# MEMORANDUM State of Alaska

Department of Transportation and Public Facilities

Design and Engineering Services – Central Region

Preliminary Design and Environmental

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| **TO:** | Jenelle Bloomfield, P.E.  **Consultant Coordinator**  Aviation Design | **DATE:** | April 26, 2012 |
|  |  | **PROJECT NAME:** | Alaska Peninsula Highway Bridges |
|  |  | **PROJECT NO.:** | 53795 |
| **FROM:** | Mike Knapp, P.E.  Statewide Hydraulics Engineer | **SUBJECT:** | Bridge/Hydraulic Survey Request |

For the Bridge Site Survey, we request the following features and items be surveyed at Leader Creek, Pauls Creek, and King Salmon Creek:

* Edge of pavement, fog lines, centerline, etc.
* Existing bridge plan dimensions/corners/joints
* Locations of abutments, footings, columns and other bridge elements
* Topographic data (to produce a 1-foot contour map) throughout the region defined in the attached JPEG illustrations, including the ground below the bridge and near the abutments
* Right-of-way limits
* Utility poles, man holes, overhead lines, and other utilities
* Other obstructions that might need to be addressed/removed to facilitate construction operations
* Pathways or trails under the bridges
* Approach roadway and embankment site survey, as needed, from Highway Design

The Bridge Section request for a Hydraulic Site Survey is very similar to Paul Janke’s request at the Leader Creek site.  The attached JPEG files illustrate the proposed survey extents and cross-section locations, generally.  As you know, hydraulic survey guidance is provided in the PCM 1120.5.4 and AHDM Ch.6, Appendix B (<http://www.dot.state.ak.us/stwddes/desbridge/assets/pdf/hwydrnman/ch6_0695.pdf> ).  The list below supplements that guidance for Pauls Creek and King Salmon Creek:

* Cross sections upstream and downstream of the bridge, spaced roughly one channel width apart (~100 ft)  
  Survey extents:
  + ~400 ft upstream and ~400 ft downstream of the bridges (see the attached illustrations)
  + Also, ground shots beyond the channel (~50 ft, lateral) to define overbank areas
* Point data directly under the bridge to define the abutment slopes and any existing structures there.
* Channel properties - Top of bank, toe of slope, thalweg, edge of water, and additional “breakline points” as necessary to define the channel between cross sections
* High ice and flood peak indicators, if any. (Anecdotal information offered by locals is helpful too)
* Jurisdictional boundaries - Ordinary high water, mean high water elevation, and high tide elevation.

cc: Richard Pratt, Marx Elmer, Loren Gehring