NPSEN-PL-ER

11 June 1979

SKAGIT RIVER, WASHINGTON
ADDENDUM TO THE DRAFT ENVIRONMENTAL
IMPACT STATEMENT, DATED MAY 1979

1. Introduction. The purpose of this addendum is to discuss project modifications resulting from further studies and coordination accomplished by the Seattle District, Corps of Engineers, since the public distribution of the Skagit River, Washington, Draft Environmental Impact Statement (EIS) on 30 April 1979. These changes are summarized in Table 1 and displayed in figure 1. The addendum addresses only the project changes and the impacts associated with those changes. For details regarding other aspects of the recommended plan and its impacts, reference should be made to the Draft EIS.

TABLE 1

SUMMARY OF CHANGES TO THE RECOMMENDED PLAN

Area	Change
A. Modifications to Reduce Induced Flood Damages.	
West Mount Vernon	Levee alinement moved from Ball Street to Front Street. Property between Front Street and the river will be purchased.
Mount Vernon	Flowage easements and/or floodproofing will be provided for the Stokely warehouse and Moose Hall.
Clear Lake	Levees added west of State Highway 9 and across the East Fork Nookachamps Creek to provide 100-year protection to Clear Lake.
Nookachamps Creek & South Sedro Woolley	Improvements will be raised and/or floodproofed if possible, otherwise relocated, purchased, or flowage easement obtained.
Sterling	Levee added along District Line Road to provide 100-year flood protection for the hospital and other improvements northeast of the road. Other affected improvements will be treated similarly to the Nookachamps Creek area.

