EXIT PLAN NOTES:

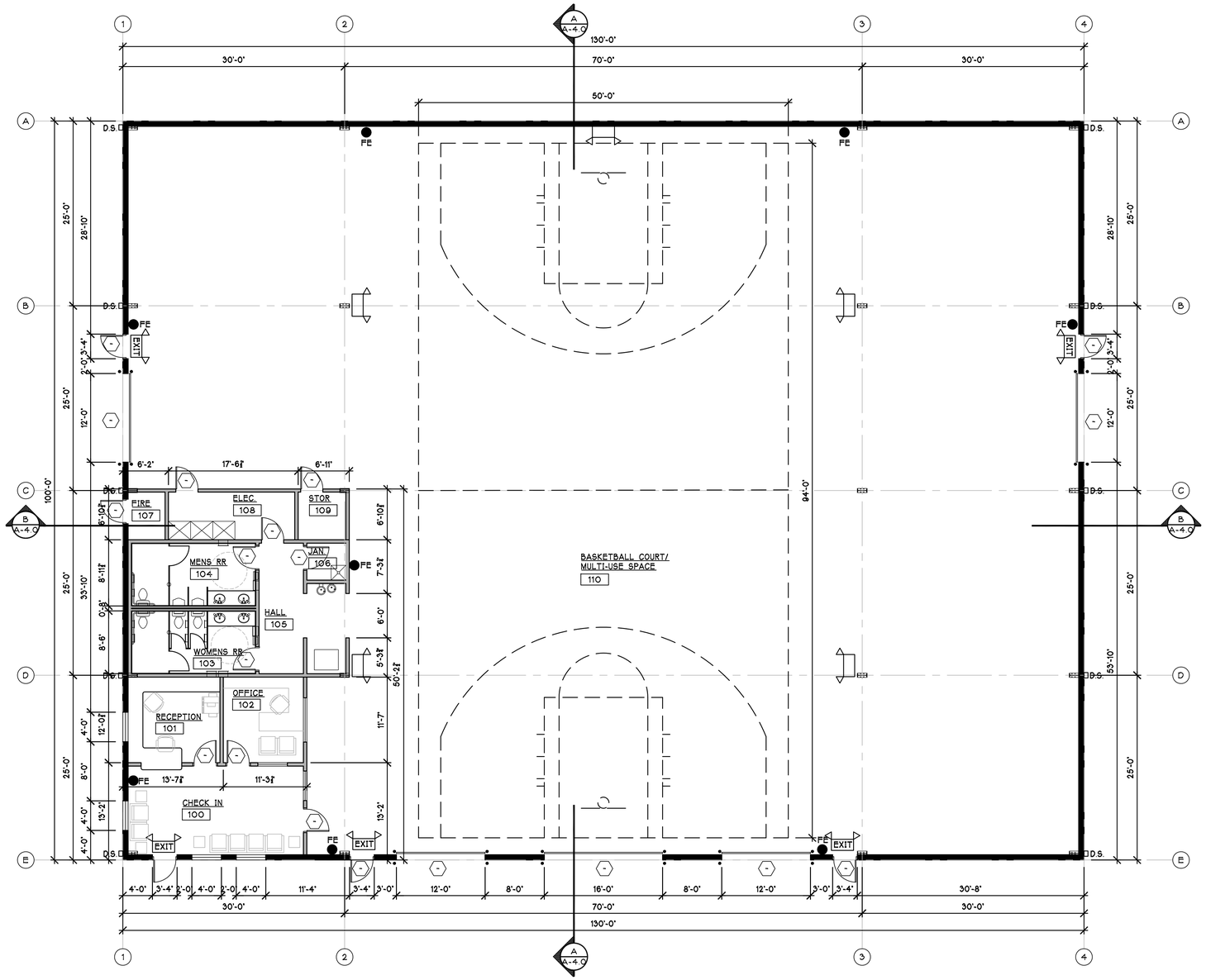
1. PER 1006.2.1 TRAVEL DISTANCE TO COMMON PATH OF TRAVEL W/ SPRINKLER SYSTEM < 100'-0" (OK)
2. PER 1017.2 OVERALL EXIT TRAVEL DISTANCE < 250'-0" WITH SPRINKLERS FOR (A OCC.) (OK)
3. EXITS ARE ALL GREATER THAN 1/3 THE DIAGONAL DISTANCE APART WHERE THERE IS REQUIRED TO BE MORE THAN ONE EXIT.
4. PER 1005 EGRESS WIDTH PER OCCUPANT SERVED XX OCCUPANTS (PER COVER SHEET) (.20) INCHES PER OCCUPANT (PER TABLE 1005.1 WITH (A) OCCUPANCIES XX X (.20) = X'. WE PROVIDE 5 EXIT DOORS X (34") = 170' WHICH IS > X' (OK)
5. MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD (SECTION 1019.1) OCCUPANT LOAD IS X AND FOR OCCUPANT LOADS < 500 OCCUPANTS TWO EXITS REQUIRED (5) EXITS ARE PROVIDED AND DOORS SWING OUT. (OK)
6. INSTALL EXIT LIGHTS & FIRE EXTINGUISHERS SHOWN ON PLAN AND AS DIRECTED BY THE FIRE MARSHALL

FLOOR PLAN NOTES:

1. CONFIRM ALL ROUGH OPENINGS FOR DOORS AND WINDOWS PRIOR TO FRAMING AND ORDERING.
2. SEE METAL BUILDING DRAWINGS FOR LOCATION AND INFORMATION ON STEEL MAIN FRAMES AND BASE PLATES.

