Pierce County Flood Control Zone District
Advisory Committee

Meeting Information

1. Agenda

   1.I. Meeting Packet March 28, 2025

   Documents:

   PCFCZD PACKET 3-28-25 COMPRESSED.PDF

2. Related Documents

3. Presentations
   Presentations are available after the meeting.

4. Meeting Minutes
   Minutes are available after approval at the next meeting.

FCZD ADVISORY COMMITTEE MEETING AGENDA

Pierce County Flood Control Zone District (FCZD) Advisory Committee: The Advisory Committee is created to provide expert policy advice to the board of supervisors of the Pierce County Flood Control Zone District on regional flood protection issues. The committee shall review and recommend an annual capital budget for the district, including capital improvement program projects and funding levels, subject to approval or approval and modification by the board of supervisors. (Chapter 11.06.030 Pierce County Code).

PIERCE COUNTY
FLOOD CONTROL ZONE DISTRICT

MEETING TIME AND LOCATION

Friday, March 28, 2025
10:00 a.m. – 12:00 p.m.
In-Person Option
2702 South 42nd Street, 2nd Floor Conference Room, Tacoma, WA 98409

Zoom Meeting

Join Zoom Meeting
https://us02web.zoom.us/j/89371385589?pwd=rntgxwWRsuHIuYbsc37jAYzYLipi9A.1
Meeting ID: 893 7138 5589
Passcode: 571290
One tap mobile
+12532158782,,89371385589#,,,,*571290# US

PURPOSE OF THE MEETING

- Understand Schedule for Building 6-Year CIP Budget
- Project Prioritization Criteria and Call for Projects Process

Time	Topic	Objective	Lead	Materials/Notes
10:00	Call to Order Introductions	Take attendance Introduce attendees	Chris Moore, Chair	
10:10	Public Comment		Chris Moore, Chair	
10:15	Meeting Summary Approval		Chris Moore, Chair	Draft Meeting Summary February 28, 2025
10:20	Capital Budget Development Schedule	Review tasks and milestones to prepare for upcoming meetings	Kjristine Lund, Executive Director Jenny Bailey and Clara Olson, Parametrix	Milestone Chart
10:30	Project Selection Process	Discuss approaches for building next six-year CIP	Kjristine Lund Clara Olson Jenny Bailey	Adopted CPOD Criteria CIP Budget Criteria ○ Prior CIP guidance ○ Proposed criteria
11:30	Call for Projects	Describe notification and application process	Kjristine Lund Clara Olson Jenny Bailey	Milestone Chart Eligible Projects List
11:45	Next Steps	Review upcoming deadlines & District meetings	Kjristine Lund	
12:00	Adjourn		Chris Moore, Chair	

COMMITTEE MEMBERS

Name	Organization		Term
Chris Moore, Chair	City of Orting, Vice Chair		2028
Roger Henderson, Vice Chair	WRIA 15		2027
Nicholas Anderson	Designee for County Executive Mello		N/A
Greg Anglemyer	Unincorporated Pierce County		2027
Dennis King	Councilmember, City of Puyallup		2025
Bruce Dammeier	Executive, Pierce County		N/A
Michael Kosa	Public Works Director, City of Sumner		2028
Todd McKellips	Unincorporated Pierce County		2028
Don Meyer	Commissioner, Port of Tacoma		2025
Ryan Mello	Perce County Executive		N/A
Char Naylor	Puyallup Tribe of Indians		2024
Russell Odell	WRIA 10		2027
Sandesh Sadalge	Councilmember, City of Tacoma		2027
Dwane Watsek	WRIA 11		2028
Lew Wolfrom	Councilmember, City of Fife		2025
Vacancy	Business Representative		
Vacancy	WRIA 12		
Hans Hunger	City of Puyallup	Alternate	
Pat Hulcey	City of Fife	Alternate	
Mindy Kellar	Port of Tacoma, Senior Manager, Water Quality	Alternate	
Joey Murphy	Councilmember, City of Fife	Alternate	