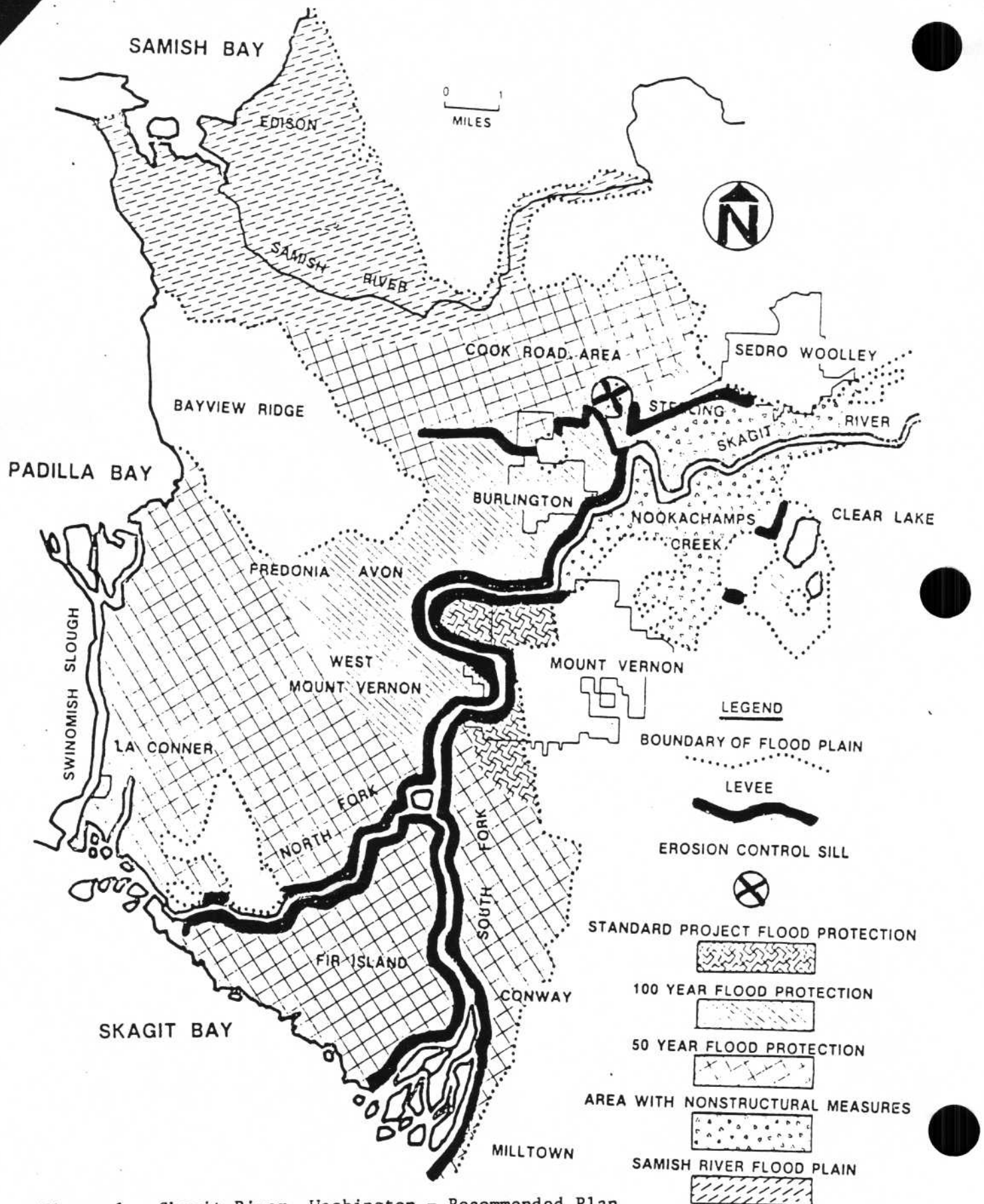

Figure 1. Skagit River, Washington - Recommended Plan

Area	Change
B. Other Design Changes.	
Sterling	As a result of further engineering investigations, concrete weir was deleted and two buried erosion control sills provided at Sterling Hill with the natural ground divide raised to compensate for higher water depths. Improvements in the overflow area between the railroad and the sills will be relocated or raised.
West Burlington	At the request of the local sponsor and farmers in the affected area, the overflow levee alinement northwest of Burlington moved to the north side of Johnson Road.
Young's Bar, Whitmarsh, and Conway Access Sites	Low intensity, recreational development of these sites was eliminated due to the lack of local interest at this time.

2. Modifications to reduce project-related induced flood damages. The recommended plan, as discussed in the Draft EIS, would result in induced flood damages to unleveed areas riverward of the improved levee system. Specifically, these areas include on the right bank at West Mount Vernon, on the left bank at Mount Vernon, in the Nookachamps Creek/Clear Lake area, on the right bank near south Sedro Woolley, and in the Sterling Road area east of Burlington (refer to figure 1 for general locations). The induced damages and their impacts were discussed in paragraph 4.02.3 of the Draft EIS. To mitigate for these damages, the purchase of flowage easements was discussed as a requirement of the local sponsor, Skagit County. For the Clear Lake area, a possible structural alternative was mentioned and displayed on plate 23. This feature, with modifications, has now been incorporated as part of the recommended plan. Further studies, accomplished during the EIS review period, have resulted in the addition of other structural, as well as nonstructural, measures to minimize induced flood damages. The impacts of the modifications have been assessed and are discussed in the following paragraphs.

2.1 West Mount Vernon. The levee realinement from Ball Street to Front Street is graphically shown in figure 2 (cross reference to plate 7 of the Draft EIS). Levee design will be an earthen embankment with a buried riprap toe. The new levee alinement will be 165 feet longer than the previously proposed levee along Ball Street; average width of the levee base will be 70 feet.

a. Impacts to Fish and Wildlife. The impacts to fish and wildlife from this modification will be minimal. The new alinement will result in additional habitat losses of approximately 0.3 acres of deciduous forest which parallels the road at the Young's Bar access site. The levee will not encroach into the stream course nor affect any wetlands. The modification will not impact any threatened or endangeres species. Levee surfaces will be grass seeded following construction.

b. Social Impacts. The change in alinement will reduce project-induced flood damages in the West Mount Vernon area and will provide 100-year protection to approximately 10 additional residences. An approximate 9 homes and the trailer court in the 6-acre area remaining unleveed will be purchased. As a result of the new alinement, those people whose property would have been disturbed by the previous alinement along Ball Street will no longer be impacted. Visual impacts will result from the new levee construction. A cultural resources reconnaissance of the new alinement will be accomplished to determine the potential of impacts to any historic or prehistoric sites.

2.2 Mount Vernon. The Moose Hall and the Stokely warehouse, which will be compensated for by flowage easements and/or floodproofing are illustrated in figure 3 (refer also to plate 8 of the EIS).

a. Impacts to Fish and Wildlife. No impacts to fish and wildlife will result from this project change.

b. Social Impacts. Provision of flowage easements and/or floodproofing will reduce induced flood damages to these structures.

2.3 Nookachamps Creek and South Sedro Woolley. Refer to figure 1 for a general location of the areas to be provided for by nonstructural measures, such as relocation, floodproofing, or purchase of flowage easements.

a. Impacts to Fish and Wildlife. No adverse impacts to fish and wildlife are expected to result from the addition of this project feature. Some beneficial impact could be realized if people are relocated out of the area and future development is discouraged by local zoning regulations.

b. Social Impacts. This project modification will result in some compensation to the area for project-induced flood damages. The number of relocations necessary is currently being determined.

2.4 Sterling. The proposed levee along District Line Road is shown on figure 4 (cross reference to plates 2 and 3 of the EIS). This levee will consist of 3,140 feet of earthen embankment, approximately 45' wide, along the west side of District Line Road.

