2020 Stormwater Capital Improvement Plan

Prepared for

CITY OF SUMNER WASHINGTON

December 2020

Prepared by

Parametrix

2020 Stormwater Capital Improvement Plan

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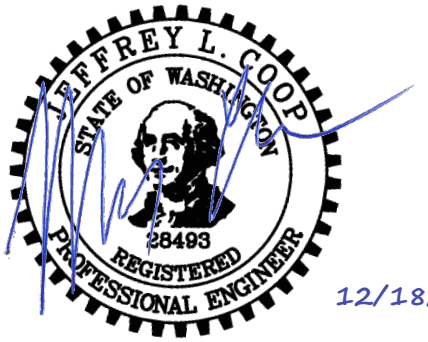
CERTIFICATION

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.



12/18/2020

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KEY TERMS

1992 Plan	City of Sumner Stormwater Comprehensive Plan
2020 Plan Update	City of Sumner Stormwater Capital Improvement Plan Update
BMP	best management practice
cfs	cubic feet per second
CIP	Capital Improvement Project
City	City of Sumner
CLOMR	Conditional Letter of Map Revision
CWA	Clean Water Act
DOH	Department of Health
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
LID	Low Impact Development
LOMA	Letter of Map Adjustment
LOMR	Letter of Map Revision
NPDES	National Pollutant Discharge Elimination System
Phase II Permit	Western Washington Phase II Municipal Stormwater Permit
ROW	right-of-way
SMAP	Stormwater Management Action Planning
SR	State Route
STP	Surface Transportation Program
TIP	Transportation Improvement Program
ULID	Utility Local Improvement District
WSDOT	Washington State Department of Transportation

1. CAPITAL IMPROVEMENTS

1.1 Executive Summary

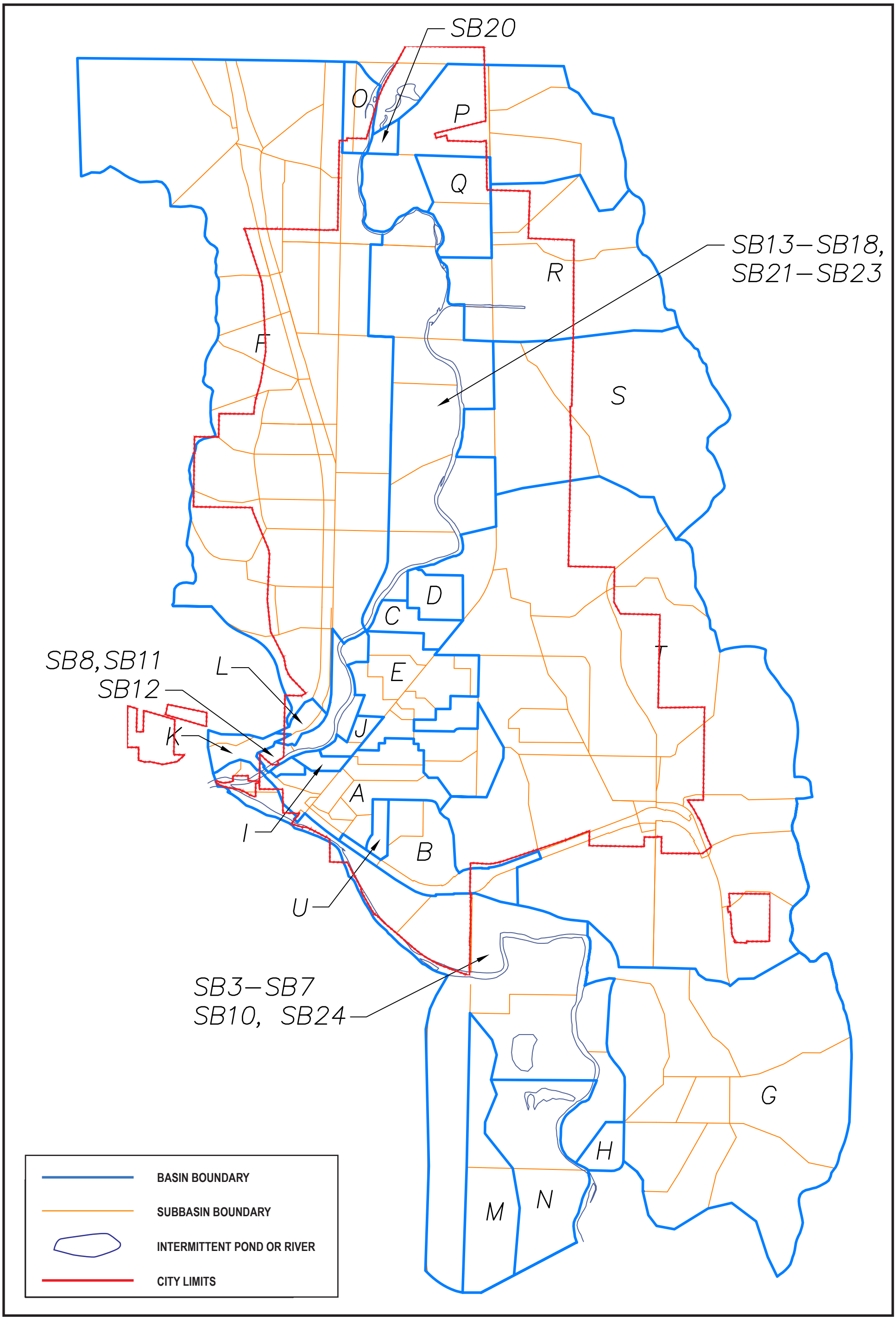
Stormwater and surface water planning for the City of Sumner (City) has been performed over several years. Such planning was performed to address water quality, improvements to Salmon Creek, and stormwater infrastructure improvements to address conveyance, flow control, and water quality treatment needs. The results of such planning processes are documented in the following:

- *Design Technical Memorandum Salmon Creek Culvert Replacement Project* (Cosmopolitan Engineering Group 1999)
- *Draft Stormwater Quality Action Plan* (KCM 1995)
- *Stormwater Comprehensive Plan* (1992 Plan) (Parametrix 1992)
- *East Sumner Neighborhood Plan* (City of Sumner 2001)
- *Stormwater Capital Improvement Plan* (Parametrix 2011)

This *Stormwater Capital Improvement Plan Update* (2020 Plan Update) has been prepared to summarize projects previously completed and update the Capital Improvement Projects (CIPs) to be carried forward based on updated City needs. This 2020 Plan Update was prepared to support the City's budgeting and rate review process for the stormwater utility for 2021 and 2022.

The 2011 plan documents previously identified projects that were either completed, no longer needed, or needed to be carried forward. Some projects from the 2011 plan have not yet been completed. If projects from the 2011 plan have not been completed but are still needed, they are referenced in parentheses with the new CIP number for this 2020 Plan Update. The disposition of CIPs identified in the previous 2011 plan are reflected in the technical memorandum in Appendix A.

The major drainage basins within the City that are discussed in this 2020 Plan Update are shown in Figure 1-1. Figure 2-1 presents the locations of the recommended projects. Planning-level cost opinions for each CIP by year are presented in Table 2-1. Appendix B contains detailed figures, and Appendix C contains the supplemental information for the planning-level cost opinions.



Parametrix DATE: OCT 6, 2020 FILE: 216-1527-060 FIG1-1

NOT TO SCALE

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Figure 1-1
Stormwater Capital Improvement Plan
Study Area Boundary
and Basin Locations

2. RECOMMENDED CAPITAL IMPROVEMENT PROJECTS

The following summarizes the recommended CIPs for this 2020 Plan Update.

For the purposes of this CIP, the hydrologic and hydraulic modeling output data compiled during the 1992 Plan were used in evaluating recommended CIPs.

It is important to note that individual pipe reaches for recommended projects were not hydraulically modeled. Therefore, the pipe sizes indicated should be confirmed during project design.

Figure 2-1 is an overall site map showing the locations of the recommended projects. Appendix B contains detailed figures and Appendix C contains planning-level cost opinions for each recommended capital improvement project. Table 2-1 summarizes each project, listing priority, scheduled completion date, and cost opinions in 2020 dollars and at the expected time of completion. Projects prioritized as high, medium, and low are scheduled for completion in 0–5 years, 5–10 years, and 10–20 years, respectively. All of the project costs shown for the following projects are in 2020 dollars.

There are some projects identified in the Transportation Improvement Program (TIP) that were initially thought to have a stormwater component that needed to be reflected in this CIP. However, based on further coordination with the City, the following TIP projects do not have a stormwater cost that needs to be included in this CIP:

- TIP A6, Sumner-Tapps Highway Resurfacing
- TIP R1, Street Overlay Program
- TIP R11, Safe Routes to School

NOTES

1. THE FOLLOWING STORMWATER CIP'S ARE PART OF TRANSPORTATION TIP'S. STORMWATER COSTS ARE BASED ON A PERCENTAGE OF OVERALL PROJECT COSTS. NO SEPARATE EXHIBITS PREPARED.
   CIP 24: TIP A1
   CIP 25: TIP A4
   CIP 26: TIP A13
2. CIP 15 AND 16 ARE PART OF THE WHITE RIVER SETBACK LEVEE PROJECT. NO SEPARATE EXHIBIT PREPARED.
3. CIP 20 IS A PROGRAMMATIC CIP AT VARIOUS LOCATIONS TO BE DETERMINED WITHIN DRAINAGE DISTRICT 11. NO SEPARATE EXHIBIT PREPARED.
4. CIP 30 AND CIP 31 ARE ASSOCIATED WITH SIDEWALK REPLACEMENT PROJECTS UNDER TIP R7 AND R10, RESPECTIVELY. LOCATIONS TO BE DETERMINED. STORMWATER COSTS ARE BASED ON A PERCENTAGE OF OVERALL PROJECT COSTS. NO SEPARATE EXHIBITS PREPARED.

CIP-1
CIP-2
CIP-3
CIP-4
CIP-5 (TIP C2)
CIP-6
CIP-7
CIP-8
CIP-9
CIP-10
CIP-11
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CIP-15
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CIP-24 (TIP A1)
CIP-25 (TIP A4)
CIP-26 (TIP A13)
CIP-27 (TIP C3)
CIP-28 (TIP C4)
CIP-29 (TIP C5)
CIP-32

SUMNER CITY LIMITS

PROPOSED CIP, NOT YET CONSTRUCTED

DRAINAGE DISTRICT 11 (PRIORITY BASIN)

Figure 2.1
City of Sumner
Proposed Capital Improvement Project (CIP) Locations

SCALE IN FEET
0 800 1600

DATE: 12/07/2020 FILENAME: XP51527082-CIP IMAGES: XREFS: XP51527082-BA

Table 2-1. Capital Improvement Plan Schedule

Capital Improvement Plan Schedule					CURRENT CIP: 2019 - 2024						
					HIGH		MEDIUM				LOW
Project No. – Description	2020 CIP#	2011 CIP#	Project Priority	Total Cost Year 2019 ($)	2021	2022	2023	2024	2025	2026	After 2026
Projected ENR Construction Cost Index for Seattle				$11,105	$11,499	$11,696	$11,894	$12,091	$12,288	$12,485	$13,273
Capital Improvement Projects											
Railroad Street Improvements	CIP#1	CIP#4	MEDIUM	$353,000			$378,000				
63rd Street Court East Storm Drain	CIP#2		HIGH	$221,000		$233,000					
151st Avenue East and 152nd Avenue East Improvements	CIP#3	CIP#7	MEDIUM	$918,000					$508,000	$516,000	
63rd Street Court East Improvements	CIP#4	CIP#8	MEDIUM	$293,000	$152,000	$154,000					
North 160th Avenue East Improvements (TIP C2)	CIP#5	CIP#12	HIGH	$1,051,000	$544,000	$553,000					
Willow Street Interceptor and Tributary Improvements	CIP#6	CIP#18	MEDIUM	$2,098,000						$2,359,000	
Meade-McCumber Street Improvements	CIP#7	CIP#22	MEDIUM	$282,000					$312,000		
162nd Avenue East (Poole Road) Outfall Improvements	CIP#8	CIP#25	LOW	$143,000							$171,000
47th Street Court East Culvert Improvements (CEG Site E)	CIP#9	CIP#36	HIGH	$125,000	$19,000	$19,000	$47,000	$48,000			
160th Avenue East Culvert Improvements (CEG Sites H, I, 106th Avenue East)	CIP#10	CIP#37	HIGH	$1,451,000	$751,000	$764,000					
162nd Avenue East Culvert Improvements (CEG Sites J, K, L)	CIP#11	CIP#38	HIGH	$365,000	$43,000	$43,000	$151,000	$154,000			
East Main Street Culvert Improvements (CEG Site M)	CIP#12	CIP#39	HIGH-MEDIUM	$41,000	$10,000	$11,000	$11,000	$12,000			
Salmon Creek Restoration (incorporates CEG Site 60th)	CIP#13	CIP#40	MEDIUM	$675,000		$158,000	$281,000	$286,000			
64th Street East Culvert Improvements	CIP#14	CIP#41	HIGH-MEDIUM	$602,000	$66,000	$67,000	$254,000	$258,000			
White River Levee Improvements	CIP#15	CIP#47	HIGH-MEDIUM	$3,800,000	$515,000	$524,000	$1,502,000	$1,527,000			
24th Street Setback Levee (see Notes)	CIP#16	CIP#51	HIGH-MEDIUM	$45,123,000	$1,478,000	$971,000	$21,597,000	$20,435,000		$167,000	$474,000
Rivergrove Puyallup River Improvements	CIP#17	CIP#53	MEDIUM	$15,611,000					$8,637,000	$8,775,000	
24th and 142nd Intersection Treatment	CIP#18		HIGH	$171,000	$177,000						

Table 2-1. Capital Improvement Plan Schedule

Capital Improvement Plan Schedule					CURRENT CIP: 2019 - 2024						
					HIGH		MEDIUM				LOW
Project No. – Description	2020 CIP#	2011 CIP#	Project Priority	Total Cost Year 2019 ($)	2021	2022	2023	2024	2025	2026	After 2026
Stewart Road Pond Repair and Enhancement (full project)	CIP#19		HIGH	$356,000		$375,000					
Treatment in Drainage District 11	CIP#20		MEDIUM	$98,000			$105,000	$107,000	$108,000	$110,000	
Wood Avenue Conveyance, Zehnder to 16th	CIP#21		LOW	$157,000		$55,000	$125,000				$188,000
Meade Avenue Improvements one block south of Main Street	CIP#22		HIGH-MEDIUM	$170,000		$55,000	$125,000				
Sumner-Tapps Highway and 60th Street East	CIP#23		HIGH	$100,000	$104,000						
SR 410/166th Avenue East I/C	CIP#24	TIP#A1	MEDIUM	$4,427,000				$2,410,000	$2,449,000		
Main Street and 160th Avenue	CIP#25	TIP#A4	MEDIUM	$296,000			$317,000				
62nd Street: 166th Avenue to 160th Avenue East	CIP#26	TIP#A13	MEDIUM	$1,476,000	$396,000	$1,151,000					
Elm Street: East Valley Highway to 160th Avenue East	CIP#27	TIP#C3; Previous CIP 13	MEDIUM	$1,063,000			$1,139,000				
Parker Road: 62nd to 63rd	CIP#28	TIP#C4	MEDIUM	$114,765			$123,000				
Parker Road: Main to 50th	CIP#29	TIP#C5	MEDIUM	$583,000				$635,000			
Sidewalk Replacement Program	CIP#30	TIP#R7	HIGH-MEDIUM	$22,000	$23,000	$23,000	$24,000	$24,000			
Volunteer Sidewalk Program	CIP#31	TIP#R10	HIGH-MEDIUM	$35,000	$36,000	$37,000	$37,000	$38,000			
Mountain Circle Outfall Replacement	CIP#32		MEDIUM	$507,000			$272,000	$276,000			
TOTAL - CAPITAL ASSET FUNDS (Includes inflation) (City Funded Only - Exclude Developer or Low Impact Development (LID) Funded Projects)				**$82,728,000**	**$4,314,000**	**$5,138,000**	**$26,363,000**	**$26,210,000**	**$12,014,000**	**$11,927,000**	**$833,000**

Notes: CIP = Capital Improvement Project; TIP = Transportation Improvement Program; ENR = Engineer News-Record; I/C = Interchange

The cost opinion for CIP#16 (51) 24th Street Setback Levee includes the utility and grant-funded portions of the project.

2.1.1 CIP 1 (4) – Railroad Street Improvements

CIP 1 (previously CIP 4) is proposed to reduce flooding on North Street due to lack of conveyance on Railroad Street and undersized conveyance on North Street. Surcharge within the existing line sometimes results in flooding in the downtown area on Main Street.

CIP 1 consists of installing approximately 910 feet of 24-inch pipe along Railroad Street from North Street to Ryan Avenue and four Type 2 catch basins. These improvements will provide conveyance on Railroad Street and provide a bypass when existing conveyance on North Street surcharges due to high flows.

2.1.2 CIP 2 – 63rd Street Court East Storm Drain River Street Improvements

CIP 2 is proposed to reduce potential surcharging in the existing stormwater infrastructure along 141st Avenue East and River Street due to undersized conveyance by abandoning approximately 360 feet of existing 12-inch pipe and installing approximately 375 feet of 36-inch pipe. Four 60-inch Type 2 catch basins will also be installed. The existing 12-inch pipe is located beneath existing homes. Therefore, the proposed 24-inch pipe will be rerouted and installed within existing right-of-way. Surcharge/flooding has drain diameters in this area.

Drainage District 11 storm in this area has been increased. Consequently, there may be an opportunity to reduce the pipe size from a 36-inch-diameter. This will be confirmed during future project design.

2.1.3 CIP 3 (7) – 151st Avenue East and 152nd Avenue East Improvements

CIP 3 (previously CIP 7) is proposed to alleviate flooding on 63rd Street Court East, 151st Avenue East, and 152nd Avenue East due to lack of and undersized conveyance. This project includes installing approximately 465 feet of 12-inch pipe on 63rd Street Court East west of Valley Avenue, installing approximately 2,275 feet of 12-inch pipe and 625 feet of 24-inch pipe on 63rd Street Court East, 151st Avenue East, 152nd Avenue East replacing the existing 400 feet of 8-inch and 55 feet of 12-inch pipe. CIP 3 also includes the addition of 21 Type 1 catch basins and four Type 2 catch basins. Reports of flooding in this area are limited to the 63rd Street Court East/152nd Avenue East intersection.

2.1.4 CIP 4 (8) – 63rd Street Court East Improvements

CIP 4 (previously CIP 8) is proposed to alleviate flooding on 63rd Street Court East between 152nd Avenue East and Parker Road due to lack of conveyance. CIP 4 includes installing approximately 430 feet of 12-inch pipe and 300 feet of 18-inch pipe on 63rd Street Court East. CIP 4 also includes the addition of six Type 1 catch basins and one 54-inch Type 2 catch basin. This conveyance will be routed to an existing 36-inch pipe tributary to the District 11 outfall on 154th Avenue East.

Portions of this project could be financed through a Utility Local Improvement District (ULID) due to the fact that drain laterals may be installed to all existing lots adjacent to the proposed improvements.

2.1.5 CIP 5 (12) – North 160th Avenue East Improvements

CIP 5 (previously CIP 12) is proposed to reduce flooding on North 160th Avenue East due to inadequate conveyance between Washington Street and Elm Street. This project includes replacing approximately 690 feet of existing drainage ditch with 615 feet of 24-inch pipe and 10 feet of 30-inch pipe, and replacing approximately 1,200 feet of existing 18-inch-diameter conveyance with approximately 2,400 feet of new 18-inch pipe, including approximately 70 feet of new 12-inch-diameter laterals and a storm drainage vault with a flow splitter and high flow bypass. This project is within TIP C2, which proposes to improve 160th Avenue East to collector street standards and add curb and gutter.

2.1.6 CIP 6 (18) – Willow Street Interceptor and Tributary Improvements

CIP 6 (previously CIP 18) is proposed to alleviate surcharging in existing conveyance upstream of the 48-inch outfall to the Puyallup River south of State Route (SR) 410 and eliminate ponding on Wood Avenue due to a lack of conveyance. CIP 6 includes storm drain improvements on Wood Avenue from north of Silver Street to Willow Street, Silver Street from Wood Avenue to Guptil Avenue, Guptil Avenue from Silver Street to Willow Street, Willow Street from Sumner Avenue to Wood Avenue, and Sumner Avenue from Rainier Street to Willow Street. The project will abandon or remove existing 8-, 10-, 12- and 15-inch-diameter storm pipe. The project includes installation of approximately 2,800 feet of 12-inch pipe including laterals, 540 feet of 18-inch pipe, 385 feet of 21-inch pipe, 1,170 feet of 24-inch pipe, 28 Type 1 catch basins, and 12 Type 2 48-inch-diameter catch basins.

2.1.7 CIP 7 (22) – Meade-McCumber Street Improvements

CIP 7 (previously CIP 22) is proposed to reduce flooding caused by inadequate conveyance along Meade-McCumber Street, east of Valley Avenue. CIP 7 includes replacing approximately 380 feet of existing 10-inch pipe and 330 feet of existing 12-inch pipe with 730 feet of 15-inch pipe to connect to the existing 30-inch conveyance on Meade-McCumber Street on the east side of Valley Avenue. CIP 7 also includes the addition of six Type 1 catch basins.

2.1.8 CIP 8 (25) – 162nd Avenue East (Poole Road) Outfall Improvements

CIP 8 (previously CIP 25)is proposed to provide an enhanced water quality treatment Best Management Practice (BMP) by providing a 6-foot by 12-foot water quality facility adjacent to Salmon Creek. CIP 8 will replace three catch basins Type 1, 45 feet of 24-inch pipe, and four Type 2 catch basins. Previous pipe upsizing to alleviate preexisting flooding issues has been provided.

2.1.9 CIP 9 (36) – 47th Street Court East Culvert Improvements (CEG Site E)

CIP 9 (previously CIP 36) will replace an existing 15-foot-long, 60-inch-diameter steel culvert off 47th Street Court East with 20 feet of an 8-foot-deep by 12-foot-wide concrete box culvert. CIP 9 includes Site E from the 1999 Cosmopolitan design.

2.1.10 CIP 10 (37) – 160th Avenue East Culvert Improvements (CEG Sites H, I 106th)

CIP 10 (previously CIP 37) proposes creek restoration and culvert replacement to increase Salmon Creek hydraulic capacity and fish habitat adjacent to 160th Avenue East south of Elm Street. This project will be completed in multiple phases as described below.

The first phase of CIP 10 will replace approximately 45 feet of 48-inch-diameter culvert under the northern-most access to the existing meat processing plant with 35 feet of a 12-foot-wide by 8-foot-deep concrete box culvert. Asphalt pavement disturbed at the access to the existing meat processing plant and 160th Avenue East during culvert construction will be reestablished.

Currently, approximately 250 feet of Salmon Creek is routed under the existing meat processing plant building. The second phase of this project consists of establishing a channel around the existing building on the east side of 160th Avenue East. The 1999 Cosmopolitan design proposed two options for this portion of the project, the first option being to abandon the existing culvert under the existing building and establish an 8-foot-wide channel to convey the entire design flow of 179 cubic feet per second (cfs), and the second option being to establish a 6-foot-wide channel with a capacity of approximately 129 cfs, while maintaining the existing culvert under the existing building as a high-flow bypass.

The 1999 Cosmopolitan design indicated that the second option is preferred due to site constraints pertaining to the location of the existing building and the location of an existing natural gas main paralleling 160th Avenue East. Construction of the preferred option consists of installing a weir structure at the start of the existing culvert on the south side of the existing building to provide high flow bypass. From the weir structure, approximately 95 feet of 12-foot-wide by 8-foot-deep box culvert will be installed in the constructed channel paralleling 160th Avenue East. The channel will be constructed by installing sheet piling, excavating the channel between the sheet piling, and installing a minimum 2-foot depth of channel rock to establish the streambed while maintaining a minimum 4-foot channel depth. The newly constructed channel will be connected to the existing Salmon Creek via approximately 40 feet of 12-foot-wide by 8-foot-deep box culvert installed under the southern access to the existing meat processing plant.

Although the 1999 Cosmopolitan design recommended construction of option two, construction of a 6-foot-wide channel will provide a capacity of only approximately 129 cfs, thus routing approximately 50 cfs to the high flow bypass during major precipitation events. Based on the information provided in the *Draft Stormwater Quality Action Plan* (KCM 1995), the existing culvert meant to serve as a high-flow bypass only has a capacity of approximately 28 cfs. Additionally, it does not seem prudent to maintain a culvert directly beneath the existing building. Therefore, additional site investigation should be conducted to verify the location of the existing natural gas main to make sure that there is not sufficient room to construct an 8-foot-wide channel as proposed in option one, above, or that the project be revised to include relocating the existing gas main and utility poles located along the frontage of the existing meat processing plant.

Another potential element of the project, although not included in the cost opinion, could be acquiring part of the parcel and removal of the existing building, if it is no longer used, that is over Salmon Creek. This would allow greater area for habitat and hydraulic improvements.

The third phase of this project is to remove an existing 48-inch-diameter culvert located east of 160th Avenue East and reestablishing the stream channel to improve fish habitat.

The fourth phase of CIP 10 consists of replacing approximately 31 feet of dual 24-inch-diameter CMP culverts with 25 feet of 12-foot-wide by 8-foot-deep concrete box culvert beneath an existing gravel drive adjacent to 160th Avenue East. The driveway will be reestablished as part of this project.

Portions of this project should be coordinated with 160th Avenue East improvements scheduled for construction in 2021/2022 and completion of CIP 11. Other portions could be constructed in advance of the roadway improvement.

CIP 10 includes Sites F, G, H and I from the 1999 Cosmopolitan design.

2.1.11 CIP 11 (38) – 162nd Avenue East Culvert Improvements (CEG Sites J, K, L)

CIP 11 (previously CIP 38) replaces three separate culvert sections off 162nd Avenue East (Poole Road). The first phase of this project consists of removing 28 feet of 24-inch-diameter culvert and two lengths of 26-foot-long 30-inch-diameter culverts beneath an existing gravel drive north of 162nd Avenue East, and installing 25 feet of 12-foot-wide by 8-foot-deep concrete box culvert. The gravel drive and stream bank restoration adjacent to the culvert is included in this project.

Phase 2 of CIP 11 will remove approximately 18 feet of 36-inch-diameter culvert under an existing gravel drive located to the north of 162nd Avenue East. Approximately 25 feet of 12-foot-wide by 8-foot-deep box culvert will be installed and the gravel drive will be restored.

Phase 3 consists of removing two 20-foot lengths of 30-inch-diameter culvert and an existing cinderblock bridge over Salmon Creek and installing 25 feet of 12-foot-wide by 8-foot-deep precast box culvert under an existing gravel driveway to the east of 162nd Avenue East. Stream bank and gravel driveway restoration will be completed following box culvert installation.

CIP 11 includes Sites J, K, and L from the 1999 Cosmopolitan design. The sizes of the box culverts are larger than what was called for in the 1999 Cosmopolitan design to provide for more fish-passable culverts.

2.1.12 CIP 12 (39) – East Main Street Culvert Improvements (CEG Site M)

CIP 12 (previously CIP 39) consists of removing approximately 45 feet of existing 60-inch-diameter CMP culvert located north of the intersection of 60th Street East/Sumner-Tapps Highway, and restoring the streambed and banks to enhance fish habitat. The project would also remove the existing fill located above the culvert.

CIP 12 includes Site M from the 1999 Cosmopolitan design.

2.1.13 CIP 13 (40) – Salmon Creek Restoration (Incorporates CEG Site 60th)

Salmon Creek is currently routed from the south side of 60th Street East to the north side of the roadway via a 24-inch-diameter CMP culvert located at the Sumner-Tapps Highway intersection. The 1999 Cosmopolitan design proposed that a new stream channel be constructed from the southwest corner of the 60thStreet East/Sumner-Tapps Highway intersection to approximately 200 feet west of the intersection. The new channel would be routed to a three-sided box culvert with wing walls installed under 60th Street East to intersect with the existing Salmon Creek channel on the south side of the street. The existing 24-inch-diameter culvert would be abandoned in place.

CIP 13 (previously CIP 40) will reestablish approximately 150 feet of stream channel at the current location of the 24-inch culvert, install approximately 135 feet of 12-foot-wide by 8-foot-deep three-sided box culvert under Main Street, and restore existing stream bank in the project location. The size of the box culvert is larger than what was called for in the 1999 Cosmopolitan design to provide a more fish-passable culvert.

2.1.14 CIP 14 (41) – 64th Street East Culvert Improvements

CIP 14 (previously CIP 41) consists of replacing approximately 150 feet of existing 36-inch CMP culvert under Sumner-Tapps Highway at the 64th Street East intersection with approximately 150 feet of 16-foot-wide by 8-foot-deep box culvert with wing walls installed from the southeast corner of the intersection to the northwest corner of the intersection. The existing 36-inch culvert paralleling Sumner-Tapps Highway conveying flow from the south will be abandoned between the existing storm drain manhole just south of the intersection to the existing 36-inch culvert to be replaced. Flow from the existing storm drain manhole will be rerouted via 42-inch-diameter reinforced concrete pipe to the start of the 12-foot by 8-foot three-sided box culvert at the southeast corner of the intersection.

Stream-bank restoration in the area of the culvert replacement and pavement restoration are included with this project.

2.1.15 CIP 15 (47) – White River Levee Improvements

CIP 15 (previously CIP 47) is proposed to prevent flooding south of the White River levee. CIP 15 proposes to increase the height of the levee north of 16th Street East. The cost for CIP 15 includes environmental permitting, floodplain modeling, preparing a Letter of Map Revision (LOMR) or Letter of Map Adjustment (LOMA) for review by the Federal Emergency Management Agency (FEMA), right-of-way (ROW) acquisition, construction required to increase the elevation of the levee, and riparian zone plantings and restoration. A Conditional Letter of Map Revision (CLOMR) does not result in a change to the Flood Insurance Rate Map, and building permits cannot be issued based on a CLOMR. Consequently, a CLOMR is not included. CIP 15 is currently in progress.

2.1.16 CIP 16 (51) – 24th Street Setback Levee

CIP 16 (previously CIP 51) is proposed to alleviate flooding and improve habitat for the White River. CIP 16 is located east of the White River between 16th Street East and Salmon Creek. A planning level estimate includes $42,000,000 for the total project cost. The project includes compensatory storage bank for wetlands, habitat, flood storage, levees, public recreation through trails, public education, and small farm plots available to the public. A 60 percent design will be prepared based on the preferred alternative. The study area includes land currently owned by the City and land that is privately owned.

In November 2010, a technical memorandum was submitted to the City identifying three alternatives. At the time this CIP was finalized, the alternative that was selected is an expansion of the Conservation Option from the 2010 technical memorandum. This option includes:

- Excavation of a side channel through the project area.
- Increasing floodplain storage through excavation for the side channel.
- Restoring approximately 170 acres of channel migration zone and habitat areas.
- Maintaining areas north of 24th Street as riparian habitat.

- Construction of engineered log jams and cottonwood fences to deter side channel migration and protect the existing bridge and utilities.
- Installing some fill to allow for public use at certain locations.
- Floodplain modeling to determine changes in the floodplain boundary.

2.1.17 CIP 17 (53) – Rivergrove Puyallup River Improvements

CIP 17 (previously CIP 53) is proposed to alleviate flooding on the north side of the Puyallup River within the city limits and includes construction of a permanent sheet pile and cast-in-place concrete flood walls. Flood protection or mitigation measures may be required on the south side of the Puyallup River; however, those areas are outside the city limits. CIP 17 assumes that costs for flood protection or mitigation outside of the city limits will be paid for by others. CIP 17 will extend approximately 4,200 feet downstream from the SR 162/Valley Avenue Interchange along the Riverwalk Condominiums, the Rivergrove Apartments, and Rainier Manor. The cost for CIP 17 includes sheet piling with a concrete cap for the permanent wall, environmental permitting, floodplain modeling, and preparing a LOMR or LOMA for review by FEMA. A CLOMR does not result in a change to the Flood Insurance Rate Map, and building permits cannot be issued based on a CLOMR. Consequently, a CLOMR is not included.

2.1.18 CIP 18 – 24th and 142nd Intersection Treatment

CIP 18 is proposed to provide enhanced treatment for the intersection of 24th Avenue and 142nd Street by adding a 6-foot by 12-foot proprietary treatment BMP on the west side of 142nd Avenue. The improvements will collect runoff from the east and west side of 142nd Avenue. The project includes 190 feet of 12-inch storm pipe, two Type 1 catch basins, two Type 2 catch basins and one Type 2 catch basin with a bypass.

2.1.19 CIP 19 – Stewart Road Pond Repair and Enhancement (Full Project)

CIP 19 is proposed to modify an existing basic treatment BMP. The existing BMP was constructed as part of the Stewart Road improvement project. This CIP would repair the existing BMP side slopes and modify the BMP to provide enhanced treatment. The project includes 15 feet of 18-inch storm pipe, 1,000 feet of 12-inch pipe, geotextile fabric, quarry spalls, curb, chain link fence, and 28-feet by 8-feet by 1.75-feet Filterra Bioscape.

2.1.20 CIP 20 – Treatment in Drainage District 11

CIP 20 is part of an annual program intended to provide treatment BMPs in Drainage District 11. The program annually allocates $50,000 (before mark-ups). For comparison purposes, two cost opinions have been prepared. The first cost opinion is for replacing existing asphalt with pervious pavement, and the second is for a 6-foot by 12-foot treatment vault. If pervious pavement is chosen, approximately 3,353 square feet of pervious pavement could potentially be installed in place of existing asphalt. If a treatment vault is installed, approximately 27,443 square feet of roadway could potentially be treated.

2.1.21 CIP 21 – Wood Avenue Conveyance, Zehnder to 16th

CIP 21 is proposed to alleviate drainage issues on Wood Avenue between Zehnder Street and 16th Street by installing 370 feet of 12-inch pipe, one Type 1 catch basin, one Type 1L catch basin, and one Type 2 catch basin.

2.1.22 CIP 22 – Wood Avenue Improvements

CIP 22 is proposed to improve stormwater infrastructure in Wood Avenue by installing 420 feet of 12-inch storm drain pipe, add six Type 1 catch basins, and one Type 2 catch basin. The proposed drainage system will collect and convey the runoff from Wood Avenue into the existing Maple Street system.

2.1.23 CIP 23 – Sumner-Tapps Highway and 60th Street East

CIP 23 is proposed to reduce the sediment currently discharging to Salmon Creek from Sumner-Tapps Highway by installing a 9-foot by 3-foot pretreatment vault. The treatment vault will treat the existing runoff from Sumner-Tapps Highway to the north of 60th Street before the runoff outfalls to Salmon Creek. The system will add 60 feet of 12-inch storm pipe, one Type 2 catch basin with a flow splitter, and three Type 2 catch basins.

2.1.24 CIP 24 – SR 410/166th Avenue East I/C (TIP A1)

CIP 24 storm improvements are proposed in conjunction with Transportation Improvement Program (TIP) project A1, SR 410/166th Avenue East Interchange Improvements. The TIP A1 project is proposed to increase the level of service through the interchange. TIP A1 is a Washington State Department of Transportation (WSDOT) project on State highway. Any stormwater improvements for the project will be included as part of SW CIP 24. The stormwater costs of $3,000,000 (before mark-ups) is based on 30 percent of the overall TIP A1 estimate of $10,000,000.

2.1.25 CIP 25 – Main Street and 160th Street (TIP A4)

CIP 25 is proposed in conjunction with TIP A4 to improve and widen streets to minor arterial standards with bike paths and sidewalks. Partial funding may be through a Surface Transportation Program (STP) grant and/or developer contribution. The stormwater cost of $200,000 (without markups) is based on 20 percent of the TIP A4 cost.

2.1.26 CIP 26 – 62nd Street: 166th Avenue to 160th Avenue East (TIP A13)

CIP 26 was originally proposed for stormwater improvements associated with TIP A13. The stormwater costs of $1,000,200 (before mark-ups) is based on 16.67 percent of the TIP A13 estimate. However, based on changes for the East Sumner Neighborhood area plan, the need for 62nd Street has been eliminated. Costs for this CIP will be reserved for wetland restoration in the East Sumner Neighborhood area.

2.1.27 CIP 27 (13) – Elm Street: East Valley Highway to 160th Avenue East (TIP C3)

CIP 27 (previously CIP 13) is proposed in conjunction with TIP C3. TIP C3 will improve the roadway from East Valley Highway to 160th Avenue East by adding curb, gutter, and sidewalk. Design has already been completed for this project. SW CIP 27 will address the stormwater associated costs for the project which includes new storm drainage facilities and replacing existing utilities. The stormwater costs of $2,400,000 (before mark-ups) is based on 30 percent of the TIP C3 estimate.

2.1.28 CIP 28 – Parker Road: 62nd to 63rd (TIP C4)

CIP 28 is proposed in conjunction with TIP C4. TIP C4 will improve Parker Road from 62nd Street to 63rd Street by adding curb, gutter, and sidewalk on the east side of the street. SW CIP 28 will address the stormwater improvements for the project, which include adding 100 feet of 12-inch pipe and five Type 1 catch basins.

