

MEMORIAL DRIVE THE LANDSCAPE OF MEMORY

4.0 MOVING THE PLAN FORWARD

4.1 Implementation Strategy

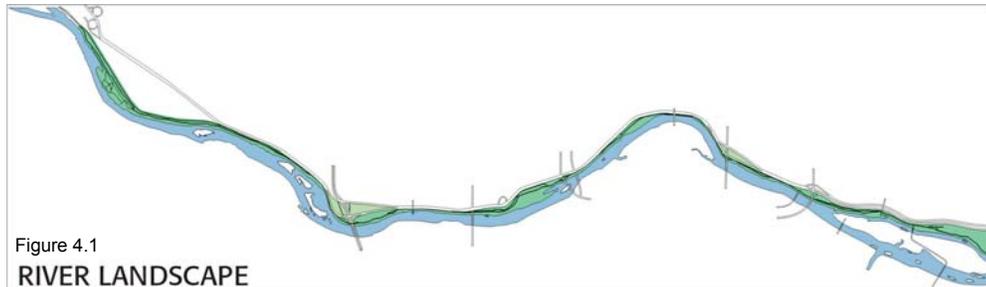
The implementation strategy for the Development Plan is dependent on both the amount and timing of the contributions made available to fund the Memorial Drive Landscape of Memory project. Recognizing these conditions are variable and there cannot be a fixed construction schedule, it is recommended that the project be broken down into independent Development Components that can respond to funding opportunities. Generally speaking, it is anticipated that development of the Foundation Landscape elements will occur over the next 5 years, with the balance of the Landscape Enhancements occurring within the 10-year horizon.

The Development Components are further identified as either Landscape Foundation or Landscape Enhancement components. The distinction recognizes the Foundation components as being most fundamental to the plan objectives- protecting the existing defining characteristics and base landscape of the corridor; that is, trees, river edge, pathway and safety. Enhancement components respond to upgrading and “place making” development that Calgarians envisioned for the Memorial Drive Corridor project. The Development Plan summary analysis can be applied to the implementation strategy to establish enhancement priorities and further serve to guide the pattern and detailed design of each of the development components.

The Development Components are outlined and described below. The description includes a key plan that identifies recommended locations and development extent. A general sense of priority, based on the analysis has been applied to the order in which the components appear.

4.1.1 Landscape Foundation Components

River Landscape



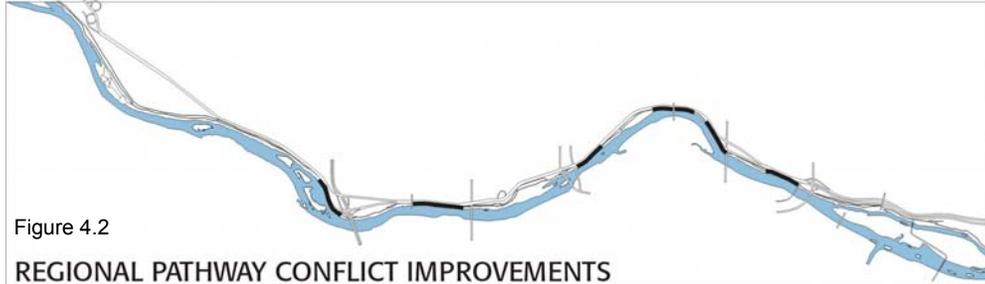
- includes planting and shoreline access improvements
- river landscape assumes corridor length of 9.5km, with one tree per 15 linear metres, split 1/3 coniferous, 2/3 deciduous, and includes an additional 8% for shrub planting.

estimated cost\$1.0 M

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Landscape Foundation Components (cont'd)

