withdrawals with CBP irrigation water and preserve groundwater for domestic uses/environment as part of an aquifer rescue mission.	

Opportunity/Idea	Amount
ECBID: Odessa Ground Water Replacement Program-EL 22.1 Delivery System	$70,203,188
DESCRIPTION: Construct pumped delivery system.	
WHY IT IS IMPORTANT/NEEDED: Replace 19,345 ac of groundwater withdrawals with CBP irrigation water and preserve groundwater for domestic uses/environment as part of an aquifer rescue mission.	

Opportunity/Idea	Amount

ECBID: Odessa Ground Water Replacement Program-EL 40.2 Delivery System	$6,125,000
DESCRIPTION: Construct pumped delivery system.	
WHY IT IS IMPORTANT/NEEDED: Replace 11,306 ac of groundwater withdrawals with CBP irrigation water and preserve groundwater for domestic uses/environment as part of an aquifer rescue mission..	

Opportunity/Idea	Amount
ECBID: Odessa Ground Water Replacement Program-EL 54.0 Delivery System	$4,135,000
DESCRIPTION: Construct pumped delivery system.	
WHY IT IS IMPORTANT/NEEDED: Replace 8,042 ac of groundwater withdrawals with CBP irrigation water and preserve groundwater for domestic uses/environment as part of an aquifer rescue mission..	

Opportunity/Idea	Amount
ECBID: Odessa Ground Water Replacement Program-EL 73.3 Delivery System	$15,000,000
DESCRIPTION: Construct pumped delivery system.	
WHY IT IS IMPORTANT/NEEDED: Replace 17,786 ac of groundwater withdrawals with CBP irrigation water and preserve groundwater for domestic uses/environment as part of an aquifer rescue mission.	

Opportunity/Idea	Amount
ECBID: Odessa Ground Water Replacement Program-EL 79.2 Delivery System	$31,384,844
DESCRIPTION: Construct pumped delivery system.	
WHY IT IS IMPORTANT/NEEDED: Replace 10,769 ac of groundwater withdrawals with CBP irrigation water and preserve groundwater for domestic uses/environment as part of an aquifer rescue mission.	

Opportunity/Idea	Amount
ECBID: Odessa Ground Water Replacement Program-EL 86.4 Delivery System	$9,024,332
DESCRIPTION: Construct pumped delivery system.	
WHY IT IS IMPORTANT/NEEDED: Replace 5,200 ac of groundwater withdrawals with CBP irrigation water and preserve groundwater for domestic uses/environment as part of an aquifer rescue mission.	

Opportunity/Idea	Amount
ECBID: Odessa Ground Water Replacement Program-ELC Headgate Automation	$1,676,990
DESCRIPTION: Automate East Low Canal (ELC) gravity head gates to adjust for fluctuations resulting from new OGWRP pump plant diversions along the ELC.	
WHY IT IS IMPORTANT/NEEDED: Will create consistent lateral flows regardless of canal fluctuations, reducing waste and labor and resulting in water conservation.	

Opportunity/Idea	Amount
Adams/Grant Counties: Odessa Ground Water Replacement Program-East Low Canal County Road Bridges	$23,000,000
DESCRIPTION: Replace 10 county road bridges to span East Low Canal which has been widened to provide additional carrying capacity for the OGWRP.	
WHY IT IS IMPORTANT/NEEDED: Existing bridges are bottlenecks to providing adequate flow rates. Increased capacity is required to serve distribution systems that will deliver Project water supplies and curtail aquifer depletion.	

Opportunity/Idea	Amount
QCBID: Conservation Geomembrane Lining – 2021-2022	$1,250,000

DESCRIPTION: Install geomembrane liner in open laterals for water conservation and federal infrastructure improvements.
WHY IT IS IMPORTANT/NEEDED: Creates irrigation and wildlife water supplies with no new diversions from Columbia River.

Opportunity/Idea	Amount
QCBID: Conservation Pipelines – 2021-2022	$1,250,000
DESCRIPTION: Replace open laterals with PVC pipe for water conservation and federal infrastructure improvements.	
WHY IT IS IMPORTANT/NEEDED: Creates irrigation and wildlife water supplies with no new diversions from Columbia River.	

Opportunity/Idea	Amount
QCBID: Frenchman Hills Pumping Plant Unit #1 and #2 Motor Controls	$500,000
DESCRIPTION: Replace aging infrastructure resulting in federal infrastructure improvements.	
WHY IT IS IMPORTANT/NEEDED: Ensure integrity of infrastructure and its continued use.	