2.1.29 CIP 29 – Parker Road: Main to 50th (TIP C5)

CIP 29 is part of TIP C5. The stormwater cost of $390,000 (before mark-ups) is based on 30% of the TIP C5 budget. TIP C5 will improve Parker Road from Main Street to 50th Street by adding curb, gutter, and sidewalks where currently missing. SW CIP 29 will address the stormwater improvements for the project, including new conveyance features, water quality treatment, and flow control. The total storm improvements will include 980 feet of 12-inch pipe, 350 feet of 18-inch pipe, ten Type 1 catch basins, two Type 2 catch basins, four Type 2 catch basins with flow control, one 60-inch Type 2 catch basin, and four water quality treatment devices. Portions of Parker Road have been previously completed by developer projects and sidewalk grants.

2.1.30 CIP 30 – Sidewalk Replacement Program (TIP R7)

CIP 30 is part of an annual program associated with the stormwater portion of the TIP. The stormwater CIP is based on allocating 30 percent of the TIP R7 budget for stormwater improvements. The total funding allocated towards storm is $15,000 (before mark-ups). Two estimates have been prepared to determine an approximate amount of conventional sidewalk that could be installed based on the stormwater allocation and the amount of pervious concrete that could be installed for a similar cost. If conventional concrete sidewalk is used, 85 square yards could potentially be constructed using the allocated budget. If pervious concrete sidewalk is used, 67 square yards could potentially be constructed using the allocated budget. Although the budget would potentially result in less sidewalk replacement for pervious concrete, using pervious concrete could result in a reduction in stormwater routed through the City's stormwater system.

2.1.31 CIP 31 – Volunteer Sidewalk Program (TIP R10)

CIP 31 is part of an annual program associated with the stormwater portion of the TIP. The stormwater CIP is based on allocating 30 percent of the TIP R10 for stormwater improvements. The total funding allocated towards storm improvements is $24,000 (before mark-ups). Two estimates have been prepared to determine an approximate amount of conventional sidewalk that could be installed based on the stormwater allocation and the amount of pervious concrete that could be installed for a similar cost. If conventional concrete sidewalk is used, 209 square yards could potentially be constructed using the allocated budget. If pervious concrete sidewalk is used, 150 square yards could potentially be constructed using the allocated budget. Although the budget would potentially result in less sidewalk replacement for pervious concrete, using pervious concrete could result in a reduction in stormwater routed through the City's stormwater system.

2.1.32 CIP 32 – Mountain Circle Outfall Replacement

CIP 32 is based on the results of hydrologic and hydraulic modeling that was performed in 2017 and 2018 regarding proposed improvements for the Sound Transit Sumner Sounder Station. The modeling was performed to compare system hydraulic analysis results with or without flow control and various

system improvement scenarios. The model results indicated that, to minimize the potential for system flooding during the 10-year design event, the downstream portions of the existing conveyance system should be replaced with 48-inch-diameter pipe. Although the modeling was performed specifically regarding the Sumner Sounder Station Improvements project, the modeling included analyses of existing conditions with or without on-site detention being provided. The model results indicated system flooding for the 10-year event for either condition. Consequently, the system improvements recommended from the modeling for that project have been carried forward as a stormwater CIP.

On the southerly side of SR 410, the existing system has a bypass structure that diverts a previously determined flow rate into an existing Vortech treatment unit that provides for sediment removal prior to discharge into the Puyallup River. The existing discharge point also has a Tideflex valve and a rock pad. The CIP assumes the Vortech unit will remain as is and not be replaced. However, because the pipe will be enlarged, the bypass structure and Tideflex valve will need to be replaced.

Because the CIP crosses SR 410, the opinion of probable construction cost includes casing for trenchless installation within SR 410 right-of-way.

The completion of this project would likely be through the formation of a Local Improvement District.

The assumed percentage factors for items such as administration, permitting and engineering have been increased for this CIP to address its associated complexities. See the breakdown of the opinion of probable construction cost in the appendix for further details.

3. STORMWATER MANAGEMENT ACTION PLANNING

The City is a permittee under the Western Washington Phase II Municipal Stormwater Permit (Phase II Permit). This permit is issued by the Washington State Department of Ecology (Ecology) as part of the National Pollutant Discharge Elimination System (NPDES) promulgated under the Clean Water Act (CWA). Section S5.C.1.d of the current Phase II Permit, issued July 1, 2019, requires that permittees conduct Stormwater Management Action Planning (SMAP) based on the Stormwater Management Action Planning Guidance (Ecology 2019; Publication 19-10-010). Phase II Permit has several requirements related to SMAP. Excerpts from the Phase II Permit for SMAP are included in Appendix D.

The Phase II Permit identifies the milestones for the SMAP process. The SMAP process was started for this 2020 Plan Update so that CIPs, if any, related to SMAP could be reflected in the cost opinions and budgeting process. Additional SMAP requirements will be addressed as the City continues implementing its requirements under the Phase II Permit.

The overall objective of SMAP is to identify stormwater management and land use strategies that can improve the quality of a selected high priority receiving water. Stormwater from the City enters into the White River, the Puyallup River, or Salmon Creek. Salmon Creek is tributary to the White River, and the White River is tributary to the Puyallup River. Salmon Creek was selected as the high priority receiving water that would most likely benefit from SMAP actions by the City. Although the Salmon Creek basin is not located entirely within the City's jurisdiction, its watershed is smaller than that of the White River or the Puyallup River. Also, the City's percentage of the Salmon Creek watershed is higher than for the White River or Puyallup River. Consequently, the City's stormwater management and land use strategies can have a greater impact on Salmon Creek than for the White River or the Puyallup River.

Two technical memorandums for SMAP have been prepared to support this 2020 Plan Update. The Washington Department of Health (DOH) and Environmental Protection Agency (EPA) technical memorandum (Parametrix, 2020), included in Appendix E, discusses the results of DOH and EPA environmental factors from web-based Geographic Information System (GIS) mapping and how those factors may relate to SMAP for the City. The Washington Department of Ecology's Puget Sound Watershed Characterization Results technical memorandum (Parametrix, 2020), included in Appendix F, was prepared to document the various watershed characteristics related to Salmon Creek and CIPs that could potentially improve the identified characteristics.

Based on the DOH and EPA environmental factors review, there are no environmental factors mapped by DOH and EPA within the Salmon Creek watershed within the City that would relate to a specific CIP.

For Ecology watershed characterization mapping, the review focused on projects located within the portion of the City that is located within Drainage District 11 boundary and on areas tributary to Salmon Creek. There are several CIPs identified that could potentially assist in improving the quality of Salmon Creek. The CIPs identified are summarized in Table 3-1 below.

Table 3-1. Summary of SMAP CIPs

SW CIP No.	SW CIP Name	Watershed Characterization Factor to Be addressed	Priority
5	160th Avenue East: Elm to Main	Recharge, water quality	High
8	162nd Avenue East (Poole Road) Outfall Improvements	Water quality	Low
9	47th Street Court East Culvert Improvements	Habitat	High
10	160th Avenue East Culvert Improvements	Habitat	High
11	162nd Avenue East Culvert Improvements	Habitat	High
12	East Main Street Culvert Improvements	Habitat	High
13	Salmon Creek Restoration	Habitat	Medium
14	64th Street East Culvert Improvements	Habitat	High
23	Sumner-Tapps Highway and 60th Street East	Water quality	Low
24	SR 410/166th Avenue East	Recharge	Medium
25	Main Street/160th Avenue	Recharge	Medium
26	62nd Street from 166th Avenue to 160th Avenue	Recharge	Medium
N/A	Sumner-Tapps Highway Resurfacing	Recharge	Not applicable
27	Elm Street: Valley Highway to 160th	Recharge	Medium
28	Parker Road: 62nd to 63rd	Recharge	Medium
29	Parker Road: Main to 50th	Recharge	Medium
30	Sidewalk Replacement Program	Recharge	High–Medium
31	Volunteer Sidewalk Program	Recharge	High–Medium

Notes: SW = stormwater; CIP = Capital Improvement Plan; SMAP = Stormwater Management Action Planning; SR = State Route.

4. REFERENCES

City of Sumner. 2001. East Sumner Neighborhood Plan.

Cosmopolitan Engineering Group. 1999. Design Technical Memorandum Salmon Creek Culvert Replacement Project.

Ecology, 2019. Stormwater Management Action Planning Guidance, Publication 19-10-010. Ecology 2019.

KCM. 1995. Draft Stormwater Quality Action Plan.

Parametrix. 1992. Stormwater comprehensive plan.

Parametrix 2011. 2011 Stormwater Capital Improvement Plan. February 2011.

Parametrix 2020, WA DOH and EPA Resource Mapping Technical Memorandum. March 2020.

Parametrix 2020, Washington Department of Ecology's Puget Sound Watershed Characterization Results Technical Memorandum. September 2020.

Appendix A

CIP Disposition Technical Memorandum

Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

1019 39TH AVENUE SE, SUITE 100 | PUYALLUP, WA 98374 | P 253.604.6600

MEMORANDUM

DATE:	January 17, 2020
TO:	Robert Wright
FROM:	Marcus Vassey
SUBJECT:	CIP Disposition
CC:	Michael Kosa Jeff Coop
PROJECT NUMBER:	216-1527-082
PROJECT NAME:	Stormwater CIP Update

OVERVIEW

The City of Sumner (City) and Parametrix met on December 20, 2019, to review the City of Sumner 2011 and 1991 Capital Improvement Plans (CIPs). From this meeting, each project from both 2011 and 1991 CIPs were sorted into groupings for the proposed Stormwater CIP Update. The project groupings are as follows:

- Carried Forward
- Completed or Removed Projects
- New Projects

Each grouping can be found in the attached matrix.

New Projects

The new projects described below were identified during the meeting on December 20, 2019.

- *24th and 142nd Intersection Treatment* – The intersection of 24th and 142nd is considered to be a high-risk intersection for contaminant spills. The proposed project would add treatment to the southwest corner of the intersection at existing inlet locations. Additional treatment may be considered at the northeast corner and along the main line. The type of treatment would be determined as the project proceeds.
- *Install Pervious Pavement on Parker Road and 160th Avenue* – Parker Road and 160th Avenue have been selected from the City of Sumner Transportation Improvement Plan (TIP), as potential stormwater projects to reduce runoff that is currently discolored upon discharge into Drainage District 11 (D11). The result of this CIP could then be used by the City to determine the potential to use pervious pavement at other locations within D11 for future road projects.
- *Stewart Road SE Pond* – The existing basic treatment wet pond is located east of 140th and south of Stewart Road SE. The project would review the feasibility to retrofit the existing pond to provide enhanced treatment utilizing a new best management practice (BMP) such as a Constructed Stormwater Wetland/ Detention Pond (CSTW/DP) or Modular Wetland System (MWS).

- *Treatment in D11* – The Drainage District 11 basin generally lacks enhanced treatment throughout. This CIP will determine if multiple, smaller treatment BMPs, such as individual catchment locations or mainline treatment, could be provided in lieu of a single, larger facility.
- *166th Widening* – Fish passage culverts for Salmon Creek would be considered in conjunction with future widening of 166th/Sumner-Tapps Highway. The fish passage culverts and the widening would be independent of the interchange improvements currently under design. The size of fish passage culverts would be determined but have been initially estimated at 8-fioot by 16-foot precast concrete box culverts.

Prioritization Review

In the attached matrix, each project has a cell for the "Preliminary Prioritization; from 2011 Update" column. Review by the City for the "Carried Forward" and "New Projects" is requested for their prioritization in the Stormwater CIP Update.

Attachment

CIP Disposition Matrix

CITY OF SUMNER
Stormwater CIP Update

Carried Forward	*Name*	*Completed? (Y / N / New)*	*Carried Forward? (Y / N / Completed / New)*	*New CIP #*	*Description*	*Preliminary Prioritization; from 2011 Update*	**Preliminary Implementation Schedule; based on 2011 Update**						
							2021	2022	2023	2024	2025	2026	After 2026
CIP No. 4	Railroad Street Improvements	N	Y	1	Install 435ft of 18in pipe along Railroad St.	50/50							x
CIP No. 6	River Street Improvements	N	Y	2	Upsize 12" pipe to 24" along 141st and River	LOW							x
CIP No. 7	151st Avenue E & 152nd Avenue E Improvements	N	Y	3	Upsize 8" to 10", 12" and 18" on 63rd & 152nd	HIGH				x			
CIP No. 8	63rd Street Ct E Improvements	N	Y	4	Install 1095ft 12in, 570ft 18in,1,180ft of latera	HIGH					x		
CIP No. 12	North 160th Avenue E Improvements	N	Y	5	Replacing ditch with 18" pipe, and new 18" pipe	HIGH			x				
CIP No. 13	Elm Street Interceptor	N	Y	6	Install 140ft 12", 600ft 18", 610ft 24", add treatment?	HIGH			x				
CIP No. 14	N Parker Road Improvements	N	Y	7	Install 610ft 12", 400ft 18" routed to bioswale	HIGH			x				
CIP No. 18	Willow Street Interceptor & Tributary Improvements	N	Y	8	Upsizing 12", 15", 8" and 10" to larger, aprox 5,600LF	HIGH					x		
CIP No. 22	Meade McCumber Street Improvements	N	Y	9	Replace 370' of 10", 420' of 12" with 15" to impove conveyance	HIGH							x
CIP No. 25	Poole Road Outfall Improvements	N	Y	10	Install 900ft 24", 570ft 30", 140ft 12", WQ device	HIGH		x					
CIP No. 36	47th Street Ct E Culvert Improvements (CEG Site E)	N	Y	11	Install Box 8'x16' Culvert	HIGH		x					
CIP No. 37	160th Avenue E Culvert Improvements (CEG Sites F, G, H, I, 106th Ave. I	N	Y	12	Install Box 8'x16' Culvert 35' long, establish new channe	HIGH			x				
CIP No. 38	162nd Avenue E Culvert Improvements (CEG Sites J, K, L)	N	Y	13	Install Box 5'x10' Culvert 25' long, three locations	HIGH				x			
CIP No. 39	E Main Street Culvert Improvements (CEG Site M)	N	Y	14	Restore stream bed and banks N of East Main Street	HIGH					x		
CIP No. 40	Salmon Creek Restoration (incorporates CEG Sites N, O)	N	Y	15	Reestablish stream channel, install box culvert	HIGH				x			
CIP No. 41	64th Street E Culvert Improvements	N	Y	16	Install Box 8'x16' Culvert 150' long, reroute storm	HIGH			x				
CIP No. 47	White River Levee Improvements	N	Y	17	In Progress - Increase height of levee N of 16th Street	HIGH			x				
CIP No. 51	24th Street Setback Levee	N	Y	18	60% Design - Increase flood storage, restore channel (Includes CIP 52)	50/50			x				x
CIP No. 53	Rivergrove Puyallup River Improvements	N	Y	19	Construct permanent flood wall	HIGH	x	x	x	x			
New Projects													
	24th and 142nd Intersection Treatment	New	New	20	Install Modular Wetlands on inside of rd curve conveyance	Not in 2011 Update							
	Install Pervious Pavement on Parker Road	New	New	21	Review: Installing Pervious Pavement on Parker Road	Not in 2011 Update							
	Install Pervious Pavement on 160th Avenue	New	New	22	Review: Installing Pervious Pavement on 160th Avenue	Not in 2011 Update							
	Stewart Road Pond	New	New	23	Retrofit Pond with new BMP	Not in 2011 Update							
	Treatment in D11	New	New	24	Install Modular Wetlands	Not in 2011 Update							
Completed or Removed													
92-27	139th Avenue East Ditch Improvements	N	N		Outside of the City								
92-29	West Northeast 16th Outfall and System Improvements	N	N		Outside of the City								
91-30	West Northeast 8th Outfall and System Improvements	N	N		Outside of the City								
CIP No. 1	Alder Avenue High Flow Bypass	Y	Completed										
CIP No. 2	Gary Street Improvements	Y	Completed										
CIP No. 3	42-Inch Puyallup River Outfall Improvements	Y	Completed										
CIP No. 5	Sessler Outfall High Flow Bypass	Y	Completed										
CIP No. 9	Bock Avenue Improvements	Y	Completed										
CIP No. 10	64th Street E Outfall Improvements	Y	Completed										
CIP No. 11	South 160th Avenue E Improvements	Y	Completed										
CIP No. 15	Parker Road Improvements	Y	Completed										
CIP No. 16	Elm Street Outfall Omprovements	Y	Completed										
CIP No. 17	Main Street Improvements	Y	Completed										
CIP No. 19	Puyallup Street Outfall Improvements	Y	Completed										
CIP No. 20	Valley Avenue East Improvements	Y	Completed										
CIP No. 21	South SR-410 Diversion Interceptor	Y	Completed										
CIP No. 22	Meade McCumber Street Improvements	Y	Completed										
CIP No. 23	64th Street East Improvements	Y	Completed										
CIP No. 24	E Main Street / 160th Avenue E Improvements	Y	Completed										
CIP No. 26	Wahl Road Interceptor	Y	Completed										
CIP No. 27	South Parker Rd Improvements	Y	Completed										
CIP No. 28	136th Avenue E Improvements	Y	Completed										
CIP No. 29	Puget Sound Power & Light Canal Drainage	Y	Completed										
CIP No. 30	Zehnder Street Improvements	Y	Completed										
CIP No. 31	62nd Street East	Y	Completed										
CIP No. 32	Valley Avenue Improvements	Y	Completed										
CIP No. 33	REI / Railroad Culvert Improvements (CEG Sites A, B)	Y	Completed										
CIP No. 34	Parker Road Culvert Improvements (CEG Site C)	Y	Completed										
CIP No. 35	Puyallup Watershed Access Culvert Improvements (CEG Site D)	Y	Completed										
CIP No. 42	8th Street East Corridor Improvements	Y	Completed										
CIP No. 43	East Valley Highway Improvements - Detention Pond w/Bioswale	Y	Completed										
CIP No. 44	East Valley Highway Improvements	N	N		Project will be completed with future Transportation Projec								
CIP No. 45	West Valley Highway Improvements - Detention Pond w/Bioswale	Y	Completed										
CIP No. 46	16th Street E Improvements	Y	Completed										
CIP No. 48	Milwaukee Ditch Regional Facility	Y	Completed										
CIP No. 49	Golf Course Culvert Improvements	Y	Completed										
CIP No. 50	Development Rights Relinquished by City	Y	Completed										
CIP No. 52	Number 9 Ditch and Forest Canyon Class III Habitat Improvements	N	N		Combined with CIP No. 51								
SITE A.2	48-Inch Outfall Water Quality Facility	Y	Completed										
SITE D	Stormwater mitigation site	Y	Completed										
SITE J	City-Owned Parcel between East Valley Highway and BNSF ROW	N	N		New CIP will be broken up into multiple Projects								

Appendix B

Recommended Capital Improvement Project Figures

IMPROVEMENTS:

INSTALL APPROX 910 LF 24" DIA SD PIPE
INSTALL 4 - 48" TYPE II CB

OBJECTIVE:

PROVIDE BYPASS TO ALLEVIATE FLOODING OFF NORTH ST

Parametrix DATE: June 17, 2020 FILE: PS1527082-FIG-01-05

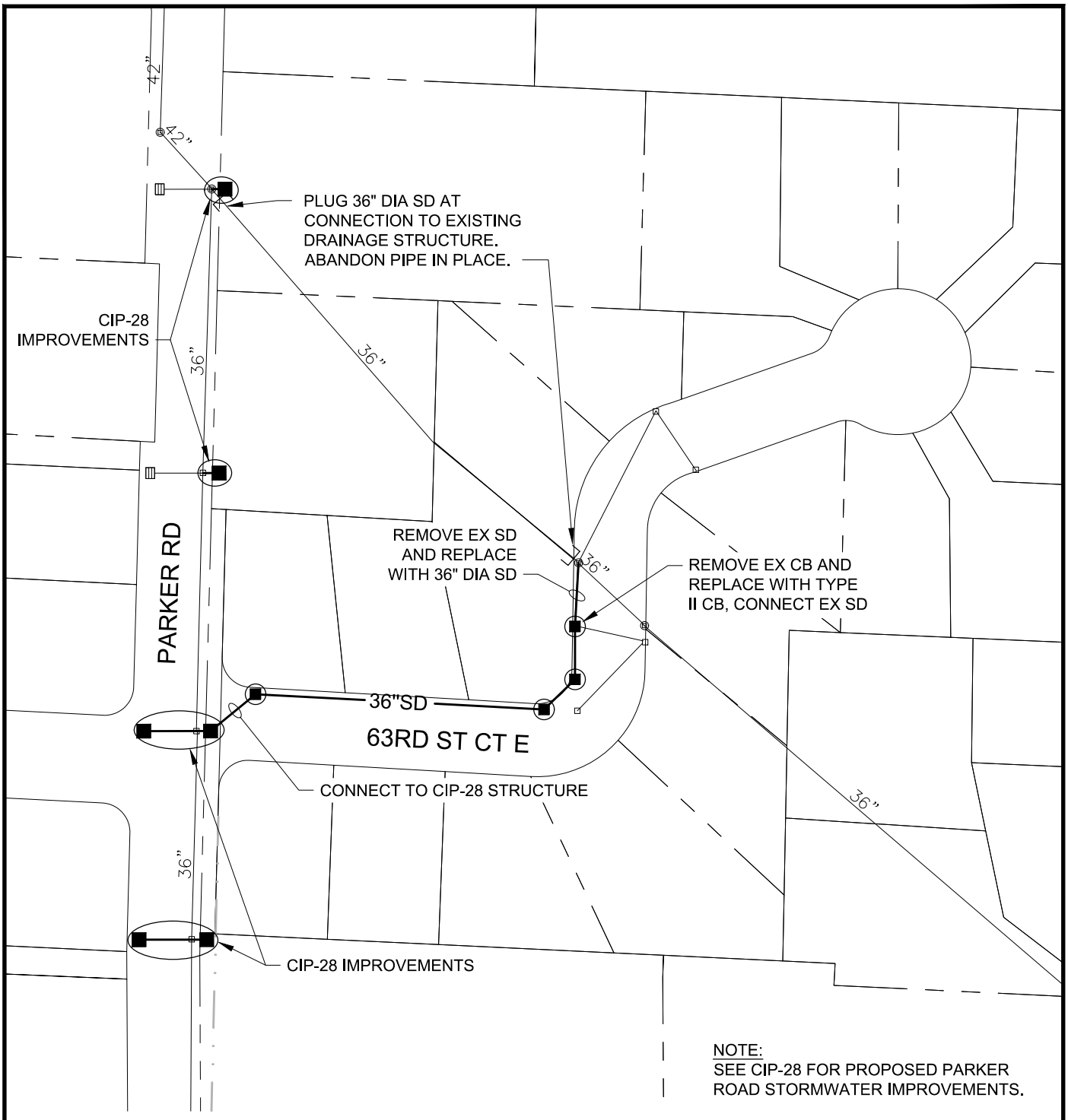
0 N 100
1 INCH = 100 FT.

NOTE:

(#) INDICATES 2011 SW CIP #

Figure CIP-1 (4)
Railroad Street Improvements

City of Sumner, Washington



IMPROVEMENTS:

REMOVE APPROX 43 LF SD
REMOVE 1 TYPE I CB
INSTALL APPROX 375 LF 36" DIA SD
INSTALL 4- 60" TYPE II CB

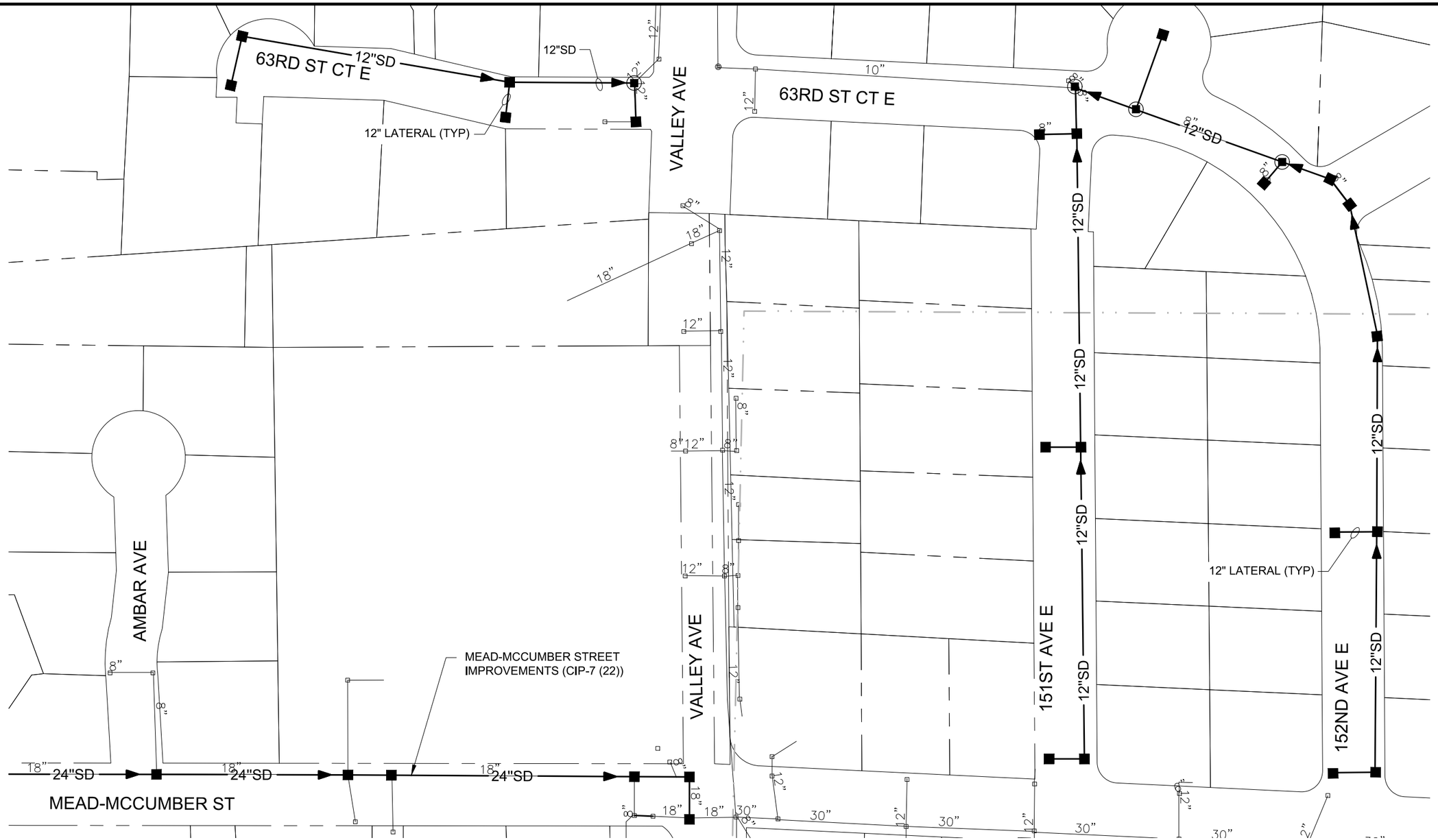
OBJECTIVE:

REROUTE EXISTING STORM DRAIN LOCATED UNDER EXISTING BUILDING.

Parametrix DATE: December 7, 2020 FILE: PS1527082-FIG-01-05

0 N 100
1 INCH = 100 FT.

Figure CIP-2
63rd Street Court E Storm Drain
City of Sumner, Washington



IMPROVEMENTS:

REMOVE APPROX 400 LF 8" DIA SD PIPE
REMOVE APPROX 55 LF 12" DIA SD PIPE
INSTALL APPROX 2275 LF 12" DIA SD PIPE
INSTALL 20 TYPE I CB
INSTALL 4- 48" TYPE II CB

OBJECTIVE:

PROVIDE CONVEYANCE ON 63RD STREET CT E WEST OF VALLEY AVENUE. UPSIZE AND EXTEND CONVEYANCE ON 151ST AVENUE E AND 152ND AVENUE E TO ALLEVIATE EXISTING FLOODING. PROVIDE CONVEYANCE ON 151ST AVENUE E.

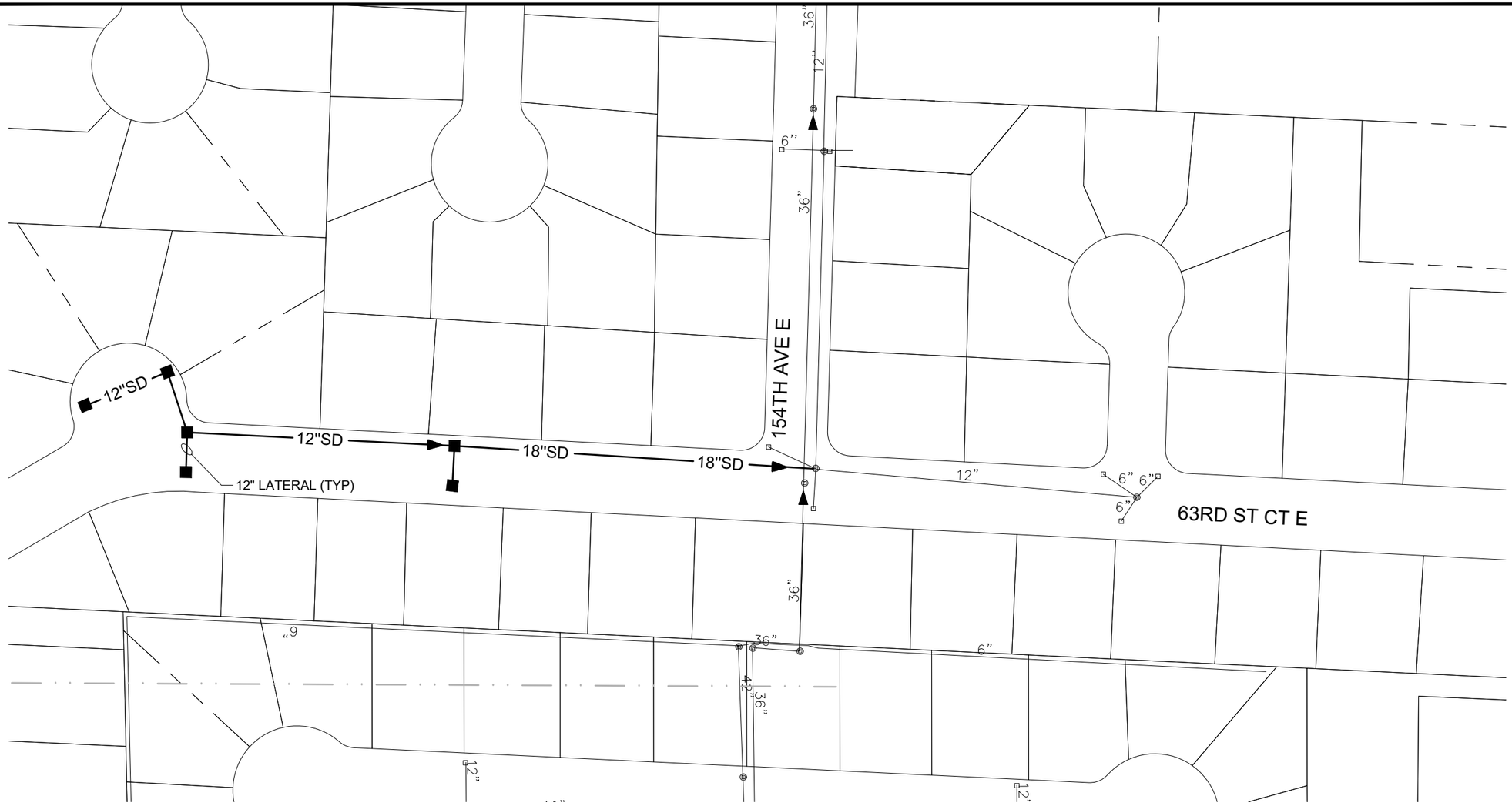
Parametrix DATE: December 7, 2020 FILE: PS1527082-FIG-01-05

0 N 100
1 INCH = 100 FT.

NOTE:

(#) INDICATES 2011 SW CIP #

Figure CIP-3 (7)
151st Avenue E & 152nd Avenue E Improvements
City of Sumner, Washington



IMPROVEMENTS:

INSTALL APPROX 430 LF 12" DIA SD PIPE
INSTALL APPROX 310 LF 18" DIA SD PIPE
INSTALL 6 TYPE I CB
INSTALL 1- 54" TYPE II CB

OBJECTIVE:

ALLEVIATE EXISTING FLOODING ON 63RD STREET CT E AND ELIMINATE POSSIBLE EXISTING CONNECTIONS TO SANITARY SEWER.

NOTE:

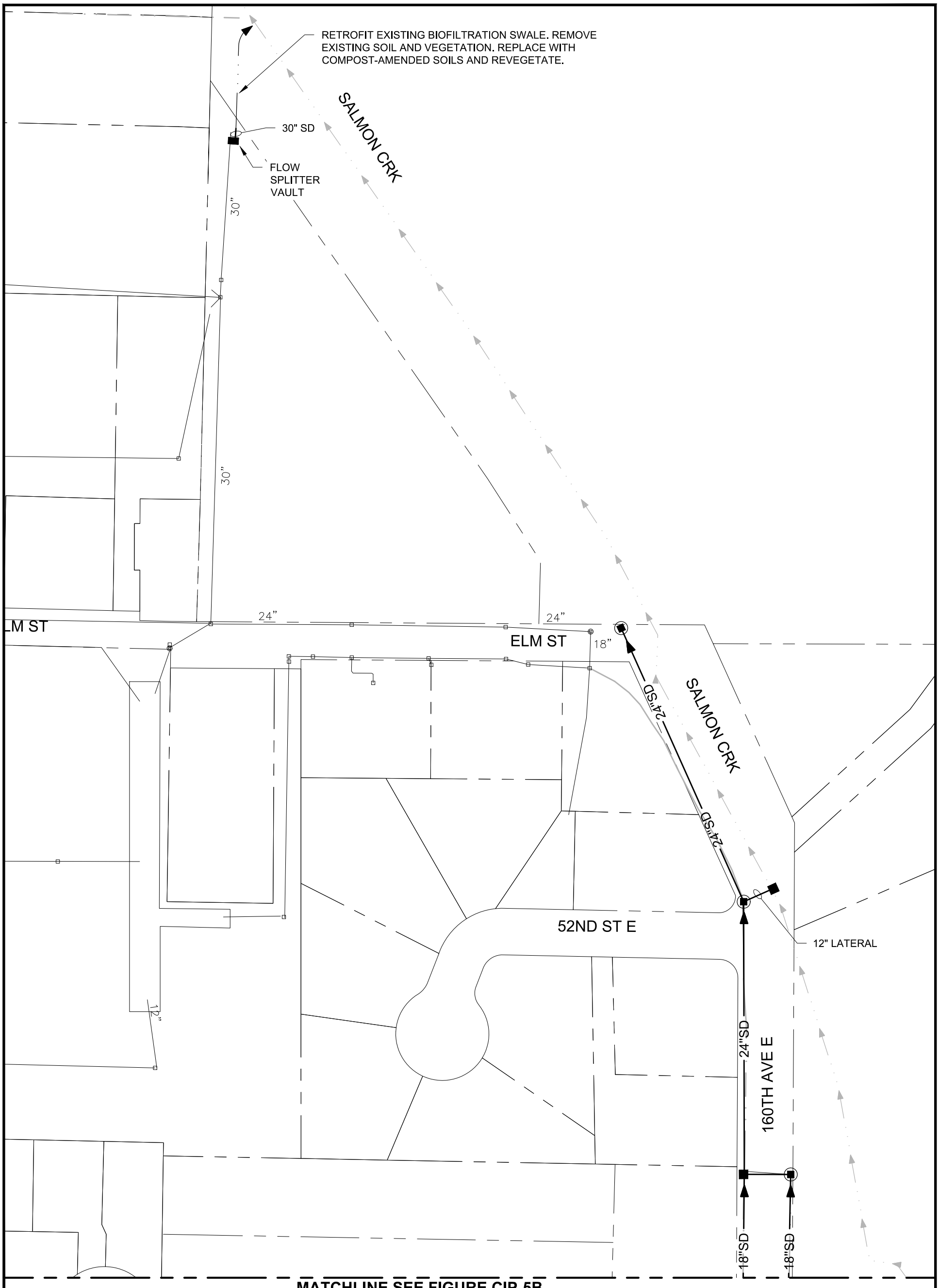
THE NEED FOR YARD DRAIN STUBS W/ CLEANOUT AT ROW FOR ADJACENT LOTS TO BE DETERMINED AS DESIGN PROCEEDS. THIS COULD POTENTIALLY ADD APPROX 560 LF 6" DIA SD PIPE AND APPROX 16 EACH 6" CO.

Parametrix DATE: September 1, 2020 FILE: PS1527082-FIG-01-05

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-4 (8)
63rd Street Court E Improvements
City of Sumner, Washington



IMPROVEMENTS:

INSTALL APPROX 70 LF 12" DIA SD PIPE, INSTALL APPROX 2,400 LF 18" DIA SD PIPE
INSTALL APPROX 615 LF 24" DIA SD PIPE, INSTALL APPROX 10 LD 30" DIA SD PIPE
INSTALL 7 TYPE I CB, INSTALL 9 - 48" TYPE II CB
INSTALL FLOW SPLITTER VAULT WITH HIGH FLOW BYPASS

OBJECTIVE:

MINIMIZE FLOODING DUE TO INADEQUATE CONVEYANCE.

RETROFIT EXISTING BIOFILTRATION SWALE TO IMPROVE TREATMENT.

