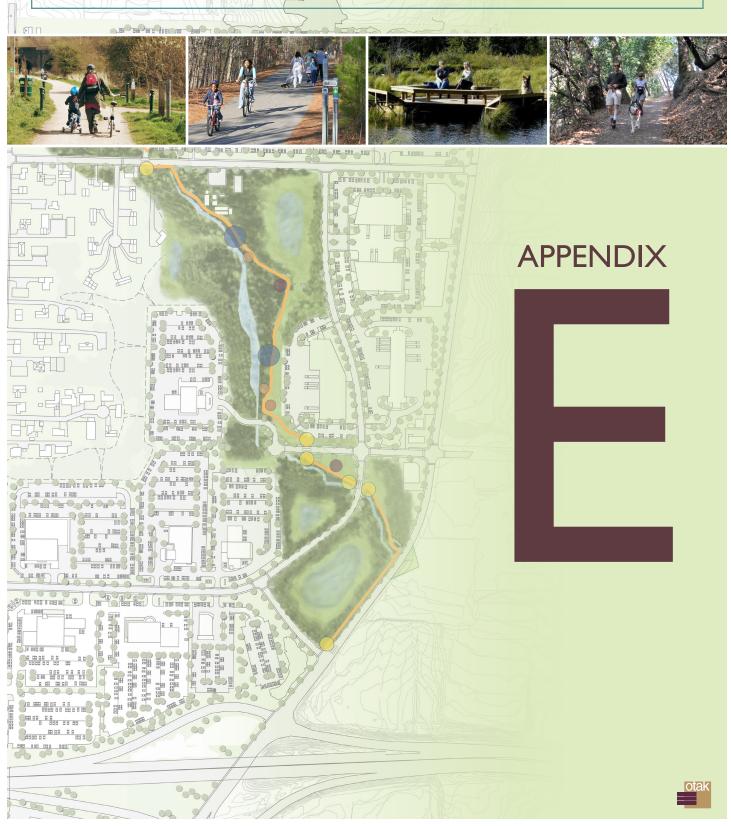
# Miller Creek Greenway Concept Report



<u>Facility</u>	<u>T(</u>	otal Cost
STORMWATER POND PR	\$	2,440,000
STORMWATER POND #1	\$	1,870,000
STORMWATER POND #2	\$	1,090,000
STORMWATER POND #3	\$	2,760,000
STORMWATER POND #4	\$	730,000
STORMWATER VAULT PR	\$	4,280,000
STORMWATER VAULT #1	\$	7,330,000
STORMWATER VAULT #2	\$	2,470,000
STORMWATER VAULT #3	\$	9,200,000
STORMWATER VAULT #4	\$	2,150,000

PROJECT: STORMWATER POND PR CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM NO.	ITEM	QUANTITY	UNIT	UN	NIT PRICE	AMOUNT
Construction E	lements			•		
1	CLEARING AND GRUBBING	2.5	AC	\$	9,000	\$ 23,000
2	POND EXCAVATION AND GRADING INCL. HAUL	53,000	CY	\$	10	\$ 530,000
3	INLET AND OUTLET CONTROLS	1	LS	\$	100,000	\$ 100,000
3	RETAINING WALL	11,000	SF	\$	30	\$ 330,000
4	MISC POND ITEMS	1	LS	\$	6,000	\$ 6,000
5	HMA, CL 1/2-IN PG	50	TON	\$	250	\$ 13,000
6	ASPHALT TREATED BASE	90	TON	\$	250	\$ 23,000
7	CRUSHED SURFACING BASE COURSE	60	TON	\$	45	\$ 3,000
8	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	500	LF	\$	80	\$ 40,000
9	MANHOLE 48 IN. DIAM.	5	EA	\$	2,500	\$ 13,000
10	SHORING OR EXTRA EXCAVATION CLASS B	3000	LF	\$	1	\$ 2,000
11	STRUCTURE EXCAVATION CLASS B INCL HAUL	540	CY	\$	10	\$ 6,000
12	GRAVEL BORROW INCL. HAUL	100	CY	\$	15	\$ 2,000
13	SAWCUTTING	1000	LF	\$	4	\$ 4,000
14	DEWATERING	1	LS	\$	150,000	\$ 150,000
		Sul	ototal Const	tructio	n Elements	\$ 1,245,000
Required Ancil						
15	EROSION AND SEDIMENTATION CONTROL		2%			\$ 24,900
16	TRAFFIC CONTROL		2%	(5	see note 4)	\$ 24,900
18	MOBILIZATION		5%			\$ 62,300
17	CONTINGENCY		30%			\$ 373,500
			Subtotal A	ncilla	ry Elements	\$ 485,600
		Subtotal Convey	ance Const	tructio	n Elements	\$ 1,731,000
	ng/Management/Permitting					
19	STATE SALES TAX		9.5%			\$ 170,000
20	ENGINEERING/LEGAL/ADMIN		15%			\$ 260,000
21	CONSTRUCTION MANAGEMENT		10%			\$ 180,000
22	PERMITTING		5%			\$ 90,000
23	EASEMENTS AND PROPERTY ACQUISTION	N	OT INCLUD	ED		
					Subtotal	\$ 700,000
	Subtotal Construction + An	cillary + Tax/Engine	ering/Manag	jemen	t/Permitting	\$ 2,431,000
2009 Dollars		Total Estim	nated Projec	t Cost	t (Rounded)	\$ 2,440,000

