

July 3, 2018

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TURNBULL CONSTRUCTION PROJECT MANAGERS

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Principal

CRYSTAL POOL, VICTORIA, BC CLASS C CONSTRUCTION ESTIMATE

We have reviewed the design documents, prepared a "New Scheme" Class 'C' schematic design estimate (based on schematic design information) priced in Q3 2018 Victoria, BC dollars, and enclose our report.

Please note the conditions on which the costs are based and the items excluded.

Yours very truly,



Ross Templeton MRICS, PQS
Principal

Construction Cost Class C Estimate – July 3, 2018

PROJECT DESCRIPTION

The project scope includes the new construction of a replacement Crystal Pool & Wellness Centre in Victoria, BC as fully described in HCMA Architecture + Design new scheme schematic design package.

CONSTRUCTION COST SUMMARY

Element	Feb 15, 18 Class C Estimate \$	July 3, 18 Class C Estimate \$	Cost Variance (+/-) \$
Substructure (including Rock Blasting)	4,875,000	7,086,600	2,211,600
Structure	5,327,800	6,036,700	708,900
Exterior Enclosure	9,178,100	7,876,500	(1,301,600)
Partitions & Doors	2,779,800	2,445,700	(334,100)
Finishes	3,607,600	4,009,100	401,500
Fittings & Equipment	2,576,700	3,887,000	1,310,300
Mechanical	7,270,000	7,220,700	(49,300)
Electrical	4,185,300	2,973,800	(1,211,500)
General Requirements (Division 1) (on Building)	3,184,000	3,322,900	138,900
Construction Management Fee (on Building)	1,289,500	1,345,800	56,300
Net Building Cost	\$ 44,273,800	\$ 46,204,800	\$ 1,931,000
Net Building Cost \$/m ²	\$ 5,607/m ²	\$ 5,691/m ²	\$ 84/m ²
Net Building Cost \$/sqft	\$ 521/sqft	\$ 529/sqft	\$ 8/sqft
Sitework	4,104,400	2,262,600	(1,841,800)
Ancillary Work (Demolition & HazMat)	1,329,500	1,579,500	250,000
General Requirements (Division 1) (on Site Works)	434,700	307,400	(127,300)
Construction Management Fee (on Site Works)	176,100	124,500	(51,600)
Design Pricing Contingency	2,515,900	2,523,900	8,000
Escalation Contingency	6,551,500	6,572,300	20,800
Construction Contingency	Excluded	Excluded	Excluded
Total Construction Costs (excluding GST)	\$ 59,385,900	\$ 59,575,000	\$ 189,100
Gross Floor Area (m ²)	7,896 m ²	8,119 m ²	223 m ²
Total Construction Costs (excluding GST) \$/m ²	\$7,521/m ²	\$7,338/m ²	\$ (183)/m ²
Total Construction Costs (excluding GST) \$/sqft	\$699/sqft	\$682/sqft	\$ (17)/sqft

Class C Schematic Design construction cost estimates are typically +/- 15% in accuracy with many variables influencing the final construction price including most importantly the final design scope parameters.

Please refer to the appended Class C estimate for the estimate detail and elemental summary.

The February 15, 2018 Class C estimate totalled \$59,385,900. This estimate shows a total construction increase of \$189,100 excluding soft costs, items excluded and GST.

Construction Cost Class C Estimate – July 3, 2018

SEPARATE PRICES

Please refer to the final pages of the attached estimate for the separate price detail (all costs presented below are Net Cost Increases in Q2 2018 \$ without Div. 1, CM fee, contingencies, soft costs or GST):

- #1 - Raised Roof and Clearstory Over Large Multi-Purpose Room ADD \$ 183,400
- #3 - Enhanced Building Envelope Performance ADD \$ 4,300
- b - Replace Double Glazed Curtain Wall with Triple Glazed Curtain Wall ADD \$ 2,363,600
- c - Replace 100mm rigid insulation with 200mm to Wall Below Grade ADD \$ 158,400
- d - Replace 100mm rigid insulation with 200mm to Slab on Grade ADD \$ 126,000
- e - Replace 200mm rigid insulation with 300mm rigid insulation to Roof ADD \$ 259,300
- f - Replace 100mm rigid insulation with 150mm rigid to Exterior Soffits ADD \$ 7,400
- g - Replace Double Glazed skylight with Triple Glazed skylight ADD \$ 331,000
- #7 - Basement Floor To Be Slab on Grade Instead of Bonded Membrane ADD \$ 251,700
- #8 - Acoustically Isolated Floor at Fitness Area ADD \$ 198,600
- #9 - Reinstate park Over the Footprint of the Existing Building ADD \$ 653,000
- Mech Separate Price #2 - Add Condensing boilers 500 kW SAVE \$ 295,000
- Mech Separate Price #3 - Add Air to Water 4 pipe heat pump SAVE \$ 290,000
- Mech Separate Price #5&6 - Delete Rainwater harvesting/purification/heat recovery SAVE \$ 100,000

AREA ANALYSIS

Gross Floor Area measured in conformance to CIQS (Canadian Institute of Quantity Surveyors) rules of measurement:

Class C Estimate Comparison	Feb 15, 18	July 3, 18	Variance (+/-)
Basement	1,224 m ²	1,359 m ²	135 m ²
Surge Tank	0 m ²	93 m ²	93 m ²
Level 1	4,742 m ²	4,939 m ²	197 m ²
Level 2	1,930 m ²	1,728 m ²	(202) m ²
Gross Floor Area (used for \$/m²):	7,896 m²	8,119 m²	223 m²

PROJECT CALENDAR

We have assumed a construction start date of Q2/Q3 2019, a mid-point of Q2/Q3 2020 and construction completion Q2/Q3 2021 with a total construction schedule timeline of 26-28 months (including HazMat abatement, demolition and parking lot/reinstatement coming upon completion of the new facility).

CONTRACT CONDITIONS

The costs are based on the work being executed through a CM @ Risk - CCDC 5A to CCDC2 competitive tender contract on standard form documents tendered through BC Bid with no onerous supplementary conditions. Tenders will be received from at least five qualified bidders with tenders received from three sub-contractors for each major sub-trade (mechanical, pool equipment, electrical, concrete, steel, framing and drywall).

EXCLUSIONS

- Soft costs unless identified included (legal, financing, land are excluded)
- Unforeseen existing ground and dewatering conditions, no allowance for pre-load or piles (rock blasting is included)
- Out of hours working premium / restricted working hours / restricted noise conditions
- Off-site utility upgrades
- Site works outside property line
- Construction works outside the defined scope
- Hazmat Abatement costs (beyond the included \$500,000 allowance; no HazMat report received)
- Phasing of the works or Accelerated Schedule
- Moving or decanting costs
- Loose fittings, furnishings and equipment
- Goods & Services Tax (GST)
- Extraordinary Market Conditions
- Cost escalation past the anticipated mid-point of construction (assumed Q2/Q3 2020)
- Construction Contingency (Change Orders)
- Items listed as 'excluded' in the estimate detail

DESIGN PRICING CONTINGENCY

The project is at schematic design stage and a design pricing contingency of five percent (5%) has been included to cover pricing variances that may occur with specification changes and design detailing clarifications. This contingency will reduce to zero at tender stage.

CONSTRUCTION CONTINGENCY

Construction projects are rarely completed without some level of change and often additional scopes of work are required. We recommend the owner carry an additional sum in their budget to help offset any unforeseen costs that may arise during construction. We recommend an amount of five percent (5%) of the construction cost is carried in a separate owner-owned budget which has been excluded from this estimate.

INFLATION AND MARKET CONDITIONS

Escalation of twelve-point-four percent (12.4%) has been included in the estimate based on a construction start date of Q2/Q3 2019, a mid-point of Q2/Q3 2020 and construction completion Q2/Q3 2021 calculated at six percent (6%) per annum for Victoria for both 2018, 2019 and 2020).

