

30300-40/0 Okanagan

**MEMORANDUM**

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File #	DM
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March 27, 2001  
Engineering Branch  
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File: 46000-73/OKLB

Re: Okanagan Lake Bridge Project Review under Section 37.

Five years ago you examined the scope of the Okanagan Lake Bridge Project for review under Sections 4 and 37 of the British Columbia Environmental Assessment Act (BCEAA). Your findings at that time indicated the project did not qualify or warrant review under BCEAA. The scope of the project five years ago involved significant rehabilitation of the existing structure; the addition of a 15 metre wide pontoon string and the construction of a high level fixed bridge on the west side to facilitate ship passage. All efforts were made to ensure that the footprint of the structure did not exceed 2ha trigger under Section 37 of the BCEAA.

However, two years ago Value Engineering and Multiple Account Evaluation studies indicated substantial benefit and modest cost savings to the project with the construction of a new floating bridge offset 5m to the north from the present structure. The anchors of the existing structure would be utilized and the elevated bridge over the new west navigation channel would be similar. Adverse environmental impacts of rehabilitating the existing structure near water line were eliminated with construction of a new bridge and overall impacts were significantly reduced. The differences from the original rehab scheme involves the placement of additional fill on both the east and west sides of the lake, dredging on the east side to accommodate the end of a new pontoon (inshore of the current lift span) and the relocation of 4 anchors from the west to east side of the lake.

The project will also require the siting and construction of a graving dock facility to fabricate the new pontoons. The need for a graving dock site was common to both the rehab option and the new bridge option. More than 20 potential sites were assessed in a very preliminary fashion. Four sites were examined in more detail (one was later dropped at the request of the regulatory agencies) noting that ultimately graving dock site selection will be the contractor's responsibility and prerogative. The three sites are as follows:

- the former Ministry rest area site on Highway 97, 2 km north of Penticton,
- the boom stick yard of Riverside Forest Products at Bear Creek, 5 km north of Kelowna on the west side of Okanagan Lake, and
- the excavated east causeway fill area in Kelowna Park.

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The final element of the project will be the disposal of the twelve pontoons. Our initial proposal was to sink all of the pontoons in the deepest part of the lake. However, it now appears that only two of the pontoons require disposal.

The Ministry of Environment Lands and Parks has raised concerns that all of the above undertakings will cumulatively result in an impact area over 2 ha and therefore could be subject to review under BCEAA. In all of our design work to date, we have always been cognizant of the 2 ha threshold and have tried to reduce the footprint of the project to be below the 2 ha limit. Based upon our discussion of March 1, 2001, you indicated that previously disturbed areas would not be considered as part of the 2 ha threshold. Consequently, we have assessed the project based upon impact to previously undisturbed lake bottom within the EA guidelines for new shoreline modification. Table 1 identifies each project element and the calculated area of disturbance.

**Table 1**  
**Calculation of Newly Disturbed Area of Okanagan Lake**

Description	Area (m <sup>2</sup> )
<b>West End</b>	
Causeway Fill <sup>1</sup>	8,975
Willow Thicket Spurs <sup>2</sup>	875
<i>sub-total</i>	9,850
<b>East End</b>	
Causeway Fill	2,950
Pontoon Pocket Dredge <sup>3</sup>	500
<i>sub-total</i>	3,450
<b>Other</b>	
Piles for Piers <sup>4</sup>	24
Relocated Anchors <sup>5</sup>	120
Sink End Pontoons <sup>6</sup>	450
<i>sub-total</i>	594
<b>Total</b>	<b>13,894</b>

**Notes**

- 1 Causeway fill area does not include previously disturbed lake bottom; therefore, its southern boundary was set as the toe of the existing causeway fill.
- 2 Spur impact area is only the additional footprint area (ie: overlap between causeway fill area and willow thicket spurs is not included).
- 3 Pontoon pocket dredge area does not include previously disturbed lake bottom; therefore, its southern boundary was set at the approximate boundary of the original dredge outline for the East Main Pier.
- 4 Pile impact area is based on 36 - 914 dia. piles. There are a total of 60 piles (5 piers, with 2 pile clusters per pier, and 6 piles per cluster); however, 6 pile clusters fall within the area of historical disturbance.
- 5 Anchor impact area is based on relocating 4 anchors from their current location to a new location (approximate footprint area of each anchor is 30m<sup>2</sup>). This is considered to be a temporary disturbance.
- 6 End pontoon impact is based on sinking the 2 end pontoons (15m x 15m = 225 m<sup>2</sup> each), because due to their draft they cannot be handled in the graving dock.



**Comments**

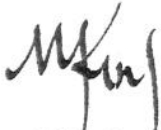
- All areas calculated are based on impact to previously undisturbed lake bottom.
- All three of the graving dock sites still being considered are considered disturbed; therefore, none have been included in these calculations.
- No fill will be added to the lake bed for the marsh planting; vegetation will just be planted in the existing substrates.

We have not included the graving dock sites because all three proposed sites have been previously disturbed. The sinking of all of the pontoons will, in fact, put the project over the 2ha threshold. Consequently, we are proposing the decommissioning of the pontoons in an environmentally acceptable manner. However, the two end pontoons will be sunk due to their deeper draft, which prevents them from being brought to the graving dock for decommissioning.

In summary, as Table 1 indicates, the project does not exceed the 2ha threshold of Section 37 of BCEAA. Also included for your reference, are copies of the General Arrangement Drawings for both the new bridge concept and the previously considered bridge widening option.

Could you please provide to this agency a letter declaring that the project is not subject to review under BCEAA, with copies to the Ministry of Environment Lands and Parks and Fisheries and Oceans Canada.

Yours truly,



Mike Kent, P. Geo  
Chief Environmental Officer

Enclosure

cc R Coates, Project Director, MoTH  
R Mathieson, Project Manager, MoTH  
B Persello, MoTH Regional Environmental Coordinator, Thompson Okanagan  
J Villamere – Coordinator, Hatfield Consultants  
W Kendrick – Westmar Consultants  
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J Bryant – MELP, Penticton  
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