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- 2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material.
- 3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.

PROJECT: STORMWATER POND #1 CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM NO	ite.	OHANTS.		1	UT DDIOE		AMOUNT
ITEM NO.	ITEM	QUANTITY	UNIT	UN	IIT PRICE		AMOUNT
Construction I		0.0	4.0	•	0.000	•	00.000
1	CLEARING AND GRUBBING	3.6	AC	\$	9,000	\$	33,000
2	POND EXCAVATION AND GRADING	33,000	CY	\$	10	\$	330,000
3	INLET AND OUTLET CONTROLS	1	LS	\$	100,000	\$	100,000
4	MISC POND ITEMS	1	LS	\$	6,000	\$	6,000
5	HMA, CL 1/2-IN PG	130	TON	\$	250	\$	33,000
6	ASPHALT TREATED BASE	250	TON	\$	250	\$	63,000
7	CRUSHED SURFACING BASE COURSE	170	TON	\$	45	\$	8,000
8	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	1500	LF	\$	80	\$	120,000
9	MANHOLE 48 IN. DIAM.	10	EA	\$	2,500	\$	25,000
10	SHORING OR EXTRA EXCAVATION CLASS B	8000	LF	\$	1	\$	4,000
11	STRUCTURE EXCAVATION CLASS B INCL HAUL	1600	CY	\$	10	\$	16,000
12	GRAVEL BORROW INCL. HAUL	280	CY	\$	15	\$	5,000
13	SAWCUTTING	3000	LF	\$	4	\$	12,000
14	DEWATERING	1	LS	\$	200,000	\$	200,000
		Subto	otal Cons	tructio	n Elements	\$	955,000
Required Anc	,						
15	EROSION AND SEDIMENTATION CONTROL		2%			\$	19,100
16	TRAFFIC CONTROL		2%	(8	see note 4)	\$	19,100
18	MOBILIZATION		5%			\$	47,800
17	CONTINGENCY		30%			\$	286,500
		S	Subtotal A	ncillar	y Elements	\$	372,500
		Subtotal Conveya	nce Cons	tructio	n Elements	\$	1,328,000
Tax/Engineeri	ing/Management/Permitting	•					
19	STATE SALES TAX		9.5%			\$	130,000
20	ENGINEERING/LEGAL/ADMIN		15%			\$	200,000
21	CONSTRUCTION MANAGEMENT		10%			\$	140,000
22	PERMITTING		5%			\$	70,000
23	EASEMENTS AND PROPERTY ACQUISTION	NO	T INCLUD	ED			
					Subtotal	\$	540,000
	Subtotal Construction + And	illary + Tax/Engineeri	ing/Manag	gemen	t/Permitting	\$	1,868,000
2009 Dollars		Total Estimat					1,870,000

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  2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material.
- 3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.

