



Whatcom County

COUNTY COURTHOUSE
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Agenda Bill Master Report

File Number: AB2021-516

File ID:	AB2021-516	Version:	1	Status:	Approved
File Created:	08/31/2021	Entered by:	LCumming@co.whatcom.wa.us		
Department:	Public Works Department	File Type:	Resolution (FCZDBS) Requiring a Public Hearing		
Assigned to:	Council	Final Action:	09/28/2021		
Agenda Date:	09/28/2021	Enactment #:	RES 2021-040		

Primary Contact Email: Sdraper@co.whatcom.wa.us

TITLE FOR AGENDA ITEM:

Resolution adopting the Whatcom County Flood Control Zone District Six-Year Water Resources Improvement Program for the years 2022 through 2027 (Council acting as the Flood Control Zone District Board of Supervisors)

SUMMARY STATEMENT OR LEGAL NOTICE LANGUAGE:

Resolution by the Whatcom County Flood Control Zone District Board of Supervisors adopting the Six-Year Water Resources Improvement Program (WRIP) for 2022-2027. The adoption by resolution is pursuant to the Revised Code of Washington (RCW 86.15.100)

HISTORY OF LEGISLATIVE FILE

Date:	Acting Body:	Action:	Sent To:
09/14/2021	Council	INTRODUCED FOR PUBLIC HEARING	Council
		Aye: 7 Browne, Buchanan, Byrd, Donovan, Elenbaas, Frazey, and Kershner	
		Nay: 0	
		Absent: 0	
09/28/2021	Council	APPROVED	
		Aye: 7 Browne, Buchanan, Byrd, Donovan, Elenbaas, Frazey, and Kershner	
		Nay: 0	
		Absent: 0	

Attachments: Staff Memo, 2022-2027 WRIP Resolution, 2022-2027 WRIP Exhibit A, 2022-2027 WRIP Project Narratives

PROPOSED BY: Public Works

INTRODUCED: 9/14/21

RESOLUTION NO. 2021-040

(A Resolution of the Whatcom County Flood Control Zone District
Board of Supervisors)

**WHATCOM COUNTY FLOOD CONTROL ZONE DISTRICT
SIX-YEAR WATER RESOURCES IMPROVEMENT PROGRAM
FOR THE YEARS 2022 THROUGH 2027**

WHEREAS, pursuant to RCW 86.15.110, flood control or storm water control improvements may be extended, enlarged, acquired, or constructed by a flood control zone pursuant to a resolution adopted by its Board of Supervisors; and

WHEREAS, Whatcom County Public Works Department on behalf of the Whatcom County Flood Control Zone District has prepared a Six-Year Water Resources Improvement Program for adoption; and

WHEREAS, pursuant to RCW 86.15.120, the Supervisors shall hold a public hearing prior to adopting the resolution; and

WHEREAS, the Six-Year Water Resources Improvement Program attached hereto as Exhibit "A" has been reviewed and determined to be consistent with Whatcom County's comprehensive plan and is consistent with the following plans:

- Lower Nooksack River Comprehensive Flood Hazard Management Plan, October 1999
- Jones Creek Debris Flow Study, March 2004
- WRIA 1 Salmon Recovery Plan, October 2005
- Birch Bay Comprehensive Stormwater Plan, July 2006
- Lake Whatcom Comprehensive Stormwater Plan, March 2008
- Lake Samish Basin Comprehensive Stormwater Plan, July 2012
- Birch Bay Central North Subwatershed Master Plan, December 2013
- Birch Bay Central South Subwatershed Master Plan, January 2015
- Nooksack River System-Wide Improvement Framework, June 2016

- Birch Point, Terrell Creek Urban Area, and Point Whitehorn Subwatershed Master Plan, November 2016
- Lake Whatcom Comprehensive Plan: Stormwater Capital Program Update, September 2017
- Lake Whatcom Management Program 2020-2024 Work Plan, July 2020; and
- Lake Whatcom East Geneva Subwatershed Master Plan, January 2021

WHEREAS, pursuant to RCW 86.15.110, the preliminary engineering studies for constructed improvements are on file with the Whatcom County Public Works Department; and

