

file ~~Brooks~~  
CORPS Incls. 6, 7 & 9

NPSN-DB (7 Feb 79) 2d Ind  
SUBJECT: Skagit River, Washington, Levee and Channel Improvements

DA, Seattle District, Corps of Engineers, Post Office Box C-3755,  
Seattle, Washington 98124

TO: Division Engineer, North Pacific, ATTN: NPDEN-TE

1. We are completing the general design memorandum and environmental impact statement (GDM/EIS) studies for the Skagit River, Washington, project and have scheduled the final public meeting for 19 June 1979. Final submittal of the GDM/EIS is scheduled for mid-July, subject to comments received in response to draft EIS (DEIS) circulation and at the public meeting.

2. We have kept your Messrs. Jack Mowreader and David Ross advised of our progress in completing the GDM/EIS studies, and we understand they will be attending the public meeting on the 19th of June. In addition, other members of your staff have been involved in discussions relating to budgets, schedules, pending legislation, and other items including local cooperation.

3. The major changes that have occurred since our 7 February draft GDM/EIS submittal and the 3 April joint meeting follow:

a. Main report format changed to more closely agree with a phase II GDM report with inclusion of drawing and text to greatly increase information on proposed plan.

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b. Increased level of flood protection for Mount Vernon to standard project flood (SPF) level and other urban areas to 100-year or more without threat of catastrophic flooding for floods up to SPF.

c. Provided nonstructural flood reduction measures for the unleveed areas.

4. The estimated total cost of the project is about \$55,000,000 with about \$10,000,000 being non-Federal costs. The benefit to cost ratio is 1.5 using a 6-7/8 percent interest rate. Local sponsorship is firm for the proposed project. Legislation for both authorization and appropriation is to be introduced in the Senate by Senator Magnuson that would provide for (1) extension of the studies to vicinity of Sedro Woolley, (2) raise levels of previously authorized flood protection, (3) provide for Federal payment of initial local cooperation requirements with payback over 50 years, and (4) inclusion of recreation as a project purpose.

5. Discussion of your comments on the draft GDM are attached as inclosure 6. A revised draft GDM without plates, exhibits or appendixes is attached as inclosure 7. Plate and exhibit revisions have been contracted out and are not available for reproduction. GDM

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plates and appendixes from the 7 February submittal can be used for reference as there were not significant changes in most material. A draft public brochure is attached as inclosure 8. **A DEIS addendum covering changes is attached as inclosure 9.**

6. Your comments on the draft GDM, addendum to DEIS, public brochures or our response to your review comments are requested. Telephone comments prior to 19 June public meeting can be made to Mr. Vernon Cook, telephone 764-3455 (FTS 399-3455). Comment period from the public on the DEIS and public meeting runs to 30 June 1979. We would appreciate receiving any comments you might have prior to 30 June so we could incorporate these comments into the final GDM.

7. If you have questions regarding the material provided on the project, contact Mr. Vernon Cook at extension 3455.

4 Incl  
wd incl 1-5  
Added 3 incl  
6. Cmts on GDM  
7. Rev Draft GDM wo appendixes  
8. Draft Brochure For Final  
Public Meeting  
9. Draft DEIS Addendum

cc:  
Ch, Engrg Div  
Ch, Plng Br  
Ch, F&M Br  
Ch, H&H Br  
Ch, Reg Plng Sec  
Ch, Econ & Soc Eval Sec  
Ch, Env REs Sec  
Ch, Civil Design Sec  
Cook/Towle  
WP Engrg (2340E)

DERRICK/EN-DB  
SELLEVOLD/EN  
PEDERSEN/EA  
CARPENTER/ACT DE  
MAILROOM  
ED-DB FILE  
Coordination  
T. WARD  
N. MacDONALD  
S. DICE  
W. FARRAR  
A. HARNISCH  
N. HANSON

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SKAGIT RIVER, WASHINGTON  
DISCUSSION OF DRAFT GDM COMMENTS

Following is discussion of comments contained in NPDEN-TE first indorsement, dated 20 April 1979, to basic letter NPSEN-DB, dated 7 February 1979, subject: Skagit River, Washington, Levee and Channel Improvements, with attached 13 April NPDPL-PF Memorandum for Record, NPDPL-PF Comment 1 dated 23 March 1979 and other technical comments. All comments will be incorporated into final GDM unless discussed.