DOCUMENTS AND DATA

This cost plan estimate has been prepared using the following:

- 2017 07 05 Geotech report
- 2018 06 07 Revision 1 to SD Costing Drawings - Arch.
- 2018 06 07 Revision 1 to SD Costing Drawings - Struc.
- 2018 05 25 Envelope Memo
- 2018 05 25 SD Acoustical report
- 2018 05 25 SD Architectural drawings
- 2018 05 25 SD Electrical report
- 2018 05 25 SD Landscape drawings
- 2018 05 25 SD Mechanical report
- 2018 05 25 SD Structural drawings
- 2018 05 25 SD Structural report
- 2018 05 29 Civil Drawings

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CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS

ELEMENT	Total Quantity	Unit	Average Unit Rate	ESTIMATED COST (\$)		
				GFA =	8,119 m ²	
				\$	\$/m ²	%
SUBSTRUCTURE				7,086,600	873	15%
Standard Foundations	8,119	m ²	208	1,686,700	208	
Basement Excavation (including Rock Blasting)	43,957	m ³	123	5,399,900	665	
STRUCTURE				6,036,700	744	13%
Lowest Floor Construction	2,524	m ²	327	825,700	102	
Upper Floor Construction	4,236	m ²	362	1,534,200	189	
Stair Construction	212	riser	779	165,100	20	
Roof Construction	5,191	m ²	676	3,511,700	433	
EXTERIOR ENCLOSURE				7,876,500	970	17%
Walls Below Grade	3,170	m ²	479	1,517,400	187	
Walls Above Grade	103	m ²	738	76,000	9	
Structural Walls Above Grade	85	m ²	320	27,200	3	
Windows & Entrances	2,805	m ²	1,232	3,455,900	426	
Exterior Doors	29	lvs.	2,717	78,800	10	
Roof Covering	5,191	m ²	258	1,339,200	165	
Skylights	331	m ²	1,837	608,000	75	
Projections	8,119	m ²	95	774,000	95	
PARTITIONS & DOORS				2,445,700	301	5%
Fixed Partitions	6,107	m ²	295	1,798,600	222	
Structural Partitions	1,216	m ²	325	395,500	49	
Movable Partitions	0	m ²	0	0	0	
Interior Doors	137	lvs.	1,836	251,600	31	
FINISHES				4,009,100	494	9%
Floor Finishes	9,009	m ²	212	1,906,500	235	
Ceiling Finishes	8,026	m ²	183	1,465,300	180	
Wall Finishes	10,443	m ²	61	637,300	78	
FITTINGS & EQUIPMENT				3,887,000	479	8%
Metals	8,119	m ²	66	534,100	66	
Millwork	8,119	m ²	44	356,900	44	
Specialties	8,119	m ²	112	906,000	112	
Equipment	8,119	m ²	236	1,915,000	236	
Elevators	5	stop	35,000	175,000	22	
MECHANICAL				7,220,700	889	16%
Plumbing & Drainage	8,119	m ²	351	2,851,600	351	
Fire Protection	8,119	m ²	35	284,100	35	
HVAC	8,119	m ²	447	3,630,000	447	
Controls	8,119	m ²	56	455,000	56	
ELECTRICAL				2,973,800	366	6%
Service & Distribution	8,119	m ²	95	772,100	95	
Lighting, Devices & Heating	8,119	m ²	168	1,364,100	168	
Systems & Ancillaries	8,119	m ²	103	837,600	103	
GENERAL REQUIREMENTS & CM FEE (BUILDING)				4,668,700	575	10%
General Requirements (Div.1)			8.0%	3,322,900	409	
Fee			3.0%	1,345,800	166	
NET BUILDING COST (EXCL. CONTINGENCIES)				46,204,800	5,691	100%

ELEMENTAL COST ANALYSIS

ELEMENT	Total Quantity	Unit	Average Unit Rate	ESTIMATED COST (\$)		
				GFA =	8,119 m ²	
				\$	\$/m ²	%
SITWORK (ON SITE)				2,262,600	279	
Site Preparation	8,119	m ²	51	410,700	51	
Hard Surfaces	8,119	m ²	86	696,700	86	
Improvements	8,119	m ²	27	218,300	27	
Landscaping	8,119	m ²	66	535,300	66	
Mechanical Site Services (On Site)	8,119	m ²	34	280,000	34	
Electrical Site Services (On Site)	8,119	m ²	15	121,600	15	
ANCILLARY WORK				1,579,500	195	
Demolition	1	sum	1,079,500	1,079,500	133	
Hazardous Materials Abatement	1	sum	500,000	500,000	62	
GENERAL REQUIREMENTS & CM FEE (SITE)				431,900	53	
General Requirements (Div.1)			8.0%	307,400	38	
Fee			3.0%	124,500	15	
CONTINGENCIES				9,096,200	1,120	
Design Pricing Contingency			5.0%	2,523,900	311	
Construction Contingency (Excluded)			0.0%	0	0	
Escalation Contingency (2 years @ 6% p.a.)			12.4%	6,572,300	809	
CONSTRUCTION TOTAL (Excluding GST & Soft Costs)				\$59,575,000	7,338	

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

COMPARISON WITH PREVIOUS ESTIMATE

ELEMENT	Previous Class 'C' Estimate 15-Feb-18 7,896 m ²	Current Class 'C' Estimate 3-Jul-18 8,119 m ²	Variance (+/-) 223 m ²
		\$	\$
SUBSTRUCTURE	4,875,000	7,086,600	2,211,600
Standard Foundations	646,400	1,686,700	1,040,300
Basement Excavation	4,228,600	5,399,900	1,171,300
STRUCTURE	5,327,800	6,036,700	708,900
Lowest Floor Construction	837,200	825,700	(11,500)
Upper Floor Construction	1,129,000	1,534,200	405,200
Stair Construction	132,400	165,100	32,700
Roof Construction	3,229,200	3,511,700	282,500
EXTERIOR ENCLOSURE	9,178,100	7,876,500	-1,301,600
Walls Below Grade	786,600	1,517,400	730,800
Walls Above Grade	405,300	76,000	(329,300)
Structural Walls Above Grade	120,200	27,200	(93,000)
Windows & Entrances	5,035,700	3,455,900	(1,579,800)
Exterior Doors	50,200	78,800	28,600
Roof Covering	1,307,200	1,339,200	32,000
Skylights	967,900	608,000	(359,900)
Projections	505,000	774,000	269,000
PARTITIONS & DOORS	2,779,800	2,445,700	-334,100
Fixed Partitions	2,112,200	1,798,600	(313,600)
Structural Partitions	423,900	395,500	(28,400)
Movable Partitions	0	0	-
Doors	243,700	251,600	7,900
FINISHES	3,607,600	4,009,100	401,500
Floor Finishes	1,981,000	1,906,500	(74,500)
Ceiling Finishes	831,300	1,465,300	634,000
Wall Finishes	795,300	637,300	(158,000)
FITTINGS & EQUIPMENT	2,576,700	3,887,000	1,310,300
Metals	451,800	534,100	82,300
Millwork	294,400	356,900	62,500
Specialties	870,500	906,000	35,500
Equipment	785,000	1,915,000	1,130,000
Elevators	175,000	175,000	-
MECHANICAL	7,270,000	7,220,700	-49,300
Plumbing & Drainage	2,993,600	2,851,600	(142,000)
Fire Protection	277,400	284,100	6,700
HVAC	3,544,000	3,630,000	86,000
Controls	455,000	455,000	-
ELECTRICAL	4,185,300	2,973,800	-1,211,500
Service & Distribution	2,040,200	772,100	(1,268,100)
Lighting, Devices & Heating	1,309,300	1,364,100	54,800
Systems & Ancillaries	835,800	837,600	1,800
GENERAL REQUIREMENTS & CM FEE (BUILDING)	4,473,500	4,668,700	195,200
General Requirements (Div.1)	3,184,000	3,322,900	138,900
Fee	1,289,500	1,345,800	56,300
NET BUILDING COST (EXCL. CONTINGENCIES)	44,273,800	46,204,800	1,931,000

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

COMPARISON WITH PREVIOUS ESTIMATE

ELEMENT	Previous Class 'C' Estimate 15-Feb-18 7,896 m ²	Current Class 'C' Estimate 3-Jul-18 8,119 m ²	Variance (+/-) 223 m ²
		\$	\$
SITWORK	4,104,400	2,262,600	-1,841,800
Site Preparation	681,000	410,700	(270,300)
Hard Surfaces	828,500	696,700	(131,800)
Improvements	1,590,800	218,300	(1,372,500)
Landscaping	438,800	535,300	96,500
Mechanical Site Services	295,000	280,000	(15,000)
Electrical Site Services	270,300	121,600	(148,700)
ANCILLARY WORK	1,329,500	1,579,500	250,000
Demolition	1,079,500	1,079,500	-
Hazardous Materials Abatement	250,000	500,000	250,000
GENERAL REQUIREMENTS & FEE	610,800	431,900	-178,900
General Requirements	434,700	307,400	(127,300)
Fee	176,100	124,500	(51,600)
CONTINGENCIES	9,067,400	9,096,200	28,800
Design Pricing Contingency	2,515,900	2,523,900	8,000
Construction Contingency (Excluded)	0	0	-
Escalation Contingency (2 years @ 6% p.a.)	6,551,500	6,572,300	20,800
CONSTRUCTION TOTAL (Excluding GST & Soft Costs)	59,385,900	59,575,000	189,100