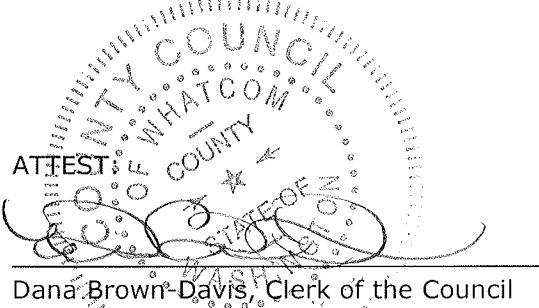
WHEREAS, pursuant to RCW 86.15.110, the estimated cost of the acquisition or construction of the improvement, together with supporting data, is included in the Six-Year Water Resources Improvement Program; and

WHEREAS, the improvements will benefit one or more flood control zones, subzones and the county as a whole;

NOW, THEREFORE, BE IT RESOLVED by the Whatcom County Flood Control Zone District Board of Supervisors as follows:

That the Whatcom County Flood Control Zone District Six-Year Water Resources Improvement Program for the years 2022 through 2027, which is attached hereto as Exhibit "A", is hereby adopted.

APPROVED this 28th day of September, 2021.

The seal of the Whatcom County Council is circular with a dotted border. The text "COUNTY COUNCIL" is at the top, "COUNTY OF WHATCOM" is on the left, and "STATE OF WASHINGTON" is at the bottom. A star is in the center. A signature is written across the seal.
ATTEST:
Dana Brown-Davis, Clerk of the Council

Flood Control Zone District Board of Supervisors
WHATCOM COUNTY, WASHINGTON


Barry Buchanan, Chair

APPROVED AS TO FORM:

Approved Via Email-CQ/LC 8/31/21
Christopher Quinn, Senior Deputy Prosecuting Attorney – Civil Division