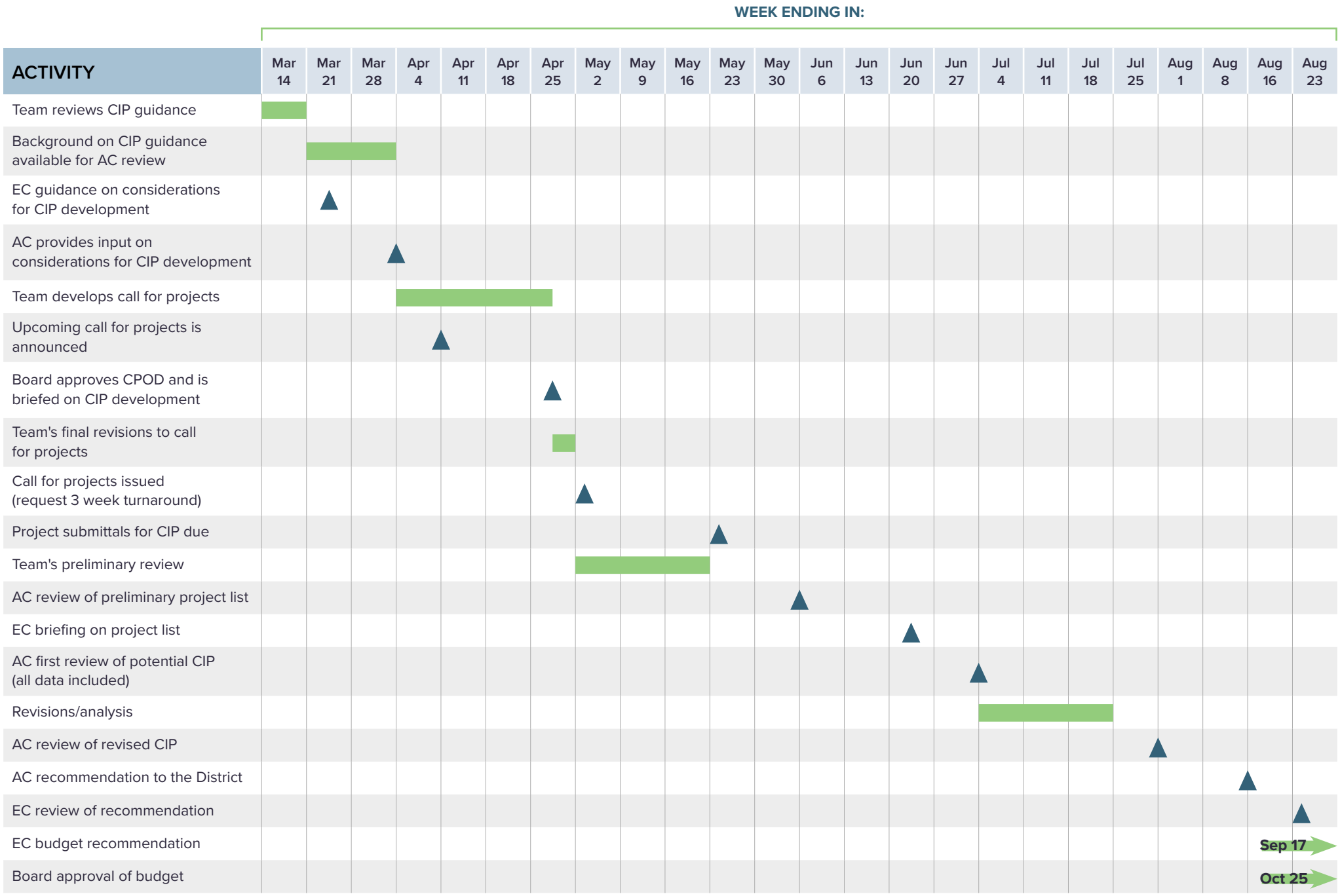
(WRIA) Water Resource Inventory Area

2025 MEETING SCHEDULE

February 28
March 28
April 25
May 30
June 27
July 25
August 29

Capital Improvement Program Process Schedule – DRAFT

FLOOD CONTROL ZONE DISTRICT



AC = Advisory Committee EC = Executive Committee CPOD = Comprehensive Plan of Development CIP = Capital Improvement Program

Pierce County Comprehensive Flood Hazard Management Plan – Problem Prioritization

The following prioritization matrix is intended to help prioritize the level of effort (Tier 1, 2, or 3) that will be expended on identified problems in developing alternative solutions, carrying out feasibility analyses, and developing a conceptual project design and cost estimate. Focus will be on the flood risk/vulnerability perspective, severity and flood frequency.

1) Existing land use of affected area (Consequences)

This criterion is intended to give different weights to different types of land uses. Use the score range provided to give more or less weight based on site specific conditions. For example, a sole access road would be given a higher score than one for which a reasonable alternative route exists.

Description	*Score*
Critical Assets are defined as critical facilities, critical infrastructure, and environmental assets. Please see the below definitions. **Critical facility: A critical facility includes, but is not limited to, schools, nursing homes, hospitals, police and fire stations, emergency response installations, installations that produce, use or store hazardous materials or hazardous waste, or installations that serve a large number of people. For purposes of the Title 18 PCC series, "critical facilities" is a generic term that encompasses other more specific terms such as essential facilities, hazardous facilities, or special occupancy structures, but does not include utility facilities (utilities) that are located underground or are predominately underground, do not aggravate the hazardous conditions, and are generally not subject to damage from flood or lahar inundation.** **Critical Infrastructure: Critical infrastructure are facilities and services needed to sustain industry, residential, and commercial activities. Infrastructure may include, but is not limited to; water and sewer lines, major arterial roads , and communication lines. From an Economic Development perspective, infrastructure also includes environmentally safe siting, an adequately trained labor force, and a transport network that includes an adequate commercial transportation system of roadways, rail system, and air freight.** **Environmental Assets: include land, natural biological resources such as timber and fish, mineral and energy resources, water resources and soil.**	6-10
Commercial/Industrial/employment centers (Mt. Rainier as commercial) - low # for fewer facilities	4-9
Public Infrastructure (all other roads)	5-7
Residential (Urban and high-density residential)	5-8
Residential (Rural and low-density residential)	3-5
Resource Lands (Agricultural, Timber, Mining)	3-4
Developed Recreational (Those with regional importance should receive higher scores.)	1-2

2) Severity of potential flood or channel migration impact (Consequences and Severity)

This criterion is intended to evaluate the type and magnitude of the impacts irrespective of the scale at which the impact will occur. The scoring range can be used to differentiate between similar types of impact that have different likelihoods of occurring.

Description	*Score*
Public Safety - Human injury or death could result from deep fast flows or sudden changes in flood conditions (e.g. levee or road failure). - **Chronic problem area**	9-10
Public Safety - Human injury or death could result from deep fast flows or sudden changes in flood conditions. – Infrequent **occurrence** (e.g., did not evacuate) or anticipated problem area.	5-8
Severe Infrastructure or Property Damage - Total loss of developed land use (e.g. developed land is converted to river channel.).	7-8
Moderate to Severe Infrastructure or Property Damage - Severe flood or erosion damage that will heavily impact those affected.	5-6
Minor to Moderate Infrastructure or Property Damage - Moderate flood or erosion damage which will not likely have a long-term impact on those affected.	3-4
Minor Flooding - Flooding that interrupts human activity or will result in some clean up needs, but which will result in little or no damage that will need to be repaired (e.g., yards, driveways, minor streets).	1-2

3) Area of impact (Consequences and Severity)

This criterion describes the scale of the problem. Does the problem manifest over a large area or in a manner that will affect a large number of people? In instances where the physical impact is over a small area, but a larger number of people will be affected, apply score based on the impact rather than just the physical area. Scoring range can be used to differentiate between different degrees of extensiveness within the listed categories.