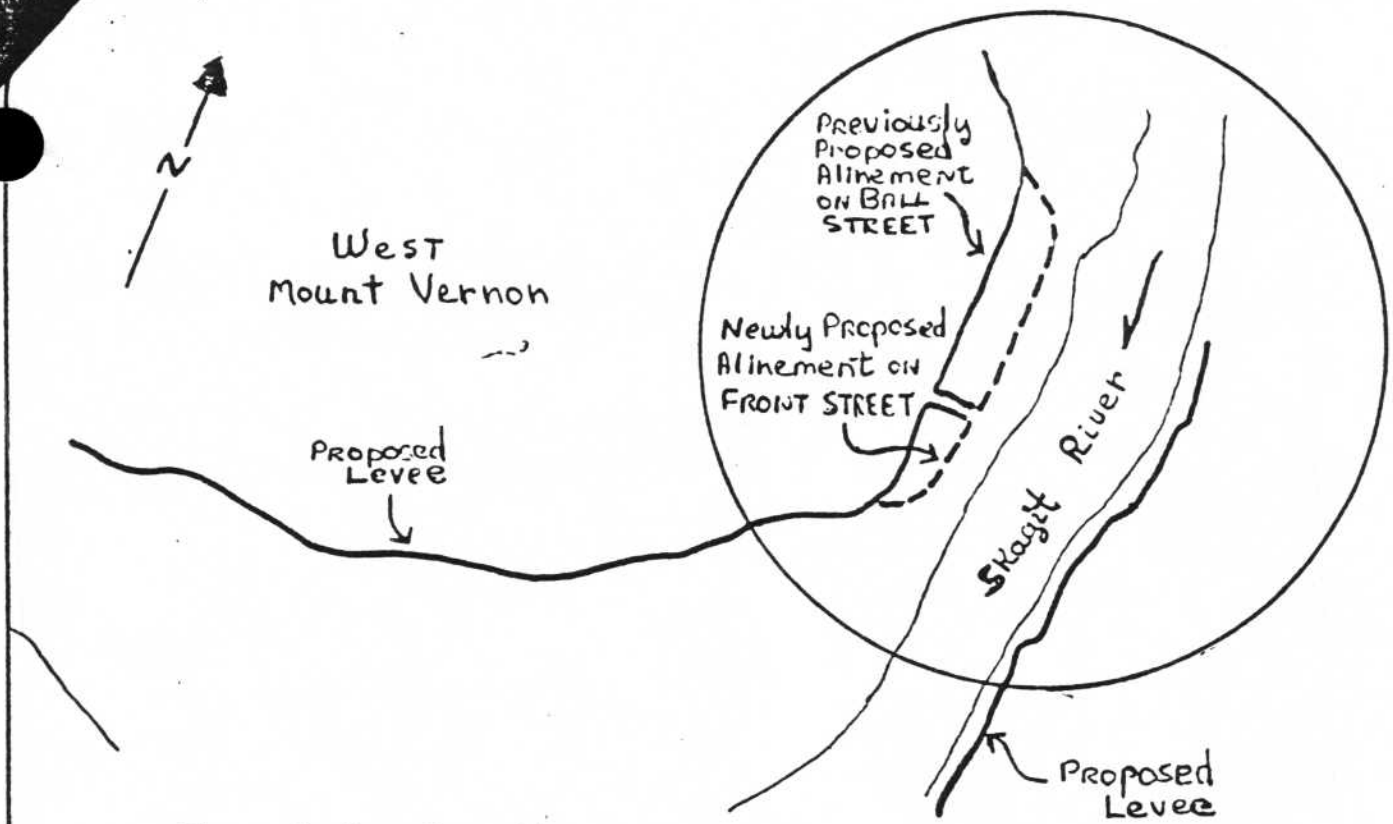

Figure 2. West Mount Vernon Levee Realinement

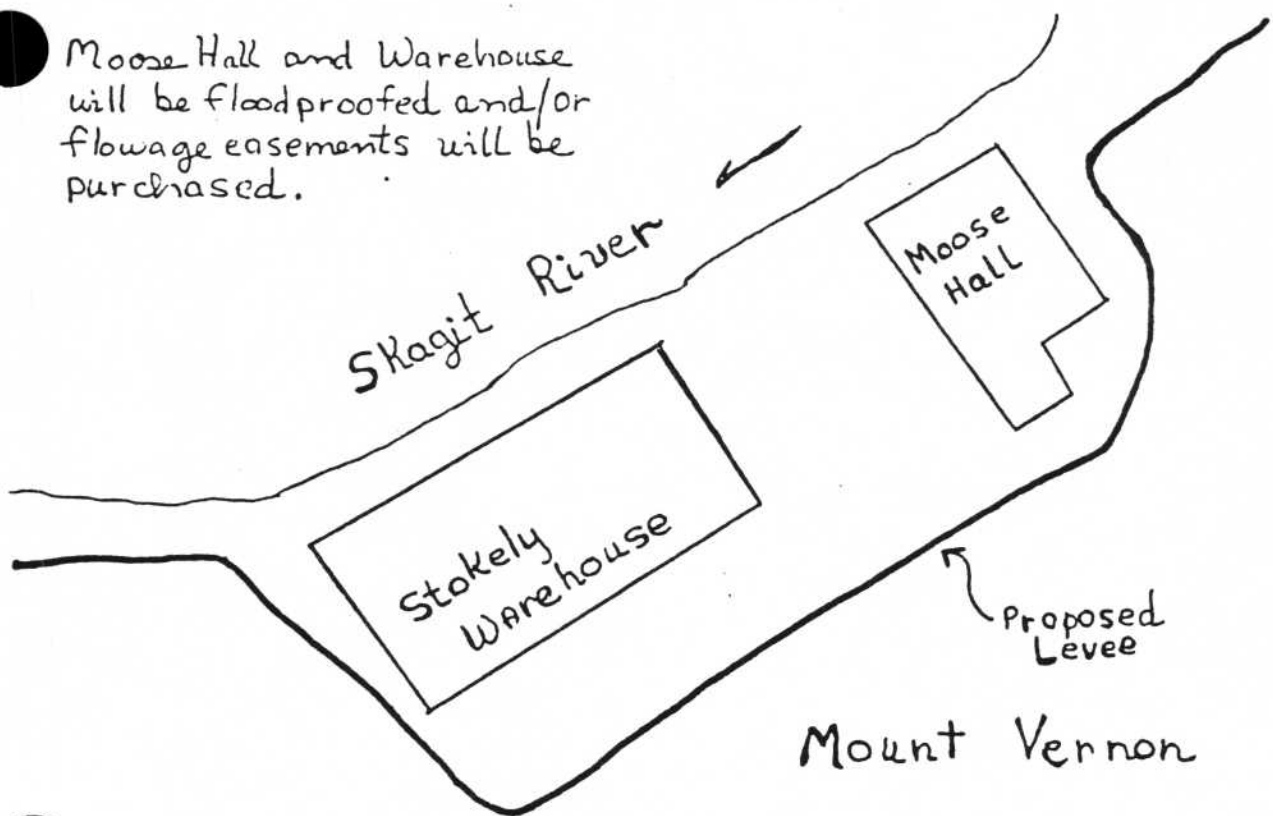

Figure 3. Mount Vernon- Moose Hall and Stokely Warehouse

a. Impacts to Fish and Wildlife. No direct impacts to fish will result from the levee along District Line Road. Wildlife will be minimally impacted by short-term disruption during construction and loss of approximately 0.1 acres of deciduous scrub habitat along Gages Slough. Remaining habitat impacts result from disruption of approximately 2.5 acres of farmland. This habitat will be restored by grass seeding of levees following construction. Temporary construction easements will also be restored. Wildlife temporarily disturbed consist of bird species and small mammals. Secondary impacts to fish and wildlife may result from increased pressure to develop in protected areas and the subsequent losses of habitat. No impacts to fish and wildlife will result from nonstructural features.

b. Social Impacts. Approximately 2.5 acres of prime farmland will be committed in permanent easement to the project right-of-way. The levee will result in 100-year protection to the hospital and other structures northeast of the road. Other improvements in the Sterling induced damage area will receive some compensation by nonstructural measures such as those described for the Nookachamps Creek/Clear Lake area. A few relocations will be required by project construction. A cultural resources reconnaissance will be accomplished to determine any potential impacts to prehistoric or historic sites in the new levee right-of-way.

2.5 Clear Lake. The levee added at Clear Lake parallels Mud Lake Road, for approximately 600 feet; runs along the railroad and Highway 9 for about 2,000 feet; and cuts across Francis Road through farmland for about 1,800 feet. A 150-foot segment of Mud Lake Road will be raised to provide an access ramp over the road. The levee section across the East Fork of Nookachamps Creek will be about 240 feet long and 130 feet wide. The concrete closure structure across the creek at Highway 9 will consist of culverts with flapgates. Refer to figure 5 for an illustration of levee segments (cross reference to plate 23 of the EIS). All levees will be earthen embankments.

a. Impacts to Fish and Wildlife. The levee through Clear Lake will result in the loss of approximately 3.0 acres of grass habitat along Highway 9, the railroad, and Mud Lake Road. Approximately 0.3 acres of deciduous scrub will be lost along Mud Lake Road. This will result in no direct impact to fish and only minor impact to wildlife, primarily related to short-term disruption from construction. The levees will be grass seeded, restoring most of the impacted habitat.