2022-2027 SIX-YEAR WATER RESOURCES IMPROVEMENT PROGRAM

WHATCOM COUNTY FLOOD CONTROL ZONE DISTRICT

Item No.	Project Description	OMB#	BES	2022		2023		2024		2025		2026		2027		Total
				Phase	Amount	Phase	Amount	Phase	Amount	Phase	Amount	Phase	Amount	Phase	Amount	
1	Sudden Valley Stormwater Improvements: Drainage system upgrades, water quality treatment and outfall retrofits in partnership with Sudden Valley HOA	18-004	48.3	PE	\$ 100,000 REEET	PE	\$ 100,000 REEET	PE	\$ 100,000 REEET	PE	\$ 100,000 REEET	PE	\$ 100,000 REEET	PE	\$ 100,000 REEET	\$ 700,000
2	Academy Road Stormwater Improvements: Evaluate the water quality performance of the existing Academy stormwater system and provide recommended retrofits.	20-005	63.8	PE	\$ 40,000 LWSU	PE	\$ 40,000 LWSU	PE	\$ 40,000 LWSU	PE	\$ 40,000 LWSU	PE	\$ 40,000 LWSU	PE	\$ 40,000 LWSU	\$ 533,000
3	Genova Bio-retention Pilot Project: Install new water quality treatment media, evaluate the effectiveness and constructability of new water quality treatment media	20-005	63.7	PE	\$ 20,000 LWSU	PE	\$ 20,000 LWSU	PE	\$ 20,000 LWSU	PE	\$ 20,000 LWSU	PE	\$ 20,000 LWSU	PE	\$ 20,000 LWSU	\$ 1,021,000
4	Silver Beach Creek Phase 2: Main channel restoration below Hillsdale using natural vegetation	07-095	60.5	PE	\$ 50,000 REEET	PE	\$ 50,000 REEET	PE	\$ 50,000 REEET	PE	\$ 50,000 REEET	PE	\$ 50,000 REEET	PE	\$ 50,000 REEET	\$ 790,000
5	Bagleford Stormwater Improvements: Install a water quality system to treat stormwater from the Bagleford development.	20-007	61.4	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	\$ 480,000
6	Stowbery Ponds/Lake Whitcomb Blvd Stormwater Improvements: System upgrades to increase water quality including walls, biofiltration swales, and channel restoration	17-001	62.2	PE	\$ 62,200 REEET	PE	\$ 62,200 REEET	PE	\$ 62,200 REEET	PE	\$ 62,200 REEET	PE	\$ 62,200 REEET	PE	\$ 62,200 REEET	\$ 910,000
7	Austin Court Stormwater Improvements: Install water quality system on the discharge from Austin Court.	20-008	58.8	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	\$ 442,000
8	Viewhaven Lane Water Quality & Conveyance Improvements: Install water quality systems and improve conveyance near Viewhaven Lane.	20-009	58.8	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	\$ 351,000
9	Genova Street & Lake Louise Road Culvert Replacements: Replace culverts along Genova Street and Lake Louise Road to improve water quality and conveyance	20-010	58.8	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	PE	\$ 20,000 REEET	\$ 115,000
10	Seminholme Drive Stormwater Improvements (BP-2&5): Upsize culverts and re-establish roadside ditch on east side of Seminholme Drive	18-010	50.3	PE	\$ 135,000 BBWARM	PE	\$ 135,000 BBWARM	PE	\$ 135,000 BBWARM	PE	\$ 135,000 BBWARM	PE	\$ 135,000 BBWARM	PE	\$ 135,000 BBWARM	\$ 623,000
11	Chapel Terrace Stormwater Outfall Improvements: Mainline outfall stabilization to protect a bluff slope	20-011	29.8	PE	\$ 10,000 BBWARM	PE	\$ 10,000 BBWARM	PE	\$ 10,000 BBWARM	PE	\$ 10,000 BBWARM	PE	\$ 10,000 BBWARM	PE	\$ 10,000 BBWARM	\$ 520,000
12	Holman Avenue Stormwater Improvements (PW-1): Replace CB, upslope culverts, re-establish ditch on Holman Ave near Birch Bay Dr	07-242	37.8	PE	\$ 40,000 BBWARM	PE	\$ 40,000 BBWARM	PE	\$ 40,000 BBWARM	PE	\$ 40,000 BBWARM	PE	\$ 40,000 BBWARM	PE	\$ 40,000 BBWARM	\$ 475,000
13	Norman Place Stormwater Improvements (BS-1): Upsize culverts, replace CBs and install energy dissipater at pipe outfall on Norman Place	19-004	52.0	PE	\$ 75,000 BBWARM	PE	\$ 75,000 BBWARM	PE	\$ 75,000 BBWARM	PE	\$ 75,000 BBWARM	PE	\$ 75,000 BBWARM	PE	\$ 75,000 BBWARM	\$ 450,000
14	Birch Point Road and Outfall Improvements (BP-3 & BP-6): Upsize culverts and replace outfall to the beach to reduce bluff erosion	21-001	33.3	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	\$ 665,000
15	Lora Lane Drainage & Tide Gate Modifications (TC1-2): Replace tide gate structure and repair embankment; install Type 2 CB and culvert under Birch Bay Dr	18-008	42.5	PE	\$ 35,000 BBWARM	PE	\$ 35,000 BBWARM	PE	\$ 35,000 BBWARM	PE	\$ 35,000 BBWARM	PE	\$ 35,000 BBWARM	PE	\$ 35,000 BBWARM	\$ 1,560,000
16	Woodridge Ave & Sunset Drive Stormwater Improvements (TC-2): Improve drainage system to reduce local flooding and incorporate water quality treatment	19-007	52.2	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	PE	\$ 50,000 BBWARM	\$ 1,220,000
17	Hillsdale Stormwater Improvements, Phase 1 (HC-C-1): Upsize pipe, replace CB, new drain line, replace blind ties on Morgan, Cottonwood and Birch Bay Dr	19-002	48.6	PE	\$ 115,000 REEET	PE	\$ 115,000 REEET	PE	\$ 115,000 REEET	PE	\$ 115,000 REEET	PE	\$ 115,000 REEET	PE	\$ 115,000 REEET	\$ 160,000
18	Shallow Shore Culvert Relocation	18-007	48.4	PE	\$ 350,000 REEET	PE	\$ 350,000 REEET	PE	\$ 350,000 REEET	PE	\$ 350,000 REEET	PE	\$ 350,000 REEET	PE	\$ 350,000 REEET	\$ 945,000

