

SECTION 15 – ENGINEER’S ESTIMATE OF SITE COSTS

Lacamas Heights Elementary School

100% DD Rev 2

Location Summary

GFA: Gross Floor Area
Rates Current At October 2016

Location	GFA SF	Cost/SF	Total Cost
A BUILDING	73,500	296.25	21,774,410.92
B SITEWORK			
B1 On-Site Work			5,921,075.38
B2 Off-Site Improvements			590,124.15
B - SITEWORK			\$6,511,199.53
ESTIMATED NET COST	73,500	\$384.84	\$28,285,610.45
MARGINS & ADJUSTMENTS			
Escalation to 3Q2017 (to start of Construction)	4.5 %		\$1,272,852.00
WA State/Clark Cty/Vancouver Sales Tax			Excl.
ESTIMATED TOTAL COST	73,500	\$402.16	\$29,558,462.45

COST ESTIMATE SUMMARY FOR SITE IMPROV'S

- RLB ESTIMATE (w/ MARK-UP) = \$6,511,199.53
 ↳ SEE ATTACHED RLB EXCERPTS FOR
 BREAKDOWN OF COSTS

- OFF-SITE ROAD COSTS = \$688,021.45
 ↳ SEE ATTACHED ROBERTSON
 ENGINEERING ESTIMATE
 FOR BREAKDOWN OF COSTS

TOTAL SITE = \$7,199,220.98

Lacamas Heights Elementary School**100% DD Rev 2**

Location Uniformat II - Level 2/Elements Item

B SITEWORK

B1 On-Site Work

Rates Current At October 2016

Description	Unit	Qty	Rate	Total
G10 Site Preparation				
G1010 Site Clearing				
134 Clear and grub site	SF	631,730	0.10	63,173.00
368 Allowance for protection of (E) vegetation and misc. landscaping to remain	LS	1	15,000.00	15,000.00
Site Clearing				\$78,173.00
G1020 Site Demolition and Relocations				
135 Demo and remove (E) site sheds and houses; complete - by Owner, per Mahlum	SF	7,473		Excl.
415 Demo and remove (E) gravel drive	SF	9,033	0.75	6,774.75
416 Misc. site demolition - allowance	LS	1	5,000.00	5,000.00
486 Allowance for disconnection, cap-off (E) utilities and remove redundant as required	Item			20,000.00
708 Remove (E) trees; to be salvaged for playground use	EA	37	400.00	14,800.00
863 Demo and remove (E) well, concrete bunker and wire fence	LS	1	15,000.00	15,000.00
Site Demolition and Relocations				\$61,574.75
G1030 Site Earthwork				
78 Strip (E) topsoil, stockpile onsite	CY	12,370	5.50	68,035.00
136 Erosion control - allowance	LS	1	35,000.00	35,000.00
137 Excavation; site cut and stockpile	CY	19,888	7.50	149,160.00
138 Level, grade and compact for building pad, loading area and covered play area	SF	52,259	0.50	26,129.50
140 Fine grading incl. compaction	SF	182,967	0.75	137,225.25
141 Excavation; site fill/compaction w/ stockpiles onsite	CY	11,933	8.50	101,430.50
399 Excavation; haul excess spoils offsite	CY	10,487	25.00	262,175.00
400 Allowance for overexcavation of unsuitable soil, incl. foundations, debris etc incl. haul-off	LS	1	20,000.00	20,000.00
575 Allowance for imported structural fill, compacted	CY	826	45.00	37,170.00
654 Wetland mitigation (271,000 SF) - updated allowance per The Resourcing Company dated 28 Oct'16	Item			271,000.00
655 Additional costs contributed to Archaeological observation/mitigation	Item			Excl.
864 De-watering allowance - as advised by Mahlum	Item			30,000.00
865 Excavation for wetland creation area - per The Resource Company (Environmental Consultant)	CY	2,532	7.50	18,990.00
Site Earthwork				\$1,156,315.25
G1040 Hazardous Waste Remediation				
142 Hazardous materials abatement - excluded (per Mahlum)	Item			Excl.
Hazardous Waste Remediation				Excl.
Site Preparation				\$1,296,063.00