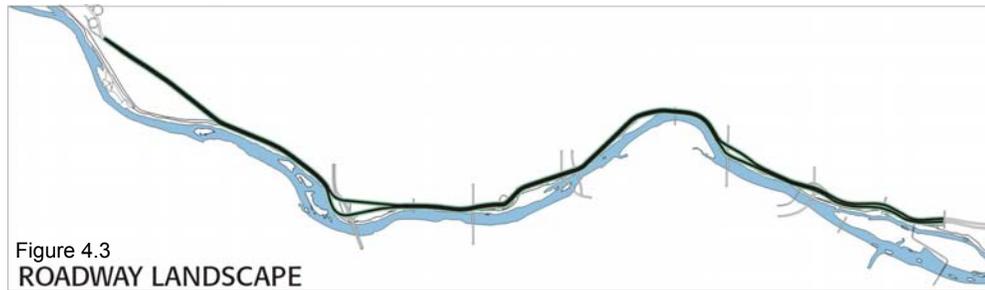
Regional Pathway Conflict Improvements



- includes redevelopment of 'pinch points' where regional pathway is constricted by the roadway and the river, and new pathways to provide dual system
- possible cantilevered promenade-type pathways to separate pathways, and separate pathway from roadway

estimated cost (lump sum allowance).....\$3.0 M

Roadway Landscape



- median and boulevard tree planting program
- dependant on installation schedule of street lighting standards, flagpoles, etc. (or pre-wired in conduits)
- boulevard landscape assumes corridor length of 9.5km, with 85mm caliper trees planted every 10 metres on centre, and includes an additional 8% for shrub planting.
- median landscape assumes a length of 1/3 of 9.5 km, with 85mm caliper trees planted every 10 metres on centre, and includes an additional 8% for shrub planting.

estimated cost.....\$2.0 M

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Landscape Foundation Components (cont'd)

Regional Pathway Landscape

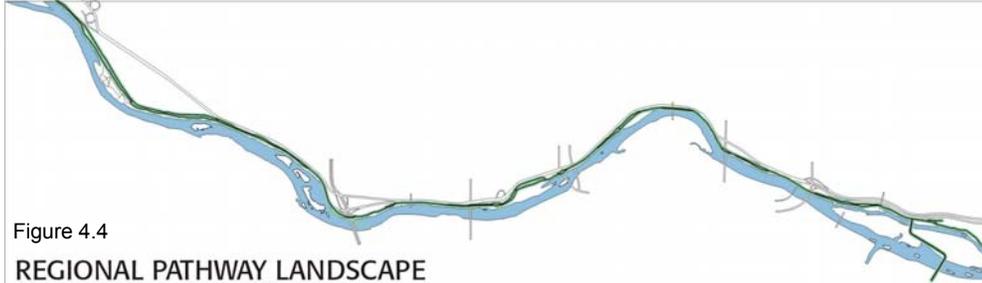


Figure 4.4

REGIONAL PATHWAY LANDSCAPE

- landscape assumes corridor length of 9.5km , with one tree per 7.5 linear metres, split 1/3 coniferous, 2/3 deciduous, and includes an additional 8% for shrub planting.
- planting of pathway segments can be completed where no changes are required
- additional planting can be completed later when pathway improvements are complete

estimated cost.....\$0.5 M

4.1.2 Landscape Enhancement Components

Roadway Lighting and Crossings

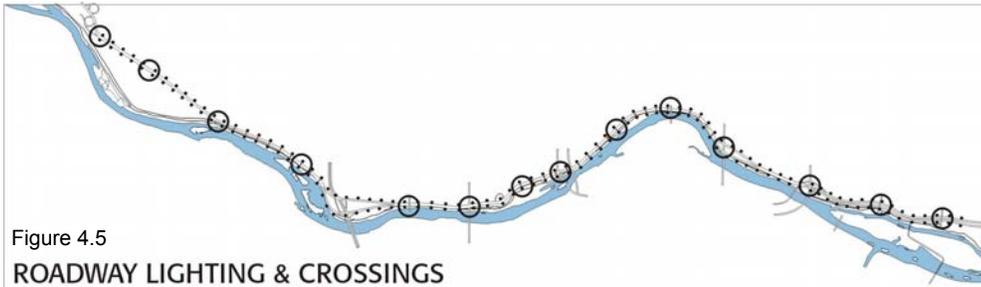


Figure 4.5

ROADWAY LIGHTING & CROSSINGS

- includes consistent lighting standards and new at-grade roadway crossings
- transportation improvements to be resolved before lighting the Parkdale segment