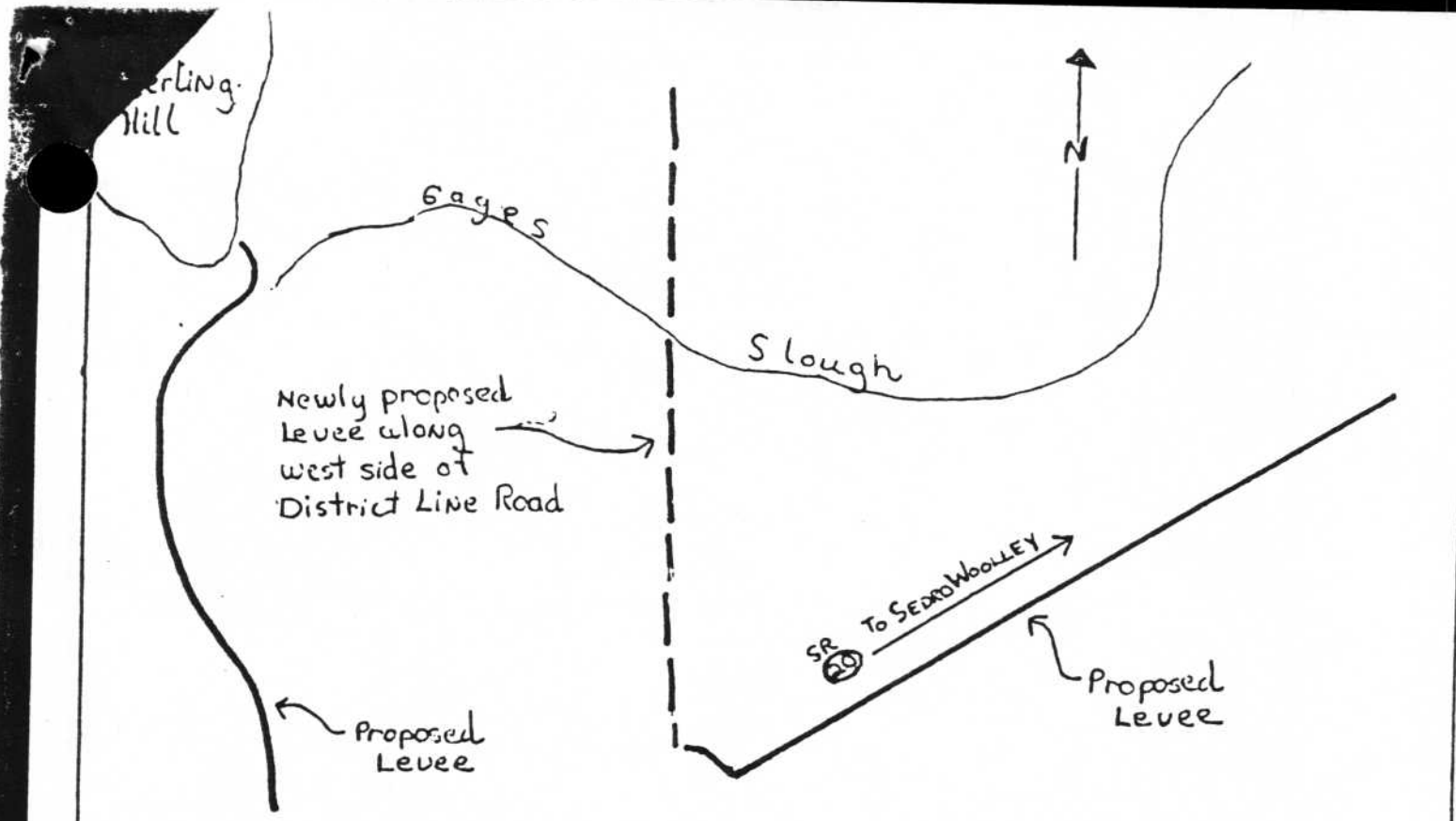

Figure 4. Sterling Area- District Line Road Levee Alinement

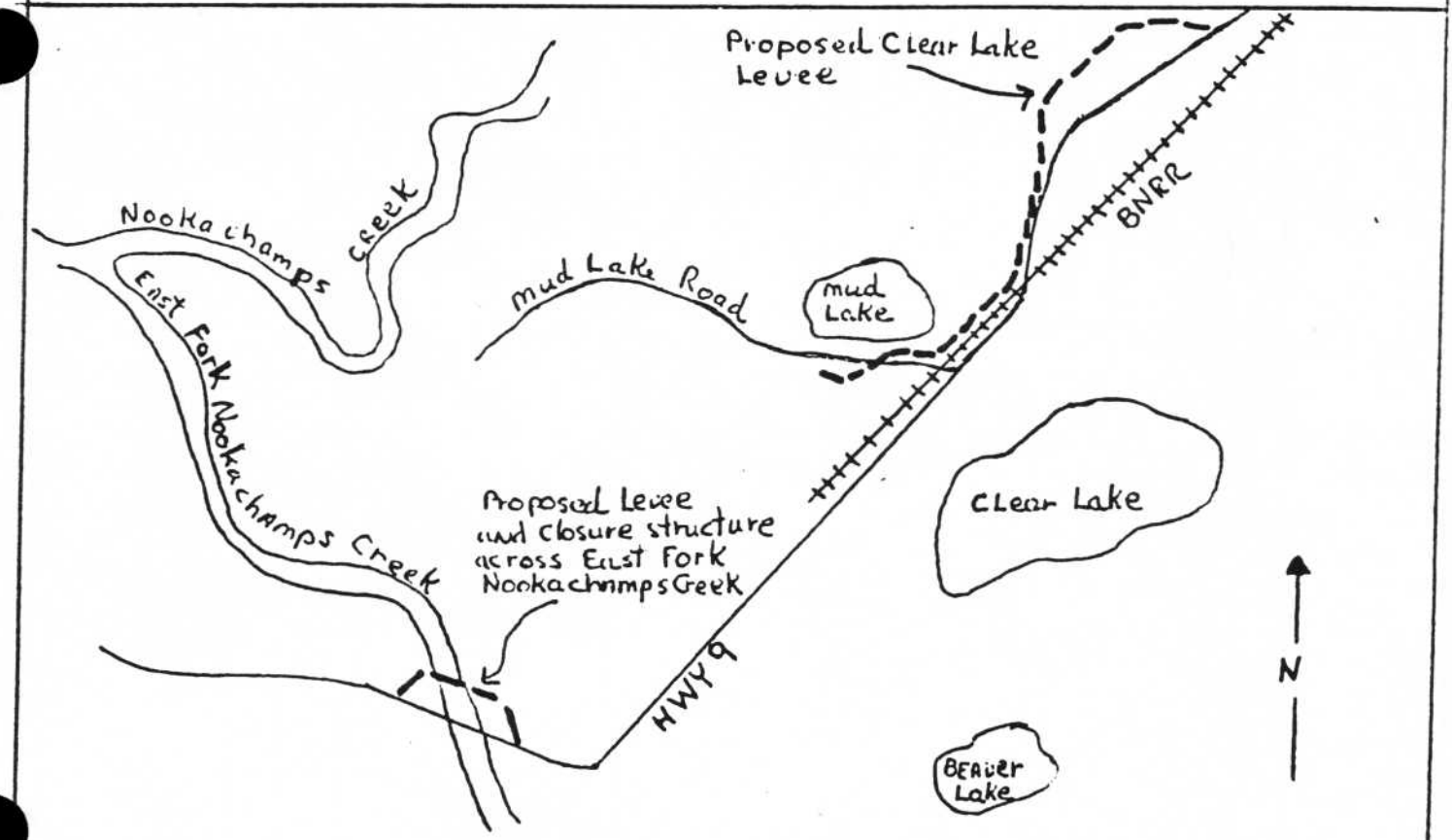

Figure 5. Clear Lake and East Fork Nookachamps Levee Alinements

The levee across the East Fork Nookachamps Creek between mile 1.0 and 2.0 by Highway 9 will result in the loss of approximately 0.4 acres of pastureland and 0.3 acres of deciduous forest in the riparian zone, which provides cover for fish and wildlife. The East Fork Nookachamps Creek between mile 0.0 to 0.3 provides rearing habitat and transportation for coho (Oncorhynchus kisutch) and chum (O. keta) salmon. Spawning occurs above river mile 3.0. The closure structure at Highway 9 will be designed to provide adequate fish passage. Design will be coordinated with fisheries agencies. Construction will be scheduled to minimize disruption to migrating salmonids. Major water quality impacts will be those associated with short-term increases in turbidity during construction in the stream course.

Direct impacts to wildlife will be minor and will result from loss of habitat and disruption during construction. No adverse impacts to the wintering populations of trumpeter swan (Olor buccinator) in Barney Lake are expected. Some beneficial, secondary, impact may be incurred by increased water levels in the Barney Lake area as a result of lost valley storage upstream of the closure structure and also from discouragement of development due to increased reliance on this area to provide storage for flooding from the Skagit River.

Adverse secondary impacts may result to fish and wildlife due to the provision of 100-year protection to 1,400 acres of agricultural and residential property in the Clear Lake area and the possible increased pressure to develop in these areas. Particularly sensitive to this development pressure are the trumpeter swam, which winters in Beaver Lake, and the endangered bald eagle, which is known to occur in the Clear Lake area. The trumpeter swan was once listed on the Federal list of Endangered and Threatened Species, but was removed as a result of recovery. The species is locally considered a sensitive species due to its past history and still limited population.