Description	*Score*
Regional (Impacts will be felt well outside the area in which the flooding or erosion occurred.)	8-10
Major: is defined to have extensive inundation of structures and roads. Significant evacuations of people and/ or transfer of property to higher elevations are necessary. (City centers, larger neighborhoods (>20 homes).)	6-7
Moderate: is defined to have some inundation of structures and roads near the stream. Some evacuations of people and/or transfer of property to higher elevations may be necessary. (Numerous structures (e.g., 5-20 homes), roads/levees/revetments impacted.)	3-5
Localized (Affects a few homes (e.g., <5), or businesses.)	1-2

4) Frequency of flood or channel migration occurrence impact (frequency)

This criterion is used to describe how often economic and/or structural damage has occurred from flood or channel migration events. (i.e., a channel migration event is any significant landward bank erosion.).

Description	*Score*
Three or more occurrences in the last 30 years	8-10
Two occurrences in the last 30 years	5-7
One occurrence in the last 30 years	1-4

Pierce County Comprehensive Flood Hazard Management Plan Project Prioritization Criteria

The following project prioritization criteria are intended to be combined with the four problem prioritization criteria to prioritize projects for implementation. The criteria focus on project effectiveness, project phasing and sequencing, multiple project benefits, partnerships and opportunities, Best Management Practices and Diversity, Equity, and Inclusion.

5) Project Effectiveness (at addressing problem)

This criterion is used to assess the effectiveness of the proposed project at addressing and solving the problem.

Description	***Score***
Project provides a complete long-term solution to the identified problem(s).	9-12
Project solution addresses the majority of the identified problem(s), but some residual risk still remains.	6-8
Project provides partial or temporary solution to the identified problem(s).	0-5
Total	0-12

6) Phasing and Sequencing of Projects

This criterion is used to assess the actions that are phased over the lifetime of the plan. (i.e., the CFHMP is a 10-year plan)

Description	***Score***
Near Term: Completed within the next 2 years	5
Mid-Term Completed within the 2 to 6-year time frame	3
Long-Term: Completed within a 10-year time frame	1
Total	1-5

7) Multiple Project Benefits

This criterion is used to assess the additional project benefits that result from project implementation (beyond flood and channel migration risk reduction).

Description (Scoring Criterion are additive)	***Score***
Project provides benefits in terms of aquatic and riparian habitat.	0-4
Project provides benefits in terms of water quality (e.g., shading, sediment reduction, filtering).	0-2
Project will be designed to accommodate climate change projections	☐ Yes (2 points) ☐ No (0 points)

Project provides benefits in terms of public access (e.g., trail, passive uses, aesthetics). Note: inappropriate public access that degrades habitat or water quality should be downgraded.	0-2
Project provides benefits to agriculture operations	0-2
Diversity, Equity, Inclusion • Did you use a study or a screening tool to determine the low-income population in the project area? (e.g., EPA EJSCREEN: https://ejscreen.epa.gov/mapper/ or OSPI Home - Washington State Report Card (ospi.k12.wa.us).	5

The following link is an additional resource on how to use the EJScreen Tool. https://wsdot.wa.gov/sites/default/files/2021-10/Env-EJ-EJScreenHowTo.pdf If so, please provide which study or screening tool was used: • Project provides benefits in terms of Diversity, Equity and Inclusion *One point per demographic indicator, maximum of 5 points Example demographic indicators are listed on the follow website: https://www.epa.gov/ejscreen/overview-demographic-indicators-ejscreen If so, which specific benefits did you identify? • Is the project in a flood hazard area that has been identified as an overburden community, where businesses or individuals have a diminished ability to recover from a flood event? If so, please provide what measures you are taking to improve the community's resilience?	0-5 Yes (3 points) ☐ No (0 points) ☐
Total	0-25

8) Partnerships and Opportunity

This criterion is used to assess the partnerships, funding and leveraging issues, land ownership and project readiness affecting project implementation.

Description (Scoring Criterion are additive)	***Score***
Partnerships and Funding - project has partner(s) (e.g., city, tribe, Corps of Engineers) contributing funding and political leverage.	0-4
Land Ownership - relative extent of land in public ownership or with willing landowner within project area.	0-3
Project Readiness - Extent to which project design and permitting are completed (e.g., Scoping, Preliminary Engineering, and Final Engineering).	0-3

One point per obligation or commitment that the project satisfies (3 points max): Obligations and Commitments (e.g., HCP, SWIF, NPDES/TMDL) • HCP: Habitat Conservation Plan • SWIF: System Wide Infrastructure Framework • NPDES: National Pollutant Discharge Elimination System • TMDL: Total Maximum Daily Loads • EPA: Environmental Protection Agency • GMA: Growth Management Act • Shoreline Management Act • Stormwater Manual • Government to Government (Tribal Relations)	0-3
Total	0-13

9) Best Management Practices (BMP)'s

This criterion is used to assess best management practices within the County.