Lacamas Heights Elementary School

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Location Uniformat II - Level 2/Elements Item

B SITEWORK

B1 On-Site Work (continued)

Rates Current At October 2016

Description	Unit	Qty	Rate	Total
G20 Site Improvements				
G2010 Roadways				
104 Allowance for painting/stripping to bus parking lanes, pedestrian crossings etc.	SF	46,528	0.15	6,979.20
389 AC paving, vehicular driveway (heavy), 4" thick	SF	46,528	2.75	127,952.00
391 Aggregate base to driveways and paving	CY	1,478	40.00	59,120.00
392 Geotextile filter fabric	SY	5,170	1.10	5,687.00
477 6" Concrete curbs	LF	2,227	18.00	40,086.00
Roadways				\$239,824.20
G2020 Parking Lots				
76 Allow for painting/stripping	SF	58,386	0.25	14,596.50
92 6" Concrete curbs	LF	3,526	18.00	63,468.00
143 AC paving, parking, 3" thick	SF	58,386	1.75	102,175.50
146 Aggregate base to vehicular paving and curbs	CY	1,507	40.00	60,280.00
147 Geotextile filter fabric	SY	6,488	1.10	7,136.80
363 Allowance for parking signage	SF	58,386	0.15	8,757.90
711 Concrete wheel stops	EA	66	150.00	9,900.00
Parking Lots				\$266,314.70
G2030 Pedestrian Paving				
67 Decorative/feature concrete unit paving	SF	5,648	12.00	67,776.00
148 Concrete paving type 1, pedestrian, 4" thick	SF	50,278	4.00	201,112.00
154 C.I.P. concrete curb wall, assume 12"	LF	1,227	22.00	26,994.00
155 Aggregate base to pedestrian paving/sidewalks & curbs	CY	1,291	40.00	51,640.00
156 Geotextile filter fabric	SY	3,872	1.10	4,259.20
712 Concrete paving type 2, vehicular, 6" thick	SF	12,533	5.25	65,798.25
Pedestrian Paving				\$417,579.45
G2040 Site Development				
152 Soft play area, pour in place (assume rubberized surfacing, 4" thick)	SF	1,323	16.50	21,829.50
158 Secondary covered play roof with standing seam metal roofing on glulam beam structure incl. sheathing, flashing etc	SF	1,251	35.00	43,785.00
159 Allowance for hard play area markings	SF	7,260	0.50	3,630.00
167 School sign w/ electronic reader board (not required - per Mahlum)	EA	1		Excl.
168 Flag pole, 35' tall commercial grade aluminium incl. concrete base	EA	3	4,500.00	13,500.00
169 Vehicular gate	EA	2	4,500.00	9,000.00
171 Allow for misc. site furnishings incl. trash receptacles, bollards, tables, chairs, signage and the like	LS	1	20,000.00	20,000.00
173 Engineered wood fiber play surface, 12" depth	CY	924	40.00	36,960.00

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Location Uniformat II - Level 2/Elements Item

B SITEWORK

B1 On-Site Work (continued)