b. Social Impacts. The Clear Lake and East Nookachamps levees will result in the provision of 100-year protection to the community of Clear Lake and surrounding agricultural and dairyland. Approximately 2.0 acres of farmland will be committed to the project right-of-way for the levee through Clear Lake and 0.4 acres of farmland for the levees across Nookachamps Creek. The levee at Clear Lake will require some relocation of homes and structures within the levee right-of-way. Secondary impacts will result from the increased pressure to develop in the area provided 100-year protection and the resulting potential loss of prime farmland. A cultural resources reconnaissance of the new alinements will be accomplished to determine the potential for impacts to historic and prehistoric sites.

3. Other Project Modifications. Other project modifications to the recommended plan have been made as a result of further engineering studies and ongoing coordination with the local sponsor.

3.1 West Burlington. The levee from Burlington to Bayview Ridge was relocated to Johnson Road at the request of property owners and the local sponsor in order to minimize impacts to farmland. The new levee will be 2,925 feet in length and will be less costly than the original alinement. Refer to figure 6 and cross-reference to plate 4 of the EIS.

a. Impact to Fish and Wildife. This project modification will result in no direct impact to fish and only minor impact to wildlife during project construction. All levees will be grass seeded which will restore grass habitat losses from construction.

Secondary impacts may result to fish and wildlife from the increase in development pressure in the additional 500 acres of farmland which will be provided 100-year protection by the levee alinement change.

b. Social Impacts. Impacts to property owners due to levee construction will be reduced by this levee alinement modification. An additional 500 acres will be provided 100-year protection. Secondary impacts will result from the increased pressure to develop 500 acres of prime farmland due to the 100-year level of protection provided. A cultural resources reconnaissance of the realinement will be accomplished to determine the potential of impacts to historic and prehistoric sites.