FLOOR PLAN LEGEND

- EXIT — DIRECTIONAL EMERGENCY EXIT SIGN HARDWIRE W/ BATTERY BACKUP
- EXIT — COMBINATION EXIT SIGN/EMERGENCY LIGHTING WITH BATTERY BACKUP HARDWARE
- EMERGENCY LIGHTING W/ BATTERY BACKUP HARDWARE
- FE — 2A 10BC FIRE EXTINGUISHER SEE FLOOR PLAN FOR LOCATIONS 75 FEET MAX TRAVEL DISTANCE
- (X) — DOOR NUMBER SEE SHEET A-2.3 FOR SCHEDULE
- (X) — WINDOW NUMBER SEE SHEET A-2.3 FOR SCHEDULE
- XXX — ROOM FINISH TAG SEE SHEET A-2.3 FOR SCHEDULE
- D.S. — DOWNSPOUT CONNECT TO CIVIL TIGHTLINE TYP.
- METAL BUILDING MAIN FRAME (SEE METAL BUILDING DRAWINGS)
- EXTERIOR METAL BUILDING 24 GA. MTL. SIDING O/ R-21 CONTINUOUS PIP RIGID INSULATION. TAPE ALL SEAMS TYP. O/ 8-1/2" MIN. 'Z' GIRTS PER MTL. BLDG. SUPPLIER (MANF. TO VERIFY SIZE/GAUGE)
- INTERIOR 6" OR 3-5/8" STEEL STUDS 30 MIL @ 16" O.C. W/ R-11 SOUND BATT INSULATION W/ ⅝" GWB EA. SIDE. FRAME TO CEILING ABOVE TYP.
- R — (2) TOTAL 175,000 BTU GAS UNIT REZNOR HEATER SUPPORT FROM FRAMES ABOVE W/ UNISTRUT GAS LINE TO HEATERS TO BE 1-1/4" BLACK PIPE TO EA. LOCATION SEPARATE LINES FOR EACH UNIT. MAX. LENGTH OF PIPE TO BE 225'



FLOOR PLAN

SCALE: 1/8"=1'-0"

Concept #1 - Enclosed Building - Preliminary Layout Drawing for Budget Purposes

CARLETTI ARCHITECTS P.S.
architecture & planning
116 EAST FIR STREET
SUITE A
MOUNT VERNON, WA. 98273
Phone: (360) 424-0394
Fax: (360) 424-5726

A NEW FACILITY FOR:
SUDDEN VALLEY

BARN 6 REPLACEMENT

98229

22-607
PROJECT NUMBER:

REVISIONS:
2-3-21 PRELIM. SET

SHEET TITLE:
FLOOR PLAN

PJC
PROJECT ARCHITECT:

DAVID WILSON
DRAWN BY:

PJC
CHECKED BY:

JANUARY 31, 2022
DATE

S:/ARCH/22-607 SVBARN6
COMPUTER FILE NAME

A-2.0

Axthelm CONSTRUCTION

Concept #1 - Enclosed Building
Preliminary Budget

4.01.2022

Sudden Valley Barn 6 New Construction of 13,000 S.F. Facility

CSI Division	Division Title		Total
	Facility Construction		
2	Existing Conditions	$	126,320.00
3	Concrete	$	268,885.00
5	Metal	$	36,530.00
6	Woods, Plastics & Composites	$	6,120.00
7	Thermal & Moisture Protection	$	49,745.00
8	Openings	$	69,938.00
9	Finishes	$	19,868.00
10	Specialties	$	11,450.00
13	Special Construction	$	419,874.00
14	Equipment	$	9,368.00
	Facility Services		
21	Fire Suppression	$	67,093.00
22	Plumbing	$	30,014.00
23	HVAC	$	59,960.00
26	Electrical	$	141,437.00
	Site and Infrastructure		
31	Earthwork	$	93,717.23
	Hard Costs	**$**	**1,410,319.23**
	General Requirements 12%	$	169,238.31
	GC Overhead & Profit 10%	$	157,955.75
	Subtotal	**$**	**1,737,513.29**
	Estimate Contingency 15%	$	260,626.99
	Subtotal	**$**	**1,998,140.29**
	WSST 8.8%	$	175,836.35
	Grand Total	**$**	**2,173,976.63**

Post Office Box 2947 · Mount Vernon, WA 98273 · Phone 360.424.6848 · Fax 360.428.0206

PNW
SERVICES, INC.

May 22, 2023

Sudden Valley Community Association
Attn: Jo Anne Jensen
4 Clubhouse Circle
Bellingham, WA 98229

RE: Project Summary
Capital Project 9723.06 – Marina Dock Replacement

On 3-9-23 SVCA's Board approved Capital Code 9723.06 for the Marina Dock Replacement project. In 2027 the wet slip docks are proposed to be replaced, and a budget of $187,177.00 was identified in the reserve study. Following approval of Capital Code 9723.06 SVCA retained Ashton Engineering to complete the preliminary design and engineer's estimate.

Ashton Engineering completed the preliminary design per the attached layout drawings dated 4-21-23. An engineer's estimate was also completed per the attachment dated 4-24-23. A few notes on the design:

- The new design adds 4 additional wet slips bringing the total up to 92 slips.
- Water and electrical services have been added to the slips as shown in the drawings.
- The design is ADA compliant with 4 slips identified for ADA use on the West Dock. The ADA slips are shown closest to the gangway on both sides of the 5' finger docks.
- The existing pilings are assumed to be reused.
- The West dock will receive a new gangway to meet ADA requirements, and the East dock gangway will be reused.
- Existing security gates will be reused.

Overall summary of anticipated costs:

Design, Permitting, and Contractor Bids	
- Design & Engineering – Ashton Engineering Estimate	$25,000.00
- Survey Allowance	$10,000.00
- Permit Fees Allowance	$20,000.00
- PNW Services, Inc. – Per Attached Estimate	$5,400.00
Subtotal Design, Permitting, and Contractor Bids	$60,400.00
Construction Estimate	
- PNW Services, Inc. – Construction Management Estimate Per Attached	$5,400.00
- Ashton Engineering – Construction Management Allowance (80 Hours at $172.00)	$13,760.00
- Engineer's Estimate – Ashton Engineering (Includes 15% Contingency)	$1,304,133.00
- WSST @ 8.6%	$112,155.44
Subtotal Construction Estimate	1,435,448.44
Total Base Bid Estimate Design & Construction	**$1,495,848.44**

PNW
SERVICES, INC.