Rates Current At October 2016

Description	Unit	Qty	Rate	Total
478 Concrete paving to service and play areas	SF	1,599	4.50	7,195.50
489 Bike racks, stainless steel	EA	10	575.00	5,750.00
495 Aggregate base course to pertinent site development items	CY	113	40.00	4,520.00
504 Play structures - Type 4 & Type 5, by Berliner: Geodome and Terrano	LS	1	182,000.00	182,000.00
572 Composite decking	SF	1,295	7.50	9,712.50
581 Geotextile filter fabric	SY	3,240	1.10	3,564.00
582 Basketball standard, post mounted	EA	1	3,000.00	3,000.00
595 Allowance for painting/stripping to play areas	SF	2,573	0.35	900.55
596 Seatwall type 1, staggered CIP wall with composite decking	LF	65	150.00	9,750.00
161 Seatwall type 2, CIP wall with composite decking	LF	52	115.00	5,980.00
713 Seatwall type 3, CIP wall	LF	372	75.00	27,900.00
597 Cast in place concrete wall, 6" thick incl. footing	CY	3	550.00	1,650.00
715 Cast in place concrete wall, 12" thick incl. footing	CY	18	550.00	9,900.00
598 Pedestrian access gate, assume 4'W incl. security opener	EA	2	900.00	1,800.00
599 Salvaged log seating, secured to concrete footings	EA	33	850.00	28,050.00
600 Stump feature, secured for play/seating - allowance	LS	1	5,000.00	5,000.00
593 4" perforated sub-drainage behind retaining walls and soft play areas	LF	1,542	8.50	13,107.00
728 Metal sliding gate, 20'W x 12'H to Loading Service yard	EA	1	15,000.00	15,000.00
860 Muscle bar by Gametime, 3 tier	EA	1	800.00	800.00
861 Swing sets by Gametime, 8'h	EA	8	1,350.00	10,800.00
862 Allowance for Columbia Cascade Embankment Slide - Play Structure Type 6	LS	1	50,000.00	50,000.00
Site Development				\$545,084.05
G2050 Landscaping				
172 Stormwater planting	SF	11,497	7.00	80,479.00
174 Landscaping - turf fields, shrubs and grass/meadow planting incl. topsoil, infill mix and subgrade irrigation	SF	168,547	2.00	337,094.00
177 Imported topsoil	CY	2,602	30.00	78,060.00
228 Large tree	EA	56	450.00	25,200.00
468 Mesh fence, 5' H	LF	1,838	9.00	16,542.00
469 Allowance for site storm drainage below ground detention system	Item			180,000.00
491 Allowance for misc. landscaping incl. lawn edging etc.	LS	1	10,000.00	10,000.00
571 Turf unit paving	SF	21,135	9.00	190,215.00
584 Backfill mix, compacted (using amended topsoil from stockpile)	CY	4,162	7.50	31,215.00

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Location Uniformat II - Level 2/Elements Item

B SITEWORK

B1 On-Site Work (continued)

Rates Current At October 2016

Description	Unit	Qty	Rate	Total
602 Allowance for painting/stripping at turf fields	SF	50,565	0.10	5,056.50
854 Small tree	EA	224	300.00	67,200.00
Landscaping				\$1,021,061.50
Site Improvements				\$2,489,863.90
G30 Site Mechanical Utilities				
G3010 Water Supply				
664 Allowance for streetwork [OFFSITE] and erosion control permitting and inspections	Item			25,000.00
665 Allowance for fire and domestic water service vaults, meters, hydrants and appurtenances	Item			35,000.00
838 12" DI Fire Water Service Line including excavation and backfill	LF	750	169.06	126,795.00
839 10" DI Fire Water Service Line including excavation and backfill	LF	690	130.94	90,348.60
840 8" DI Fire Water Service Line including excavation and backfill	LF	820	103.46	84,837.20
841 6" DI Fire Water Service Line including excavation and backfill	LF	44	72.00	3,168.00
843 10" Water main line valve/box	EA	4	2,610.00	10,440.00
844 8" Water main line valve/box	EA	5	1,985.00	9,925.00
846 Install new fire hydrant on site--Includes Thrust block, valve, lateral, bury and hydrant	EA	5	4,800.00	24,000.00
847 Water main thrust block	EA	12	550.00	6,600.00
848 4" DI water Service Line including excavation and backfill	LF	780	62.00	48,360.00
Water Supply				\$464,473.80
G3020 Sanitary Water				
849 6" Sanitary Sewer--UG, With excavation	LF	965	35.00	33,775.00
850 Sanitary sewer manhole on site, standard depth	EA	1	4,800.00	4,800.00
851 Sanitary sewer tie-in to building lateral, standard depth	EA	4	600.00	2,400.00
852 Grease Interceptor	EA	1	6,850.00	6,850.00
853 Grease Water Trap	EA	1	1,400.00	1,400.00
Sanitary Water				\$49,225.00
G3030 Storm Sewer				
817 12" Storm Drain Line including backfill and excavation	LF	102	51.00	5,202.00
818 10" Storm Drain Line including backfill and excavation	LF	541	48.00	25,968.00