2022-2027 SIX-YEAR WATER RESOURCES IMPROVEMENT PROGRAM

WHATCOM COUNTY FLOOD CONTROL ZONE DISTRICT

Item No.	Project Description	Database ID No.	RES	Previous Expenditures			2022			2023			2024			2025			2026			2027			Total
				Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	
19	Marietta Acquisition: Acquire properties in respective flood loss area and remove structures	07-002	79.6	RW/CN \$ 607,000 FCDZ RW/CN \$ 1,044,000 FEMA Fed/State grant RW/CN \$ 145,000 ES&P grant	RW CN	\$500,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	RW CN	\$1,000,000 \$2,000,000	\$3,000,000 \$6,000,000
20	Marine Drive Levee 2020 Damage Repair: Repair crest and backlogs damage from February 2020 flood	20-001	61.4	PE \$ 11,800 FCDZ PE \$ 31,000 FEMA PE \$ 32,000 FEMA	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	PE CN	\$74,800 \$63,000	\$137,800 \$126,000
21	Albaret Levee Protection and Improvement: Interim erosion protection measure for levee & road (Ph. 1); Second and final upstream end of levee (Ph. 2, 3) (SWIF project)	16-007	70.4	PE \$ 421,000 FCDZ/roads CN \$ 605,000 FCDZ/roads	PE CN	\$1,026,000	PE CN	\$1,026,000	PE CN	\$1,026,000	PE CN	\$1,026,000	PE CN	\$1,026,000	PE CN	\$1,026,000	PE CN	\$1,026,000	PE CN	\$1,026,000	PE CN	\$1,026,000	PE CN	\$1,026,000	\$2,052,000
22	Lynden Levee Improvement: Combining drainages and replace two culverts through levee with one larger culvert; repair 2 damaged levee sites (USACE and SWIF project)	16-003	84.5	CN \$ 248,000 FCDZ CN \$ 308,000 F&D grant PE \$ 688,000 FCDZ	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	CN CN PE	\$1,244,000	\$3,736,000
23	Jones Creek Debris Flow Protection: Construct deflection berm and address local access	07-105	70.6	RW \$ 330,000 FEMA/State grant RW \$ 1,485,000 F&D grant CN \$ 13,000 FEMA/State grant	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	RW RW CN	\$1,828,000	\$3,656,000
24	Cougar Creek Bank Action Project/Levee Bank Stabilization: Stabilize overstepped section of levee (SWIF project) with new flood gate and restoration (EUP project)	16-008	59.4	PE \$ 105,000 NODAA grant CN \$ 76,000 F&D grant	PE CN	\$181,000	PE CN	\$181,000	PE CN	\$181,000	PE CN	\$181,000	PE CN	\$181,000	PE CN	\$181,000	PE CN	\$181,000	PE CN	\$181,000	PE CN	\$181,000	PE CN	\$181,000	\$362,000
25	Everson Overflow Pipeline Bank Stabilization: Stabilize bank at erosion site from 2020 flood downstream of pipeline crossing	20-002	66.3	CN \$ 15,000 FCDZ PE \$ 184,000 FEMA	CN PE	\$199,000	CN PE	\$199,000	CN PE	\$199,000	CN PE	\$199,000	CN PE	\$199,000	CN PE	\$199,000	CN PE	\$199,000	CN PE	\$199,000	CN PE	\$199,000	CN PE	\$199,000	\$398,000
26	Trecks Road 2020 Flood Damage: Evaluate alternatives for road relocation and bank stabilization	20-003	59.4	PE \$ 22,000 FCDZ PE \$ 27,000 Roads PE \$ 28,000 FEMA RW \$ 40,000 Roads	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	PE PE PE RW	\$117,000	\$461,000
27	Bernard Creek Levee Stabilization: Restore right and left levee piers and install bank protection (SWIF project)	16-005	54.6	PE \$ 20,000 FCDZ CN \$ 225,000 FCDZ PE \$ 25,000 DD447	PE CN PE	\$270,000	PE CN PE	\$270,000	PE CN PE	\$270,000	PE CN PE	\$270,000	PE CN PE	\$270,000	PE CN PE	\$270,000	PE CN PE	\$270,000	PE CN PE	\$270,000	PE CN PE	\$270,000	PE CN PE	\$270,000	\$540,000
