Memorandum

To: Mia Blanchett
   HGA

From: Jay Dertinger, AIA

CC: Jennifer McMaster

Date: August 1, 2018

Re: Lake Superior Bear Country – VE Options - Architecture and Landscape

Comments:

Dear Mia,

The following itemized list and the attached Redlined Bear Country DD set reflect potential VE cost savings items per our telephone conversations with the Client, Gardner Builders and TJP. The following list and redlines only indicate potential cost savings in relation to the architecture, landscape architecture and exhibit designs. Other VE options related to other disciplines may be considered.

- VE Option 1: Consider not demolishing existing Polar Shores Building - repair roof and seal building for future re-use or redevelopment.
- VE Option 2: Do not demolish existing rockwork surrounding the Polar Shores building.
- VE Option 3: Do not demolish the existing visitor path to the Polar Shores Building entrance.
- VE Option 4: Existing glass view rail on visitor path overlooking cave to remain.
- VE Option 5: Existing glass view rail and concrete curb at cave viewing to remain.
- VE Option 6: Remove 12' high shotcrete wall on west side of existing Polar Shores Building from scope. (Approx. 1,560 SF shotcrete surface)
- VE Option 7: Remove acrylic view bubbles into Cave from scope.
- VE Option 8: Remove new glass view rail and mesh catch net above Cave from scope.
- VE Option 9: Reduce surface area (and volume) of shotcrete bear pool
- VE Option 10: Remove perimeter fence from scope of work
- VE Option 11: Remove new shotcrete wall and cave view windows from scope.
- VE Option 12: Reduce area of overhead shotcrete rockwork on cave
- VE Option 13: Remove planting in location of existing holding building

VE Option 12 (structural): Reduce amount of structural steel framing associated with reduction of rockwork on cave. See drawing L-110, 1/L-300 and 2/4S-101
VE Option 1: Existing historic Elephant house to remain - repair roof and seal building for future redevelopment.
VE Option 2: Shotcrete rockwork surrounding existing building to remain.
VE Option 3: Existing visitor path to Elephant House entrance to remain.
VE Option 4: Glass view rail on visitor path overlooking cave to remain.
VE Option 5:
Glass view rail and concrete curb at cave viewing to remain.

VE 5
VE Option 1: Existing historic Elephant house to remain - repair roof and seal building for future redevelopment.
VE Option 2: Shotcrete rockwork surrounding existing building to remain.
VE Option 3: Existing visitor path to Elephant House entrance to remain.
VE Option 4: Glass view rail on visitor path overlooking cave to remain.
VE Option 6: Remove 12' high shotcrete wall from scope. (Approx. 1,560 SF)
VE Option 7: Remove acrylic view bubbles from scope.
VE Option 8: Remove new glass view rail and mesh catch net from scope.
VE Option 9: Reduce surface area (and volume) of shotcrete bear pool.
VE Option 10: Remove perimeter fence from scope of work.
VE Option 4: Glass view rail on visitor path overlooking cave to remain.

VE Option 5: Glass view rail and concrete curb at cave viewing to remain.

VE Option 6: Remove 12' high shotcrete wall from scope.

VE Option 7: Remove acrylic view bubbles from scope.

VE Option 8: Remove new glass view rail and mesh catch rail from scope.

VE Option 9: Reduce surface area (and volume) of shotcrete bear pool.

VE Option 10: Remove perimeter fence from scope of work.

VE Option 11: Remove new shotcrete wall and cave view windows from scope.

EXISTING GLASS VIEW RAIL TO REMAIN

PROPOSED NEW POOL EDGE

EXISTING GLASS VIEWING WINDOWS AND CURB TO REMAIN

PROPOSED NEW EDGE OF SHOTCRETE CAVE

PROPOSED NEW POOL EDGE

EXISTING GLASS VIEW RAIL TO REMAIN

VE 4

VE 5

VE 6

VE 7

VE 8

VE 9

VE 10

VE 11
VE Option 2: Shotcrete rockwork surrounding existing building to remain.  
VE Option 4: Glass view rail on visitor path overlooking cave to remain.  
VE Option 5: Glass view rail and concrete curb at cave viewing to remain.  
VE Option 6: Remove 12' high shotcrete wall from scope.  
(Approx. 1,560 SF)  
VE Option 7: Remove acrylic view bubbles from scope.  
VE Option 8: Remove new glass view rail and mesh catch net from scope.  
VE Option 9: Reduce surface area (and volume) of shotcrete bear pool.  
VE Option 10: Remove perimeter fence from scope of work.  
VE Option 11: Remove new shotcrete wall and cave view windows from scope.  
VE Option 12: Reduce area of overhead shotcrete rockwork on cave.
VE Option 5: Glass view rail and concrete curb at cave viewing to remain.
VE Option 9: Reduce surface area (and volume) of shotcrete bear pool
VE Option 11: Remove new shotcrete wall and cave view windows from scope.
VE Option 4: Glass view rail on visitor path overlooking cave to remain.
VE Option 5: Glass view rail and concrete curb at cave viewing to remain.
VE Option 6: Remove 12' high shotcrete wall from scope.
(Approx. 1,560 SF)
VE Option 7: Remove acrylic view bubbles from scope.
VE Option 8: Remove new glass view rail and mesh catch net from scope.
VE Option 9: Remove perimeter fence from scope.
VE Option 10: Remove new shotcrete wall and cave view windows from scope.
VE Option 11: Remove new shotcrete wall and cave view windows from scope.
VE Option 12: Reduce area of overhead shotcrete rockwork on cave.

EXISTING GLASS VIEW RAIL TO REMAIN

EXISTING VIEW WINDOW TO REMAIN

REDUCE OVERHEAD ROCKWORK OF CAVE

VE 4

VE 5

VE 6

VE 7

VE 8

VE 10

VE 11
VE Option 4: Glass view rail on visitor path overlooking cave to remain.
VE Option 5: Glass view rail and concrete curb at cave viewing area remain.
VE Option 6: Remove 12' high shotcrete wall from scope.
VE Option 7: Remove acrylic view bubbles from scope.
VE Option 8: Remove new glass view rail and mesh catch net from scope.
VE Option 9: Remove perimeter fence from scope.
VE Option 10: Remove new shotcrete wall and cave view windows from scope.
VE Option 11: Remove new shotcrete wall and cave view windows from scope.
VE Option 12: Remove new shotcrete wall and cave view windows from scope.
VE Option 13: Remove perimeter fence from scope.
VE Option 14: Remove new shotcrete wall and cave view windows from scope.
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VE Option 29: Remove perimeter fence from scope.
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VE Option 64: Remove new shotcrete wall and cave view windows from scope.
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VE Option 85: Remove perimeter fence from scope.
VE Option 86: Remove new shotcrete wall and cave view windows from scope.