Parametrix DATE: December 17, 2020 FILE: PS1527082-FIG-01-05

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-5A (12A)
North 160th Avenue E Improvements
City of Sumner, Washington

MATCHLINE SEE FIGURE CIP-5A

18"

18"

18"SD

18"

18"SD

12" LATERAL (TYP)

160TH AVE E

18"SD

18"

18" SD

18"

12"

8"

12'

12"

WASHINGTON ST

12"

12"

12"

12'

8"

8"

8"

8"

8"

8"

12"

8"

8"

8"

18"

MATCHLINE SEE FIGURE CIP-5C

Parametrix DATE: September 1, 2020 FILE: PS1527082-FIG-01-05

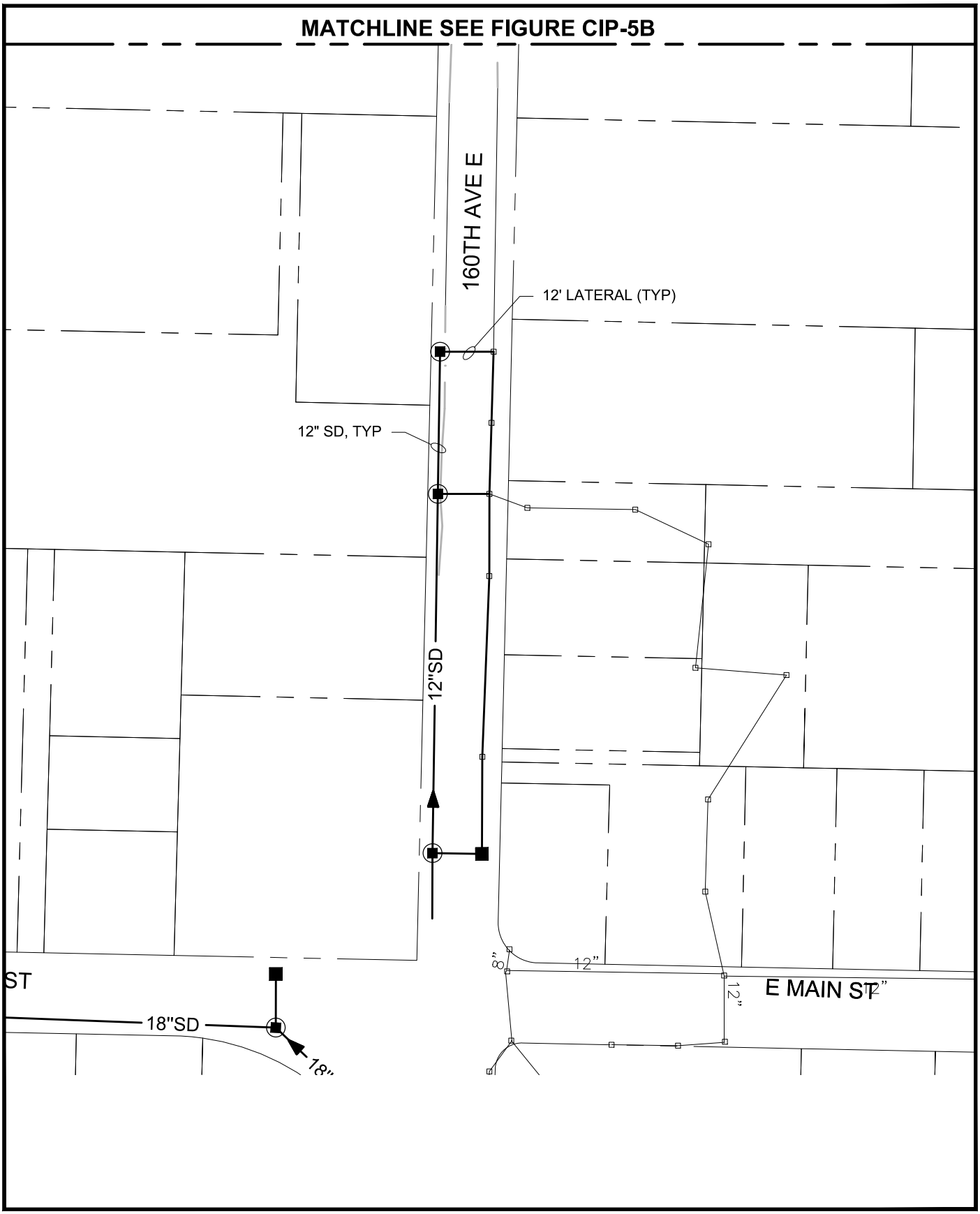
0 N 100

1 INCH = 100 FT.

NOTE:

(#) INDICATES 2011 SW CIP #

Figure CIP-5B (12B)
North 160th Avenue E Improvements
City of Sumner, Washington

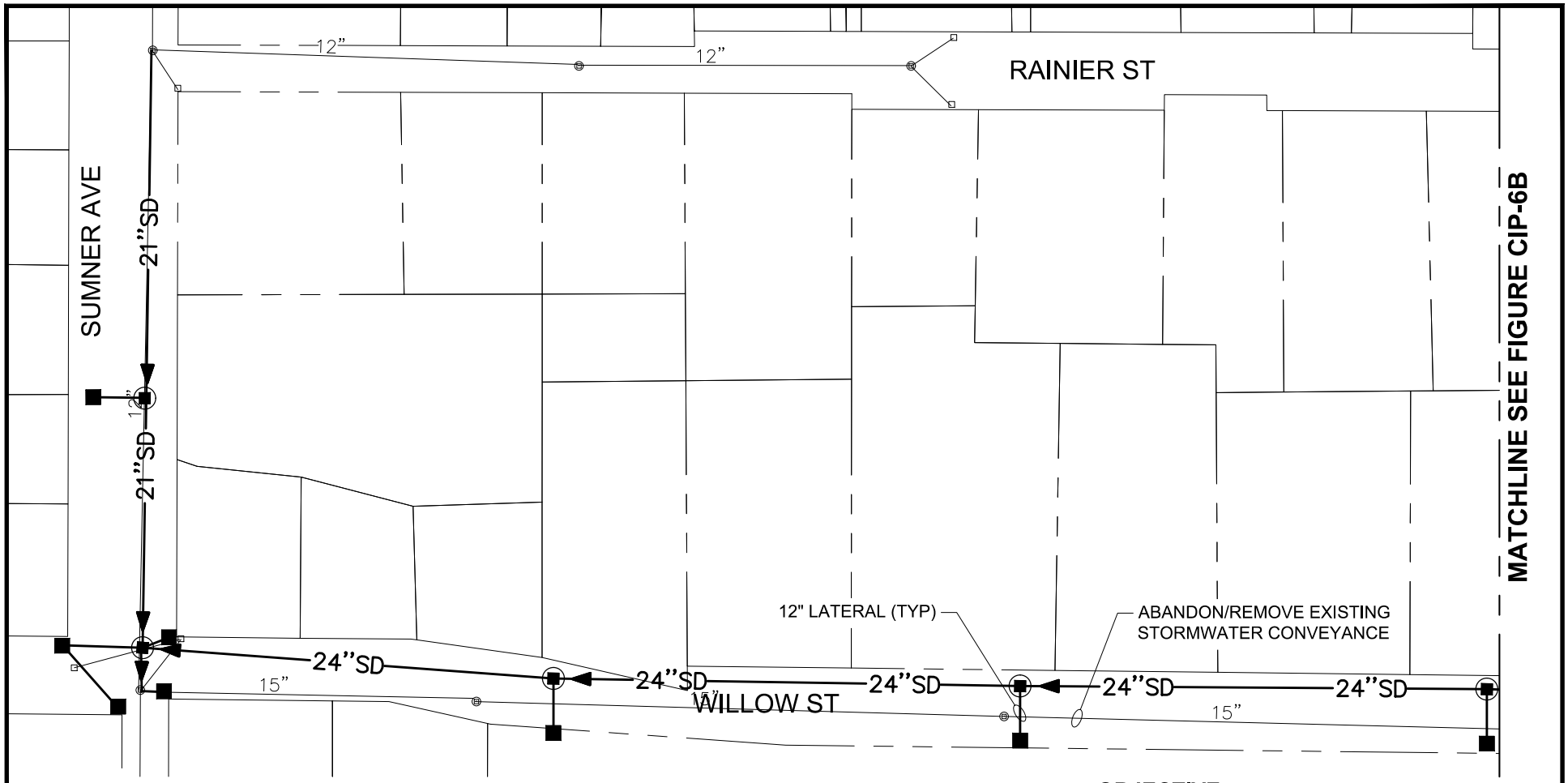


Parametrix DATE: December 17, 2020 FILE: PS1527082-FIG-01-05

0 N 100

1 INCH = 100 FT.

Figure CIP-5C (12C)
North 160th Avenue E Improvements
City of Sumner, Washington



IMPROVEMENTS:

REMOVE APPROX 385 LF 12" DIA SD (SUMNER AVE)
ABANDON APPROX 340 LF 8" DIA SD (WILLOW ST)
ABANDON APPROX 290 LF 10" DIA SD (WILLOW ST)
ABANDON APPROX 1,160 LF 15" DIA SD (WILLOW ST)
ABANDON APPROX 240 LF 10" DIA SD (GUPTIL AVE)
ABANDON APPROX 230 LF 12" DIA SD (GUPTIL AVE)
ABANDON APPROX 445 LF 15" DIA SD (GUPTIL AVE)

INSTALL APPROX 2,800 LF 12" DIA SD PIPE
INSTALL APPROX 540 LF 18" DIA SD PIPE
INSTALL APPROX 385 LF 21" DIA SD PIPE
INSTALL APPROX 1,170 LF 24" DIA SD PIPE
INSTALL 28 TYPE I CB
INSTALL 12 - 48" TYPE II CB

OBJECTIVE:

ALLEVIATE SURCHARGE UPSTREAM OF THE 48-INCH OUTFALL TO THE PUYALLUP RIVER.

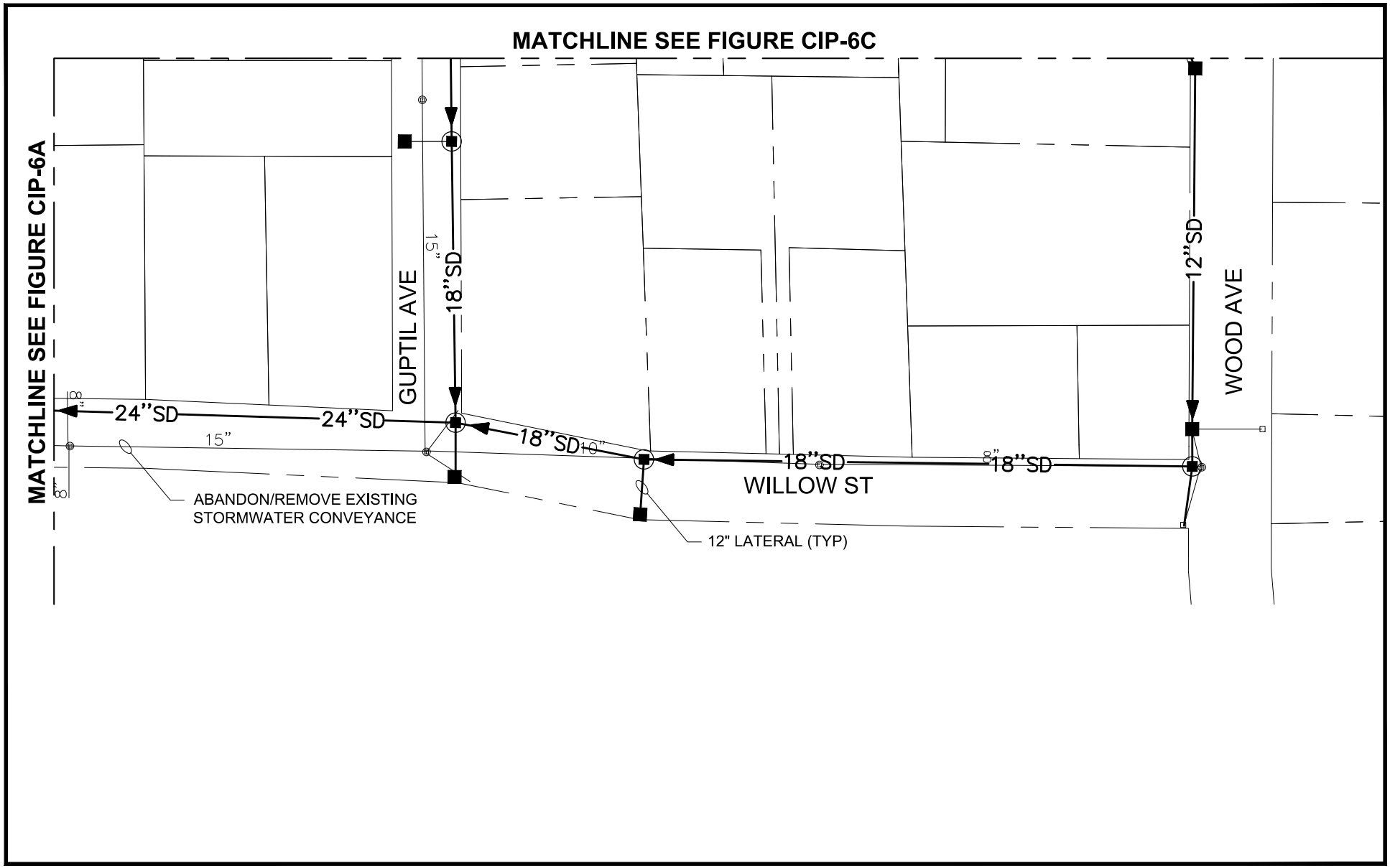
ELIMINATE PONDING ON WOOD AVENUE DUE TO LACK OF CONVEYANCE.

Parametrix DATE: December 7, 2020 FILE: PS1527082-FIG-06-27

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-6A (18A)
Willow Street Interceptor & Tributary Improvements
City of Sumner, Washington

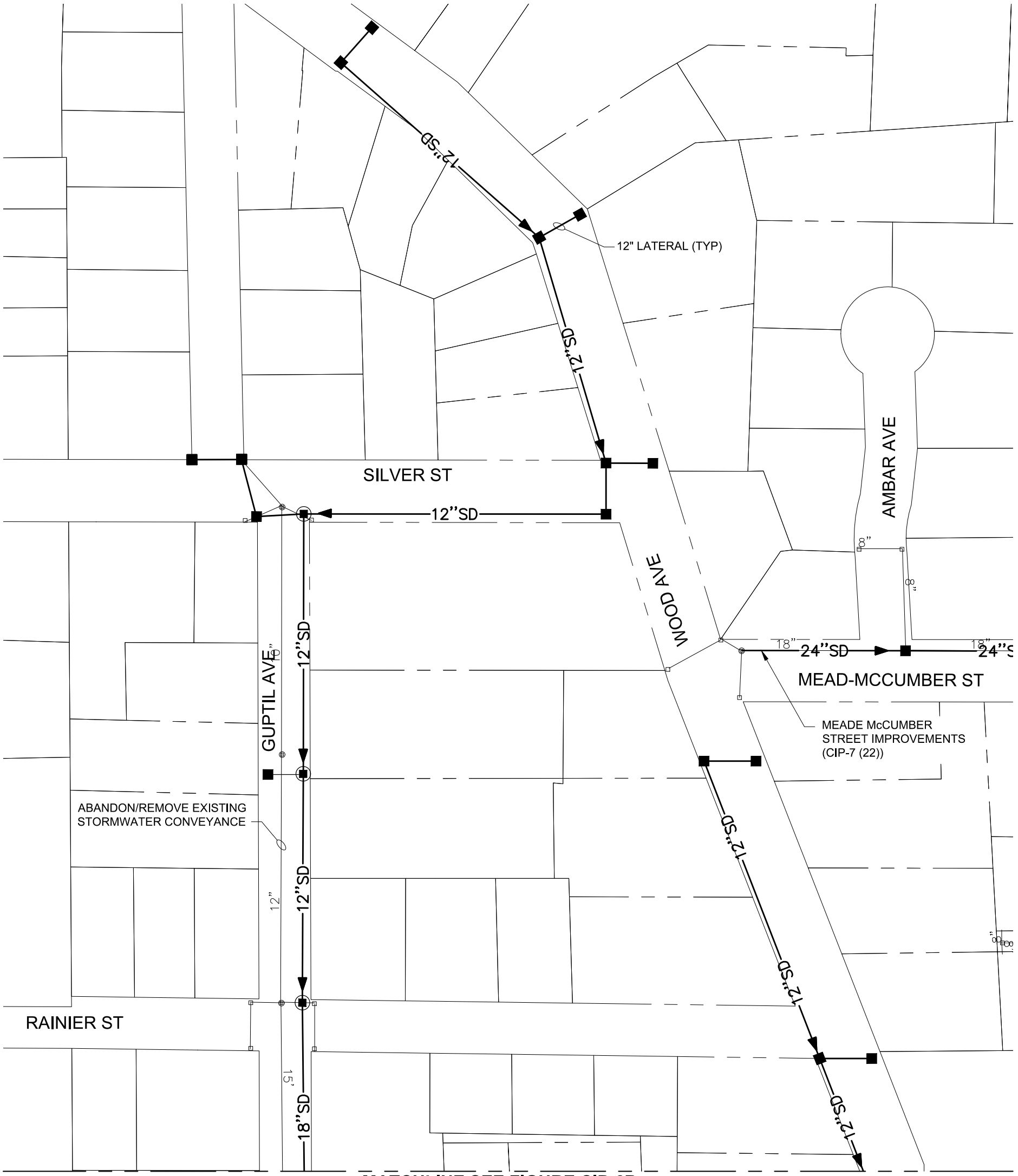


Parametrix DATE: December 17, 2020 FILE: PS1527082-FIG-06-27

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-6B (18B)
Willow Street Interceptor & Tributary Improvements
City of Sumner, Washington

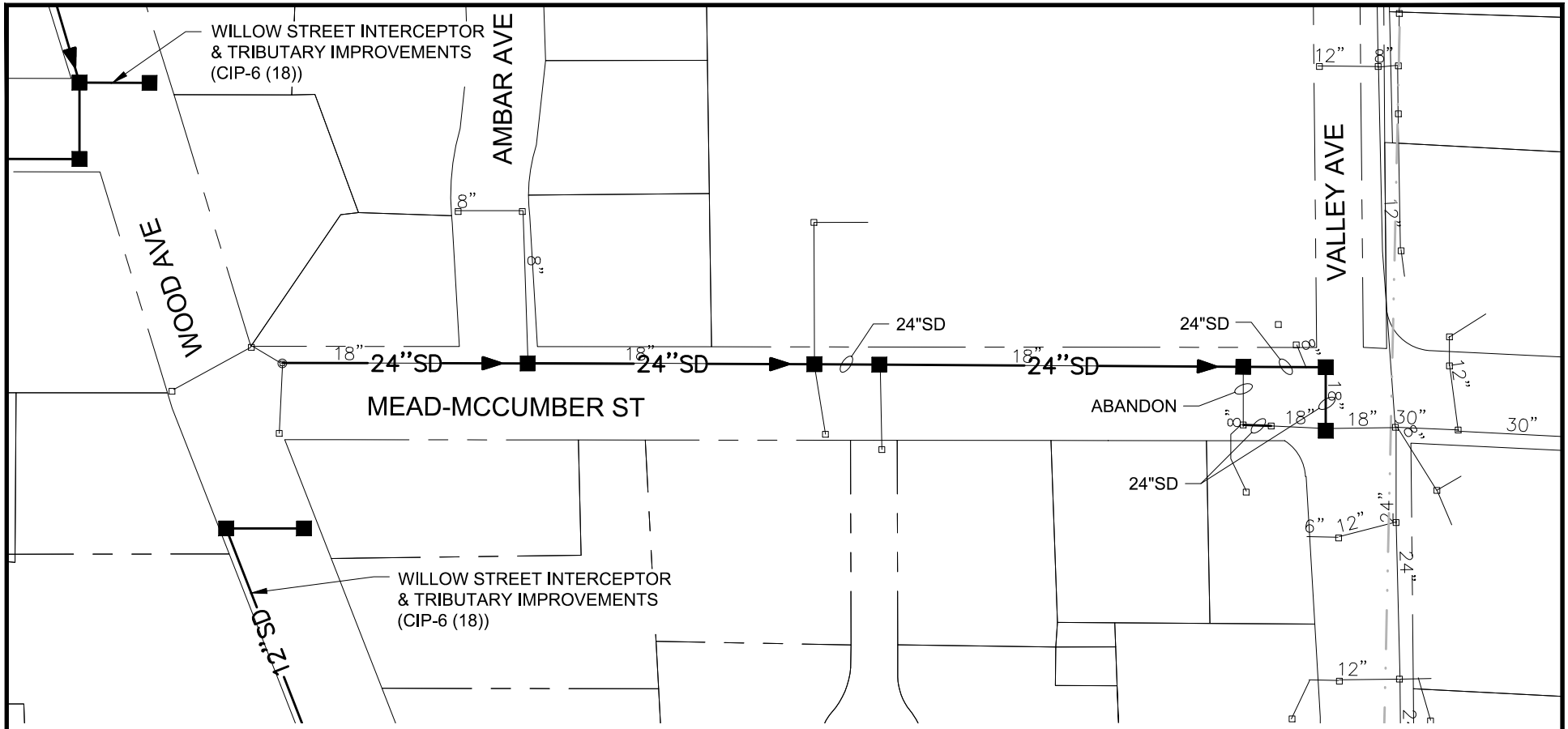


Parametrix DATE: December 17, 2020 FILE: PS1527082-FIG-06-27

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-6C (18C)
Willow Street Interceptor
& Tributary Improvements
City of Sumner, Washington



IMPROVEMENTS:

REMOVE APPROX 710 LF 18" DIA SD PIPE
INSTALL APPROX 730 LF 24" DIA SD PIPE
INSTALL 6 TYPE I CB

OBJECTIVE:

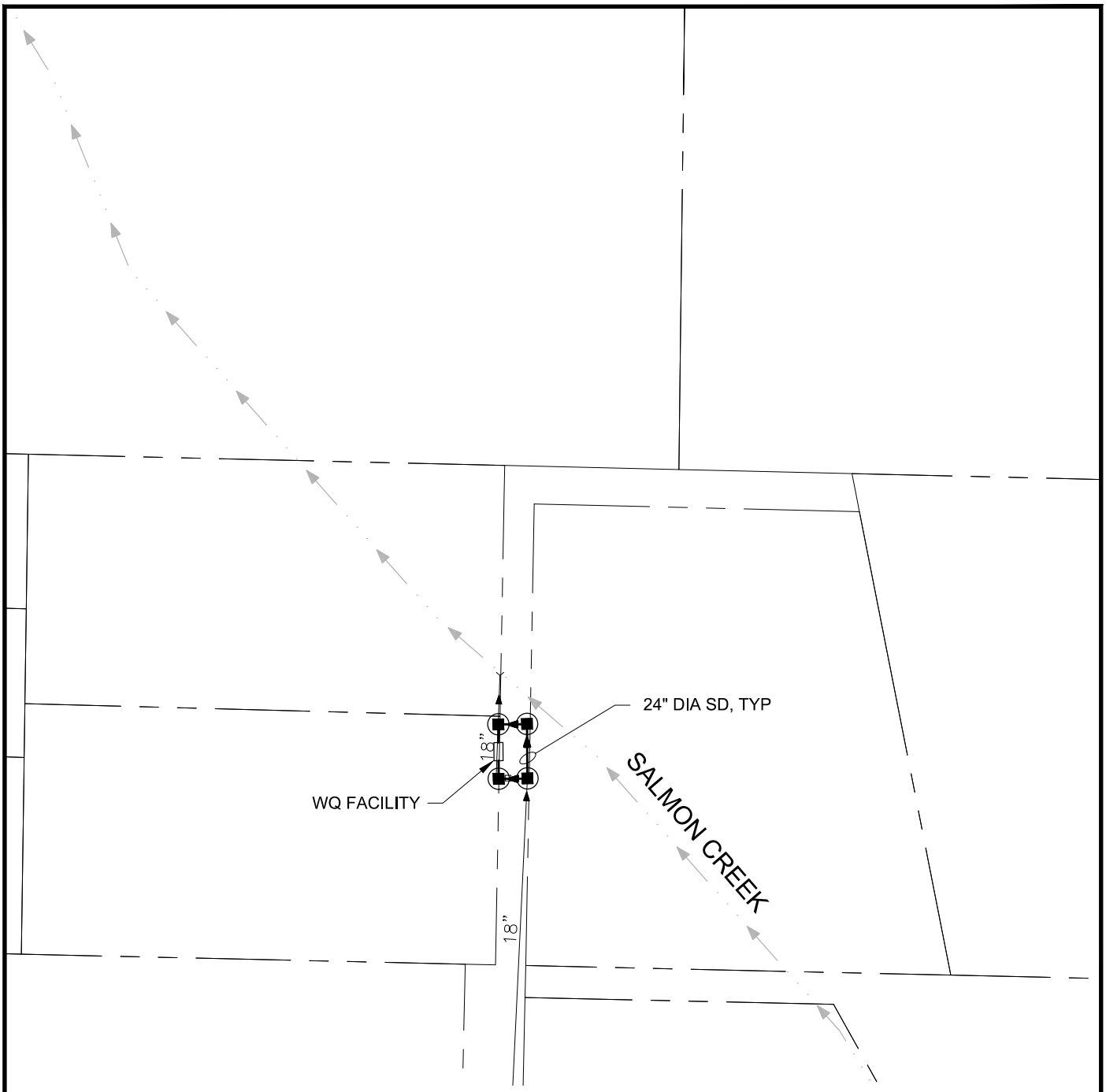
ELIMINATE FLOODING DUE TO INADEQUATE AND UNDERSIZED CONVEYANCE.

Parametrix DATE: December 17, 2020 FILE: PS1527082-FIG-07

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-7 (22)
Mead McCumber Street Improvements
City of Sumner, Washington



IMPROVEMENTS:

REMOVE 3 CB TYPE 1
REMOVE APPROX 60' 18" SD
INSTALL APPROX 45 LF 24" DIA SD PIPE
INSTALL 4- 48" CB TYPE II
INSTALL 1- 6'x12' FILTERRA OFFLINE BIOSCAPE UNIT PRIOR TO OUTFALL

OBJECTIVE:

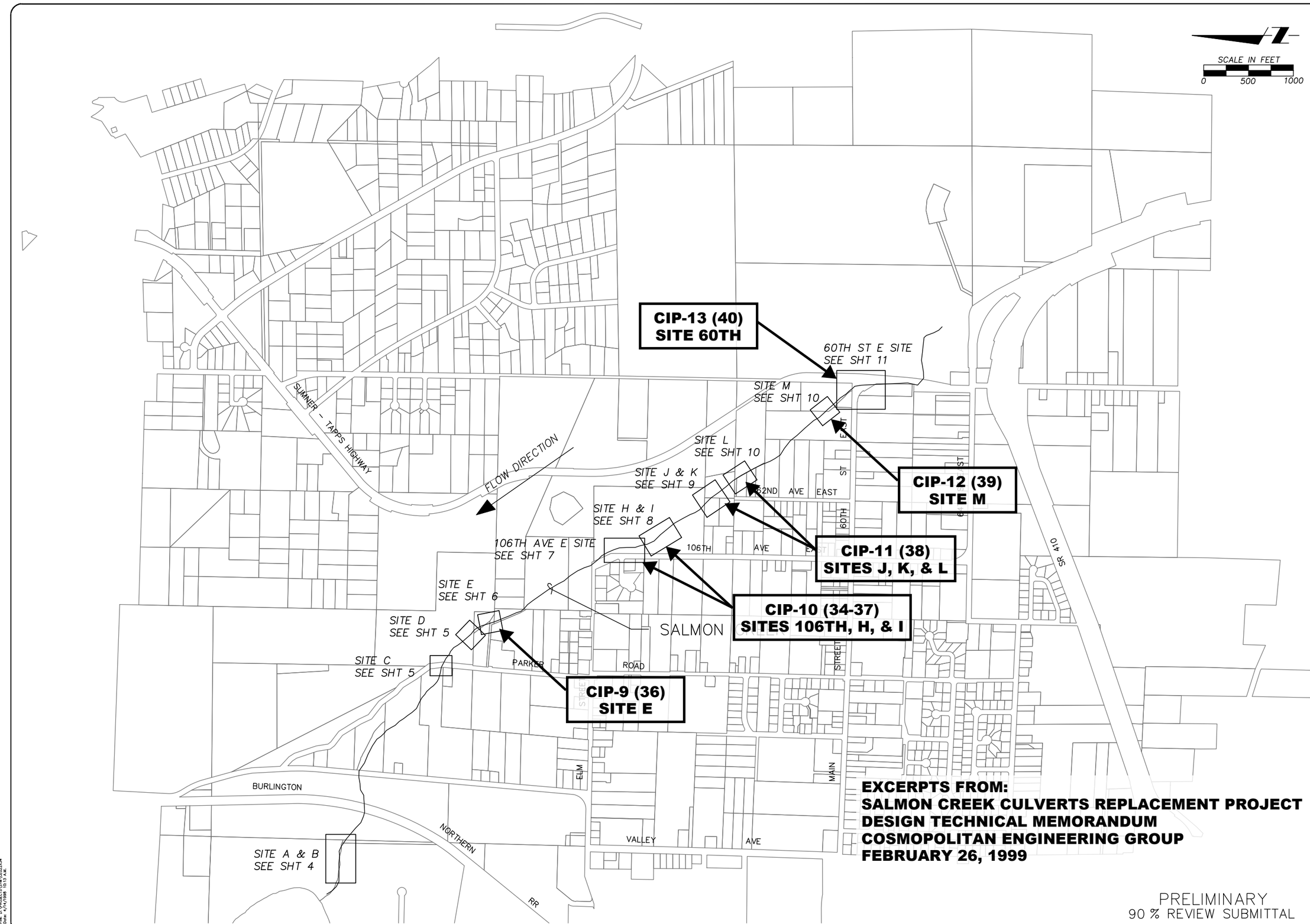
PROVIDE ENHANCED WATER QUALITY TREATMENT BMP.

Parametrix DATE: December 7, 2020 FILE: PS1527082-FIG-08

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-8 (25)
162nd Ave E (Poole Road)
Outfall Improvements
City of Sumner, Washington



EXCERPTS FROM:
SALMON CREEK CULVERTS REPLACEMENT PROJECT
DESIGN TECHNICAL MEMORANDUM
COSMOPOLITAN ENGINEERING GROUP
FEBRUARY 26, 1999

PRELIMINARY
90 % REVIEW SUBMITTAL

Scale: 1" = 1'-0"
File: G:\PROJECTS\SWC\022204
Date: 4/9/1999 10:13 AM

COSMOPOLITAN
ENGINEERING
GROUP
Civil, Environmental
and Recreational
Consulting

117 S. 8th Street
Tacoma, WA 98402
(206)272-7220
Fax:(206)272-7250

NO.	REVISIONS	DATE	BY

JOB NO. SUM003
DRAWING NO. SUM00302

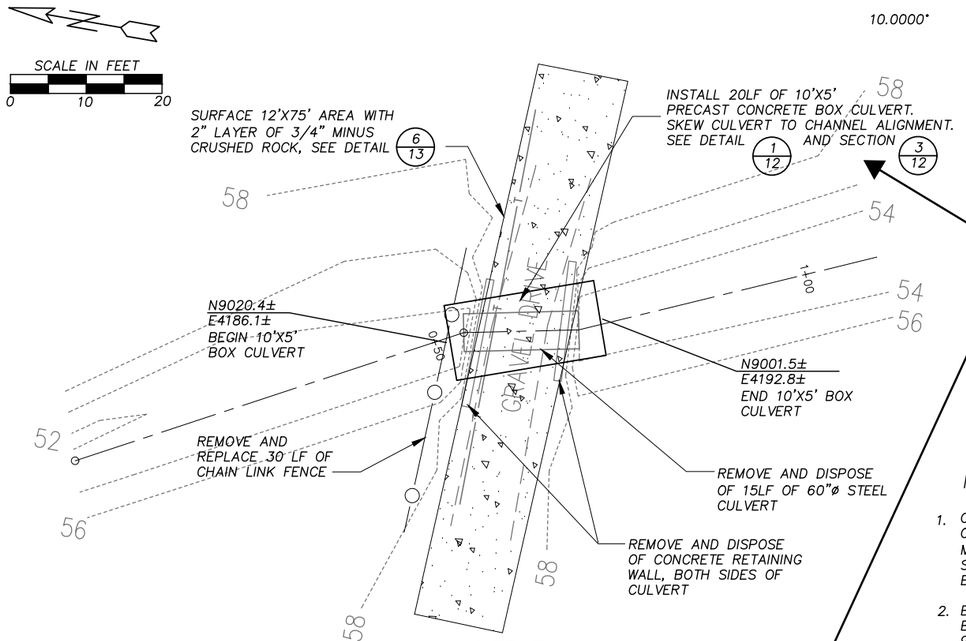
DRAWING LOCATION KEY PLAN

SALMON CREEK CULVERTS PROJECT
Contract #
City of Sumner

DESIGNED	LJM
DRAWN	LKK
CHECKED	WSH
APPROVED	
SCALE	1" = 500'
DATE	March 1999

SHEET NO.

CIP-9 (36)

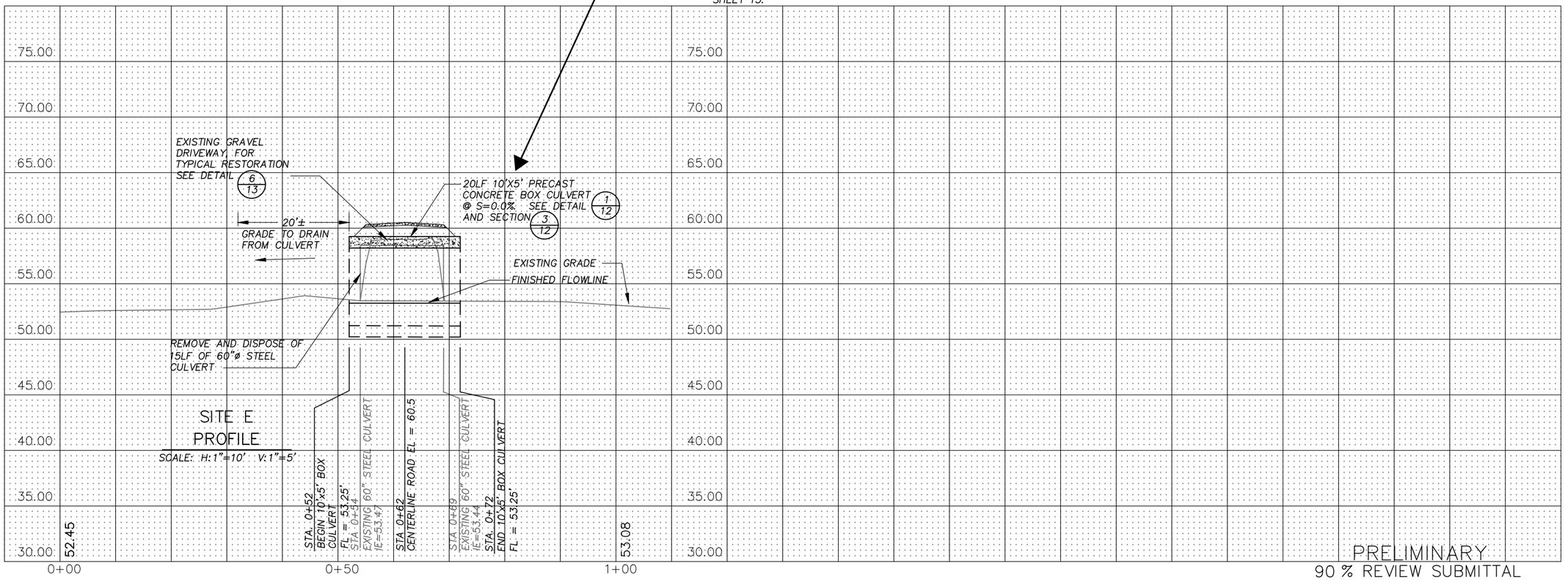


SITE E
PLAN
SCALE: 1"=10'

PARAMETRIX, INC. JUNE 2020
CULVERT CHANGED TO 12'x8' FOR QUANTITY AND COST OPINION PURPOSES FOR THE 2020 STORMWATER CIP UPDATE.

NOTES:

1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE ON BOTH SIDES OF THE NEW CULVERT FOR A MINIMUM DISTANCE OF 10', UNLESS OTHERWISE SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
2. BACKFILL OVER AND AROUND NEW CULVERT TO BE STRUCTURAL FILL COMPACTED TO AT LEAST 95% ASTM-D-1557.
3. INSTALL TURF REINFORCING MAT (TRM) AND REPLANT AREA AROUND BOTH ENDS OF NEW BOX CULVERT PER GENERALIZED PLANTING PLAN. SEE SHEET 15.