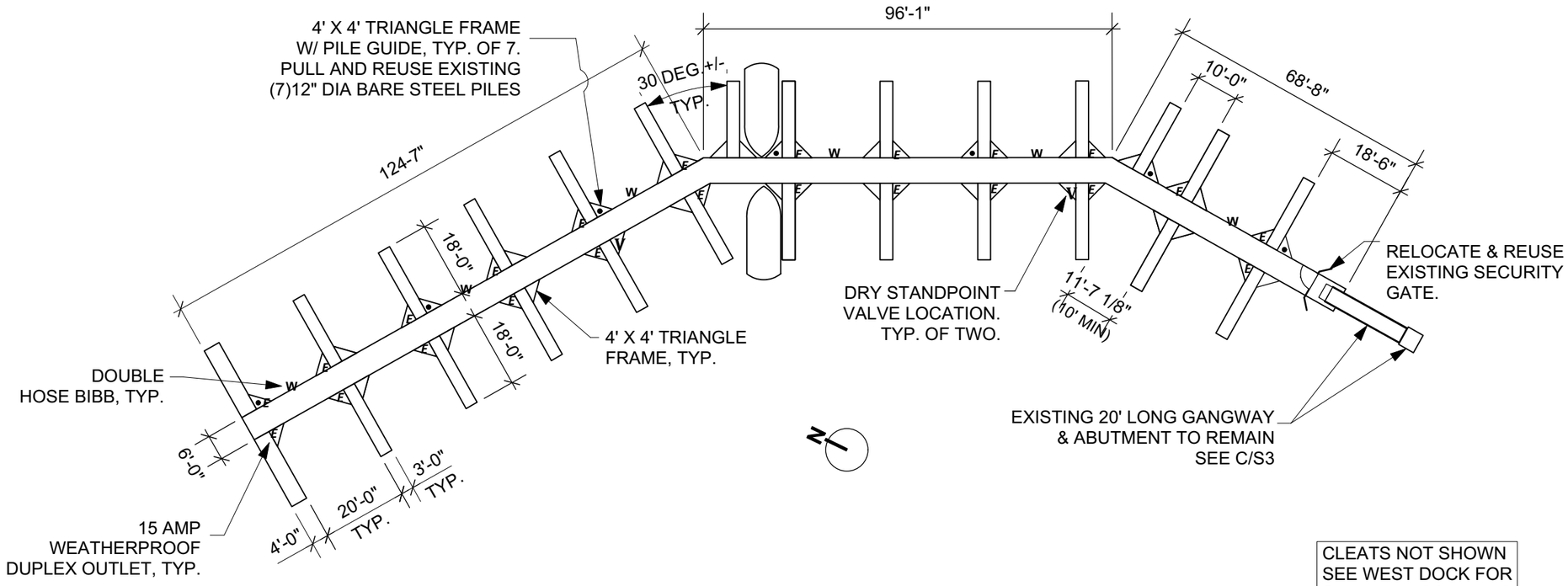
The above estimate is based on 2023 pricing information. SVCA should add a contingency allowance for inflation and material escalation given the project is scheduled to take place in 2027.

Please let me know if you have any questions, or if you would like any further information.

Sincerely,

Tyler Andrews
President

PO Box 30498 • Bellingham, WA 98228 • p: 425-954-9614



A Plan - New East Dock (46 Slips)
Scale: 1" = 30 ft

B West Dock Gangway and Gate

C East Dock Gangway and Gate
Scale: 1" = 30 ft

ASHTON
Engineering, Inc.
Coastal & Structural Design

810 Mapleridge Dr.
Everson, WA 98247
360.510.7946

Project Name: Sudden Valley Marina Replacement

Project Location: Sudden Valley, Bellingham, WA

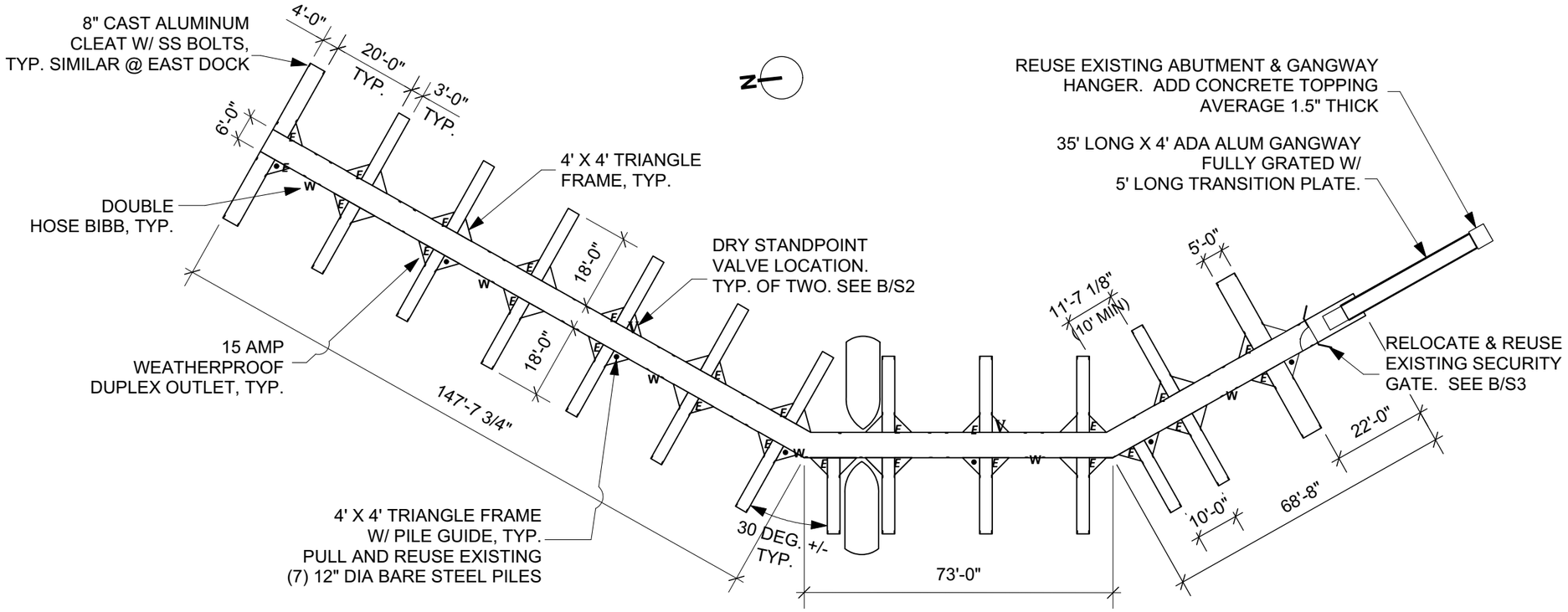
Drawing Title: West Dock Plan

No.	Issue/ Revsion	Date
		4.21.2023

PRELIMINARY

Job No: 22310.04

Sheet: 3 of 3



A Plan - New West Dock (46 Slips)

Scale: 1" = 30 ft

NOTES FOR WEST AND EAST DOCK

PRELIMINARY PLANS FOR COST ESTIMATING PURPOSES.

DIMENSIONS OF FINGERS AND WALKWAY ARE NOMINAL WITHOUT TRIM OR STRUCTURAL WALES.