PROJECT: STORMWATER POND #2 CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM NO.	ITEM	QUANTITY	UNIT	UN	IT PRICE	AMOUNT
Construction E	Elements					
1	CLEARING AND GRUBBING	2.2	AC	\$	9,000	\$ 20,000
2	POND EXCAVATION AND GRADING	12,000	CY	\$	10	\$ 120,000
3	INLET AND OUTLET CONTROLS	1	LS	\$	100,000	\$ 100,000
4	MISC POND ITEMS	1	LS	\$	6,000	\$ 6,000
5	HMA, CL 1/2-IN PG	50	TON	\$	250	\$ 13,000
6	ASPHALT TREATED BASE	90	TON	\$	250	\$ 23,000
7	CRUSHED SURFACING BASE COURSE	60	TON	\$	45	\$ 3,000
8	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	500	LF	\$	80	\$ 40,000
9	MANHOLE 48 IN. DIAM.	5	EA	\$	2,500	\$ 13,000
10	SHORING OR EXTRA EXCAVATION CLASS B	3000	LF	\$	1	\$ 2,000
11	STRUCTURE EXCAVATION CLASS B INCL HAUL	540	CY	\$	10	\$ 6,000
12	GRAVEL BORROW INCL. HAUL	100	CY	\$	15	\$ 2,000
13	SAWCUTTING	1000	LF	\$	4	\$ 4,000
14	DEWATERING	1	LS	\$	200,000	\$ 200,000
		Subt	otal Cons	tructio	n Elements	\$ 552,000
Required Anci	llary Items					 ,
15	EROSION AND SEDIMENTATION CONTROL		2%			\$ 11,000
16	TRAFFIC CONTROL		2%	(s	ee note 4)	\$ 11,000
18	MOBILIZATION		5%	,		\$ 27,600
17	CONTINGENCY		30%			\$ 165,600
		:	Subtotal A	ncillar	y Elements	\$ 215,200
		Subtotal Conveya	nce Cons	tructio	n Elements	\$ 768,000
Tax/Engineerii	ng/Management/Permitting	•				-
19	STATE SALES TAX		9.5%			\$ 80,000
20	ENGINEERING/LEGAL/ADMIN		15%			\$ 120,000
21	CONSTRUCTION MANAGEMENT		10%			\$ 80,000
22	PERMITTING		5%			\$ 40,000
23	EASEMENTS AND PROPERTY ACQUISTION	NC	T INCLUD	ED		
					Subtotal	\$ 320,000
	Subtotal Construction + And	cillary + Tax/Engineer	ing/Manaç	gement	/Permitting	\$ 1,088,000
2009 Dollars		Total Estima	ted Projec	t Cost	(Rounded)	\$ 1,090,000

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- 3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.

PROJECT: STORMWATER POND #3 CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM NO.	ITEM	QUANTITY	UNIT	UN	IIT PRICE	AMOUNT
Construction						
1	CLEARING AND GRUBBING	8.7	AC	\$	9,000	\$ 79,000
2	POND EXCAVATION AND GRADING	54,000	CY	\$	10	\$ 540,000
3	INLET AND OUTLET CONTROLS	1	LS	\$	100,000	\$ 100,000
4	24" WATER MAIN REALIGNMENT	800	LF	\$	250	\$ 200,000
5	MISC POND ITEMS	1	LS	\$	6,000	\$ 6,000
6	HMA, CL 1/2-IN PG	130	TON	\$	250	\$ 33,000
7	ASPHALT TREATED BASE	250	TON	\$	250	\$ 63,000
8	CRUSHED SURFACING BASE COURSE	170	TON	\$	45	\$ 8,000
9	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	1500	LF	\$	80	\$ 120,000
10	MANHOLE 48 IN. DIAM.	10	EA	\$	2,500	\$ 25,000
11	SHORING OR EXTRA EXCAVATION CLASS B	8000	LF	\$	1	\$ 4,000
12	STRUCTURE EXCAVATION CLASS B INCL HAUL	1600	CY	\$	10	\$ 16,000
13	GRAVEL BORROW INCL. HAUL	280	CY	\$	15	\$ 5,000
14	SAWCUTTING	3000	LF	\$	4	\$ 12,000
15	DEWATERING	1	LS	\$	200,000	\$ 200,000
		Sub	total Cons	tructio	n Elements	\$ 1,411,000
Required And						
16	EROSION AND SEDIMENTATION CONTROL		2%			\$ 28,200
17	TRAFFIC CONTROL		2%	(8	see note 4)	\$ 28,200
19	MOBILIZATION		5%			\$ 70,600
18	CONTINGENCY		30%			\$ 423,300
			Subtotal A	ncillar	y Elements	\$ 550,300
		Subtotal Convey	ance Cons	tructio	n Elements	\$ 1,962,000
Tax/Engineer	ing/Management/Permitting					•
20	STATE SALES TAX		9.5%			\$ 190,000
21	ENGINEERING/LEGAL/ADMIN		15%			\$ 300,000
22	CONSTRUCTION MANAGEMENT		10%			\$ 200,000
23	PERMITTING		5%			\$ 100,000
24	EASEMENTS AND PROPERTY ACQUISTION	NO	OT INCLUE	ED		
					Subtotal	\$ 790,000
	Subtotal Construction + And	cillary + Tax/Enginee	ring/Manag	gemen	t/Permitting	\$ 2,752,000
2009 Dollars		Total Estima	ated Projec	ct Cost	(Rounded)	\$ 2,760,000