SITE E
PROFILE
SCALE: H:1"=10' V:1"=5'

PRELIMINARY
90 % REVIEW SUBMITTAL

COSMOPOLITAN ENGINEERING GROUP
Civil, Environmental and Recreational Consulting
117 S. 8th Street
Tacoma, WA 98402
(206)272-7220
Fax:(206)272-7250

NO.	REVISIONS	DATE	BY

JOB NO. SUM003
DRAWING NO. SUM00306.dwg

SITE E
Plan and Profile
SALMON CREEK CULVERTS PROJECT
Contract #
City of Sumner

DESIGNED	
DRAWN	
CHECKED	
APPROVED	
SCALE	As Noted
DATE	March 1999

SHEET NO.
6 / 15

Scale: 1" = 1'-0"
File: G:\PROJECTS\SWU\G0223434
Date: 4/14/1999 10:13 AM

CIP-10A (34)

NOTES:

1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE ON BOTH SIDES OF THE NEW CULVERT FOR A MINIMUM DISTANCE OF 10', UNLESS OTHERWISE SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
2. BACKFILL OVER AND AROUND NEW CULVERT TO BE STRUCTURAL FILL COMPACTED TO AT LEAST 95% ASTM-D-1557.
3. REPLANT AREA AROUND BOTH ENDS OF NEW BOX CULVERT PER GENERALIZED PLANTING PLAN. SEE SHEET 15.
4. WATER AND GAS SERVICES TO WEBER MEATS SHALL BE REPLACED IN THE EXSITING LOCATION AND AT A DEPTH SUCH THAT A MINIMUM COVER OF 2' CHANNEL ROCK IS PROVIDED. SEWER SERVICES TO WEBER MEATS SHALL BE RECONNECTED WITH SERVICE TEE TO EXISTING SEWER MAIN IN ROADWAY.
5. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF UTILITES AND BUILDING FOOTINGS PRIOR TO INSTALLATION OF SHEET PILE WALLS.

SCALE IN FEET
0 20 40

N7555.7±
E5029.3±
END 10'X5' BOX CULVERT

REPLACE ASPHALT CONCRETE PAVEMENT PER DETAIL 4/13

INSTALL 35 LF OF 10'X5' PRECAST CONCRETE BOX CULVERT. SKEW CULVERT TO CHANNEL ALIGNMENT. SEE DETAIL 1/12 AND SECTION 3/12

N7589.8±
E5021.8±
BEGIN 10'X5' BOX CULVERT

REMOVE AND DISPOSE OF 45 LF OF 48"ø CULVERT

PROTECT EXISTING GAS LINE

N7463.0
E5027.7
END 10'X5' BOX CULVERT BEGIN SHEET PILE CHANNEL, ANGLE SHEET PILES TO MEET CORNERS OF BOX CULVERT.

INSTALL 40LF OF 10'X5' PRECAST CONCRETE BOX CULVERT. SEE DETAIL 1/12 AND SECTION 3/12

N7501.1
E5039.8
BEGIN 10'X5' BOX CULVERT

GRADE OPEN CHANNEL TO ENTRANCE OF BOX CULVERT. ARMOR OUTFALL AND OPPOSITE CHANNEL WALL WITH 12" LAYER OF QUARRY SPALLS

REPLACE ASPHALT CONCRETE PAVEMENT PER DETAIL 5/13

N7405.8±
E5021.5±
ANGLE POINT CENTERLINE SHEET PILE CHANNEL

REMOVE 6" SS AND 3" STEEL WATER LINE AND REPLACE THROUGH SHEET PILE WALLS. SEE DETAIL 3/14

INSTALL SHEET PILE CHANNEL PER SECTION 3/13

REMOVE WATER LINE AND REPLACE THROUGH SHEET PILE WALLS. RELOCATE METER. SEE DETAIL 3/14

PLUG AND ABANDON 12" CMP CULVERT, CUT AS NEEDED TO INSTALL SHEET PILE WALL

INSTALL 95LF OF 10'X5' PRECAST CONCRETE BOX CULVERT. SEE DETAIL 1/12 AND SECTION 3/12

REPLACE ASPHALT CONCRETE PAVEMENT PER DETAIL 5/13

END SHEET PILE WALL AT CORNER OF BOX CULVERT. ARMOR OUTFALL WITH 12" LAYER OF QUARRY SPALLS.

N7244.5
E5025.3
ANGLE POINT SHEET PILE WALL

REMOVE GAS LINE AND 6" SS AND REPLACE THROUGH SHEET PILE WALLS. PROTECT EX METER. SEE DETAIL 3/14

N7303.1
E5023.4
ANGLE POINT CENTERLINE SHEET PILE CHANNEL

PROTECT EXISTING POWER POLES

WIER STRUCTURE SEE DETAIL 1/14

N7217.9
E5114.0
END 10'X5' BOX CULVERT

N7216.5
E5060.2
BOX CULVERT ANGLE POINT

N7224.6
E5039.1
BOX CULVERT ANGLE POINT

N7234.2
E5029.1
BEGIN 10'X5' BOX CULVERT

N7221.0
E5017.7
END SHEET PILE WALL RIGHT SHAPE CHANNEL TO MEET SHEET PILE WALL

160th. Ave. E.

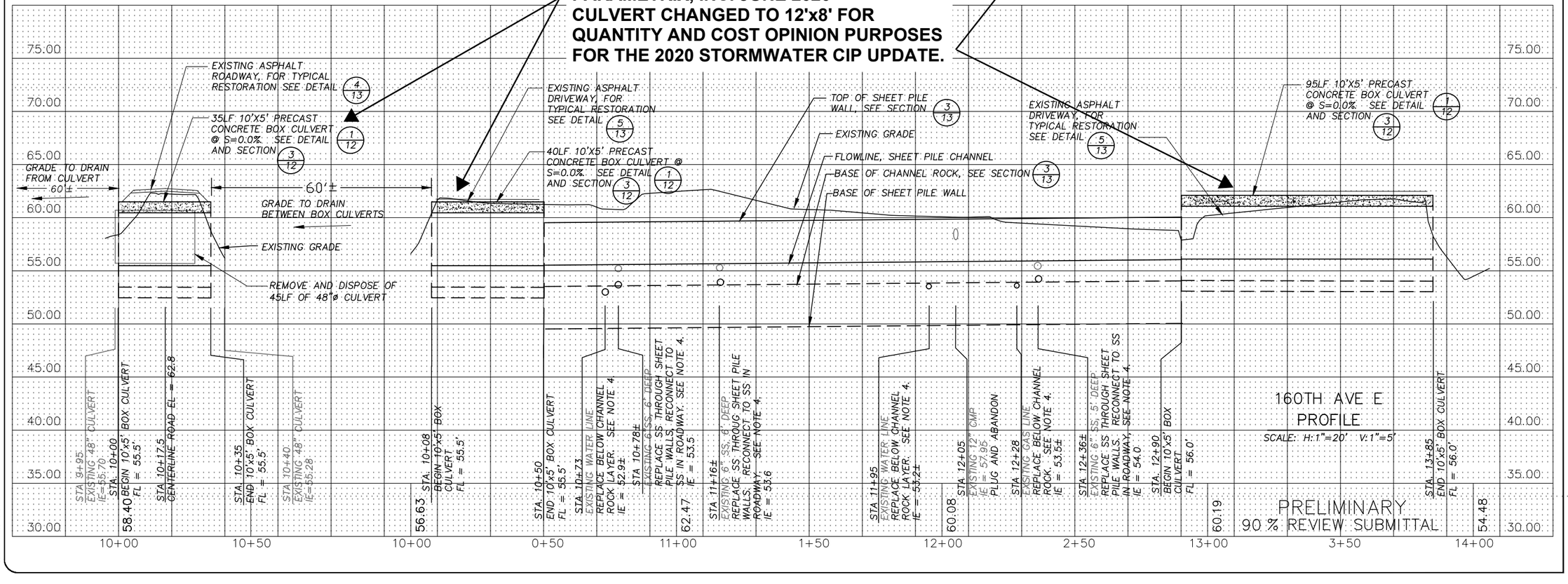
S 00°07'33" W 2673.72'

2555.56'

118.16'

92.62'

PARAMETRIX, INC. JUNE 2020
CULVERT CHANGED TO 12'x8' FOR QUANTITY AND COST OPINION PURPOSES FOR THE 2020 STORMWATER CIP UPDATE.



160TH AVE E
PROFILE
SCALE: H:1"=20' V:1"=5'

PRELIMINARY
90 % REVIEW SUBMITTAL

COSMOPOLITAN ENGINEERING GROUP
Civil, Environmental and Recreational Consulting
117 S. 8th Street
Tacoma, WA 98402
(206)272-7220
Fax:(206)272-7250

NO.	REVISIONS	DATE	BY

JOB NO. SUM003
DRAWING NO. SUM00307

106TH AVENUE EAST
Plan and Profile

SALMON CREEK CULVERTS PROJECT
Contract #
City of Sumner

DESIGNED	
DRAWN	
CHECKED	
APPROVED	
SCALE	As Noted
DATE	March 1999
SHEET NO.	7 / 15

Scale: 1" = 1'-0"
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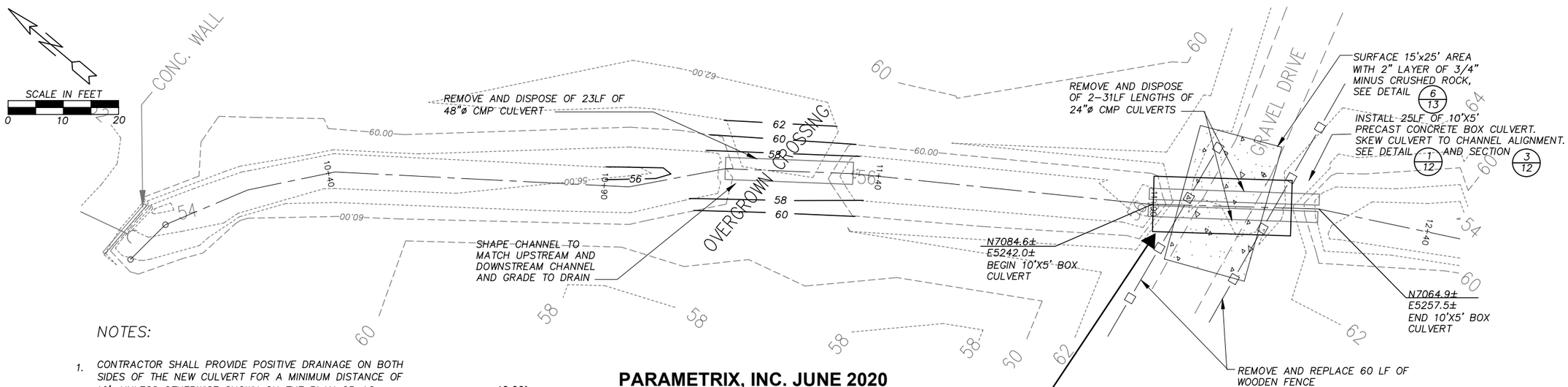


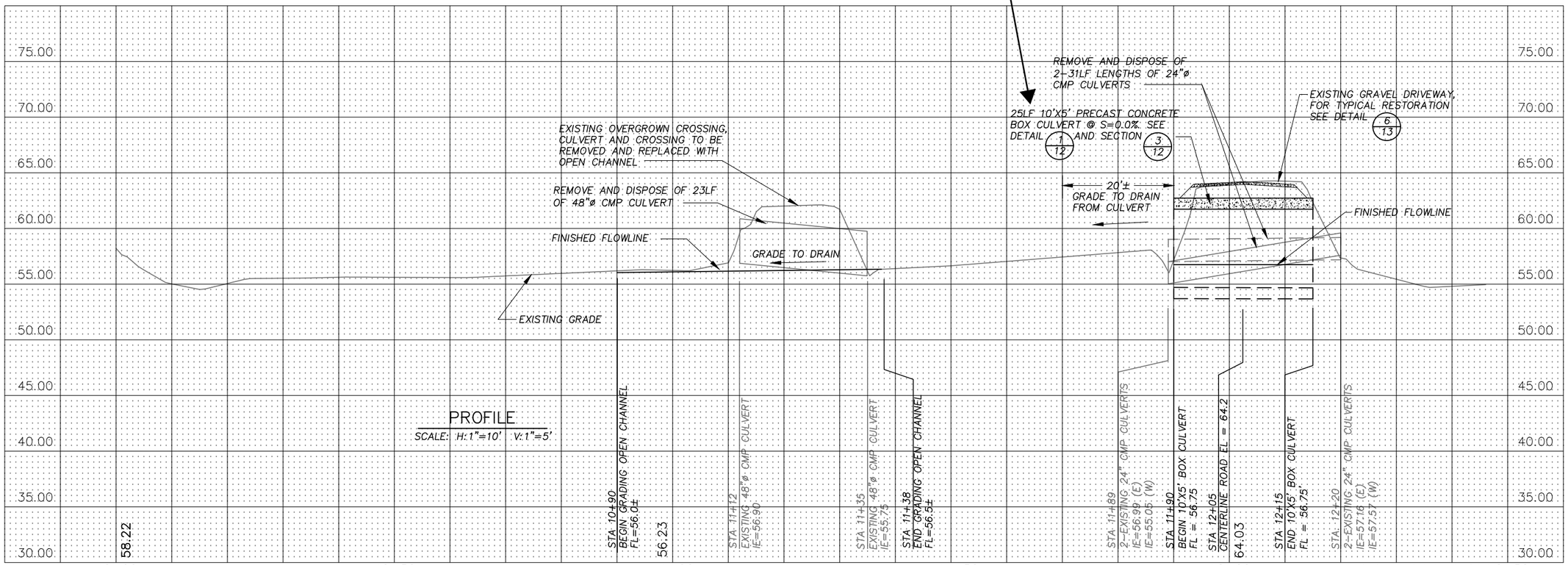
NOTES:

1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE ON BOTH SIDES OF THE NEW CULVERT FOR A MINIMUM DISTANCE OF 10', UNLESS OTHERWISE SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
2. BACKFILL OVER AND AROUND NEW CULVERT TO BE STRUCTURAL FILL COMPACTED TO AT LEAST 95% ASTM-D-1557.
3. INSTALL TURF REINFORCING MAT (TRM) AND REPLANT AREA IN RESHAPED CHANNEL AND AROUND BOTH ENDS OF NEW BOX CULVERT PER GENERALIZED PLANTING PLAN. SEE SHEET 15.

PARAMETRIX, INC. JUNE 2020
CULVERT CHANGED TO 12'x8' FOR QUANTITY AND COST OPINION PURPOSES FOR THE 2020 STORMWATER CIP UPDATE.

SITES H & I
PLAN
SCALE: 1"=10'

CIP-10B (34)



PROFILE
SCALE: H:1"=10' V:1"=5'

PRELIMINARY
90 % REVIEW SUBMITTAL

COSMOPOLITAN ENGINEERING GROUP
Civil, Environmental and Recreational Consulting
117 S. 8th Street
Tacoma, WA 98402
(206)272-7220
Fax:(206)272-7250

NO.	REVISIONS	DATE	BY

DRAWING NO. SUM00308.dwg
JOB NO. SUM003

SITES H and I
Plan and Profile

SALMON CREEK CULVERTS PROJECT
Contract #
City of Sumner

DESIGNED	
DRAWN	
CHECKED	
APPROVED	
SCALE	As Noted
DATE	Maarch 1999
SHEET NO.	8 / 15

Scale: 10" = 1'-0"
File: D:\PROJECTS\SWU\0322024
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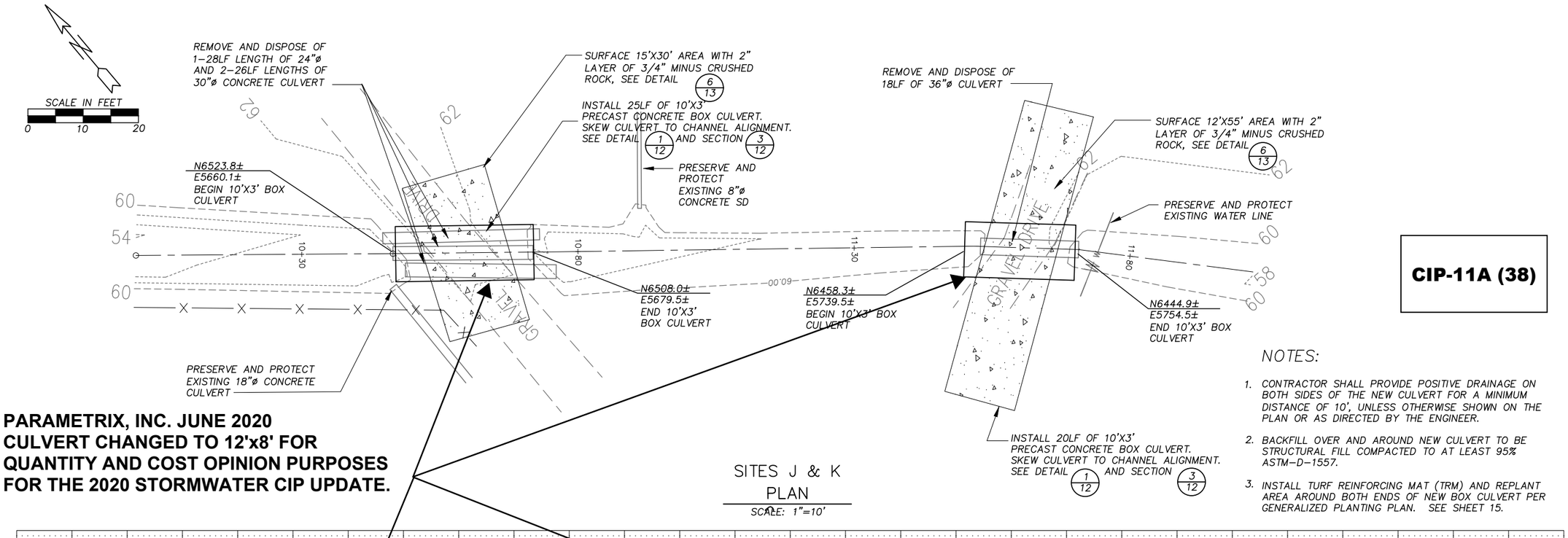


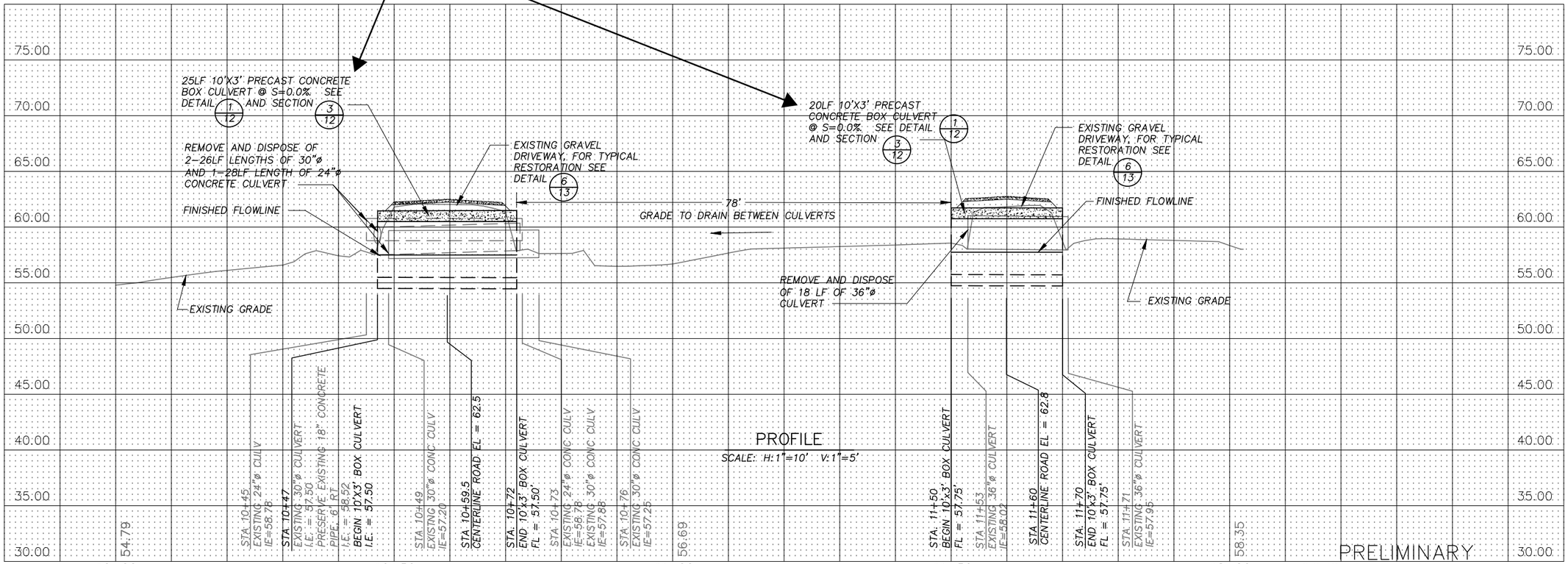
SITES J & K
PLAN
SCALE: 1"=10'

PARAMETRIX, INC. JUNE 2020
CULVERT CHANGED TO 12'x8' FOR QUANTITY AND COST OPINION PURPOSES FOR THE 2020 STORMWATER CIP UPDATE.

CIP-11A (38)

NOTES:

1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE ON BOTH SIDES OF THE NEW CULVERT FOR A MINIMUM DISTANCE OF 10', UNLESS OTHERWISE SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
2. BACKFILL OVER AND AROUND NEW CULVERT TO BE STRUCTURAL FILL COMPACTED TO AT LEAST 95% ASTM–D–1557.
3. INSTALL TURF REINFORCING MAT (TRM) AND REPLANT AREA AROUND BOTH ENDS OF NEW BOX CULVERT PER GENERALIZED PLANTING PLAN. SEE SHEET 15.



PROFILE
SCALE: H:1"=10' V:1"=5'

PRELIMINARY
90 % REVIEW SUBMITTAL

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Civil, Environmental and Recreational Consulting
117 S. 8th Street
Tacoma, WA 98402
(206)272–7220
Fax:(206)272–7250

NO.	REVISIONS	DATE	BY

JOB NO. SUM003
DRAWING NO. SUM00309.dwg

SITES J and K
Plan and Profile

SALMON CREEK CULVERTS PROJECT
Contract #
City of Summer

DESIGNED	
DRAWN	
CHECKED	
APPROVED	
SCALE	As Noted
DATE	March 1999
SHEET NO.	9 / 15

Scale: 1" = 1'-0"
File: D:\PROJECTS\SWU\0322X14
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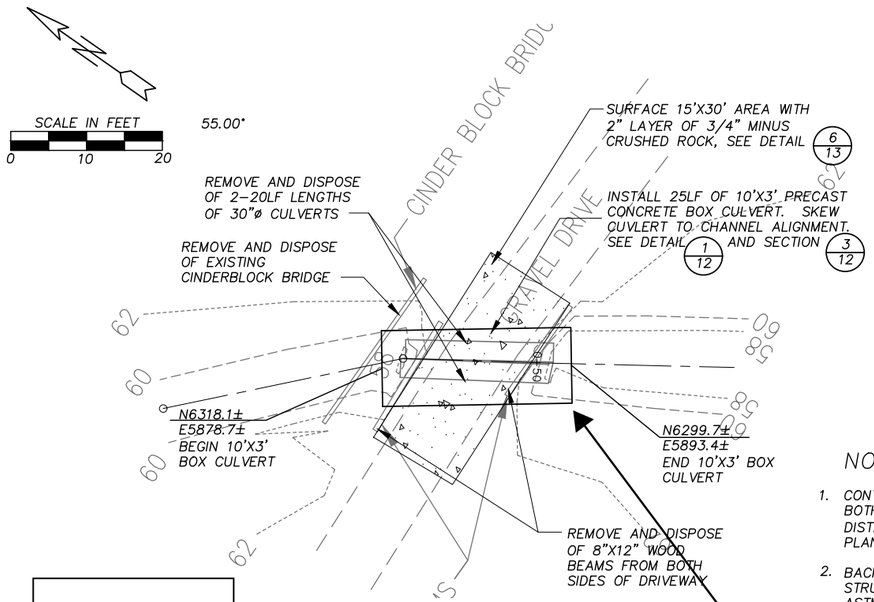


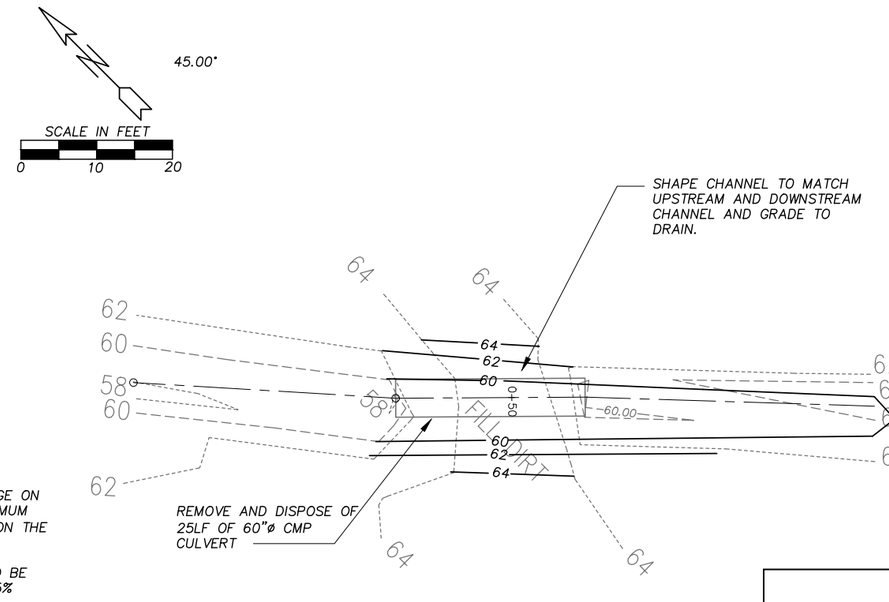
SITE L
PLAN
SCALE: 1"=10'

CIP-11B (38)

NOTES:

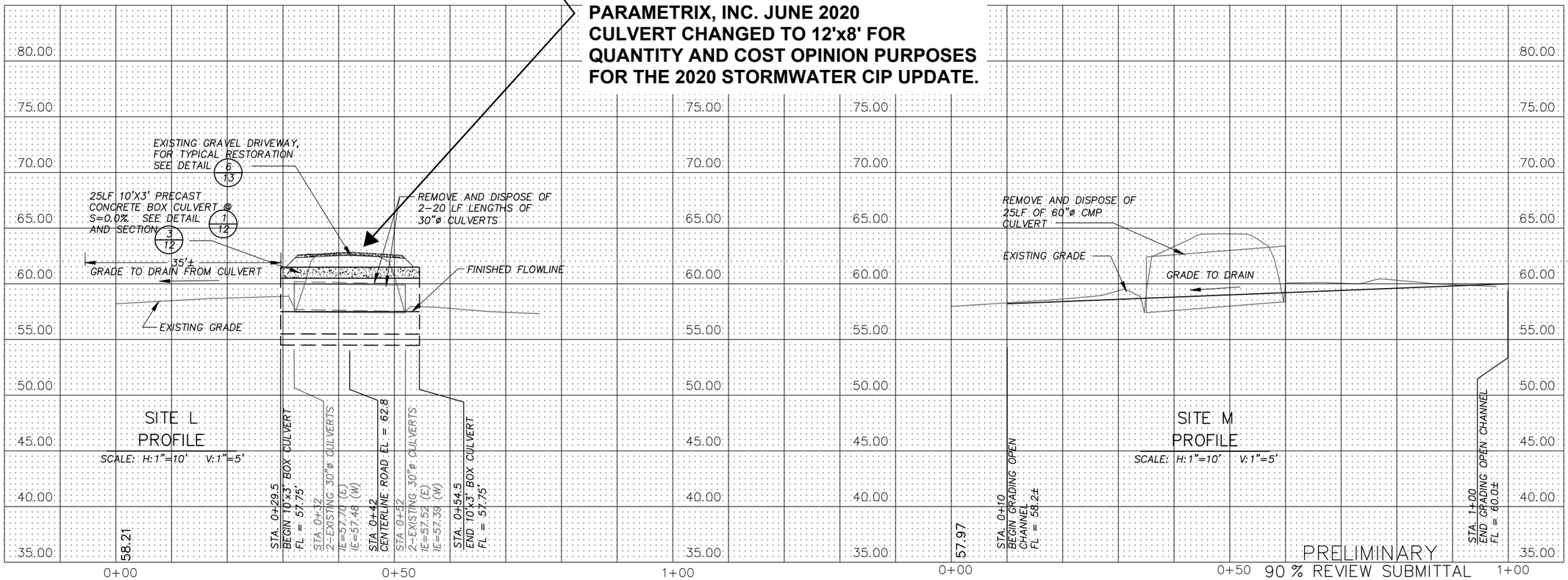
1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE ON BOTH SIDES OF THE NEW CULVERT FOR A MINIMUM DISTANCE OF 10', UNLESS OTHERWISE SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
2. BACKFILL OVER AND AROUND NEW CULVERT TO BE STRUCTURAL FILL COMPACTED TO AT LEAST 95% ASTM-D-1557.
3. INSTALL TURF REINFORCING MAT (TRM) AND REPLANT AREA IN RESHAPED CHANNEL AND AROUND BOTH ENDS OF NEW BOX CULVERT PER GENERALIZED PLANTING PLAN. SEE SHEET 15.

PARAMETRIX, INC. JUNE 2020
CULVERT CHANGED TO 12'x8' FOR QUANTITY AND COST OPINION PURPOSES FOR THE 2020 STORMWATER CIP UPDATE.



SITE M
PLAN
SCALE: 1"=10'

CIP-12 (39)



PRELIMINARY
90 % REVIEW SUBMITTAL

COSMOPOLITAN ENGINEERING GROUP
Civil, Environmental and Recreational Consulting
117 S. 8th Street
Tacoma, WA 98402
(206)272-7220
Fax:(206)272-7250

NO.	REVISIONS	DATE	BY

DRAWING NO. SUM00310.dwg
JOB NO. SUM003

SITES L and M
Plan and Profile

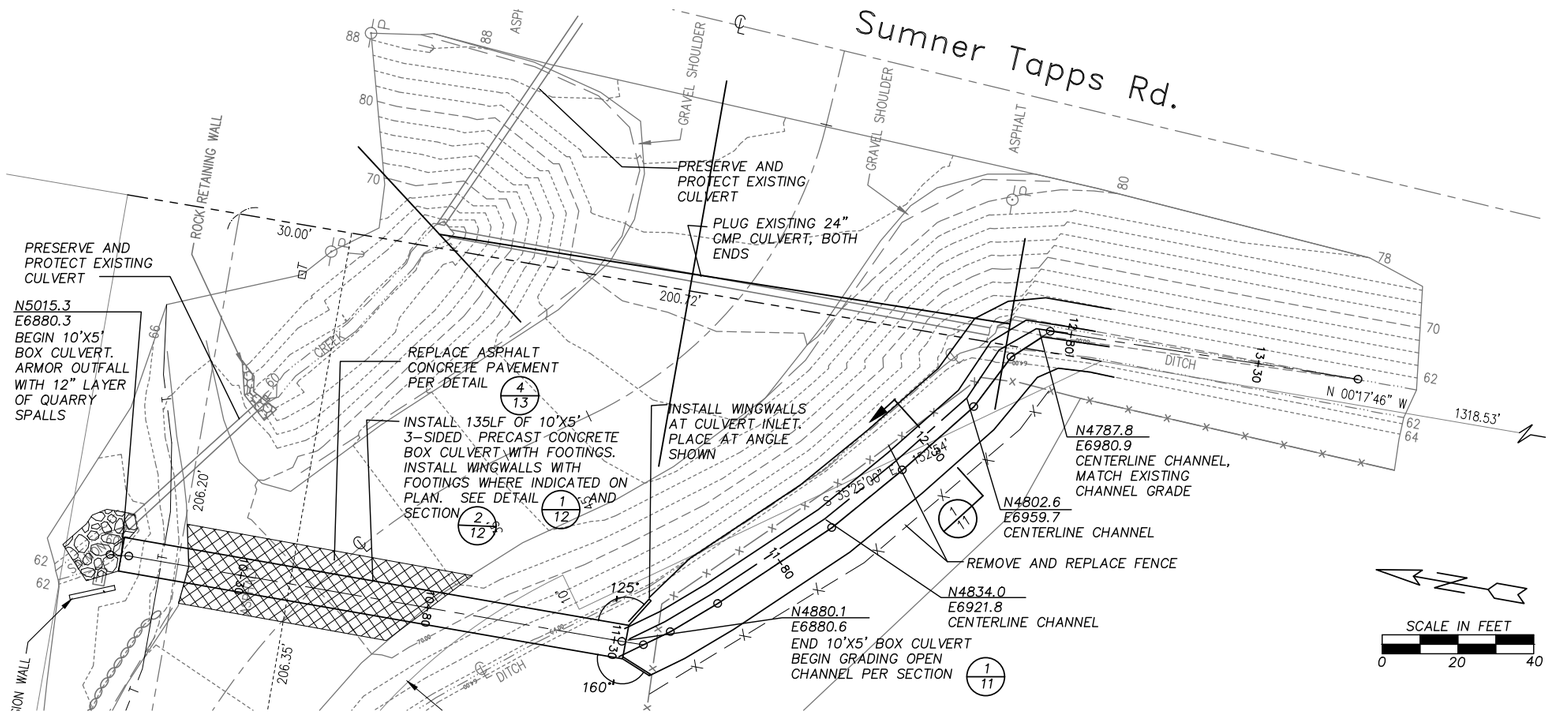
SALMON CREEK CULVERTS
Contract #
City of Summer

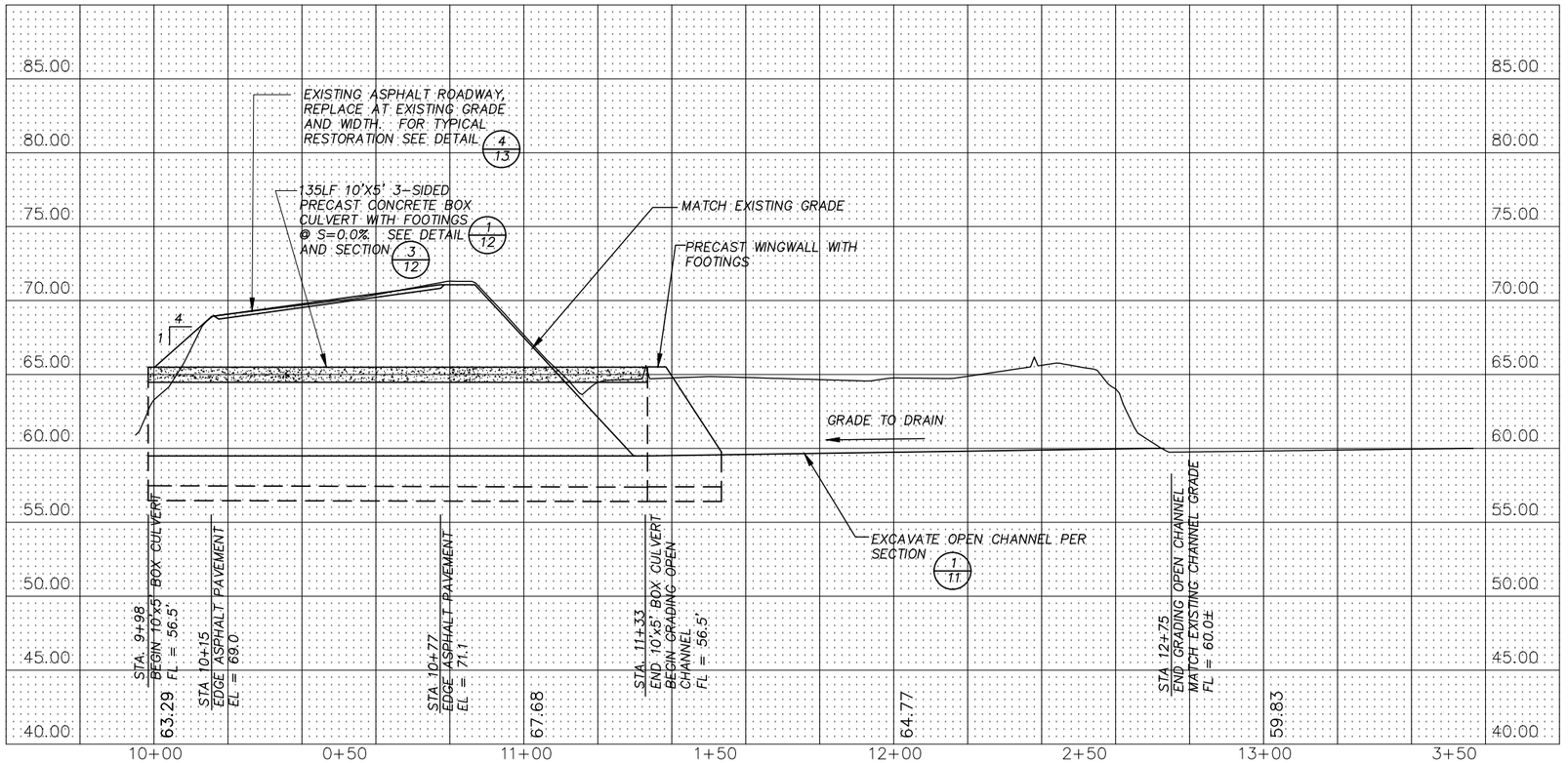
DESIGNED	
DRAWN	
CHECKED	
APPROVED	
SCALE	As Noted
DATE	March 1999

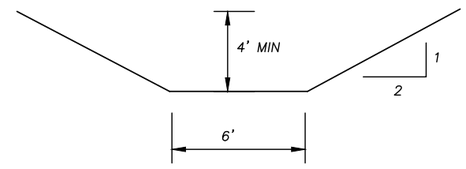
SHEET NO.