28	Denise Levee Improvements: Widens and establish full crest width and backlogs levee (SWIF project)	19-001	49.3	PE \$ 1,000 LE Subzone CN \$ 6,000 USACE PE \$ 72,000 FCDZ PE \$ 238,000 F&D grant	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	\$1,271,000
29	Upper Hampton Levee Improvements: Widen levee crest and flatten backlogs at two sites and address seepage at a third site (SWIF project)	16-006	70.4	PE \$ 1,000 LE Subzone CN \$ 6,000 USACE PE \$ 72,000 FCDZ PE \$ 238,000 F&D grant	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	PE CN PE PE	\$317,000	\$1,271,000
30	Female Levee Improvement: Reconstruct and realign Terrell and Treatment Plant levees to improve level of protection and address deficiencies	07-104	68.9	PE \$ 43,000 FCDZ PE \$ 254,000 F&D grant CN \$ 300,000 FCDZ	PE PE CN	\$597,000	PE PE CN	\$597,000	PE PE CN	\$597,000	PE PE CN	\$597,000	PE PE CN	\$597,000	PE PE CN	\$597,000	PE PE CN	\$597,000	PE PE CN	\$597,000	PE PE CN	\$597,000	PE PE CN	\$597,000	\$1,194,000
31	Gilbert-Gallup Alluvial Fan Restoration: Remove all but part of Gilbert Creek levee and construct embankment levee along Gilbert Creek for future impacts from Flood and Road projects	18-006	88.9	PE \$ 18,000 FCDZ PE \$ 814,000 FCDZ CN \$ 17,000 FCDZ	PE PE CN	\$849,000	PE PE CN	\$849,000	PE PE CN	\$849,000	PE PE CN	\$849,000	PE PE CN	\$849,000	PE PE CN	\$849,000	PE PE CN	\$849,000	PE PE CN	\$849,000	PE PE CN	\$849,000	PE PE CN	\$849,000	\$1,700,000
32	Dahlberg Wetland Mitigation Site: Develop advance mitigation site for future impacts from Flood and Road projects	20-004	66.3	RW \$ 18,000 FCDZ RW \$ 314,000 FCDZ CN \$ 17,000 FCDZ	RW RW CN	\$349,000	RW RW CN	\$349,000	RW RW CN	\$349,000	RW RW CN	\$349,000	RW RW CN	\$349,000	RW RW CN	\$349,000	RW RW CN	\$349,000	RW RW CN	\$349,000	RW RW CN	\$349,000	RW RW CN	\$349,000	\$698,000
33	Reoplain Acquisition: Acquire key properties for future levee reconstruction for future impacts from Flood and Road projects	07-002	79.6	RW \$ 838,000 F&D grant PE \$ 26,000 FCDZ	RW PE	\$864,000	RW PE	\$864,000	RW PE	\$864,000	RW PE	\$864,000	RW PE	\$864,000	RW PE	\$864,000	RW PE	\$864,000	RW PE	\$864,000	RW PE	\$864,000	RW PE	\$864,000	\$1,728,000
34	Emergency/New Projects: Typically repair projects that result from new damage, as needed	08-003	Various	CN \$ 50,000 Local sponsor CN \$ 350,000 FCDZ	CN	\$400,000	CN	\$400,000	CN	\$400,000	CN	\$400,000	CN	\$400,000	CN	\$400,000	CN	\$400,000	CN	\$400,000	CN	\$400,000	CN	\$400,000	\$1,600,000

Numbers in tables are placeholders for projects still being conceived. Previous expenditures includes work contracted in 2020 that will continue appropriate into 2021.
 Note 1: Estimated total project cost includes work done by U.S. Army Corps of Engineers (USACE) and funded directly by USACE.
 RW = right-of-way or easement acquisition
 PE = engineering design
 CN = construction
 ES&P = Erosion and Sedimentation Prevention
 FEMA = Federal Emergency Management Agency
 F&D = Flood and Damages
 FCDZ = Flood Control District Zone
 DD447 = District Development 447
 LE = Levee Elevation
 NODAA = National Oceanic and Atmospheric Administration
 USACE = United States Army Corps of Engineers