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:		8,119	m ²
					\$	\$/m ²		
SUBSTRUCTURE					7,086,600	873	15%	
Standard Foundations					1,686,700	208		
Pad footing F5 - 3000x3000x400 dp	6	no.	3,334.33	20,000				
Excavation and disposal								
Backfill								
Concrete supply, 30 MPa								
Formwork								
Rebar								
Placing of concrete								
Blinding course concrete supply								
Placing of blinding course: pump								
Strip footing F4 - 1800x300 dp	40	m	521.40	20,900				
Excavation and disposal								
Backfill								
Concrete supply, 30 MPa								
Formwork								
Rebar								
Placing of concrete								
Strip footing keyway 50 x 100								
Blinding course concrete supply								
Placing of blinding course: pump								
Strip footing F4 - 1800x300 dp; curved	20	m	541.60	10,800				
Excavation and disposal								
Backfill								
Concrete supply, 30 MPa								
Formwork								
Extra over for curved formwork								
Rebar								
Placing of concrete								
Strip footing keyway 50 x 100								
Blinding course concrete supply								
Placing of blinding course: pump								
Raft Footing F1 - 500 dp	3,444	m ²	322.10	1,109,300				
Excavation and disposal								
Backfill								
Concrete supply, 30 MPa								
KIM admixture								
Formwork								
Rebar								
Placing of concrete								
Bonded waterproof membrane								

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	8,119	m ²
					\$	\$/m ²	
Blinding course concrete supply							
Placing of blinding course: pump							
Raft Footing F2 - 400 dp	1,187	m ²	282.84	335,700			
Excavation and disposal							
Backfill							
Concrete supply, 30 MPa							
KIM admixture							
Formwork							
Rebar							
Placing of concrete							
Bonded waterproof membrane							
Blinding course concrete supply							
Placing of blinding course: pump							
Extra over epoxy rebar allowance	1	sum	74,964.00	75,000			
Cost premium for stepping footing formwork	1	sum	5,000.00	5,000			
Allow for integrated robust water-stop detailing at joints	1	sum	50,000.00	50,000			
Allow for rigid insulation for perimeter footings	1	sum	60,000.00	60,000			
Basement Excavation					5,399,900	665	
Basement Excavation and disposal	18,546	m ³	68.50	1,270,400			
Allow for rock blasting and disposal	14,850	m ³	227.25	3,374,700			
Backfill	10,561	m ³	65.00	686,500			
Allow for shoring adjacent to retained trees	273	m ²	250.00	68,300			
STRUCTURE					6,036,700	744	13%
Lowest Floor Construction					825,700	102	
Concrete slab on grade 150mm thick including 6 mil poly, 100mm rigid insulation and 300mm granular base (Basement Mechanical Rooms)							
Separate Price							
Concrete slab on grade; assume 150mm thick including 6 mil poly, 100mm rigid insulation and 300mm granular base (Basement - Concrete Surge Tank)	93	m ²	303.37	28,200			
300mm granular base							
Concrete supply - 32 Mpa							
Extra over ditto for KIM Admixture							
Edge formwork							
Rebar							
Extra over epoxy rebar							
Placing							

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS				Gross Floor Area: 8,119 m ²	
				\$	\$/m ²
6 mil poly					
Expansion joint/Control joint					
Screed and Trowel finish					
Cure & protect					
100mm rigid insulation					
Anti-fracture and Waterproofing membrane					
Concrete slab on grade 125mm thick including 6 mil poly, 100mm rigid insulation and 150mm granular base (Level 1 Lobby)	573	m ²	125.67	72,000	
150mm granular base					
Concrete supply - 30 Mpa					
Edge formwork					
Rebar					
Placing					
6 mil poly					
Expansion joint/Control joint					
Screed and Trowel finish					
Cure & protect					
100mm rigid insulation					
Concrete slab on grade; 200mm thick including 6 mil poly, 100mm rigid insulation and 300mm granular base (Level 1 - Pools and hot tub)	1,858	m ²	247.32	459,500	
300mm granular base					
Concrete supply - 32 Mpa					
Extra over ditto for KIM Admixture					
Edge formwork					
Rebar					
Extra over epoxy rebar					
Placing					
6 mil poly					
Expansion joint/Control joint					
Screed and Trowel finish					
Cure & protect					
100mm rigid insulation					
Anti-fracture and Waterproofing membrane					
Extra over slab on grade for pool ramps (Level 1 - Pools and hot tub)	1,858	m ²	20.00	37,200	
Allow for trenches and gutter around pools	298	m	600.00	178,800	
Allow for equipment bases	1	sum	50,000.00	50,000	

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS

Gross Floor Area: 8,119 m²
\$ /m²

Upper Floor Construction				1,534,200	189
275mm thick concrete suspended slab (All Level 2)	1,728	m ²	293.97	508,000	
Concrete supply - 35 MPa					
Suspended slab formwork					
Edge formwork					
Rebar					
Placing					
Expansion joint/Control joint					
Screed and Trowel finish					
Cure & protect					
275mm thick concrete suspended slab (Level 1 change rooms above basement mechanical rooms)	1,400	m ²	329.14	460,800	
Concrete supply - 35 MPa					
Suspended slab formwork					
Edge formwork					
Rebar					
Extra over epoxy rebar					
Placing					
Expansion joint/Control joint					
Screed and Trowel finish					
Cure & protect					
200mm thick concrete suspended slab (Level 1 Pool deck above crawl space)	1,108	m ²	355.42	393,800	
Concrete supply - 35 Mpa					
Extra over ditto for KIM Admixture					
Suspended slab formwork					
Edge formwork					
Rebar					
Extra over epoxy rebar					
Placing					
Expansion joint/Control joint					
Screed and Trowel finish					
Cure & protect					
Anti-fracture and Waterproofing membrane					
Extra over for ramp					
Concrete pedestals Assume 450x450	7	m	332.29	2,300	
Concrete supply - 35 MPa					
Column formwork					
Rebar					
Placing					

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	8,119	m ²
					\$	\$/m ²	
Concrete columns C3 - 450 x 450	178	m	348.41	62,000			
Concrete supply - 35 MPa							
Column formwork							
Rebar							
Placing							
Concrete columns C4 - 508mm diameter	184	m	279.43	51,400			
Concrete supply - 35 MPa							
508mm Sonotube							
Support lumber: round column							
Rebar							
Placing							
Steel columns C1 - HSS 219mm dia. X 6.4	999	kg	6.90	6,900			
Steel columns C2 - HSS 219mm dia. X 13	1,615	kg	6.90	11,100			
Miscellaneous steel	262	kg	9.00	2,400			
Base plates	11	no.	500.00	5,500			
Structural allowance for water slide	1	sum	30,000.00	30,000			
Stair Construction					165,100	20	
Concrete suspended stairs:							
1.2m wide	70	riser	400.00	28,000			
1.6m wide	28	riser	500.00	14,000			
2.2m wide	42	riser	650.00	27,300			
1.2m wide spiral	28	riser	600.00	16,800			
Allowance for stairs to pools:							
0.6m wide	6	riser	300.00	1,800			
1.0m wide	12	riser	375.00	4,500			
1.4m wide av.	7	riser	450.00	3,200			
3.7m wide	7	riser	1,387.50	9,700			
4.9m wide av.	6	riser	1,837.50	11,000			
15.0m wide av.	6	riser	5,625.00	33,800			
Allow for concrete seating to Hot tub	1	sum	5,000.00	5,000			
Allow for concrete bench to steam room	1	sum	10,000.00	10,000			
Roof Construction					3,511,700	433	
275mm thick concrete suspended slab (Roof deck at Level 2)	522	m ²	307.71	160,600			
Concrete supply - 35 MPa							
Suspended slab formwork							
Edge formwork							
Rebar							
Placing							
Expansion joint/Control joint							