10 / 15

Scale: 1" = 1'-0"
File: D:\PROJECTS\SWM\D0220434
Date: 4/14/1998 10:13 AM







CHANNEL SECTION 1

NO SCALE

NOTES:

1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE ON BOTH SIDES OF THE NEW CULVERT FOR A MINIMUM DISTANCE OF 10', UNLESS OTHERWISE SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
2. BACKFILL AROUND NEW CULVERT TO BE STRUCTURAL FILL COMPACTED TO AT LEAST 95% ASTM-D-1557.
3. INSTALL TURF REINFORCING MAT (TRM) AND REPLANT AREA AROUND BOTH ENDS OF NEW BOX CULVERT PER GENERALIZED PLANTING PLAN. SEE SHEET 15.
4. HYDROSEED ALL AREAS WITH EXPOSED SOIL, INCLUDING CHANNEL SECTION AND SIDESLOPE AREAS.

CIP-13 (40)

PRELIMINARY
90 % REVIEW SUBMITTAL

COSMOPOLITAN ENGINEERING GROUP
Civil, Environmental and Recreational Consulting
117 S. 8th Street
Tacoma, WA 98402
(206)272-7220
Fax:(206)272-7250

NO.	REVISIONS	DATE	BY

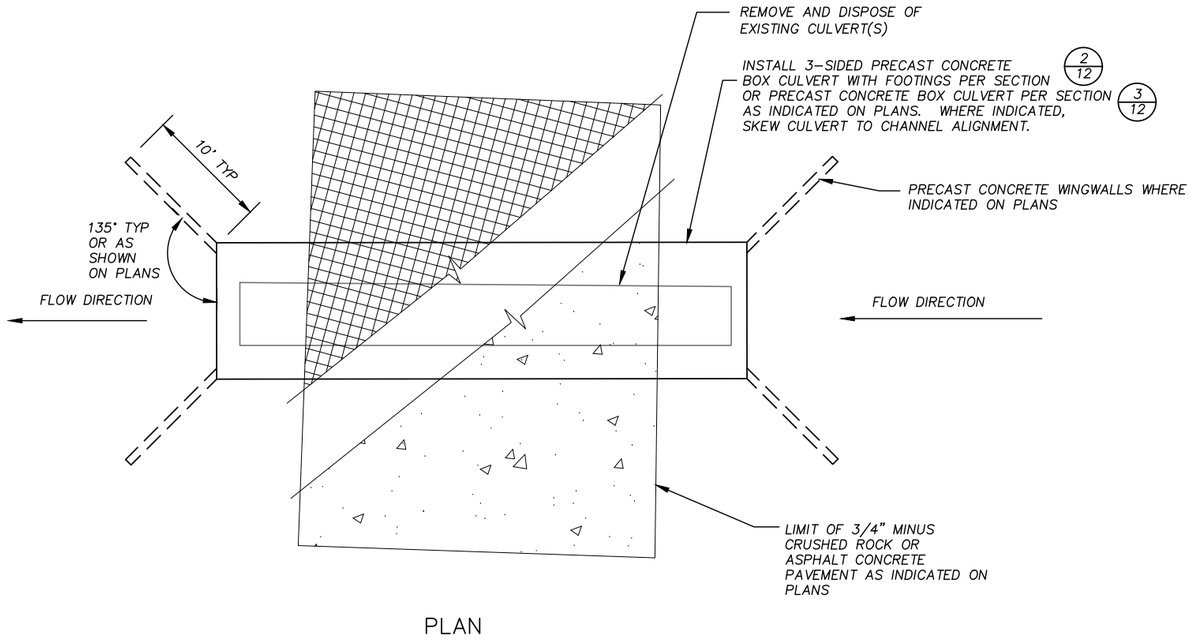
DRAWING NO. SUM00311
JOB NO. SUM003

60TH STREET EAST
Plan and Profile

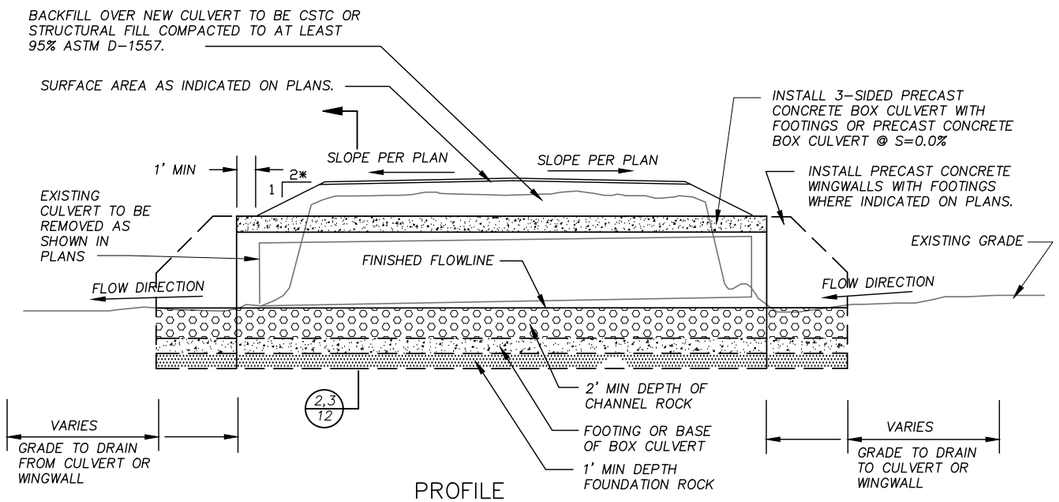
SALMON CREEK CULVERTS PROJECT
Contract #
City of Sumner

DESIGNED	
DRAWN	
CHECKED	
APPROVED	
SCALE	As Noted
DATE	March 1999
SHEET NO.	11 / 15

Scale: 1/2" = 1'-0"
File: D:\PROJECTS\SWK\0222934
Date: 4/14/1999 10:13 AM



PLAN



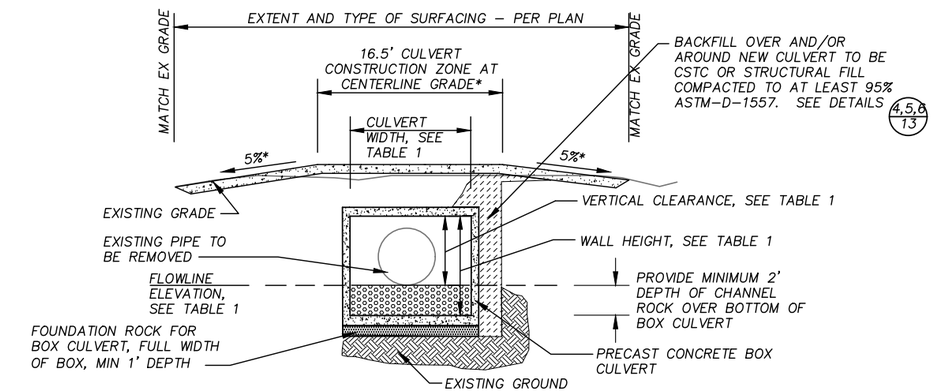
PROFILE

TYPICAL CULVERT AND DRIVEWAY RESTORATION
DETAIL 1
1"=5'

*NOTE: SIDESLOPES MAY VARY FROM 2H:1V TO MATCH EXISTING GRADE, AS INDICATED ON PLANS

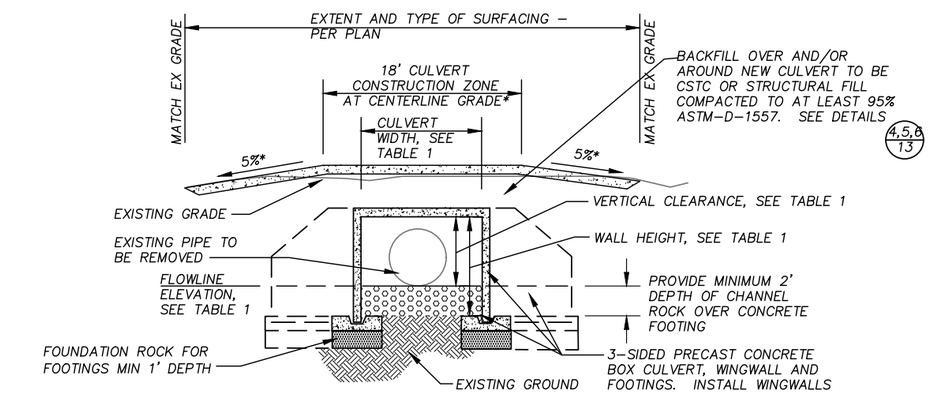
TABLE 1

SITE DESIGNATION	FLOWLINE ELEVATION	CULVERT WIDTH (FT)	CULVERT WALL HEIGHT (FT)	VERTICAL CLEARANCE	CULVERT TYPE
A	38.00	10	10	8	3-SIDED
B	42.50	10	10	8	3-SIDED
C	51.50	10	7	5	BOX
D	52.00	10	7	5	BOX
E	53.25	10	7	5	BOX
160TH AVE E	55.5-56.0	10	7	5	BOXES
160TH AVE E	55.5-56.0	6	N/A	4	SHEET PILE CHANNEL
H	56.0-56.5	N/A	N/A	N/A	N/A
I	56.75	10	7	5	BOX
J	57.50	10	5	3	BOX
K	57.75	10	5	3	BOX
L	57.75	10	5	3	BOX
M	58.2-60.0	N/A	N/A	N/A	N/A
60TH ST E	59.5	10	7	5	3-SIDED



PRECAST CONCRETE BOX CULVERT SECTION 3/5-10
NO SCALE

*NOTE: SURFACING GRADES MAY VARY FROM THOSE SHOWN ACCORDING TO THE PLAN.



3-SIDED PRECAST CONCRETE BOX CULVERT WITH FOOTINGS SECTION 2/4,11
NO SCALE

*NOTE: SURFACING GRADES MAY VARY FROM THOSE SHOWN ACCORDING TO THE PLAN.

PRELIMINARY
90 % REVIEW SUBMITTAL

COSMOPOLITAN ENGINEERING GROUP
Civil, Environmental and Recreational Consulting
117 S. 8th Street
Tacoma, WA 98402
(206)272-7220
Fax:(206)272-7250

NO.	REVISIONS	DATE	BY

JOB NO. SUM003
DRAWING NO. SUM00312.DWG

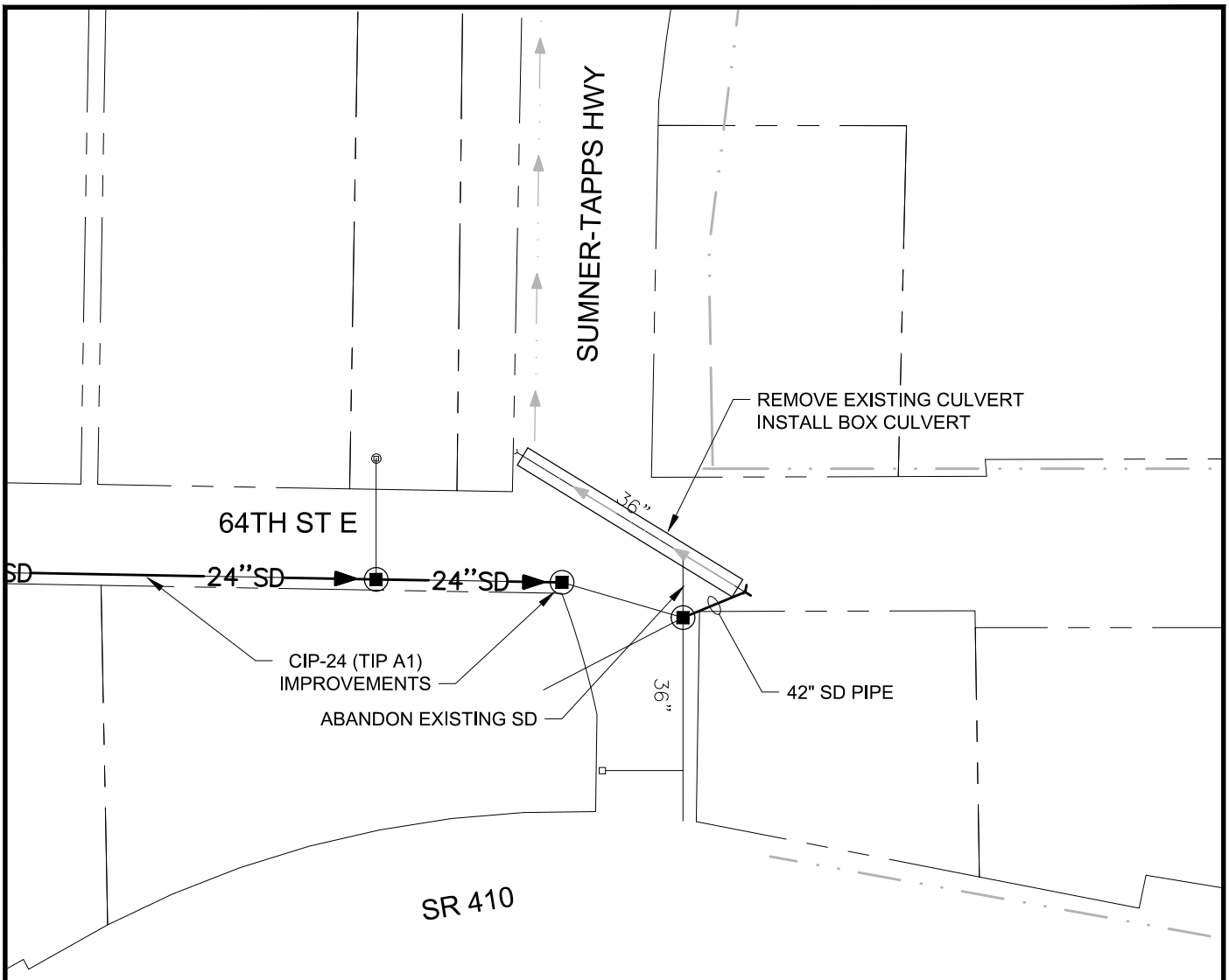
DETAILS

SALMON CREEK CULVERTS PROJECT
Contract #
City of Sumner

DESIGNED	
DRAWN	
CHECKED	
APPROVED	
SCALE	As Noted
DATE	March 1999

SHEET NO. 12/15

Sizes: 17" x 1'-0"
File: D:\PROJECTS\SW\02222434
Date: 4/14/1999 10:13 AM



IMPROVEMENTS:

INSTALL 150 FT- 12'x8' CONCRETE BOX CULVERT
INSTALL 40 FT- 42" SD PIPE
INSTALL 1- 72" CB TYPE II
STREAMBANK RESTORATION

OBJECTIVE:

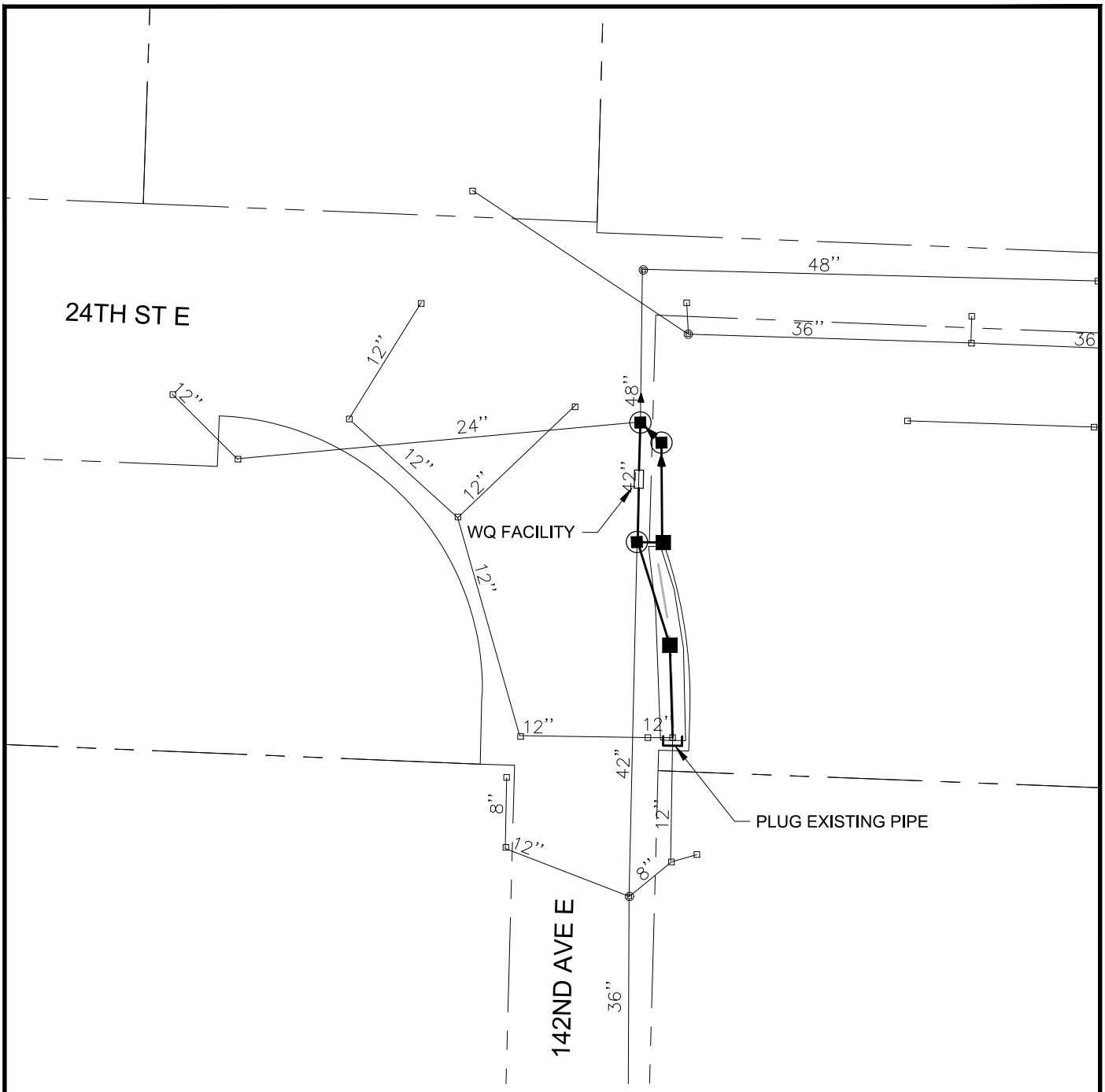
IMPROVE STORMWATER CONVEYANCE AND STREAMBANK RESTORATION

Parametrix DATE: December 17, 2020 FILE: PS1527082-FIG-14

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-14 (41)
64th Street E Culvert Improvements
City of Sumner, Washington



IMPROVEMENTS:

INSTALL APPROX 190 LF 12" DIA SD PIPE
INSTALL 2 CB TYPE I
INSTALL 2- 48" CB TYPE II
INSTALL 1- 48" CB TYPE II WITH BYPASS
INSTALL 1- 6'x12' FILTERRA OFFLINE BIOSCAPE UNIT

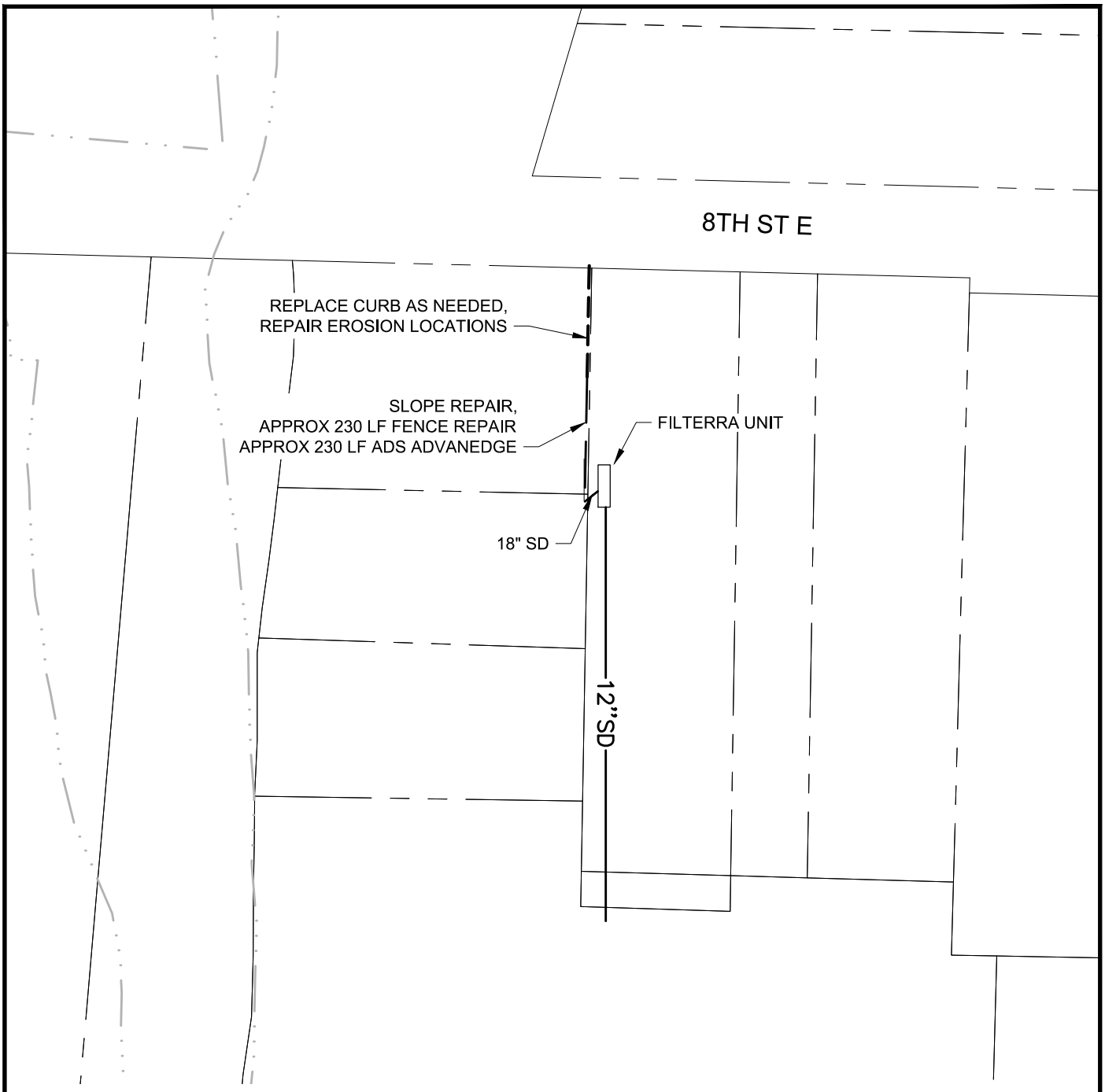
OBJECTIVE:

PROVIDE ENHANCED TREATMENT WATER QUALITY TREATMENT BMP.

Parametrix DATE: December 8, 2020 FILE: PS1527082-FIG-18

0 N 100
1 INCH = 100 FT.

Figure CIP-18
24th Street E and 142nd Avenue E Treatment
City of Sumner, Washington



IMPROVEMENTS:

INSTALL 28'x8'x1.75' FILTERRA BIOSCAPE
INSTALL APPROX 15 LF 18" DIA SD PIPE
INSTALL APPROX 1000 LF 12" DIA SD PIPE

OBJECTIVE:

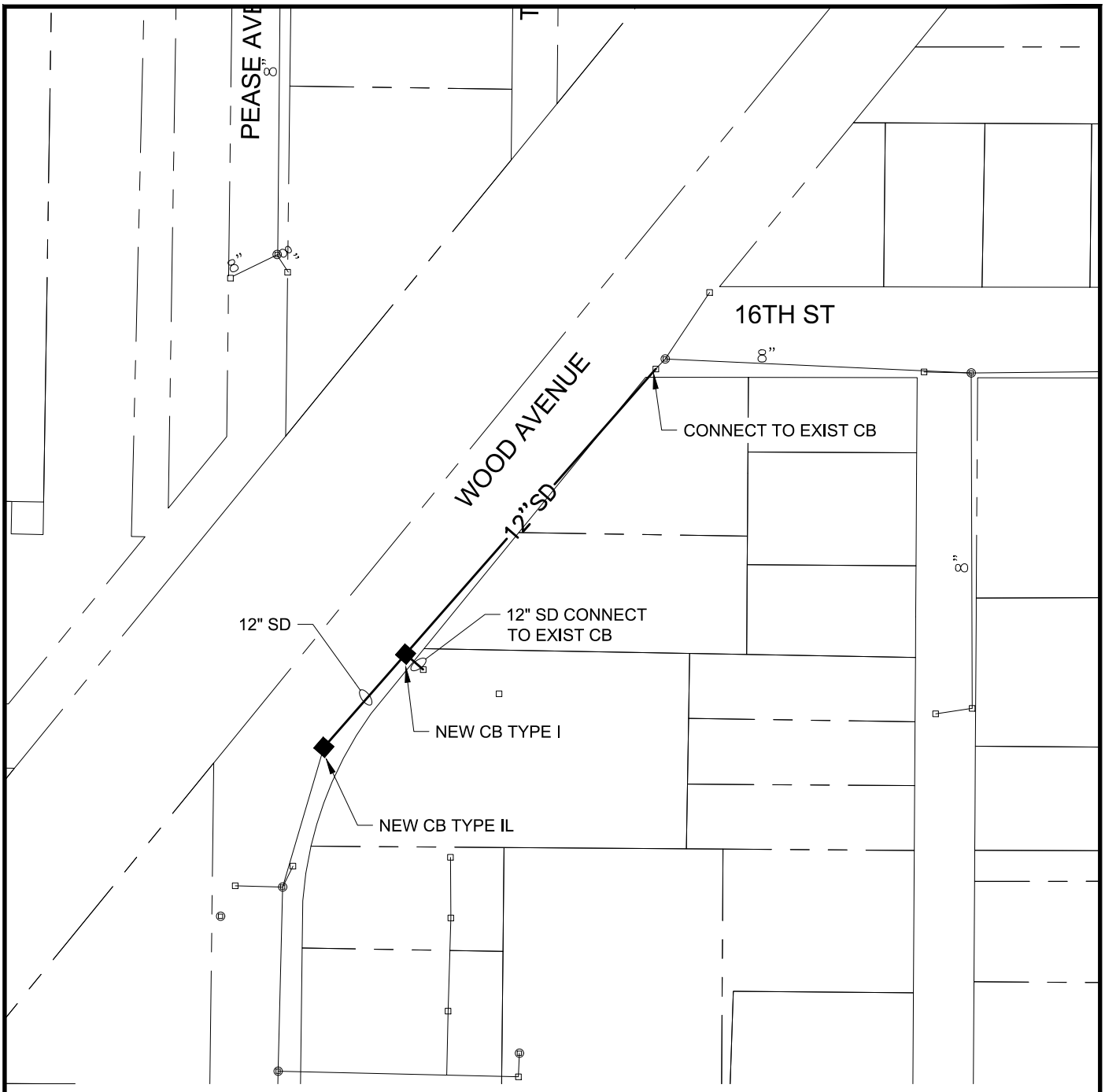
REPAIR SIDE SLOPES OF EXISTING WATER QUALITY TREATMENT FACILITY.
RETROFIT EXISTING WATER QUALITY TREATMENT FACILITY TO IMPROVE TREATMENT EFFICIENCY.

Parametrix DATE: December 8, 2020 FILE: PS1527082-FIG-19

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-19
Stewart Road SWM Facility
City of Sumner, Washington



IMPROVEMENTS:

REMOVE 1 CB TYPE I
INSTALL APPROX 370 LF 12" DIA SD PIPE
INSTALL 1 CB TYPE IL
INSTALL 1 CB TYPE I
INSTALL 2- 48" CB TYPE II

OBJECTIVE:

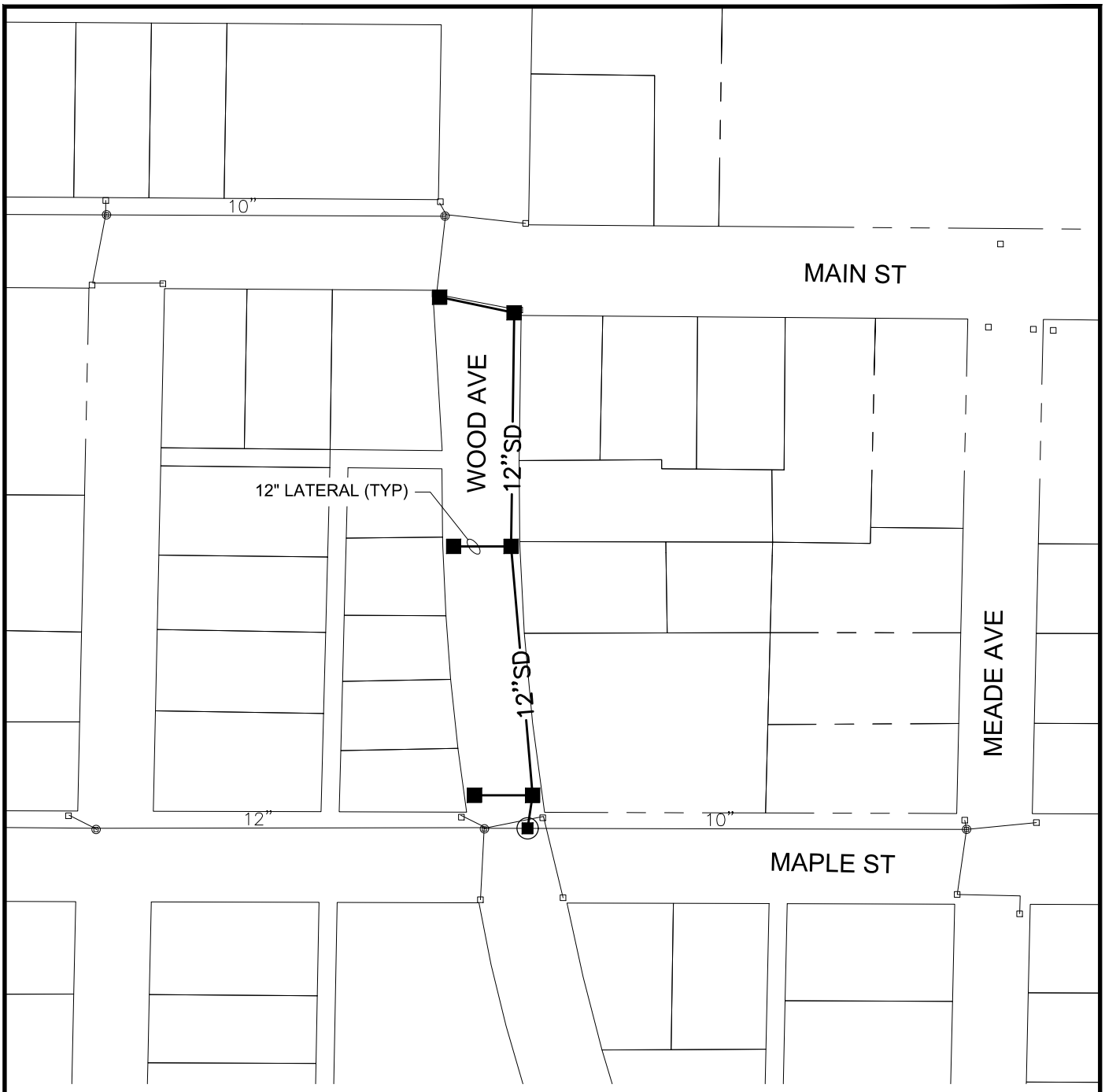
CONSTRUCT NEW STORM DRAIN SYSTEM TO PROVIDE CONNECTIVITY ON WOOD AVE.

Parametrix DATE: December 8, 2020 FILE: PS1527082–FIG–21

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-21
Wood Avenue Improvements
City of Sumner, Washington



IMPROVEMENTS:

REMOVE 2 CB TYPE I
REMOVE 56 LF SD PIPE
INSTALL APPROX 470 LF 12" DIA SD PIPE
INSTALL 6 CB TYPE I
INSTALL 1- 48" CB TYPE II

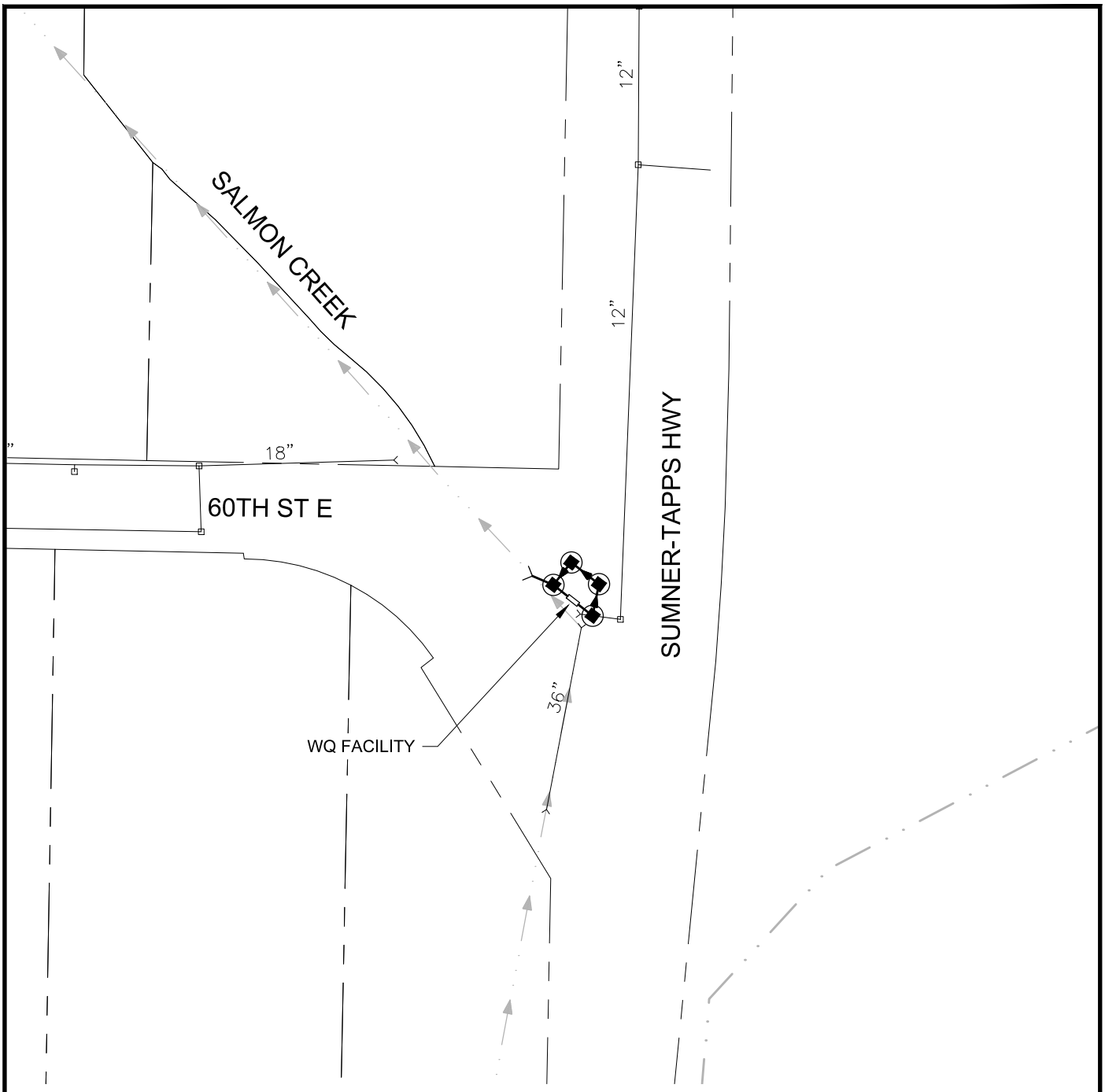
OBJECTIVE:

IMPROVE STORMWATER INFRASTRUCTURE WITH ROAD REPLACEMENT

Parametrix DATE: December 8, 2020 FILE: PS1527082–FIG–22

0 N 100
1 INCH = 100 FT.

Figure CIP-22
Wood Avenue Improvements
City of Sumner, Washington



IMPROVEMENTS:

INSTALL APPROX 60 LF 12" DIA SD PIPE
INSTALL 1- 48" CB TYPE II W/ FLOW SPLITTER
INSTALL 3- 48" CB TYPE II
INSTALL VORTECH 1000 9'x3'

OBJECTIVE:

SEDIMENT REMOVAL PRIOR TO DISCHARGE INTO SALMON CREEK

Parametrix DATE: December 8, 2020 FILE: PS1527082–FIG–23

0 N 100
1 INCH = 100 FT.

Figure CIP-23
60th Street E Improvements
City of Sumner, Washington

IMPROVEMENTS:

INSTALL 1- 6'x12' FILTERRA UNIT W/ EXTERNAL HIGH FLOW BYPASS
PROVIDE STORM SYSTEM IMPROVEMENTS AS REQUIRED
ASSOCIATED WITH UPGRADING ELM ST TO COLLECTOR STREET
STANDARDS WITH CURB, GUTTER, AND SIDEWALKS ON EACH SIDE

OBJECTIVE:

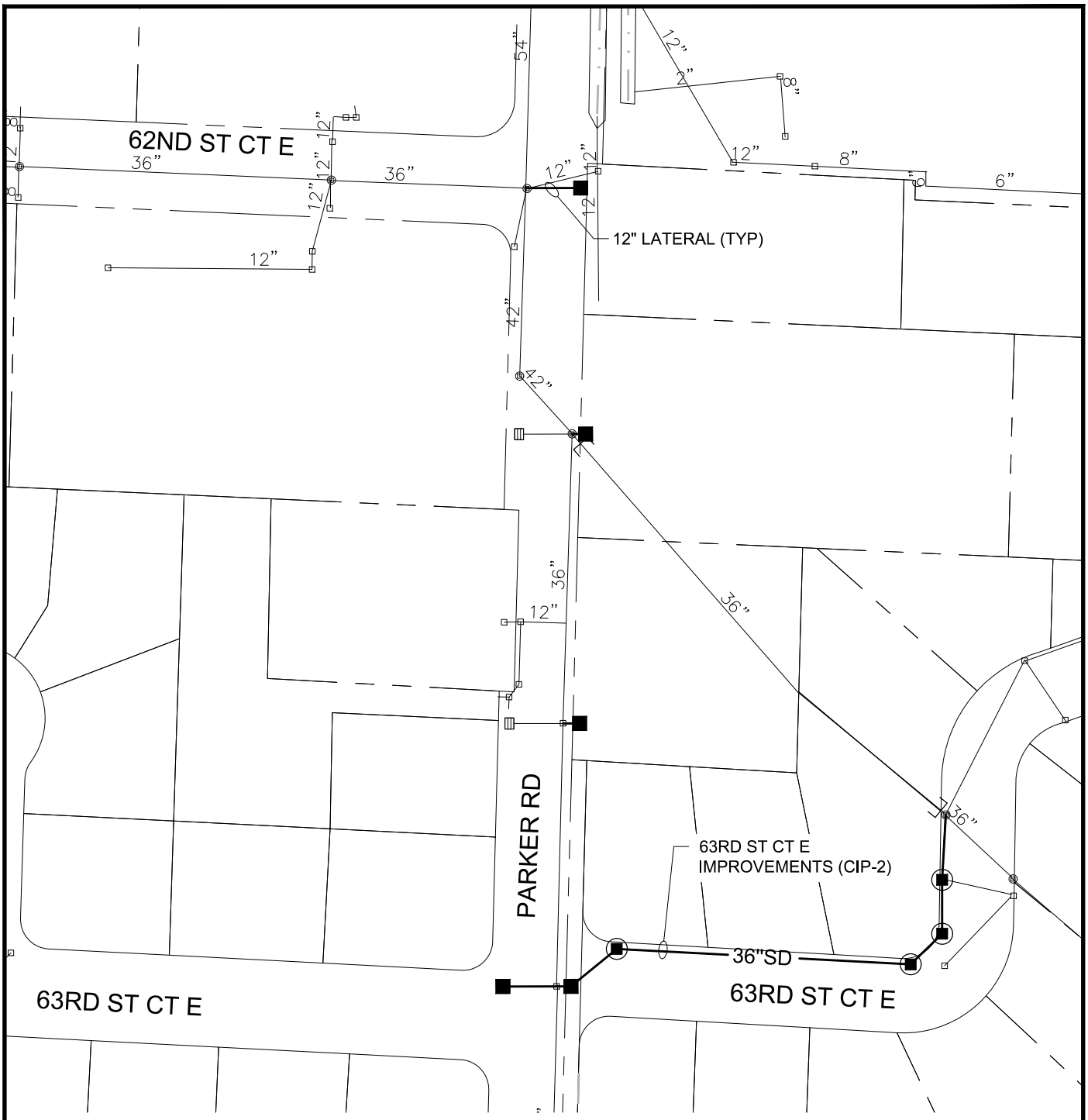
PROVIDE ENHANCED WATER QUALITY TREATMENT BMP.