Description (Scoring Criterion are additive)	***Score***
Compliance with the Pierce County Flood code. These code requirements go above and beyond the minimum NFIP requirements which can be found in 44 CFR 60.3. Please refer to the link for additional information on the below Pierce County regulations: https://www.codepublishing.com/WA/PierceCounty/html/PierceCounty18E/PierceCounty18E70.html One point per regulation your municipality meets that goes above and beyond the NFIP requirements, maximum of 5 points • Zero Rise in the flood fringe • Deep and Fast Flowing floodway • CMZ floodway • Prohibit development in the flood fringe unless shown infeasible • Floodplain must be platted into a protected tract or show how every lot can develop without encroaching the floodplain • Access/egress above the 1% floodplain • Regulate Zone X-shaded zone and require that a BFE or Reasonably Safe from Flooding be developed • Cumulative substantial damage calculation – minimum of 5 years • Prohibit below BFE enclosures other than crawlspace • Compensatory storage calculated for every foot of flood depth	0-5
Total	0-5

DRAFT UPDATE

Pierce County Flood Control Zone District Capital Improvement Program Process Guidance to Project Sponsors

Introduction

The Pierce County Flood Control Zone District ("District") provides funding for acquisition, construction, maintenance, and operation of flood control improvements in Pierce County. The revised code of Washington, 86.15.140 sets forth the process by which flood control zone districts approve an annual budget.

The District Advisory Committee ("Advisory Committee") provides expert policy advice to the District Board of Supervisors ("Board"). The Advisory Committee reviews and recommends an annual capital budget for the District, including capital improvement projects and funding levels, subject to approval or approval and modification by the Board. (Chapter 11.06.030 Pierce County Code)

This guidance document concerns the District's capital improvement program ("CIP") process and is intended to assist project sponsors that: want to propose a new project for consideration by the Board; to delay a project already approved by the Board; or, to request additional funds for an already approved project.

Capital improvement programs typically cover a six (6) year time frame and are revised and adopted annually. Adjustments to the CIP and to projects can occur for many reasons, such as a change in organizational priorities; complications with permitting; complex design issues; project savings; loss of funding; or unforeseen complications during construction.

The Flood District Board of Supervisors votes to adopt a capital improvement budget annually. The Board may make changes to the capital budget at any time, but any changes must meet the requirements of RCW 86.15.140 and RCW 36.32.120 (7).

Prerequisites

To be considered for inclusion in the CIP, projects must be included within the District's Approved Comprehensive Plan of Development ("CPOD") and have received an initial project ranking number.

(See approved CPOD project list.)

District Annual Capital Budget Process

1. The District sets the Flood Control Zone District Budget annually, including the capital improvement program.

2. The District provides budget direction to the Advisory Committee related to the capital budget in the late spring each year and asks the Advisory Committee for its capital budget recommendation.

3. The Advisory Committee considers capital budget options prepared by District staff over the summer months and formulates a recommendation for consideration by the Board.

4. The Executive Committee of the Board reviews the Advisory Committee's recommendation in late summer and recommends a capital budget by resolution for action by the Board, usually in October. The Board holds a public hearing on the capital budget and votes.

Process for Project Sponsors Making CIP Requests

Project Selection:

- District staff send a notice to jurisdictions announcing a call for projects.
- Eligible projects must be identified in the District's adopted Comprehensive Plan of Development.
- Project sponsors must use the project application form provided by the District and must meet published deadlines.
- District staff evaluate submitted projects and draft a CIP based on the following considerations:
    - Prior financial commitment from District on 6-Year CIP.
    - Initial project ranking within the CPOD with emphasis on flood severity and consequence.
    - Ability to expend funds for the requested project phase - project readiness.
    - Ability to leverage funds to complete project phase.
    - Sequencing of projects to address systematic flood risk.
    - Representation of county-wide needs, geographically, and by project type.
- District staff create a 6-year CIP Budget with proposed funding allocations.
- Advisory Committee reviews and recommends a 6-year CIP to the Board of Supervisors.

Delayed Projects:

- The project proponent must keep the District Administrator informed of a project's progress.
- Project sponsors must notify the District Administrator if their project is delayed, and they want their project to remain on the CIP to retain their financial commitment from the District . The

project sponsor must provide evidence that there is a reasonable likelihood the delay is temporary and that funds will be able to be used within the timetable of the six-year CIP.

- The District Administrator may recommend reallocating a delayed project's previously approved funding in order to advance other approved projects.
- The District Administrator provides the Board with project status reports on a quarterly basis.

Reallocation of Project Savings:

- Once a project has been constructed and is in the process of final project close out, the project is considered complete.
- The project will be noted as complete and removed from the CIP in the following year.
- The District Administrator will recommend reallocating unspent funds to new or existing projects on the CIP as part of the annual capital budget process.
- When a project cost is less than the project cost estimate, the cost savings realized for the project will be shared with the District based on the percentage of the project paid for by the District.

Additional Funds for Already Approved Projects:

- Once a project is on the 6-Year CIP, a project sponsor may request additional funds by submitting a form to amend the approved budget allocation.
- Project sponsors are encouraged to use Opportunity Funds to address cost increases.
- Project sponsors are encouraged to use the annual budget process cycle to have their request considered.
- The District Administrator will inform the District Executive Director of the additional funds requested and the request will be referred to the District Executive Committee for consideration.
- Changes to the approved CIP Budget require full Board of Supervisor's approval and require legal notices and a public hearing.

Definitions:

Approved Project: A project that is on the CIP and that has received funding.

Capital Plan (Capital Improvement Program): A multi-year financial plan that:

- Lists and describes capital projects a local government plans to undertake, and
- Indicates how projects will be funded.

Delayed Project: A project that is delayed from the original schedule (at time of project approval) but is still advancing toward construction or completion.