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- 3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.
- 5. Land Acquisition unit costs are based on the Snohomish County Tax Assessor Web page

PROJECT: STORMWATER POND #4 CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM	QUANTITY	UNIT	UN	IT PRICE		AMOUNT
Elements					•	
CLEARING AND GRUBBING	1.5	AC	\$	9,000	\$	14,000
POND EXCAVATION AND GRADING	12,000	CY	\$	10	\$	120,000
INLET AND OUTLET CONTROLS	1	LS	\$	100,000	\$	100,000
MISC POND ITEMS	1	LS	\$	6,000	\$	6,000
HMA, CL 1/2-IN PG	20	TON	\$	250	\$	5,000
ASPHALT TREATED BASE	40	TON	\$	250	\$	10,000
CRUSHED SURFACING BASE COURSE	30	TON	\$	45	\$	2,000
SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	200	LF	\$	80	\$	16,000
MANHOLE 48 IN. DIAM.	4	EA	\$	2,500	\$	10,000
SHORING OR EXTRA EXCAVATION CLASS B	1000	LF	\$	1	\$	1,000
STRUCTURE EXCAVATION CLASS B INCL HAUL	220	CY	\$	10	\$	3,000
GRAVEL BORROW INCL. HAUL	40	CY	\$	15	\$	1,000
SAWCUTTING	400	LF	\$	4	\$	2,000
DEWATERING	1	LS	\$	75,000	\$	75,000
	Sub	total Cons	tructio	n Elements	\$	365,000
•						
					\$	7,300
			(s	ee note 4)	\$	7,300
					\$	18,300
CONTINGENCY					\$	109,500
		Subtotal A	ncillar	y Elements	\$	142,400
	Subtotal Convey	ance Cons	tructio	n Elements	\$	508,000
						50,000
						80,000
						60,000
					\$	30,000
EASEMENTS AND PROPERTY ACQUISTION	NC	OT INCLUE	)ED			
				Subtotal	\$	220,000
Subtotal Construction + An	cillary + Tax/Enginee	ring/Mana	gemen	t/Permitting	\$	728,000
3	Total Fetima	ated Project	rt Cost	(Pounded)	\$	730,000
	CLEARING AND GRUBBING POND EXCAVATION AND GRADING INLET AND OUTLET CONTROLS MISC POND ITEMS HMA, CL 1/2-IN PG ASPHALT TREATED BASE CRUSHED SURFACING BASE COURSE SCHEDULE A STORM SEWER PIPE 18 IN. DIAM. MANHOLE 48 IN. DIAM. SHORING OR EXTRA EXCAVATION CLASS B STRUCTURE EXCAVATION CLASS B INCL HAUL GRAVEL BORROW INCL. HAUL SAWCUTTING DEWATERING  IIIIARY Items EROSION AND SEDIMENTATION CONTROL TRAFFIC CONTROL MOBILIZATION CONTINGENCY  ING/Management/Permitting STATE SALES TAX ENGINEERING/LEGAL/ADMIN CONSTRUCTION MANAGEMENT PERMITTING EASEMENTS AND PROPERTY ACQUISTION	CLEARING AND GRUBBING CLEARING AND GRUBBING POND EXCAVATION AND GRADING INLET AND OUTLET CONTROLS INLET AND OUTLET CONTROLS INLET AND OUTLET CONTROLS INLET AND OUTLET CONTROLS INLET AND OUTLEMS INLET AND OUTLET CONTROLS ASPHALT TREATED BASE CRUSHED SURFACING BASE COURSE 30 SCHEDULE A STORM SEWER PIPE 18 IN. DIAM. 200 MANHOLE 48 IN. DIAM. 4 SHORING OR EXTRA EXCAVATION CLASS B 1000 STRUCTURE EXCAVATION CLASS B INCL HAUL 220 GRAVEL BORROW INCL. HAUL 40 SAWCUTTING DEWATERING 1  SUBTITUTION CONTINGENCY  Subtotal Conveyor  Ing/Management/Permitting STATE SALES TAX ENGINEERING/LEGAL/ADMIN CONSTRUCTION MANAGEMENT PERMITTING EASEMENTS AND PROPERTY ACQUISTION NO  Subtotal Construction + Ancillary + Tax/Enginee	CLEARING AND GRUBBING	CLEARING AND GRUBBING	CLEARING AND GRUBBING	CLEARING AND GRUBBING

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   The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material.
- 3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.