Parametrix DATE: December 7, 2020 FILE: PS1527082-FIG-06-27

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES 2011 SW CIP #

Figure CIP-27 (TIP 2)
Elm Street, E Valley Hwy to 160th Avenue E
City of Sumner, Washington



IMPROVEMENTS:

INSTALL APPROX 100 LF 12" DIA SD PIPE
INSTALL 5 TYPE I CB

OBJECTIVE:

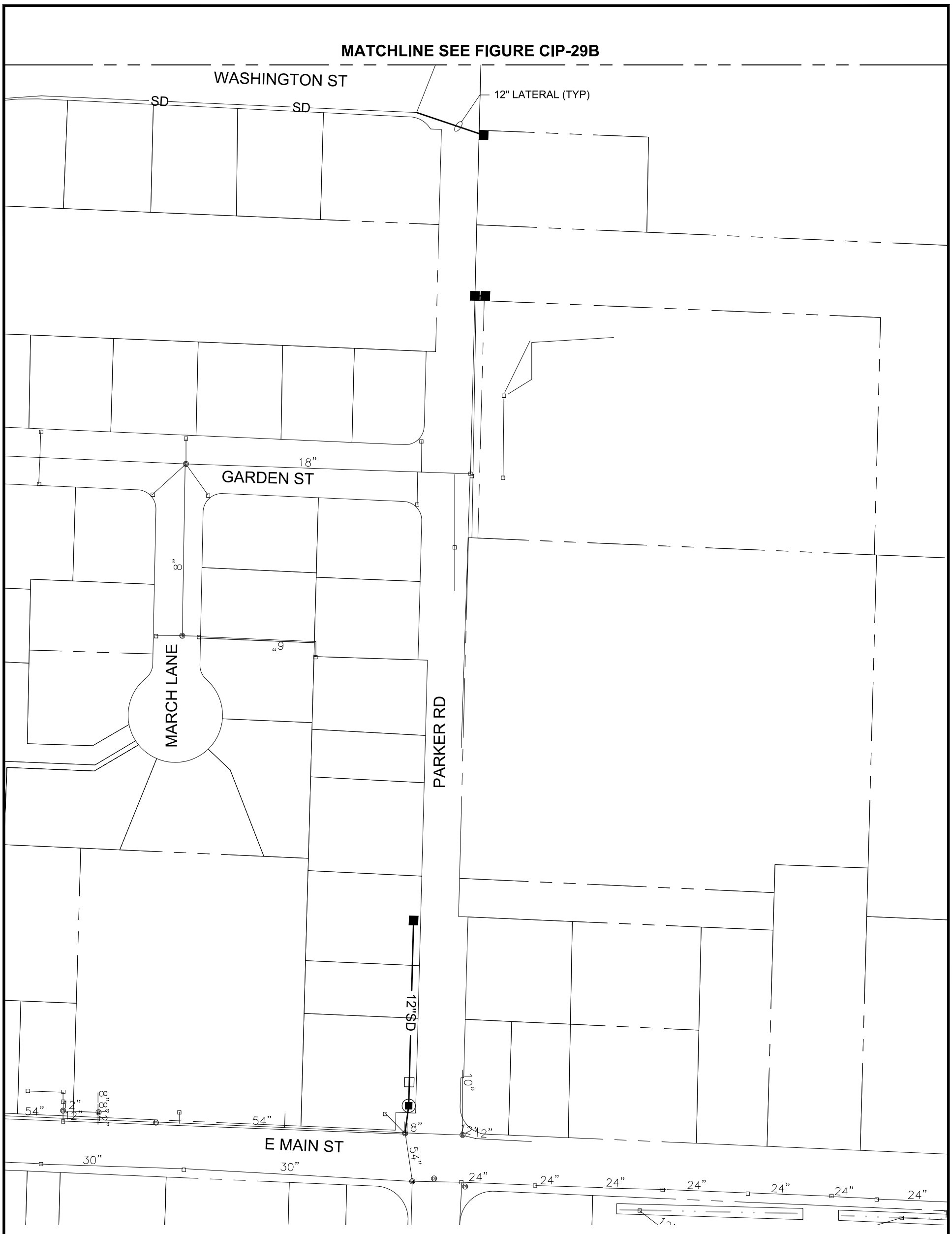
MINIMIZE FLOODING DUE TO INADEQUATE CONVEYANCE.

Parametrix DATE: December 8, 2020 FILE: PS1527082-FIG-28-29

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES TIP #

Figure CIP-28 (TIP C4)
Parker Road Improvements
62nd St Ct E to 63rd St Ct E
City of Sumner, Washington



IMPROVEMENTS:

REMOVE APPROX 40 LF 12" DIA SD PIPE
REMOVE 1 TYPE I CB
INSTALL APPROX 980 LF 12" DIA SD PIPE
INSTALL APPROX 253 LF 18" DIA SD PIPE
INSTALL 10 TYPE I CB
INSTALL 2- 48" TYPE 2 CB
INSTALL 1- 48" TYPE 2 CB W/ FLOW CONTROL
INSTALL 1- 60" TYPE 2 CB
INSTALL 4- 4'x4' FILTERRA

OBJECTIVE:

MINIMIZE FLOODING DUE TO INADEQUATE CONVEYANCE.

Parametrix DATE: December 8, 2020 FILE: PS1527082–FIG–28–29

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES TIP #

Figure CIP-29A (TIP C5)
Parker Road Improvements
East Main Street to Elm Street
City of Sumner, Washington

MATCHLINE SEE FIGURE CIP-29C

DAFFODIL ST CT E

53RD ST CT E

54TH ST CT E

55TH ST CT E

PARKER RD

WASHINGTON ST

36"

12"

8"

4"

SD

12" LATERAL (TYP)

MATCHLINE SEE FIGURE CIP-29A

Parametrix DATE: December 8, 2020 FILE: PS1527082-FIG-28-29

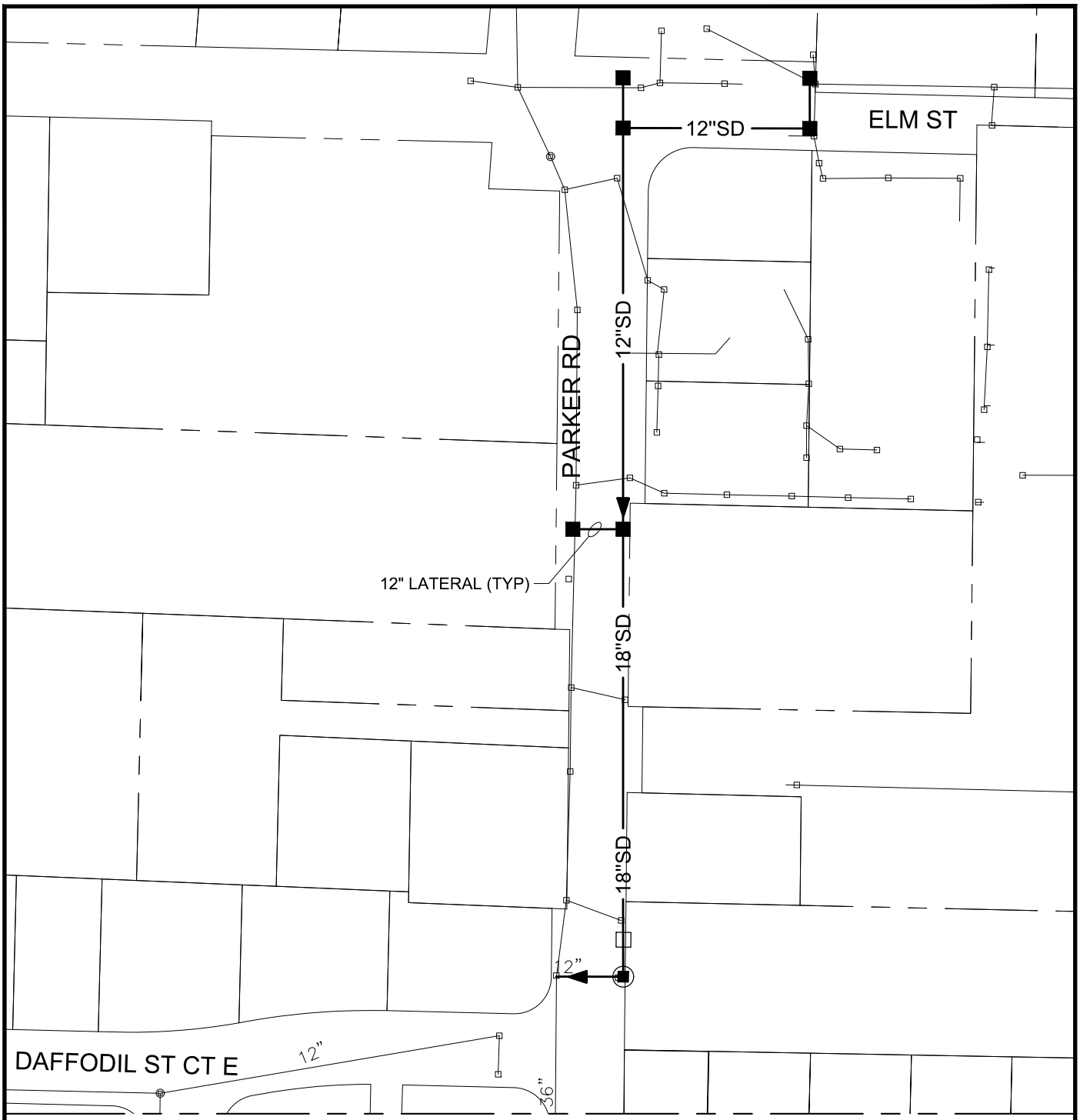
0 N 100

1 INCH = 100 FT.

NOTE:

(#) INDICATES TIP #

Figure CIP-29B (TIP C5)
Parker Road Improvements
E Main Street to Elm Street
City of Sumner, Washington

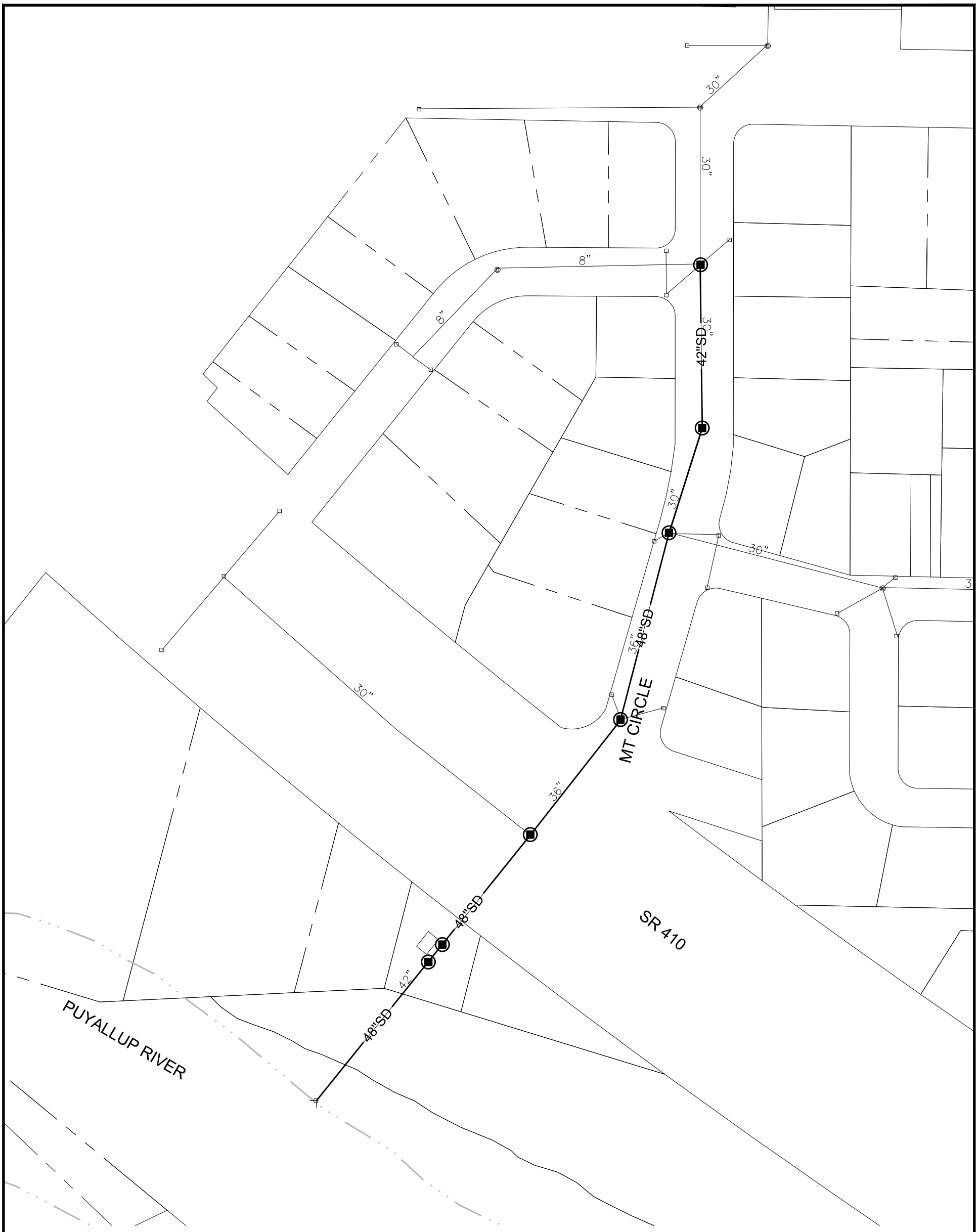


Parametrix DATE: December 17, 2020 FILE: PS1527082-FIG-28-29

0 N 100
1 INCH = 100 FT.

NOTE:
(#) INDICATES TIP #

Figure CIP-29C (TIP C5)
Parker Road Improvements
E Main Street to Elm Street
City of Sumner, Washington



IMPROVEMENTS:

INSTALL APPROX 170 LF 42" DIA SD PIPE
INSTALL APPROX 815 LF 48" DIA SD PIPE
INSTALL 5 - 84" CB TYPE II
INSTALL 1- 84" CB TYPE II W/ DIVERSION WEIR
INSTALL 1- 84" CB TYPE II
INSTALL 48" TIDEFLEX VALVE

OBJECTIVE:

MINIMIZE FLOODING DUE TO INADEQUATE CONVEYANCE.

Parametrix DATE: December 8, 2020 FILE: PS1527082-FIG-32

0 N 100
1 INCH = 100 FT.

Figure CIP-32
Mountain Circle Outfall Replacement
City of Sumner, Washington

Appendix C

Recommended Capital Improvement Project Preliminary Cost Opinions

CITY OF SUMNER

Capital Improvement Plan Schedule

Project No. - Description	2020 CIP#	2011 CIP#	Project Priority	Total Cost Year 2019 ($)	2021	2022	2023	2024	2025	2026	After 2026	Comment
					CURRENT CIP: 2019 - 2024							
					HIGH		MEDIUM				LOW	
Projected ENR Construction Cost Index for Seattle				11105	11,499	11,696	11,894	12,091	12,288	12,485	13,273	
Capital Improvement Projects												
Railroad Street Improvements	CIP#1	CIP#4	MEDIUM	$353,000			$378,000					Within TIP cycle
63rd St Ct E Storm Drain	CIP#2		HIGH	$221,000		$233,000						
151st Avenue E & 152nd Avenue E Improvements	CIP#3	CIP#7	MEDIUM	$918,000					$508,000	$516,000		After TIP cycle
63rd Street Ct E Improvements	CIP#4	CIP#8	HIGH	$293,000	$152,000	$154,000						Within TIP cycle
North 160th Avenue E Improvements (TIP C1)	CIP#5	CIP#12	HIGH	$1,051,000	$544,000	$553,000						
Willow Street Interceptor & Tributary Improvements	CIP#6	CIP#18	MEDIUM	$2,098,000						$2,359,000		After TIP cycle
Meade McCumber Street Improvements	CIP#7	CIP#22	MEDIUM	$282,000					$312,000			After TIP cycle
162nd Ave E (Poole Rd) Outfall Improvements	CIP#8	CIP#25	LOW	$143,000							$171,000	
47th Street Ct E Culvert Improvements (CEG Site E)	CIP#9	CIP#36	HIGH	$125,000	$19,000	$19,000	$47,000	$48,000				
160th Avenue E Culvert Improvements (CEG Sites H, I, 106th Ave. E.)	CIP#10	CIP#37	HIGH	$1,451,000	$751,000	$764,000						
162nd Avenue E Culvert Improvements (CEG Sites J, K, L)	CIP#11	CIP#38	HIGH	$365,000	$43,000	$43,000	$151,000	$154,000				
E Main Street Culvert Improvements (CEG Site M)	CIP#12	CIP#39	HIGH-MEDIUM	$41,000	$10,000	$11,000	$11,000	$12,000				
Salmon Creek Restoration (incorporates CEG Site 60TH)	CIP#13	CIP#40	MEDIUM	$675,000	$0	$158,000	$281,000	$286,000				Within TIP cycle
64th Street E Culvert Improvements	CIP#14	CIP#41	HIGH-MEDIUM	$602,000	$66,000	$67,000	$254,000	$258,000				
White River Levee Improvements	CIP#15	CIP#47	HIGH-MEDIUM	$3,800,000	$515,000	$524,000	$1,502,000	$1,527,000				
24th Street Setback Levee	CIP#16	CIP#51	HIGH-MEDIUM	$45,123,000	$1,478,000	$971,000	$21,597,000	$20,435,000	$0	$167,000	$474,000	
Rivergrove Puyallup River Improvements	CIP#17	CIP#53	MEDIUM	$15,611,000					$8,637,000	$8,775,000		
24th and 142nd Intersection Treatment	CIP#18		HIGH	$171,000	$177,000							
Stewart Road Pond Repair and Enhancement (full project)	CIP#19		HIGH	$356,000		$375,000						For repairs and upgrading existing facility
Treatment in DD11	CIP#20		MEDIUM	$98,000			$105,000	$107,000	$108,000	$110,000		Annual programmatic cost
Wood Ave Conveyance, Zehnder to 16th	CIP#21		LOW	$157,000							$188,000	
Wood Ave Improvements one block south of Main St	CIP#22		HIGH-MEDIUM	$170,000		$55,000	$125,000					
Sumner Tapps Hwy and 60th St E	CIP#23		HIGH	$100,000	$104,000							
SR 410/166th Ave E I/C	CIP#24	TIP#A1	MEDIUM	$4,427,000				$2,410,000	$2,449,000			Within TIP cycle
Main St & 160th Ave	CIP#25	TIP#A4	MEDIUM	$296,000			$317,000					Within TIP cycle
62nd St: 166th Ave to 160th Ave E	CIP#26	TIP#A13	MEDIUM	$1,476,000	$396,000	$1,151,000						Within TIP cycle
Elm St: E Valley Hwy to 160th Ave E	CIP#27	TIP#C3; Previous CIP 13	MEDIUM	$1,063,000			$1,139,000					Within TIP cycle
Parker Rd: 62nd to 63rd	CIP#28	TIP#C4	MEDIUM	$114,765			$123,000					Within TIP cycle
Parker Rd: Main to 50th	CIP#29	TIP#C5	MEDIUM	$583,000				$635,000				Within TIP cycle
Sidewalk Replacement Program	CIP#30	TIP#R7	HIGH-MEDIUM	$22,000	$23,000	$23,000	$24,000	$24,000				Within time frame of TIP; annual cost
Volunteer Sidewalk Program	CIP#31	TIP#R10	HIGH-MEDIUM	$35,000	$36,000	$37,000	$37,000	$38,000				Within time frame of TIP; annual cost
Mountain Circle Outfall Replacement	CIP#32		MEDIUM	$507,000			$272,000	$276,000				Within TIP cycle
TOTAL - CAPITAL ASSET FUNDS (Includes inflation) LID Funded Projects)			(City Funded Only - Exclude Developer or	**$82,728,000**	**$4,314,000**	**$5,138,000**	**$26,363,000**	**$26,210,000**	**$12,014,000**	**$11,927,000**	**$833,000**	

Notes:

1. CIP#16 (#51) includes both the grant funded portion and utility funded portion of the project.

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#1	2011 CIP#4
Project:	Railroad Street Improvements				
Prepared By:	CJW				
Checked by:	JLC/MWV				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$17,706.40	$17,706.40
2	7	DAY	Traffic Control	$1,000.00	$7,000.00
3	1	LS	Trench Safety	$1,600.00	$1,600.00
4	1	LS	Erosion/Sedimentation Control	$800.00	$800.00
5	1	LS	Dewatering	$2,000.00	$2,000.00
6	3	EA	Removal Drainage Structure	$1,000.00	$3,000.00
7	806	SY	Removing Asphalt Conc. Pavement	$25.00	$20,150.00
8	13	EA	Connection to Drainage Structure	$500.00	$6,500.00
9	1836	LF	Saw Cutting	$4.00	$7,344.00
10	90	CY	CSTC	$75.00	$6,750.00
11	141	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$16,920.00
12	910	LF	Schedule A Storm Sewer Pipe, 24-Inch Diam.	$100.00	$91,000.00
13	4	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$14,000.00
				Subtotal =	**$194,770**
			Contingency	30.0%	$58,431
			Sales Tax	9.3%	$18,114
			Planning Level Construction Cost =		**$271,300**
			Administration	5.0%	$13,565
			Engineering/Construction Management	25.0%	$67,825
				TOTAL COST	**$353,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#2	
Project:	63rd St Ct E Storm Drain				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$11,083.50	$11,083.50
2	3	DAY	Traffic Control	$1,000.00	$3,000.00
3	1	LS	Trench Safety	$1,400.00	$1,400.00
4	1	LS	Erosion/Sedimentation Control	$700.00	$700.00
5	1	LS	Dewatering	$1,000.00	$1,000.00
6	332	SY	Removing Asphalt Conc. Pavement	$25.00	$8,300.00
7	3	EA	Connection to Drainage Structure	$500.00	$1,500.00
8	800	LF	Saw Cutting	$4.00	$3,200.00
9	37	CY	CSTC	$75.00	$2,775.00
10	58	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$6,960.00
11	375	LF	Schedule A Storm Sewer Pipe, 36-Inch Diam.	$160.00	$60,000.00
12	4	EA	Catch Basin Type II, 60-Inch Diam.	$5,500.00	$22,000.00
				Subtotal =	**$121,919**
			Contingency	30.0%	$36,576
			Sales Tax	9.3%	$11,338
			Planning Level Construction Cost =		**$169,800**
			Administration	5.0%	$8,490
			Engineering/Construction Management	25.0%	$42,450
				TOTAL COST	**$221,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#3	2011 CIP#7
Project:	151st Avenue E & 152nd Avenue E Improvements				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$46,061.00	$46,061.00
2	15	DAY	Traffic Control	$1,000.00	$15,000.00
3	1	LS	Trench Safety	$4,700.00	$4,700.00
4	1	LS	Erosion/Sedimentation Control	$2,350.00	$2,350.00
5	1	LS	Dewatering	$6,000.00	$6,000.00
6	12	EA	Removal Drainage Structure	$1,000.00	$12,000.00
7	2018	SY	Removing Asphalt Conc. Pavement	$25.00	$50,450.00
8	2275	LF	Removing Cement Conc. Curb and Gutter	$15.00	$34,125.00
9	5	EA	Connection to Drainage Structure	$500.00	$2,500.00
10	6000	LF	Saw Cutting	$4.00	$24,000.00
11	225	CY	CSTC	$75.00	$16,875.00
12	353	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$42,360.00
13	2275	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$60.00	$136,500.00
14	21	EA	Catch Basin Type I	$1,500.00	$31,500.00
15	4	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$14,000.00
16	2275	LF	Cement Conc. Barrier Curb and Gutter	$30.00	$68,250.00
				Subtotal =	**$506,671**
			Contingency	30.0%	$152,001
			Sales Tax	9.3%	$47,120
			Planning Level Construction Cost =		**$705,800**
			Administration	5.0%	$35,290
			Engineering/Construction Management	25.0%	$176,450
				TOTAL COST	**$918,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#4	2011 CIP#8
Project:	63rd Street Ct E Improvements				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$14,711.00	$14,711.00
2	5	DAY	Traffic Control	$1,000.00	$5,000.00
3	1	LS	Trench Safety	$1,300.00	$1,300.00
4	1	LS	Erosion/Sedimentation Control	$650.00	$650.00
5	1	LS	Dewatering	$1,000.00	$1,000.00
6	646	SY	Removing Asphalt Conc. Pavement	$25.00	$16,150.00
7	750	LF	Removing Cement Conc. Curb and Gutter	$15.00	$11,250.00
8	2	EA	Connection to Drainage Structure	$500.00	$1,000.00
9	1500	LF	Saw Cutting	$4.00	$6,000.00
10	72	CY	CSTC	$75.00	$5,400.00
11	113	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$13,560.00
12	430	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$60.00	$25,800.00
13	300	LF	Schedule A Storm Sewer Pipe, 18-Inch Diam.	$80.00	$24,000.00
14	6	EA	Catch Basin Type I	$1,500.00	$9,000.00
15	1	EA	Catch Basin Type II, 54-Inch Diam	$4,500.00	$4,500.00
16	750	LF	Cement Conc. Barrier Curb and Gutter	$30.00	$22,500.00
Note:					
The need for yard drain stubs w/cleanout at ROW for adjacenet lots TBD as design proceeds. This could					
potentially add approx. 560 LF 6" Diam SD and approx. 16 each 6" cleanouts not included in the above.					
				Subtotal =	**$161,821**
			Contingency	30.0%	$48,546
			Sales Tax	9.3%	$15,049
			Planning Level Construction Cost =		**$225,400**
			Administration	5.0%	$11,270
			Engineering/Construction Management	25.0%	$56,350
				TOTAL COST	**$293,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#5	2011 CIP#2
Project:	North 160th Avenue E Improvements (TIP C1)				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$52,745.00	$52,745.00
2	15	DAY	Traffic Control	$1,000.00	$15,000.00
3	1	LS	Trench Safety	$3,800.00	$3,800.00
4	1	LS	Erosion/Sedimentation Control	$1,900.00	$1,900.00
5	1	Each	7'x11' Vault	$25,000.00	$25,000.00
6	1	LS	Dewatering	$6,500.00	$6,500.00
7	63	SY	Removing Asphalt Conc. Pavement	$25.00	$1,575.00
8	9	LF	Removing Cement Conc. Curb and Gutter	$15.00	$135.00
9	2	EA	Connection to Drainage Structure	$500.00	$1,000.00
10	242	CY	CSTC	$75.00	$18,150.00
11	480	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$57,600.00
12	70	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$60.00	$4,200.00
13	2400	LF	Schedule A Storm Sewer Pipe, 18-Inch Diam.	$80.00	$192,000.00
14	615	LF	Schedule A Storm Sewer Pipe, 24-Inch Diam.	$100.00	$61,500.00
15	10	LF	Schedule A Storm Sewer Pipe, 30-Inch Diam.	$120.00	$1,200.00
16	7	EA	Catch Basin Type I	$1,500.00	$10,500.00
17	9	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$31,500.00
18	110	CY	Ditch Excavation	$30.00	$3,300.00
19	20	CY	Infiltration Media	$35.00	$700.00
20	6	TON	Quarry Spalls	$65.00	$390.00
21	3050	LF	Cement Conc. Barrier Curb and Gutter	$30.00	$91,500.00
	This is within TIP C1.				
	TIP C1 is to improve 160th Ave E to collector street standards with curb, gutter, and				
	sidewalks on each side. Partial funding anticipated from developers.				
				Subtotal =	**$580,195**
			Contingency	30.0%	$174,059
			Sales Tax	9.3%	$53,958
			Planning Level Construction Cost =		**$808,200**
			Administration	5.0%	$40,410
			Engineering/Construction Management	25.0%	$202,050
				TOTAL COST	**$1,051,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#6	2011 CIP#18
Project:	Willow Street Interceptor & Tributary Improvements				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$105,327.10	$105,327.10
2	33	DAY	Traffic Control	$1,000.00	$33,000.00
3	1	LS	Trench Safety	$9,300.00	$9,300.00
4	1	LS	Erosion/Sedimentation Control	$4,600.00	$4,600.00
5	1	LS	Dewatering	$10,000.00	$10,000.00
6	673	SY	Removing Asphalt Conc. Pavement	$25.00	$16,825.00
7	4887	LF	Removing Cement Conc. Curb and Gutter	$15.00	$73,305.00
8	1140	SY	Remove Cement Conc. Sidewalk	$50.00	$57,000.00
9	4	EA	Connection to Drainage Structure	$500.00	$2,000.00
10	9774	LF	Saw Cutting	$4.00	$39,096.00
11	483	CY	CSTC	$75.00	$36,225.00
12	757	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$90,840.00
13	2792	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$60.00	$167,520.00
14	540	LF	RC Storm Sewer Pipe, 18-Inch Diam.	$90.00	$48,600.00
15	385	LF	Schedule A Storm Sewer Pipe, 21-Inch Diam.	$90.00	$34,650.00
16	1170	LF	RC Storm Sewer Pipe, 24-Inch Diam.	$130.00	$152,100.00
17	1	LS	Abandon Existing Storm Sewer Pipe	$2,000.00	$2,000.00
18	28	EA	Catch Basin Type I	$1,500.00	$42,000.00
19	12	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$42,000.00
20	4887	LF	Cement Conc. Barrier Curb and Gutter	$30.00	$146,610.00
21	1140	SY	Cement Concrete Sidewalk	$40.00	$45,600.00
				Subtotal =	**$1,158,598**
			Contingency	30.0%	$347,579
			Sales Tax	9.3%	$107,750
			Planning Level Construction Cost =		**$1,613,900**
			Administration	5.0%	$80,695
			Engineering/Construction Management	25.0%	$403,475
				TOTAL COST	**$2,098,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#7	2011 CIP#22
Project:	Meade McCumber Street Improvements				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$14,150.00	$14,150.00
2	5	DAY	Traffic Control	$1,000.00	$5,000.00
3	1	LS	Trench Safety	$1,600.00	$1,600.00
4	1	LS	Dewatering	$2,000.00	$2,000.00
5	101	SY	Removing Asphalt Conc. Pavement	$25.00	$2,525.00
6	815	LF	Removing Cement Conc. Curb and Gutter	$15.00	$12,225.00
7	1	LS	Remove Structure and Obstrution	$5,000.00	$5,000.00
8	6	EA	Connection to Drainage Structure	$500.00	$3,000.00
9	1	LS	Erosion/Sedimentation Control	$800.00	$800.00
10	1460	LF	Saw Cutting	$4.00	$5,840.00
11	72	CY	CSTC	$75.00	$5,400.00
12	113	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$13,560.00
13	730	LF	Schedule A Storm Sewer Pipe, 15-Inch Diam.	$70.00	$51,100.00
14	6	EA	Catch Basin Type I	$1,500.00	$9,000.00
15	815	LF	Cement Conc. Barrier Curb and Gutter	$30.00	$24,450.00
				Subtotal =	**$155,650**
			Contingency	30.0%	$46,695
			Sales Tax	9.3%	$14,475
			Planning Level Construction Cost =		**$216,800**
			Administration	5.0%	$10,840
			Engineering/Construction Management	25.0%	$54,200
				TOTAL COST	**$282,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#8	2011 CIP#25
Project:	162nd Ave E (Poole Rd) Outfall Improvements				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$6,370.00	$6,370.00
2	1	DAY	Traffic Control	$1,000.00	$1,000.00
3	1	LS	Trench Safety	$1,000.00	$1,000.00
4	1	LS	Erosion/Sedimentation Control	$500.00	$500.00
5	0.01	AC	Clearing and Grubbing	$20,000.00	$200.00
6	1	LS	Dewatering	$1,000.00	$1,000.00
7	1	EA	Connection to Drainage Structure	$500.00	$500.00
8	45	LF	Schedule A Storm Sewer Pipe, 24-Inch Diam.	$100.00	$4,500.00
9	4	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$14,000.00
10	1	LS	6'x12' Filterra Unit	$41,000.00	$41,000.00
11	200	SF	Property/Easement Acquisition	$15.00	$3,000.00
				Subtotal =	**$73,070**
			Contingency	30.0%	$21,921
			Sales Tax	9.3%	$6,796
			Planning Level Construction Cost =		**$101,800**
			Environmental Permitting and Documentation	10.0%	$10,180
			Administration	5.0%	$5,090
			Engineering/Construction Management	25.0%	$25,450
				TOTAL COST	**$143,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#9	2011 CIP#36
Project:	47th Street Ct E Culvert Improvements (CEG Site E)				
Prepared By:	CJW				
Checked By	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization (10%)	$4,291.00	$4,291.00
2	1	LS	TESC (2.5%)	$1,072.75	$1,072.75
3	1	LS	Temp Flow Diversion (10%)	$4,291.00	$4,291.00
4	1	LS	Temp Access (1%)	$429.10	$429.10
5	1	SITE	Remove and Dispose of Concrete Retaining Wall	$3,000.00	$3,000.00
6	30	LF	Remove and Replace Chainlink Fence	$35.00	$1,050.00
7	15	LF	Remove Existing Culvert	$50.00	$750.00
8	20	LF	12'x8' Precast Concrete Box Culvert-Materials/Delivery	$900.00	$18,000.00
9	20	LF	Install 12'x8' Precast Concrete Box Culvert	$300.00	$6,000.00
10	30	TON	Channel Rock	$75.00	$2,250.00
11	15	TON	Foundation Rock for Box Culverts	$25.00	$375.00
12	164	TON	Structural Fill	$25.00	$4,100.00
13	11	TON	3/4" Minus Crushed Rock	$35.00	$385.00
14	17	CY	Channel Excavation	$30.00	$510.00
15	345	SY	Hydroseeding	$2.00	$690.00
16	100	SY	Turf Reinforcing Mat	$10.00	$1,000.00
17	1600	SF	Landscape Restoration	$3.00	$4,800.00
				Subtotal =	**$52,994**
			Contingency	50.0%	$26,497
			Sales Tax	9.3%	$4,928
			Planning Level Construction Cost =		**$84,400**
			Environmental Permitting and Documentation		$15,000
			Administration	5.0%	$4,220
			Engineering/Construction Management	25.0%	$21,100
				TOTAL COST	**$125,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#10	2011 CIP#37
Project:	160th Avenue E Culvert Improvements (CEG Sites H, I, 106th Ave. E.)				
Prepared By:	CJW				
Checked By	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization (10%)	$55,947.50	$55,947.50
2	1	LS	TESC (2.5%)	$13,986.88	$13,986.88
3	1	LS	Temp Flow Diversion (10%)	$55,947.50	$55,947.50
4	1	LS	Temp Access (1%)	$5,594.75	$5,594.75
5	1	SITE	Remove and Dispose of Concrete Retaining Wall	$3,000.00	$3,000.00
6	60	LF	Remove and Replace Wood Fence	$35.00	$2,100.00
7	3	EACH	Remove and Replace SS thru Sheet Pile	$4,500.00	$13,500.00
8	3	EACH	Remove and ReplaceWater Thru Sheet Pile	$3,000.00	$9,000.00
9	1	EACH	Remove and Replace Gase Line Thru Sheet Pile	$3,000.00	$3,000.00
10	100	LF	Remove Existing Culvert	$50.00	$5,000.00
11	195	LF	12'x8' Precast Concrete Box Culvert-Materials/Delivery	$900.00	$175,500.00
12	195	LF	Install 12'x8' Precast Concrete Box Culvert	$300.00	$58,500.00
13	475	LF	10' High Sheet Pile Wall	$350.00	$166,250.00
14	516	TON	Channel Rock	$75.00	$38,700.00
15	172	TON	Foundation Rock for Box Culverts	$25.00	$4,300.00
16	719	TON	Structural Fill	$25.00	$17,975.00
17	95	TON	Crushed Surfacing Top Course	$35.00	$3,325.00
18	45	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$5,400.00
19	1	EACH	Wier Structure @ 160th Ave.	$6,000.00	$6,000.00
20	235	LF	Guard Rail Along 160th Ave.	$50.00	$11,750.00
21	5	TON	3/4" Minus Crushed Rock	$35.00	$175.00
22	470	CY	Channel Excavation	$20.00	$9,400.00
23	46	TON	Rip Rap Armoring	$70.00	$3,220.00
24	840	SY	Hydroseeding	$2.00	$1,680.00
25	460	SY	Turf Reinforcing Mat	$10.00	$4,600.00
26	5700	SF	Landscape Restoration	$3.00	$17,100.00
				Subtotal =	**$690,952**
			Contingency	50.0%	$345,476
			Sales Tax	9.3%	$64,259
			Planning Level Construction Cost =		**$1,100,700**
			Environmental Permitting and Documentation		$20,000
			Administration	5.0%	$55,035
			Engineering/Construction Management	25.0%	$275,175
				TOTAL COST	**$1,451,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#11	2011 CIP#38
Project:	162nd Avenue E Culvert Improvements (CEG Sites J, K, L)				
Prepared By:	CJW				
Checked By:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization (10%)	$13,689.00	$13,689.00
2	1	LS	TESC (2.5%)	$3,422.25	$3,422.25
3	1	LS	Temp Flow Diversion (10%)	$13,689.00	$13,689.00
4	1	LS	Temp Access (1%)	$1,368.90	$1,368.90
6	1	SITE	Remove and Dispose of Wood Beams	$1,000.00	$1,000.00
7	1	LS	Remove and Dispose of Cinderblock Bridge	$3,500.00	$3,500.00
8	75	LF	12'x8' Precast Concrete Box Culvert-Materials/Delivery	$900.00	$67,500.00
9	75	LF	Install 12'x8' Precast Concrete Box Culvert	$300.00	$22,500.00
10	106	TON	Channel Rock	$75.00	$7,950.00
11	51	TON	Foundation Rock for Box Culverts	$25.00	$1,275.00
12	357	TON	Structural Fill	$25.00	$8,925.00
13	20	TON	3/4" Minus Crushed Rock	$25.00	$500.00
14	106	CY	Channel Excavation	$30.00	$3,180.00
15	790	SY	Hydroseeding	$4.00	$3,160.00
16	300	SY	Turf Reinforcing Mat	$10.00	$3,000.00
17	4800	SF	Landscape Restoration	$3.00	$14,400.00
				Subtotal =	**$169,059**
			Contingency	50.0%	$84,530
			Sales Tax	9.3%	$15,722
			Planning Level Construction Cost =		**$269,300**
			Environmental Permitting and Documentation		$15,000
			Administration	5.0%	$13,465
			Engineering/Construction Management	25.0%	$67,325
				TOTAL COST	**$365,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#12	2011 CIP#39
Project:	E Main Street Culvert Improvements (CEG Site M)				
Prepared By:	CJW				
Checked By:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization (10%)	$1,034.00	$1,034.00
2	1	LS	TESC (2.5%)	$258.50	$258.50
3	1	LS	Temp Flow Diversion (10%)	$1,034.00	$1,034.00
4	1	LS	Temp Access (1%)	$103.40	$103.40
5	45	LF	Remove Existing Culvert	$50.00	$2,250.00
6	105	CY	Channel Excavation	$30.00	$3,150.00
7	160	SY	Hydroseeding	$4.00	$640.00
8	160	SY	Turf Reinforcing Mat	$10.00	$1,600.00
9	900	SF	Landscape Restoration	$3.00	$2,700.00
				Subtotal =	**$12,770**
			Contingency	50.0%	$6,385
			Sales Tax	9.3%	$1,188
			Planning Level Construction Cost =		**$20,300**
			Environmental Permitting and Documentation		$15,000
			Administration	5.0%	$1,015
			Engineering/Construction Management	25.0%	$5,075
				TOTAL COST	**$41,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#13	2011 CIP#40
Project:	Salmon Creek Restoration (incorporates CEG Site 60TH)				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$32,653.00	$32,653.00
2	1	LS	Trench Safety	$2,200.00	$2,200.00
3	1	LS	Erosion/Sedimentation Control	$1,100.00	$1,100.00
4	60	LF	Saw Cutting	$4.00	$240.00
5	3230	CY	Stream Channel Excavation Incl. Haul	$65.00	$209,950.00
6	11	CY	CSTC	$75.00	$825.00
7	25	CY	Ballast Material for Culvert Bedding	$75.00	$1,875.00
8	55	CY	Structural Fill	$30.00	$1,650.00
9	70	CY	Channel Rock	$75.00	$5,250.00
10	12	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$1,440.00
11	50	LF	12 ft x 8 ft Precast Concrete Box Culvert	$1,200.00	$60,000.00
12	1500	SY	Fine Grade/Hydroseed & Mulch	$5.00	$7,500.00
13	1	LS	Remove Existing 24-Inch Diam. Culvert	$4,500.00	$4,500.00
14	1	LS	Streambank restoration	$30,000.00	$30,000.00
				Subtotal =	**$359,183**
			Contingency	30.0%	$107,755
			Sales Tax	9.3%	$33,404
			Planning Level Construction Cost =		**$500,300**
			Environmental Permitting and Documentation		$25,000
			Administration	5.0%	$25,015
			Engineering/Construction Management	25.0%	$125,075
				TOTAL COST	**$675,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#14	2011 CIP#41
Project:	64th Street E Culvert Improvements				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$28,795.00	$28,795.00
2	8	DAY	Traffic Control	$2,500.00	$20,000.00
3	1	LS	Trench Safety	$3,000.00	$3,000.00
4	1	LS	Erosion/Sedimentation Control	$1,500.00	$1,500.00
5	400	LF	Saw Cutting	$4.00	$1,600.00
6	120	CY	CSTC	$75.00	$9,000.00
7	70	CY	Ballast Material for Culvert Bedding	$75.00	$5,250.00
8	112	CY	Channel Rock	$75.00	$8,400.00
9	70	CY	Structural Backfill	$60.00	$4,200.00
10	190	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$22,800.00
11	150	LF	12 ft x 8 ft Precast Concrete Box Culvert	$1,200.00	$180,000.00
12	2	EA	Precast Concrete Wing Wall	$5,000.00	$10,000.00
13	1	LS	Stream Bank Restoration	$10,000.00	$10,000.00
14	40	LF	RC Storm Sewer Pipe, 42-Inch Diam.	$180.00	$7,200.00
15	1	LS	Abandon Existing 36-Inch Diam. Culvert	$5,000.00	$5,000.00
16	1	EA	Catch Basin Type II, 72-Inch Diam.	$ 7,500.00	$7,500.00
				Subtotal =	**$324,245**
			Contingency	30.0%	$97,274
			Sales Tax	9.3%	$30,155
			Planning Level Construction Cost =		**$451,700**
			Environmental Permitting and Documentation		$15,000
			Administration	5.0%	$22,585
			Engineering/Construction Management	25.0%	$112,925
				TOTAL COST	**$602,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#15	2011 CIP#47
Project:	White River Levee Improvements				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$174,010.00	$174,010.00
2	1	LS	Erosion/Sedimentation Control	$18,000.00	$18,000.00
3	50	EA	Selective Tree Removal	$260.00	$13,000.00
4	6530	CY	Structural Backfill	$35.00	$228,550.00
5	3500	CY	Bentonite Core	$200.00	$700,000.00
6	1490	TON	Quarry Spalls	$65.00	$96,850.00
7	7900	SY	Fine Grade/Hydroseed & Mulch	$3.00	$23,700.00
8	400	CY	CSTC	$75.00	$30,000.00
9	1	LS	Riparian Zone Plantings/Restoration	$90,000.00	$90,000.00
10	36000	SF	ROW Acquisition	$15.00	$540,000.00
				Subtotal =	**$1,914,110**
			Contingency	30.0%	$574,233
			Sales Tax	9.3%	$178,012
			Planning Level Construction Cost =		**$2,666,400**
			Environmental Permitting		$70,000
			FEMA floodplain modeling, Letter of Map Revision	5.0%	$106,320
			Administration	5.0%	$106,320
			Engineering/Construction Management	40.0%	$850,560
				TOTAL COST	**$3,800,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#16	2011 CIP#51
Project:	24th Street Setback Levee				
Prepared By:	CJW				
Checked By:	JLC				
	Construct side channel and excavatematerial on City parcels on east side of the White River between 16th St E and No. 9 Ditch to provide flood control and salmon habitat.				
Planning Level Estimate =			**$45,123,000**		
Notes:					
The cost opinion includes both the utility and grant funded portions of the project.					