Opportunity/Idea	Amount
QCBID: Conservation Pipelines, Lateral Lining, and Sealing Concrete, Flow control structures	$2,000,000
DESCRIPTION: Replace open laterals with PVC pipe, line with Geomembrane liner, seal aging cracked concrete, and flow control with measurement for water conservation and federal infrastructure improvements.	
WHY IT IS IMPORTANT/NEEDED: Creates irrigation and wildlife water supplies with no new diversions from Columbia River.	

Opportunity/Idea	Amount
QCBID: W25 Siphon Repair	$2,500,000

DESCRIPTION: Repair/replace 3,300 linear feet of existing leaking concrete siphon to conserve water as well as upgrade failing infrastructure.
WHY IT IS IMPORTANT/NEEDED: Creates irrigation and wildlife water supplies with no new diversions from Columbia River.

Opportunity/Idea	Amount
QCBID: Pumping Plant Motor Controls and Power Facilities	$500,000
DESCRIPTION: Replace aging infrastructure resulting in federal infrastructure improvements.	
WHY IT IS IMPORTANT/NEEDED: Ensure integrity of infrastructure and its continued use.	

Opportunity/Idea	Amount
QCBID: Pumping Plant Bridge Cranes	$500,000
DESCRIPTION: Replace aging infrastructure resulting in federal infrastructure improvements.	
WHY IT IS IMPORTANT/NEEDED: Ensure integrity of infrastructure and its continued use.	

Opportunity/Idea	Amount
QCBID: Homestead Pump Plant and Small Hydro Power Generation	$1,000,000
DESCRIPTION: Installing a pumping plant and small hydro power generation plant for federal infrastructure improvements.	
WHY IT IS IMPORTANT/NEEDED: Creates irrigation reliability and provides renewable hydro power.	

Opportunity/Idea	Amount
SCBID: Potholes East Canal Headworks Headwall Repair	$2,000,000

DESCRIPTION: Repair concrete headwall at PEC Headworks.
WHY IT IS IMPORTANT/NEEDED: This structure failed in 2017.

Opportunity/Idea	Amount
SCBID: Pump Plant Discharge Manifold Replacement	$3,000,000
DESCRIPTION: Replace steel manifolds at 15 pump plants.	
WHY IT IS IMPORTANT/NEEDED: Replacing the manifolds maintains flows to all project purposes without interruption. The manifolds are nearly 65 years old.	

Opportunity/Idea	Amount
SCBID: Conservation Pipelines and Geomembrane Lining	$5,000,000
DESCRIPTION: Replace open laterals with PVC pipe and geomembrane lining for water conservation and federal infrastructure improvements.	
WHY IT IS IMPORTANT/NEEDED: Creates irrigation and wildlife water supplies with no new diversions from Columbia River.	

Opportunity/Idea	Amount
SCBID: Weed Screens	$1,000,000
DESCRIPTION: Build and install weed screens for 20 laterals.	
WHY IT IS IMPORTANT/NEEDED: Weed screens enhance delivery efficiency and reduce aquatic chemical treatment.	

Opportunity/Idea	Amount
SCBID: Radar Pump Plant Pump	$2,000,000
DESCRIPTION: Add redundancy and capacity to high lift pump plant.	

WHY IT IS IMPORTANT/NEEDED: The plant was designed to house an additional pump.

Opportunity/Idea	Amount
SCBID: WB44 Siphon Repair	$10,000,000
DESCRIPTION: Replacement of 6,000 linear feet of aged Prestressed Concrete Cylinder Pipe.	
WHY IT IS IMPORTANT/NEEDED: Replace aged materials.	

Opportunity/Idea	Amount
SCBID: Ringold Storage and Wasteway Repair	$10,000,000
DESCRIPTION: Re-regulation reservoir and replacement of failed emergency wasteway on the Potholes Canal.	
WHY IT IS IMPORTANT/NEEDED: Replacement of failed emergency wasteway.	

Opportunity/Idea	Amount
SCBID: System Automation and Flow Measurement	$1,000,000
DESCRIPTION: Install canal automation and flow measurement.	
WHY IT IS IMPORTANT/NEEDED: Automation and measurement will improve efficiency, save water and power, and provide higher level of control.	

Opportunity/Idea	Amount
City of Othello: Sewer Line Crossing over Potholes Canal	$900,000
DESCRIPTION: Replace two sewer crossings over Potholes Canal to provide higher level of safety, lower probability of leak or spill.	
WHY IT IS IMPORTANT/NEEDED:	

Sewer crossing over large canals are high risk. City has extremely high liability in event of a leak or spill.