PROJECT: STORMWATER VAULT PR CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM NO.	ITEM	QUANTITY	UNIT	UN	IT PRICE	AMOUNT
Construction	Elements					
1	CLEARING AND GRUBBING	1.2	AC	\$	9,000	\$ 11,000
2	DETENTION VAULT	12.2	AC-FT	\$	138,000	\$ 1,684,000
3	WETVAULT	22,900	CF	\$	3	\$ 69,000
4	STORMFILTER VAULT	1	LS	\$	125,000	\$ 125,000
5	HMA, CL 1/2-IN PG	50	TON	\$	250	\$ 13,000
6	ASPHALT TREATED BASE	90	TON	\$	250	\$ 23,000
7	CRUSHED SURFACING BASE COURSE	60	TON	\$	45	\$ 3,000
8	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	500	LF	\$	80	\$ 40,000
9	MANHOLE 48 IN. DIAM.	5	EA	\$	2,500	\$ 13,000
10	SHORING OR EXTRA EXCAVATION CLASS B	3000	LF	\$	1	\$ 2,000
11	STRUCTURE EXCAVATION CLASS B INCL HAUL	540	CY	\$	10	\$ 6,000
12	GRAVEL BORROW INCL. HAUL	100	CY	\$	15	\$ 2,000
13	SAWCUTTING	1000	LF	\$	4	\$ 4,000
14	DEWATERING	1	LS	\$	200,000	\$ 200,000
		Sub	total Const	ructio	n Elements	\$ 2,195,000
Required And	sillary Items					
15	EROSION AND SEDIMENTATION CONTROL		2%			\$ 43,900
16	TRAFFIC CONTROL		2%	(s	ee note 4)	\$ 43,900
18	MOBILIZATION		5%			\$ 109,800
17	CONTINGENCY		30%			\$ 658,500
			Subtotal A	ncillar	y Elements	\$ 856,100
		Subtotal Convey	ance Const	tructio	n Elements	\$ 3,052,000
Tax/Engineer	ing/Management/Permitting	•	·		·	•
19	STATE SALES TAX		9.5%			\$ 290,000
20	ENGINEERING/LEGAL/ADMIN		15%			\$ 460,000
21	CONSTRUCTION MANAGEMENT		10%			\$ 310,000
22	PERMITTING		5%			\$ 160,000
23	EASEMENTS AND PROPERTY ACQUISTION	NO	OT INCLUD	ED		
					Subtotal	\$ 1,220,000
	Subtotal Construction + And	cillary + Tax/Enginee	ring/Manag	jemen	t/Permitting	\$ 4,272,000
2009 Dollars	8	Total Estima	ated Projec	t Cost	(Rounded)	\$ 4,280,000

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PROJECT: STORMWATER VAULT #1 CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM NO.	ITEM	QUANTITY	UNIT	UI	NIT PRICE		AMOUNT	
Construction E	Elements							
1	CLEARING AND GRUBBING	2.1	AC	\$	9,000		19,000	
2	DETENTION VAULT	21.0	AC-FT	\$	138,000	\$	2,898,000	
3	WETVAULT	49,300	CF	\$	3	\$	148,000	
4	STORMFILTER VAULT	1	LS	\$	212,000	\$	212,000	
5	HMA, CL 1/2-IN PG	130	TON	\$	250	\$	33,000	
6	ASPHALT TREATED BASE	250	TON	\$	250	\$	63,000	
7	CRUSHED SURFACING BASE COURSE	170	TON	\$	45	\$	8,000	
8	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM	1500	LF	\$	80	\$	120,000	
9	MANHOLE 48 IN. DIAM.	10	EA	\$	2,500	\$	25,000	
10	SHORING OR EXTRA EXCAVATION CLASS B	8000	LF	\$	1	\$	4,000	
11	STRUCTURE EXCAVATION CLASS B INCL HAU	1600	CY	\$	10	\$	16,000	
12	GRAVEL BORROW INCL. HAUL	280	CY	\$	15	\$	5,000	
13	SAWCUTTING	3000	LF	\$	4	\$	12,000	
14	DEWATERING	1	LS	\$	200,000	\$	200,000	
Subtotal Construction Elements \$								
Required Anci	,							
15	EROSION AND SEDIMENTATION CONTROL		2%			\$	75,300	
16	TRAFFIC CONTROL		2%	(	see note 4)	\$	75,300	
18	MOBILIZATION		5%			\$	188,200	
17	CONTINGENCY		30%			\$	1,128,900	
			Subtotal An	cilla	ry Elements	\$	1,467,700	
							5 004 000	
Toy/Engineeri	ng/Management/Permitting	btotal Conve	yance Constr	uctio	on Elements	Þ	5,231,000	
1ax/⊑rigirieerii 19	STATE SALES TAX		9.5%			æ	500,000	
20	ENGINEERING/LEGAL/ADMIN		9.5% 15%			\$	790,000	
20 21	CONSTRUCTION MANAGEMENT		15%			\$ \$	,	
							530,000	
22	PERMITTING		5%			\$	270,000	
23	EASEMENTS AND PROPERTY ACQUISTION		NOT INCLUDE	ט	Subtotal	¢	2,090,000	
					Subtotal	Ф	2,090,000	
	Subtotal Construction + Ancillary	+ Tax/Engine	ering/Manage	emen	nt/Permitting	\$	7,321,000	
2009 Dollars		Total Estir	mated Project	Cos	t (Rounded)	\$	7,330,000	

