SCOUR SUMMARY SHEET

Printed: 03/11/96

BR. NO: 91 WATERWAY: SOUTH SLOUGH SCOUR CODE: 8

OWNER: SNO. CO. SID: 08084500

Q_{100}: _____ cfs WATER SURFACE EL: _____ ft.

Q_{500}: _____ cfs WATER SURFACE EL: _____ ft.

SUPERSTRUCTURE LOW POINT (POINT OBSTRUCTS WATER FLOW) EL: _____ ft.

Q WHEN HIGH WATER TOUCHES BOTTOM OF BRIDGE (IF < Q_{500}): _____ cfs.

ANGLE OF ATTACK: 0 ° THALWEG ELEVATION: _____ ft.

VELOCITY: V_{100} = 0.1 ft / sec ± V_{500} = _____ ft / sec

CRITICAL PIER(S):

PIER NUMBER	BOTTOM OF FOUNDATION ELEVATION	CALCULATED SCOUR ELEVATION	MONITOR[2] (U/W,R,F)	INSPECTION FREQUENCY[2]

NOTE: 1. UNDER MONITOR ; U/W-UNDERWATER, R-ROUTINE, F-FATHOMETRIC
2. MONITOR AND INSPECTION FREQUENCY - FILLED OUT BY WSDOT.
3. ALL ELEVATIONS SHALL BE IN FEET.

MITIGATION: IN PLACE AND FUNCTIONING: N (Y/N)

DESC. OF MITIGATION: N/A

COMMENTS: "EXCLUDED" FROM SCOUR STUDY. BRIDGE IS (2) PCC LUTEN ARCHES END-TO-END (BUILT IN 1922) WATERWAY IS FLOOD RELIEF ONLY WITH NO SIGNIF. VELOCITY. BRIDGE WAS COMPLETELY SUBMERGED IN 1995 FLOOD (ALSO IN 1990) W/ NO SCOUR PROBLEMS (& NONE IN OVER 70 YEARS)

FREQUENCIES (FILLED OUT BY BRIDGE SCOUR ENGINEER):

TYPE OF INSPECTION	FREQUENCY (YEARS)	YEAR FREQ. ESTABLISHED
STREAM CROSS SECTION U/S RAIL		
UNDERWATER		
FATHOMETRIC		

DATE OF PHASE II ANALYSIS: ___/___/_____

ANALYZED BY: GBengtson 8/29/96 B/C CONCUR: _____

BRIDGE PIER SCOUR EVALUATION

Date 6/15/92

Agency Sno. Co. Bridge Number 91

Bridge Name South Slough

Evaluated by GBengtsen

Superstructure type Luten Arch

Superstructure Continuity?: Yes __ No ✓ Any Spread Footings?: Yes ✓ No __

EVALUATION:

YES	NO	
___	___	Are foundation elevations known? If not, consider the bridge scour critical (using engineering judgment and any other information available).
___	___	Does the thalweg (the deepest portion of the stream; the main channel) meander back and forth across the floodplain? If so, the potential for a scour critical condition is increased.
___	___	For a spread footing, is the bottom of the seal (or footing, if the seal is not used) above the thalweg? If so, the bridge is scour critical; no need to proceed further.
___	___	For a pile supported footing, is the pile tip elevation 10 feet or less below the thalweg? If so the bridge is scour critical; no need to proceed further.

EXCLUDED - FLOOD RELIEF CHANNEL ONLY - NORMALLY ZERO FLOW

BRIDGE IS SCOUR CRITICAL YES ___ NO ✓

EVALUATION CRITERIA:

- Foundation elevations are (or are not) known and available.
- The thalweg meanders back and forth across the floodplain.
- Pier scour is always measured from the thalweg, even if the pier is in the overbank.
- For a spread footing, if the calculated depth of scour is below the footing, the bridge is scour critical.
- For a pile supported footing, if calculated depth of scour is 10' or less above pipe tip elevation, the bridge is scour critical.
- Scour should be calculated for 100 year flood. If not shown on bridge plan layout, check FEMA map. If not mapped by FEMA, use high water shown on layout.