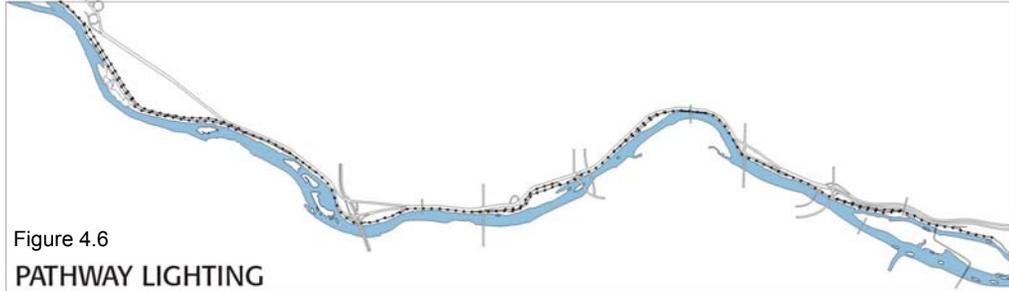
lighting estimated cost (lump sum allowance).....\$2.5 M

crossings estimated cost (lump sum allowance).....\$0.5 M

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Landscape Enhancement Components (cont'd)

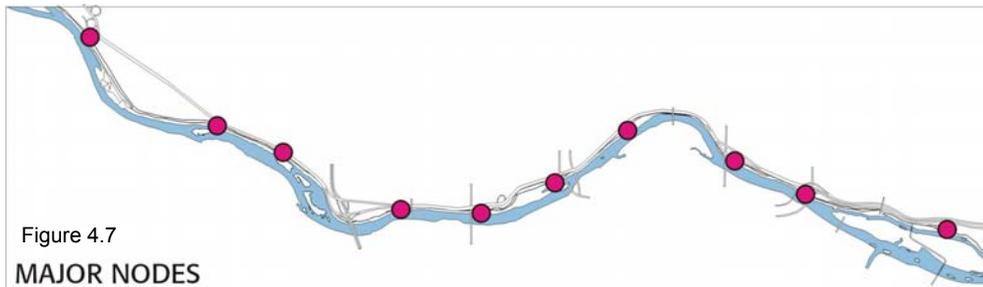
Pathway Lighting



- includes low-level pedestrian-oriented lighting along major pathways and at gathering places (nodes)
- note: If pathway lighting is implemented prior to nodes and pathway improvements allow for additions and modifications around future nodes, commemorative installations, signage etc.
- based on a \$1800.00/fixture allowance and 1100 fixtures, spaced at 8.5 metres

estimated cost.....\$2.0 M

Major Nodes



includes:

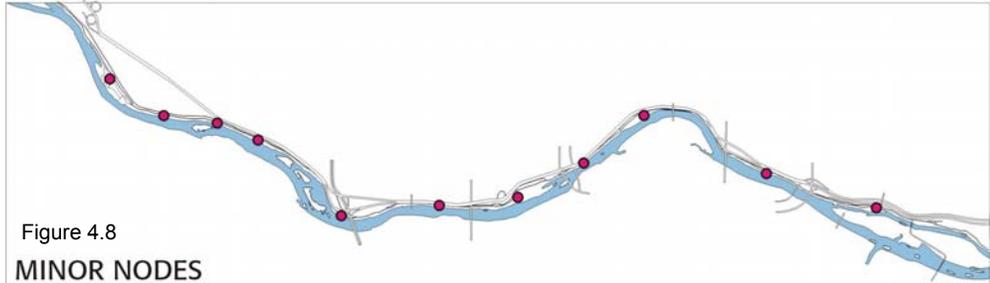
- does not include lighting or electricity (included in pathway lighting)
- major legacy and commemorative installations \$130,000/node
- colored & patterned concrete surfacing \$60,000/node
- major public art /sculptural installations \$100,000/node
- pageantry and interpretive installations \$75,000/node
- planting allowance \$100,000/node
- furnishings (benches x14, picnic tables x5, trash receptacles x5)\$35,000/node

estimated cost (10 nodes @ \$0.5M/node).....\$5.0 M

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Landscape Enhancement Components (cont'd)