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- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.

PROJECT: STORMWATER VAULT #2 CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM NO.	ITEM	QUANTITY	UNIT	UN	NIT PRICE		AMOUNT	
Construction E	Elements							
1	CLEARING AND GRUBBING	0.6	AC	\$	9,000	\$	6,000	
2	DETENTION VAULT	6.0	AC-FT	\$	138,000	\$	828,000	
3	WETVAULT	13,800	CF	\$	3	\$	42,000	
4	STORMFILTER VAULT	1	LS	\$	80,000	\$	80,000	
5	HMA, CL 1/2-IN PG	50	TON	\$	250	\$	13,000	
6	ASPHALT TREATED BASE	90	TON	\$	250	\$	23,000	
7	CRUSHED SURFACING BASE COURSE	60	TON	\$	45	\$	3,000	
8	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM	500	LF	\$	80	\$	40,000	
9	MANHOLE 48 IN. DIAM.	5	EA	\$	2,500	\$	13,000	
10	SHORING OR EXTRA EXCAVATION CLASS B	3000	LF	\$	1	\$	2,000	
11	STRUCTURE EXCAVATION CLASS B INCL HAU	540	CY	\$	10	\$	6,000	
12	GRAVEL BORROW INCL. HAUL	100	CY	\$	15	\$	2,000	
13	SAWCUTTING	1000	LF	\$	4	\$	4,000	
14	DEWATERING	1	LS	\$	200,000	\$	200,000	
Subtotal Construction Elements								
Required Anci	•							
15	EROSION AND SEDIMENTATION CONTROL		2%			\$	25,200	
16	TRAFFIC CONTROL		2%	(:	see note 4)	\$	25,200	
18	MOBILIZATION		5%			\$	63,100	
17	CONTINGENCY		30%			\$	378,600	
			Subtotal An	cilla	ry Elements	\$	492,100	
		btotal Conve	yance Constr	uctio	on Elements	\$	1,755,000	
_	ng/Management/Permitting							
19	STATE SALES TAX		9.5%			\$	170,000	
20	ENGINEERING/LEGAL/ADMIN		15%			\$	270,000	
21	CONSTRUCTION MANAGEMENT		10%			\$	180,000	
22	PERMITTING		5%			\$	90,000	
23	EASEMENTS AND PROPERTY ACQUISTION	1	NOT INCLUDE	D				
					Subtotal	\$	710,000	
	Subtotal Construction + Ancillary	+ Tax/Engine	ering/Manage	emen	t/Permitting	\$	2,465,000	
2009 Dollars		Total Estir	mated Project	Cos	t (Rounded)	\$	2,470,000	

- 1. The above cost opinion is in 2009 dollars and does not include future escalation, financing, or O&M costs.
- 2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material.
- 3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.

PROJECT: STORMWATER VAULT #3 CHECK BY:

PROJECT ID: 31235 BY: JSA DATE: 11/24/2009

ITEM NO.	ITEM	QUANTITY	UNIT	U	NIT PRICE		AMOUNT
Construction E	lements		•				
1	CLEARING AND GRUBBING	2.6	AC	\$	9,000	\$	24,000
2	DETENTION VAULT	26.2	AC-FT	\$	138,000	\$	3,616,000
3	WETVAULT	44,000	CF	\$	3	\$	132,000
4	STORMFILTER VAULT	1	LS	\$	280,000	\$	280,000
5	24" WATER MAIN REALIGNMENT	800	LF	\$	250	\$	200,000
6	HMA, CL 1/2-IN PG	130	TON	\$	250	\$	33,000
7	ASPHALT TREATED BASE	250	TON	\$	250	\$	63,000
8	CRUSHED SURFACING BASE COURSE	170	TON	\$	45	\$	8,000
9	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM	1500	LF	\$	80	\$	120,000
10	MANHOLE 48 IN. DIAM.	10	EA	\$	2,500	\$	25,000
11	SHORING OR EXTRA EXCAVATION CLASS B	8000	LF	\$	1	\$	4,000
12	STRUCTURE EXCAVATION CLASS B INCL HAU	1600	CY	\$	10	\$	16,000
13	GRAVEL BORROW INCL. HAUL	280	CY	\$	15	\$	5,000
14	SAWCUTTING	3000	LF	\$	4	\$	12,000
15	DEWATERING	1	LS	\$	200,000	\$	200,000
		Sι	ıbtotal Constr	uctio	on Elements	\$	4,738,000
Required Ancil							
16	EROSION AND SEDIMENTATION CONTROL		2%			\$	94,800
17	TRAFFIC CONTROL		2%	(	see note 4)	\$	94,800
19	MOBILIZATION		5%			\$	236,900
18	CONTINGENCY		30%			\$	1,421,400
			Subtotal An	cilla	ry Elements	\$	1,847,900
		btotal Conve	yance Constr	uctio	on Elements	\$	6,586,000
	ng/Management/Permitting						
20	STATE SALES TAX		9.5%			\$	630,000
21	ENGINEERING/LEGAL/ADMIN		15%			\$	990,000
22	CONSTRUCTION MANAGEMENT		10%			\$	660,000
23	PERMITTING		5%	_		\$	330,000
24	EASEMENTS AND PROPERTY ACQUISTION	I	NOT INCLUDE	D			
					Subtotal	\$	2,610,000
	Subtotal Construction + Ancillary	+ Tax/Engine	ering/Manage	emen	nt/Permitting	\$	9,196,000
2009 Dollars		Total Esti	mated Project	Cos	t (Rounded)	\$	9,200,000

- The above cost opinion is in 2009 dollars and does not include future escalation, financing, or O&M costs.
   The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the
- 3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.

PROJECT: PROJECT ID: BY: ITEM NO.	STORMWATER VAULT #4 31235 JSA	CHECK BY:					<u></u>
BY:	* 1=**						
	ICA						
ITEM NO.	JSA	DATE:	11/24/20	09			
	ITEM	QUANTITY	UNIT	UI	NIT PRICE		AMOUNT
Construction E	Elements						
1	CLEARING AND GRUBBING	0.6	AC	\$	9,000	\$	6,000
2	DETENTION VAULT	6.4	AC-FT	\$	138,000	\$	884,00
3	WETVAULT	11,600	CF	\$	3	\$	35,00
4	STORMFILTER VAULT	1	LS	\$	50,000	\$	50,00
5	HMA, CL 1/2-IN PG	20	TON	\$	250	\$	5,000
6	ASPHALT TREATED BASE	40	TON	\$	250	\$	10,000
7	CRUSHED SURFACING BASE COURSE	30	TON	\$	45	\$	2,000
8	SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	200	LF	\$	80	\$	16.000
9	MANHOLE 48 IN. DIAM.	4	EA	\$	2.500	\$	10.000
10	SHORING OR EXTRA EXCAVATION CLASS B	1000	LF	\$	1	\$	1,000
11	STRUCTURE EXCAVATION CLASS B INCL HAUL	220	CY	\$	10	\$	3,000
12	GRAVEL BORROW INCL. HAUL	40	CY	\$	15	\$	1,000
13	SAWCUTTING	400	LF	\$	4	\$	2.000
14	DEWATERING	1	LS	\$	75,000		75,000
1-7	DEWATERING	•	LO	Ψ	70,000	Ψ	70,000
		;	Subtotal Cons	structio	on Elements	\$	1,100,000
Required Ancil	llary Items						
15	EROSION AND SEDIMENTATION CONTROL		2%			\$	22,000
16	TRAFFIC CONTROL		2%	(	(see note 4)	\$	22,000
18	MOBILIZATION		5%			\$	55,000
17	CONTINGENCY		30%			\$	330,000
			Subtotal	Ancilla	ry Elements	\$	429,000
		Subtotal Con	vovance Con	structi	on Flaments	¢	1,529,00
Tax/Engineerii	ng/Management/Permitting	Oubtotal Coll	veyance con	Jii ucti	on Elements	Ψ	1,020,000
19	STATE SALES TAX		9.5%			\$	150,000
20	ENGINEERING/LEGAL/ADMIN		15%			\$	230,000
21	CONSTRUCTION MANAGEMENT		10%			\$	160,000
22	PERMITTING		5%			\$	80,000
23	EASEMENTS AND PROPERTY ACQUISTION		NOT INCLUDE	:D		Ψ	00,00
20	ENERGY WETTO THE ENTENDED	·	NOT INCLUDE		Subtotal	\$	620,000
	Subtotal Construction + And	:illarv + Tax/Engi	neering/Mana	aemer	nt/Permitting	\$	2,149,00
2009 Dollars			timated Proje				2,150,00
Notes:  1. The above co	ost opinion is in 2009 dollars and does not include future escalation, fir magnitude cost opinion has been prepared for guidance in project eva ted. The final costs of the project will depend on actual labor and mat	nancing, or O&M costs	<u> </u>				