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#17	2011 CIP#53
Project:	Rivergrove Puyallup River Improvements				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$780,000.00	$780,000.00
2	1	LS	Erosion/Sedimentation Control	$80,000.00	$80,000.00
3	4200	LF	Cast-in-Place Concrete Wall	$280.00	$1,176,000.00
4	4200	LF	Sheet Pile Wall	$1,125.00	$4,725,000.00
5	83000	SF	Property Acquisition/Permanent Easements	$15.00	$1,245,000.00
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
				Subtotal =	**$8,006,000**
			Contingency	30.0%	$2,401,800
			Sales Tax	9.3%	$744,558
			Planning Level Construction Cost =		**$11,152,358**
			Environmental Permitting	10.0%	$990,736
			FEMA floodplain modeling, Letter of Map Revision	5.0%	$495,368
			Administration	5.0%	$495,368
			Engineering/Construction Management	25.0%	$2,476,840
				TOTAL COST=	**$15,611,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#18	
Project:	24th and 142nd Intersection Treatment				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$7,695.50	$7,695.50
2	2	DAY	Traffic Control	$1,000.00	$2,000.00
3	1	LS	Trench Safety	$1,000.00	$1,000.00
4	1	LS	Erosion/Sedimentation Control	$500.00	$500.00
5	1	LS	Dewatering	$1,000.00	$1,000.00
6	1	EA	Connection to Drainage Structure	$500.00	$500.00
7	26	SY	Removing Asphalt Conc. Pavement	$25.00	$650.00
8	19	CY	CSTC	$75.00	$1,425.00
9	29	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$3,480.00
10	190	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$60.00	$11,400.00
11	2	EA	Catch Basin Type I	$1,500.00	$3,000.00
12	2	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$7,000.00
13	1	EA	Catch Basin Type II, 48-Inch Diam. With Bypass	$4,000.00	$4,000.00
14	1	EA	6'x12' Filterra	$41,000.00	$41,000.00
				Subtotal =	**$84,651**
			Contingency	30.0%	$25,395
			Sales Tax	9.3%	$7,872
			Planning Level Construction Cost =		**$117,918**
			Environmental Permitting	10.0%	$11,792
			FEMA floodplain modeling, Letter of Map Revision	5.0%	$5,896
			Administration	5.0%	$5,896
			Engineering/Construction Management	25.0%	$29,480
				TOTAL COST =	**$171,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#19	
Project:	Stewart Road Pond Repair and Enhancement (full project)				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$8,252.00	$8,252.00
2	2	DAY	Traffic Control	$1,000.00	$2,000.00
3	1	LS	Trench Safety	$1,000.00	$1,000.00
4	1	LS	Erosion/Sedimentation Control	$2,000.00	$2,000.00
5	202	LF	Extruded curb	$40.00	$8,080.00
6	330	CF	Treatment media	$20.00	$6,600.00
7	20	LF	Plain Conc. Storm Sewer Pipe 8 In. Diam.	$30.00	$600.00
8	1002	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$60.00	$60,120.00
9	14	LF	Schedule A Storm Sewer Pipe, 18-Inch Diam.	$80.00	$1,120.00
10	2	EA	Connection to Drainage Structure	$500.00	$1,000.00
11	613	LF	18" prefabricated vertical drainage system	$40.00	$24,520.00
12	658	SY	Geotextile	$6.00	$3,948.00
13	230	LF	Chain Link Fence Type 3	$35.00	$8,050.00
14	623	TON	Quarry spalls	$65.00	$40,495.00
15	581	CY	Structure Excavation Class B Incl. Haul	$25.00	$14,525.00
				Subtotal =	**$182,310**
			Contingency	30.0%	$54,693
			Sales Tax	9.3%	$16,955
			Planning Level Construction Cost =		**$253,958**
			Environmental Permitting	10.0%	$25,396
			FEMA floodplain modeling, Letter of Map Revision	0.0%	$0
			Administration	5.0%	$12,294
			Engineering/Construction Management	25.0%	$63,489
				TOTAL COST =	**$356,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#22	
Project:	Treatment in DD11				
Prepared By:	JLC				
Checked by:					
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Annual cost	$50,000.00	$50,000.00
	This preliminary opinion of probable construction cost reflects an annual programmatic cost to install				
	enhanced treatment BMPs on a case-by-case basis. The original intent was to identify areas where pavement				
	could be removed and replaced with permeable pavement to allow for infiltration. However, LID BMPs may				
	be generally infeasible within DD11. The cost opinion is a placeholder to allow for funding to be used for				
	projects to be identified and the treatment approach developed on a case by case basis. The cost opinion				
	reflects using the following:				
	Remove approximate 3,353 sq ft of existing pavement and replacing with a permeable pavement section; or				
	Installation of one 6'x12' treatment unit to treat approximately 27,443 sq ft				
				Subtotal =	**$50,000**
			Contingency	30.0%	$15,000
			Sales Tax	9.3%	$4,650
			Planning Level Construction Cost =		**$69,650**
			Environmental Permitting	10.0%	$6,965
			FEMA floodplain modeling, Letter of Map Revision	0.0%	$0
			Administration	5.0%	$3,483
			Engineering/Construction Management	25.0%	$17,413
				TOTAL COST =	**$98,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#21	
Project:	Wood Ave Conveyance, Zehnder to 16th				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$7,037.90	$7,037.90
2	3	DAY	Traffic Control	$1,000.00	$3,000.00
3	1	LS	Trench Safety	$1,000.00	$1,000.00
4	1	LS	Erosion/Sedimentation Control	$500.00	$500.00
5	1	LS	Dewatering	$1,000.00	$1,000.00
6	51	SY	Removing Asphalt Conc. Pavement	$25.00	$1,275.00
7	368	LF	Removing Cement Conc. Curb and Gutter	$15.00	$5,520.00
8	2	EA	Connection to Drainage Structure	$500.00	$1,000.00
9	736	LF	Saw Cutting	$4.00	$2,944.00
10	36	CY	CSTC	$75.00	$2,700.00
11	57	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$6,840.00
12	368	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$70.00	$25,760.00
13	1	EA	Catch Basin Type I	$1,500.00	$1,500.00
14	1	EA	Catch Basin Type IL	$1,800.00	$1,800.00
15	1	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$3,500.00
16	2	EA	Connect to Existing Storm Structure	$500.00	$1,000.00
17	368	LF	Cement Conc. Barrier Curb and Gutter	$30.00	$11,040.00
				Subtotal =	**$77,417**
			Contingency	30.0%	$23,225
			Sales Tax	9.3%	$7,200
			Planning Level Construction Cost =		**$107,842**
			Environmental Permitting	10.0%	$10,784
			FEMA floodplain modeling, Letter of Map Revision	5.0%	$5,392
			Administration	5.0%	$5,392
			Engineering/Construction Management	25.0%	$26,960
				TOTAL COST =	**$157,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#22	
Project:	Wood Ave Improvements one block south of Main St				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$7,609.00	$7,609.00
2	3	DAY	Traffic Control	$1,000.00	$3,000.00
3	1	LS	Trench Safety	$1,000.00	$1,000.00
4	1	LS	Erosion/Sedimentation Control	$500.00	$500.00
5	1	LS	Dewatering	$1,000.00	$1,000.00
6	58	SY	Removing Asphalt Conc. Pavement	$25.00	$1,450.00
7	349	LF	Removing Cement Conc. Curb and Gutter	$15.00	$5,235.00
8	3	EA	Connection to Drainage Structure	$500.00	$1,500.00
9	840	LF	Saw Cutting	$4.00	$3,360.00
10	41	CY	CSTC	$75.00	$3,075.00
11	65	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$7,800.00
12	420	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$60.00	$25,200.00
13	6	EA	Catch Basin Type I	$1,500.00	$9,000.00
14	1	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$3,500.00
15	349	LF	Cement Conc. Barrier Curb and Gutter	$30.00	$10,470.00
				Subtotal =	**$83,699**
			Contingency	30.0%	$25,110
			Sales Tax	9.3%	$7,784
			Planning Level Construction Cost =		**$116,593**
			Environmental Permitting	10.0%	$11,659
			FEMA floodplain modeling, Letter of Map Revision	5.0%	$5,830
			Administration	5.0%	$5,830
			Engineering/Construction Management	25.0%	$29,148
				TOTAL COST =	**$170,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#23	
Project:	Sumner Tapps Hwy and 60th St E				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$4,460.00	$4,460.00
2	2	DAY	Traffic Control	$1,000.00	$2,000.00
3	1	LS	Trench Safety	$1,000.00	$1,000.00
4	1	LS	Erosion/Sedimentation Control	$500.00	$500.00
5	0.01	AC	Clearing and Grubbing	$20,000.00	$200.00
6	1	LS	Dewatering	$1,000.00	$1,000.00
7	1	EA	Connection to Drainage Structure	$500.00	$500.00
8	60	LF	Schedule A Storm Sewer Pipe, 12-Inch Diam.	$60.00	$3,600.00
9	3	EA	Catch Basin Type II, 48-Inch Diam.	$3,500.00	$10,500.00
10	1	EA	Catch Basin Type II, 48-Inch Diam. With Flow Splitter	$3,800.00	$3,800.00
11	1	EA	Votech 1000 9' x 3'	$21,500.00	$21,500.00
				Subtotal =	**$49,060**
			Contingency	30.0%	$14,718
			Sales Tax	9.3%	$4,563
			Planning Level Construction Cost =		**$68,341**
			Environmental Permitting	10.0%	$6,834
			FEMA floodplain modeling, Letter of Map Revision	5.0%	$3,417
			Administration	5.0%	$3,417
			Engineering/Construction Management	25.0%	$17,085
				TOTAL COST =	**$100,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#24	TIP#A1
Project:	SR 410/166th Ave E I/C				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	30%	LS	Total Project Cost	$10,000,000.00	$3,000,000.00
	This preliminary opinion of probable construction cost assumes that stormwater costs are the % indicated of total				
	project cost. The total project cost is based on the TIP description. The project is to increase the level of				
	service through the interchange. This is a WSDOT project on State highway. The City is leading the				
	planning phase. No non-City funding sources have been secured yet.				
				Subtotal =	**$3,000,000**
			Sales Tax	9.3%	$279,000
			Planning Level Construction Cost, stormwater portion =		**$3,279,000**
	The assumptions for the project multipliers below are for the stormwater portion of the project.				
			Environmental Permitting	5.0%	$163,950
			FEMA floodplain modeling, Letter of Map Revision	0.0%	$0
			Administration	5.0%	$163,950
			Engineering/Construction Management	25.0%	$819,750
			TOTAL STORMWATER COST =		**$4,427,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#25	TIP#A4
Project:	Main St & 160th Ave				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	20%	LS	Total Project Cost	$1,000,000.00	$200,000.00
	This preliminary opinion of probable construction cost assumes that stormwater costs are the % indicated of total				
	project cost. The total project cost is based on the TIP description. The project is to improve and widen streets				
	to minor arterial standards with bike paths and sidewalks. Partial funding may be through an STP grant and/or				
	developer contribution.				
				Subtotal =	**$200,000**
			Sales Tax	9.3%	$18,600
				Planning Level Construction Cost =	**$218,600**
	The assumptions for the project multipliers below are for the stormwater portion of the project.				
			Environmental Permitting	5.0%	$10,930
			FEMA floodplain modeling, Letter of Map Revision	0.0%	$0
			Administration	5.0%	$10,930
			Engineering/Construction Management	25.0%	$54,650
				TOTAL STORMWATER COST =	**$296,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#26	TIP#A13
Project:	62nd St: 166th Ave to 160th Ave E				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	16.67%	LS	Total Project Cost	$6,000,000.00	$1,000,200.00
	This preliminary opinion of probable construction cost assumes that stormwater costs are the % indicated of total				
	project cost. The total project cost is based on the TIP description. This project is to construct 62nd St from				
	166th Ave E to 160th Ave E to arterial standards. Partial funding may be through a Local Improvement District.				
				Subtotal =	**$1,000,200**
			Sales Tax	9.3%	$93,019
				Planning Level Construction Cost =	**$1,093,219**
	The assumptions for the project multipliers below are for the stormwater portion of the project.				
			Environmental Permitting	5.0%	$54,661
			FEMA floodplain modeling, Letter of Map Revision	0.0%	$0
			Administration	5.0%	$54,661
			Engineering/Construction Management	25.0%	$273,305
				TOTAL STORMWATER COST =	**$1,476,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#27	TIP#C3; Previous CIP 13
Project:	Elm St: E Valley Hwy to 160th Ave E				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	30%	LS	Total Project Cost	$2,400,000.00	$720,000.00
	This preliminary opinion of probable construction cost assumes that stormwater costs are the % indicated of remaining total				
	project cost. The total project cost is based on the TIP description. The 60% remaining project cost is based on				
	the TIP description that developers have improved approximately 40%.				
	The project is to improve Elm St to collector street standards with curb, gutter and sidewalks on each side,				
	including storm drainage facilities and utility replacement.				
				Subtotal =	**$720,000**
			Sales Tax	9.3%	$66,960
				Planning Level Construction Cost =	**$786,960**
	The assumptions for the project multipliers below are for the stormwater portion of the project.				
			Environmental Permitting	5.0%	$39,348
			FEMA floodplain modeling, Letter of Map Revision	0.0%	$0
			Administration	5.0%	$39,348
			Engineering/Construction Management	25.0%	$196,740
				TOTAL STORMWATER COST =	**$1,063,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#28	TIP#C4
Project:	Parker Rd: 62nd to 63rd				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	30%	LS	Total Project Cost	$250,000.00	$75,000.00
	This preliminary opinion of probable construction cost assumes that stormwater costs are the % indicated of total				
	project cost. The total project cost is based on the TIP description. The project is to construct				
	curbs, gutters, sidewalkon the east side of the street				
				Subtotal =	**$75,000**
			Sales Tax	9.3%	$6,975
			Planning Level Construction Cost, stormwater portion =		**$81,975**
	The assumptions for the project multipliers below are for the stormwater portion of the project.				
			Environmental Permitting	5.0%	$4,099
			FEMA floodplain modeling, Letter of Map Revision	5.0%	$4,099
			Administration	5.0%	$4,099
			Engineering/Construction Management	25.0%	$20,494
			TOTAL STORMWATER COST =		**$114,765**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#29	TIP#C5
Project:	Parker Rd: Main to 50th				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	30%	LS	Total Project Cost	$1,300,000.00	$390,000.00
	This preliminary opinion of probable construction cost assumes that stormwater costs are the % indicated of total				
	project cost. The total project cost is based on the TIP description. The project is to reconstruct Parker Road				
	to Collector Street with curbs, gutters, sidewalk, and drainage utilities.				
	Portions have been completed by developer projects and sidewalk grants				
				Subtotal =	**$390,000**
			Sales Tax	9.3%	$36,270
			Planning Level Construction Cost, stormwater portion =		**$426,270**
	The assumptions for the project multipliers below are for the stormwater portion of the project.				
			Environmental Permitting	5.0%	$19,500
			FEMA floodplain modeling, Letter of Map Revision	5.0%	$19,500
			Administration	5.0%	$19,500
			Engineering/Construction Management	25.0%	$97,500
			TOTAL STORMWATER COST =		**$583,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#30	TIP#R7
Project:	Sidewalk Replacement Program				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	30%	LS	Total Budget Per Year	$50,000.00	$15,000.00
				Subtotal =	**$15,000**
			Sales Tax	9.3%	$1,395
			Planning Level Construction Cost, stormwater portion =		**$16,395**
	The assumptions for the project multipliers below are for the stormwater portion of the project.				
			Environmental Permitting	0.0%	$0
			FEMA floodplain modeling, Letter of Map Revision	0.0%	$0
			Administration	5.0%	$820
			Engineering/Construction Management	25.0%	$4,099
				TOTAL COST =	**$22,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#30	TIP#R7
Project:	Sidewalk Replacement Program				
Prepared	CJW				
Checked I	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$1,362.50	$1,362.50
2	3	DAY	Traffic Control	$1,000.00	$3,000.00
3	15	CY	Roadway Excavation	$50.00	$750.00
4	85	SY	Removing Cement Conc Sidewalk	$50.00	$4,250.00
5	1	LS	Erosion/Sedimentation Control	$200.00	$200.00
6	10	CY	CSTC	$75.00	$750.00
7	85	SY	Cement Conc Sidewalk	$55.00	$4,675.00
	This is to estimate an amount of sidewalk removal and replacement that could potentially				
	be performed based on the annual stormwater cost. This was prepared to compare to the				
	amount of sidewalk that could be removed and replaced with pervious concrete				
	for a similar cost.				
	This cost opinion is based on removing existing sidewalk and replacing with 4" PCC				
	and 4" CSTC.				
				Subtotal =	**$14,988**
			Contingency	0.0%	$0
			Sales Tax	9.3%	$1,394
			Planning Level Construction Cost =		**$16,381**
			Administration	5.0%	$819
			Engineering/Construction Management	25.0%	$4,095
			TOTAL COST =		**$22,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#30	TIP#R7
Project:	Sidewalk Replacement Program				
Prepared	CJW				
Checked I	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$1,377.50	$1,377.50
2	3	DAY	Traffic Control	$1,000.00	$3,000.00
3	12	CY	Roadway Excavation	$50.00	$600.00
4	67	SY	Removing Cement Conc Sidewalk	$50.00	$3,350.00
5	1	LS	Erosion/Sedimentation Control	$200.00	$200.00
6	23	CY	Permeable Ballast	$55.00	$1,265.00
7	67	SY	Pervious Cement Conc Sidewalk	$80.00	$5,360.00
	This is to estimate an amount of sidewalk removal and replacement that could potentially				
	be performed based on the annual stormwater cost. This was prepared to compare to the				
	amount of sidewalk that could be removed and replaced with standard PCC				
	for a similar cost.				
	This cost opinion is based on removing existing sidewalk and replacing with				
	3" pervious concrete and 12" ballast.				
				Subtotal =	**$15,153**
			Contingency	0.0%	$0
			Sales Tax	9.3%	$1,409
			Planning Level Construction Cost =		**$16,562**
			Administration	5.0%	$828
			Engineering/Construction Management	25.0%	$4,140
				TOTAL COST =	**$22,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#31	TIP#R10
Project:	Volunteer Sidewalk Program				
Prepared By:	CJW				
Checked by:	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	30%	LS	Total Budget Per Year	$80,000.00	$24,000.00
				Subtotal =	**$24,000**
			Sales Tax	9.3%	$2,232
			Planning Level Construction Cost, stormwater portion =		**$26,232**
	The assumptions for the project multipliers below are for the stormwater portion of the project.				
			Environmental Permitting	0.0%	$0
			FEMA floodplain modeling, Letter of Map Revision	0.0%	$0
			Administration	5.0%	$1,312
			Engineering/Construction Management	25.0%	$6,558
				TOTAL COST =	**$35,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#31	TIP#R10
Project:	Volunteer Sidewalk Program				
Prepared	CJW				
Checked I	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$2,178.67	$2,178.67
2	5	DAY	Traffic Control	$1,000.00	$5,000.00
3	0.05	AC	Clearing and Grubbing	$20,000.00	$1,000.00
4	1	LS	Erosion/Sedimentation Control	$200.00	$200.00
5	47	CY	Roadway Excavation	$50.00	$2,350.00
6	23	CY	CSTC	$75.00	$1,741.67
7	209	SY	Cement Conc Sidewalk	$55.00	$11,495.00
	This is to estimate an amount of sidewalk removal and replacement that could potentially				
	be performed based on the annual stormwater cost. This was prepared to compare to the				
	amount of sidewalk that could be removed and replaced with pervious concrete				
	for a similar cost.				
	This cost opinion is based on removing existing sidewalk and replacing with 4" PCC				
	and 4" CSTC.				
				Subtotal =	**$23,965**
			Contingency	0.0%	$0
			Sales Tax	9.3%	$2,229
			Planning Level Construction Cost =		**$26,194**
			Administration	5.0%	$1,310
			Engineering/Construction Management	25.0%	$6,549
				TOTAL COST =	**$35,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#31	TIP#R10
Project:	Volunteer Sidewalk Program				
Prepared	CJW				
Checked I	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$2,190.00	$2,190.00
2	3	DAY	Traffic Control	$1,000.00	$3,000.00
3	0.04	AC	Clearing and Grubbing	$20,000.00	$800.00
4	1	LS	Erosion/Sedimentation Control	$200.00	$200.00
5	63	CY	Roadway Excavation	$50.00	$3,150.00
6	50	CY	Permeable Ballast	$55.00	$2,750.00
7	150	SY	Pervious Cement Conc Sidewalk	$80.00	$12,000.00
	This is to estimate an amount of sidewalk removal and replacement that could potentially				
	be performed based on the annual stormwater cost. This was prepared to compare to the				
	amount of sidewalk that could be removed and replaced with standard PCC				
	for a similar cost.				
	This cost opinion is based on removing existing sidewalk and replacing with				
	3" pervious concrete and 12" ballast.				
				Subtotal =	**$24,090**
			Contingency	0.0%	$0
			Sales Tax	9.3%	$2,240
			Planning Level Construction Cost =		**$26,330**
			Administration	5.0%	$1,317
			Engineering/Construction Management	25.0%	$6,583
				TOTAL COST =	**$35,000**

CITY OF SUMNER					
Preliminary Opinion of Probable Cost					
				2020 CIP#32	
Project:	Mountain Circle Outfall Replacement				
Prepared I	CJW				
Checked b	JLC				
Item No.	Estimated Quantity	Unit	Description	Unit Cost	Amount
1	1	LS	Mobilization	$16,960.20	$16,960.20
2	40	DAY	Traffic Control	$1,000.00	$40,000.00
3	1	LS	Trench Safety	$1,900.00	$1,900.00
4	0.1	AC	Clearing and Grubbing	$15,000.00	$1,500.00
5	1	LS	Erosion/Sedimentation Control	$850.00	$850.00
6	1	LS	Dewatering	$1,000.00	$1,000.00
7	11	SY	Removing Asphalt Conc. Pavement	$35.00	$385.00
8	1	EA	Connection to Drainage Structure	$500.00	$500.00
9	70	LF	Saw Cutting	$4.00	$280.00
10	25	CY	CSBC	$70.00	$1,750.00
11	12	TON	HMA Cl 1/2 In PG 58H-22	$120.00	$1,440.00
12	230	LF	48" Conc Pipe	$300.00	$69,000.00
13	1	EA	Catch Basin Type II, 84-Inch Diam. with Diversion Weir	$7,000.00	$7,000.00
14	1	EA	Catch Basin Type II, 84-Inch Diam.	$6,000.00	$6,000.00
15	1	EA	48" Dia Tideflex Valve	$20,000.00	$20,000.00
16	25	TON	Riprap outfall pad	$65.00	$1,625.00
17	22	SY	Geotextile	$6.00	$132.00
18	245	SF	Temporary shoring or extra excavation	$2.00	$490.00
19	35	LF	64" diameter casing pipe	$450.00	$15,750.00
				Subtotal =	**$186,562**
			Contingency	30.0%	$55,969
			Sales Tax	9.3%	$17,350
			Planning Level Construction Cost =		**$259,881**
			Environmental Permitting	20.0%	$51,976
			Administration & LID formation	25.0%	$64,970
			Engineering/Construction Management	50.0%	$129,941
			WSDOT Permitting	10.0%	$25,988
				TOTAL COST =	**$507,000**

Appendix D

Phase II Permit Stormwater Management Action Planning (SMAP) Requirements

(a) Annually, each Permittee shall assess and document any newly identified administrative or regulatory barriers to implementation of LID Principles or LID BMPs since local codes were updated in accordance with the 2013 Permit, and the measures developed to address the barriers. If applicable, the report shall describe mechanisms adopted to encourage or require implementation of LID principles or LID BMPs.

ii. By December 31, 2023, New Permittees shall review, revise, and make effective their local development-related codes, rules, standards, or other enforceable documents to incorporate and require LID principles and LID BMPs. New Permittees shall conduct a similar review and revision process, and consider the range of issues, outlined in the following document: Integrating LID into Local Codes: A Guidebook for Local Governments (Puget Sound Partnership, 2012).

New Permittees shall submit a summary of the results of the review and revision process with the annual report due no later than March 31, 2024. This summary shall be in the required format described in Appendix 5 and include, at a minimum, a list of the participants (job title, brief job description, and department represented), the codes, rules, standards, and other enforceable documents reviewed, and the revisions made to those documents which incorporate and require LID principles and LID BMPs. The summary shall include existing requirements for LID principles and LID BMPs in development-related codes. The summary must be organized as follows:

(a) Measures to minimize impervious surfaces.

(b) Measures to minimize loss of native vegetation.

(c) Other measures to minimize stormwater runoff.

d. Stormwater Management Action Planning[3] (SMAP). Permittees shall conduct a similar process and consider the range of issues outlined in the *Stormwater Management Action Planning Guidance* (Ecology, 2019; Publication 19-10-010). Permittees may rely on another jurisdiction to meet all or part of SMAP requirements at a watershed-scale, provided a SMAP is completed for at least one priority catchment located within the Permittee's jurisdiction.

i. *Receiving Water Assessment*. Permittees shall document and assess existing information related to their local receiving waters and contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning.

By March 31, 2022, Permittees shall submit a watershed inventory and include a brief description of the relative conditions of the receiving waters and the contributing areas. The watershed inventory shall be submitted as a table with each receiving water name, its total watershed area, the percent of the total watershed area that is in the Permittee's jurisdiction, and the findings of the stormwater management influence assessment for each basin. Indicate which

[3] New Permittees are exempt from S5.C.1.d. for this permit term.

receiving waters will be included in the S5.C.1.d.ii prioritization process. Include a map of the delineated basins with references to the watershed inventory table.

(a) Identify which basins are expected to have a relatively low Stormwater Management Influence for SMAP. See the guidance document for definition and description of this assessment.

Basins having relatively low expected Stormwater Management Influence for SMAP do not need to be included in S5.C.1.d.ii-iii.

ii. *Receiving Water Prioritization*. Informed by the assessment of receiving water conditions in (i), above, and other local and regional information, Permittees shall develop and implement a prioritization method and process to determine which receiving waters will receive the most benefit from implementation of stormwater facility retrofits, tailored implementation of SWMP actions, and other land/development management actions (different than the existing new and redevelopment requirements). The retrofits and actions shall be designed to: 1) conserve, protect, or restore receiving waters through stormwater and land management strategies that act as water quality management tools, 2) reduce pollutant loading, and 3) address hydrologic impacts from existing development as well as planned for and expected future buildout conditions.

No later than June 30, 2022, document the prioritized and ranked list of receiving waters.

(a) The Permittee shall document the priority ranking process used to identify high priority receiving waters. The Permittee may reference existing local watershed management plan(s) as source(s) of information or rationale for the prioritization.