WIND: 110 MPH 3SEC GUST UNOCCUPIED DOCKS. 85 MPH 3SEC GUST OCCUPIED DOCKS WITH 22' BOATS. DOCK VERTICAL LIVE LOAD = 25 PSF. 300 LB CONCENTRATED LOAD. DEAD LOAD FREEBOARD = 14" TO 16". ALUMINUM GANGWAY LIVE LOAD = 100PSF WITH MAX L/360 DEFLECTION. 20 PSF GANGWAY LOAD FOR FLOTATION DESIGN.

WAVE: 1' WAVE HEIGHT

ALUMINUM OR PAINTED STEEL FRAMED DOCKS WITH ENCASED FLOTATION SHALL HAVE GRATING ABOVE AREAS WITHOUT FLOATATION. PLASTIC LUMBER MAY BE USED ABOVE FLOAT TUBS.

FLOAT TUBS SHALL BE FULLY ENCASED IN POLYETHYLENE SHELLS.

GRATING SHALL BE FIBERGRATE MICRO-MESH GRATING OR APPROVED SUBSTITUTE.

USE UHMW RUB MATERIAL AT PILE GUIDES.

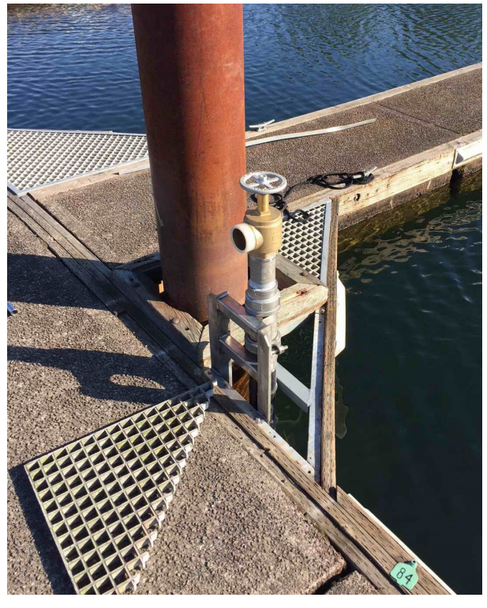
NO GALVANIZED STEEL OR PRESSURE TREATED WOOD IS ALLOWED.

5' WIDE FINGERS ARE FOR ADA ACCESS. FOUR ADA ACCESS SLIPS - WEST DOCK ONLY.

REUSE EXISTING DRY STANPIPE COMPONENTS AS MUCH AS POSSIBLE. SEE DRAWINGS FOR EXISTING STANDPIPE SYSTEM.

REUSE AND RELOCATE SECURITY GATES. REWIRE AS NECESSARY.

REUSE EAST DOCK GANGWAY AND ABUTMENT.



B Existing Standpipe & Bracket

ASHTON Engineering, Inc.
Coastal & Structural Design
810 Mapleridge Dr.
Everson, WA 98247
360.510.7946

Project Name: Sudden Valley Marina Replacement

Project Location: Sudden Valley, Bellingham, WA

Drawing Title: West Dock Plan

No.	Issue/ Revsion	Date
		4.21.2023

PRELIMINARY

Job No: 22310.04

Sheet: 2 of 3

Sudden Valley Marina Replacement, Bellingham, Wa

This is an Opinion of Probable Cost

DATE:	4.24.2023 Revised to include electrical and water at fingers.
A/ E:	**Ashton Engineering, Inc.**
ESTIMATE:	Preliminary Design Budgetary Estimate
BY:	Rory Woolsey, CEP
SPECIFICS:	**Replace Floating West Docks (46 Slips) and East Docks (46 Slips) at Sudden Valley Marina.**

Reference #	Description		Total
1.0	General Requirements		$100,415
2.0	Demo East and West Floating Docks/ Fingers		$85,520
3.0	Remove and Relocate Steel Pilings		$66,240
4.0	Docks/ Fingers ***Materials,*** Coated Steel Frame- (ScottCo)		$519,110
5.0	***Install*** Docks, Fingers and Decking		$118,560
6.0	New Fire Standpipes		$31,380
7.0	Gangway and Security Gates		$18,715
8.0	Water and Electrical Service at Slips		$46,172
9.0	**Subtotal**		**$986,112**
	Estimate Contingency at Conceptual Desi	*15%*	$147,917
10.0	**Subtotal**		**$1,134,029**
	Prime Contractor OHP	*15%*	$170,104
11.0	**TOTAL Budget Construction Price**		**$1,304,133**
			Excludes Sales Taxes
ADD Alternate	For aluminum frame Docks/ Fingers **ADD** to Above		**$1,050,000**

Basis of Estimate

1 This estimate is based on Ashton Engineering Preliminary drawings dated 3.31.2024. Sheets 1, 2, 3.

2 Assume that wages for this project will be comparable to quality skilled contractors (comparable to union wages)

a. Wages for Laborer = $50 (base with fringe) plus 30% for burden = $65/ hour.

b. Wages for Operator = $75 (base with fringe) plus 30% for burden = $100/ hour.

c. Wages for Skilled Worker = $80 (base with fringe) plus 30% for burden = $105/ hour.

Sudden Valley Marina Replacement, Bellingham, Wa

This is an Opinion of Probable Cost

DATE:	4.24.2023 Revised to include electrical and water at fingers.
A/ E:	**Ashton Engineering, Inc.**
ESTIMATE:	Preliminary Design Budgetary Estimate
BY:	Rory Woolsey, CEP
SPECIFICS:	**Replace Floating West Docks (46 Slips) and East Docks (46 Slips) at Sudden Valley Marina.**

Basis of Estimate

3 Building permits and fees are NOT included in this estimate.

4 This estimate excludes sales taxes.

5 This estimate excludes Architect and Engineer Fees.

6 A 15% estimate contingency has been added due to conceptual design.

Execution of this work

7 Specialty contractor will perform this work acting as the prime contractor.

8 ***Step 1:*** Order docks/ fingers. Mobilization.

9 ***Step 2:*** Remove standpipe fire water.

10 ***Step 3:*** Remove standpipes, docks/ fingers.

11 ***Step 4:*** Remove and relocate 14 steel piles.

12 ***Step 5:*** Install new docks and fingers.

13 ***Step 6:*** Install new standpipes.

14 ***Step 7:*** Gangways improvements and Electrical.

15 ***Step 8:*** Demobilization.