New Project: A project in the CPOD that is proposed to be included on the CIP for the first time.

Project Funding Allocation: An action by the Board to designate specific funds in specific years for an Approved Project.

Jurisdiction	Project Description	Location
City of Bonney Lake	Significant flooding caused by natural occurring pothole with no outfall - occurred twice in last 20 years.	188th Ave E/62 St E (East Hill Pothole)
City of Bonney Lake	Reports state that culvert crossing at Kelly Lake Road is undersized in capacity and unable to meet stormwater requirements, resulting in overtopping of Kelly Lake Road.	Church Lake/Kelly Lake
City of Bonney Lake	Reports indicate that the Walmart parking basin to an existing storm system draining to a pond located immediately south of the Walmart building.	192nd Ave E/SR410 - Walmart Parking Lot
City of Bonney Lake	Stormwater conveyance system is surcharging near outfalls to Lake Tapps in two locations.	Cascade Dr E/North Island Drive E.
City of Bonney Lake	Pothole located at the northeast corner of Locust Avenue and 82nd Street E fills with water during sustained storm events and floods 82nd Street.	Locust Avenue and 82nd Street
City of Bonney Lake	Stormwater runoff in the Days Addition residential neighborhood flows through private property along the natural contours in the stormwater basin with no formal stormwater management system and floods 67th Street and 67th St Ct and private property at 19405 67th Street and 19403, 19405, and 19406 67th Street Ct E.	67th Street and 67th Street Ct E.
City of Bonney Lake	Stormwater runoff in the Days Addition residential neighborhood flows through private property along the natural contours in the stormwater basin with no formal stormwater management system and floods 68th Street and private property at 19405 and 19406 68th Street.	68th Street E.
City of Bonney Lake	The stormwater conveyance system at the south end of Inlet Island discharges through private property along the natural contours to Lake Tapps and causes flooding at 6364 South Island Dr.	South Island Dr. at 6364
City of Dupont	For cite/Louviers Street flooding	For cite/Louviers Street
City of Dupont	Haskell Street and Louviers Flooding	Haskell / Louviers
City of Dupont	Barksdale and Haskell Flooding	Barksdale / Haskell
City of Dupont	Barksdale and Penniman Street Flooding	Barksdale / Penniman
City of Dupont	Barksdale and Hopewell Flooding	Barksdale / Hopewell
City of Dupont	Louviers and Hercules Flooding	Louviers / Hercules
City of Dupont	Barksdale and Hercules Flooding	Barksdale / Hercules
City of Dupont	Louviers and Repauno Flooding	Louviers / Repauno
City of Dupont	Repauno Flooding	Repauno
City of Dupont	Repauno and Barksdale Flooding	Repauno / Barksdale
City of Dupont	Santa Cruz and Brandywine Flooding	Santa Cruz / Brandywine

City of Edgewood	Ponding water with reverse slope ditch across private property Severity - Overtops roadway	9100 block 34th St E
City of Edgewood	Shallow ditch Severity - Overtops roadway at intersection	127th Ave E @ 48th St. E
City of Edgewood	Ponding water with no outlet	112th Ave E @ 24th St. E
City of Edgewood	Failing drywell system with no outlet	13100 block 56th E
City of Fife	Residential yard flooding along Wapato Creek	Circle Drive E. David Ct. E.
City of Fife	City Center Flooding	Fife Ditch @ 15th St
City of Fife	City Center Flooding	Fife Ditch @ 15th St
City of Gig Harbor	Burnham Dr at 96th Ave	Burnham Dr & 96th Ave
City of Gig Harbor	Sewer Lift Station #5	2823 Harborview Drive
City of Lakewood	Clover Creek overflows during large events (construction)	Clover Creek between JBLM and just west of Sound Transit RR.
City of Milton	Culvert gets plugged creating water over the road which floods into people's driveways	910 70th Ave
City of Milton	5th Ave Hylebos culvert	5th Ave
City of Orting	Backwater from the Carbon River during high flows causes Voight Creek and Coplar Creek to flow laterally along the riparian zone outside of the Carbon River left bank levee resulting in flooding down Corrin Ave. NW and SR162. This results in water over roads and flooding of some homes, including crawl spaces and some finished floors.	Carbon River DS 3.9 RMP UP 4.0 RMP Left Bank.
City of Orting	City of Orting has identified 61 different gravel bars along the city boundary	Upper Puyallup River DS 19.4 RMP UP 22 RMP
City of Orting	Calistoga Storm Water Project	Carbon River (well 1)
City of Orting	Water infiltration into sewer lines creating flooding issues inside the treatment plant	Old town Orting
City of Pacific	Flooding along Milwaukee Ditch where the ditch banks are flat. Primary affected properties are adjacent structures and land parcels. The ditch portion in Pierce County is approximately 6500' LF.	South Boundary of Approx 18th Street East to North Boundary of Countyline Rd.
City of Puyallup	Sam Peach Park Flooding - Drainage Improvements on 10th-7th Ave NW (Project)	16th St NW and 10th Ave NW :18th St NW and 10th Ave NW
City of Puyallup	12th Ave SW Stormwater Improvements (Project)	12th Ave NW from 15th ST NW to 11th ST NW
City of Puyallup	Flooding of old landfill and erosion on the left bank of the Puyallup River - Linden Golf Course Oxbow Setback Levee (LB RM 9.6 -RM 10.5)(Project)	Left Bank - River Mile 9.1 to 10.5
City of Puyallup	Flooding of commercial/industrial properties on Deer Creek (Project) East Main Deer Creek Culvert Crossing	Upstream of confluence with Puyallup River at East Main and Deer Creek
City of Puyallup	Wapato Creek Diversion Repair (Project)	Diversion Extends from just north of Valley Ave S to the Puyallup River crossing under N Meridian
City of Puyallup	Flooding at properties along 25th St SE adjacent to Deer Creek - Deer Creek Realignment (Project)	Deer Creek from 12th Ave SE to E Pioneer
City of Puyallup	21st St Deer Creek RR Crossing (Project)	Deer Creek Railroad Crossing near 21st ST SE