- 4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.

PROJECT: 31235 Burien NERA DATE: 11/23/09

		PR	SW 1	SW 2	SW 3	SW 4
						_
Excavation  Tetal values (ef)		1 404 506	000 501	206 740	1 111 210	220.654
Total volume (cf)		1,421,586	869,561	306,710	1,444,348	320,654
Surface Area (sf)		110,244 2.53	156,939 3.60	96,014 2.20	377,969 8.68	66,298 1.52
Total Area (ac) Total Excavation (c	:v):	52,651	32,206	11,360	53,494	11,876
	. <b>.</b> ),.	02,001	02,200	11,000	00, 10 1	11,010
Clearing and Grubbi	<u>ng</u>					
Total Area (ac):		2.53	3.60	2.20	8.68	1.52
Pipe Excavation						
Length of new pipe:		500	1500	500	1500	200
Pipe dia (ID):		1.5	1.5	1.5	1.5	1.5
Pipe dia (OD) = 1.5*		2	2	2	2	2
Trench width = OD +		4	4	4	4	4
Street repair width =	trench width + 2'	6	6	6	6	6
Average depth to pip	oe invert:	5	5	5	5	5
Total Needed:		532	1597	532	1597	213
Length of pipe remo	val·	0	0	0	0	0
Pipe dia (ID):	vai.	· ·	ŭ	0	· ·	ŭ
Pipe dia (OD) = 1.5*	ID			· ·		
Trench width = OD +						
Street repair width =						
Average depth to pip	be invert.					
Total Removal:						
Total Pipe Excavati		532	1597	532	1597	213
( New requirements	- Removal)					
Pavement Repair						
	Pipe/Culvert Span:	1.50	1.50	1.50	1.50	1.50
	. Total width:	6	6	6	6	6
Pavemer	nt Disturbance Width	6	6	6	6	6
	Trench Length	500	1500	500	1500	200
	TOTAL REMOVAL:	2875	8625	2875	8625	1150
		319	958	319	958	128
HMA (2" thick)						
I IIVIPA (Z. (IIIUK)		479	1438	479	1438	192
	accume 2.05 ton/ov	479 37	1436	37	1436	192
	assume 2.05 ton/cy Volume +10%	31 41	121	31 41	110	15 17
	volulile +10%	<del>4</del> I	121	41	121	17
Asphalt Treated Bas	se (4" thick)					
		958	2875	958	2875	383

	assume 2.05 ton/cy Volume + 10%	73 80	218 240	73 80	218 240	29 32
CSBC (3	" thick)					
		719	2156	719	2156	288
	assume 1.85 ton/cy	49	148	49	148	20
	Volume +10%	54	163	54	163	22
Shoring						
	Trench depth x Trench length	2,500	7,500	2,500	7,500	1,000
Sawcuttir	<u>ng</u>					
Two times the length of paved trench		1000	3000	1000	3000	400

**Land Acquisition** 

Quantity Cost = \$3/SF

Pond PR Average End area calc for addition excavation

Delta sta	area, ft <sup>2</sup>	avg area, ft <sup>2</sup>	Cumm Vol, ft <sup>3</sup>
0	3539		
130	2465	3002	390260
137	1844	2154.5	685426.5
144	311	1077.5	840586.5

Pond 3 addition excavation				
70*(28*125)/2				
122500				

# Criblock Wall

delta sta	height, ft	AVG HEIGH	T, ft <sup>2</sup>
0	32	0	
130	28	30	3900
137	24	26	7462
144	24	24	10918