Sudden Valley Marina Replacement, Bellingham, Wa

This is an Opinion of Probable Cost

Item #	Description	Quantity	Units	Unit Cost	Extended	Estimate Notes
1.0	**General Requirements**					
	Project Duration = 14 Weeks ***(Mob 1 Wk, Demo Fire Pipe 1 Wk, Demo Docks 2 Wks, Move Piles 2 Wks, Install Docks 3 Wks, Standpipes 2 Wks, Gangway/ electric 1 Wks, Demo 1 Wks)***					
	Engineering, Permits/ Fees					
1	Permits/ Fees	**1**	Not included	0.00	**$0**	
2	Engineering Design Fee	**1**	Not included	0.00	**$0**	
3	T.E.S.C. Plan and Implementation	**1**	Allwance	2,500.00	**$2,500**	
	Mobilize and Site Set Up					
4	Contractor mobilize to site	**12**	Crew hours	335.00	**$4,020**	Crew = $335/ crew hour
5	Temporary fence: establish laydown and work areas	**500**	LF	6.75	**$3,375**	
6	Temp toilet	**14**	Weeks	80.00	**$1,120**	
7	Temp site trailer- superintendent	**14**	Weeks	125.00	**$1,750**	Small trailer
8	Small dumpster on site	**14**	Weeks	455.00	**$6,370**	for duration of project w/ weekly pick up
	Site Management					
9	Prime (Specialty) Contractor superintendent	**560**	Lhours	110.00	**$61,600**	Full time
10	Prime General Laborer- daily site clean up	**140**	Lhoours	65.00	**$9,100**	
	Insurance					
11	Site specific insurance for this project	**14**	Weeks	250.00	**$3,500**	
	Close Out and Turnover					
12	Final site cleanning	**12**	Crew hours	130.00	**$1,560**	Crew = $ 130/ crew hour
13	Turnover to client & punchlist	**1**	LS	1,500.00	**$1,500**	
14	Demobilize equipment and labor	**12**	Crew Hours	335.00	**$4,020**	
	TOTAL				**$100,415**	
2.0	**Demo East and West Floating Docks/ Fingers**					
	Remove Dry Standpipe System					
1	Shut off water	**2**	Crew Hours	105.00	**$210**	
2	Disconnect 4" at flange at gangway- 2 locations	**2**	Crew Hours	275.00	**$550**	Crew = Skilled $210 laborer $65 = $275 per crew hour
3	Remove standpipe assemblies- 4 assemblies	**4**	Crew Hours	275.00	**$1,100**	
4	Remove 4" pipe- 405 LF	**12**	Crew Hours	275.00	**$3,300**	
5	Remove hanger assemblies 10 Each	**8**	Crew Hours	275.00	**$2,200**	Salvage if possible
6	Load truck for recycle/ dump	**12**	Crew Hours	130.00	**$1,560**	Crew = laborers = $130/ crew hour
7	Trucking to recycle	**8**	Truck hours	185.00	**$1,480**	

Sudden Valley Marina Replacement, Bellingham, Wa

This is an Opinion of Probable Cost

Item #	Description	Quantity	Units	Unit Cost	Extended	Estimate Notes
8	Load truck for recycle/ dump	**1**	LS	1,500.00	**$1,500**	Salvage if possible
	Fingers Demolition- assume 3' x 18' x 2' depth x 52 each					
9	Disconnect fingers at triangle; 100 Triangles disconnect	**24**	Crew Hours	275.00	**$6,600**	Crew = 2 skilled $210 Laborer $65 = $275/ Crew hour
10	Crane or Boat fingers to shore (104 structures)	**32**	Crew Hours	520.00	**$16,640**	Crew = Operators $200 crane $75 boat $50 labor $195 = $520/ Crew hour
11	Load fingers on truck	**16**	Crew Hours	305.00	**$4,880**	Crew = Operator $100 crane $75 laborers $130 = $305/ Crew hour
12	Haul fingers for recycle/ disposal	**24**	Truck Hours	185.00	**$4,440**	Volume = 5,616 CF Weight = 28 tons for 52 fingers
13	Dump fee	**28**	Tons	100.00	**$2,800**	
	Docks Demolition assume- 6' x 10' x 2' x 560 LF					
14	Disconnect docks; assume docks one connection per dock = 56 each	**32**	Crew Hours	275.00	**$8,800**	Crew = 2 skilled $210 Laborer $65 = $275/ Crew hour
15	Crane or Boat docks to shore (56 structures)	**32**	Crew Hours	520.00	**$16,640**	Crew = Operators $200 crane $75 boat $50 labor $195 = $520/ Crew hour
16	Load docks on truck	**16**	Crew Hours	305.00	**$4,880**	Crew = Operator $100 crane $75 laborers $130 = $305/ Crew hour
17	Haul docks for recycle/ disposal	**24**	Truck Hours	185.00	**$4,440**	Volume = 6,720 CF Weight = 35 tons for 56 each docks 6' x 10' x 8"
18	Dump fee	**35**	Tons	100.00	**$3,500**	
	TOTAL				**$85,520**	
3.0	**Remove and Relocate Steel Pilings**					
	Mobilize Pile Driving and Set Up					
1	Moilize set up for pulling and driving piles	**1**	LS	7,500.00	**$7,500**	
	Remove Piles (14 Each) Assume 15' Embedment					
2	Piles removed, 14 Each x 15' = 210 LF	**24**	Crew Hours	915.00	**$21,960**	Foreman $120 Skilled $360 Operator $125 Equipment $310 = $915/ Crew H
	Place Piles in New Loaction (14 Each)					
3	Piles driven at new location	**32**	Crew Hours	915.00	**$29,280**	Foreman $120 Skilled $360 Operator $125 Equipment $310 = $915/ Crew H
4	Demobilize	**1**	LS	7,500.00	**$7,500**	
	TOTAL				**$66,240**	
4.0	**Docks/ Fingers Materials, Coated Steel Frame- (ScottCo)**					
	Floating Docks - Material *(560 LF total docks length)*					
1	6' x 10' truss frame at east and west- **Docks**	**52**	Each	1,210.00	**$62,920**	Includes Poly Urea Coating
2	6 x Custom truss frame at east and west- **Docks**	**7**	Each	1,210.00	**$8,470**	