City of Puyallup	4th St NW Storm Upgrades for Downtown Revitalization - N-2, N-3, N-4 and N-5; 4th St (Skate Park) PS. (Project)	N-3: 4th Ave SW/SE between 5th St SW and 2nd St SE. N-4: 4th Ave SE between 3rd St SE and 7th St SE and a portion of 3rd St SE north of 4th Ave SE. N-5: West Stewart Ave between 7th St NW and 2nd St NW. 4th St (Skate Park) Pump Station: 4th St NW and Puyallup River
City of Sumner	Lower White River Flood Protection -Left Bank 24th Setback	White River (RM 1.8-4.2)
City of Sumner	Lower White River Flood Protection-Sumner Pointbar	White River (RM 3.9-4.5)
City of Sumner	Lower White River Flood Protection -Stewart Setback	White River (RM 4.4-4.9)
City of Sumner	Lower White River Flood Protection -Stewart Road Bridge	White River (RM 5.0)
City of Sumner	Salmon Creek Undersized culverts	Salmon Creek
City of Tacoma	Leach Creek Flooding	Leach Creek
City of Tacoma	South Tacoma Way flooding part 1	Pacific Ave and South Tacoma Way
City of Tacoma	South Tacoma Way flooding part 2	Pacific Ave and 21st to 15th street
City of Tacoma	Commencement Bay Resilience & Restoration Master Plan (phase 1)	Commencement Bay
City of Tacoma	Stability slope issue on 5-mile Drive	5 miles Drive Tacoma
City of Tacoma	Ruston Way shoreline condition assessment & preliminary design	North Tacoma slopes
City of University Place	Olympic/Brookside urban flooding	Olympic and Brookside Road
Town of Steilacoom	Damage to seawall caused by high tides and rising waters. Other park improvements threatened and hazardous condition created.	Sunnyside Beach
Town of Wilkeson	Wilkeson Creek and Bridge Stabilization	Watershed/ End of town on Wilkeson creek (47.101083, -122.046454)
Town of Wilkeson	Business District Storm Water Collection Extension	East of the Historic Business District
Unincorporated Pierce County	Jones Setback Levee	Upper Puyallup River RM 21.2-22.5 right bank upstream of Calistoga Bridge in Orting
Unincorporated Pierce County	Rainier Manor/Riverwalk/Rivergrove and SR-410 Flood Wall and Levee	Middle Puyallup River RM 10.7 -12.0 right bank
Unincorporated Pierce County	Alward Road Floodplain Acquisition and Setback Levee	Carbon River RM 6.4-8.4 left bank
Unincorporated Pierce County	128th Street Corridor River Improvements	Middle Puyallup River RM 15.8 right bank and left bank and 17.4 right bank and left bank
Unincorporated Pierce County	Orville Road Revetment at Kapowsin Creek	Upper Puyallup River RM 26.3-26.8 left bank
Unincorporated Pierce County	Neadham Road Floodplain Reconnection	Upper Puyallup RM 25.3- 27.0 right bank
Unincorporated Pierce County	Carbon River Setback Levee LB Bridge Street to Upstream of Voights Creek	Carbon River RM 3.0-4.5 left bank
Unincorporated Pierce County	Upper Carbon/Fairfax Rd Bank Stabilization	Carbon River RM 21.5-22.9 left bank

Unincorporated Pierce County	Carbon River Floodplain Connection Right Bank	Carbon River RM 3.2-4.2 right bank
Unincorporated Pierce County	White River Butte Pit Setback	Lower White River RM 4.8- 5.5 right bank
Unincorporated Pierce County	Puyallup River Ford Setback - Capital Maintenance	Upper Puyallup River RM 23.5-24.9 right bank
Unincorporated Pierce County	Carbon River Setback Levee LB Upstream of Voights Creek to SR 162 Bridge	Carbon River RM 4.5-5.9 left bank
Unincorporated Pierce County	White and Puyallup Rivers Confluence Property Acquisition	Lower Puyallup River RM 9.4 and 10.3 right bank, downstream of its confluence with White River
Unincorporated Pierce County	Clear Creek Floodplain Reconnection project (RM 2.9, right bank, confluence of Clear Creek and Puyallup River)	Lower Puyallup River RM 2.9 right bank, confluence of Clear Creek and Puyallup river