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:		8,119	m ²
					\$	\$/m ²		
Screed and Trowel finish								
Cure & protect								
38mm x 0.91mm roof metal deck including sides of truss box	4,669	m ²	58.46	273,000				
Steel deck angle	359	m	39.49	14,200				
Steel columns:								
C1 - HSS 219mm dia. X 6.4	4,163	kg	6.90	28,700				
C2 - HSS 219mm dia. X 13	16,150	kg	6.90	111,400				
C5 - Assume 2 x HSS 219mm dia. X 13	6,460	kg	6.90	44,600				
Miscellaneous steel	2,678	kg	9.00	24,100				
Base plates for C1 & C2	55	no.	500.00	27,500				
Base plates for C5	5	no.	1,500.00	7,500				
Truss:								
4000 wide x 1400 deep HSS box Truss made up of HSS 152x152; 1000kg/m	27,000	m	6.70	180,900				
4000 wide x 1400 deep HSS box Truss made up of HSS 152x152; 700kg/m	28,700	m	6.70	192,300				
Steam beams:								
B1 - W610x82	55,022	kg	6.70	368,600				
B2 - W530x74	7,992	kg	6.70	53,500				
B3 - W610x113	208,937	kg	6.70	1,399,900				
B5 - HSS 219mm dia. X 6.4	2,864	kg	6.70	19,200				
B1 - W610x82 Curved	1,722	kg	8.71	15,000				
B3 - W610x113 Curved	2,486	kg	8.71	21,700				
B5 - HSS 219mm dia. X 6.4 Curved	1,033	kg	8.97	9,300				
Bracings:								
BF1; HSS 219 dia. X 13	10,872	kg	6.90	75,000				
BF1 & BF2; HSS127x127x6.4	1,953	kg	6.90	13,500				
Allow for gusset plates with embeds, etc.	27	no.	2,000.00	54,000				
Miscellaneous steel	34,858	kg	9.00	313,700				
Allow for concrete pads 100mm thick for mechanical units	1	sum	30,000.00	30,000				
Temporary shoring for natatorium roof erection	2,941	m ²	25.00	73,500				
EXTERIOR ENCLOSURE					7,876,500	970	17%	
Walls Below Grade					1,517,400	187		
Concrete walls 250mm thick (W2)	189	m ²	437.64	82,700				

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS				Gross Floor Area:	8,119	m ²
				\$	\$/m ²	
Concrete supply - 35 MPa						
Extra over ditto for KIM Admixture						
Formwork						
Rebar						
Placing concrete						
100mm rigid insulation						
Waterproofing membrane						
Drain mat : 1/2" thick						
Concrete walls 250mm thick (W3)	1,464	m ²	475.19	695,700		
Concrete supply - 35 MPa						
Extra over ditto for KIM Admixture						
Formwork						
Extra over ditto for curved formwork						
Rebar						
Extra over epoxy rebar						
Placing concrete						
100mm rigid insulation						
Waterproofing membrane						
Drain mat : 1/2" thick						
Concrete walls 250mm thick (W2 - Hot tub)	85	m ²	672.44	57,200		
Concrete supply - 35 MPa						
Extra over ditto for KIM Admixture						
Formwork						
Extra over ditto for curved formwork						
Rebar						
Extra over epoxy rebar						
Placing concrete						
100mm rigid insulation						
Anti-fracture and Waterproofing membrane						
Drain mat : 1/2" thick						
Concrete walls 250mm thick (W3 - Pools)	1,432	m ²	476.14	681,800		
Concrete supply - 35 MPa						
Extra over ditto for KIM Admixture						
Formwork						
Extra over ditto for curved formwork						
Rebar						
Extra over epoxy rebar						
Placing concrete						
100mm rigid insulation						
Anti-fracture and Waterproofing membrane						
Drain mat : 1/2" thick						

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	
					\$	8,119 m ² \$/m ²
Walls Above Grade					76,000	9
Exterior walls including metal/swiss pearl cladding panels, steel furring, 150mm semi-rigid insulation, membrane air/vapour barrier on concrete walls	103	m ²	737.78	76,000		
Metal/Swiss Pearl cladding panels including furring						
150mm semi-rigid insulation						
Membrane air/vapour barrier						
Structural Walls Above Grade					27,200	3
Concrete walls 250mm thick (W2)	85	m ²	320.49	27,200		
Concrete supply - 35 MPa						
formwork						
Rebar						
Placing concrete						
Windows & Entrances					3,455,900	426
Curtain wall: double glazed with fibreglass pressure plates	2,516	m ²	1,000.00	2,516,000		
Ditto sloping	289	m ²	1,200.00	346,800		
Extra over for curved curtain wall	636	m ²	200.00	127,200		
Extra over for spandrel with 100mm insulation	85	m ²	200.00	17,000		
Extra over ditto for glazing with translucent gradient film (25%)	701	m ²	150.00	105,200		
Extra over ditto for glazing with translucent film (15%)	421	m ²	150.00	63,200		
Allow for structural supports to curtain wall	2,805	m ²	100.00	280,500		
Exterior Doors					78,800	10
Aluminum glazed doors; single	3	lvs.	2,200.00	6,600		
Ditto; double	8	pr.	4,200.00	33,600		
Hollow metal doors; single	2	lvs.	1,700.00	3,400		
Ditto; double	4	pr.	3,200.00	12,800		
Automatic door openers; allow	4	no.	3,500.00	14,000		
Panic hardware; allow	14	no.	600.00	8,400		
Roof Covering					1,339,200	165
2-ply SBS roofing membrane including cover board, sloping insulation, 175mm rigid insulation, vapour barrier on concrete slab (level 2 deck)	522	m ²	274.42	143,200		
2-ply SBS roof membrane						
protection board						
200mm rigid insulation						
Air/vapour barrier membrane						
Concrete pavers						

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS				Gross Floor Area: 8,119 m ²	
				\$	\$/m ²
Skylights 608,000 75					
2-ply SBS roofing membrane including cover board, 175mm rigid insulation, vapour barrier and 16mm roof board on steel deck	4,669	m ²	234.58	1,095,300	
2-ply SBS roof membrane protection board					
200mm rigid insulation					
Air/vapour barrier membrane					
16mm roof board					
Parapet details/junction details at roofs	789	m	70.00	55,200	
Integral gutter at roof perimeter	296	m	120.00	35,500	
Mechanical shaft entry 3.5m x 2.5m including insulated curb	1	no.	10,000.00	10,000	
Projections 774,000 95					
Aluminum framed skylights with fritted double glazing	331	m ²	1,700.00	562,700	
Insulated curbs 200mm high	453	m	100.00	45,300	
Acoustical screen enclosure at roof for M&E equipment including structural frame and footings (2m high av.)	135	m ²	500.00	67,500	
Suspended composite metal/Swiss Pearl panel soffit to underside of Level 2 including insulation	263	m ²	812.17	213,600	
152mm steel stud					
16mm type X drywall					
100mm rigid insulation					
Membrane air/vapour barrier					
Composite metal/Swiss Pearl panels soffit					
Allow for profiled metal fascia 500mm high	669	m	70.00	46,800	
Exterior deck with recessed concrete slab and floating paver system	98	m ²	175.00	17,200	
Retaining wall and screen around exterior deck including metal frame with wood and metal infill	37	m	500.00	18,500	
Glass guardrail to exterior deck at Level 2	40	m	1,500.00	60,000	
Ditto - curved	27	m	2,000.00	54,000	
300mm anodized aluminum sun shades at 610 o.c. on curtain wall	988	m	300.00	296,400	
PARTITIONS & DOORS				2,445,700	301 5%