Sudden Valley Marina Replacement, Bellingham, Wa

This is an Opinion of Probable Cost

Item #	Description	Quantity	Units	Unit Cost	Extended	Estimate Notes
3	Foam filled floats at east and west - **Docks**	**84**	Each	450.00	**$37,800**	
	Floating Fingers - Material *(52 Each x 18' = 936 LF total fingers length)*					
4	3' x 10' truss frame at east and west - ***(3' x 18' Fingers x 48 Ea)***	**48**	Each	740.00	**$35,520**	Includes Poly Urea Coating
5	3' x 8' custom truss frame- Fingers	**48**	Each	740.00	**$35,520**	
6	3' x 5' Foam filled floats- Fingers	**48**	Each	300.00	**$14,400**	
7	3' x 4' Foam filled floats- Fingers	**48**	Each	240.00	**$11,520**	
8	3' x 2' Foam filled floats- Fingers	**48**	Each	150.00	**$7,200**	Includes Poly Urea Coating
9	4' x 10' truss frame -*(4' x 18' Fingers x 4 Each)*	**2**	Each	820.00	**$1,640**	
10	4' x 8' custom truss frame- Fingers	**2**	Each	910.00	**$1,820**	
11	4' x 5' Foam filled floats- Fingers	**2**	Each	390.00	**$780**	
12	4' x 4' Foam filled floats- Fingers	**2**	Each	300.00	**$600**	
13	4' x 2' Foam filled floats- Fingers	**2**	Each	175.00	**$350**	
14	5' x 10' truss frame - *(5' x 18' Fingers x 2 Each)*	**2**	Each	1,050.00	**$2,100**	Includes Poly Urea Coating
15	5' x 8' custom truss frame- Fingers	**2**	Each	1,000.00	**$2,000**	
16	4' x 5' Foam filled floats- Fingers	**8**	Each	375.00	**$3,000**	
17	3' x 5' Foam filled floats- Fingers	**2**	Each	305.00	**$610**	
	Accessories					
18	4' x 4' triangle truss frames	**86**	Each	435.00	**$37,410**	Possibly use existing triangle frames
19	4' x 4' triangle including pile guide	**14**	Each	685.00	**$9,590**	
20	2" x 10' recycled fascia lumber	**1**	LS	45,650.00	**$45,650**	
21	Corner bumper, Pile guides, edging	**1**	LS	10,527.00	**$20,000**	
	Decking Material 1" Deep Micromesh					
22	Dock area = 3,480 SF (assumes 100% of dock area coverage)	**3,480**	SF	25.50	**$88,740**	Includes waste
23	Fingers area = 2,900 SF (assumes 100% grated fingers deck)	**2,900**	SF	25.50	**$73,950**	
	Shipping					
24	Shipping structues, floats for docks and fingers from Idaho	**1**	LS	8,000.00	**$8,000**	
25	Shipping to site decking materials from Kent	**1**	LS	2,800.00	**$2,800**	
	Unload and Stack all Materials on Site					
26	Unload trucks and stack at site	**16**	Crew Hours	420.00	**$6,720**	Crew = Operator $100 crane/ forklift $125 Laborers $195 = $420/ Crew Ho
	TOTAL				**$519,110**	

Sudden Valley Marina Replacement, Bellingham, Wa

This is an Opinion of Probable Cost

Item #	Description	Quantity	Units	Unit Cost	Extended	Estimate Notes
5.0	**Install Docks, Fingers and Decking**					
	Assemble Docks and Fingers and set in Water					
1	Assemble foam filled floats with dock structures (59 Frames)	24	Crew Hours	460.00	$11,040	Crew = Operator $100 crane/ forklift $125 skilled $105 laborers $130 = $46
2	Assemble foam filled floats with finger structures (104 frames)	24	Crew Hours	460.00	$11,040	Crew = Operator $100 crane/ forklift $125 skilled $105 laborers $130 = $46
	Float Docks into Place and Fasten					
3	Set docks into place w/ boats or crane (59 Each)	32	Crew Hours	520.00	$16,640	Crew = Operators $200 crane $75 boat $50 labor $195 = $520/ Crew hour
4	Bolt up docks in place	40	Crew Hours	395.00	$15,800	Crew = Skilled $200 Labor $195 = $395/ Crew Hour
	Float Fingers into Place and Set Triangle					
5	Set fingers into place w/ boats or crane (104 Each)	32	Crew Hours	520.00	$16,640	Crew = Operators $200 crane $75 boat $50 labor $195 = $520/ Crew hour
6	Bolt triangle structures in place (100 Each)	48	Crew Hours	395.00	$18,960	Crew = Skilled $200 Labor $195 = $395/ Crew Hour
	Install Decking (6,380 SF)					
7	Place decking and fasten	72	Crew Hours	395.00	$28,440	Crew = Skilled $200 Labor $195 = $395/ Crew Hour
	TOTAL				**$118,560**	
6.0	**New Fire Standpipes**					
	Pipe Hangers					
1	Pipe hanger materials	8	Hangers	350.00	$2,800	Partially salvaged
2	Install pipe hangers at new dock	16	Crew Hours	275.00	$4,400	Crew = skilled $210 laborer $65 = $275/ Crew hour
	4" Pipe Installed					
3	4" pipe materials & fittings- material	410	LF	12.00	$4,920	
4	Installing Pipe & fittings -labor	32	Crew Hours	275.00	$8,800	Crew = skilled $210 laborer $65 = $275/ Crew hour
	Standpipe Assemblies					
5	Standpipe assemblies- Material	4	Assemblies	1,200.00	$4,800	Includes loop
6	Install standpipe assemblies	12	Crew Hours	275.00	$3,300	Crew = skilled $210 laborer $65 = $275/ Crew hour
	Startup and Test					
7	Connection at shoreline 2 each	4	Crew Hours	275.00	$1,100	
8	Startup and test	6	Crew Hours	210.00	$1,260	Crew = skilled $210
	TOTAL				**$31,380**	