Type of Flooding
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Riverine

Potential Solution
Propose installing a pressure main and pump to convey high water events to an outfall on Lake Tapps. System would include a pump at the eastern most pond area and conveyance of approximately 1,500 LF of 8" PVC pipe beneath 64th Street East. Proposed work solves flooding at Project 1-2 site as well.
There are several possible solutions are appropriate dependent upon further technical analysis. One option is to replace a culvert (70 LF) with revised inverts and excavation at inlet to increase head pressure at culvert inlet. An analysis of capacity of culverts at 2 driveways (25 LF each) downstream (located in Pierce County jurisdiction) will be required. Alternative solutions include replacement of Kelley Lake Road culvert only, a direct closed connection between Kelley Lake Road culvert and upstream culvert with structures and pipe, or a more robustly excavated sump area at culvert in
Propose the addition of a catch basin to an existing storm system draining to a pond located immediately south of the Walmart building.
Extruded asphalt curb (with driveway cutouts) will direct stormwater into the proposed catch basins along Island Drive E. The proposed ditch is 235 LF and runs along the north side of Cascade Dr E to Lake Tapps. Finally, 55LF of 12" stormwater pipe will connect stormwater from the southeast quadrant of Cascade Dr E and N Island Dr E to the proposed system discharging to the proposed ditch along.
The city should purchase parcel 5640000200, modify the existing pond, and raise the roadway surface of 82nd Street E to increase the available storage capacity. Finally, cost of pump system and stormwater pipe required to convey excess pond water east along 82nd Street E to a stream connected to Lake Bonney outflow. Downstream analysis will be necessary to determine the impacts of this diversion.
Propose a new stormwater conveyance system with catch basins and stormwater pipe from 19405 67th Street to 19405 68th Street. Project includes a new easement on 19405 67th Street and approximately 860 feet of stormwater drainage pipe and 10 catch basins. The project also includes approximately 650 feet of stormwater drainage swales to manage and treat the stormwater runoff from 67th St. and 67th St Ct. with an overflow to the new conveyance system to eliminate flooding. Project scope would also include adjustment of 9 driveway approaches.
Propose a new stormwater conveyance system with catch basins and stormwater pipe from 19405 68th St. through a stormwater easement along 19406 68th St. The project also includes approximately 400 feet of stormwater drainage swales to manage and treat the stormwater runoff from 68th St. with an overflow to the new conveyance system to eliminate flooding. Project scope would also include adjustment of 10 driveway approaches.
Propose the addition of catch basins and stormwater pipe to intercept and re-direct stormwater flows through a new conveyance system inside a stormwater easement along the west property line at 6364 S Island Dr. The new conveyance system will connect to the existing outfall to Lake Tapps and eliminate the stormwater flooding and current flow path issue.
Install infiltration trench and put in drywell
Catch Basin, basic treatment, infiltration trench
Catch Basin, bioretention cell
Catch Basin, basic treatment, infiltration trench
Catch Basin, basic treatment, infiltration trench
Catch Basin, basic treatment, infiltration trench
Catch Basin, basic treatment, infiltration trench
Catch Basin, basic treatment, infiltration trench
Catch Basin, basic treatment, infiltration trench
Catch Basin, basic treatment, infiltration trench
Catch Basin, basic treatment, infiltration trench

Install new piped conveyance in ROW
Install new piped conveyance in ROW
Install new piped conveyance in ROW
Install new piped conveyance in ROW, improve downstream system into summer
Analysis, design and construction of Additional inlets pipes, and other drainage features to increase drainage, as called out in 2021-2026 CIP project 2.
Upsizing Culverts
Upsizing Culverts
Construct setback levee along Clover Creek between City limits and Bridgeport Way SW and spot improvements downstream to Steilacoom Lake to prevent localized flooding outside of the main floodplan.
Put in a Type 2 Catch basin
Install a large box culvert and one foot diameter pipe
Possible solutions include upsizing of a 36" concrete culvert carrying creek flows to the Carbon River at approx. RM 3.9 and construction of a cut-off berm to divert flows back into the Carbon River and prevent excess flows from flowing down Corrin Ave. NW
Gravel bar scalping would temporarily increase the flood carrying capacity of the river channel through the reach. Suggestions are letter the river re-take more room to naturally flow back to historic locations. RMP 21.3
Upsizing the stormwater piping
Rehabilitation of Existing sewer lines
1). Remove 3' of excessive sediment buildup and Reed Canary Grasses in the ditch channel through a heavy maintenance cleaning.
2). Armor one side minimum of the ditch channel with 3 courses of ecology blocks to approximate height of OHWL.
Replace existing 8 to 12 inch storm sewer with 18 to 24 inch storm sewer.
Preliminary design for Levee setback, trail realignment, habitat restoration, erosion protection, landfill removal and floodplain modifications.
Severity of flooding needs to be better understood and detail the cost of flood damage. Work with property owners to come up with individual solutions which could include flood proofing or evacuation plans. Replace existing undersized culvert under East Main.
RFP out for advertisement for a condition assessment and retrofit/replacement options for the diversion.
Replace 4 culverts and reroute Deer Creek through city owned properties while increasing flood storage and habit along the stream corridor.
The existing culvert underneath the Burlington Northern railway will be replaced with an appropriately sized fish passable culvert.

N-2 -The stormwater mainline will consist of a 36-inch diameter pipe. N-3 - This phase consists of 631 LF of 36-inch diameter pipe and 1,093 LF of 30 inch diameter pipe N-4 - The 4th Ave stormwater line replacement will consist of a 24-inch diameter pipe and the 3rd St SE replacement will be a 12-inch diameter pipe. N-5 - This phase consists of installing an 18-inch diameter pipe. PS - Replace PS that is currently undersized to handle large storm events that occur when the Puyallup River is high
170+ Acre floodplain restoration creating in-stream salmon habitat and floodwater storage. Relocation of water, sewer, gas, and power utilities from within flood area.
Floodplain property acquisition, 25+ Acres of Floodplain reconnection, installation of flood wall eliminating flow path from river to MIC
Floodplain property acquisition, 10+ Acres of Floodplain reconnection, installation of flood wall eliminating flow path from river to MIC
Widening of Stewart Road Bridge, reducing risk of large woody debris backup causing upstream flooding by reducing number of piers within river.
Salmon Creek Culvert Replacements
Channel reconfiguration within the Holding Basin to expand pump operation and to function better at removing peak flows that can cause Leach Creek Flooding
Add new pipe and realignment of some stormwater flows to oldest pipes.
Add new pipe and outfall. realignment of stormwater flows to new outfall.
Master Plan will address Commencement Bay Coastal flooding issues
Redesign of roadway & repaving
Conduct a condition assessment for shoreline protection against sea level rise
Upsize conveyance pipping, provide additional detention, improve debris barriers to prevent blocking in the system.
Portions of the Sunnyside Beach seawall were severely damaged in 2021. This project will repair/replace the seawall in order to prevent further damage to the park and other improvements.
The creek rerouted in the January 2022 Storm exposing the water mainline. This line travels from the storage tanks, under the creek at the exit to the watershed, into the town for distribution.
Add additional storm water connections to convey the water away from the residences and into a collection system.
See Chapter 6 “recommended Capital projects”
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Flood Projects