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:		8,119	m ²
					\$	\$/m ²		
Fixed Partitions						1,798,600	222	
Concrete block walls 200mm thick	1,539	m ²	225.00	346,300				
Aluminum glazed partitions (Kawneer 1600)	1,003	m ²	850.00	852,600				
Interior GWB partitions including acoustic insulation and/or water and abuse resistance	2,236	m ²	200.00	447,200				
Furring to concrete wall	1,329	m ²	100.00	132,900				
Allowance for 19mm plywood backing	559	m ²	35.00	19,600				
Structural Partitions						395,500	49	
Concrete walls 250mm thick (W2)	1,069	m ²	320.49	342,600				
Concrete supply - 35 MPa								
formwork								
Rebar								
Placing concrete								
Concrete walls in pools; assume 250mm thick	147	m ²	360.18	52,900				
Concrete supply - 35 MPa								
Extra over ditto for KIM Admixture								
formwork								
Rebar								
Extra over epoxy rebar								
Placing concrete								
Movable Partitions						0	-	
None		Excluded		-				
Interior Doors						251,600	31	
Glazed aluminum doors including hardware - single	32	no.	2,000.00	64,000				
Glazed aluminum doors including hardware - double	3	pr.	4,000.00	12,000				
Hollow metal doors including hardware - single	12	lvs.	1,600.00	19,200				
Hollow metal doors including hardware - double	13	pr.	3,000.00	39,000				
Solid core wood doors including hardware - single	51	lvs.	1,600.00	81,600				
Solid core wood doors including hardware - double	5	pr.	3,000.00	15,000				
Automatic door openers; allow	4	no.	3,500.00	14,000				
Panic hardware; allow	9	no.	600.00	5,400				
Extra over for vision panels; allow	9	no.	150.00	1,400				
FINISHES						4,009,100	494	9%
Floor Finishes						1,906,500	235	
Concrete Sealer	2,237	m ²	11.00	24,600				
Slip resistant mosaic tiles to pool tank including floor and wall	2,841	m ²	375.00	1,065,400				
Ditto to pool deck	987	m ²	350.00	345,500				

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	8,119	m ²
					\$	\$/m ²	
Mosaic tiles to washrooms, showers and change rooms	876	m ²	250.00	219,000			
Resilient sheet flooring	764	m ²	75.00	57,300			
Carpet tiles	276	m ²	85.00	23,500			
Resilient sports flooring	652	m ²	135.00	88,000			
Sprung flooring with wood finish	366	m ²	200.00	73,200			
Pedigrid metal grid entrance mat	10	m ²	500.00	5,000			
Allow for floor finish to waterslide bridge	1	sum	5,000.00	5,000			
Ceiling Finishes					1,465,300	180	
Suspended T-bar ceilings	455	m ²	65.00	29,600			
Suspended GWB ceilings	876	m ²	125.00	109,500			
Acoustic wood panels to Lobby	616	m ²	450.00	277,200			
Wood slats with acousical backing to Natatorium, Fitness and Level 2 MPRs	3,863	m ²	250.00	965,800			
Paint exposed concrete and structural steel structure	2,216	m ²	15.00	33,200			
Allow for bulkheads	1	sum	50,000.00	50,000			
Wall Finishes					637,300	78	
Mosaic tiles to washrooms, changes rooms and showers; 2.2m high	939	m ²	250.00	234,800			
Mosaic tiles to pool walls (Included in Floor Finish)		Incl.					
Allow for acoustic panels	950	m ²	180.00	171,000			
Allowance for other wall finishes; including wall reveals	1,901	m ²	5.00	9,500			
Paint to walls	6,653	m ²	12.00	79,800			
Composite metal cladding column covers	228	m ²	625.00	142,200			
FITTINGS & EQUIPMENT					3,887,000	479	8%
Metals					534,100	66	
Metal handrails to stairs	57	m	150.00	8,600			
Metal guardrails to stairs	35	m	400.00	14,000			
Glass guardrail	138	m	1,500.00	207,000			
Extra over ditto for curved guardrail	42	m	300.00	12,600			
Allowance for stainless steel guardrails to pools	1	sum	25,000.00	25,000			
Allowance for stainless ladders to pools	4	no.	1,500.00	6,000			
Access hatch 1.2m x 1.2m with flush tile finish at pool deck	3	no.	2,500.00	7,500			
Ship ladder to crawl space	14	m	700.00	9,800			
Allowance for misc. metals (by GFA)	8,119	m ²	30.00	243,600			

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	8,119	m ²
					\$	\$/m ²	
Millwork					356,900	44	
Washroom vanity	25	m	2,000.00	50,000			
Kitchen countertop with base cabinets	12	m	950.00	11,400			
Kitchen overhead cupboards	12	m	650.00	7,800			
Workstation countertop	7	m	550.00	3,900			
Reception desks	18	m	2,200.00	39,600			
Bench seating	55	m	450.00	24,800			
Bench with brackets at change rooms	66	m	500.00	33,000			
Full height cubbies (Allowance)	6	m	1,500.00	9,000			
Allowance for millwork not shown on drawings	8,119	m ²	15.00	121,800			
Allowance for backing and blocking	1	sum	15,000.00	15,000			
Allowance for rough carpentry (by GFA)	8,119	m ²	5.00	40,600			
Specialties					906,000	112	
Washroom accessories to toilet partitions	28	set	300.00	8,400			
Ditto to isolated washrooms	11	no.	500.00	5,500			
Ditto to isolated showers	2	no.	500.00	1,000			
Ditto to shower partitions	13	no.	300.00	3,900			
Accessories to Universal Change, Men & Women Change Rooms	4	set	5,000.00	20,000			
Mirrors; assume 1.2m high	30	m ²	220.00	6,600			
phenolic lockers 2-tier	417	no.	1,000.00	417,000			
Phenolic toilet partitions	5	no.	1,500.00	7,500			
Ditto, handicapped	2	no.	1,800.00	3,600			
Dry change cubicles including bench	12	no.	2,000.00	24,000			
Wet change and shower cubicles including bench	13	no.	2,500.00	32,500			
Shower screens	22	no.	500.00	11,000			
Allowance for wall mounted mirrors to Fitness and Fitness Studio; assume 2.8m high	70	m ²	300.00	21,000			
Class 1 indoor bicycle parking	20	no.	150.00	3,000			
Allowance for interior signage	8,119	m ²	7.00	56,800			
Allowance for other specialty items (corner guards, tackboard, whiteboards, etc.)	8,119	m ²	35.00	284,200			
Equipment					1,915,000	236	
Water slide (E04)	1	no.	250,000.0	250,000			
Allowance for automated entry control gates (D10)	1	sum	50,000.00	50,000			
1m springboard (E06)	1	no.	15,000.00	15,000			
3m springboard (E07)	1	no.	20,000.00	20,000			
Allowance for 20 water features for Leisure pool (E02)	1	sum	200,000.00	200,000			
Roof safety anchors	1	sum	100,000.00	100,000			
Allowance for sauna and steam equipment	1	sum	100,000.00	100,000			

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	8,119	m ²
					\$	\$/m ²	
Poolpod portable lifts (E08)	4	no.	30,000.00	120,000			
Movable floor and 2 bulkheads to main pool - KBE Scissor Jack Floor and KBE Floating SS Bulkhead (E01)	1	sum	1,060,000.00	1,060,000			
Fitness equipment (Excluded)			Excl. (FF&E)				
Loose Fixtures, Fittings & Equipment (Excluded)			Excl. (FF&E)				
Pool cleaning equipment (Excluded)			Excl. (FF&E)				
Elevators					175,000	22	
Gearless machine room-less traction elevator (3 stops)	1	no.	125,000.00	125,000			
Allowance for mechanical lift (2 stops) (D12)	1	no.	50,000.00	50,000			
MECHANICAL					7,220,700	889	16%
Plumbing & Drainage					2,851,600	351	
Equipment							
Metering Domestic, Pool make up and Irrigation	1	no.	5,000.00	5,000			
Heat recovery water heaters	3	no.	50,000.00	150,000			
Recirc. Pump	3	no.	500.00	1,500			
Backflow preventer	1	L/S	8,000.00	8,000			
Potable expansion tank	2	no.	800.00	1,600			
Mixing valve	3	no.	2,500.00	7,500			
Sumps and interceptors	1	L/S	30,000.00	30,000			
Grinder pump	1	no.	20,000.00	20,000			
Piping							
Domestic hot water piping	350	m	85.00	29,800			
Domestic hot water recirc. piping	220	m	55.00	12,100			
Domestic cold water piping	460	m	95.00	43,700			
Domestic water insulation	1,030	m	25.00	25,800			
Sanitary drains	500	m	100.00	50,000			
Vent piping	370	m	125.00	46,300			
Storm drains	1	L/S	50,000.00	50,000			
Weeping tile	1	L/S	20,000.00	20,000			
Storm water Insulation	1	L/S	15,000.00	15,000			
Valves and piping specialties	1	L/S	30,000.00	30,000			
Delete Rainwater harvesting and purification	1	L/S	(100,000.00)	(100,000)			
Fixtures							
Water closets	41	no	900.00	36,900			
Urinals	3	no	1,500.00	4,500			
Lavatories	45	no	1,600.00	72,000			
Sink	5	no	1,300.00	6,500			

