

Reviewer Name: Lynn Schmidt, Statewide Flood Engineer

Region/Unit: HQ Flood Unit

Date: February 25, 2026

REVIEW CHECKLIST

Floodway Substantial Improvement

Washington State Department of Ecology

This checklist was developed to aid in the review of proposals to permit substantial improvements in the regulatory floodway per [WAC 173-158-076](#), "Substantial improvements to residential structures for the primary purpose of reducing risk of flood damage and substantially damaged residential dwellings other than farmhouses in designated floodways."

Section 1: General Information

Local Government Request

Requester Randy Johnson
Jurisdiction Skagit County
Recommendation Seeking Ecology input

Structure Information

Address 41649 North Shore Lane, Concrete
Year of construction 1967
Type of foundation Concrete, at grade?
Observed flood damages 2.08% damage in 2021, 75% damage in 2025

☒ Pre-FIRM ☐ Post-FIRM (*Violation)

☐ HISTORIC STRUCTURE Structures listed on a National Register of Historic Places or a State Inventory of Historic Places are exempted from substantial improvement requirements.

☐ EXISTING FARMHOUSE Farmhouses located on lands designated as agricultural lands of long-term Commercial significance under RCW 36.70A.170 are subject to requirements of WAC 173-158-075.

Has the structure been substantially damaged?

☒ YES
☐ NO or UNSURE
Year(s) of damage: 2025

Is a substantial improvement proposed?

☒ YES
☐ NO
☒ Local cumulative threshold met

FIRM Information

Panel Number 530151 0285C; Floodway Panel 530151 0012
Effective Date 1/3/1985
Flood Zone AE, Floodway
Flooding Source Skagit River
Nearest Cross Sections Between AE and AF

Section 2: Risk Review

Flood Depth

BFE: 155.3 ☒ NAVD88 ☐ NGVD29 Vertical Datum

BFE = Base Flood Elevation

Source: Flood Insurance Study (FEMA, 1989)

Lowest Adjacent Grade (LAG): 150.1 (approximate based on lidar) NAVD88

Modeled flood depth (BFE – LAG): 5.2'

Observed flood depth: 6' inside structure, 2025

☐ Flood depth does not exceed 3 feet (required)

☒ Flood depth exceeds 3 feet

Flood Velocity

☐ Flood velocity does not exceed 3 feet/second (required)

☒ Flood velocity exceeds 3 feet/second

Data source(s) and calculations:

Cross section AE mean velocity = 11.3 feet/second

Cross section AF mean velocity = 8.3 feet/second

1989 Flood Insurance Study, Foodway Data Table 4

Flood-related erosion

☐ Located in a channel migration zone

☐ Planning level study

☐ Detailed study: high or moderate hazard area

☐ Detailed study: low hazard area

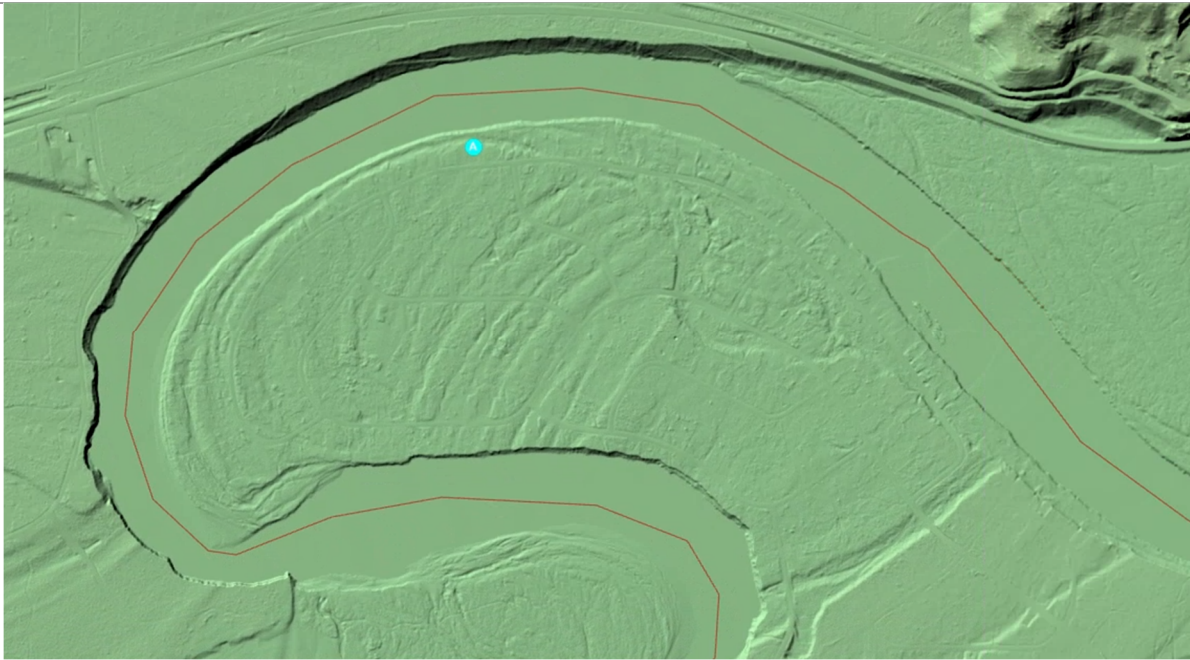
☐ Observed bank or site erosion

☒ Observed overflow channels or historic channels

☐ Known debris loading potential

Data source(s) and explanation:

Scour was not observed during the 2025 flood event per Skagit County communication. Ecology could not locate a channel migration zone delineation. However, the site and vicinity have clear evidence of active channel migration as shown in the lidar digital elevation model below (obtained from Washington State Department of Natural Resources). The subject property is located at the blue dot.



Warning time

- ☐ A flood warning system is in place and operational
- ☐ Adequate flood warning time is available to ensure evacuation

Explanation of flood warning system and advanced timing:

Section 3: Conditions of Approval

Before the substantial improvement, repair, replacement, or reconstruction is started, all requirements of the National Flood Insurance Program, the state requirements adopted pursuant to RCW [86.16.031](#) (8), and all applicable local regulations must be satisfied. In addition, the following conditions must be met:

- ☐ No potential safe building site exists on the same property outside the floodway
- ☐ Any replacement structure is built as a substitute for a previous structure of equivalent use and size
- ☐ No increase in the total square footage of floodway encroachment
- ☐ The lowest floor of the replaced/repared structure is at least one foot higher than the BFE.
- ☐ New, improved, and replacement water supply systems are designed to eliminate or minimize infiltration of flood water into the system.
- ☐ New, improved, and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters.
- ☐ All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.

Section 4: Ecology Staff Recommendation

☐ Recommend substantial improvement, repair, replacement or relocation of the residential structure as proposed

☐ Substantial improvement, repair, replacement or relocation of the residential structure with modifications

Modifications:

☒ Not recommended; does not meet requirements of WAC 173-158-076 or RCW 86.16

Flood depth exceeds 3 feet and velocity exceeds 3 feet/second. Topographic data shows evidence of active channel migration.