Sudden Valley Marina Replacement, Bellingham, Wa

This is an Opinion of Probable Cost

Item #	Description	Quantity	Units	Unit Cost	Extended	Estimate Notes
7.0	**Gangway and Security Gates**					
	Gangways					
1	Reset existing gangway at the east dock	**4**	Crew Hours	410.00	**$1,640**	Crew = Operator $100 crane $75 skilled $105 labor $130 = $410/ Crew hou
2	New ADA gangway at west dock 4' x 35' long- Material	**35**	Linear Feet	345.00	**$12,075**	ADA ramp with handrail
3	Set new ADA gangway	**6**	Crew Hours	410.00	**$2,460**	
4	Concrete topping at new at abutement	**30**	SF	30.00	**$900**	
	Relocate/ reuse Security Gates					
5	Relocate security gates at east and west	**4**	Crew Hours	410.00	**$1,640**	
	TOTAL				**$18,715**	
8.0	**Water and Electrical Service at Slips**					
	Trenching From Restroom to Docks ***(Electrical & Water in same trench)***					
1	Private locates prior to trenching	**1**	LS	840.00	**$840**	Private locates
2	Trench excavate 2' x 2' depth x 530' = 40 CY	**5**	Crew Hours	240.00	**$1,200**	Operator $100 laborer $65 equipment $75 = $240 per crew hours
3	Haul spoils	**6**	Truck Hours	185.00	**$1,110**	
4	Dump spoils	**30**	Tons	15.00	**$450**	
5	Sand base for pipe/ conduit in trench- Material	**30**	CY	35.00	**$1,050**	
6	Trucking base to jobsite	**4**	Truck Hours	185.00	**$740**	
7	Place sand base for pipe/ conduit	**4**	Crew Hours	240.00	**$960**	Operator $100 laborer $65 equipment $75 = $240 per crew hours
	Water and Conduit Pipe in Trench					
8	3/4" HDPE pipe in trench- Material	**530**	LF	1.00	**$530**	
9	1" conduit in trench- Material	**530**	LF	2.00	**$1,060**	
10	Setting water pipe and conduit in trench	**8**	Crew Hours	275.00	**$2,200**	2 Skilled $210 1 laborer $65 = $275/ Crew Hours
	Backfill Electrical/ Water Trench					
11	Backfill trench with native material	**6**	Crew Hours	240.00	**$1,440**	Operator $100 laborer $65 equipment $75 = $240 per crew hours
	Valve Box and Water Service at Docks					
12	Connect water line to existing service at restroom	**1**	Connection	1,500.00	**$1,500**	Use existing meter
13	Install water valve and valve box at docks -2 Each	**2**	Each	1,200.00	**$2,400**	
	Water Extension from Service Valve to end of Docks					

Sudden Valley Marina Replacement, Bellingham, Wa

This is an Opinion of Probable Cost

Item #	Description	Quantity	Units	Unit Cost	Extended	Estimate Notes
14	3/4" HDPE pipe to end of docks east and west (290' + 290')	**580**	LF	1.00	**$580**	
15	Hangers for hanging pipe at docks- ***Material***	**12**	Hanger Assemblies	150.00	**$1,800**	Prefabicated
16	Hanger assemblies at docks- ***Labor***	**12**	Crew Hours	275.00	**$3,300**	2 Skilled $210 1 laborer $65 = $275/ Crew Hours
17	Double hose bibbs	**12**	Each	120.00	**$1,440**	
	Electrical Panel and Service at Docks					
18	Connection to panel at restrooms	**4**	Crew Hours	290.00	**$1,160**	Crew = 2 electricians $290 per crew hour
19	Breaker panels at gangway to each dock- ***Material***	**2**	Each	750.00	**$1,500**	
20	Breaker panels at gangway to each dock- ***Labor***	**6**	Crew Hours	290.00	**$1,740**	Crew = 2 electricians $290 per crew hour
	Electrical Service to Outlets at Docks					
20	Conduit and wire to each slip	**580**	LF	10.40	**$6,032**	
21	Hangers for hanging conduit- ***Material***	**12**	Each	150.00	**$1,800**	Prefabricated
22	Hanger assemblies at docks- ***Labor***	**12**	Crew Hours	275.00	**$3,300**	2 Skilled $210 1 laborer $65 = $275/ Crew Hours
23	GFCI 15 Amp outlets boat slips	**48**	Each	150.00	**$7,200**	
	Testing					
24	Test water service to docks	**2**	Crew Hours	210.00	**$420**	2 skilled = $210/ Crew Hour
25	Test electrical to docks	**2**	Crew Hours	210.00	**$420**	
	TOTAL				**$46,172**	

Sudden Valley Community Association

Marina Dock Replacement

PNW Estimate - Bid Package, Permitting, and Construction Management

Task	Description	Hours	Estimated Cost
Design Oversight			
	Oversight of Ashton Engineering, and coordination with SVCA.	16	
	Total Estimated Design Oversight Hours	16	**$ 2,160.00**
Permitting			
	Oversight of permit applications, and facilitate signatures with SVCA.	16	
	Total Estimated Permitting Cost	16	**$ 2,160.00**
Contractor Bids			
	Prepare and issue RFQ to contractors. Answer any contractor questions, and prepare recommendation to SVCA.	8	
	Total Estimated Bid Package Hours	8	**$ 1,080.00**
Construction Management			
	Oversight of construction process. Ashton Engineering is assumed to be lead oversight.	40	
	Total Estimated Construction Management Hours	40	**$ 5,400.00**
	Total Estimated		**$ 10,800.00**

Technical Memorandum

SVCA 10-Year Capital Plan 2023 & 2024 Projects

June 30th, 2023

Tyler Andrews
PNW Services, Inc.
PO Box 30498
Bellingham, WA 98228

Re: Technical Memorandum
SVCA 10-Year Capital Plan, 2023 Culvert Projects & 2024 Culvert/Road Projects.

The purpose of this Technical Memorandum is to give recommendations for the 2023 and 2024 infrastructure improvement projects and to give a preliminary cost estimate as a means to review the planned yearly budget amounts. Based on Impact Designs completed field investigation of the Sudden Valley Community Association roadway and drainage infrastructure for the 10-year Capital Improvements project, we found a total of 58 drainage culverts that appear to be in critical condition.

2023 Culvert Projects:

The following 10 culverts were found to be in the greatest critical condition and are recommended to be replaced this year. We estimate each project will have a cost of approximately $10,000 - $15,000 each depending on material/diameter/length. This gives a project budget range of $100,000 - $150,000 total.

Culvert ID	Zone Number	Road Name	Approximate Address	Culvert Length (ft.)	Culvert Diameter (in.)	Culvert Material
11	Zone 5	Big Leaf Ln	15 Big Leaf Ln	55	18/12	CMP
15	Zone 5	Shetland Ct	19 Tumbling Water Dr	58	12	CMP
17	Zone 5	Shetland Ct	3 Shetland Ct	41	18	CMP
FND 13	Zone 13	Yearling Pl	5 Meadow Ct	28	12	CMP
28	Zone 13	Granite Cir	67 Polo Park Dr	46	24	CMP
403	Zone 9	Polo Park Dr	230 Polo Park Dr	59	18	CMP
162	Zone 3B	Kinglet Ct	188 Sudden Valley Dr	41	12	CMP
FND 67	Zone 1	Gate 1 Mailboxes	Gate 1 Mailboxes	39	12	CMP
63	Zone 2	Lake Louise Dr	52 Lake Louise Dr	70	18	CMP
408.2	Zone 2	Larkspur Ct	7 Larkspur Ct	17	12	CMP

2024 Culvert Projects:

The following 48 culverts were all found to have a critical barrel condition and should be prioritized for the 2024 maintenance projects. All the culverts below appear to be simple conveyance pipes for roadway crossings, and do not have fish bearing capacity. We estimate each project will cost approximately $10,000 - $15,000 each depending on material/diameter/length. This gives a project a budget range of $490,000 - $735,000 total.