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	8,119	m ²
					\$	\$/m ²	
Janitor sink	2	no	2,500.00	5,000			
Showers	17	no	1,200.00	20,400			
Drinking fountains	3	no	4,000.00	12,000			
Eyewash	1	L/S	3,000.00	3,000			
Hose bibb, specialties and drains	1	L/S	25,000.00	25,000			
Special Piping and Fittings							
Hot pool system	1	sum	100,000.00	100,000			
Leisure pool system	1	sum	600,000.0	600,000			
Lap pool system	1	sum	1,000,000	1,000,000			
Pool filtration and backwash system	1	sum	300,000.0	300,000			
Pool sterilization system	1	sum	100,000.00	100,000			
Water features	1	sum	120,000.00	120,000			
Fire Protection					284,100	35	
Equipment							
Fire extinguishers	1	L/S	5,000.00	5,000			
Fire department connections	1	L/S	12,000.00	12,000			
Backflow prevention	1	L/S	7,500.00	7,500			
Sprinkler valve	1	no.	6,000.00	6,000			
Zone valves	4	no.	2,500.00	10,000			
Sprinklers							
Wet sprinkler system distribution to NFPA 13	8,119	m ²	30.00	243,600			
HVAC					3,630,000	447	
Equipment							
Water to water heat pump - Multistack 120 ton	1	no.	200,000.00	200,000			
Air to water 4 pipe heat pump - Airstack 200 tons	1	no.	300,000.00	300,000			
Air to water 2 pipe heat pump - Airstack 280 tons	1	no.	450,000.0	450,000			
AHU-1 Natatorium 33,000 lps	1	no.	395,000.00	395,000			
AHU-2 Natatorium 15,000 lps	1	no.	170,000.00	170,000			
AHU-3 Natatorium 1000 lps	1	no.	20,000.00	20,000			
AHU-4 Main Floor 2900 lps	1	no.	50,000.00	50,000			
AHU-5 Upper Fitness 4800 lps	1	no.	75,000.00	75,000			
AHU-6 Upper Lobby / Multipurpose 5000 lps	1	no.	65,000.00	65,000			
AHU-7 Pool Mechanical Room	1	no.	30,000.00	30,000			
AC-1 / 2 / 3 Elec Rm, Data Rm / Lifeguard Control Rm	3	no.	8,000.00	24,000			
EF-1 200 cfm	1	no.	500.00	500			
EF-2 200 cfm	1	no.	500.00	500			
Building exhaust	1	L/S	20,000.00	20,000			
Heating pumping and specialties	1	L/S	65,000.00	65,000			
Chilled water pumping and specialties	1	L/S	85,000.00	85,000			
Seismic restraint	1	L/S	10,000.00	10,000			
Ductwork							
Natatorium duct distribution - Aluminum	1	L/S	900,000.0	900,000			

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:		8,119	m ²
					\$	\$/m ²		
Galvanized duct distribution	1	L/S	600,000.0	600,000				
Piping								
Heating piping	1	L/S	75,000.00	75,000				
Chilled water piping	1	L/S	30,000.00	30,000				
Insulation for chilled water piping	1	L/S	10,000.00	10,000				
Ductwork Terminal devices								
Included with duct								
Air balancing	1	L/S	25,000.00	25,000				
Piping terminal devices								
Fan coils	10	no.	1,500.00	15,000				
Water balance	1	L/S	15,000.00	15,000				
Controls					455,000		56	
Controls								
Hardware	1	L/S	20,000.00	20,000				
System control	1	L/S	135,000.00	135,000				
Zone control	1	L/S	40,000.00	40,000				
Pool process control	1	L/S	140,000.00	140,000				
Valves and dampers	1	L/S	100,000.00	100,000				
Energy metering	1	L/S	20,000.00	20,000				
ELECTRICAL					2,973,800		366	6%
Service & Distribution					772,100		95	
Digital Metering Allowance	1	no.	8,825.00	8,800				
1600 a 347/600 v Distribution Centre	1	no.	69,000.00	69,000				
800 a 120/208 v Distribution Centre	1	no.	17,640.00	17,600				
600 a 347/600 v Distribution Centre	1	no.	16,040.00	16,000				
Metering cabinet	1	no.	748.00	700				
400 a 347/600 v EM Distribution Panel	1	no.	6,037.50	6,000				
400 a 120/208 v Distribution Panel	2	no.	6,037.50	12,100				
84 cct. 120/208 v branch circuit panel	8	no.	6,519.00	52,200				
42 cct. 347/600 v branch circuit panel	2	no.	4,276.00	8,600				
Surge Suppressor	1	no.	2,995.00	3,000				
Backboards	10	m2	213.75	2,100				
250 kw 347/600 v diesel fired genset	1	no.	142,300.00	142,300				
100 a bypass transfer switch	1	no.	3,850.00	3,900				
225 a bypass transfer switch	1	no.	6,310.00	6,300				
45 kva 600/120/208 v transformer	2	no.	1,496.50	3,000				
75 kva 600/120/208 v transformer	1	no.	3,850.00	3,900				
150 kva 600/120/208 v transformer	1	no.	8,985.00	9,000				
225 kva 600/120/208 v transformer	1	no.	14,120.00	14,100				
200 a feeder	400	m	140.51	56,200				

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	8,119	m ²
					\$	\$/m ²	
250 a feeder	100	m	224.24	22,400			
400 a feeder	50	m	369.71	18,500			
800 a feeder	50	m	730.00	36,500			
Grounding busses - Main	1	no.	672.60	700			
Grounding busses - EL Room	3	no.	459.10	1,400			
Ground rods	3	no.	122.80	400			
4 ground conductor	150	m	14.42	2,200			
3/0 ground conductor	200	m	26.98	5,400			
4/0 ground conductor	50	m	35.54	1,800			
Grounding terminations	100	no.	30.70	3,100			
Ground Testing Report Allowance	1	no.	2,675.00	2,700			
Roughin for Future PV Arrays - Allowance	Separate price (NIC)			-			
PV Equipment Allowance	Separate price (NIC)			-			
Mechanical Equipment Connections Allowance	1	no.	80,200.00	80,200			
800A Motor control Centre - 4 Section	1	no.	69,000	69,000			
Commissioning	1	sum	7,500.00	7,500			
Maintenance manuals	1	sum	1,602.50	1,600			
Record drawings	1	sum	2,000.00	2,000			
Spare parts allowance	1	sum	2,140.00	2,100			
Systems demonstrations	1	sum	7,500.00	7,500			
Utility Company Charges - BC Hydro - Allowance	1	sum	58,850.00	58,900			
Utility Company Charges - Telus - Allowance	1	sum	8,025.00	8,000			
Utility Company Charges - Shaw - Allowance	1	sum	5,350.00	5,400			
Lighting, Devices & Heating					1,364,100	168	
Type In Ground Pool Lighting	30	no.	2,086.00	62,600			
Type Pool Area Lighting Allowance	20	no.	2,835.00	56,700			
Type Misc Interior Lighting	500	no.	655.00	327,500			
Allowance for general interior general lighting, supply and install (no design)	8,119	m ²	55.00	446,500			
Type Misc Exterior Lighting	20	no.	802.00	16,000			
Emergency lighting unit	5	no.	401.00	2,000			
Emergency remote lighting unit	15	no.	93.50	1,400			
EXIT LED fixture	40	no.	296.75	11,900			
EXIT LED fixture c/w Remote Heads	10	no.	296.75	3,000			
Emergency connect to EXIT fixture	40	no.	117.45	4,700			
Outlet boxes	395	no.	30.70	12,100			
Occupancy sensors - Ceiling Mount	60	no.	240.50	14,400			
Daylight sensors & interface	15	no.	294.00	4,400			
1000 w slider dimmer switch	10	no.	187.00	1,900			
Lo voltage switch - Dimmer	30	no.	213.75	6,400			
Low voltage relay cabinet	2	no.	9,305.00	18,600			
15 a fourplex receptacle	10	no.	124.10	1,200			
15 a duplex receptacle	90	no.	101.40	9,100			
15/20 a GFI duplex receptacles - WP	25	no.	122.80	3,100			