Minor Nodes

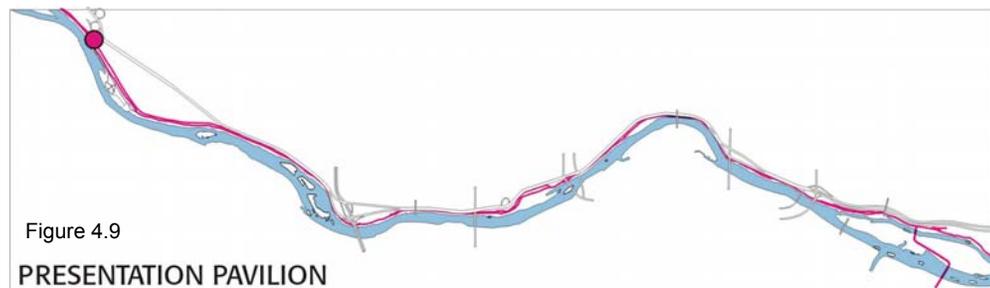


includes:

- does not include lighting or electricity (included in pathway lighting)
- minor legacy and commemorative installations \$70,000/node
- colored & patterned concrete surfacing \$30,000/node
- public art /sculptural installations \$50,000/node
- pageantry & interpretive installations \$35,000/node
- planting allowance \$50,000/node
- furnishings (benches x5, picnic tables x2, trash receptacles x2) \$15,000/node

estimated cost (10 nodes @ \$0.25M/node).....**\$2.5 M**

Major Gathering Node- Presentation Pavilion at Poppy Plaza



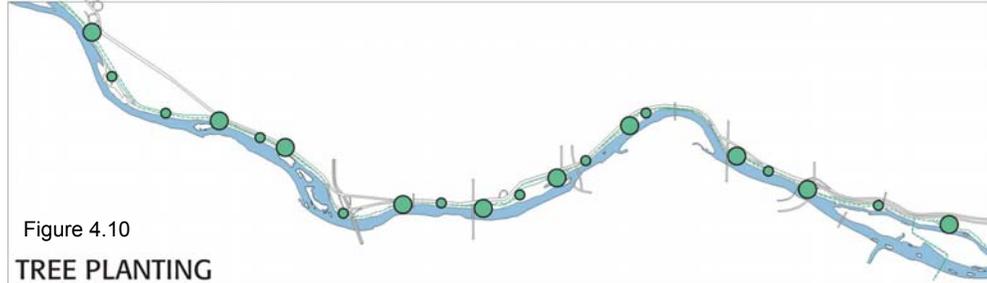
- integrated pavilion, concession, & public washroom facility

estimated cost (lump sum allowance).....**\$1.0 M**

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Landscape Enhancement Components (cont'd)

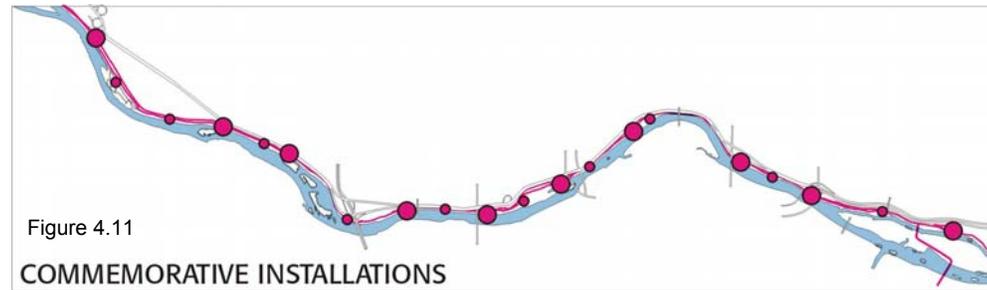
Tree Planting



- memorial groves, feature planting of gateways and nodes
- does **not** include roadway median & boulevard tree-planting program
- assumes 10 feature tree groupings @\$30,000 and 10 feature groupings @ \$70,000