4.0 Sterling. Additional engineering and economic studies revealed that a more effective method of maintaining 50-year protection to the Samish Valley would be the provision of 2,500 feet of buried erosion control sills as indicated in figure 1 and shown on figure 7, instead of the weir (cross-reference to plates 2 and 3 of the EIS). Construction of the sills will involve the excavation of a 90-100 foot-wide trench, placement of sheet pile in the ground, backfilling, and grass seeding. This sill will prevent the Skagit river channel from eventual relocation around Sterling Hill. As a result of this design, the levee from Sterling Hill to Burlington Hill was realined.

a. Impacts to Fish and Wildlife. This modification will result in no direct impact to fish and no additional impact to wildlife. Erosion control sills will be buried, backfilled, and grass seeded and will result in no permanent habitat losses. The levee realinement will result in no additional wildlife impacts.

Beneficial, secondary impacts to wildlife may result due to the relocation of portions of the community in the overflow area between the railroad and the sills and the reversion of this area to undeveloped land.

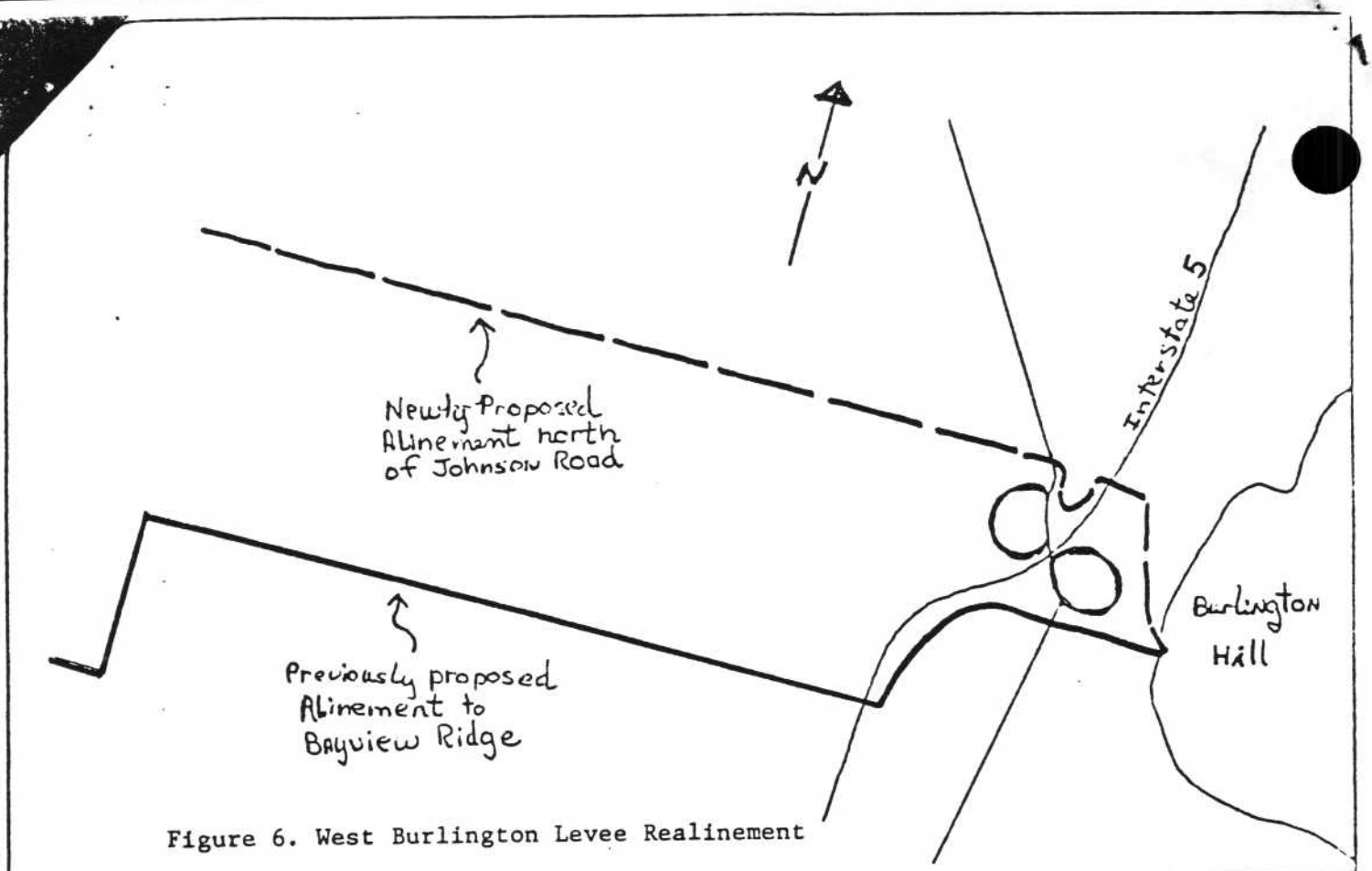

Figure 6. West Burlington Levee Realinement

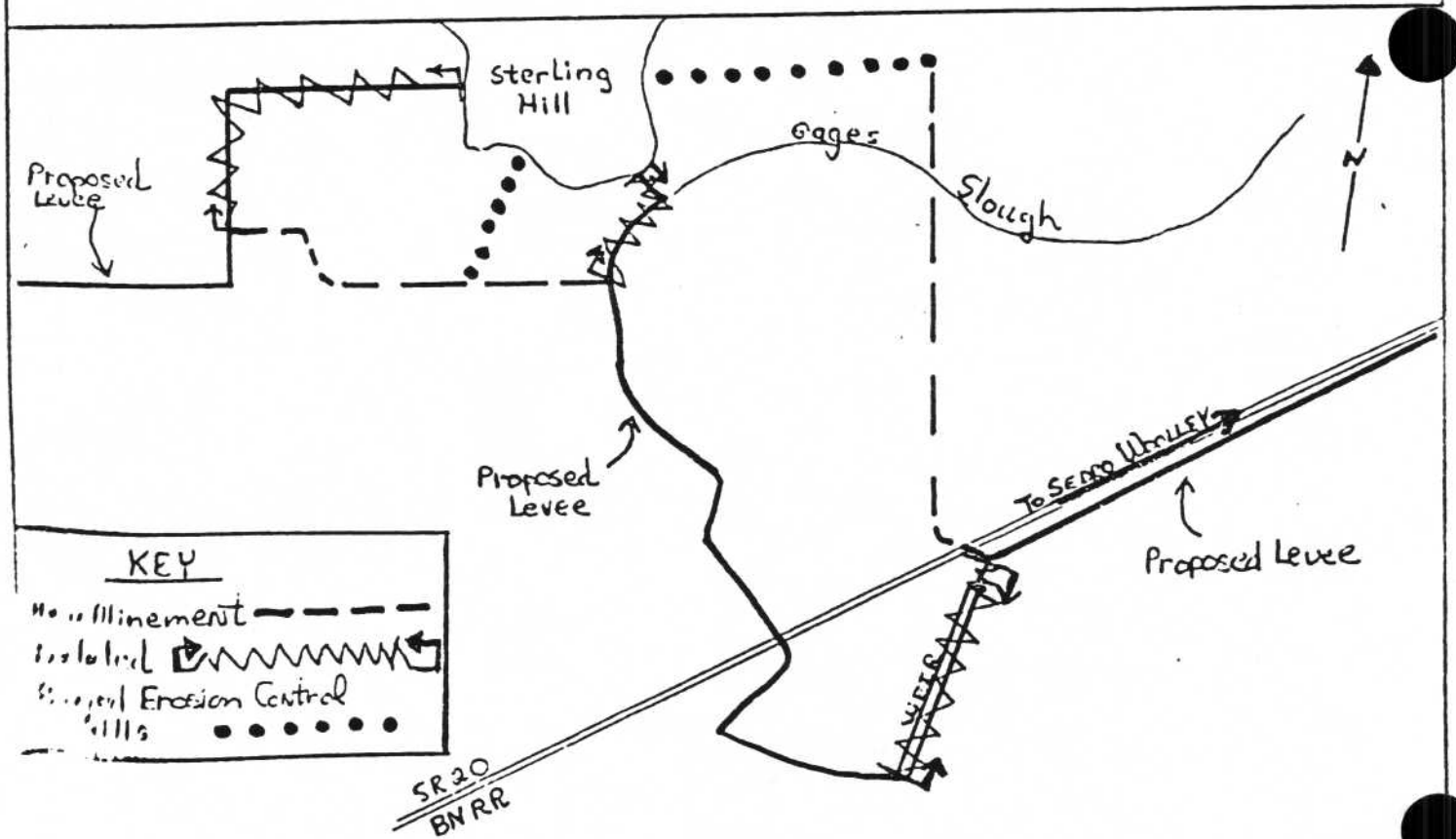

Figure 7. Sterling Area-Deletion of Weir and Provision of Erosion Control Sills