Culvert ID	Zone Number	Road Name	Approximate Address	Culvert Length (ft.)	Culvert Diameter (in.)	Culvert Material
66	Zone 5	Louis View Dr	20 Louise View Dr	62	18	CMP
67	Zone 5	Sweetclover Cir	12 Sweetclover Cir	48	12	Inlet-Concrete Pipe/Outlet-CMP
58	Zone 5	Louis View Dr	1 Catkin Ct	48	12	CMP
1	Zone 13	Polo Park Dr	150 Polo Park Dr	54	18	CMP
78	Zone 13	Sunnyside Ln	29 Sunnyside Ln	50	18	CMP
431	Zone 13	Lost Lake Ln	29 Lost Lake Ln	75	18	CMP
27	Zone 13	Misty Ridge Ct	66 Polo Park Dr	39	12	CMP
404	Zone 9	Polo Park Dr	230 Polo Park Dr	79	18	CMP
205	Zone 3A	Spring Rd	15 Spring Rd	40	24	CMP
406	Zone 3A	Rocky Ridge Dr	30 Rocky Ridge Dr	109	12	CMP
171	Zone 3B	Stable Ln	32 Stable Ln	32	12	CMP
178	Zone 3B	Canyon Ct	23 Canyon Ct	39	12	CMP
176	Zone 3B	Tawny Cir	24 Lost Fork Ln	50	12	CMP
432 433	Zone 3B	Strawberry Cyn Ct	13 Strawberry Cyn Ct	46	12 18	CMP
103	Zone 3C	Amberland Way	142 Harbor View Dr	42	24	CMP
99	Zone 3C	Plum Ln	28 Plum Ln	51	12	CMP
214	Zone 3C	Maple Ct	46 Maple Ct	67	18	CMP
126	Zone 3D	Sudden Valley Dr	1 Sudden Valley Dr	120	18/12	CMP/CPP
89	Zone 3D	Indian Ridge Ct	39 Sudden Valley Dr	86	12	CMP
FND 38	Zone 3D	Indian Meadow Ct	1 Indian Meadow Ct	35	12	CMP
118	Zone 3D	Harbor View Dr	46 Harbor View Dr	43	18	CMP
117	Zone 3D	Harbor View Dr	54 Harbor View Dr	35	18	CMP
120	Zone 3D	Harbor View Dr	10 Harbor View Dr	42	18	CMP
FND 30	Zone 3D	Harbor View Dr	99 Harbor View Dr	39	18	CMP
109	Zone 3D	Green Hill Rd	55 Green Hill Rd	41	18	CPP/CMP
111	Zone 3D	Harbor View Dr	113 Harbor View Dr	40	18	CMP
122	Zone 3D	Rocky Ridge Dr	2 Rocky Ridge Dr	29	18	CMP
FND 48	Zone 1	Par Ln	20 Par Ln	55	12	CMP
147	Zone 1	Par Ln	20 Par Ln	20	12	CMP

441	Zone 1	Jubilee Ln	3 Jubilee Ln	59	12	CMP
148	Zone 1	Par Ln	11A Par Ln	189	12	CMP
415	Zone 1	Birdie Ln	28 Windward Dr	53	12	CMP
143	Zone 1	Inlet Cir	26 Longshore Ln	82	12	CMP
144	Zone 1	Inlet Cir	26 Longshore Ln	31	12	CMP
145	Zone 1	Spinnaker Ln	17 Marina Dr	72	12	CPP/CMP
FND 49	Zone 1	Marina Dr	17 Marina Dr	40	12	CMP
157	Zone 1	North Point Dr	5 North Point Dr	30	12	Green PVC/CMP
FND 52	Zone 1	Sanwick Pt Ct	36 North Point Dr	43	12	Concrete Pipe/CPP
81	Zone 2	Lake Louise Dr	1 Sparrow Ct	61	18	CMP
408.1	Zone 2	Larkspur Ct	7 Larkspur Ct	19	12	CMP
409	Zone 2	Whispering Cedars	Whispering Cedars Entrance	N/A	24	CMP
410	Zone 2	Lake Louise Dr	22 Lake Louise Dr	120	12	CMP
203	Zone 2	Lake Louise Dr	14 Lake Louise Dr	61	18	CMP
FND 61	Zone 2	Marigold Dr	37-30 Marigold Dr	283	12	CMP
75	Zone 2	Marigold Dr	43 Marigold Dr	40	12	CMP
FND 45	Zone 2	Sunflower Cir	23 Sunflower Cir	20	12	CMP
445	Zone 2	Lake Louise Dr	20 Lake Louise Dr (Outlet)	200	12	CMP
FND 62	Zone 2	Barn View Ct	3 Barn View Ct	83	12	CMP

2024 Road Projects:

Impact Design recommends that in addition to drainage improvement projects, at least one major asphalt overlay road project should be considered yearly. For the 2024 construction season Impact Design recommends Deer Run Lane should be overlayed. We estimate overlay projects will cost $4.00 - $5.00 per square foot. This gives the overlay of Deer Run Lane a project budget range of $180,000 - $225,000.

Overall Conclusions

Should all culvert and roadway projects we have recommended for the 2024 construction season be completed, we estimate the total costs to be in the $670,000 - $960,000 range. The cost estimate per culvert replacement, and cost per square foot of asphalt overlay is based on local historical data alone, and no engineered design has been done. Prior to construction, an engineering analysis and civil/stormwater engineering drawings should be completed. Based on this analysis a yearly budget of $900,000 to $1,000,000 appears to be adequate to catch up with and maintain SVCA's infrastructure for the next 3-5 years.

Based on our current progress we expect to have the first draft of the SVCA 10-Year Capital Improvements Plan by the end of August.

Respectfully,

6-30-2023

Scott Goodall, MS, PE
Principal
Impact Design, LLC