Lacamas Heights Elementary School**100% DD Rev 2**

Location Uniformat II - Level 2/Elements Item

B SITEWORK

B1 On-Site Work (continued)

Rates Current At October 2016

Description	Unit	Qty	Rate	Total
819 8" Storm Drain Line including excavation and backfill	LF	396	40.00	15,840.00
820 6" Storm Drain Line including excavation and backfill	LF	2,037	35.00	71,295.00
821 SDMH includes base, knock-outs, 48" sections (2) w/ ladder rungs, eccentric cone and grade ring to cast iron top and cover.	EA	1	6,800.00	6,800.00
822 Clean-out for SD	EA	20	680.00	13,600.00
823 Outfall--12" and smaller	EA	5	500.00	2,500.00
824 12" Area drain	EA	15	1,200.00	18,000.00
825 SDMH--Flow Control-- includes base, knock-outs, 48" sections, Weir, eccentric cone and grade ring to cast iron top and cover.	EA	2	10,200.00	20,400.00
826 Connections to downspouts	EA	19	460.00	8,740.00
827 Overflow riser to bio-retention--Per detail	EA	5	800.00	4,000.00
Storm Sewer				\$192,345.00
G3060 Fuel Distribution				
99 Allowance for site gas service	Item			30,000.00
Fuel Distribution				\$30,000.00
Site Mechanical Utilities				\$736,043.80
G40 Site Electrical Utilities				
G4010 Electrical Distribution				
470 Allowance for site electrical electrical service and distribution	Item			125,000.00
Electrical Distribution				\$125,000.00
G4020 Site Lighting				
788 SA--Site lighting Fixture--Large single lumin. pole mtd. LED--25Ft pole, with base--Cooper Lighting	EA	10	3,220.00	32,200.00
789 SB--Site lighting Fixture--Large double lumin. pole mtd. LED--25Ft pole, with base--Cooper Lighting	EA	9	3,880.00	34,920.00
790 SC--Site lighting Fixture--Small single lumin. pole mtd. LED--16Ft pole, with base--Cooper Lighting	EA	35	2,580.00	90,300.00
791 SD--Site lighting Fixture--Surface mtd. LED downlight--Cooper Lighting	EA	6	500.00	3,000.00
793 Outside Lighting--Conduit and Wire	LF	2,400	14.00	33,600.00
794 Outside lighting controls allowance	EA	1	1,800.00	1,800.00
Site Lighting				\$195,820.00
G4030 Site Communications & Security				
472 Allowance for site telecom service	Item			50,000.00
Site Communications & Security				\$50,000.00

Lacamas Heights Elementary School

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Location Unifomat II - Level 2/Elements Item

B SITEWORK

B1 On-Site Work (continued)

Rates Current At October 2016

Description	Unit	Qty	Rate	Total
G4090 Other Site Electrical Utilities				
474 Diesel Fired Emergency Generator--Allowance includes pad and ATS	Item			75,000.00
Other Site Electrical Utilities				\$75,000.00
Site Electrical Utilities				\$445,820.00
ON-SITE WORK				\$4,967,790.70