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	
					\$	8,119 m ² \$/m ²
15/20 a duplex receptacles	20	no.	106.75	2,100		
Baseboard heaters	50	no.	294.00	14,700		
Force Flow Heater	5	no.	534.50	2,700		
DHWH Connection	3	no.	481.00	1,400		
Range Outlet	1	no.	180.25	200		
Range Hood Connection	1	no.	66.75	100		
Dryer Outlet	1	no.	138.85	100		
Dishwasher Outlet Connection	2	no.	66.75	100		
Auto Flush/Washroom Outlets	40	no.	77.45	3,100		
Blue Strobe	5	no.	1,390.00	7,000		
Ceiling Fan	6	no.	641.00	3,800		
Ceiling Fan Controller	2	no.	240.50	500		
H/C Door Operator Connection	4	no.	908.00	3,600		
H/C Door PB	8	no.	320.50	2,600		
Sauna Room Connection	1	no.	5,830.00	5,800		
Steam Room Connection	1	no.	3,155.00	3,200		
Misc Outlets	100	no.	280.50	28,100		
Photocells and time clocks control	1	no.	1,175.00	1,200		
Branch circuit conduit/wire	5,328	m	39.59	210,900		
Branch circuit cable	1,920	m	17.82	34,200		
Dimming Allowance	1	no	23,800.00	23,800		
Seismic restraint of lighting fixtures	630	no.	18.14	11,400		
Systems & Ancillaries					837,600	103
Fire Alarm control panel	1	no.	13,900.00	13,900		
Entrance Annunciator	1	no.	1,604.00	1,600		
Manual alarm stations	10	no.	240.50	2,400		
Smoke detectors	10	no.	152.30	1,500		
Strobe light	10	no.	167.00	1,700		
Alarm bells c/w strobe	70	no.	232.50	16,300		
Sprinkler connections	10	no.	133.50	1,300		
EOL	4	no.	133.50	500		
Line Isolators	10	no.	240.50	2,400		
Control/Monitor Modules	10	no.	240.50	2,400		
Fire alarm branch wiring	1,292	m	16.82	21,700		
Fire alarm devices verification	136	items	61.45	8,400		
Allowance for fire alarm systems (no design)	8,119	m ²	6.00	48,700		
	-		-	-		
300 mm cable tray	100	m	104.25	10,400		
Cable tray Tee section	2	no	387.50	800		
Cable tray elbow	4	no.	294.00	1,200		
Cable tray supports	33	no.	56.05	1,900		
Cable tray grounding cable	115	no.	12.56	1,400		
Cable tray grounding cable lugs	11	no.	45.40	500		
Allowance for raceways (no design)	8,119	m ²	11.00	89,300		

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS				Gross Floor Area:	8,119	m ²
				\$	\$/m ²	
Telephone/data 100 mm conduits	20	m	99.69	2,000		
Backboards	10	m ²	213.75	2,100		
Data Outlet (3)	20	no.	117.50	2,400		
Phone/Data Outlet	50	no.	149.60	7,500		
Wireless Outlet (2)	20	no.	187.00	3,700		
Tel/Data cables install	200	no.	29.35	5,900		
BIX blocks, equipment racks	2	no.	2,885.00	5,800		
Telephone/data cable 4 pr. Category 6 FT6	18,000	m	1.98	35,600		
Testing, termination of data cables	200	no.	20.00	4,000		
Fiber Allowance	1	m	6,950.00	7,000		
25 mm conduit	450	m	30.52	13,700		
Allowance for voice and data systems (no design)	8,119	m ²	2.00	16,200		
AV Allowance	1	sum	57,000.00	57,000		
Paging speakers - wall mounted	60	no.	213.75	12,800		
Paging speakers - Pool Area	15	no.	695.00	10,400		
Public address equipment	1	no.	45,200.00	45,200		
AM/FM Tuner CD - Pool Area	1	no.	1,925.00	1,900		
Sound components rack	1	no.	588.00	600		
Sound system conduit/cable	1,170	m	14.42	16,900		
Allowance for timing system (rough-in only)	1	sum	35,000.00	35,000		
CCTV camera	12	no.	1,925.00	23,100		
CCTV camera Exterior	6	no.	1,925.00	11,600		
PIR motion detectors	10	no.	267.00	2,700		
Card readers - proximity type	15	no.	5,080.00	76,200		
DC - Door Contact Outlet	15	no.	240.50	3,600		
MAG - Mag Lock Outlet	15	no.	240.50	3,600		
ES - Electric Strike	15	no.	240.50	3,600		
REX - Request to Exit	10	no.	240.50	2,400		
Future security outlets	20	no.	280.50	5,600		
Allowance for systems, ancillaries with no design	8,119	m ²	20.00	162,400		
Intrusion alarm system conduit	944	m	30.52	28,800		
GENERAL REQUIREMENTS & CM FEE (BUILDING)				4,668,700	575	10%
General Requirements (Div.1)	8.0%			3,322,900		
CM Fee	3.0%			1,345,800		
NET BUILDING COST (Excluding Contingencies)				46,204,800	5,691	100%
SITWORK (ON SITE)				2,262,600	279	

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	8,119	m ²
					\$	\$/m ²	
Site Preparation & Civils					410,700	51	
Clear and grub	17,922	m ²	1.94	34,700			
Strip topsoil	1,506	m ³	35.00	52,700			
Allow for backfill existing pools with imported material	8,082	m ³	40.00	323,300			
Hard Surfaces					696,700	86	
Concrete paving (multi-use paths)	415	m ²	115.00	47,700			
Asphalt paving to parking, pull out and loading zone	2,839	m ²	60.00	170,300			
Outdoor M&E concrete pads	10	m ²	250.00	2,500			
Concrete curbs	422	m	50.00	21,100			
New curb cut	1	loc.	1,000.00	1,000			
Allowance for hard paving, CIP concrete raised planters, CIP seat walls, CIP wall surrounds, heavy duty pavers, all sub-base	2,659	m ²	150.00	398,900			
Allow for rough grading	12,983	m ²	4.25	55,200			
Improvements					218,300	27	
New basketball court (NIC)			Excl.	-			
New tennis courts (NIC)			Excl.	-			
Reinstated park (NIC)			Excl.	-			
Outdoor space with existing play equipment (NIC)			Excl.	-			
Daycare (Deleted)			Excl.	-			
Child minding outdoor area (Deleted)			Excl.	-			
Acoustic screen for outdoor M&E equipment	15	m	500.00	7,500			
Exhaust grille 10'x10' (Allowance)	1	no.	5,000.00	5,000			
Fresh air intake grille 10'x10' (Allowance)	1	no.	5,000.00	5,000			
Paint parking lines	97	stall	75.00	7,300			
Allow for exterior signage	1	sum	30,000.00	30,000			
Class 1 outdoor bicycle parking	10	no.	150.00	1,500			
Class 2 bicycle parking	80	no.	150.00	12,000			
Allow for miscellaneous (IPE and picnic table, bollards, etc.)	1	sum	150,000.00	150,000			
Existing baseball courts (No work)			Excl.	-			
Landscaping					535,300	66	
Allowance for soft landscape	7,060	m ²	60.00	423,600			
Topsoil	1,218	m ³	40.00	48,700			
Irrigation to sodded lawn	7,060	m ²	7.00	49,400			
Retain and protect existing trees	7	no.	300.00	2,100			
Remove existing trees	23	no.	500.00	11,500			
Mechanical Site Services (On Site)					280,000	34	
Water / Fire Service	1	sum	90,000.00	90,000			