Estimated Cost	1 - Existing land use of affected area	2 - Severity of potential flood or channel migration	3 - Area of impact	4 - Frequency of flood or channel migration occurrence	5 - Project effectiveness
$3,514,980	4	4	4	6	12
$167,200	6	4	4	8	7
$19,880	4	2	2	5	9
$254,745	5	3	2	4	9
$3,735,480	7	6	5	6	9
$660,000	5	3	2	4	10
$400,000	5	3	2	3	10
$200,000	5	3	2	3	10
$10,000	6	3	2	10	4
$77,400	6	2	2	4	9
$87,000	6	2	2	4	9
$133,100	6	2	2	4	9
$77,400	6	2	2	4	9
$84,400	6	2	2	4	9
$71,800	6	2	2	4	9
$87,000	6	2	2	4	9
$110,000	6	2	2	4	9
$110,000	6	2	2	4	9
$110,000	6	2	2	4	9

$150,000	5	3	1	10	11
$150,000	7	3	2	10	12
$150,000	7	4	3	10	12
$500,000	6	6	2	10	12
$400,000	6	4	6	9	7
$250,000	5	5	3	8	10
$300,000	5	4	3	8	10
$2,900,000	7	5	4	10	12
$2,900,000	8	7	8	5	11
Final recommended solution will be in the millions	9	9	10	7	7
$27,000	8	8	2	10	6
	10	8	7	10	9
TBD	8	8	5	7	12
TBD	10	6	5	7	5
$1,600,000	6	5	5	7	11
$5-10,000,000	8	9	7	8	9
$2,275,000	9	9	9	9	9
$2,495,000	6	2	2	6	9
$948,000	5	2	2	5	9
$61,759,833	8	7	8	7	10
$15,340,000	8	3	1	4	9
$9,715,000	8	7	5	1	9
$4,340,000	7	4	4	7	9
$15,340,000	6	9	3	10	8

$14,909,500	6	6	6	8	9
$76,000,000	9	7	9	9	10
$59,000,000	9	8	9	9	10
	9	8	9	9	10
$29,000,000	10	9	7	9	10
$3,259,000	5	4	5	9	8
$4,500,000	8	7	4	8	6
$31,000,000	10	10	7	10	11
$26,000,000	10	10	7	10	11
$750,000	10	6	5	10	7
$2,000,000	7	6	3	7	6
$1,000,000	10	8	7	9	8
$2,000,000	6	6	2	10	8
$300,000	2	2	2	9	10
$75,000	10	8	8	9	11
$50,000	7	4	4	8	10
$26,100,000	6	7	6	5	9
$14,500,000	8	8	8	6	9
$26,900,000	6	7	5	9	9
$17,500,000	6	6	6	8	9
$8,400,000	7	6	5	7	7
$10,500,000	4	4	4	8	10
$19,600,000	7	6	6	5	7
$5,000,000	6	5	1	7	7

$4,100,000	4	2	2	3	4
$30,600,000	8	8	5	8	8
$2,300,000	7	6	6	8	8
$25,000,000	6	5	4	4	5
$3,000,000	5	2	1	1	7
$58,100,000	9	9	8	10	7

6 - Phasing and sequencing of project	7 - Multiple project benefits	8 - Partnerships and opportunity	9 - Best management practices	Column1	Column2
1	2	4	3		
3	0	3	3		
5	0	3	3		
5	0	3	3		
3	2	4	3		
5	2	3	3		
5	2	3	3		
5	0	4	3		
5	3	6	0		
3	8	3	0		
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3	4	3	5		
5	6	3	5		
5	6	5	5		
5	6	8	5		
3	4	1	4		
5	2	3	4		
5	2	3	4		
5	10	9	2		
3	8	5	2		
3	18	0	3		
5	5	5	1		
5	10	9	1		
3	21	0	0		
1	18	0	0		
5	2	8	0		
1	4	7	0		
9	9	3	3		
3	10	5	2		
1	10	5	2		
1	18	4	2		
3	14	4	2		
1	7	6	2		
3	15	5	2		
3	14	6	2		

2	10	9	2		
5	18	13	5		
3	18	13	5		
3	18	13	5		
5	16	13	5		
3	14	7	5		
5	5	6	1		
5	2	6	1		
5	2	7	1		
5	12	7	1		
3	7	9	1		
1	15	10	1		
5	6	2	1		
5	6	3	3		
5	10	11	0		
5	6	9	0		
3	10	9	4		
1	5	5	4		
1	10	5	4		
1	10	5	4		
4	7	8	3		
4	8	8	4		
1	9	5	3		
2	8	5	3		

3	6	7	3		
2	8	8	4		
4	4	7	3		
2	6	3	3		
4	7	4	4		
3	10	9	5		

Column3	Column4	Total
		40
		38
		33
		34
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		44

		34
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		53
		38
		35
		70