estimated cost.....\$1.0 M

Commemorative Installations



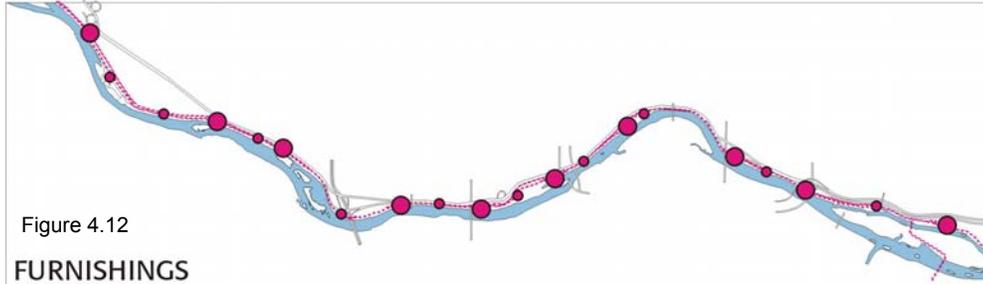
- includes commissioned artwork, sculptures, & interpretive signage

estimated cost (lump sum allowance)\$1.5 M

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Landscape Enhancement Components (cont'd)

Site Furnishings



- mostly dependent on place-making completion (nodes, pavilion, etc.)
- some benches at high demand areas could be “bolted in place” at any time
- most furnishing is required at future nodes, rest areas, etc. including benches, trash receptacles, bicycle racks, bus shelters, bollards etc.
- between nodes, allow one bench every 250 metres, 40 @ \$1450.00 each
- allow one picnic table every 500 metres, 20 @ 1650.00 each
- allow one trash receptacle every 250 metres, 40 @ \$1325.00 each
- allow one bicycle rack every 250 metres, 40 @ \$1500.00 each
- typical bollard treatment at pedestrian crossings, \$20,000 each

estimated cost.....\$1.0 M

Signage & Orientation



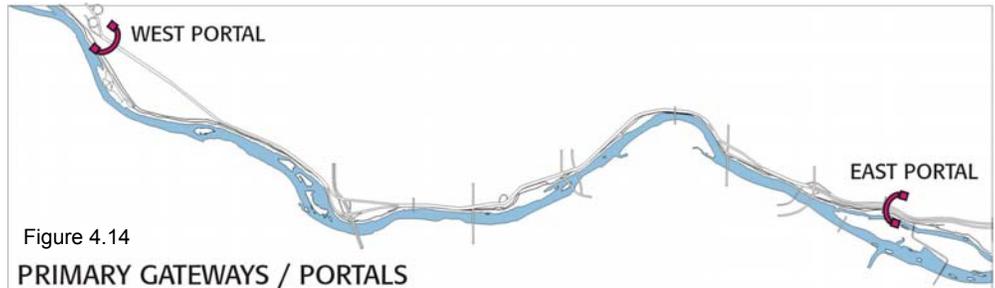
- includes roadway & pathway signage for orientation & way finding

estimated cost (lump sum allowance).....\$0.4 M

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Landscape Enhancement Components (cont'd)

Primary Gateways / Portals

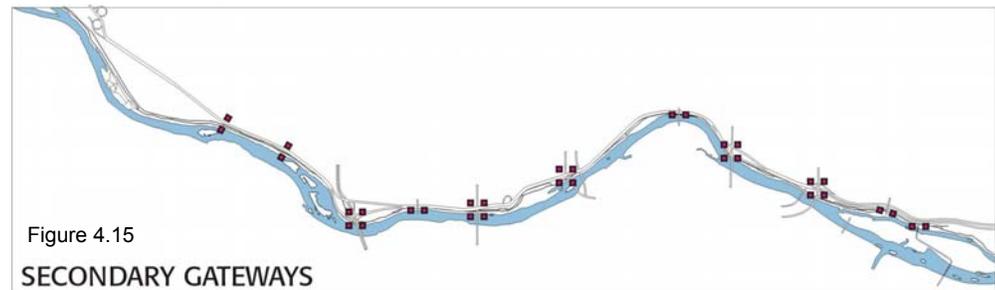


- includes grade separated pedestrian crossing /portal at west end, and the existing Bridgeland LRT grade separated crossing /portal at the east end

estimated cost East Portal (lump sum allowance).....\$1.0 M

pedestrian bridge at West Portal (lump sum allowance based on City Transportation Department typical figures)\$1.0 M