A. NPDPL-PF Memorandum for Record Dated 13 April 1979.

3. Review of Avon Bend area for discharges beyond 100-year event resulted in the following plan. Just upstream of suburban area of Avon a reduced freeboard area will be provided that would permit overtopping prior to other urban levees being overtopped. An erosion-control structure of piling and rock at the downstream end of the lowered section would preclude the levee section protecting the suburban area of Avon from being eroded and causing rapid raises in water levels. An additional erosion control structure would be constructed upstream to prevent levee erosion to undermine the foundation of U.S. Interstate Highway 5 bridge. In order to provide

a feasible way to assure sufficient volume can exit the system at this point, no wier or gated structure will be built. Rebuilding the damaged levee section would be required after flood waters receded. Additional sections of levees upstream of the Burlington Northern bridge (BNRR) but downstream of the town of Burlington would breach as flows approached standard project flood levels. The discharges above the BNRR bridge would be into areas previously backflooded from the Avon breaks and are necessary if bridges are to remain intact for flows beyond the 200- or 300-year range, and the upstream levees on the east end of Burlington not be overtopped. By raising the levee height 0.4 foot around Mount Vernon, standard project flood protection has been provided.

4. No provisions to prevent flooding of Stanwood from the north will be included in the Skagit proposed plan. Least costly plan would be to accomplish Stanwood protection in connection with Stanwood project. Recreation improvements have been deleted from the report as sufficient justification and local support is not available at this time. Recreation development in near future will be accomplished by local interests. The proposed project will not preclude any local options and Corps participation with local interests may be possible in the future.

7. The flood damages from the Samish River have been considered in all alternative economic analysis. **The levee design considers effects from Samish River. (There is none.)** The 100-year flood plain in Samish basin is shown for the proposed plan. The 100-year flood plain in Samish basin was considered for each alternative but inclusion of an exhibit showing this for each alternative is not warranted. Consideration of Samish basin flood plain with benefits for high alternative; i.e., shown on the system of accounts.

9. The flood control benefits for project year 50 to 100 are held constant.

B. NPDP-L-PF Comment 1 Dated 23 March 1979.

17. The press of time did not permit us to rewrite the draft environmental impact statement to reduce size; however, other comments have been incorporated.

18. **Recreation development has been deleted.**

C. Other Technical Comments.

1. Page 4-6, Paragraph 4.11. The prefabricated aluminum structure used in the Pasco-Kennewick levees were investigated. Our preliminary investigations indicate the time required to install

prefabricated aluminum panels over the length of opening (1,500 feet) at Mount Vernon preclude including them in the report. The NPW structure was 24 feet long; however, possible cost reductions for the tilt-up walls will be given additional attention during our phase II studies of this area.

2. Page 5-2 Paragraph 5.05. There will be 2 feet of clearance under the BNRR bridge during the 100-year event after allowances for bridge swellhead and debris blockage are included. Preliminary studies indicate that about an additional 0.3 foot of clearance could be obtained by excavating the right riverbank landward of the levee down to the waterline to open up additional bridge bays for high flows. This additional clearance would require excavating about 180,000 cubic yards of material. The excavation is not included in the GDM, as there was not sufficient time to make the additional hydraulic investigations needed to assure feasibility of this work. However, this possibility will be considered again during phase II studies of this reach. The reduction in upstream levee heights by up to 0.3 foot may also be warranted with resultant cost savings.

3. Page D-62, Paragraph 3.14 and Page D-63, Paragraph 3.15. All material in the cutoff trenches will be semi-impervious.

4. Page D-66, Next to Last Sentence. All levee tops will have 6 inches of gravel on top.