Lacamas Heights Elementary School**100% DD Rev 2**

Location Uniformat II - Level 2/Elements Item

B SITEWORK

B2 Off-Site Improvements

Rates Current At October 2016

Description	Unit	Qty	Rate	Total
G20 Site Improvements				
G2010 Roadways				
586 Off-site improvements incl. right-of-way improvements, etc.	Item			Excl.
Roadways				Excl.
Site Improvements				Excl.
G30 Site Mechanical Utilities				
G3010 Water Supply				
662 12" DIP Water Service Line in street [OFFSITE], including cutting, patching, excavation and backfill	LF	1,320	227.00	299,640.00
828 Tie-in to [E] CIP water main at cap with new valve	EA	2	2,800.00	5,600.00
829 Install new fire hydrant at street--Includes Thrust block, valve, lateral, bury and hydrant	EA	3	7,000.00	21,000.00
830 12" Water main gate valve in street--Includes valve box	EA	7	3,125.00	21,875.00
831 Connect to [E] MH in street	EA	1	2,200.00	2,200.00
832 SSMH includes base, knock-outs, 48" sections (4) w/ ladder rungs, eccentric cone and grade ring to cast iron top and cover.	EA	4	9,800.00	39,200.00
Water Supply				\$389,515.00
G3020 Sanitary Water				
661 8" Sanitary Sewer pipework--UG (OFFSITE), including sawcut, removal, excavation, placement, testing, backfill and restoration.	LF	1,320	80.00	105,600.00
Sanitary Water				\$105,600.00
Site Mechanical Utilities				\$495,115.00
OFF-SITE IMPROVEMENTS				\$495,115.00

Lacamas Height E.S. Off-Site Roadway

30% Construction Cost Estimate



Prepared by Robertson Engineering, PC
November 9, 2016

Item No.	Description	Unit	Qty	Unit Price	Total
1	Mobilization (assume 7%)	L.S.	1	\$ 41,900.00	\$ 41,900.00
2	Construction Entrance	Each	1	\$ 1,500.00	\$ 1,500.00
3	Silt Fencing	L.F.	2,400	\$ 2.00	\$ 4,800.00
4	Clear and Grub	S.Y.	8,798	\$ 2.00	\$ 17,596.67
5	Tree Removal	Each	60	\$ 250.00	\$ 15,000.00
6	Stripping & Haul (assume 6" depth)	C.Y.	1,466	\$ 20.00	\$ 29,327.78
7	Sawcutting	L.F.	50	\$ 5.00	\$ 250.00
8	Pavement Removal (including haul)	S.Y.	963	\$ 15.00	\$ 14,446.67
9	Earthwork - Cut	C.Y.	3,750	\$ 6.00	\$ 22,500.00
10	Earthwork - Fill	C.Y.	2,925	\$ 8.00	\$ 23,400.00
11	Earthwork - Haul Off-site	C.Y.	825	\$ 25.00	\$ 20,625.00
12	Concrete Curb & Gutter	L.F.	1,100	\$ 20.00	\$ 22,000.00
13	Concrete Sidewalk	S.Y.	694	\$ 45.00	\$ 31,225.00
14	Asphalt Pavement - (assume 4" depth)	Ton	873	\$ 90.00	\$ 78,538.41
15	Crushed Rock (C.S.T.C. & C.S.B.C.)	C.Y.	1,310	\$ 45.00	\$ 58,950.00
16	Signage and Striping	L.S.	1	\$ 12,000.00	\$ 12,000.00
17	Catch Basins	Each	6	\$ 1,200.00	\$ 7,200.00
18	Manholes	Each	6	\$ 3,000.00	\$ 18,000.00
19	Storm Pipe	L.F.	1,360	\$ 60.00	\$ 81,600.00
20	Stormwater Treatment Facility	S.F.	410	\$ 12.00	\$ 4,920.00
21	Flow Control Manhole	Each	1	\$ 15,000.00	\$ 15,000.00
22	Underground Detention	L.S.	1	\$ 28,000.00	\$ 28,000.00
23	Street Trees	Each	15	\$ 300.00	\$ 4,500.00
24	Landscaping	L.S.	1	\$ 5,000.00	\$ 5,000.00
25	Street Lights	Each	8	\$ 5,000.00	\$ 40,000.00

Subtotal \$ 598,279.52

Notes:

- Does not include city fees (TIF's), permit fees, sales tax or design fees.
- Does not include off-site water or sanitary sewer improvements. These are assumed to be included in the on-site estimate.

15% Design Contingency \$ 89,741.93

Total \$ 688,021.45