Secondary Gateways



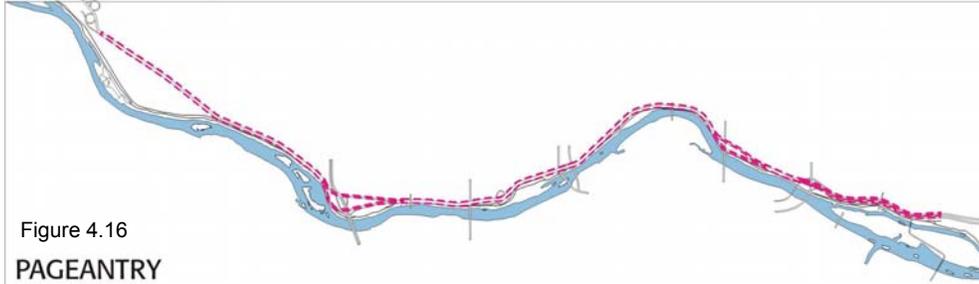
- includes gateway / identity elements into the corridor from north & south
- allow for gateway treatments at 10 significant north-south access points to corridor @ \$100,000 each.

estimated cost\$1.0 M

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Landscape Enhancement Components (cont'd)

Pageantry



- streetscape pageantry/banner identity program
- dependant on new lighting standards, flagpoles, etc
- boulevard allowance, based on 9.5 km length, with banners every 50 metres on both sides, requires 380 banners @ \$1200.00 each
- median allowance, assumed length is 1/3 of 9.5 km, with banners every 50 metres, requires 64 banners @ \$1200.00 each

estimated cost.....\$0.1 M

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4.2 Preliminary Opinion of Probable Cost SUMMARY

Landscape Foundation

River Landscape	\$1.0 M
Pathway improvements & widening toward resolution of conflicts	\$3.0 M
Roadway Landscape (boulevard & median tree planting)	\$2.0 M
Regional Pathway Landscape	<u>\$0.5 M</u>
SUB-TOTAL	\$6.5 M

Landscape Enhancements

Roadway Lighting.....	\$2.5 M
Roadway Crossings	\$0.5 M
Regional Pathway and Gathering Place Lighting	\$2.0 M
Major Nodal Gathering Places \$0.5 M /node x 10 nodes	\$5.0 M
Minor Nodal Gathering Places \$0.25 M /node x 10 nodes	\$2.5 M
Presentation pavilion, concession, washroom facility.....	\$1.0 M
Tree Planting (memorial groves, feature planting at nodes & gateways)	\$1.0 M
Commemorative Installations- including interpretive signage.....	\$1.5 M
Site Furnishings benches, bollards, waste receptacles, bicycle racks, bus shelters.....	\$1.0 M
Signage- orientation & wayfinding	\$0.4 M
Primary Gateways \$0.5 M x 2 Gateways	\$1.0 M
Pedestrian Bridge - west portal	\$1.0 M
Secondary Gateways \$0.10 M /secondary gateway x 10 secondary gateways	\$1.0 M
Streetscape Pageantry e.g. flags/ banners for special events	<u>\$0.1 M</u>
SUB-TOTAL	\$20.5 M

TOTAL \$27.0 M

- *Note:**
- the opinions of cost stated are preliminary only and subject to change
 - assumptions contained herein are based on 2005 prices.
 - estimates are based on conventional construction access to sites.
 - estimates do not include irrigation, maintenance or establishment maintenance.
 - all work conforms to City of Calgary Specifications.

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4.3 Operating Costs

As a result of the Plan development, City Parks will incur normal operating expenses as well as operating costs for optional amenities that are over and above development standards. Additional ongoing operating costs include pathway, irrigation, lighting, signage and node lifecycle maintenance, habitat restoration, and vegetation management.

Failure to provide for the ongoing operating needs could lead to the deterioration of the park assets, limited public access, public safety risks, and deferred maintenance problems.

Potential sources of revenue include: endowments; donations; sponsorships; private-public partnerships; cost-sharing agreements with other Business Units and mill-rate support.

It is estimated that the \$27M design development budget implies a yearly operating cost of \$1.62M (calculated at 6% of initial development cost). There will also be operational costs associated with the optional amenities. Future development and construction of the optional amenities could be held until there is a commitment in place to fund 100% of the additional operating costs associated with these amenities.