(b) The ranking process shall include the identification of high priority catchment area(s) for focus of the Stormwater Management Action Plan (SMAP) in (iii), below.

iii. Stormwater Management Action Plan (SMAP). No later than March 31, 2023, Permittees shall develop a SMAP for at least one high priority catchment area from (ii), above, that identifies all of the following:

(a) A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations.

(b) Land management/development strategies and/or actions identified for water quality management.

(c) Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including:

- IDDE field screening,
- Prioritization of Source Control inspections,
- O&M inspections or enhanced maintenance, or
- Public Education and Outreach behavior change programs.

Identified actions shall support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular.

(d) If applicable, identification of changes needed to local long-range plans, to address SMAP priorities.

(e) A proposed implementation schedule and budget sources for:

- Short-term actions (*i.e.*, actions to be accomplished within six years), and
- Long-term actions (*i.e.*, actions to be accomplished within seven to 20 years).

(f) A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.

2. Public Education and Outreach

The SWMP shall include an education and outreach program designed to:

- Build general awareness about methods to address and reduce impacts from stormwater runoff.
- Effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.
- Create stewardship opportunities that encourages community engagement in addressing the impacts from stormwater runoff.

Permittees may choose to meet these requirements individually or as a member of a regional group. Regional collaboration on general awareness or behavior change programs, or both, includes Permittees developing a consistent message, determining best methods for communicating the message, and when appropriate, creating strategies to effect behavior change. If a Permittee chooses to adopt one or more elements of a regional program, the Permittee should participate in the regional group and shall implement the adopted element(s) of the regional program in the local jurisdiction.

The minimum performance measures are:

a. Each Permittee shall implement an education and outreach program for the area served by the MS4. The program design shall be based on local water quality information and target audience characteristics to identify high priority target audiences, subject areas, and/or BMPs. Based on the target audience's demographic, the Permittee shall consider delivering its selected messages in language(s) other than English, as appropriate to the target audience. [4]

i. ***General awareness***. To build general awareness, Permittees shall annually select at a minimum one target audience and one subject area from either (a) or (b):

(a) *Target audiences:* General public (including overburdened communities, or school age children) or businesses (including home-based, or mobile businesses). Subject areas:

[4] New Permittees shall begin implementing the requirements of S5.C.2 no later than August 1, 2021.

(c) Based on the recommendation from S5.C.2.a.ii.(b), by February 1, 2021, each Permittee shall follow social marketing practices and methods, similar to community-based social marketing, and develop a campaign that is tailored to the community, including development of a program evaluation plan. Each Permittee shall: [5]

1. Develop a strategy and schedule to more effectively implement the existing campaign; or
2. Develop a strategy and schedule to expand the existing campaign to a new target audience or BMPs; or
3. Develop a strategy and schedule for a new target audience and BMP behavior change campaign.

(d) No later than April 1, 2021, begin to implement the strategy developed in S5.C.2.a.ii.(c).[6]

(e) No later than March 31, 2024, evaluate and report on:

1. The changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy; and
2. Any planned or recommended changes to the campaign in order to be more effective; describe the strategies and process to achieve the results.

(f) Permittees shall use results of the evaluation to continue to direct effective methods and implementation of the ongoing behavior change program.

iii. Stewardship. Each Permittee shall provide and advertise stewardship opportunities and/or partner with existing organizations (including non-permittees) to encourage residents to participate in activities or events planned and organized within the community, such as: stream teams, storm drain marking, volunteer monitoring, riparian plantings, and education activities.

3. Public Involvement and Participation

Permittees shall provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees, participation in developing rate-structures or other similar activities. Each Permittee shall comply with applicable state and local public notice requirements when developing elements of the SWMP and SMAP.

The minimum performance measures are:

a. Permittees shall create opportunities for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation and update of the Permittee's SMAP and SWMP.[7]

[5] No later than August 1, 2021, new Permittees shall follow social marketing practices and methods, similar to Community-Based Social Marketing, to develop a behavior change program that is tailored to the community.

[6] No later than October 1, 2021, New Permittees shall begin to implement the strategy developed in S5.C.2.a.ii.(c).

[7] New Permittees shall develop and begin to implement requirements according to S5.C.3.a no later than August 1, 2020. New Permittees are exempt from SMAP this permit term.

Appendix E

WA Department of Health and
Environmental Protection Agency
Technical Memorandum

Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

1019 39TH AVENUE SE, SUITE 100 | PUYALLUP, WA 98374 | P 253.604.6600

TECHNICAL MEMORANDUM

DATE: March 17, 2020
TO: Robert Wright
FROM: Clara Olson
SUBJECT: WA DOH and EPA Resource Mapping
CC: Jeffrey Coop
PROJECT NUMBER: 216-1527-082
PROJECT NAME: Stormwater CIP Update

OVERVIEW

The City of Sumner (City) is updating the current Stormwater Capital Improvement Plan (CIP) to reflect current project needs and prioritization. The CIP update is also identifying potential projects that may be required through Stormwater Management Action Planning (SMAP) required under the National Pollutant Discharge Elimination System (NPDES) Phase 2 permit for Municipal Separate Storm Sewer Systems (MS4s). The SMAP review for potential CIP projects has focused specifically on the Salmon Creek Watershed. To begin the SMAP process, Parametrix reviewed internet-based mapping tools from the Washington Department of Health (WA DOH) and the Environmental Protection Agency (EPA).

Categories from the WA DOH and EPA internet-based mapping tools were reviewed to determine the risks associated to the City and if those risks are related to stormwater which might trigger a potential stormwater CIP. The WA DOH mapping tool categorizes different environmental exposures and effects and ranks the risk from one to ten, with one being low and ten being high. The EPA mapping tool categorizes environmental and demographic indicators and compares the selected area's value to Washington State's and EPA Region's average values. The categories where the City had a risk of eight or greater with the WA DOH tool or a risk value more than both the State and US average with the EPA tool are described below.

Diesel Emissions

The highest WA DOH ranking in the City for NOx Diesel Emissions is eight out of ten. The NOx category evaluates the potential risk that comes from diesel exhaust emissions. The EPA selected area's value for National Air Toxics Assessment (NATA) Diesel Particulate Matter (PM) is 0.771 micrograms per cubic meter ($\mu g/m^3$) with a state average of 0.583 $\mu g/m^3$ and EPA Region value of 0.479 $\mu g/m^3$. Because diesel emission ranking is for air quality purposes, addressing diesel emissions is not part of the Stormwater CIP and will not be further analyzed for this CIP update project.

Populations Near Heavy Traffic Roadways

The highest WA DOH ranking in the City for Populations near Heavy Traffic Roadways is ten out of ten. The EPA selected area's value for Traffic Proximity and Volume is 700 daily traffic count/distance to road, with a state average of 600 and EPA Regions average of 500. These high values are likely due to State Route (SR) 410 cutting

directly through the City, as well as the SR 410/SR 167 Interchange and heavy traffic on Traffic Avenue and Valley Avenue East. The ranking extends to Sumner-Tapps Highway E, and the easterly end is within the Salmon Creek Watershed. Populations in this ranking could potentially be impacted due to pollutants in stormwater runoff from heavy traffic roadways. Reducing the risk for potential impacts could be addressed as part of the City's permitting process by implementing and enforcing source control BMPs, BMP maintenance, spill pollution prevention measures, and oil control BMPs for high use sites. Because the risk reduction could be addressed through the permitting process and because the area is relatively small, stormwater CIPs within the Salmon Creek Watershed for this risk factor will not be further considered.

Toxic Releases from Facilities

The highest WA DOH ranking in the City for Toxic Releases from Facilities is eight out of ten. Total Maximum Daily Loads (TMDLs) were reviewed to determine if the toxic releases impact Salmon Creek. There is a TMDL for Salmon Creek, but it is for bacteria, not industrial chemicals. Therefore, impacts from facilities with the potential for toxic releases and potential stormwater CIPs will not be further considered for the project. Reducing the risk for potential toxic releases from future development could be addressed both through the City's permitting process, as well as the industrial NPDES permitting process through the Washington State Department of Ecology (Ecology).

Proximity to Facilities

The highest WA DOH ranking in the City for Waste Treatment Storage and Disposal Facilities is eight out of ten. The highest WA DOH ranking in the City for Risk Management Plan (RMP) facilities is nine out of ten. The EPA selected area's value for RMP facilities is 2.4, with a state average of 1.9 and EPA Regions average of 1.5.

These values are based on distances to existing facilities, and the values cannot be reduced through City stormwater CIP projects. The City can maintain its Illicit Discharge Detection and Elimination (IDDE) program required by the NPDES permit to reduce the risk to stormwater runoff and receiving waters. The City can also review the status of industrial permits to determine if there is a concern with permit compliance. Industrial permits issued by Ecology can be found through the following website: https://fortress.wa.gov/ecy/industrial/Default.aspx.

Projects that are exempt from flow control that construct and maintain their own outfall to a flow-control exempt receiving water are required to provide copies of the Ecology-approved permits and Ecology-required reports to the City in accordance with Sumner Municipal Code (SMC) 13.48.050.C.6. This allows the City to be aware of industrial facilities within its jurisdiction that may have its own stormwater systems and outfalls and allows the City to be aware of potential risks.

There are no stormwater CIPs that will be analyzed for this risk category for this CIP update project.

Wastewater Discharge

The highest WA DOH ranking in the City for Wastewater Discharge is eight out of ten. Wastewater discharge should already be permitted through the National Pollutant Discharge Elimination System (NPDES). The City can keep track of cross contamination as part of its IDDE program under the NPDES stormwater permit. Currently, there are no known cross-connections between the stormwater and sanitary sewer systems that would trigger a potential stormwater CIP project. However, the City continues to review potential cross-connection locations as part of its IDDE program. If a stormwater connection is found to the sanitary sewer system, a project will need to be added to the stormwater CIP to provide for a separate storm drain connection to the stormwater system. Also, the City continues to review the potential for fecal coliform sources into Salmon Creek to address the TMDL

requirement through the NPDES permit. Projects that are identified that can reduce fecal coliform loads into Salmon Creek will be included in the stormwater CIP update.

CONCLUSION AND NEXT STEPS

This review of environmental risk factors associated with SMAP focuses on potential stormwater CIPs with an emphasis on the Salmon Creek Watershed. The WA DOH and EPA's internet mapping tools illustrate the City's current conditions and potential risks, but these results do not directly relate to potential projects that will be identified for the CIP. Next steps include using the Ecology SMAP mapping tool to identify key problem areas in the Salmon Creek Watershed for which stormwater CIPs could potentially improve water quality and/or flow control through the use of a constructed stormwater CIP.

Appendix F

Washington Department of Ecology's
Puget Sound Watershed Characterization Results
Technical Memorandum

Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

1019 39TH AVENUE SE, SUITE 100 | PUYALLUP, WA 98374 | P 253.604.6600

TECHNICAL MEMORANDUM

DATE:	December 9, 2020
TO:	Robert Wright
FROM:	Clara Olson
SUBJECT:	Washington Department of Ecology's Puget Sound Watershed Characterization Results
CC:	Jeffrey Coop, PE
PROJECT NUMBER:	216-1527-082
PROJECT NAME:	Stormwater CIP Update

OVERVIEW

The City of Sumner (City) is updating the current Stormwater Capital Improvement Plan (CIP) to reflect current stormwater project needs and prioritization. The CIP update is also identifying potential projects that may be required through Stormwater Management Action Planning (SMAP) required under the National Pollutant Discharge Elimination System (NPDES) Phase 2 permit for Municipal Separate Storm Sewer Systems (MS4s). Based on coordination with the City, Salmon Creek has been identified as a high-priority receiving water and the high-priority catchment area for focus of the SMAP review. The purpose of this technical memorandum is to identify the water quality characteristics that were reviewed in the SMAP process and to identify potential stormwater (SW) CIPs that may be able to improve water quality associated with the SMAP process. Further, the focus was on identifying high-priority SW CIPs for which funding may need to be identified during the budget review process for 2021–2022.

To begin the SMAP process, Parametrix reviewed internet-based mapping tools from the Washington Department of Health (WA DOH) and the Environmental Protection Agency (EPA). This initial review is summarized in a previous memorandum, "WA DOH and EPA Resource Mapping" (Parametrix 2020). Parametrix then reviewed the Washington Department of Ecology (Ecology) Puget Sound Watershed Characterization Project online tool. Results of the Ecology tool are summarized in this technical memorandum.

Categories from the watershed characterization project mapping tool were reviewed to determine the potential for stormwater CIPs within the Salmon Creek Watershed that could improve the characteristics reflected in the Ecology mapping tool. The mapping tool has different reference layers that can be selected to help users understand their focus area better. For instance, when zoomed in to the City of Sumner, Watershed Management Units, Streams and Lakes, and City/urban growth area (UGA) boundaries were selected. These reference layers were beneficial to see impacts to the City of Sumner and the Salmon Creek Watershed. The watershed characterization project mapping tool categories include water flow, water quality, and fish and wildlife habitats. Results are grouped from lowest to highest level of importance and from lowest to highest level of degradation.

The combination of these results guides the user in determining which of the following is best suited for the area in question:

- Conservation: low degradation and low importance,
- Protection: low degradation and high importance,
- Development: high degradation and low importance, or
- Restoration: high degradation and high importance.

Results for the Salmon Creek Watershed are summarized below. The Salmon Creek Watershed boundary, the Drainage District 11 (DD11) boundary, and the stormwater CIPs discussed in this memorandum are shown on Exhibit 1.

Water Flow

Water Flow is separated into five categories and three subcategories for each category. The categories are:

- Overall,
- Delivery,
- Surface Storage,
- Recharge, and
- Discharge.

The subcategories are:

- Importance,
- Degradation, and
- Protection and Restoration.

In the Salmon Creek Watershed, except for the Recharge category, all categories are ranked with Moderate High Importance, High Degradation, and High Restoration. Recharge is ranked with High Importance, High Degradation, and Highest Restoration. The City of Sumner and the Salmon Creek Watershed are located in a valley. In historic conditions, this area may have had ample recharge potential. Recharge is most practical in locations where the groundwater table is not high and native soils have moderate to high infiltration capabilities. The City of Sumner is now highly developed and recharge is limited. Implementing low-impact development (LID) where feasible is one way to improve the recharge potential. The USDA's Web Soil Survey online tool was reviewed with the area's hydrologic soil groups (HSGs) to determine potential areas for LID implementation in the Salmon Creek Watershed. HSGs in the watershed range from Group A (high infiltration capability) to Group D (minimal to low infiltration capability).

The City of Sumner has a list of proposed transportation projects in their Transportation Improvement Plan (TIP), which can be found on the City's website at the following link: https://sumnerwa.gov/about/future-plans/tip/. The list of TIP projects were reviewed with the HSGs for the area and general location of the proposed TIP project. TIP projects with HSGs A and B are most feasible to consider pervious pavement in the design. The City is considering incorporating pervious pavement for TIP projects located within the historic DD11 boundary. The projects that have HSG A or B that have the potential for pervious pavement and are located in the Salmon Creek Watershed

are summarized in Table 1 below and further described after Table 1. The locations of the projects and the boundaries for the Salmon Creek Watershed and DD11 are shown in Exhibit 1.

Table 1. Stormwater CIPs in Drainage District 11 and the Salmon Creek Watershed

Stormwater CIP Number	TIP Number	Name	In DD11?	Pervious Pavement Consideration
24	A1	SR 410/166th Avenue E	Portion	Not likely feasible
25	A4	Main Street/160th Avenue	Portion	TBD during design
26	A13	62nd Street from 166th Avenue to 160th Avenue	No	Not considered
N/A	A6	Sumner Tapps Highway Resurfacing	No	TBD during design phase on a case-by-case basis
5	C2	160th Avenue E: Elm to Main	No	Not considered
27	C3	Elm Street: Valley Highway to 160th	Yes	TBD during design phase
28	C4	Parker Road: 62nd to 63rd	Yes	TBD during design phase
29	C5	Parker Road: Main to 50th	Yes	TBD during design phase
30	R7	Sidewalk Replacement Program	TBD based on specific project	TBD on case-by-case basis
31	R10	Volunteer Sidewalk Program	TBD based on specific project	TBD on case-by-case basis

Notes: CIP = Capital Improvement Plan; TIP = Transportation Improvement Plan; DD11 = Drainage District 11; SR = State Route; TBD = to be determined.

- TIP A1 – State Route (SR) 410/166th Avenue E Interchange Improvements: TIP A1 will address congestion issues by widening the roadway, increase safety measures by adding a traffic signal, and replace an undersized culvert. Stormwater CIP 24 will address the stormwater components of the project. Based on the City's description of TIP A2, stormwater CIP 24 includes replacing the existing culvert with a fish-passable culvert and implementing habitat improvement and stream restoration to Salmon Creek in this area. The southwest corner of this project is in DD11. Because this is an interchange project for a state highway, it is not likely that pervious pavement is technically feasible due to traffic volumes and the limited ability to readily contain and remove hazardous spills.
- TIP A4 – Main Street and 160th Avenue: TIP A4 will improve Main Street from 160th Avenue E to 64th Street E by widening the street and adding bike paths and sidewalk. TIP A5 is being considered as SW CIP 25 for any of the stormwater improvements, which may include conveyance. Pervious pavement may be considered further during the design phase for the project area that is included in DD11.
- TIP A13 – 62nd Street from 166th Avenue to 160th Avenue E: TIP A13 will improve the roadway to meet arterial standards. Any stormwater improvements for the project will be included as part of SW CIP 26. This project is not located within DD11 and has not been considered further for pervious pavement for SMAP purposes.
- TIP A6 – Sumner Tapps Highway Resurfacing: TIP A6 will repair and overlay the existing roadway. TIP A6 does not have a direct stormwater cost that was reflected in the CIP; consequently, there is not a SW CIP number assigned to TIP A6. Although this project is not located within DD11, pervious pavement may be considered during the design phase for SMAP purposes due to its proximity to Salmon Creek.

- TIP C2 – 160th Avenue E: TIP C2 will improve the roadway from Elm Street to Main Street by adding curb, gutter, and sidewalk. SW CIP 5 will address any of the stormwater improvements for the project, which may include conveyance system upgrades. This project is not located within DD11 and has not been considered further for pervious pavement for SMAP purposes.
- TIP C3 – Elm Street: TIP C3 will improve the roadway from E Valley Highway to 160th Avenue E by adding curb, gutter, and sidewalk. Design has already been completed for this project. SW CIP 27 will address the stormwater-associated costs for the project, which includes new storm drainage facilities and replacing existing utilities. The project is located within DD11 west of Parker Road. Pervious pavement may be considered further during the design phase.
- TIP C4 – Parker Road Improvements: TIP C4 will improve Parker Road from 62nd Street to 63rd Street by adding curb, gutter, and sidewalk on the east side of the street. SW CIP 28 will address the stormwater improvements for the project, which include adding conveyance features to the east side of the street. This project is located within DD11. Pervious pavement may be considered further during the design phase but is not required because the project does not currently trigger flow-control requirements.
- TIP C5 – Parker Road: TIP C5 will improve Parker Road from Main Street to 50th Street by adding curb, gutter, and sidewalk where currently missing. SW CIP 29 will address the stormwater improvements for the project, including new conveyance features, water quality treatment, and flow control. This project is located within DD11. Pervious pavement may be considered during the design phase.
- Recurring annual programs with various locations City-wide. The following recurring annual programs that may fall within DD11 include stormwater improvements and may consider pervious pavement during the design phase on a case-by-case basis:
  - R7 – Sidewalk Replacement Program (SW CIP 30), and
  - R10 – Volunteer Sidewalk Program (SW CIP 31).

Water Quality

Water Quality is separated into five categories and three subcategories. The categories are:

- Sediment,
- Phosphorous,
- Metals,
- Nitrogen, and
- Pathogens.

The subcategories are:

- Export Potential,
- Degradation, and
- Overall Protection and Restoration.

This analysis focuses on the degradation results for each category because export potential was ranked low or moderate for each category and restoration of sinks was the recommended Overall Protection and Restoration result for all categories. The degradation results for each category are summarized below.

Sediment Degradation

Sediment degradation in the Salmon Creek Watershed is ranked as Moderate High. Sediment degradation occurs in areas with higher gradients, with more erosive soils, or when there has been an extensive change in land cover. Water quality best management practices (BMPs) are included in the CIP update and will help address sediment degradation within the Salmon Creek Watershed. Three proposed SW CIPs that focus on water quality are located within the Salmon Creek Watershed and are discussed below.

There is an existing swale that provides dispersion prior to outfalling to Salmon Creek located north of Elm Street E, near the Elm Street E/160th Avenue E curve. SW CIP 5 is proposed at this location to retrofit the existing swale to improve water quality treatment.

There is an existing conveyance system within 162nd Avenue E (Poole Road). Previous projects were completed to upsize the pipe network in this area. SW CIP 8 is proposed at this location to provide water quality through a water quality BMP.

A new SW CIP 23 is proposed near the intersection of Sumner Tapps Highway E and 60th Street E and will include a water quality BMP to remove sediment from stormwater prior to discharge into Salmon Creek.

Phosphorous Degradation

Phosphorous degradation in the Salmon Creek Watershed is ranked as High. Phosphorous naturally occurs in soils and often is higher in concentration in agricultural areas. There are no stormwater CIPs that are specifically applicable for this category. However, the City's actions for temporary erosion control, permanent land cover and site stabilization, and permanent water quality BMPs through implementation of its coverage under the NPDES permit will assist in limiting soil migration and associated phosphorous degradation. Also, the reduction in agricultural areas within the City will likely reduce the potential for ongoing phosphorous degradation.

Metals Degradation

Metals degradation in the Salmon Creek Watershed is ranked as High. High concentrations of metals in stormwater often come from stormwater runoff from developed areas. To address this, the City of Sumner now requires enhanced treatment water quality for projects requiring a Stormwater Site Plan and Site Development Permit. Also, the CIP update includes water quality BMPs to help address metals degradation within the Salmon Creek Watershed.

Nitrogen Degradation

Nitrogen degradation in the Salmon Creek Watershed is ranked as Moderate High. Nitrogen naturally occurs in soils. Wetlands, lakes, and riparian denitrification areas can help reduce the nitrogen load. Nitrogen loading can also occur from septic tank drain fields and fertilizer application. The City's efforts to reduce loading from failing septic systems is discussed below under Pathogens Degradation. Because there are no known areas where stormwater runoff conveys high levels of nitrogen either as a point or nonpoint discharge, no stormwater nitrogen removal BMPs are proposed.

Pathogens Degradation

Pathogen degradation in the Salmon Creek Watershed is ranked as High. The City of Sumner has a program in place that is currently working to address the pathogen degradation in the watershed. As stated in the 2017 City

of Sumner Stormwater Management Program, "The City of Sumner has partnered with the Tacoma Pierce County Health Department in cases where the pollutant source is likely stemming from failing septic systems." The City continues to implement field screening, investigation of contamination, and elimination through the NPDES permit. There are no stormwater CIPs specifically related to addressing pathogen degradation.

Another source of potential pathogen and nutrient loading to receiving waters, such as Salmon Creek, include food processing facilities, such as meat processing facilities. Such facilities are required to obtain licenses from the Washington State Department of Agriculture (WSDA). Further, facilities are required to obtain an industrial stormwater permit from Ecology. Industries that are within certain classifications of the North American Industry Classification System (NAICS) can apply for coverage under Ecology's Industrial Stormwater General Permit (ISGP). Some of the NAICS flood processing industries that can apply for coverage under Ecology's ISGP include:

NAICS Code	Industrial Activity
3116	Animal slaughtering and processing
311611	Animal (except poultry) slaughtering
311612	Meat processed from carcasses
311613	Rendering and meat byproduct processing
311615	Poultry processing
3117	Seafood product preparation and packaging
311710	Seafood product preparation and packaging

Meat processing license holders can be found from the following WSDA website:
https://agr.wa.gov/departments/food-safety/food-safety

The ISGP requires that the permittee's Stormwater Pollution Prevention Plan (SWPPP) identify and eliminate sources of illicit discharges, which includes process wastewater. The ISGP requires that process wastewater be collected in a tank for off-site disposal or discharged to a sanitary sewer with written approval from the local sewage authority. ISGP permittees can be found from the following Ecology website:
https://apps.ecology.wa.gov/paris/PermitSearch.aspx?PermitNumber=&FacilityName=&City=&County=&Address=&ZipCode=&Region=0&PermitType=19&AdminRegion=0

All industries, regardless of the NAICS activity and regardless of the receiving water, that are required to obtain coverage under Ecology's ISGP and that discharge into the City's stormwater system are subject to the City's requirements under Section S5.C.5, Illicit Discharge Detection and Elimination (IDDE) of Ecology's NPDES Phase 2 permit. Further, areas that discharge into the City's stormwater system that in turn discharge into Salmon Creek are subject to the Total Maximum Daily Load (TMDL) requirements for Water Resource Inventory Area (WRIA) 10, Puyallup Watershed Water Quality Improvement Project, in Appendix 2 of Ecology's NPDES Phase 2 permit.

The City's costs to address IDDE compliance for industrial activities could be included in its annual costs for NPDES permit compliance. Also, there could be City activities and costs associated with public education and outreach to inform NAICS industries of NPDES stormwater permit requirements and WSDA license requirements. The costs for any further actions would be contingent upon the level of compliance by the industrial activity performer, the level of involvement from Ecology for ISGP compliance, WSDA for license compliance, and the actions identified by the City through its IDDE program.

Fish and Wildlife Habitats

Fish and Wildlife Habitats includes the following categories:

- Freshwater features,
- Terrestrial features, and
- Marine features.

The Salmon Creek Watershed review focuses on Freshwater features. Terrestrial and Marine features are not applicable to potential stormwater CIPs within the Salmon Creek Watershed. The Freshwater features include the following subcategories:

- Sum of Freshwater Index Components,
- Maximum of Freshwater Index Components,
- Hydrogeomorphic Features,
- Downstream Salmonid Habitats Index,
- Local Salmonid Habitats Index, and
- Aquatic Ecological Integrity.

The categories are ranked from low to high, with low numbers representing areas of degradation, minimal habitat, lack of wetlands, and inadequate access to floodplains. The Salmon Creek Watershed had "high" values for Maximum of Freshwater Index Components and Hydrogeomorphic features and "moderate" values for Sum of Freshwater Index Components and Local Salmonid Habitat Index. The Salmon Creek Watershed had "low" values for Downstream Salmonid Habitats Index and Aquatic Ecological Integrity, summarized below.

Downstream Salmonid Habitats Index

The downstream salmonid habitats index ranges from 1, as the lowest, to 10, as the highest. The Salmon Creek Watershed has an index of approximately 4 for Downstream Salmonid Habitat and 5 for overall result for Fish and Wildlife Habitat Assessment. A lower value indicates the quantity and quality of salmonid habitats potentially impacted. WRIA 10, which Salmon Creek is located in, has a Salmon Recovery Plan for White River and Puyallup River. The City of Sumner now requires culverts for fish passage and not just for conveyance capacity. These two plans and programs are targeting salmonid habitat in the watershed. There are seven stormwater CIPs that include installing culverts that meet Washington Fish and Wildlife (WDFW) requirements for fish passage or otherwise improve fish habitat. The Stormwater CIPs are discussed below and are shown in Exhibit 1.

SW CIP 9 will replace an existing 15-foot-long, 60-inch-diameter steel fish barrier culvert off 47th Street Court E with 20 feet of a 12-foot-wide by 8-foot-deep concrete box culvert that will increase hydraulic capacity and improve fish habitat. SW CIP 10 is located within the Salmon Creek Watershed.

SW CIP 10 includes creek restoration and culvert replacements adjacent to 160th Avenue E south of Elm Street. It is anticipated that this will be a phased project, including multiple fish barrier removals and replacement with box culverts. The proposed 12-foot-wide by 8-foot-deep culverts will replace the existing fish barriers to increase Salmon Creek hydraulic capacity and fish habitat. SW CIP 10 is located within the Salmon Creek Watershed.

SW CIP 11 will replace three fish barrier culvert sections off 162nd Avenue E (Poole Road) with 12-foot-wide by 8-foot-deep box culverts. Streambank restoration will also occur at the locations of the culvert replacements. The

culvert replacements and streambank restoration will increase hydraulic capacity and improve fish habitat. SW CIP 11 is located within the Salmon Creek Watershed.

SW CIP 12 will remove an existing fish barrier located north of E Main Street at the intersection with Sumner-Tapps Highway and will complete bank and streambed restoration to enhance fish habitat. SW CIP 12 is located within the Salmon Creek Watershed.

SW CIP 13 will replace the existing 24-inch culvert at the E Main Street and Sumner-Tapps Highway intersection with 150 feet of stream channel and a 12-foot-wide by 8-foot-deep three-sided box culvert. SW CIP 13 will also restore the stream bank in this location, thus enhancing viable fish habitat. SW CIP 13 is located within the Salmon Creek Watershed.

SW CIP 14 consists of replacing an existing 36-inch culvert under Sumner-Tapps Highway at the 64th Street E intersection with a 12-foot-wide by 8-foot-deep box culvert. Stream bank restoration at this project location will also be completed. SW CIP 14 will increase hydraulic capacity and improve fish habitat. SW CIP 15 is located within the Salmon Creek Watershed.

SW CIP 24 (TIP A1) – See the description of SW CIP 24 (TIP A1) in the Water Flow section above. The culvert replacement included in this project will result in increased hydraulic capacity and improved fish habitat. SW CIP 24 is located within the Salmon Creek Watershed.

Aquatic Ecological Integrity

The aquatic ecological integrity ranges in scale from 0 to 10 as the lowest and from 91 to 100 as the highest. The Salmon Creek Watershed falls within the 21–30 scale. The ranking is based on land uses in a watershed and the riparian and upland areas. The City of Sumner now requires enhanced treatment water quality for projects requiring a Stormwater Site Plan and Site Development Permit. This does not directly affect the overall land use in the project area but may include streambank, floodplain, or other riparian area restoration that would improve the overall aquatic ecological integrity. Streambank restoration associated with the fish passage culverts proposed above will assist in improving the aquatic ecological integrity within Salmon Creek. However, there are no other projects proposed for Salmon Creek that include streambed, bank, or riparian area restoration.

CONCLUSION AND NEXT STEPS

This review of environmental risk factors associated with SMAP focuses on potential stormwater CIPs with an emphasis on the Salmon Creek Watershed. The Ecology Puget Sound Watershed Characterization Project online tool illustrates the Salmon Creek Watershed's current conditions and potential risks due to changes in land use, soil conditions, human impact, and other contributing factors. This includes highlighting CIPs that could target the higher-risk areas.

The stormwater CIPs identified in this technical memorandum address the following watershed characterization factors:

- Groundwater recharge through use of permeable pavement where technically feasible, to be determined on a case-by-case basis. Such permeable pavement projects would be considered in lieu of standard overlaying projects that repair existing pavement failure locations;
- Water quality through retrofitting existing treatment BMPs or constructing new BMPs;
- Habitat improvement by replacing existing culverts with fish passage culvert and habitat restoration within the vicinity of the culvert replacements.

Parametrix is currently preparing the cost opinions, implementation schedule, and exhibits for the 2020 SW CIP update, which includes the SW CIPs identified in this memo. The 2020 SW CIP update reflects the following implementation schedule:

- High-priority projects, to be implemented in 2021 and 2022;
- Medium-priority projects, to be implemented in 2023 through 2026;
- Low-priority projects, to be implemented after 2026.

Table 2 summarizes the projects identified in this memorandum and the implementation schedule.

Table 2. Summary of Stormwater CIPs and Implementation Schedule for Salmon Creek Watershed

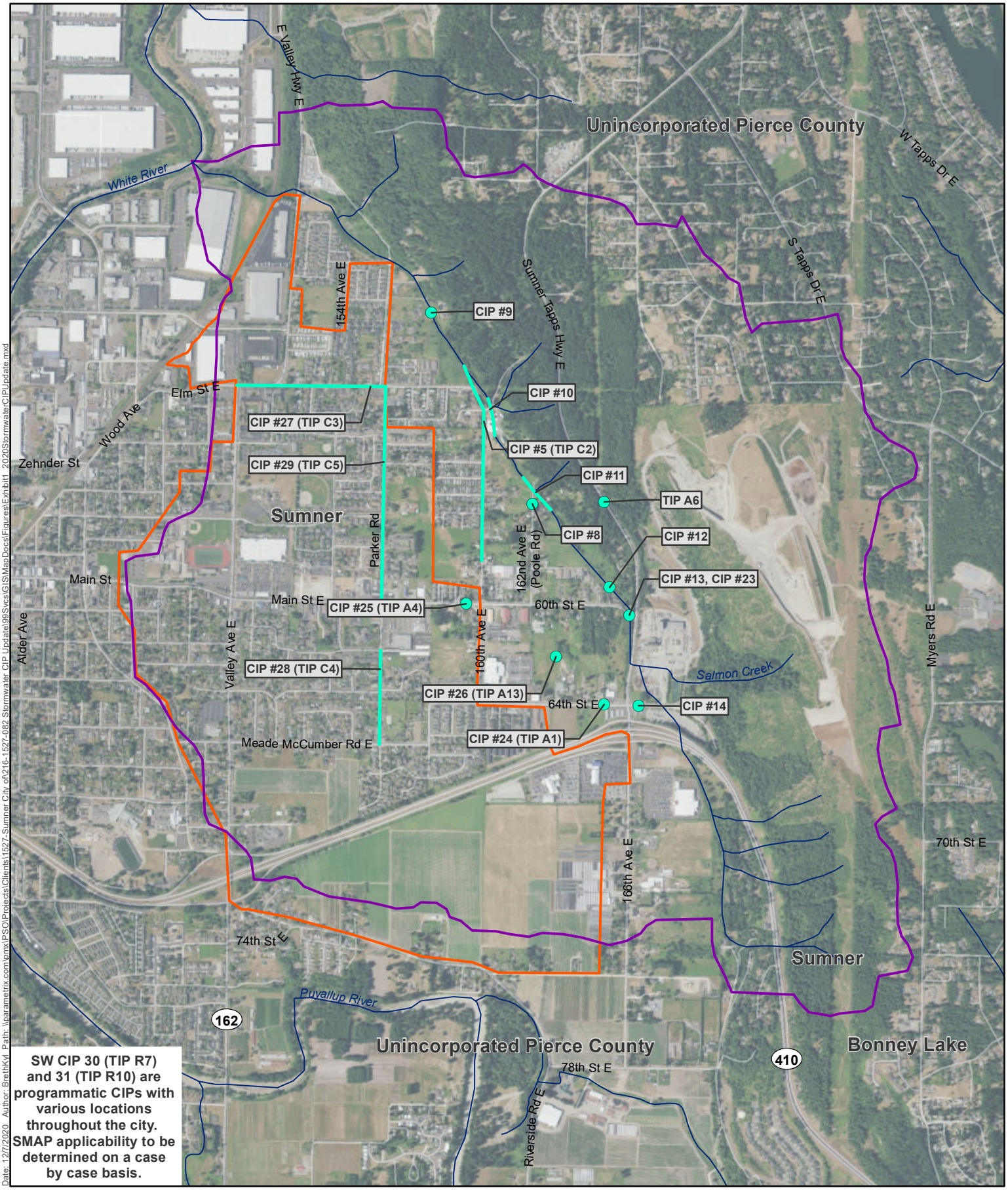
SW CIP No.	SW CIP Name	Watershed Characterization Factor to Be addressed	Priority
24	SR 410/166th Avenue E	Recharge	Medium
25	Main Street/160th Avenue	Recharge	Medium
26	62nd Street from 166th Avenue to 160th Avenue	Recharge	Medium
N/A	Sumner Tapps Highway Resurfacing	Recharge	Not applicable
5	160th Avenue E: Elm to Main	Recharge, water quality	High
27	Elm Street: Valley Highway to 160th	Recharge	Medium
28	Parker Road: 62nd to 63rd	Recharge	Medium
29	Parker Road: Main to 50th	Recharge	Medium
30	Sidewalk Replacement Program	Recharge	High–Medium
31	Volunteer Sidewalk Program	Recharge	High–Medium
8	162nd Avenue E (Poole Road) Outfall Improvements	Water quality	Low
23	Sumner Tapps Highway and 60th Street E	Water quality	Low
9	47th Street Court E Culvert Improvements	Habitat	High
10	160th Avenue E Culvert Improvements	Habitat	High
11	162nd Avenue E Culvert Improvements	Habitat	High
12	E Main Street Culvert Improvements	Habitat	High
13	Salmon Creek Restoration	Habitat	Medium
14	64th Street E Culvert Improvements	Habitat	High

Notes: SW = stormwater; CIP = Capital Improvement Plan; SR = State Route.

The City is currently reviewing the costs and implementation schedule for the stormwater CIPs identified in this memorandum as well as in the 2020 CIP update as part of its 2021–2022 budget review and stormwater rate review process. Additional SMAP process for elements outside the purpose of this memorandum will be implemented as needed for ongoing NPDES permit compliance.

REFERENCES

Parametrix. 2020. WA DOH and EPA Resource Mapping. Unpublished technical memorandum by Parametrix to City of Sumner, Sumner, WA.



Sources: City of Sumner, WA State Department of Ecology (Puget Sound Characterization Project, Pierce County, WAOCIO, Leica Geosystems Inc

Capital Improvement Projects (CIP)

Salmon Creek Watershed
Drainage District 11
Stream
City Limit

0 500 1,000 2,000 Feet

City of Sumner
2020 Stormwater CIP Update
Exhibit 1. Stormwater Management Action Planning Stormwater CIPs in the Salmon Creek Watershed