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS					Gross Floor Area:	
					\$	8,119 m ² \$/m ²
Water service						
Storm	1	sum	160,000.00	160,000		
Storm drainage						
Sanitary	1	sum	30,000.00	30,000		
Sanitary drainage						
Natural Gas		None		-		
Electrical Site Services (On Site)					121,600	15
Type LED Pole Mounted Fixture	10	no.	5,775.00	57,800		
EV Car Charging Outlet	6	no.	1,123.00	6,700		
Branch circuit wiring c/w excavation, backfill	500	m	45.40	22,700		
100 mm PVC ducts (Primary)	100	m	45.45	4,500		
100 mm PVC ducts (Secondary)	150	m	45.45	6,800		
100 mm PVC ducts (Phone/Cable)	300	m	40.10	12,000		
TAG: Main & Tel. Service Ducts	2	m	907.50	1,800		
Transformer pad	1	no.	2,780.00	2,800		
Ground rods	5	no.	81.40	400		
4/0 ground conductor	35	m	27.26	1,000		
Grounding terminations	5	no.	30.70	200		
Precast concrete pull box	2	no.	2,460.00	4,900		
ANCILLARY WORK					1,579,500	195
Demolition					1,079,500	133
Remove basketball court	448	m ²	50.00	22,400		
Remove and reinstate basketball court equipment	1	sum	2,000.00	2,000		
Remove existing tennis courts	1,269	m ²	50.00	63,500		
Remove and reinstate tennis court equipment	1	sum	2,000.00	2,000		
Remove fencing for basketball and tennis courts	232	m	30.00	7,000		
Remove and reinstate existing outdoor gym equipment	1	sum	5,000.00	5,000		
Remove and reinstate existing playground equipment	1	sum	5,000.00	5,000		
Remove ground materials for existing playground and outdoor gym	787	m ²	25.00	19,700		
Remove existing path and benches	620	m ²	50.00	31,000		
Demolish existing pool building (excluding HazMat)	4,758	m ²	193.75	921,900		
Hazardous Materials Abatement					500,000	62
Removal of hazardous materials (Allowance only - no Hazmat Report)	1	sum	500,000	500,000		

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

ELEMENTAL COST ANALYSIS

Gross Floor Area: 8,119 m²
\$ /m²

GENERAL REQUIREMENTS AND CM FEE (SITE)		431,900	53
General Requirements (Div.1)	8.0%	307,400	
CM Fee	3.0%	124,500	
CONTINGENCIES		9,096,200	1,120
Design Pricing Contingency	5.0%	2,523,900	
Construction Contingency (Excluded)	0.0%	0	
Escalation Contingency (2 years @ 6% p.a.)	12.4%	6,572,300	
CONSTRUCTION TOTAL (Excluding GST)		59,575,000	7,338

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

SEPARATE PRICES

\$

#1 Raised Roof and Clearstory Over Large Multi-Purpose Room				
<u>Add</u>				
Column C2 - HSS 219mm dia. X 13	1,292	kg	6.90	8,900
Beam B2	4,736	kg	6.70	31,700
Exterior walls including metal/swiss pearl cladding panels, steel furring, 150mm semi-rigid insulation, membrane air/vapour barrier	109	m ²	869.72	94,800
Clearstory	48	m ²	1,000.00	48,000
Total Net Cost Increase				\$183,400
#3 Enhanced Building Envelope Performance				
a. Replace 100mm insulation with 150mm insulation to Solid Sections of Exterior Envelope - Back Pan System				
<u>Delete</u>				
Extra over for spandrel with 100mm insulation	(85)	m ²	200.00	(17,000)
<u>Add</u>				
Extra over for spandrel with 150mm insulation	85	m ²	250.00	21,300
Total Net Cost Increase				\$4,300
b. Replace Double Glazed Curtain Wall with Triple Glazed Curtain Wall				
<u>Delete</u>				
Double glazed curtain wall	(2,516)	m ²	1,000.00	(2,516,000)
Ditto, sloping	(289)	m ²	1,200.00	(346,800)
Extra over for curved curtain wall	(636)	m ²	200.00	(127,200)
Extra over ditto for glazing with translucent gradient film (25%)	(701)	m ²	150.00	(105,200)
Extra over ditto for glazing with translucent film (15%)	(421)	m ²	150.00	(63,200)
<u>Add</u>				
Triple glazed curtain wall	2,516	m ²	1,800.00	4,528,800
Ditto, sloping	289	m ²	2,000.00	578,000
Extra over for curved curtain wall	636	m ²	300.00	190,800
Extra over ditto for glazing with translucent gradient film (25%)	701	m ²	200.00	140,200
Extra over ditto for glazing with translucent film (15%)	421	m ²	200.00	84,200

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

SEPARATE PRICES

\$

Total Net Cost Addition

\$2,363,600

c. Replace 100mm rigid insulation with 200mm rigid insulation to Wall Below Grade

Delete

100mm rigid insulation (3,170) m² 49.95 (158,300)

Add

200mm rigid insulation 3,170 m² 99.90 316,700

Total Net Cost Increase

\$158,400

d. Replace 100mm rigid insulation with 200mm rigid insulation to Slab on Grade

Delete

100mm rigid insulation (2,524) m² 49.95 (126,100)

Add

200mm rigid insulation 2,524 m² 99.90 252,100

Total Net Cost Increase

\$126,000

e. Replace 200mm rigid insulation with 300mm rigid insulation to Roof

Delete

200mm rigid insulation (5,191) m² 99.90 (518,600)

Add

300mm rigid insulation 5,191 m² 149.85 777,900

Total Net Cost Increase

\$259,300

f. Replace 100mm rigid insulation with 150mm rigid insulation to Exterior Soffits

Delete

100mm rigid insulation (263) m² 49.95 (13,100)

Add

150mm rigid insulation 263 m² 78.04 20,500

Total Net Cost Increase

\$7,400

CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

SEPARATE PRICES

\$

g. Replace Double Glazed skylight with Triple Glazed skylight

Delete

Aluminum framed skylights with fritted double glazing	(331)	m ²	1,700.00	(562,700)
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Add

Aluminum framed skylights with fritted triple glazing	331	m ²	2,700.00	893,700
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Total Net Cost Increase

\$331,000

#7 Basement Floor To Be Slab on Grade Instead of Bonded Membrane to Raft Slab (Raft slab datum is changed from -5.15 to -5.6)

Delete

Bonded waterproof membrane	(1,359)	m ²	103.79	(141,100)
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Add

150mm slab on grade	1,359	m ²	150.00	203,900
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Rock excavation	654	m ³	227.25	148,600
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Backfill	50	m ³	65.00	3,300
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Columns	11	m	313.92	3,400
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Wall Below Grade	71	m ²	475.19	33,600
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Total Net Cost Increase

\$251,700

#8 Acoustically Isolated Floor at Fitness Area

Delete

Resilient sports flooring	(764)	m ²	75.00	(57,300)
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Suspended T-bar ceilings	(764)	m ²	65.00	(49,700)
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Add

Floated concrete floor system (100mm thick concrete installed on spring isolators)	764	m ²	250.00	191,000
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Suspended GWB ceilings with batt insulation and 16mm Type X GWB	764	m ²	150.00	114,600
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Total Net Cost Increase

\$198,600

#9 Reinstate park Over the Footprint of the Existing Building

Add

Clear and grub	3,682	m ²	3.87	14,200
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Strip topsoil	635	m ³	35.00	22,200
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CLASS 'C' SCHEMATIC DESIGN ESTIMATE - July 3, 2018

SEPARATE PRICES

					\$
New basketball court					89,600
	448	m ²	200.00		
New tennis courts					253,800
	1,269	m ²	200.00		
Reinstated park					255,200
	2,552	m ²	100.00		
Outdoor space with existing play equipment					18,000
	120	m ²	150.00		
Total Net Cost Increase					\$653,000
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Mech 2 Separate Price #2					
Add Condensing boilers 500 kW					120,000
	2	no.	60,000.00		
Delete Air to water 2 pipe heat pump - Airstack 280 tons					(450,000)
	1	no.	(450,000.00)		
Natural gas piping					25,000
	1	L/S	25,000.00		
Gas service					10,000
	1	L/S	10,000.00		
Total Net Cost Increase					(\$295,000)
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Mech 3 Separate Price #3					
Delete Air to water 4 pipe heat pump - Airstack 200 tons					(300,000)
	1	no.	(300,000.00)		
Add Air to Water 4 pipe heat pump - Airstack 150 tons					235,000
	1	no.	235,000.00		
Change AHU-1 to 15,000 LPS					(225,000)
	1	no.	(225,000.00)		
Total Net Cost Increase					(\$290,000)
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Mech 5&6 Separate Price #5 & #6					
Add Rainwater harvesting and purification & heat recovery					100,000
	1	no.	100,000.00		
Total Net Cost Increase					\$100,000
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Elec 1 Separate Price #1 - PV arrays (NIC estimate)					
Roughin for Future PV Arrays - Allowance					84,200
	1	no.	84,200.00		
PV Equipment Allowance					1,016,500
	1	no.	1,016,500.00		
Total Net Cost Increase					\$1,100,700