b. Social Impacts. This modification will avoid the disruption incurred by the weir construction and will minimize impacts to prime farmland. Disruption from the control sills will be temporary during construction. Visually, mounds will be noticeable because the natural ground divide will be raised to compensate for higher water depths. Significant impacts will result to the community in the overflow area. About 10 homes will be floodproofed and about 20 relocations will be required, disrupting the community cohesion as well as the individual families involved. A cultural resources reconnaissance of the new levee alinement and erosion control sill areas will be accomplished.

5.3 Recreation. The Draft EIS discussed low-intensity recreational development of three existing recreation sites (refer to the Draft EIS, paragraph 1.04.3 and figure 4-2). Due to the current lack of local support for this aspect of the project, development of these sites was eliminated from the recommended plan.

a. Impact to Fish and Wildlife. This modification eliminates the minor disruption to wildlife that would have occurred from low-intensity development of the three public access sites. Without recreation, the existing condition at these sites will remain.

b. Social Impacts. The convenience that would have been provided to recreationists by the proposed development (i.e., parking, toilets) will not be realized. The current conditions at these sites will remain.

6. Coordination. This addendum has been distributed to all who have received or requested copies of the Draft EIS. Any comments resulting from review of the addendum and/or the Draft EIS will be responded to in the Final EIS for the Skagit River, Washington, project.